# Full wwPDB X-ray Structure Validation Report (i)

Aug 4, 2026 – 08:30 PM EDT

| | | |
|---|---|---|
| PDB ID | : | 4V7R / pdb_00004v7r |
| Title | : | Yeast 80S ribosome. |
| Authors | : | Ben-Shem, A.; Jenner, L.; Yusupova, G.; Yusupov, M. |
| Deposited on | : | 2010-07-23 |
| Resolution | : | 4.00 Å(reported) |

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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The following versions of software and data (see references (i)) were used in the production of this report:

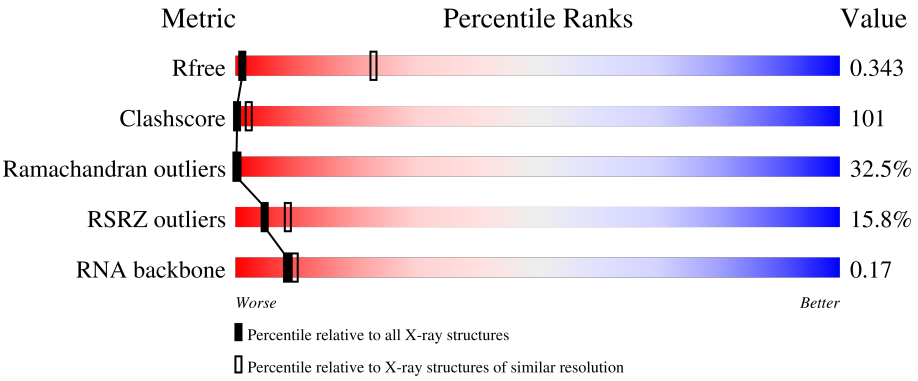
| | | |
|---|---|---|
| MolProbity | : | 4-5-2 with Phenix2.0 |
| Mogul | : | 2022.3.0, CSD as543be (2022) |
| Xtriage (Phenix) | : | 2.0 |
| EDS | : | 3.0 |
| Buster-report | : | wwPDB partial adaption of 1.1.7 (2018) |
| Percentile statistics | : | 20250101.v01 (using entries in the PDB archive January 1st 2025) |
| CCP4 | : | 9.0.015 (Gargrove) |
| Density-Fitness | : | 1.0.12 |
| Ideal geometry (proteins) | : | Engh & Huber (2001) |
| Ideal geometry (DNA, RNA) | : | Parkinson et al. (1996) |
| Validation Pipeline (wwPDB-VP) | : | 2.50 |

# 1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
*X-RAY DIFFRACTION*

The reported resolution of this entry is 4.00 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.




| Metric | Whole archive (#Entries) | Similar resolution (#Entries, resolution range(Å)) |
|---|---|---|
| $R_{free}$ | 180053 | 1082 (4.20-3.80) |
| Clashscore | 190562 | 1129 (4.20-3.80) |
| Ramachandran outliers | 187476 | 1064 (4.20-3.80) |
| RSRZ outliers | 180081 | 1082 (4.20-3.80) |
| RNA backbone | 3983 | 1017 (4.84-3.10) |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 1 | A1 | 1800 | 8% · 41% 55% · |
| 1 | C1 | 1800 | 8% · 42% 55% · |
| 2 | AA | 252 | 20% 19% 47% 17% · 13% |
| 2 | CA | 252 | 17% 19% 46% 19% · 13% |
| 3 | AB | 254 | 14% 23% 37% 22% · 14% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 3 | CB | 254 | 16% 24% 35% 23% 14% |
| 4 | AC | 240 | 15% 25% 32% 20% 21% |
| 4 | CC | 240 | 11% 25% 34% 20% 21% |
| 5 | AD | 225 | 15% 21% 30% 24% 25% |
| 5 | CD | 225 | 20% 17% 34% 24% 25% |
| 6 | AE | 197 | 15% 18% 44% 17% 20% |
| 6 | CE | 197 | 15% 17% 42% 20% 20% |
| 7 | AF | 156 | 12% 22% 17% 10% 51% |
| 7 | CF | 156 | 19% 22% 17% 9% 51% |
| 8 | AG | 151 | 15% 22% 38% 15% 23% |
| 8 | CG | 151 | 17% 23% 40% 13% 23% |
| 9 | AH | 137 | 28% 30% 43% 20% 7% |
| 9 | CH | 137 | 26% 29% 43% 20% 7% |
| 10 | AI | 142 | 21% 28% 35% 19% 15% |
| 10 | CI | 142 | 30% 27% 35% 21% 15% |
| 11 | AJ | 143 | 22% 29% 43% 20% 6% |
| 11 | CJ | 143 | 25% 29% 45% 19% 6% |
| 12 | AK | 136 | 8% 12% 26% 10% 51% |
| 12 | CK | 136 | 21% 17% 23% 9% 51% |
| 13 | AL | 146 | 19% 24% 36% 21% 18% |
| 13 | CL | 146 | 16% 27% 36% 18% 18% |
| 14 | AM | 144 | 11% 20% 35% 17% 26% |
| 14 | CM | 144 | 15% 17% 39% 17% 26% |
| 15 | AN | 121 | 32% 28% 42% 21% 8% |
| 15 | CN | 121 | 25% 30% 42% 19% 8% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 16 | AO | 130 | 15% 28% 48% 19% |
| 16 | CO | 130 | 15% 29% 47% 19% |
| 17 | AP | 145 | 18% 21% 34% 23% 20% |
| 17 | CP | 145 | 16% 20% 38% 20% 20% |
| 18 | AQ | 108 | 10% 31% 26% 5% 38% |
| 18 | CQ | 108 | 23% 30% 21% 6% 42% |
| 19 | AR | 67 | 16% 33% 27% 10% 30% |
| 19 | CR | 67 | 21% 34% 24% 12% 30% |
| 20 | AS | 56 | 20% 16% 32% 21% 30% |
| 20 | CS | 56 | 7% 16% 30% 23% 30% |
| 21 | AT | 319 | 24% 48% 38% 12% |
| 21 | CT | 319 | 28% 47% 39% 12% |
| 22 | Aa | 20 | 55% 45% |
| 22 | Bo | 20 | 45% 55% |
| 22 | Ca | 20 | 40% 60% |
| 23 | Ab | 105 | 57% 43% |
| 23 | Cb | 105 | 43% 56% |
| 24 | Ac | 93 | 34% 65% |
| 24 | Cc | 93 | 45% 55% |
| 25 | Ad | 35 | 29% 71% |
| 25 | Cd | 35 | 31% 69% |
| 26 | Ae | 21 | 29% 71% |
| 26 | Bj | 21 | 52% 48% |
| 26 | Dj | 21 | 62% 38% |
| 27 | Af | 11 | 64% 36% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 28 | Ah | 41 | 39% 61% |
| 28 | Ch | 41 | 24% 76% |
| 29 | B1 | 3396 | 5% 41% 50% 6% |
| 29 | D1 | 3396 | 7% 41% 49% 6% |
| 30 | B2 | 121 | 7% 42% 57% |
| 30 | D2 | 121 | 9% 44% 55% |
| 31 | B3 | 158 | 6% 46% 49% |
| 31 | D3 | 158 | 10% 48% 49% |
| 32 | BA | 217 | 18% 50% 39% 8% |
| 32 | DA | 217 | 20% 57% 33% 8% |
| 33 | BB | 254 | 28% 29% 38% 23% 8% |
| 33 | DB | 254 | 31% 27% 38% 25% 8% |
| 34 | BC | 387 | 20% 18% 40% 33% 6% |
| 34 | DC | 387 | 17% 18% 41% 31% 6% |
| 35 | BD | 362 | 12% 22% 35% 16% 26% |
| 35 | DD | 362 | 18% 22% 35% 16% 26% |
| 36 | BE | 297 | 28% 19% 48% 26% |
| 36 | DE | 297 | 22% 19% 48% 27% |
| 37 | BF | 176 | 22% 19% 41% 36% |
| 37 | DF | 176 | 26% 16% 46% 35% |
| 38 | BG | 244 | 8% 24% 39% 22% 12% |
| 38 | DG | 244 | 6% 21% 41% 23% 12% |
| 39 | BH | 256 | 16% 23% 29% 15% 32% |
| 39 | DH | 256 | 18% 27% 27% 14% 32% |
| 40 | BI | 191 | 20% 34% 42% 23% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 40 | DI | 191 | 6% 36% 39% 24% |
| 41 | BJ | 221 | 25% 26% 41% 26% 6% |
| 41 | DJ | 221 | 19% 26% 43% 23% 6% |
| 42 | BK | 174 | 26% 21% 42% 30% 5% |
| 42 | DK | 174 | 24% 22% 41% 31% 5% |
| 43 | BN | 138 | 21% 17% 38% 31% 13% |
| 43 | DN | 138 | 15% 14% 36% 36% 13% |
| 44 | BO | 204 | 24% 28% 39% 22% 8% |
| 44 | DO | 204 | 35% 33% 37% 20% 8% |
| 45 | BP | 199 | 9% 21% 48% 26% |
| 45 | DP | 199 | 7% 20% 49% 23% 7% |
| 46 | BQ | 184 | 12% 24% 39% 19% 16% |
| 46 | DQ | 184 | 17% 21% 41% 20% 16% |
| 47 | BR | 186 | 11% 16% 34% 23% 23% |
| 47 | DR | 186 | 20% 22% 34% 16% 5% 23% |
| 48 | BS | 189 | 22% 49% 40% 11% |
| 48 | DS | 189 | 31% 44% 45% 11% |
| 49 | BT | 160 | 17% 21% 30% 23% 26% |
| 49 | DT | 160 | 15% 21% 32% 21% 26% |
| 50 | BU | 137 | 17% 40% 38% 15% 6% |
| 50 | DU | 137 | 9% 38% 35% 20% 6% |
| 51 | BV | 155 | 9% 7% 18% 13% 62% |
| 51 | DV | 155 | 4% 10% 15% 13% 62% |
| 52 | BW | 142 | 18% 22% 30% 13% 34% |
| 52 | DW | 142 | 17% 20% 31% 13% 34% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 53 | BX | 127 | 13% 30% 39% 14% 16% |
| 53 | DX | 127 | 17% 31% 38% 14% 16% |
| 54 | BY | 149 | 30% 24% 42% 28% 5% |
| 54 | DY | 149 | 32% 24% 42% 30% |
| 55 | BZ | 105 | 15% 44% 34% 15% 7% |
| 55 | DZ | 105 | 17% 45% 36% 12% 7% |
| 56 | Ba | 113 | 17% 19% 37% 19% 24% |
| 56 | Da | 113 | 22% 16% 39% 21% 24% |
| 57 | Bb | 130 | 17% 21% 43% 27% 5% |
| 57 | Db | 130 | 21% 20% 44% 27% 5% |
| 58 | Bc | 120 | 8% 21% 22% 12% 43% |
| 58 | Dc | 120 | 7% 23% 23% 8% 43% |
| 59 | Bd | 88 | 25% 16% 36% 28% 18% |
| 59 | Dd | 88 | 27% 16% 36% 30% 18% |
| 60 | Be | 51 | 20% 35% 37% 22% 6% |
| 60 | De | 51 | 25% 29% 45% 20% 6% |
| 61 | Bf | 106 | 26% 43% 25% 19% 10% |
| 61 | Df | 106 | 38% 37% 35% 17% 10% |
| 62 | Bg | 92 | 21% 18% 51% 21% 10% |
| 62 | Dg | 92 | 21% 24% 42% 23% 10% |
| 63 | Bh | 44 | 32% 68% |
| 63 | Dh | 44 | 30% 70% |
| 64 | Bi | 12 | 58% 42% |
| 64 | Di | 12 | 50% 50% |
| 65 | Bk | 16 | 19% 81% |

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| Mol | Chain | Length | Quality of chain |
|---|---|---|---|
| 65 | Dk | 16 | 19% 81% |
| 66 | Bl | 19 | 53% 47% |
| 67 | Bm | 9 | 11% 89% |
| 68 | Bn | 27 | 56% 44% |
| 69 | Bp | 8 | 50% 50% |
| 70 | Bq | 17 | 18% 82% |
| 71 | Br | 23 | 26% 74% |
| 72 | DL | 165 | 16% 29% 39% 15% 16% |
| 73 | DM | 312 | 7% 14% 18% 10% 58% |

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|---|---|---|---|---|---|---|---|
| 74 | OHX | A1 | 1901 | - | - | X | - |
| 74 | OHX | A1 | 1910 | - | - | X | - |
| 74 | OHX | A1 | 1913 | - | - | X | - |
| 74 | OHX | A1 | 1915 | - | - | X | - |
| 74 | OHX | A1 | 1916 | - | - | X | - |
| 74 | OHX | A1 | 1917 | - | - | X | - |
| 74 | OHX | A1 | 1931 | - | - | X | - |
| 74 | OHX | A1 | 1943 | - | - | X | - |
| 74 | OHX | A1 | 1949 | - | - | X | - |
| 74 | OHX | A1 | 1953 | - | - | - | X |
| 74 | OHX | A1 | 1966 | - | - | - | X |
| 74 | OHX | A1 | 1974 | - | - | - | X |
| 74 | OHX | A1 | 1975 | - | - | X | - |
| 74 | OHX | A1 | 1976 | - | - | X | - |
| 74 | OHX | A1 | 1978 | - | - | - | X |
| 74 | OHX | A1 | 1983 | - | - | - | X |
| 74 | OHX | A1 | 1986 | - | - | X | - |
| 74 | OHX | A1 | 1988 | - | - | - | X |
| 74 | OHX | A1 | 1993 | - | - | - | X |
| 74 | OHX | A1 | 1995 | - | - | - | X |
| 74 | OHX | A1 | 1996 | - | - | - | X |
| 74 | OHX | A1 | 1998 | - | - | - | X |

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| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|---|---|---|---|---|---|---|---|
| 74 | OHX | AS | 101 | - | - | X | - |
| 74 | OHX | B1 | 3428 | - | - | X | - |
| 74 | OHX | B1 | 3438 | - | - | X | - |
| 74 | OHX | B1 | 3449 | - | - | X | - |
| 74 | OHX | B1 | 3450 | - | - | X | - |
| 74 | OHX | B1 | 3479 | - | - | X | - |
| 74 | OHX | B1 | 3492 | - | - | X | - |
| 74 | OHX | B1 | 3505 | - | - | X | - |
| 74 | OHX | B1 | 3515 | - | - | - | X |
| 74 | OHX | B1 | 3529 | - | - | X | - |
| 74 | OHX | B1 | 3533 | - | - | - | X |
| 74 | OHX | B1 | 3536 | - | - | X | - |
| 74 | OHX | B1 | 3537 | - | - | X | - |
| 74 | OHX | B1 | 3542 | - | - | - | X |
| 74 | OHX | B1 | 3545 | - | - | - | X |
| 74 | OHX | B1 | 3548 | - | - | - | X |
| 74 | OHX | B1 | 3551 | - | - | - | X |
| 74 | OHX | B1 | 3554 | - | - | - | X |
| 74 | OHX | B1 | 3555 | - | - | - | X |
| 74 | OHX | B1 | 3558 | - | - | X | - |
| 74 | OHX | B1 | 3563 | - | - | X | - |
| 74 | OHX | B1 | 3567 | - | - | X | - |
| 74 | OHX | B1 | 3577 | - | - | - | X |
| 74 | OHX | B1 | 3581 | - | - | X | - |
| 74 | OHX | B1 | 3584 | - | - | - | X |
| 74 | OHX | B1 | 3587 | - | - | X | - |
| 74 | OHX | B1 | 3589 | - | - | - | X |
| 74 | OHX | B1 | 3592 | - | - | - | X |
| 74 | OHX | B1 | 3599 | - | - | X | - |
| 74 | OHX | B1 | 3602 | - | - | - | X |
| 74 | OHX | B1 | 3608 | - | - | - | X |
| 74 | OHX | B1 | 3609 | - | - | - | X |
| 74 | OHX | B1 | 3613 | - | - | - | X |
| 74 | OHX | B1 | 3620 | - | - | X | - |
| 74 | OHX | B2 | 201 | - | - | X | - |
| 74 | OHX | B2 | 207 | - | - | - | X |
| 74 | OHX | B2 | 208 | - | - | - | X |
| 74 | OHX | B2 | 210 | - | - | - | X |
| 74 | OHX | B3 | 206 | - | - | X | - |
| 74 | OHX | BO | 301 | - | - | - | X |
| 74 | OHX | Bd | 101 | - | - | X | - |
| 74 | OHX | Bg | 101 | - | - | X | - |

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| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|---|---|---|---|---|---|---|---|
| 74 | OHX | C1 | 1916 | - | - | X | - |
| 74 | OHX | C1 | 1917 | - | - | X | - |
| 74 | OHX | C1 | 1924 | - | - | X | - |
| 74 | OHX | C1 | 1928 | - | - | X | - |
| 74 | OHX | C1 | 1930 | - | - | X | - |
| 74 | OHX | C1 | 1933 | - | - | X | - |
| 74 | OHX | C1 | 1955 | - | - | X | - |
| 74 | OHX | C1 | 1957 | - | - | - | X |
| 74 | OHX | C1 | 1964 | - | - | X | - |
| 74 | OHX | C1 | 1970 | - | - | X | - |
| 74 | OHX | C1 | 1974 | - | - | - | X |
| 74 | OHX | C1 | 1976 | - | - | - | X |
| 74 | OHX | C1 | 1978 | - | - | - | X |
| 74 | OHX | C1 | 1980 | - | - | - | X |
| 74 | OHX | C1 | 1983 | - | - | X | - |
| 74 | OHX | C1 | 1985 | - | - | - | X |
| 74 | OHX | C1 | 1988 | - | - | - | X |
| 74 | OHX | C1 | 1989 | - | - | - | X |
| 74 | OHX | C1 | 1991 | - | - | - | X |
| 74 | OHX | C1 | 1995 | - | - | - | X |
| 74 | OHX | C1 | 1996 | - | - | - | X |
| 74 | OHX | C1 | 1998 | - | - | - | X |
| 74 | OHX | CS | 101 | - | - | X | - |
| 74 | OHX | D1 | 3408 | - | - | X | - |
| 74 | OHX | D1 | 3415 | - | - | X | - |
| 74 | OHX | D1 | 3430 | - | - | X | - |
| 74 | OHX | D1 | 3431 | - | - | X | - |
| 74 | OHX | D1 | 3452 | - | - | X | - |
| 74 | OHX | D1 | 3463 | - | - | X | - |
| 74 | OHX | D1 | 3473 | - | - | X | - |
| 74 | OHX | D1 | 3480 | - | - | X | - |
| 74 | OHX | D1 | 3502 | - | - | X | - |
| 74 | OHX | D1 | 3506 | - | - | - | X |
| 74 | OHX | D1 | 3509 | - | - | - | X |
| 74 | OHX | D1 | 3516 | - | - | - | X |
| 74 | OHX | D1 | 3519 | - | - | - | X |
| 74 | OHX | D1 | 3522 | - | - | - | X |
| 74 | OHX | D1 | 3535 | - | - | - | X |
| 74 | OHX | D1 | 3541 | - | - | - | X |
| 74 | OHX | D1 | 3543 | - | - | X | - |
| 74 | OHX | D1 | 3545 | - | - | - | X |
| 74 | OHX | D1 | 3555 | - | - | - | X |

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| Mol | Type | Chain | Res | Chirality | Geometry | Clashes | Electron density |
|---|---|---|---|---|---|---|---|
| 74 | OHX | D1 | 3567 | - | - | X | - |
| 74 | OHX | D1 | 3568 | - | - | X | X |
| 74 | OHX | D1 | 3573 | - | - | - | X |
| 74 | OHX | D1 | 3574 | - | - | X | - |
| 74 | OHX | D1 | 3578 | - | - | - | X |
| 74 | OHX | D1 | 3582 | - | - | X | - |
| 74 | OHX | D1 | 3583 | - | - | X | - |
| 74 | OHX | D1 | 3586 | - | - | - | X |
| 74 | OHX | D1 | 3587 | - | - | - | X |
| 74 | OHX | D1 | 3588 | - | - | X | - |
| 74 | OHX | D1 | 3593 | - | - | - | X |
| 74 | OHX | D1 | 3595 | - | - | - | X |
| 74 | OHX | D1 | 3601 | - | - | - | X |
| 74 | OHX | D1 | 3603 | - | - | - | X |
| 74 | OHX | D1 | 3605 | - | - | - | X |
| 74 | OHX | D1 | 3610 | - | - | - | X |
| 74 | OHX | D1 | 3616 | - | - | - | X |
| 74 | OHX | D1 | 3623 | - | - | - | X |
| 74 | OHX | D2 | 201 | - | - | X | - |
| 74 | OHX | D2 | 207 | - | - | X | - |
| 74 | OHX | D3 | 202 | - | - | X | - |
| 74 | OHX | D3 | 205 | - | - | X | - |
| 74 | OHX | D3 | 206 | - | - | - | X |
| 74 | OHX | D3 | 212 | - | - | X | - |
| 74 | OHX | DO | 301 | - | - | X | - |
| 74 | OHX | Dd | 101 | - | - | X | - |
| 74 | OHX | Dg | 101 | - | - | X | - |

# 2 Entry composition (i)

There are 74 unique types of molecules in this entry. The entry contains 309610 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a RNA chain called 18S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | A1 | 1789 | Total<br>38107 | C<br>17037 | N<br>6732 | O<br>12549 | P<br>1789 | 0 | 0 | 0 |
| 1 | C1 | 1789 | Total<br>38107 | C<br>17037 | N<br>6732 | O<br>12549 | P<br>1789 | 0 | 0 | 0 |

- Molecule 2 is a protein called 40S ribosomal protein S0-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 2 | AA | 220 | Total<br>1090 | C<br>650 | N<br>220 | O<br>220 | 0 | 0 | 0 |
| 2 | CA | 220 | Total<br>1090 | C<br>650 | N<br>220 | O<br>220 | 0 | 0 | 0 |

- Molecule 3 is a protein called 40S ribosomal protein S2.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 3 | AB | 219 | Total<br>1074 | C<br>636 | N<br>219 | O<br>219 | 0 | 0 | 0 |
| 3 | CB | 219 | Total<br>1074 | C<br>636 | N<br>219 | O<br>219 | 0 | 0 | 0 |

- Molecule 4 is a protein called 40S ribosomal protein S3.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 4 | AC | 189 | Total<br>928 | C<br>550 | N<br>189 | O<br>189 | 0 | 0 | 0 |
| 4 | CC | 189 | Total<br>928 | C<br>550 | N<br>189 | O<br>189 | 0 | 0 | 0 |

- Molecule 5 is a protein called 40S ribosomal protein S5.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 5 | AD | 169 | Total<br>836 | C<br>498 | N<br>169 | O<br>169 | 0 | 0 | 0 |
| 5 | CD | 169 | Total<br>836 | C<br>498 | N<br>169 | O<br>169 | 0 | 0 | 0 |

- Molecule 6 is a protein called 40S ribosomal protein S9-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 6 | AE | 157 | Total<br>777 | C<br>463 | N<br>157 | O<br>157 | 0 | 0 | 0 |
| 6 | CE | 157 | Total<br>777 | C<br>463 | N<br>157 | O<br>157 | 0 | 0 | 0 |

- Molecule 7 is a protein called 40S ribosomal protein S11.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 7 | AF | 77 | Total<br>382 | C<br>228 | N<br>77 | O<br>77 | 0 | 0 | 0 |
| 7 | CF | 77 | Total<br>382 | C<br>228 | N<br>77 | O<br>77 | 0 | 0 | 0 |

- Molecule 8 is a protein called 40S ribosomal protein S13.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 8 | AG | 117 | Total<br>580 | C<br>346 | N<br>117 | O<br>117 | 0 | 0 | 0 |
| 8 | CG | 117 | Total<br>580 | C<br>346 | N<br>117 | O<br>117 | 0 | 0 | 0 |

- Molecule 9 is a protein called 40S ribosomal protein S14-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 9 | AH | 128 | Total<br>627 | C<br>371 | N<br>128 | O<br>128 | 0 | 0 | 0 |
| 9 | CH | 128 | Total<br>627 | C<br>371 | N<br>128 | O<br>128 | 0 | 0 | 0 |

- Molecule 10 is a protein called 40S ribosomal protein S15.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 10 | AI | 121 | Total<br>596 | C<br>354 | N<br>121 | O<br>121 | 0 | 0 | 0 |

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| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 10 | CI | 121 | Total<br>596 | C<br>354 | N<br>121 | O<br>121 | 0 | 0 | 0 |

- Molecule 11 is a protein called 40S ribosomal protein S16.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 11 | AJ | 134 | Total<br>658 | C<br>390 | N<br>134 | O<br>134 | 0 | 0 | 0 |
| 11 | CJ | 134 | Total<br>658 | C<br>390 | N<br>134 | O<br>134 | 0 | 0 | 0 |

- Molecule 12 is a protein called 40S ribosomal protein S17-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 12 | AK | 67 | Total<br>332 | C<br>198 | N<br>67 | O<br>67 | 0 | 0 | 0 |
| 12 | CK | 67 | Total<br>332 | C<br>198 | N<br>67 | O<br>67 | 0 | 0 | 0 |

- Molecule 13 is a protein called 40S ribosomal protein S18.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 13 | AL | 120 | Total<br>591 | C<br>351 | N<br>120 | O<br>120 | 0 | 0 | 0 |
| 13 | CL | 120 | Total<br>591 | C<br>351 | N<br>120 | O<br>120 | 0 | 0 | 0 |

- Molecule 14 is a protein called 40S ribosomal protein S19-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 14 | AM | 106 | Total<br>521 | C<br>309 | N<br>106 | O<br>106 | 0 | 0 | 0 |
| 14 | CM | 106 | Total<br>521 | C<br>309 | N<br>106 | O<br>106 | 0 | 0 | 0 |

- Molecule 15 is a protein called 40S ribosomal protein S20.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 15 | AN | 111 | Total<br>551 | C<br>329 | N<br>111 | O<br>111 | 0 | 0 | 0 |
| 15 | CN | 111 | Total<br>551 | C<br>329 | N<br>111 | O<br>111 | 0 | 0 | 0 |

- Molecule 16 is a protein called 40S ribosomal protein S22-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 16 | AO | 127 | Total | C | N | O | 0 | 0 | 0 |
| | | | 622 | 368 | 127 | 127 | | | |
| 16 | CO | 127 | Total | C | N | O | 0 | 0 | 0 |
| | | | 622 | 368 | 127 | 127 | | | |

- Molecule 17 is a protein called 40S ribosomal protein S23.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 17 | AP | 116 | Total | C | N | O | 0 | 0 | 0 |
| | | | 566 | 334 | 116 | 116 | | | |
| 17 | CP | 116 | Total | C | N | O | 0 | 0 | 0 |
| | | | 566 | 334 | 116 | 116 | | | |

- Molecule 18 is a protein called 40S ribosomal protein S25-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 18 | AQ | 67 | Total | C | N | O | 0 | 0 | 0 |
| | | | 332 | 198 | 67 | 67 | | | |
| 18 | CQ | 63 | Total | C | N | O | 0 | 0 | 0 |
| | | | 312 | 186 | 63 | 63 | | | |

- Molecule 19 is a protein called 40S ribosomal protein S28-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 19 | AR | 47 | Total | C | N | O | 0 | 0 | 0 |
| | | | 230 | 136 | 47 | 47 | | | |
| 19 | CR | 47 | Total | C | N | O | 0 | 0 | 0 |
| | | | 230 | 136 | 47 | 47 | | | |

- Molecule 20 is a protein called 40S ribosomal protein S29-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 20 | AS | 39 | Total | C | N | O | 0 | 0 | 0 |
| | | | 190 | 112 | 39 | 39 | | | |
| 20 | CS | 39 | Total | C | N | O | 0 | 0 | 0 |
| | | | 190 | 112 | 39 | 39 | | | |

- Molecule 21 is a protein called Guanine nucleotide-binding protein subunit beta-like protein; RACK-1.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 21 | AT | 313 | Total<br>1543 | C<br>917 | N<br>313 | O<br>313 | 0 | 0 | 0 |
| 21 | CT | 313 | Total<br>1543 | C<br>917 | N<br>313 | O<br>313 | 0 | 0 | 0 |

- Molecule 22 is a protein called Unassigned secondary structure.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 22 | Aa | 20 | Total<br>100 | C<br>60 | N<br>20 | O<br>20 | 0 | 0 | 0 |
| 22 | Bo | 20 | Total<br>100 | C<br>60 | N<br>20 | O<br>20 | 0 | 0 | 0 |
| 22 | Ca | 20 | Total<br>100 | C<br>60 | N<br>20 | O<br>20 | 0 | 0 | 0 |

- Molecule 23 is a protein called Unassigned secondary structure.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 23 | Ab | 105 | Total<br>525 | C<br>315 | N<br>105 | O<br>105 | 0 | 0 | 0 |
| 23 | Cb | 105 | Total<br>525 | C<br>315 | N<br>105 | O<br>105 | 0 | 0 | 0 |

- Molecule 24 is a protein called Unassigned secondary structure.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 24 | Ac | 93 | Total<br>465 | C<br>279 | N<br>93 | O<br>93 | 0 | 0 | 0 |
| 24 | Cc | 93 | Total<br>465 | C<br>279 | N<br>93 | O<br>93 | 0 | 0 | 0 |

- Molecule 25 is a protein called Unassigned secondary structure.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 25 | Ad | 35 | Total<br>175 | C<br>105 | N<br>35 | O<br>35 | 0 | 0 | 0 |
| 25 | Cd | 35 | Total<br>175 | C<br>105 | N<br>35 | O<br>35 | 0 | 0 | 0 |

- Molecule 26 is a protein called Unassigned secondary structure.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 26 | Ae | 21 | Total | C | N | O | 0 | 0 | 0 |
| | | | 105 | 63 | 21 | 21 | | | |
| 26 | Bj | 21 | Total | C | N | O | 0 | 0 | 0 |
| | | | 105 | 63 | 21 | 21 | | | |
| 26 | Dj | 21 | Total | C | N | O | 0 | 0 | 0 |
| | | | 105 | 63 | 21 | 21 | | | |

- Molecule 27 is a protein called Unassigned secondary structure.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 27 | Af | 11 | Total | C | N | O | 0 | 0 | 0 |
| | | | 55 | 33 | 11 | 11 | | | |

- Molecule 28 is a protein called Unassigned secondary structure.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 28 | Ah | 41 | Total | C | N | O | 0 | 0 | 0 |
| | | | 205 | 123 | 41 | 41 | | | |
| 28 | Ch | 41 | Total | C | N | O | 0 | 0 | 0 |
| | | | 205 | 123 | 41 | 41 | | | |

- Molecule 29 is a RNA chain called 25S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| 29 | B1 | 3206 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 68577 | 30632 | 12365 | 22374 | 3206 | | | |
| 29 | D1 | 3206 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 68577 | 30632 | 12365 | 22374 | 3206 | | | |

- Molecule 30 is a RNA chain called 5S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| 30 | B2 | 121 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 2579 | 1152 | 461 | 845 | 121 | | | |
| 30 | D2 | 121 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 2579 | 1152 | 461 | 845 | 121 | | | |

- Molecule 31 is a RNA chain called 5.8S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| 31 | B3 | 158 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 3353 | 1500 | 586 | 1109 | 158 | | | |

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| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|---|
| 31 | D3 | 158 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 3353 | 1500 | 586 | 1109 | 158 | | | |

- Molecule 32 is a protein called 60S ribosomal protein L1.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 32 | BA | 213 | Total | C | N | O | 0 | 0 | 0 |
| | | | 1055 | 629 | 213 | 213 | | | |
| 32 | DA | 213 | Total | C | N | O | 0 | 0 | 0 |
| | | | 1055 | 629 | 213 | 213 | | | |

- Molecule 33 is a protein called 60S ribosomal protein L2.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 33 | BB | 234 | Total | C | N | O | 0 | 0 | 0 |
| | | | 1106 | 638 | 234 | 234 | | | |
| 33 | DB | 234 | Total | C | N | O | 0 | 0 | 0 |
| | | | 1106 | 638 | 234 | 234 | | | |

- Molecule 34 is a protein called 60S ribosomal protein L3.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 34 | BC | 364 | Total | C | N | O | 0 | 0 | 0 |
| | | | 1791 | 1063 | 364 | 364 | | | |
| 34 | DC | 364 | Total | C | N | O | 0 | 0 | 0 |
| | | | 1791 | 1063 | 364 | 364 | | | |

- Molecule 35 is a protein called 60S ribosomal protein L4-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 35 | BD | 268 | Total | C | N | O | 0 | 0 | 0 |
| | | | 1312 | 776 | 268 | 268 | | | |
| 35 | DD | 268 | Total | C | N | O | 0 | 0 | 0 |
| | | | 1312 | 776 | 268 | 268 | | | |

- Molecule 36 is a protein called 60S ribosomal protein L5.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 36 | BE | 287 | Total | C | N | O | 0 | 0 | 0 |
| | | | 1412 | 838 | 287 | 287 | | | |
| 36 | DE | 287 | Total | C | N | O | 0 | 0 | 0 |
| | | | 1412 | 838 | 287 | 287 | | | |

There are 2 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| BE | 112 | ARG | LYS | conflict | UNP P26321 |
| DE | 112 | ARG | LYS | conflict | UNP P26321 |

- Molecule 37 is a protein called 60S ribosomal protein L6-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 37 | BF | 176 | Total | C | N | O | 0 | 0 | 0 |
| | | | 873 | 521 | 176 | 176 | | | |
| 37 | DF | 176 | Total | C | N | O | 0 | 0 | 0 |
| | | | 873 | 521 | 176 | 176 | | | |

- Molecule 38 is a protein called 60S ribosomal protein L7-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 38 | BG | 215 | Total | C | N | O | 0 | 0 | 0 |
| | | | 1061 | 631 | 215 | 215 | | | |
| 38 | DG | 215 | Total | C | N | O | 0 | 0 | 0 |
| | | | 1061 | 631 | 215 | 215 | | | |

- Molecule 39 is a protein called 60S ribosomal protein L8-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 39 | BH | 173 | Total | C | N | O | 0 | 0 | 0 |
| | | | 856 | 510 | 173 | 173 | | | |
| 39 | DH | 173 | Total | C | N | O | 0 | 0 | 0 |
| | | | 856 | 510 | 173 | 173 | | | |

- Molecule 40 is a protein called 60S ribosomal protein L9-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 40 | BI | 191 | Total | C | N | O | 0 | 0 | 0 |
| | | | 942 | 560 | 191 | 191 | | | |
| 40 | DI | 191 | Total | C | N | O | 0 | 0 | 0 |
| | | | 942 | 560 | 191 | 191 | | | |

- Molecule 41 is a protein called 60S ribosomal protein L10.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 41 | BJ | 208 | Total | C | N | O | 0 | 0 | 0 |
| | | | 1027 | 611 | 208 | 208 | | | |

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| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 41 | DJ | 208 | Total<br>1027 | C<br>611 | N<br>208 | O<br>208 | 0 | 0 | 0 |

- Molecule 42 is a protein called 60S ribosomal protein L11-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 42 | BK | 165 | Total<br>810 | C<br>480 | N<br>165 | O<br>165 | 0 | 0 | 0 |
| 42 | DK | 165 | Total<br>810 | C<br>480 | N<br>165 | O<br>165 | 0 | 0 | 0 |

- Molecule 43 is a protein called 60S ribosomal protein L14-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 43 | BN | 120 | Total<br>593 | C<br>353 | N<br>120 | O<br>120 | 0 | 0 | 0 |
| 43 | DN | 120 | Total<br>593 | C<br>353 | N<br>120 | O<br>120 | 0 | 0 | 0 |

- Molecule 44 is a protein called 60S ribosomal protein L15-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 44 | BO | 187 | Total<br>923 | C<br>549 | N<br>187 | O<br>187 | 0 | 0 | 0 |
| 44 | DO | 187 | Total<br>923 | C<br>549 | N<br>187 | O<br>187 | 0 | 0 | 0 |

- Molecule 45 is a protein called 60S ribosomal protein L16-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 45 | BP | 196 | Total<br>967 | C<br>575 | N<br>196 | O<br>196 | 0 | 0 | 0 |
| 45 | DP | 196 | Total<br>967 | C<br>575 | N<br>196 | O<br>196 | 0 | 0 | 0 |

- Molecule 46 is a protein called 60S ribosomal protein L17-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 46 | BQ | 154 | Total<br>761 | C<br>453 | N<br>154 | O<br>154 | 0 | 0 | 0 |
| 46 | DQ | 154 | Total<br>761 | C<br>453 | N<br>154 | O<br>154 | 0 | 0 | 0 |

- Molecule 47 is a protein called 60S ribosomal protein L18.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 47 | BR | 143 | Total | C | N | O | 0 | 0 | 0 |
| | | | 706 | 420 | 143 | 143 | | | |
| 47 | DR | 143 | Total | C | N | O | 0 | 0 | 0 |
| | | | 706 | 420 | 143 | 143 | | | |

- Molecule 48 is a protein called 60S ribosomal protein L19.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 48 | BS | 188 | Total | C | N | O | 0 | 0 | 0 |
| | | | 931 | 555 | 188 | 188 | | | |
| 48 | DS | 188 | Total | C | N | O | 0 | 0 | 0 |
| | | | 931 | 555 | 188 | 188 | | | |

- Molecule 49 is a protein called 60S ribosomal protein L21-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 49 | BT | 119 | Total | C | N | O | 0 | 0 | 0 |
| | | | 586 | 348 | 119 | 119 | | | |
| 49 | DT | 119 | Total | C | N | O | 0 | 0 | 0 |
| | | | 586 | 348 | 119 | 119 | | | |

- Molecule 50 is a protein called 60S ribosomal protein L23.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 50 | BU | 129 | Total | C | N | O | 0 | 0 | 0 |
| | | | 631 | 373 | 129 | 129 | | | |
| 50 | DU | 129 | Total | C | N | O | 0 | 0 | 0 |
| | | | 631 | 373 | 129 | 129 | | | |

- Molecule 51 is a protein called 60S ribosomal protein L24-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 51 | BV | 59 | Total | C | N | O | 0 | 0 | 0 |
| | | | 291 | 173 | 59 | 59 | | | |
| 51 | DV | 59 | Total | C | N | O | 0 | 0 | 0 |
| | | | 291 | 173 | 59 | 59 | | | |

- Molecule 52 is a protein called 60S ribosomal protein L25.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 52 | BW | 94 | Total<br>468 | C<br>280 | N<br>94 | O<br>94 | 0 | 0 | 0 |
| 52 | DW | 94 | Total<br>468 | C<br>280 | N<br>94 | O<br>94 | 0 | 0 | 0 |

- Molecule 53 is a protein called 60S ribosomal protein L26-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 53 | BX | 107 | Total<br>530 | C<br>316 | N<br>107 | O<br>107 | 0 | 0 | 0 |
| 53 | DX | 107 | Total<br>530 | C<br>316 | N<br>107 | O<br>107 | 0 | 0 | 0 |

- Molecule 54 is a protein called 60S ribosomal protein L28.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 54 | BY | 149 | Total<br>727 | C<br>429 | N<br>149 | O<br>149 | 0 | 0 | 0 |
| 54 | DY | 149 | Total<br>727 | C<br>429 | N<br>149 | O<br>149 | 0 | 0 | 0 |

There are 2 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| BY | 38 | GLU | GLN | conflict | UNP P02406 |
| DY | 38 | GLU | GLN | conflict | UNP P02406 |

- Molecule 55 is a protein called 60S ribosomal protein L30.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 55 | BZ | 98 | Total<br>481 | C<br>285 | N<br>98 | O<br>98 | 0 | 0 | 0 |
| 55 | DZ | 98 | Total<br>481 | C<br>285 | N<br>98 | O<br>98 | 0 | 0 | 0 |

- Molecule 56 is a protein called 60S ribosomal protein L31-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 56 | Ba | 86 | Total<br>425 | C<br>253 | N<br>86 | O<br>86 | 0 | 0 | 0 |
| 56 | Da | 86 | Total<br>425 | C<br>253 | N<br>86 | O<br>86 | 0 | 0 | 0 |

- Molecule 57 is a protein called 60S ribosomal protein L32.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 57 | Bb | 125 | Total | C | N | O | 0 | 0 | 0 |
| | | | 618 | 368 | 125 | 125 | | | |
| 57 | Db | 125 | Total | C | N | O | 0 | 0 | 0 |
| | | | 618 | 368 | 125 | 125 | | | |

- Molecule 58 is a protein called 60S ribosomal protein L35.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 58 | Bc | 68 | Total | C | N | O | 0 | 0 | 0 |
| | | | 339 | 203 | 68 | 68 | | | |
| 58 | Dc | 68 | Total | C | N | O | 0 | 0 | 0 |
| | | | 339 | 203 | 68 | 68 | | | |

- Molecule 59 is a protein called 60S ribosomal protein L37-A.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 59 | Bd | 72 | Total | C | N | O | 0 | 0 | 0 |
| | | | 352 | 208 | 72 | 72 | | | |
| 59 | Dd | 72 | Total | C | N | O | 0 | 0 | 0 |
| | | | 352 | 208 | 72 | 72 | | | |

- Molecule 60 is a protein called 60S ribosomal protein L39.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 60 | Be | 48 | Total | C | N | O | 0 | 0 | 0 |
| | | | 240 | 144 | 48 | 48 | | | |
| 60 | De | 48 | Total | C | N | O | 0 | 0 | 0 |
| | | | 240 | 144 | 48 | 48 | | | |

- Molecule 61 is a protein called 60S ribosomal protein L42.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 61 | Bf | 95 | Total | C | N | O | 0 | 0 | 0 |
| | | | 467 | 277 | 95 | 95 | | | |
| 61 | Df | 95 | Total | C | N | O | 0 | 0 | 0 |
| | | | 467 | 277 | 95 | 95 | | | |

- Molecule 62 is a protein called 60S ribosomal protein L43.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 62 | Bg | 83 | Total | C | N | O | 0 | 0 | 0 |
| | | | 407 | 241 | 83 | 83 | | | |
| 62 | Dg | 83 | Total | C | N | O | 0 | 0 | 0 |
| | | | 407 | 241 | 83 | 83 | | | |

- Molecule 63 is a protein called Unassigned secondary structure.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 63 | Bh | 44 | Total | C | N | O | 0 | 0 | 0 |
| | | | 220 | 132 | 44 | 44 | | | |
| 63 | Dh | 44 | Total | C | N | O | 0 | 0 | 0 |
| | | | 220 | 132 | 44 | 44 | | | |

- Molecule 64 is a protein called Unassigned secondary structure.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 64 | Bi | 12 | Total | C | N | O | 0 | 0 | 0 |
| | | | 60 | 36 | 12 | 12 | | | |
| 64 | Di | 12 | Total | C | N | O | 0 | 0 | 0 |
| | | | 60 | 36 | 12 | 12 | | | |

- Molecule 65 is a protein called Unassigned secondary structure.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 65 | Bk | 16 | Total | C | N | O | 0 | 0 | 0 |
| | | | 80 | 48 | 16 | 16 | | | |
| 65 | Dk | 16 | Total | C | N | O | 0 | 0 | 0 |
| | | | 80 | 48 | 16 | 16 | | | |

- Molecule 66 is a protein called Unassigned secondary structure.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 66 | Bl | 19 | Total | C | N | O | 0 | 0 | 0 |
| | | | 95 | 57 | 19 | 19 | | | |

- Molecule 67 is a protein called Unassigned secondary structure.

| Mol | Chain | Residues | Atoms | | | | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|---|---|---|
| 67 | Bm | 9 | Total | C | N | O | 0 | 0 | 0 |
| | | | 45 | 27 | 9 | 9 | | | |

- Molecule 68 is a protein called Unassigned secondary structure.

| Mol | Chain | Residues | Atoms | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|
| 68 | Bn | 27 | Total C N O<br>135 81 27 27 | 0 | 0 | 0 |

- Molecule 69 is a protein called Unassigned secondary structure.

| Mol | Chain | Residues | Atoms | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|
| 69 | Bp | 8 | Total C N O<br>40 24 8 8 | 0 | 0 | 0 |

- Molecule 70 is a protein called Unassigned secondary structure.

| Mol | Chain | Residues | Atoms | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|
| 70 | Bq | 17 | Total C N O<br>85 51 17 17 | 0 | 0 | 0 |

- Molecule 71 is a protein called Unassigned secondary structure.

| Mol | Chain | Residues | Atoms | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|
| 71 | Br | 23 | Total C N O<br>115 69 23 23 | 0 | 0 | 0 |

- Molecule 72 is a protein called 60S ribosomal protein L12.

| Mol | Chain | Residues | Atoms | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|
| 72 | DL | 138 | Total C N O<br>679 403 138 138 | 0 | 0 | 0 |

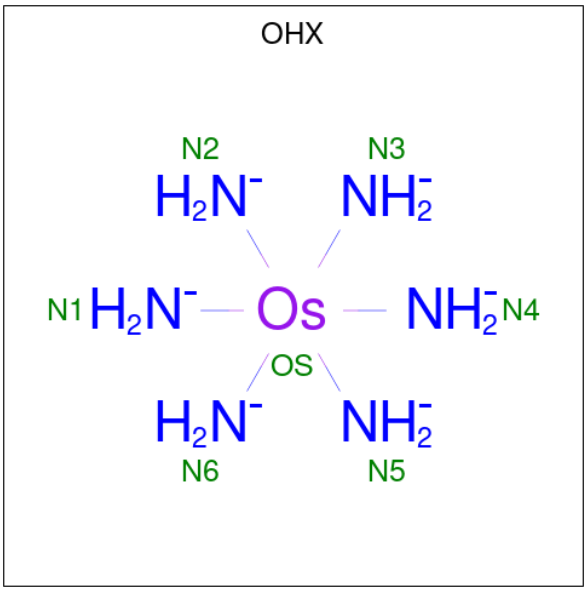
- Molecule 73 is a protein called 60S acidic ribosomal protein P0.

| Mol | Chain | Residues | Atoms | ZeroOcc | AltConf | Trace |
|---|---|---|---|---|---|---|
| 73 | DM | 130 | Total C N O<br>641 381 130 130 | 0 | 0 | 0 |

There is a discrepancy between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|---|---|---|---|---|---|
| DM | 83 | TYR | ASN | conflict | UNP P05317 |

- Molecule 74 is osmium (III) hexammine (CCD ID: OHX) (formula: $H_{12}N_6Os$).




| Mol | Chain | Residues | Atoms | ZeroOcc | AltConf |
|---|---|---|---|---|---|
| 74 | A1 | 1 | Total N Os<br>7 6 1 | 0 | 0 |
| 74 | A1 | 1 | Total N Os<br>7 6 1 | 0 | 0 |
| 74 | A1 | 1 | Total N Os<br>7 6 1 | 0 | 0 |
| 74 | A1 | 1 | Total N Os<br>7 6 1 | 0 | 0 |
| 74 | A1 | 1 | Total N Os<br>7 6 1 | 0 | 0 |
| 74 | A1 | 1 | Total N Os<br>7 6 1 | 0 | 0 |
| 74 | A1 | 1 | Total N Os<br>7 6 1 | 0 | 0 |
| 74 | A1 | 1 | Total N Os<br>7 6 1 | 0 | 0 |
| 74 | A1 | 1 | Total N Os<br>7 6 1 | 0 | 0 |
| 74 | A1 | 1 | Total N Os<br>7 6 1 | 0 | 0 |
| 74 | A1 | 1 | Total N Os<br>7 6 1 | 0 | 0 |
| 74 | A1 | 1 | Total N Os<br>7 6 1 | 0 | 0 |
| 74 | A1 | 1 | Total N Os<br>7 6 1 | 0 | 0 |
| 74 | A1 | 1 | Total N Os<br>7 6 1 | 0 | 0 |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | A1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | AL | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | AS | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | AT | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | Ac | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B2 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B2 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | B2 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B2 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B2 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B2 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B2 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B2 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B2 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B2 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B3 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B3 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B3 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B3 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B3 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B3 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B3 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B3 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B3 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B3 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | B3 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | BC | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | BO | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | BT | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | Bd | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | Bd | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | Bg | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | C1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | CI | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | CS | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | CS | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | CT | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
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| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
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| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D1 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | D2 | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
| 74 | D2 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D2 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D2 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D2 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D2 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D2 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D2 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D2 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D3 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D3 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D3 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D3 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D3 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D3 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D3 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D3 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D3 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D3 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | D3 | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |
| 74 | DC | 1 | Total 7 | N 6 | Os 1 | 0 | 0 |

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| Mol | Chain | Residues | Atoms | | | ZeroOcc | AltConf |
|---|---|---|---|---|---|---|---|
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| | | | 7 | 6 | 1 | | |
| 74 | DJ | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | DO | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | DO | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | DT | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | Dd | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | Dd | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |
| 74 | Dg | 1 | Total | N | Os | 0 | 0 |
| | | | 7 | 6 | 1 | | |

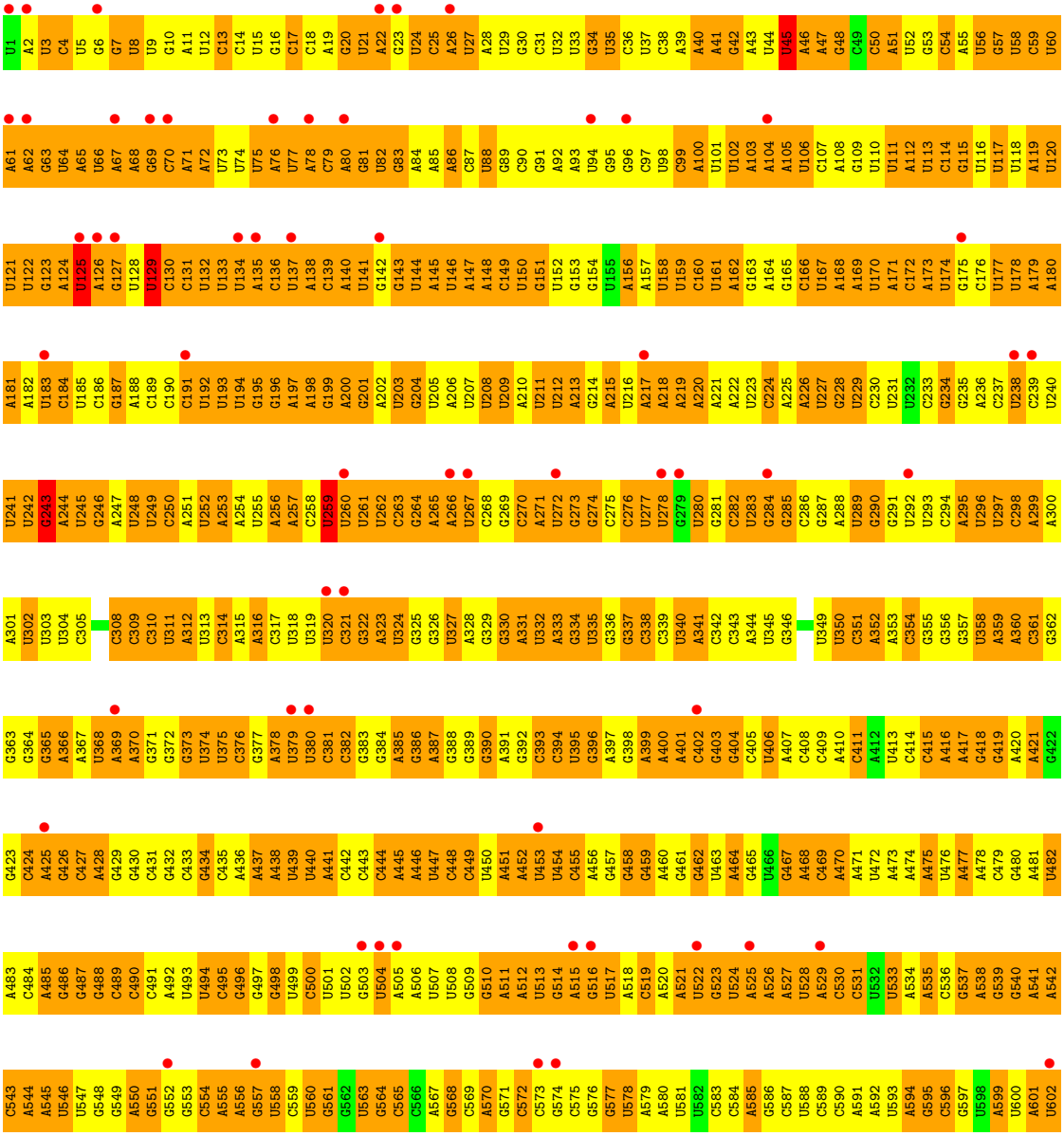
# 3 Residue-property plots (i)

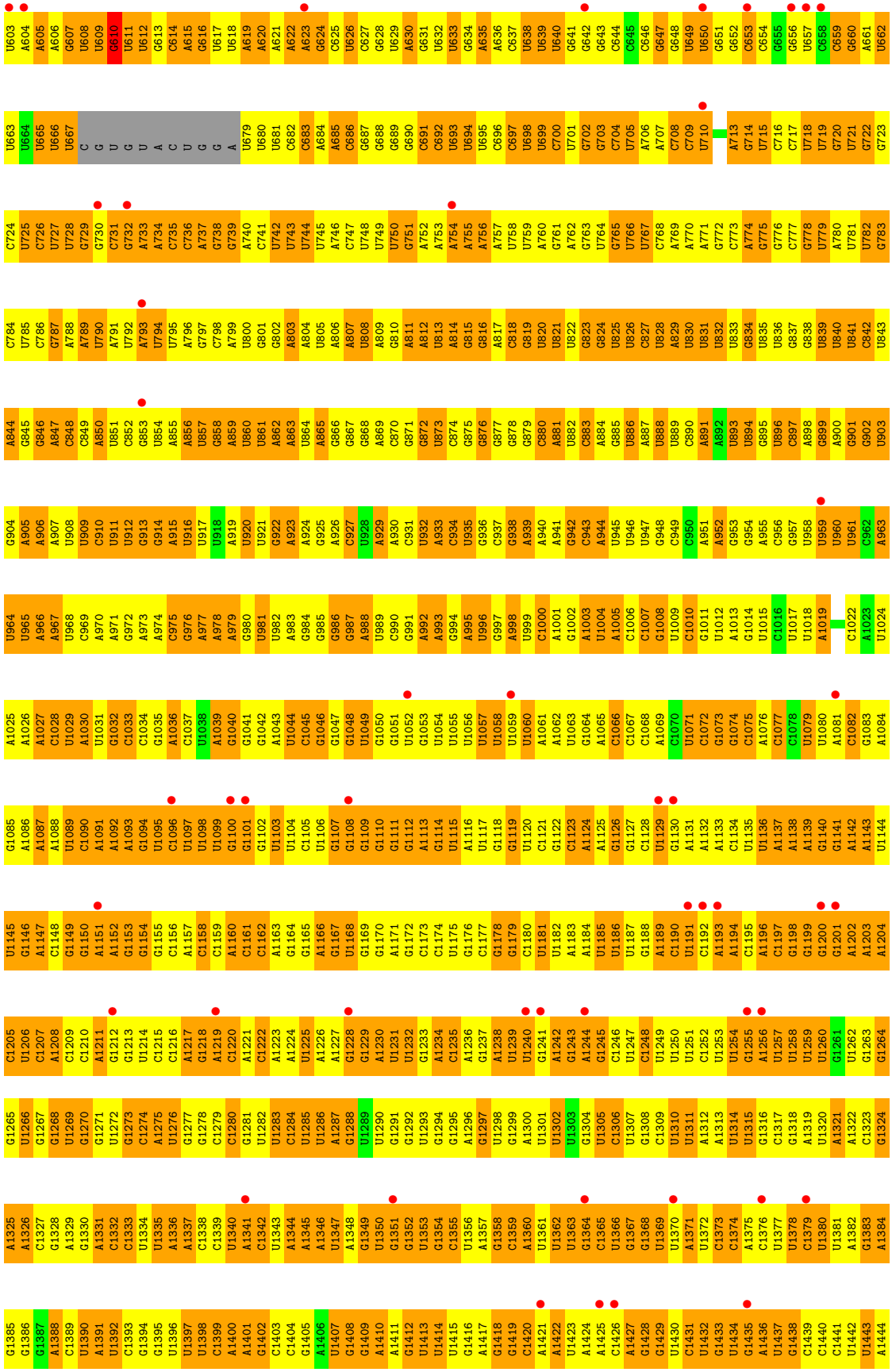
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

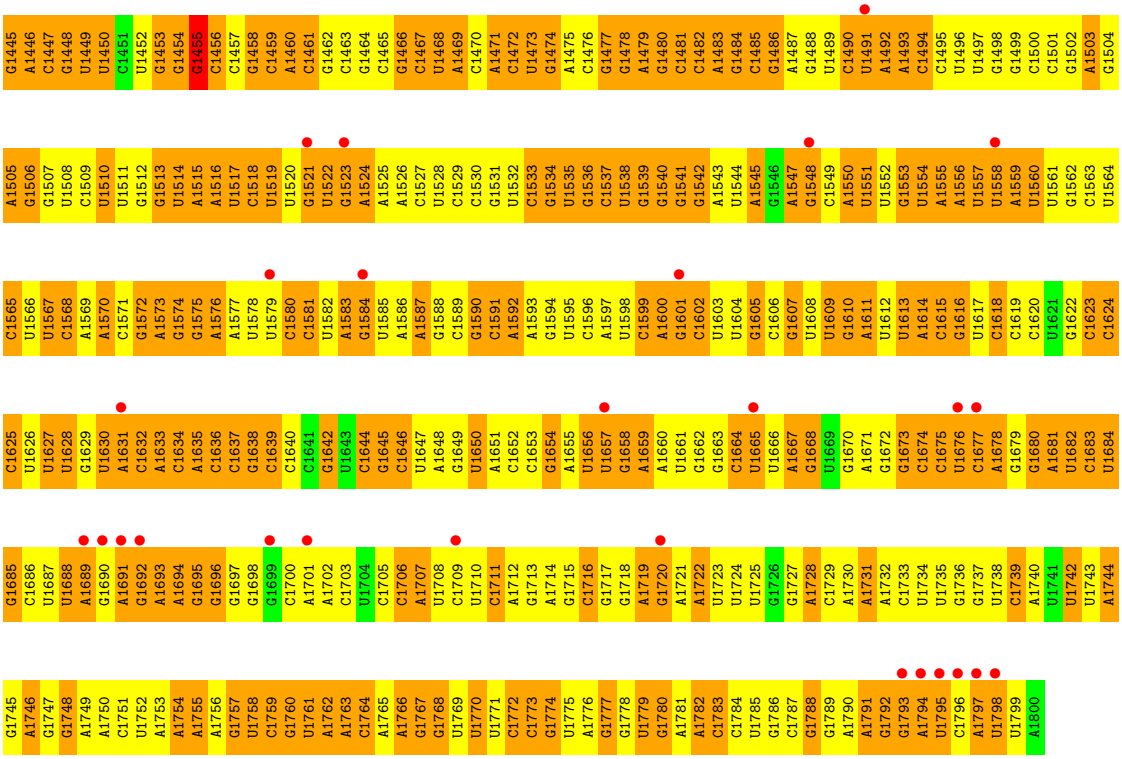
- Molecule 1: 18S ribosomal RNA

Chain A1:



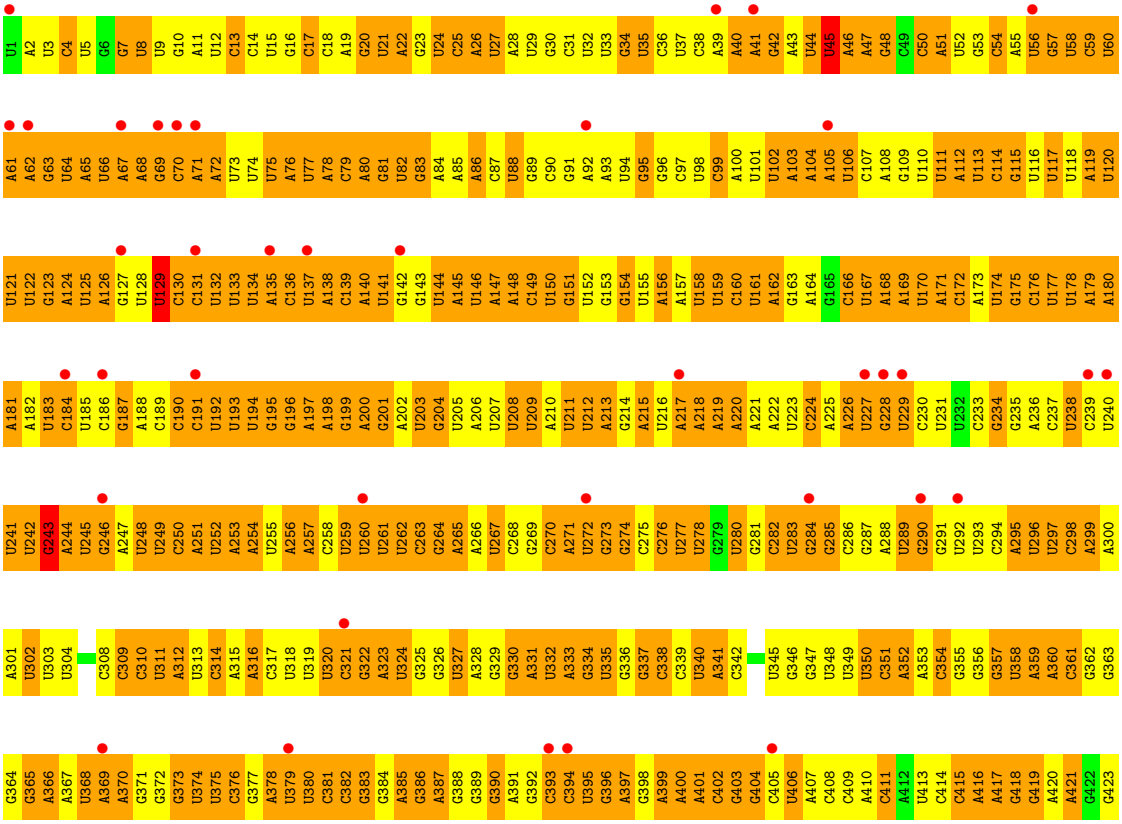


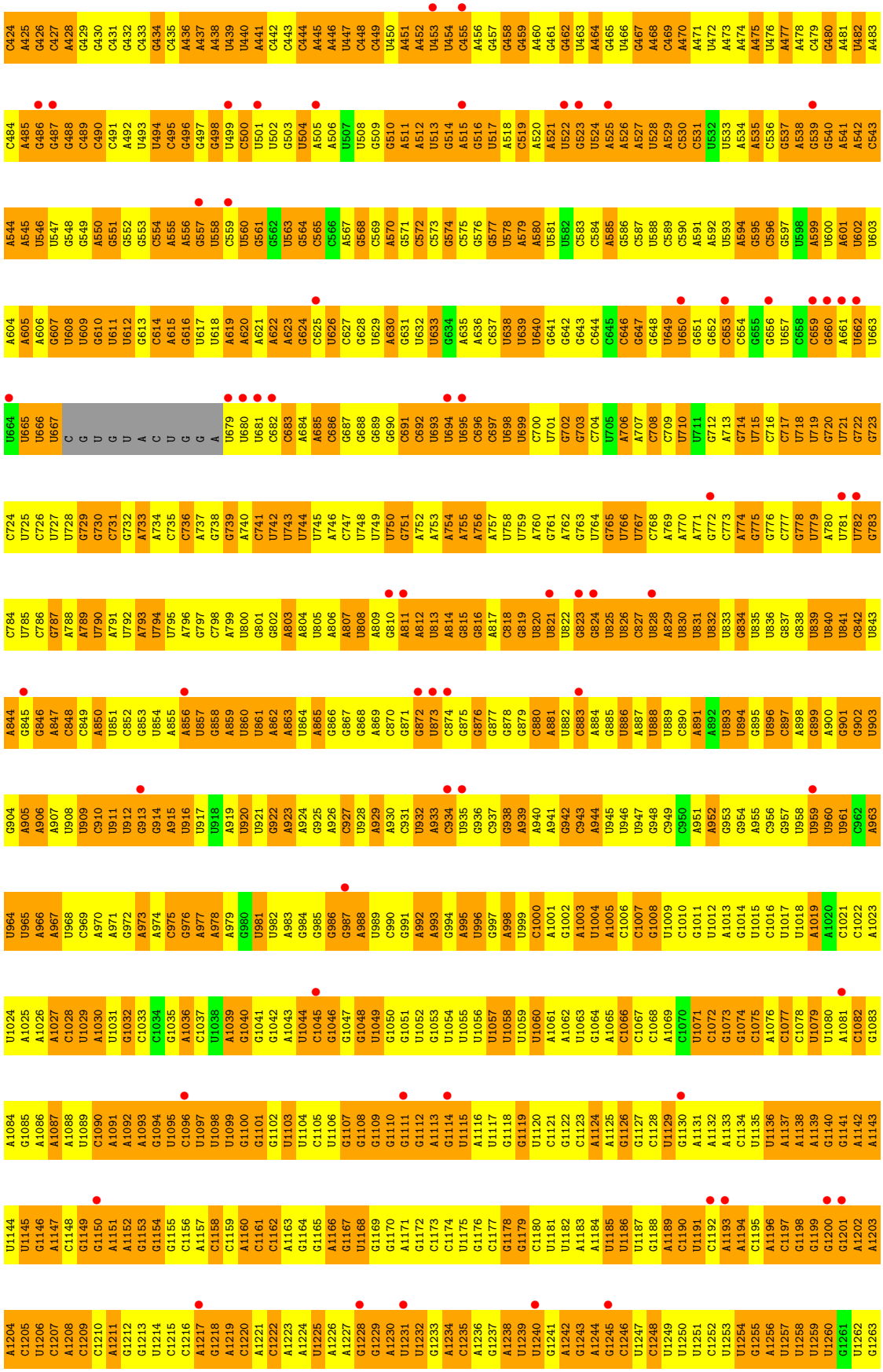


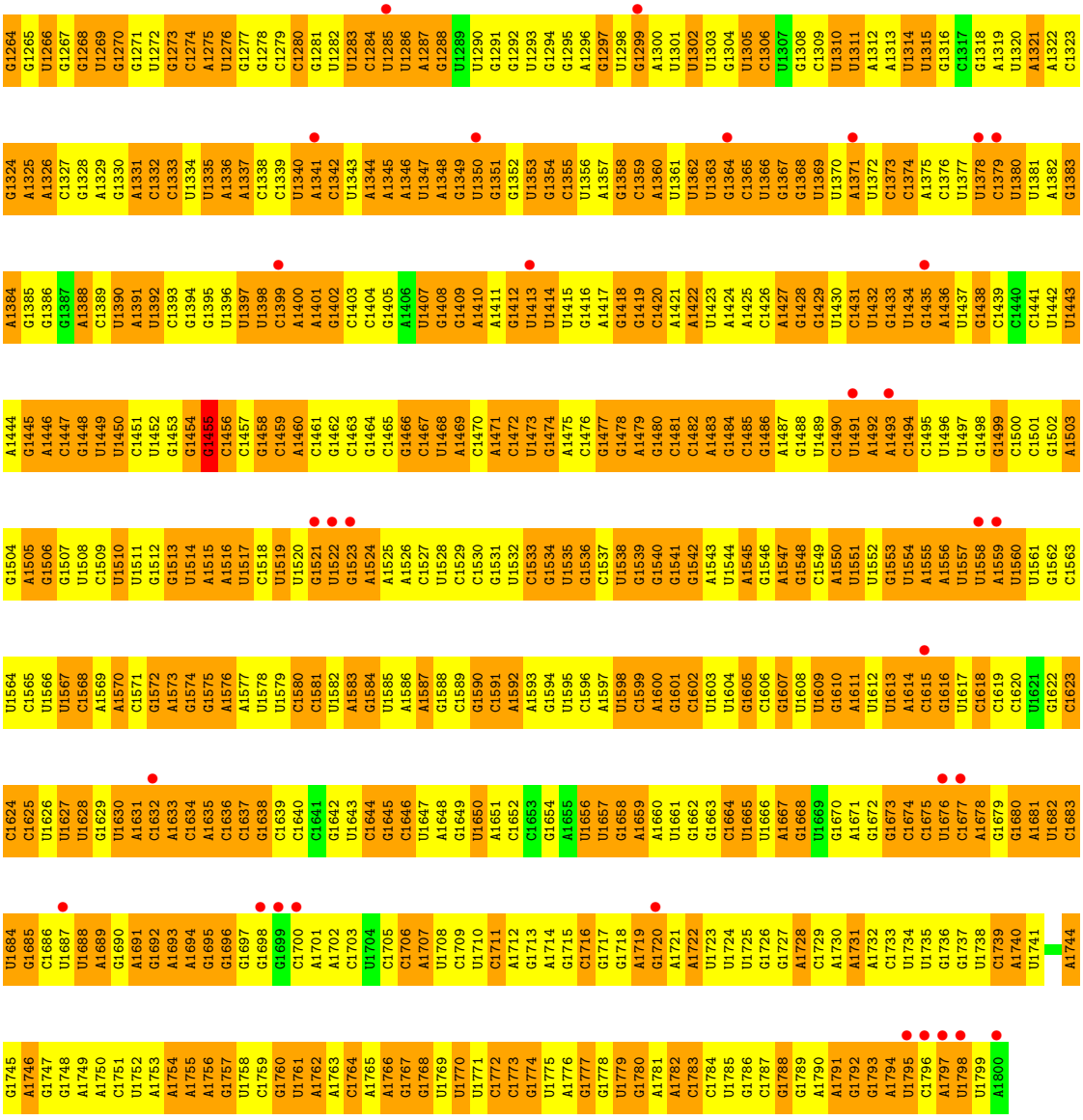
• Molecule 1: 18S ribosomal RNA

Chain C1:



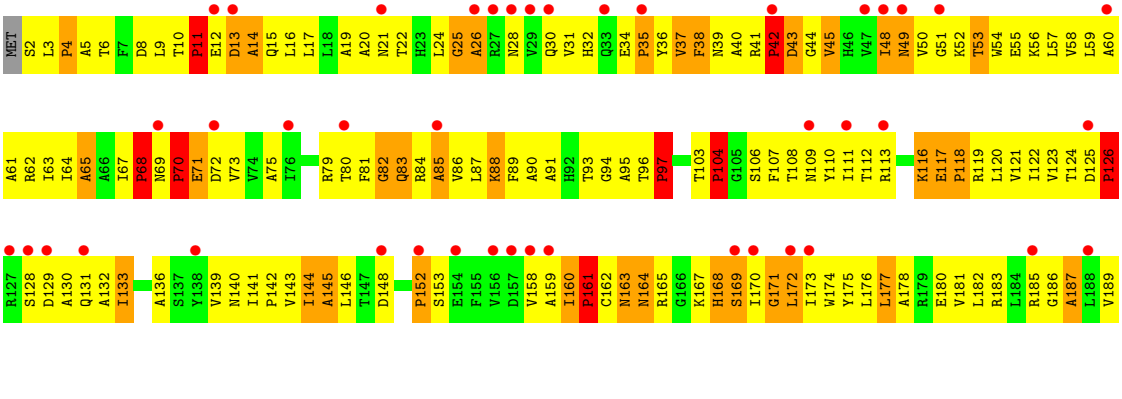

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C484 A485 G486 G487 G488 C489 C490 C491 A492 U493 U494 C495 G496 G497 G498 U499 C500 U501 U502 G503 U504 A505 A506 U507 U508 G509 G510 A511 A512 U513 G514 A515 G516 U517 A518 C519 A520 A521 U522 G523 U524 A525 A526 A527 U528 A529 C530 C531 U532 U533 A534 A535 C536 G537 A538 G539 G540 A541 U542 C543
A544 A545 U546 U547 G548 G549 A550 G551 C552 G553 C554 A555 A556 G557 U558 C559 U560 C561 G562 U563 G564 C565 C566 A567 G568 C569 A570 G571 C572 C573 G574 C575 G576 G577 U578 A579 A580 U581 U582 C583 C584 A585 G586 C587 U588 C589 C590 A591 A592 U593 A594 G595 C596 G597 U598 A599 U600 A601 U602 U603
A604 A605 A606 G607 U608 U609 G610 U611 U612 G613 C614 A615 G616 U617 U618 A619 A620 A621 A622 A623 G624 C625 U626 C627 G628 U629 A630 G631 U632 U633 G634 A635 A636 C637 U638 U639 U640 G641 G642 G643 C644 G645 G646 G647 G648 U649 U650 G651 G652 C653 C654 G655 C656 U657 C658 C659 G660 A661 U662 U663
U664 U665 U666 U667 C G U G U A C U G G A U679 U680 U681 C682 C683 A684 A685 C686 G687 G688 G689 G690 C691 C692 U693 U694 U695 C696 C697 U698 U699 C700 U701 G702 G703 C704 U705 A706 A707 C708 C709 U710 U711 G712 A713 G714 U715 C716 C717 U718 U719 G720 U721 G722 G723
C724 U725 C726 U727 U728 G729 G730 C731 G732 A733 A734 C735 C736 A737 G738 G739 A740 C741 U742 U743 U744 U745 A746 C747 U748 U749 U750 G751 A752 A753 A754 A755 A756 A757 U758 U759 A760 G761 A762 G763 U764 G765 U766 U767 C768 A769 A770 A771 G772 C773 A774 G775 G776 C777 G778 U779 A780 U781 U782 G783
C784 U785 C786 G787 A788 A789 U790 A791 U792 A793 U794 U795 A796 G797 C798 A799 U800 G801 G802 A803 A804 U805 A806 A807 U808 A809 G810 A811 A812 U813 A814 G815 G816 A817 C818 G819 U820 U821 U822 G823 G824 U825 U826 C827 U828 A829 U830 U831 U832 U833 G834 U835 U836 G837 G838 U839 U840 U841 C842 U843
A844 G845 G846 A847 C848 C849 A850 U851 C852 G853 U854 A855 A856 U857 G858 A859 U860 U861 A862 A863 U864 A865 G866 G867 G868 A869 C870 G871 G872 U873 C874 G875 G876 G877 G878 G879 C880 A881 U882 C883 A884 G885 U886 A887 U888 U889 C890 A891 A892 U893 U894 G895 U896 C897 A898 G899 A900 G901 G902 U903
G904 A905 A906 A907 U908 U909 C910 U911 U912 G913 G914 A915 U916 U917 U918 A919 U920 U921 G922 A923 A924 G925 A926 C927 U928 A929 A930 C931 U932 A933 C934 U935 G936 C937 G938 A939 A940 A941 G942 C943 A944 U945 U946 U947 G948 C949 C950 A951 A952 G953 G954 A955 C956 G957 U958 U959 U960 U961 C962 A963
U964 U965 A966 A967 U968 C969 A970 A971 G972 A973 A974 C975 G976 A977 A978 A979 G980 U981 U982 A983 G984 G985 G986 G987 A988 U989 C990 G991 A992 A993 G994 A995 U996 G997 A998 U999 C1000 A1001 G1002 A1003 U1004 A1005 C1006 C1007 C1008 U1009 C1010 G1011 U1012 A1013 G1014 U1015 C1016 A1017 U1018 A1019 A1020 C1021 C1022 A1023
U1024 A1025 A1026 A1027 C1028 U1029 A1030 U1031 G1032 C1033 C1034 G1035 A1036 C1037 U1038 A1039 G1040 G1041 G1042 A1043 U1044 C1045 G1046 G1047 G1048 U1049 G1050 G1051 U1052 G1053 U1054 U1055 U1056 U1057 U1058 U1059 U1060 A1061 A1062 U1063 G1064 A1065 C1066 C1067 C1068 A1069 C1070 U1071 C1072 G1073 G1074 C1075 A1076 C1077 C1078 U1079 U1080 A1081 C1082 G1083
A1084 G1085 A1086 A1087 A1088 U1089 C1090 A1091 A1092 A1093 G1094 U1095 C1096 U1097 U1098 U1099 G1100 G1101 G1102 U1103 U1104 C1105 U1106 G1107 G1108 G1109 G1110 G1111 G1112 A1113 G1114 U1115 A1116 U1117 G1118 G1119 U1120 C1121 C1122 C1123 A1124 A1125 G1126 G1127 C1128 U1129 G1130 A1131 A1132 A1133 C1134 U1135 U1136 A1137 A1138 A1139 G1140 G1141 A1142 A1143
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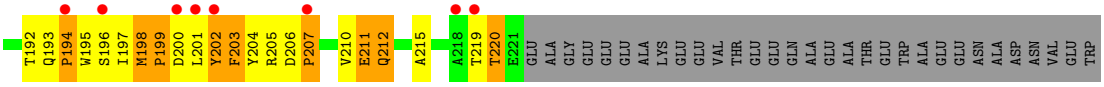


• Molecule 2: 40S ribosomal protein S0-A

Chain AA:



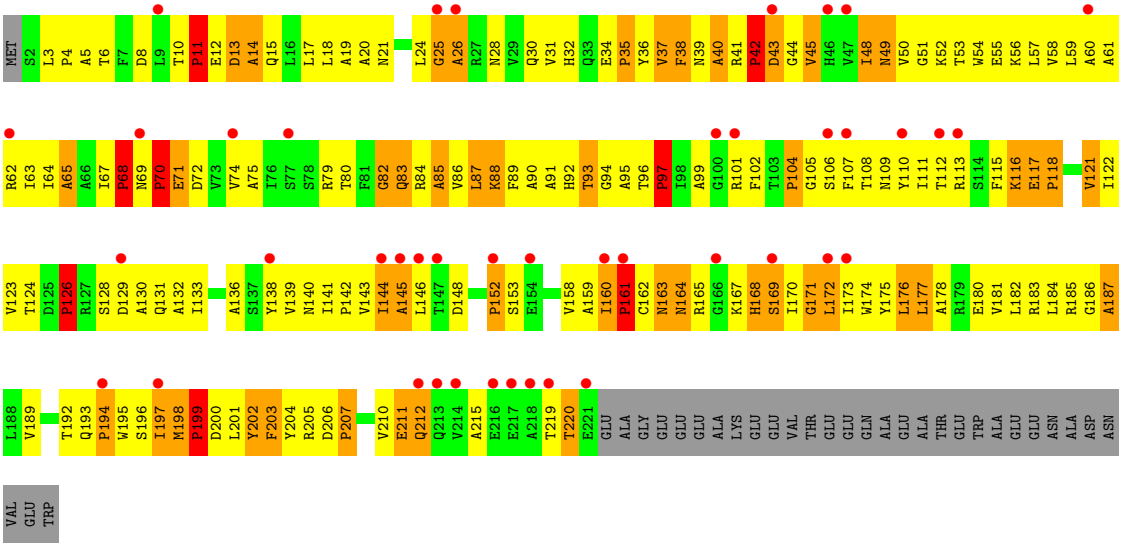





• Molecule 2: 40S ribosomal protein S0-A

Chain CA:

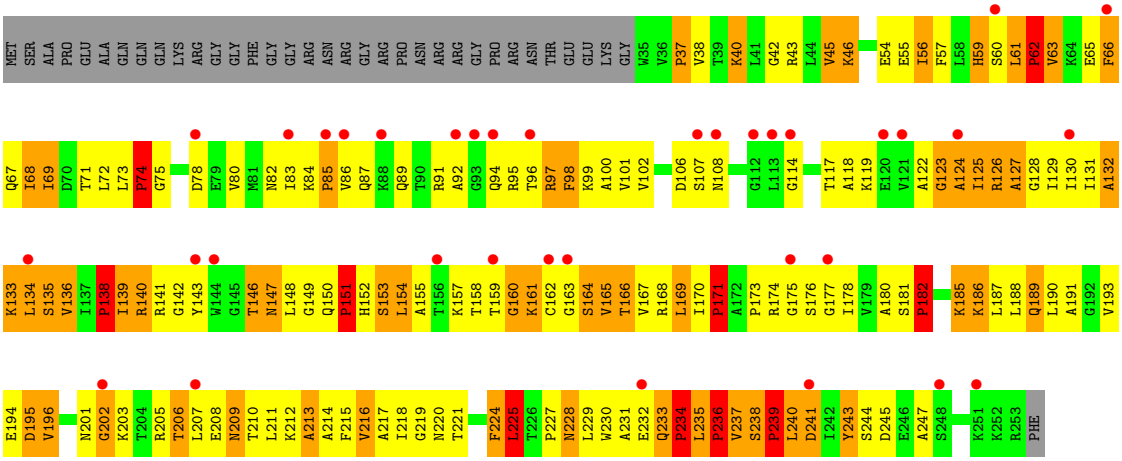


• Molecule 3: 40S ribosomal protein S2

Chain AB:

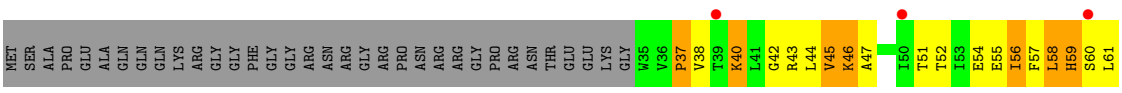


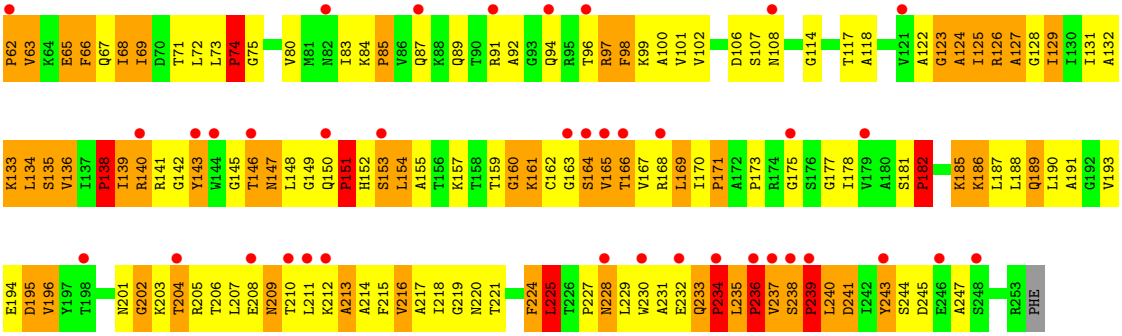



• Molecule 3: 40S ribosomal protein S2

Chain CB:



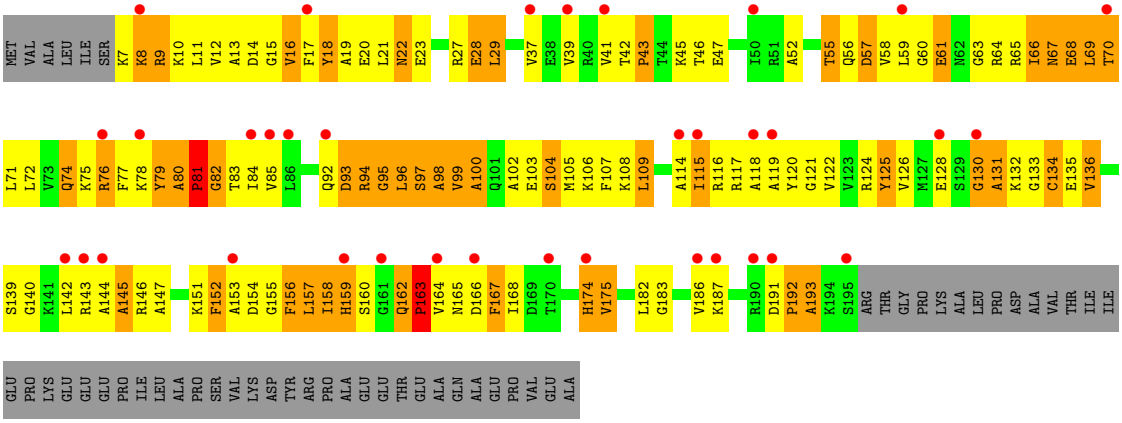






• Molecule 4: 40S ribosomal protein S3

Chain AC:

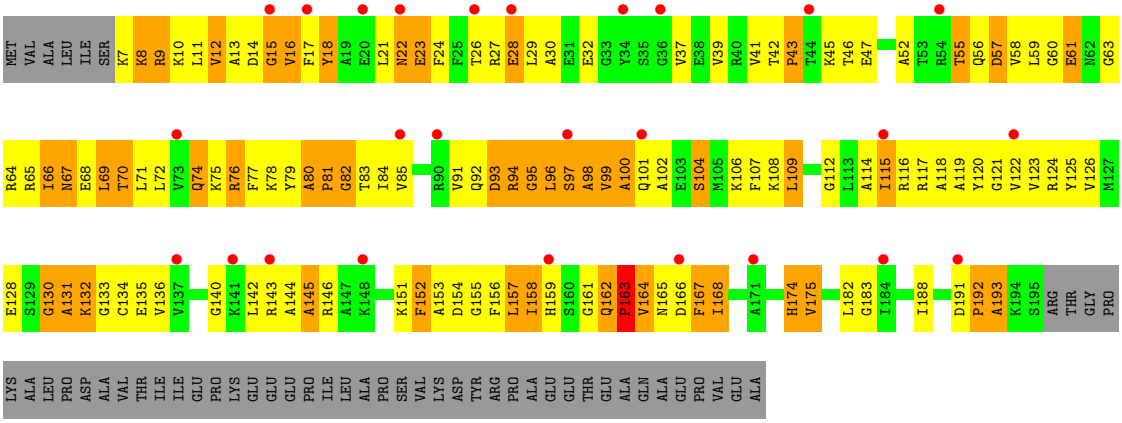



• Molecule 4: 40S ribosomal protein S3

Chain CC:

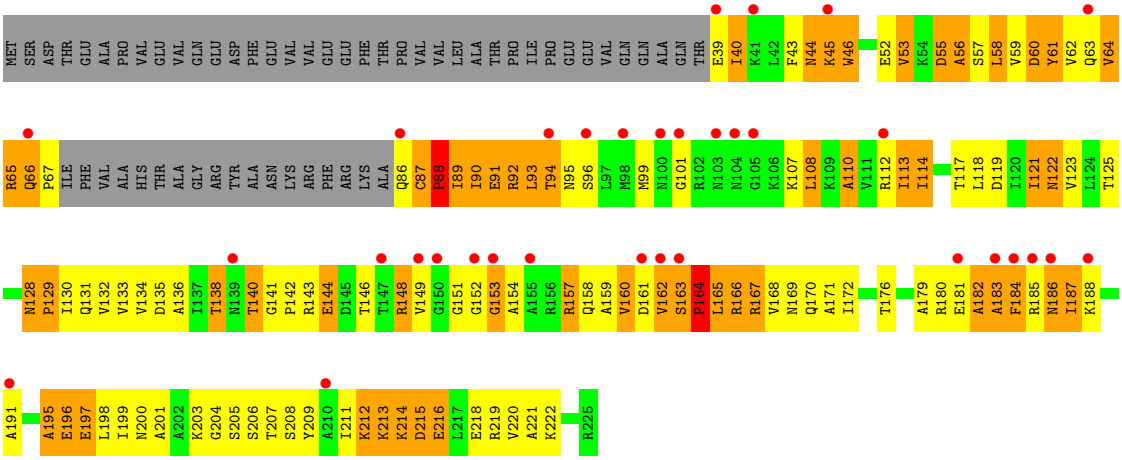



• Molecule 5: 40S ribosomal protein S5

Chain AD:

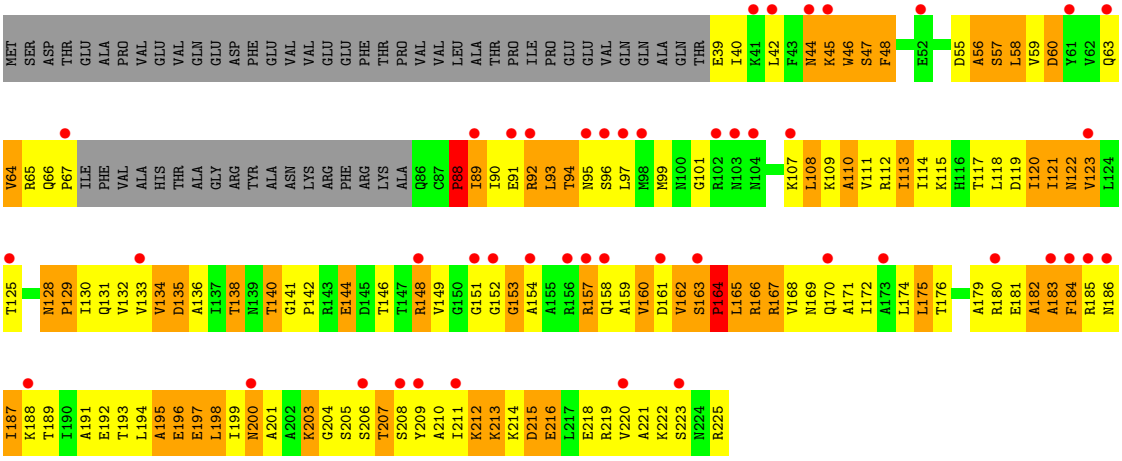




• Molecule 5: 40S ribosomal protein S5

Chain CD:

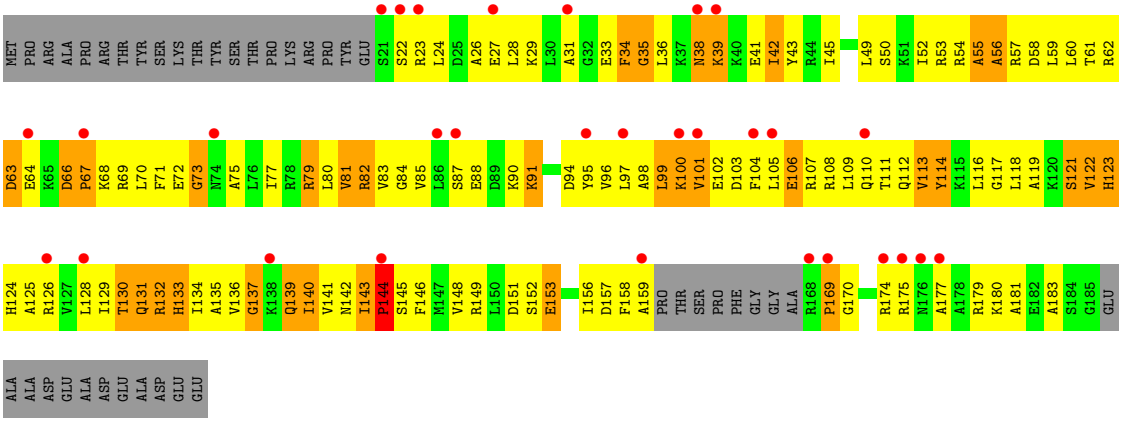


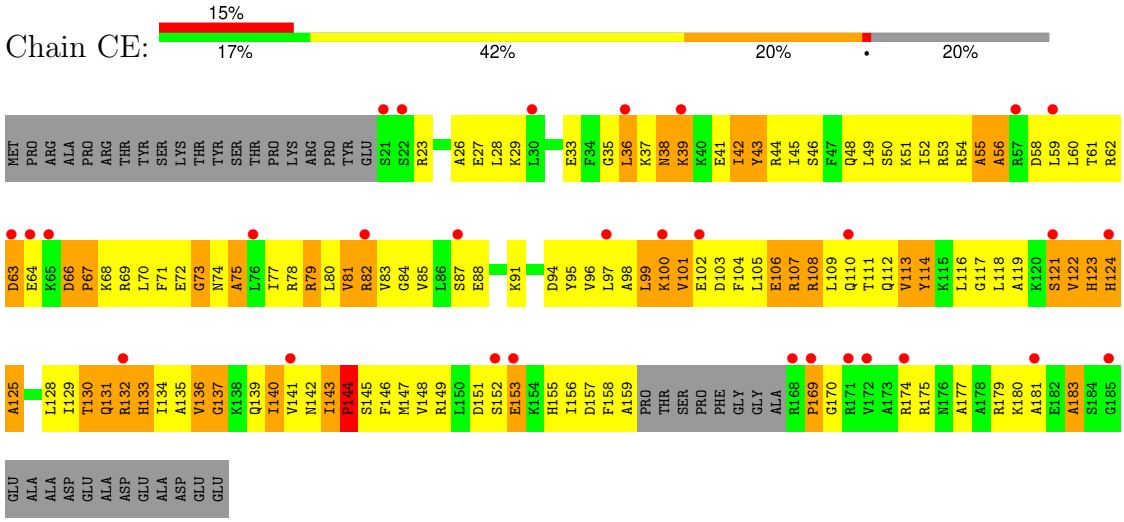
• Molecule 6: 40S ribosomal protein S9-A

Chain AE:

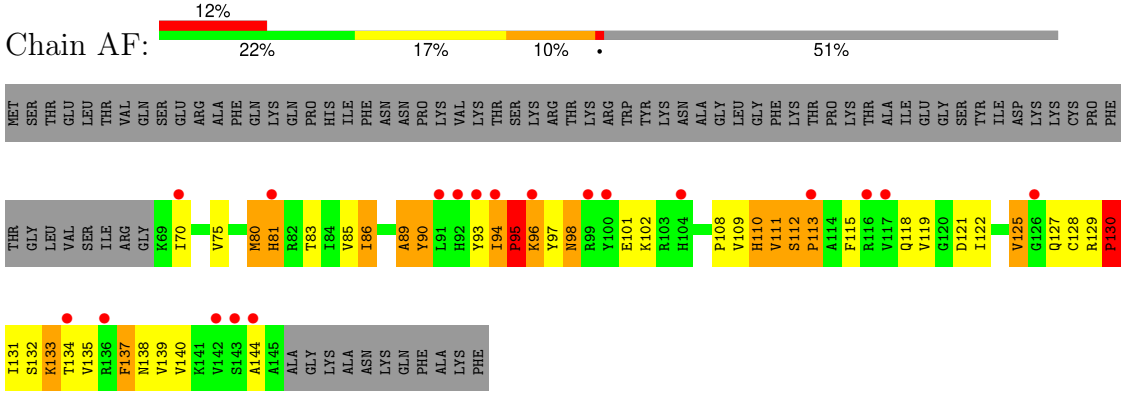


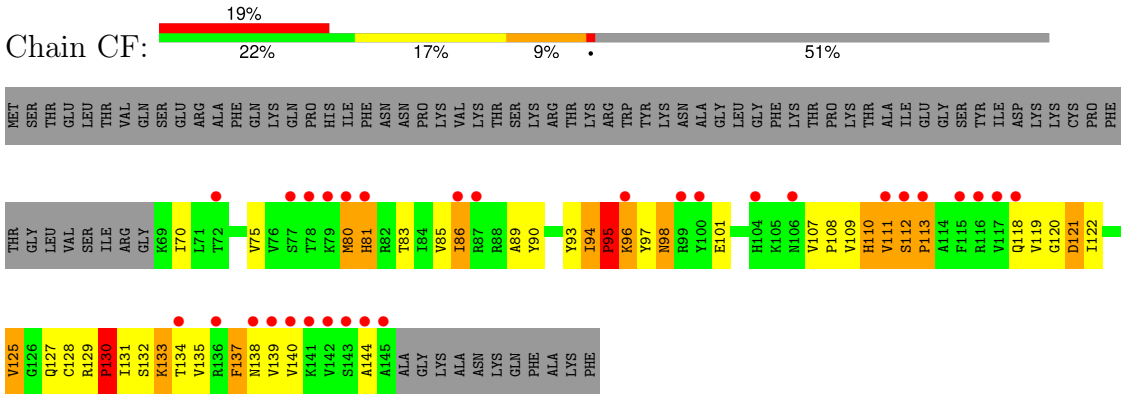
• Molecule 6: 40S ribosomal protein S9-A



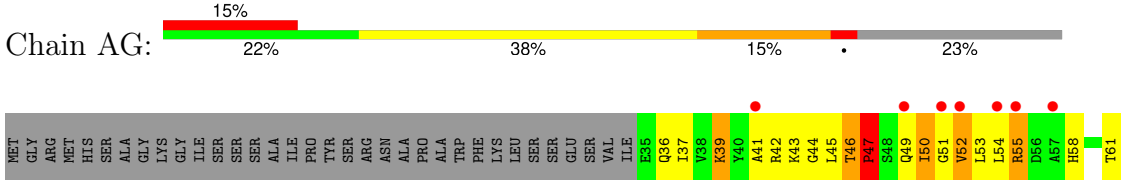

• Molecule 7: 40S ribosomal protein S11

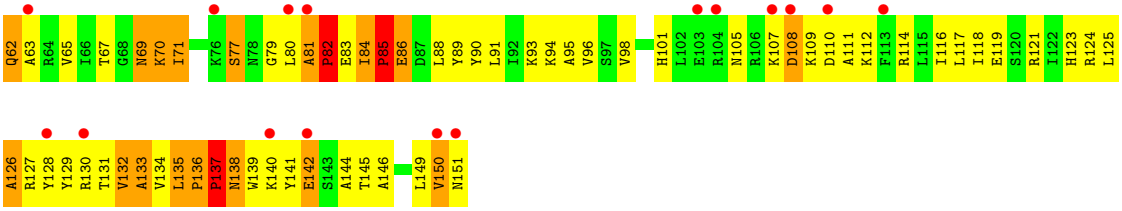



• Molecule 7: 40S ribosomal protein S11

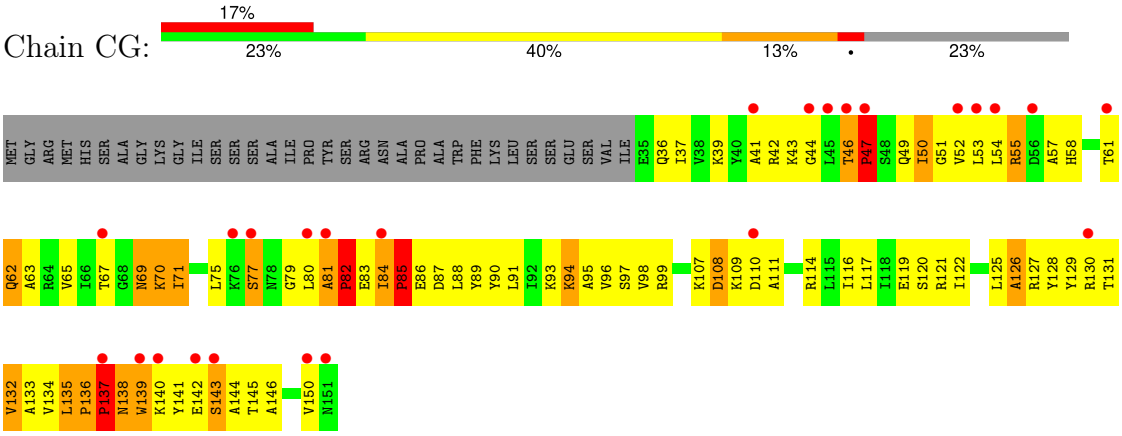



• Molecule 8: 40S ribosomal protein S13

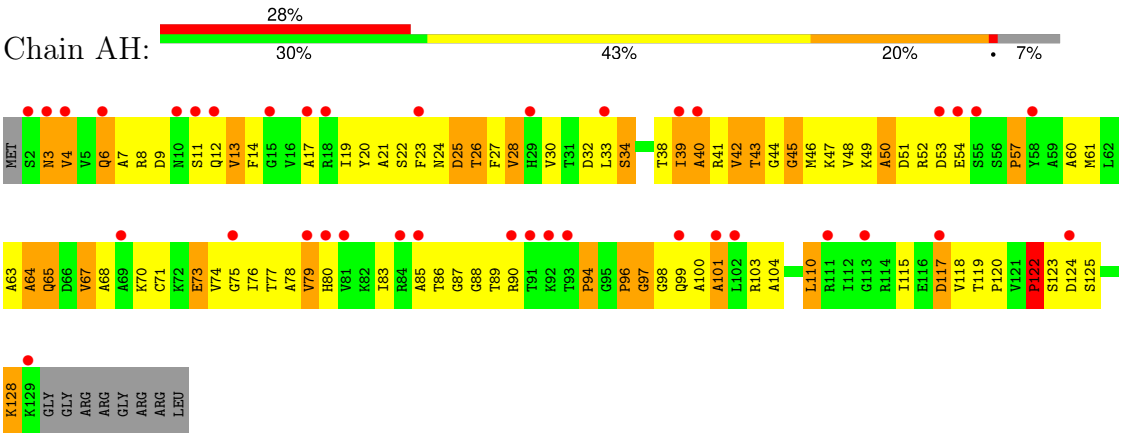




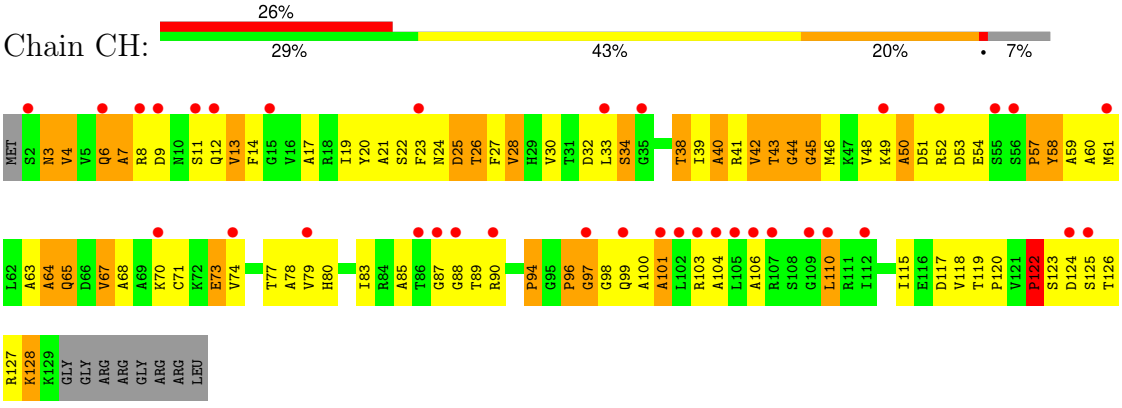

• Molecule 8: 40S ribosomal protein S13




• Molecule 9: 40S ribosomal protein S14-A

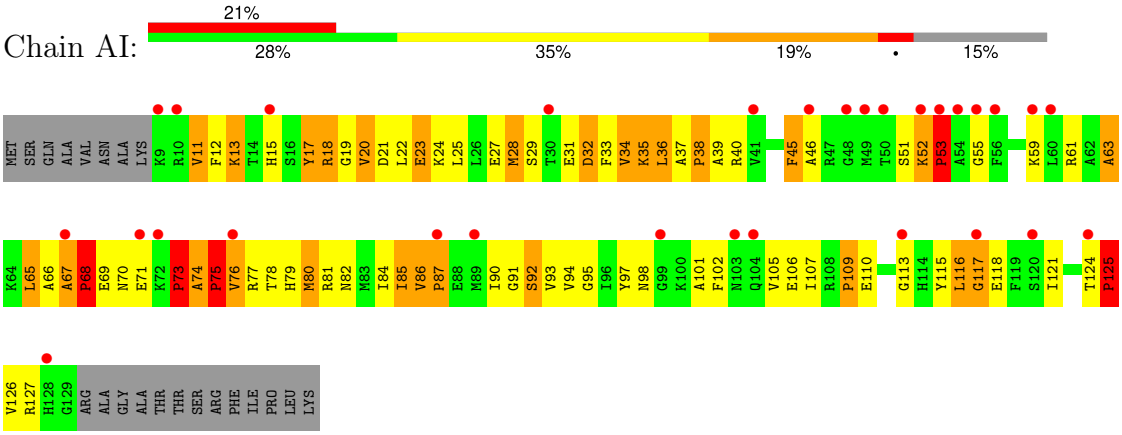



• Molecule 9: 40S ribosomal protein S14-A



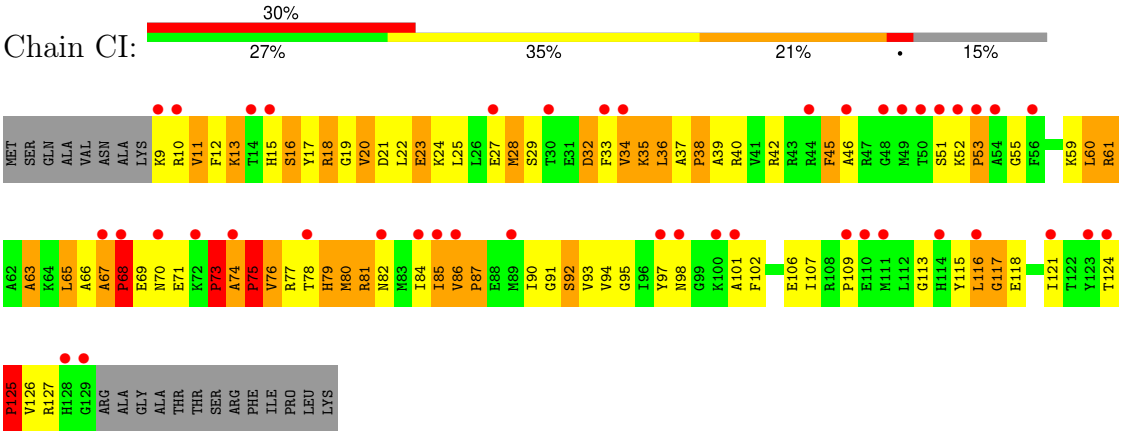

• Molecule 10: 40S ribosomal protein S15

Chain AI:



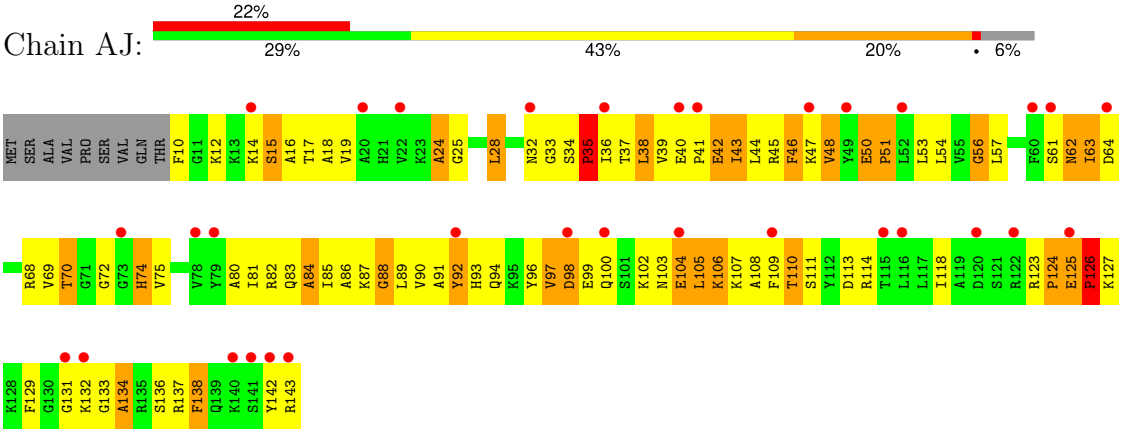

• Molecule 10: 40S ribosomal protein S15

Chain CI:



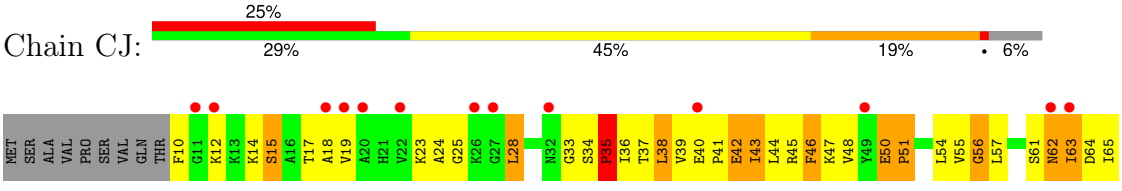

• Molecule 11: 40S ribosomal protein S16

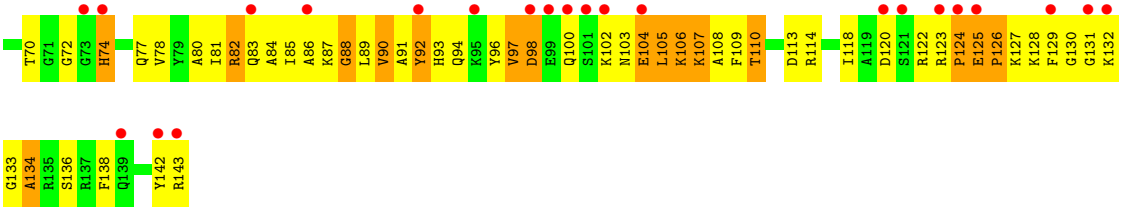
Chain AJ:




• Molecule 11: 40S ribosomal protein S16

Chain CJ:

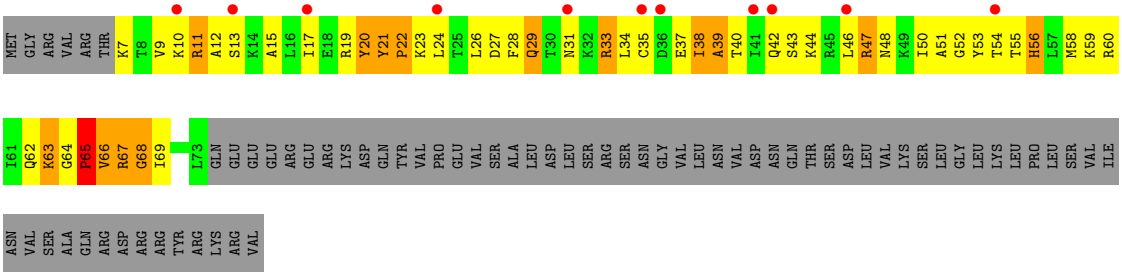





• Molecule 12: 40S ribosomal protein S17-A

Chain AK:

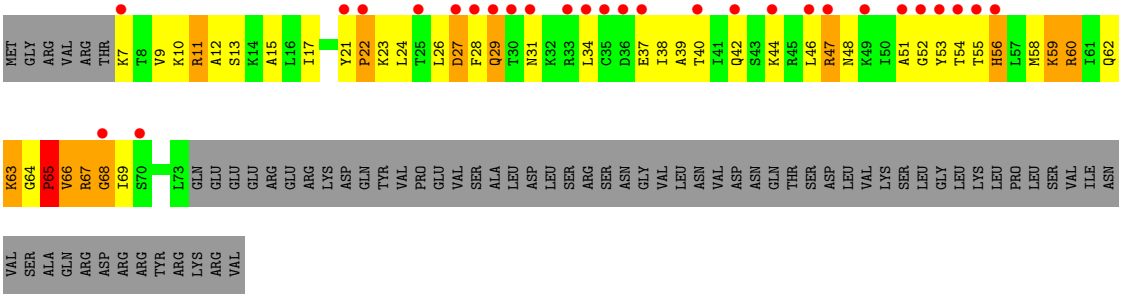



• Molecule 12: 40S ribosomal protein S17-A

Chain CK:

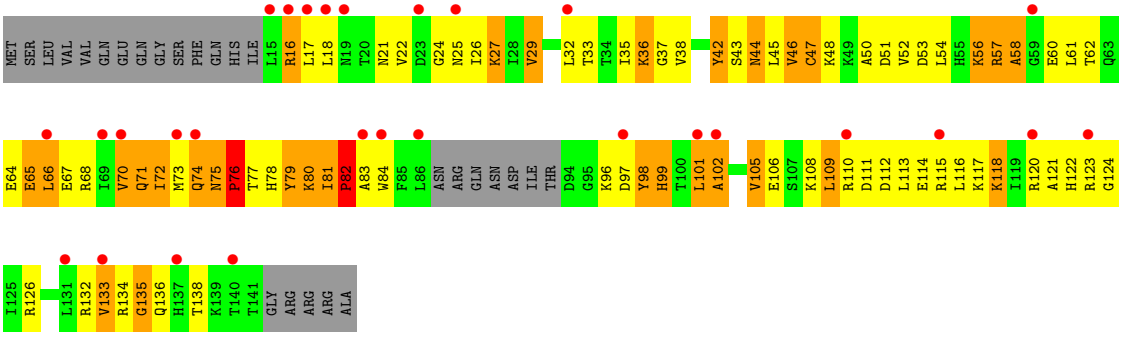



• Molecule 13: 40S ribosomal protein S18

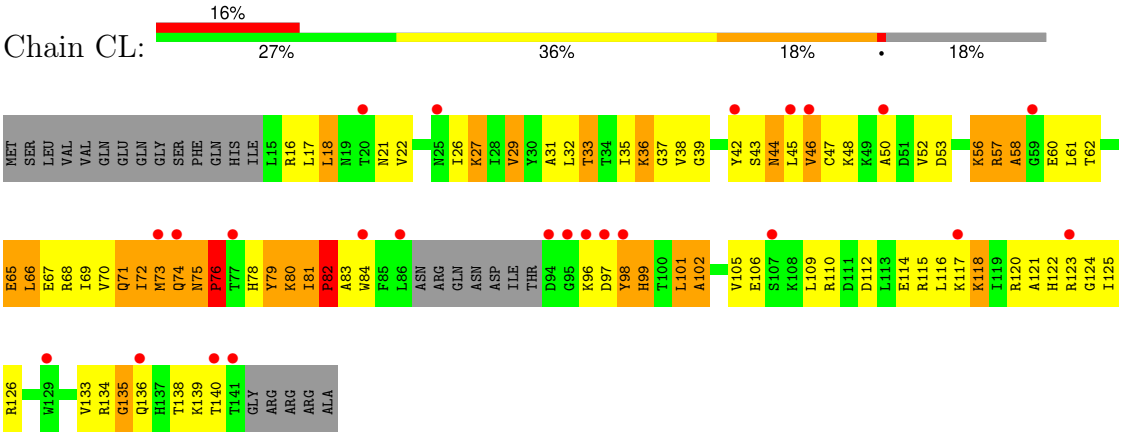
Chain AL:



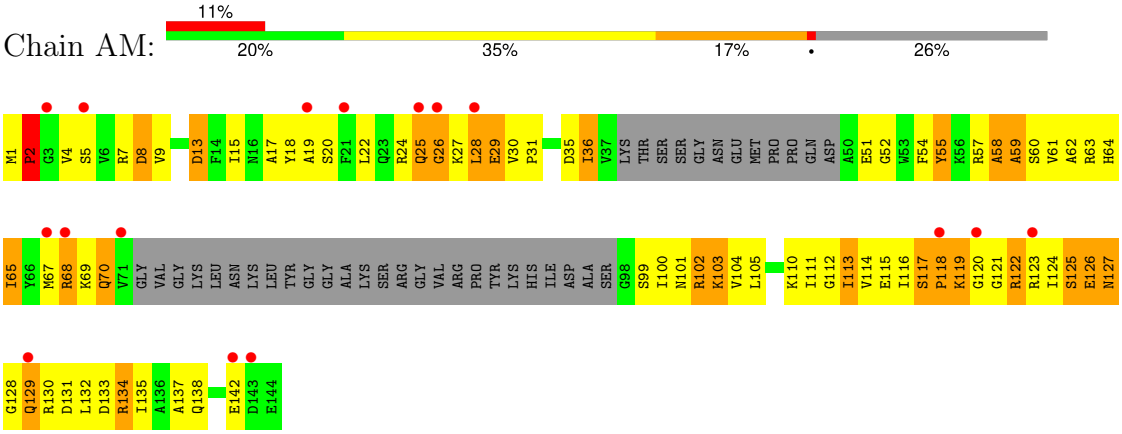

• Molecule 13: 40S ribosomal protein S18

Chain CL:



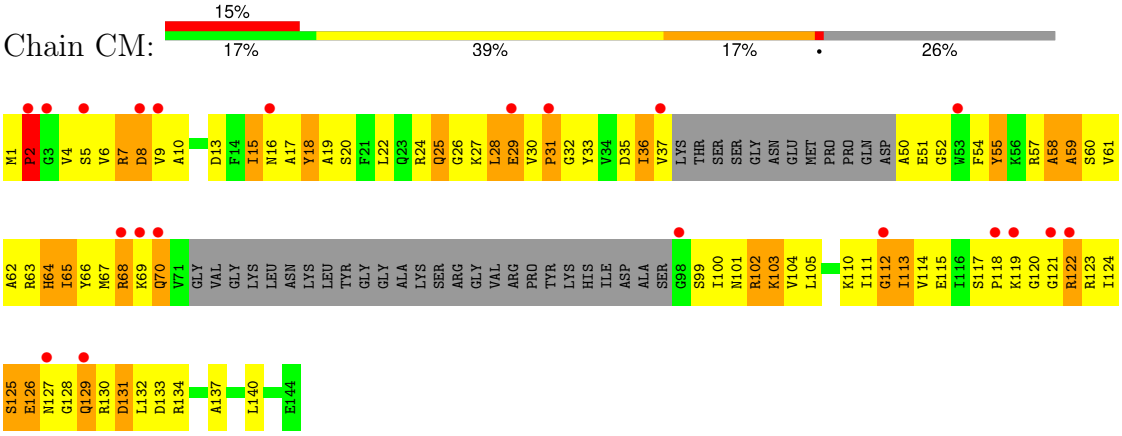

• Molecule 14: 40S ribosomal protein S19-A

Chain AM:



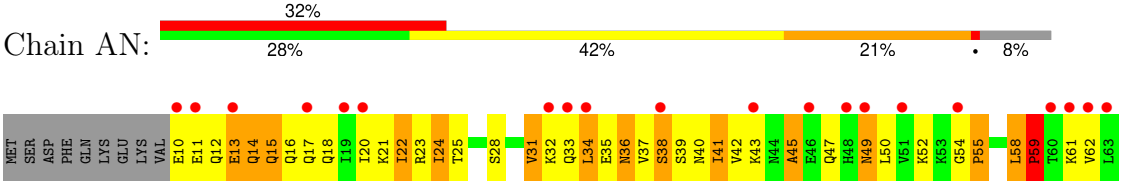

• Molecule 14: 40S ribosomal protein S19-A

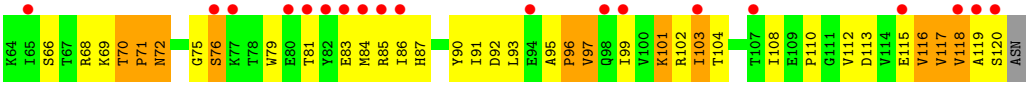
Chain CM:




• Molecule 15: 40S ribosomal protein S20

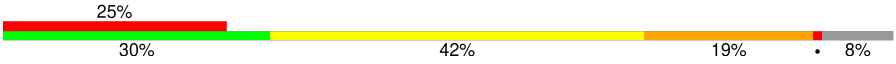
Chain AN:

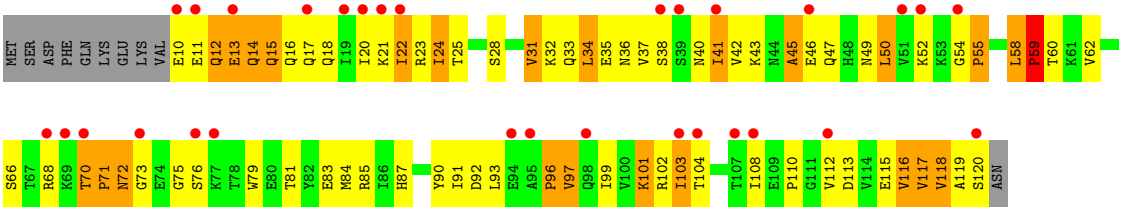




• Molecule 15: 40S ribosomal protein S20

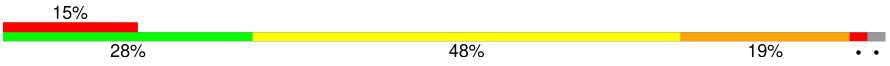
Chain CN:

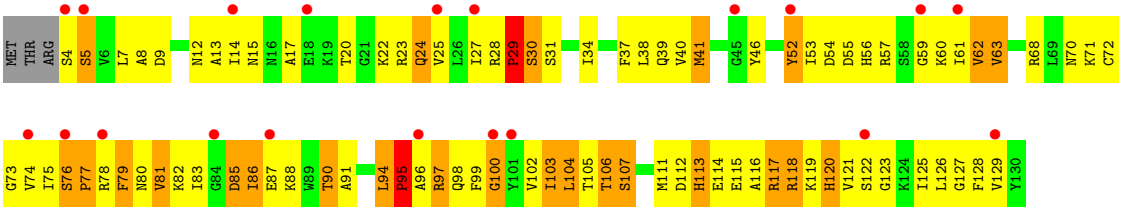


• Molecule 16: 40S ribosomal protein S22-A

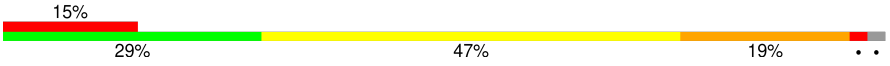
Chain AO:

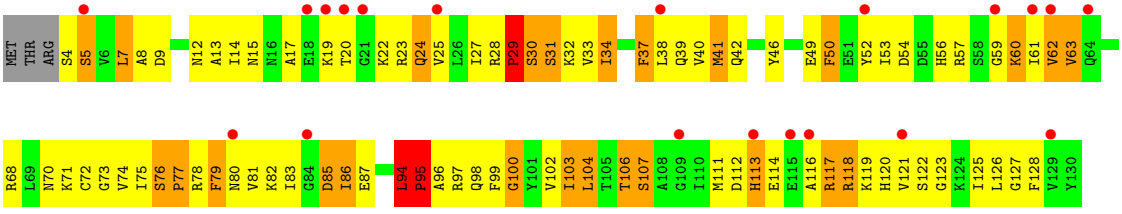


• Molecule 16: 40S ribosomal protein S22-A

Chain CO:

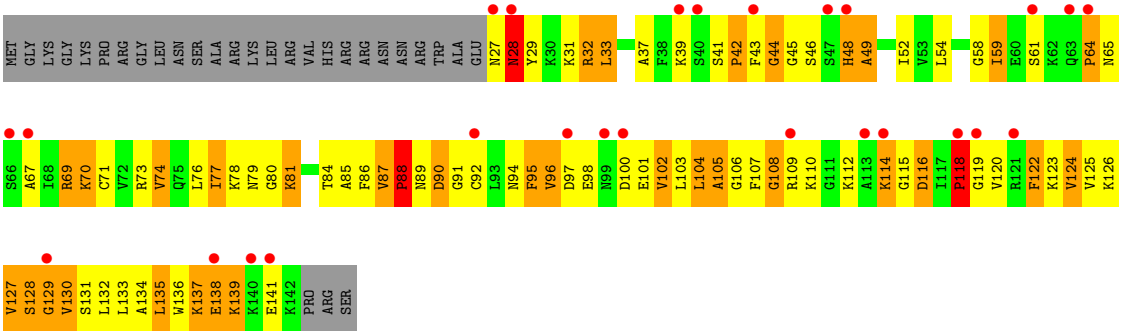


• Molecule 17: 40S ribosomal protein S23

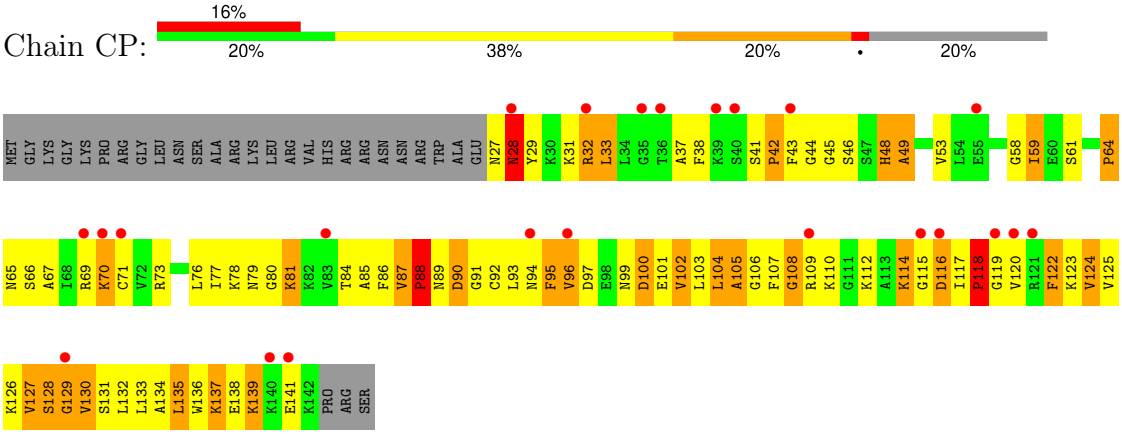
Chain AP:



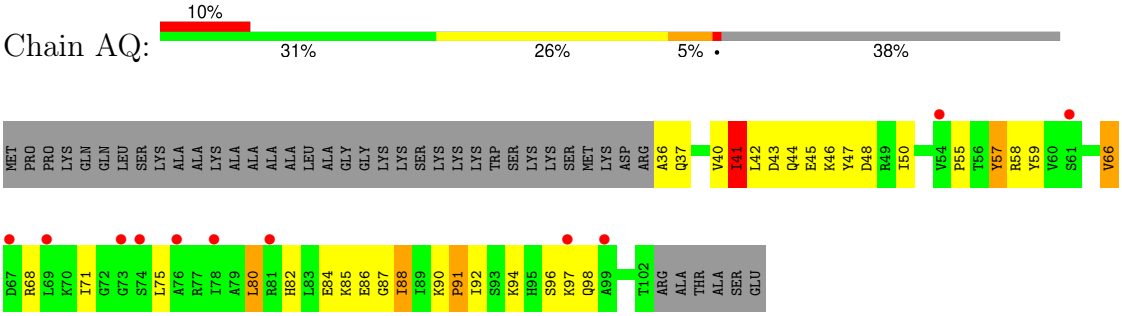
• Molecule 17: 40S ribosomal protein S23

Chain CP:



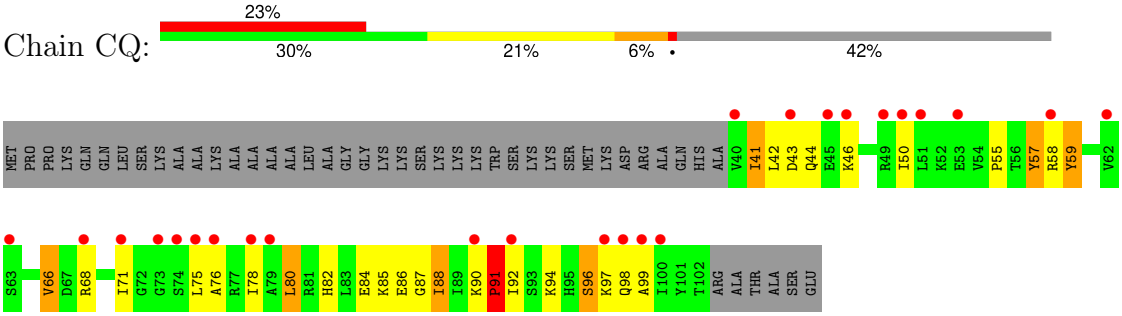

• Molecule 18: 40S ribosomal protein S25-A

Chain AQ:



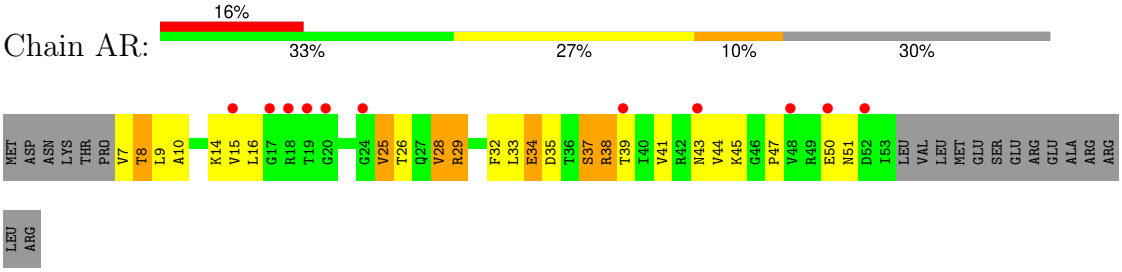

• Molecule 18: 40S ribosomal protein S25-A

Chain CQ:



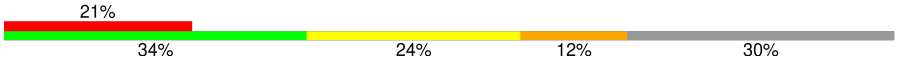

• Molecule 19: 40S ribosomal protein S28-A

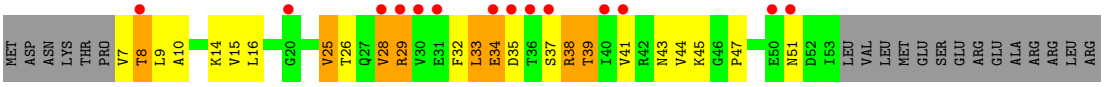
Chain AR:




• Molecule 19: 40S ribosomal protein S28-A

Chain CR:

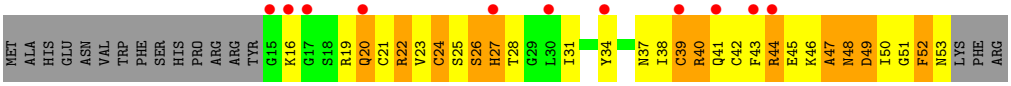




• Molecule 20: 40S ribosomal protein S29-A

Chain AS:

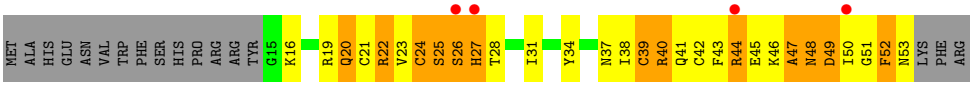


• Molecule 20: 40S ribosomal protein S29-A

Chain CS:

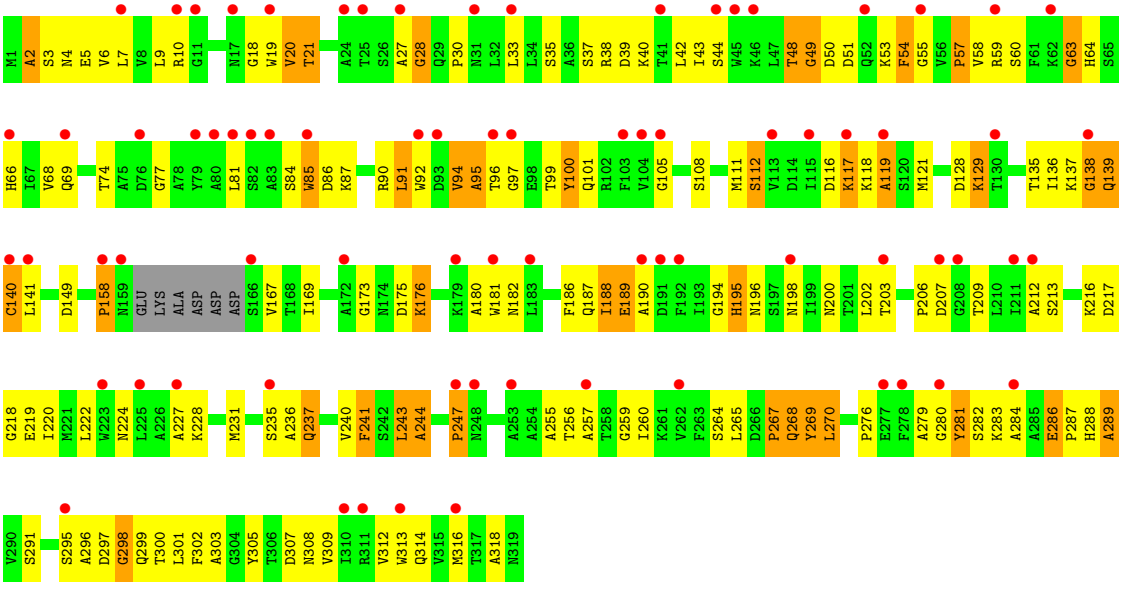


• Molecule 21: Guanine nucleotide-binding protein subunit beta-like protein; RACK-1

Chain AT:

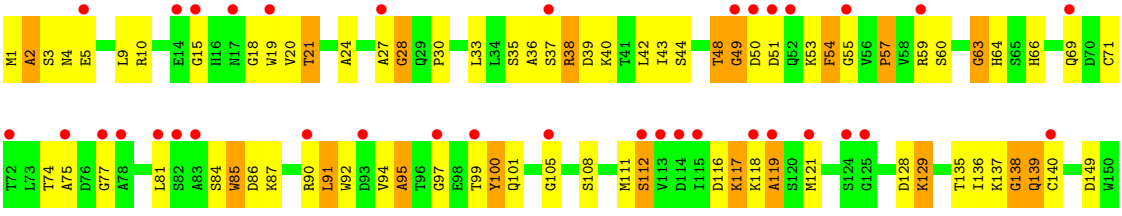


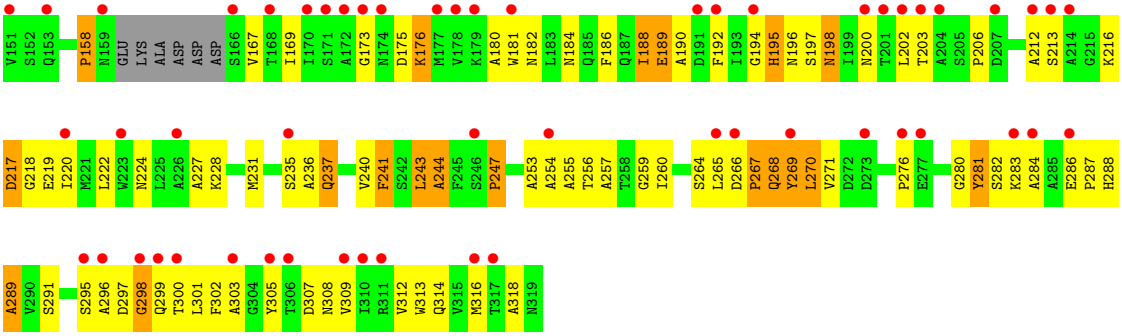



• Molecule 21: Guanine nucleotide-binding protein subunit beta-like protein; RACK-1

Chain CT:



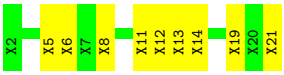






• Molecule 22: Unassigned secondary structure

Chain Aa:




• Molecule 22: Unassigned secondary structure

Chain Bo:



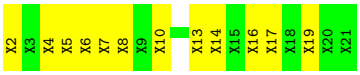




• Molecule 22: Unassigned secondary structure

Chain Ca:

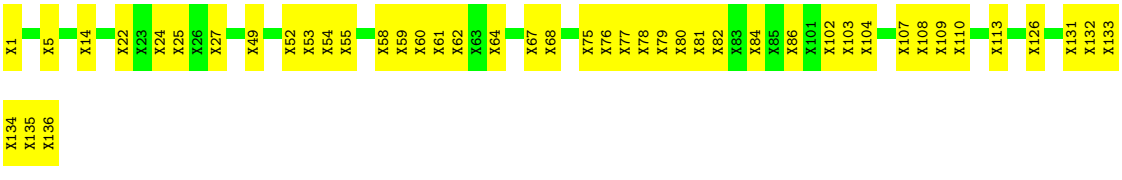



• Molecule 23: Unassigned secondary structure

Chain Ab:



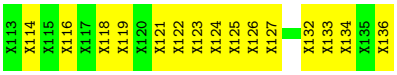




• Molecule 23: Unassigned secondary structure

Chain Cb:



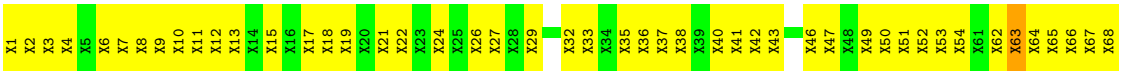


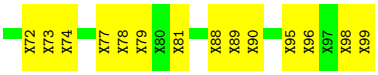




• Molecule 24: Unassigned secondary structure

Chain Ac:

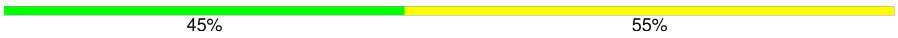


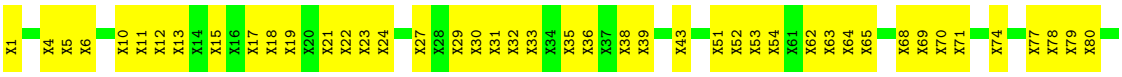



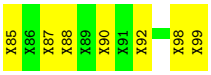




• Molecule 24: Unassigned secondary structure

Chain Cc:




• Molecule 25: Unassigned secondary structure

Chain Ad:



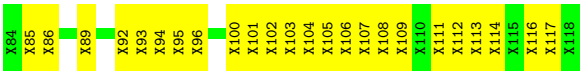




• Molecule 25: Unassigned secondary structure

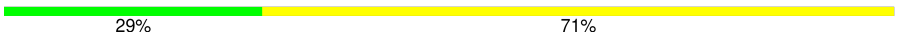
Chain Cd:

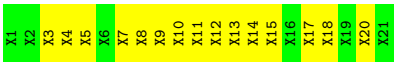



• Molecule 26: Unassigned secondary structure

Chain Ae:

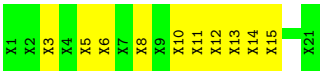



• Molecule 26: Unassigned secondary structure

Chain Bj:

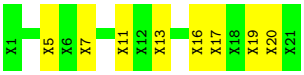


• Molecule 26: Unassigned secondary structure

Chain Dj:

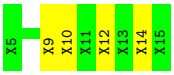



• Molecule 27: Unassigned secondary structure

Chain Af:

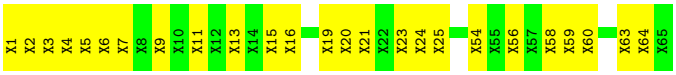



• Molecule 28: Unassigned secondary structure

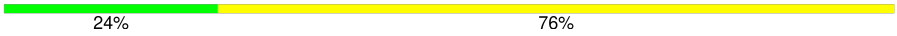
Chain Ah:

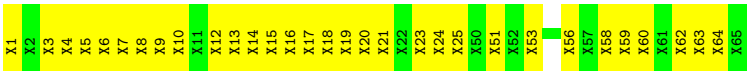



• Molecule 28: Unassigned secondary structure

Chain Ch:

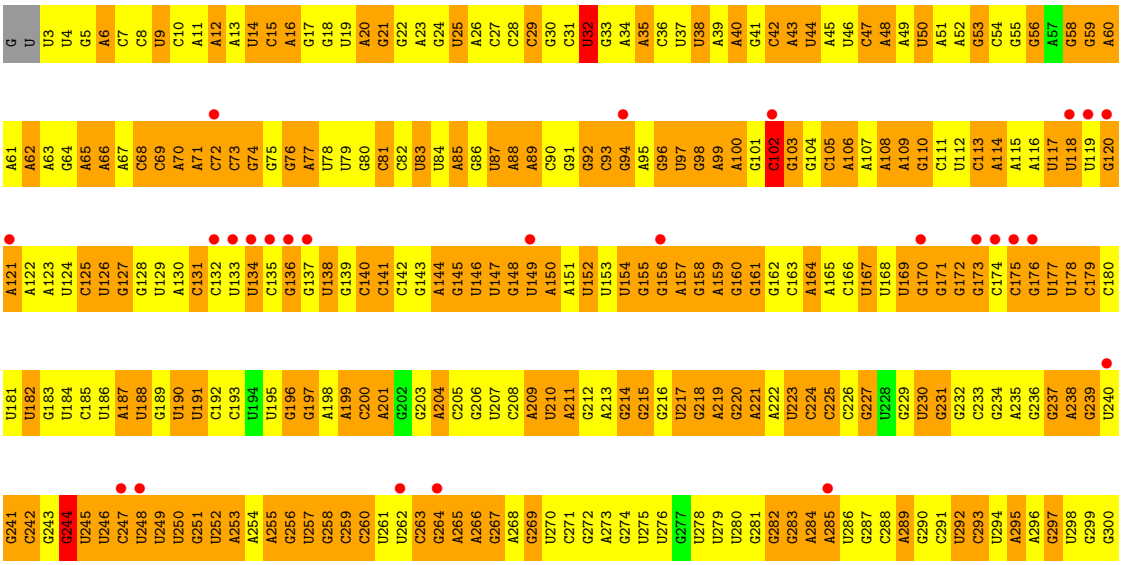


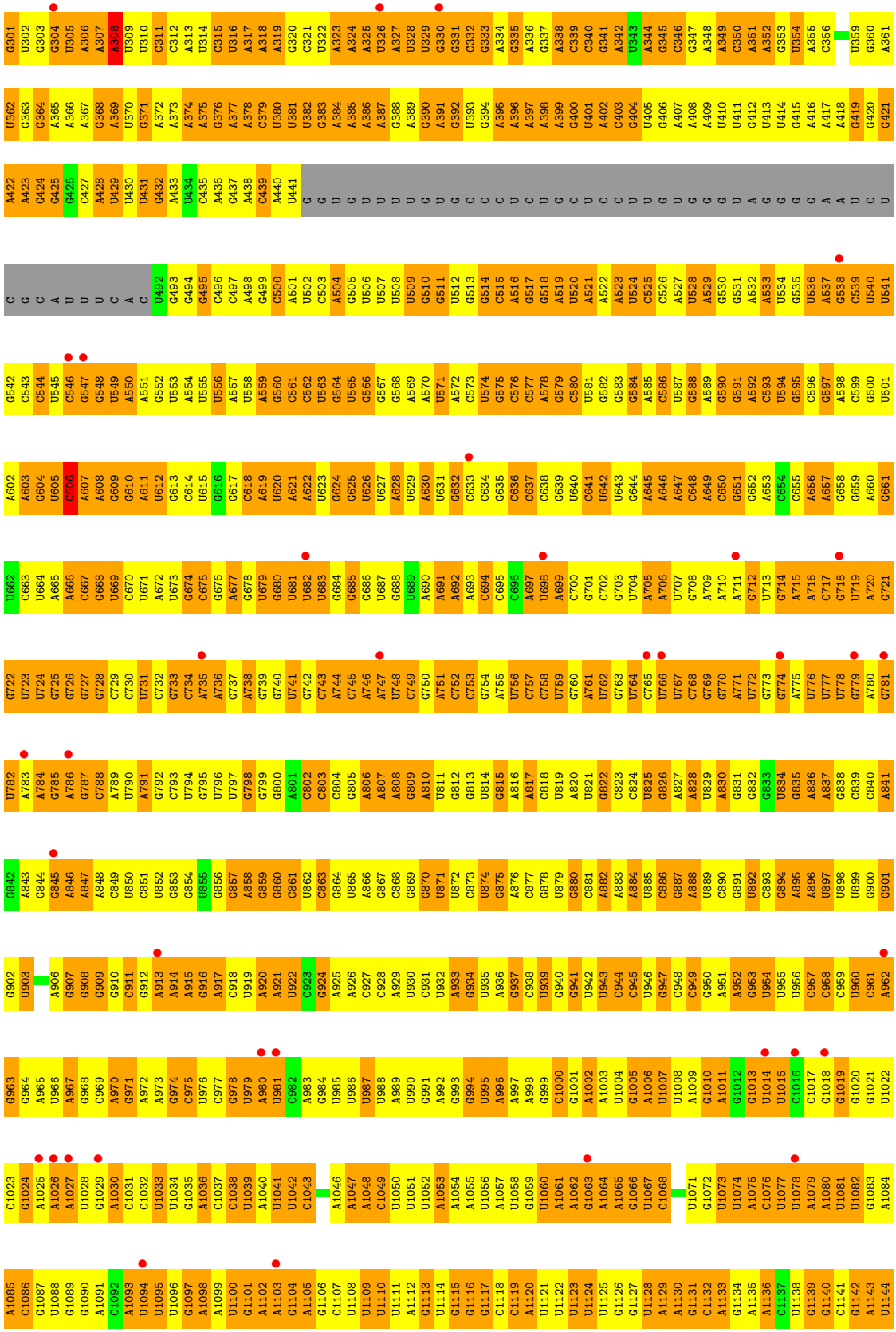



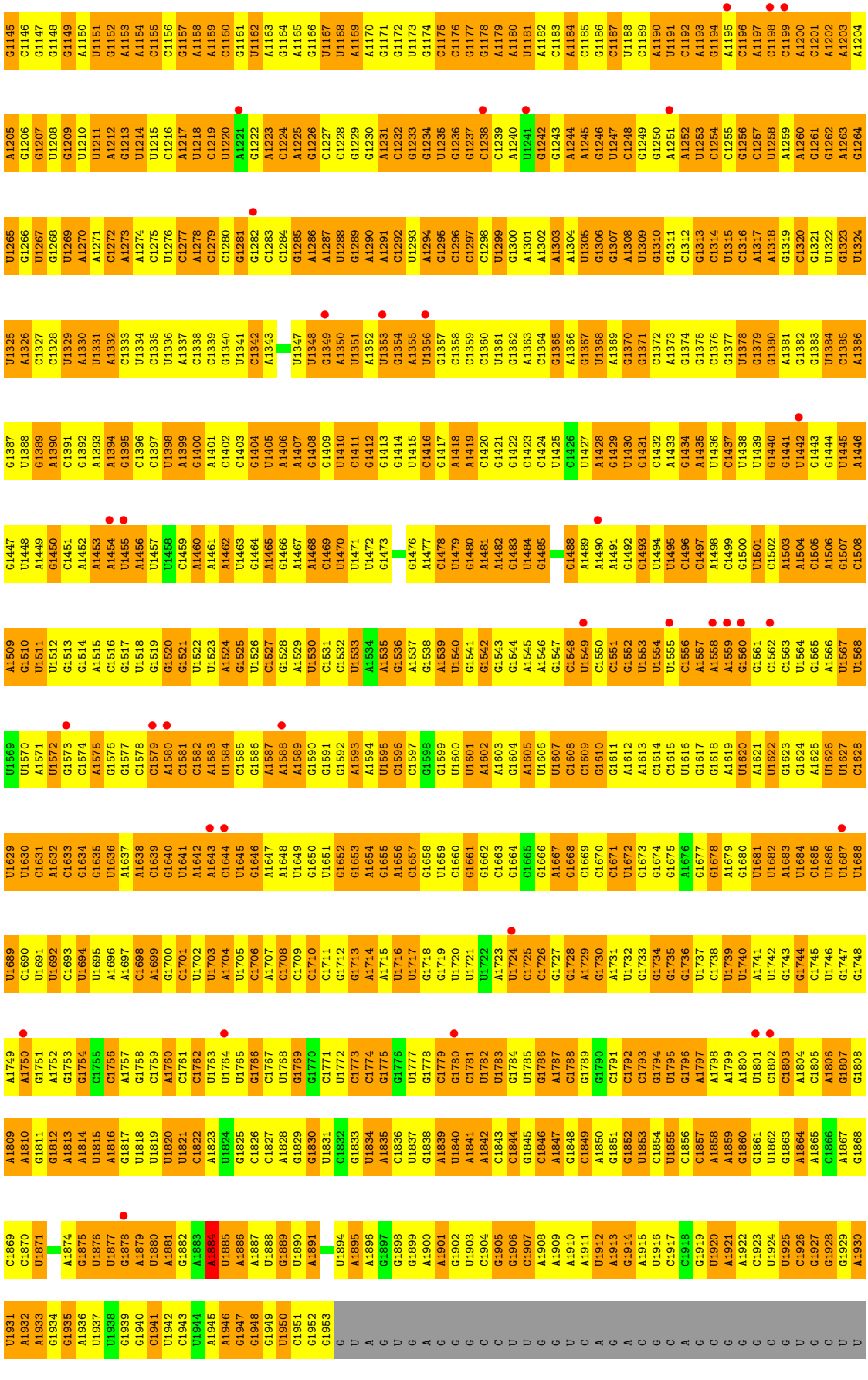

• Molecule 29: 25S ribosomal RNA

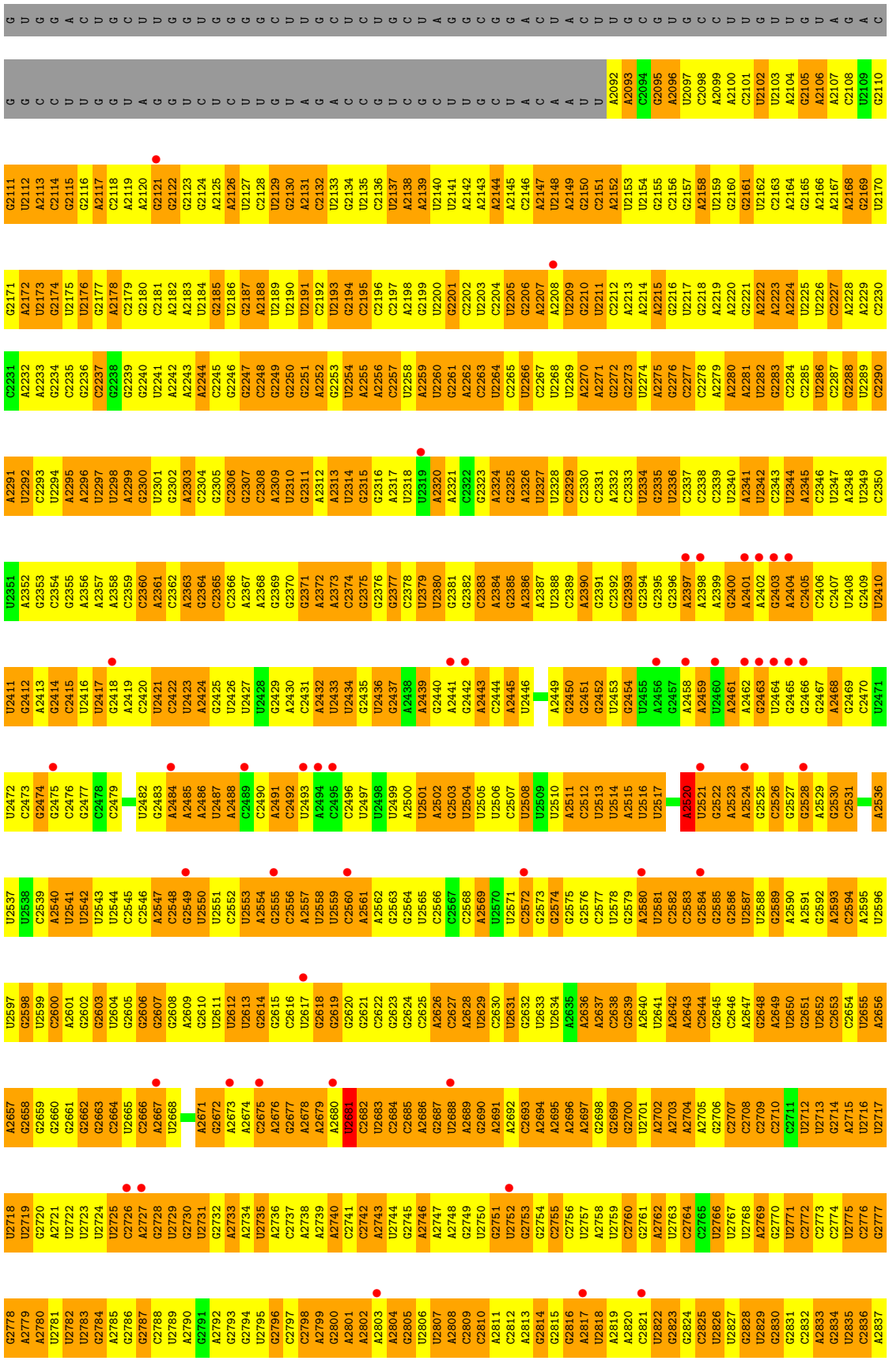
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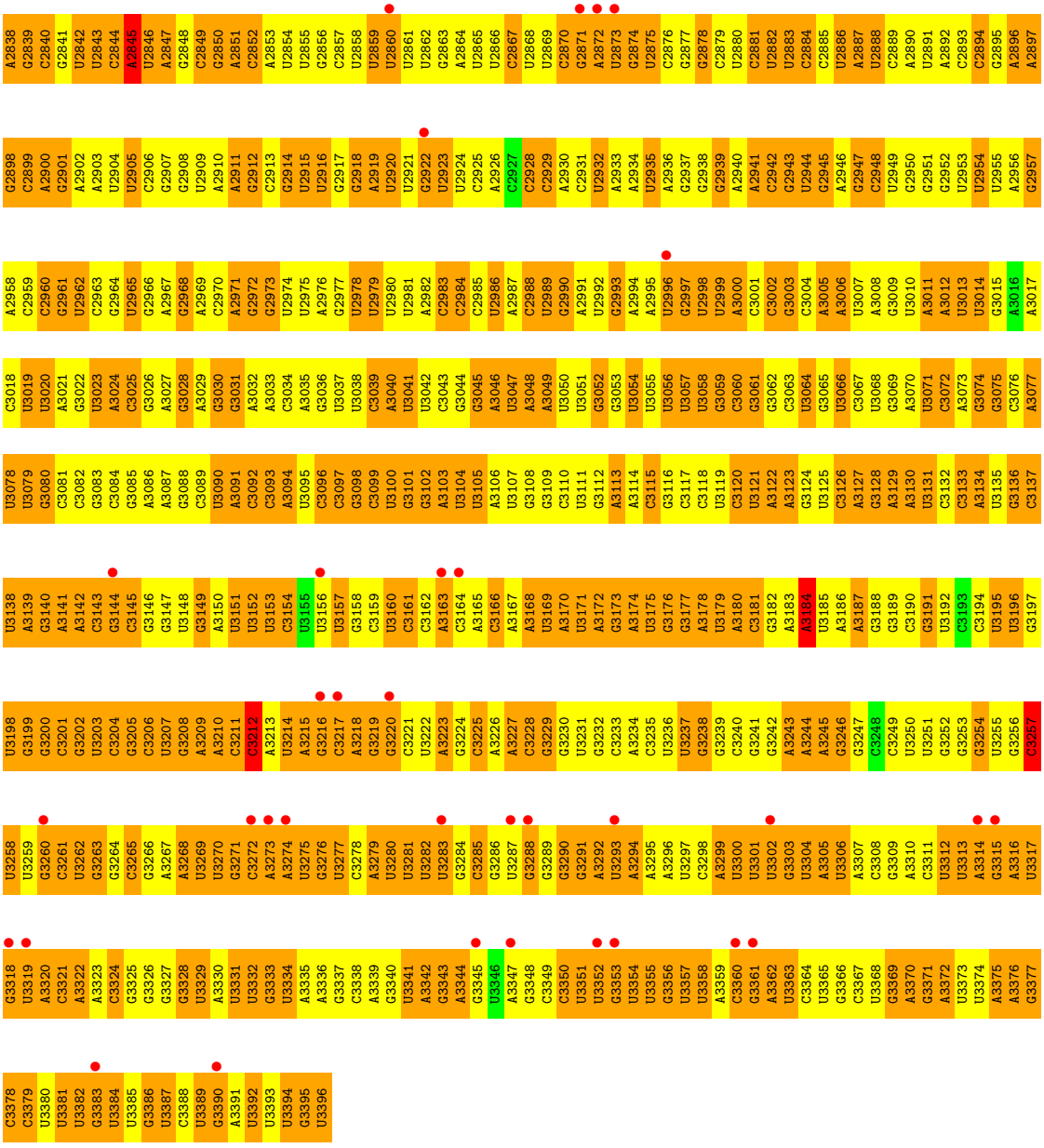



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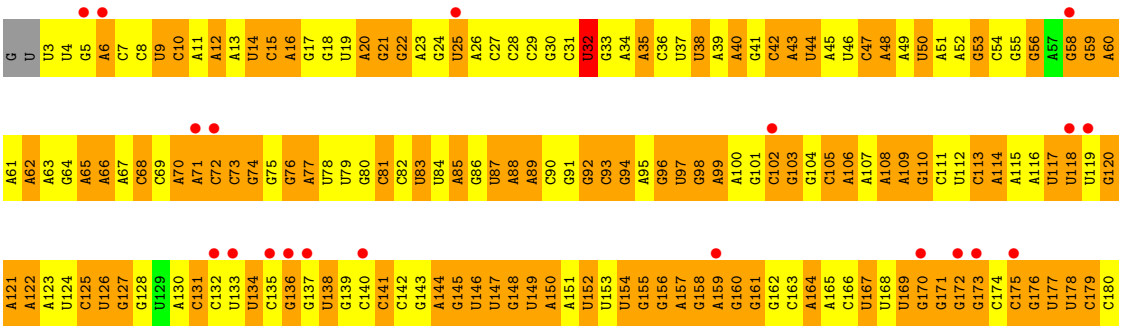


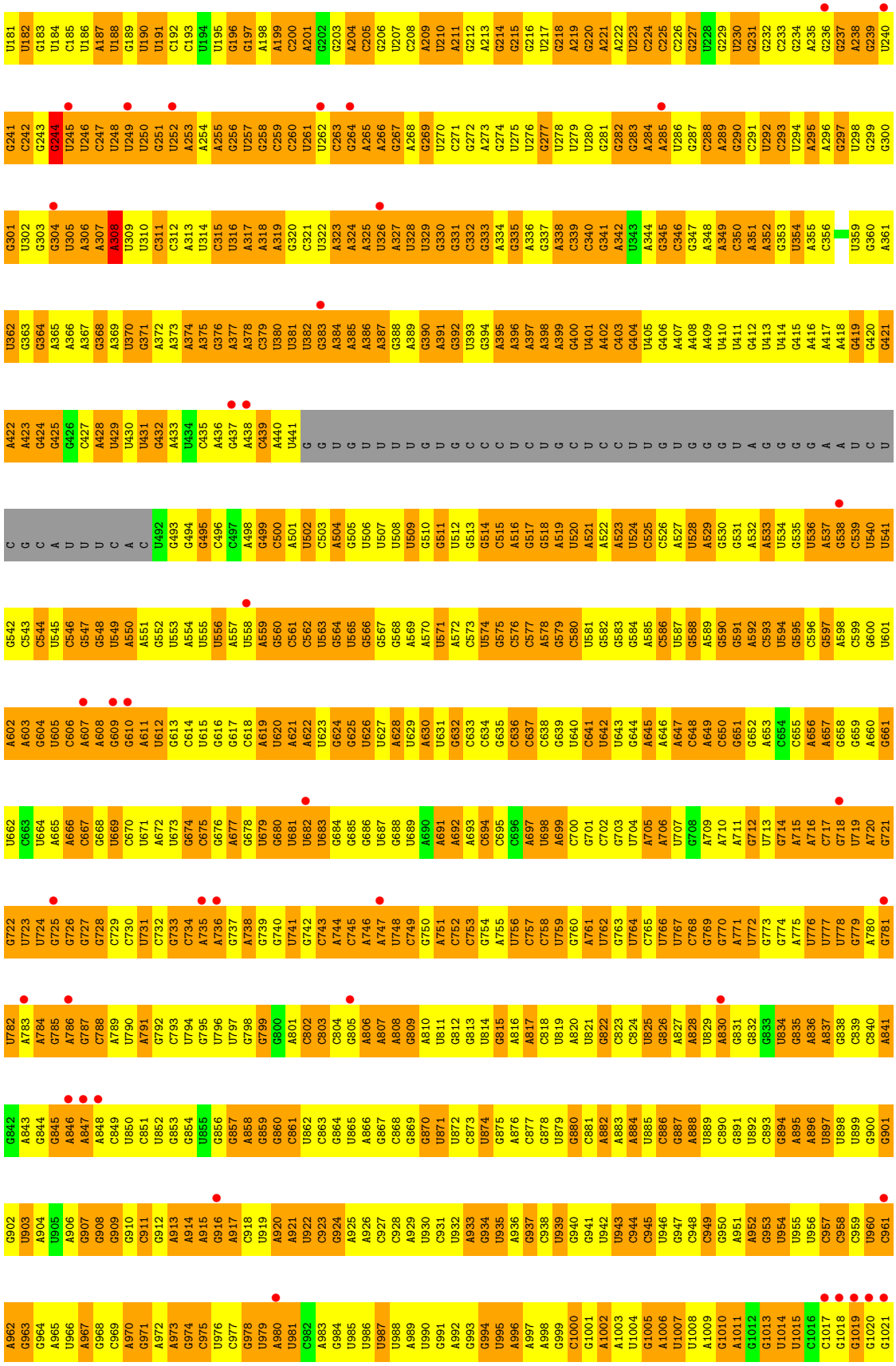


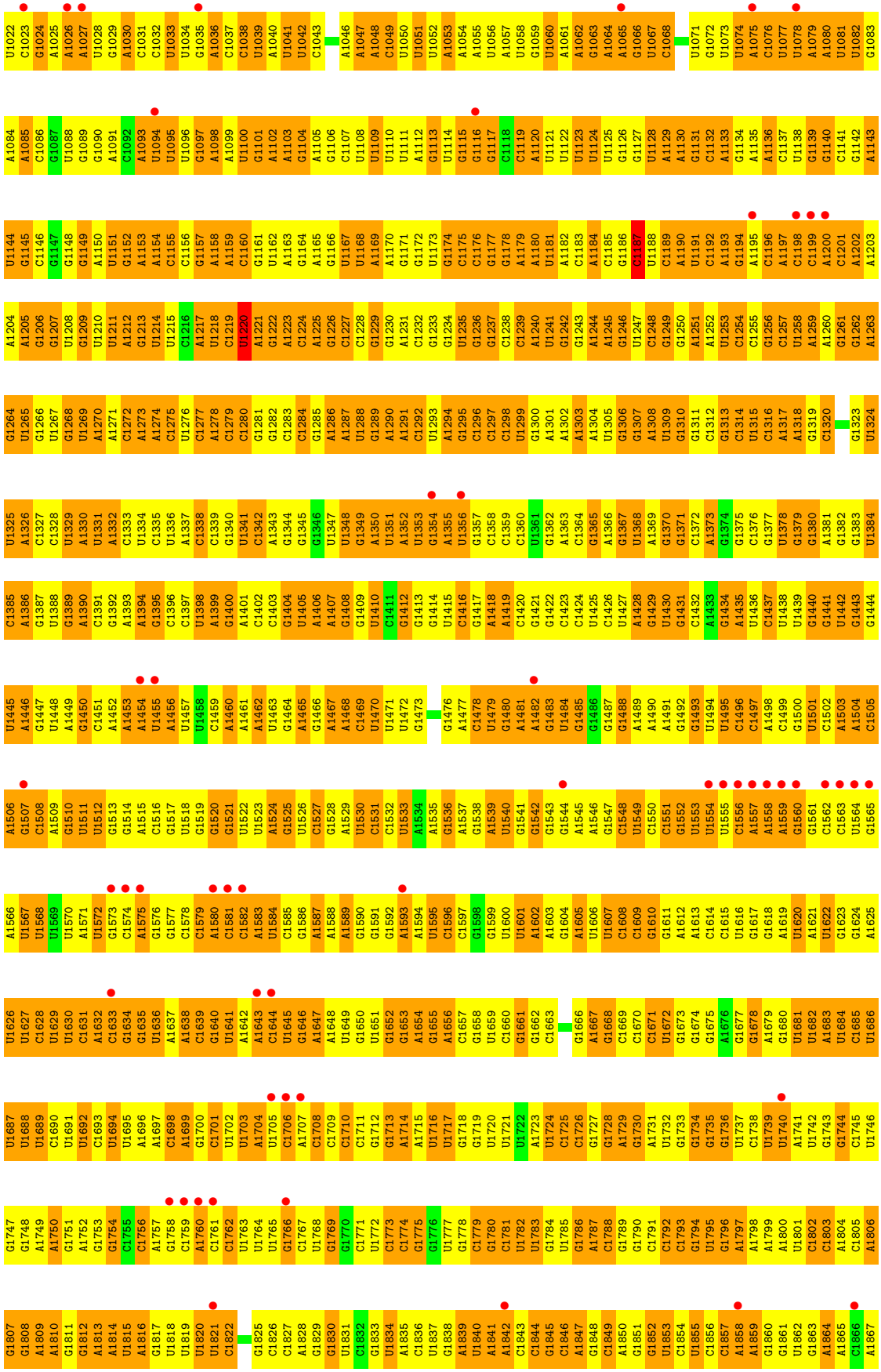
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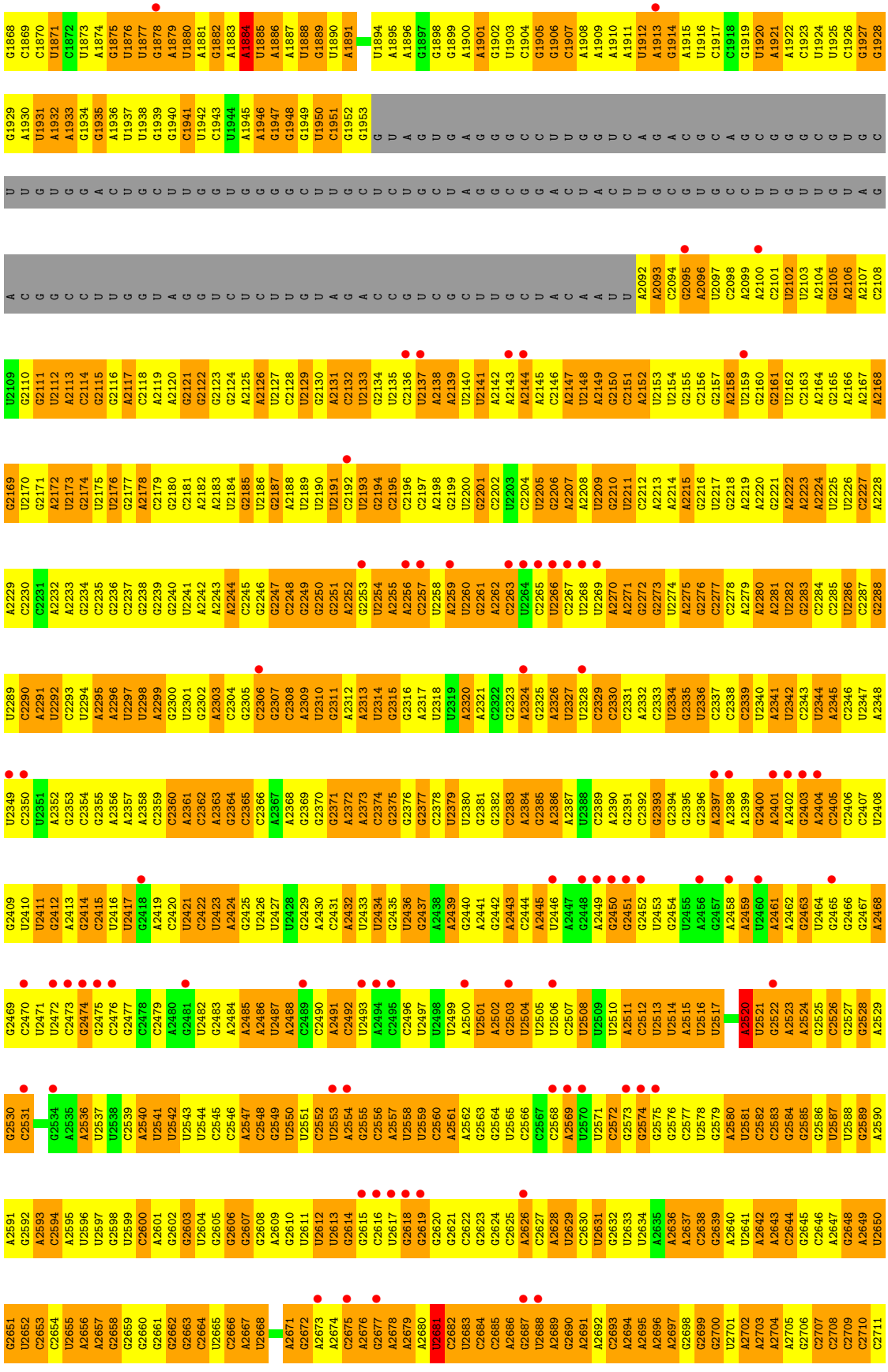
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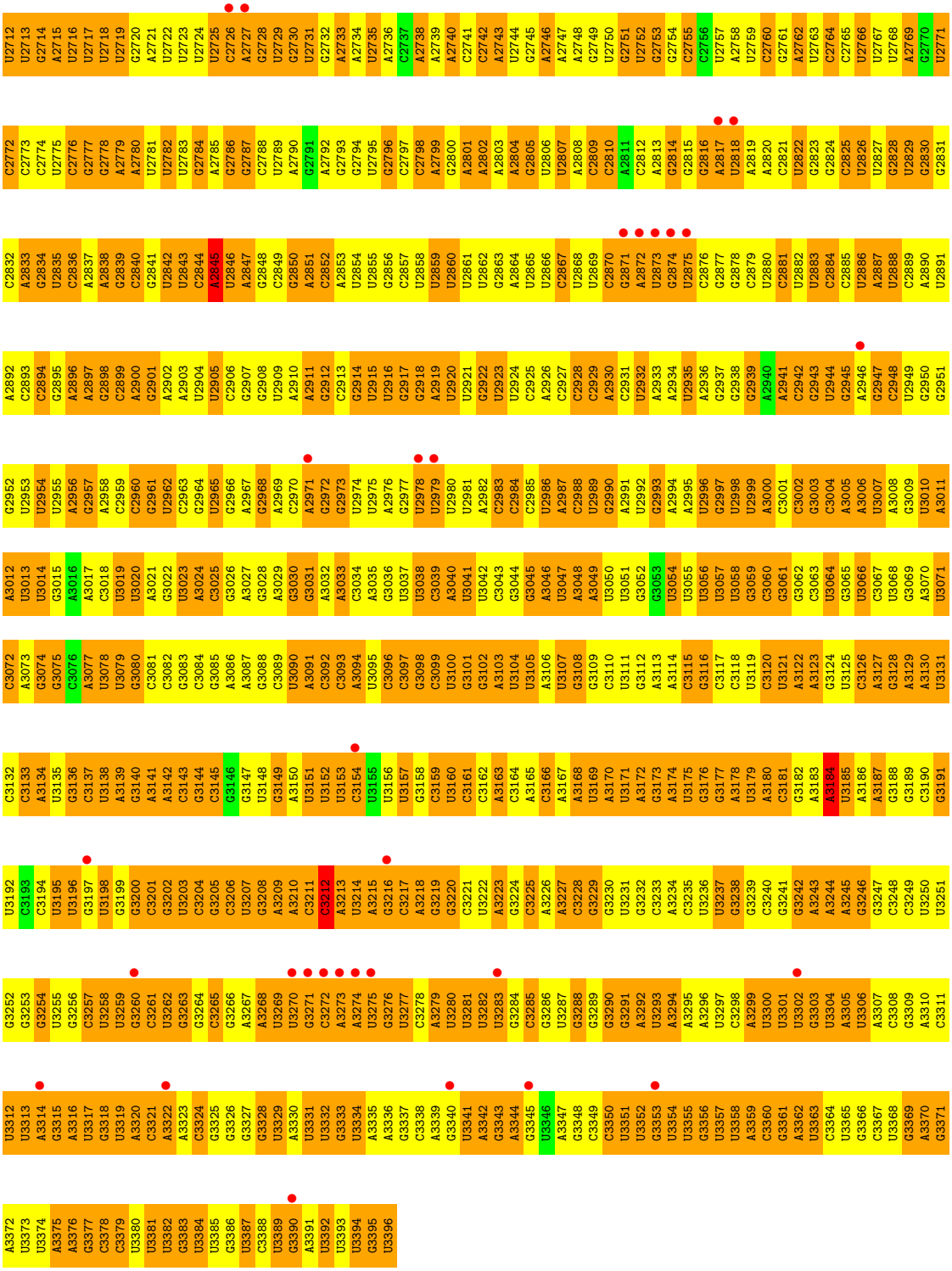





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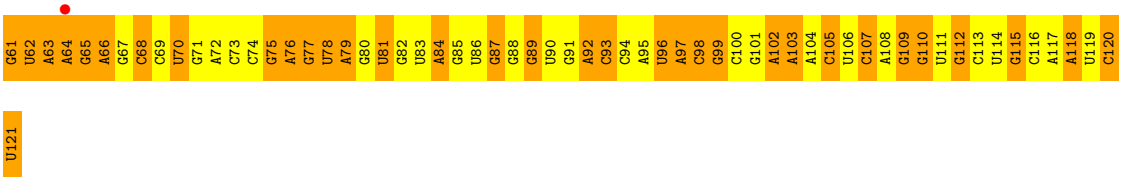


• Molecule 30: 5S ribosomal RNA

Chain B2:





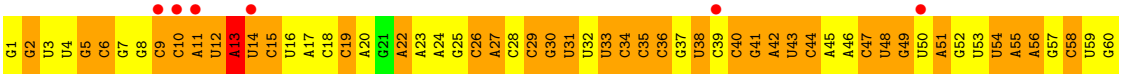



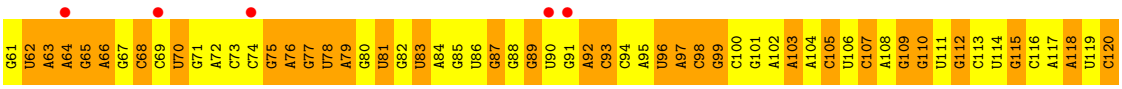


• Molecule 30: 5S ribosomal RNA

Chain D2:



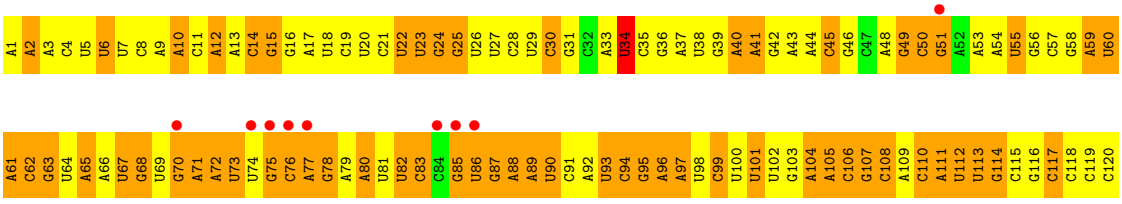


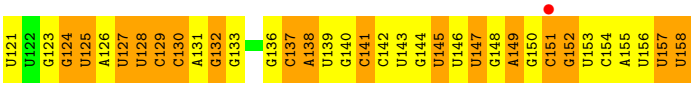


• Molecule 31: 5.8S ribosomal RNA

Chain B3:



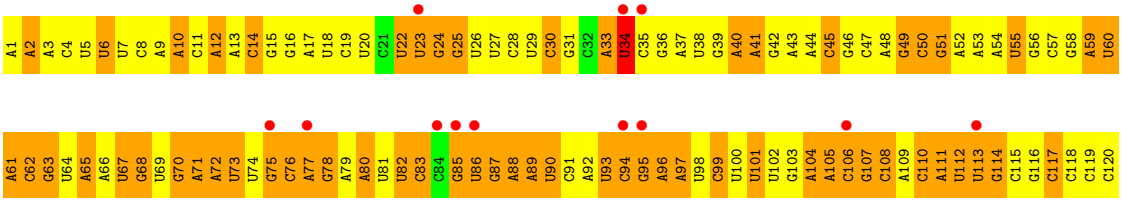



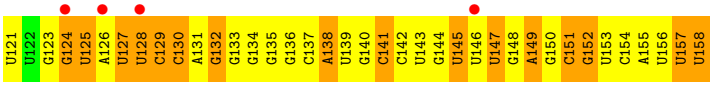


• Molecule 31: 5.8S ribosomal RNA

Chain D3:

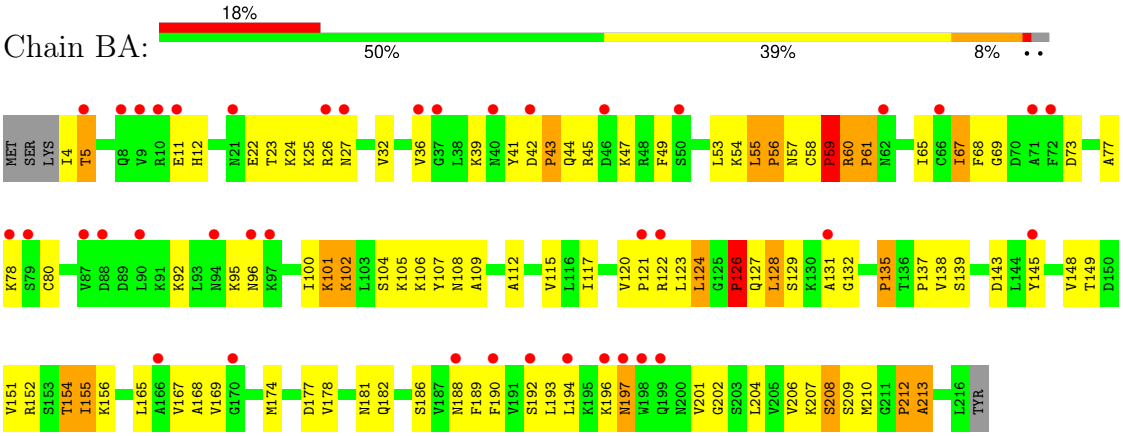




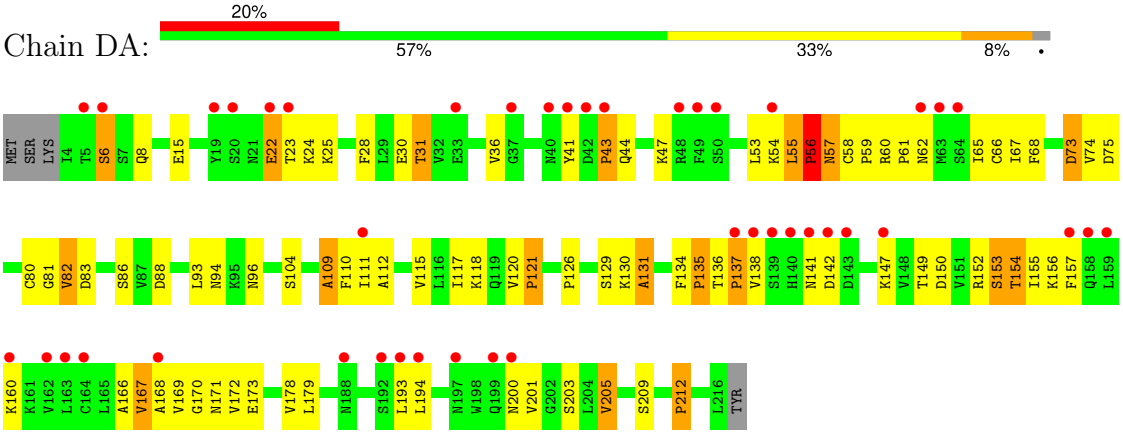
• Molecule 32: 60S ribosomal protein L1

Chain BA:



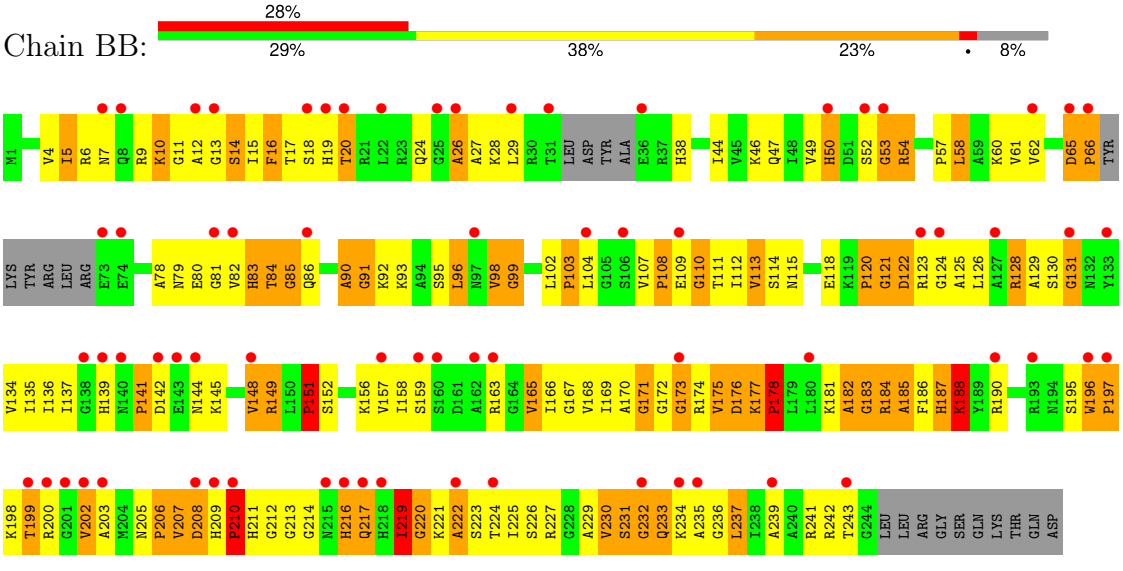

• Molecule 32: 60S ribosomal protein L1

Chain DA:



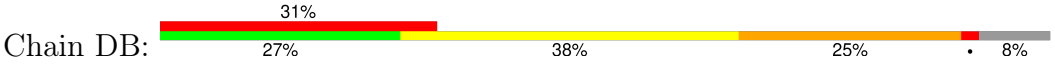

• Molecule 33: 60S ribosomal protein L2

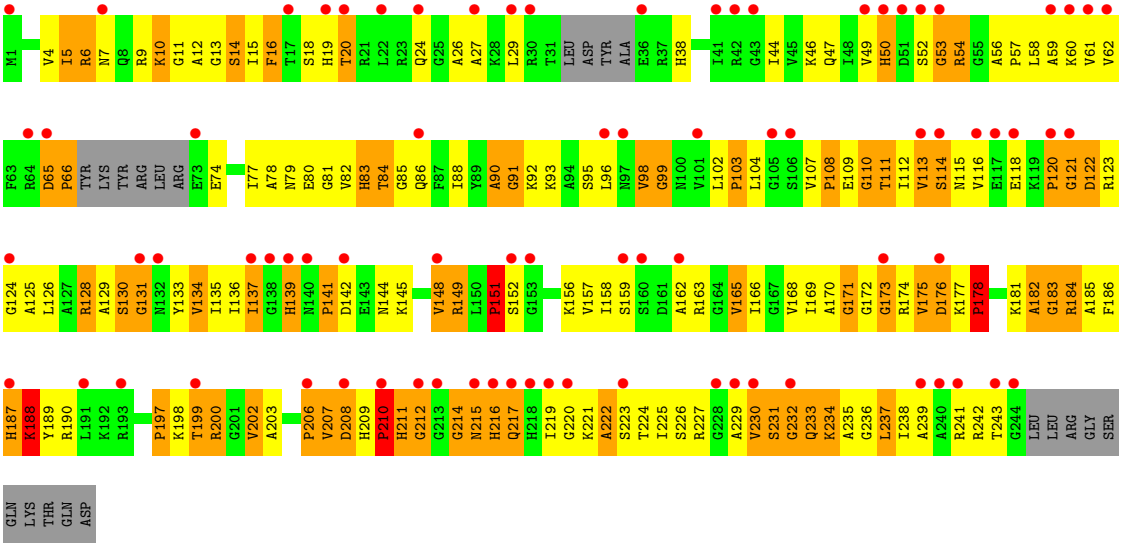
Chain BB:




• Molecule 33: 60S ribosomal protein L2

Chain DB:

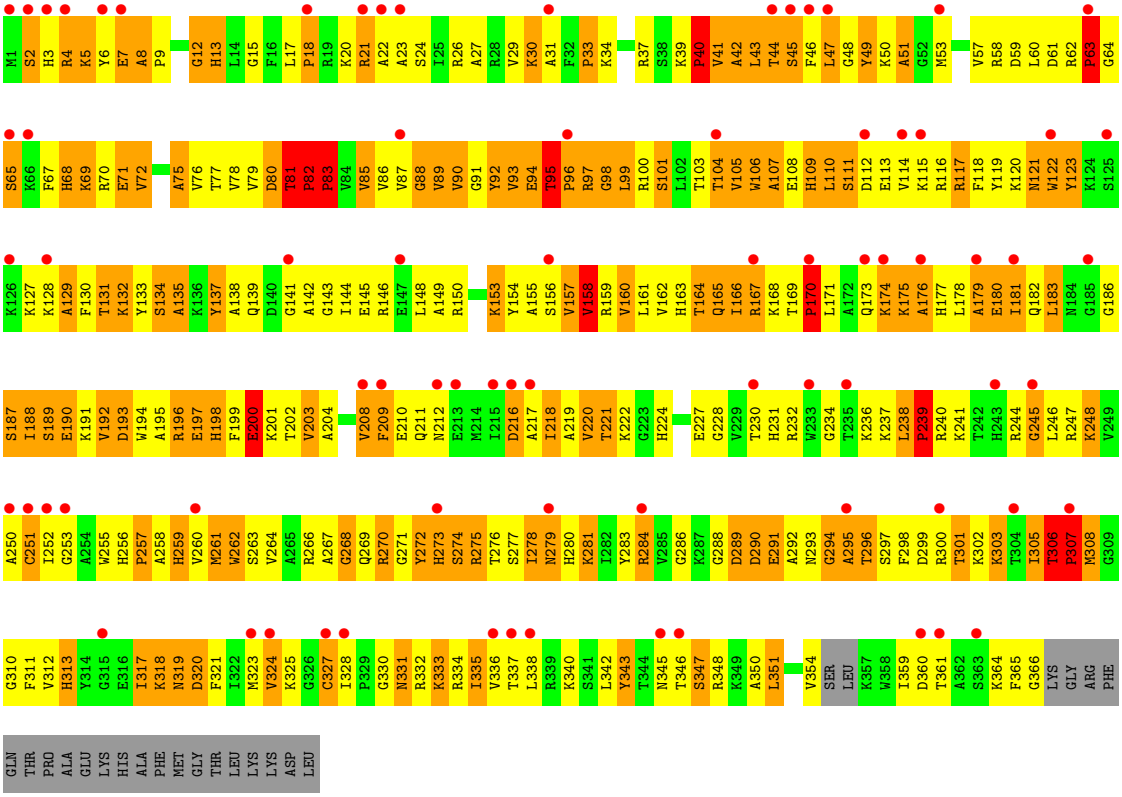




• Molecule 34: 60S ribosomal protein L3

Chain BC:

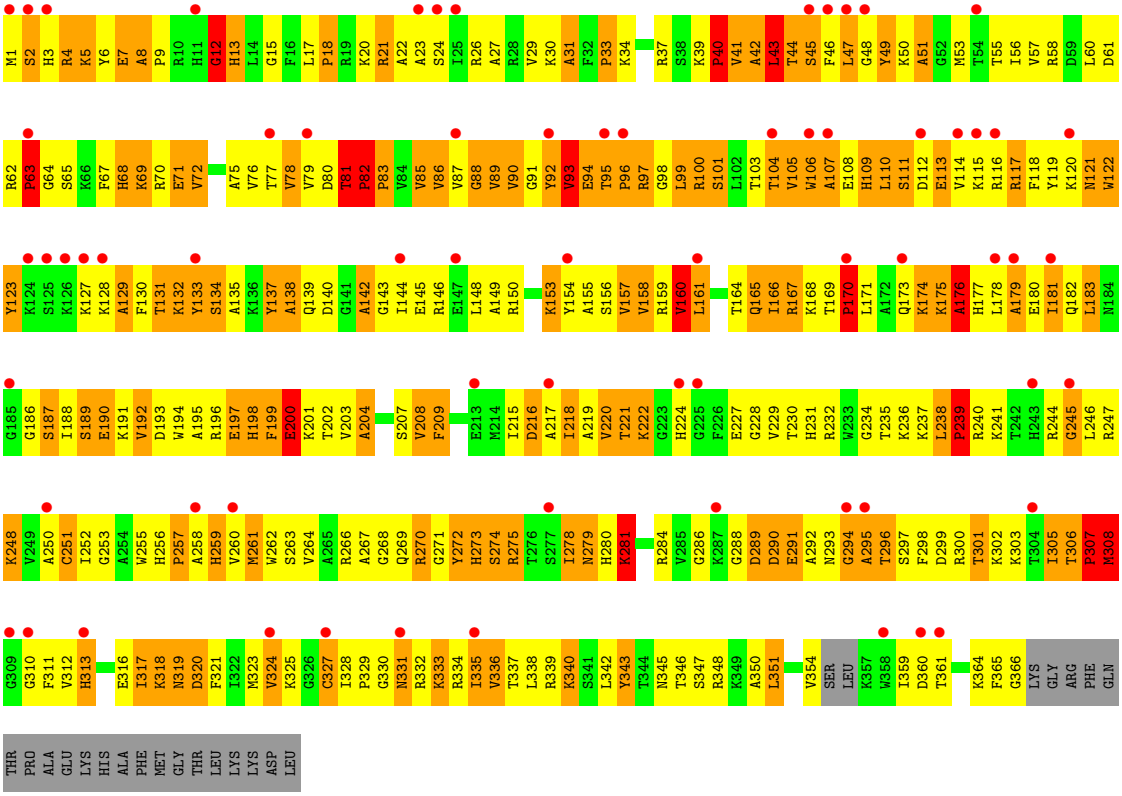


• Molecule 34: 60S ribosomal protein L3

Chain DC:

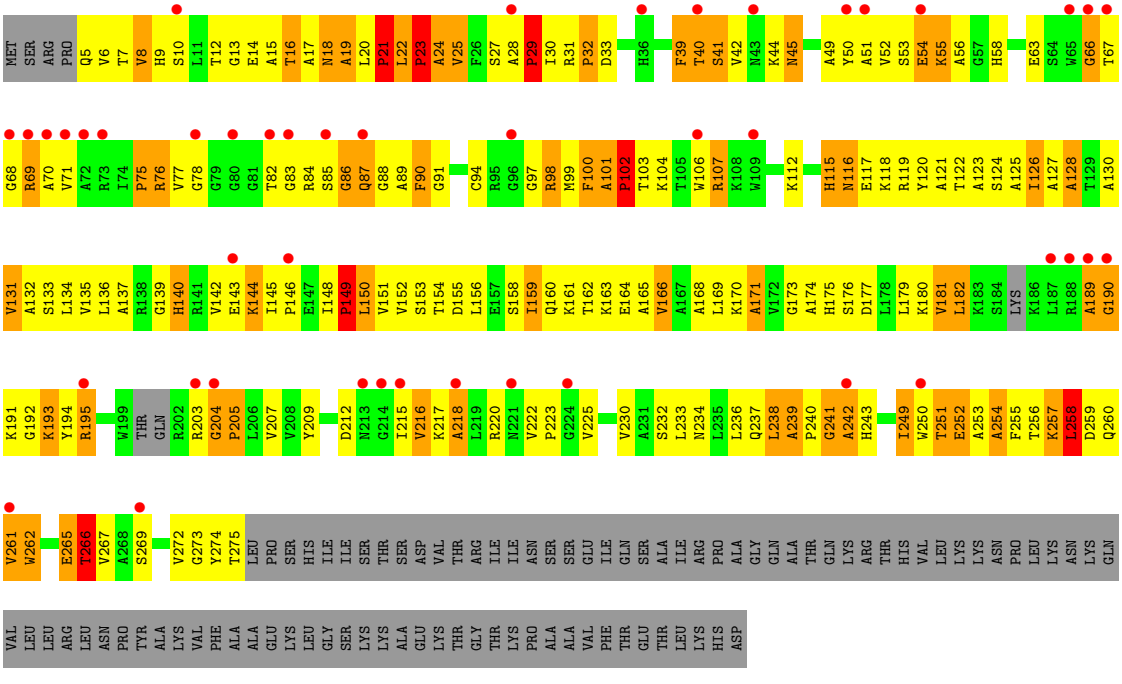




• Molecule 35: 60S ribosomal protein L4-A

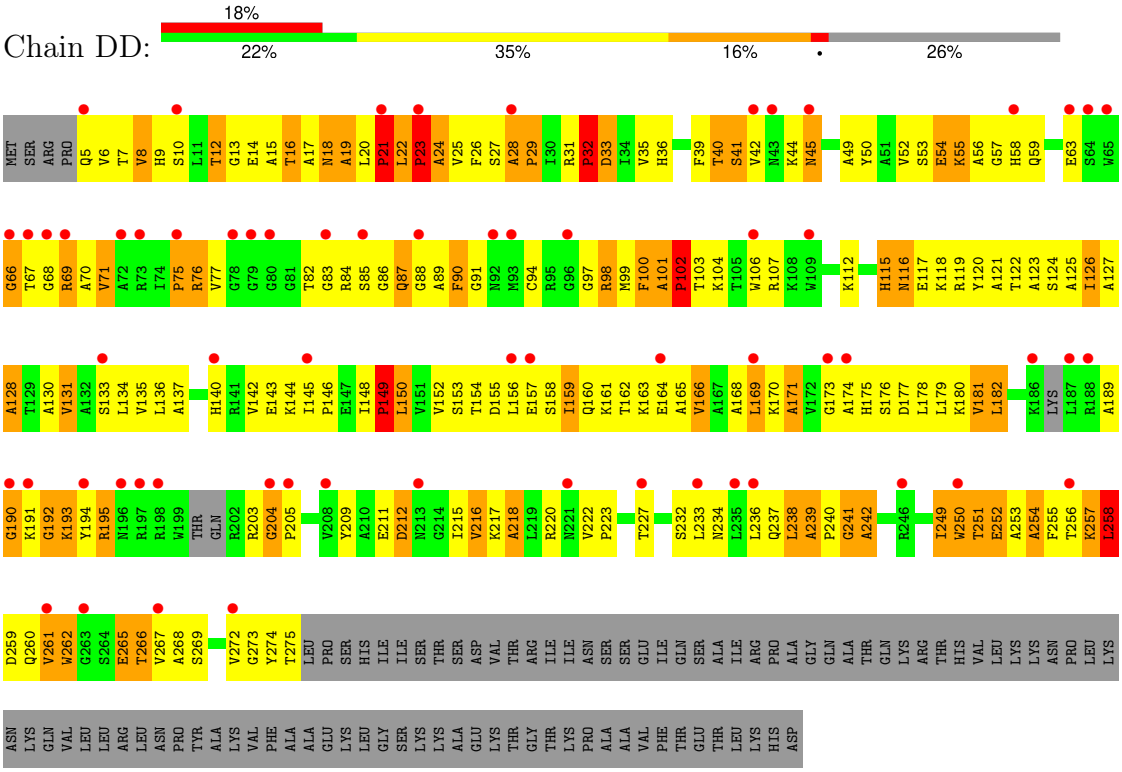
Chain BD:



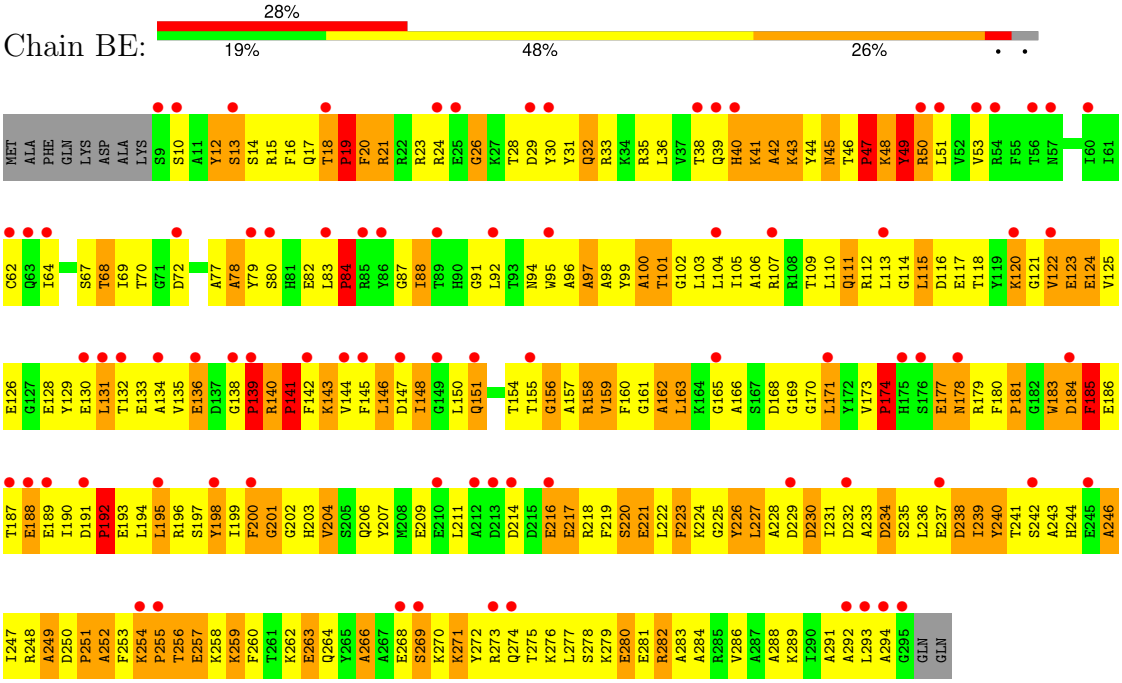
• Molecule 35: 60S ribosomal protein L4-A

Chain DD:



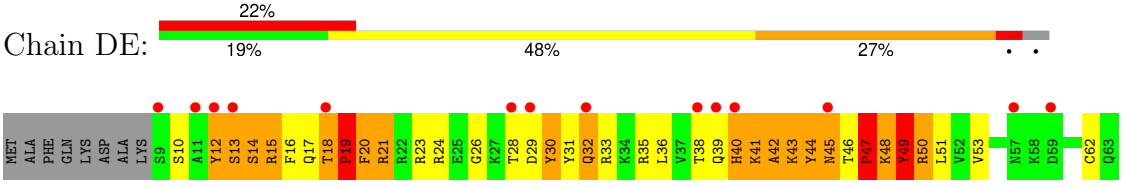

• Molecule 36: 60S ribosomal protein L5

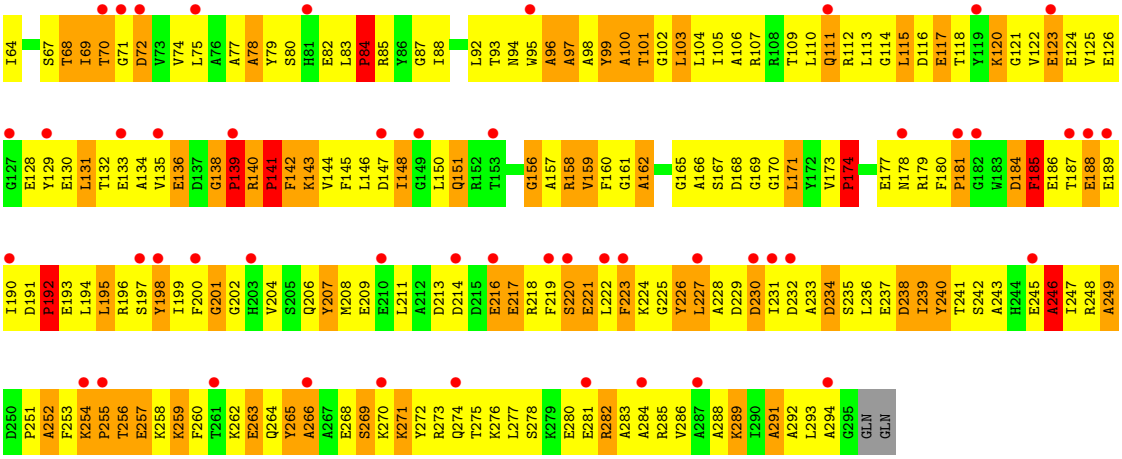
Chain BE:



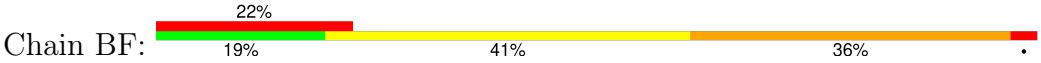

• Molecule 36: 60S ribosomal protein L5

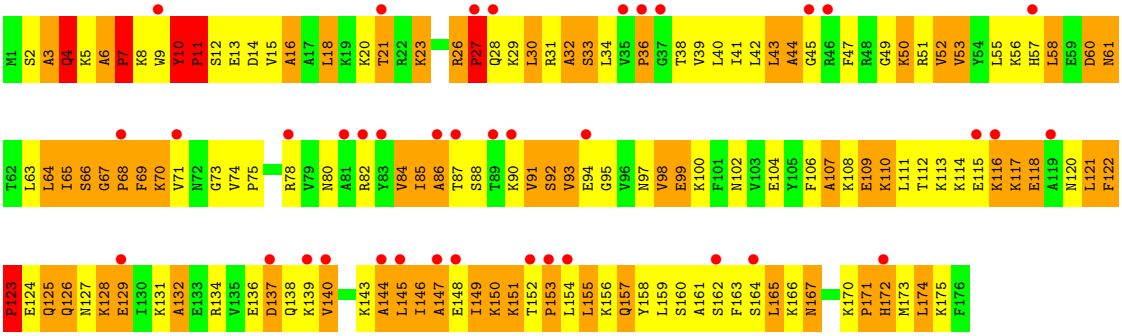
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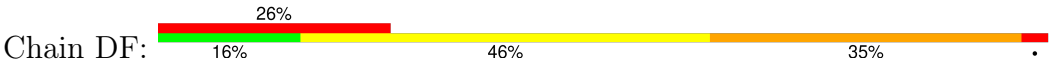


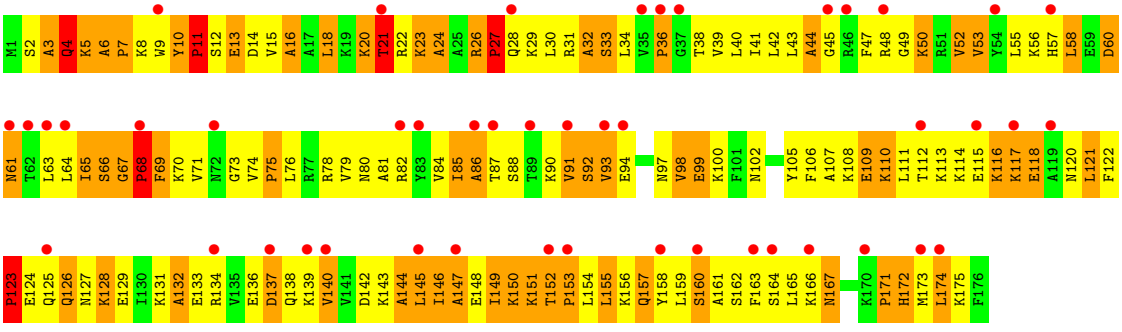

• Molecule 37: 60S ribosomal protein L6-A



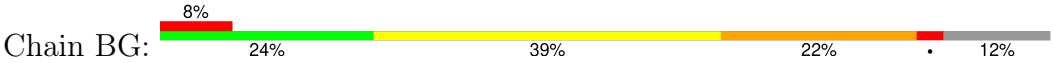



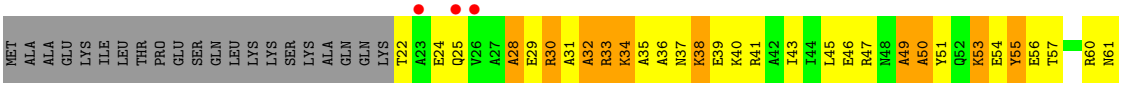

• Molecule 37: 60S ribosomal protein L6-A

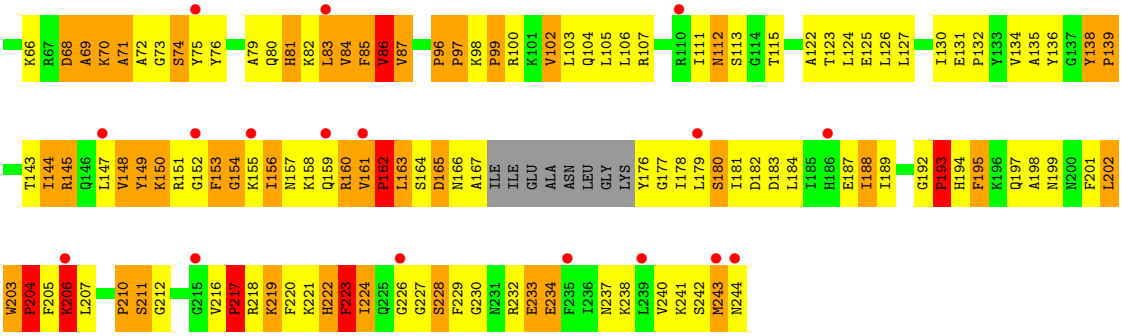


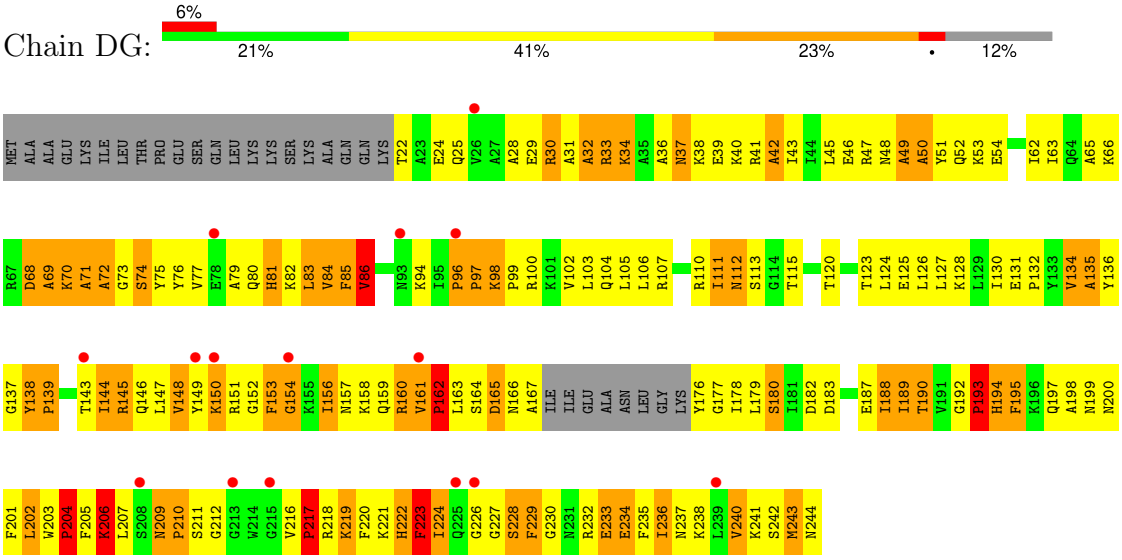

• Molecule 38: 60S ribosomal protein L7-A



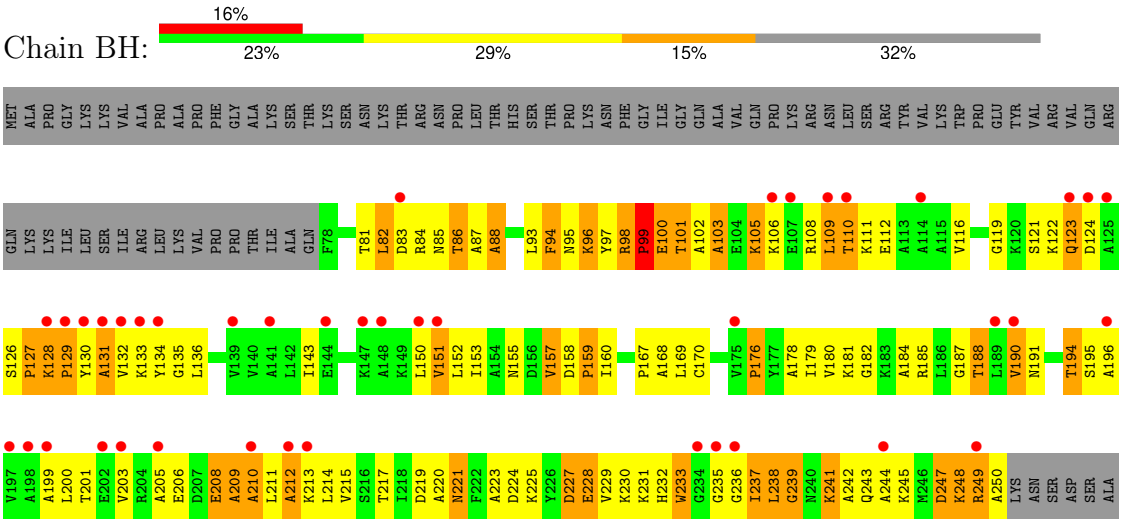





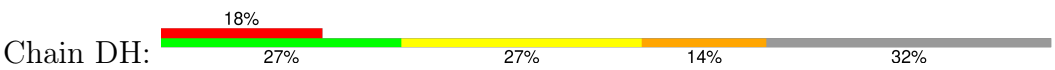

• Molecule 38: 60S ribosomal protein L7-A

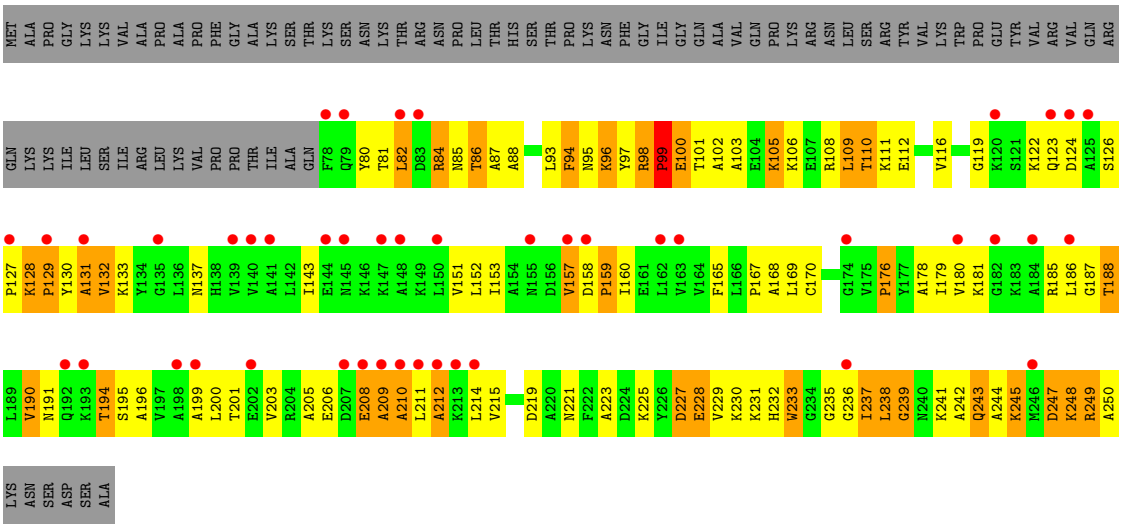



• Molecule 39: 60S ribosomal protein L8-A




• Molecule 39: 60S ribosomal protein L8-A

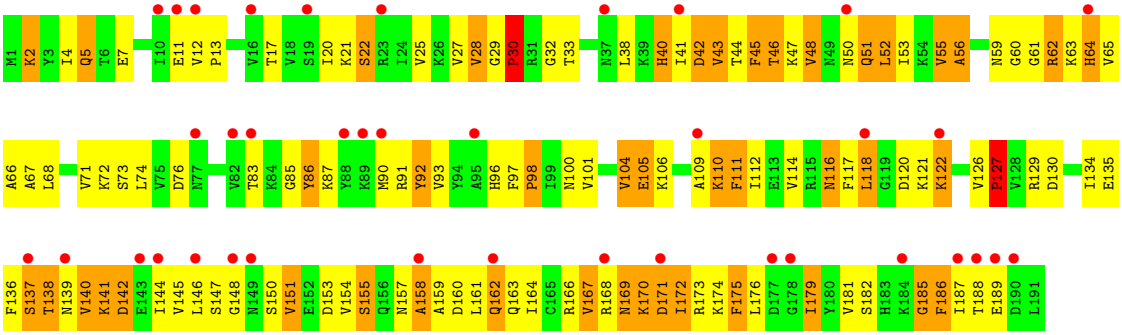




• Molecule 40: 60S ribosomal protein L9-A

Chain BI:

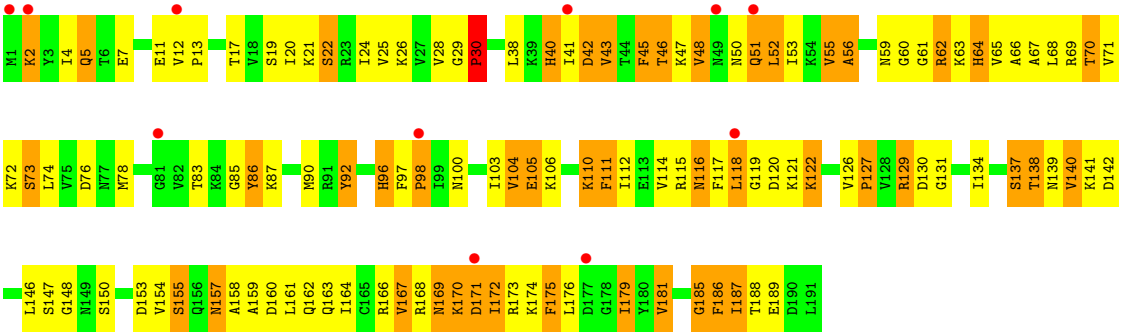


• Molecule 40: 60S ribosomal protein L9-A

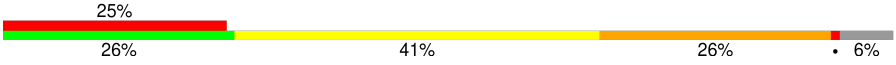
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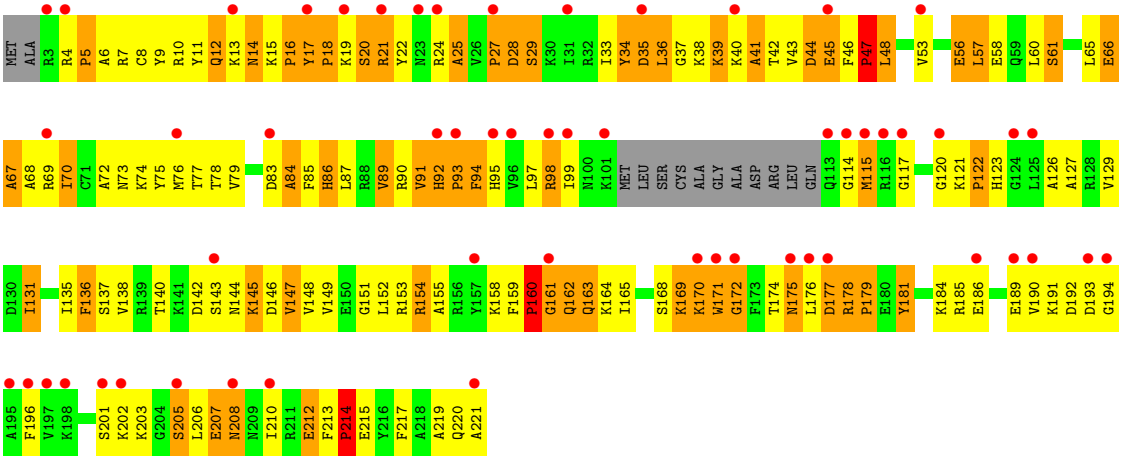


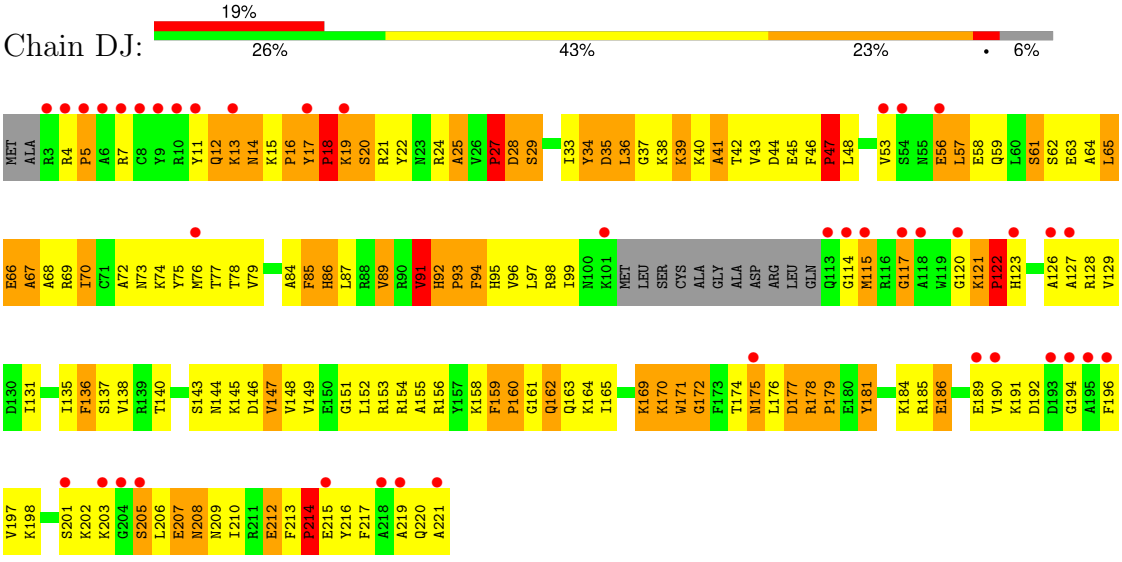
• Molecule 41: 60S ribosomal protein L10

Chain BJ:

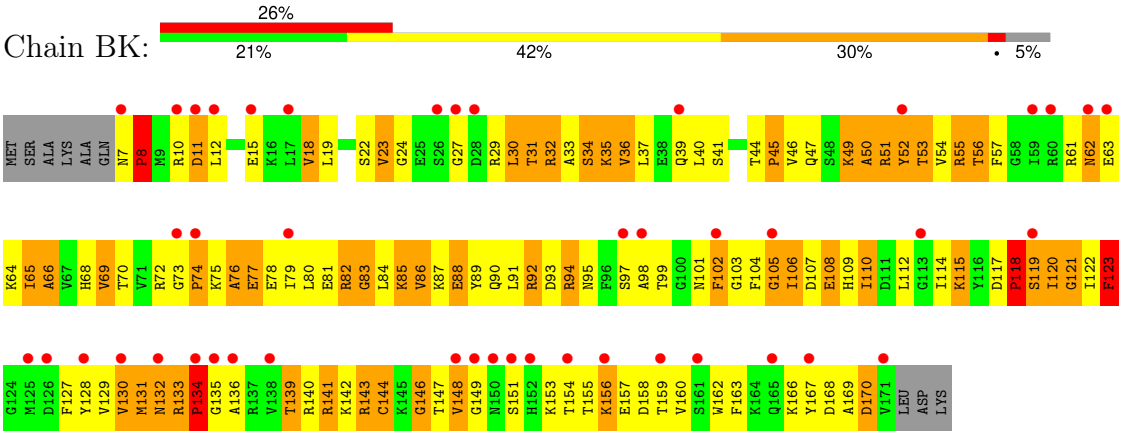




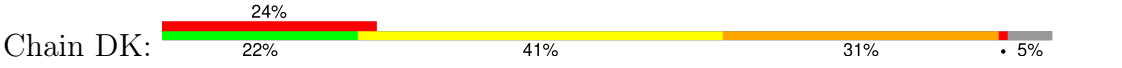
• Molecule 41: 60S ribosomal protein L10

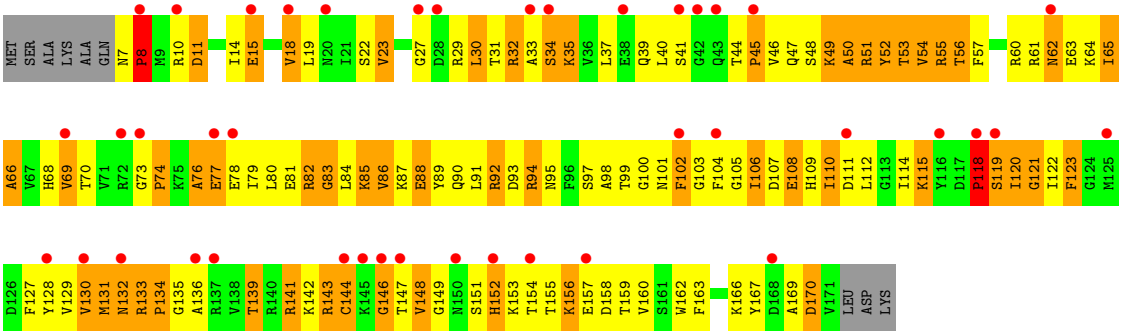



• Molecule 42: 60S ribosomal protein L11-A




• Molecule 42: 60S ribosomal protein L11-A

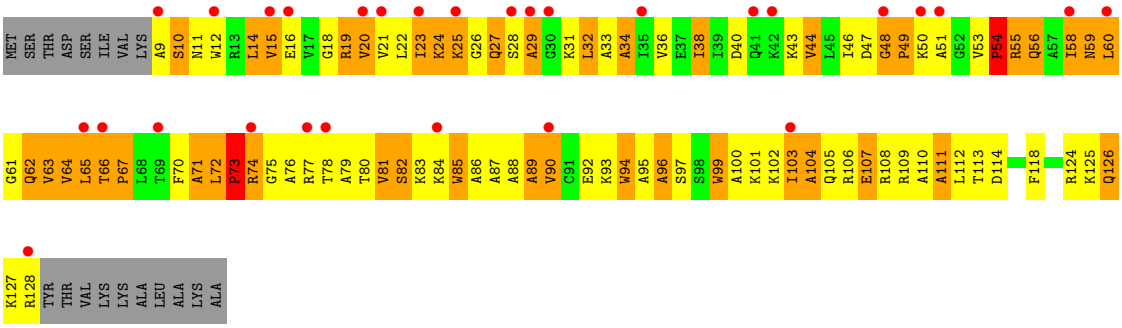




• Molecule 43: 60S ribosomal protein L14-A

Chain BN:

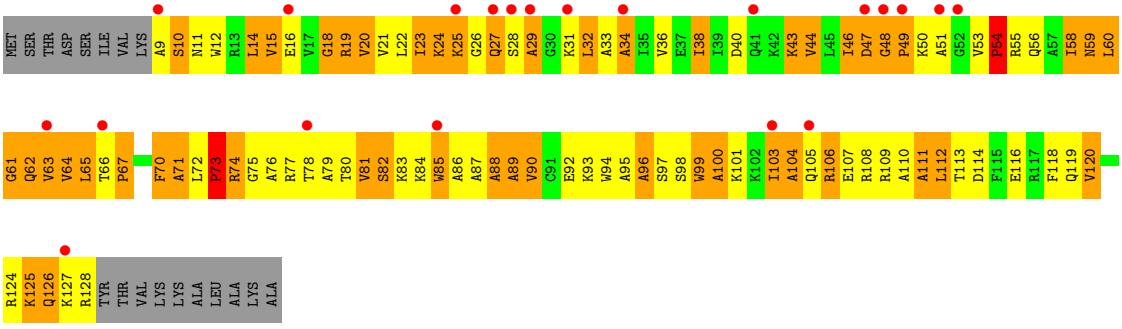


• Molecule 43: 60S ribosomal protein L14-A

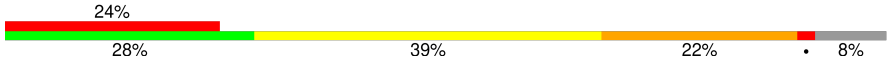
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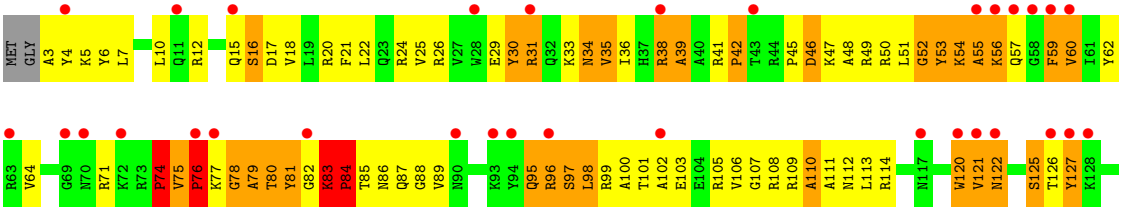


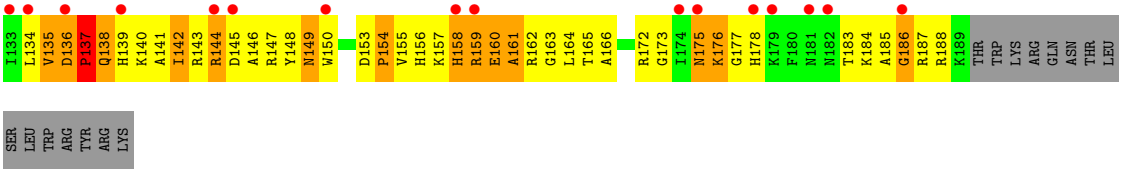



• Molecule 44: 60S ribosomal protein L15-A

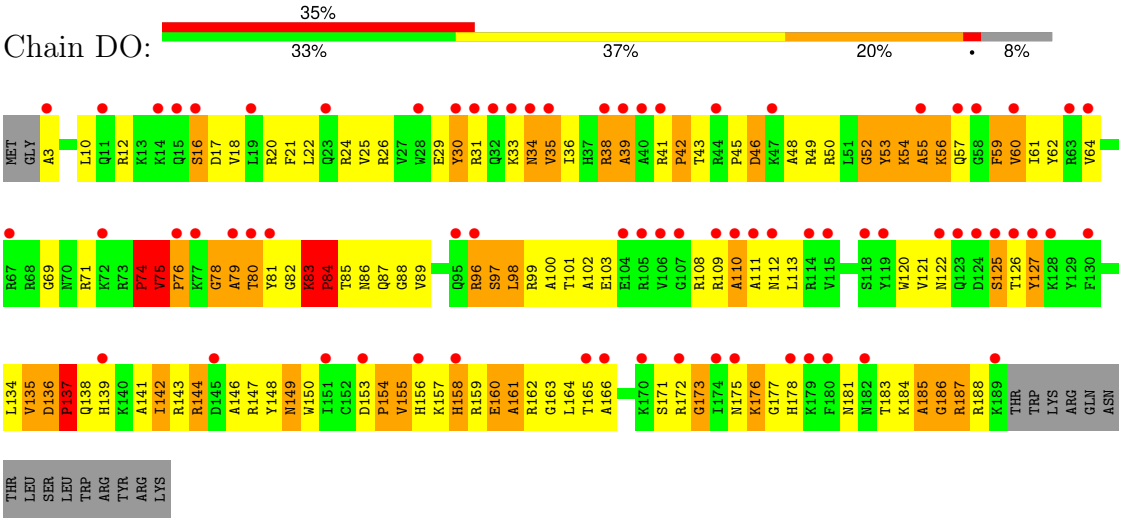
Chain BO:



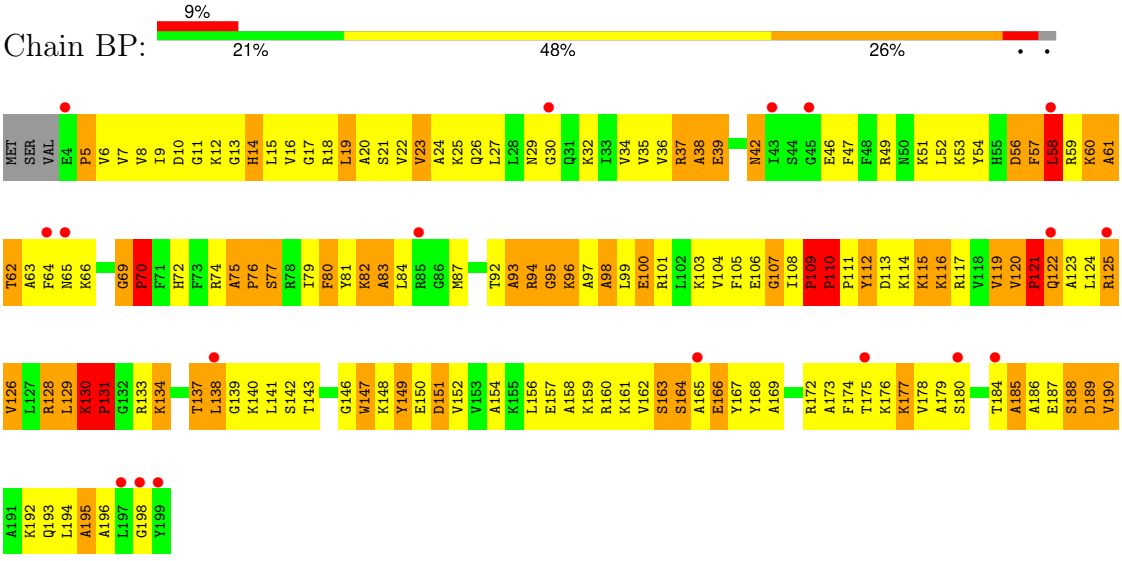





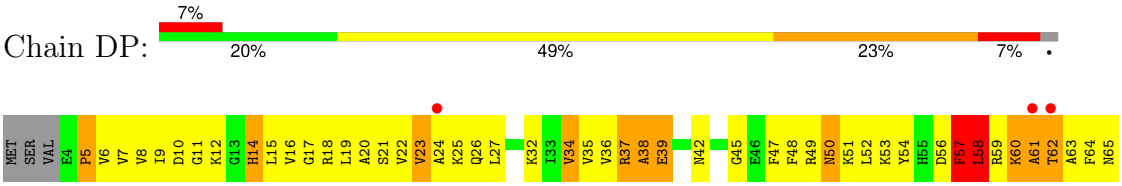

• Molecule 44: 60S ribosomal protein L15-A

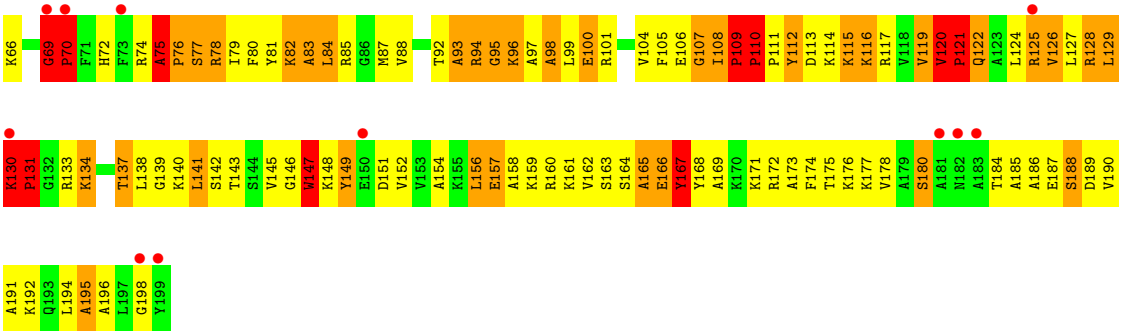



• Molecule 45: 60S ribosomal protein L16-A




• Molecule 45: 60S ribosomal protein L16-A



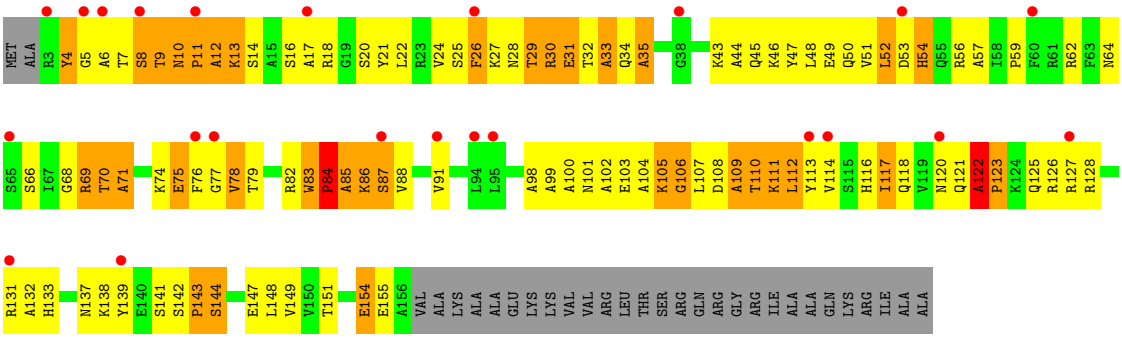




• Molecule 46: 60S ribosomal protein L17-A

Chain BQ:

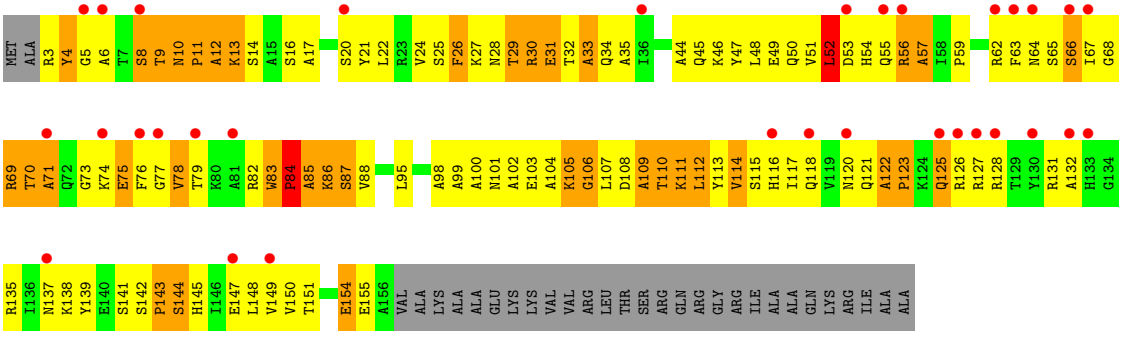


• Molecule 46: 60S ribosomal protein L17-A

Chain DQ:

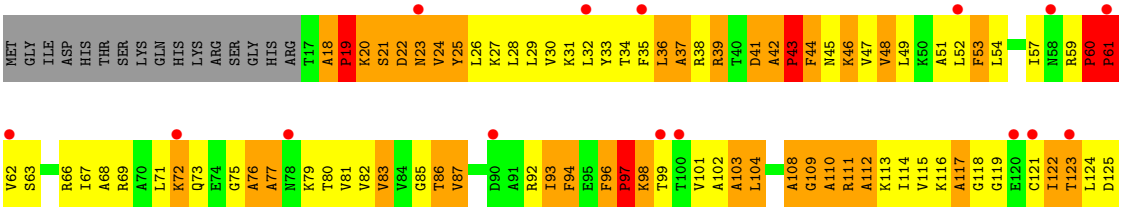


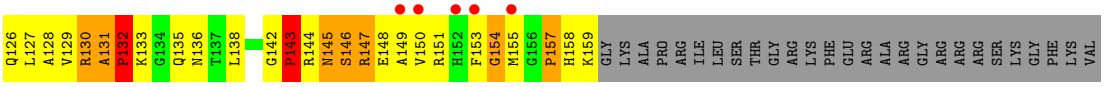



• Molecule 47: 60S ribosomal protein L18

Chain BR:



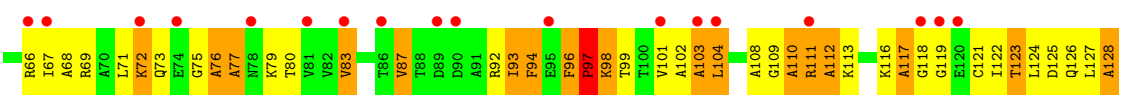


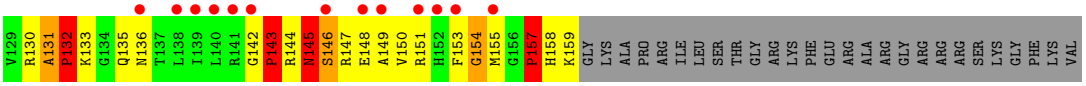
• Molecule 47: 60S ribosomal protein L18

Chain DR:





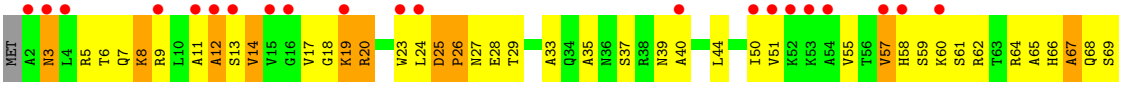



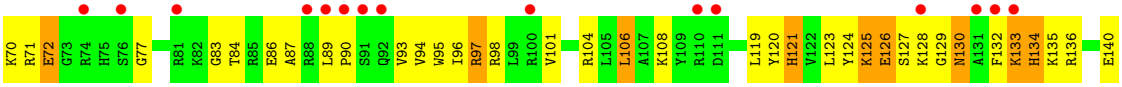


• Molecule 48: 60S ribosomal protein L19

Chain BS:



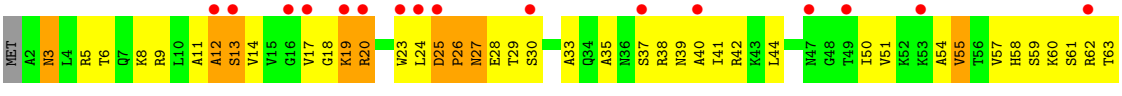


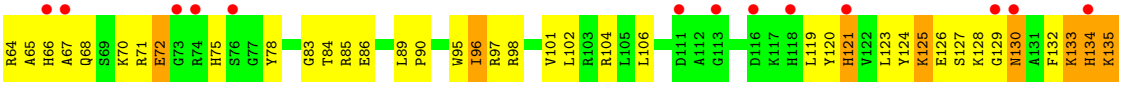


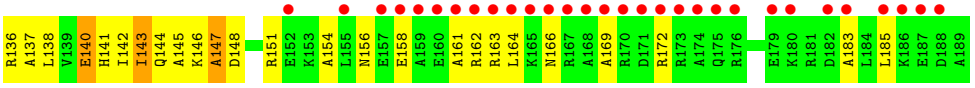
• Molecule 48: 60S ribosomal protein L19

Chain DS:



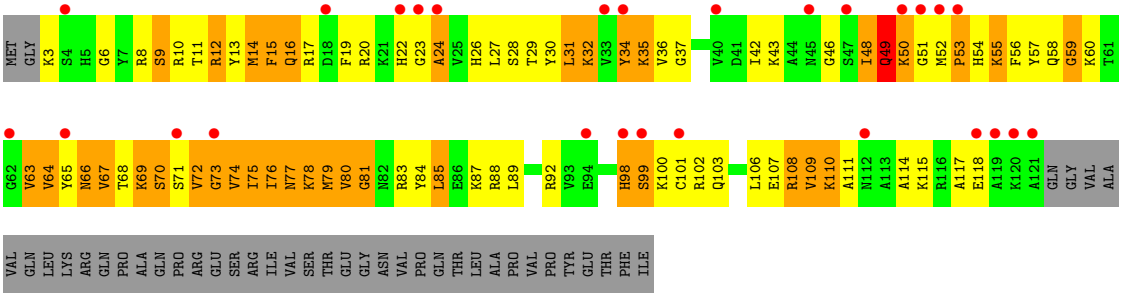




• Molecule 49: 60S ribosomal protein L21-A

Chain BT:

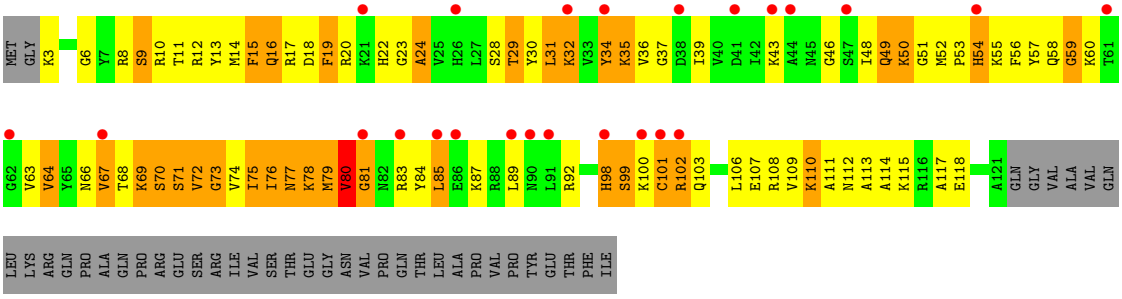




• Molecule 49: 60S ribosomal protein L21-A

Chain DT:

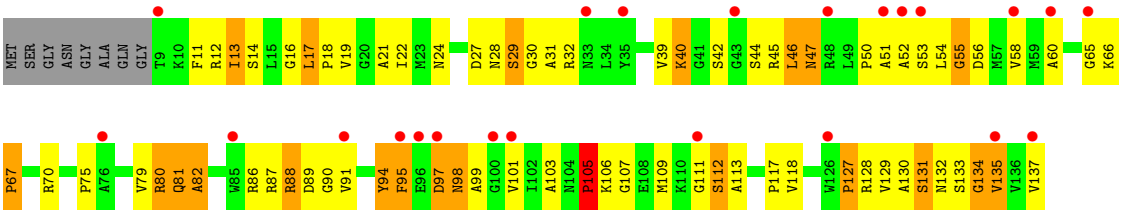


• Molecule 50: 60S ribosomal protein L23

Chain BU:

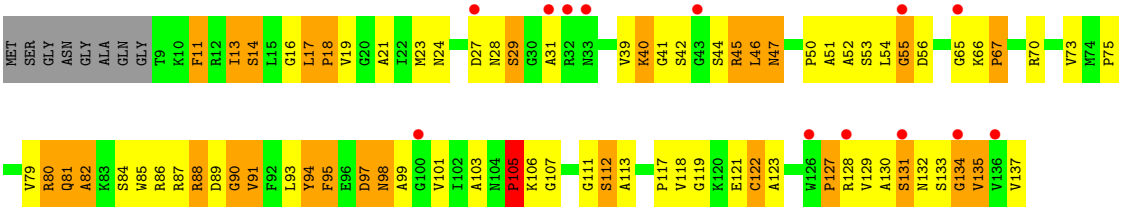


• Molecule 50: 60S ribosomal protein L23

Chain DU:

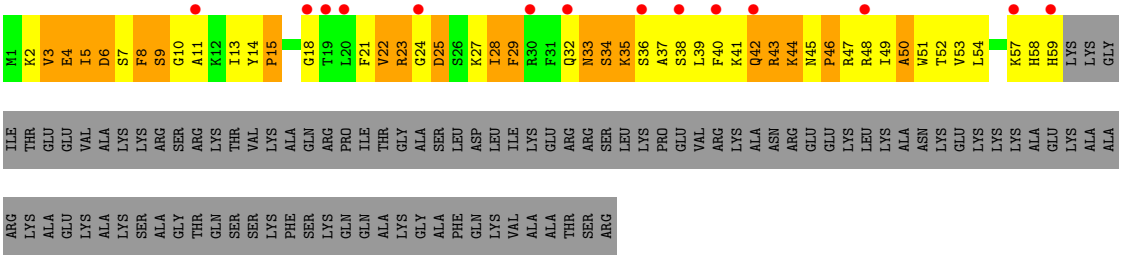


• Molecule 51: 60S ribosomal protein L24-A

Chain BV:

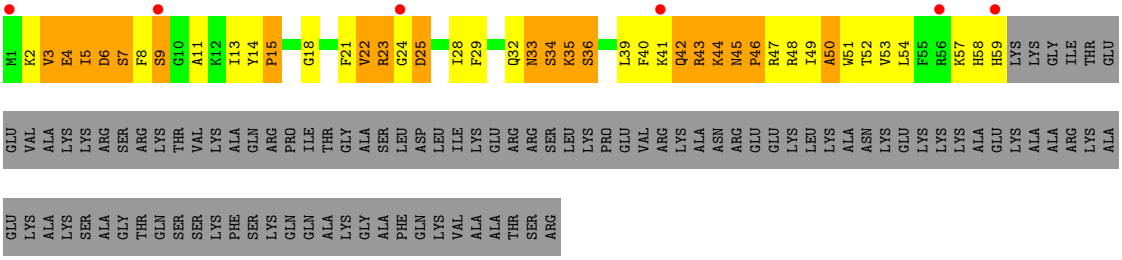




• Molecule 51: 60S ribosomal protein L24-A

Chain DV:

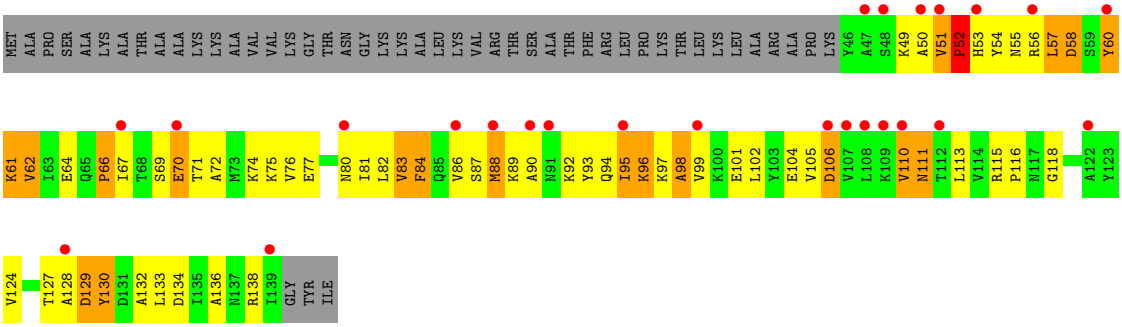


• Molecule 52: 60S ribosomal protein L25

Chain BW:

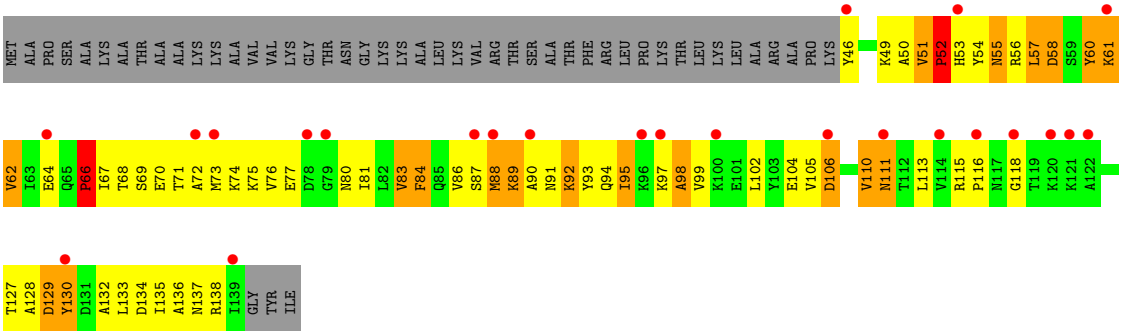


• Molecule 52: 60S ribosomal protein L25

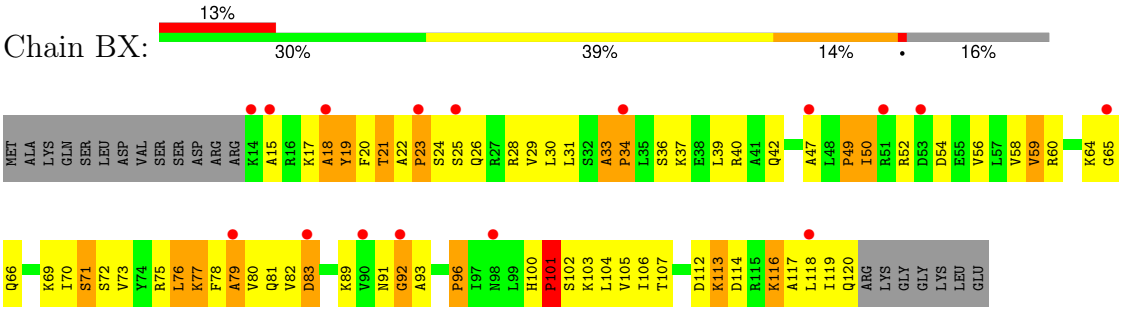
Chain DW:



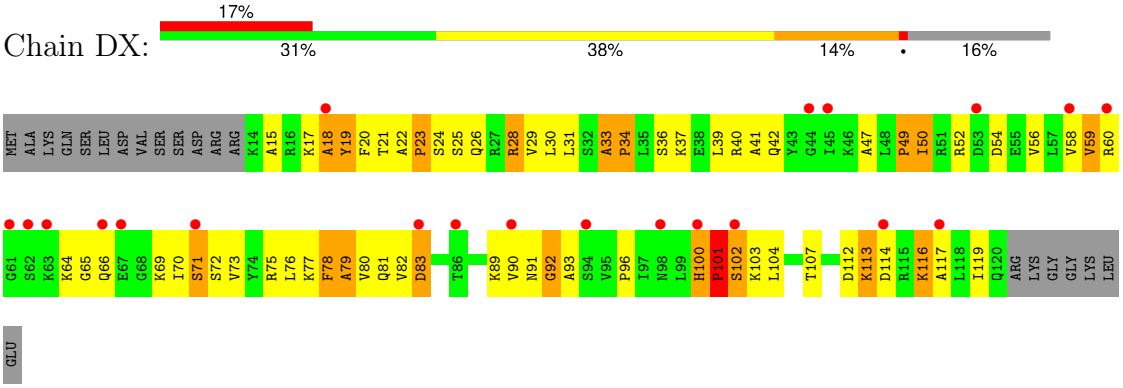
• Molecule 53: 60S ribosomal protein L26-A

Chain BX:



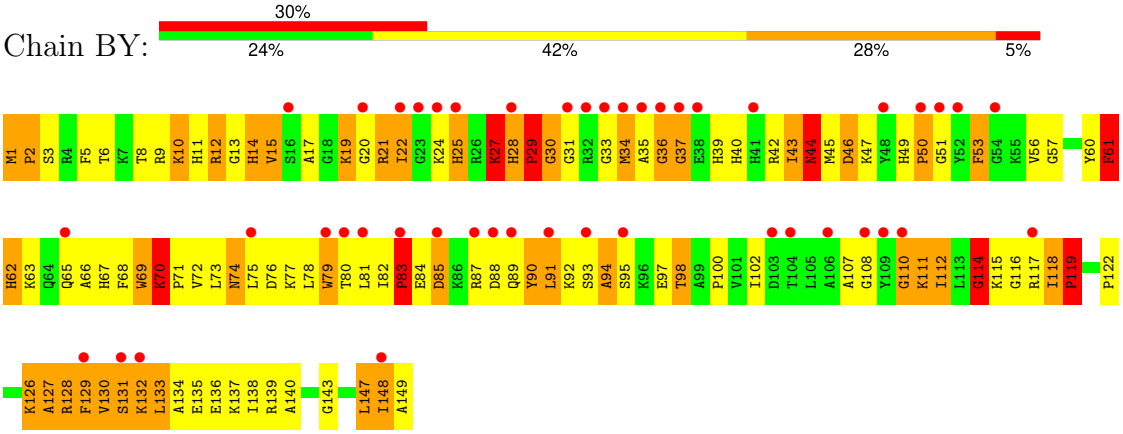

• Molecule 53: 60S ribosomal protein L26-A

Chain DX:



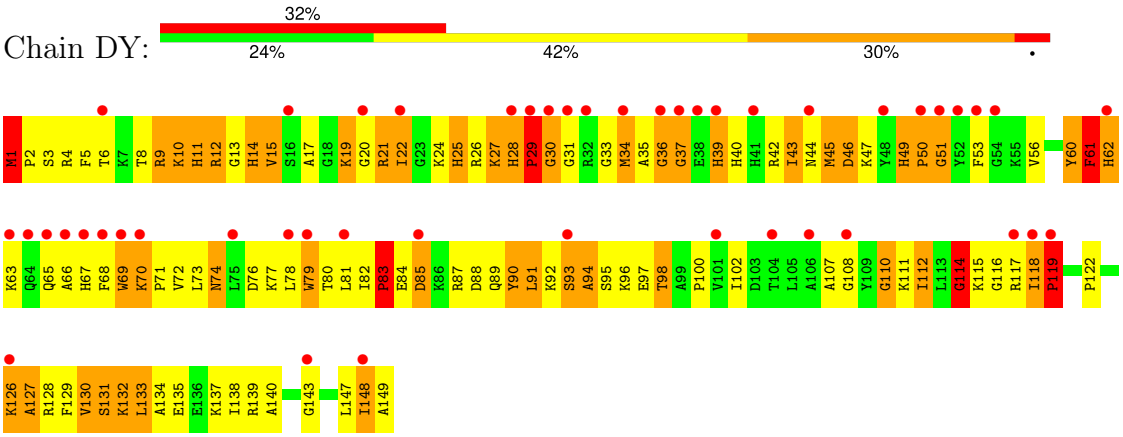

• Molecule 54: 60S ribosomal protein L28

Chain BY:



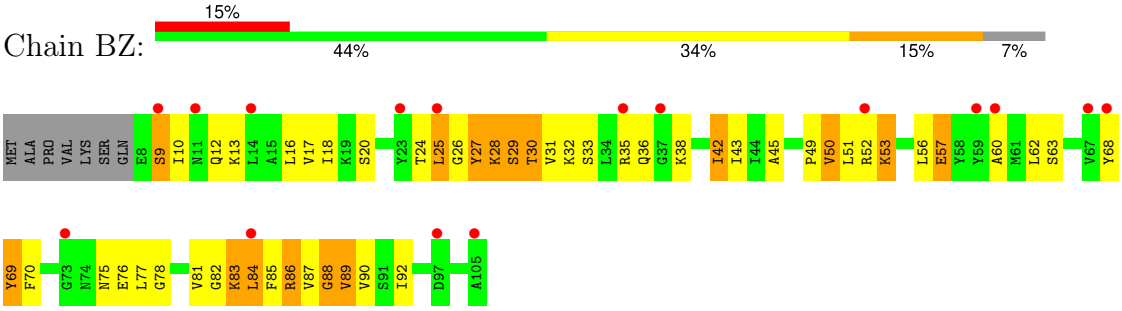

• Molecule 54: 60S ribosomal protein L28

Chain DY:



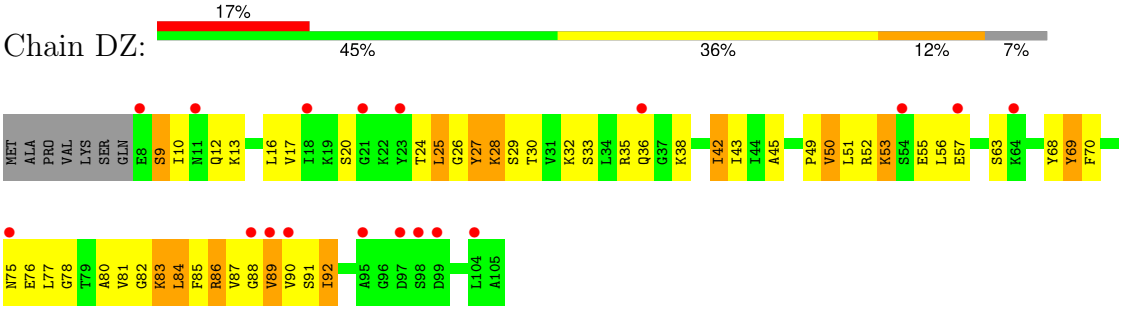
• Molecule 55: 60S ribosomal protein L30

Chain BZ:



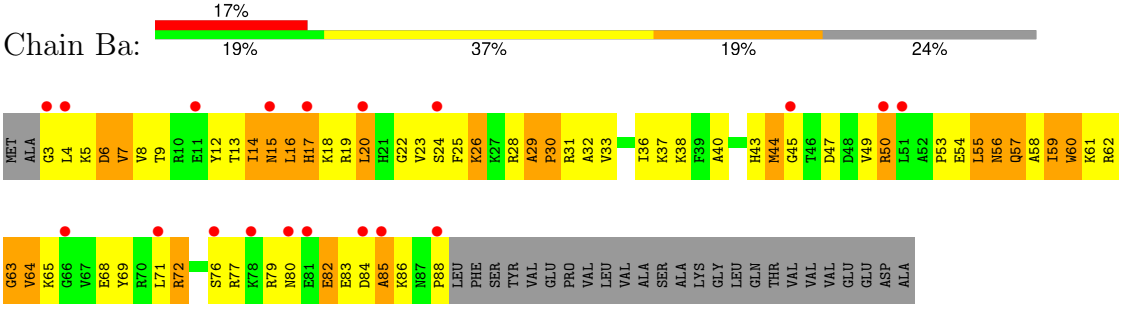

• Molecule 55: 60S ribosomal protein L30

Chain DZ:



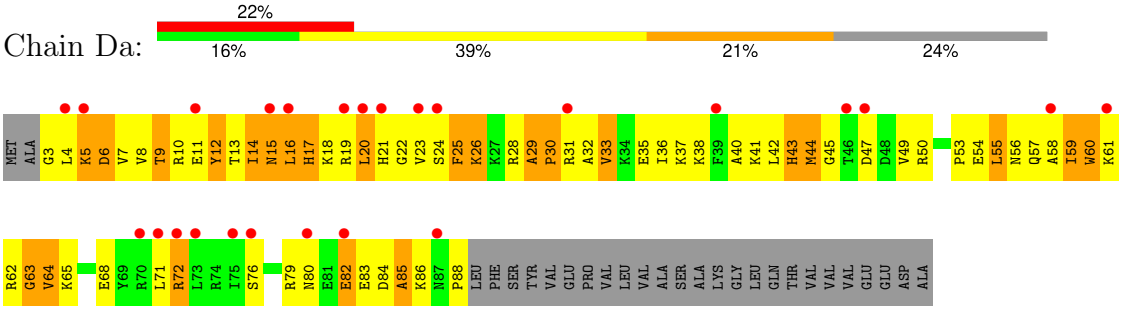

• Molecule 56: 60S ribosomal protein L31-A

Chain Ba:



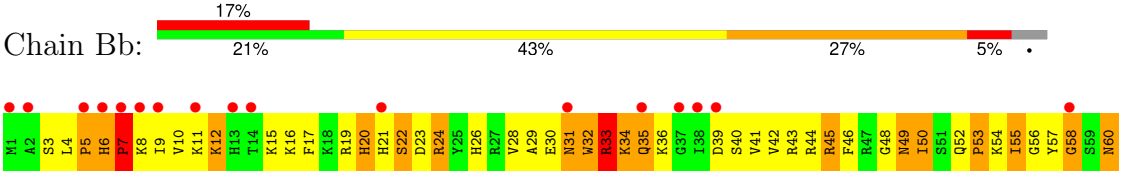

• Molecule 56: 60S ribosomal protein L31-A

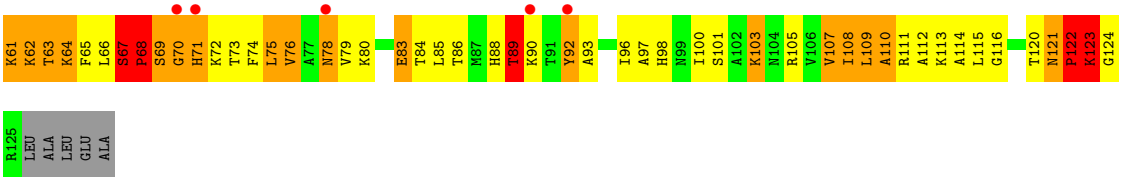
Chain Da:



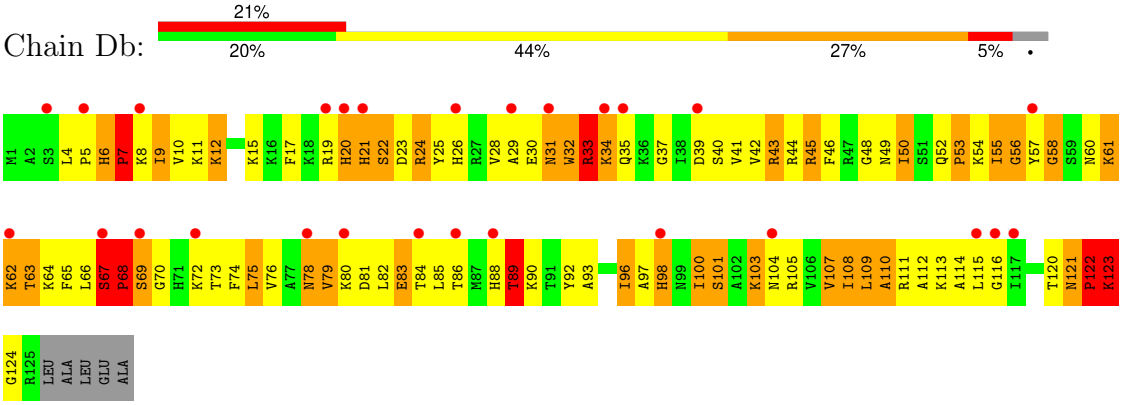

• Molecule 57: 60S ribosomal protein L32

Chain Bb:

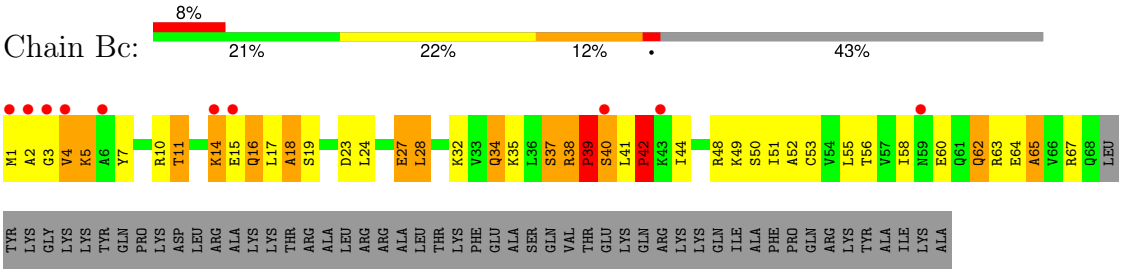




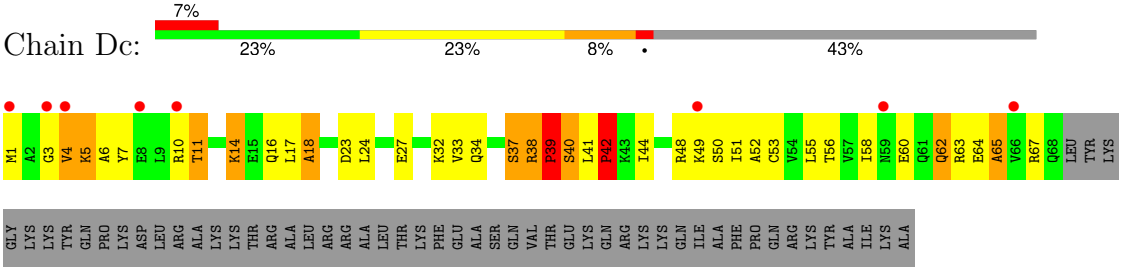

• Molecule 57: 60S ribosomal protein L32



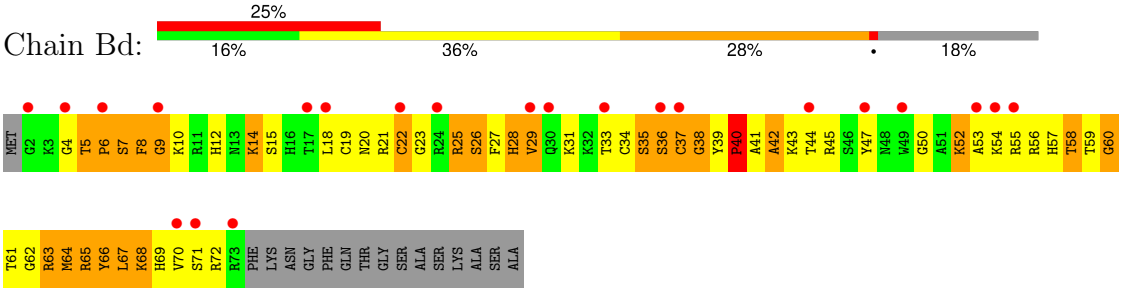

• Molecule 58: 60S ribosomal protein L35




• Molecule 58: 60S ribosomal protein L35

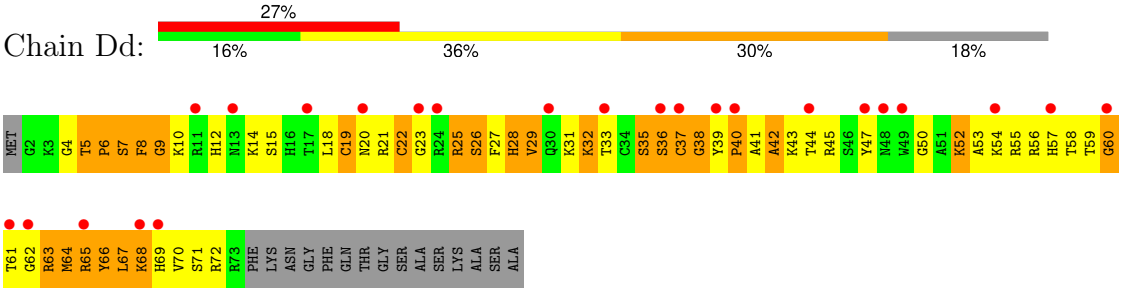



• Molecule 59: 60S ribosomal protein L37-A



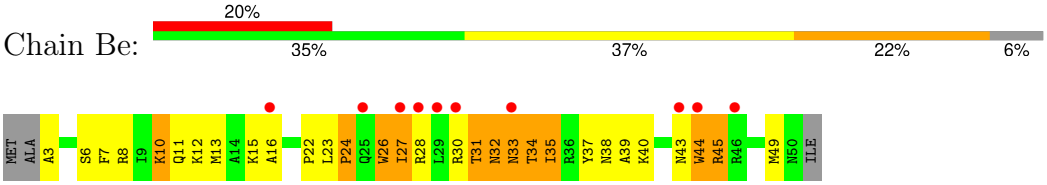
• Molecule 59: 60S ribosomal protein L37-A

Chain Dd:



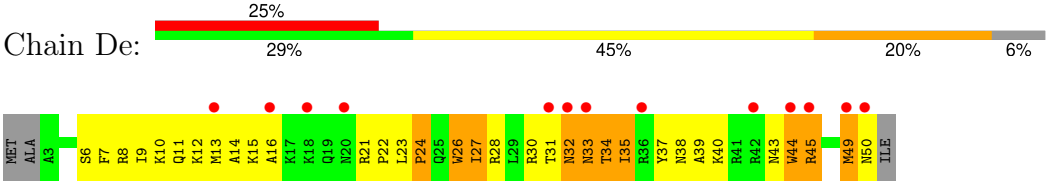

• Molecule 60: 60S ribosomal protein L39

Chain Be:



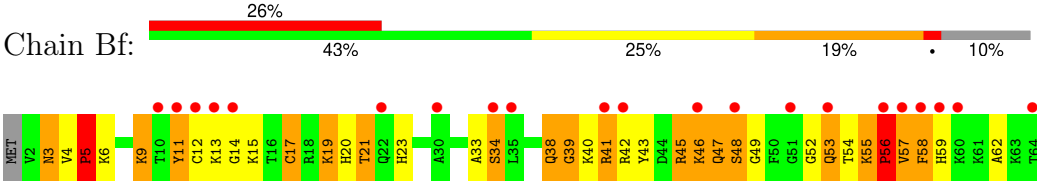

• Molecule 60: 60S ribosomal protein L39

Chain De:



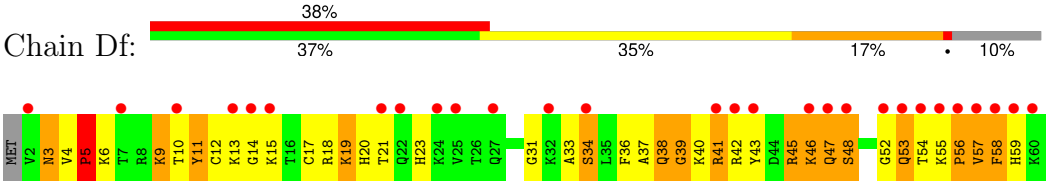

• Molecule 61: 60S ribosomal protein L42

Chain Bf:



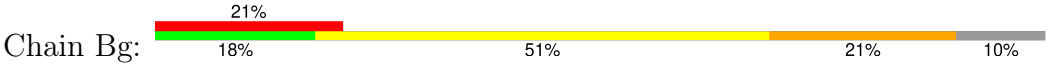

• Molecule 61: 60S ribosomal protein L42

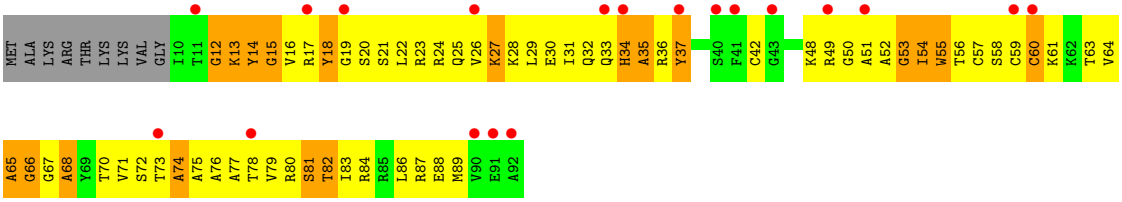
Chain Df:




• Molecule 62: 60S ribosomal protein L43

Chain Bg:

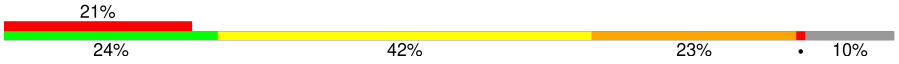


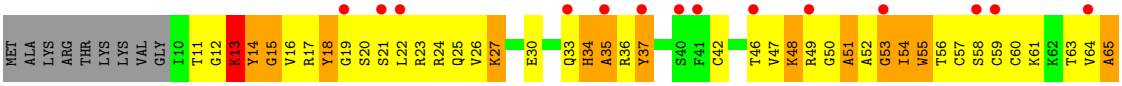


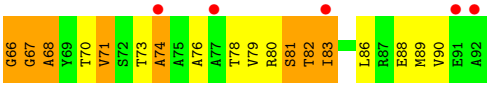


• Molecule 62: 60S ribosomal protein L43

Chain Dg:

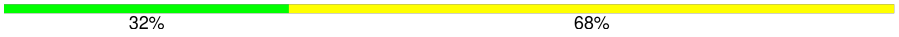


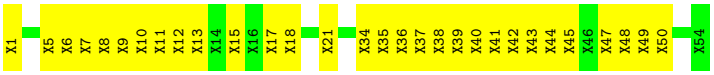





• Molecule 63: Unassigned secondary structure

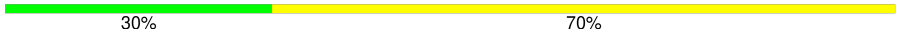
Chain Bh:

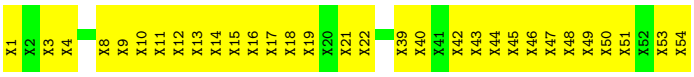


• Molecule 63: Unassigned secondary structure

Chain Dh:

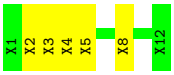


• Molecule 64: Unassigned secondary structure

Chain Bi:



• Molecule 64: Unassigned secondary structure

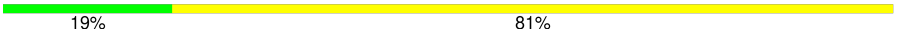
Chain Di:

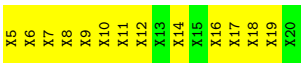





• Molecule 65: Unassigned secondary structure

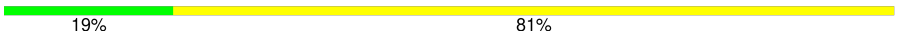
Chain Bk:

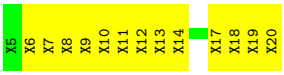





• Molecule 65: Unassigned secondary structure

Chain Dk:

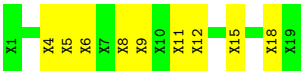



• Molecule 66: Unassigned secondary structure

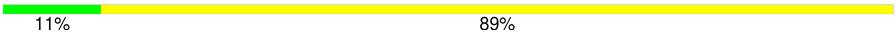
Chain Bl:

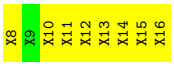



• Molecule 67: Unassigned secondary structure

Chain Bm:




• Molecule 68: Unassigned secondary structure

Chain Bn:







• Molecule 69: Unassigned secondary structure

Chain Bp:

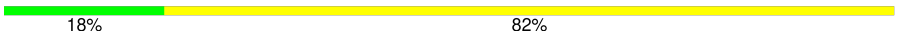






• Molecule 70: Unassigned secondary structure

Chain Bq:



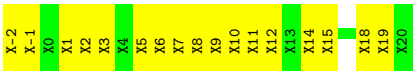




• Molecule 71: Unassigned secondary structure

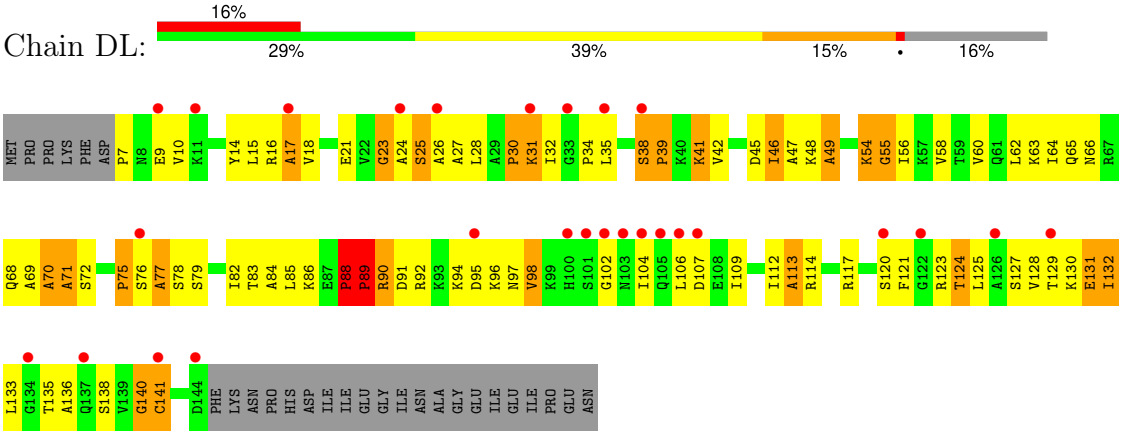
Chain Br:



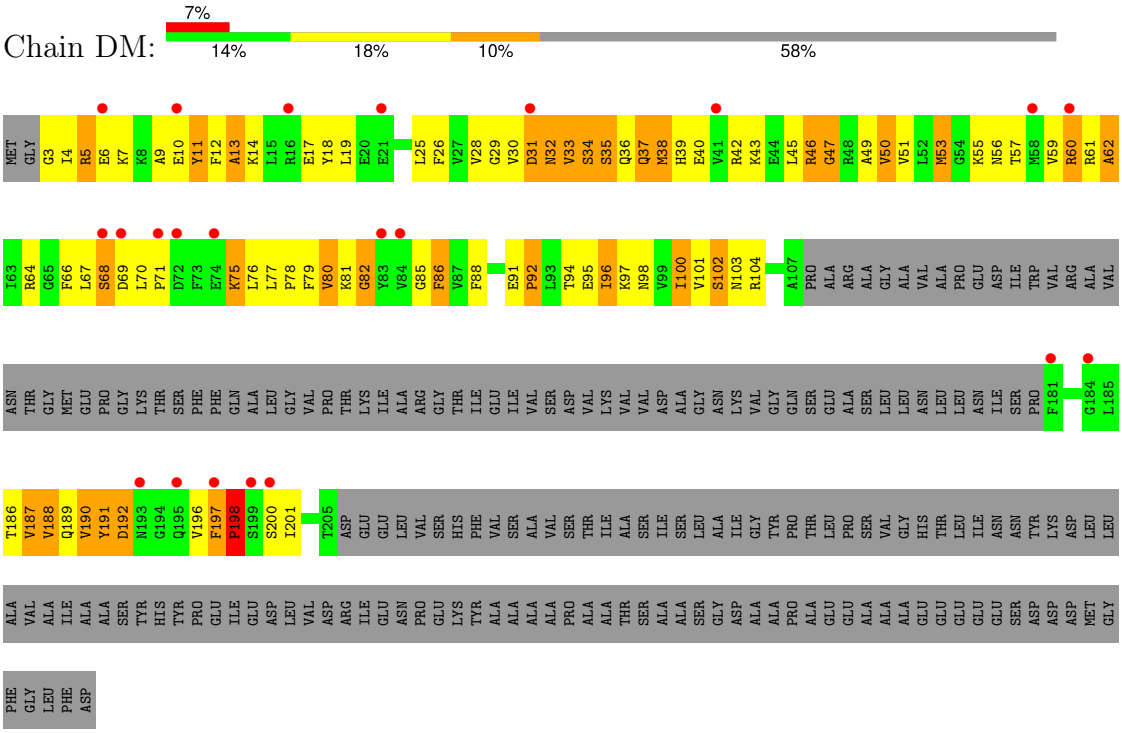
• Molecule 72: 60S ribosomal protein L12

Chain DL:




• Molecule 73: 60S acidic ribosomal protein P0

Chain DM:



# 4 Data and refinement statistics (i)

| Property | Value | Source |
|---|---|---|
| Space group | P 1 21 1 | Depositor |
| Cell constants<br>a, b, c, $\alpha$, $\beta$, $\gamma$ | 437.11Å 288.38Å 306.56Å<br>90.00° 99.13° 90.00° | Depositor |
| Resolution (Å) | 268.00 – 4.00<br>268.00 – 4.00 | Depositor<br>EDS |
| % Data completeness<br>(in resolution range) | (Not available) (268.00-4.00)<br>97.9 (268.00-4.00) | Depositor<br>EDS |
| $R_{merge}$ | (Not available) | Depositor |
| $R_{sym}$ | (Not available) | Depositor |
| $< I/\sigma(I) >$ [1] | 1.57 (at 4.02Å) | Xtriage |
| Refinement program | PHENIX | Depositor |
| R, $R_{free}$ | 0.278 , 0.341<br>0.284 , 0.343 | Depositor<br>DCC |
| $R_{free}$ test set | 12353 reflections (2.00%) | wwPDB-VP |
| Wilson B-factor (Å$^2$) | 147.1 | Xtriage |
| Anisotropy | 0.257 | Xtriage |
| Bulk solvent $k_{sol}$(e/Å$^3$), $B_{sol}$(Å$^2$) | 0.18 , 273.9 | EDS |
| L-test for twinning[2] | $< \|L\| > = 0.42$, $< L^2 > = 0.25$ | Xtriage |
| Estimated twinning fraction | No twinning to report. | Xtriage |
| $F_o$,$F_c$ correlation | 0.87 | EDS |
| Total number of atoms | 309610 | wwPDB-VP |
| Average B, all atoms (Å$^2$) | 139.0 | wwPDB-VP |

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.68% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

# 5 Model quality (i)

## 5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: OHX

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

| Mol | Chain | Bond lengths | | Bond angles | |
|---|---|---|---|---|---|
| | | RMSZ | #$\|Z\|$ >5 | RMSZ | #$\|Z\|$ >5 |
| 1 | A1 | 0.44 | 5/42619 (0.0%) | 0.54 | 9/66408 (0.0%) |
| 1 | C1 | 0.48 | 2/42619 (0.0%) | 0.55 | 7/66408 (0.0%) |
| 2 | AA | 0.69 | 0/1089 | 1.33 | 27/1517 (1.8%) |
| 2 | CA | 0.78 | 0/1089 | 1.35 | 29/1517 (1.9%) |
| 3 | AB | 0.83 | 1/1073 (0.1%) | 1.40 | 23/1488 (1.5%) |
| 3 | CB | 0.85 | 0/1073 | 1.38 | 21/1488 (1.4%) |
| 4 | AC | 0.77 | 0/927 | 1.10 | 9/1286 (0.7%) |
| 4 | CC | 0.71 | 0/927 | 1.05 | 7/1286 (0.5%) |
| 5 | AD | 0.69 | 0/834 | 1.10 | 9/1159 (0.8%) |
| 5 | CD | 0.77 | 0/834 | 1.21 | 14/1159 (1.2%) |
| 6 | AE | 0.72 | 0/775 | 1.14 | 7/1077 (0.6%) |
| 6 | CE | 0.81 | 0/775 | 1.13 | 9/1077 (0.8%) |
| 7 | AF | 0.99 | 0/381 | 1.48 | 10/530 (1.9%) |
| 7 | CF | 0.95 | 0/381 | 1.48 | 10/530 (1.9%) |
| 8 | AG | 0.76 | 0/579 | 1.28 | 11/806 (1.4%) |
| 8 | CG | 0.81 | 0/579 | 1.32 | 9/806 (1.1%) |
| 9 | AH | 0.64 | 0/626 | 1.14 | 7/867 (0.8%) |
| 9 | CH | 0.68 | 0/626 | 1.12 | 6/867 (0.7%) |
| 10 | AI | 0.66 | 0/595 | 1.29 | 9/826 (1.1%) |
| 10 | CI | 0.77 | 0/595 | 1.32 | 11/826 (1.3%) |
| 11 | AJ | 0.75 | 0/657 | 1.21 | 11/911 (1.2%) |
| 11 | CJ | 0.83 | 0/657 | 1.25 | 8/911 (0.9%) |
| 12 | AK | 0.65 | 0/331 | 1.22 | 5/460 (1.1%) |
| 12 | CK | 0.60 | 0/331 | 1.19 | 5/460 (1.1%) |
| 13 | AL | 0.70 | 0/589 | 1.18 | 9/816 (1.1%) |
| 13 | CL | 0.76 | 0/589 | 1.24 | 7/816 (0.9%) |
| 14 | AM | 0.81 | 0/518 | 1.39 | 10/715 (1.4%) |
| 14 | CM | 0.98 | 0/518 | 1.45 | 11/715 (1.5%) |
| 15 | AN | 0.76 | 0/550 | 1.26 | 11/766 (1.4%) |
| 15 | CN | 0.78 | 0/550 | 1.33 | 9/766 (1.2%) |
| 16 | AO | 0.82 | 0/621 | 1.36 | 10/860 (1.2%) |
| 16 | CO | 0.89 | 0/621 | 1.40 | 11/860 (1.3%) |

| Mol | Chain | Bond lengths | | Bond angles | |
|---|---|---|---|---|---|
| | | RMSZ | #\|Z\| >5 | RMSZ | #\|Z\| >5 |
| 17 | AP | 0.99 | 2/565 (0.4%) | 1.38 | 10/781 (1.3%) |
| 17 | CP | 1.11 | 1/565 (0.2%) | 1.43 | 10/781 (1.3%) |
| 18 | AQ | 0.64 | 0/331 | 1.16 | 2/460 (0.4%) |
| 18 | CQ | 0.66 | 0/311 | 1.27 | 2/432 (0.5%) |
| 19 | AR | 0.59 | 0/229 | 1.05 | 2/316 (0.6%) |
| 19 | CR | 0.65 | 0/229 | 1.12 | 2/316 (0.6%) |
| 20 | AS | 0.86 | 1/189 (0.5%) | 0.97 | 1/260 (0.4%) |
| 20 | CS | 0.86 | 1/189 (0.5%) | 0.99 | 1/260 (0.4%) |
| 21 | AT | 0.64 | 1/1541 (0.1%) | 1.02 | 9/2141 (0.4%) |
| 21 | CT | 0.67 | 0/1541 | 1.06 | 11/2141 (0.5%) |
| 29 | B1 | 0.61 | 1/76764 (0.0%) | 0.65 | 21/119684 (0.0%) |
| 29 | D1 | 0.59 | 3/76764 (0.0%) | 0.64 | 18/119684 (0.0%) |
| 30 | B2 | 0.58 | 0/2883 | 0.68 | 1/4491 (0.0%) |
| 30 | D2 | 0.64 | 0/2883 | 0.70 | 2/4491 (0.0%) |
| 31 | B3 | 0.53 | 0/3746 | 0.57 | 1/5832 (0.0%) |
| 31 | D3 | 0.46 | 0/3746 | 0.54 | 1/5832 (0.0%) |
| 32 | BA | 0.50 | 0/1054 | 1.05 | 12/1468 (0.8%) |
| 32 | DA | 0.49 | 0/1054 | 1.00 | 11/1468 (0.7%) |
| 33 | BB | 0.95 | 0/1103 | 1.42 | 25/1501 (1.7%) |
| 33 | DB | 0.82 | 0/1103 | 1.35 | 23/1501 (1.5%) |
| 34 | BC | 1.08 | 1/1790 (0.1%) | 1.55 | 45/2487 (1.8%) |
| 34 | DC | 1.20 | 6/1790 (0.3%) | 1.60 | 44/2487 (1.8%) |
| 35 | BD | 1.06 | 1/1311 (0.1%) | 1.48 | 29/1817 (1.6%) |
| 35 | DD | 0.87 | 0/1311 | 1.42 | 27/1817 (1.5%) |
| 36 | BE | 0.81 | 0/1411 | 1.45 | 38/1960 (1.9%) |
| 36 | DE | 0.92 | 0/1411 | 1.52 | 43/1960 (2.2%) |
| 37 | BF | 1.19 | 2/872 (0.2%) | 1.74 | 38/1215 (3.1%) |
| 37 | DF | 1.34 | 3/872 (0.3%) | 1.77 | 36/1215 (3.0%) |
| 38 | BG | 1.15 | 2/1059 (0.2%) | 1.64 | 29/1471 (2.0%) |
| 38 | DG | 1.23 | 6/1059 (0.6%) | 1.65 | 33/1471 (2.2%) |
| 39 | BH | 0.72 | 0/855 | 1.26 | 13/1190 (1.1%) |
| 39 | DH | 0.69 | 0/855 | 1.21 | 11/1190 (0.9%) |
| 40 | BI | 1.02 | 1/941 (0.1%) | 1.34 | 14/1308 (1.1%) |
| 40 | DI | 1.18 | 0/941 | 1.45 | 14/1308 (1.1%) |
| 41 | BJ | 1.00 | 0/1025 | 1.37 | 20/1424 (1.4%) |
| 41 | DJ | 1.08 | 2/1025 (0.2%) | 1.36 | 16/1424 (1.1%) |
| 42 | BK | 0.85 | 0/809 | 1.34 | 18/1122 (1.6%) |
| 42 | DK | 0.93 | 0/809 | 1.35 | 14/1122 (1.2%) |
| 43 | BN | 1.04 | 0/592 | 1.56 | 15/823 (1.8%) |
| 43 | DN | 1.23 | 0/592 | 1.67 | 18/823 (2.2%) |
| 44 | BO | 0.92 | 0/922 | 1.35 | 16/1282 (1.2%) |
| 44 | DO | 0.77 | 0/922 | 1.31 | 17/1282 (1.3%) |
| 45 | BP | 1.25 | 1/966 (0.1%) | 1.68 | 28/1343 (2.1%) |

| Mol | Chain | Bond lengths | | Bond angles | |
|---|---|---|---|---|---|
| | | RMSZ | #\|Z\| >5 | RMSZ | #\|Z\| >5 |
| 45 | DP | 1.32 | 6/966 (0.6%) | 1.73 | 33/1343 (2.5%) |
| 46 | BQ | 1.12 | 2/760 (0.3%) | 1.38 | 10/1057 (0.9%) |
| 46 | DQ | 1.05 | 1/760 (0.1%) | 1.32 | 13/1057 (1.2%) |
| 47 | BR | 1.09 | 1/705 (0.1%) | 1.48 | 15/980 (1.5%) |
| 47 | DR | 0.91 | 0/705 | 1.36 | 14/980 (1.4%) |
| 48 | BS | 0.79 | 0/930 | 1.09 | 9/1295 (0.7%) |
| 48 | DS | 0.74 | 0/930 | 1.03 | 9/1295 (0.7%) |
| 49 | BT | 1.06 | 1/585 (0.2%) | 1.35 | 7/812 (0.9%) |
| 49 | DT | 1.08 | 0/585 | 1.41 | 10/812 (1.2%) |
| 50 | BU | 1.00 | 0/630 | 1.34 | 10/872 (1.1%) |
| 50 | DU | 1.21 | 2/630 (0.3%) | 1.47 | 13/872 (1.5%) |
| 51 | BV | 0.80 | 0/290 | 1.15 | 2/402 (0.5%) |
| 51 | DV | 0.89 | 0/290 | 1.21 | 2/402 (0.5%) |
| 52 | BW | 0.84 | 0/467 | 1.23 | 8/651 (1.2%) |
| 52 | DW | 0.76 | 0/467 | 1.24 | 8/651 (1.2%) |
| 53 | BX | 0.86 | 0/529 | 1.27 | 9/736 (1.2%) |
| 53 | DX | 0.76 | 0/529 | 1.28 | 11/736 (1.5%) |
| 54 | BY | 1.10 | 3/726 (0.4%) | 1.66 | 20/1004 (2.0%) |
| 54 | DY | 0.99 | 3/726 (0.4%) | 1.56 | 19/1004 (1.9%) |
| 55 | BZ | 0.72 | 0/480 | 1.15 | 5/665 (0.8%) |
| 55 | DZ | 0.67 | 0/480 | 1.14 | 3/665 (0.5%) |
| 56 | Ba | 0.98 | 0/424 | 1.40 | 6/589 (1.0%) |
| 56 | Da | 0.96 | 0/424 | 1.42 | 6/589 (1.0%) |
| 57 | Bb | 1.10 | 2/617 (0.3%) | 1.64 | 16/858 (1.9%) |
| 57 | Db | 0.94 | 0/617 | 1.57 | 18/858 (2.1%) |
| 58 | Bc | 0.79 | 0/338 | 1.35 | 7/471 (1.5%) |
| 58 | Dc | 0.65 | 0/338 | 1.23 | 6/471 (1.3%) |
| 59 | Bd | 0.97 | 0/351 | 1.46 | 8/485 (1.6%) |
| 59 | Dd | 0.77 | 0/351 | 1.41 | 8/485 (1.6%) |
| 60 | Be | 0.89 | 0/239 | 1.31 | 3/333 (0.9%) |
| 60 | De | 0.75 | 0/239 | 1.24 | 4/333 (1.2%) |
| 61 | Bf | 0.65 | 0/466 | 1.04 | 3/646 (0.5%) |
| 61 | Df | 0.54 | 0/466 | 1.00 | 3/646 (0.5%) |
| 62 | Bg | 0.82 | 0/406 | 1.25 | 5/562 (0.9%) |
| 62 | Dg | 0.73 | 0/406 | 1.07 | 4/562 (0.7%) |
| 72 | DL | 0.62 | 0/678 | 1.18 | 12/941 (1.3%) |
| 73 | DM | 0.70 | 0/639 | 1.16 | 9/886 (1.0%) |
| All | All | 0.65 | 64/326627 (0.0%) | 0.82 | 1440/496371 (0.3%) |

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|---|---|---|---|
| 3 | AB | 0 | 2 |
| 3 | CB | 0 | 2 |
| 17 | AP | 0 | 1 |
| 17 | CP | 0 | 1 |
| 18 | AQ | 0 | 1 |
| 18 | CQ | 0 | 1 |
| 22 | Bo | 0 | 1 |
| 23 | Ab | 0 | 1 |
| 23 | Cb | 0 | 1 |
| 24 | Ac | 0 | 1 |
| 29 | B1 | 0 | 3 |
| 29 | D1 | 0 | 3 |
| 34 | BC | 0 | 5 |
| 34 | DC | 0 | 6 |
| 35 | BD | 0 | 1 |
| 35 | DD | 0 | 2 |
| 36 | BE | 0 | 1 |
| 36 | DE | 0 | 1 |
| 37 | BF | 0 | 4 |
| 37 | DF | 0 | 4 |
| 38 | BG | 0 | 1 |
| 38 | DG | 0 | 1 |
| 42 | BK | 0 | 1 |
| 42 | DK | 0 | 1 |
| 44 | DO | 0 | 1 |
| 45 | BP | 0 | 4 |
| 45 | DP | 0 | 5 |
| 49 | BT | 0 | 1 |
| 49 | DT | 0 | 1 |
| 51 | BV | 0 | 1 |
| 51 | DV | 0 | 1 |
| 54 | BY | 0 | 2 |
| 54 | DY | 0 | 2 |
| 56 | Ba | 0 | 1 |
| 56 | Da | 0 | 1 |
| 57 | Bb | 0 | 1 |
| 57 | Db | 0 | 1 |
| All | All | 0 | 68 |

All (64) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|---|---|---|---|---|---|---|---|
| 37 | DF | 88 | SER | CA-C | 6.88 | 1.61 | 1.52 |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|---|---|---|---|---|---|---|---|
| 1 | A1 | 243 | G | C1'-N9 | -6.85 | 1.37 | 1.48 |
| 35 | BD | 230 | VAL | CA-CB | -6.81 | 1.47 | 1.55 |
| 54 | BY | 45 | MET | CA-C | 6.81 | 1.61 | 1.53 |
| 1 | C1 | 129 | U | C1'-N1 | 6.75 | 1.57 | 1.47 |
| 17 | CP | 33 | LEU | CA-C | 6.72 | 1.61 | 1.52 |
| 1 | C1 | 243 | G | C1'-N9 | -6.57 | 1.38 | 1.48 |
| 41 | DJ | 96 | VAL | CA-CB | -6.49 | 1.46 | 1.53 |
| 20 | AS | 31 | ILE | CA-C | 6.49 | 1.60 | 1.52 |
| 38 | DG | 236 | ILE | CA-CB | -6.42 | 1.46 | 1.54 |
| 45 | BP | 152 | VAL | CA-CB | -6.38 | 1.47 | 1.54 |
| 45 | DP | 167 | TYR | CA-CB | -6.37 | 1.42 | 1.53 |
| 40 | BI | 182 | SER | CA-C | 6.36 | 1.55 | 1.52 |
| 34 | DC | 78 | VAL | CA-CB | -6.35 | 1.46 | 1.54 |
| 45 | DP | 120 | VAL | CA-C | -6.31 | 1.46 | 1.52 |
| 54 | BY | 147 | LEU | CA-C | 6.22 | 1.56 | 1.52 |
| 45 | DP | 152 | VAL | CA-CB | -6.07 | 1.47 | 1.54 |
| 50 | DU | 73 | VAL | CA-CB | -6.02 | 1.46 | 1.54 |
| 47 | BR | 48 | VAL | CA-CB | -6.00 | 1.47 | 1.54 |
| 38 | DG | 236 | ILE | CA-C | -5.98 | 1.46 | 1.53 |
| 38 | DG | 178 | ILE | CA-CB | -5.91 | 1.51 | 1.55 |
| 49 | BT | 74 | VAL | CA-CB | -5.76 | 1.46 | 1.54 |
| 1 | A1 | 129 | U | C1'-N1 | 5.73 | 1.56 | 1.47 |
| 37 | DF | 21 | THR | CA-C | 5.63 | 1.60 | 1.52 |
| 45 | DP | 145 | VAL | CA-CB | -5.58 | 1.48 | 1.54 |
| 41 | DJ | 91 | VAL | CA-CB | -5.57 | 1.46 | 1.54 |
| 34 | BC | 89 | VAL | CA-CB | -5.56 | 1.47 | 1.54 |
| 46 | BQ | 91 | VAL | CA-CB | -5.55 | 1.47 | 1.54 |
| 38 | BG | 99 | PRO | CA-CB | -5.53 | 1.46 | 1.53 |
| 37 | BF | 165 | LEU | CA-C | -5.53 | 1.45 | 1.52 |
| 34 | DC | 56 | ILE | CA-CB | -5.53 | 1.47 | 1.54 |
| 20 | CS | 31 | ILE | CA-C | 5.52 | 1.59 | 1.52 |
| 3 | AB | 225 | LEU | N-CA | 5.46 | 1.53 | 1.46 |
| 34 | DC | 160 | VAL | CA-C | -5.45 | 1.45 | 1.52 |
| 54 | DY | 89 | GLN | CA-C | 5.42 | 1.55 | 1.52 |
| 37 | BF | 88 | SER | CA-C | 5.41 | 1.59 | 1.52 |
| 54 | DY | 45 | MET | CA-C | 5.39 | 1.60 | 1.53 |
| 21 | AT | 58 | VAL | CA-CB | -5.33 | 1.47 | 1.54 |
| 1 | A1 | 259 | U | C1'-N1 | 5.33 | 1.55 | 1.47 |
| 38 | BG | 86 | VAL | CA-CB | -5.32 | 1.47 | 1.54 |
| 29 | D1 | 3025 | C | C1'-N1 | -5.29 | 1.40 | 1.48 |
| 17 | AP | 74 | VAL | CA-CB | -5.28 | 1.50 | 1.55 |
| 38 | DG | 189 | ILE | CA-CB | -5.26 | 1.47 | 1.54 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|---|---|---|---|---|---|---|---|
| 29 | D1 | 1187 | C | C1'-N1 | -5.25 | 1.40 | 1.48 |
| 34 | DC | 33 | PRO | CA-CB | -5.25 | 1.46 | 1.53 |
| 45 | DP | 34 | VAL | CA-CB | -5.23 | 1.47 | 1.54 |
| 50 | DU | 45 | ARG | CA-CB | -5.23 | 1.45 | 1.53 |
| 45 | DP | 88 | VAL | CA-CB | -5.22 | 1.47 | 1.55 |
| 54 | DY | 39 | HIS | CA-C | 5.20 | 1.55 | 1.52 |
| 38 | DG | 86 | VAL | CA-CB | -5.19 | 1.47 | 1.54 |
| 34 | DC | 160 | VAL | CA-CB | -5.18 | 1.47 | 1.54 |
| 57 | Bb | 76 | VAL | CA-CB | -5.16 | 1.47 | 1.54 |
| 34 | DC | 43 | LEU | CA-C | 5.14 | 1.59 | 1.52 |
| 46 | DQ | 144 | SER | CA-C | 5.13 | 1.56 | 1.52 |
| 29 | B1 | 1951 | C | C4-N4 | -5.13 | 1.23 | 1.33 |
| 37 | DF | 48 | ARG | CA-C | 5.13 | 1.59 | 1.52 |
| 1 | A1 | 125 | U | C1'-N1 | 5.13 | 1.55 | 1.47 |
| 38 | DG | 158 | LYS | CA-C | 5.12 | 1.58 | 1.52 |
| 57 | Bb | 28 | VAL | CA-CB | -5.08 | 1.48 | 1.54 |
| 46 | BQ | 117 | ILE | CA-CB | -5.06 | 1.47 | 1.54 |
| 29 | D1 | 1951 | C | C4-N4 | -5.05 | 1.23 | 1.33 |
| 1 | A1 | 127 | G | C1'-N9 | -5.03 | 1.39 | 1.47 |
| 54 | BY | 111 | LYS | CA-CB | -5.01 | 1.46 | 1.53 |
| 17 | AP | 31 | LYS | CA-C | 5.01 | 1.59 | 1.52 |

All (1440) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 35 | DD | 126 | ILE | N-CA-C | -14.57 | 96.72 | 110.42 |
| 35 | BD | 126 | ILE | N-CA-C | -13.80 | 97.56 | 110.53 |
| 14 | CM | 55 | TYR | N-CA-C | -12.56 | 97.90 | 113.97 |
| 45 | DP | 65 | ASN | N-CA-C | -12.17 | 97.71 | 111.71 |
| 62 | Bg | 12 | GLY | N-CA-C | -12.00 | 98.65 | 114.25 |
| 57 | Bb | 31 | ASN | N-CA-C | 11.96 | 124.53 | 108.38 |
| 35 | BD | 146 | PRO | N-CA-CB | 11.83 | 110.53 | 102.25 |
| 35 | DD | 146 | PRO | N-CA-CB | 11.78 | 110.49 | 102.25 |
| 54 | BY | 45 | MET | N-CA-C | 11.65 | 127.83 | 111.52 |
| 32 | DA | 126 | PRO | N-CA-CB | 11.59 | 110.44 | 102.79 |
| 34 | DC | 96 | PRO | N-CA-CB | 11.55 | 115.38 | 103.25 |
| 34 | DC | 262 | TRP | N-CA-C | -11.52 | 99.05 | 112.87 |
| 34 | DC | 267 | ALA | N-CA-C | -11.35 | 92.27 | 110.32 |
| 45 | BP | 131 | PRO | N-CA-CB | 11.17 | 114.89 | 102.60 |
| 45 | BP | 122 | GLN | N-CA-C | -11.06 | 95.72 | 113.19 |
| 34 | BC | 196 | ARG | N-CA-C | -11.02 | 97.58 | 111.02 |
| 43 | BN | 48 | GLY | N-CA-C | -10.95 | 98.63 | 112.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 54 | DY | 45 | MET | N-CA-C | 10.86 | 127.08 | 111.56 |
| 34 | BC | 262 | TRP | N-CA-C | -10.78 | 98.32 | 112.34 |
| 49 | BT | 50 | LYS | N-CA-C | -10.70 | 98.95 | 113.18 |
| 14 | AM | 55 | TYR | N-CA-C | -10.66 | 100.33 | 113.97 |
| 14 | AM | 100 | ILE | N-CA-C | -10.56 | 100.28 | 110.42 |
| 56 | Da | 33 | VAL | N-CA-C | -10.44 | 99.38 | 110.23 |
| 35 | BD | 241 | GLY | N-CA-C | -10.40 | 100.84 | 115.30 |
| 57 | Db | 31 | ASN | N-CA-C | 10.38 | 123.75 | 108.60 |
| 34 | BC | 96 | PRO | N-CA-CB | 10.37 | 114.14 | 103.25 |
| 43 | DN | 48 | GLY | N-CA-C | -10.33 | 99.40 | 112.10 |
| 45 | DP | 122 | GLN | N-CA-C | -10.26 | 96.99 | 113.19 |
| 49 | DT | 50 | LYS | N-CA-C | -10.20 | 99.61 | 113.18 |
| 45 | BP | 65 | ASN | N-CA-C | -10.12 | 100.24 | 111.28 |
| 13 | CL | 57 | ARG | N-CA-C | 10.11 | 118.46 | 108.75 |
| 33 | DB | 184 | ARG | N-CA-C | -10.04 | 100.12 | 112.38 |
| 45 | DP | 131 | PRO | N-CA-CB | 9.99 | 113.59 | 102.60 |
| 38 | BG | 144 | ILE | N-CA-C | -9.92 | 102.22 | 111.45 |
| 53 | BX | 18 | ALA | N-CA-C | -9.90 | 99.08 | 111.75 |
| 14 | CM | 65 | ILE | N-CA-C | -9.86 | 103.84 | 112.12 |
| 50 | DU | 18 | PRO | N-CA-CB | 9.85 | 108.44 | 102.92 |
| 42 | BK | 139 | THR | N-CA-C | -9.81 | 100.96 | 113.72 |
| 54 | DY | 133 | LEU | N-CA-C | -9.78 | 100.08 | 112.90 |
| 38 | BG | 106 | LEU | N-CA-C | -9.71 | 101.46 | 113.20 |
| 33 | DB | 232 | GLY | N-CA-C | -9.69 | 104.01 | 114.67 |
| 3 | CB | 241 | ASP | N-CA-C | -9.68 | 100.40 | 112.88 |
| 59 | Bd | 63 | ARG | N-CA-C | -9.63 | 101.55 | 113.20 |
| 3 | CB | 60 | SER | N-CA-C | -9.61 | 101.14 | 112.86 |
| 16 | AO | 61 | ILE | N-CA-C | 9.59 | 122.14 | 108.42 |
| 43 | DN | 51 | ALA | N-CA-C | -9.57 | 99.25 | 113.61 |
| 36 | DE | 237 | GLU | N-CA-C | -9.55 | 99.77 | 111.33 |
| 16 | AO | 117 | ARG | N-CA-C | -9.51 | 100.77 | 111.71 |
| 34 | DC | 5 | LYS | N-CA-C | -9.47 | 96.02 | 110.70 |
| 44 | DO | 84 | PRO | N-CA-CB | 9.47 | 113.02 | 102.60 |
| 43 | BN | 51 | ALA | N-CA-C | -9.45 | 99.43 | 113.61 |
| 56 | Da | 53 | PRO | N-CA-CB | 9.45 | 112.17 | 103.20 |
| 59 | Dd | 14 | LYS | N-CA-C | 9.43 | 123.01 | 108.96 |
| 56 | Ba | 56 | ASN | N-CA-C | -9.42 | 100.70 | 110.97 |
| 4 | CC | 57 | ASP | N-CA-C | -9.38 | 100.93 | 111.71 |
| 56 | Ba | 53 | PRO | N-CA-CB | 9.36 | 112.09 | 103.20 |
| 57 | Bb | 123 | LYS | N-CA-C | -9.35 | 90.89 | 110.80 |
| 50 | BU | 50 | PRO | N-CA-CB | 9.31 | 111.57 | 103.19 |
| 43 | DN | 49 | PRO | N-CA-CB | 9.29 | 113.00 | 103.25 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 53 | DX | 18 | ALA | N-CA-C | -9.28 | 99.88 | 111.75 |
| 38 | DG | 97 | PRO | N-CA-CB | 9.26 | 112.97 | 103.25 |
| 54 | BY | 108 | GLY | N-CA-C | 9.24 | 121.47 | 112.04 |
| 43 | DN | 73 | PRO | N-CA-CB | 9.16 | 112.87 | 103.25 |
| 16 | CO | 117 | ARG | N-CA-C | -9.15 | 101.18 | 111.71 |
| 16 | CO | 95 | PRO | N-CA-CB | 9.13 | 112.83 | 103.25 |
| 45 | BP | 121 | PRO | N-CA-CB | 9.13 | 112.83 | 103.25 |
| 37 | BF | 14 | ASP | N-CA-C | 9.12 | 120.74 | 107.88 |
| 17 | AP | 116 | ASP | N-CA-C | -9.10 | 100.19 | 111.11 |
| 45 | DP | 121 | PRO | N-CA-CB | 9.06 | 112.76 | 103.25 |
| 35 | DD | 241 | GLY | N-CA-C | -9.04 | 102.73 | 115.30 |
| 36 | BE | 259 | LYS | N-CA-C | -9.04 | 101.52 | 112.54 |
| 15 | CN | 71 | PRO | N-CA-CB | 9.02 | 110.89 | 103.32 |
| 3 | AB | 241 | ASP | N-CA-C | -8.98 | 101.26 | 113.30 |
| 16 | CO | 61 | ILE | N-CA-C | 8.96 | 121.23 | 108.42 |
| 44 | BO | 84 | PRO | N-CA-CB | 8.93 | 112.43 | 102.60 |
| 8 | AG | 41 | ALA | N-CA-C | -8.92 | 102.10 | 113.16 |
| 57 | Db | 68 | PRO | N-CA-CB | 8.91 | 112.61 | 103.25 |
| 42 | BK | 166 | LYS | N-CA-C | -8.89 | 101.98 | 112.92 |
| 38 | DG | 71 | ALA | N-CA-C | -8.88 | 101.51 | 111.82 |
| 59 | Bd | 14 | LYS | N-CA-C | 8.82 | 122.11 | 108.96 |
| 45 | DP | 58 | LEU | N-CA-C | -8.82 | 92.01 | 110.80 |
| 37 | BF | 157 | GLN | N-CA-C | -8.81 | 100.54 | 111.11 |
| 58 | Bc | 39 | PRO | N-CA-CB | 8.81 | 112.29 | 102.60 |
| 42 | DK | 139 | THR | N-CA-C | -8.80 | 102.70 | 113.97 |
| 42 | DK | 8 | PRO | N-CA-CB | 8.78 | 112.26 | 102.60 |
| 42 | BK | 8 | PRO | N-CA-CB | 8.72 | 112.20 | 102.60 |
| 58 | Bc | 44 | ILE | N-CA-C | -8.71 | 101.92 | 110.72 |
| 45 | DP | 130 | LYS | N-CA-C | -8.69 | 97.76 | 109.84 |
| 29 | D1 | 244 | G | N1-C6-O6 | 8.68 | 145.94 | 119.90 |
| 44 | BO | 162 | ARG | N-CA-C | -8.65 | 102.43 | 113.16 |
| 57 | Bb | 26 | HIS | N-CA-C | 8.63 | 120.37 | 110.97 |
| 14 | AM | 104 | VAL | N-CA-C | -8.61 | 101.81 | 113.00 |
| 33 | BB | 232 | GLY | N-CA-C | -8.61 | 105.20 | 114.67 |
| 33 | BB | 202 | VAL | N-CA-C | -8.59 | 104.91 | 112.12 |
| 34 | DC | 189 | SER | N-CA-C | -8.58 | 102.81 | 113.28 |
| 37 | DF | 5 | LYS | N-CA-C | 8.58 | 119.22 | 107.73 |
| 47 | BR | 143 | PRO | N-CA-CB | 8.57 | 112.25 | 103.25 |
| 32 | BA | 121 | PRO | N-CA-CB | 8.57 | 110.54 | 101.88 |
| 42 | DK | 166 | LYS | N-CA-C | -8.57 | 101.83 | 112.88 |
| 44 | DO | 137 | PRO | N-CA-CB | 8.55 | 112.23 | 103.25 |
| 44 | DO | 162 | ARG | N-CA-C | -8.50 | 102.89 | 113.18 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 47 | DR | 143 | PRO | N-CA-CB | 8.50 | 112.18 | 103.25 |
| 2 | CA | 197 | ILE | N-CA-C | -8.50 | 104.61 | 112.43 |
| 47 | BR | 36 | LEU | N-CA-C | -8.49 | 99.66 | 110.19 |
| 3 | AB | 173 | PRO | N-CA-CB | 8.48 | 110.83 | 103.19 |
| 38 | BG | 97 | PRO | N-CA-CB | 8.46 | 112.13 | 103.25 |
| 38 | DG | 158 | LYS | N-CA-C | 8.44 | 122.17 | 108.32 |
| 43 | BN | 49 | PRO | N-CA-CB | 8.43 | 112.10 | 103.25 |
| 14 | CM | 100 | ILE | N-CA-C | -8.42 | 102.33 | 110.42 |
| 34 | DC | 329 | PRO | N-CA-CB | 8.40 | 108.13 | 102.25 |
| 16 | AO | 95 | PRO | N-CA-CB | 8.39 | 112.06 | 103.25 |
| 45 | BP | 76 | PRO | N-CA-CB | 8.38 | 112.05 | 103.25 |
| 59 | Dd | 69 | HIS | N-CA-C | -8.38 | 103.18 | 113.15 |
| 29 | B1 | 244 | G | N1-C6-O6 | 8.37 | 145.02 | 119.90 |
| 42 | BK | 146 | GLY | N-CA-C | 8.36 | 122.75 | 110.38 |
| 38 | BG | 197 | GLN | N-CA-C | -8.35 | 103.11 | 113.38 |
| 38 | DG | 197 | GLN | N-CA-C | -8.34 | 103.11 | 113.28 |
| 11 | CJ | 41 | PRO | N-CA-CB | 8.33 | 111.99 | 103.25 |
| 36 | DE | 259 | LYS | N-CA-C | -8.30 | 102.42 | 112.54 |
| 54 | BY | 2 | PRO | N-CA-CB | 8.29 | 111.95 | 103.25 |
| 38 | DG | 106 | LEU | N-CA-C | -8.25 | 103.22 | 113.20 |
| 44 | DO | 76 | PRO | N-CA-CB | 8.25 | 111.91 | 103.25 |
| 37 | BF | 11 | PRO | N-CA-CB | 8.24 | 111.91 | 103.25 |
| 50 | DU | 50 | PRO | N-CA-CB | 8.23 | 110.60 | 103.19 |
| 57 | Bb | 29 | ALA | N-CA-C | 8.23 | 120.43 | 108.34 |
| 21 | CT | 85 | TRP | N-CA-C | -8.23 | 103.00 | 112.87 |
| 40 | BI | 40 | HIS | N-CA-C | -8.22 | 98.12 | 109.71 |
| 35 | DD | 120 | TYR | N-CA-C | -8.21 | 103.02 | 112.87 |
| 47 | DR | 61 | PRO | N-CA-CB | 8.21 | 111.87 | 103.25 |
| 47 | BR | 61 | PRO | N-CA-CB | 8.19 | 111.85 | 103.25 |
| 38 | BG | 158 | LYS | N-CA-C | 8.19 | 121.75 | 108.32 |
| 8 | CG | 41 | ALA | N-CA-C | -8.16 | 103.04 | 113.16 |
| 15 | CN | 22 | ILE | N-CA-C | -8.16 | 104.42 | 112.17 |
| 29 | D1 | 2845 | A | N1-C6-N6 | 8.15 | 143.05 | 118.60 |
| 12 | AK | 65 | PRO | N-CA-CB | 8.15 | 111.56 | 102.60 |
| 3 | AB | 175 | GLY | N-CA-C | -8.13 | 103.59 | 115.30 |
| 12 | CK | 65 | PRO | N-CA-CB | 8.13 | 111.55 | 102.60 |
| 36 | DE | 174 | PRO | N-CA-CB | 8.13 | 111.78 | 103.25 |
| 38 | BG | 71 | ALA | N-CA-C | -8.12 | 102.64 | 112.54 |
| 45 | BP | 110 | PRO | CA-C-N | 8.09 | 127.39 | 118.97 |
| 45 | BP | 110 | PRO | C-N-CA | 8.09 | 127.39 | 118.97 |
| 72 | DL | 88 | PRO | N-CA-CB | 8.07 | 110.91 | 103.08 |
| 10 | AI | 68 | PRO | N-CA-CB | 8.06 | 111.46 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 34 | DC | 312 | VAL | N-CA-C | 8.04 | 119.50 | 108.89 |
| 37 | BF | 171 | PRO | N-CA-CB | 8.03 | 111.69 | 103.25 |
| 48 | DS | 90 | PRO | N-CA-CB | 8.03 | 110.03 | 103.36 |
| 59 | Dd | 63 | ARG | N-CA-C | -8.03 | 103.49 | 113.20 |
| 61 | Df | 5 | PRO | N-CA-CB | 8.02 | 111.67 | 103.25 |
| 4 | AC | 57 | ASP | N-CA-C | -8.01 | 102.50 | 111.71 |
| 5 | CD | 129 | PRO | N-CA-CB | 8.00 | 111.65 | 103.25 |
| 42 | BK | 140 | ARG | N-CA-C | -7.99 | 104.03 | 113.21 |
| 50 | DU | 117 | PRO | N-CA-CB | 7.98 | 110.37 | 103.19 |
| 36 | BE | 19 | PRO | N-CA-CB | 7.97 | 111.36 | 102.60 |
| 6 | AE | 43 | TYR | N-CA-C | -7.96 | 102.83 | 112.54 |
| 2 | CA | 70 | PRO | N-CA-CB | 7.96 | 111.61 | 103.25 |
| 37 | DF | 75 | PRO | N-CA-CB | 7.96 | 111.61 | 103.25 |
| 3 | CB | 173 | PRO | N-CA-CB | 7.96 | 110.43 | 103.27 |
| 29 | D1 | 2845 | A | C6-N1-C2 | 7.96 | 142.47 | 118.60 |
| 61 | Bf | 5 | PRO | N-CA-CB | 7.95 | 111.60 | 103.25 |
| 45 | BP | 110 | PRO | N-CA-CB | 7.95 | 110.79 | 103.08 |
| 18 | CQ | 91 | PRO | N-CA-CB | 7.94 | 111.59 | 103.25 |
| 45 | DP | 76 | PRO | N-CA-CB | 7.94 | 111.59 | 103.25 |
| 72 | DL | 75 | PRO | N-CA-CB | 7.94 | 111.58 | 103.25 |
| 34 | BC | 189 | SER | N-CA-C | -7.92 | 103.06 | 112.89 |
| 45 | BP | 5 | PRO | N-CA-CB | 7.92 | 111.56 | 103.25 |
| 14 | AM | 65 | ILE | N-CA-C | -7.91 | 105.50 | 111.90 |
| 43 | BN | 73 | PRO | N-CA-CB | 7.91 | 111.55 | 103.25 |
| 3 | CB | 175 | GLY | N-CA-C | -7.90 | 103.92 | 115.30 |
| 2 | AA | 133 | ILE | N-CA-C | -7.90 | 102.56 | 110.62 |
| 34 | BC | 307 | PRO | N-CA-CB | 7.89 | 111.54 | 103.25 |
| 34 | DC | 9 | PRO | N-CA-CB | 7.88 | 111.52 | 103.25 |
| 45 | DP | 76 | PRO | N-CA-C | -7.87 | 96.26 | 112.47 |
| 29 | B1 | 2845 | A | N1-C6-N6 | 7.87 | 142.20 | 118.60 |
| 50 | DU | 90 | GLY | N-CA-C | -7.86 | 101.22 | 111.52 |
| 38 | BG | 46 | GLU | N-CA-C | -7.86 | 102.95 | 112.54 |
| 45 | DP | 57 | PHE | N-CA-C | 7.85 | 124.47 | 113.56 |
| 17 | AP | 64 | PRO | N-CA-CB | 7.85 | 111.49 | 103.25 |
| 33 | BB | 184 | ARG | N-CA-C | -7.84 | 103.46 | 112.87 |
| 44 | BO | 76 | PRO | N-CA-CB | 7.84 | 111.48 | 103.25 |
| 59 | Bd | 69 | HIS | N-CA-C | -7.84 | 103.82 | 113.15 |
| 8 | CG | 130 | ARG | N-CA-C | -7.84 | 102.82 | 112.38 |
| 15 | CN | 59 | PRO | N-CA-CB | 7.84 | 111.48 | 103.25 |
| 57 | Db | 123 | LYS | N-CA-C | -7.83 | 94.11 | 110.80 |
| 36 | DE | 139 | PRO | N-CA-CB | 7.82 | 111.46 | 103.25 |
| 17 | AP | 42 | PRO | N-CA-CB | 7.82 | 111.46 | 103.25 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 36 | BE | 174 | PRO | N-CA-CB | 7.82 | 111.46 | 103.25 |
| 37 | DF | 171 | PRO | N-CA-CB | 7.80 | 111.44 | 103.25 |
| 47 | BR | 157 | PRO | N-CA-CB | 7.79 | 111.43 | 103.25 |
| 34 | BC | 22 | ALA | N-CA-C | 7.78 | 122.42 | 110.36 |
| 47 | BR | 97 | PRO | N-CA-CB | 7.76 | 111.13 | 102.60 |
| 18 | CQ | 55 | PRO | N-CA-CB | 7.76 | 110.70 | 103.41 |
| 35 | DD | 133 | SER | N-CA-C | -7.76 | 102.79 | 111.71 |
| 49 | DT | 101 | CYS | N-CA-C | -7.75 | 103.92 | 113.15 |
| 8 | AG | 137 | PRO | N-CA-CB | 7.74 | 111.38 | 103.25 |
| 15 | AN | 59 | PRO | N-CA-CB | 7.73 | 111.37 | 103.25 |
| 4 | AC | 109 | LEU | N-CA-C | -7.72 | 101.99 | 111.33 |
| 29 | B1 | 2845 | A | C6-N1-C2 | 7.72 | 141.76 | 118.60 |
| 51 | BV | 46 | PRO | N-CA-CB | 7.71 | 111.35 | 103.25 |
| 33 | BB | 158 | ILE | N-CA-C | 7.71 | 117.40 | 106.53 |
| 1 | C1 | 1455 | G | N1-C2-N2 | 7.70 | 139.31 | 116.20 |
| 45 | DP | 5 | PRO | N-CA-CB | 7.70 | 111.33 | 103.25 |
| 35 | DD | 240 | PRO | N-CA-CB | 7.70 | 111.33 | 103.25 |
| 3 | AB | 60 | SER | N-CA-C | -7.69 | 102.39 | 112.24 |
| 48 | BS | 90 | PRO | N-CA-CB | 7.68 | 110.12 | 103.36 |
| 51 | DV | 46 | PRO | N-CA-CB | 7.68 | 111.32 | 103.25 |
| 38 | DG | 162 | PRO | N-CA-CB | 7.67 | 111.30 | 103.25 |
| 15 | AN | 110 | PRO | N-CA-CB | 7.67 | 110.17 | 103.27 |
| 36 | BE | 139 | PRO | N-CA-CB | 7.66 | 111.30 | 103.25 |
| 4 | AC | 126 | VAL | N-CA-C | -7.66 | 103.22 | 110.42 |
| 10 | CI | 68 | PRO | N-CA-CB | 7.66 | 111.03 | 102.60 |
| 38 | DG | 236 | ILE | N-CA-C | -7.66 | 105.30 | 112.96 |
| 36 | DE | 47 | PRO | N-CA-CB | 7.65 | 111.29 | 103.25 |
| 45 | BP | 58 | LEU | N-CA-C | -7.65 | 94.50 | 110.80 |
| 44 | BO | 154 | PRO | N-CA-CB | 7.64 | 111.27 | 103.25 |
| 33 | BB | 103 | PRO | N-CA-CB | 7.64 | 111.27 | 103.25 |
| 58 | Dc | 44 | ILE | N-CA-C | -7.63 | 103.36 | 110.53 |
| 11 | AJ | 51 | PRO | N-CA-CB | 7.63 | 111.26 | 103.25 |
| 34 | BC | 85 | VAL | N-CA-C | 7.62 | 118.65 | 107.37 |
| 41 | DJ | 18 | PRO | N-CA-CB | 7.62 | 111.25 | 103.25 |
| 35 | BD | 58 | HIS | N-CA-C | -7.62 | 100.09 | 110.68 |
| 48 | BS | 163 | ARG | N-CA-C | -7.61 | 104.52 | 113.88 |
| 45 | DP | 110 | PRO | N-CA-CB | 7.60 | 110.45 | 103.08 |
| 15 | CN | 110 | PRO | N-CA-CB | 7.59 | 110.10 | 103.27 |
| 45 | DP | 107 | GLY | N-CA-C | -7.59 | 95.19 | 113.18 |
| 47 | DR | 97 | PRO | N-CA-CB | 7.59 | 110.95 | 102.60 |
| 45 | DP | 119 | VAL | N-CA-C | 7.58 | 118.66 | 111.91 |
| 10 | AI | 73 | PRO | N-CA-CB | 7.57 | 111.20 | 103.25 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 8 | AG | 136 | PRO | N-CA-CB | 7.56 | 110.41 | 103.08 |
| 42 | DK | 40 | LEU | N-CA-C | -7.56 | 104.03 | 113.18 |
| 58 | Dc | 42 | PRO | N-CA-CB | 7.55 | 110.90 | 102.60 |
| 34 | BC | 180 | GLU | N-CA-C | 7.54 | 119.87 | 109.54 |
| 46 | DQ | 144 | SER | N-CA-C | 7.54 | 122.48 | 111.02 |
| 47 | DR | 157 | PRO | N-CA-CB | 7.54 | 111.16 | 103.25 |
| 11 | AJ | 41 | PRO | N-CA-CB | 7.54 | 111.16 | 103.25 |
| 54 | BY | 29 | PRO | N-CA-CB | 7.54 | 111.16 | 103.25 |
| 57 | Bb | 68 | PRO | N-CA-CB | 7.53 | 111.16 | 103.25 |
| 34 | DC | 281 | LYS | N-CA-C | 7.53 | 121.33 | 109.81 |
| 4 | AC | 163 | PRO | N-CA-CB | 7.53 | 111.15 | 103.25 |
| 11 | CJ | 51 | PRO | N-CA-CB | 7.53 | 111.16 | 103.25 |
| 18 | AQ | 91 | PRO | N-CA-CB | 7.51 | 111.14 | 103.25 |
| 54 | DY | 108 | GLY | N-CA-C | 7.51 | 121.32 | 111.70 |
| 21 | CT | 276 | PRO | N-CA-CB | 7.51 | 110.33 | 103.34 |
| 38 | BG | 166 | ASN | N-CA-C | -7.51 | 102.50 | 112.72 |
| 57 | Db | 26 | HIS | N-CA-C | 7.51 | 119.36 | 111.03 |
| 17 | CP | 93 | LEU | N-CA-C | -7.51 | 100.25 | 110.68 |
| 2 | AA | 70 | PRO | N-CA-CB | 7.50 | 111.13 | 103.25 |
| 33 | BB | 66 | PRO | N-CA-CB | 7.50 | 111.25 | 103.00 |
| 38 | DG | 166 | ASN | N-CA-C | -7.50 | 102.52 | 112.72 |
| 4 | CC | 81 | PRO | N-CA-CB | 7.50 | 111.12 | 103.25 |
| 38 | BG | 99 | PRO | N-CA-CB | 7.49 | 111.12 | 103.25 |
| 58 | Bc | 42 | PRO | N-CA-CB | 7.49 | 110.84 | 102.60 |
| 40 | DI | 40 | HIS | N-CA-C | -7.49 | 99.15 | 109.71 |
| 16 | AO | 73 | GLY | N-CA-C | -7.49 | 102.48 | 112.14 |
| 14 | CM | 118 | PRO | N-CA-CB | 7.49 | 110.97 | 103.48 |
| 3 | AB | 37 | PRO | N-CA-CB | 7.49 | 111.11 | 103.25 |
| 38 | BG | 217 | PRO | N-CA-CB | 7.47 | 111.10 | 103.25 |
| 18 | AQ | 55 | PRO | N-CA-CB | 7.47 | 110.43 | 103.41 |
| 35 | BD | 218 | ALA | N-CA-C | -7.46 | 103.23 | 111.36 |
| 55 | DZ | 28 | LYS | N-CA-C | -7.46 | 102.13 | 112.12 |
| 3 | CB | 239 | PRO | N-CA-CB | 7.45 | 111.08 | 103.25 |
| 58 | Dc | 39 | PRO | N-CA-CB | 7.45 | 110.79 | 102.60 |
| 33 | BB | 178 | PRO | N-CA-CB | 7.43 | 111.05 | 103.25 |
| 6 | AE | 36 | LEU | N-CA-C | -7.42 | 103.17 | 111.71 |
| 36 | BE | 47 | PRO | N-CA-CB | 7.42 | 111.04 | 103.25 |
| 51 | DV | 15 | PRO | N-CA-CB | 7.41 | 111.03 | 103.25 |
| 29 | D1 | 1220 | U | C3'-C2'-C1' | -7.41 | 93.89 | 101.30 |
| 4 | AC | 81 | PRO | N-CA-CB | 7.41 | 111.03 | 103.25 |
| 4 | CC | 43 | PRO | N-CA-CB | 7.41 | 111.03 | 103.25 |
| 57 | Db | 29 | ALA | N-CA-C | 7.39 | 119.21 | 108.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 38 | DG | 99 | PRO | N-CA-CB | 7.39 | 110.87 | 103.48 |
| 8 | CG | 136 | PRO | N-CA-CB | 7.39 | 110.25 | 103.08 |
| 37 | DF | 74 | VAL | N-CA-C | 7.38 | 124.83 | 108.88 |
| 17 | CP | 42 | PRO | N-CA-CB | 7.38 | 111.00 | 103.25 |
| 10 | CI | 73 | PRO | N-CA-CB | 7.38 | 111.00 | 103.25 |
| 37 | DF | 68 | PRO | N-CA-CB | 7.38 | 111.00 | 103.25 |
| 10 | AI | 38 | PRO | N-CA-CB | 7.37 | 110.98 | 103.25 |
| 32 | DA | 61 | PRO | N-CA-CB | 7.37 | 110.52 | 103.52 |
| 34 | BC | 9 | PRO | N-CA-CB | 7.37 | 111.92 | 102.86 |
| 37 | BF | 68 | PRO | N-CA-CB | 7.37 | 110.98 | 103.25 |
| 3 | CB | 74 | PRO | N-CA-CB | 7.37 | 110.98 | 103.25 |
| 4 | CC | 163 | PRO | N-CA-CB | 7.36 | 110.98 | 103.25 |
| 34 | DC | 190 | GLU | N-CA-C | -7.36 | 99.22 | 111.37 |
| 38 | BG | 162 | PRO | N-CA-CB | 7.36 | 110.98 | 103.25 |
| 13 | CL | 76 | PRO | N-CA-CB | 7.36 | 110.98 | 103.25 |
| 42 | BK | 45 | PRO | N-CA-CB | 7.36 | 110.97 | 103.25 |
| 32 | BA | 56 | PRO | N-CA-CB | 7.36 | 110.97 | 103.25 |
| 36 | BE | 115 | LEU | N-CA-C | -7.35 | 104.12 | 113.23 |
| 5 | CD | 110 | ALA | N-CA-C | -7.34 | 103.21 | 111.07 |
| 19 | CR | 47 | PRO | N-CA-CB | 7.34 | 110.82 | 103.48 |
| 13 | AL | 76 | PRO | N-CA-CB | 7.34 | 110.96 | 103.25 |
| 36 | DE | 217 | GLU | N-CA-C | -7.34 | 104.30 | 113.18 |
| 46 | BQ | 11 | PRO | N-CA-CB | 7.33 | 110.67 | 102.60 |
| 33 | DB | 103 | PRO | N-CA-CB | 7.33 | 110.95 | 103.25 |
| 36 | DE | 70 | THR | N-CA-C | -7.33 | 99.35 | 111.37 |
| 15 | AN | 22 | ILE | N-CA-C | -7.33 | 105.21 | 112.17 |
| 37 | BF | 75 | PRO | N-CA-CB | 7.33 | 110.94 | 103.25 |
| 40 | BI | 175 | PHE | N-CA-C | -7.32 | 95.21 | 110.80 |
| 8 | AG | 85 | PRO | N-CA-CB | 7.32 | 110.65 | 102.60 |
| 6 | CE | 67 | PRO | N-CA-CB | 7.31 | 110.93 | 103.25 |
| 17 | CP | 64 | PRO | N-CA-CB | 7.31 | 110.92 | 103.25 |
| 38 | BG | 204 | PRO | N-CA-CB | 7.30 | 110.92 | 103.25 |
| 44 | BO | 112 | ASN | N-CA-C | -7.30 | 103.47 | 112.38 |
| 33 | DB | 108 | PRO | N-CA-CB | 7.30 | 110.91 | 103.25 |
| 3 | AB | 239 | PRO | N-CA-CB | 7.30 | 110.91 | 103.25 |
| 35 | BD | 223 | PRO | N-CA-CB | 7.29 | 110.91 | 103.25 |
| 39 | DH | 239 | GLY | N-CA-C | -7.29 | 103.44 | 112.77 |
| 56 | Da | 30 | PRO | N-CA-CB | 7.29 | 111.09 | 103.15 |
| 42 | DK | 131 | MET | N-CA-C | 7.29 | 120.48 | 109.63 |
| 37 | BF | 49 | GLY | N-CA-C | -7.28 | 95.92 | 113.18 |
| 45 | DP | 7 | VAL | N-CA-C | 7.28 | 119.37 | 108.23 |
| 54 | DY | 1 | MET | CA-C-N | 7.28 | 128.94 | 119.84 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 54 | DY | 1 | MET | C-N-CA | 7.28 | 128.94 | 119.84 |
| 13 | AL | 57 | ARG | N-CA-C | 7.28 | 115.74 | 108.75 |
| 40 | DI | 175 | PHE | N-CA-C | -7.28 | 95.29 | 110.80 |
| 15 | AN | 96 | PRO | N-CA-CB | 7.28 | 110.89 | 103.25 |
| 37 | BF | 57 | HIS | N-CA-C | -7.28 | 103.33 | 113.37 |
| 14 | CM | 104 | VAL | N-CA-C | -7.28 | 103.54 | 113.00 |
| 2 | AA | 68 | PRO | N-CA-CB | 7.27 | 110.89 | 103.25 |
| 36 | DE | 19 | PRO | N-CA-CB | 7.27 | 110.60 | 102.60 |
| 9 | AH | 94 | PRO | N-CA-CB | 7.27 | 110.88 | 103.25 |
| 38 | BG | 210 | PRO | N-CA-CB | 7.26 | 110.88 | 103.25 |
| 54 | BY | 83 | PRO | N-CA-CB | 7.26 | 110.88 | 103.25 |
| 8 | CG | 37 | ILE | N-CA-C | -7.26 | 102.74 | 110.36 |
| 17 | CP | 88 | PRO | N-CA-CB | 7.26 | 110.87 | 103.25 |
| 38 | BG | 193 | PRO | N-CA-CB | 7.25 | 110.87 | 103.25 |
| 50 | BU | 90 | GLY | N-CA-C | -7.25 | 102.02 | 111.52 |
| 2 | CA | 118 | PRO | N-CA-CB | 7.25 | 110.86 | 103.25 |
| 46 | DQ | 11 | PRO | N-CA-CB | 7.25 | 110.58 | 102.60 |
| 15 | CN | 96 | PRO | N-CA-CB | 7.25 | 110.86 | 103.25 |
| 8 | AG | 37 | ILE | N-CA-C | -7.25 | 102.75 | 110.36 |
| 54 | BY | 50 | PRO | N-CA-CB | 7.22 | 110.83 | 103.25 |
| 34 | DC | 289 | ASP | N-CA-C | 7.22 | 121.80 | 112.12 |
| 73 | DM | 78 | PRO | N-CA-CB | 7.22 | 110.85 | 102.33 |
| 19 | AR | 47 | PRO | N-CA-CB | 7.22 | 110.70 | 103.48 |
| 3 | CB | 37 | PRO | N-CA-CB | 7.22 | 110.83 | 103.25 |
| 34 | BC | 267 | ALA | N-CA-C | -7.21 | 98.56 | 110.17 |
| 9 | CH | 57 | PRO | N-CA-CB | 7.21 | 110.40 | 103.19 |
| 37 | BF | 123 | PRO | N-CA-CB | 7.21 | 110.81 | 103.25 |
| 33 | DB | 66 | PRO | N-CA-CB | 7.21 | 110.92 | 103.00 |
| 5 | CD | 88 | PRO | N-CA-CB | 7.20 | 110.81 | 103.25 |
| 4 | AC | 43 | PRO | N-CA-CB | 7.19 | 110.80 | 103.25 |
| 38 | DG | 151 | ARG | N-CA-C | -7.19 | 103.17 | 112.23 |
| 36 | BE | 84 | PRO | N-CA-CB | 7.18 | 110.79 | 103.25 |
| 53 | DX | 101 | PRO | N-CA-CB | 7.18 | 110.79 | 103.25 |
| 41 | BJ | 179 | PRO | N-CA-CB | 7.18 | 110.79 | 103.25 |
| 40 | DI | 98 | PRO | N-CA-CB | 7.18 | 110.79 | 103.25 |
| 34 | BC | 289 | ASP | N-CA-C | 7.18 | 121.74 | 112.12 |
| 21 | CT | 267 | PRO | N-CA-CB | 7.18 | 110.49 | 102.60 |
| 14 | AM | 118 | PRO | N-CA-CB | 7.17 | 110.66 | 103.48 |
| 5 | CD | 90 | ILE | N-CA-C | 7.17 | 118.09 | 108.27 |
| 17 | CP | 116 | ASP | N-CA-C | -7.17 | 102.27 | 111.02 |
| 34 | DC | 34 | LYS | N-CA-C | -7.17 | 99.25 | 110.36 |
| 8 | CG | 82 | PRO | N-CA-CB | 7.16 | 110.77 | 103.25 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | A1 | 1455 | G | N1-C2-N2 | 7.16 | 137.69 | 116.20 |
| 8 | CG | 85 | PRO | N-CA-CB | 7.16 | 110.47 | 102.60 |
| 59 | Dd | 6 | PRO | N-CA-CB | 7.16 | 110.76 | 103.25 |
| 35 | DD | 205 | PRO | N-CA-CB | 7.14 | 110.75 | 103.25 |
| 34 | BC | 5 | LYS | N-CA-C | -7.14 | 95.59 | 110.80 |
| 15 | CN | 55 | PRO | N-CA-CB | 7.14 | 110.75 | 103.25 |
| 12 | CK | 22 | PRO | N-CA-CB | 7.14 | 110.75 | 103.25 |
| 43 | DN | 20 | VAL | N-CA-C | 7.13 | 124.17 | 109.34 |
| 6 | AE | 67 | PRO | N-CA-CB | 7.12 | 110.73 | 103.25 |
| 54 | DY | 50 | PRO | N-CA-CB | 7.12 | 110.73 | 103.25 |
| 10 | AI | 53 | PRO | N-CA-CB | 7.12 | 110.43 | 102.60 |
| 54 | DY | 119 | PRO | N-CA-CB | 7.12 | 110.73 | 103.25 |
| 55 | BZ | 28 | LYS | N-CA-C | -7.12 | 102.58 | 112.12 |
| 2 | CA | 11 | PRO | N-CA-CB | 7.12 | 110.72 | 103.25 |
| 50 | DU | 75 | PRO | N-CA-CB | 7.12 | 109.00 | 103.30 |
| 33 | DB | 202 | VAL | N-CA-C | -7.12 | 106.14 | 112.12 |
| 7 | CF | 95 | PRO | N-CA-CB | 7.11 | 110.72 | 103.25 |
| 3 | CB | 182 | PRO | N-CA-CB | 7.11 | 110.72 | 103.25 |
| 15 | CN | 46 | GLU | N-CA-C | -7.11 | 104.34 | 112.87 |
| 3 | AB | 85 | PRO | N-CA-CB | 7.11 | 110.71 | 103.25 |
| 34 | DC | 111 | SER | N-CA-C | 7.10 | 119.90 | 111.02 |
| 38 | DG | 96 | PRO | N-CA-CB | 7.10 | 109.96 | 103.08 |
| 49 | DT | 107 | GLU | N-CA-C | -7.10 | 103.24 | 110.97 |
| 12 | AK | 22 | PRO | N-CA-CB | 7.09 | 110.70 | 103.25 |
| 39 | BH | 239 | GLY | N-CA-C | -7.09 | 103.91 | 112.49 |
| 50 | DU | 122 | CYS | N-CA-C | -7.09 | 103.72 | 112.38 |
| 21 | AT | 276 | PRO | N-CA-CB | 7.09 | 109.94 | 103.34 |
| 36 | BE | 181 | PRO | N-CA-CB | 7.09 | 110.70 | 103.25 |
| 38 | BG | 151 | ARG | N-CA-C | -7.09 | 104.44 | 113.23 |
| 56 | Ba | 55 | LEU | N-CA-C | -7.09 | 103.63 | 111.36 |
| 35 | BD | 205 | PRO | N-CA-CB | 7.09 | 110.69 | 103.25 |
| 37 | DF | 24 | ALA | N-CA-C | -7.08 | 99.56 | 110.10 |
| 15 | AN | 36 | ASN | N-CA-C | -7.08 | 103.57 | 111.28 |
| 3 | AB | 74 | PRO | N-CA-CB | 7.07 | 110.67 | 103.25 |
| 15 | AN | 55 | PRO | N-CA-CB | 7.07 | 110.67 | 103.25 |
| 10 | CI | 53 | PRO | N-CA-CB | 7.07 | 110.37 | 102.60 |
| 29 | B1 | 3212 | C | C6-N1-C1' | 7.07 | 142.00 | 120.80 |
| 11 | AJ | 124 | PRO | N-CA-CB | 7.06 | 109.47 | 103.25 |
| 21 | AT | 247 | PRO | N-CA-CB | 7.06 | 110.67 | 103.25 |
| 44 | DO | 154 | PRO | N-CA-CB | 7.06 | 110.67 | 103.25 |
| 4 | AC | 192 | PRO | N-CA-CB | 7.06 | 110.66 | 103.25 |
| 48 | BS | 26 | PRO | N-CA-C | -7.05 | 104.88 | 113.98 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 60 | De | 22 | PRO | N-CA-CB | 7.05 | 110.02 | 103.39 |
| 44 | DO | 45 | PRO | N-CA-CB | 7.05 | 109.90 | 103.20 |
| 6 | AE | 169 | PRO | N-CA-CB | 7.04 | 110.64 | 103.25 |
| 35 | BD | 49 | ALA | N-CA-C | 7.04 | 120.48 | 110.14 |
| 57 | Bb | 7 | PRO | N-CA-CB | 7.03 | 110.63 | 103.25 |
| 3 | AB | 171 | PRO | N-CA-CB | 7.03 | 110.63 | 103.25 |
| 35 | BD | 102 | PRO | N-CA-CB | 7.03 | 110.63 | 103.25 |
| 37 | DF | 123 | PRO | N-CA-CB | 7.02 | 110.62 | 103.25 |
| 37 | BF | 74 | VAL | N-CA-C | 7.02 | 124.04 | 108.88 |
| 45 | BP | 70 | PRO | N-CA-CB | 7.02 | 110.62 | 103.25 |
| 49 | DT | 63 | VAL | N-CA-C | 7.02 | 119.32 | 107.18 |
| 21 | AT | 267 | PRO | N-CA-CB | 7.01 | 110.31 | 102.60 |
| 10 | CI | 87 | PRO | N-CA-CB | 7.01 | 110.31 | 102.60 |
| 38 | DG | 235 | PHE | N-CA-C | -7.01 | 104.31 | 112.86 |
| 33 | BB | 197 | PRO | N-CA-CB | 7.00 | 110.61 | 103.25 |
| 46 | DQ | 84 | PRO | N-CA-CB | 7.00 | 110.60 | 103.25 |
| 36 | DE | 255 | PRO | N-CA-CB | 7.00 | 110.60 | 103.25 |
| 32 | BA | 61 | PRO | N-CA-CB | 7.00 | 110.60 | 103.25 |
| 29 | B1 | 3212 | C | C2-N1-C1' | -7.00 | 97.81 | 118.80 |
| 41 | BJ | 47 | PRO | N-CA-CB | 6.99 | 110.59 | 103.25 |
| 35 | BD | 133 | SER | N-CA-C | -6.99 | 103.67 | 111.71 |
| 54 | BY | 119 | PRO | N-CA-CB | 6.99 | 110.59 | 103.25 |
| 37 | DF | 61 | ASN | N-CA-C | -6.99 | 98.66 | 113.20 |
| 11 | CJ | 65 | ILE | N-CA-C | 6.99 | 117.34 | 108.82 |
| 34 | DC | 307 | PRO | N-CA-CB | 6.98 | 110.58 | 103.25 |
| 35 | BD | 249 | ILE | N-CA-C | -6.98 | 98.77 | 108.12 |
| 60 | Be | 22 | PRO | N-CA-CB | 6.98 | 110.58 | 103.25 |
| 9 | AH | 120 | PRO | N-CA-CB | 6.98 | 110.58 | 103.25 |
| 36 | DE | 192 | PRO | N-CA-CB | 6.98 | 110.58 | 103.25 |
| 54 | DY | 83 | PRO | N-CA-CB | 6.98 | 110.58 | 103.25 |
| 47 | DR | 43 | PRO | N-CA-CB | 6.97 | 110.57 | 103.25 |
| 9 | CH | 94 | PRO | N-CA-CB | 6.97 | 110.57 | 103.25 |
| 38 | DG | 210 | PRO | N-CA-CB | 6.97 | 110.57 | 103.25 |
| 48 | BS | 26 | PRO | N-CA-CB | 6.97 | 110.14 | 103.52 |
| 33 | DB | 178 | PRO | N-CA-CB | 6.96 | 110.56 | 103.25 |
| 7 | AF | 113 | PRO | N-CA-CB | 6.96 | 110.56 | 103.25 |
| 7 | CF | 113 | PRO | N-CA-CB | 6.96 | 110.56 | 103.25 |
| 35 | DD | 58 | HIS | N-CA-C | -6.96 | 101.79 | 111.81 |
| 59 | Bd | 6 | PRO | N-CA-CB | 6.96 | 110.55 | 103.25 |
| 33 | BB | 210 | PRO | N-CA-CB | 6.95 | 110.55 | 103.25 |
| 34 | BC | 312 | VAL | N-CA-C | 6.95 | 118.07 | 108.89 |
| 62 | Bg | 60 | CYS | N-CA-C | -6.95 | 106.69 | 114.62 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 39 | DH | 159 | PRO | N-CA-CB | 6.95 | 110.25 | 102.60 |
| 33 | BB | 108 | PRO | N-CA-CB | 6.95 | 110.55 | 103.25 |
| 59 | Bd | 40 | PRO | N-CA-CB | 6.95 | 110.24 | 102.60 |
| 14 | AM | 2 | PRO | N-CA-CB | 6.94 | 110.23 | 102.60 |
| 2 | AA | 197 | ILE | N-CA-C | -6.93 | 106.05 | 112.43 |
| 32 | BA | 135 | PRO | N-CA-CB | 6.93 | 110.53 | 103.25 |
| 3 | CB | 85 | PRO | N-CA-CB | 6.93 | 110.53 | 103.25 |
| 11 | CJ | 124 | PRO | N-CA-CB | 6.93 | 109.35 | 103.25 |
| 32 | DA | 43 | PRO | N-CA-CB | 6.93 | 110.53 | 103.25 |
| 41 | DJ | 16 | PRO | N-CA-CB | 6.92 | 110.52 | 103.25 |
| 34 | BC | 63 | PRO | N-CA-CB | 6.92 | 110.52 | 103.25 |
| 7 | AF | 89 | ALA | N-CA-C | 6.92 | 119.02 | 109.54 |
| 8 | AG | 82 | PRO | N-CA-CB | 6.92 | 110.52 | 103.25 |
| 10 | AI | 75 | PRO | N-CA-CB | 6.92 | 110.52 | 103.25 |
| 35 | BD | 75 | PRO | N-CA-CB | 6.92 | 109.37 | 103.35 |
| 6 | CE | 169 | PRO | N-CA-CB | 6.92 | 110.52 | 103.25 |
| 37 | DF | 153 | PRO | N-CA-CB | 6.92 | 110.51 | 103.25 |
| 54 | BY | 133 | LEU | N-CA-C | -6.92 | 103.84 | 112.90 |
| 12 | AK | 34 | LEU | N-CA-C | -6.91 | 104.83 | 113.20 |
| 42 | BK | 30 | LEU | N-CA-C | -6.91 | 102.97 | 111.33 |
| 2 | CA | 194 | PRO | N-CA-CB | 6.91 | 110.51 | 103.25 |
| 41 | DJ | 27 | PRO | N-CA-CB | 6.91 | 110.50 | 103.25 |
| 37 | BF | 7 | PRO | N-CA-CB | 6.91 | 110.50 | 103.25 |
| 36 | DE | 218 | ARG | N-CA-C | -6.91 | 104.93 | 113.15 |
| 37 | DF | 7 | PRO | N-CA-CB | 6.91 | 110.50 | 103.25 |
| 32 | BA | 149 | THR | N-CA-C | -6.91 | 104.11 | 112.54 |
| 3 | CB | 171 | PRO | N-CA-CB | 6.90 | 110.50 | 103.25 |
| 52 | DW | 66 | PRO | N-CA-CB | 6.90 | 110.50 | 103.25 |
| 54 | DY | 122 | PRO | N-CA-CB | 6.90 | 110.49 | 103.25 |
| 37 | DF | 157 | GLN | N-CA-C | -6.90 | 102.83 | 111.11 |
| 56 | Ba | 30 | PRO | N-CA-CB | 6.90 | 110.67 | 103.15 |
| 39 | BH | 129 | PRO | N-CA-CB | 6.89 | 110.49 | 103.25 |
| 4 | CC | 192 | PRO | N-CA-CB | 6.89 | 110.48 | 103.25 |
| 44 | BO | 45 | PRO | N-CA-CB | 6.88 | 109.73 | 103.20 |
| 21 | CT | 30 | PRO | N-CA-CB | 6.88 | 110.11 | 103.51 |
| 37 | DF | 11 | PRO | N-CA-CB | 6.88 | 110.47 | 103.25 |
| 37 | DF | 57 | HIS | N-CA-C | -6.87 | 103.88 | 113.37 |
| 21 | AT | 30 | PRO | N-CA-CB | 6.87 | 110.10 | 103.51 |
| 38 | DG | 198 | ALA | N-CA-C | -6.87 | 103.72 | 111.14 |
| 3 | AB | 182 | PRO | N-CA-CB | 6.87 | 110.46 | 103.25 |
| 34 | BC | 40 | PRO | N-CA-CB | 6.87 | 110.46 | 103.25 |
| 34 | DC | 40 | PRO | N-CA-CB | 6.87 | 110.46 | 103.25 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 15 | AN | 71 | PRO | N-CA-CB | 6.86 | 110.46 | 103.25 |
| 39 | DH | 129 | PRO | N-CA-CB | 6.86 | 110.46 | 103.25 |
| 52 | DW | 57 | LEU | CA-C-N | 6.86 | 134.05 | 121.70 |
| 52 | DW | 57 | LEU | C-N-CA | 6.86 | 134.05 | 121.70 |
| 36 | BE | 255 | PRO | N-CA-CB | 6.86 | 110.45 | 103.25 |
| 35 | DD | 75 | PRO | N-CA-CB | 6.86 | 109.70 | 103.33 |
| 17 | AP | 118 | PRO | N-CA-CB | 6.85 | 110.45 | 103.25 |
| 34 | DC | 63 | PRO | N-CA-CB | 6.85 | 110.45 | 103.25 |
| 72 | DL | 7 | PRO | N-CA-CB | 6.85 | 110.54 | 103.00 |
| 3 | AB | 138 | PRO | N-CA-CB | 6.85 | 110.44 | 103.25 |
| 37 | DF | 14 | ASP | N-CA-C | 6.85 | 118.55 | 108.14 |
| 53 | DX | 30 | LEU | N-CA-C | -6.85 | 104.56 | 113.12 |
| 60 | Be | 24 | PRO | N-CA-C | -6.84 | 101.55 | 111.33 |
| 16 | CO | 77 | PRO | N-CA-CB | 6.84 | 110.43 | 103.25 |
| 16 | AO | 77 | PRO | N-CA-CB | 6.84 | 110.43 | 103.25 |
| 2 | AA | 118 | PRO | N-CA-CB | 6.83 | 110.43 | 103.25 |
| 43 | BN | 20 | VAL | N-CA-C | 6.83 | 123.55 | 109.34 |
| 8 | CG | 47 | PRO | N-CA-CB | 6.83 | 110.42 | 103.25 |
| 10 | CI | 75 | PRO | N-CA-CB | 6.83 | 110.42 | 103.25 |
| 12 | AK | 37 | GLU | N-CA-C | -6.83 | 104.92 | 113.18 |
| 45 | BP | 151 | ASP | N-CA-C | -6.83 | 103.07 | 111.33 |
| 61 | Df | 56 | PRO | N-CA-CB | 6.83 | 110.42 | 103.25 |
| 49 | BT | 63 | VAL | N-CA-C | 6.83 | 117.95 | 107.78 |
| 16 | CO | 29 | PRO | N-CA-CB | 6.83 | 110.42 | 103.25 |
| 35 | DD | 21 | PRO | N-CA-CB | 6.83 | 110.42 | 103.25 |
| 35 | DD | 23 | PRO | N-CA-CB | 6.83 | 110.42 | 103.25 |
| 37 | DF | 36 | PRO | N-CA-CB | 6.83 | 110.42 | 103.25 |
| 33 | BB | 57 | PRO | N-CA-CB | 6.82 | 110.41 | 103.25 |
| 2 | AA | 194 | PRO | N-CA-CB | 6.82 | 110.41 | 103.25 |
| 32 | DA | 137 | PRO | N-CA-CB | 6.82 | 110.41 | 103.25 |
| 32 | BA | 126 | PRO | N-CA-CB | 6.82 | 110.41 | 103.25 |
| 2 | CA | 68 | PRO | N-CA-CB | 6.82 | 110.41 | 103.25 |
| 33 | DB | 57 | PRO | N-CA-CB | 6.82 | 110.41 | 103.25 |
| 35 | DD | 218 | ALA | N-CA-C | -6.82 | 103.85 | 111.28 |
| 10 | AI | 87 | PRO | N-CA-CB | 6.82 | 110.10 | 102.60 |
| 45 | BP | 109 | PRO | N-CA-CB | 6.82 | 109.69 | 103.08 |
| 34 | DC | 266 | ARG | N-CA-C | 6.82 | 120.24 | 109.81 |
| 32 | BA | 43 | PRO | N-CA-CB | 6.81 | 110.40 | 103.25 |
| 41 | DJ | 214 | PRO | N-CA-CB | 6.81 | 110.40 | 103.25 |
| 49 | BT | 101 | CYS | N-CA-C | -6.80 | 103.98 | 113.37 |
| 6 | CE | 114 | TYR | N-CA-C | -6.80 | 103.63 | 112.68 |
| 2 | CA | 97 | PRO | N-CA-CB | 6.80 | 110.39 | 103.25 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 57 | Db | 7 | PRO | N-CA-CB | 6.80 | 110.39 | 103.25 |
| 44 | BO | 42 | PRO | N-CA-CB | 6.79 | 110.38 | 103.25 |
| 61 | Bf | 56 | PRO | N-CA-CB | 6.79 | 110.38 | 103.25 |
| 38 | DG | 46 | GLU | N-CA-C | -6.79 | 104.25 | 112.54 |
| 50 | BU | 105 | PRO | N-CA-CB | 6.79 | 110.38 | 103.25 |
| 35 | DD | 29 | PRO | N-CA-CB | 6.79 | 110.38 | 103.25 |
| 47 | BR | 60 | PRO | N-CA-CB | 6.78 | 109.66 | 103.08 |
| 9 | AH | 57 | PRO | N-CA-CB | 6.78 | 110.37 | 103.25 |
| 72 | DL | 89 | PRO | N-CA-CB | 6.78 | 110.37 | 103.25 |
| 17 | AP | 31 | LYS | N-CA-C | 6.78 | 118.80 | 109.18 |
| 32 | BA | 137 | PRO | N-CA-CB | 6.78 | 110.36 | 103.25 |
| 13 | CL | 82 | PRO | N-CA-CB | 6.78 | 110.36 | 103.25 |
| 12 | AK | 17 | ILE | N-CA-C | -6.77 | 106.05 | 113.43 |
| 2 | AA | 42 | PRO | N-CA-CB | 6.77 | 110.36 | 103.25 |
| 40 | BI | 13 | PRO | N-CA-CB | 6.77 | 110.36 | 103.25 |
| 43 | DN | 16 | GLU | N-CA-C | 6.77 | 119.71 | 109.63 |
| 2 | AA | 11 | PRO | N-CA-CB | 6.76 | 110.35 | 103.25 |
| 29 | D1 | 3212 | C | C6-N1-C1' | 6.76 | 141.10 | 120.80 |
| 45 | DP | 70 | PRO | N-CA-CB | 6.76 | 110.35 | 103.25 |
| 51 | BV | 15 | PRO | N-CA-CB | 6.76 | 110.35 | 103.25 |
| 21 | AT | 287 | PRO | N-CA-CB | 6.76 | 110.34 | 103.25 |
| 36 | BE | 70 | THR | N-CA-C | -6.76 | 100.29 | 111.37 |
| 2 | AA | 97 | PRO | N-CA-CB | 6.75 | 110.34 | 103.25 |
| 53 | BX | 23 | PRO | N-CA-CB | 6.75 | 110.03 | 102.67 |
| 45 | BP | 57 | PHE | N-CA-C | 6.75 | 122.94 | 113.56 |
| 21 | CT | 287 | PRO | N-CA-CB | 6.75 | 110.34 | 103.25 |
| 34 | DC | 82 | PRO | N-CA-CB | 6.75 | 109.63 | 103.08 |
| 40 | DI | 92 | TYR | N-CA-C | 6.75 | 125.17 | 110.80 |
| 42 | BK | 74 | PRO | N-CA-CB | 6.74 | 110.33 | 103.25 |
| 38 | BG | 96 | PRO | N-CA-CB | 6.74 | 109.62 | 103.08 |
| 14 | CM | 2 | PRO | N-CA-CB | 6.74 | 110.02 | 102.60 |
| 32 | BA | 59 | PRO | N-CA-CB | 6.74 | 110.32 | 103.25 |
| 54 | DY | 29 | PRO | N-CA-CB | 6.74 | 110.32 | 103.25 |
| 48 | DS | 125 | LYS | N-CA-C | -6.73 | 105.14 | 113.15 |
| 40 | BI | 98 | PRO | N-CA-CB | 6.73 | 110.32 | 103.25 |
| 55 | BZ | 49 | PRO | N-CA-CB | 6.73 | 110.32 | 103.25 |
| 5 | AD | 67 | PRO | N-CA-CB | 6.73 | 110.40 | 103.00 |
| 32 | DA | 59 | PRO | N-CA-CB | 6.73 | 110.27 | 102.33 |
| 56 | Ba | 88 | PRO | N-CA-CB | 6.72 | 110.40 | 103.00 |
| 38 | DG | 144 | ILE | N-CA-C | -6.72 | 104.30 | 110.82 |
| 43 | DN | 14 | LEU | N-CA-C | 6.72 | 125.12 | 110.80 |
| 37 | BF | 36 | PRO | N-CA-CB | 6.72 | 110.30 | 103.25 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 41 | DJ | 179 | PRO | N-CA-CB | 6.72 | 110.30 | 103.25 |
| 32 | DA | 212 | PRO | N-CA-CB | 6.71 | 110.30 | 103.25 |
| 39 | DH | 127 | PRO | N-CA-CB | 6.71 | 110.30 | 103.25 |
| 32 | BA | 212 | PRO | N-CA-CB | 6.71 | 110.30 | 103.25 |
| 2 | AA | 4 | PRO | N-CA-CB | 6.71 | 110.29 | 103.25 |
| 29 | D1 | 244 | G | C5-C6-O6 | -6.71 | 108.49 | 128.60 |
| 35 | BD | 29 | PRO | N-CA-CB | 6.70 | 110.29 | 103.25 |
| 36 | BE | 284 | ALA | N-CA-C | -6.70 | 103.67 | 110.97 |
| 3 | CB | 236 | PRO | N-CA-CB | 6.70 | 110.29 | 103.25 |
| 48 | DS | 163 | ARG | N-CA-C | -6.70 | 105.64 | 113.88 |
| 54 | BY | 71 | PRO | N-CA-CB | 6.70 | 110.28 | 103.25 |
| 39 | BH | 159 | PRO | N-CA-CB | 6.69 | 109.96 | 102.60 |
| 1 | A1 | 1455 | G | N3-C2-N2 | -6.69 | 99.83 | 119.90 |
| 54 | BY | 147 | LEU | N-CA-C | 6.69 | 119.52 | 108.48 |
| 3 | AB | 225 | LEU | N-CA-C | 6.69 | 125.05 | 110.80 |
| 61 | Bf | 38 | GLN | N-CA-C | -6.69 | 103.08 | 111.11 |
| 32 | DA | 56 | PRO | N-CA-CB | 6.68 | 110.27 | 103.25 |
| 32 | DA | 135 | PRO | N-CA-CB | 6.68 | 110.27 | 103.25 |
| 57 | Db | 98 | HIS | N-CA-C | -6.68 | 103.09 | 111.11 |
| 46 | BQ | 59 | PRO | N-CA-CB | 6.68 | 110.27 | 103.25 |
| 46 | DQ | 59 | PRO | N-CA-CB | 6.68 | 110.27 | 103.25 |
| 44 | BO | 137 | PRO | N-CA-CB | 6.68 | 110.26 | 103.25 |
| 57 | Db | 5 | PRO | N-CA-CB | 6.68 | 110.26 | 103.25 |
| 43 | DN | 58 | ILE | CA-C-N | 6.67 | 133.71 | 121.70 |
| 43 | DN | 58 | ILE | C-N-CA | 6.67 | 133.71 | 121.70 |
| 45 | DP | 157 | GLU | N-CA-C | -6.67 | 103.10 | 111.11 |
| 8 | AG | 47 | PRO | N-CA-CB | 6.67 | 110.25 | 103.25 |
| 12 | CK | 17 | ILE | N-CA-C | -6.67 | 105.62 | 113.42 |
| 10 | CI | 38 | PRO | N-CA-CB | 6.67 | 110.25 | 103.25 |
| 33 | DB | 206 | PRO | N-CA-CB | 6.67 | 110.58 | 103.52 |
| 37 | DF | 3 | ALA | N-CA-C | 6.66 | 116.85 | 108.45 |
| 40 | BI | 182 | SER | N-CA-C | 6.66 | 118.71 | 108.12 |
| 41 | BJ | 18 | PRO | N-CA-CB | 6.66 | 110.25 | 103.25 |
| 42 | DK | 146 | GLY | N-CA-C | 6.66 | 120.29 | 110.63 |
| 3 | AB | 236 | PRO | N-CA-CB | 6.66 | 110.24 | 103.25 |
| 33 | BB | 188 | LYS | N-CA-C | -6.66 | 96.62 | 110.80 |
| 33 | DB | 197 | PRO | N-CA-CB | 6.66 | 110.24 | 103.25 |
| 36 | DE | 251 | PRO | N-CA-CB | 6.66 | 110.24 | 103.25 |
| 39 | DH | 176 | PRO | N-CA-CB | 6.66 | 110.24 | 103.25 |
| 40 | DI | 13 | PRO | N-CA-CB | 6.66 | 110.24 | 103.25 |
| 2 | CA | 4 | PRO | N-CA-CB | 6.65 | 109.84 | 103.19 |
| 44 | DO | 186 | GLY | N-CA-C | 6.65 | 124.18 | 115.47 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 57 | Bb | 5 | PRO | N-CA-CB | 6.65 | 110.23 | 103.25 |
| 45 | BP | 7 | VAL | N-CA-C | 6.64 | 118.40 | 108.23 |
| 45 | BP | 76 | PRO | N-CA-C | -6.64 | 98.78 | 112.47 |
| 34 | BC | 82 | PRO | N-CA-CB | 6.64 | 109.52 | 103.08 |
| 1 | C1 | 1455 | G | N3-C2-N2 | -6.64 | 99.98 | 119.90 |
| 8 | CG | 137 | PRO | N-CA-CB | 6.64 | 110.22 | 103.25 |
| 2 | AA | 207 | PRO | N-CA-CB | 6.64 | 110.22 | 103.25 |
| 31 | B3 | 34 | U | C3'-C2'-C1' | -6.64 | 94.66 | 101.30 |
| 36 | DE | 115 | LEU | N-CA-C | -6.63 | 103.87 | 112.23 |
| 72 | DL | 34 | PRO | N-CA-CB | 6.63 | 110.22 | 103.25 |
| 42 | BK | 163 | PHE | N-CA-C | -6.63 | 103.14 | 113.02 |
| 35 | BD | 128 | ALA | N-CA-C | -6.63 | 105.32 | 113.41 |
| 36 | DE | 112 | ARG | N-CA-C | -6.62 | 102.50 | 112.04 |
| 17 | AP | 88 | PRO | N-CA-CB | 6.62 | 110.20 | 103.25 |
| 36 | DE | 168 | ASP | N-CA-C | -6.62 | 104.30 | 112.38 |
| 45 | BP | 29 | ASN | N-CA-C | -6.62 | 104.78 | 112.92 |
| 5 | CD | 164 | PRO | N-CA-CB | 6.62 | 110.20 | 103.25 |
| 2 | CA | 207 | PRO | N-CA-CB | 6.62 | 110.20 | 103.25 |
| 57 | Db | 122 | PRO | N-CA-CB | 6.62 | 110.20 | 103.25 |
| 21 | AT | 57 | PRO | N-CA-CB | 6.62 | 110.20 | 103.25 |
| 39 | BH | 127 | PRO | N-CA-CB | 6.62 | 110.20 | 103.25 |
| 17 | CP | 29 | TYR | N-CA-C | 6.61 | 124.89 | 110.80 |
| 37 | BF | 153 | PRO | N-CA-CB | 6.61 | 110.19 | 103.25 |
| 72 | DL | 39 | PRO | N-CA-CB | 6.61 | 110.19 | 103.25 |
| 38 | BG | 218 | ARG | N-CA-C | 6.61 | 122.31 | 113.72 |
| 14 | CM | 31 | PRO | N-CA-CB | 6.61 | 110.19 | 103.25 |
| 37 | BF | 3 | ALA | N-CA-C | 6.60 | 117.85 | 108.74 |
| 37 | DF | 4 | GLN | N-CA-C | 6.60 | 124.86 | 110.80 |
| 42 | DK | 45 | PRO | N-CA-CB | 6.60 | 110.18 | 103.25 |
| 41 | BJ | 122 | PRO | N-CA-CB | 6.59 | 110.17 | 103.25 |
| 58 | Dc | 17 | LEU | N-CA-C | -6.59 | 103.77 | 112.34 |
| 34 | BC | 281 | LYS | N-CA-C | 6.59 | 119.83 | 110.14 |
| 73 | DM | 10 | GLU | N-CA-C | -6.59 | 105.25 | 113.55 |
| 35 | DD | 102 | PRO | N-CA-CB | 6.59 | 110.17 | 103.25 |
| 32 | DA | 121 | PRO | N-CA-CB | 6.58 | 110.16 | 103.25 |
| 38 | DG | 217 | PRO | N-CA-CB | 6.58 | 110.16 | 103.25 |
| 3 | AB | 132 | ALA | N-CA-C | -6.58 | 105.37 | 113.19 |
| 34 | BC | 266 | ARG | N-CA-C | 6.58 | 119.16 | 109.69 |
| 5 | AD | 129 | PRO | N-CA-CB | 6.57 | 110.15 | 103.25 |
| 47 | DR | 60 | PRO | N-CA-CB | 6.57 | 109.45 | 103.08 |
| 13 | AL | 113 | LEU | N-CA-C | -6.57 | 104.99 | 112.87 |
| 34 | DC | 100 | ARG | N-CA-C | 6.56 | 119.41 | 108.13 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 5 | CD | 203 | LYS | N-CA-C | -6.56 | 104.21 | 111.82 |
| 48 | DS | 126 | GLU | N-CA-C | -6.56 | 105.29 | 113.55 |
| 59 | Bd | 56 | ARG | N-CA-C | 6.55 | 119.09 | 108.34 |
| 45 | DP | 111 | PRO | N-CA-CB | 6.55 | 110.47 | 103.52 |
| 21 | CT | 158 | PRO | N-CA-CB | 6.55 | 110.12 | 103.25 |
| 2 | AA | 199 | PRO | N-CA-CB | 6.55 | 110.12 | 103.25 |
| 3 | CB | 234 | PRO | N-CA-CB | 6.54 | 110.12 | 103.25 |
| 37 | DF | 49 | GLY | N-CA-C | -6.54 | 97.67 | 113.18 |
| 53 | BX | 101 | PRO | N-CA-CB | 6.54 | 110.11 | 103.25 |
| 33 | DB | 151 | PRO | N-CA-CB | 6.54 | 110.11 | 103.25 |
| 14 | AM | 31 | PRO | N-CA-CB | 6.53 | 110.11 | 103.25 |
| 2 | CA | 123 | VAL | N-CA-C | 6.53 | 119.10 | 108.97 |
| 6 | CE | 36 | LEU | N-CA-C | -6.53 | 104.41 | 112.38 |
| 2 | AA | 35 | PRO | N-CA-CB | 6.53 | 110.10 | 103.25 |
| 10 | AI | 125 | PRO | N-CA-CB | 6.53 | 110.10 | 103.25 |
| 40 | DI | 30 | PRO | N-CA-CB | 6.53 | 110.10 | 103.25 |
| 55 | DZ | 49 | PRO | N-CA-CB | 6.53 | 110.10 | 103.25 |
| 5 | CD | 67 | PRO | N-CA-CB | 6.52 | 110.18 | 103.00 |
| 39 | BH | 99 | PRO | N-CA-CB | 6.52 | 110.10 | 103.25 |
| 47 | BR | 122 | ILE | N-CA-C | 6.52 | 121.47 | 113.00 |
| 14 | CM | 32 | GLY | N-CA-C | -6.52 | 104.60 | 113.27 |
| 36 | DE | 181 | PRO | N-CA-CB | 6.52 | 110.09 | 103.25 |
| 36 | BE | 192 | PRO | N-CA-CB | 6.51 | 110.09 | 103.25 |
| 50 | BU | 29 | SER | N-CA-C | -6.51 | 105.07 | 114.12 |
| 57 | Db | 53 | PRO | N-CA-CB | 6.51 | 110.08 | 103.25 |
| 17 | CP | 118 | PRO | N-CA-CB | 6.51 | 110.08 | 103.25 |
| 9 | CH | 120 | PRO | N-CA-CB | 6.50 | 110.07 | 103.25 |
| 33 | DB | 210 | PRO | N-CA-CB | 6.50 | 110.07 | 103.25 |
| 72 | DL | 47 | ALA | N-CA-C | -6.49 | 105.34 | 113.20 |
| 14 | AM | 59 | ALA | N-CA-C | -6.49 | 105.46 | 113.19 |
| 33 | BB | 206 | PRO | N-CA-CB | 6.49 | 110.71 | 103.44 |
| 6 | CE | 43 | TYR | N-CA-C | -6.49 | 104.62 | 112.54 |
| 41 | BJ | 214 | PRO | N-CA-CB | 6.49 | 110.06 | 103.25 |
| 34 | DC | 85 | VAL | N-CA-C | 6.48 | 117.21 | 107.75 |
| 36 | BE | 221 | GLU | N-CA-C | -6.48 | 104.86 | 112.89 |
| 43 | BN | 67 | PRO | N-CA-CB | 6.48 | 110.05 | 103.25 |
| 45 | BP | 130 | LYS | N-CA-C | -6.48 | 100.83 | 109.84 |
| 56 | Da | 88 | PRO | N-CA-CB | 6.48 | 110.12 | 103.00 |
| 29 | B1 | 244 | G | C5-C6-O6 | -6.48 | 109.17 | 128.60 |
| 47 | BR | 114 | ILE | N-CA-C | -6.47 | 104.58 | 113.00 |
| 41 | DJ | 5 | PRO | N-CA-CB | 6.47 | 110.05 | 103.25 |
| 36 | BE | 162 | ALA | N-CA-C | -6.47 | 103.50 | 111.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 41 | BJ | 16 | PRO | N-CA-CB | 6.47 | 110.05 | 103.25 |
| 29 | D1 | 3212 | C | C2-N1-C1' | -6.47 | 99.38 | 118.80 |
| 38 | BG | 198 | ALA | N-CA-C | -6.47 | 103.92 | 110.97 |
| 46 | BQ | 143 | PRO | N-CA-CB | 6.47 | 110.04 | 103.25 |
| 54 | BY | 122 | PRO | N-CA-CB | 6.47 | 110.04 | 103.25 |
| 33 | DB | 123 | ARG | N-CA-C | 6.47 | 118.70 | 108.67 |
| 36 | BE | 112 | ARG | N-CA-C | -6.47 | 103.46 | 112.45 |
| 41 | BJ | 44 | ASP | N-CA-C | -6.47 | 100.17 | 109.29 |
| 73 | DM | 31 | ASP | N-CA-C | -6.47 | 105.36 | 113.18 |
| 3 | AB | 86 | VAL | N-CA-C | 6.46 | 116.73 | 106.32 |
| 45 | DP | 109 | PRO | N-CA-CB | 6.46 | 109.34 | 103.08 |
| 21 | CT | 247 | PRO | N-CA-CB | 6.46 | 110.03 | 103.25 |
| 1 | C1 | 45 | U | C2-N1-C1' | 6.45 | 137.06 | 117.70 |
| 5 | AD | 88 | PRO | N-CA-CB | 6.45 | 110.02 | 103.25 |
| 43 | BN | 14 | LEU | N-CA-C | 6.45 | 124.54 | 110.80 |
| 43 | BN | 99 | TRP | N-CA-C | -6.45 | 104.17 | 111.07 |
| 9 | AH | 122 | PRO | N-CA-CB | 6.45 | 110.02 | 103.25 |
| 7 | CF | 118 | GLN | N-CA-C | 6.45 | 119.23 | 109.95 |
| 11 | CJ | 87 | LYS | N-CA-C | -6.44 | 104.44 | 113.20 |
| 21 | AT | 206 | PRO | N-CA-CB | 6.44 | 110.41 | 103.33 |
| 41 | DJ | 47 | PRO | N-CA-CB | 6.44 | 110.01 | 103.25 |
| 34 | BC | 100 | ARG | N-CA-C | 6.44 | 119.20 | 108.13 |
| 34 | BC | 291 | GLU | N-CA-C | -6.43 | 103.39 | 111.11 |
| 47 | BR | 53 | PHE | N-CA-C | 6.43 | 117.95 | 111.07 |
| 37 | DF | 65 | ILE | N-CA-C | 6.43 | 122.72 | 109.34 |
| 3 | CB | 132 | ALA | N-CA-C | -6.43 | 105.54 | 113.19 |
| 10 | CI | 109 | PRO | N-CA-CB | 6.43 | 109.91 | 103.48 |
| 5 | AD | 164 | PRO | N-CA-CB | 6.43 | 110.00 | 103.25 |
| 53 | BX | 96 | PRO | N-CA-CB | 6.43 | 110.00 | 103.25 |
| 38 | DG | 204 | PRO | N-CA-CB | 6.42 | 110.00 | 103.25 |
| 40 | BI | 30 | PRO | N-CA-CB | 6.42 | 109.99 | 103.25 |
| 13 | CL | 133 | VAL | N-CA-C | 6.42 | 116.45 | 110.42 |
| 49 | DT | 80 | VAL | N-CA-C | 6.42 | 122.69 | 109.34 |
| 39 | DH | 167 | PRO | N-CA-CB | 6.42 | 109.98 | 103.25 |
| 3 | AB | 234 | PRO | N-CA-CB | 6.41 | 109.98 | 103.25 |
| 45 | DP | 156 | LEU | N-CA-C | -6.41 | 105.61 | 113.50 |
| 73 | DM | 92 | PRO | N-CA-CB | 6.41 | 109.98 | 103.25 |
| 17 | CP | 33 | LEU | N-CA-C | 6.40 | 124.44 | 110.80 |
| 44 | DO | 147 | ARG | N-CA-C | -6.40 | 105.57 | 113.19 |
| 44 | BO | 71 | ARG | N-CA-C | 6.40 | 118.96 | 108.52 |
| 2 | CA | 174 | TRP | N-CA-C | -6.40 | 105.33 | 113.01 |
| 39 | BH | 167 | PRO | N-CA-CB | 6.39 | 109.96 | 103.25 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 47 | BR | 43 | PRO | N-CA-CB | 6.39 | 109.96 | 103.25 |
| 4 | CC | 126 | VAL | N-CA-C | -6.39 | 104.29 | 110.42 |
| 43 | BN | 16 | GLU | N-CA-C | 6.39 | 119.15 | 109.63 |
| 42 | DK | 53 | THR | N-CA-C | 6.39 | 117.85 | 108.14 |
| 46 | BQ | 18 | ARG | N-CA-C | 6.38 | 116.49 | 108.45 |
| 2 | CA | 126 | PRO | N-CA-CB | 6.38 | 109.95 | 103.25 |
| 2 | CA | 199 | PRO | N-CA-CB | 6.38 | 109.95 | 103.25 |
| 35 | BD | 171 | ALA | N-CA-C | -6.37 | 104.76 | 112.54 |
| 2 | CA | 42 | PRO | N-CA-CB | 6.37 | 109.94 | 103.25 |
| 16 | CO | 37 | PHE | N-CA-C | -6.37 | 103.96 | 111.03 |
| 9 | AH | 39 | ILE | N-CA-C | 6.37 | 113.03 | 106.21 |
| 7 | CF | 108 | PRO | N-CA-CB | 6.37 | 109.47 | 102.72 |
| 34 | DC | 279 | ASN | N-CA-C | 6.37 | 124.37 | 110.80 |
| 39 | BH | 176 | PRO | N-CA-CB | 6.37 | 109.94 | 103.25 |
| 21 | CT | 57 | PRO | N-CA-CB | 6.36 | 109.92 | 103.25 |
| 1 | C1 | 1455 | G | N1-C6-O6 | 6.35 | 138.96 | 119.90 |
| 2 | AA | 126 | PRO | N-CA-CB | 6.35 | 109.92 | 103.25 |
| 47 | DR | 132 | PRO | N-CA-CB | 6.35 | 109.92 | 103.25 |
| 6 | CE | 79 | ARG | N-CA-C | -6.35 | 104.45 | 111.82 |
| 3 | CB | 54 | GLU | N-CA-C | -6.35 | 105.50 | 113.18 |
| 35 | DD | 142 | VAL | N-CA-C | 6.35 | 118.63 | 108.85 |
| 29 | B1 | 2520 | A | N1-C6-N6 | 6.34 | 137.63 | 118.60 |
| 5 | CD | 39 | GLU | CA-C-N | 6.34 | 133.12 | 121.70 |
| 5 | CD | 39 | GLU | C-N-CA | 6.34 | 133.12 | 121.70 |
| 42 | BK | 40 | LEU | N-CA-C | -6.34 | 105.51 | 113.18 |
| 44 | BO | 74 | PRO | N-CA-CB | 6.34 | 109.91 | 103.25 |
| 3 | AB | 151 | PRO | N-CA-CB | 6.34 | 109.90 | 103.25 |
| 37 | DF | 27 | PRO | N-CA-CB | 6.34 | 109.90 | 103.25 |
| 21 | AT | 158 | PRO | N-CA-CB | 6.33 | 109.90 | 103.25 |
| 41 | DJ | 186 | GLU | N-CA-C | -6.33 | 103.30 | 111.02 |
| 38 | BG | 96 | PRO | N-CA-C | 6.33 | 118.42 | 110.70 |
| 14 | CM | 59 | ALA | N-CA-C | -6.32 | 104.64 | 113.37 |
| 2 | CA | 64 | ILE | N-CA-C | -6.32 | 104.78 | 113.00 |
| 10 | AI | 109 | PRO | N-CA-CB | 6.32 | 110.21 | 103.39 |
| 33 | DB | 141 | PRO | N-CA-CB | 6.32 | 109.88 | 103.25 |
| 35 | DD | 223 | PRO | N-CA-CB | 6.32 | 109.88 | 103.25 |
| 9 | CH | 122 | PRO | N-CA-CB | 6.31 | 109.88 | 103.25 |
| 35 | DD | 128 | ALA | N-CA-C | -6.31 | 105.71 | 113.41 |
| 52 | BW | 57 | LEU | CA-C-N | 6.31 | 133.05 | 121.70 |
| 52 | BW | 57 | LEU | C-N-CA | 6.31 | 133.05 | 121.70 |
| 59 | Dd | 40 | PRO | N-CA-CB | 6.31 | 109.54 | 102.60 |
| 13 | AL | 82 | PRO | N-CA-CB | 6.30 | 109.87 | 103.25 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 2 | AA | 48 | ILE | N-CA-C | 6.30 | 112.95 | 106.21 |
| 36 | DE | 207 | TYR | N-CA-C | -6.30 | 105.65 | 113.15 |
| 35 | BD | 23 | PRO | N-CA-CB | 6.30 | 109.86 | 103.25 |
| 46 | BQ | 84 | PRO | N-CA-CB | 6.30 | 109.86 | 103.25 |
| 42 | BK | 134 | PRO | N-CA-CB | 6.29 | 109.86 | 103.25 |
| 44 | BO | 125 | SER | N-CA-C | -6.29 | 104.87 | 113.30 |
| 6 | CE | 144 | PRO | N-CA-CB | 6.29 | 109.86 | 103.25 |
| 36 | DE | 84 | PRO | N-CA-CB | 6.29 | 109.86 | 103.25 |
| 2 | CA | 35 | PRO | N-CA-CB | 6.29 | 109.85 | 103.25 |
| 36 | DE | 97 | ALA | N-CA-C | -6.29 | 104.71 | 112.38 |
| 29 | B1 | 3184 | A | N1-C6-N6 | 6.28 | 137.45 | 118.60 |
| 36 | DE | 221 | GLU | N-CA-C | -6.28 | 105.10 | 112.89 |
| 36 | DE | 51 | LEU | N-CA-C | 6.28 | 119.64 | 109.40 |
| 43 | DN | 105 | GLN | N-CA-C | -6.28 | 104.93 | 112.59 |
| 44 | DO | 42 | PRO | N-CA-CB | 6.27 | 109.83 | 103.25 |
| 7 | CF | 112 | SER | CA-C-N | 6.27 | 127.67 | 119.84 |
| 7 | CF | 112 | SER | C-N-CA | 6.27 | 127.67 | 119.84 |
| 33 | DB | 188 | LYS | N-CA-C | -6.26 | 97.45 | 110.80 |
| 43 | BN | 58 | ILE | CA-C-N | 6.26 | 132.97 | 121.70 |
| 43 | BN | 58 | ILE | C-N-CA | 6.26 | 132.97 | 121.70 |
| 11 | AJ | 35 | PRO | N-CA-CB | 6.26 | 109.82 | 103.25 |
| 35 | BD | 21 | PRO | N-CA-CB | 6.26 | 109.82 | 103.25 |
| 73 | DM | 198 | PRO | N-CA-CB | 6.26 | 109.82 | 103.25 |
| 2 | AA | 152 | PRO | N-CA-CB | 6.26 | 109.82 | 103.25 |
| 34 | BC | 83 | PRO | N-CA-CB | 6.26 | 109.82 | 103.25 |
| 46 | DQ | 57 | ALA | N-CA-C | 6.25 | 118.45 | 109.14 |
| 42 | DK | 30 | LEU | N-CA-C | -6.25 | 103.77 | 111.33 |
| 2 | CA | 104 | PRO | N-CA-CB | 6.25 | 109.81 | 103.25 |
| 7 | CF | 130 | PRO | N-CA-CB | 6.24 | 109.81 | 103.25 |
| 5 | AD | 203 | LYS | N-CA-C | -6.24 | 104.56 | 111.36 |
| 62 | Dg | 13 | LYS | N-CA-C | -6.24 | 97.51 | 110.80 |
| 44 | BO | 77 | LYS | N-CA-C | 6.23 | 117.50 | 108.34 |
| 37 | DF | 69 | PHE | N-CA-C | -6.23 | 104.49 | 111.28 |
| 7 | AF | 95 | PRO | N-CA-CB | 6.22 | 109.79 | 103.25 |
| 50 | DU | 67 | PRO | N-CA-CB | 6.22 | 109.79 | 103.25 |
| 33 | BB | 175 | VAL | N-CA-C | -6.22 | 104.91 | 113.00 |
| 36 | BE | 24 | ARG | N-CA-C | -6.22 | 104.39 | 112.23 |
| 45 | BP | 116 | LYS | N-CA-C | 6.22 | 124.05 | 110.80 |
| 46 | BQ | 123 | PRO | N-CA-CB | 6.22 | 109.78 | 103.25 |
| 50 | BU | 75 | PRO | N-CA-CB | 6.22 | 108.27 | 103.30 |
| 36 | DE | 252 | ALA | N-CA-C | -6.21 | 105.19 | 112.89 |
| 16 | AO | 29 | PRO | N-CA-CB | 6.21 | 109.77 | 103.25 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 54 | BY | 70 | LYS | N-CA-C | 6.21 | 123.53 | 109.81 |
| 33 | BB | 151 | PRO | N-CA-CB | 6.20 | 109.76 | 103.25 |
| 33 | BB | 219 | ILE | N-CA-C | 6.20 | 122.23 | 109.34 |
| 48 | BS | 57 | VAL | N-CA-C | 6.20 | 117.22 | 108.36 |
| 2 | AA | 64 | ILE | N-CA-C | -6.19 | 104.95 | 113.00 |
| 36 | BE | 218 | ARG | N-CA-C | -6.19 | 105.59 | 113.02 |
| 52 | BW | 66 | PRO | N-CA-CB | 6.19 | 109.75 | 103.25 |
| 12 | CK | 37 | GLU | N-CA-C | -6.19 | 105.73 | 113.28 |
| 45 | DP | 137 | THR | N-CA-C | -6.19 | 97.61 | 110.80 |
| 34 | DC | 170 | PRO | N-CA-CB | 6.19 | 109.75 | 103.25 |
| 35 | BD | 142 | VAL | N-CA-C | 6.19 | 118.38 | 108.85 |
| 56 | Da | 12 | TYR | N-CA-C | 6.19 | 116.25 | 108.45 |
| 37 | BF | 4 | GLN | N-CA-C | 6.18 | 123.97 | 110.80 |
| 44 | DO | 112 | ASN | N-CA-C | -6.18 | 104.60 | 111.71 |
| 3 | AB | 54 | GLU | N-CA-C | -6.18 | 105.71 | 113.18 |
| 33 | BB | 141 | PRO | N-CA-CB | 6.17 | 109.73 | 103.25 |
| 36 | DE | 146 | LEU | N-CA-C | 6.17 | 117.70 | 110.97 |
| 52 | DW | 116 | PRO | N-CA-CB | 6.17 | 109.73 | 103.25 |
| 7 | AF | 130 | PRO | N-CA-CB | 6.17 | 109.72 | 103.25 |
| 2 | AA | 161 | PRO | N-CA-CB | 6.17 | 109.72 | 103.25 |
| 39 | DH | 99 | PRO | N-CA-CB | 6.16 | 109.72 | 103.25 |
| 42 | BK | 118 | PRO | N-CA-CB | 6.16 | 109.72 | 103.25 |
| 40 | DI | 157 | ASN | N-CA-C | -6.16 | 102.14 | 111.56 |
| 17 | AP | 32 | ARG | N-CA-C | 6.16 | 123.92 | 110.80 |
| 42 | DK | 118 | PRO | N-CA-CB | 6.15 | 109.71 | 103.25 |
| 38 | BG | 155 | LYS | N-CA-C | -6.15 | 105.83 | 113.15 |
| 47 | BR | 147 | ARG | N-CA-C | 6.14 | 119.54 | 108.48 |
| 53 | DX | 23 | PRO | N-CA-CB | 6.14 | 109.36 | 102.67 |
| 37 | DF | 53 | VAL | N-CA-C | 6.14 | 122.11 | 109.34 |
| 38 | DG | 200 | ASN | N-CA-C | -6.14 | 105.65 | 113.01 |
| 6 | AE | 114 | TYR | N-CA-C | -6.13 | 104.52 | 112.68 |
| 32 | BA | 23 | THR | N-CA-C | 6.13 | 113.81 | 108.78 |
| 53 | DX | 34 | PRO | N-CA-CB | 6.13 | 109.82 | 103.38 |
| 29 | D1 | 2681 | U | C6-N1-C1' | -6.13 | 102.81 | 121.20 |
| 2 | CA | 48 | ILE | N-CA-C | 6.12 | 112.76 | 106.21 |
| 2 | AA | 123 | VAL | N-CA-C | 6.12 | 117.96 | 109.45 |
| 29 | B1 | 2681 | U | C6-N1-C1' | -6.12 | 102.83 | 121.20 |
| 53 | BX | 30 | LEU | N-CA-C | -6.12 | 105.47 | 113.12 |
| 34 | DC | 99 | LEU | N-CA-C | 6.12 | 119.45 | 109.59 |
| 35 | BD | 25 | VAL | N-CA-C | -6.12 | 104.55 | 110.42 |
| 37 | BF | 23 | LYS | N-CA-C | 6.12 | 117.17 | 108.54 |
| 44 | DO | 74 | PRO | N-CA-CB | 6.12 | 109.67 | 103.25 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 13 | CL | 57 | ARG | CA-C-O | 6.12 | 122.18 | 118.33 |
| 20 | CS | 31 | ILE | N-CA-C | 6.12 | 122.06 | 109.34 |
| 3 | AB | 78 | ASP | N-CA-C | 6.11 | 118.33 | 108.32 |
| 40 | DI | 78 | MET | N-CA-C | -6.11 | 104.31 | 110.97 |
| 52 | BW | 52 | PRO | N-CA-CB | 6.10 | 109.66 | 103.25 |
| 36 | DE | 162 | ALA | N-CA-C | -6.10 | 103.95 | 111.33 |
| 57 | Db | 37 | GLY | N-CA-C | 6.10 | 121.24 | 112.82 |
| 3 | AB | 119 | LYS | N-CA-C | -6.10 | 106.17 | 113.97 |
| 15 | AN | 38 | SER | N-CA-C | -6.10 | 105.87 | 113.55 |
| 5 | AD | 198 | LEU | N-CA-C | -6.10 | 104.91 | 112.90 |
| 45 | DP | 60 | LYS | N-CA-C | -6.09 | 104.71 | 111.71 |
| 36 | BE | 251 | PRO | N-CA-CB | 6.09 | 109.64 | 103.25 |
| 31 | D3 | 34 | U | C3'-C2'-C1' | -6.09 | 95.21 | 101.30 |
| 52 | DW | 118 | GLY | N-CA-C | -6.09 | 98.75 | 113.18 |
| 50 | DU | 84 | SER | N-CA-C | 6.08 | 118.56 | 109.25 |
| 73 | DM | 75 | LYS | N-CA-C | -6.08 | 104.00 | 112.45 |
| 48 | DS | 26 | PRO | N-CA-CB | 6.08 | 109.64 | 103.25 |
| 21 | CT | 206 | PRO | N-CA-CB | 6.08 | 109.73 | 103.23 |
| 3 | CB | 227 | PRO | N-CA-CB | 6.08 | 109.63 | 103.25 |
| 1 | A1 | 45 | U | C2-N1-C1' | 6.07 | 135.92 | 117.70 |
| 50 | BU | 127 | PRO | N-CA-CB | 6.07 | 110.01 | 103.33 |
| 72 | DL | 114 | ARG | N-CA-C | -6.07 | 105.84 | 113.18 |
| 45 | DP | 50 | ASN | N-CA-C | -6.07 | 103.98 | 111.75 |
| 35 | DD | 32 | PRO | N-CA-CB | 6.06 | 109.62 | 103.25 |
| 43 | BN | 15 | VAL | N-CA-C | 6.06 | 121.94 | 109.34 |
| 46 | DQ | 143 | PRO | N-CA-CB | 6.06 | 109.61 | 103.25 |
| 4 | AC | 103 | GLU | N-CA-C | -6.05 | 104.75 | 111.71 |
| 17 | AP | 29 | TYR | N-CA-C | 6.05 | 123.69 | 110.80 |
| 72 | DL | 30 | PRO | N-CA-CB | 6.05 | 109.92 | 103.39 |
| 33 | BB | 123 | ARG | N-CA-C | 6.05 | 118.50 | 109.25 |
| 38 | DG | 139 | PRO | N-CA-CB | 6.05 | 109.60 | 103.25 |
| 38 | BG | 223 | PHE | N-CA-C | -6.04 | 97.92 | 110.80 |
| 34 | DC | 33 | PRO | N-CA-CB | 6.04 | 109.59 | 103.25 |
| 38 | DG | 218 | ARG | N-CA-C | 6.04 | 121.70 | 113.97 |
| 43 | BN | 54 | PRO | N-CA-CB | 6.04 | 109.59 | 103.25 |
| 29 | D1 | 3184 | A | N1-C6-N6 | 6.04 | 136.71 | 118.60 |
| 37 | BF | 145 | LEU | N-CA-C | -6.03 | 104.50 | 112.34 |
| 36 | DE | 198 | TYR | N-CA-C | -6.03 | 101.48 | 111.37 |
| 42 | DK | 74 | PRO | N-CA-CB | 6.02 | 110.18 | 103.44 |
| 53 | BX | 34 | PRO | N-CA-CB | 6.02 | 109.70 | 103.38 |
| 57 | Bb | 53 | PRO | N-CA-CB | 6.00 | 109.56 | 103.25 |
| 58 | Bc | 62 | GLN | N-CA-C | -6.00 | 105.52 | 114.64 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 29 | D1 | 2845 | A | C5-C6-N1 | -6.00 | 99.69 | 117.70 |
| 34 | DC | 291 | GLU | N-CA-C | -6.00 | 103.91 | 111.11 |
| 41 | BJ | 10 | ARG | N-CA-C | 5.99 | 118.88 | 109.96 |
| 33 | BB | 142 | ASP | N-CA-C | -5.99 | 104.67 | 111.07 |
| 2 | CA | 152 | PRO | N-CA-CB | 5.98 | 109.53 | 103.25 |
| 53 | DX | 28 | ARG | N-CA-C | -5.98 | 104.45 | 110.97 |
| 37 | BF | 27 | PRO | N-CA-CB | 5.98 | 109.53 | 103.25 |
| 29 | D1 | 2520 | A | N1-C6-N6 | 5.98 | 136.54 | 118.60 |
| 16 | CO | 32 | LYS | N-CA-C | -5.98 | 104.77 | 111.28 |
| 59 | Dd | 56 | ARG | N-CA-C | 5.97 | 119.26 | 108.69 |
| 43 | BN | 105 | GLN | N-CA-C | -5.97 | 105.31 | 112.59 |
| 40 | BI | 45 | PHE | N-CA-C | -5.97 | 102.48 | 110.24 |
| 2 | CA | 115 | PHE | N-CA-C | 5.96 | 116.11 | 108.24 |
| 41 | DJ | 122 | PRO | N-CA-CB | 5.96 | 109.51 | 103.25 |
| 54 | DY | 62 | HIS | N-CA-C | 5.96 | 123.50 | 110.80 |
| 42 | BK | 53 | THR | N-CA-C | 5.96 | 117.20 | 108.14 |
| 39 | DH | 80 | TYR | N-CA-C | -5.96 | 105.27 | 112.54 |
| 35 | DD | 102 | PRO | N-CA-C | -5.96 | 100.20 | 112.47 |
| 50 | DU | 29 | SER | N-CA-C | -5.96 | 105.98 | 113.72 |
| 35 | DD | 149 | PRO | N-CA-CB | 5.95 | 109.15 | 102.60 |
| 58 | Bc | 17 | LEU | N-CA-C | -5.95 | 104.61 | 112.34 |
| 53 | DX | 33 | ALA | N-CA-C | 5.95 | 115.78 | 108.11 |
| 41 | BJ | 27 | PRO | N-CA-CB | 5.94 | 109.49 | 103.25 |
| 40 | BI | 96 | HIS | N-CA-C | -5.94 | 104.89 | 114.09 |
| 33 | DB | 142 | ASP | N-CA-C | -5.94 | 104.50 | 110.97 |
| 16 | AO | 129 | VAL | N-CA-C | 5.93 | 117.13 | 108.53 |
| 37 | BF | 65 | ILE | N-CA-C | 5.93 | 121.67 | 109.34 |
| 38 | DG | 98 | LYS | N-CA-C | -5.93 | 104.11 | 112.17 |
| 1 | C1 | 517 | U | C2-N1-C1' | -5.92 | 99.93 | 117.70 |
| 42 | DK | 163 | PHE | N-CA-C | -5.92 | 104.25 | 112.30 |
| 38 | DG | 240 | VAL | N-CA-C | -5.92 | 105.94 | 111.45 |
| 38 | BG | 163 | LEU | N-CA-C | -5.92 | 104.83 | 111.28 |
| 54 | BY | 114 | GLY | N-CA-C | 5.92 | 127.20 | 113.18 |
| 73 | DM | 71 | PRO | N-CA-CB | 5.92 | 110.61 | 103.45 |
| 11 | AJ | 126 | PRO | N-CA-CB | 5.91 | 109.46 | 103.25 |
| 2 | AA | 104 | PRO | N-CA-CB | 5.91 | 109.45 | 103.25 |
| 56 | Da | 55 | LEU | N-CA-C | -5.91 | 104.76 | 111.14 |
| 50 | BU | 117 | PRO | N-CA-CB | 5.90 | 109.45 | 103.25 |
| 29 | D1 | 2681 | U | C2-N1-C1' | 5.90 | 135.39 | 117.70 |
| 34 | BC | 170 | PRO | N-CA-CB | 5.89 | 109.44 | 103.25 |
| 36 | BE | 252 | ALA | N-CA-C | -5.89 | 105.58 | 112.89 |
| 38 | BG | 87 | VAL | N-CA-C | 5.89 | 116.60 | 107.99 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 11 | CJ | 126 | PRO | N-CA-CB | 5.89 | 109.44 | 103.25 |
| 35 | BD | 149 | PRO | N-CA-CB | 5.89 | 109.08 | 102.60 |
| 42 | BK | 131 | MET | N-CA-C | 5.89 | 118.41 | 109.63 |
| 50 | DU | 105 | PRO | N-CA-CB | 5.89 | 109.44 | 103.25 |
| 33 | DB | 200 | ARG | N-CA-C | 5.89 | 118.45 | 111.33 |
| 36 | BE | 168 | ASP | N-CA-C | -5.88 | 105.36 | 112.54 |
| 17 | CP | 32 | ARG | N-CA-C | 5.88 | 123.33 | 110.80 |
| 29 | B1 | 3184 | A | C6-N1-C2 | 5.88 | 136.24 | 118.60 |
| 34 | DC | 239 | PRO | N-CA-CB | 5.88 | 109.42 | 103.25 |
| 6 | AE | 144 | PRO | N-CA-CB | 5.87 | 109.42 | 103.25 |
| 45 | BP | 141 | LEU | N-CA-C | -5.87 | 104.96 | 111.71 |
| 43 | BN | 34 | ALA | N-CA-C | 5.87 | 118.81 | 109.65 |
| 43 | DN | 67 | PRO | N-CA-CB | 5.87 | 109.41 | 103.25 |
| 2 | AA | 9 | LEU | N-CA-C | -5.87 | 105.83 | 112.87 |
| 2 | AA | 169 | SER | N-CA-C | -5.87 | 105.97 | 113.01 |
| 3 | CB | 225 | LEU | N-CA-C | 5.86 | 123.29 | 110.80 |
| 50 | DU | 127 | PRO | N-CA-CB | 5.86 | 109.72 | 103.39 |
| 36 | BE | 51 | LEU | N-CA-C | 5.86 | 119.02 | 109.59 |
| 60 | De | 21 | ARG | N-CA-C | 5.85 | 118.00 | 110.39 |
| 34 | BC | 190 | GLU | N-CA-C | -5.85 | 101.71 | 111.37 |
| 45 | DP | 110 | PRO | CA-C-N | 5.85 | 125.39 | 119.19 |
| 45 | DP | 110 | PRO | C-N-CA | 5.85 | 125.39 | 119.19 |
| 37 | BF | 82 | ARG | N-CA-C | 5.85 | 117.41 | 109.11 |
| 48 | DS | 44 | LEU | N-CA-C | -5.85 | 104.81 | 111.07 |
| 11 | CJ | 35 | PRO | N-CA-CB | 5.84 | 109.39 | 103.25 |
| 48 | DS | 138 | LEU | N-CA-C | -5.84 | 104.99 | 111.36 |
| 7 | AF | 118 | GLN | N-CA-C | 5.84 | 118.36 | 109.95 |
| 58 | Dc | 62 | GLN | N-CA-C | -5.84 | 105.77 | 114.64 |
| 57 | Bb | 33 | ARG | N-CA-C | 5.83 | 123.23 | 110.80 |
| 53 | BX | 33 | ALA | N-CA-C | 5.83 | 115.63 | 108.11 |
| 60 | De | 24 | PRO | N-CA-CB | 5.83 | 110.51 | 103.45 |
| 40 | BI | 97 | PHE | N-CA-C | -5.83 | 101.49 | 110.58 |
| 34 | BC | 18 | PRO | N-CA-CB | 5.83 | 109.01 | 102.60 |
| 10 | CI | 60 | LEU | N-CA-C | -5.82 | 104.30 | 111.75 |
| 54 | DY | 71 | PRO | N-CA-CB | 5.82 | 109.36 | 103.25 |
| 17 | AP | 33 | LEU | N-CA-C | 5.82 | 123.19 | 110.80 |
| 38 | DG | 193 | PRO | N-CA-CB | 5.81 | 109.35 | 103.25 |
| 54 | DY | 114 | GLY | N-CA-C | 5.81 | 126.96 | 113.18 |
| 6 | CE | 44 | ARG | N-CA-C | -5.81 | 105.29 | 112.38 |
| 35 | DD | 249 | ILE | N-CA-C | -5.81 | 97.25 | 109.34 |
| 35 | BD | 102 | PRO | N-CA-C | -5.81 | 100.50 | 112.47 |
| 50 | BU | 67 | PRO | N-CA-CB | 5.81 | 109.81 | 103.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 12 | CK | 34 | LEU | N-CA-C | -5.80 | 106.05 | 113.01 |
| 15 | AN | 85 | ARG | N-CA-C | 5.80 | 118.12 | 109.25 |
| 41 | BJ | 161 | GLY | N-CA-C | 5.80 | 118.60 | 111.93 |
| 49 | DT | 54 | HIS | N-CA-C | 5.80 | 123.15 | 110.80 |
| 48 | DS | 57 | VAL | N-CA-C | 5.80 | 116.65 | 108.36 |
| 29 | B1 | 2681 | U | C2-N1-C1' | 5.79 | 135.09 | 117.70 |
| 46 | DQ | 135 | ARG | N-CA-C | 5.79 | 117.77 | 110.24 |
| 43 | DN | 99 | TRP | N-CA-C | -5.79 | 103.95 | 111.02 |
| 33 | DB | 175 | VAL | N-CA-C | -5.79 | 105.20 | 113.07 |
| 2 | CA | 133 | ILE | N-CA-C | -5.78 | 104.72 | 110.62 |
| 46 | DQ | 125 | GLN | N-CA-C | 5.78 | 113.52 | 108.78 |
| 45 | DP | 171 | LYS | N-CA-C | -5.78 | 105.12 | 111.82 |
| 41 | BJ | 90 | ARG | N-CA-C | 5.78 | 119.91 | 112.86 |
| 38 | DG | 52 | GLN | N-CA-C | -5.78 | 106.28 | 113.15 |
| 43 | DN | 54 | PRO | N-CA-CB | 5.78 | 109.31 | 103.25 |
| 49 | BT | 80 | VAL | N-CA-C | 5.77 | 121.34 | 109.34 |
| 54 | DY | 26 | ARG | N-CA-C | -5.77 | 104.36 | 111.75 |
| 35 | DD | 258 | LEU | N-CA-C | -5.77 | 98.52 | 110.80 |
| 37 | BF | 117 | LYS | N-CA-C | 5.76 | 118.27 | 109.62 |
| 21 | AT | 85 | TRP | N-CA-C | -5.76 | 105.96 | 112.87 |
| 45 | DP | 116 | LYS | N-CA-C | 5.76 | 123.07 | 110.80 |
| 46 | DQ | 125 | GLN | CA-C-O | 5.76 | 121.28 | 117.94 |
| 29 | B1 | 1884 | A | C6-N1-C2 | 5.76 | 135.87 | 118.60 |
| 2 | CA | 142 | PRO | N-CA-CB | 5.76 | 109.62 | 103.52 |
| 2 | CA | 161 | PRO | N-CA-CB | 5.76 | 109.30 | 103.25 |
| 37 | BF | 43 | LEU | N-CA-C | -5.75 | 104.38 | 111.40 |
| 72 | DL | 83 | THR | N-CA-C | -5.75 | 105.97 | 112.87 |
| 53 | DX | 49 | PRO | N-CA-CB | 5.75 | 109.29 | 103.25 |
| 52 | DW | 52 | PRO | N-CA-CB | 5.75 | 109.29 | 103.25 |
| 47 | DR | 122 | ILE | N-CA-C | 5.75 | 120.47 | 113.00 |
| 61 | Df | 38 | GLN | N-CA-C | -5.75 | 104.21 | 111.11 |
| 2 | AA | 174 | TRP | N-CA-C | -5.74 | 105.98 | 112.87 |
| 39 | BH | 101 | THR | N-CA-C | -5.74 | 104.87 | 112.34 |
| 13 | AL | 109 | LEU | N-CA-C | -5.74 | 104.02 | 111.02 |
| 34 | BC | 279 | ASN | N-CA-C | 5.74 | 123.03 | 110.80 |
| 54 | BY | 75 | LEU | N-CA-C | -5.74 | 106.32 | 113.15 |
| 43 | DN | 98 | SER | N-CA-C | -5.74 | 105.45 | 113.37 |
| 49 | DT | 39 | ILE | N-CA-C | 5.74 | 116.64 | 107.98 |
| 11 | CJ | 103 | ASN | N-CA-C | -5.73 | 106.38 | 113.19 |
| 60 | Be | 24 | PRO | N-CA-CB | 5.72 | 110.38 | 103.45 |
| 17 | AP | 39 | LYS | N-CA-C | 5.72 | 119.24 | 111.17 |
| 45 | BP | 80 | PHE | N-CA-C | -5.72 | 104.25 | 111.11 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 17 | CP | 31 | LYS | N-CA-C | 5.71 | 117.29 | 109.18 |
| 45 | DP | 151 | ASP | N-CA-C | -5.71 | 104.25 | 111.11 |
| 53 | BX | 77 | LYS | N-CA-C | -5.71 | 105.96 | 114.64 |
| 29 | B1 | 2520 | A | C6-N1-C2 | 5.71 | 135.73 | 118.60 |
| 44 | DO | 75 | VAL | CA-C-N | 5.71 | 126.97 | 119.84 |
| 44 | DO | 75 | VAL | C-N-CA | 5.71 | 126.97 | 119.84 |
| 30 | D2 | 13 | A | C4-N9-C1' | -5.70 | 109.20 | 126.30 |
| 36 | DE | 49 | TYR | CA-C-N | 5.69 | 131.95 | 121.70 |
| 36 | DE | 49 | TYR | C-N-CA | 5.69 | 131.95 | 121.70 |
| 34 | DC | 96 | PRO | N-CA-C | -5.69 | 100.74 | 112.47 |
| 40 | BI | 127 | PRO | N-CA-CB | 5.69 | 109.22 | 103.25 |
| 8 | AG | 39 | LYS | N-CA-C | -5.69 | 105.44 | 112.38 |
| 2 | AA | 142 | PRO | N-CA-CB | 5.68 | 109.80 | 103.44 |
| 46 | DQ | 52 | LEU | N-CA-C | -5.68 | 98.70 | 110.80 |
| 37 | BF | 175 | LYS | N-CA-C | 5.68 | 122.90 | 110.80 |
| 16 | CO | 34 | ILE | N-CA-C | -5.68 | 104.33 | 110.23 |
| 36 | BE | 266 | ALA | N-CA-C | 5.67 | 117.98 | 108.96 |
| 37 | BF | 149 | ILE | CA-C-N | 5.67 | 131.91 | 121.70 |
| 37 | BF | 149 | ILE | C-N-CA | 5.67 | 131.91 | 121.70 |
| 2 | CA | 169 | SER | N-CA-C | -5.67 | 106.20 | 113.01 |
| 36 | DE | 15 | ARG | N-CA-C | -5.67 | 101.91 | 110.70 |
| 7 | AF | 108 | PRO | N-CA-CB | 5.66 | 108.72 | 102.72 |
| 3 | CB | 58 | LEU | N-CA-C | -5.66 | 104.98 | 112.34 |
| 1 | A1 | 45 | U | C6-N1-C1' | -5.66 | 104.22 | 121.20 |
| 29 | B1 | 2845 | A | C5-C6-N1 | -5.66 | 100.72 | 117.70 |
| 33 | DB | 114 | SER | N-CA-C | -5.66 | 102.43 | 110.35 |
| 49 | DT | 67 | VAL | N-CA-C | 5.66 | 121.11 | 109.34 |
| 37 | BF | 110 | LYS | N-CA-C | -5.66 | 98.76 | 110.80 |
| 53 | BX | 49 | PRO | N-CA-CB | 5.66 | 109.19 | 103.25 |
| 34 | DC | 18 | PRO | N-CA-CB | 5.66 | 108.82 | 102.60 |
| 35 | DD | 171 | ALA | N-CA-C | -5.66 | 105.64 | 112.54 |
| 62 | Bg | 27 | LYS | N-CA-C | -5.65 | 106.43 | 113.55 |
| 37 | DF | 82 | ARG | N-CA-C | 5.65 | 117.14 | 109.11 |
| 42 | DK | 130 | VAL | N-CA-C | 5.65 | 121.09 | 109.34 |
| 36 | DE | 280 | GLU | N-CA-C | -5.65 | 102.90 | 110.24 |
| 54 | DY | 100 | PRO | N-CA-CB | 5.65 | 109.18 | 103.25 |
| 35 | BD | 258 | LEU | N-CA-C | -5.65 | 98.77 | 110.80 |
| 38 | BG | 206 | LYS | N-CA-C | -5.64 | 98.78 | 110.80 |
| 36 | DE | 14 | SER | N-CA-C | -5.64 | 103.82 | 111.55 |
| 34 | BC | 96 | PRO | N-CA-C | -5.64 | 100.85 | 112.47 |
| 41 | BJ | 5 | PRO | N-CA-CB | 5.64 | 109.17 | 103.25 |
| 41 | BJ | 193 | ASP | CB-CA-C | -5.64 | 110.05 | 116.54 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 33 | BB | 205 | ASN | CA-C-N | 5.64 | 125.00 | 118.85 |
| 33 | BB | 205 | ASN | C-N-CA | 5.64 | 125.00 | 118.85 |
| 37 | BF | 15 | VAL | N-CA-C | 5.63 | 121.06 | 109.34 |
| 38 | BG | 139 | PRO | N-CA-CB | 5.63 | 109.17 | 103.25 |
| 1 | A1 | 517 | U | C2-N1-C1' | -5.63 | 100.80 | 117.70 |
| 34 | BC | 239 | PRO | N-CA-CB | 5.63 | 109.16 | 103.25 |
| 54 | BY | 110 | GLY | N-CA-C | 5.63 | 118.38 | 110.38 |
| 43 | DN | 15 | VAL | N-CA-C | 5.63 | 121.04 | 109.34 |
| 13 | AL | 133 | VAL | N-CA-C | 5.62 | 115.70 | 110.42 |
| 37 | BF | 50 | LYS | N-CA-C | 5.62 | 122.78 | 110.80 |
| 2 | CA | 196 | SER | CB-CA-C | -5.62 | 110.08 | 116.54 |
| 1 | A1 | 1455 | G | N1-C6-O6 | 5.61 | 136.74 | 119.90 |
| 36 | BE | 280 | GLU | N-CA-C | -5.61 | 102.94 | 110.24 |
| 38 | DG | 178 | ILE | N-CA-C | 5.61 | 114.55 | 107.70 |
| 40 | DI | 97 | PHE | N-CA-C | -5.61 | 101.82 | 110.58 |
| 47 | BR | 129 | VAL | N-CA-C | -5.61 | 105.71 | 113.00 |
| 33 | DB | 158 | ILE | N-CA-C | 5.61 | 116.60 | 106.61 |
| 40 | BI | 92 | TYR | N-CA-C | 5.61 | 122.74 | 110.80 |
| 46 | BQ | 122 | ALA | N-CA-C | 5.60 | 122.19 | 109.81 |
| 54 | BY | 100 | PRO | N-CA-CB | 5.60 | 109.13 | 103.25 |
| 38 | DG | 223 | PHE | N-CA-C | -5.60 | 98.87 | 110.80 |
| 48 | BS | 44 | LEU | N-CA-C | -5.60 | 105.08 | 111.07 |
| 43 | DN | 34 | ALA | N-CA-C | 5.60 | 118.38 | 109.65 |
| 20 | AS | 31 | ILE | N-CA-C | 5.59 | 120.98 | 109.34 |
| 15 | CN | 85 | ARG | N-CA-C | 5.59 | 117.34 | 108.67 |
| 5 | AD | 44 | ASN | CB-CA-C | -5.59 | 110.11 | 116.54 |
| 38 | DG | 236 | ILE | O-C-N | 5.59 | 128.02 | 122.04 |
| 47 | DR | 56 | LYS | N-CA-C | 5.59 | 119.20 | 112.38 |
| 50 | DU | 89 | ASP | N-CA-C | -5.59 | 105.10 | 111.14 |
| 35 | BD | 240 | PRO | N-CA-CB | 5.59 | 110.80 | 103.42 |
| 44 | DO | 155 | VAL | N-CA-C | 5.59 | 115.67 | 110.42 |
| 29 | B1 | 32 | U | C2-N1-C1' | -5.58 | 100.95 | 117.70 |
| 37 | DF | 110 | LYS | N-CA-C | -5.58 | 98.91 | 110.80 |
| 45 | DP | 141 | LEU | N-CA-C | -5.58 | 104.60 | 111.75 |
| 36 | DE | 220 | SER | N-CA-C | -5.58 | 108.26 | 114.62 |
| 54 | DY | 2 | PRO | N-CA-CB | 5.58 | 109.11 | 103.25 |
| 37 | BF | 70 | LYS | N-CA-C | 5.58 | 122.67 | 110.80 |
| 47 | BR | 132 | PRO | N-CA-CB | 5.57 | 109.10 | 103.25 |
| 41 | DJ | 65 | LEU | N-CA-C | -5.57 | 105.21 | 111.28 |
| 29 | B1 | 3257 | C | C2-N1-C1' | -5.57 | 102.09 | 118.80 |
| 34 | DC | 245 | GLY | N-CA-C | -5.57 | 104.53 | 112.55 |
| 43 | DN | 106 | ARG | N-CA-C | -5.57 | 106.84 | 113.97 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 6 | AE | 79 | ARG | N-CA-C | -5.57 | 105.36 | 111.82 |
| 49 | DT | 83 | ARG | N-CA-C | -5.57 | 101.17 | 109.96 |
| 35 | BD | 144 | LYS | N-CA-C | 5.56 | 119.65 | 112.86 |
| 52 | DW | 93 | TYR | N-CA-C | -5.56 | 106.33 | 113.01 |
| 34 | DC | 22 | ALA | N-CA-C | 5.56 | 118.48 | 109.86 |
| 36 | BE | 141 | PRO | N-CA-CB | 5.56 | 109.08 | 103.25 |
| 36 | DE | 141 | PRO | N-CA-CB | 5.56 | 109.09 | 103.25 |
| 62 | Dg | 27 | LYS | N-CA-C | -5.56 | 106.43 | 113.43 |
| 3 | CB | 138 | PRO | N-CA-CB | 5.55 | 109.08 | 103.25 |
| 41 | BJ | 160 | PRO | N-CA-CB | 5.55 | 109.08 | 103.25 |
| 3 | CB | 129 | ILE | N-CA-C | -5.55 | 104.53 | 110.36 |
| 47 | BR | 19 | PRO | N-CA-CB | 5.54 | 109.07 | 103.25 |
| 15 | CN | 62 | VAL | N-CA-C | 5.54 | 114.34 | 106.53 |
| 46 | DQ | 123 | PRO | N-CA-CB | 5.54 | 109.07 | 103.25 |
| 5 | CD | 198 | LEU | N-CA-C | -5.54 | 105.64 | 112.90 |
| 49 | DT | 64 | VAL | N-CA-C | 5.54 | 120.86 | 109.34 |
| 5 | AD | 142 | PRO | N-CA-CB | 5.54 | 110.29 | 103.15 |
| 45 | BP | 60 | LYS | N-CA-C | -5.54 | 105.63 | 112.38 |
| 3 | CB | 151 | PRO | N-CA-CB | 5.53 | 109.06 | 103.25 |
| 39 | BH | 103 | ALA | N-CA-C | -5.53 | 105.15 | 111.07 |
| 56 | Ba | 26 | LYS | N-CA-C | 5.53 | 122.58 | 110.80 |
| 5 | CD | 142 | PRO | N-CA-CB | 5.53 | 110.29 | 103.15 |
| 7 | AF | 112 | SER | CA-C-N | 5.53 | 126.75 | 119.84 |
| 7 | AF | 112 | SER | C-N-CA | 5.53 | 126.75 | 119.84 |
| 32 | DA | 178 | VAL | N-CA-C | 5.53 | 114.77 | 106.42 |
| 2 | AA | 125 | ASP | N-CA-C | 5.53 | 116.72 | 108.76 |
| 38 | DG | 206 | LYS | N-CA-C | -5.53 | 99.03 | 110.80 |
| 36 | BE | 185 | PHE | CA-C-N | 5.53 | 131.65 | 121.70 |
| 36 | BE | 185 | PHE | C-N-CA | 5.53 | 131.65 | 121.70 |
| 36 | BE | 217 | GLU | N-CA-C | -5.53 | 106.49 | 113.18 |
| 52 | BW | 116 | PRO | N-CA-CB | 5.52 | 109.05 | 103.25 |
| 10 | AI | 39 | ALA | N-CA-C | -5.52 | 105.42 | 111.82 |
| 29 | D1 | 32 | U | C2-N1-C1' | -5.51 | 101.16 | 117.70 |
| 53 | DX | 96 | PRO | N-CA-CB | 5.51 | 109.04 | 103.25 |
| 44 | BO | 83 | LYS | N-CA-C | 5.51 | 121.99 | 109.81 |
| 44 | DO | 71 | ARG | N-CA-C | 5.51 | 117.94 | 109.07 |
| 39 | BH | 143 | ILE | N-CA-C | -5.51 | 107.38 | 112.83 |
| 47 | DR | 52 | LEU | N-CA-C | -5.51 | 104.67 | 111.33 |
| 62 | Bg | 13 | LYS | N-CA-C | -5.50 | 99.08 | 110.80 |
| 29 | D1 | 3184 | A | C6-N1-C2 | 5.50 | 135.11 | 118.60 |
| 41 | DJ | 170 | LYS | CA-C-N | 5.50 | 131.60 | 121.70 |
| 41 | DJ | 170 | LYS | C-N-CA | 5.50 | 131.60 | 121.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 1 | C1 | 45 | U | C6-N1-C1' | -5.50 | 104.70 | 121.20 |
| 13 | CL | 33 | THR | N-CA-C | -5.50 | 106.25 | 113.12 |
| 37 | DF | 20 | LYS | N-CA-C | 5.50 | 113.29 | 108.78 |
| 10 | CI | 125 | PRO | N-CA-CB | 5.49 | 109.02 | 103.25 |
| 45 | DP | 109 | PRO | CA-C-N | 5.49 | 126.03 | 120.38 |
| 45 | DP | 109 | PRO | C-N-CA | 5.49 | 126.03 | 120.38 |
| 54 | DY | 4 | ARG | N-CA-C | -5.49 | 106.49 | 114.12 |
| 37 | BF | 69 | PHE | N-CA-C | -5.49 | 105.30 | 111.28 |
| 1 | C1 | 517 | U | C6-N1-C1' | 5.48 | 137.65 | 121.20 |
| 57 | Bb | 67 | SER | CA-C-N | 5.48 | 126.69 | 119.84 |
| 57 | Bb | 67 | SER | C-N-CA | 5.48 | 126.69 | 119.84 |
| 41 | BJ | 170 | LYS | CA-C-N | 5.48 | 131.57 | 121.70 |
| 41 | BJ | 170 | LYS | C-N-CA | 5.48 | 131.57 | 121.70 |
| 34 | DC | 12 | GLY | N-CA-C | 5.47 | 126.15 | 113.18 |
| 37 | DF | 15 | VAL | N-CA-C | 5.47 | 120.72 | 109.34 |
| 50 | BU | 60 | ALA | N-CA-C | 5.47 | 117.50 | 109.24 |
| 9 | AH | 47 | LYS | N-CA-C | 5.46 | 116.94 | 109.18 |
| 37 | DF | 23 | LYS | N-CA-C | 5.46 | 116.24 | 108.54 |
| 48 | BS | 14 | VAL | N-CA-C | 5.46 | 115.56 | 110.42 |
| 36 | DE | 246 | ALA | N-CA-C | -5.46 | 99.16 | 110.80 |
| 32 | DA | 179 | LEU | N-CA-C | -5.46 | 106.98 | 113.97 |
| 39 | DH | 143 | ILE | N-CA-C | -5.46 | 107.42 | 112.83 |
| 72 | DL | 45 | ASP | N-CA-C | -5.46 | 106.65 | 113.15 |
| 34 | DC | 180 | GLU | N-CA-C | 5.46 | 117.02 | 109.54 |
| 37 | DF | 50 | LYS | N-CA-C | 5.45 | 122.42 | 110.80 |
| 34 | BC | 245 | GLY | N-CA-C | -5.45 | 104.70 | 112.55 |
| 59 | Bd | 57 | HIS | CA-C-N | 5.45 | 131.51 | 121.70 |
| 59 | Bd | 57 | HIS | C-N-CA | 5.45 | 131.51 | 121.70 |
| 37 | DF | 145 | LEU | N-CA-C | -5.45 | 105.26 | 112.34 |
| 3 | CB | 67 | GLN | N-CA-C | -5.45 | 104.71 | 111.90 |
| 41 | BJ | 168 | SER | N-CA-C | 5.45 | 122.40 | 110.80 |
| 38 | BG | 132 | PRO | N-CA-CB | 5.44 | 108.96 | 103.25 |
| 39 | DH | 200 | LEU | N-CA-C | 5.44 | 115.02 | 107.73 |
| 29 | B1 | 606 | C | C2-N1-C1' | 5.44 | 135.12 | 118.80 |
| 47 | DR | 130 | ARG | N-CA-C | -5.44 | 105.45 | 112.68 |
| 45 | DP | 69 | GLY | N-CA-C | 5.44 | 123.43 | 112.34 |
| 34 | BC | 158 | VAL | N-CA-C | -5.44 | 98.03 | 109.34 |
| 5 | CD | 46 | TRP | N-CA-C | -5.42 | 105.92 | 112.54 |
| 35 | BD | 151 | VAL | N-CA-C | 5.42 | 116.98 | 109.45 |
| 62 | Dg | 51 | ALA | CB-CA-C | -5.41 | 109.87 | 117.23 |
| 44 | BO | 147 | ARG | N-CA-C | -5.41 | 106.75 | 113.19 |
| 48 | BS | 126 | GLU | N-CA-C | -5.41 | 106.73 | 113.55 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 21 | CT | 75 | ALA | N-CA-C | -5.41 | 104.79 | 111.33 |
| 36 | BE | 97 | ALA | N-CA-C | -5.41 | 106.76 | 113.19 |
| 45 | BP | 152 | VAL | N-CA-C | -5.41 | 105.34 | 110.42 |
| 47 | DR | 145 | ASN | CA-C-N | 5.40 | 131.43 | 121.70 |
| 47 | DR | 145 | ASN | C-N-CA | 5.40 | 131.43 | 121.70 |
| 2 | AA | 120 | LEU | N-CA-C | 5.40 | 119.17 | 112.58 |
| 46 | BQ | 144 | SER | N-CA-C | 5.40 | 122.30 | 110.80 |
| 10 | CI | 39 | ALA | N-CA-C | -5.40 | 105.96 | 112.54 |
| 34 | BC | 98 | GLY | N-CA-C | 5.38 | 118.96 | 111.10 |
| 34 | DC | 81 | THR | N-CA-C | 5.38 | 121.71 | 109.81 |
| 53 | DX | 60 | ARG | N-CA-C | 5.38 | 119.83 | 113.16 |
| 54 | DY | 110 | GLY | N-CA-C | 5.38 | 118.02 | 110.38 |
| 45 | BP | 119 | VAL | N-CA-C | 5.38 | 120.53 | 109.34 |
| 11 | AJ | 111 | SER | N-CA-C | -5.38 | 106.31 | 112.92 |
| 54 | DY | 11 | HIS | N-CA-C | -5.37 | 103.27 | 110.24 |
| 34 | DC | 200 | GLU | N-CA-C | -5.36 | 99.39 | 110.80 |
| 1 | A1 | 1437 | U | C2-N1-C1' | -5.35 | 101.64 | 117.70 |
| 47 | BR | 130 | ARG | N-CA-C | -5.35 | 105.81 | 112.93 |
| 11 | AJ | 53 | LEU | N-CA-C | -5.35 | 105.36 | 111.14 |
| 58 | Dc | 14 | LYS | N-CA-C | -5.35 | 105.56 | 111.71 |
| 36 | BE | 49 | TYR | CA-C-N | 5.35 | 131.33 | 121.70 |
| 36 | BE | 49 | TYR | C-N-CA | 5.35 | 131.33 | 121.70 |
| 34 | DC | 55 | THR | N-CA-C | 5.35 | 118.26 | 109.76 |
| 41 | DJ | 159 | PHE | CA-C-N | 5.35 | 126.53 | 119.84 |
| 41 | DJ | 159 | PHE | C-N-CA | 5.35 | 126.53 | 119.84 |
| 57 | Bb | 89 | THR | CA-C-N | 5.35 | 131.33 | 121.70 |
| 57 | Bb | 89 | THR | C-N-CA | 5.35 | 131.33 | 121.70 |
| 39 | DH | 188 | THR | N-CA-C | -5.35 | 105.10 | 111.03 |
| 29 | D1 | 2520 | A | C6-N1-C2 | 5.34 | 134.62 | 118.60 |
| 36 | BE | 31 | TYR | N-CA-C | -5.34 | 105.40 | 112.34 |
| 72 | DL | 46 | ILE | N-CA-C | -5.34 | 107.17 | 113.42 |
| 36 | BE | 220 | SER | N-CA-C | -5.34 | 108.54 | 114.62 |
| 54 | BY | 27 | LYS | N-CA-C | 5.34 | 122.17 | 110.80 |
| 5 | AD | 110 | ALA | N-CA-C | -5.33 | 104.71 | 111.11 |
| 54 | BY | 44 | ASN | CA-C-N | 5.33 | 129.75 | 122.34 |
| 54 | BY | 44 | ASN | C-N-CA | 5.33 | 129.75 | 122.34 |
| 7 | CF | 89 | ALA | N-CA-C | 5.33 | 119.57 | 108.53 |
| 33 | BB | 185 | ALA | N-CA-C | -5.33 | 104.93 | 111.75 |
| 35 | DD | 195 | ARG | N-CA-C | 5.33 | 117.27 | 110.61 |
| 55 | DZ | 16 | LEU | N-CA-C | -5.33 | 105.56 | 111.36 |
| 37 | BF | 67 | GLY | CA-C-N | 5.32 | 126.49 | 119.84 |
| 37 | BF | 67 | GLY | C-N-CA | 5.32 | 126.49 | 119.84 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 38 | BG | 53 | LYS | N-CA-C | -5.32 | 105.91 | 112.72 |
| 48 | BS | 125 | LYS | N-CA-C | -5.32 | 106.82 | 113.15 |
| 50 | BU | 12 | ARG | CB-CA-C | -5.32 | 110.46 | 116.63 |
| 29 | B1 | 3184 | A | C5-C6-N1 | -5.32 | 101.75 | 117.70 |
| 59 | Dd | 57 | HIS | CA-C-N | 5.32 | 131.27 | 121.70 |
| 59 | Dd | 57 | HIS | C-N-CA | 5.32 | 131.27 | 121.70 |
| 57 | Db | 32 | TRP | CA-C-N | 5.31 | 131.69 | 121.54 |
| 57 | Db | 32 | TRP | C-N-CA | 5.31 | 131.69 | 121.54 |
| 14 | CM | 6 | VAL | N-CA-C | -5.31 | 105.58 | 113.39 |
| 41 | DJ | 121 | LYS | N-CA-C | -5.31 | 102.98 | 110.31 |
| 14 | AM | 118 | PRO | N-CA-C | -5.31 | 106.94 | 113.84 |
| 45 | BP | 107 | GLY | N-CA-C | -5.31 | 100.60 | 113.18 |
| 11 | AJ | 103 | ASN | N-CA-C | -5.30 | 106.89 | 113.19 |
| 52 | BW | 118 | GLY | N-CA-C | -5.29 | 100.63 | 113.18 |
| 55 | BZ | 29 | SER | N-CA-C | -5.29 | 106.52 | 112.87 |
| 8 | AG | 118 | ILE | N-CA-C | -5.29 | 104.44 | 111.05 |
| 13 | AL | 51 | ASP | N-CA-C | -5.29 | 107.19 | 113.38 |
| 62 | Dg | 11 | THR | N-CA-C | -5.29 | 102.16 | 110.36 |
| 36 | BE | 198 | TYR | N-CA-C | -5.29 | 102.70 | 111.37 |
| 33 | DB | 162 | ALA | CB-CA-C | -5.29 | 110.46 | 116.54 |
| 45 | BP | 185 | ALA | N-CA-C | -5.28 | 102.47 | 110.24 |
| 5 | CD | 97 | LEU | N-CA-C | -5.28 | 104.58 | 111.02 |
| 16 | AO | 81 | VAL | N-CA-C | 5.28 | 120.32 | 109.34 |
| 35 | BD | 76 | ARG | N-CA-C | 5.28 | 122.03 | 110.80 |
| 37 | DF | 149 | ILE | CA-C-N | 5.27 | 131.19 | 121.70 |
| 37 | DF | 149 | ILE | C-N-CA | 5.27 | 131.19 | 121.70 |
| 38 | DG | 96 | PRO | N-CA-C | 5.27 | 117.13 | 110.70 |
| 40 | DI | 70 | THR | N-CA-C | -5.26 | 105.50 | 112.34 |
| 36 | BE | 204 | VAL | N-CA-C | -5.26 | 105.48 | 110.42 |
| 36 | DE | 266 | ALA | N-CA-C | 5.26 | 117.32 | 108.96 |
| 34 | BC | 360 | ASP | N-CA-C | 5.26 | 117.89 | 108.17 |
| 54 | BY | 62 | HIS | N-CA-C | 5.25 | 121.99 | 110.80 |
| 3 | AB | 62 | PRO | N-CA-CB | 5.25 | 108.77 | 103.25 |
| 29 | B1 | 102 | C | C2-N1-C1' | 5.25 | 134.55 | 118.80 |
| 49 | BT | 107 | GLU | N-CA-C | -5.25 | 105.25 | 110.97 |
| 37 | DF | 117 | LYS | N-CA-C | 5.25 | 117.50 | 109.62 |
| 62 | Bg | 29 | LEU | N-CA-C | -5.25 | 106.14 | 112.54 |
| 34 | BC | 80 | ASP | N-CA-C | 5.25 | 119.55 | 113.20 |
| 37 | BF | 53 | VAL | N-CA-C | 5.25 | 120.25 | 109.34 |
| 21 | CT | 38 | ARG | N-CA-C | -5.25 | 106.95 | 113.19 |
| 36 | DE | 117 | GLU | N-CA-C | -5.25 | 106.57 | 112.87 |
| 46 | BQ | 82 | ARG | N-CA-C | 5.24 | 121.97 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 4 | CC | 109 | LEU | N-CA-C | -5.24 | 104.99 | 111.33 |
| 34 | BC | 95 | THR | N-CA-C | 5.24 | 121.39 | 109.81 |
| 35 | BD | 30 | ILE | N-CA-C | -5.24 | 101.97 | 108.89 |
| 29 | B1 | 1884 | A | N1-C6-N6 | 5.24 | 134.32 | 118.60 |
| 35 | DD | 49 | ALA | N-CA-C | 5.23 | 117.83 | 110.14 |
| 29 | B1 | 308 | A | C6-N1-C2 | 5.22 | 134.28 | 118.60 |
| 37 | BF | 64 | LEU | N-CA-C | 5.22 | 117.13 | 109.24 |
| 37 | DF | 21 | THR | N-CA-C | 5.22 | 121.93 | 110.80 |
| 14 | CM | 131 | ASP | N-CA-C | -5.22 | 105.01 | 111.33 |
| 44 | DO | 125 | SER | N-CA-C | -5.22 | 106.59 | 113.17 |
| 36 | BE | 278 | SER | N-CA-C | -5.22 | 103.64 | 110.53 |
| 13 | CL | 76 | PRO | N-CA-C | -5.22 | 101.72 | 112.47 |
| 36 | DE | 185 | PHE | CA-C-N | 5.22 | 131.09 | 121.70 |
| 36 | DE | 185 | PHE | C-N-CA | 5.22 | 131.09 | 121.70 |
| 3 | AB | 67 | GLN | N-CA-C | -5.21 | 105.02 | 111.90 |
| 2 | CA | 196 | SER | N-CA-C | 5.21 | 116.24 | 108.31 |
| 13 | AL | 70 | VAL | N-CA-C | -5.21 | 105.39 | 113.16 |
| 36 | DE | 104 | LEU | N-CA-C | 5.21 | 118.42 | 111.75 |
| 36 | DE | 289 | LYS | CB-CA-C | -5.21 | 110.59 | 116.63 |
| 55 | BZ | 30 | THR | N-CA-C | -5.21 | 105.52 | 111.14 |
| 57 | Db | 67 | SER | CA-C-N | 5.21 | 126.35 | 119.84 |
| 57 | Db | 67 | SER | C-N-CA | 5.21 | 126.35 | 119.84 |
| 37 | BF | 129 | GLU | N-CA-C | -5.20 | 102.97 | 111.04 |
| 16 | CO | 73 | GLY | N-CA-C | -5.20 | 105.43 | 112.14 |
| 55 | BZ | 16 | LEU | N-CA-C | -5.20 | 105.69 | 111.36 |
| 40 | DI | 187 | ILE | N-CA-C | 5.20 | 116.14 | 108.45 |
| 57 | Bb | 32 | TRP | CA-C-N | 5.20 | 131.46 | 121.54 |
| 57 | Bb | 32 | TRP | C-N-CA | 5.20 | 131.46 | 121.54 |
| 7 | AF | 110 | HIS | CA-C-N | 5.19 | 131.05 | 121.70 |
| 7 | AF | 110 | HIS | C-N-CA | 5.19 | 131.05 | 121.70 |
| 45 | BP | 137 | THR | N-CA-C | -5.19 | 99.74 | 110.80 |
| 37 | DF | 105 | TYR | N-CA-C | -5.19 | 105.19 | 112.25 |
| 42 | DK | 128 | TYR | N-CA-C | 5.19 | 116.17 | 108.60 |
| 43 | DN | 47 | ASP | N-CA-C | 5.18 | 117.41 | 109.07 |
| 34 | BC | 99 | LEU | N-CA-C | 5.18 | 117.93 | 109.59 |
| 44 | BO | 95 | GLN | N-CA-C | -5.18 | 106.22 | 112.54 |
| 9 | AH | 54 | GLU | N-CA-C | -5.18 | 106.96 | 113.28 |
| 38 | BG | 157 | ASN | N-CA-C | 5.18 | 121.83 | 110.80 |
| 29 | D1 | 1884 | A | C6-N1-C2 | 5.18 | 134.13 | 118.60 |
| 38 | DG | 42 | ALA | N-CA-C | -5.18 | 105.61 | 112.34 |
| 8 | AG | 130 | ARG | N-CA-C | -5.18 | 105.61 | 112.34 |
| 14 | AM | 13 | ASP | N-CA-C | -5.18 | 107.51 | 113.88 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 36 | BE | 14 | SER | N-CA-C | -5.17 | 104.47 | 111.55 |
| 11 | AJ | 87 | LYS | N-CA-C | -5.17 | 106.17 | 113.20 |
| 58 | Bc | 14 | LYS | N-CA-C | -5.17 | 105.77 | 111.71 |
| 46 | DQ | 67 | ILE | N-CA-C | -5.17 | 102.84 | 109.30 |
| 57 | Bb | 122 | PRO | N-CA-CB | 5.16 | 108.67 | 103.25 |
| 16 | CO | 94 | LEU | CA-C-N | 5.16 | 126.29 | 119.84 |
| 16 | CO | 94 | LEU | C-N-CA | 5.16 | 126.29 | 119.84 |
| 36 | DE | 99 | TYR | N-CA-C | -5.16 | 105.54 | 111.07 |
| 73 | DM | 11 | TYR | N-CA-C | -5.16 | 105.10 | 111.40 |
| 15 | AN | 39 | SER | N-CA-C | -5.16 | 105.35 | 110.97 |
| 1 | A1 | 610 | G | C4-N9-C1' | 5.16 | 141.97 | 126.50 |
| 37 | BF | 10 | TYR | CA-C-N | 5.16 | 126.28 | 119.84 |
| 37 | BF | 10 | TYR | C-N-CA | 5.16 | 126.28 | 119.84 |
| 42 | BK | 128 | TYR | N-CA-C | 5.16 | 116.13 | 108.60 |
| 41 | BJ | 98 | ARG | N-CA-C | 5.15 | 116.13 | 108.86 |
| 2 | CA | 92 | HIS | N-CA-C | -5.15 | 106.26 | 113.37 |
| 13 | AL | 42 | TYR | N-CA-C | -5.15 | 104.93 | 111.11 |
| 40 | BI | 91 | ARG | N-CA-C | 5.15 | 121.10 | 114.56 |
| 33 | BB | 177 | LYS | CA-C-N | 5.15 | 126.27 | 119.84 |
| 33 | BB | 177 | LYS | C-N-CA | 5.15 | 126.27 | 119.84 |
| 47 | DR | 19 | PRO | N-CA-CB | 5.14 | 108.65 | 103.25 |
| 8 | AG | 133 | ALA | N-CA-C | 5.14 | 118.01 | 111.69 |
| 19 | AR | 16 | LEU | CB-CA-C | -5.14 | 110.63 | 116.54 |
| 34 | BC | 33 | PRO | N-CA-CB | 5.14 | 108.64 | 103.25 |
| 33 | DB | 77 | ILE | N-CA-C | 5.13 | 115.44 | 107.28 |
| 40 | DI | 96 | HIS | N-CA-C | -5.13 | 106.14 | 114.09 |
| 34 | BC | 200 | GLU | N-CA-C | -5.13 | 99.87 | 110.80 |
| 34 | BC | 306 | THR | CA-C-N | 5.13 | 126.25 | 119.84 |
| 34 | BC | 306 | THR | C-N-CA | 5.13 | 126.25 | 119.84 |
| 34 | BC | 240 | ARG | N-CA-C | 5.12 | 121.71 | 110.80 |
| 40 | BI | 93 | VAL | N-CA-C | 5.12 | 115.60 | 108.84 |
| 49 | BT | 64 | VAL | N-CA-C | 5.12 | 120.00 | 109.34 |
| 41 | DJ | 63 | GLU | N-CA-C | -5.12 | 105.19 | 111.75 |
| 36 | BE | 203 | HIS | N-CA-C | -5.12 | 107.03 | 113.28 |
| 60 | De | 24 | PRO | N-CA-C | -5.12 | 104.01 | 111.33 |
| 34 | DC | 240 | ARG | N-CA-C | 5.12 | 121.70 | 110.80 |
| 37 | DF | 175 | LYS | N-CA-C | 5.12 | 121.70 | 110.80 |
| 9 | CH | 54 | GLU | N-CA-C | -5.11 | 107.04 | 113.28 |
| 30 | B2 | 13 | A | C4-N9-C1' | -5.11 | 110.97 | 126.30 |
| 40 | BI | 151 | VAL | N-CA-C | -5.11 | 105.00 | 110.36 |
| 33 | BB | 58 | LEU | N-CA-C | 5.11 | 117.22 | 108.90 |
| 34 | BC | 81 | THR | N-CA-C | 5.11 | 121.09 | 109.81 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 34 | BC | 135 | ALA | N-CA-C | 5.10 | 116.69 | 108.32 |
| 35 | BD | 266 | THR | N-CA-C | 5.10 | 121.67 | 110.80 |
| 2 | AA | 196 | SER | CB-CA-C | -5.10 | 110.71 | 116.63 |
| 40 | DI | 45 | PHE | N-CA-C | -5.10 | 103.61 | 110.24 |
| 10 | CI | 79 | HIS | N-CA-C | -5.10 | 103.09 | 110.64 |
| 19 | CR | 16 | LEU | CB-CA-C | -5.10 | 110.68 | 116.54 |
| 36 | DE | 96 | ALA | N-CA-C | -5.09 | 107.74 | 114.31 |
| 36 | DE | 284 | ALA | N-CA-C | -5.09 | 105.62 | 111.07 |
| 45 | BP | 111 | PRO | N-CA-CB | 5.09 | 108.68 | 103.23 |
| 57 | Db | 33 | ARG | N-CA-C | 5.09 | 121.63 | 110.80 |
| 35 | BD | 195 | ARG | N-CA-C | 5.08 | 117.39 | 110.88 |
| 49 | BT | 83 | ARG | N-CA-C | -5.08 | 101.72 | 109.65 |
| 4 | AC | 156 | PHE | N-CA-C | 5.08 | 115.24 | 108.23 |
| 57 | Db | 89 | THR | CA-C-N | 5.08 | 130.85 | 121.70 |
| 57 | Db | 89 | THR | C-N-CA | 5.08 | 130.85 | 121.70 |
| 34 | BC | 34 | LYS | N-CA-C | -5.08 | 102.49 | 110.36 |
| 39 | BH | 121 | SER | N-CA-C | -5.08 | 107.03 | 113.43 |
| 3 | AB | 227 | PRO | N-CA-CB | 5.07 | 110.11 | 103.42 |
| 37 | BF | 104 | GLU | N-CA-C | -5.07 | 104.51 | 111.81 |
| 44 | DO | 83 | LYS | N-CA-C | 5.07 | 121.02 | 109.81 |
| 40 | DI | 181 | VAL | N-CA-C | 5.07 | 117.05 | 109.20 |
| 16 | AO | 90 | THR | N-CA-C | -5.07 | 107.12 | 113.15 |
| 38 | BG | 68 | ASP | N-CA-C | -5.07 | 106.20 | 112.38 |
| 36 | DE | 24 | ARG | N-CA-C | -5.07 | 105.94 | 111.82 |
| 30 | D2 | 13 | A | C8-N9-C1' | 5.06 | 142.89 | 127.70 |
| 39 | BH | 200 | LEU | N-CA-C | 5.06 | 114.51 | 107.73 |
| 58 | Bc | 2 | ALA | N-CA-C | -5.06 | 106.80 | 113.17 |
| 32 | BA | 11 | GLU | N-CA-C | -5.05 | 107.24 | 113.41 |
| 34 | DC | 176 | ALA | N-CA-C | 5.05 | 121.57 | 110.80 |
| 15 | AN | 62 | VAL | N-CA-C | 5.05 | 113.65 | 106.53 |
| 48 | DS | 156 | ASN | N-CA-C | -5.05 | 107.07 | 113.18 |
| 52 | BW | 93 | TYR | N-CA-C | -5.05 | 106.95 | 113.01 |
| 29 | D1 | 308 | A | C6-N1-C2 | 5.05 | 133.74 | 118.60 |
| 34 | DC | 360 | ASP | N-CA-C | 5.05 | 117.30 | 108.52 |
| 39 | BH | 188 | THR | N-CA-C | -5.04 | 105.43 | 111.03 |
| 50 | DU | 119 | GLY | N-CA-C | 5.04 | 119.56 | 111.64 |
| 46 | BQ | 35 | ALA | N-CA-C | -5.04 | 106.22 | 112.93 |
| 52 | BW | 82 | LEU | N-CA-C | 5.04 | 117.00 | 109.59 |
| 35 | DD | 76 | ARG | N-CA-C | 5.04 | 121.53 | 110.80 |
| 1 | A1 | 517 | U | C6-N1-C1' | 5.04 | 136.31 | 121.20 |
| 34 | BC | 75 | ALA | N-CA-C | 5.04 | 117.11 | 108.90 |
| 16 | AO | 52 | TYR | N-CA-C | 5.03 | 116.79 | 108.49 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed($^o$) | Ideal($^o$) |
|---|---|---|---|---|---|---|---|
| 7 | CF | 110 | HIS | CA-C-N | 5.03 | 130.75 | 121.70 |
| 7 | CF | 110 | HIS | C-N-CA | 5.03 | 130.75 | 121.70 |
| 34 | DC | 93 | VAL | N-CA-C | 5.03 | 119.81 | 109.34 |
| 53 | DX | 90 | VAL | N-CA-C | -5.03 | 106.46 | 113.00 |
| 52 | DW | 137 | ASN | N-CA-C | -5.03 | 105.27 | 111.40 |
| 11 | AJ | 24 | ALA | N-CA-C | 5.03 | 117.33 | 110.24 |
| 44 | BO | 186 | GLY | N-CA-C | 5.03 | 122.05 | 115.47 |
| 2 | CA | 167 | LYS | N-CA-C | -5.03 | 105.08 | 111.11 |
| 2 | CA | 138 | TYR | N-CA-C | -5.02 | 106.66 | 112.89 |
| 37 | DF | 20 | LYS | CB-CA-C | -5.02 | 109.83 | 117.07 |
| 34 | DC | 289 | ASP | CA-C-N | 5.02 | 130.74 | 121.70 |
| 34 | DC | 289 | ASP | C-N-CA | 5.02 | 130.74 | 121.70 |
| 35 | DD | 45 | ASN | N-CA-C | 5.02 | 118.87 | 112.34 |
| 34 | BC | 82 | PRO | CA-C-N | 5.02 | 126.11 | 119.84 |
| 34 | BC | 82 | PRO | C-N-CA | 5.02 | 126.11 | 119.84 |
| 41 | BJ | 163 | GLN | N-CA-C | 5.02 | 121.49 | 110.80 |
| 46 | DQ | 125 | GLN | CB-CA-C | -5.02 | 109.84 | 117.07 |
| 42 | BK | 130 | VAL | N-CA-C | 5.02 | 119.78 | 109.34 |
| 11 | AJ | 48 | VAL | N-CA-C | -5.01 | 106.77 | 111.48 |
| 6 | CE | 136 | VAL | N-CA-C | 5.01 | 113.82 | 106.55 |
| 29 | D1 | 3212 | C | N1-C2-O2 | -5.01 | 103.86 | 118.90 |
| 33 | DB | 116 | VAL | N-CA-C | 5.01 | 114.98 | 107.51 |
| 73 | DM | 78 | PRO | N-CA-C | -5.01 | 107.68 | 114.80 |
| 36 | BE | 146 | LEU | N-CA-C | 5.01 | 116.43 | 110.97 |
| 42 | BK | 123 | PHE | N-CA-C | 5.01 | 121.47 | 110.80 |
| 5 | CD | 175 | LEU | N-CA-C | -5.01 | 105.10 | 111.11 |
| 38 | DG | 68 | ASP | N-CA-C | -5.01 | 105.95 | 111.71 |
| 8 | CG | 94 | LYS | N-CA-C | -5.01 | 105.27 | 111.33 |
| 34 | DC | 308 | MET | CA-C-N | 5.01 | 130.71 | 121.70 |
| 34 | DC | 308 | MET | C-N-CA | 5.01 | 130.71 | 121.70 |
| 41 | BJ | 45 | GLU | CB-CA-C | -5.01 | 110.42 | 117.23 |
| 9 | CH | 7 | ALA | N-CA-C | -5.01 | 104.52 | 111.28 |
| 45 | DP | 147 | TRP | CA-C-N | 5.00 | 130.71 | 121.70 |
| 45 | DP | 147 | TRP | C-N-CA | 5.00 | 130.71 | 121.70 |
| 42 | BK | 72 | ARG | N-CA-C | 5.00 | 114.44 | 107.73 |
| 34 | DC | 31 | ALA | N-CA-C | 5.00 | 116.32 | 107.61 |
| 38 | DG | 157 | ASN | N-CA-C | 5.00 | 121.46 | 110.80 |

There are no chirality outliers.

All (68) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 3 | AB | 224 | PHE | Peptide |
| 3 | AB | 225 | LEU | Peptide |
| 17 | AP | 28 | ASN | Peptide |
| 18 | AQ | 41 | ILE | Peptide |
| 23 | Ab | 14 | UNK | Peptide |
| 24 | Ac | 63 | UNK | Peptide |
| 29 | B1 | 1884 | A | Sidechain |
| 29 | B1 | 308 | A | Sidechain |
| 29 | B1 | 3184 | A | Sidechain |
| 34 | BC | 239 | PRO | Peptide |
| 34 | BC | 313 | HIS | Peptide |
| 34 | BC | 4 | ARG | Peptide |
| 34 | BC | 95 | THR | Peptide |
| 34 | BC | 98 | GLY | Peptide |
| 35 | BD | 143 | GLU | Peptide |
| 36 | BE | 23 | ARG | Peptide |
| 37 | BF | 38 | THR | Peptide |
| 37 | BF | 60 | ASP | Peptide |
| 37 | BF | 69 | PHE | Peptide |
| 37 | BF | 91 | VAL | Peptide |
| 38 | BG | 165 | ASP | Peptide |
| 42 | BK | 51 | ARG | Peptide |
| 45 | BP | 121 | PRO | Peptide |
| 45 | BP | 130 | LYS | Peptide |
| 45 | BP | 56 | ASP | Peptide |
| 45 | BP | 58 | LEU | Peptide |
| 49 | BT | 49 | GLN | Peptide |
| 51 | BV | 54 | LEU | Peptide |
| 54 | BY | 1 | MET | Peptide |
| 54 | BY | 61 | PHE | Peptide |
| 56 | Ba | 24 | SER | Peptide |
| 57 | Bb | 122 | PRO | Peptide |
| 22 | Bo | 20 | UNK | Peptide |
| 3 | CB | 224 | PHE | Peptide |
| 3 | CB | 225 | LEU | Peptide |
| 17 | CP | 28 | ASN | Peptide |
| 18 | CQ | 41 | ILE | Peptide |
| 23 | Cb | 83 | UNK | Peptide |
| 29 | D1 | 1884 | A | Sidechain |
| 29 | D1 | 308 | A | Sidechain |
| 29 | D1 | 3184 | A | Sidechain |
| 34 | DC | 239 | PRO | Peptide |
| 34 | DC | 281 | LYS | Peptide |

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| Mol | Chain | Res | Type | Group |
|---|---|---|---|---|
| 34 | DC | 313 | HIS | Peptide |
| 34 | DC | 4 | ARG | Peptide |
| 34 | DC | 95 | THR | Peptide |
| 34 | DC | 98 | GLY | Peptide |
| 35 | DD | 125 | ALA | Peptide |
| 35 | DD | 143 | GLU | Peptide |
| 36 | DE | 23 | ARG | Peptide |
| 37 | DF | 38 | THR | Peptide |
| 37 | DF | 60 | ASP | Peptide |
| 37 | DF | 69 | PHE | Peptide |
| 37 | DF | 91 | VAL | Peptide |
| 38 | DG | 165 | ASP | Peptide |
| 42 | DK | 51 | ARG | Peptide |
| 44 | DO | 187 | ARG | Peptide |
| 45 | DP | 121 | PRO | Peptide |
| 45 | DP | 130 | LYS | Peptide |
| 45 | DP | 57 | PHE | Peptide |
| 45 | DP | 58 | LEU | Peptide |
| 45 | DP | 75 | ALA | Peptide |
| 49 | DT | 49 | GLN | Peptide |
| 51 | DV | 54 | LEU | Peptide |
| 54 | DY | 1 | MET | Peptide |
| 54 | DY | 61 | PHE | Peptide |
| 56 | Da | 24 | SER | Peptide |
| 57 | Db | 122 | PRO | Peptide |

## 5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 1 | A1 | 38107 | 0 | 19170 | 5871 | 0 |
| 1 | C1 | 38107 | 0 | 19169 | 6031 | 0 |
| 2 | AA | 1090 | 0 | 508 | 139 | 0 |
| 2 | CA | 1090 | 0 | 508 | 140 | 0 |
| 3 | AB | 1074 | 0 | 502 | 150 | 0 |
| 3 | CB | 1074 | 0 | 502 | 158 | 0 |
| 4 | AC | 928 | 0 | 448 | 101 | 0 |
| 4 | CC | 928 | 0 | 448 | 105 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 5 | AD | 836 | 0 | 391 | 119 | 0 |
| 5 | CD | 836 | 0 | 391 | 126 | 0 |
| 6 | AE | 777 | 0 | 362 | 99 | 0 |
| 6 | CE | 777 | 0 | 362 | 102 | 0 |
| 7 | AF | 382 | 0 | 164 | 27 | 0 |
| 7 | CF | 382 | 0 | 164 | 25 | 0 |
| 8 | AG | 580 | 0 | 266 | 78 | 0 |
| 8 | CG | 580 | 0 | 266 | 70 | 0 |
| 9 | AH | 627 | 0 | 312 | 69 | 0 |
| 9 | CH | 627 | 0 | 312 | 79 | 0 |
| 10 | AI | 596 | 0 | 272 | 63 | 0 |
| 10 | CI | 596 | 0 | 272 | 79 | 0 |
| 11 | AJ | 658 | 0 | 307 | 88 | 0 |
| 11 | CJ | 658 | 0 | 307 | 96 | 0 |
| 12 | AK | 332 | 0 | 146 | 32 | 0 |
| 12 | CK | 332 | 0 | 146 | 27 | 0 |
| 13 | AL | 591 | 0 | 261 | 82 | 0 |
| 13 | CL | 591 | 0 | 261 | 84 | 0 |
| 14 | AM | 521 | 0 | 251 | 73 | 0 |
| 14 | CM | 521 | 0 | 251 | 74 | 0 |
| 15 | AN | 551 | 0 | 229 | 84 | 0 |
| 15 | CN | 551 | 0 | 229 | 80 | 0 |
| 16 | AO | 622 | 0 | 283 | 66 | 0 |
| 16 | CO | 622 | 0 | 283 | 60 | 0 |
| 17 | AP | 566 | 0 | 260 | 81 | 0 |
| 17 | CP | 566 | 0 | 260 | 78 | 0 |
| 18 | AQ | 332 | 0 | 149 | 19 | 0 |
| 18 | CQ | 312 | 0 | 135 | 17 | 0 |
| 19 | AR | 230 | 0 | 100 | 12 | 0 |
| 19 | CR | 230 | 0 | 100 | 13 | 0 |
| 20 | AS | 190 | 0 | 85 | 50 | 0 |
| 20 | CS | 190 | 0 | 85 | 48 | 0 |
| 21 | AT | 1543 | 0 | 743 | 105 | 0 |
| 21 | CT | 1543 | 0 | 743 | 111 | 0 |
| 22 | Aa | 100 | 0 | 25 | 6 | 0 |
| 22 | Bo | 100 | 0 | 23 | 7 | 0 |
| 22 | Ca | 100 | 0 | 23 | 10 | 0 |
| 23 | Ab | 525 | 0 | 141 | 44 | 0 |
| 23 | Cb | 525 | 0 | 138 | 58 | 0 |
| 24 | Ac | 465 | 0 | 122 | 59 | 0 |
| 24 | Cc | 465 | 0 | 120 | 48 | 0 |
| 25 | Ad | 175 | 0 | 39 | 25 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 25 | Cd | 175 | 0 | 41 | 24 | 0 |
| 26 | Ae | 105 | 0 | 25 | 18 | 0 |
| 26 | Bj | 105 | 0 | 23 | 9 | 0 |
| 26 | Dj | 105 | 0 | 24 | 7 | 0 |
| 27 | Af | 55 | 0 | 15 | 3 | 0 |
| 28 | Ah | 205 | 0 | 51 | 29 | 0 |
| 28 | Ch | 205 | 0 | 50 | 33 | 0 |
| 29 | B1 | 68577 | 0 | 34452 | 11544 | 0 |
| 29 | D1 | 68577 | 0 | 34452 | 11469 | 0 |
| 30 | B2 | 2579 | 0 | 1304 | 605 | 0 |
| 30 | D2 | 2579 | 0 | 1304 | 616 | 0 |
| 31 | B3 | 3353 | 0 | 1695 | 674 | 0 |
| 31 | D3 | 3353 | 0 | 1695 | 623 | 0 |
| 32 | BA | 1055 | 0 | 453 | 36 | 0 |
| 32 | DA | 1055 | 0 | 453 | 40 | 0 |
| 33 | BB | 1106 | 0 | 512 | 108 | 0 |
| 33 | DB | 1106 | 0 | 512 | 128 | 0 |
| 34 | BC | 1791 | 0 | 839 | 282 | 0 |
| 34 | DC | 1791 | 0 | 839 | 282 | 0 |
| 35 | BD | 1312 | 0 | 651 | 182 | 0 |
| 35 | DD | 1312 | 0 | 651 | 173 | 0 |
| 36 | BE | 1412 | 0 | 670 | 238 | 0 |
| 36 | DE | 1412 | 0 | 670 | 237 | 0 |
| 37 | BF | 873 | 0 | 400 | 159 | 0 |
| 37 | DF | 873 | 0 | 400 | 156 | 0 |
| 38 | BG | 1061 | 0 | 492 | 157 | 0 |
| 38 | DG | 1061 | 0 | 492 | 161 | 0 |
| 39 | BH | 856 | 0 | 432 | 85 | 0 |
| 39 | DH | 856 | 0 | 432 | 77 | 0 |
| 40 | BI | 942 | 0 | 414 | 96 | 0 |
| 40 | DI | 942 | 0 | 414 | 97 | 0 |
| 41 | BJ | 1027 | 0 | 468 | 108 | 0 |
| 41 | DJ | 1027 | 0 | 468 | 112 | 0 |
| 42 | BK | 810 | 0 | 360 | 136 | 0 |
| 42 | DK | 810 | 0 | 360 | 130 | 0 |
| 43 | BN | 593 | 0 | 299 | 113 | 0 |
| 43 | DN | 593 | 0 | 299 | 121 | 0 |
| 44 | BO | 923 | 0 | 423 | 143 | 0 |
| 44 | DO | 923 | 0 | 423 | 128 | 0 |
| 45 | BP | 967 | 0 | 468 | 158 | 0 |
| 45 | DP | 967 | 0 | 468 | 169 | 0 |
| 46 | BQ | 761 | 0 | 371 | 106 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 46 | DQ | 761 | 0 | 371 | 117 | 0 |
| 47 | BR | 706 | 0 | 340 | 106 | 0 |
| 47 | DR | 706 | 0 | 340 | 98 | 0 |
| 48 | BS | 931 | 0 | 460 | 80 | 0 |
| 48 | DS | 931 | 0 | 460 | 87 | 0 |
| 49 | BT | 586 | 0 | 269 | 92 | 0 |
| 49 | DT | 586 | 0 | 269 | 77 | 0 |
| 50 | BU | 631 | 0 | 306 | 39 | 0 |
| 50 | DU | 631 | 0 | 306 | 45 | 0 |
| 51 | BV | 291 | 0 | 131 | 43 | 0 |
| 51 | DV | 291 | 0 | 131 | 39 | 0 |
| 52 | BW | 468 | 0 | 213 | 42 | 0 |
| 52 | DW | 468 | 0 | 213 | 50 | 0 |
| 53 | BX | 530 | 0 | 240 | 52 | 0 |
| 53 | DX | 530 | 0 | 240 | 48 | 0 |
| 54 | BY | 727 | 0 | 346 | 109 | 0 |
| 54 | DY | 727 | 0 | 346 | 106 | 0 |
| 55 | BZ | 481 | 0 | 224 | 33 | 0 |
| 55 | DZ | 481 | 0 | 224 | 37 | 0 |
| 56 | Ba | 425 | 0 | 191 | 54 | 0 |
| 56 | Da | 425 | 0 | 191 | 60 | 0 |
| 57 | Bb | 618 | 0 | 284 | 81 | 0 |
| 57 | Db | 618 | 0 | 284 | 85 | 0 |
| 58 | Bc | 339 | 0 | 155 | 39 | 0 |
| 58 | Dc | 339 | 0 | 155 | 42 | 0 |
| 59 | Bd | 352 | 0 | 161 | 67 | 0 |
| 59 | Dd | 352 | 0 | 161 | 63 | 0 |
| 60 | Be | 240 | 0 | 105 | 24 | 0 |
| 60 | De | 240 | 0 | 105 | 25 | 0 |
| 61 | Bf | 467 | 0 | 210 | 41 | 0 |
| 61 | Df | 467 | 0 | 210 | 44 | 0 |
| 62 | Bg | 407 | 0 | 203 | 66 | 0 |
| 62 | Dg | 407 | 0 | 203 | 69 | 0 |
| 63 | Bh | 220 | 0 | 57 | 34 | 0 |
| 63 | Dh | 220 | 0 | 53 | 35 | 0 |
| 64 | Bi | 60 | 0 | 16 | 5 | 0 |
| 64 | Di | 60 | 0 | 14 | 4 | 0 |
| 65 | Bk | 80 | 0 | 20 | 21 | 0 |
| 65 | Dk | 80 | 0 | 21 | 23 | 0 |
| 66 | Bl | 95 | 0 | 21 | 6 | 0 |
| 67 | Bm | 45 | 0 | 12 | 7 | 0 |
| 68 | Bn | 135 | 0 | 34 | 7 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|---|---|---|---|---|---|---|
| 69 | Bp | 40 | 0 | 11 | 12 | 0 |
| 70 | Bq | 85 | 0 | 25 | 20 | 0 |
| 71 | Br | 115 | 0 | 27 | 20 | 0 |
| 72 | DL | 679 | 0 | 325 | 52 | 0 |
| 73 | DM | 641 | 0 | 281 | 71 | 0 |
| 74 | A1 | 714 | 0 | 0 | 93 | 0 |
| 74 | AL | 7 | 0 | 0 | 0 | 0 |
| 74 | AS | 7 | 0 | 0 | 18 | 0 |
| 74 | AT | 7 | 0 | 0 | 1 | 0 |
| 74 | Ac | 7 | 0 | 0 | 0 | 0 |
| 74 | B1 | 1547 | 0 | 0 | 191 | 0 |
| 74 | B2 | 70 | 0 | 0 | 12 | 0 |
| 74 | B3 | 84 | 0 | 0 | 14 | 0 |
| 74 | BC | 7 | 0 | 0 | 1 | 0 |
| 74 | BO | 7 | 0 | 0 | 0 | 0 |
| 74 | BT | 7 | 0 | 0 | 2 | 0 |
| 74 | Bd | 14 | 0 | 0 | 10 | 0 |
| 74 | Bg | 7 | 0 | 0 | 10 | 0 |
| 74 | C1 | 707 | 0 | 0 | 100 | 0 |
| 74 | CI | 7 | 0 | 0 | 0 | 0 |
| 74 | CS | 14 | 0 | 0 | 16 | 0 |
| 74 | CT | 7 | 0 | 0 | 0 | 0 |
| 74 | D1 | 1575 | 0 | 0 | 185 | 0 |
| 74 | D2 | 63 | 0 | 0 | 16 | 0 |
| 74 | D3 | 84 | 0 | 0 | 22 | 0 |
| 74 | DC | 7 | 0 | 0 | 0 | 0 |
| 74 | DE | 7 | 0 | 0 | 0 | 0 |
| 74 | DJ | 7 | 0 | 0 | 0 | 0 |
| 74 | DO | 14 | 0 | 0 | 6 | 0 |
| 74 | DT | 7 | 0 | 0 | 0 | 0 |
| 74 | Dd | 14 | 0 | 0 | 11 | 0 |
| 74 | Dg | 7 | 0 | 0 | 11 | 0 |
| All | All | 309610 | 0 | 149262 | 46170 | 0 |

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 101.

All (46170) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 63:Dh:14:UNK:CB | 63:Dh:14:UNK:CA | 1.77 | 1.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 23:Cb:23:UNK:CB | 23:Cb:23:UNK:CA | 1.79 | 1.58 |
| 29:B1:592:A:H2' | 29:B1:593:C:C4' | 1.31 | 1.55 |
| 29:B1:606:C:H3' | 29:B1:607:A:C8 | 1.39 | 1.54 |
| 29:D1:606:C:H3' | 29:D1:607:A:C8 | 1.43 | 1.52 |
| 1:A1:825:U:C5 | 1:A1:847:A:N1 | 1.82 | 1.45 |
| 1:C1:825:U:C5 | 1:C1:847:A:N1 | 1.84 | 1.45 |
| 29:B1:592:A:C2' | 29:B1:593:C:H4' | 1.48 | 1.43 |
| 1:C1:650:U:H3 | 1:C1:684:A:N6 | 1.13 | 1.43 |
| 1:A1:650:U:H3 | 1:A1:684:A:N6 | 1.16 | 1.43 |
| 1:C1:743:U:N3 | 1:C1:809:A:C2 | 1.86 | 1.43 |
| 1:C1:825:U:H5 | 1:C1:847:A:N1 | 0.96 | 1.43 |
| 29:D1:516:A:H3' | 29:D1:517:G:C8 | 1.55 | 1.42 |
| 30:B2:12:U:H3' | 30:B2:13:A:C2 | 1.56 | 1.40 |
| 41:BJ:177:ASP:HA | 41:BJ:179:PRO:N | 1.35 | 1.39 |
| 1:A1:825:U:H5 | 1:A1:847:A:N1 | 0.94 | 1.38 |
| 1:C1:66:U:H3 | 1:C1:71:A:N6 | 1.19 | 1.38 |
| 29:B1:516:A:H3' | 29:B1:517:G:C8 | 1.57 | 1.38 |
| 41:DJ:177:ASP:HA | 41:DJ:179:PRO:N | 1.40 | 1.36 |
| 1:C1:173:A:C2 | 1:C1:174:U:H1' | 1.59 | 1.35 |
| 29:D1:562:C:H2' | 29:D1:563:U:C6 | 1.59 | 1.35 |
| 1:A1:66:U:H3 | 1:A1:71:A:N6 | 1.19 | 1.35 |
| 29:D1:511:G:N2 | 29:D1:580:C:N3 | 1.75 | 1.35 |
| 30:D2:12:U:H3' | 30:D2:13:A:C2 | 1.60 | 1.35 |
| 1:C1:143:G:O6 | 1:C1:172:C:N4 | 1.61 | 1.34 |
| 29:B1:562:C:H2' | 29:B1:563:U:C6 | 1.64 | 1.33 |
| 29:B1:592:A:C2' | 29:B1:593:C:C4' | 2.06 | 1.31 |
| 1:C1:243:G:O6 | 1:C1:250:C:N4 | 1.61 | 1.31 |
| 1:A1:992:A:H2 | 1:A1:1012:U:N3 | 1.27 | 1.30 |
| 29:D1:2673:A:N6 | 29:D1:2681:U:O4 | 1.62 | 1.30 |
| 29:B1:2673:A:N6 | 29:B1:2681:U:O4 | 1.61 | 1.30 |
| 29:D1:644:G:H4' | 29:D1:1153:A:C2 | 1.67 | 1.29 |
| 29:B1:513:G:N2 | 29:B1:577:C:N3 | 1.79 | 1.28 |
| 1:C1:10:G:OP1 | 1:C1:1633:A:H5' | 1.32 | 1.28 |
| 1:C1:992:A:H2 | 1:C1:1012:U:N3 | 1.32 | 1.28 |
| 29:B1:3342:A:N6 | 29:B1:3363:U:H3 | 1.28 | 1.27 |
| 29:B1:576:C:H2' | 29:B1:577:C:C5' | 1.64 | 1.27 |
| 29:D1:531:G:N2 | 29:D1:561:C:O2 | 1.67 | 1.27 |
| 29:D1:3342:A:N6 | 29:D1:3363:U:H3 | 1.31 | 1.27 |
| 37:DF:41:ILE:N | 37:DF:85:ILE:HA | 1.50 | 1.27 |
| 29:B1:511:G:N2 | 29:B1:580:C:N3 | 1.82 | 1.26 |
| 45:BP:124:LEU:HA | 45:BP:126:VAL:N | 1.48 | 1.26 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:515:C:H2' | 29:B1:516:A:O4' | 1.33 | 1.26 |
| 29:B1:592:A:C3' | 29:B1:593:C:H4' | 1.63 | 1.26 |
| 29:D1:422:A:H1' | 29:D1:423:A:C5' | 1.65 | 1.26 |
| 29:D1:513:G:N2 | 29:D1:577:C:N3 | 1.83 | 1.25 |
| 29:D1:515:C:H2' | 29:D1:516:A:O4' | 1.31 | 1.25 |
| 1:C1:62:A:H3' | 1:C1:62:A:OP2 | 1.37 | 1.25 |
| 29:D1:284:A:C2 | 29:D1:306:A:H1' | 1.71 | 1.25 |
| 29:D1:378:A:H3' | 29:D1:378:A:N3 | 1.51 | 1.25 |
| 30:B2:11:A:C2 | 36:BE:16:PHE:HA | 1.71 | 1.25 |
| 29:B1:574:U:C2' | 29:B1:575:G:H5" | 1.67 | 1.24 |
| 29:B1:592:A:N3 | 29:B1:593:C:H1' | 1.49 | 1.24 |
| 29:B1:715:A:C2 | 29:B1:784:A:H4' | 1.73 | 1.24 |
| 29:D1:3317:U:H3' | 29:D1:3317:U:OP1 | 1.34 | 1.24 |
| 29:D1:2667:A:H3' | 29:D1:2667:A:N3 | 1.53 | 1.23 |
| 1:A1:448:C:H2' | 1:A1:449:C:C6 | 1.74 | 1.23 |
| 1:C1:250:C:O2' | 1:C1:251:A:H5' | 1.34 | 1.23 |
| 45:DP:124:LEU:HA | 45:DP:126:VAL:N | 1.54 | 1.23 |
| 29:D1:2611:U:H2' | 29:D1:2612:U:C6 | 1.72 | 1.23 |
| 29:B1:378:A:H3' | 29:B1:378:A:N3 | 1.52 | 1.22 |
| 1:A1:243:G:C2 | 1:A1:251:A:N1 | 2.07 | 1.22 |
| 29:B1:1441:G:C2' | 29:B1:1442:U:H5" | 1.68 | 1.22 |
| 29:D1:118:U:O4 | 29:D1:150:A:N6 | 1.72 | 1.22 |
| 29:D1:576:C:H2' | 29:D1:577:C:C5' | 1.67 | 1.22 |
| 1:C1:1524:A:H2' | 1:C1:1525:A:C8 | 1.74 | 1.22 |
| 31:D3:113:U:H1' | 31:D3:114:G:OP2 | 1.36 | 1.22 |
| 1:C1:173:A:C6 | 1:C1:174:U:C6 | 2.28 | 1.21 |
| 29:D1:574:U:C2' | 29:D1:575:G:H5" | 1.68 | 1.21 |
| 29:D1:574:U:H2' | 29:D1:575:G:C5' | 1.71 | 1.20 |
| 29:D1:1479:U:H3' | 29:D1:1480:G:C5' | 1.70 | 1.20 |
| 37:DF:41:ILE:H | 37:DF:85:ILE:CA | 1.53 | 1.20 |
| 1:A1:160:C:H2' | 1:A1:161:U:O4' | 1.40 | 1.20 |
| 29:B1:286:U:H2' | 29:B1:287:G:C8 | 1.74 | 1.20 |
| 29:B1:644:G:H4' | 29:B1:1153:A:C2 | 1.75 | 1.20 |
| 1:C1:243:G:N1 | 1:C1:251:A:C6 | 2.08 | 1.20 |
| 29:B1:606:C:H2' | 29:B1:607:A:C1' | 1.72 | 1.20 |
| 31:B3:113:U:H1' | 31:B3:114:G:OP2 | 1.33 | 1.20 |
| 1:C1:1201:G:H3' | 1:C1:1201:G:N3 | 1.57 | 1.20 |
| 29:B1:562:C:H2' | 29:B1:563:U:C5 | 1.77 | 1.19 |
| 29:B1:531:G:N2 | 29:B1:561:C:O2 | 1.73 | 1.19 |
| 29:B1:750:G:N2 | 29:B1:784:A:H1' | 1.54 | 1.19 |
| 29:B1:829:U:H3 | 29:B1:895:A:N6 | 1.38 | 1.19 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:406:G:H1' | 31:B3:16:G:N2 | 1.58 | 1.19 |
| 29:B1:3047:U:O2' | 29:B1:3048:A:H5" | 1.41 | 1.19 |
| 1:C1:448:C:H2' | 1:C1:449:C:C6 | 1.75 | 1.19 |
| 1:A1:1201:G:H3' | 1:A1:1201:G:N3 | 1.55 | 1.19 |
| 29:B1:574:U:H2' | 29:B1:575:G:C5' | 1.73 | 1.19 |
| 29:B1:1479:U:H3' | 29:B1:1480:G:C5' | 1.70 | 1.19 |
| 30:D2:12:U:H5' | 30:D2:68:C:C1' | 1.72 | 1.19 |
| 29:B1:618:C:H2' | 29:B1:619:A:C8 | 1.78 | 1.19 |
| 29:D1:286:U:H2' | 29:D1:287:G:C8 | 1.78 | 1.19 |
| 29:D1:3210:A:H3' | 29:D1:3211:C:C6 | 1.77 | 1.18 |
| 1:A1:84:A:H2' | 1:A1:85:A:H5' | 1.23 | 1.18 |
| 29:B1:606:C:C3' | 29:B1:607:A:C8 | 2.25 | 1.18 |
| 1:C1:186:C:N4 | 1:C1:199:G:H1 | 1.41 | 1.18 |
| 1:A1:686:C:H2' | 1:A1:687:G:C8 | 1.79 | 1.18 |
| 24:Cc:1:UNK:H | 24:Cc:74:UNK:HA | 1.08 | 1.18 |
| 29:B1:284:A:C2 | 29:B1:306:A:H1' | 1.79 | 1.18 |
| 29:B1:1196:C:C5 | 29:B1:1197:A:N7 | 2.11 | 1.18 |
| 29:B1:3317:U:H3' | 29:B1:3317:U:OP1 | 1.41 | 1.18 |
| 1:C1:1348:A:H5" | 15:CN:12:GLN:N | 1.58 | 1.18 |
| 6:CE:80:LEU:HA | 6:CE:81:VAL:CB | 1.71 | 1.18 |
| 29:D1:1323:G:H3' | 29:D1:1324:U:H5" | 1.19 | 1.18 |
| 1:A1:66:U:N3 | 1:A1:71:A:N6 | 1.92 | 1.18 |
| 46:BQ:10:ASN:H | 46:BQ:11:PRO:CA | 1.57 | 1.18 |
| 1:C1:243:G:C2 | 1:C1:251:A:C2 | 2.32 | 1.18 |
| 29:D1:606:C:C3' | 29:D1:607:A:C8 | 2.27 | 1.18 |
| 29:B1:2667:A:H3' | 29:B1:2667:A:N3 | 1.55 | 1.17 |
| 46:BQ:10:ASN:N | 46:BQ:11:PRO:HA | 1.51 | 1.17 |
| 29:B1:2684:C:C6 | 29:B1:2684:C:H5' | 1.77 | 1.17 |
| 29:B1:3219:G:C8 | 29:B1:3257:C:H5" | 1.79 | 1.17 |
| 29:B1:1192:C:OP1 | 29:B1:1192:C:H3' | 1.45 | 1.17 |
| 29:B1:2754:G:H3' | 29:B1:2755:C:H5' | 1.19 | 1.17 |
| 31:B3:40:A:H2' | 31:B3:41:A:H8 | 1.02 | 1.17 |
| 29:B1:717:C:H41 | 29:B1:721:G:H5' | 1.03 | 1.17 |
| 1:C1:686:C:H2' | 1:C1:687:G:C8 | 1.77 | 1.17 |
| 29:D1:1441:G:C2' | 29:D1:1442:U:H5" | 1.75 | 1.17 |
| 29:D1:2987:A:H2' | 29:D1:2988:C:C6 | 1.79 | 1.17 |
| 1:A1:1201:G:H2' | 1:A1:1202:A:H4' | 1.19 | 1.16 |
| 29:B1:3210:A:H3' | 29:B1:3211:C:C6 | 1.78 | 1.16 |
| 29:B1:3300:U:H6 | 29:B1:3300:U:OP2 | 1.28 | 1.16 |
| 29:B1:3390:G:H2' | 29:B1:3391:A:O4' | 1.44 | 1.16 |
| 29:D1:618:C:H2' | 29:D1:619:A:C8 | 1.79 | 1.16 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:750:G:N2 | 29:D1:784:A:H1' | 1.58 | 1.16 |
| 1:A1:992:A:C2 | 1:A1:1012:U:N3 | 2.14 | 1.16 |
| 6:AE:80:LEU:HA | 6:AE:81:VAL:CB | 1.73 | 1.16 |
| 1:C1:827:C:N3 | 1:C1:846:G:O6 | 1.79 | 1.16 |
| 29:D1:715:A:C2 | 29:D1:784:A:H4' | 1.79 | 1.16 |
| 1:A1:1204:A:H3' | 1:A1:1205:C:H5" | 1.20 | 1.16 |
| 29:B1:750:G:C2 | 29:B1:784:A:H1' | 1.80 | 1.16 |
| 37:BF:41:ILE:N | 37:BF:85:ILE:HA | 1.61 | 1.16 |
| 1:C1:66:U:N3 | 1:C1:71:A:N6 | 1.93 | 1.16 |
| 1:C1:160:C:H2' | 1:C1:161:U:O4' | 1.43 | 1.16 |
| 29:D1:1186:G:H2' | 29:D1:1187:C:H5' | 1.18 | 1.16 |
| 29:D1:2684:C:H6 | 29:D1:2684:C:H5' | 1.08 | 1.16 |
| 29:D1:3149:G:C2 | 29:D1:3150:A:H1' | 1.79 | 1.16 |
| 29:D1:3390:G:H2' | 29:D1:3391:A:O4' | 1.44 | 1.16 |
| 29:B1:575:G:H8 | 29:B1:575:G:H5' | 1.03 | 1.16 |
| 1:A1:1458:G:H5' | 1:A1:1459:C:C5 | 1.81 | 1.16 |
| 29:B1:1212:A:H2' | 29:B1:1213:G:H5" | 1.17 | 1.16 |
| 37:BF:21:THR:HA | 37:BF:111:LEU:C | 1.68 | 1.16 |
| 1:C1:142:G:N7 | 1:C1:266:A:C6 | 2.14 | 1.16 |
| 1:C1:335:U:H3' | 1:C1:336:G:C8 | 1.79 | 1.16 |
| 21:CT:289:ALA:HA | 21:CT:305:TYR:HA | 1.22 | 1.16 |
| 29:B1:3201:C:O2' | 29:B1:3202:G:H5' | 1.44 | 1.15 |
| 30:B2:12:U:H5' | 30:B2:68:C:C1' | 1.77 | 1.15 |
| 1:C1:1240:U:H2' | 1:C1:1241:G:H5' | 1.22 | 1.15 |
| 1:A1:1458:G:C5' | 1:A1:1459:C:H5 | 1.59 | 1.15 |
| 1:C1:1631:A:H2' | 1:C1:1632:C:O4' | 1.46 | 1.15 |
| 29:D1:563:U:H3' | 29:D1:564:G:C5' | 1.74 | 1.15 |
| 29:D1:592:A:C4 | 29:D1:593:C:H1' | 1.80 | 1.15 |
| 29:D1:3320:A:H2' | 29:D1:3321:C:C6 | 1.79 | 1.15 |
| 29:B1:1839:A:H5" | 29:B1:1840:U:OP1 | 1.45 | 1.15 |
| 29:B1:3391:A:H2' | 29:B1:3392:U:H5" | 1.18 | 1.15 |
| 1:A1:1273:G:C4' | 1:A1:1274:C:H5' | 1.77 | 1.15 |
| 29:B1:2611:U:H2' | 29:B1:2612:U:C6 | 1.81 | 1.15 |
| 29:D1:1192:C:OP1 | 29:D1:1192:C:H3' | 1.44 | 1.15 |
| 29:D1:3201:C:O2' | 29:D1:3202:G:H5' | 1.45 | 1.15 |
| 29:B1:515:C:H3' | 29:B1:516:A:H5" | 1.18 | 1.15 |
| 29:B1:951:A:H2' | 29:B1:952:A:H5" | 1.16 | 1.15 |
| 29:B1:3320:A:H2' | 29:B1:3321:C:C6 | 1.82 | 1.15 |
| 1:C1:142:G:C5 | 1:C1:266:A:N6 | 2.14 | 1.15 |
| 29:D1:1212:A:H2' | 29:D1:1213:G:H5" | 1.20 | 1.15 |
| 46:DQ:10:ASN:N | 46:DQ:11:PRO:HA | 1.47 | 1.15 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:363:G:H2' | 29:B1:364:G:H5" | 1.29 | 1.14 |
| 29:B1:1415:U:H2' | 29:B1:1416:C:C6 | 1.80 | 1.14 |
| 29:B1:3210:A:H3' | 29:B1:3211:C:H6 | 1.04 | 1.14 |
| 29:D1:2277:C:H5" | 29:D1:2317:A:H4' | 1.28 | 1.14 |
| 29:D1:2690:G:N3 | 29:D1:2690:G:H2' | 1.56 | 1.14 |
| 29:B1:591:G:C2' | 29:B1:592:A:H5' | 1.77 | 1.14 |
| 29:B1:2684:C:H6 | 29:B1:2684:C:C5' | 1.58 | 1.14 |
| 1:C1:243:G:C6 | 1:C1:251:A:N6 | 2.14 | 1.14 |
| 29:D1:282:G:H21 | 29:D1:286:U:H4' | 1.09 | 1.14 |
| 29:D1:1779:C:H4' | 29:D1:1780:G:H5" | 1.25 | 1.14 |
| 1:A1:329:G:H2' | 1:A1:330:G:H8 | 0.99 | 1.14 |
| 1:A1:650:U:H2' | 1:A1:651:G:H5" | 1.30 | 1.14 |
| 21:AT:289:ALA:HA | 21:AT:305:TYR:HA | 1.20 | 1.14 |
| 29:D1:562:C:H2' | 29:D1:563:U:C5 | 1.82 | 1.14 |
| 29:D1:606:C:H2' | 29:D1:607:A:C1' | 1.77 | 1.14 |
| 29:B1:118:U:O4 | 29:B1:150:A:N6 | 1.78 | 1.14 |
| 29:D1:3027:A:H2' | 29:D1:3028:G:C8 | 1.83 | 1.14 |
| 29:B1:422:A:H1' | 29:B1:423:A:C5' | 1.79 | 1.13 |
| 29:B1:576:C:H2' | 29:B1:577:C:H5" | 1.29 | 1.13 |
| 29:B1:750:G:H2' | 29:B1:751:A:H8 | 1.10 | 1.13 |
| 29:B1:2687:G:H3' | 29:B1:2687:G:N3 | 1.62 | 1.13 |
| 1:C1:1201:G:H2' | 1:C1:1202:A:H4' | 1.16 | 1.13 |
| 29:B1:563:U:H3' | 29:B1:564:G:C5' | 1.79 | 1.13 |
| 29:B1:1482:A:H4' | 29:B1:1483:G:OP2 | 1.45 | 1.13 |
| 29:B1:2779:A:H8 | 29:B1:2779:A:H5' | 1.07 | 1.13 |
| 29:B1:3012:A:H2' | 29:B1:3013:U:H5" | 1.22 | 1.13 |
| 58:Bc:41:LEU:N | 58:Bc:42:PRO:HA | 1.63 | 1.13 |
| 1:C1:173:A:C5 | 1:C1:174:U:H6 | 1.66 | 1.13 |
| 1:C1:540:G:H1' | 1:C1:541:A:OP1 | 1.48 | 1.13 |
| 1:A1:186:C:N4 | 1:A1:199:G:H1 | 1.45 | 1.13 |
| 1:A1:364:G:N2 | 1:A1:381:C:C2 | 2.17 | 1.13 |
| 29:B1:2684:C:H5' | 29:B1:2684:C:H6 | 1.04 | 1.13 |
| 29:B1:3149:G:C2 | 29:B1:3150:A:H1' | 1.83 | 1.13 |
| 29:D1:717:C:H41 | 29:D1:721:G:H5' | 1.11 | 1.13 |
| 29:D1:829:U:H3 | 29:D1:895:A:N6 | 1.45 | 1.13 |
| 30:D2:25:G:C2 | 30:D2:26:C:C4 | 2.36 | 1.13 |
| 30:D2:68:C:O2 | 30:D2:69:C:H1' | 1.49 | 1.13 |
| 6:CE:122:VAL:O | 6:CE:125:ALA:HB3 | 1.49 | 1.12 |
| 46:DQ:10:ASN:H | 46:DQ:11:PRO:CA | 1.58 | 1.12 |
| 1:A1:509:G:H2' | 1:A1:510:G:H8 | 1.12 | 1.12 |
| 15:AN:54:GLY:HA3 | 15:AN:92:ASP:H | 1.11 | 1.12 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1154:A:H4' | 29:B1:1155:C:OP2 | 1.49 | 1.12 |
| 1:C1:84:A:H2' | 1:C1:85:A:H5' | 1.25 | 1.12 |
| 1:C1:992:A:H2' | 1:C1:993:A:H5' | 1.27 | 1.12 |
| 29:D1:406:G:H1' | 31:D3:16:G:N2 | 1.64 | 1.12 |
| 29:D1:1405:U:H5' | 57:Db:58:GLY:HA2 | 1.29 | 1.12 |
| 29:D1:3149:G:N2 | 29:D1:3150:A:H1' | 1.64 | 1.12 |
| 29:D1:3391:A:H2' | 29:D1:3392:U:H5" | 1.21 | 1.12 |
| 30:D2:63:A:H3' | 30:D2:64:A:C5' | 1.77 | 1.12 |
| 29:B1:383:G:H2' | 29:B1:385:A:O5' | 1.49 | 1.12 |
| 29:B1:3251:U:H2' | 29:B1:3252:G:C8 | 1.85 | 1.12 |
| 29:D1:593:C:H2' | 29:D1:594:U:H4' | 1.17 | 1.12 |
| 29:D1:2636:A:H5" | 29:D1:2637:A:H5' | 1.32 | 1.12 |
| 37:DF:21:THR:N | 37:DF:112:THR:HA | 1.64 | 1.12 |
| 1:A1:402:C:H2' | 1:A1:403:G:H5' | 1.27 | 1.12 |
| 1:A1:1524:A:H2' | 1:A1:1525:A:C8 | 1.84 | 1.12 |
| 29:B1:42:C:H2' | 29:B1:43:A:C5' | 1.80 | 1.12 |
| 29:B1:394:G:N2 | 29:B1:396:A:H2' | 1.63 | 1.12 |
| 29:B1:3233:C:H2' | 29:B1:3234:A:H8 | 1.07 | 1.12 |
| 1:C1:1348:A:C5' | 15:CN:12:GLN:H | 1.63 | 1.12 |
| 29:D1:2779:A:H8 | 29:D1:2779:A:H5' | 1.07 | 1.12 |
| 1:A1:1780:G:H1' | 29:B1:2262:A:O2' | 1.48 | 1.12 |
| 29:B1:1558:A:OP1 | 29:B1:1559:A:H1' | 1.49 | 1.12 |
| 29:B1:2643:A:H5' | 29:B1:2644:C:OP2 | 1.48 | 1.12 |
| 30:B2:35:C:H42 | 30:B2:47:C:H1' | 0.97 | 1.12 |
| 1:C1:978:A:N6 | 1:C1:1024:U:H3 | 1.47 | 1.12 |
| 1:C1:1141:G:H3' | 1:C1:1142:A:H5" | 1.32 | 1.12 |
| 37:DF:21:THR:HA | 37:DF:111:LEU:C | 1.74 | 1.12 |
| 1:A1:540:G:H1' | 1:A1:541:A:OP1 | 1.49 | 1.11 |
| 29:B1:2523:A:H1' | 29:B1:2524:A:C5' | 1.79 | 1.11 |
| 30:B2:12:U:H5' | 30:B2:68:C:H1' | 1.14 | 1.11 |
| 29:D1:325:A:H3' | 29:D1:327:A:P | 1.90 | 1.11 |
| 29:D1:515:C:H3' | 29:D1:516:A:H5" | 1.16 | 1.11 |
| 29:D1:2107:A:H2' | 29:D1:2108:C:H6 | 1.15 | 1.11 |
| 29:D1:2362:C:N4 | 29:D1:2376:G:O6 | 1.82 | 1.11 |
| 29:B1:10:C:N4 | 31:B3:148:G:H1 | 1.47 | 1.11 |
| 29:D1:334:A:H2' | 29:D1:335:G:H8 | 1.15 | 1.11 |
| 29:D1:993:G:H21 | 29:D1:2637:A:H3' | 1.11 | 1.11 |
| 1:A1:61:A:H4' | 1:A1:62:A:O5' | 1.44 | 1.11 |
| 1:A1:329:G:H2' | 1:A1:330:G:C8 | 1.84 | 1.11 |
| 29:B1:606:C:H2' | 29:B1:607:A:H1' | 1.26 | 1.11 |
| 29:B1:611:A:H3' | 29:B1:612:U:H5" | 1.24 | 1.11 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:952:A:H2' | 29:B1:953:G:H5" | 1.22 | 1.11 |
| 29:B1:1323:G:H3' | 29:B1:1324:U:H5" | 1.27 | 1.11 |
| 29:B1:3117:C:H2' | 29:B1:3118:C:H5' | 1.29 | 1.11 |
| 29:B1:3190:C:N3 | 29:B1:3202:G:N2 | 1.98 | 1.11 |
| 29:D1:3251:U:H2' | 29:D1:3252:G:C8 | 1.83 | 1.11 |
| 31:D3:40:A:H2' | 31:D3:41:A:H8 | 1.02 | 1.11 |
| 15:AN:68:ARG:HA | 15:AN:79:TRP:HA | 1.13 | 1.11 |
| 29:B1:3027:A:H2' | 29:B1:3028:G:C8 | 1.83 | 1.11 |
| 44:BO:185:ALA:C | 44:BO:187:ARG:HA | 1.73 | 1.11 |
| 29:D1:591:G:C2' | 29:D1:592:A:H5' | 1.80 | 1.11 |
| 29:D1:1196:C:C5 | 29:D1:1197:A:N7 | 2.17 | 1.11 |
| 29:D1:1415:U:H2' | 29:D1:1416:C:H6 | 1.03 | 1.11 |
| 29:D1:2684:C:H5' | 29:D1:2684:C:C6 | 1.85 | 1.11 |
| 1:A1:173:A:C5 | 1:A1:174:U:C6 | 2.37 | 1.11 |
| 29:B1:1232:C:H2' | 29:B1:1233:G:H4' | 1.26 | 1.11 |
| 29:B1:1901:A:O3' | 29:B1:2918:G:H5' | 1.49 | 1.11 |
| 29:B1:2271:A:H2' | 29:B1:2272:G:H5" | 1.30 | 1.11 |
| 29:D1:951:A:C2' | 29:D1:952:A:H5" | 1.80 | 1.11 |
| 29:D1:3150:A:H3' | 29:D1:3151:U:H5' | 1.32 | 1.11 |
| 1:A1:992:A:H2' | 1:A1:993:A:H5' | 1.32 | 1.10 |
| 1:A1:1631:A:C4 | 1:A1:1638:G:N2 | 2.19 | 1.10 |
| 29:D1:593:C:H2' | 29:D1:594:U:C4' | 1.79 | 1.10 |
| 29:D1:3219:G:C8 | 29:D1:3257:C:H5" | 1.84 | 1.10 |
| 2:AA:186:GLY:HA2 | 2:AA:187:ALA:HB2 | 1.31 | 1.10 |
| 6:AE:122:VAL:O | 6:AE:125:ALA:HB3 | 1.50 | 1.10 |
| 29:B1:282:G:N2 | 29:B1:286:U:H4' | 1.67 | 1.10 |
| 29:B1:563:U:H3' | 29:B1:564:G:H5" | 1.29 | 1.10 |
| 29:B1:591:G:H2' | 29:B1:592:A:H5' | 1.26 | 1.10 |
| 29:B1:591:G:N2 | 29:B1:592:A:H1' | 1.64 | 1.10 |
| 30:B2:25:G:C2 | 30:B2:26:C:C4 | 2.39 | 1.10 |
| 30:B2:63:A:H3' | 30:B2:64:A:C5' | 1.81 | 1.10 |
| 1:C1:650:U:H2' | 1:C1:651:G:H5" | 1.33 | 1.10 |
| 1:C1:992:A:C2 | 1:C1:1012:U:N3 | 2.19 | 1.10 |
| 15:CN:68:ARG:HA | 15:CN:79:TRP:HA | 1.13 | 1.10 |
| 29:D1:2271:A:C2' | 29:D1:2272:G:H5" | 1.81 | 1.10 |
| 29:D1:3382:U:H3' | 29:D1:3383:G:H4' | 1.15 | 1.10 |
| 1:A1:1141:G:H3' | 1:A1:1142:A:H5" | 1.34 | 1.10 |
| 1:A1:1573:A:H4' | 1:A1:1574:G:H5' | 1.18 | 1.10 |
| 29:B1:1697:A:H2' | 29:B1:1698:C:H5' | 1.32 | 1.10 |
| 29:B1:1779:C:H4' | 29:B1:1780:G:H5" | 1.28 | 1.10 |
| 29:B1:2684:C:H2' | 29:B1:2685:C:H6 | 1.08 | 1.10 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BF:41:ILE:H | 37:BF:85:ILE:CA | 1.62 | 1.10 |
| 1:C1:1573:A:H4' | 1:C1:1574:G:H5' | 1.18 | 1.10 |
| 29:D1:421:G:C8 | 29:D1:421:G:H3' | 1.87 | 1.10 |
| 29:D1:3117:C:H2' | 29:D1:3118:C:H5' | 1.28 | 1.10 |
| 29:D1:3233:C:H2' | 29:D1:3234:A:H8 | 1.13 | 1.10 |
| 1:A1:322:G:H4' | 1:A1:323:A:OP1 | 1.47 | 1.10 |
| 1:A1:1240:U:H2' | 1:A1:1241:G:H5' | 1.23 | 1.10 |
| 29:B1:2262:A:H3' | 29:B1:2263:C:H5" | 1.31 | 1.10 |
| 29:B1:2328:U:H2' | 29:B1:2329:C:H5" | 1.29 | 1.10 |
| 29:B1:2771:U:H3' | 29:B1:2772:C:H5" | 1.31 | 1.10 |
| 1:C1:887:A:H1' | 9:CH:122:PRO:CB | 1.82 | 1.10 |
| 1:A1:243:G:C2 | 1:A1:251:A:C2 | 2.38 | 1.10 |
| 29:B1:431:U:H2' | 29:B1:432:G:H8 | 1.05 | 1.10 |
| 29:B1:2667:A:N6 | 29:B1:2690:G:N1 | 1.98 | 1.10 |
| 29:B1:2987:A:H2' | 29:B1:2988:C:H6 | 1.14 | 1.10 |
| 1:C1:129:U:C5 | 1:C1:264:G:C6 | 2.40 | 1.10 |
| 1:C1:142:G:C5 | 1:C1:266:A:C6 | 2.40 | 1.10 |
| 1:C1:364:G:N2 | 1:C1:381:C:C2 | 2.18 | 1.10 |
| 1:C1:824:G:H4' | 1:C1:825:U:H5' | 1.26 | 1.10 |
| 1:C1:1045:C:O2 | 1:C1:1045:C:H2' | 1.49 | 1.10 |
| 29:D1:3202:G:H3' | 29:D1:3202:G:OP2 | 1.50 | 1.10 |
| 1:A1:243:G:C6 | 1:A1:251:A:N6 | 2.20 | 1.09 |
| 1:A1:416:A:H4' | 1:A1:417:A:OP2 | 1.50 | 1.09 |
| 29:B1:592:A:N3 | 29:B1:593:C:C1' | 2.15 | 1.09 |
| 29:B1:3242:G:H1 | 29:B1:3244:A:H2' | 1.07 | 1.09 |
| 1:C1:65:A:H4' | 1:C1:66:U:OP1 | 1.51 | 1.09 |
| 1:C1:243:G:C2 | 1:C1:251:A:N1 | 2.20 | 1.09 |
| 29:D1:383:G:H2' | 29:D1:385:A:O5' | 1.47 | 1.09 |
| 29:D1:576:C:H2' | 29:D1:577:C:H5" | 1.23 | 1.09 |
| 29:D1:3190:C:N3 | 29:D1:3202:G:N2 | 2.00 | 1.09 |
| 30:D2:35:C:H42 | 30:D2:47:C:H1' | 1.02 | 1.09 |
| 44:DO:185:ALA:C | 44:DO:187:ARG:HA | 1.77 | 1.09 |
| 1:A1:629:U:H2' | 1:A1:630:A:H8 | 1.06 | 1.09 |
| 29:B1:2250:G:N2 | 29:B1:2267:C:O2 | 1.82 | 1.09 |
| 29:B1:2277:C:H5" | 29:B1:2317:A:H4' | 1.33 | 1.09 |
| 37:BF:21:THR:N | 37:BF:112:THR:HA | 1.67 | 1.09 |
| 1:C1:629:U:H2' | 1:C1:630:A:H8 | 1.12 | 1.09 |
| 29:D1:575:G:H5' | 29:D1:575:G:H8 | 1.14 | 1.09 |
| 29:D1:2146:C:H2' | 29:D1:2147:A:H5' | 1.21 | 1.09 |
| 29:B1:966:U:H2' | 29:B1:967:A:C8 | 1.87 | 1.09 |
| 29:B1:1303:A:H8 | 29:B1:1304:A:C5 | 1.70 | 1.09 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:B2:68:C:O2 | 30:B2:69:C:H1' | 1.52 | 1.09 |
| 1:C1:329:G:H2' | 1:C1:330:G:H8 | 1.04 | 1.09 |
| 15:CN:54:GLY:HA3 | 15:CN:92:ASP:H | 1.14 | 1.09 |
| 29:D1:537:A:N6 | 29:D1:556:U:N3 | 1.99 | 1.09 |
| 29:D1:563:U:H3' | 29:D1:564:G:H5" | 1.20 | 1.09 |
| 29:D1:618:C:H2' | 29:D1:619:A:H8 | 0.93 | 1.09 |
| 29:D1:2523:A:H1' | 29:D1:2524:A:C5' | 1.82 | 1.09 |
| 29:D1:3300:U:OP2 | 29:D1:3300:U:H6 | 1.33 | 1.09 |
| 30:D2:10:C:O3' | 30:D2:13:A:N7 | 1.84 | 1.09 |
| 1:A1:694:U:H5" | 1:A1:695:U:C5 | 1.88 | 1.09 |
| 1:A1:1231:U:H1' | 1:A1:1258:U:H4' | 1.30 | 1.09 |
| 29:B1:1441:G:H2' | 29:B1:1442:U:H5" | 1.31 | 1.09 |
| 1:C1:416:A:H4' | 1:C1:417:A:OP2 | 1.42 | 1.09 |
| 1:A1:243:G:N2 | 1:A1:251:A:C2 | 2.19 | 1.09 |
| 29:B1:716:A:H2' | 29:B1:717:C:C4' | 1.83 | 1.09 |
| 29:B1:2992:U:H2' | 29:B1:2993:G:H5' | 1.19 | 1.09 |
| 29:D1:72:C:H2' | 29:D1:73:C:H5' | 1.34 | 1.09 |
| 29:D1:431:U:H2' | 29:D1:432:G:H8 | 1.15 | 1.09 |
| 29:D1:2250:G:N2 | 29:D1:2267:C:O2 | 1.86 | 1.09 |
| 1:A1:1219:A:H5' | 1:A1:1220:C:H5 | 1.17 | 1.08 |
| 29:B1:716:A:C2' | 29:B1:717:C:H4' | 1.83 | 1.08 |
| 29:B1:2270:A:H5" | 29:B1:2270:A:C8 | 1.87 | 1.08 |
| 29:D1:951:A:H2' | 29:D1:952:A:C5' | 1.81 | 1.08 |
| 29:D1:2385:G:H4' | 29:D1:2386:A:OP1 | 1.48 | 1.08 |
| 29:D1:2687:G:H3' | 29:D1:2687:G:N3 | 1.67 | 1.08 |
| 29:D1:2808:A:H4' | 29:D1:2809:C:O5' | 1.52 | 1.08 |
| 1:A1:243:G:N1 | 1:A1:251:A:C6 | 2.22 | 1.08 |
| 1:A1:824:G:H4' | 1:A1:825:U:H5' | 1.26 | 1.08 |
| 29:B1:2271:A:C2' | 29:B1:2272:G:H5" | 1.84 | 1.08 |
| 29:B1:2690:G:N3 | 29:B1:2690:G:H2' | 1.62 | 1.08 |
| 1:C1:219:A:N6 | 1:C1:843:U:H1' | 1.68 | 1.08 |
| 1:C1:1499:G:O6 | 1:C1:1508:U:O2 | 1.69 | 1.08 |
| 29:D1:42:C:H2' | 29:D1:43:A:C5' | 1.83 | 1.08 |
| 29:D1:606:C:H2' | 29:D1:607:A:H1' | 1.32 | 1.08 |
| 29:D1:1558:A:OP1 | 29:D1:1559:A:H1' | 1.54 | 1.08 |
| 29:D1:2684:C:H6 | 29:D1:2684:C:C5' | 1.67 | 1.08 |
| 29:B1:591:G:N2 | 29:B1:592:A:C1' | 2.17 | 1.08 |
| 29:B1:592:A:C4 | 29:B1:593:C:C1' | 2.37 | 1.08 |
| 29:B1:3150:A:H3' | 29:B1:3151:U:H5' | 1.31 | 1.08 |
| 30:B2:35:C:H42 | 30:B2:47:C:C1' | 1.66 | 1.08 |
| 36:BE:97:ALA:HA | 36:BE:100:ALA:HB3 | 1.31 | 1.08 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2151:C:H6 | 29:D1:2151:C:H5' | 1.10 | 1.08 |
| 29:D1:2271:A:H2' | 29:D1:2272:G:H5" | 1.26 | 1.08 |
| 29:D1:2771:U:H3' | 29:D1:2772:C:H5" | 1.31 | 1.08 |
| 1:A1:1458:G:H5' | 1:A1:1459:C:H5 | 1.00 | 1.08 |
| 29:B1:1479:U:C3' | 29:B1:1480:G:H5" | 1.81 | 1.08 |
| 31:B3:40:A:H2' | 31:B3:41:A:C8 | 1.88 | 1.08 |
| 29:D1:611:A:H3' | 29:D1:612:U:H5" | 1.27 | 1.08 |
| 29:D1:1303:A:H2 | 29:D1:2887:A:N1 | 1.49 | 1.08 |
| 29:D1:1503:A:H3' | 29:D1:1504:A:H5" | 1.12 | 1.08 |
| 1:A1:65:A:H4' | 1:A1:66:U:OP1 | 1.51 | 1.08 |
| 1:A1:1348:A:H5" | 15:AN:12:GLN:H | 1.11 | 1.08 |
| 29:B1:383:G:H3' | 29:B1:384:A:H5" | 1.34 | 1.08 |
| 29:B1:3382:U:H3' | 29:B1:3383:G:H4' | 1.17 | 1.08 |
| 1:C1:257:A:H2' | 1:C1:258:C:H5' | 1.36 | 1.08 |
| 1:C1:1097:U:O2' | 1:C1:1098:U:H5' | 1.54 | 1.08 |
| 29:D1:750:G:C2 | 29:D1:784:A:H1' | 1.87 | 1.08 |
| 29:D1:1191:U:O2 | 29:D1:1191:U:H2' | 1.51 | 1.08 |
| 29:D1:3321:C:O2' | 29:D1:3322:A:H3' | 1.54 | 1.08 |
| 21:AT:9:LEU:HA | 21:AT:313:TRP:HA | 1.33 | 1.07 |
| 29:B1:2213:A:H2' | 29:B1:2214:A:C8 | 1.89 | 1.07 |
| 29:B1:2328:U:C2' | 29:B1:2329:C:H5" | 1.84 | 1.07 |
| 1:C1:1100:G:H4' | 1:C1:1101:G:OP1 | 1.34 | 1.07 |
| 8:CG:51:GLY:HA2 | 8:CG:53:LEU:N | 1.67 | 1.07 |
| 29:D1:592:A:C2' | 29:D1:593:C:H4' | 1.84 | 1.07 |
| 29:D1:1232:C:H4' | 73:DM:35:SER:HA | 1.34 | 1.07 |
| 29:D1:2523:A:H1' | 29:D1:2524:A:H5' | 1.15 | 1.07 |
| 29:D1:3210:A:H3' | 29:D1:3211:C:H6 | 1.04 | 1.07 |
| 1:A1:173:A:C2 | 1:A1:174:U:H1' | 1.89 | 1.07 |
| 1:A1:257:A:H2' | 1:A1:258:C:H5' | 1.32 | 1.07 |
| 24:Ac:7:UNK:HA | 24:Ac:68:UNK:HA | 1.28 | 1.07 |
| 29:B1:3392:U:N3 | 29:B1:3393:U:C4 | 2.22 | 1.07 |
| 1:C1:1231:U:H1' | 1:C1:1258:U:H4' | 1.32 | 1.07 |
| 20:CS:49:ASP:H | 20:CS:50:ILE:HA | 1.06 | 1.07 |
| 29:D1:432:G:H2' | 29:D1:433:A:H8 | 1.11 | 1.07 |
| 29:D1:1441:G:H2' | 29:D1:1442:U:H5" | 1.33 | 1.07 |
| 29:D1:3099:C:O2' | 29:D1:3100:U:O5' | 1.72 | 1.07 |
| 29:D1:3101:G:C2' | 29:D1:3102:G:H5" | 1.84 | 1.07 |
| 29:D1:3232:G:N2 | 29:D1:3255:U:O2 | 1.85 | 1.07 |
| 30:D2:11:A:C2 | 36:DE:16:PHE:HA | 1.89 | 1.07 |
| 30:D2:12:U:H5' | 30:D2:68:C:H1' | 1.09 | 1.07 |
| 29:B1:72:C:C2' | 29:B1:73:C:H5' | 1.84 | 1.07 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:517:G:H3' | 29:B1:517:G:OP2 | 1.53 | 1.07 |
| 29:B1:524:U:H2' | 29:B1:525:C:H6 | 1.19 | 1.07 |
| 29:B1:612:U:H1' | 29:B1:613:G:C8 | 1.90 | 1.07 |
| 29:B1:1875:G:H2' | 29:B1:1876:U:H5" | 1.34 | 1.07 |
| 1:C1:1204:A:H3' | 1:C1:1205:C:H5" | 1.13 | 1.07 |
| 28:Ch:15:UNK:O | 28:Ch:19:UNK:CB | 2.03 | 1.07 |
| 29:D1:1062:A:H3' | 29:D1:1063:G:N7 | 1.69 | 1.07 |
| 29:D1:1196:C:H5 | 29:D1:1197:A:N6 | 1.50 | 1.07 |
| 29:D1:1226:G:H2' | 29:D1:1227:C:H6 | 1.20 | 1.07 |
| 29:D1:1479:U:C3' | 29:D1:1480:G:H5" | 1.82 | 1.07 |
| 29:D1:2754:G:H3' | 29:D1:2755:C:H5' | 1.35 | 1.07 |
| 1:A1:1100:G:H4' | 1:A1:1101:G:OP1 | 1.34 | 1.07 |
| 1:A1:1631:A:H2' | 1:A1:1632:C:O4' | 1.52 | 1.07 |
| 29:B1:284:A:H2 | 29:B1:306:A:H1' | 1.04 | 1.07 |
| 29:B1:618:C:H2' | 29:B1:619:A:H8 | 0.92 | 1.07 |
| 29:B1:644:G:H4' | 29:B1:1153:A:H2 | 0.93 | 1.07 |
| 29:B1:2146:C:H2' | 29:B1:2147:A:H5' | 1.35 | 1.07 |
| 31:B3:19:C:H2' | 31:B3:20:U:H6 | 1.19 | 1.07 |
| 1:C1:142:G:O6 | 1:C1:266:A:N7 | 1.88 | 1.07 |
| 1:C1:509:G:H2' | 1:C1:510:G:H8 | 1.19 | 1.07 |
| 21:CT:9:LEU:HA | 21:CT:313:TRP:HA | 1.36 | 1.07 |
| 29:D1:10:C:N4 | 31:D3:148:G:H1 | 1.53 | 1.07 |
| 29:D1:511:G:N2 | 29:D1:579:G:C2 | 2.23 | 1.07 |
| 29:B1:3149:G:N2 | 29:B1:3150:A:H1' | 1.68 | 1.07 |
| 1:C1:329:G:H2' | 1:C1:330:G:C8 | 1.88 | 1.07 |
| 1:C1:1724:U:H2' | 1:C1:1725:U:H5 | 1.18 | 1.07 |
| 29:D1:1192:C:H3' | 29:D1:1192:C:P | 1.95 | 1.07 |
| 29:D1:2987:A:H2' | 29:D1:2988:C:H6 | 1.00 | 1.07 |
| 29:D1:3151:U:P | 29:D1:3152:U:OP1 | 2.13 | 1.07 |
| 29:D1:3195:U:H2' | 29:D1:3196:U:O2 | 1.53 | 1.07 |
| 1:A1:827:C:N3 | 1:A1:846:G:O6 | 1.88 | 1.06 |
| 1:A1:1045:C:O2 | 1:A1:1045:C:H2' | 1.55 | 1.06 |
| 1:A1:1273:G:H4' | 1:A1:1274:C:C5' | 1.83 | 1.06 |
| 20:AS:49:ASP:H | 20:AS:50:ILE:CA | 1.67 | 1.06 |
| 29:B1:282:G:H21 | 29:B1:286:U:H4' | 0.91 | 1.06 |
| 29:B1:1435:A:H5' | 29:B1:1436:U:H5" | 1.35 | 1.06 |
| 29:B1:1879:A:O2' | 29:B1:1880:U:H4' | 1.55 | 1.06 |
| 29:B1:3090:U:C6 | 29:B1:3090:U:H5" | 1.89 | 1.06 |
| 29:D1:531:G:H2' | 29:D1:532:A:C8 | 1.89 | 1.06 |
| 29:D1:952:A:H2' | 29:D1:953:G:H5" | 1.33 | 1.06 |
| 29:D1:3261:C:H2' | 29:D1:3261:C:O2 | 1.46 | 1.06 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2808:A:H4' | 29:B1:2809:C:O5' | 1.55 | 1.06 |
| 1:C1:743:U:C4 | 1:C1:809:A:C2 | 2.43 | 1.06 |
| 1:C1:1204:A:H3' | 1:C1:1205:C:C5' | 1.84 | 1.06 |
| 29:D1:3012:A:H2' | 29:D1:3013:U:H5" | 1.30 | 1.06 |
| 29:D1:3242:G:H1 | 29:D1:3244:A:H2' | 1.06 | 1.06 |
| 17:AP:109:ARG:N | 17:AP:110:LYS:HA | 1.70 | 1.06 |
| 29:B1:334:A:H2' | 29:B1:335:G:H8 | 1.16 | 1.06 |
| 29:B1:847:A:H2' | 29:B1:848:A:C8 | 1.91 | 1.06 |
| 1:C1:44:U:H5' | 1:C1:45:U:C5 | 1.91 | 1.06 |
| 1:C1:1273:G:H4' | 1:C1:1274:C:H5' | 1.09 | 1.06 |
| 1:C1:1273:G:C4' | 1:C1:1274:C:H5' | 1.84 | 1.06 |
| 29:D1:409:A:H61 | 31:D3:15:G:H1' | 1.20 | 1.06 |
| 29:D1:591:G:H2' | 29:D1:592:A:H5' | 1.36 | 1.06 |
| 29:D1:2667:A:N6 | 29:D1:2690:G:N1 | 2.03 | 1.06 |
| 29:D1:3314:A:H2' | 34:DC:119:TYR:N | 1.71 | 1.06 |
| 1:A1:827:C:H2' | 1:A1:828:U:C2 | 1.90 | 1.06 |
| 1:A1:1525:A:H2' | 1:A1:1526:A:C8 | 1.89 | 1.06 |
| 29:B1:3321:C:O2' | 29:B1:3322:A:H3' | 1.55 | 1.06 |
| 30:B2:10:C:O3' | 30:B2:13:A:N7 | 1.89 | 1.06 |
| 29:D1:65:A:H4' | 29:D1:66:A:O5' | 1.53 | 1.06 |
| 29:D1:1062:A:H3' | 29:D1:1063:G:C5 | 1.91 | 1.06 |
| 29:D1:3055:U:H2' | 29:D1:3085:G:H1 | 1.19 | 1.06 |
| 20:AS:49:ASP:H | 20:AS:50:ILE:HA | 1.07 | 1.06 |
| 29:B1:72:C:H2' | 29:B1:73:C:H5' | 1.31 | 1.06 |
| 29:B1:1415:U:H2' | 29:B1:1416:C:H6 | 0.90 | 1.06 |
| 29:B1:2107:A:H2' | 29:B1:2108:C:H6 | 1.14 | 1.06 |
| 1:C1:402:C:H2' | 1:C1:403:G:H5' | 1.06 | 1.06 |
| 29:D1:3122:A:H2' | 29:D1:3123:A:H5" | 1.06 | 1.06 |
| 1:A1:686:C:H2' | 1:A1:687:G:H8 | 1.12 | 1.05 |
| 29:B1:14:U:H4' | 29:B1:15:C:OP2 | 1.55 | 1.05 |
| 29:B1:2390:A:H4' | 29:B1:3307:A:C2 | 1.90 | 1.05 |
| 29:D1:394:G:N2 | 29:D1:396:A:H2' | 1.68 | 1.05 |
| 29:B1:743:C:H2' | 29:B1:744:A:H5' | 1.05 | 1.05 |
| 29:B1:811:U:H2' | 29:B1:812:G:H8 | 1.22 | 1.05 |
| 29:B1:1056:U:H2' | 29:B1:1057:A:O4' | 1.56 | 1.05 |
| 29:B1:1196:C:H5 | 29:B1:1197:A:N6 | 1.54 | 1.05 |
| 29:B1:2111:G:N2 | 51:BV:49:ILE:HA | 1.71 | 1.05 |
| 1:C1:827:C:C2 | 1:C1:846:G:O6 | 2.08 | 1.05 |
| 29:D1:72:C:C2' | 29:D1:73:C:H5' | 1.86 | 1.05 |
| 29:D1:363:G:H2' | 29:D1:364:G:H5" | 1.38 | 1.05 |
| 29:D1:560:G:O2' | 29:D1:561:C:H5' | 1.54 | 1.05 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1626:U:H4' | 29:D1:1626:U:OP1 | 1.56 | 1.05 |
| 29:D1:2353:G:C6 | 29:D1:2354:C:H5 | 1.73 | 1.05 |
| 31:D3:19:C:H2' | 31:D3:20:U:H6 | 1.18 | 1.05 |
| 1:A1:173:A:C6 | 1:A1:174:U:C6 | 2.44 | 1.05 |
| 1:A1:250:C:OP2 | 1:A1:250:C:H3' | 1.56 | 1.05 |
| 1:A1:1281:G:H2' | 1:A1:1282:U:C6 | 1.92 | 1.05 |
| 29:B1:610:G:H3' | 29:B1:610:G:N3 | 1.70 | 1.05 |
| 29:B1:1495:U:H5" | 29:B1:1496:C:H5 | 1.20 | 1.05 |
| 29:D1:743:C:H2' | 29:D1:744:A:H5' | 1.05 | 1.05 |
| 31:D3:40:A:H2' | 31:D3:41:A:C8 | 1.90 | 1.05 |
| 62:Dg:36:ARG:HA | 62:Dg:37:TYR:CB | 1.86 | 1.05 |
| 1:A1:1141:G:C3' | 1:A1:1142:A:H5" | 1.85 | 1.05 |
| 29:B1:776:U:H5' | 29:B1:777:U:H5" | 1.34 | 1.05 |
| 29:B1:3144:G:H4' | 29:B1:3145:C:OP2 | 1.27 | 1.05 |
| 29:B1:3327:G:C4 | 29:B1:3328:G:N7 | 2.23 | 1.05 |
| 29:B1:3342:A:N6 | 29:B1:3363:U:C4 | 2.25 | 1.05 |
| 30:B2:74:C:H2' | 30:B2:75:G:H5' | 1.06 | 1.05 |
| 1:C1:173:A:C5 | 1:C1:174:U:C6 | 2.40 | 1.05 |
| 29:D1:340:C:H2' | 29:D1:341:G:C8 | 1.92 | 1.05 |
| 29:D1:383:G:H3' | 29:D1:384:A:H5" | 1.34 | 1.05 |
| 29:D1:725:G:H2' | 29:D1:726:G:H5" | 1.37 | 1.05 |
| 30:D2:74:C:C2' | 30:D2:75:G:H5' | 1.87 | 1.05 |
| 29:B1:537:A:N6 | 29:B1:556:U:N3 | 2.04 | 1.05 |
| 29:B1:811:U:H2' | 29:B1:812:G:C8 | 1.92 | 1.05 |
| 29:B1:1439:U:H2' | 29:B1:1440:G:H8 | 1.22 | 1.05 |
| 29:B1:2754:G:H3' | 29:B1:2755:C:C5' | 1.87 | 1.05 |
| 29:B1:3122:A:C2' | 29:B1:3123:A:H5" | 1.84 | 1.05 |
| 29:B1:3334:U:H5' | 29:B1:3371:G:N2 | 1.71 | 1.05 |
| 30:B2:11:A:H8 | 30:B2:13:A:O2' | 1.39 | 1.05 |
| 1:C1:1458:G:C5' | 1:C1:1459:C:H5 | 1.70 | 1.05 |
| 2:CA:186:GLY:HA2 | 2:CA:187:ALA:HB2 | 1.33 | 1.05 |
| 29:D1:937:G:H22 | 29:D1:960:U:H5' | 1.15 | 1.05 |
| 30:D2:25:G:C6 | 30:D2:26:C:N4 | 2.24 | 1.05 |
| 1:A1:113:U:H5" | 1:A1:114:C:H5' | 1.36 | 1.04 |
| 1:A1:1347:U:H5' | 15:AN:10:GLU:HA | 1.38 | 1.04 |
| 29:B1:716:A:H2' | 29:B1:717:C:H4' | 1.38 | 1.04 |
| 29:B1:776:U:C5' | 29:B1:777:U:H5" | 1.86 | 1.04 |
| 29:B1:2161:G:H5" | 29:B1:2162:U:OP2 | 1.55 | 1.04 |
| 29:B1:3101:G:C2' | 29:B1:3102:G:H5" | 1.86 | 1.04 |
| 1:C1:173:A:C2 | 1:C1:174:U:C1' | 2.39 | 1.04 |
| 1:C1:1240:U:C2' | 1:C1:1241:G:H5' | 1.87 | 1.04 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:716:A:H2' | 29:D1:717:C:C4' | 1.86 | 1.04 |
| 1:A1:1604:U:H3' | 1:A1:1605:G:H5" | 1.39 | 1.04 |
| 29:B1:1796:G:H5" | 29:B1:1797:A:OP1 | 1.55 | 1.04 |
| 29:B1:3195:U:H2' | 29:B1:3196:U:O2 | 1.58 | 1.04 |
| 29:B1:3261:C:H2' | 29:B1:3261:C:O2 | 1.48 | 1.04 |
| 30:B2:46:A:H3' | 30:B2:46:A:N3 | 1.70 | 1.04 |
| 1:C1:1273:G:H4' | 1:C1:1274:C:C5' | 1.88 | 1.04 |
| 1:C1:1420:C:C5 | 1:C1:1421:A:H8 | 1.74 | 1.04 |
| 20:CS:49:ASP:H | 20:CS:50:ILE:CA | 1.70 | 1.04 |
| 29:D1:642:U:H4' | 29:D1:1116:G:O6 | 1.57 | 1.04 |
| 29:D1:644:G:C4' | 29:D1:1153:A:H2 | 1.69 | 1.04 |
| 29:D1:776:U:C5' | 29:D1:777:U:H5" | 1.88 | 1.04 |
| 29:D1:1056:U:H2' | 29:D1:1057:A:O4' | 1.56 | 1.04 |
| 29:D1:3090:U:H5" | 29:D1:3090:U:C6 | 1.93 | 1.04 |
| 29:B1:81:C:O2' | 29:B1:82:C:H5' | 1.56 | 1.04 |
| 29:B1:515:C:C3' | 29:B1:516:A:H5" | 1.87 | 1.04 |
| 29:B1:575:G:H5' | 29:B1:575:G:C8 | 1.93 | 1.04 |
| 29:B1:2148:U:H4' | 29:B1:2149:A:OP1 | 1.51 | 1.04 |
| 29:B1:2523:A:H1' | 29:B1:2524:A:H5' | 1.08 | 1.04 |
| 1:C1:264:G:H3' | 1:C1:265:A:H5' | 1.40 | 1.04 |
| 29:D1:208:C:H2' | 29:D1:209:A:H5' | 1.34 | 1.04 |
| 29:D1:517:G:OP2 | 29:D1:517:G:H3' | 1.57 | 1.04 |
| 29:D1:811:U:H2' | 29:D1:812:G:C8 | 1.93 | 1.04 |
| 29:D1:1696:A:H2' | 29:D1:1697:A:C8 | 1.92 | 1.04 |
| 29:D1:2270:A:H5" | 29:D1:2270:A:C8 | 1.92 | 1.04 |
| 29:D1:2684:C:H2' | 29:D1:2685:C:H6 | 1.13 | 1.04 |
| 29:B1:773:G:O2' | 29:B1:774:G:H8 | 1.38 | 1.04 |
| 29:B1:1062:A:H3' | 29:B1:1063:G:C5 | 1.93 | 1.04 |
| 29:B1:2326:A:H5" | 29:B1:2327:U:OP2 | 1.57 | 1.04 |
| 1:C1:509:G:H2' | 1:C1:510:G:C8 | 1.92 | 1.04 |
| 1:C1:1196:A:H4' | 1:C1:1197:C:H5" | 1.39 | 1.04 |
| 29:D1:384:A:H3' | 29:D1:385:A:H8 | 1.19 | 1.04 |
| 29:D1:773:G:O2' | 29:D1:774:G:H8 | 1.39 | 1.04 |
| 29:D1:1435:A:H5' | 29:D1:1436:U:H5" | 1.37 | 1.04 |
| 29:D1:1495:U:C2 | 29:D1:1842:A:H2 | 1.73 | 1.04 |
| 29:D1:3047:U:O2' | 29:D1:3048:A:H5" | 1.55 | 1.04 |
| 29:D1:3327:G:C4 | 29:D1:3328:G:N7 | 2.25 | 1.04 |
| 44:DO:39:ALA:H | 44:DO:62:TYR:HA | 1.22 | 1.04 |
| 58:Dc:41:LEU:N | 58:Dc:42:PRO:HA | 1.69 | 1.04 |
| 29:B1:421:G:C8 | 29:B1:421:G:H3' | 1.92 | 1.04 |
| 29:B1:1879:A:H3' | 29:B1:1879:A:OP2 | 1.57 | 1.04 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 62:Bg:36:ARG:HA | 62:Bg:37:TYR:CB | 1.84 | 1.04 |
| 1:C1:700:C:H2' | 1:C1:701:U:C6 | 1.91 | 1.04 |
| 16:CO:54:ASP:HA | 16:CO:59:GLY:HA2 | 1.40 | 1.04 |
| 29:D1:575:G:H2' | 29:D1:576:C:C6 | 1.93 | 1.04 |
| 29:D1:715:A:H2 | 29:D1:784:A:H4' | 0.89 | 1.04 |
| 29:D1:1100:U:H2' | 29:D1:1101:G:H8 | 1.23 | 1.04 |
| 29:D1:2148:U:H4' | 29:D1:2149:A:OP1 | 1.53 | 1.04 |
| 29:D1:2328:U:C2' | 29:D1:2329:C:H5" | 1.88 | 1.04 |
| 29:D1:2992:U:H2' | 29:D1:2993:G:H5' | 1.08 | 1.04 |
| 34:DC:154:TYR:H | 34:DC:155:ALA:HB2 | 1.22 | 1.04 |
| 1:A1:989:U:H2' | 1:A1:990:C:C6 | 1.93 | 1.03 |
| 29:B1:937:G:H22 | 29:B1:960:U:H5' | 1.19 | 1.03 |
| 41:BJ:161:GLY:HA2 | 41:BJ:162:GLN:CB | 1.88 | 1.03 |
| 1:C1:364:G:N2 | 1:C1:381:C:N1 | 2.06 | 1.03 |
| 1:C1:1347:U:H5' | 15:CN:10:GLU:HA | 1.39 | 1.03 |
| 29:D1:588:G:H4' | 29:D1:589:A:N7 | 1.70 | 1.03 |
| 29:D1:592:A:H2' | 29:D1:593:C:H4' | 1.38 | 1.03 |
| 29:D1:3242:G:H1' | 29:D1:3246:G:H22 | 1.21 | 1.03 |
| 30:D2:63:A:C3' | 30:D2:64:A:H5" | 1.87 | 1.03 |
| 39:DH:194:THR:CB | 39:DH:195:SER:HA | 1.86 | 1.03 |
| 1:A1:887:A:H1' | 9:AH:122:PRO:CB | 1.87 | 1.03 |
| 29:B1:1079:A:H2' | 29:B1:1080:A:C8 | 1.92 | 1.03 |
| 29:B1:3151:U:P | 29:B1:3152:U:OP1 | 2.16 | 1.03 |
| 1:C1:1458:G:H5' | 1:C1:1459:C:H5 | 1.22 | 1.03 |
| 29:D1:1065:A:H3' | 29:D1:1065:A:N3 | 1.73 | 1.03 |
| 29:D1:2262:A:H3' | 29:D1:2263:C:H5" | 1.37 | 1.03 |
| 29:D1:2390:A:H4' | 29:D1:3307:A:C2 | 1.93 | 1.03 |
| 46:DQ:76:PHE:HA | 46:DQ:78:VAL:H | 1.16 | 1.03 |
| 1:A1:1376:C:H2' | 1:A1:1377:U:H5 | 1.21 | 1.03 |
| 8:AG:51:GLY:HA2 | 8:AG:53:LEU:N | 1.72 | 1.03 |
| 17:AP:109:ARG:H | 17:AP:110:LYS:HA | 1.19 | 1.03 |
| 29:B1:716:A:C3' | 29:B1:717:C:H4' | 1.88 | 1.03 |
| 29:B1:1192:C:H3' | 29:B1:1192:C:P | 1.98 | 1.03 |
| 1:C1:97:C:H1' | 1:C1:426:G:H5' | 1.40 | 1.03 |
| 1:C1:1255:G:H4' | 1:C1:1256:A:OP1 | 1.57 | 1.03 |
| 29:D1:515:C:C3' | 29:D1:516:A:H5" | 1.87 | 1.03 |
| 29:D1:3047:U:C2 | 29:D1:3048:A:C2 | 2.46 | 1.03 |
| 29:D1:3387:U:H2' | 29:D1:3388:C:C5 | 1.92 | 1.03 |
| 1:A1:1499:G:O6 | 1:A1:1508:U:O2 | 1.74 | 1.03 |
| 29:B1:65:A:H4' | 29:B1:66:A:O5' | 1.57 | 1.03 |
| 29:B1:596:C:H3' | 29:B1:597:G:H5" | 1.41 | 1.03 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:750:G:H2' | 29:B1:751:A:C8 | 1.94 | 1.03 |
| 29:B1:1212:A:C2' | 29:B1:1213:G:H5" | 1.88 | 1.03 |
| 29:B1:1399:A:H4' | 29:B1:1399:A:OP2 | 1.58 | 1.03 |
| 29:B1:3262:U:OP2 | 29:B1:3262:U:C6 | 2.11 | 1.03 |
| 1:C1:978:A:N6 | 1:C1:1024:U:N3 | 2.03 | 1.03 |
| 1:C1:1649:G:H2' | 1:C1:1650:U:C6 | 1.93 | 1.03 |
| 29:D1:524:U:H2' | 29:D1:525:C:H6 | 1.24 | 1.03 |
| 29:D1:716:A:C2' | 29:D1:717:C:H4' | 1.87 | 1.03 |
| 29:D1:3144:G:H4' | 29:D1:3145:C:OP2 | 1.22 | 1.03 |
| 29:D1:3392:U:N3 | 29:D1:3393:U:C4 | 2.25 | 1.03 |
| 30:D2:46:A:N3 | 30:D2:46:A:H3' | 1.73 | 1.03 |
| 1:A1:26:A:H2' | 1:A1:27:U:C6 | 1.94 | 1.03 |
| 1:A1:1204:A:H3' | 1:A1:1205:C:C5' | 1.89 | 1.03 |
| 29:B1:208:C:H2' | 29:B1:209:A:H5' | 1.41 | 1.03 |
| 29:B1:363:G:C2' | 29:B1:364:G:H5" | 1.88 | 1.03 |
| 29:B1:726:G:C6 | 29:B1:727:G:N1 | 2.27 | 1.03 |
| 29:B1:829:U:H4' | 29:B1:866:A:H2 | 1.20 | 1.03 |
| 29:B1:3201:C:OP1 | 29:B1:3201:C:H6 | 1.42 | 1.03 |
| 1:C1:1724:U:H2' | 1:C1:1725:U:C5 | 1.94 | 1.03 |
| 29:D1:1839:A:H5" | 29:D1:1840:U:OP1 | 1.57 | 1.03 |
| 29:D1:2636:A:H5" | 29:D1:2637:A:C5' | 1.89 | 1.03 |
| 29:D1:3140:G:H8 | 29:D1:3140:G:H5" | 1.17 | 1.03 |
| 1:A1:448:C:H2' | 1:A1:449:C:H6 | 1.05 | 1.02 |
| 1:C1:249:U:H3' | 1:C1:250:C:H5' | 1.40 | 1.02 |
| 1:C1:1480:G:H8 | 1:C1:1480:G:H5' | 1.19 | 1.02 |
| 29:D1:284:A:H2 | 29:D1:306:A:H1' | 1.00 | 1.02 |
| 29:D1:511:G:N2 | 29:D1:580:C:C4 | 2.27 | 1.02 |
| 29:D1:584:G:H2' | 29:D1:585:A:H8 | 1.22 | 1.02 |
| 29:D1:591:G:N2 | 29:D1:592:A:H1' | 1.73 | 1.02 |
| 29:D1:716:A:H2' | 29:D1:717:C:H4' | 1.41 | 1.02 |
| 29:D1:829:U:H4' | 29:D1:866:A:H2 | 1.21 | 1.02 |
| 29:D1:943:U:H3' | 54:DY:10:LYS:HA | 1.37 | 1.02 |
| 29:D1:3218:A:O2' | 29:D1:3219:G:H3' | 1.58 | 1.02 |
| 1:A1:25:C:N4 | 1:A1:367:A:H1' | 1.73 | 1.02 |
| 1:A1:335:U:H3' | 1:A1:336:G:C8 | 1.94 | 1.02 |
| 1:A1:520:A:H2' | 1:A1:521:A:H8 | 1.23 | 1.02 |
| 1:A1:1542:G:H22 | 1:A1:1568:C:H2' | 1.23 | 1.02 |
| 29:B1:1062:A:H3' | 29:B1:1063:G:N7 | 1.73 | 1.02 |
| 29:B1:2385:G:H4' | 29:B1:2386:A:OP1 | 1.57 | 1.02 |
| 29:B1:3202:G:H3' | 29:B1:3202:G:OP2 | 1.58 | 1.02 |
| 29:B1:3307:A:H8 | 29:B1:3307:A:O5' | 1.40 | 1.02 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 44:BO:39:ALA:H | 44:BO:62:TYR:HA | 1.19 | 1.02 |
| 1:C1:172:C:O2' | 1:C1:173:A:H5" | 1.56 | 1.02 |
| 1:C1:520:A:H2' | 1:C1:521:A:H8 | 1.20 | 1.02 |
| 29:D1:659:G:H2' | 29:D1:660:A:C8 | 1.95 | 1.02 |
| 29:D1:716:A:C3' | 29:D1:717:C:H4' | 1.88 | 1.02 |
| 29:D1:3090:U:H5" | 29:D1:3090:U:H6 | 1.21 | 1.02 |
| 1:A1:142:G:N2 | 1:A1:173:A:N1 | 2.07 | 1.02 |
| 1:A1:1097:U:O2' | 1:A1:1098:U:H5' | 1.55 | 1.02 |
| 1:A1:1752:U:H2' | 1:A1:1753:A:C8 | 1.93 | 1.02 |
| 29:B1:431:U:H2' | 29:B1:432:G:C8 | 1.93 | 1.02 |
| 29:B1:1653:G:H2' | 29:B1:1654:A:H5' | 1.41 | 1.02 |
| 30:B2:12:U:C3' | 30:B2:13:A:H2 | 1.72 | 1.02 |
| 30:B2:64:A:N1 | 30:B2:111:U:O4 | 1.93 | 1.02 |
| 1:C1:402:C:C2' | 1:C1:403:G:H5' | 1.90 | 1.02 |
| 1:C1:1073:G:O6 | 1:C1:1074:G:C6 | 2.12 | 1.02 |
| 29:D1:14:U:H4' | 29:D1:15:C:OP2 | 1.54 | 1.02 |
| 29:D1:106:A:H2' | 29:D1:107:A:C8 | 1.94 | 1.02 |
| 29:D1:523:A:H2' | 29:D1:524:U:H5' | 1.41 | 1.02 |
| 29:D1:596:C:H3' | 29:D1:596:C:O2 | 1.59 | 1.02 |
| 29:D1:1186:G:H2' | 29:D1:1187:C:C5' | 1.88 | 1.02 |
| 29:D1:2213:A:H2' | 29:D1:2214:A:C8 | 1.95 | 1.02 |
| 47:DR:117:ALA:HB3 | 47:DR:118:GLY:HA2 | 1.41 | 1.02 |
| 1:A1:1240:U:C2' | 1:A1:1241:G:H5' | 1.90 | 1.02 |
| 29:B1:384:A:H8 | 29:B1:384:A:O5' | 1.42 | 1.02 |
| 29:B1:2554:A:N1 | 33:BB:86:GLN:HA | 1.75 | 1.02 |
| 29:B1:2797:C:H3' | 29:B1:2798:C:H5' | 1.41 | 1.02 |
| 29:B1:3342:A:N6 | 29:B1:3363:U:N3 | 1.94 | 1.02 |
| 29:D1:3172:A:H1' | 29:D1:3173:G:C8 | 1.95 | 1.02 |
| 29:D1:3377:G:O2' | 29:D1:3378:C:OP1 | 1.77 | 1.02 |
| 42:DK:50:ALA:HB3 | 42:DK:63:GLU:H | 1.24 | 1.02 |
| 1:A1:1542:G:N2 | 1:A1:1568:C:H2' | 1.74 | 1.02 |
| 29:B1:421:G:N2 | 29:B1:2365:C:H1' | 1.74 | 1.02 |
| 29:B1:1065:A:H3' | 29:B1:1065:A:N3 | 1.73 | 1.02 |
| 29:B1:3342:A:N6 | 29:B1:3363:U:O4 | 1.91 | 1.02 |
| 30:B2:25:G:C6 | 30:B2:26:C:N4 | 2.27 | 1.02 |
| 30:B2:35:C:N4 | 30:B2:47:C:H1' | 1.74 | 1.02 |
| 1:C1:1542:G:N2 | 1:C1:1568:C:H2' | 1.74 | 1.02 |
| 29:D1:106:A:H2' | 29:D1:107:A:H8 | 1.24 | 1.02 |
| 29:D1:1482:A:H4' | 29:D1:1483:G:OP2 | 1.57 | 1.02 |
| 29:D1:3101:G:H2' | 29:D1:3102:G:H5" | 1.39 | 1.02 |
| 29:B1:511:G:N2 | 29:B1:579:G:C2 | 2.28 | 1.01 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1100:U:H2' | 29:B1:1101:G:H8 | 1.24 | 1.01 |
| 29:B1:2656:A:H4' | 29:B1:2657:A:OP1 | 1.56 | 1.01 |
| 29:B1:3121:U:O2 | 29:B1:3122:A:C8 | 2.13 | 1.01 |
| 1:C1:1378:U:O5' | 1:C1:1379:C:H5" | 1.59 | 1.01 |
| 5:CD:153:GLY:HA3 | 5:CD:154:ALA:HB3 | 1.42 | 1.01 |
| 17:CP:109:ARG:N | 17:CP:110:LYS:HA | 1.75 | 1.01 |
| 24:Cc:31:UNK:O | 24:Cc:35:UNK:CB | 2.08 | 1.01 |
| 29:D1:43:A:N6 | 29:D1:2802:A:H2 | 1.57 | 1.01 |
| 29:D1:516:A:C3' | 29:D1:517:G:C8 | 2.43 | 1.01 |
| 29:D1:784:A:H2' | 29:D1:785:G:C8 | 1.96 | 1.01 |
| 30:D2:74:C:H2' | 30:D2:75:G:H5' | 1.04 | 1.01 |
| 1:A1:1365:C:H2' | 1:A1:1366:U:O4' | 1.60 | 1.01 |
| 29:B1:43:A:N6 | 29:B1:2802:A:H2 | 1.57 | 1.01 |
| 29:B1:106:A:H2' | 29:B1:107:A:H8 | 1.23 | 1.01 |
| 29:B1:2673:A:N6 | 29:B1:2681:U:C4 | 2.28 | 1.01 |
| 29:B1:3099:C:O2' | 29:B1:3100:U:O5' | 1.77 | 1.01 |
| 1:C1:61:A:O5' | 1:C1:62:A:H5' | 1.61 | 1.01 |
| 1:C1:686:C:H2' | 1:C1:687:G:H8 | 1.08 | 1.01 |
| 29:D1:3342:A:N6 | 29:D1:3363:U:N3 | 1.98 | 1.01 |
| 36:DE:272:TYR:H | 36:DE:273:ARG:HA | 1.22 | 1.01 |
| 40:DI:63:LYS:HA | 40:DI:66:ALA:HB3 | 1.42 | 1.01 |
| 1:A1:129:U:C5 | 1:A1:264:G:C6 | 2.49 | 1.01 |
| 1:A1:199:G:HO2' | 1:A1:200:A:H8 | 1.05 | 1.01 |
| 1:A1:1099:U:OP1 | 1:A1:1099:U:H4' | 1.58 | 1.01 |
| 29:B1:325:A:H3' | 29:B1:327:A:P | 2.01 | 1.01 |
| 29:B1:963:G:H8 | 29:B1:963:G:H5' | 1.25 | 1.01 |
| 29:B1:993:G:H21 | 29:B1:2637:A:H3' | 1.20 | 1.01 |
| 29:B1:1503:A:C3' | 29:B1:1504:A:H5" | 1.89 | 1.01 |
| 29:B1:1628:C:O2' | 29:B1:1630:U:H5' | 1.60 | 1.01 |
| 29:B1:2684:C:H2' | 29:B1:2685:C:C6 | 1.95 | 1.01 |
| 1:C1:402:C:O2 | 1:C1:403:G:H4' | 1.59 | 1.01 |
| 1:C1:1141:G:C3' | 1:C1:1142:A:H5" | 1.85 | 1.01 |
| 1:C1:1525:A:H2' | 1:C1:1526:A:C8 | 1.96 | 1.01 |
| 18:CQ:57:TYR:CB | 18:CQ:58:ARG:HA | 1.90 | 1.01 |
| 29:D1:726:G:C6 | 29:D1:727:G:N1 | 2.29 | 1.01 |
| 29:D1:1415:U:H2' | 29:D1:1416:C:C6 | 1.94 | 1.01 |
| 29:D1:1481:A:O2' | 29:D1:1858:A:H2' | 1.60 | 1.01 |
| 29:D1:3262:U:OP2 | 29:D1:3262:U:C6 | 2.13 | 1.01 |
| 30:D2:13:A:H5' | 30:D2:112:G:H1' | 1.37 | 1.01 |
| 1:A1:364:G:N2 | 1:A1:381:C:N1 | 2.07 | 1.01 |
| 1:A1:1255:G:H4' | 1:A1:1256:A:OP1 | 1.56 | 1.01 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1377:U:H2' | 1:A1:1378:U:H4' | 1.41 | 1.01 |
| 29:B1:124:U:H2' | 29:B1:125:C:O4' | 1.61 | 1.01 |
| 29:B1:264:G:C6 | 29:B1:265:A:C6 | 2.49 | 1.01 |
| 29:B1:1218:U:H2' | 29:B1:1219:C:H5' | 1.40 | 1.01 |
| 29:B1:1378:U:H2' | 29:B1:1379:G:C8 | 1.95 | 1.01 |
| 29:B1:1405:U:H5' | 57:Bb:58:GLY:HA2 | 1.39 | 1.01 |
| 29:B1:2777:G:H2' | 29:B1:2777:G:N3 | 1.71 | 1.01 |
| 29:B1:3055:U:H2' | 29:B1:3085:G:H1 | 1.25 | 1.01 |
| 30:B2:9:C:H2' | 30:B2:13:A:H62 | 1.21 | 1.01 |
| 34:BC:51:ALA:HB3 | 34:BC:78:VAL:O | 1.60 | 1.01 |
| 1:C1:1110:G:H8 | 1:C1:1110:G:H5' | 1.25 | 1.01 |
| 1:C1:1362:U:H3' | 1:C1:1363:U:O4' | 1.58 | 1.01 |
| 29:D1:1879:A:O2' | 29:D1:1880:U:H4' | 1.59 | 1.01 |
| 29:D1:3274:A:C8 | 29:D1:3275:U:H2' | 1.95 | 1.01 |
| 46:DQ:112:LEU:HA | 46:DQ:151:THR:O | 1.58 | 1.01 |
| 1:A1:1110:G:H8 | 1:A1:1110:G:H5' | 1.22 | 1.01 |
| 1:A1:1281:G:H2' | 1:A1:1282:U:H6 | 1.19 | 1.01 |
| 7:AF:122:ILE:H | 7:AF:144:ALA:HB3 | 1.24 | 1.01 |
| 29:B1:209:A:O2' | 29:B1:210:U:C2 | 2.13 | 1.01 |
| 29:B1:955:U:H2' | 29:B1:956:U:C6 | 1.96 | 1.01 |
| 29:B1:1503:A:H3' | 29:B1:1504:A:H5" | 1.01 | 1.01 |
| 29:B1:3242:G:H1' | 29:B1:3246:G:H22 | 1.22 | 1.01 |
| 1:C1:322:G:H4' | 1:C1:323:A:OP1 | 1.57 | 1.01 |
| 1:C1:1197:C:OP1 | 1:C1:1197:C:H4' | 1.59 | 1.01 |
| 1:C1:1604:U:H3' | 1:C1:1605:G:H5" | 1.42 | 1.01 |
| 1:C1:1752:U:H2' | 1:C1:1753:A:H8 | 1.26 | 1.01 |
| 29:D1:776:U:H5' | 29:D1:777:U:H5" | 1.37 | 1.01 |
| 29:D1:1647:A:H2' | 29:D1:1648:A:H5' | 1.42 | 1.01 |
| 29:D1:2817:A:H4' | 29:D1:2818:U:OP2 | 1.58 | 1.01 |
| 1:A1:127:G:C6 | 1:A1:179:A:C5 | 2.44 | 1.00 |
| 1:A1:609:U:H5" | 1:A1:610:G:C5 | 1.95 | 1.00 |
| 1:A1:1200:G:H4' | 1:A1:1201:G:OP2 | 1.62 | 1.00 |
| 1:A1:1362:U:H3' | 1:A1:1363:U:O4' | 1.61 | 1.00 |
| 20:AS:49:ASP:N | 20:AS:50:ILE:HA | 1.70 | 1.00 |
| 29:B1:284:A:H2 | 29:B1:306:A:C1' | 1.72 | 1.00 |
| 29:B1:743:C:C2' | 29:B1:744:A:H5' | 1.91 | 1.00 |
| 29:B1:761:A:N1 | 29:B1:770:G:N2 | 2.07 | 1.00 |
| 29:B1:1191:U:O2 | 29:B1:1191:U:H2' | 1.61 | 1.00 |
| 29:B1:2353:G:C5 | 29:B1:2354:C:H5 | 1.78 | 1.00 |
| 29:B1:3028:G:N2 | 29:B1:3029:A:N3 | 2.09 | 1.00 |
| 37:BF:41:ILE:H | 37:BF:85:ILE:HA | 0.87 | 1.00 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 39:BH:194:THR:CB | 39:BH:195:SER:HA | 1.89 | 1.00 |
| 1:C1:151:G:H1 | 1:C1:163:G:H22 | 1.05 | 1.00 |
| 1:C1:1365:C:H2' | 1:C1:1366:U:O4' | 1.61 | 1.00 |
| 29:D1:124:U:H2' | 29:D1:125:C:O4' | 1.61 | 1.00 |
| 29:D1:592:A:H2' | 29:D1:593:C:C4' | 1.90 | 1.00 |
| 29:D1:722:G:N2 | 29:D1:748:U:O2 | 1.93 | 1.00 |
| 29:D1:1212:A:C2' | 29:D1:1213:G:H5" | 1.90 | 1.00 |
| 29:D1:1947:G:H5" | 29:D1:1948:G:OP2 | 1.60 | 1.00 |
| 29:D1:2131:A:H2' | 29:D1:2132:C:H5" | 1.40 | 1.00 |
| 29:D1:2779:A:H5' | 29:D1:2779:A:C8 | 1.96 | 1.00 |
| 31:D3:76:C:H4' | 31:D3:77:A:OP1 | 1.56 | 1.00 |
| 1:A1:1420:C:H5 | 1:A1:1421:A:H8 | 1.05 | 1.00 |
| 1:A1:1764:C:OP1 | 1:A1:1771:U:H4' | 1.60 | 1.00 |
| 29:B1:257:U:H2' | 29:B1:258:G:C8 | 1.95 | 1.00 |
| 29:B1:2393:G:C6 | 29:B1:2982:A:C2 | 2.48 | 1.00 |
| 29:B1:3122:A:H2' | 29:B1:3123:A:H5" | 1.01 | 1.00 |
| 29:B1:3171:U:H1' | 29:B1:3172:A:OP2 | 1.61 | 1.00 |
| 29:B1:3172:A:H1' | 29:B1:3173:G:C8 | 1.95 | 1.00 |
| 56:Ba:9:THR:HA | 56:Ba:76:SER:HA | 1.40 | 1.00 |
| 29:D1:422:A:H1' | 29:D1:423:A:H5" | 1.38 | 1.00 |
| 29:D1:880:G:C8 | 29:D1:882:A:C8 | 2.50 | 1.00 |
| 30:D2:11:A:H8 | 30:D2:13:A:O2' | 1.43 | 1.00 |
| 1:A1:243:G:N1 | 1:A1:250:C:N3 | 2.08 | 1.00 |
| 1:A1:1753:A:H3' | 1:A1:1754:A:H5" | 1.39 | 1.00 |
| 29:B1:106:A:H2' | 29:B1:107:A:C8 | 1.96 | 1.00 |
| 29:B1:775:A:O3' | 29:B1:776:U:H4' | 1.60 | 1.00 |
| 29:B1:2817:A:H4' | 29:B1:2818:U:OP2 | 1.57 | 1.00 |
| 29:B1:3367:C:O2' | 29:B1:3368:U:H5" | 1.60 | 1.00 |
| 31:B3:65:A:H2' | 31:B3:66:A:H8 | 1.23 | 1.00 |
| 31:B3:69:U:C3' | 31:B3:70:G:H4' | 1.91 | 1.00 |
| 1:C1:264:G:H3' | 1:C1:265:A:C5' | 1.91 | 1.00 |
| 1:C1:827:C:C4 | 1:C1:846:G:O6 | 2.13 | 1.00 |
| 29:D1:610:G:H3' | 29:D1:610:G:N3 | 1.76 | 1.00 |
| 29:D1:1495:U:H5" | 29:D1:1496:C:H5 | 1.22 | 1.00 |
| 29:D1:3144:G:C4' | 29:D1:3145:C:OP2 | 2.09 | 1.00 |
| 1:A1:1560:U:O2 | 1:A1:1560:U:H2' | 1.60 | 1.00 |
| 29:B1:405:U:H5 | 29:B1:406:G:C5 | 1.78 | 1.00 |
| 29:B1:642:U:H4' | 29:B1:1116:G:O6 | 1.62 | 1.00 |
| 29:B1:2987:A:H2' | 29:B1:2988:C:C6 | 1.95 | 1.00 |
| 30:B2:74:C:C2' | 30:B2:75:G:H5' | 1.91 | 1.00 |
| 1:C1:127:G:C6 | 1:C1:179:A:C5 | 2.42 | 1.00 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3303:G:H4' | 29:D1:3304:U:OP1 | 1.61 | 1.00 |
| 29:D1:3342:A:N6 | 29:D1:3363:U:O4 | 1.94 | 1.00 |
| 1:A1:1634:C:H4' | 1:A1:1635:A:O5' | 1.57 | 1.00 |
| 29:B1:2728:G:H2' | 29:B1:2728:G:N3 | 1.77 | 1.00 |
| 29:B1:3060:C:H1' | 29:B1:3331:U:H1' | 1.43 | 1.00 |
| 1:C1:25:C:N4 | 1:C1:367:A:H1' | 1.75 | 1.00 |
| 29:D1:1667:A:H2' | 29:D1:1668:G:C8 | 1.95 | 1.00 |
| 29:D1:1697:A:H2' | 29:D1:1698:C:H5' | 1.43 | 1.00 |
| 1:A1:1724:U:H2' | 1:A1:1725:U:H5 | 1.26 | 1.00 |
| 29:B1:829:U:N3 | 29:B1:895:A:N6 | 2.10 | 1.00 |
| 29:B1:3303:G:H1' | 29:B1:3304:U:C5' | 1.92 | 1.00 |
| 29:D1:775:A:O3' | 29:D1:776:U:H4' | 1.62 | 1.00 |
| 29:D1:3201:C:H6 | 29:D1:3201:C:P | 1.85 | 1.00 |
| 29:D1:3342:A:N6 | 29:D1:3363:U:C4 | 2.30 | 1.00 |
| 1:A1:125:U:O2' | 1:A1:126:A:H5' | 1.62 | 1.00 |
| 29:B1:1626:U:H4' | 29:B1:1626:U:OP1 | 1.59 | 1.00 |
| 29:B1:1696:A:H2' | 29:B1:1697:A:C8 | 1.97 | 1.00 |
| 1:C1:1377:U:H2' | 1:C1:1378:U:H4' | 1.37 | 1.00 |
| 29:D1:591:G:N2 | 29:D1:592:A:C1' | 2.25 | 1.00 |
| 29:D1:1079:A:H2' | 29:D1:1080:A:C8 | 1.95 | 1.00 |
| 29:D1:1779:C:H4' | 29:D1:1780:G:C5' | 1.91 | 1.00 |
| 29:D1:2689:A:N3 | 29:D1:2702:A:C2 | 2.30 | 1.00 |
| 1:A1:1197:C:OP1 | 1:A1:1197:C:H4' | 1.59 | 0.99 |
| 29:B1:1280:C:H2' | 29:B1:1281:G:C8 | 1.97 | 0.99 |
| 31:B3:76:C:H4' | 31:B3:77:A:OP1 | 1.61 | 0.99 |
| 1:C1:170:U:P | 1:C1:267:U:O2' | 2.20 | 0.99 |
| 1:C1:243:G:C6 | 1:C1:251:A:C6 | 2.50 | 0.99 |
| 1:C1:1219:A:H5' | 1:C1:1220:C:H5 | 1.22 | 0.99 |
| 1:C1:1378:U:H5' | 1:C1:1379:C:C6 | 1.95 | 0.99 |
| 29:D1:592:A:C3' | 29:D1:593:C:H4' | 1.92 | 0.99 |
| 29:D1:1796:G:H5" | 29:D1:1797:A:OP1 | 1.61 | 0.99 |
| 29:D1:2703:A:H5" | 29:D1:2704:A:H5' | 1.44 | 0.99 |
| 29:D1:3328:G:N2 | 29:D1:3329:U:C6 | 2.29 | 0.99 |
| 16:AO:54:ASP:HA | 16:AO:59:GLY:HA2 | 1.44 | 0.99 |
| 29:B1:609:G:O2' | 29:B1:610:G:H5" | 1.60 | 0.99 |
| 29:B1:834:U:H6 | 29:B1:834:U:H5" | 1.26 | 0.99 |
| 29:B1:1647:A:H2' | 29:B1:1648:A:H5' | 1.43 | 0.99 |
| 1:C1:1376:C:H2' | 1:C1:1377:U:H5 | 1.27 | 0.99 |
| 29:D1:549:U:H2' | 29:D1:550:A:C8 | 1.96 | 0.99 |
| 29:D1:2727:A:H4' | 29:D1:2728:G:OP1 | 1.62 | 0.99 |
| 56:Da:85:ALA:HB3 | 56:Da:86:LYS:HA | 1.44 | 0.99 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:509:G:H2' | 1:A1:510:G:C8 | 1.96 | 0.99 |
| 29:B1:866:A:C8 | 29:B1:867:G:C8 | 2.50 | 0.99 |
| 29:B1:2948:C:H2' | 29:B1:2949:U:H6 | 1.24 | 0.99 |
| 29:B1:3048:A:H62 | 29:B1:3090:U:H3' | 1.25 | 0.99 |
| 29:B1:3233:C:H2' | 29:B1:3234:A:C8 | 1.97 | 0.99 |
| 29:B1:3377:G:O2' | 29:B1:3378:C:OP1 | 1.79 | 0.99 |
| 30:B2:12:U:C3' | 30:B2:13:A:C2 | 2.43 | 0.99 |
| 29:D1:81:C:O2' | 29:D1:82:C:H5' | 1.60 | 0.99 |
| 29:D1:3122:A:C2' | 29:D1:3123:A:H5" | 1.91 | 0.99 |
| 1:A1:825:U:H5 | 1:A1:847:A:C6 | 1.80 | 0.99 |
| 1:A1:897:C:N3 | 1:A1:914:G:N2 | 2.11 | 0.99 |
| 28:Ah:21:UNK:HA | 28:Ah:25:UNK:HA | 1.41 | 0.99 |
| 29:B1:423:A:H2' | 29:B1:424:G:C8 | 1.97 | 0.99 |
| 36:BE:272:TYR:H | 36:BE:273:ARG:HA | 1.22 | 0.99 |
| 1:C1:250:C:H2' | 1:C1:251:A:H8 | 1.27 | 0.99 |
| 29:D1:1688:U:H2' | 29:D1:1689:U:C5 | 1.97 | 0.99 |
| 29:D1:2326:A:H5" | 29:D1:2327:U:OP2 | 1.62 | 0.99 |
| 29:B1:549:U:H2' | 29:B1:550:A:C8 | 1.97 | 0.99 |
| 29:B1:594:U:O2 | 29:B1:594:U:H2' | 1.58 | 0.99 |
| 29:B1:2213:A:H2' | 29:B1:2214:A:H8 | 1.16 | 0.99 |
| 29:B1:3215:A:O5' | 29:B1:3218:A:O4' | 1.80 | 0.99 |
| 29:B1:3273:A:C6 | 29:B1:3274:A:N7 | 2.30 | 0.99 |
| 1:C1:1146:G:C8 | 1:C1:1635:A:H2 | 1.80 | 0.99 |
| 29:D1:421:G:H3' | 29:D1:421:G:H8 | 1.20 | 0.99 |
| 29:D1:591:G:H21 | 29:D1:592:A:H1' | 1.27 | 0.99 |
| 29:D1:754:G:H22 | 29:D1:778:U:H3 | 1.05 | 0.99 |
| 29:D1:2328:U:H2' | 29:D1:2329:C:H5" | 1.39 | 0.99 |
| 29:D1:2754:G:H3' | 29:D1:2755:C:C5' | 1.92 | 0.99 |
| 36:DE:97:ALA:HA | 36:DE:100:ALA:HB3 | 1.40 | 0.99 |
| 50:DU:80:ARG:O | 50:DU:98:ASN:HA | 1.60 | 0.99 |
| 29:B1:504:A:H3' | 29:B1:504:A:H8 | 1.23 | 0.99 |
| 29:B1:3303:G:H4' | 29:B1:3304:U:OP1 | 1.56 | 0.99 |
| 29:D1:208:C:H2' | 29:D1:209:A:C5' | 1.93 | 0.99 |
| 29:D1:2255:A:O5' | 74:D1:3415:OHX:N1 | 1.96 | 0.99 |
| 29:D1:2728:G:H2' | 29:D1:2728:G:N3 | 1.76 | 0.99 |
| 47:DR:154:GLY:H | 47:DR:155:MET:HA | 1.27 | 0.99 |
| 29:B1:880:G:C8 | 29:B1:882:A:C8 | 2.51 | 0.99 |
| 29:B1:1439:U:H2' | 29:B1:1440:G:C8 | 1.98 | 0.99 |
| 1:C1:825:U:H5 | 1:C1:847:A:C6 | 1.80 | 0.99 |
| 1:C1:921:U:O2' | 1:C1:922:G:H5' | 1.63 | 0.99 |
| 1:C1:1467:C:O2' | 1:C1:1468:U:H5' | 1.63 | 0.99 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2252:A:H2' | 29:D1:2253:G:H8 | 1.27 | 0.99 |
| 29:D1:2255:A:O5' | 74:D1:3415:OHX:N2 | 1.96 | 0.99 |
| 30:D2:7:G:H1 | 30:D2:114:U:H3 | 1.10 | 0.99 |
| 29:B1:208:C:H2' | 29:B1:209:A:C5' | 1.93 | 0.99 |
| 29:B1:504:A:H2 | 29:B1:587:U:C2 | 1.79 | 0.99 |
| 29:B1:715:A:H2 | 29:B1:784:A:H4' | 0.82 | 0.99 |
| 29:B1:2255:A:C4 | 74:B1:3438:OHX:N5 | 2.30 | 0.99 |
| 29:B1:3242:G:N2 | 29:B1:3245:A:N7 | 2.08 | 0.99 |
| 17:CP:109:ARG:H | 17:CP:110:LYS:HA | 1.27 | 0.99 |
| 29:D1:384:A:O5' | 29:D1:384:A:H8 | 1.43 | 0.99 |
| 1:A1:97:C:H1' | 1:A1:426:G:H5' | 1.42 | 0.99 |
| 18:AQ:57:TYR:CB | 18:AQ:58:ARG:HA | 1.92 | 0.99 |
| 29:B1:2698:G:H2' | 29:B1:2699:G:H5" | 1.40 | 0.99 |
| 29:B1:2779:A:H5' | 29:B1:2779:A:C8 | 1.98 | 0.99 |
| 1:C1:10:G:OP1 | 1:C1:1633:A:C5' | 2.10 | 0.99 |
| 1:C1:96:G:H1 | 1:C1:387:A:N6 | 1.61 | 0.99 |
| 1:C1:1348:A:H5" | 15:CN:12:GLN:H | 0.83 | 0.99 |
| 29:D1:517:G:OP2 | 29:D1:517:G:H8 | 1.44 | 0.99 |
| 29:D1:951:A:H2' | 29:D1:952:A:H5" | 1.00 | 0.99 |
| 29:D1:1331:U:H4' | 29:D1:1332:A:OP2 | 1.62 | 0.99 |
| 1:A1:1022:C:H4' | 1:A1:1124:A:H61 | 1.28 | 0.99 |
| 1:A1:1273:G:H4' | 1:A1:1274:C:H5' | 1.02 | 0.99 |
| 29:B1:592:A:H2' | 29:B1:593:C:O4' | 1.62 | 0.99 |
| 29:B1:781:G:C2' | 29:B1:782:U:H5' | 1.93 | 0.99 |
| 29:B1:3392:U:C4 | 29:B1:3393:U:O4 | 2.16 | 0.99 |
| 34:BC:154:TYR:H | 34:BC:155:ALA:HB2 | 1.27 | 0.99 |
| 29:D1:417:A:H2' | 29:D1:418:A:C8 | 1.98 | 0.99 |
| 29:B1:384:A:H3' | 29:B1:385:A:H8 | 1.24 | 0.98 |
| 29:B1:406:G:H1' | 31:B3:16:G:H22 | 1.23 | 0.98 |
| 29:B1:516:A:C3' | 29:B1:517:G:C8 | 2.45 | 0.98 |
| 1:C1:1099:U:H4' | 1:C1:1099:U:OP1 | 1.59 | 0.98 |
| 29:D1:154:U:H4' | 29:D1:155:G:OP2 | 1.59 | 0.98 |
| 29:D1:781:G:C2' | 29:D1:782:U:H5' | 1.92 | 0.98 |
| 31:D3:16:G:O6 | 74:D3:212:OHX:N5 | 1.96 | 0.98 |
| 36:DE:111:GLN:H | 36:DE:114:GLY:C | 1.70 | 0.98 |
| 29:B1:409:A:H61 | 31:B3:15:G:H1' | 1.24 | 0.98 |
| 29:B1:1715:A:H3' | 29:B1:1716:U:H5" | 1.46 | 0.98 |
| 29:B1:1779:C:H4' | 29:B1:1780:G:C5' | 1.93 | 0.98 |
| 1:C1:402:C:H2' | 1:C1:403:G:C5' | 1.93 | 0.98 |
| 29:D1:432:G:H2' | 29:D1:433:A:C8 | 1.96 | 0.98 |
| 29:D1:3321:C:C2 | 29:D1:3322:A:C8 | 2.50 | 0.98 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1628:U:H2' | 1:A1:1629:G:H8 | 1.28 | 0.98 |
| 29:B1:3391:A:C2 | 29:B1:3392:U:C6 | 2.52 | 0.98 |
| 36:BE:111:GLN:H | 36:BE:114:GLY:C | 1.70 | 0.98 |
| 38:BG:73:GLY:HA2 | 38:BG:74:SER:O | 1.62 | 0.98 |
| 1:C1:989:U:H2' | 1:C1:990:C:C6 | 1.98 | 0.98 |
| 29:D1:282:G:N2 | 29:D1:286:U:H4' | 1.78 | 0.98 |
| 29:D1:576:C:C2' | 29:D1:577:C:H5" | 1.94 | 0.98 |
| 37:DF:41:ILE:H | 37:DF:85:ILE:HA | 0.81 | 0.98 |
| 1:A1:1348:A:H5" | 15:AN:12:GLN:N | 1.77 | 0.98 |
| 1:A1:1378:U:O5' | 1:A1:1379:C:H5" | 1.63 | 0.98 |
| 1:A1:1724:U:H2' | 1:A1:1725:U:C5 | 1.98 | 0.98 |
| 21:AT:213:SER:O | 21:AT:220:ILE:HA | 1.63 | 0.98 |
| 1:C1:524:U:H2' | 1:C1:527:A:H2 | 1.29 | 0.98 |
| 29:D1:1189:C:H4' | 29:D1:1192:C:H5 | 1.25 | 0.98 |
| 29:D1:1607:U:H1' | 29:D1:1608:C:OP1 | 1.64 | 0.98 |
| 29:D1:2673:A:N6 | 29:D1:2681:U:C4 | 2.28 | 0.98 |
| 29:D1:3022:G:O2' | 29:D1:3023:U:OP2 | 1.78 | 0.98 |
| 29:B1:822:G:H2' | 29:B1:823:C:H6 | 1.27 | 0.98 |
| 29:B1:1504:A:H2' | 29:B1:1505:C:H6 | 1.27 | 0.98 |
| 29:B1:3389:U:H4' | 29:B1:3390:G:H5" | 1.41 | 0.98 |
| 29:B1:725:G:H2' | 29:B1:726:G:H5" | 1.45 | 0.98 |
| 29:B1:1688:U:H2' | 29:B1:1689:U:C5 | 1.97 | 0.98 |
| 29:B1:3201:C:H6 | 29:B1:3201:C:P | 1.85 | 0.98 |
| 30:B2:63:A:C3' | 30:B2:64:A:H5" | 1.93 | 0.98 |
| 30:B2:92:A:H2' | 30:B2:93:C:O4' | 1.64 | 0.98 |
| 29:D1:210:U:OP2 | 29:D1:210:U:C6 | 2.17 | 0.98 |
| 29:D1:284:A:H2 | 29:D1:306:A:C1' | 1.75 | 0.98 |
| 29:D1:1678:G:H2' | 29:D1:1679:A:H8 | 1.29 | 0.98 |
| 29:D1:2739:A:H5" | 29:D1:2740:A:OP2 | 1.62 | 0.98 |
| 30:D2:9:C:H2' | 30:D2:13:A:H62 | 1.25 | 0.98 |
| 1:A1:25:C:C4 | 1:A1:367:A:H1' | 1.97 | 0.98 |
| 1:A1:40:A:H2' | 1:A1:41:A:H8 | 1.29 | 0.98 |
| 29:B1:551:A:H2' | 29:B1:552:G:O4' | 1.64 | 0.98 |
| 29:B1:1503:A:H3' | 29:B1:1504:A:C5' | 1.93 | 0.98 |
| 30:B2:13:A:H5' | 30:B2:112:G:H1' | 1.43 | 0.98 |
| 46:BQ:112:LEU:HA | 46:BQ:151:THR:O | 1.63 | 0.98 |
| 1:C1:1420:C:H5 | 1:C1:1421:A:H8 | 0.99 | 0.98 |
| 29:D1:2680:A:H61 | 42:DK:56:THR:C | 1.71 | 0.98 |
| 30:D2:12:U:H3' | 30:D2:13:A:H2 | 0.84 | 0.98 |
| 29:B1:592:A:H2' | 29:B1:593:C:C3' | 1.93 | 0.98 |
| 29:B1:1153:A:N7 | 29:B1:1154:A:C6 | 2.32 | 0.98 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1156:C:C3’ | 29:B1:1157:G:H5” | 1.93 | 0.98 |
| 29:B1:1506:A:O2’ | 29:B1:1507:G:H5’ | 1.63 | 0.98 |
| 29:B1:3303:G:H1’ | 29:B1:3304:U:H5’ | 1.42 | 0.98 |
| 1:C1:524:U:H2’ | 1:C1:527:A:C2 | 1.99 | 0.98 |
| 29:D1:42:C:H2’ | 29:D1:43:A:H5” | 0.99 | 0.98 |
| 29:D1:612:U:H1’ | 29:D1:613:G:C8 | 1.98 | 0.98 |
| 29:D1:743:C:C2’ | 29:D1:744:A:H5’ | 1.92 | 0.98 |
| 29:D1:1416:C:H2’ | 29:D1:1416:C:O2 | 1.61 | 0.98 |
| 29:D1:2703:A:H5” | 29:D1:2704:A:C5’ | 1.93 | 0.98 |
| 30:D2:34:C:H2’ | 30:D2:34:C:O2 | 1.59 | 0.98 |
| 29:B1:1286:A:N3 | 29:B1:1287:A:H1’ | 1.79 | 0.98 |
| 29:B1:2107:A:H2’ | 29:B1:2108:C:C6 | 1.98 | 0.98 |
| 29:B1:2223:A:O2’ | 29:B1:2224:A:H8 | 1.45 | 0.98 |
| 1:C1:427:C:H6 | 1:C1:427:C:C5’ | 1.76 | 0.98 |
| 1:C1:557:G:O2’ | 1:C1:558:U:H4’ | 1.64 | 0.98 |
| 1:C1:1458:G:H5’ | 1:C1:1459:C:C5 | 1.98 | 0.98 |
| 29:D1:1194:G:C8 | 29:D1:1319:G:H4’ | 1.99 | 0.98 |
| 29:D1:1213:G:H8 | 29:D1:1213:G:H5’ | 1.27 | 0.98 |
| 29:D1:1875:G:H2’ | 29:D1:1876:U:H5” | 1.46 | 0.98 |
| 29:D1:3201:C:H2’ | 29:D1:3202:G:H8 | 1.28 | 0.98 |
| 29:B1:585:A:H2’ | 29:B1:586:C:C6 | 1.99 | 0.98 |
| 29:B1:659:G:H2’ | 29:B1:660:A:C8 | 1.97 | 0.98 |
| 29:B1:807:A:H5’ | 29:B1:808:A:OP2 | 1.62 | 0.98 |
| 29:B1:2593:A:H4’ | 29:B1:2594:C:H5’ | 1.46 | 0.98 |
| 29:B1:3321:C:C2 | 29:B1:3322:A:C8 | 2.51 | 0.98 |
| 70:Bq:5:UNK:O | 70:Bq:6:UNK:C | 2.11 | 0.98 |
| 1:C1:96:G:H1 | 1:C1:387:A:H61 | 0.98 | 0.98 |
| 1:C1:591:A:H2’ | 1:C1:592:A:C8 | 1.97 | 0.98 |
| 29:D1:1399:A:OP2 | 29:D1:1399:A:H4’ | 1.62 | 0.98 |
| 29:D1:3260:G:H3’ | 29:D1:3261:C:H5” | 1.45 | 0.98 |
| 29:D1:3277:U:H2’ | 29:D1:3278:C:H5’ | 1.43 | 0.98 |
| 29:B1:2270:A:H5” | 29:B1:2270:A:H8 | 1.25 | 0.97 |
| 29:B1:2680:A:H2’ | 42:BK:53:THR:O | 1.62 | 0.97 |
| 29:B1:3201:C:H2’ | 29:B1:3202:G:H8 | 1.26 | 0.97 |
| 29:D1:866:A:C8 | 29:D1:867:G:C8 | 2.52 | 0.97 |
| 29:D1:1226:G:H2’ | 29:D1:1227:C:C6 | 1.99 | 0.97 |
| 29:D1:2797:C:H3’ | 29:D1:2798:C:H5’ | 1.46 | 0.97 |
| 5:AD:153:GLY:HA3 | 5:AD:154:ALA:HB3 | 1.45 | 0.97 |
| 29:B1:592:A:C4 | 29:B1:593:C:O4’ | 2.17 | 0.97 |
| 29:B1:1478:C:H2’ | 29:B1:1479:U:C6 | 1.99 | 0.97 |
| 29:D1:980:A:H61 | 29:D1:1104:G:H8 | 1.00 | 0.97 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2643:A:H5' | 29:D1:2644:C:OP2 | 1.63 | 0.97 |
| 29:D1:2712:U:O2' | 29:D1:2743:A:H4' | 1.64 | 0.97 |
| 1:A1:452:A:H2' | 1:A1:453:U:H5" | 1.44 | 0.97 |
| 29:B1:560:G:O2' | 29:B1:561:C:H5' | 1.62 | 0.97 |
| 29:B1:884:A:N7 | 29:B1:2139:A:N3 | 2.12 | 0.97 |
| 29:B1:1875:G:C2' | 29:B1:1876:U:H5" | 1.92 | 0.97 |
| 1:C1:40:A:H2' | 1:C1:41:A:H8 | 1.30 | 0.97 |
| 29:D1:784:A:H3' | 29:D1:785:G:H5" | 1.44 | 0.97 |
| 29:D1:1079:A:C8 | 36:DE:141:PRO:CB | 2.46 | 0.97 |
| 29:D1:2684:C:H2' | 29:D1:2685:C:C6 | 1.99 | 0.97 |
| 29:D1:3027:A:H2' | 29:D1:3028:G:H8 | 1.24 | 0.97 |
| 41:DJ:161:GLY:HA2 | 41:DJ:162:GLN:CB | 1.94 | 0.97 |
| 1:A1:1616:G:H21 | 1:A1:1618:C:H41 | 1.12 | 0.97 |
| 29:B1:645:A:C8 | 29:B1:649:A:N6 | 2.32 | 0.97 |
| 29:B1:1131:G:C4 | 29:B1:2373:A:C2 | 2.52 | 0.97 |
| 29:B1:2616:C:H2' | 29:B1:2617:U:H5' | 1.46 | 0.97 |
| 57:Bb:55:ILE:O | 57:Bb:57:TYR:N | 1.96 | 0.97 |
| 29:D1:3037:U:O2' | 29:D1:3038:U:H5' | 1.63 | 0.97 |
| 21:AT:180:ALA:HB3 | 21:AT:190:ALA:O | 1.64 | 0.97 |
| 29:D1:592:A:N3 | 29:D1:593:C:H1' | 1.78 | 0.97 |
| 29:D1:3024:A:N3 | 29:D1:3024:A:H2' | 1.78 | 0.97 |
| 43:DN:76:ALA:HA | 43:DN:79:ALA:HB3 | 1.43 | 0.97 |
| 1:A1:33:U:H1' | 1:A1:468:A:H2 | 1.27 | 0.97 |
| 1:A1:629:U:H2' | 1:A1:630:A:C8 | 1.98 | 0.97 |
| 29:B1:1560:G:N1 | 29:B1:1579:C:O2 | 1.98 | 0.97 |
| 29:B1:2916:U:H5 | 29:B1:2935:U:HO2' | 1.06 | 0.97 |
| 29:D1:531:G:H2' | 29:D1:532:A:H8 | 1.27 | 0.97 |
| 29:D1:834:U:H6 | 29:D1:834:U:H5" | 1.28 | 0.97 |
| 56:Da:9:THR:HA | 56:Da:76:SER:HA | 1.42 | 0.97 |
| 1:A1:1109:G:H1 | 1:A1:1136:U:H3 | 1.10 | 0.97 |
| 29:B1:784:A:H2' | 29:B1:785:G:C8 | 1.99 | 0.97 |
| 29:B1:1941:C:H42 | 29:B1:2107:A:H61 | 1.13 | 0.97 |
| 29:B1:2304:C:O2' | 29:B1:2305:G:H5' | 1.64 | 0.97 |
| 29:D1:2107:A:H2' | 29:D1:2108:C:C6 | 1.98 | 0.97 |
| 29:D1:2633:U:O2' | 29:D1:2634:U:H5' | 1.63 | 0.97 |
| 29:D1:3060:C:H1' | 29:D1:3331:U:H1' | 1.46 | 0.97 |
| 29:D1:3127:A:H3' | 29:D1:3128:G:H8 | 1.30 | 0.97 |
| 1:A1:1378:U:H5' | 1:A1:1379:C:C6 | 1.98 | 0.97 |
| 29:B1:1793:C:H1' | 29:B1:1794:G:OP1 | 1.63 | 0.97 |
| 29:B1:2113:A:H2' | 29:B1:2114:C:H5' | 1.41 | 0.97 |
| 1:C1:40:A:H2' | 1:C1:41:A:C8 | 1.99 | 0.97 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:452:A:H2' | 1:C1:453:U:H5" | 1.44 | 0.97 |
| 29:D1:504:A:H2 | 29:D1:587:U:N3 | 1.61 | 0.97 |
| 29:D1:1383:G:H4' | 35:DD:241:GLY:HA2 | 1.47 | 0.97 |
| 29:D1:2353:G:C5 | 29:D1:2354:C:H5 | 1.83 | 0.97 |
| 29:D1:2698:G:C2' | 29:D1:2699:G:H5" | 1.94 | 0.97 |
| 1:A1:518:A:H2' | 1:A1:519:C:H5" | 1.45 | 0.97 |
| 29:B1:3056:U:C2 | 29:B1:3056:U:OP1 | 2.18 | 0.97 |
| 31:B3:65:A:H2' | 31:B3:66:A:C8 | 1.99 | 0.97 |
| 38:BG:66:LYS:O | 38:BG:69:ALA:HB3 | 1.64 | 0.97 |
| 1:C1:87:C:H3' | 1:C1:88:U:H5" | 1.46 | 0.97 |
| 29:D1:585:A:H2' | 29:D1:586:C:C6 | 1.99 | 0.97 |
| 29:D1:1154:A:H4' | 29:D1:1155:C:OP2 | 1.61 | 0.97 |
| 29:D1:3011:A:H8 | 29:D1:3012:A:H1' | 1.28 | 0.97 |
| 29:D1:3226:A:H2' | 29:D1:3227:A:O4' | 1.64 | 0.97 |
| 31:D3:69:U:C3' | 31:D3:70:G:H4' | 1.95 | 0.97 |
| 1:A1:394:C:H42 | 1:A1:401:A:H62 | 1.08 | 0.97 |
| 29:B1:42:C:C2' | 29:B1:43:A:H5" | 1.94 | 0.97 |
| 29:B1:278:U:H2' | 29:B1:279:U:H6 | 1.29 | 0.97 |
| 29:B1:673:U:H2' | 29:B1:674:G:H5' | 1.46 | 0.97 |
| 29:B1:1186:G:H2' | 29:B1:1187:C:H5' | 1.43 | 0.97 |
| 1:C1:243:G:O6 | 1:C1:251:A:N6 | 1.95 | 0.97 |
| 1:C1:1092:A:C4 | 1:C1:1094:G:C8 | 2.53 | 0.97 |
| 29:D1:504:A:H2 | 29:D1:587:U:C2 | 1.83 | 0.97 |
| 29:D1:3023:U:H2' | 29:D1:3024:A:C8 | 1.99 | 0.97 |
| 29:B1:588:G:H4' | 29:B1:589:A:N7 | 1.80 | 0.96 |
| 29:B1:623:U:H2' | 29:B1:624:G:C8 | 1.99 | 0.96 |
| 29:B1:754:G:H22 | 29:B1:778:U:H3 | 1.05 | 0.96 |
| 29:B1:2523:A:C1' | 29:B1:2524:A:H5' | 1.95 | 0.96 |
| 29:B1:3218:A:O2' | 29:B1:3219:G:H3' | 1.64 | 0.96 |
| 29:B1:3260:G:H3' | 29:B1:3261:C:H5" | 1.47 | 0.96 |
| 31:B3:37:A:H61 | 31:B3:104:A:H2' | 1.25 | 0.96 |
| 31:B3:104:A:H5" | 31:B3:105:A:H8 | 1.30 | 0.96 |
| 29:D1:1303:A:C2 | 29:D1:2887:A:N1 | 2.33 | 0.96 |
| 30:D2:35:C:H42 | 30:D2:47:C:C1' | 1.77 | 0.96 |
| 1:A1:173:A:H3' | 1:A1:174:U:H5" | 1.44 | 0.96 |
| 29:B1:1255:C:H2' | 29:B1:1256:G:H4' | 1.43 | 0.96 |
| 29:B1:1901:A:H5" | 29:B1:2919:A:OP1 | 1.64 | 0.96 |
| 29:B1:2324:A:H5" | 29:B1:2325:G:OP2 | 1.63 | 0.96 |
| 1:C1:59:C:C5 | 1:C1:62:A:N6 | 2.33 | 0.96 |
| 1:C1:361:C:N3 | 1:C1:384:G:C2 | 2.33 | 0.96 |
| 29:D1:2168:A:C2 | 29:D1:2170:U:H1' | 2.00 | 0.96 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3260:G:C2 | 29:D1:3261:C:H4' | 2.00 | 0.96 |
| 33:DB:182:ALA:O | 33:DB:184:ARG:N | 1.98 | 0.96 |
| 1:A1:1753:A:H61 | 1:A1:1754:A:N6 | 1.63 | 0.96 |
| 29:B1:3226:A:H2' | 29:B1:3227:A:O4' | 1.66 | 0.96 |
| 29:B1:3391:A:C2' | 29:B1:3392:U:H5" | 1.94 | 0.96 |
| 1:C1:743:U:N3 | 1:C1:809:A:N3 | 2.00 | 0.96 |
| 29:D1:417:A:H2' | 29:D1:418:A:H8 | 1.29 | 0.96 |
| 30:D2:64:A:N1 | 30:D2:111:U:O4 | 1.97 | 0.96 |
| 1:A1:489:C:O2 | 1:A1:498:G:N2 | 1.98 | 0.96 |
| 1:A1:824:G:C4' | 1:A1:825:U:H5' | 1.96 | 0.96 |
| 1:A1:1420:C:C5 | 1:A1:1421:A:H8 | 1.82 | 0.96 |
| 29:B1:625:G:H2' | 29:B1:626:U:H6 | 1.27 | 0.96 |
| 29:B1:1846:C:H2' | 29:B1:1846:C:O2 | 1.62 | 0.96 |
| 29:B1:2285:C:H5 | 29:B1:2286:U:C2 | 1.83 | 0.96 |
| 29:B1:3377:G:C8 | 74:B1:3450:OHX:N4 | 2.33 | 0.96 |
| 18:CQ:41:ILE:HA | 18:CQ:44:GLN:H | 1.25 | 0.96 |
| 29:D1:826:G:HO2' | 29:D1:1589:A:H8 | 1.13 | 0.96 |
| 29:D1:1687:U:OP1 | 29:D1:1687:U:H3' | 1.64 | 0.96 |
| 29:D1:2113:A:H2' | 29:D1:2114:C:H5' | 1.43 | 0.96 |
| 30:D2:92:A:H2' | 30:D2:93:C:O4' | 1.64 | 0.96 |
| 36:DE:99:TYR:HA | 36:DE:165:GLY:HA3 | 1.45 | 0.96 |
| 1:A1:96:G:H1 | 1:A1:387:A:N6 | 1.63 | 0.96 |
| 29:B1:3327:G:C5 | 29:B1:3328:G:N7 | 2.34 | 0.96 |
| 30:B2:11:A:H1' | 30:B2:67:G:H21 | 1.27 | 0.96 |
| 20:CS:23:VAL:O | 74:CS:101:OHX:N6 | 1.98 | 0.96 |
| 1:A1:1718:G:H2' | 1:A1:1719:A:H5" | 1.47 | 0.96 |
| 29:B1:3136:G:C5 | 29:B1:3137:C:C5 | 2.53 | 0.96 |
| 29:D1:3242:G:H22 | 29:D1:3244:A:H8 | 1.13 | 0.96 |
| 1:A1:264:G:H3' | 1:A1:265:A:C5' | 1.95 | 0.96 |
| 1:A1:1087:A:H3' | 1:A1:1088:A:H8 | 1.30 | 0.96 |
| 1:C1:26:A:H2' | 1:C1:27:U:C6 | 2.01 | 0.96 |
| 1:C1:629:U:H2' | 1:C1:630:A:C8 | 2.00 | 0.96 |
| 1:C1:700:C:H2' | 1:C1:701:U:H6 | 1.25 | 0.96 |
| 1:C1:1099:U:C5 | 1:C1:1100:G:O6 | 2.18 | 0.96 |
| 29:D1:118:U:C4 | 29:D1:150:A:N6 | 2.32 | 0.96 |
| 29:D1:278:U:H2' | 29:D1:279:U:H6 | 1.28 | 0.96 |
| 29:D1:829:U:N3 | 29:D1:895:A:N6 | 2.14 | 0.96 |
| 29:D1:2224:A:H2' | 29:D1:2225:U:O4' | 1.63 | 0.96 |
| 29:D1:2616:C:H2' | 29:D1:2617:U:H5' | 1.48 | 0.96 |
| 29:D1:2777:G:H2' | 29:D1:2777:G:N3 | 1.80 | 0.96 |
| 29:D1:3215:A:O5' | 29:D1:3218:A:H5" | 1.64 | 0.96 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:D2:74:C:O3' | 74:D2:201:OHX:N1 | 1.98 | 0.96 |
| 31:D3:16:G:O6 | 74:D3:212:OHX:N3 | 1.97 | 0.96 |
| 34:DC:50:LYS:CB | 34:DC:333:LYS:H | 1.78 | 0.96 |
| 29:B1:592:A:N9 | 29:B1:593:C:O4' | 1.98 | 0.96 |
| 29:B1:1557:A:H2' | 29:B1:1558:A:O4' | 1.64 | 0.96 |
| 29:B1:2168:A:C2 | 29:B1:2170:U:H1' | 2.01 | 0.96 |
| 29:B1:3122:A:H2' | 29:B1:3123:A:C5' | 1.95 | 0.96 |
| 47:BR:98:LYS:HA | 47:BR:117:ALA:HB1 | 1.48 | 0.96 |
| 1:C1:452:A:H2' | 1:C1:453:U:C5' | 1.95 | 0.96 |
| 1:C1:897:C:N3 | 1:C1:914:G:N2 | 2.12 | 0.96 |
| 29:D1:2161:G:H5" | 29:D1:2162:U:OP2 | 1.65 | 0.96 |
| 29:D1:2897:A:H2' | 29:D1:2899:C:H5" | 1.48 | 0.96 |
| 35:DD:148:ILE:HA | 35:DD:149:PRO:O | 1.66 | 0.96 |
| 1:A1:1583:A:O2' | 1:A1:1584:G:H5' | 1.66 | 0.96 |
| 29:B1:150:A:C8 | 29:B1:151:A:N7 | 2.33 | 0.96 |
| 1:C1:249:U:H3' | 1:C1:250:C:C5' | 1.95 | 0.96 |
| 1:C1:1119:G:H2' | 1:C1:1120:U:H6 | 1.27 | 0.96 |
| 21:CT:180:ALA:HB3 | 21:CT:190:ALA:O | 1.64 | 0.96 |
| 29:D1:257:U:H2' | 29:D1:258:G:C8 | 2.00 | 0.96 |
| 29:D1:1464:G:N2 | 29:D1:1466:G:H3' | 1.80 | 0.96 |
| 29:D1:3099:C:O2' | 29:D1:3100:U:H6 | 1.48 | 0.96 |
| 1:A1:44:U:H5' | 1:A1:45:U:C5 | 2.01 | 0.96 |
| 54:BY:111:LYS:HA | 54:BY:128:ARG:CB | 1.96 | 0.96 |
| 1:C1:489:C:O2 | 1:C1:498:G:N2 | 1.97 | 0.96 |
| 1:C1:824:G:C4' | 1:C1:825:U:H5' | 1.96 | 0.96 |
| 29:D1:1879:A:OP2 | 29:D1:1879:A:H3' | 1.65 | 0.96 |
| 29:D1:2847:A:H5' | 29:D1:2848:G:OP2 | 1.65 | 0.96 |
| 29:D1:3201:C:H2' | 29:D1:3202:G:C8 | 2.01 | 0.96 |
| 29:B1:584:G:H2' | 29:B1:585:A:H8 | 1.30 | 0.95 |
| 29:B1:1120:A:H5' | 29:B1:1121:U:OP2 | 1.66 | 0.95 |
| 29:B1:3232:G:N2 | 29:B1:3255:U:O2 | 1.96 | 0.95 |
| 29:B1:3314:A:H2' | 34:BC:119:TYR:N | 1.81 | 0.95 |
| 30:B2:2:G:H1 | 30:B2:119:U:H3 | 1.03 | 0.95 |
| 36:BE:28:THR:C | 36:BE:30:TYR:H | 1.71 | 0.95 |
| 1:C1:1274:C:H6 | 1:C1:1427:A:H62 | 1.12 | 0.95 |
| 1:C1:1784:C:H2' | 1:C1:1785:U:H6 | 1.27 | 0.95 |
| 29:D1:3261:C:P | 29:D1:3262:U:OP1 | 2.24 | 0.95 |
| 30:D2:12:U:C3' | 30:D2:13:A:H2 | 1.77 | 0.95 |
| 1:A1:836:U:H2' | 1:A1:837:G:C8 | 2.02 | 0.95 |
| 29:B1:576:C:C2' | 29:B1:577:C:H5" | 1.96 | 0.95 |
| 29:B1:595:G:H1 | 29:B1:609:G:C4' | 1.78 | 0.95 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:715:A:H2 | 29:B1:784:A:C4' | 1.78 | 0.95 |
| 45:BP:8:VAL:HA | 45:BP:34:VAL:O | 1.65 | 0.95 |
| 29:D1:606:C:C4 | 29:D1:607:A:C6 | 2.54 | 0.95 |
| 29:D1:1660:C:O2' | 29:D1:1661:G:H5" | 1.64 | 0.95 |
| 29:D1:2628:A:H1' | 29:D1:2798:C:C4 | 2.01 | 0.95 |
| 36:DE:141:PRO:CB | 36:DE:142:PHE:HA | 1.96 | 0.95 |
| 1:A1:400:A:H4' | 1:A1:401:A:H5' | 1.47 | 0.95 |
| 1:A1:1350:U:OP2 | 1:A1:1351:G:H8 | 1.49 | 0.95 |
| 29:B1:826:G:H21 | 29:B1:1589:A:H62 | 1.14 | 0.95 |
| 29:B1:1331:U:H4' | 29:B1:1332:A:OP2 | 1.65 | 0.95 |
| 30:B2:63:A:H3' | 30:B2:64:A:H5" | 0.98 | 0.95 |
| 1:C1:480:G:H22 | 1:C1:508:U:H3 | 1.12 | 0.95 |
| 29:D1:1479:U:H3' | 29:D1:1480:G:H5" | 0.96 | 0.95 |
| 30:D2:12:U:C5' | 30:D2:68:C:O2' | 2.14 | 0.95 |
| 1:A1:1092:A:C4 | 1:A1:1094:G:C8 | 2.54 | 0.95 |
| 1:A1:1752:U:H2' | 1:A1:1753:A:H8 | 1.23 | 0.95 |
| 29:B1:819:U:H2' | 29:B1:820:A:H8 | 1.31 | 0.95 |
| 29:B1:1303:A:C8 | 29:B1:1304:A:C6 | 2.53 | 0.95 |
| 29:B1:1464:G:N2 | 29:B1:1466:G:H3' | 1.82 | 0.95 |
| 29:B1:1479:U:H3' | 29:B1:1480:G:H5" | 0.95 | 0.95 |
| 56:Ba:85:ALA:HB3 | 56:Ba:86:LYS:HA | 1.45 | 0.95 |
| 29:D1:2698:G:H2' | 29:D1:2699:G:H5" | 1.46 | 0.95 |
| 1:A1:827:C:C2 | 1:A1:846:G:O6 | 2.17 | 0.95 |
| 29:B1:132:C:H2' | 29:B1:132:C:O2 | 1.65 | 0.95 |
| 29:B1:531:G:H2' | 29:B1:532:A:C8 | 2.00 | 0.95 |
| 29:B1:3392:U:C2 | 29:B1:3393:U:C4 | 2.54 | 0.95 |
| 1:C1:394:C:H2' | 1:C1:395:U:H5' | 1.49 | 0.95 |
| 1:C1:1018:U:H2' | 1:C1:1019:A:C8 | 2.00 | 0.95 |
| 29:D1:556:U:H2' | 29:D1:557:A:C1' | 1.97 | 0.95 |
| 29:D1:644:G:H4' | 29:D1:1153:A:H2 | 0.79 | 0.95 |
| 29:D1:1786:G:H2' | 29:D1:1787:A:C8 | 2.01 | 0.95 |
| 29:D1:2501:U:H4' | 29:D1:2502:A:OP1 | 1.66 | 0.95 |
| 29:D1:3215:A:O5' | 29:D1:3218:A:O4' | 1.83 | 0.95 |
| 29:D1:3391:A:C2' | 29:D1:3392:U:H5" | 1.95 | 0.95 |
| 1:A1:264:G:H3' | 1:A1:265:A:H5' | 1.46 | 0.95 |
| 1:A1:1753:A:N6 | 1:A1:1754:A:N6 | 2.13 | 0.95 |
| 29:B1:1660:C:O2' | 29:B1:1661:G:H5" | 1.66 | 0.95 |
| 29:B1:3201:C:H2' | 29:B1:3202:G:C8 | 2.00 | 0.95 |
| 29:B1:3387:U:H2' | 29:B1:3388:C:C5 | 2.01 | 0.95 |
| 47:BR:117:ALA:HB3 | 47:BR:118:GLY:HA2 | 1.47 | 0.95 |
| 1:C1:1350:U:OP2 | 1:C1:1351:G:H8 | 1.47 | 0.95 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:D2:12:U:C3' | 30:D2:13:A:C2 | 2.49 | 0.95 |
| 1:A1:1007:C:O2 | 1:A1:1007:C:H2' | 1.67 | 0.95 |
| 1:A1:1227:A:H4' | 1:A1:1230:A:C6 | 2.01 | 0.95 |
| 9:AH:100:ALA:O | 9:AH:104:ALA:HB2 | 1.67 | 0.95 |
| 29:B1:42:C:H2' | 29:B1:43:A:H5" | 0.97 | 0.95 |
| 29:B1:1297:C:H2' | 29:B1:1298:C:H5' | 1.49 | 0.95 |
| 29:B1:2362:C:N4 | 29:B1:2376:G:O6 | 1.98 | 0.95 |
| 30:B2:9:C:C2' | 30:B2:13:A:H62 | 1.78 | 0.95 |
| 1:C1:142:G:N1 | 1:C1:173:A:N1 | 2.00 | 0.95 |
| 29:D1:645:A:C8 | 29:D1:649:A:N6 | 2.34 | 0.95 |
| 29:D1:1628:C:O2' | 29:D1:1630:U:H5' | 1.64 | 0.95 |
| 29:D1:3392:U:C4 | 29:D1:3393:U:O4 | 2.19 | 0.95 |
| 1:A1:1022:C:H4' | 1:A1:1124:A:N6 | 1.81 | 0.95 |
| 29:B1:26:A:H2' | 29:B1:27:C:C6 | 2.01 | 0.95 |
| 29:B1:611:A:OP1 | 29:B1:611:A:H4' | 1.64 | 0.95 |
| 29:B1:3006:A:N1 | 29:B1:3143:C:O2' | 2.00 | 0.95 |
| 29:B1:3022:G:O2' | 29:B1:3023:U:OP2 | 1.83 | 0.95 |
| 29:B1:3150:A:H5" | 34:BC:134:SER:HA | 1.48 | 0.95 |
| 35:BD:63:GLU:O | 35:BD:75:PRO:HA | 1.67 | 0.95 |
| 29:D1:1011:A:H61 | 29:D1:1039:U:H3 | 0.99 | 0.95 |
| 34:DC:51:ALA:HB3 | 34:DC:78:VAL:O | 1.67 | 0.95 |
| 29:B1:518:G:H22 | 29:B1:572:A:H61 | 1.09 | 0.95 |
| 29:B1:596:C:H3' | 29:B1:596:C:O2 | 1.66 | 0.95 |
| 29:B1:726:G:N3 | 29:B1:744:A:C6 | 2.34 | 0.95 |
| 29:B1:2092:A:H3' | 29:B1:2093:A:H5" | 1.47 | 0.95 |
| 29:B1:2276:G:C5 | 29:B1:2277:C:C5 | 2.55 | 0.95 |
| 30:B2:7:G:H1 | 30:B2:114:U:H3 | 1.13 | 0.95 |
| 30:B2:12:U:C5' | 30:B2:68:C:O2' | 2.15 | 0.95 |
| 31:B3:40:A:H8 | 31:B3:40:A:H5' | 1.31 | 0.95 |
| 1:C1:1129:U:H5" | 1:C1:1130:G:OP2 | 1.65 | 0.95 |
| 24:Cc:32:UNK:O | 24:Cc:36:UNK:CB | 2.14 | 0.95 |
| 29:D1:72:C:C3' | 29:D1:73:C:H5' | 1.96 | 0.95 |
| 29:D1:423:A:H2' | 29:D1:424:G:C8 | 2.02 | 0.95 |
| 29:D1:504:A:H8 | 29:D1:504:A:H3' | 1.30 | 0.95 |
| 29:D1:1903:U:O2 | 29:D1:1905:G:H5" | 1.66 | 0.95 |
| 29:D1:2223:A:O2' | 29:D1:2224:A:H8 | 1.47 | 0.95 |
| 29:D1:3006:A:N1 | 29:D1:3143:C:O2' | 1.98 | 0.95 |
| 36:DE:43:LYS:H | 49:DT:69:LYS:CB | 1.79 | 0.95 |
| 1:A1:1600:A:O2' | 1:A1:1602:C:H5 | 1.48 | 0.95 |
| 29:B1:953:G:H4' | 29:B1:954:U:C6 | 2.02 | 0.95 |
| 29:B1:1667:A:H2' | 29:B1:1668:G:C8 | 2.00 | 0.95 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3172:A:H1' | 29:B1:3173:G:N7 | 1.82 | 0.95 |
| 29:B1:3261:C:P | 29:B1:3262:U:OP1 | 2.24 | 0.95 |
| 1:C1:340:U:H3' | 1:C1:341:A:H8 | 1.32 | 0.95 |
| 29:D1:551:A:H2' | 29:D1:552:G:O4' | 1.66 | 0.95 |
| 29:D1:1593:A:H2' | 29:D1:1594:A:C8 | 2.01 | 0.95 |
| 29:D1:3201:C:H6 | 29:D1:3201:C:OP1 | 1.48 | 0.95 |
| 29:D1:3242:G:N2 | 29:D1:3245:A:N7 | 2.14 | 0.95 |
| 30:D2:28:C:H5" | 30:D2:29:C:OP2 | 1.66 | 0.95 |
| 1:A1:524:U:H2' | 1:A1:527:A:C2 | 2.02 | 0.94 |
| 29:B1:13:A:C2 | 29:B1:15:C:H5' | 2.02 | 0.94 |
| 29:B1:524:U:H2' | 29:B1:525:C:C6 | 2.01 | 0.94 |
| 41:BJ:89:VAL:O | 41:BJ:136:PHE:HA | 1.67 | 0.94 |
| 29:D1:811:U:H2' | 29:D1:812:G:H8 | 1.25 | 0.94 |
| 29:D1:966:U:H2' | 29:D1:967:A:C8 | 2.01 | 0.94 |
| 29:D1:2992:U:H2' | 29:D1:2993:G:C5' | 1.96 | 0.94 |
| 29:D1:3198:U:H2' | 29:D1:3199:G:C8 | 2.02 | 0.94 |
| 29:B1:1838:G:H5" | 29:B1:1839:A:OP1 | 1.66 | 0.94 |
| 29:B1:2699:G:H5' | 29:B1:2699:G:C8 | 2.02 | 0.94 |
| 29:B1:3330:A:H2' | 29:B1:3331:U:C6 | 2.03 | 0.94 |
| 29:B1:3393:U:O2' | 29:B1:3394:U:H5' | 1.65 | 0.94 |
| 29:D1:1129:A:H2' | 29:D1:1130:A:H5' | 1.47 | 0.94 |
| 29:D1:3278:C:H5" | 29:D1:3279:A:OP2 | 1.66 | 0.94 |
| 29:D1:3324:C:H2' | 29:D1:3325:G:H8 | 1.32 | 0.94 |
| 43:DN:33:ALA:HB1 | 43:DN:48:GLY:H | 1.32 | 0.94 |
| 1:A1:96:G:H1 | 1:A1:387:A:H61 | 0.97 | 0.94 |
| 1:A1:336:G:H2' | 1:A1:337:G:H5" | 1.48 | 0.94 |
| 29:B1:118:U:C4 | 29:B1:150:A:N6 | 2.34 | 0.94 |
| 29:B1:591:G:H21 | 29:B1:592:A:C1' | 1.80 | 0.94 |
| 29:B1:1063:G:H5' | 29:B1:1098:A:P | 2.07 | 0.94 |
| 29:B1:3144:G:C4' | 29:B1:3145:C:OP2 | 2.16 | 0.94 |
| 29:B1:3278:C:H5" | 29:B1:3279:A:OP2 | 1.67 | 0.94 |
| 29:B1:3300:U:OP2 | 29:B1:3300:U:C6 | 2.20 | 0.94 |
| 31:B3:55:U:H2' | 31:B3:56:G:H8 | 1.32 | 0.94 |
| 31:B3:128:U:H5" | 31:B3:129:C:H5 | 1.31 | 0.94 |
| 1:C1:16:G:H2' | 1:C1:17:C:C6 | 2.01 | 0.94 |
| 29:D1:706:A:C5 | 29:D1:714:G:N2 | 2.36 | 0.94 |
| 29:D1:761:A:N1 | 29:D1:770:G:N2 | 2.15 | 0.94 |
| 29:D1:1264:G:OP2 | 29:D1:1264:G:H2' | 1.67 | 0.94 |
| 29:D1:1560:G:N1 | 29:D1:1579:C:O2 | 2.00 | 0.94 |
| 29:D1:3064:U:O2' | 29:D1:3065:G:H5' | 1.67 | 0.94 |
| 29:D1:3307:A:H8 | 29:D1:3307:A:O5' | 1.47 | 0.94 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3389:U:H4' | 29:D1:3390:G:H5" | 1.46 | 0.94 |
| 1:A1:73:U:O4 | 1:A1:80:A:N6 | 1.98 | 0.94 |
| 29:B1:16:A:H61 | 31:B3:143:U:H3 | 1.08 | 0.94 |
| 29:B1:2361:A:N6 | 29:B1:2377:G:O6 | 2.00 | 0.94 |
| 29:B1:3099:C:O2' | 29:B1:3100:U:H6 | 1.49 | 0.94 |
| 1:C1:1753:A:N6 | 1:C1:1754:A:N6 | 2.15 | 0.94 |
| 29:D1:963:G:H8 | 29:D1:963:G:H5' | 1.28 | 0.94 |
| 30:D2:98:C:H5' | 30:D2:99:G:OP2 | 1.66 | 0.94 |
| 1:A1:557:G:O2' | 1:A1:558:U:H4' | 1.64 | 0.94 |
| 1:A1:1657:U:H4' | 1:A1:1658:G:O5' | 1.64 | 0.94 |
| 2:AA:177:LEU:O | 2:AA:181:VAL:CB | 2.14 | 0.94 |
| 29:B1:327:A:H2 | 29:B1:328:U:C4 | 1.85 | 0.94 |
| 29:B1:342:A:H4' | 29:B1:344:A:N7 | 1.83 | 0.94 |
| 29:B1:591:G:C2 | 29:B1:592:A:N9 | 2.36 | 0.94 |
| 29:B1:1495:U:H5" | 29:B1:1496:C:C5 | 2.01 | 0.94 |
| 29:B1:2173:U:H2' | 29:B1:2174:G:C8 | 2.03 | 0.94 |
| 29:B1:2689:A:N3 | 29:B1:2702:A:C2 | 2.36 | 0.94 |
| 29:B1:3215:A:O5' | 29:B1:3218:A:H5" | 1.66 | 0.94 |
| 29:B1:3324:C:H2' | 29:B1:3325:G:H8 | 1.30 | 0.94 |
| 20:CS:49:ASP:N | 20:CS:50:ILE:HA | 1.74 | 0.94 |
| 29:D1:264:G:C6 | 29:D1:265:A:C6 | 2.55 | 0.94 |
| 29:D1:584:G:H2' | 29:D1:585:A:C8 | 2.03 | 0.94 |
| 29:D1:1063:G:H1' | 29:D1:1064:A:O5' | 1.68 | 0.94 |
| 29:D1:1557:A:H2' | 29:D1:1558:A:O4' | 1.68 | 0.94 |
| 29:D1:2417:U:C5 | 29:D1:2606:G:N7 | 2.34 | 0.94 |
| 29:B1:637:C:HO2' | 29:B1:638:C:H6 | 1.01 | 0.94 |
| 29:B1:1593:A:H2' | 29:B1:1594:A:C8 | 2.03 | 0.94 |
| 29:B1:1648:A:H2' | 29:B1:1649:U:O4' | 1.67 | 0.94 |
| 1:C1:1752:U:H2' | 1:C1:1753:A:C8 | 2.00 | 0.94 |
| 29:D1:993:G:N2 | 29:D1:2637:A:H3' | 1.81 | 0.94 |
| 29:D1:3242:G:N1 | 29:D1:3244:A:H2' | 1.82 | 0.94 |
| 1:A1:938:G:N2 | 1:A1:942:G:C4 | 2.35 | 0.94 |
| 1:A1:1348:A:C5' | 15:AN:12:GLN:H | 1.81 | 0.94 |
| 29:B1:35:A:H1' | 29:B1:810:A:O2' | 1.67 | 0.94 |
| 29:B1:432:G:H2' | 29:B1:433:A:H8 | 1.32 | 0.94 |
| 29:B1:517:G:OP2 | 29:B1:517:G:H8 | 1.49 | 0.94 |
| 29:B1:518:G:H8 | 29:B1:518:G:OP2 | 1.50 | 0.94 |
| 29:B1:1011:A:H61 | 29:B1:1039:U:H3 | 1.04 | 0.94 |
| 29:B1:1213:G:H8 | 29:B1:1213:G:H5' | 1.30 | 0.94 |
| 29:B1:1607:U:H1' | 29:B1:1608:C:OP1 | 1.68 | 0.94 |
| 29:B1:2883:U:H2' | 29:B1:2884:C:H6 | 1.29 | 0.94 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3140:G:H5” | 29:B1:3140:G:H8 | 1.30 | 0.94 |
| 1:C1:1644:C:O2’ | 29:D1:2262:A:C8 | 2.20 | 0.94 |
| 2:CA:177:LEU:O | 2:CA:181:VAL:CB | 2.15 | 0.94 |
| 29:D1:518:G:H8 | 29:D1:518:G:OP2 | 1.50 | 0.94 |
| 29:D1:1303:A:H8 | 29:D1:1304:A:C5 | 1.84 | 0.94 |
| 29:D1:1340:G:H2’ | 29:D1:1341:U:C6 | 2.03 | 0.94 |
| 29:D1:2285:C:H5 | 29:D1:2286:U:C2 | 1.85 | 0.94 |
| 29:D1:2293:C:H5 | 29:D1:2294:U:H5 | 1.14 | 0.94 |
| 29:D1:2826:U:O2’ | 29:D1:2827:U:H5’ | 1.68 | 0.94 |
| 29:D1:3078:U:H4’ | 29:D1:3079:U:O5’ | 1.67 | 0.94 |
| 30:D2:95:A:H2’ | 30:D2:96:U:C6 | 2.02 | 0.94 |
| 31:D3:37:A:H61 | 31:D3:104:A:H2’ | 1.30 | 0.94 |
| 31:D3:132:G:H2’ | 31:D3:133:G:H8 | 1.32 | 0.94 |
| 1:A1:16:G:H2’ | 1:A1:17:C:C6 | 2.03 | 0.94 |
| 1:A1:87:C:H3’ | 1:A1:88:U:H5” | 1.48 | 0.94 |
| 1:A1:1480:G:H5’ | 1:A1:1480:G:H8 | 1.30 | 0.94 |
| 1:A1:1573:A:H4’ | 1:A1:1574:G:C5’ | 1.97 | 0.94 |
| 29:B1:644:G:C4’ | 29:B1:1153:A:H2 | 1.81 | 0.94 |
| 29:B1:980:A:H61 | 29:B1:1104:G:H8 | 1.03 | 0.94 |
| 29:B1:2252:A:H2’ | 29:B1:2253:G:H8 | 1.33 | 0.94 |
| 29:B1:2583:C:H2’ | 29:B1:2584:G:C8 | 2.02 | 0.94 |
| 29:B1:3127:A:H3’ | 29:B1:3128:G:H8 | 1.32 | 0.94 |
| 31:B3:129:C:H2’ | 31:B3:130:C:C6 | 2.03 | 0.94 |
| 1:C1:62:A:C2 | 1:C1:63:G:N7 | 2.36 | 0.94 |
| 1:C1:827:C:H2’ | 1:C1:828:U:C2 | 2.03 | 0.94 |
| 1:A1:151:G:H1 | 1:A1:163:G:H22 | 1.10 | 0.94 |
| 1:A1:606:A:C8 | 1:A1:608:U:H5 | 1.86 | 0.94 |
| 1:A1:1484:G:H21 | 1:A1:1606:C:H1’ | 1.32 | 0.94 |
| 29:B1:514:G:H2’ | 29:B1:515:C:C2 | 2.03 | 0.94 |
| 29:B1:754:G:N2 | 29:B1:778:U:H3 | 1.66 | 0.94 |
| 29:B1:1063:G:H1’ | 29:B1:1064:A:O5’ | 1.68 | 0.94 |
| 29:B1:2946:A:C4 | 29:B1:2982:A:N6 | 2.35 | 0.94 |
| 39:BH:99:PRO:CB | 39:BH:237:ILE:H | 1.81 | 0.94 |
| 1:C1:921:U:H2’ | 1:C1:922:G:H8 | 1.32 | 0.94 |
| 1:C1:1573:A:H4’ | 1:C1:1574:G:C5’ | 1.98 | 0.94 |
| 1:C1:1590:G:H2’ | 1:C1:1591:C:C5 | 2.03 | 0.94 |
| 6:CE:114:TYR:HA | 6:CE:119:ALA:HB3 | 1.50 | 0.94 |
| 29:D1:342:A:H4’ | 29:D1:344:A:N7 | 1.83 | 0.94 |
| 29:D1:1495:U:H5” | 29:D1:1496:C:C5 | 2.02 | 0.94 |
| 29:D1:2146:C:H2’ | 29:D1:2147:A:C5’ | 1.98 | 0.94 |
| 29:D1:2680:A:OP2 | 29:D1:2681:U:C5 | 2.21 | 0.94 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2689:A:H4' | 29:D1:2690:G:H5' | 1.45 | 0.94 |
| 29:D1:3011:A:C8 | 29:D1:3012:A:H1' | 2.01 | 0.94 |
| 38:DG:80:GLN:HA | 38:DG:81:HIS:CB | 1.97 | 0.94 |
| 29:B1:591:G:C2 | 29:B1:592:A:C4 | 2.56 | 0.93 |
| 1:C1:129:U:C5 | 1:C1:264:G:C5 | 2.56 | 0.93 |
| 1:C1:1099:U:O2' | 1:C1:1100:G:C4 | 2.21 | 0.93 |
| 1:C1:1564:U:H2' | 1:C1:1565:C:C6 | 2.03 | 0.93 |
| 29:D1:2513:U:H1' | 29:D1:2514:U:OP1 | 1.69 | 0.93 |
| 29:D1:3233:C:H2' | 29:D1:3234:A:C8 | 2.03 | 0.93 |
| 29:D1:3264:G:H2' | 29:D1:3265:C:H5" | 1.49 | 0.93 |
| 1:A1:59:C:C5 | 1:A1:62:A:N6 | 2.36 | 0.93 |
| 29:B1:421:G:H3' | 29:B1:421:G:H8 | 1.28 | 0.93 |
| 29:B1:1191:U:OP2 | 29:B1:1192:C:C5 | 2.21 | 0.93 |
| 29:B1:1416:C:H2' | 29:B1:1416:C:O2 | 1.69 | 0.93 |
| 29:B1:3386:G:H2' | 29:B1:3387:U:C6 | 2.03 | 0.93 |
| 34:BC:118:PHE:HA | 34:BC:119:TYR:CB | 1.95 | 0.93 |
| 54:BY:80:THR:C | 54:BY:82:ILE:H | 1.75 | 0.93 |
| 1:C1:125:U:O2' | 1:C1:126:A:H5' | 1.66 | 0.93 |
| 1:C1:1007:C:O2 | 1:C1:1007:C:H2' | 1.66 | 0.93 |
| 28:Ch:3:UNK:O | 28:Ch:7:UNK:CB | 2.17 | 0.93 |
| 29:D1:1157:G:H2' | 29:D1:1158:A:O4' | 1.68 | 0.93 |
| 29:D1:3136:G:C5 | 29:D1:3137:C:C5 | 2.56 | 0.93 |
| 35:DD:12:THR:CB | 35:DD:13:GLY:HA3 | 1.98 | 0.93 |
| 1:A1:40:A:H2' | 1:A1:41:A:C8 | 2.04 | 0.93 |
| 1:A1:1018:U:H2' | 1:A1:1019:A:C8 | 2.02 | 0.93 |
| 29:B1:722:G:N2 | 29:B1:748:U:O2 | 2.01 | 0.93 |
| 29:B1:2353:G:C6 | 29:B1:2354:C:H5 | 1.85 | 0.93 |
| 29:B1:2698:G:C2' | 29:B1:2699:G:H5" | 1.98 | 0.93 |
| 31:B3:132:G:H2' | 31:B3:133:G:C8 | 2.03 | 0.93 |
| 50:BU:80:ARG:O | 50:BU:98:ASN:HA | 1.68 | 0.93 |
| 1:C1:171:A:O2' | 1:C1:172:C:H5" | 1.67 | 0.93 |
| 1:C1:638:U:H3' | 1:C1:639:U:H5' | 1.47 | 0.93 |
| 1:C1:1291:G:H22 | 1:C1:1324:G:H1 | 1.03 | 0.93 |
| 29:D1:1223:A:N1 | 29:D1:1285:G:H5" | 1.82 | 0.93 |
| 29:D1:2850:G:OP1 | 29:D1:2850:G:H4' | 1.66 | 0.93 |
| 29:D1:3114:A:N7 | 29:D1:3115:C:C5 | 2.36 | 0.93 |
| 29:B1:72:C:C3' | 29:B1:73:C:H5' | 1.97 | 0.93 |
| 29:B1:346:C:N4 | 29:B1:348:A:H3' | 1.84 | 0.93 |
| 31:B3:129:C:H2' | 31:B3:130:C:H6 | 1.30 | 0.93 |
| 29:D1:2151:C:H5' | 29:D1:2151:C:C6 | 2.02 | 0.93 |
| 37:DF:56:LYS:CB | 37:DF:63:LEU:HA | 1.98 | 0.93 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:868:G:H1 | 1:A1:960:U:H3 | 1.05 | 0.93 |
| 29:B1:2501:U:H4' | 29:B1:2502:A:OP1 | 1.66 | 0.93 |
| 29:B1:3198:U:H3' | 29:B1:3199:G:H8 | 1.31 | 0.93 |
| 29:B1:3274:A:C8 | 29:B1:3275:U:H2' | 2.04 | 0.93 |
| 45:BP:124:LEU:CA | 45:BP:126:VAL:N | 2.32 | 0.93 |
| 1:C1:25:C:C4 | 1:C1:367:A:H1' | 2.03 | 0.93 |
| 1:C1:1160:A:H2' | 1:C1:1161:C:H6 | 1.33 | 0.93 |
| 1:C1:1160:A:H2' | 1:C1:1161:C:C6 | 2.02 | 0.93 |
| 1:C1:1198:G:H3' | 1:C1:1199:G:C5' | 1.97 | 0.93 |
| 29:D1:1157:G:H5' | 29:D1:1157:G:C8 | 2.03 | 0.93 |
| 29:D1:1157:G:H5' | 29:D1:1157:G:H8 | 1.31 | 0.93 |
| 29:D1:1793:C:H1' | 29:D1:1794:G:OP1 | 1.68 | 0.93 |
| 29:D1:3135:U:C5 | 29:D1:3136:G:C5 | 2.55 | 0.93 |
| 30:D2:2:G:H1 | 30:D2:119:U:H3 | 1.09 | 0.93 |
| 31:D3:128:U:H5" | 31:D3:129:C:H5 | 1.30 | 0.93 |
| 1:A1:638:U:H3' | 1:A1:639:U:H5' | 1.50 | 0.93 |
| 29:B1:1495:U:C2 | 29:B1:1842:A:H2 | 1.86 | 0.93 |
| 29:B1:2703:A:H5" | 29:B1:2704:A:H5' | 1.46 | 0.93 |
| 29:B1:3078:U:H4' | 29:B1:3079:U:O5' | 1.67 | 0.93 |
| 46:BQ:76:PHE:HA | 46:BQ:78:VAL:H | 1.30 | 0.93 |
| 1:C1:23:G:H1' | 1:C1:368:U:H5' | 1.51 | 0.93 |
| 1:C1:1484:G:H21 | 1:C1:1606:C:H1' | 1.34 | 0.93 |
| 29:D1:1478:C:H2' | 29:D1:1479:U:C6 | 2.04 | 0.93 |
| 29:D1:2537:U:H3 | 29:D1:2542:U:H3 | 1.11 | 0.93 |
| 29:D1:3149:G:C2 | 29:D1:3150:A:C1' | 2.51 | 0.93 |
| 30:D2:12:U:C5' | 30:D2:68:C:H1' | 1.96 | 0.93 |
| 1:A1:827:C:C4 | 1:A1:846:G:O6 | 2.20 | 0.93 |
| 29:B1:504:A:H2 | 29:B1:587:U:N3 | 1.65 | 0.93 |
| 29:B1:1189:C:H4' | 29:B1:1192:C:H5 | 1.31 | 0.93 |
| 29:B1:2650:U:H5" | 29:B1:2651:G:OP2 | 1.68 | 0.93 |
| 29:B1:3242:G:H22 | 29:B1:3244:A:H8 | 1.06 | 0.93 |
| 30:B2:12:U:H3' | 30:B2:13:A:H2 | 0.82 | 0.93 |
| 1:C1:1109:G:H1 | 1:C1:1136:U:H3 | 0.93 | 0.93 |
| 1:C1:1200:G:H4' | 1:C1:1201:G:OP2 | 1.66 | 0.93 |
| 29:D1:575:G:H5' | 29:D1:575:G:C8 | 2.04 | 0.93 |
| 29:D1:1504:A:H2' | 29:D1:1505:C:H6 | 1.33 | 0.93 |
| 1:A1:978:A:N6 | 1:A1:1024:U:N3 | 2.17 | 0.93 |
| 1:A1:1649:G:H2' | 1:A1:1650:U:C6 | 2.03 | 0.93 |
| 29:B1:86:G:H22 | 29:B1:98:G:H2' | 1.31 | 0.93 |
| 29:B1:264:G:H3' | 29:B1:265:A:C8 | 2.04 | 0.93 |
| 29:B1:286:U:H2' | 29:B1:287:G:H8 | 1.12 | 0.93 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:421:G:H21 | 29:B1:2365:C:H1' | 1.30 | 0.93 |
| 29:B1:504:A:H3' | 29:B1:504:A:C8 | 2.03 | 0.93 |
| 29:B1:1129:A:C6 | 29:B1:1130:A:C6 | 2.57 | 0.93 |
| 29:B1:1190:A:H2 | 29:B1:1191:U:H6 | 1.10 | 0.93 |
| 29:B1:1628:C:H4' | 29:B1:1630:U:H2' | 1.50 | 0.93 |
| 29:B1:3013:U:OP1 | 29:B1:3013:U:H4' | 1.67 | 0.93 |
| 29:D1:334:A:H2' | 29:D1:335:G:C8 | 2.04 | 0.93 |
| 29:D1:406:G:H1' | 31:D3:16:G:H22 | 1.31 | 0.93 |
| 29:D1:1194:G:H4' | 29:D1:1320:C:OP1 | 1.67 | 0.93 |
| 29:D1:1504:A:H3' | 29:D1:1505:C:H5" | 1.48 | 0.93 |
| 29:D1:2144:A:C2 | 29:D1:2281:A:C5 | 2.57 | 0.93 |
| 29:D1:3172:A:H1' | 29:D1:3173:G:N7 | 1.82 | 0.93 |
| 29:D1:3222:U:H3 | 29:D1:3263:G:H1 | 0.97 | 0.93 |
| 29:D1:3271:G:C2 | 29:D1:3272:C:OP1 | 2.21 | 0.93 |
| 46:DQ:76:PHE:HA | 46:DQ:78:VAL:N | 1.84 | 0.93 |
| 1:A1:921:U:O2' | 1:A1:922:G:H5' | 1.67 | 0.93 |
| 29:B1:7:C:H3' | 29:B1:7:C:O2 | 1.69 | 0.93 |
| 29:B1:2173:U:H2' | 29:B1:2174:G:H8 | 1.33 | 0.93 |
| 43:BN:76:ALA:HA | 43:BN:79:ALA:HB3 | 1.49 | 0.93 |
| 1:C1:973:A:C1' | 29:D1:847:A:C2 | 2.51 | 0.93 |
| 1:C1:1204:A:C3' | 1:C1:1205:C:H5" | 1.99 | 0.93 |
| 1:C1:1480:G:H5' | 1:C1:1480:G:C8 | 2.03 | 0.93 |
| 29:D1:363:G:C2' | 29:D1:364:G:H5" | 1.98 | 0.93 |
| 29:D1:822:G:H2' | 29:D1:823:C:H6 | 1.34 | 0.93 |
| 29:D1:1274:A:H2' | 29:D1:1275:C:H5" | 1.47 | 0.93 |
| 30:D2:35:C:N4 | 30:D2:47:C:H1' | 1.83 | 0.93 |
| 3:AB:219:GLY:O | 3:AB:221:THR:N | 2.01 | 0.93 |
| 29:B1:2251:G:H1' | 29:B1:2252:A:OP1 | 1.68 | 0.93 |
| 29:B1:2396:G:O2' | 29:B1:2398:A:H4' | 1.69 | 0.93 |
| 29:B1:3201:C:OP1 | 29:B1:3201:C:C6 | 2.21 | 0.93 |
| 54:BY:131:SER:C | 54:BY:133:LEU:H | 1.77 | 0.93 |
| 1:C1:394:C:H42 | 1:C1:401:A:N6 | 1.67 | 0.93 |
| 1:C1:448:C:H2' | 1:C1:449:C:H6 | 1.12 | 0.93 |
| 29:D1:562:C:H2' | 29:D1:563:U:H6 | 1.34 | 0.93 |
| 29:D1:1846:C:H2' | 29:D1:1846:C:O2 | 1.68 | 0.93 |
| 29:D1:2120:A:O2' | 29:D1:2121:G:O5' | 1.85 | 0.93 |
| 31:D3:65:A:H2' | 31:D3:66:A:C8 | 2.04 | 0.93 |
| 36:DE:134:ALA:HB3 | 36:DE:136:GLU:H | 1.33 | 0.93 |
| 1:A1:594:A:H4' | 1:A1:595:G:H5' | 1.51 | 0.92 |
| 29:B1:249:U:H4' | 29:B1:250:U:OP1 | 1.68 | 0.92 |
| 29:B1:1560:G:N1 | 29:B1:1579:C:C2 | 2.37 | 0.92 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1903:U:O2 | 29:B1:1905:G:H5” | 1.68 | 0.92 |
| 29:B1:3260:G:C2 | 29:B1:3261:C:H4’ | 2.03 | 0.92 |
| 31:B3:132:G:H2’ | 31:B3:133:G:H8 | 1.31 | 0.92 |
| 1:C1:228:G:HO2’ | 1:C1:229:U:H6 | 1.08 | 0.92 |
| 1:C1:1347:U:H4’ | 1:C1:1348:A:OP2 | 1.67 | 0.92 |
| 29:D1:425:G:H5” | 29:D1:425:G:C8 | 2.04 | 0.92 |
| 29:D1:750:G:H2’ | 29:D1:751:A:H8 | 1.34 | 0.92 |
| 29:D1:1653:G:H2’ | 29:D1:1654:A:H5’ | 1.50 | 0.92 |
| 29:D1:2252:A:H2’ | 29:D1:2253:G:C8 | 2.04 | 0.92 |
| 29:D1:2315:G:C2 | 29:D1:2316:G:N7 | 2.37 | 0.92 |
| 29:D1:3262:U:OP2 | 29:D1:3262:U:H6 | 1.51 | 0.92 |
| 34:DC:118:PHE:HA | 34:DC:119:TYR:CB | 1.97 | 0.92 |
| 29:B1:2754:G:C3’ | 29:B1:2755:C:H5’ | 1.99 | 0.92 |
| 29:B1:2850:G:OP1 | 29:B1:2850:G:H4’ | 1.69 | 0.92 |
| 1:C1:44:U:C5’ | 1:C1:45:U:H5 | 1.83 | 0.92 |
| 1:C1:243:G:N1 | 1:C1:251:A:N1 | 2.17 | 0.92 |
| 1:C1:1457:C:C5 | 1:C1:1559:A:N6 | 2.36 | 0.92 |
| 1:C1:1560:U:O2 | 1:C1:1560:U:H2’ | 1.65 | 0.92 |
| 13:CL:37:GLY:HA3 | 13:CL:102:ALA:HA | 1.50 | 0.92 |
| 29:D1:1278:A:O2’ | 29:D1:1279:C:H6 | 1.51 | 0.92 |
| 29:D1:1941:C:H42 | 29:D1:2107:A:H61 | 1.16 | 0.92 |
| 29:D1:3104:U:H2’ | 29:D1:3105:U:H5’ | 1.48 | 0.92 |
| 1:A1:1099:U:O2’ | 1:A1:1100:G:C4 | 2.21 | 0.92 |
| 6:AE:66:ASP:C | 6:AE:68:LYS:H | 1.73 | 0.92 |
| 6:AE:114:TYR:HA | 6:AE:119:ALA:HB3 | 1.50 | 0.92 |
| 29:B1:22:G:C4 | 29:B1:23:A:C8 | 2.56 | 0.92 |
| 29:B1:153:U:H4’ | 29:B1:158:G:H21 | 1.34 | 0.92 |
| 29:B1:360:G:C6 | 29:B1:361:A:N6 | 2.38 | 0.92 |
| 29:B1:1481:A:O2’ | 29:B1:1858:A:H2’ | 1.70 | 0.92 |
| 29:B1:2268:U:H2’ | 29:B1:2269:U:H5 | 1.33 | 0.92 |
| 29:B1:3264:G:H2’ | 29:B1:3265:C:H5” | 1.51 | 0.92 |
| 29:B1:3299:A:O2’ | 29:B1:3300:U:P | 2.28 | 0.92 |
| 1:C1:609:U:H5” | 1:C1:610:G:C5 | 2.03 | 0.92 |
| 1:C1:1280:C:H2’ | 1:C1:1281:G:C8 | 2.04 | 0.92 |
| 29:D1:1405:U:H2’ | 29:D1:1406:A:H8 | 1.35 | 0.92 |
| 29:D1:1678:G:H2’ | 29:D1:1679:A:C8 | 2.05 | 0.92 |
| 29:D1:3137:C:O2 | 29:D1:3137:C:H2’ | 1.69 | 0.92 |
| 30:D2:11:A:H1’ | 30:D2:67:G:H21 | 1.32 | 0.92 |
| 1:A1:1250:U:C4 | 1:A1:1251:U:O4 | 2.22 | 0.92 |
| 1:A1:1600:A:H4’ | 1:A1:1600:A:OP1 | 1.67 | 0.92 |
| 29:B1:118:U:H3 | 29:B1:150:A:N6 | 1.66 | 0.92 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:591:G:H21 | 29:B1:592:A:H1' | 1.24 | 0.92 |
| 29:B1:2537:U:H3 | 29:B1:2542:U:H3 | 1.10 | 0.92 |
| 29:B1:3210:A:C3' | 29:B1:3211:C:C6 | 2.53 | 0.92 |
| 47:BR:154:GLY:H | 47:BR:155:MET:HA | 1.30 | 0.92 |
| 1:C1:1626:U:C2' | 1:C1:1627:U:H5' | 1.98 | 0.92 |
| 29:D1:132:C:O2 | 29:D1:132:C:H2' | 1.66 | 0.92 |
| 29:D1:2092:A:H3' | 29:D1:2093:A:H5" | 1.49 | 0.92 |
| 29:D1:2129:U:H2' | 29:D1:2130:G:C8 | 2.03 | 0.92 |
| 29:D1:2523:A:C1' | 29:D1:2524:A:H5' | 1.99 | 0.92 |
| 30:D2:74:C:O3' | 74:D2:201:OHX:N4 | 2.00 | 0.92 |
| 31:D3:14:C:H3' | 31:D3:15:G:H8 | 1.33 | 0.92 |
| 1:A1:546:U:H2' | 1:A1:547:U:C6 | 2.04 | 0.92 |
| 29:B1:325:A:H3' | 29:B1:327:A:OP1 | 1.69 | 0.92 |
| 29:B1:592:A:H2' | 29:B1:593:C:C2' | 1.99 | 0.92 |
| 29:B1:1697:A:C2' | 29:B1:1698:C:H5' | 1.99 | 0.92 |
| 29:B1:1941:C:H42 | 29:B1:2107:A:N6 | 1.68 | 0.92 |
| 29:B1:2147:A:H5' | 29:B1:2147:A:H8 | 1.34 | 0.92 |
| 29:B1:3044:G:O3' | 34:BC:12:GLY:HA2 | 1.69 | 0.92 |
| 1:C1:73:U:O4 | 1:C1:80:A:N6 | 2.02 | 0.92 |
| 1:C1:394:C:H42 | 1:C1:401:A:H62 | 0.95 | 0.92 |
| 1:C1:1458:G:N3 | 1:C1:1458:G:H2' | 1.82 | 0.92 |
| 29:D1:3047:U:C2 | 29:D1:3048:A:H2 | 1.82 | 0.92 |
| 30:D2:91:G:H2' | 30:D2:92:A:H8 | 1.31 | 0.92 |
| 31:D3:129:C:H2' | 31:D3:130:C:H6 | 1.33 | 0.92 |
| 39:DH:99:PRO:CB | 39:DH:237:ILE:H | 1.82 | 0.92 |
| 1:A1:322:G:C4' | 1:A1:323:A:OP1 | 2.17 | 0.92 |
| 29:B1:100:A:H2' | 29:B1:101:G:C8 | 2.05 | 0.92 |
| 29:B1:784:A:H3' | 29:B1:785:G:H5" | 1.50 | 0.92 |
| 36:BE:42:ALA:HB1 | 49:BT:69:LYS:CB | 2.00 | 0.92 |
| 1:C1:938:G:N2 | 1:C1:942:G:C4 | 2.38 | 0.92 |
| 29:D1:155:G:N7 | 29:D1:157:A:C2 | 2.38 | 0.92 |
| 29:D1:512:U:C2 | 29:D1:579:G:C2 | 2.58 | 0.92 |
| 29:D1:1503:A:C3' | 29:D1:1504:A:H5" | 1.99 | 0.92 |
| 36:DE:159:VAL:O | 36:DE:161:GLY:N | 2.03 | 0.92 |
| 1:A1:243:G:C2 | 1:A1:251:A:C6 | 2.57 | 0.92 |
| 1:A1:394:C:H2' | 1:A1:395:U:H5' | 1.52 | 0.92 |
| 1:A1:1203:A:H2 | 1:A1:1556:A:H1' | 1.35 | 0.92 |
| 29:B1:518:G:N2 | 29:B1:572:A:H61 | 1.67 | 0.92 |
| 29:B1:578:A:O2' | 29:B1:579:G:OP2 | 1.87 | 0.92 |
| 29:B1:727:G:N2 | 29:B1:741:U:H3 | 1.67 | 0.92 |
| 29:B1:1947:G:H5" | 29:B1:1948:G:OP2 | 1.69 | 0.92 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 32:BA:67:ILE:HA | 32:BA:112:ALA:HB2 | 1.52 | 0.92 |
| 35:BD:12:THR:CB | 35:BD:13:GLY:HA3 | 1.99 | 0.92 |
| 1:C1:250:C:H2' | 1:C1:251:A:C8 | 2.05 | 0.92 |
| 1:C1:836:U:H2' | 1:C1:837:G:C8 | 2.04 | 0.92 |
| 11:CJ:93:HIS:CB | 11:CJ:94:GLN:HA | 2.00 | 0.92 |
| 29:D1:7:C:O2 | 29:D1:7:C:H3' | 1.68 | 0.92 |
| 29:D1:22:G:C4 | 29:D1:23:A:C8 | 2.58 | 0.92 |
| 29:D1:421:G:C8 | 29:D1:421:G:C3' | 2.52 | 0.92 |
| 29:D1:826:G:O2' | 29:D1:1589:A:H8 | 1.52 | 0.92 |
| 29:D1:3334:U:H5' | 29:D1:3371:G:N2 | 1.83 | 0.92 |
| 30:D2:98:C:H3' | 30:D2:99:G:H5" | 1.50 | 0.92 |
| 1:A1:126:A:N1 | 1:A1:292:U:H1' | 1.84 | 0.92 |
| 1:A1:173:A:C5 | 1:A1:174:U:H6 | 1.82 | 0.92 |
| 1:A1:540:G:C1' | 1:A1:541:A:OP1 | 2.18 | 0.92 |
| 29:B1:1503:A:C8 | 29:B1:1503:A:H5" | 2.04 | 0.92 |
| 29:B1:2147:A:H8 | 29:B1:2147:A:C5' | 1.83 | 0.92 |
| 29:B1:2417:U:C5 | 29:B1:2606:G:N7 | 2.37 | 0.92 |
| 35:BD:148:ILE:HA | 35:BD:149:PRO:O | 1.69 | 0.92 |
| 45:BP:35:VAL:O | 45:BP:104:VAL:HA | 1.67 | 0.92 |
| 1:C1:61:A:H4' | 1:C1:62:A:H5' | 1.50 | 0.92 |
| 1:C1:540:G:C1' | 1:C1:541:A:OP1 | 2.16 | 0.92 |
| 1:C1:1600:A:OP1 | 1:C1:1600:A:H4' | 1.68 | 0.92 |
| 5:CD:161:ASP:HA | 5:CD:162:VAL:CB | 1.99 | 0.92 |
| 29:D1:286:U:H2' | 29:D1:287:G:H8 | 1.28 | 0.92 |
| 29:D1:585:A:H5" | 29:D1:586:C:OP2 | 1.69 | 0.92 |
| 29:D1:975:C:H2' | 29:D1:976:U:C6 | 2.05 | 0.92 |
| 29:D1:2268:U:H2' | 29:D1:2269:U:H5 | 1.34 | 0.92 |
| 1:A1:468:A:N6 | 1:A1:595:G:C5 | 2.38 | 0.92 |
| 1:A1:1592:A:H2' | 1:A1:1593:A:H8 | 1.35 | 0.92 |
| 29:B1:186:U:H5" | 29:B1:187:A:OP2 | 1.69 | 0.92 |
| 29:B1:3198:U:H2' | 29:B1:3199:G:C8 | 2.05 | 0.92 |
| 1:C1:1227:A:H4' | 1:C1:1230:A:C6 | 2.04 | 0.92 |
| 29:D1:42:C:C2' | 29:D1:43:A:H5" | 1.96 | 0.92 |
| 29:D1:209:A:O2' | 29:D1:210:U:C2 | 2.21 | 0.92 |
| 29:D1:421:G:N2 | 29:D1:2365:C:H1' | 1.85 | 0.92 |
| 29:D1:556:U:H2' | 29:D1:557:A:H1' | 1.50 | 0.92 |
| 29:D1:3242:G:C1' | 29:D1:3246:G:H22 | 1.83 | 0.92 |
| 29:D1:3303:G:H1' | 29:D1:3304:U:C5' | 1.99 | 0.92 |
| 1:A1:350:U:H4' | 1:A1:352:A:C8 | 2.04 | 0.92 |
| 1:A1:921:U:H2' | 1:A1:922:G:H8 | 1.35 | 0.92 |
| 1:A1:986:G:H1' | 1:A1:987:G:H5' | 1.51 | 0.92 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1392:U:H2' | 1:A1:1393:C:C6 | 2.03 | 0.92 |
| 29:B1:379:C:H5" | 29:B1:379:C:H6 | 1.35 | 0.92 |
| 29:B1:726:G:N3 | 29:B1:744:A:N6 | 2.18 | 0.92 |
| 29:B1:739:G:H2' | 29:B1:740:G:C8 | 2.04 | 0.92 |
| 29:B1:1661:G:H4' | 29:B1:1661:G:OP1 | 1.69 | 0.92 |
| 29:B1:1687:U:OP1 | 29:B1:1687:U:H3' | 1.68 | 0.92 |
| 29:B1:3149:G:C2 | 29:B1:3150:A:C1' | 2.53 | 0.92 |
| 29:B1:3277:U:H2' | 29:B1:3278:C:H5' | 1.50 | 0.92 |
| 36:BE:134:ALA:HB3 | 36:BE:136:GLU:H | 1.35 | 0.92 |
| 45:BP:124:LEU:CB | 45:BP:126:VAL:H | 1.83 | 0.92 |
| 1:C1:199:G:HO2' | 1:C1:200:A:H8 | 1.04 | 0.92 |
| 1:C1:291:G:H2' | 1:C1:292:U:C6 | 2.05 | 0.92 |
| 1:C1:1784:C:H2' | 1:C1:1785:U:C6 | 2.05 | 0.92 |
| 29:D1:951:A:C2 | 29:D1:1369:A:C2 | 2.57 | 0.92 |
| 29:D1:1062:A:O2' | 29:D1:1063:G:OP1 | 1.87 | 0.92 |
| 29:D1:2287:C:O2 | 29:D1:2298:U:O4' | 1.85 | 0.92 |
| 29:D1:2583:C:H2' | 29:D1:2584:G:C8 | 2.05 | 0.92 |
| 1:A1:480:G:H22 | 1:A1:508:U:H3 | 1.13 | 0.91 |
| 1:A1:1129:U:H5" | 1:A1:1130:G:OP2 | 1.68 | 0.91 |
| 1:A1:1160:A:H2' | 1:A1:1161:C:C6 | 2.05 | 0.91 |
| 1:A1:1195:C:H41 | 11:AJ:142:TYR:HA | 1.35 | 0.91 |
| 1:A1:1196:A:H4' | 1:A1:1197:C:H5" | 1.49 | 0.91 |
| 29:B1:1405:U:H2' | 29:B1:1406:A:H8 | 1.33 | 0.91 |
| 29:B1:2315:G:C2 | 29:B1:2316:G:N7 | 2.37 | 0.91 |
| 31:B3:139:U:H2' | 31:B3:140:G:C8 | 2.06 | 0.91 |
| 29:D1:431:U:H2' | 29:D1:432:G:C8 | 2.03 | 0.91 |
| 29:D1:673:U:H2' | 29:D1:674:G:H5' | 1.52 | 0.91 |
| 29:D1:2680:A:P | 29:D1:2681:U:C5 | 2.63 | 0.91 |
| 29:D1:3382:U:C3' | 29:D1:3383:G:H4' | 2.00 | 0.91 |
| 1:A1:591:A:H2' | 1:A1:592:A:C8 | 2.05 | 0.91 |
| 1:A1:1160:A:H2' | 1:A1:1161:C:H6 | 1.33 | 0.91 |
| 29:B1:556:U:H2' | 29:B1:557:A:C1' | 2.00 | 0.91 |
| 29:B1:3353:G:H3' | 29:B1:3354:U:H5' | 1.52 | 0.91 |
| 29:B1:3365:U:H2' | 29:B1:3366:G:H8 | 1.34 | 0.91 |
| 9:CH:100:ALA:O | 9:CH:104:ALA:HB2 | 1.70 | 0.91 |
| 29:D1:153:U:H4' | 29:D1:158:G:H21 | 1.33 | 0.91 |
| 29:D1:955:U:H2' | 29:D1:956:U:C6 | 2.05 | 0.91 |
| 29:D1:1875:G:C2' | 29:D1:1876:U:H5" | 2.01 | 0.91 |
| 1:A1:23:G:H1' | 1:A1:368:U:H5' | 1.49 | 0.91 |
| 1:A1:1291:G:H22 | 1:A1:1324:G:H1 | 1.03 | 0.91 |
| 29:B1:394:G:H1 | 29:B1:397:A:H5" | 1.34 | 0.91 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2147:A:H2' | 29:B1:2148:U:C6 | 2.05 | 0.91 |
| 29:B1:3231:U:H3 | 29:B1:3256:G:H1 | 1.13 | 0.91 |
| 1:C1:1542:G:H22 | 1:C1:1568:C:H2' | 1.30 | 0.91 |
| 29:D1:150:A:C8 | 29:D1:151:A:N7 | 2.39 | 0.91 |
| 29:D1:609:G:O2' | 29:D1:610:G:H5" | 1.70 | 0.91 |
| 29:D1:1176:C:H5" | 29:D1:1177:G:H5" | 1.52 | 0.91 |
| 29:D1:1222:G:H4' | 29:D1:1223:A:OP2 | 1.69 | 0.91 |
| 29:D1:1350:A:H5' | 29:D1:1351:U:H5 | 1.34 | 0.91 |
| 29:D1:3055:U:H2' | 29:D1:3085:G:N1 | 1.85 | 0.91 |
| 36:DE:28:THR:C | 36:DE:30:TYR:H | 1.65 | 0.91 |
| 1:A1:624:G:H1' | 1:A1:1027:A:C4 | 2.06 | 0.91 |
| 1:A1:1110:G:H5' | 1:A1:1110:G:C8 | 2.05 | 0.91 |
| 1:A1:1580:C:H2' | 1:A1:1581:C:C6 | 2.05 | 0.91 |
| 1:A1:1590:G:H2' | 1:A1:1591:C:C5 | 2.05 | 0.91 |
| 29:B1:1638:A:N3 | 29:B1:1709:C:H1' | 1.85 | 0.91 |
| 29:B1:2255:A:C5 | 74:B1:3438:OHX:N6 | 2.39 | 0.91 |
| 29:B1:2370:G:C5 | 29:B1:2371:G:N7 | 2.39 | 0.91 |
| 29:B1:2565:U:H2' | 29:B1:2566:C:C6 | 2.05 | 0.91 |
| 57:Bb:123:LYS:CB | 57:Bb:124:GLY:HA2 | 1.99 | 0.91 |
| 1:C1:33:U:H1' | 1:C1:468:A:H2 | 1.34 | 0.91 |
| 1:C1:1345:A:H2' | 1:C1:1346:A:C5 | 2.04 | 0.91 |
| 29:D1:1439:U:H2' | 29:D1:1440:G:H8 | 1.35 | 0.91 |
| 29:D1:1715:A:H3' | 29:D1:1716:U:H5" | 1.49 | 0.91 |
| 29:D1:1901:A:H5" | 29:D1:1902:G:OP2 | 1.71 | 0.91 |
| 29:D1:2136:C:H5' | 29:D1:2137:U:OP2 | 1.71 | 0.91 |
| 29:D1:2565:U:H2' | 29:D1:2566:C:C6 | 2.06 | 0.91 |
| 29:D1:2656:A:H4' | 29:D1:2657:A:OP1 | 1.69 | 0.91 |
| 31:D3:71:A:H4' | 31:D3:72:A:OP1 | 1.70 | 0.91 |
| 37:DF:92:SER:O | 37:DF:94:GLU:N | 2.03 | 0.91 |
| 1:A1:1630:U:H4' | 1:A1:1765:A:OP1 | 1.70 | 0.91 |
| 29:B1:2146:C:H2' | 29:B1:2147:A:C5' | 2.00 | 0.91 |
| 29:B1:3242:G:N1 | 29:B1:3244:A:H2' | 1.85 | 0.91 |
| 1:C1:1281:G:H2' | 1:C1:1282:U:H6 | 1.33 | 0.91 |
| 8:CG:51:GLY:HA2 | 8:CG:53:LEU:H | 1.22 | 0.91 |
| 29:D1:807:A:H5' | 29:D1:808:A:OP2 | 1.71 | 0.91 |
| 29:D1:2608:G:H2' | 29:D1:2609:A:H8 | 1.34 | 0.91 |
| 29:D1:2992:U:C2' | 29:D1:2993:G:H5' | 2.00 | 0.91 |
| 29:D1:3029:A:H3' | 29:D1:3030:G:H5" | 1.49 | 0.91 |
| 29:D1:3330:A:H2' | 29:D1:3331:U:C6 | 2.05 | 0.91 |
| 1:A1:750:U:C2' | 1:A1:751:G:H5' | 2.01 | 0.91 |
| 1:A1:978:A:N6 | 1:A1:1024:U:H3 | 1.66 | 0.91 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1099:U:C5 | 1:A1:1100:G:O6 | 2.24 | 0.91 |
| 1:A1:1376:C:H2' | 1:A1:1377:U:C5 | 2.05 | 0.91 |
| 29:B1:511:G:N2 | 29:B1:580:C:C4 | 2.38 | 0.91 |
| 29:B1:2812:C:H2' | 29:B1:2813:A:H8 | 1.32 | 0.91 |
| 29:B1:2873:U:O2' | 29:B1:2874:G:H5' | 1.71 | 0.91 |
| 29:B1:2918:G:C2 | 29:B1:2919:A:N7 | 2.37 | 0.91 |
| 41:BJ:93:PRO:HA | 41:BJ:127:ALA:HB2 | 1.50 | 0.91 |
| 1:C1:169:A:HO2' | 1:C1:171:A:H8 | 1.12 | 0.91 |
| 1:C1:400:A:H4' | 1:C1:401:A:H5' | 1.52 | 0.91 |
| 1:C1:986:G:H1' | 1:C1:987:G:H5' | 1.51 | 0.91 |
| 1:C1:1274:C:OP2 | 1:C1:1428:G:P | 2.28 | 0.91 |
| 29:D1:400:G:H1' | 29:D1:401:U:OP2 | 1.70 | 0.91 |
| 29:D1:2172:A:H2' | 29:D1:2173:U:H5' | 1.52 | 0.91 |
| 29:D1:2640:A:H2' | 29:D1:2641:U:H6 | 1.35 | 0.91 |
| 29:D1:3231:U:H3 | 29:D1:3256:G:H1 | 0.95 | 0.91 |
| 1:A1:1480:G:H8 | 1:A1:1480:G:C5' | 1.84 | 0.91 |
| 29:B1:611:A:H3' | 29:B1:612:U:C5' | 2.01 | 0.91 |
| 29:B1:775:A:C2' | 29:B1:776:U:H4' | 2.01 | 0.91 |
| 29:B1:829:U:H4' | 29:B1:866:A:C2 | 2.05 | 0.91 |
| 29:B1:2636:A:H5" | 29:B1:2637:A:C5' | 2.00 | 0.91 |
| 29:B1:2862:U:O2' | 29:B1:2863:G:H5' | 1.69 | 0.91 |
| 29:B1:3321:C:O2' | 29:B1:3322:A:H8 | 1.54 | 0.91 |
| 37:BF:86:ALA:HB1 | 37:BF:87:THR:HA | 1.51 | 0.91 |
| 1:C1:110:U:H5" | 1:C1:111:U:OP2 | 1.71 | 0.91 |
| 1:C1:546:U:H2' | 1:C1:547:U:C6 | 2.05 | 0.91 |
| 29:D1:1063:G:H5' | 29:D1:1098:A:O5' | 1.70 | 0.91 |
| 29:D1:1648:A:H2' | 29:D1:1649:U:O4' | 1.69 | 0.91 |
| 29:D1:3013:U:OP1 | 29:D1:3013:U:H4' | 1.67 | 0.91 |
| 31:D3:55:U:H2' | 31:D3:56:G:H8 | 1.33 | 0.91 |
| 1:A1:162:A:H3' | 1:A1:163:G:H8 | 1.36 | 0.91 |
| 1:A1:650:U:N3 | 1:A1:684:A:N6 | 1.93 | 0.91 |
| 1:A1:1291:G:H2' | 1:A1:1292:G:H8 | 1.36 | 0.91 |
| 1:A1:1756:A:O5' | 1:A1:1756:A:H8 | 1.50 | 0.91 |
| 12:AK:48:ASN:HA | 12:AK:51:ALA:HB3 | 1.52 | 0.91 |
| 29:B1:595:G:N1 | 29:B1:610:G:OP1 | 2.04 | 0.91 |
| 29:B1:1340:G:H2' | 29:B1:1341:U:C6 | 2.06 | 0.91 |
| 29:B1:2350:C:H4' | 29:B1:3308:C:O2' | 1.71 | 0.91 |
| 29:B1:2628:A:H1' | 29:B1:2798:C:C4 | 2.06 | 0.91 |
| 29:B1:3210:A:C3' | 29:B1:3211:C:H6 | 1.83 | 0.91 |
| 1:C1:113:U:H5" | 1:C1:114:C:H5' | 1.53 | 0.91 |
| 1:C1:1203:A:H2 | 1:C1:1556:A:H1' | 1.31 | 0.91 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1250:U:C4 | 1:C1:1251:U:O4 | 2.23 | 0.91 |
| 21:CT:213:SER:O | 21:CT:220:ILE:HA | 1.68 | 0.91 |
| 29:D1:953:G:H4' | 29:D1:954:U:C6 | 2.05 | 0.91 |
| 29:D1:1272:C:H2' | 29:D1:1273:A:O4' | 1.71 | 0.91 |
| 29:D1:1452:A:H1' | 29:D1:2347:U:H5" | 1.52 | 0.91 |
| 29:D1:2593:A:H4' | 29:D1:2594:C:H5' | 1.51 | 0.91 |
| 29:D1:3123:A:H2' | 29:D1:3124:G:H5' | 1.53 | 0.91 |
| 29:D1:3210:A:C3' | 29:D1:3211:C:H6 | 1.83 | 0.91 |
| 1:A1:942:G:OP1 | 1:A1:977:A:H1' | 1.71 | 0.91 |
| 29:B1:154:U:H4' | 29:B1:155:G:OP2 | 1.67 | 0.91 |
| 29:B1:3215:A:C5' | 29:B1:3218:A:H5" | 2.00 | 0.91 |
| 1:C1:218:A:H61 | 1:C1:844:A:H1' | 1.35 | 0.91 |
| 1:C1:763:G:H2' | 1:C1:764:U:C6 | 2.06 | 0.91 |
| 1:C1:1634:C:H2' | 1:C1:1634:C:O2 | 1.67 | 0.91 |
| 29:D1:1838:G:H5" | 29:D1:1839:A:OP1 | 1.68 | 0.91 |
| 29:D1:2915:U:O2 | 29:D1:2915:U:H2' | 1.69 | 0.91 |
| 29:D1:3122:A:H2' | 29:D1:3123:A:C5' | 1.99 | 0.91 |
| 53:DX:19:TYR:O | 53:DX:21:THR:N | 2.03 | 0.91 |
| 1:A1:871:G:O2' | 1:A1:872:G:H8 | 1.53 | 0.91 |
| 1:A1:1435:G:H4' | 1:A1:1436:A:OP2 | 1.70 | 0.91 |
| 29:B1:606:C:C4 | 29:B1:607:A:C6 | 2.58 | 0.91 |
| 29:B1:1303:A:C8 | 29:B1:1304:A:C5 | 2.59 | 0.91 |
| 29:B1:3318:G:N3 | 29:B1:3318:G:H2' | 1.86 | 0.91 |
| 57:Bb:83:GLU:C | 57:Bb:85:LEU:H | 1.79 | 0.91 |
| 29:D1:249:U:H4' | 29:D1:250:U:OP1 | 1.68 | 0.91 |
| 29:D1:524:U:H2' | 29:D1:525:C:C6 | 2.06 | 0.91 |
| 29:D1:1303:A:H2 | 29:D1:2887:A:C2 | 1.88 | 0.91 |
| 29:D1:2611:U:H2' | 29:D1:2612:U:H6 | 1.28 | 0.91 |
| 29:D1:2812:C:H2' | 29:D1:2813:A:H8 | 1.34 | 0.91 |
| 29:D1:2833:A:H2' | 29:D1:2834:G:H5' | 1.52 | 0.91 |
| 1:A1:1197:C:H5' | 1:A1:1198:G:OP2 | 1.71 | 0.90 |
| 1:A1:1363:U:H2' | 1:A1:1364:G:C1' | 2.01 | 0.90 |
| 24:Ac:51:UNK:HA | 24:Ac:65:UNK:HA | 1.53 | 0.90 |
| 29:B1:275:U:O2' | 29:B1:276:U:H5' | 1.71 | 0.90 |
| 29:B1:512:U:C2 | 29:B1:579:G:C2 | 2.58 | 0.90 |
| 29:B1:584:G:H2' | 29:B1:585:A:C8 | 2.06 | 0.90 |
| 29:B1:993:G:N2 | 29:B1:2637:A:H3' | 1.86 | 0.90 |
| 29:B1:1196:C:H5 | 29:B1:1197:A:H62 | 0.91 | 0.90 |
| 29:B1:1902:G:H2' | 29:B1:1903:U:O4' | 1.70 | 0.90 |
| 29:B1:3184:A:H5" | 29:B1:3184:A:H8 | 1.35 | 0.90 |
| 29:B1:3376:A:N3 | 29:B1:3376:A:H5" | 1.86 | 0.90 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 43:BN:33:ALA:HB1 | 43:BN:48:GLY:H | 1.35 | 0.90 |
| 1:C1:162:A:H3' | 1:C1:163:G:H8 | 1.34 | 0.90 |
| 29:D1:504:A:H3' | 29:D1:504:A:C8 | 2.06 | 0.90 |
| 29:D1:1156:C:C3' | 29:D1:1157:G:H5" | 2.01 | 0.90 |
| 29:D1:1506:A:O2' | 29:D1:1507:G:H5' | 1.71 | 0.90 |
| 29:D1:3023:U:H2' | 29:D1:3024:A:H8 | 1.35 | 0.90 |
| 1:A1:524:U:H2' | 1:A1:527:A:H2 | 1.32 | 0.90 |
| 29:B1:150:A:H2' | 29:B1:151:A:H8 | 1.34 | 0.90 |
| 29:B1:1448:U:H5 | 29:B1:2355:G:C2 | 1.89 | 0.90 |
| 29:B1:2727:A:H4' | 29:B1:2728:G:OP1 | 1.69 | 0.90 |
| 29:B1:3047:U:C2 | 29:B1:3048:A:C2 | 2.59 | 0.90 |
| 29:B1:3090:U:H5" | 29:B1:3090:U:H6 | 1.21 | 0.90 |
| 29:B1:3137:C:O2 | 29:B1:3137:C:H2' | 1.70 | 0.90 |
| 29:D1:360:G:C6 | 29:D1:361:A:N6 | 2.39 | 0.90 |
| 29:D1:414:U:O2' | 29:D1:415:G:H5' | 1.69 | 0.90 |
| 29:D1:826:G:H21 | 29:D1:1589:A:H62 | 1.14 | 0.90 |
| 29:D1:884:A:N7 | 29:D1:2139:A:N3 | 2.19 | 0.90 |
| 29:D1:1131:G:C4 | 29:D1:2373:A:C2 | 2.60 | 0.90 |
| 47:DR:98:LYS:HA | 47:DR:117:ALA:HB1 | 1.51 | 0.90 |
| 1:A1:78:A:H4' | 1:A1:79:C:OP2 | 1.71 | 0.90 |
| 29:B1:1303:A:H2 | 29:B1:2887:A:C2 | 1.89 | 0.90 |
| 29:B1:1913:A:C4 | 29:B1:2120:A:C8 | 2.59 | 0.90 |
| 29:B1:3215:A:OP2 | 29:B1:3218:A:C8 | 2.23 | 0.90 |
| 36:BE:159:VAL:O | 36:BE:161:GLY:N | 2.03 | 0.90 |
| 1:C1:62:A:OP2 | 1:C1:62:A:C3' | 2.17 | 0.90 |
| 1:C1:357:G:C4 | 1:C1:358:U:C5 | 2.59 | 0.90 |
| 1:C1:526:A:N3 | 1:C1:526:A:H2' | 1.84 | 0.90 |
| 1:C1:1348:A:H8 | 1:C1:1348:A:O5' | 1.54 | 0.90 |
| 29:D1:346:C:N4 | 29:D1:348:A:H3' | 1.85 | 0.90 |
| 29:D1:3174:A:H1' | 29:D1:3175:U:H5" | 1.53 | 0.90 |
| 29:D1:3215:A:C5' | 29:D1:3218:A:H5" | 2.01 | 0.90 |
| 1:A1:1144:U:O4' | 1:A1:1300:A:C2 | 2.23 | 0.90 |
| 1:A1:1602:C:H3' | 1:A1:1603:U:H6 | 1.36 | 0.90 |
| 29:B1:334:A:H2' | 29:B1:335:G:C8 | 2.05 | 0.90 |
| 29:B1:407:A:O2' | 29:B1:408:A:H5' | 1.72 | 0.90 |
| 29:B1:726:G:H1' | 29:B1:744:A:N1 | 1.87 | 0.90 |
| 29:B1:1289:G:H4' | 29:B1:1290:A:OP1 | 1.68 | 0.90 |
| 29:B1:1303:A:H2 | 29:B1:2887:A:N1 | 1.69 | 0.90 |
| 29:B1:1441:G:H2' | 29:B1:1442:U:C5' | 2.00 | 0.90 |
| 29:B1:2253:G:O6 | 29:B1:2263:C:N4 | 2.04 | 0.90 |
| 29:B1:2673:A:O2' | 42:BK:107:ASP:HA | 1.70 | 0.90 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1144:U:H2' | 1:C1:1145:U:C6 | 2.06 | 0.90 |
| 1:C1:1557:U:P | 1:C1:1560:U:O4 | 2.28 | 0.90 |
| 29:D1:35:A:H1' | 29:D1:810:A:O2' | 1.72 | 0.90 |
| 29:D1:264:G:H3' | 29:D1:265:A:C8 | 2.07 | 0.90 |
| 29:D1:308:A:C2 | 29:D1:2782:U:N3 | 2.39 | 0.90 |
| 29:D1:611:A:OP1 | 29:D1:611:A:H4' | 1.71 | 0.90 |
| 29:D1:1218:U:H5" | 29:D1:1219:C:OP2 | 1.71 | 0.90 |
| 29:D1:1902:G:H2' | 29:D1:1903:U:O4' | 1.72 | 0.90 |
| 29:D1:2111:G:N2 | 51:DV:49:ILE:HA | 1.84 | 0.90 |
| 29:D1:2324:A:H5" | 29:D1:2325:G:OP2 | 1.71 | 0.90 |
| 29:D1:2655:U:H4' | 29:D1:2656:A:C5' | 2.01 | 0.90 |
| 29:D1:2741:C:O3' | 61:Df:19:LYS:HA | 1.72 | 0.90 |
| 74:D1:3408:OHX:N2 | 74:D1:3582:OHX:N5 | 2.18 | 0.90 |
| 31:D3:65:A:H2' | 31:D3:66:A:H8 | 1.34 | 0.90 |
| 1:A1:527:A:P | 1:A1:528:U:H3' | 2.11 | 0.90 |
| 1:A1:955:A:H4' | 1:A1:1074:G:O2' | 1.72 | 0.90 |
| 29:B1:8:C:H2' | 29:B1:9:U:C6 | 2.06 | 0.90 |
| 29:B1:156:G:C8 | 29:B1:157:A:H1' | 2.07 | 0.90 |
| 29:B1:210:U:OP2 | 29:B1:210:U:C6 | 2.23 | 0.90 |
| 29:B1:513:G:N2 | 29:B1:577:C:C2 | 2.39 | 0.90 |
| 29:B1:750:G:H22 | 29:B1:784:A:H1' | 1.33 | 0.90 |
| 29:B1:1532:C:H2' | 29:B1:1533:U:C6 | 2.06 | 0.90 |
| 36:BE:49:TYR:HA | 36:BE:50:ARG:CB | 2.01 | 0.90 |
| 1:C1:750:U:C2' | 1:C1:751:G:H5' | 2.02 | 0.90 |
| 1:C1:829:A:O2' | 1:C1:830:U:OP2 | 1.89 | 0.90 |
| 1:C1:871:G:O2' | 1:C1:872:G:H8 | 1.55 | 0.90 |
| 29:D1:430:U:H2' | 29:D1:431:U:C6 | 2.05 | 0.90 |
| 29:D1:562:C:C2' | 29:D1:563:U:C6 | 2.52 | 0.90 |
| 29:D1:1273:A:C8 | 29:D1:1274:A:C8 | 2.60 | 0.90 |
| 29:D1:1560:G:N1 | 29:D1:1579:C:C2 | 2.38 | 0.90 |
| 29:D1:1884:A:C5 | 29:D1:1885:U:N3 | 2.39 | 0.90 |
| 29:D1:2386:A:C4 | 29:D1:2994:A:C2 | 2.60 | 0.90 |
| 29:D1:2640:A:C4 | 29:D1:2641:U:C5 | 2.60 | 0.90 |
| 29:D1:2652:U:H2' | 29:D1:2653:C:C6 | 2.07 | 0.90 |
| 29:D1:3353:G:H3' | 29:D1:3354:U:H5' | 1.51 | 0.90 |
| 1:A1:400:A:H4' | 1:A1:401:A:C5' | 2.01 | 0.90 |
| 1:A1:782:U:H4' | 1:A1:783:G:O5' | 1.72 | 0.90 |
| 29:B1:394:G:C2 | 29:B1:396:A:H2' | 2.06 | 0.90 |
| 29:B1:625:G:H2' | 29:B1:626:U:C6 | 2.06 | 0.90 |
| 29:B1:745:C:C4 | 29:B1:746:A:N6 | 2.40 | 0.90 |
| 1:C1:1101:G:H8 | 1:C1:1101:G:OP2 | 1.53 | 0.90 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:13:A:C2 | 29:D1:15:C:H5' | 2.06 | 0.90 |
| 29:D1:126:U:HO2' | 29:D1:127:G:H8 | 0.94 | 0.90 |
| 29:D1:1339:C:H2' | 29:D1:1340:G:C8 | 2.06 | 0.90 |
| 29:D1:1448:U:H5 | 29:D1:2355:G:C2 | 1.88 | 0.90 |
| 45:DP:124:LEU:CB | 45:DP:126:VAL:H | 1.84 | 0.90 |
| 1:A1:29:U:O2 | 1:A1:597:G:O6 | 1.88 | 0.90 |
| 5:AD:161:ASP:HA | 5:AD:162:VAL:CB | 2.01 | 0.90 |
| 29:B1:641:C:H2' | 29:B1:642:U:O4' | 1.72 | 0.90 |
| 29:B1:884:A:N7 | 29:B1:2139:A:C4 | 2.40 | 0.90 |
| 29:B1:2948:C:H2' | 29:B1:2949:U:C6 | 2.05 | 0.90 |
| 29:B1:3262:U:OP2 | 29:B1:3262:U:H6 | 1.53 | 0.90 |
| 1:C1:992:A:H2 | 1:C1:1012:U:H3 | 0.92 | 0.90 |
| 1:C1:1580:C:H2' | 1:C1:1581:C:C6 | 2.07 | 0.90 |
| 6:CE:71:PHE:O | 6:CE:75:ALA:HB2 | 1.71 | 0.90 |
| 15:CN:22:ILE:HA | 15:CN:118:VAL:HA | 1.51 | 0.90 |
| 29:D1:26:A:H2' | 29:D1:27:C:C6 | 2.07 | 0.90 |
| 29:D1:726:G:N3 | 29:D1:744:A:C6 | 2.39 | 0.90 |
| 29:D1:1153:A:N7 | 29:D1:1154:A:C6 | 2.40 | 0.90 |
| 29:D1:1450:G:H8 | 29:D1:1450:G:O5' | 1.55 | 0.90 |
| 45:DP:124:LEU:CA | 45:DP:126:VAL:N | 2.34 | 0.90 |
| 1:A1:62:A:C2 | 1:A1:63:G:N7 | 2.40 | 0.90 |
| 1:A1:427:C:H6 | 1:A1:427:C:C5' | 1.83 | 0.90 |
| 1:A1:1628:U:H2' | 1:A1:1629:G:C8 | 2.07 | 0.90 |
| 29:B1:750:G:N2 | 29:B1:784:A:C1' | 2.34 | 0.90 |
| 29:B1:2299:A:C5 | 29:B1:2300:G:C8 | 2.60 | 0.90 |
| 29:B1:2353:G:C5 | 29:B1:2354:C:C5 | 2.60 | 0.90 |
| 29:B1:2771:U:H3' | 29:B1:2772:C:C5' | 2.02 | 0.90 |
| 29:B1:2826:U:O2' | 29:B1:2827:U:H5' | 1.72 | 0.90 |
| 29:B1:3090:U:C6 | 29:B1:3090:U:C5' | 2.55 | 0.90 |
| 1:C1:380:U:H2' | 1:C1:381:C:C6 | 2.07 | 0.90 |
| 1:C1:1146:G:H8 | 1:C1:1635:A:H2 | 1.14 | 0.90 |
| 1:C1:1363:U:H2' | 1:C1:1364:G:C1' | 2.02 | 0.90 |
| 1:C1:1375:A:H2' | 1:C1:1376:C:N1 | 1.87 | 0.90 |
| 1:C1:1642:G:O6 | 74:C1:1901:OHX:N3 | 2.05 | 0.90 |
| 24:Cc:1:UNK:H | 24:Cc:74:UNK:CA | 1.84 | 0.90 |
| 29:D1:511:G:N2 | 29:D1:580:C:C2 | 2.38 | 0.90 |
| 29:D1:2997:G:H1' | 29:D1:2998:U:O5' | 1.70 | 0.90 |
| 29:D1:3264:G:C2' | 29:D1:3265:C:H5" | 2.02 | 0.90 |
| 31:D3:139:U:H2' | 31:D3:140:G:C8 | 2.07 | 0.90 |
| 29:B1:1108:U:H2' | 29:B1:1109:U:H6 | 1.35 | 0.90 |
| 29:B1:2270:A:H2' | 29:B1:2271:A:C8 | 2.07 | 0.90 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 36:BE:223:PHE:C | 36:BE:225:GLY:HA3 | 1.97 | 0.90 |
| 1:C1:1198:G:H3' | 1:C1:1199:G:H5' | 1.53 | 0.90 |
| 29:D1:757:C:H2' | 29:D1:757:C:O2 | 1.70 | 0.90 |
| 29:D1:1439:U:H2' | 29:D1:1440:G:C8 | 2.07 | 0.90 |
| 29:D1:2405:C:H2' | 29:D1:2405:C:O2 | 1.70 | 0.90 |
| 29:D1:2997:G:H1' | 29:D1:2998:U:P | 2.12 | 0.90 |
| 29:D1:3300:U:OP2 | 29:D1:3300:U:C6 | 2.23 | 0.90 |
| 29:D1:3318:G:H2' | 29:D1:3318:G:N3 | 1.85 | 0.90 |
| 1:A1:721:U:H4' | 1:A1:722:G:OP2 | 1.71 | 0.90 |
| 1:A1:1347:U:H4' | 1:A1:1348:A:OP2 | 1.70 | 0.90 |
| 1:A1:1467:C:H5' | 1:A1:1602:C:OP1 | 1.70 | 0.90 |
| 29:B1:1065:A:H1' | 29:B1:1093:A:H61 | 1.37 | 0.90 |
| 29:B1:1199:C:C2 | 74:B1:3587:OHX:N6 | 2.40 | 0.90 |
| 29:B1:1862:U:H5" | 29:B1:1863:G:OP2 | 1.72 | 0.90 |
| 29:B1:2877:G:H1 | 29:B1:2949:U:H3 | 1.18 | 0.90 |
| 1:C1:243:G:N2 | 1:C1:251:A:C2 | 2.40 | 0.90 |
| 1:C1:444:C:H42 | 1:C1:460:A:H62 | 1.15 | 0.90 |
| 1:C1:1600:A:O2' | 1:C1:1602:C:H5 | 1.55 | 0.90 |
| 29:D1:1667:A:H2' | 29:D1:1668:G:H8 | 1.31 | 0.90 |
| 29:D1:2259:A:H3' | 29:D1:2260:U:C6 | 2.06 | 0.90 |
| 29:D1:2353:G:C6 | 29:D1:2354:C:C5 | 2.59 | 0.90 |
| 29:D1:3210:A:C3' | 29:D1:3211:C:C6 | 2.53 | 0.90 |
| 1:A1:243:G:H2' | 1:A1:244:A:H8 | 1.34 | 0.89 |
| 1:A1:289:U:H2' | 1:A1:289:U:O2 | 1.71 | 0.89 |
| 1:A1:992:A:C2 | 1:A1:1012:U:C2 | 2.60 | 0.89 |
| 1:A1:1198:G:H3' | 1:A1:1199:G:C5' | 2.00 | 0.89 |
| 1:A1:1444:A:H5' | 1:A1:1446:A:N7 | 1.87 | 0.89 |
| 29:B1:284:A:C2 | 29:B1:306:A:C8 | 2.60 | 0.89 |
| 29:B1:2143:A:C2' | 29:B1:2144:A:H5' | 2.02 | 0.89 |
| 29:B1:3028:G:C2 | 29:B1:3029:A:N3 | 2.40 | 0.89 |
| 30:B2:34:C:H2' | 30:B2:34:C:O2 | 1.72 | 0.89 |
| 36:BE:99:TYR:HA | 36:BE:165:GLY:HA3 | 1.52 | 0.89 |
| 1:C1:556:A:H5" | 1:C1:558:U:OP2 | 1.72 | 0.89 |
| 1:C1:1734:U:H2' | 1:C1:1735:U:C6 | 2.07 | 0.89 |
| 29:D1:383:G:H3' | 29:D1:385:A:OP2 | 1.70 | 0.89 |
| 29:D1:405:U:H5 | 29:D1:406:G:C5 | 1.87 | 0.89 |
| 29:D1:774:G:C2' | 29:D1:775:A:H5' | 2.01 | 0.89 |
| 29:D1:784:A:H2' | 29:D1:785:G:H8 | 1.36 | 0.89 |
| 29:D1:1638:A:N3 | 29:D1:1709:C:H1' | 1.84 | 0.89 |
| 29:D1:2834:G:HO2' | 29:D1:2835:U:H6 | 0.91 | 0.89 |
| 29:D1:3327:G:C5 | 29:D1:3328:G:N7 | 2.40 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:D2:41:G:H5' | 30:D2:42:A:OP2 | 1.70 | 0.89 |
| 1:A1:43:A:C2' | 1:A1:44:U:H5" | 2.02 | 0.89 |
| 1:A1:328:A:H2' | 1:A1:329:G:C8 | 2.07 | 0.89 |
| 1:A1:1119:G:H2' | 1:A1:1120:U:H6 | 1.37 | 0.89 |
| 1:A1:1457:C:C5 | 1:A1:1559:A:N6 | 2.40 | 0.89 |
| 29:B1:400:G:H1' | 29:B1:401:U:OP2 | 1.72 | 0.89 |
| 29:B1:2143:A:H2' | 29:B1:2144:A:H5' | 1.53 | 0.89 |
| 29:B1:2251:G:O2' | 29:B1:2252:A:H5" | 1.72 | 0.89 |
| 29:B1:2680:A:OP2 | 29:B1:2681:U:C5 | 2.25 | 0.89 |
| 29:B1:2807:U:O2' | 29:B1:2808:A:H5" | 1.71 | 0.89 |
| 29:B1:3063:C:H2' | 29:B1:3064:U:H6 | 1.36 | 0.89 |
| 29:B1:3190:C:H42 | 29:B1:3202:G:H1 | 1.18 | 0.89 |
| 34:BC:294:GLY:HA2 | 34:BC:296:THR:N | 1.87 | 0.89 |
| 1:C1:250:C:C2 | 1:C1:251:A:C8 | 2.61 | 0.89 |
| 1:C1:1281:G:H2' | 1:C1:1282:U:C6 | 2.06 | 0.89 |
| 1:C1:1313:A:H2' | 1:C1:1315:U:H5' | 1.55 | 0.89 |
| 1:C1:1558:U:C6 | 1:C1:1559:A:H5" | 2.07 | 0.89 |
| 29:D1:515:C:H3' | 29:D1:516:A:C5' | 2.02 | 0.89 |
| 29:D1:637:C:HO2' | 29:D1:638:C:H6 | 0.92 | 0.89 |
| 29:D1:775:A:C2' | 29:D1:776:U:H4' | 2.01 | 0.89 |
| 29:D1:1503:A:H3' | 29:D1:1504:A:C5' | 2.01 | 0.89 |
| 30:D2:14:U:C6 | 30:D2:14:U:O5' | 2.25 | 0.89 |
| 1:A1:291:G:H2' | 1:A1:292:U:C6 | 2.05 | 0.89 |
| 1:A1:328:A:H2' | 1:A1:329:G:H8 | 1.37 | 0.89 |
| 1:A1:402:C:O2 | 1:A1:403:G:H4' | 1.72 | 0.89 |
| 5:AD:197:GLU:H | 5:AD:200:ASN:H | 1.14 | 0.89 |
| 11:AJ:12:LYS:HA | 11:AJ:17:THR:HA | 1.53 | 0.89 |
| 14:AM:115:GLU:O | 14:AM:122:ARG:HA | 1.71 | 0.89 |
| 29:B1:33:G:N2 | 29:B1:50:U:C4 | 2.40 | 0.89 |
| 29:B1:195:U:H4' | 29:B1:1391:C:H5 | 1.37 | 0.89 |
| 29:B1:1702:U:H3 | 29:B1:1743:G:H1 | 1.17 | 0.89 |
| 29:B1:2151:C:H5' | 29:B1:2151:C:H6 | 1.35 | 0.89 |
| 29:B1:2215:A:H2' | 29:B1:2215:A:N3 | 1.87 | 0.89 |
| 29:B1:2703:A:H5" | 29:B1:2704:A:C5' | 2.03 | 0.89 |
| 29:B1:3024:A:N3 | 29:B1:3024:A:H2' | 1.85 | 0.89 |
| 36:BE:42:ALA:HB3 | 49:BT:69:LYS:O | 1.70 | 0.89 |
| 1:C1:44:U:C5' | 1:C1:45:U:C5 | 2.55 | 0.89 |
| 1:C1:228:G:C2 | 1:C1:229:U:C2 | 2.60 | 0.89 |
| 29:D1:360:G:H2' | 29:D1:361:A:C8 | 2.08 | 0.89 |
| 29:D1:514:G:H2' | 29:D1:515:C:C2 | 2.07 | 0.89 |
| 29:D1:591:G:C2 | 29:D1:592:A:C4 | 2.61 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2276:G:C5 | 29:D1:2277:C:C5 | 2.60 | 0.89 |
| 29:D1:2771:U:H3' | 29:D1:2772:C:C5' | 2.03 | 0.89 |
| 29:D1:2946:A:C4 | 29:D1:2982:A:N6 | 2.39 | 0.89 |
| 29:B1:726:G:C2 | 29:B1:727:G:C6 | 2.59 | 0.89 |
| 29:B1:1129:A:H2' | 29:B1:1130:A:H5' | 1.54 | 0.89 |
| 29:B1:2712:U:O2' | 29:B1:2743:A:H4' | 1.72 | 0.89 |
| 29:B1:3150:A:N6 | 29:B1:3152:U:O4 | 2.04 | 0.89 |
| 29:B1:3382:U:C3' | 29:B1:3383:G:H4' | 2.01 | 0.89 |
| 1:C1:1628:U:H2' | 1:C1:1629:G:H8 | 1.35 | 0.89 |
| 1:C1:1649:G:H2' | 1:C1:1650:U:H6 | 1.38 | 0.89 |
| 29:D1:1913:A:C4 | 29:D1:2120:A:C8 | 2.61 | 0.89 |
| 29:D1:3189:G:H2' | 29:D1:3190:C:H6 | 1.35 | 0.89 |
| 57:Db:123:LYS:CB | 57:Db:124:GLY:HA2 | 2.03 | 0.89 |
| 1:A1:1313:A:H2' | 1:A1:1315:U:H5' | 1.52 | 0.89 |
| 1:A1:1592:A:H2' | 1:A1:1593:A:C8 | 2.07 | 0.89 |
| 29:B1:514:G:H2' | 29:B1:515:C:N1 | 1.88 | 0.89 |
| 29:B1:562:C:C2' | 29:B1:563:U:C6 | 2.54 | 0.89 |
| 29:B1:618:C:C2 | 29:B1:619:A:N7 | 2.40 | 0.89 |
| 29:B1:1350:A:H5' | 29:B1:1351:U:H5 | 1.37 | 0.89 |
| 29:B1:2379:U:H2' | 29:B1:2380:U:C6 | 2.08 | 0.89 |
| 29:B1:2833:A:H2' | 29:B1:2834:G:H5' | 1.55 | 0.89 |
| 29:B1:2869:U:H5" | 29:B1:2870:C:OP2 | 1.71 | 0.89 |
| 34:BC:93:VAL:CB | 34:BC:155:ALA:HB1 | 2.02 | 0.89 |
| 1:C1:357:G:H2' | 1:C1:358:U:H6 | 1.37 | 0.89 |
| 1:C1:827:C:N3 | 1:C1:846:G:C6 | 2.40 | 0.89 |
| 1:C1:868:G:H1 | 1:C1:960:U:H3 | 1.12 | 0.89 |
| 1:C1:1100:G:C8 | 16:CO:76:SER:HA | 2.08 | 0.89 |
| 1:C1:1109:G:O6 | 1:C1:1136:U:O4 | 1.91 | 0.89 |
| 24:Cc:10:UNK:CB | 24:Cc:63:UNK:HA | 2.03 | 0.89 |
| 29:D1:2948:C:H2' | 29:D1:2949:U:H6 | 1.38 | 0.89 |
| 29:D1:3140:G:H5" | 29:D1:3140:G:C8 | 2.08 | 0.89 |
| 29:D1:3201:C:OP1 | 29:D1:3201:C:C6 | 2.25 | 0.89 |
| 29:D1:3321:C:O2' | 29:D1:3322:A:H8 | 1.56 | 0.89 |
| 1:A1:1392:U:H2' | 1:A1:1393:C:H6 | 1.38 | 0.89 |
| 1:A1:1564:U:H2' | 1:A1:1565:C:C6 | 2.08 | 0.89 |
| 29:B1:2699:G:H5' | 29:B1:2699:G:H8 | 1.35 | 0.89 |
| 29:B1:2948:C:O2' | 29:B1:2949:U:H5' | 1.73 | 0.89 |
| 38:BG:80:GLN:HA | 38:BG:81:HIS:CB | 2.01 | 0.89 |
| 1:C1:1222:C:H2' | 1:C1:1223:A:H8 | 1.37 | 0.89 |
| 29:D1:835:G:O2' | 29:D1:857:G:N2 | 2.05 | 0.89 |
| 29:D1:1941:C:H42 | 29:D1:2107:A:N6 | 1.69 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3382:U:H3' | 29:D1:3383:G:C4' | 2.01 | 0.89 |
| 31:D3:69:U:C2 | 31:D3:70:G:H1' | 2.07 | 0.89 |
| 47:DR:128:ALA:HA | 47:DR:131:ALA:HB3 | 1.54 | 0.89 |
| 1:A1:1474:G:H2' | 1:A1:1475:A:H8 | 1.37 | 0.89 |
| 29:B1:1156:C:H3' | 29:B1:1157:G:H5" | 1.53 | 0.89 |
| 29:B1:2254:U:O2 | 29:B1:2261:G:N2 | 2.05 | 0.89 |
| 29:B1:2673:A:O3' | 42:BK:106:ILE:O | 1.91 | 0.89 |
| 29:B1:3027:A:H2' | 29:B1:3028:G:H8 | 1.24 | 0.89 |
| 29:B1:3271:G:C2 | 29:B1:3272:C:OP1 | 2.26 | 0.89 |
| 29:B1:3274:A:H1' | 29:B1:3275:U:O5' | 1.73 | 0.89 |
| 36:BE:141:PRO:CB | 36:BE:142:PHE:HA | 2.00 | 0.89 |
| 1:C1:85:A:HO2' | 1:C1:86:A:H8 | 0.95 | 0.89 |
| 1:C1:320:U:H4' | 1:C1:321:C:OP1 | 1.73 | 0.89 |
| 1:C1:1099:U:C4 | 1:C1:1100:G:O6 | 2.26 | 0.89 |
| 1:C1:1150:G:C4 | 1:C1:1766:A:OP1 | 2.26 | 0.89 |
| 1:C1:1684:U:H3' | 1:C1:1684:U:O2 | 1.73 | 0.89 |
| 29:D1:2667:A:N3 | 29:D1:2667:A:C3' | 2.34 | 0.89 |
| 29:D1:2918:G:C2 | 29:D1:2919:A:N7 | 2.40 | 0.89 |
| 1:A1:1050:G:C4 | 1:A1:1051:G:H1' | 2.07 | 0.89 |
| 1:A1:1753:A:C6 | 1:A1:1754:A:C6 | 2.61 | 0.89 |
| 29:B1:417:A:H2' | 29:B1:418:A:C8 | 2.07 | 0.89 |
| 29:B1:421:G:C8 | 29:B1:421:G:C3' | 2.56 | 0.89 |
| 29:B1:1605:A:OP1 | 29:B1:1835:A:OP1 | 1.90 | 0.89 |
| 29:B1:2252:A:H2' | 29:B1:2253:G:C8 | 2.08 | 0.89 |
| 29:B1:2680:A:P | 29:B1:2681:U:C5 | 2.66 | 0.89 |
| 29:B1:2847:A:H5' | 29:B1:2848:G:OP2 | 1.72 | 0.89 |
| 30:B2:25:G:C5 | 30:B2:26:C:N4 | 2.41 | 0.89 |
| 34:BC:50:LYS:CB | 34:BC:333:LYS:H | 1.86 | 0.89 |
| 1:C1:43:A:C2 | 1:C1:378:A:N6 | 2.41 | 0.89 |
| 1:C1:151:G:H1 | 1:C1:163:G:N2 | 1.71 | 0.89 |
| 29:D1:1901:A:H5" | 29:D1:2919:A:OP1 | 1.73 | 0.89 |
| 30:D2:16:U:H2' | 30:D2:17:A:H8 | 1.37 | 0.89 |
| 30:D2:95:A:H2' | 30:D2:96:U:H6 | 1.33 | 0.89 |
| 31:D3:70:G:H5' | 31:D3:71:A:C8 | 2.07 | 0.89 |
| 31:D3:132:G:H2' | 31:D3:133:G:C8 | 2.07 | 0.89 |
| 34:DC:294:GLY:HA2 | 34:DC:296:THR:N | 1.88 | 0.89 |
| 38:DG:69:ALA:HB1 | 38:DG:75:TYR:H | 1.35 | 0.89 |
| 40:DI:111:PHE:HA | 40:DI:112:ILE:C | 1.96 | 0.89 |
| 45:DP:8:VAL:HA | 45:DP:34:VAL:O | 1.73 | 0.89 |
| 1:A1:190:C:H3' | 1:A1:191:C:H5" | 1.54 | 0.89 |
| 1:A1:829:A:O2' | 1:A1:830:U:OP2 | 1.90 | 0.89 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1196:C:C6 | 29:B1:1197:A:N7 | 2.41 | 0.89 |
| 29:B1:1299:U:H2' | 29:B1:1300:G:O4' | 1.73 | 0.89 |
| 29:B1:3150:A:H3' | 29:B1:3151:U:C5' | 2.03 | 0.89 |
| 30:B2:12:U:C5' | 30:B2:68:C:H1' | 2.01 | 0.89 |
| 36:BE:100:ALA:C | 36:BE:102:GLY:H | 1.77 | 0.89 |
| 29:D1:430:U:C2' | 29:D1:431:U:H5' | 2.03 | 0.89 |
| 29:D1:513:G:N2 | 29:D1:577:C:C2 | 2.41 | 0.89 |
| 29:D1:743:C:H4' | 47:DR:142:GLY:HA2 | 1.52 | 0.89 |
| 29:D1:2213:A:H2' | 29:D1:2214:A:H8 | 1.30 | 0.89 |
| 29:D1:2244:A:O2' | 33:DB:222:ALA:HB3 | 1.72 | 0.89 |
| 29:D1:3107:U:O2' | 29:D1:3108:G:H5' | 1.72 | 0.89 |
| 30:D2:63:A:H3' | 30:D2:64:A:H5" | 0.91 | 0.89 |
| 1:A1:249:U:H3' | 1:A1:250:C:H5' | 1.54 | 0.89 |
| 1:A1:720:G:H4' | 1:A1:721:U:OP1 | 1.69 | 0.89 |
| 29:B1:327:A:C2 | 29:B1:328:U:C5 | 2.61 | 0.89 |
| 29:B1:542:G:H2' | 29:B1:543:C:C6 | 2.08 | 0.89 |
| 29:B1:829:U:H3 | 29:B1:895:A:H61 | 1.19 | 0.89 |
| 29:B1:1289:G:H2' | 29:B1:1290:A:H8 | 1.37 | 0.89 |
| 29:B1:2923:U:C2 | 29:B1:2924:U:H5 | 1.91 | 0.89 |
| 29:B1:3023:U:H2' | 29:B1:3024:A:C8 | 2.07 | 0.89 |
| 29:B1:3334:U:H5' | 29:B1:3371:G:H21 | 1.33 | 0.89 |
| 42:BK:50:ALA:HB3 | 42:BK:63:GLU:H | 1.37 | 0.89 |
| 46:BQ:5:GLY:H | 46:BQ:6:ALA:HA | 1.37 | 0.89 |
| 1:C1:28:A:H2' | 1:C1:29:U:C6 | 2.07 | 0.89 |
| 1:C1:78:A:H4' | 1:C1:79:C:OP2 | 1.71 | 0.89 |
| 1:C1:250:C:C2' | 1:C1:251:A:H5' | 2.02 | 0.89 |
| 1:C1:328:A:H2' | 1:C1:329:G:C8 | 2.08 | 0.89 |
| 1:C1:1602:C:H3' | 1:C1:1603:U:H6 | 1.38 | 0.89 |
| 9:CH:64:ALA:HA | 9:CH:68:ALA:H | 1.36 | 0.89 |
| 29:D1:336:A:O2' | 29:D1:337:G:H5' | 1.72 | 0.89 |
| 29:D1:607:A:OP2 | 29:D1:607:A:H8 | 1.56 | 0.89 |
| 29:D1:781:G:H2' | 29:D1:782:U:H5' | 1.54 | 0.89 |
| 29:D1:2251:G:H1' | 29:D1:2252:A:OP1 | 1.72 | 0.89 |
| 29:D1:2689:A:N3 | 29:D1:2702:A:H2 | 1.65 | 0.89 |
| 29:D1:2699:G:C8 | 29:D1:2699:G:H5' | 2.07 | 0.89 |
| 29:D1:3201:C:OP2 | 29:D1:3201:C:O4' | 1.89 | 0.89 |
| 29:D1:3365:U:H2' | 29:D1:3366:G:H8 | 1.37 | 0.89 |
| 1:A1:1467:C:O2' | 1:A1:1468:U:H5' | 1.73 | 0.88 |
| 29:B1:64:G:O2' | 29:B1:77:A:H1' | 1.73 | 0.88 |
| 29:B1:726:G:N1 | 29:B1:727:G:C6 | 2.40 | 0.88 |
| 29:B1:993:G:N3 | 29:B1:2637:A:H2' | 1.87 | 0.88 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1072:G:H2' | 29:B1:1073:U:H6 | 1.38 | 0.88 |
| 29:B1:3011:A:H8 | 29:B1:3012:A:H1' | 1.35 | 0.88 |
| 29:B1:3217:C:H6 | 29:B1:3220:G:HO2' | 1.20 | 0.88 |
| 29:B1:3314:A:H5" | 34:BC:119:TYR:H | 1.38 | 0.88 |
| 1:C1:61:A:H4' | 1:C1:62:A:C5' | 2.02 | 0.88 |
| 1:C1:1055:U:O2 | 1:C1:1064:G:N2 | 2.05 | 0.88 |
| 29:D1:370:U:O2 | 29:D1:403:C:N3 | 2.06 | 0.88 |
| 29:D1:1716:U:H3' | 29:D1:1717:U:H4' | 1.55 | 0.88 |
| 29:D1:2393:G:C6 | 29:D1:2982:A:C2 | 2.61 | 0.88 |
| 29:D1:2877:G:H1 | 29:D1:2949:U:H3 | 1.19 | 0.88 |
| 31:D3:63:G:N2 | 31:D3:98:U:O2 | 2.04 | 0.88 |
| 1:A1:861:U:C5 | 1:A1:862:A:C8 | 2.60 | 0.88 |
| 1:A1:1763:A:C3' | 1:A1:1764:C:H5" | 2.02 | 0.88 |
| 29:B1:1064:A:C2 | 29:B1:1095:U:N3 | 2.39 | 0.88 |
| 29:B1:2636:A:H5" | 29:B1:2637:A:H5' | 1.53 | 0.88 |
| 29:B1:3101:G:H2' | 29:B1:3102:G:H5" | 1.52 | 0.88 |
| 29:B1:3198:U:C3' | 29:B1:3199:G:H8 | 1.84 | 0.88 |
| 31:B3:88:A:H2' | 31:B3:89:A:C5 | 2.08 | 0.88 |
| 1:C1:400:A:H4' | 1:C1:401:A:C5' | 2.02 | 0.88 |
| 1:C1:1203:A:C2 | 1:C1:1556:A:H1' | 2.08 | 0.88 |
| 1:C1:1575:G:H2' | 1:C1:1575:G:N3 | 1.86 | 0.88 |
| 29:D1:1241:U:H2' | 29:D1:1243:G:OP2 | 1.73 | 0.88 |
| 29:D1:2279:A:C8 | 29:D1:2288:G:C6 | 2.62 | 0.88 |
| 29:D1:2376:G:C6 | 29:D1:2377:G:C6 | 2.61 | 0.88 |
| 29:D1:3219:G:OP1 | 29:D1:3220:G:H5" | 1.74 | 0.88 |
| 29:D1:3303:G:H1' | 29:D1:3304:U:H5' | 1.54 | 0.88 |
| 29:D1:3328:G:N2 | 29:D1:3329:U:C5 | 2.42 | 0.88 |
| 1:A1:361:C:N3 | 1:A1:384:G:C2 | 2.41 | 0.88 |
| 1:A1:825:U:O4 | 1:A1:847:A:N6 | 2.05 | 0.88 |
| 1:A1:1101:G:H8 | 1:A1:1101:G:OP2 | 1.57 | 0.88 |
| 1:A1:1375:A:H2' | 1:A1:1376:C:C6 | 2.07 | 0.88 |
| 29:B1:606:C:H2' | 29:B1:607:A:N9 | 1.87 | 0.88 |
| 29:B1:774:G:C2' | 29:B1:775:A:H5' | 2.03 | 0.88 |
| 29:B1:1362:G:O2' | 29:B1:1363:A:H5' | 1.73 | 0.88 |
| 29:B1:2727:A:C6 | 29:B1:2728:G:O6 | 2.27 | 0.88 |
| 29:B1:3011:A:C8 | 29:B1:3012:A:H1' | 2.07 | 0.88 |
| 29:B1:3218:A:O2' | 29:B1:3219:G:O5' | 1.91 | 0.88 |
| 29:B1:3308:C:H5 | 29:B1:3309:G:C2 | 1.92 | 0.88 |
| 30:B2:28:C:H5" | 30:B2:29:C:OP2 | 1.74 | 0.88 |
| 29:D1:1023:C:H3' | 29:D1:1024:G:H4' | 1.55 | 0.88 |
| 29:D1:1297:C:H2' | 29:D1:1298:C:H5' | 1.54 | 0.88 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1628:C:H4' | 29:D1:1630:U:H2' | 1.53 | 0.88 |
| 29:D1:2370:G:C5 | 29:D1:2371:G:N7 | 2.41 | 0.88 |
| 29:D1:3063:C:H2' | 29:D1:3064:U:H6 | 1.36 | 0.88 |
| 29:D1:3209:A:C2 | 29:D1:3210:A:C2 | 2.62 | 0.88 |
| 29:D1:3219:G:H8 | 29:D1:3257:C:OP1 | 1.56 | 0.88 |
| 30:D2:40:C:O2 | 42:DK:69:VAL:HA | 1.72 | 0.88 |
| 46:DQ:154:GLU:HA | 46:DQ:155:GLU:CB | 2.04 | 0.88 |
| 1:A1:1055:U:O2 | 1:A1:1064:G:N2 | 2.06 | 0.88 |
| 1:A1:1348:A:O5' | 1:A1:1348:A:H8 | 1.55 | 0.88 |
| 29:B1:11:A:H1' | 29:B1:1557:A:N6 | 1.88 | 0.88 |
| 29:B1:1445:U:H5" | 29:B1:1446:A:OP2 | 1.72 | 0.88 |
| 29:B1:1449:A:C2 | 29:B1:2356:A:C4 | 2.61 | 0.88 |
| 29:B1:2997:G:H1' | 29:B1:2998:U:O5' | 1.72 | 0.88 |
| 29:B1:3160:U:H3 | 29:B1:3290:G:H1 | 1.19 | 0.88 |
| 29:B1:3174:A:H1' | 29:B1:3175:U:H5" | 1.54 | 0.88 |
| 36:BE:97:ALA:HA | 36:BE:100:ALA:CB | 2.03 | 0.88 |
| 37:BF:56:LYS:CB | 37:BF:63:LEU:HA | 2.03 | 0.88 |
| 1:C1:328:A:H2' | 1:C1:329:G:H8 | 1.38 | 0.88 |
| 1:C1:1616:G:H21 | 1:C1:1618:C:H41 | 1.12 | 0.88 |
| 29:D1:594:U:O4 | 29:D1:610:G:OP1 | 1.91 | 0.88 |
| 29:D1:1100:U:H2' | 29:D1:1101:G:C8 | 2.09 | 0.88 |
| 29:D1:1193:A:N7 | 29:D1:1194:G:N1 | 2.21 | 0.88 |
| 29:D1:1224:C:H5" | 29:D1:1225:A:OP2 | 1.73 | 0.88 |
| 31:D3:129:C:H2' | 31:D3:130:C:C6 | 2.07 | 0.88 |
| 29:B1:534:U:H6 | 29:B1:534:U:O5' | 1.54 | 0.88 |
| 29:B1:623:U:H2' | 29:B1:624:G:H8 | 1.30 | 0.88 |
| 29:B1:1079:A:C6 | 29:B1:1080:A:C6 | 2.62 | 0.88 |
| 29:B1:3382:U:H3' | 29:B1:3383:G:C4' | 2.02 | 0.88 |
| 1:C1:1480:G:H8 | 1:C1:1480:G:C5' | 1.85 | 0.88 |
| 29:D1:594:U:O2 | 29:D1:595:G:C4 | 2.26 | 0.88 |
| 29:D1:826:G:O2' | 29:D1:1589:A:C8 | 2.25 | 0.88 |
| 29:D1:996:A:H2' | 29:D1:997:A:O4' | 1.74 | 0.88 |
| 29:D1:2851:A:H2' | 29:D1:2852:C:O4' | 1.71 | 0.88 |
| 29:D1:3392:U:C2 | 29:D1:3393:U:C4 | 2.62 | 0.88 |
| 31:D3:94:C:H4' | 31:D3:95:G:OP2 | 1.71 | 0.88 |
| 1:A1:1007:C:H5" | 1:A1:1008:G:OP2 | 1.73 | 0.88 |
| 1:A1:1434:U:O3' | 1:A1:1435:G:H3' | 1.72 | 0.88 |
| 1:A1:1558:U:C6 | 1:A1:1559:A:H5" | 2.08 | 0.88 |
| 2:AA:146:LEU:HA | 2:AA:160:ILE:HA | 1.53 | 0.88 |
| 29:B1:407:A:C2 | 31:B3:17:A:H1' | 2.08 | 0.88 |
| 29:B1:1100:U:H2' | 29:B1:1101:G:C8 | 2.07 | 0.88 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1547:G:H2' | 29:B1:1548:C:C6 | 2.08 | 0.88 |
| 1:C1:10:G:H5' | 1:C1:1633:A:H3' | 1.55 | 0.88 |
| 1:C1:518:A:H2' | 1:C1:519:C:H5" | 1.53 | 0.88 |
| 1:C1:1022:C:H4' | 1:C1:1124:A:N6 | 1.89 | 0.88 |
| 1:C1:1481:C:H1' | 1:C1:1482:C:O5' | 1.73 | 0.88 |
| 1:C1:1763:A:C3' | 1:C1:1764:C:H5" | 2.03 | 0.88 |
| 29:D1:379:C:H6 | 29:D1:379:C:H5" | 1.37 | 0.88 |
| 29:D1:407:A:C2 | 31:D3:17:A:H1' | 2.09 | 0.88 |
| 29:D1:623:U:H2' | 29:D1:624:G:C8 | 2.09 | 0.88 |
| 29:D1:2601:A:O2' | 29:D1:2602:G:H5' | 1.73 | 0.88 |
| 29:D1:2650:U:H5" | 29:D1:2651:G:OP2 | 1.73 | 0.88 |
| 29:D1:2869:U:H5" | 29:D1:2870:C:OP2 | 1.72 | 0.88 |
| 29:D1:3150:A:H3' | 29:D1:3151:U:C5' | 2.04 | 0.88 |
| 29:D1:3314:A:H5" | 34:DC:119:TYR:H | 1.39 | 0.88 |
| 1:A1:320:U:H4' | 1:A1:321:C:OP1 | 1.72 | 0.88 |
| 1:A1:606:A:N7 | 1:A1:608:U:H5 | 1.71 | 0.88 |
| 1:A1:1174:C:H2' | 1:A1:1175:U:C6 | 2.09 | 0.88 |
| 8:AG:51:GLY:HA2 | 8:AG:53:LEU:H | 1.33 | 0.88 |
| 29:B1:53:G:H5' | 29:B1:812:G:H4' | 1.55 | 0.88 |
| 29:B1:1324:U:C5' | 29:B1:1324:U:H6 | 1.86 | 0.88 |
| 29:B1:3201:C:OP2 | 29:B1:3201:C:O4' | 1.91 | 0.88 |
| 31:B3:74:U:OP2 | 31:B3:76:C:C2 | 2.27 | 0.88 |
| 54:BY:137:LYS:O | 54:BY:140:ALA:HB3 | 1.74 | 0.88 |
| 29:D1:156:G:C8 | 29:D1:157:A:H1' | 2.08 | 0.88 |
| 29:D1:534:U:H6 | 29:D1:534:U:O5' | 1.55 | 0.88 |
| 29:D1:1625:A:H3' | 29:D1:1626:U:C5' | 2.04 | 0.88 |
| 29:D1:1640:G:HO2' | 29:D1:1641:U:H6 | 0.89 | 0.88 |
| 29:D1:2520:A:C4 | 29:D1:2521:U:N3 | 2.41 | 0.88 |
| 29:D1:2672:G:O3' | 42:DK:105:GLY:HA2 | 1.74 | 0.88 |
| 29:D1:2807:U:O2' | 29:D1:2808:A:H5" | 1.73 | 0.88 |
| 29:D1:3322:A:H2' | 29:D1:3323:A:H8 | 1.39 | 0.88 |
| 31:D3:19:C:H2' | 31:D3:20:U:C6 | 2.07 | 0.88 |
| 1:A1:1271:G:H2' | 1:A1:1272:U:C6 | 2.08 | 0.88 |
| 6:AE:62:ARG:H | 6:AE:63:ASP:CB | 1.86 | 0.88 |
| 29:B1:606:C:C2' | 29:B1:607:A:C1' | 2.52 | 0.88 |
| 29:B1:757:C:H2' | 29:B1:757:C:O2 | 1.73 | 0.88 |
| 29:B1:1019:G:H1 | 29:B1:1033:U:H3 | 0.90 | 0.88 |
| 29:B1:1157:G:H2' | 29:B1:1158:A:O4' | 1.73 | 0.88 |
| 29:B1:2834:G:O2' | 29:B1:2835:U:H6 | 1.56 | 0.88 |
| 31:B3:70:G:C8 | 31:B3:71:A:C6 | 2.62 | 0.88 |
| 40:BI:111:PHE:HA | 40:BI:112:ILE:C | 1.98 | 0.88 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:BR:96:PHE:HA | 47:BR:97:PRO:CB | 2.01 | 0.88 |
| 1:C1:361:C:N3 | 1:C1:384:G:N2 | 2.22 | 0.88 |
| 1:C1:373:G:H2' | 1:C1:374:U:C6 | 2.07 | 0.88 |
| 29:D1:150:A:H2' | 29:D1:151:A:H8 | 1.38 | 0.88 |
| 29:D1:1063:G:H5' | 29:D1:1098:A:P | 2.13 | 0.88 |
| 29:D1:1180:A:C4 | 29:D1:1182:A:C8 | 2.62 | 0.88 |
| 29:D1:1288:U:O2' | 29:D1:1289:G:H5" | 1.73 | 0.88 |
| 29:D1:1547:G:H2' | 29:D1:1548:C:C6 | 2.09 | 0.88 |
| 29:D1:2293:C:C5 | 29:D1:2294:U:H5 | 1.91 | 0.88 |
| 29:D1:3198:U:H3' | 29:D1:3199:G:H8 | 1.36 | 0.88 |
| 29:D1:3352:U:H2' | 29:D1:3354:U:H4' | 1.56 | 0.88 |
| 37:DF:40:LEU:HA | 37:DF:85:ILE:CB | 2.04 | 0.88 |
| 1:A1:444:C:H42 | 1:A1:460:A:H62 | 1.22 | 0.88 |
| 1:A1:450:U:H2' | 1:A1:451:A:C8 | 2.08 | 0.88 |
| 1:A1:1345:A:H2' | 1:A1:1346:A:C5 | 2.09 | 0.88 |
| 29:B1:159:A:O2' | 29:B1:160:G:H5' | 1.74 | 0.88 |
| 29:B1:422:A:H1' | 29:B1:423:A:H5" | 1.55 | 0.88 |
| 29:B1:1440:G:H2' | 29:B1:1441:G:H8 | 1.37 | 0.88 |
| 29:B1:2942:C:H6 | 29:B1:2942:C:H3' | 1.38 | 0.88 |
| 29:B1:3242:G:C1' | 29:B1:3246:G:H22 | 1.87 | 0.88 |
| 54:BY:131:SER:O | 54:BY:133:LEU:N | 2.06 | 0.88 |
| 1:C1:71:A:N3 | 1:C1:72:A:N7 | 2.22 | 0.88 |
| 1:C1:1110:G:H5' | 1:C1:1110:G:C8 | 2.08 | 0.88 |
| 3:CB:219:GLY:O | 3:CB:221:THR:N | 2.05 | 0.88 |
| 29:D1:1378:U:H2' | 29:D1:1379:G:C8 | 2.09 | 0.88 |
| 29:D1:1781:C:O2' | 29:D1:1782:U:H5' | 1.73 | 0.88 |
| 29:D1:2353:G:C5 | 29:D1:2354:C:C5 | 2.61 | 0.88 |
| 30:D2:23:A:H3' | 30:D2:24:A:H8 | 1.37 | 0.88 |
| 5:AD:144:GLU:HA | 5:AD:160:VAL:O | 1.73 | 0.88 |
| 29:B1:126:U:HO2' | 29:B1:127:G:H8 | 0.93 | 0.88 |
| 29:B1:750:G:H22 | 29:B1:784:A:C1' | 1.86 | 0.88 |
| 29:B1:1152:G:H8 | 29:B1:1152:G:O5' | 1.56 | 0.88 |
| 29:B1:1378:U:H2' | 29:B1:1379:G:H8 | 1.35 | 0.88 |
| 29:B1:1640:G:O2' | 29:B1:1641:U:H6 | 1.57 | 0.88 |
| 29:B1:1716:U:H3' | 29:B1:1717:U:H4' | 1.53 | 0.88 |
| 29:B1:1844:C:C2 | 29:B1:1845:G:C8 | 2.62 | 0.88 |
| 29:B1:2262:A:H3' | 29:B1:2263:C:C5' | 2.03 | 0.88 |
| 30:B2:14:U:C6 | 30:B2:14:U:O5' | 2.27 | 0.88 |
| 31:B3:40:A:H5' | 31:B3:40:A:C8 | 2.07 | 0.88 |
| 31:B3:69:U:C2 | 31:B3:70:G:H1' | 2.09 | 0.88 |
| 36:BE:159:VAL:C | 36:BE:161:GLY:H | 1.81 | 0.88 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:190:C:H3' | 1:C1:191:C:H5" | 1.56 | 0.88 |
| 1:C1:316:A:H4' | 1:C1:316:A:OP1 | 1.74 | 0.88 |
| 1:C1:955:A:H4' | 1:C1:1074:G:O2' | 1.73 | 0.88 |
| 1:C1:1764:C:OP1 | 1:C1:1771:U:H4' | 1.73 | 0.88 |
| 1:C1:1771:U:H2' | 1:C1:1772:C:H6 | 1.38 | 0.88 |
| 29:D1:43:A:N7 | 29:D1:2803:A:N6 | 2.22 | 0.88 |
| 29:D1:3056:U:C2 | 29:D1:3056:U:OP1 | 2.27 | 0.88 |
| 29:D1:3308:C:H5 | 29:D1:3309:G:C2 | 1.92 | 0.88 |
| 36:DE:134:ALA:HB3 | 36:DE:136:GLU:N | 1.88 | 0.88 |
| 1:A1:93:A:C8 | 1:A1:398:G:H2' | 2.09 | 0.87 |
| 1:A1:1222:C:H2' | 1:A1:1223:A:H8 | 1.38 | 0.87 |
| 24:Ac:54:UNK:HA | 24:Ac:63:UNK:N | 1.89 | 0.87 |
| 29:B1:835:G:O2' | 29:B1:857:G:N2 | 2.07 | 0.87 |
| 29:B1:951:A:C2' | 29:B1:952:A:H5" | 2.03 | 0.87 |
| 29:B1:3078:U:H4' | 29:B1:3079:U:C5' | 2.04 | 0.87 |
| 1:C1:555:A:OP2 | 1:C1:555:A:H3' | 1.73 | 0.87 |
| 1:C1:1050:G:C4 | 1:C1:1051:G:H1' | 2.08 | 0.87 |
| 5:CD:197:GLU:H | 5:CD:200:ASN:H | 1.21 | 0.87 |
| 29:D1:591:G:C2 | 29:D1:592:A:N9 | 2.42 | 0.87 |
| 29:D1:608:A:N6 | 29:D1:609:G:N7 | 2.21 | 0.87 |
| 31:D3:88:A:H2' | 31:D3:89:A:C5 | 2.08 | 0.87 |
| 52:DW:69:SER:H | 52:DW:72:ALA:HB3 | 1.39 | 0.87 |
| 1:A1:394:C:H42 | 1:A1:401:A:N6 | 1.72 | 0.87 |
| 1:A1:1487:A:H2' | 1:A1:1488:G:H8 | 1.39 | 0.87 |
| 29:B1:155:G:N7 | 29:B1:157:A:C2 | 2.41 | 0.87 |
| 29:B1:342:A:N1 | 29:B1:349:A:C8 | 2.42 | 0.87 |
| 29:B1:1640:G:OP1 | 29:B1:1738:C:H5" | 1.72 | 0.87 |
| 29:B1:1667:A:H2' | 29:B1:1668:G:H8 | 1.36 | 0.87 |
| 29:B1:2655:U:H4' | 29:B1:2656:A:C5' | 2.04 | 0.87 |
| 29:B1:3222:U:H3 | 29:B1:3263:G:H1 | 1.22 | 0.87 |
| 30:B2:12:U:H5' | 30:B2:68:C:O2' | 1.73 | 0.87 |
| 31:B3:123:G:H5" | 74:B3:206:OHX:N1 | 1.88 | 0.87 |
| 1:C1:250:C:C2 | 1:C1:251:A:N7 | 2.42 | 0.87 |
| 29:D1:404:G:C2 | 29:D1:405:U:H1' | 2.09 | 0.87 |
| 29:D1:1441:G:H2' | 29:D1:1442:U:C5' | 2.04 | 0.87 |
| 29:D1:1778:G:H4' | 29:D1:1779:C:N3 | 1.89 | 0.87 |
| 29:D1:3028:G:N2 | 29:D1:3029:A:N3 | 2.22 | 0.87 |
| 29:D1:3323:A:H4' | 56:Da:13:THR:CB | 2.04 | 0.87 |
| 31:D3:104:A:H5" | 31:D3:105:A:H8 | 1.40 | 0.87 |
| 37:DF:86:ALA:HB1 | 37:DF:87:THR:HA | 1.54 | 0.87 |
| 1:A1:528:U:H4' | 1:A1:529:A:O5' | 1.74 | 0.87 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1190:C:H4' | 1:A1:1191:U:OP1 | 1.71 | 0.87 |
| 1:A1:1203:A:C2 | 1:A1:1556:A:H1' | 2.08 | 0.87 |
| 1:A1:1575:G:N3 | 1:A1:1575:G:H2' | 1.85 | 0.87 |
| 29:B1:717:C:N4 | 29:B1:721:G:H5' | 1.89 | 0.87 |
| 29:B1:1186:G:H2' | 29:B1:1187:C:C5' | 2.04 | 0.87 |
| 29:B1:1255:C:C4 | 74:B1:3567:OHX:N2 | 2.42 | 0.87 |
| 29:B1:2306:C:H6 | 29:B1:2306:C:H3' | 1.38 | 0.87 |
| 29:B1:3012:A:C2' | 29:B1:3013:U:H5" | 2.04 | 0.87 |
| 1:C1:973:A:H4' | 29:D1:848:A:N3 | 1.89 | 0.87 |
| 1:C1:1375:A:H2' | 1:C1:1376:C:C6 | 2.08 | 0.87 |
| 6:CE:62:ARG:H | 6:CE:63:ASP:CB | 1.86 | 0.87 |
| 29:D1:158:G:N7 | 29:D1:159:A:H1' | 1.89 | 0.87 |
| 29:D1:323:A:C8 | 29:D1:324:A:N7 | 2.41 | 0.87 |
| 29:D1:608:A:C8 | 29:D1:608:A:H3' | 2.10 | 0.87 |
| 29:D1:829:U:H4' | 29:D1:866:A:C2 | 2.08 | 0.87 |
| 29:D1:1317:A:O2' | 29:D1:1318:A:H3' | 1.73 | 0.87 |
| 29:D1:3041:U:O2' | 29:D1:3042:U:H5' | 1.74 | 0.87 |
| 31:D3:40:A:H8 | 31:D3:40:A:H5' | 1.39 | 0.87 |
| 36:DE:199:ILE:O | 36:DE:201:GLY:HA2 | 1.74 | 0.87 |
| 42:DK:27:GLY:HA2 | 42:DK:29:ARG:H | 1.39 | 0.87 |
| 1:A1:380:U:H2' | 1:A1:381:C:C6 | 2.09 | 0.87 |
| 1:A1:1763:A:OP2 | 1:A1:1768:G:OP2 | 1.91 | 0.87 |
| 29:B1:366:A:N6 | 29:B1:367:A:C2 | 2.42 | 0.87 |
| 29:B1:405:U:C5 | 29:B1:406:G:C5 | 2.62 | 0.87 |
| 29:B1:1190:A:C2 | 29:B1:1191:U:H6 | 1.92 | 0.87 |
| 30:B2:13:A:C2 | 30:B2:13:A:O5' | 2.28 | 0.87 |
| 37:BF:2:SER:O | 38:BG:79:ALA:HB3 | 1.74 | 0.87 |
| 40:BI:63:LYS:HA | 40:BI:66:ALA:HB3 | 1.56 | 0.87 |
| 1:C1:888:U:H5" | 1:C1:889:U:OP2 | 1.73 | 0.87 |
| 1:C1:1661:U:H2' | 1:C1:1662:G:C8 | 2.08 | 0.87 |
| 29:D1:327:A:H2 | 29:D1:328:U:C4 | 1.93 | 0.87 |
| 29:D1:726:G:N1 | 29:D1:727:G:C6 | 2.42 | 0.87 |
| 29:D1:1164:G:H2' | 29:D1:1165:A:H8 | 1.40 | 0.87 |
| 29:D1:2271:A:H2' | 29:D1:2272:G:C5' | 2.05 | 0.87 |
| 29:D1:3151:U:OP2 | 29:D1:3152:U:OP1 | 1.92 | 0.87 |
| 29:D1:3190:C:H42 | 29:D1:3202:G:H1 | 1.22 | 0.87 |
| 34:DC:153:LYS:CB | 34:DC:155:ALA:HB2 | 2.04 | 0.87 |
| 1:A1:1141:G:H3' | 1:A1:1142:A:C5' | 2.05 | 0.87 |
| 1:A1:1204:A:OP1 | 1:A1:1204:A:H4' | 1.74 | 0.87 |
| 29:B1:515:C:H3' | 29:B1:516:A:C5' | 2.04 | 0.87 |
| 29:B1:618:C:C2' | 29:B1:619:A:H8 | 1.85 | 0.87 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2702:A:C8 | 29:B1:2704:A:N6 | 2.43 | 0.87 |
| 30:B2:11:A:H2 | 36:BE:16:PHE:HA | 1.37 | 0.87 |
| 38:BG:69:ALA:HB1 | 38:BG:75:TYR:H | 1.38 | 0.87 |
| 1:C1:417:A:H8 | 1:C1:417:A:O5' | 1.55 | 0.87 |
| 9:CH:60:ALA:O | 9:CH:63:ALA:HB3 | 1.75 | 0.87 |
| 29:D1:641:C:O2' | 29:D1:642:U:OP1 | 1.93 | 0.87 |
| 29:D1:726:G:C2 | 29:D1:727:G:C6 | 2.62 | 0.87 |
| 29:D1:884:A:N7 | 29:D1:2139:A:C4 | 2.42 | 0.87 |
| 29:D1:2253:G:O6 | 29:D1:2263:C:N4 | 2.07 | 0.87 |
| 29:D1:3090:U:C6 | 29:D1:3090:U:C5' | 2.57 | 0.87 |
| 50:DU:133:SER:O | 50:DU:135:VAL:N | 2.06 | 0.87 |
| 1:A1:836:U:H2' | 1:A1:837:G:H8 | 1.40 | 0.87 |
| 29:B1:414:U:O2' | 29:B1:415:G:H5' | 1.74 | 0.87 |
| 29:B1:942:U:OP1 | 29:B1:1434:G:N7 | 2.06 | 0.87 |
| 29:B1:1062:A:O2' | 29:B1:1063:G:OP1 | 1.92 | 0.87 |
| 29:B1:2990:G:H2' | 29:B1:2991:A:H5' | 1.55 | 0.87 |
| 31:B3:40:A:C2' | 31:B3:41:A:H8 | 1.87 | 0.87 |
| 31:B3:63:G:N2 | 31:B3:98:U:O2 | 2.08 | 0.87 |
| 34:BC:161:LEU:HA | 34:BC:179:ALA:O | 1.75 | 0.87 |
| 1:C1:93:A:C8 | 1:C1:398:G:H2' | 2.09 | 0.87 |
| 1:C1:283:U:H2' | 1:C1:284:G:O4' | 1.75 | 0.87 |
| 1:C1:1022:C:H4' | 1:C1:1124:A:H61 | 1.38 | 0.87 |
| 1:C1:1291:G:N2 | 1:C1:1324:G:H1 | 1.72 | 0.87 |
| 6:CE:123:HIS:O | 6:CE:125:ALA:N | 2.07 | 0.87 |
| 29:D1:720:A:C8 | 29:D1:720:A:O5' | 2.28 | 0.87 |
| 29:D1:2699:G:H5' | 29:D1:2699:G:H8 | 1.40 | 0.87 |
| 1:A1:1626:U:C2' | 1:A1:1627:U:H5' | 2.05 | 0.87 |
| 29:B1:592:A:OP2 | 29:B1:592:A:H8 | 1.56 | 0.87 |
| 29:B1:1139:G:H8 | 29:B1:1139:G:C5' | 1.87 | 0.87 |
| 29:B1:3316:A:H61 | 29:B1:3388:C:N4 | 1.73 | 0.87 |
| 1:C1:404:G:H2' | 1:C1:405:C:H6 | 1.39 | 0.87 |
| 1:C1:1578:U:O2' | 1:C1:1579:U:H5' | 1.75 | 0.87 |
| 29:D1:1186:G:C2' | 29:D1:1187:C:H5' | 2.02 | 0.87 |
| 29:D1:3262:U:H2' | 29:D1:3263:G:H8 | 1.39 | 0.87 |
| 29:D1:3315:G:O2' | 29:D1:3316:A:C8 | 2.27 | 0.87 |
| 29:B1:523:A:H2' | 29:B1:524:U:H5' | 1.54 | 0.87 |
| 29:B1:834:U:H5" | 29:B1:834:U:C6 | 2.10 | 0.87 |
| 29:B1:1792:C:O3' | 29:B1:1793:C:H3' | 1.72 | 0.87 |
| 29:B1:2966:G:O2' | 29:B1:2967:A:H5' | 1.73 | 0.87 |
| 29:B1:3105:U:H5 | 29:B1:3128:G:H21 | 1.22 | 0.87 |
| 1:C1:861:U:C5 | 1:C1:862:A:C8 | 2.63 | 0.87 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:504:A:H2 | 29:D1:587:U:H3 | 1.12 | 0.87 |
| 29:D1:636:C:C5 | 29:D1:2378:C:O4' | 2.27 | 0.87 |
| 29:D1:726:G:H1' | 29:D1:744:A:N1 | 1.89 | 0.87 |
| 29:D1:993:G:N3 | 29:D1:2637:A:H2' | 1.90 | 0.87 |
| 29:D1:1191:U:O2 | 29:D1:1191:U:C2' | 2.21 | 0.87 |
| 29:D1:3218:A:C2' | 29:D1:3219:G:H3' | 2.04 | 0.87 |
| 36:DE:223:PHE:C | 36:DE:225:GLY:HA3 | 2.00 | 0.87 |
| 44:DO:185:ALA:O | 44:DO:187:ARG:HA | 1.74 | 0.87 |
| 54:DY:111:LYS:HA | 54:DY:128:ARG:CB | 2.04 | 0.87 |
| 1:A1:93:A:C4 | 1:A1:399:A:C2 | 2.62 | 0.87 |
| 1:A1:1221:A:H2' | 1:A1:1222:C:C6 | 2.09 | 0.87 |
| 29:B1:585:A:H5" | 29:B1:586:C:OP2 | 1.73 | 0.87 |
| 29:B1:609:G:H3' | 29:B1:609:G:P | 2.14 | 0.87 |
| 29:B1:2888:U:C5 | 29:B1:2910:A:C6 | 2.63 | 0.87 |
| 29:B1:3225:C:H42 | 29:B1:3261:C:N4 | 1.73 | 0.87 |
| 29:B1:3330:A:H2' | 29:B1:3331:U:H6 | 1.36 | 0.87 |
| 31:B3:81:U:H3' | 31:B3:82:U:H5" | 1.57 | 0.87 |
| 31:B3:92:A:H2' | 31:B3:93:U:H5' | 1.57 | 0.87 |
| 42:BK:27:GLY:HA2 | 42:BK:29:ARG:H | 1.39 | 0.87 |
| 1:C1:594:A:H4' | 1:C1:595:G:H5' | 1.54 | 0.87 |
| 1:C1:869:A:H2' | 1:C1:870:C:O4' | 1.73 | 0.87 |
| 1:C1:1100:G:C4' | 1:C1:1101:G:OP1 | 2.21 | 0.87 |
| 1:C1:1491:U:H5" | 1:C1:1492:A:H3' | 1.57 | 0.87 |
| 29:D1:187:A:H1' | 29:D1:211:A:N6 | 1.89 | 0.87 |
| 29:D1:2834:G:C4 | 29:D1:2835:U:C5 | 2.63 | 0.87 |
| 1:A1:8:U:C5 | 1:A1:1140:G:O6 | 2.28 | 0.86 |
| 29:B1:518:G:H22 | 29:B1:572:A:N6 | 1.70 | 0.86 |
| 29:B1:1236:G:H3' | 29:B1:1237:G:H4' | 1.56 | 0.86 |
| 29:B1:1508:C:OP2 | 29:B1:1509:A:OP2 | 1.91 | 0.86 |
| 29:B1:1625:A:H3' | 29:B1:1626:U:C5' | 2.05 | 0.86 |
| 29:B1:1678:G:H2' | 29:B1:1679:A:H8 | 1.40 | 0.86 |
| 29:B1:2888:U:C4 | 29:B1:2910:A:C2 | 2.63 | 0.86 |
| 29:B1:3352:U:H2' | 29:B1:3354:U:H4' | 1.56 | 0.86 |
| 32:BA:178:VAL:O | 32:BA:182:GLN:CB | 2.23 | 0.86 |
| 44:BO:185:ALA:O | 44:BO:187:ARG:HA | 1.75 | 0.86 |
| 1:C1:162:A:H3' | 1:C1:163:G:C8 | 2.10 | 0.86 |
| 1:C1:407:A:H2' | 1:C1:408:C:H6 | 1.39 | 0.86 |
| 29:D1:315:C:C2 | 29:D1:316:U:C5 | 2.62 | 0.86 |
| 29:D1:720:A:O5' | 29:D1:720:A:H8 | 1.58 | 0.86 |
| 29:D1:727:G:N2 | 29:D1:741:U:H3 | 1.71 | 0.86 |
| 38:DG:49:ALA:O | 38:DG:51:TYR:N | 2.07 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 43:DN:23:ILE:C | 43:DN:32:LEU:HA | 2.00 | 0.86 |
| 1:A1:151:G:H1 | 1:A1:163:G:N2 | 1.72 | 0.86 |
| 1:A1:228:G:C2 | 1:A1:229:U:C2 | 2.63 | 0.86 |
| 1:A1:811:A:HO2' | 1:A1:858:G:H8 | 1.23 | 0.86 |
| 1:A1:1221:A:H2' | 1:A1:1222:C:H6 | 1.40 | 0.86 |
| 11:AJ:93:HIS:CB | 11:AJ:94:GLN:HA | 2.06 | 0.86 |
| 13:AL:96:LYS:CB | 13:AL:97:ASP:HA | 2.05 | 0.86 |
| 29:B1:190:U:C5 | 29:B1:224:C:H1' | 2.09 | 0.86 |
| 29:B1:745:C:N4 | 29:B1:746:A:N6 | 2.22 | 0.86 |
| 29:B1:1680:G:N3 | 29:B1:1681:U:C6 | 2.44 | 0.86 |
| 29:B1:2293:C:H5 | 29:B1:2294:U:H5 | 1.20 | 0.86 |
| 1:C1:59:C:C6 | 1:C1:62:A:N6 | 2.42 | 0.86 |
| 1:C1:267:U:H2' | 1:C1:267:U:O2 | 1.72 | 0.86 |
| 29:D1:754:G:N2 | 29:D1:778:U:H3 | 1.71 | 0.86 |
| 29:D1:828:A:H5" | 29:D1:829:U:OP2 | 1.75 | 0.86 |
| 29:D1:952:A:H1' | 29:D1:1114:U:O2' | 1.74 | 0.86 |
| 29:D1:1257:C:H2' | 29:D1:1257:C:O2 | 1.73 | 0.86 |
| 29:D1:3160:U:H3 | 29:D1:3290:G:H1 | 1.20 | 0.86 |
| 29:D1:3176:G:H2' | 29:D1:3177:G:C5' | 2.05 | 0.86 |
| 29:D1:3316:A:N6 | 29:D1:3320:A:N1 | 2.21 | 0.86 |
| 29:D1:3330:A:H2' | 29:D1:3331:U:H6 | 1.40 | 0.86 |
| 59:Dd:37:CYS:N | 74:Dd:101:OHX:N5 | 2.23 | 0.86 |
| 1:A1:33:U:H1' | 1:A1:468:A:C2 | 2.10 | 0.86 |
| 1:A1:267:U:O2 | 1:A1:267:U:H2' | 1.72 | 0.86 |
| 1:A1:288:A:N3 | 1:A1:289:U:H5 | 1.73 | 0.86 |
| 1:A1:452:A:H2' | 1:A1:453:U:C5' | 2.04 | 0.86 |
| 1:A1:609:U:H5" | 1:A1:610:G:N7 | 1.90 | 0.86 |
| 1:A1:1250:U:N3 | 1:A1:1251:U:C4 | 2.44 | 0.86 |
| 1:A1:1274:C:H6 | 1:A1:1427:A:H62 | 1.19 | 0.86 |
| 1:A1:1480:G:H5' | 1:A1:1480:G:C8 | 2.09 | 0.86 |
| 1:A1:1678:A:H2 | 1:A1:1725:U:H3 | 1.17 | 0.86 |
| 29:B1:31:C:C2' | 29:B1:32:U:H5' | 2.05 | 0.86 |
| 29:B1:859:G:N2 | 29:B1:861:C:H1' | 1.91 | 0.86 |
| 29:B1:936:A:H5" | 29:B1:937:G:OP1 | 1.75 | 0.86 |
| 56:Ba:14:ILE:H | 56:Ba:72:ARG:H | 1.19 | 0.86 |
| 1:C1:782:U:H4' | 1:C1:783:G:O5' | 1.75 | 0.86 |
| 29:D1:688:G:H1' | 29:D1:692:A:H61 | 1.39 | 0.86 |
| 29:D1:1178:G:H2' | 29:D1:1179:A:H5' | 1.57 | 0.86 |
| 29:D1:1621:A:H2' | 29:D1:1622:U:C6 | 2.09 | 0.86 |
| 1:A1:28:A:H2' | 1:A1:29:U:C6 | 2.11 | 0.86 |
| 1:A1:415:C:O2 | 1:A1:418:G:N1 | 2.07 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1481:C:H1' | 1:A1:1482:C:O5' | 1.76 | 0.86 |
| 29:B1:417:A:H2' | 29:B1:418:A:H8 | 1.40 | 0.86 |
| 29:B1:688:G:H1' | 29:B1:692:A:H61 | 1.40 | 0.86 |
| 29:B1:1154:A:H5' | 29:B1:1155:C:H5 | 1.39 | 0.86 |
| 29:B1:1640:G:C4 | 29:B1:1641:U:C5 | 2.63 | 0.86 |
| 47:BR:45:ASN:O | 47:BR:46:LYS:C | 2.18 | 0.86 |
| 1:C1:450:U:H2' | 1:C1:451:A:C8 | 2.11 | 0.86 |
| 1:C1:973:A:H1' | 29:D1:847:A:C2 | 2.09 | 0.86 |
| 1:C1:976:G:H5" | 1:C1:977:A:OP1 | 1.74 | 0.86 |
| 1:C1:1161:C:H1' | 1:C1:1620:C:N4 | 1.90 | 0.86 |
| 5:CD:63:GLN:C | 5:CD:92:ARG:HA | 1.99 | 0.86 |
| 29:D1:606:C:H2' | 29:D1:607:A:N9 | 1.90 | 0.86 |
| 29:D1:1190:A:H2 | 29:D1:1191:U:H6 | 1.23 | 0.86 |
| 29:D1:1303:A:C2 | 29:D1:2887:A:C6 | 2.63 | 0.86 |
| 29:D1:1442:U:H6 | 29:D1:1442:U:H5' | 1.40 | 0.86 |
| 29:D1:3334:U:H5' | 29:D1:3371:G:H21 | 1.39 | 0.86 |
| 31:D3:81:U:H3' | 31:D3:82:U:H5" | 1.58 | 0.86 |
| 1:A1:526:A:N3 | 1:A1:526:A:H2' | 1.88 | 0.86 |
| 1:A1:763:G:H2' | 1:A1:764:U:C6 | 2.10 | 0.86 |
| 1:A1:1047:G:H1 | 1:A1:1071:U:H3 | 0.88 | 0.86 |
| 1:A1:1684:U:H3' | 1:A1:1684:U:O2 | 1.74 | 0.86 |
| 29:B1:41:G:C8 | 29:B1:42:C:C5 | 2.62 | 0.86 |
| 29:B1:285:A:H2 | 29:B1:304:G:O3' | 1.58 | 0.86 |
| 29:B1:2689:A:H4' | 29:B1:2690:G:H5' | 1.56 | 0.86 |
| 29:B1:3064:U:O2' | 29:B1:3065:G:H5' | 1.76 | 0.86 |
| 29:B1:3218:A:C2' | 29:B1:3219:G:H3' | 2.05 | 0.86 |
| 31:B3:55:U:H3 | 31:B3:62:C:H41 | 1.22 | 0.86 |
| 37:BF:92:SER:O | 37:BF:94:GLU:N | 2.08 | 0.86 |
| 1:C1:126:A:N1 | 1:C1:292:U:H1' | 1.90 | 0.86 |
| 1:C1:1444:A:H5' | 1:C1:1446:A:N7 | 1.90 | 0.86 |
| 29:D1:282:G:H3' | 29:D1:282:G:P | 2.16 | 0.86 |
| 29:D1:394:G:H1 | 29:D1:397:A:H5" | 1.39 | 0.86 |
| 29:D1:517:G:C8 | 29:D1:517:G:OP2 | 2.27 | 0.86 |
| 29:D1:1782:U:H2' | 29:D1:1783:U:O4' | 1.76 | 0.86 |
| 29:D1:2143:A:C2' | 29:D1:2144:A:H5' | 2.05 | 0.86 |
| 31:D3:138:A:H2 | 31:D3:139:U:C2 | 1.93 | 0.86 |
| 43:DN:26:GLY:O | 43:DN:27:GLN:O | 1.94 | 0.86 |
| 1:A1:14:C:P | 3:AB:161:LYS:O | 2.34 | 0.86 |
| 1:A1:1375:A:H2' | 1:A1:1376:C:N1 | 1.89 | 0.86 |
| 15:AN:22:ILE:HA | 15:AN:118:VAL:HA | 1.54 | 0.86 |
| 29:B1:659:G:N1 | 29:B1:1432:C:O2 | 2.08 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1781:C:O2' | 29:B1:1782:U:H5' | 1.74 | 0.86 |
| 29:B1:2667:A:N3 | 29:B1:2667:A:C3' | 2.37 | 0.86 |
| 31:B3:94:C:H4' | 31:B3:95:G:OP2 | 1.74 | 0.86 |
| 1:C1:825:U:O4 | 1:C1:847:A:N6 | 2.07 | 0.86 |
| 1:C1:1350:U:OP2 | 1:C1:1351:G:C8 | 2.28 | 0.86 |
| 29:D1:2361:A:N6 | 29:D1:2377:G:O6 | 2.08 | 0.86 |
| 36:DE:128:GLU:CB | 36:DE:129:TYR:HA | 2.06 | 0.86 |
| 41:DJ:93:PRO:HA | 41:DJ:127:ALA:HB2 | 1.58 | 0.86 |
| 45:DP:18:ARG:C | 45:DP:20:ALA:H | 1.80 | 0.86 |
| 29:B1:828:A:H5" | 29:B1:829:U:OP2 | 1.74 | 0.86 |
| 29:B1:1023:C:H3' | 29:B1:1024:G:H4' | 1.56 | 0.86 |
| 29:B1:1193:A:N7 | 29:B1:1194:G:N1 | 2.23 | 0.86 |
| 29:B1:2684:C:C6 | 29:B1:2684:C:C5' | 2.47 | 0.86 |
| 29:B1:2714:G:C8 | 29:B1:2716:U:C6 | 2.64 | 0.86 |
| 65:Bk:11:UNK:O | 65:Bk:12:UNK:C | 2.24 | 0.86 |
| 1:C1:515:A:OP2 | 74:C1:1933:OHX:N2 | 2.09 | 0.86 |
| 1:C1:1073:G:C6 | 1:C1:1074:G:C6 | 2.63 | 0.86 |
| 1:C1:1244:A:H2' | 1:C1:1244:A:N3 | 1.88 | 0.86 |
| 1:C1:1558:U:H6 | 1:C1:1559:A:H5" | 1.41 | 0.86 |
| 29:D1:1193:A:C8 | 29:D1:1194:G:C2 | 2.64 | 0.86 |
| 31:D3:139:U:H2' | 31:D3:140:G:H8 | 1.41 | 0.86 |
| 1:A1:173:A:N1 | 1:A1:174:U:H1' | 1.91 | 0.86 |
| 29:B1:405:U:O4 | 29:B1:406:G:C2 | 2.28 | 0.86 |
| 29:B1:501:A:N6 | 29:B1:502:U:O4 | 2.09 | 0.86 |
| 29:B1:775:A:C3' | 29:B1:776:U:H4' | 2.05 | 0.86 |
| 29:B1:1658:G:H2' | 29:B1:1659:U:H6 | 1.41 | 0.86 |
| 31:B3:139:U:H2' | 31:B3:140:G:H8 | 1.40 | 0.86 |
| 1:C1:1000:C:H5 | 1:C1:1003:A:OP2 | 1.57 | 0.86 |
| 17:CP:132:LEU:N | 17:CP:133:LEU:HA | 1.89 | 0.86 |
| 29:D1:53:G:H5' | 29:D1:812:G:H4' | 1.57 | 0.86 |
| 29:D1:116:A:C2 | 29:D1:265:A:OP2 | 2.28 | 0.86 |
| 29:D1:535:G:H3' | 29:D1:536:U:H5 | 1.39 | 0.86 |
| 29:D1:580:C:C2 | 29:D1:581:U:H5 | 1.92 | 0.86 |
| 29:D1:1294:A:H8 | 29:D1:1294:A:H5" | 1.41 | 0.86 |
| 29:D1:3102:G:H8 | 29:D1:3102:G:H5' | 1.39 | 0.86 |
| 30:D2:9:C:C2' | 30:D2:13:A:H62 | 1.86 | 0.86 |
| 1:A1:555:A:H2 | 1:A1:556:A:C2 | 1.94 | 0.86 |
| 1:A1:976:G:H5" | 1:A1:977:A:OP1 | 1.76 | 0.86 |
| 1:A1:1487:A:H2' | 1:A1:1488:G:C8 | 2.10 | 0.86 |
| 29:B1:39:A:C8 | 29:B1:41:G:OP2 | 2.28 | 0.86 |
| 29:B1:432:G:H2' | 29:B1:433:A:C8 | 2.09 | 0.86 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:556:U:H2' | 29:B1:557:A:H1' | 1.58 | 0.86 |
| 29:B1:1507:G:H8 | 29:B1:1507:G:OP2 | 1.58 | 0.86 |
| 29:B1:1623:G:O6 | 29:B1:1822:C:N4 | 2.07 | 0.86 |
| 29:B1:3085:G:H5' | 29:B1:3331:U:OP1 | 1.75 | 0.86 |
| 29:B1:3313:U:O2' | 29:B1:3314:A:C8 | 2.28 | 0.86 |
| 29:B1:3392:U:N3 | 29:B1:3393:U:O4 | 2.07 | 0.86 |
| 30:B2:97:A:H2' | 30:B2:98:C:C6 | 2.10 | 0.86 |
| 32:BA:154:THR:HA | 32:BA:155:ILE:O | 1.76 | 0.86 |
| 43:BN:48:GLY:C | 43:BN:50:LYS:HA | 2.00 | 0.86 |
| 1:C1:520:A:H2' | 1:C1:521:A:C8 | 2.09 | 0.86 |
| 1:C1:521:A:H4' | 1:C1:522:U:OP1 | 1.75 | 0.86 |
| 1:C1:972:G:N2 | 29:D1:846:A:H61 | 1.71 | 0.86 |
| 29:D1:559:A:C4 | 29:D1:560:G:N7 | 2.43 | 0.86 |
| 29:D1:1130:A:H2' | 29:D1:1132:C:C6 | 2.09 | 0.86 |
| 29:D1:2270:A:H5" | 29:D1:2270:A:H8 | 1.37 | 0.86 |
| 29:D1:3198:U:C3' | 29:D1:3199:G:H8 | 1.88 | 0.86 |
| 29:D1:3391:A:C2 | 29:D1:3392:U:C6 | 2.63 | 0.86 |
| 1:A1:112:A:H4' | 1:A1:113:U:OP1 | 1.76 | 0.86 |
| 1:A1:1263:G:C2 | 1:A1:1264:G:H1' | 2.10 | 0.86 |
| 1:A1:1756:A:N6 | 74:A1:1901:OHX:N5 | 2.23 | 0.86 |
| 13:AL:37:GLY:HA3 | 13:AL:102:ALA:HA | 1.55 | 0.86 |
| 29:B1:43:A:H62 | 29:B1:2802:A:H2 | 1.23 | 0.86 |
| 29:B1:210:U:H3 | 35:BD:162:THR:H | 1.20 | 0.86 |
| 29:B1:404:G:C2 | 29:B1:405:U:H1' | 2.11 | 0.86 |
| 29:B1:1194:G:C4 | 29:B1:1309:U:O2 | 2.29 | 0.86 |
| 29:B1:1383:G:H4' | 35:BD:241:GLY:HA2 | 1.55 | 0.86 |
| 29:B1:2132:C:H5' | 29:B1:2132:C:H6 | 1.39 | 0.86 |
| 29:B1:2379:U:H2' | 29:B1:2380:U:H6 | 1.38 | 0.86 |
| 29:B1:3135:U:C5 | 29:B1:3136:G:C5 | 2.64 | 0.86 |
| 1:C1:979:A:C2 | 1:C1:1775:U:H4' | 2.09 | 0.86 |
| 13:CL:121:ALA:HB3 | 13:CL:124:GLY:HA3 | 1.55 | 0.86 |
| 29:D1:354:U:H2' | 29:D1:354:U:O2 | 1.76 | 0.86 |
| 29:D1:542:G:H2' | 29:D1:543:C:C6 | 2.11 | 0.86 |
| 29:D1:2131:A:C2' | 29:D1:2132:C:H5" | 2.05 | 0.86 |
| 29:D1:2350:C:H4' | 29:D1:3308:C:O2' | 1.76 | 0.86 |
| 29:D1:3313:U:O2' | 29:D1:3314:A:C8 | 2.29 | 0.86 |
| 1:A1:121:U:H2' | 1:A1:122:U:O4' | 1.76 | 0.85 |
| 1:A1:533:U:H3' | 1:A1:534:A:H8 | 1.41 | 0.85 |
| 1:A1:643:G:N2 | 1:A1:692:C:C2 | 2.44 | 0.85 |
| 1:A1:1138:A:C2 | 1:A1:1139:A:C5 | 2.64 | 0.85 |
| 1:A1:1274:C:OP2 | 1:A1:1428:G:P | 2.34 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AE:71:PHE:O | 6:AE:75:ALA:HB2 | 1.76 | 0.85 |
| 17:AP:132:LEU:N | 17:AP:133:LEU:HA | 1.91 | 0.85 |
| 29:B1:776:U:H3' | 29:B1:777:U:C5' | 2.04 | 0.85 |
| 29:B1:1129:A:N6 | 29:B1:1130:A:N6 | 2.24 | 0.85 |
| 29:B1:2259:A:H3' | 29:B1:2260:U:C6 | 2.11 | 0.85 |
| 29:B1:3201:C:C2 | 29:B1:3202:G:C8 | 2.64 | 0.85 |
| 30:B2:41:G:H5' | 30:B2:42:A:OP2 | 1.76 | 0.85 |
| 34:BC:106:TRP:C | 34:BC:108:GLU:N | 2.30 | 0.85 |
| 1:C1:847:A:H2' | 1:C1:848:C:C5' | 2.05 | 0.85 |
| 1:C1:1274:C:OP2 | 1:C1:1428:G:O5' | 1.94 | 0.85 |
| 29:D1:969:C:H5" | 29:D1:970:A:OP2 | 1.76 | 0.85 |
| 29:D1:1440:G:H2' | 29:D1:1441:G:H8 | 1.40 | 0.85 |
| 29:D1:1495:U:H2' | 29:D1:1842:A:C2 | 2.12 | 0.85 |
| 29:D1:3264:G:C3' | 29:D1:3265:C:H5" | 2.06 | 0.85 |
| 29:D1:3393:U:O2' | 29:D1:3394:U:H5' | 1.75 | 0.85 |
| 31:D3:40:A:C2' | 31:D3:41:A:H8 | 1.87 | 0.85 |
| 1:A1:71:A:N3 | 1:A1:72:A:N7 | 2.24 | 0.85 |
| 1:A1:1458:G:C5' | 1:A1:1459:C:C5 | 2.51 | 0.85 |
| 1:A1:1591:C:H2' | 1:A1:1592:A:C8 | 2.11 | 0.85 |
| 29:B1:158:G:N7 | 29:B1:159:A:H1' | 1.91 | 0.85 |
| 29:B1:382:U:H2' | 29:B1:383:G:H4' | 1.55 | 0.85 |
| 29:B1:1448:U:H5 | 29:B1:2355:G:N2 | 1.72 | 0.85 |
| 29:B1:3189:G:H2' | 29:B1:3190:C:H6 | 1.40 | 0.85 |
| 29:B1:3212:C:N3 | 29:B1:3213:A:H2 | 1.74 | 0.85 |
| 1:C1:54:C:H2' | 1:C1:55:A:H5' | 1.57 | 0.85 |
| 29:D1:591:G:H21 | 29:D1:592:A:C1' | 1.85 | 0.85 |
| 29:D1:743:C:H2' | 29:D1:744:A:C5' | 2.01 | 0.85 |
| 29:D1:750:G:H22 | 29:D1:784:A:H1' | 1.40 | 0.85 |
| 29:D1:937:G:H22 | 29:D1:960:U:C5' | 1.87 | 0.85 |
| 29:D1:1383:G:H4' | 35:DD:241:GLY:CA | 2.06 | 0.85 |
| 29:D1:2270:A:H2' | 29:D1:2271:A:C8 | 2.10 | 0.85 |
| 29:D1:3219:G:C2 | 29:D1:3258:U:OP2 | 2.29 | 0.85 |
| 31:D3:55:U:H3 | 31:D3:62:C:H41 | 1.24 | 0.85 |
| 1:A1:225:A:H61 | 1:A1:836:U:H3 | 1.20 | 0.85 |
| 1:A1:1542:G:OP2 | 1:A1:1542:G:H8 | 1.59 | 0.85 |
| 1:A1:1722:A:H8 | 1:A1:1723:U:C6 | 1.94 | 0.85 |
| 28:Ah:21:UNK:CA | 28:Ah:25:UNK:HA | 2.05 | 0.85 |
| 29:B1:122:A:H2' | 29:B1:123:A:H8 | 1.40 | 0.85 |
| 29:B1:425:G:C8 | 29:B1:425:G:H5" | 2.10 | 0.85 |
| 29:B1:781:G:H2' | 29:B1:782:U:H5' | 1.55 | 0.85 |
| 29:B1:2205:U:H2' | 29:B1:2206:G:H5' | 1.58 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2689:A:N3 | 29:B1:2702:A:H2 | 1.74 | 0.85 |
| 29:B1:2932:U:C6 | 29:B1:2935:U:H5 | 1.93 | 0.85 |
| 30:B2:61:G:H2' | 30:B2:62:U:C6 | 2.11 | 0.85 |
| 37:BF:136:GLU:C | 37:BF:138:GLN:H | 1.84 | 0.85 |
| 1:C1:33:U:H1' | 1:C1:468:A:C2 | 2.11 | 0.85 |
| 1:C1:468:A:N6 | 1:C1:595:G:C5 | 2.44 | 0.85 |
| 1:C1:1378:U:H5' | 1:C1:1379:C:H6 | 1.40 | 0.85 |
| 1:C1:1420:C:H5 | 1:C1:1421:A:C8 | 1.90 | 0.85 |
| 1:C1:1435:G:H4' | 1:C1:1436:A:OP2 | 1.76 | 0.85 |
| 29:D1:155:G:P | 29:D1:155:G:H8 | 1.97 | 0.85 |
| 29:D1:592:A:H2' | 29:D1:593:C:C3' | 2.06 | 0.85 |
| 29:D1:607:A:C8 | 29:D1:607:A:OP2 | 2.29 | 0.85 |
| 29:D1:1065:A:H1' | 29:D1:1093:A:H61 | 1.40 | 0.85 |
| 29:D1:1661:G:H4' | 29:D1:1661:G:OP1 | 1.73 | 0.85 |
| 29:D1:2942:C:H6 | 29:D1:2942:C:H3' | 1.40 | 0.85 |
| 38:DG:69:ALA:CB | 38:DG:75:TYR:H | 1.90 | 0.85 |
| 1:A1:357:G:C4 | 1:A1:358:U:C5 | 2.65 | 0.85 |
| 1:A1:402:C:H2' | 1:A1:403:G:C5' | 2.05 | 0.85 |
| 1:A1:618:U:H5" | 1:A1:1030:A:C2 | 2.12 | 0.85 |
| 1:A1:1291:G:N2 | 1:A1:1324:G:H1 | 1.73 | 0.85 |
| 1:A1:1646:C:H2' | 1:A1:1646:C:O2 | 1.74 | 0.85 |
| 6:AE:82:ARG:C | 6:AE:84:GLY:H | 1.84 | 0.85 |
| 29:B1:512:U:C2 | 29:B1:579:G:N1 | 2.44 | 0.85 |
| 29:B1:826:G:HO2' | 29:B1:1589:A:H8 | 1.22 | 0.85 |
| 29:B1:1782:U:H2' | 29:B1:1783:U:O4' | 1.75 | 0.85 |
| 29:B1:2113:A:H2' | 29:B1:2114:C:C5' | 2.06 | 0.85 |
| 29:B1:2353:G:C6 | 29:B1:2354:C:C5 | 2.64 | 0.85 |
| 29:B1:2808:A:N7 | 29:B1:2955:U:H4' | 1.91 | 0.85 |
| 29:B1:3000:A:H2' | 29:B1:3001:C:C6 | 2.11 | 0.85 |
| 29:B1:3315:G:O2' | 29:B1:3316:A:C8 | 2.30 | 0.85 |
| 74:B1:3492:OHX:N5 | 54:BY:20:GLY:HA2 | 1.92 | 0.85 |
| 31:B3:8:C:H2' | 31:B3:9:A:H8 | 1.38 | 0.85 |
| 1:C1:606:A:H4' | 1:C1:607:G:H3' | 1.58 | 0.85 |
| 1:C1:895:G:H2' | 1:C1:896:U:O4' | 1.75 | 0.85 |
| 6:CE:66:ASP:C | 6:CE:68:LYS:H | 1.80 | 0.85 |
| 9:CH:70:LYS:O | 9:CH:73:GLU:CB | 2.25 | 0.85 |
| 29:D1:118:U:H3 | 29:D1:150:A:N6 | 1.73 | 0.85 |
| 29:D1:618:C:C2 | 29:D1:619:A:N7 | 2.44 | 0.85 |
| 29:D1:847:A:H2' | 29:D1:848:A:C8 | 2.09 | 0.85 |
| 29:D1:896:A:H62 | 29:D1:2133:U:H3 | 1.23 | 0.85 |
| 29:D1:2395:G:H2' | 29:D1:2396:G:H5' | 1.59 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2808:A:N7 | 29:D1:2955:U:H4' | 1.91 | 0.85 |
| 29:D1:2889:C:O2' | 29:D1:2890:A:H5' | 1.77 | 0.85 |
| 1:A1:521:A:H4' | 1:A1:522:U:OP1 | 1.76 | 0.85 |
| 1:A1:612:U:H4' | 1:A1:1099:U:C5 | 2.11 | 0.85 |
| 1:A1:1634:C:H2' | 1:A1:1634:C:O2 | 1.75 | 0.85 |
| 29:B1:70:A:C2 | 29:B1:71:A:O2' | 2.29 | 0.85 |
| 29:B1:1621:A:H2' | 29:B1:1622:U:C6 | 2.11 | 0.85 |
| 29:B1:3219:G:H8 | 29:B1:3257:C:OP1 | 1.57 | 0.85 |
| 29:B1:3301:U:C2 | 29:B1:3301:U:OP1 | 2.30 | 0.85 |
| 31:B3:19:C:C5 | 31:B3:20:U:H5 | 1.94 | 0.85 |
| 1:C1:313:U:C5 | 1:C1:1118:G:C2 | 2.64 | 0.85 |
| 1:C1:335:U:H3' | 1:C1:336:G:H8 | 1.40 | 0.85 |
| 1:C1:1030:A:H3' | 1:C1:1031:U:H5' | 1.58 | 0.85 |
| 1:C1:1163:A:N6 | 1:C1:1164:G:C6 | 2.45 | 0.85 |
| 1:C1:1280:C:H2' | 1:C1:1281:G:H8 | 1.41 | 0.85 |
| 1:C1:1584:G:N3 | 11:CJ:124:PRO:HA | 1.91 | 0.85 |
| 1:C1:1678:A:H2 | 1:C1:1725:U:H3 | 1.20 | 0.85 |
| 29:D1:836:A:H1' | 29:D1:858:A:C2 | 2.11 | 0.85 |
| 29:D1:1286:A:H4' | 29:D1:1287:A:OP1 | 1.75 | 0.85 |
| 29:D1:1528:G:H2' | 29:D1:1529:A:H8 | 1.42 | 0.85 |
| 29:D1:2167:A:H2' | 29:D1:2168:A:C8 | 2.11 | 0.85 |
| 30:D2:61:G:H2' | 30:D2:62:U:C6 | 2.11 | 0.85 |
| 1:A1:1139:A:H2' | 1:A1:1140:G:O5' | 1.75 | 0.85 |
| 29:B1:140:C:H2' | 29:B1:141:C:C6 | 2.12 | 0.85 |
| 29:B1:518:G:OP2 | 29:B1:518:G:C8 | 2.28 | 0.85 |
| 29:B1:576:C:C2' | 29:B1:577:C:C5' | 2.52 | 0.85 |
| 29:B1:743:C:H2' | 29:B1:744:A:C5' | 2.01 | 0.85 |
| 29:B1:992:A:N1 | 29:B1:993:G:N7 | 2.24 | 0.85 |
| 29:B1:1176:C:H5" | 29:B1:1177:G:H5" | 1.56 | 0.85 |
| 29:B1:2608:G:H2' | 29:B1:2609:A:H8 | 1.41 | 0.85 |
| 31:B3:70:G:H5' | 31:B3:71:A:C8 | 2.09 | 0.85 |
| 57:Bb:72:LYS:CB | 57:Bb:92:TYR:HA | 2.05 | 0.85 |
| 1:C1:193:U:H4' | 1:C1:194:U:OP2 | 1.74 | 0.85 |
| 1:C1:1791:A:O2' | 1:C1:1793:G:H5' | 1.76 | 0.85 |
| 5:CD:144:GLU:HA | 5:CD:160:VAL:O | 1.76 | 0.85 |
| 29:D1:284:A:H62 | 29:D1:2785:A:H4' | 1.42 | 0.85 |
| 29:D1:723:U:H2' | 29:D1:724:U:H5' | 1.58 | 0.85 |
| 29:D1:775:A:C3' | 29:D1:776:U:H4' | 2.07 | 0.85 |
| 29:D1:2714:G:C8 | 29:D1:2716:U:C6 | 2.65 | 0.85 |
| 30:D2:46:A:N3 | 30:D2:46:A:O5' | 2.10 | 0.85 |
| 1:A1:842:C:H2' | 1:A1:843:U:C6 | 2.11 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1728:A:H2' | 1:A1:1729:C:H6 | 1.38 | 0.85 |
| 29:B1:2136:C:H5' | 29:B1:2137:U:OP2 | 1.76 | 0.85 |
| 29:B1:2381:G:O2' | 29:B1:2382:G:H5' | 1.76 | 0.85 |
| 29:B1:2680:A:N6 | 42:BK:56:THR:O | 2.09 | 0.85 |
| 45:BP:99:LEU:O | 45:BP:101:ARG:N | 2.10 | 0.85 |
| 1:C1:606:A:C8 | 1:C1:608:U:H5 | 1.94 | 0.85 |
| 1:C1:883:C:H42 | 1:C1:945:U:H3 | 1.24 | 0.85 |
| 29:D1:1128:U:H2' | 29:D1:1128:U:O2 | 1.77 | 0.85 |
| 29:D1:1580:A:H3' | 29:D1:1581:C:C5' | 2.07 | 0.85 |
| 29:D1:1687:U:O3' | 29:D1:1688:U:H4' | 1.77 | 0.85 |
| 30:D2:25:G:C5 | 30:D2:26:C:N4 | 2.44 | 0.85 |
| 1:A1:1784:C:H2' | 1:A1:1785:U:H6 | 1.41 | 0.85 |
| 29:B1:257:U:H2' | 29:B1:258:G:H8 | 1.38 | 0.85 |
| 29:B1:1072:G:H2' | 29:B1:1073:U:C6 | 2.11 | 0.85 |
| 29:B1:2120:A:O2' | 29:B1:2121:G:O5' | 1.94 | 0.85 |
| 29:B1:2287:C:O2 | 29:B1:2298:U:O4' | 1.95 | 0.85 |
| 29:B1:3264:G:C2' | 29:B1:3265:C:H5" | 2.06 | 0.85 |
| 29:B1:3333:G:H1 | 29:B1:3370:A:HO2' | 1.24 | 0.85 |
| 30:B2:114:U:H5' | 30:B2:115:G:OP2 | 1.75 | 0.85 |
| 31:B3:19:C:H2' | 31:B3:20:U:C6 | 2.10 | 0.85 |
| 1:C1:1222:C:H2' | 1:C1:1223:A:C8 | 2.11 | 0.85 |
| 1:C1:1274:C:OP2 | 1:C1:1428:G:OP1 | 1.95 | 0.85 |
| 29:D1:580:C:N3 | 29:D1:581:U:H5 | 1.74 | 0.85 |
| 29:D1:819:U:H2' | 29:D1:820:A:H8 | 1.40 | 0.85 |
| 29:D1:1640:G:OP1 | 29:D1:1738:C:H5" | 1.77 | 0.85 |
| 29:D1:2279:A:O5' | 29:D1:2280:A:H5" | 1.77 | 0.85 |
| 29:D1:2306:C:H6 | 29:D1:2306:C:H3' | 1.42 | 0.85 |
| 29:D1:2847:A:H3' | 29:D1:2848:G:H8 | 1.42 | 0.85 |
| 29:D1:2932:U:C6 | 29:D1:2935:U:H5 | 1.95 | 0.85 |
| 43:DN:48:GLY:C | 43:DN:50:LYS:HA | 2.02 | 0.85 |
| 1:A1:888:U:H5" | 1:A1:889:U:OP2 | 1.76 | 0.85 |
| 1:A1:1458:G:N3 | 1:A1:1458:G:H2' | 1.90 | 0.85 |
| 29:B1:116:A:C2 | 29:B1:265:A:OP2 | 2.30 | 0.85 |
| 29:B1:323:A:C8 | 29:B1:324:A:N7 | 2.44 | 0.85 |
| 29:B1:824:C:H2' | 29:B1:825:U:C6 | 2.12 | 0.85 |
| 29:B1:952:A:H2' | 29:B1:953:G:C5' | 2.05 | 0.85 |
| 29:B1:1580:A:H3' | 29:B1:1581:C:C5' | 2.06 | 0.85 |
| 29:B1:2932:U:H2' | 29:B1:2932:U:O2 | 1.76 | 0.85 |
| 29:B1:2992:U:H2' | 29:B1:2993:G:C5' | 2.05 | 0.85 |
| 29:B1:3190:C:H2' | 29:B1:3190:C:O2 | 1.77 | 0.85 |
| 29:B1:3261:C:O2 | 29:B1:3261:C:C2' | 2.25 | 0.85 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:112:A:H4' | 1:C1:113:U:OP1 | 1.75 | 0.85 |
| 1:C1:172:C:O2' | 1:C1:173:A:H8 | 1.60 | 0.85 |
| 1:C1:336:G:H2' | 1:C1:337:G:H5" | 1.56 | 0.85 |
| 1:C1:842:C:H2' | 1:C1:843:U:C6 | 2.12 | 0.85 |
| 1:C1:844:A:N7 | 74:C1:1917:OHX:N4 | 2.25 | 0.85 |
| 1:C1:914:G:H4' | 1:C1:915:A:O5' | 1.76 | 0.85 |
| 1:C1:1299:G:H2' | 1:C1:1300:A:C8 | 2.12 | 0.85 |
| 29:D1:210:U:O4 | 35:DD:161:LYS:HA | 1.76 | 0.85 |
| 29:D1:382:U:H2' | 29:D1:383:G:H4' | 1.59 | 0.85 |
| 29:D1:394:G:C2 | 29:D1:396:A:H2' | 2.11 | 0.85 |
| 29:D1:776:U:H3' | 29:D1:777:U:C5' | 2.05 | 0.85 |
| 29:D1:871:U:H2' | 29:D1:872:U:C6 | 2.12 | 0.85 |
| 29:D1:1455:U:H4' | 29:D1:1456:A:OP2 | 1.74 | 0.85 |
| 29:D1:2677:G:N1 | 29:D1:2679:A:C5 | 2.45 | 0.85 |
| 29:D1:3104:U:C2' | 29:D1:3105:U:H5' | 2.07 | 0.85 |
| 30:D2:12:U:H5' | 30:D2:68:C:O2' | 1.77 | 0.85 |
| 37:DF:12:SER:N | 37:DF:116:LYS:HA | 1.91 | 0.85 |
| 1:A1:992:A:H2 | 1:A1:1012:U:H3 | 0.90 | 0.85 |
| 1:A1:1631:A:C5 | 1:A1:1636:C:N4 | 2.43 | 0.85 |
| 29:B1:210:U:H3 | 35:BD:162:THR:N | 1.75 | 0.85 |
| 29:B1:355:A:C2 | 29:B1:365:A:C4 | 2.64 | 0.85 |
| 29:B1:430:U:C2' | 29:B1:431:U:H5' | 2.07 | 0.85 |
| 29:B1:773:G:O2' | 29:B1:774:G:C8 | 2.24 | 0.85 |
| 29:B1:810:A:H5" | 29:B1:811:U:OP2 | 1.76 | 0.85 |
| 29:B1:934:G:C4 | 29:B1:935:U:C5 | 2.63 | 0.85 |
| 29:B1:1503:A:H5" | 29:B1:1503:A:H8 | 1.39 | 0.85 |
| 29:B1:1504:A:H3' | 29:B1:1505:C:H5" | 1.57 | 0.85 |
| 29:B1:2513:U:H1' | 29:B1:2514:U:OP1 | 1.76 | 0.85 |
| 29:B1:3141:A:H5' | 29:B1:3143:C:C2 | 2.10 | 0.85 |
| 30:B2:11:A:N1 | 36:BE:15:ARG:O | 2.09 | 0.85 |
| 31:B3:96:A:H3' | 31:B3:97:A:H5" | 1.57 | 0.85 |
| 34:BC:79:VAL:O | 34:BC:321:PHE:HA | 1.77 | 0.85 |
| 37:BF:12:SER:N | 37:BF:116:LYS:HA | 1.91 | 0.85 |
| 38:BG:74:SER:CB | 38:BG:75:TYR:HA | 2.06 | 0.85 |
| 50:BU:118:VAL:O | 50:BU:137:VAL:HA | 1.77 | 0.85 |
| 1:C1:1376:C:H2' | 1:C1:1377:U:C5 | 2.11 | 0.85 |
| 29:D1:564:G:O3' | 29:D1:564:G:OP1 | 1.94 | 0.85 |
| 29:D1:1196:C:O2 | 30:D2:86:U:O4' | 1.95 | 0.85 |
| 29:D1:2716:U:H3' | 29:D1:2717:U:H5" | 1.59 | 0.85 |
| 29:D1:3100:U:HO2' | 29:D1:3101:G:H8 | 1.25 | 0.85 |
| 1:A1:694:U:H5" | 1:A1:695:U:H5 | 1.42 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:776:G:C2 | 1:A1:785:U:C2 | 2.64 | 0.84 |
| 1:A1:1259:U:O5’ | 1:A1:1259:U:H6 | 1.59 | 0.84 |
| 1:A1:1573:A:C4’ | 1:A1:1574:G:H5’ | 2.06 | 0.84 |
| 29:B1:404:G:N2 | 29:B1:405:U:H1’ | 1.92 | 0.84 |
| 29:B1:1313:G:H2’ | 29:B1:1314:C:H6 | 1.42 | 0.84 |
| 29:B1:2997:G:H1’ | 29:B1:2998:U:P | 2.16 | 0.84 |
| 30:B2:95:A:H2’ | 30:B2:96:U:C6 | 2.12 | 0.84 |
| 1:C1:587:C:H2’ | 1:C1:588:U:O4’ | 1.76 | 0.84 |
| 1:C1:1521:G:C6 | 74:C1:1930:OHX:N1 | 2.45 | 0.84 |
| 29:D1:553:U:H2’ | 29:D1:554:A:O4’ | 1.77 | 0.84 |
| 29:D1:625:G:H8 | 29:D1:625:G:H5’ | 1.40 | 0.84 |
| 29:D1:834:U:H5” | 29:D1:834:U:C6 | 2.11 | 0.84 |
| 29:D1:1019:G:H1 | 29:D1:1033:U:H3 | 0.88 | 0.84 |
| 29:D1:2251:G:O2’ | 29:D1:2252:A:H5” | 1.75 | 0.84 |
| 29:D1:2682:C:N3 | 29:D1:2683:U:C5 | 2.45 | 0.84 |
| 29:D1:2768:U:O2’ | 29:D1:2769:A:H5’ | 1.76 | 0.84 |
| 29:D1:2873:U:O2’ | 29:D1:2874:G:H5’ | 1.76 | 0.84 |
| 29:D1:3071:U:O2’ | 29:D1:3072:C:H5’ | 1.76 | 0.84 |
| 29:D1:3204:C:H5’ | 43:DN:88:ALA:HB3 | 1.58 | 0.84 |
| 31:D3:8:C:H2’ | 31:D3:9:A:H8 | 1.41 | 0.84 |
| 1:A1:62:A:H4’ | 1:A1:63:G:OP2 | 1.74 | 0.84 |
| 1:A1:162:A:H3’ | 1:A1:163:G:C8 | 2.10 | 0.84 |
| 1:A1:555:A:C2 | 1:A1:556:A:C2 | 2.66 | 0.84 |
| 1:A1:1631:A:C6 | 1:A1:1636:C:H5 | 1.94 | 0.84 |
| 11:AJ:46:PHE:C | 11:AJ:48:VAL:H | 1.83 | 0.84 |
| 29:B1:160:G:H1 | 29:B1:261:U:H3 | 1.23 | 0.84 |
| 29:B1:717:C:H5’ | 29:B1:719:U:O4’ | 1.76 | 0.84 |
| 29:B1:953:G:H3’ | 29:B1:953:G:H8 | 1.41 | 0.84 |
| 29:B1:1452:A:H1’ | 29:B1:2347:U:H5” | 1.58 | 0.84 |
| 29:B1:2393:G:N1 | 29:B1:2982:A:H2 | 1.74 | 0.84 |
| 29:B1:3274:A:H1’ | 29:B1:3275:U:P | 2.16 | 0.84 |
| 43:BN:23:ILE:C | 43:BN:32:LEU:HA | 2.01 | 0.84 |
| 56:Ba:82:GLU:CB | 56:Ba:83:GLU:HA | 2.06 | 0.84 |
| 1:C1:44:U:H5’ | 1:C1:45:U:C4 | 2.10 | 0.84 |
| 1:C1:1243:G:H2’ | 1:C1:1244:A:C8 | 2.11 | 0.84 |
| 1:C1:1557:U:O5’ | 1:C1:1560:U:O4 | 1.94 | 0.84 |
| 1:C1:1591:C:H2’ | 1:C1:1592:A:C8 | 2.12 | 0.84 |
| 1:C1:1663:G:H2’ | 1:C1:1664:C:H6 | 1.42 | 0.84 |
| 6:CE:82:ARG:C | 6:CE:84:GLY:H | 1.85 | 0.84 |
| 29:D1:265:A:O4’ | 29:D1:265:A:OP1 | 1.95 | 0.84 |
| 29:D1:275:U:O2’ | 29:D1:276:U:H5’ | 1.77 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:378:A:N3 | 29:D1:378:A:C3' | 2.39 | 0.84 |
| 29:D1:404:G:N2 | 29:D1:405:U:H1' | 1.92 | 0.84 |
| 29:D1:597:G:C4 | 29:D1:598:A:C8 | 2.65 | 0.84 |
| 29:D1:1461:A:C4 | 29:D1:1462:A:C8 | 2.66 | 0.84 |
| 29:D1:1681:U:H2' | 29:D1:1681:U:O2 | 1.77 | 0.84 |
| 29:D1:3179:U:O2' | 29:D1:3180:A:OP1 | 1.94 | 0.84 |
| 29:D1:3299:A:N3 | 29:D1:3300:U:C5 | 2.45 | 0.84 |
| 1:A1:94:U:H2' | 1:A1:95:G:O4' | 1.76 | 0.84 |
| 1:A1:119:A:H2' | 1:A1:120:U:O4' | 1.77 | 0.84 |
| 1:A1:175:G:N7 | 74:A1:1915:OHX:N2 | 2.24 | 0.84 |
| 1:A1:404:G:H2' | 1:A1:405:C:H6 | 1.40 | 0.84 |
| 1:A1:1636:C:C2 | 1:A1:1765:A:N6 | 2.46 | 0.84 |
| 1:A1:1735:U:H2' | 1:A1:1736:G:C8 | 2.13 | 0.84 |
| 29:B1:415:G:H2' | 29:B1:416:A:H8 | 1.43 | 0.84 |
| 29:B1:517:G:C8 | 29:B1:517:G:OP2 | 2.29 | 0.84 |
| 29:B1:547:G:H3' | 29:B1:548:G:C8 | 2.12 | 0.84 |
| 29:B1:641:C:O2' | 29:B1:642:U:OP1 | 1.93 | 0.84 |
| 29:B1:751:A:N3 | 29:B1:751:A:H2' | 1.92 | 0.84 |
| 29:B1:945:C:C2 | 29:B1:946:U:C5 | 2.65 | 0.84 |
| 29:B1:969:C:H5" | 29:B1:970:A:OP2 | 1.77 | 0.84 |
| 29:B1:1153:A:N7 | 29:B1:1154:A:C5 | 2.44 | 0.84 |
| 29:B1:1158:A:O2' | 29:B1:1330:A:H2 | 1.60 | 0.84 |
| 29:B1:2272:G:H5' | 29:B1:2272:G:N3 | 1.91 | 0.84 |
| 29:B1:3324:C:O2' | 29:B1:3325:G:H5' | 1.76 | 0.84 |
| 30:B2:91:G:C4 | 30:B2:92:A:C8 | 2.65 | 0.84 |
| 1:C1:629:U:C2' | 1:C1:630:A:H8 | 1.89 | 0.84 |
| 1:C1:1429:G:H2' | 1:C1:1430:U:H6 | 1.42 | 0.84 |
| 6:CE:80:LEU:CA | 6:CE:81:VAL:CB | 2.55 | 0.84 |
| 29:D1:207:U:H2' | 29:D1:208:C:H6 | 1.42 | 0.84 |
| 29:D1:536:U:P | 29:D1:536:U:H6 | 2.00 | 0.84 |
| 29:D1:1213:G:H5' | 29:D1:1213:G:C8 | 2.10 | 0.84 |
| 29:D1:2205:U:H2' | 29:D1:2206:G:H5' | 1.58 | 0.84 |
| 36:DE:49:TYR:HA | 36:DE:50:ARG:CB | 2.07 | 0.84 |
| 59:Dd:21:ARG:O | 74:Dd:101:OHX:N4 | 2.09 | 0.84 |
| 1:A1:129:U:C5 | 1:A1:264:G:C5 | 2.64 | 0.84 |
| 1:A1:1073:G:O6 | 1:A1:1074:G:C6 | 2.29 | 0.84 |
| 1:A1:1560:U:O2 | 1:A1:1561:U:H5 | 1.60 | 0.84 |
| 29:B1:550:A:C8 | 29:B1:550:A:OP2 | 2.29 | 0.84 |
| 29:B1:553:U:H2' | 29:B1:554:A:O4' | 1.77 | 0.84 |
| 29:B1:661:G:N1 | 29:B1:802:C:C6 | 2.45 | 0.84 |
| 29:B1:1191:U:O2 | 29:B1:1191:U:C2' | 2.25 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1685:C:C5 | 29:B1:3069:G:N2 | 2.44 | 0.84 |
| 29:B1:2998:U:C6 | 29:B1:2998:U:H5" | 2.11 | 0.84 |
| 29:B1:3244:A:C8 | 29:B1:3245:A:N7 | 2.44 | 0.84 |
| 29:B1:3315:G:H1' | 29:B1:3320:A:C8 | 2.13 | 0.84 |
| 46:BQ:154:GLU:HA | 46:BQ:155:GLU:CB | 2.08 | 0.84 |
| 1:C1:125:U:O5' | 1:C1:125:U:H6 | 1.59 | 0.84 |
| 1:C1:427:C:O4' | 1:C1:459:G:O2' | 1.96 | 0.84 |
| 1:C1:1215:C:O2' | 1:C1:1216:C:H5' | 1.77 | 0.84 |
| 1:C1:1258:U:H2' | 1:C1:1259:U:O4' | 1.76 | 0.84 |
| 1:C1:1634:C:H4' | 1:C1:1635:A:O5' | 1.75 | 0.84 |
| 29:D1:8:C:H2' | 29:D1:9:U:C6 | 2.11 | 0.84 |
| 29:D1:284:A:C2 | 29:D1:306:A:C1' | 2.53 | 0.84 |
| 29:D1:740:G:C6 | 29:D1:741:U:H5 | 1.96 | 0.84 |
| 29:D1:750:G:N2 | 29:D1:784:A:C1' | 2.39 | 0.84 |
| 29:D1:826:G:H2' | 29:D1:827:A:H8 | 1.42 | 0.84 |
| 29:D1:943:U:OP1 | 54:DY:13:GLY:HA2 | 1.77 | 0.84 |
| 29:D1:2150:G:H2' | 29:D1:2151:C:H5" | 1.58 | 0.84 |
| 29:D1:3187:A:C2 | 29:D1:3188:G:C4 | 2.66 | 0.84 |
| 1:A1:1491:U:H5" | 1:A1:1492:A:H3' | 1.57 | 0.84 |
| 29:B1:1157:G:C2 | 29:B1:1158:A:H1' | 2.13 | 0.84 |
| 29:B1:1193:A:C8 | 29:B1:1194:G:C2 | 2.65 | 0.84 |
| 29:B1:2851:A:H2' | 29:B1:2852:C:O4' | 1.77 | 0.84 |
| 30:B2:26:C:H2' | 30:B2:27:A:O4' | 1.78 | 0.84 |
| 34:BC:153:LYS:CB | 34:BC:155:ALA:HB2 | 2.08 | 0.84 |
| 1:C1:16:G:H2' | 1:C1:17:C:H6 | 1.40 | 0.84 |
| 1:C1:174:U:O2 | 1:C1:174:U:H2' | 1.75 | 0.84 |
| 1:C1:378:A:C8 | 1:C1:378:A:OP1 | 2.31 | 0.84 |
| 1:C1:1204:A:OP1 | 1:C1:1204:A:H4' | 1.78 | 0.84 |
| 1:C1:1377:U:C2' | 1:C1:1378:U:H4' | 2.07 | 0.84 |
| 1:C1:1547:A:H5" | 1:C1:1548:G:OP2 | 1.77 | 0.84 |
| 1:C1:1657:U:H4' | 1:C1:1658:G:O5' | 1.77 | 0.84 |
| 29:D1:159:A:O2' | 29:D1:160:G:H5' | 1.76 | 0.84 |
| 29:D1:382:U:C3' | 29:D1:383:G:H4' | 2.06 | 0.84 |
| 29:D1:1323:G:C3' | 29:D1:1324:U:H5" | 2.03 | 0.84 |
| 30:D2:4:U:H2' | 30:D2:5:G:C8 | 2.12 | 0.84 |
| 34:DC:306:THR:O | 34:DC:308:MET:N | 2.11 | 0.84 |
| 1:A1:1472:C:H4' | 1:A1:1473:U:H5' | 1.60 | 0.84 |
| 1:A1:1580:C:O2' | 1:A1:1581:C:O4' | 1.95 | 0.84 |
| 29:B1:383:G:H3' | 29:B1:385:A:OP2 | 1.77 | 0.84 |
| 29:B1:2147:A:H5' | 29:B1:2147:A:C8 | 2.12 | 0.84 |
| 29:B1:2513:U:H5 | 29:B1:2591:A:N1 | 1.74 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2768:U:O2' | 29:B1:2769:A:H5' | 1.78 | 0.84 |
| 29:B1:3199:G:H2' | 29:B1:3200:G:C8 | 2.12 | 0.84 |
| 29:B1:3262:U:O2' | 29:B1:3263:G:H5' | 1.76 | 0.84 |
| 31:B3:71:A:H4' | 31:B3:72:A:OP1 | 1.77 | 0.84 |
| 31:B3:140:G:C6 | 31:B3:141:C:C4 | 2.66 | 0.84 |
| 42:BK:84:LEU:HA | 42:BK:89:TYR:CA | 2.07 | 0.84 |
| 1:C1:114:C:C5 | 1:C1:248:U:O4 | 2.30 | 0.84 |
| 1:C1:1269:U:H4' | 1:C1:1270:G:O5' | 1.76 | 0.84 |
| 1:C1:1583:A:O2' | 1:C1:1584:G:H5' | 1.78 | 0.84 |
| 29:D1:10:C:H2' | 29:D1:10:C:O2 | 1.75 | 0.84 |
| 29:D1:86:G:H22 | 29:D1:98:G:H2' | 1.40 | 0.84 |
| 29:D1:152:U:H2' | 29:D1:153:U:H6 | 1.42 | 0.84 |
| 29:D1:515:C:H1' | 37:DF:145:LEU:HA | 1.59 | 0.84 |
| 29:D1:592:A:C4 | 29:D1:593:C:C1' | 2.61 | 0.84 |
| 29:D1:637:C:C4 | 29:D1:638:C:N4 | 2.46 | 0.84 |
| 29:D1:773:G:HO2' | 29:D1:774:G:H8 | 0.89 | 0.84 |
| 29:D1:804:C:N4 | 29:D1:940:G:C6 | 2.46 | 0.84 |
| 29:D1:1702:U:H3 | 29:D1:1743:G:H1 | 1.25 | 0.84 |
| 29:D1:2998:U:H2' | 29:D1:2999:U:C6 | 2.12 | 0.84 |
| 29:D1:3333:G:O2' | 29:D1:3369:G:N2 | 2.11 | 0.84 |
| 31:D3:96:A:H3' | 31:D3:97:A:H5" | 1.57 | 0.84 |
| 1:A1:357:G:H2' | 1:A1:358:U:H6 | 1.43 | 0.84 |
| 1:A1:1595:U:H6 | 1:A1:1596:C:N3 | 1.76 | 0.84 |
| 29:B1:531:G:H2' | 29:B1:532:A:H8 | 1.37 | 0.84 |
| 29:B1:726:G:C4 | 29:B1:744:A:N6 | 2.46 | 0.84 |
| 29:B1:1455:U:O4' | 29:B1:1455:U:OP2 | 1.95 | 0.84 |
| 29:B1:2675:C:H41 | 29:B1:2676:A:N6 | 1.75 | 0.84 |
| 29:B1:2678:A:C8 | 29:B1:2679:A:C2 | 2.65 | 0.84 |
| 29:B1:2960:C:H5" | 29:B1:2961:G:OP2 | 1.78 | 0.84 |
| 29:B1:3262:U:OP2 | 29:B1:3262:U:H3' | 1.77 | 0.84 |
| 31:B3:19:C:C6 | 31:B3:20:U:H5 | 1.96 | 0.84 |
| 34:BC:106:TRP:O | 34:BC:108:GLU:N | 2.10 | 0.84 |
| 36:BE:134:ALA:HB3 | 36:BE:136:GLU:N | 1.93 | 0.84 |
| 1:C1:64:U:H5' | 1:C1:65:A:OP2 | 1.78 | 0.84 |
| 1:C1:477:A:C4 | 1:C1:539:G:O6 | 2.30 | 0.84 |
| 1:C1:725:U:H2' | 1:C1:726:C:C6 | 2.12 | 0.84 |
| 1:C1:1770:U:C4 | 1:C1:1793:G:N2 | 2.45 | 0.84 |
| 29:D1:257:U:H2' | 29:D1:258:G:H8 | 1.41 | 0.84 |
| 29:D1:596:C:O2 | 29:D1:597:G:H5" | 1.77 | 0.84 |
| 29:D1:606:C:N4 | 29:D1:607:A:N6 | 2.26 | 0.84 |
| 29:D1:796:U:H2' | 29:D1:797:U:C6 | 2.12 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3056:U:C2 | 29:D1:3079:U:C4 | 2.65 | 0.84 |
| 29:D1:3274:A:H1' | 29:D1:3275:U:O5' | 1.76 | 0.84 |
| 29:D1:3322:A:H2' | 29:D1:3323:A:C8 | 2.12 | 0.84 |
| 30:D2:97:A:H2' | 30:D2:98:C:C6 | 2.12 | 0.84 |
| 1:A1:209:U:H5' | 1:A1:210:A:OP2 | 1.76 | 0.84 |
| 1:A1:1161:C:H1' | 1:A1:1620:C:N4 | 1.92 | 0.84 |
| 1:A1:1631:A:N6 | 1:A1:1636:C:H5 | 1.74 | 0.84 |
| 29:B1:2603:G:H3' | 29:B1:2604:U:H6 | 1.43 | 0.84 |
| 29:B1:3254:G:H2' | 29:B1:3254:G:N3 | 1.91 | 0.84 |
| 29:B1:3377:G:C4 | 74:B1:3450:OHX:N2 | 2.44 | 0.84 |
| 30:B2:98:C:H3' | 30:B2:99:G:H5" | 1.59 | 0.84 |
| 1:C1:87:C:C3' | 1:C1:88:U:H5" | 2.08 | 0.84 |
| 1:C1:246:G:C6 | 1:C1:247:A:C2 | 2.66 | 0.84 |
| 1:C1:1259:U:H6 | 1:C1:1259:U:O5' | 1.61 | 0.84 |
| 1:C1:1591:C:H2' | 1:C1:1592:A:H8 | 1.42 | 0.84 |
| 1:C1:1632:C:O2' | 1:C1:1633:A:O4' | 1.95 | 0.84 |
| 1:C1:1718:G:H2' | 1:C1:1719:A:H5" | 1.58 | 0.84 |
| 29:D1:3139:A:H8 | 29:D1:3139:A:H5' | 1.41 | 0.84 |
| 1:A1:193:U:H4' | 1:A1:194:U:OP2 | 1.74 | 0.84 |
| 1:A1:1636:C:H4' | 1:A1:1637:C:OP2 | 1.76 | 0.84 |
| 8:AG:145:THR:HA | 8:AG:146:ALA:HB2 | 1.59 | 0.84 |
| 29:B1:709:A:H8 | 29:B1:709:A:OP1 | 1.60 | 0.84 |
| 29:B1:804:C:N4 | 29:B1:940:G:C6 | 2.46 | 0.84 |
| 29:B1:1074:U:O4 | 29:B1:1084:A:N6 | 2.11 | 0.84 |
| 29:B1:3029:A:H3' | 29:B1:3030:G:H5" | 1.60 | 0.84 |
| 29:B1:3141:A:C5' | 29:B1:3143:C:C2 | 2.61 | 0.84 |
| 29:B1:3328:G:N2 | 29:B1:3329:U:C6 | 2.45 | 0.84 |
| 29:B1:3361:G:H2' | 29:B1:3362:A:H5' | 1.60 | 0.84 |
| 1:C1:1263:G:C2 | 1:C1:1264:G:H1' | 2.12 | 0.84 |
| 1:C1:1521:G:N1 | 74:C1:1930:OHX:N5 | 2.25 | 0.84 |
| 3:CB:163:GLY:HA3 | 3:CB:203:LYS:CB | 2.08 | 0.84 |
| 29:D1:118:U:H3 | 29:D1:150:A:H61 | 0.87 | 0.84 |
| 29:D1:191:U:O2' | 29:D1:192:C:H5' | 1.78 | 0.84 |
| 29:D1:365:A:C2 | 29:D1:366:A:C4 | 2.65 | 0.84 |
| 29:D1:382:U:C2' | 29:D1:383:G:H4' | 2.08 | 0.84 |
| 29:D1:606:C:C3' | 29:D1:607:A:H8 | 1.80 | 0.84 |
| 29:D1:934:G:C4 | 29:D1:935:U:C5 | 2.66 | 0.84 |
| 29:D1:1232:C:C4' | 73:DM:35:SER:HA | 2.07 | 0.84 |
| 29:D1:2690:G:N3 | 29:D1:2690:G:C2' | 2.40 | 0.84 |
| 29:D1:2900:A:C2 | 29:D1:2901:G:C5 | 2.65 | 0.84 |
| 1:A1:847:A:H2' | 1:A1:848:C:C5' | 2.08 | 0.84 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:895:G:H2' | 1:A1:896:U:O4' | 1.78 | 0.84 |
| 1:A1:1099:U:C4 | 1:A1:1100:G:O6 | 2.31 | 0.84 |
| 1:A1:1474:G:H2' | 1:A1:1475:A:C8 | 2.13 | 0.84 |
| 1:A1:1722:A:C8 | 1:A1:1723:U:C6 | 2.66 | 0.84 |
| 29:B1:280:U:O2 | 29:B1:286:U:C2 | 2.31 | 0.84 |
| 29:B1:750:G:N1 | 29:B1:784:A:H1' | 1.92 | 0.84 |
| 29:B1:3322:A:H2' | 29:B1:3323:A:H8 | 1.43 | 0.84 |
| 31:B3:74:U:O3' | 31:B3:89:A:H2' | 1.78 | 0.84 |
| 1:C1:243:G:H2' | 1:C1:244:A:H8 | 1.40 | 0.84 |
| 1:C1:590:C:H2' | 1:C1:591:A:H8 | 1.43 | 0.84 |
| 1:C1:606:A:N7 | 1:C1:608:U:H5 | 1.75 | 0.84 |
| 1:C1:1274:C:O2 | 1:C1:1274:C:H2' | 1.77 | 0.84 |
| 1:C1:1753:A:H61 | 1:C1:1754:A:N6 | 1.75 | 0.84 |
| 29:D1:140:C:H2' | 29:D1:141:C:C6 | 2.12 | 0.84 |
| 29:D1:1303:A:C8 | 29:D1:1304:A:C6 | 2.65 | 0.84 |
| 29:D1:1462:A:H2' | 29:D1:1463:U:C6 | 2.11 | 0.84 |
| 29:D1:3118:C:H2' | 29:D1:3119:U:H6 | 1.41 | 0.84 |
| 44:DO:159:ARG:C | 44:DO:161:ALA:H | 1.85 | 0.84 |
| 50:DU:118:VAL:O | 50:DU:137:VAL:HA | 1.76 | 0.84 |
| 1:A1:555:A:OP2 | 1:A1:555:A:H3' | 1.77 | 0.83 |
| 1:A1:1647:U:H2' | 1:A1:1648:A:C8 | 2.12 | 0.83 |
| 29:B1:1289:G:H2' | 29:B1:1290:A:C8 | 2.12 | 0.83 |
| 29:B1:1323:G:C3' | 29:B1:1324:U:H5" | 2.08 | 0.83 |
| 29:B1:1383:G:H4' | 35:BD:241:GLY:CA | 2.07 | 0.83 |
| 29:B1:1782:U:OP2 | 29:B1:1782:U:H6 | 1.60 | 0.83 |
| 29:B1:2129:U:H2' | 29:B1:2130:G:C8 | 2.13 | 0.83 |
| 30:B2:105:C:O2 | 30:B2:105:C:H2' | 1.76 | 0.83 |
| 31:B3:105:A:H4' | 31:B3:106:C:C5 | 2.12 | 0.83 |
| 1:C1:528:U:H4' | 1:C1:529:A:O5' | 1.78 | 0.83 |
| 29:D1:620:U:OP2 | 29:D1:620:U:H6 | 1.61 | 0.83 |
| 29:D1:1393:A:N7 | 29:D1:1418:A:C8 | 2.45 | 0.83 |
| 29:D1:2999:U:H2' | 29:D1:3000:A:C8 | 2.13 | 0.83 |
| 1:A1:177:U:H3' | 1:A1:178:U:H5" | 1.59 | 0.83 |
| 1:A1:183:U:H4' | 1:A1:184:C:OP1 | 1.79 | 0.83 |
| 1:A1:827:C:N3 | 1:A1:846:G:C6 | 2.46 | 0.83 |
| 29:B1:420:G:H21 | 29:B1:2384:A:H3' | 1.42 | 0.83 |
| 29:B1:1504:A:H2' | 29:B1:1505:C:C6 | 2.13 | 0.83 |
| 29:B1:2681:U:P | 42:BK:51:ARG:O | 2.35 | 0.83 |
| 29:B1:3037:U:H2' | 29:B1:3038:U:H6 | 1.43 | 0.83 |
| 31:B3:76:C:H2' | 53:BX:76:LEU:CB | 2.08 | 0.83 |
| 37:BF:162:SER:HA | 37:BF:165:LEU:CB | 2.08 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 53:BX:19:TYR:O | 53:BX:21:THR:N | 2.10 | 0.83 |
| 1:C1:289:U:H2' | 1:C1:289:U:O2 | 1.77 | 0.83 |
| 1:C1:373:G:H2' | 1:C1:374:U:H6 | 1.43 | 0.83 |
| 1:C1:618:U:H2' | 1:C1:619:A:H5' | 1.57 | 0.83 |
| 1:C1:623:A:O2' | 1:C1:624:G:H5" | 1.76 | 0.83 |
| 1:C1:983:A:H2' | 1:C1:984:G:C8 | 2.13 | 0.83 |
| 1:C1:1146:G:H8 | 1:C1:1635:A:C2 | 1.96 | 0.83 |
| 1:C1:1166:A:C2 | 1:C1:1167:G:H1' | 2.13 | 0.83 |
| 1:C1:1467:C:H5' | 1:C1:1602:C:OP1 | 1.76 | 0.83 |
| 29:D1:512:U:C2 | 29:D1:579:G:N1 | 2.47 | 0.83 |
| 29:D1:594:U:N3 | 29:D1:595:G:N1 | 2.26 | 0.83 |
| 29:D1:595:G:N1 | 29:D1:610:G:OP1 | 2.10 | 0.83 |
| 29:D1:745:C:N4 | 29:D1:746:A:N6 | 2.26 | 0.83 |
| 29:D1:1212:A:C6 | 29:D1:1294:A:N1 | 2.45 | 0.83 |
| 29:D1:1289:G:H2' | 29:D1:1290:A:H8 | 1.43 | 0.83 |
| 29:D1:1484:U:H1' | 29:D1:1485:G:OP1 | 1.78 | 0.83 |
| 29:D1:2159:U:H4' | 29:D1:2160:G:OP2 | 1.74 | 0.83 |
| 29:D1:2304:C:O2' | 29:D1:2305:G:H5' | 1.77 | 0.83 |
| 29:D1:2344:U:H5" | 29:D1:2345:A:OP2 | 1.77 | 0.83 |
| 29:D1:2955:U:H2' | 29:D1:2956:A:C8 | 2.12 | 0.83 |
| 29:D1:3150:A:N6 | 29:D1:3152:U:O4 | 2.11 | 0.83 |
| 29:D1:3212:C:N3 | 29:D1:3213:A:H2 | 1.73 | 0.83 |
| 29:D1:3261:C:O2 | 29:D1:3261:C:C2' | 2.22 | 0.83 |
| 29:D1:3273:A:C6 | 29:D1:3274:A:N7 | 2.47 | 0.83 |
| 1:A1:869:A:H2' | 1:A1:870:C:O4' | 1.77 | 0.83 |
| 1:A1:1770:U:C4 | 1:A1:1793:G:N2 | 2.47 | 0.83 |
| 29:B1:191:U:O2' | 29:B1:192:C:H5' | 1.77 | 0.83 |
| 29:B1:336:A:O2' | 29:B1:337:G:H5' | 1.78 | 0.83 |
| 29:B1:382:U:C2' | 29:B1:383:G:H4' | 2.07 | 0.83 |
| 29:B1:1190:A:H2 | 29:B1:1191:U:C6 | 1.97 | 0.83 |
| 29:B1:2145:A:H1' | 29:B1:2958:A:H4' | 1.59 | 0.83 |
| 29:B1:2953:U:H2' | 29:B1:2954:U:H6 | 1.43 | 0.83 |
| 29:B1:3273:A:N1 | 29:B1:3274:A:C5 | 2.46 | 0.83 |
| 29:B1:3283:U:H2' | 29:B1:3284:G:O4' | 1.77 | 0.83 |
| 1:C1:239:C:H4' | 1:C1:240:U:H5' | 1.60 | 0.83 |
| 1:C1:643:G:N2 | 1:C1:692:C:C2 | 2.46 | 0.83 |
| 29:D1:422:A:C1' | 29:D1:423:A:C5' | 2.53 | 0.83 |
| 29:D1:518:G:OP2 | 29:D1:518:G:C8 | 2.30 | 0.83 |
| 29:D1:537:A:N6 | 29:D1:556:U:C2 | 2.45 | 0.83 |
| 29:D1:618:C:C2' | 29:D1:619:A:H8 | 1.87 | 0.83 |
| 29:D1:1155:C:O2 | 29:D1:1155:C:H2' | 1.76 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1191:U:OP2 | 29:D1:1192:C:C5 | 2.30 | 0.83 |
| 29:D1:2396:G:O2' | 29:D1:2398:A:H4' | 1.76 | 0.83 |
| 30:D2:30:G:N1 | 30:D2:49:G:C6 | 2.46 | 0.83 |
| 21:AT:301:LEU:CB | 21:AT:313:TRP:O | 2.25 | 0.83 |
| 29:B1:661:G:C6 | 29:B1:802:C:C6 | 2.66 | 0.83 |
| 29:B1:955:U:H2' | 29:B1:956:U:H6 | 1.42 | 0.83 |
| 29:B1:1678:G:H2' | 29:B1:1679:A:C8 | 2.12 | 0.83 |
| 29:B1:2390:A:C4' | 29:B1:3307:A:C2 | 2.61 | 0.83 |
| 29:B1:2601:A:O2' | 29:B1:2602:G:H5' | 1.78 | 0.83 |
| 31:B3:40:A:C4 | 31:B3:41:A:C8 | 2.67 | 0.83 |
| 31:B3:138:A:H2 | 31:B3:139:U:C2 | 1.95 | 0.83 |
| 39:BH:219:ASP:O | 39:BH:223:ALA:HB3 | 1.78 | 0.83 |
| 41:BJ:65:LEU:O | 41:BJ:68:ALA:HB3 | 1.78 | 0.83 |
| 62:Bg:56:THR:HA | 62:Bg:63:THR:HA | 1.60 | 0.83 |
| 1:C1:1271:G:H2' | 1:C1:1272:U:C6 | 2.13 | 0.83 |
| 29:D1:585:A:C3' | 29:D1:586:C:H6 | 1.92 | 0.83 |
| 29:D1:2262:A:H3' | 29:D1:2263:C:C5' | 2.07 | 0.83 |
| 1:A1:84:A:C2' | 1:A1:85:A:H5' | 2.07 | 0.83 |
| 9:AH:60:ALA:O | 9:AH:63:ALA:HB3 | 1.77 | 0.83 |
| 29:B1:550:A:OP2 | 29:B1:550:A:H8 | 1.61 | 0.83 |
| 29:B1:1218:U:C2' | 29:B1:1219:C:H5' | 2.09 | 0.83 |
| 29:B1:2136:C:H3' | 29:B1:2142:A:H61 | 1.44 | 0.83 |
| 29:B1:3055:U:H2' | 29:B1:3085:G:N1 | 1.91 | 0.83 |
| 29:B1:3314:A:H5" | 34:BC:119:TYR:N | 1.94 | 0.83 |
| 1:C1:62:A:N3 | 1:C1:63:G:N7 | 2.26 | 0.83 |
| 1:C1:394:C:N4 | 1:C1:401:A:H62 | 1.76 | 0.83 |
| 1:C1:593:U:H4' | 1:C1:595:G:H4' | 1.59 | 0.83 |
| 1:C1:1291:G:H2' | 1:C1:1292:G:H8 | 1.42 | 0.83 |
| 1:C1:1590:G:H2' | 1:C1:1591:C:C6 | 2.13 | 0.83 |
| 1:C1:1760:G:C5 | 1:C1:1761:U:H5 | 1.95 | 0.83 |
| 29:D1:278:U:H2' | 29:D1:279:U:C6 | 2.13 | 0.83 |
| 29:D1:514:G:C3' | 29:D1:515:C:C6 | 2.61 | 0.83 |
| 29:D1:952:A:H2' | 29:D1:953:G:C5' | 2.08 | 0.83 |
| 29:D1:1295:G:H2' | 29:D1:1296:C:C6 | 2.13 | 0.83 |
| 29:D1:2132:C:H5' | 29:D1:2132:C:H6 | 1.43 | 0.83 |
| 29:D1:2880:U:C2' | 29:D1:2881:C:H5' | 2.09 | 0.83 |
| 29:D1:3044:G:O3' | 34:DC:12:GLY:HA2 | 1.78 | 0.83 |
| 29:D1:3299:A:O2' | 29:D1:3300:U:P | 2.36 | 0.83 |
| 34:DC:93:VAL:CB | 34:DC:155:ALA:HB1 | 2.08 | 0.83 |
| 41:DJ:177:ASP:CA | 41:DJ:179:PRO:N | 2.35 | 0.83 |
| 1:A1:1215:C:O2' | 1:A1:1216:C:H5' | 1.77 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1228:G:H5' | 1:A1:1229:G:OP2 | 1.79 | 0.83 |
| 1:A1:1547:A:H5" | 1:A1:1548:G:OP2 | 1.79 | 0.83 |
| 29:B1:157:A:H4' | 29:B1:158:G:OP1 | 1.75 | 0.83 |
| 29:B1:673:U:C2' | 29:B1:674:G:H5' | 2.07 | 0.83 |
| 29:B1:718:G:O6 | 29:B1:786:A:N7 | 2.11 | 0.83 |
| 29:B1:840:C:C2' | 29:B1:841:A:H5' | 2.09 | 0.83 |
| 29:B1:1357:G:H2' | 29:B1:1358:C:C6 | 2.13 | 0.83 |
| 29:B1:2268:U:H2' | 29:B1:2269:U:C5 | 2.14 | 0.83 |
| 29:B1:3316:A:N6 | 29:B1:3320:A:N1 | 2.27 | 0.83 |
| 45:BP:124:LEU:HA | 45:BP:126:VAL:H | 1.40 | 0.83 |
| 1:C1:149:C:H3' | 1:C1:150:U:H6 | 1.40 | 0.83 |
| 1:C1:283:U:H3' | 1:C1:284:G:H5" | 1.59 | 0.83 |
| 1:C1:291:G:H2' | 1:C1:292:U:C5 | 2.13 | 0.83 |
| 1:C1:1573:A:C4' | 1:C1:1574:G:H5' | 2.06 | 0.83 |
| 1:C1:1628:U:H2' | 1:C1:1629:G:C8 | 2.14 | 0.83 |
| 1:C1:1753:A:H3' | 1:C1:1754:A:H5" | 1.59 | 0.83 |
| 1:C1:1760:G:C4 | 1:C1:1761:U:H5 | 1.96 | 0.83 |
| 29:D1:911:C:O2 | 29:D1:911:C:H2' | 1.75 | 0.83 |
| 29:D1:1139:G:H8 | 29:D1:1139:G:C5' | 1.91 | 0.83 |
| 30:D2:25:G:C2 | 30:D2:26:C:N3 | 2.46 | 0.83 |
| 1:A1:701:U:H3' | 1:A1:702:G:H5" | 1.60 | 0.83 |
| 1:A1:1123:C:C5 | 1:A1:1124:A:C5 | 2.67 | 0.83 |
| 29:B1:281:G:C2 | 29:B1:282:G:N7 | 2.47 | 0.83 |
| 29:B1:1303:A:C2 | 29:B1:2887:A:N1 | 2.46 | 0.83 |
| 29:B1:2232:A:H2' | 29:B1:2233:A:O4' | 1.79 | 0.83 |
| 29:B1:2932:U:O2 | 29:B1:2934:A:OP2 | 1.96 | 0.83 |
| 29:B1:3367:C:C2' | 29:B1:3368:U:H5" | 2.09 | 0.83 |
| 31:B3:80:A:H2' | 31:B3:81:U:C2 | 2.13 | 0.83 |
| 43:BN:22:LEU:CB | 43:BN:65:LEU:HA | 2.08 | 0.83 |
| 1:C1:183:U:H4' | 1:C1:184:C:OP1 | 1.78 | 0.83 |
| 1:C1:358:U:H5" | 1:C1:359:A:OP2 | 1.79 | 0.83 |
| 1:C1:1109:G:C2 | 1:C1:1110:G:C8 | 2.65 | 0.83 |
| 1:C1:1626:U:H2' | 1:C1:1627:U:H5' | 1.60 | 0.83 |
| 29:D1:422:A:C1' | 29:D1:423:A:H5" | 2.09 | 0.83 |
| 29:D1:1196:C:N3 | 30:D2:86:U:C5 | 2.47 | 0.83 |
| 29:D1:1299:U:H2' | 29:D1:1300:G:O4' | 1.78 | 0.83 |
| 37:DF:162:SER:HA | 37:DF:165:LEU:CB | 2.09 | 0.83 |
| 1:A1:259:U:C5 | 1:A1:261:U:O4 | 2.31 | 0.83 |
| 1:A1:310:C:H2' | 1:A1:311:U:O5' | 1.79 | 0.83 |
| 1:A1:1350:U:OP2 | 1:A1:1351:G:C8 | 2.30 | 0.83 |
| 29:B1:378:A:N3 | 29:B1:378:A:C3' | 2.40 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:575:G:C5' | 29:B1:575:G:H8 | 1.90 | 0.83 |
| 29:B1:641:C:OP1 | 74:B1:3492:OHX:N1 | 2.12 | 0.83 |
| 29:B1:1786:G:H2' | 29:B1:1787:A:C8 | 2.13 | 0.83 |
| 29:B1:3139:A:H8 | 29:B1:3139:A:H5' | 1.43 | 0.83 |
| 34:BC:62:ARG:O | 34:BC:64:GLY:N | 2.11 | 0.83 |
| 36:BE:128:GLU:CB | 36:BE:129:TYR:HA | 2.08 | 0.83 |
| 46:BQ:98:ALA:O | 46:BQ:99:ALA:C | 2.21 | 0.83 |
| 46:BQ:128:ARG:H | 46:BQ:139:TYR:H | 1.26 | 0.83 |
| 1:C1:29:U:O2 | 1:C1:597:G:O6 | 1.97 | 0.83 |
| 1:C1:121:U:H2' | 1:C1:122:U:O4' | 1.79 | 0.83 |
| 1:C1:280:U:H3' | 1:C1:281:G:H8 | 1.44 | 0.83 |
| 1:C1:427:C:H6 | 1:C1:427:C:H5" | 1.43 | 0.83 |
| 1:C1:1250:U:N3 | 1:C1:1251:U:C4 | 2.47 | 0.83 |
| 29:D1:1064:A:C2 | 29:D1:1095:U:N3 | 2.46 | 0.83 |
| 29:D1:1226:G:H1' | 29:D1:3116:G:O6 | 1.79 | 0.83 |
| 29:D1:2293:C:C5 | 29:D1:2294:U:C5 | 2.66 | 0.83 |
| 29:D1:2680:A:H61 | 42:DK:56:THR:CA | 1.92 | 0.83 |
| 29:D1:3283:U:H2' | 29:D1:3284:G:O4' | 1.79 | 0.83 |
| 29:D1:3320:A:C6 | 29:D1:3321:C:N4 | 2.46 | 0.83 |
| 34:DC:93:VAL:H | 34:DC:99:LEU:CB | 1.92 | 0.83 |
| 73:DM:25:LEU:H | 73:DM:191:TYR:HA | 1.42 | 0.83 |
| 1:A1:1118:G:H2' | 1:A1:1119:G:H8 | 1.43 | 0.83 |
| 1:A1:1195:C:OP1 | 1:A1:1197:C:H1' | 1.78 | 0.83 |
| 1:A1:1244:A:H2' | 1:A1:1244:A:N3 | 1.91 | 0.83 |
| 1:A1:1735:U:H2' | 1:A1:1736:G:H8 | 1.44 | 0.83 |
| 10:AI:97:TYR:HA | 10:AI:102:PHE:H | 1.44 | 0.83 |
| 26:Ae:7:UNK:O | 26:Ae:9:UNK:N | 2.12 | 0.83 |
| 29:B1:537:A:N6 | 29:B1:556:U:C2 | 2.46 | 0.83 |
| 29:B1:826:G:H2' | 29:B1:827:A:H8 | 1.41 | 0.83 |
| 29:B1:1231:A:H61 | 29:B1:1276:U:H5 | 1.23 | 0.83 |
| 29:B1:1884:A:C5 | 29:B1:1885:U:N3 | 2.47 | 0.83 |
| 29:B1:2144:A:C2 | 29:B1:2281:A:C5 | 2.65 | 0.83 |
| 29:B1:2278:C:N4 | 29:B1:2305:G:N7 | 2.27 | 0.83 |
| 29:B1:2640:A:C4 | 29:B1:2641:U:C5 | 2.66 | 0.83 |
| 29:B1:3176:G:H2' | 29:B1:3177:G:C5' | 2.08 | 0.83 |
| 29:B1:3316:A:H61 | 29:B1:3388:C:H42 | 1.26 | 0.83 |
| 30:B2:12:U:H2' | 30:B2:13:A:N1 | 1.94 | 0.83 |
| 46:BQ:76:PHE:HA | 46:BQ:78:VAL:N | 1.93 | 0.83 |
| 1:C1:515:A:H61 | 1:C1:537:G:H1 | 1.27 | 0.83 |
| 1:C1:756:A:C5 | 1:C1:757:A:N7 | 2.47 | 0.83 |
| 1:C1:1047:G:H1 | 1:C1:1071:U:H3 | 0.84 | 0.83 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1087:A:H3' | 1:C1:1088:A:H8 | 1.44 | 0.83 |
| 1:C1:1139:A:H2' | 1:C1:1140:G:O5' | 1.77 | 0.83 |
| 29:D1:2918:G:N2 | 29:D1:2919:A:N7 | 2.27 | 0.83 |
| 1:A1:1398:U:O2' | 1:A1:1399:C:H3' | 1.78 | 0.83 |
| 9:AH:22:SER:C | 9:AH:24:ASN:H | 1.87 | 0.83 |
| 29:B1:511:G:N2 | 29:B1:579:G:N1 | 2.26 | 0.83 |
| 29:B1:704:U:H6 | 29:B1:704:U:H3' | 1.43 | 0.83 |
| 29:B1:947:G:H2' | 29:B1:948:C:H6 | 1.44 | 0.83 |
| 29:B1:1528:G:O2' | 29:B1:1529:A:H5' | 1.78 | 0.83 |
| 29:B1:1740:U:H2' | 29:B1:1741:A:H5' | 1.61 | 0.83 |
| 29:B1:2255:A:C6 | 74:B1:3438:OHX:N2 | 2.47 | 0.83 |
| 29:B1:2955:U:H2' | 29:B1:2956:A:C8 | 2.14 | 0.83 |
| 29:B1:3099:C:O2' | 29:B1:3100:U:P | 2.36 | 0.83 |
| 44:BO:186:GLY:N | 44:BO:187:ARG:HA | 1.93 | 0.83 |
| 70:Bq:5:UNK:O | 70:Bq:6:UNK:O | 1.97 | 0.83 |
| 1:C1:102:U:O4 | 1:C1:360:A:H2' | 1.78 | 0.83 |
| 1:C1:223:U:H3 | 1:C1:838:G:H1 | 1.23 | 0.83 |
| 1:C1:1092:A:C5 | 1:C1:1094:G:C8 | 2.67 | 0.83 |
| 1:C1:1746:A:H5" | 1:C1:1747:G:OP2 | 1.78 | 0.83 |
| 15:CN:21:LYS:N | 15:CN:92:ASP:HA | 1.94 | 0.83 |
| 20:CS:23:VAL:C | 74:CS:101:OHX:N2 | 2.36 | 0.83 |
| 29:D1:414:U:H2' | 29:D1:415:G:H8 | 1.43 | 0.83 |
| 29:D1:703:G:N3 | 29:D1:703:G:H2' | 1.92 | 0.83 |
| 29:D1:937:G:N2 | 29:D1:960:U:H5' | 1.94 | 0.83 |
| 29:D1:1508:C:OP2 | 29:D1:1509:A:OP2 | 1.97 | 0.83 |
| 29:D1:1856:C:C2' | 29:D1:1857:C:H5' | 2.09 | 0.83 |
| 29:D1:2172:A:C2' | 29:D1:2173:U:H5' | 2.06 | 0.83 |
| 29:D1:3078:U:H4' | 29:D1:3079:U:C5' | 2.07 | 0.83 |
| 56:Da:14:ILE:H | 56:Da:72:ARG:H | 1.26 | 0.83 |
| 1:A1:606:A:C8 | 1:A1:608:U:C5 | 2.66 | 0.82 |
| 1:A1:1631:A:O4' | 1:A1:1764:C:O2 | 1.97 | 0.82 |
| 29:B1:2222:A:HO2' | 29:B1:2223:A:H8 | 1.27 | 0.82 |
| 29:B1:2395:G:H2' | 29:B1:2396:G:H5' | 1.60 | 0.82 |
| 29:B1:2611:U:H2' | 29:B1:2612:U:H6 | 1.44 | 0.82 |
| 29:B1:3104:U:H2' | 29:B1:3105:U:H5' | 1.59 | 0.82 |
| 29:B1:3210:A:C5 | 29:B1:3211:C:N4 | 2.47 | 0.82 |
| 1:C1:218:A:N6 | 1:C1:844:A:H1' | 1.93 | 0.82 |
| 1:C1:1275:A:OP1 | 1:C1:1275:A:C8 | 2.32 | 0.82 |
| 1:C1:1734:U:C2 | 1:C1:1735:U:C5 | 2.67 | 0.82 |
| 29:D1:681:U:H1' | 29:D1:682:U:H5' | 1.61 | 0.82 |
| 29:D1:1001:G:OP2 | 29:D1:1001:G:H4' | 1.78 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2513:U:H5 | 29:D1:2591:A:N1 | 1.75 | 0.82 |
| 29:D1:2675:C:H41 | 29:D1:2676:A:N6 | 1.77 | 0.82 |
| 29:D1:3209:A:N1 | 29:D1:3210:A:N1 | 2.27 | 0.82 |
| 29:D1:3215:A:OP2 | 29:D1:3218:A:C8 | 2.32 | 0.82 |
| 30:D2:23:A:C3' | 30:D2:24:A:H8 | 1.90 | 0.82 |
| 30:D2:91:G:H2' | 30:D2:92:A:C8 | 2.13 | 0.82 |
| 35:DD:76:ARG:HA | 35:DD:88:GLY:HA2 | 1.59 | 0.82 |
| 54:DY:131:SER:C | 54:DY:133:LEU:H | 1.86 | 0.82 |
| 1:A1:520:A:H2' | 1:A1:521:A:C8 | 2.11 | 0.82 |
| 1:A1:690:G:H2' | 1:A1:691:C:H5' | 1.60 | 0.82 |
| 1:A1:914:G:H3' | 74:A1:1937:OHX:N6 | 1.93 | 0.82 |
| 1:A1:1201:G:N3 | 1:A1:1201:G:C3' | 2.42 | 0.82 |
| 1:A1:1222:C:H2' | 1:A1:1223:A:C8 | 2.13 | 0.82 |
| 10:AI:59:LYS:O | 10:AI:63:ALA:HB3 | 1.78 | 0.82 |
| 29:B1:284:A:H62 | 29:B1:2785:A:H4' | 1.42 | 0.82 |
| 29:B1:382:U:C3' | 29:B1:383:G:H4' | 2.09 | 0.82 |
| 29:B1:562:C:H2' | 29:B1:563:U:H6 | 1.42 | 0.82 |
| 29:B1:1180:A:C4 | 29:B1:1182:A:C8 | 2.68 | 0.82 |
| 29:B1:1440:G:O2' | 29:B1:1441:G:H5' | 1.79 | 0.82 |
| 29:B1:2588:U:H5' | 29:B1:2589:G:OP2 | 1.78 | 0.82 |
| 31:B3:69:U:C2' | 31:B3:70:G:H4' | 2.09 | 0.82 |
| 48:BS:18:GLY:O | 48:BS:20:ARG:N | 2.11 | 0.82 |
| 1:C1:811:A:HO2' | 1:C1:858:G:H8 | 1.27 | 0.82 |
| 29:D1:514:G:H2' | 29:D1:515:C:N1 | 1.94 | 0.82 |
| 29:D1:547:G:H3' | 29:D1:548:G:C8 | 2.14 | 0.82 |
| 29:D1:835:G:C2 | 29:D1:857:G:N3 | 2.47 | 0.82 |
| 29:D1:2897:A:C2 | 29:D1:2905:U:C2 | 2.67 | 0.82 |
| 1:A1:43:A:H2' | 1:A1:44:U:H5" | 1.60 | 0.82 |
| 1:A1:1274:C:OP2 | 1:A1:1428:G:OP1 | 1.96 | 0.82 |
| 1:A1:1591:C:H2' | 1:A1:1592:A:H8 | 1.42 | 0.82 |
| 29:B1:588:G:C5 | 29:B1:612:U:H5 | 1.96 | 0.82 |
| 29:B1:2167:A:H2' | 29:B1:2168:A:C8 | 2.14 | 0.82 |
| 29:B1:2172:A:H2' | 29:B1:2173:U:H5' | 1.60 | 0.82 |
| 29:B1:2727:A:OP2 | 49:BT:80:VAL:O | 1.97 | 0.82 |
| 34:BC:294:GLY:HA2 | 34:BC:295:ALA:C | 2.04 | 0.82 |
| 29:D1:96:G:N2 | 29:D1:97:U:H1' | 1.93 | 0.82 |
| 29:D1:550:A:C8 | 29:D1:550:A:OP2 | 2.33 | 0.82 |
| 29:D1:1492:G:H3' | 29:D1:1493:G:N2 | 1.94 | 0.82 |
| 29:D1:1740:U:H2' | 29:D1:1741:A:H5' | 1.59 | 0.82 |
| 29:D1:2299:A:C5 | 29:D1:2300:G:C8 | 2.68 | 0.82 |
| 29:D1:2327:U:H2' | 29:D1:2327:U:O2 | 1.77 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2986:U:H2' | 29:D1:2987:A:H8 | 1.42 | 0.82 |
| 1:A1:791:A:H2' | 1:A1:792:U:H6 | 1.43 | 0.82 |
| 1:A1:1764:C:H2' | 1:A1:1767:G:N7 | 1.95 | 0.82 |
| 4:AC:140:GLY:HA3 | 4:AC:182:LEU:HA | 1.61 | 0.82 |
| 22:Aa:19:UNK:C | 22:Aa:21:UNK:H | 1.92 | 0.82 |
| 29:B1:113:C:C2' | 29:B1:114:A:H5' | 2.09 | 0.82 |
| 29:B1:207:U:H2' | 29:B1:208:C:H6 | 1.44 | 0.82 |
| 29:B1:344:A:C4 | 29:B1:345:G:C8 | 2.67 | 0.82 |
| 29:B1:2159:U:H4' | 29:B1:2160:G:OP2 | 1.78 | 0.82 |
| 29:B1:3102:G:H8 | 29:B1:3102:G:H5' | 1.43 | 0.82 |
| 30:B2:106:U:C2 | 30:B2:107:C:C5 | 2.67 | 0.82 |
| 16:CO:52:TYR:HA | 23:Cb:6:UNK:CB | 2.09 | 0.82 |
| 29:D1:592:A:H2' | 29:D1:593:C:O2' | 1.79 | 0.82 |
| 29:D1:1877:U:H4' | 29:D1:1878:G:OP2 | 1.80 | 0.82 |
| 29:D1:2294:U:O2 | 29:D1:2296:A:H2' | 1.79 | 0.82 |
| 29:D1:2883:U:H2' | 29:D1:2884:C:H6 | 1.42 | 0.82 |
| 29:D1:2912:G:C5 | 29:D1:2913:C:N3 | 2.47 | 0.82 |
| 29:D1:3141:A:C5' | 29:D1:3143:C:C2 | 2.62 | 0.82 |
| 29:D1:3297:U:C2 | 29:D1:3298:C:C5 | 2.67 | 0.82 |
| 74:D3:202:OHX:N6 | 74:D3:212:OHX:N1 | 2.28 | 0.82 |
| 36:DE:126:GLU:C | 36:DE:128:GLU:H | 1.87 | 0.82 |
| 1:A1:44:U:C5' | 1:A1:45:U:H5 | 1.91 | 0.82 |
| 1:A1:149:C:H3' | 1:A1:150:U:H6 | 1.42 | 0.82 |
| 1:A1:901:G:H3' | 1:A1:902:G:C8 | 2.14 | 0.82 |
| 1:A1:921:U:H2' | 1:A1:922:G:C8 | 2.15 | 0.82 |
| 17:AP:127:VAL:HA | 17:AP:129:GLY:N | 1.95 | 0.82 |
| 29:B1:150:A:H2' | 29:B1:151:A:C8 | 2.13 | 0.82 |
| 29:B1:370:U:O2 | 29:B1:403:C:N3 | 2.12 | 0.82 |
| 29:B1:1304:A:C4 | 29:B1:2939:G:H1' | 2.13 | 0.82 |
| 29:B1:1450:G:H8 | 29:B1:1450:G:O5' | 1.61 | 0.82 |
| 29:B1:1453:A:N9 | 29:B1:1850:A:H2 | 1.77 | 0.82 |
| 29:B1:3047:U:C2 | 29:B1:3048:A:H2 | 1.97 | 0.82 |
| 57:Bb:83:GLU:O | 57:Bb:85:LEU:N | 2.12 | 0.82 |
| 1:C1:1673:G:C2' | 1:C1:1674:C:H5' | 2.08 | 0.82 |
| 2:CA:26:ALA:HA | 2:CA:164:ASN:HA | 1.58 | 0.82 |
| 8:CG:145:THR:HA | 8:CG:146:ALA:HB2 | 1.59 | 0.82 |
| 24:Cc:1:UNK:N | 24:Cc:74:UNK:HA | 1.93 | 0.82 |
| 29:D1:210:U:H4' | 29:D1:211:A:O5' | 1.78 | 0.82 |
| 29:D1:1072:G:H2' | 29:D1:1073:U:H6 | 1.44 | 0.82 |
| 29:D1:1154:A:H5' | 29:D1:1155:C:H5 | 1.43 | 0.82 |
| 29:D1:1339:C:H2' | 29:D1:1340:G:H8 | 1.43 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1349:G:H8 | 29:D1:1349:G:OP2 | 1.62 | 0.82 |
| 29:D1:2754:G:C3' | 29:D1:2755:C:H5' | 2.10 | 0.82 |
| 31:D3:74:U:O3' | 31:D3:89:A:H2' | 1.79 | 0.82 |
| 1:A1:59:C:C6 | 1:A1:62:A:N6 | 2.45 | 0.82 |
| 1:A1:364:G:C2 | 1:A1:381:C:C2 | 2.68 | 0.82 |
| 1:A1:717:C:H2' | 1:A1:718:U:H5" | 1.60 | 0.82 |
| 1:A1:1382:A:C5' | 15:AN:59:PRO:HA | 2.09 | 0.82 |
| 1:A1:1650:U:H3' | 1:A1:1651:A:H8 | 1.44 | 0.82 |
| 1:A1:1661:U:H2' | 1:A1:1662:G:C8 | 2.13 | 0.82 |
| 29:B1:421:G:N2 | 29:B1:2365:C:C1' | 2.43 | 0.82 |
| 29:B1:3179:U:O2' | 29:B1:3180:A:OP1 | 1.98 | 0.82 |
| 29:B1:3209:A:H3' | 29:B1:3210:A:C8 | 2.13 | 0.82 |
| 29:B1:3316:A:N6 | 29:B1:3388:C:H42 | 1.78 | 0.82 |
| 30:B2:88:G:C4 | 30:B2:89:G:N7 | 2.48 | 0.82 |
| 1:C1:818:C:H2' | 1:C1:819:G:N7 | 1.94 | 0.82 |
| 1:C1:836:U:H2' | 1:C1:837:G:H8 | 1.44 | 0.82 |
| 1:C1:992:A:C2 | 1:C1:1012:U:C2 | 2.68 | 0.82 |
| 1:C1:1141:G:H3' | 1:C1:1142:A:C5' | 2.09 | 0.82 |
| 1:C1:1478:G:H8 | 1:C1:1478:G:H5' | 1.45 | 0.82 |
| 17:CP:127:VAL:HA | 17:CP:129:GLY:N | 1.95 | 0.82 |
| 29:D1:717:C:H5' | 29:D1:719:U:O4' | 1.79 | 0.82 |
| 29:D1:1651:U:O2' | 29:D1:1652:G:H5' | 1.79 | 0.82 |
| 29:D1:3181:C:C6 | 45:DP:167:TYR:CB | 2.62 | 0.82 |
| 29:D1:3261:C:OP2 | 29:D1:3262:U:OP1 | 1.96 | 0.82 |
| 29:D1:3280:U:O2' | 29:D1:3281:U:OP2 | 1.97 | 0.82 |
| 74:D1:3408:OHX:N6 | 74:D1:3582:OHX:N3 | 2.27 | 0.82 |
| 30:D2:30:G:N1 | 30:D2:49:G:N1 | 2.27 | 0.82 |
| 1:A1:1219:A:H5' | 1:A1:1220:C:C5 | 2.10 | 0.82 |
| 1:A1:1557:U:P | 1:A1:1560:U:O4 | 2.38 | 0.82 |
| 2:AA:35:PRO:O | 2:AA:37:VAL:N | 2.12 | 0.82 |
| 29:B1:188:U:O2 | 29:B1:222:A:H2 | 1.62 | 0.82 |
| 29:B1:592:A:C4 | 29:B1:593:C:H1' | 2.08 | 0.82 |
| 29:B1:1442:U:H5' | 29:B1:1442:U:H6 | 1.45 | 0.82 |
| 29:B1:1798:A:C2 | 29:B1:1799:A:C4 | 2.68 | 0.82 |
| 29:B1:3242:G:N2 | 29:B1:3244:A:H8 | 1.77 | 0.82 |
| 30:B2:64:A:N6 | 30:B2:111:U:C4 | 2.46 | 0.82 |
| 44:BO:78:GLY:CA | 44:BO:79:ALA:HB2 | 2.10 | 0.82 |
| 59:Bd:37:CYS:N | 74:Bd:101:OHX:N3 | 2.26 | 0.82 |
| 1:C1:1148:C:H2' | 1:C1:1149:G:N7 | 1.95 | 0.82 |
| 9:CH:22:SER:C | 9:CH:24:ASN:H | 1.86 | 0.82 |
| 13:CL:96:LYS:CB | 13:CL:97:ASP:HA | 2.09 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:39:A:C8 | 29:D1:41:G:OP2 | 2.31 | 0.82 |
| 29:D1:594:U:O4 | 29:D1:610:G:P | 2.38 | 0.82 |
| 29:D1:623:U:H2' | 29:D1:624:G:H8 | 1.45 | 0.82 |
| 29:D1:641:C:H2' | 29:D1:642:U:O4' | 1.79 | 0.82 |
| 29:D1:2295:A:N6 | 29:D1:2296:A:N6 | 2.27 | 0.82 |
| 29:D1:3171:U:H1' | 29:D1:3172:A:OP2 | 1.78 | 0.82 |
| 29:D1:3386:G:H8 | 29:D1:3386:G:O5' | 1.63 | 0.82 |
| 36:DE:141:PRO:C | 36:DE:143:LYS:H | 1.88 | 0.82 |
| 41:DJ:89:VAL:O | 41:DJ:136:PHE:HA | 1.78 | 0.82 |
| 1:A1:43:A:C2 | 1:A1:378:A:N6 | 2.47 | 0.82 |
| 1:A1:169:A:N7 | 1:A1:171:A:N6 | 2.27 | 0.82 |
| 1:A1:556:A:H5" | 1:A1:558:U:OP2 | 1.78 | 0.82 |
| 1:A1:1243:G:H2' | 1:A1:1244:A:C8 | 2.14 | 0.82 |
| 17:AP:85:ALA:HB1 | 17:AP:123:LYS:HA | 1.62 | 0.82 |
| 29:B1:88:A:C2 | 29:B1:89:A:H1' | 2.15 | 0.82 |
| 29:B1:592:A:OP2 | 29:B1:592:A:C8 | 2.33 | 0.82 |
| 29:B1:1750:A:O3' | 29:B1:1751:G:H8 | 1.61 | 0.82 |
| 29:B1:2680:A:H3' | 29:B1:2681:U:H5' | 1.62 | 0.82 |
| 29:B1:2996:U:H4' | 29:B1:2997:G:OP2 | 1.79 | 0.82 |
| 29:B1:3201:C:P | 29:B1:3201:C:O4' | 2.37 | 0.82 |
| 29:B1:3280:U:O2' | 29:B1:3281:U:OP2 | 1.98 | 0.82 |
| 30:B2:25:G:C2 | 30:B2:26:C:N3 | 2.48 | 0.82 |
| 1:C1:527:A:P | 1:C1:528:U:H3' | 2.19 | 0.82 |
| 1:C1:1182:U:H2' | 1:C1:1184:A:OP2 | 1.79 | 0.82 |
| 1:C1:1378:U:H3' | 1:C1:1379:C:C5' | 2.10 | 0.82 |
| 1:C1:1420:C:C5 | 1:C1:1421:A:C8 | 2.65 | 0.82 |
| 1:C1:1764:C:H6 | 1:C1:1764:C:H5' | 1.43 | 0.82 |
| 29:D1:285:A:H2 | 29:D1:304:G:O3' | 1.62 | 0.82 |
| 29:D1:594:U:N3 | 29:D1:595:G:C6 | 2.48 | 0.82 |
| 29:D1:611:A:H3' | 29:D1:612:U:C5' | 2.10 | 0.82 |
| 29:D1:761:A:H3' | 29:D1:762:U:H5" | 1.62 | 0.82 |
| 29:D1:1289:G:H4' | 29:D1:1290:A:OP1 | 1.78 | 0.82 |
| 29:D1:1591:G:O2' | 29:D1:1799:A:N1 | 2.12 | 0.82 |
| 29:D1:1593:A:H2' | 29:D1:1594:A:H8 | 1.42 | 0.82 |
| 29:D1:1697:A:C2' | 29:D1:1698:C:H5' | 2.09 | 0.82 |
| 29:D1:2897:A:H2 | 29:D1:2905:U:C2 | 1.98 | 0.82 |
| 29:D1:2948:C:O2' | 29:D1:2949:U:H5' | 1.79 | 0.82 |
| 29:D1:3012:A:C2' | 29:D1:3013:U:H5" | 2.10 | 0.82 |
| 29:D1:3184:A:H5" | 29:D1:3184:A:H8 | 1.41 | 0.82 |
| 29:D1:3277:U:C2' | 29:D1:3278:C:H5' | 2.09 | 0.82 |
| 29:D1:3280:U:OP2 | 29:D1:3280:U:H2' | 1.79 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3314:A:H5” | 34:DC:119:TYR:N | 1.93 | 0.82 |
| 30:D2:12:U:O4’ | 30:D2:69:C:H4’ | 1.80 | 0.82 |
| 35:DD:63:GLU:O | 35:DD:75:PRO:HA | 1.80 | 0.82 |
| 43:DN:33:ALA:CB | 43:DN:48:GLY:H | 1.93 | 0.82 |
| 1:A1:623:A:O2’ | 1:A1:624:G:H5” | 1.80 | 0.82 |
| 1:A1:983:A:H2’ | 1:A1:984:G:C8 | 2.15 | 0.82 |
| 1:A1:1420:C:H5 | 1:A1:1421:A:C8 | 1.95 | 0.82 |
| 1:A1:1578:U:O2’ | 1:A1:1579:U:H5’ | 1.78 | 0.82 |
| 1:A1:1631:A:C2 | 1:A1:1632:C:H1’ | 2.15 | 0.82 |
| 1:A1:1632:C:HO2’ | 1:A1:1633:A:H8 | 1.26 | 0.82 |
| 1:A1:1719:A:H5’ | 1:A1:1720:G:OP2 | 1.80 | 0.82 |
| 18:AQ:41:ILE:HA | 18:AQ:44:GLN:H | 1.44 | 0.82 |
| 29:B1:102:C:H1’ | 29:B1:103:G:OP1 | 1.80 | 0.82 |
| 29:B1:265:A:O4’ | 29:B1:265:A:OP1 | 1.98 | 0.82 |
| 29:B1:681:U:H1’ | 29:B1:682:U:H5’ | 1.61 | 0.82 |
| 29:B1:1108:U:H2’ | 29:B1:1109:U:C6 | 2.15 | 0.82 |
| 29:B1:1540:U:O2 | 29:B1:1540:U:H2’ | 1.78 | 0.82 |
| 29:B1:1794:G:N1 | 33:BB:185:ALA:HB1 | 1.95 | 0.82 |
| 29:B1:2344:U:H5” | 29:B1:2345:A:OP2 | 1.80 | 0.82 |
| 29:B1:2923:U:C2 | 29:B1:2924:U:C5 | 2.67 | 0.82 |
| 29:B1:2971:A:OP1 | 29:B1:2971:A:H3’ | 1.78 | 0.82 |
| 29:B1:3144:G:C6 | 74:B1:3428:OHX:N1 | 2.48 | 0.82 |
| 1:C1:556:A:C3’ | 1:C1:558:U:OP2 | 2.28 | 0.82 |
| 1:C1:647:G:N2 | 1:C1:648:G:C2 | 2.48 | 0.82 |
| 1:C1:973:A:H2’ | 1:C1:974:A:H8 | 1.44 | 0.82 |
| 29:D1:210:U:OP2 | 29:D1:210:U:H6 | 1.62 | 0.82 |
| 29:D1:1063:G:O2’ | 29:D1:1064:A:N3 | 2.12 | 0.82 |
| 29:D1:1074:U:O4 | 29:D1:1084:A:N6 | 2.12 | 0.82 |
| 29:D1:1532:C:H2’ | 29:D1:1533:U:C6 | 2.14 | 0.82 |
| 29:D1:1640:G:C4 | 29:D1:1641:U:C5 | 2.67 | 0.82 |
| 29:D1:1862:U:H5” | 29:D1:1863:G:OP2 | 1.79 | 0.82 |
| 29:D1:3204:C:H5’ | 43:DN:88:ALA:CB | 2.10 | 0.82 |
| 31:D3:70:G:C8 | 31:D3:71:A:C6 | 2.68 | 0.82 |
| 38:DG:73:GLY:HA2 | 38:DG:74:SER:O | 1.80 | 0.82 |
| 44:DO:79:ALA:H | 44:DO:80:THR:CB | 1.93 | 0.82 |
| 48:DS:151:ARG:HA | 48:DS:154:ALA:HB3 | 1.62 | 0.82 |
| 1:A1:364:G:H5’ | 1:A1:365:G:OP2 | 1.80 | 0.82 |
| 1:A1:1429:G:H2’ | 1:A1:1430:U:H6 | 1.45 | 0.82 |
| 6:AE:80:LEU:CA | 6:AE:81:VAL:CB | 2.57 | 0.82 |
| 29:B1:773:G:C2’ | 29:B1:774:G:H8 | 1.92 | 0.82 |
| 29:B1:826:G:O2’ | 29:B1:1589:A:H8 | 1.61 | 0.82 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1255:C:N4 | 74:B1:3567:OHX:N5 | 2.28 | 0.82 |
| 29:B1:2405:C:H2' | 29:B1:2405:C:O2 | 1.78 | 0.82 |
| 29:B1:2663:G:H5' | 29:B1:2664:C:OP2 | 1.80 | 0.82 |
| 29:B1:2915:U:H2' | 29:B1:2915:U:O2 | 1.78 | 0.82 |
| 30:B2:41:G:H2' | 30:B2:41:G:N3 | 1.92 | 0.82 |
| 34:BC:12:GLY:O | 34:BC:13:HIS:C | 2.23 | 0.82 |
| 62:Bg:60:CYS:CB | 74:Bg:101:OHX:N5 | 2.43 | 0.82 |
| 1:C1:259:U:C5 | 1:C1:261:U:O4 | 2.33 | 0.82 |
| 1:C1:624:G:H1' | 1:C1:1027:A:C4 | 2.15 | 0.82 |
| 1:C1:690:G:H2' | 1:C1:691:C:H5' | 1.62 | 0.82 |
| 1:C1:862:A:C8 | 1:C1:963:A:C6 | 2.68 | 0.82 |
| 1:C1:1006:C:H5" | 1:C1:1007:C:OP2 | 1.80 | 0.82 |
| 1:C1:1647:U:H2' | 1:C1:1648:A:C8 | 2.15 | 0.82 |
| 29:D1:122:A:H2' | 29:D1:123:A:H8 | 1.45 | 0.82 |
| 29:D1:150:A:N7 | 29:D1:151:A:N6 | 2.27 | 0.82 |
| 29:D1:160:G:H1 | 29:D1:261:U:H3 | 1.24 | 0.82 |
| 29:D1:773:G:C2' | 29:D1:774:G:H8 | 1.92 | 0.82 |
| 29:D1:921:A:H3' | 29:D1:921:A:OP1 | 1.79 | 0.82 |
| 29:D1:1192:C:P | 29:D1:1192:C:C3' | 2.68 | 0.82 |
| 29:D1:1471:U:O2' | 29:D1:1472:U:H5' | 1.80 | 0.82 |
| 29:D1:3201:C:P | 29:D1:3201:C:O4' | 2.38 | 0.82 |
| 29:D1:3327:G:C2 | 29:D1:3328:G:C8 | 2.68 | 0.82 |
| 29:D1:3377:G:H1' | 29:D1:3378:C:OP1 | 1.79 | 0.82 |
| 1:A1:776:G:C2 | 1:A1:785:U:O2 | 2.33 | 0.81 |
| 1:A1:1378:U:H3' | 1:A1:1379:C:C5' | 2.10 | 0.81 |
| 1:A1:1657:U:H1' | 1:A1:1658:G:OP2 | 1.80 | 0.81 |
| 1:A1:1771:U:H2' | 1:A1:1772:C:H6 | 1.42 | 0.81 |
| 2:AA:26:ALA:HA | 2:AA:164:ASN:HA | 1.61 | 0.81 |
| 14:AM:58:ALA:O | 14:AM:62:ALA:HB2 | 1.80 | 0.81 |
| 29:B1:46:U:H2' | 29:B1:47:C:H5' | 1.61 | 0.81 |
| 29:B1:145:G:H5" | 29:B1:146:U:OP2 | 1.80 | 0.81 |
| 29:B1:209:A:O2' | 29:B1:210:U:O2 | 1.96 | 0.81 |
| 29:B1:751:A:H5" | 29:B1:752:C:OP2 | 1.80 | 0.81 |
| 29:B1:953:G:H4' | 29:B1:954:U:H6 | 1.42 | 0.81 |
| 29:B1:2918:G:N2 | 29:B1:2919:A:N7 | 2.28 | 0.81 |
| 29:B1:3260:G:H3' | 29:B1:3261:C:C5' | 2.08 | 0.81 |
| 36:BE:43:LYS:H | 49:BT:69:LYS:CB | 1.93 | 0.81 |
| 40:BI:100:ASN:O | 40:BI:114:VAL:HA | 1.79 | 0.81 |
| 43:BN:10:SER:H | 43:BN:11:ASN:HA | 1.43 | 0.81 |
| 1:C1:177:U:H3' | 1:C1:178:U:H5" | 1.59 | 0.81 |
| 1:C1:322:G:C4' | 1:C1:323:A:OP1 | 2.27 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:650:U:N3 | 1:C1:684:A:N6 | 1.90 | 0.81 |
| 1:C1:921:U:H2' | 1:C1:922:G:C8 | 2.14 | 0.81 |
| 1:C1:1540:G:H2' | 1:C1:1541:G:O4' | 1.80 | 0.81 |
| 1:C1:1633:A:C1' | 1:C1:1634:C:OP2 | 2.28 | 0.81 |
| 14:CM:128:GLY:O | 14:CM:130:ARG:N | 2.13 | 0.81 |
| 29:D1:188:U:O2 | 29:D1:222:A:H2 | 1.63 | 0.81 |
| 29:D1:1080:A:C4 | 29:D1:1082:U:H5" | 2.15 | 0.81 |
| 29:D1:3210:A:C5 | 29:D1:3211:C:N4 | 2.48 | 0.81 |
| 29:D1:3218:A:O2' | 29:D1:3219:G:O5' | 1.98 | 0.81 |
| 29:D1:3260:G:H3' | 29:D1:3261:C:C5' | 2.06 | 0.81 |
| 30:D2:3:U:C2 | 30:D2:4:U:C5 | 2.68 | 0.81 |
| 30:D2:64:A:N6 | 30:D2:111:U:C4 | 2.48 | 0.81 |
| 31:D3:49:G:C6 | 31:D3:50:C:C5 | 2.68 | 0.81 |
| 34:DC:261:MET:C | 34:DC:263:SER:N | 2.29 | 0.81 |
| 45:DP:17:GLY:O | 45:DP:20:ALA:HB3 | 1.78 | 0.81 |
| 1:A1:829:A:H1' | 1:A1:830:U:O5' | 1.80 | 0.81 |
| 1:A1:1642:G:O6 | 74:A1:1901:OHX:N3 | 2.13 | 0.81 |
| 29:B1:363:G:C3' | 29:B1:364:G:H5" | 2.09 | 0.81 |
| 29:B1:608:A:H3' | 29:B1:608:A:C8 | 2.15 | 0.81 |
| 29:B1:953:G:H3' | 29:B1:953:G:C8 | 2.15 | 0.81 |
| 29:B1:2253:G:N7 | 29:B1:2254:U:C4 | 2.48 | 0.81 |
| 29:B1:2580:A:H1' | 29:B1:2581:U:OP2 | 1.80 | 0.81 |
| 38:BG:49:ALA:O | 38:BG:51:TYR:N | 2.13 | 0.81 |
| 44:BO:83:LYS:H | 44:BO:85:THR:N | 1.78 | 0.81 |
| 6:CE:142:ASN:O | 6:CE:144:PRO:N | 2.13 | 0.81 |
| 14:CM:28:LEU:C | 14:CM:30:VAL:H | 1.87 | 0.81 |
| 21:CT:301:LEU:CB | 21:CT:313:TRP:O | 2.28 | 0.81 |
| 24:Cc:51:UNK:HA | 24:Cc:65:UNK:HA | 1.60 | 0.81 |
| 29:D1:69:C:N4 | 29:D1:70:A:H8 | 1.78 | 0.81 |
| 29:D1:120:G:H5' | 29:D1:121:A:OP2 | 1.79 | 0.81 |
| 29:D1:155:G:H2' | 29:D1:155:G:OP1 | 1.80 | 0.81 |
| 29:D1:325:A:H3' | 29:D1:327:A:OP1 | 1.79 | 0.81 |
| 29:D1:591:G:O2' | 29:D1:592:A:H5' | 1.79 | 0.81 |
| 29:D1:1939:G:C2' | 29:D1:1940:G:H5' | 2.10 | 0.81 |
| 29:D1:3201:C:C2 | 29:D1:3202:G:C8 | 2.67 | 0.81 |
| 30:D2:69:C:H3' | 30:D2:70:U:H6 | 1.44 | 0.81 |
| 47:DR:154:GLY:N | 47:DR:155:MET:HA | 1.91 | 0.81 |
| 1:A1:87:C:C3' | 1:A1:88:U:H5" | 2.09 | 0.81 |
| 1:A1:239:C:H4' | 1:A1:240:U:H5' | 1.59 | 0.81 |
| 1:A1:587:C:H2' | 1:A1:588:U:O4' | 1.80 | 0.81 |
| 1:A1:1118:G:H2' | 1:A1:1119:G:C8 | 2.15 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1201:G:H2' | 1:A1:1202:A:C4' | 2.06 | 0.81 |
| 1:A1:1204:A:C3' | 1:A1:1205:C:H5" | 2.06 | 0.81 |
| 1:A1:1523:G:H4' | 1:A1:1524:A:OP2 | 1.80 | 0.81 |
| 3:AB:239:PRO:C | 3:AB:241:ASP:H | 1.86 | 0.81 |
| 6:AE:123:HIS:O | 6:AE:125:ALA:N | 2.12 | 0.81 |
| 29:B1:120:G:H5' | 29:B1:121:A:OP2 | 1.79 | 0.81 |
| 29:B1:304:G:H3' | 29:B1:304:G:OP2 | 1.80 | 0.81 |
| 29:B1:411:U:O2' | 29:B1:412:G:H5' | 1.80 | 0.81 |
| 29:B1:575:G:H2' | 29:B1:576:C:C6 | 2.15 | 0.81 |
| 29:B1:592:A:H2' | 29:B1:593:C:C1' | 2.10 | 0.81 |
| 29:B1:592:A:C3' | 29:B1:593:C:C4' | 2.46 | 0.81 |
| 29:B1:645:A:H4' | 29:B1:646:A:OP1 | 1.79 | 0.81 |
| 29:B1:703:G:N3 | 29:B1:703:G:H2' | 1.93 | 0.81 |
| 29:B1:1063:G:O2' | 29:B1:1064:A:N3 | 2.14 | 0.81 |
| 29:B1:1213:G:H5' | 29:B1:1213:G:C8 | 2.13 | 0.81 |
| 29:B1:1507:G:OP2 | 29:B1:1507:G:C8 | 2.33 | 0.81 |
| 29:B1:1794:G:H4' | 29:B1:1795:U:OP2 | 1.78 | 0.81 |
| 29:B1:2565:U:H2' | 29:B1:2566:C:H6 | 1.43 | 0.81 |
| 29:B1:3209:A:C2 | 29:B1:3210:A:C2 | 2.68 | 0.81 |
| 29:B1:3212:C:C4 | 29:B1:3213:A:C2 | 2.69 | 0.81 |
| 29:B1:3280:U:OP2 | 29:B1:3280:U:H2' | 1.81 | 0.81 |
| 29:B1:3299:A:N3 | 29:B1:3300:U:C5 | 2.47 | 0.81 |
| 30:B2:61:G:H2' | 30:B2:62:U:H6 | 1.45 | 0.81 |
| 30:B2:69:C:H3' | 30:B2:70:U:H6 | 1.44 | 0.81 |
| 31:B3:22:U:H4' | 31:B3:23:U:OP1 | 1.80 | 0.81 |
| 40:BI:63:LYS:O | 40:BI:66:ALA:N | 2.13 | 0.81 |
| 1:C1:34:G:C6 | 1:C1:475:A:N6 | 2.47 | 0.81 |
| 1:C1:357:G:H2' | 1:C1:358:U:C6 | 2.14 | 0.81 |
| 1:C1:1119:G:H2' | 1:C1:1120:U:C6 | 2.14 | 0.81 |
| 29:D1:213:A:H2' | 29:D1:214:G:O4' | 1.81 | 0.81 |
| 29:D1:515:C:H6 | 29:D1:515:C:P | 2.03 | 0.81 |
| 29:D1:528:U:H2' | 29:D1:528:U:O2 | 1.79 | 0.81 |
| 29:D1:829:U:H3 | 29:D1:895:A:H61 | 1.27 | 0.81 |
| 29:D1:880:G:C8 | 29:D1:882:A:N7 | 2.47 | 0.81 |
| 29:D1:985:U:H2' | 29:D1:986:U:H6 | 1.46 | 0.81 |
| 29:D1:1214:U:O2' | 29:D1:1215:U:H5' | 1.81 | 0.81 |
| 29:D1:1818:U:H2' | 29:D1:1819:U:C2 | 2.14 | 0.81 |
| 29:D1:2113:A:H2' | 29:D1:2114:C:C5' | 2.09 | 0.81 |
| 29:D1:2960:C:H5" | 29:D1:2961:G:OP2 | 1.79 | 0.81 |
| 30:D2:12:U:H2' | 30:D2:13:A:N1 | 1.95 | 0.81 |
| 74:D3:202:OHX:N6 | 74:D3:212:OHX:N3 | 2.28 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 39:DH:99:PRO:C | 39:DH:101:THR:H | 1.88 | 0.81 |
| 42:DK:134:PRO:C | 42:DK:151:SER:O | 2.23 | 0.81 |
| 1:A1:62:A:N3 | 1:A1:63:G:N7 | 2.29 | 0.81 |
| 1:A1:283:U:H2' | 1:A1:284:G:O4' | 1.80 | 0.81 |
| 1:A1:871:G:O2' | 1:A1:872:G:C8 | 2.34 | 0.81 |
| 1:A1:1258:U:H2' | 1:A1:1259:U:O4' | 1.79 | 0.81 |
| 1:A1:1275:A:C8 | 1:A1:1275:A:OP1 | 2.33 | 0.81 |
| 24:Ac:47:UNK:O | 24:Ac:67:UNK:HA | 1.81 | 0.81 |
| 29:B1:871:U:H2' | 29:B1:872:U:C6 | 2.15 | 0.81 |
| 29:B1:2716:U:H3' | 29:B1:2717:U:H5" | 1.62 | 0.81 |
| 1:C1:1560:U:O2 | 1:C1:1561:U:H5 | 1.62 | 0.81 |
| 29:D1:385:A:C2 | 29:D1:386:A:C5 | 2.68 | 0.81 |
| 29:D1:572:A:C5 | 29:D1:573:C:C5 | 2.68 | 0.81 |
| 29:D1:980:A:N6 | 29:D1:1104:G:H8 | 1.78 | 0.81 |
| 29:D1:1495:U:C2 | 29:D1:1842:A:C2 | 2.65 | 0.81 |
| 29:D1:1782:U:OP2 | 29:D1:1782:U:H6 | 1.61 | 0.81 |
| 29:D1:1927:G:N2 | 29:D1:1928:G:C8 | 2.48 | 0.81 |
| 29:D1:2560:C:H3' | 29:D1:2561:A:H5" | 1.62 | 0.81 |
| 29:D1:3121:U:O2 | 29:D1:3122:A:C8 | 2.32 | 0.81 |
| 1:A1:125:U:O5' | 1:A1:125:U:H6 | 1.63 | 0.81 |
| 1:A1:321:C:O2' | 1:A1:322:G:H5' | 1.79 | 0.81 |
| 1:A1:402:C:C2' | 1:A1:403:G:H5' | 2.08 | 0.81 |
| 1:A1:606:A:H4' | 1:A1:607:G:H3' | 1.60 | 0.81 |
| 1:A1:825:U:C5 | 1:A1:847:A:C6 | 2.63 | 0.81 |
| 1:A1:1456:C:H5" | 1:A1:1457:C:H5" | 1.63 | 0.81 |
| 1:A1:1734:U:H2' | 1:A1:1735:U:C6 | 2.16 | 0.81 |
| 9:AH:70:LYS:O | 9:AH:73:GLU:CB | 2.29 | 0.81 |
| 29:B1:37:U:H2' | 29:B1:37:U:O2 | 1.78 | 0.81 |
| 29:B1:975:C:H2' | 29:B1:976:U:C6 | 2.15 | 0.81 |
| 29:B1:993:G:O6 | 29:B1:1056:U:O4 | 1.99 | 0.81 |
| 29:B1:1130:A:H2' | 29:B1:1132:C:C6 | 2.16 | 0.81 |
| 29:B1:1232:C:C2' | 29:B1:1233:G:H4' | 2.09 | 0.81 |
| 29:B1:1349:G:H8 | 29:B1:1349:G:OP2 | 1.63 | 0.81 |
| 29:B1:1445:U:C6 | 29:B1:1446:A:C8 | 2.68 | 0.81 |
| 44:BO:159:ARG:C | 44:BO:161:ALA:H | 1.87 | 0.81 |
| 1:C1:1402:G:H2' | 1:C1:1403:C:H6 | 1.44 | 0.81 |
| 11:CJ:46:PHE:C | 11:CJ:48:VAL:H | 1.87 | 0.81 |
| 29:D1:72:C:H2' | 29:D1:73:C:C5' | 2.11 | 0.81 |
| 29:D1:726:G:N3 | 29:D1:744:A:N6 | 2.27 | 0.81 |
| 29:D1:1220:U:O3' | 29:D1:1221:A:H4' | 1.80 | 0.81 |
| 29:D1:1781:C:C2' | 29:D1:1782:U:H5' | 2.10 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2565:U:H2' | 29:D1:2566:C:H6 | 1.45 | 0.81 |
| 29:D1:3242:G:H1 | 29:D1:3244:A:C2' | 1.92 | 0.81 |
| 30:D2:12:U:C2 | 30:D2:70:U:OP1 | 2.33 | 0.81 |
| 30:D2:25:G:N3 | 30:D2:26:C:C5 | 2.49 | 0.81 |
| 46:DQ:5:GLY:H | 46:DQ:6:ALA:HA | 1.45 | 0.81 |
| 46:DQ:9:THR:HA | 46:DQ:14:SER:H | 1.43 | 0.81 |
| 57:Db:55:ILE:O | 57:Db:57:TYR:N | 2.14 | 0.81 |
| 1:A1:340:U:H3' | 1:A1:341:A:H8 | 1.44 | 0.81 |
| 1:A1:1650:U:C3' | 1:A1:1651:A:H8 | 1.94 | 0.81 |
| 17:AP:48:HIS:HA | 17:AP:105:ALA:HB2 | 1.61 | 0.81 |
| 29:B1:210:U:H4' | 29:B1:211:A:O5' | 1.80 | 0.81 |
| 29:B1:1174:G:C2 | 29:B1:1175:C:C5 | 2.68 | 0.81 |
| 29:B1:1334:U:H5" | 38:BG:206:LYS:O | 1.80 | 0.81 |
| 29:B1:2386:A:C4 | 29:B1:2994:A:C2 | 2.68 | 0.81 |
| 29:B1:2465:G:H2' | 29:B1:2466:G:H8 | 1.46 | 0.81 |
| 31:B3:49:G:C6 | 31:B3:50:C:C5 | 2.67 | 0.81 |
| 41:BJ:177:ASP:CA | 41:BJ:179:PRO:N | 2.32 | 0.81 |
| 1:C1:1097:U:C2' | 1:C1:1098:U:H5' | 2.10 | 0.81 |
| 1:C1:1109:G:C2 | 1:C1:1110:G:N7 | 2.49 | 0.81 |
| 29:D1:501:A:N6 | 29:D1:502:U:O4 | 2.13 | 0.81 |
| 29:D1:593:C:H3' | 29:D1:609:G:H22 | 1.44 | 0.81 |
| 29:D1:609:G:H3' | 29:D1:609:G:P | 2.19 | 0.81 |
| 29:D1:751:A:H5" | 29:D1:752:C:OP2 | 1.81 | 0.81 |
| 29:D1:2861:U:H2' | 29:D1:2862:U:H6 | 1.45 | 0.81 |
| 29:D1:3378:C:O2 | 29:D1:3378:C:H2' | 1.80 | 0.81 |
| 56:Da:82:GLU:CB | 56:Da:83:GLU:HA | 2.10 | 0.81 |
| 1:A1:106:U:C4 | 1:A1:107:C:C4 | 2.68 | 0.81 |
| 1:A1:527:A:OP1 | 1:A1:528:U:H3' | 1.80 | 0.81 |
| 1:A1:989:U:H2' | 1:A1:990:C:H6 | 1.44 | 0.81 |
| 1:A1:1198:G:H3' | 1:A1:1199:G:H5' | 1.60 | 0.81 |
| 1:A1:1378:U:H5' | 1:A1:1379:C:H6 | 1.42 | 0.81 |
| 1:A1:1525:A:H2' | 1:A1:1526:A:H8 | 1.45 | 0.81 |
| 1:A1:1580:C:H4' | 1:A1:1581:C:OP1 | 1.80 | 0.81 |
| 29:B1:315:C:C2 | 29:B1:316:U:C5 | 2.69 | 0.81 |
| 29:B1:612:U:H1' | 29:B1:613:G:N7 | 1.95 | 0.81 |
| 29:B1:2376:G:C6 | 29:B1:2377:G:C6 | 2.69 | 0.81 |
| 29:B1:3141:A:H4' | 29:B1:3142:A:O5' | 1.80 | 0.81 |
| 29:B1:3244:A:C8 | 29:B1:3245:A:C8 | 2.69 | 0.81 |
| 29:B1:3365:U:H2' | 29:B1:3366:G:C8 | 2.15 | 0.81 |
| 29:B1:3386:G:H2' | 29:B1:3387:U:H6 | 1.42 | 0.81 |
| 33:BB:182:ALA:O | 33:BB:184:ARG:N | 2.14 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:871:G:HO2' | 1:C1:872:G:H8 | 0.81 | 0.81 |
| 2:CA:35:PRO:O | 2:CA:37:VAL:N | 2.14 | 0.81 |
| 29:D1:498:A:H2' | 29:D1:499:G:C8 | 2.16 | 0.81 |
| 29:D1:945:C:C2 | 29:D1:946:U:C5 | 2.69 | 0.81 |
| 29:D1:1129:A:C6 | 29:D1:1130:A:C6 | 2.68 | 0.81 |
| 29:D1:1324:U:C5' | 29:D1:1324:U:H6 | 1.93 | 0.81 |
| 29:D1:1608:C:H2' | 29:D1:1609:C:H5' | 1.62 | 0.81 |
| 29:D1:2390:A:C4' | 29:D1:3307:A:C2 | 2.63 | 0.81 |
| 29:D1:2680:A:OP1 | 29:D1:2681:U:H5 | 1.62 | 0.81 |
| 29:D1:2897:A:C8 | 29:D1:2899:C:O4' | 2.33 | 0.81 |
| 1:A1:283:U:H3' | 1:A1:284:G:H5" | 1.63 | 0.81 |
| 1:A1:1092:A:C5 | 1:A1:1094:G:C8 | 2.69 | 0.81 |
| 5:AD:59:VAL:C | 5:AD:61:TYR:H | 1.89 | 0.81 |
| 29:B1:72:C:H2' | 29:B1:73:C:C5' | 2.08 | 0.81 |
| 29:B1:761:A:C2 | 29:B1:762:U:H1' | 2.15 | 0.81 |
| 29:B1:1063:G:H5' | 29:B1:1098:A:O5' | 1.81 | 0.81 |
| 29:B1:1255:C:N4 | 74:B1:3567:OHX:N1 | 2.28 | 0.81 |
| 30:B2:13:A:O5' | 30:B2:13:A:N3 | 2.14 | 0.81 |
| 34:BC:93:VAL:H | 34:BC:99:LEU:CB | 1.92 | 0.81 |
| 35:BD:148:ILE:HA | 35:BD:149:PRO:C | 2.06 | 0.81 |
| 59:Bd:37:CYS:N | 74:Bd:101:OHX:N6 | 2.28 | 0.81 |
| 1:C1:742:U:H3' | 1:C1:744:U:OP2 | 1.81 | 0.81 |
| 7:CF:122:ILE:H | 7:CF:144:ALA:HB3 | 1.45 | 0.81 |
| 14:CM:99:SER:HA | 14:CM:102:ARG:CB | 2.11 | 0.81 |
| 29:D1:563:U:H2' | 29:D1:564:G:H4' | 1.61 | 0.81 |
| 29:D1:912:G:H2' | 29:D1:914:A:N7 | 1.96 | 0.81 |
| 29:D1:975:C:H2' | 29:D1:976:U:C5 | 2.16 | 0.81 |
| 29:D1:2655:U:H2' | 61:Df:3:ASN:O | 1.80 | 0.81 |
| 29:D1:3003:G:C2 | 29:D1:3004:C:C5 | 2.68 | 0.81 |
| 29:D1:3251:U:H2' | 29:D1:3252:G:H8 | 1.44 | 0.81 |
| 31:D3:140:G:C6 | 31:D3:141:C:C4 | 2.69 | 0.81 |
| 45:DP:124:LEU:HA | 45:DP:125:ARG:C | 2.06 | 0.81 |
| 57:Db:72:LYS:CB | 57:Db:92:TYR:HA | 2.11 | 0.81 |
| 1:A1:85:A:O2' | 1:A1:86:A:H8 | 1.64 | 0.81 |
| 1:A1:358:U:H5" | 1:A1:359:A:OP2 | 1.81 | 0.81 |
| 1:A1:1030:A:H3' | 1:A1:1031:U:H5' | 1.61 | 0.81 |
| 1:A1:1478:G:H8 | 1:A1:1478:G:H5' | 1.45 | 0.81 |
| 1:A1:1753:A:N1 | 1:A1:1754:A:N1 | 2.29 | 0.81 |
| 29:B1:562:C:O2' | 29:B1:563:U:H5' | 1.81 | 0.81 |
| 29:B1:595:G:N1 | 29:B1:609:G:O4' | 2.13 | 0.81 |
| 29:B1:607:A:OP2 | 29:B1:607:A:H8 | 1.64 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:784:A:H2' | 29:B1:785:G:H8 | 1.40 | 0.81 |
| 29:B1:835:G:C2 | 29:B1:857:G:N3 | 2.49 | 0.81 |
| 29:B1:2985:C:H2' | 29:B1:2986:U:H6 | 1.44 | 0.81 |
| 51:BV:45:ASN:O | 51:BV:47:ARG:N | 2.14 | 0.81 |
| 53:BX:33:ALA:O | 53:BX:47:ALA:HB1 | 1.81 | 0.81 |
| 58:Bc:38:ARG:CB | 58:Bc:39:PRO:HA | 2.11 | 0.81 |
| 1:C1:298:C:H6 | 1:C1:298:C:H3' | 1.46 | 0.81 |
| 1:C1:1472:C:H4' | 1:C1:1473:U:H5' | 1.61 | 0.81 |
| 1:C1:1696:G:N2 | 1:C1:1708:U:O2 | 2.14 | 0.81 |
| 29:D1:287:G:H2' | 29:D1:288:C:H6 | 1.45 | 0.81 |
| 29:D1:620:U:H4' | 29:D1:621:A:OP1 | 1.80 | 0.81 |
| 29:D1:871:U:H2' | 29:D1:872:U:H6 | 1.46 | 0.81 |
| 29:D1:1623:G:O6 | 29:D1:1822:C:N4 | 2.10 | 0.81 |
| 29:D1:2580:A:H1' | 29:D1:2581:U:P | 2.20 | 0.81 |
| 29:D1:2860:U:C5 | 29:D1:2938:G:H4' | 2.15 | 0.81 |
| 29:D1:2953:U:H2' | 29:D1:2954:U:H6 | 1.44 | 0.81 |
| 29:D1:3037:U:H2' | 29:D1:3038:U:H6 | 1.45 | 0.81 |
| 29:D1:3113:A:C2 | 29:D1:3122:A:C4 | 2.69 | 0.81 |
| 29:D1:3350:C:H4' | 29:D1:3354:U:H5 | 1.46 | 0.81 |
| 45:DP:137:THR:O | 45:DP:140:LYS:N | 2.14 | 0.81 |
| 26:Dj:16:UNK:O | 26:Dj:20:UNK:N | 2.14 | 0.81 |
| 29:B1:514:G:C3' | 29:B1:515:C:C6 | 2.64 | 0.81 |
| 29:B1:716:A:H2' | 29:B1:717:C:C1' | 2.11 | 0.81 |
| 29:B1:1455:U:H4' | 29:B1:1456:A:OP2 | 1.81 | 0.81 |
| 29:B1:1777:U:H2' | 29:B1:1778:G:C8 | 2.15 | 0.81 |
| 29:B1:2725:U:C4 | 29:B1:2727:A:N3 | 2.49 | 0.81 |
| 29:B1:3273:A:C5 | 29:B1:3274:A:C8 | 2.68 | 0.81 |
| 37:BF:21:THR:HA | 37:BF:112:THR:N | 1.96 | 0.81 |
| 1:C1:534:A:H2' | 1:C1:535:A:C8 | 2.15 | 0.81 |
| 1:C1:963:A:O2' | 1:C1:964:U:H6 | 1.61 | 0.81 |
| 1:C1:1203:A:H4' | 1:C1:1204:A:OP2 | 1.80 | 0.81 |
| 1:C1:1434:U:O3' | 1:C1:1435:G:H3' | 1.81 | 0.81 |
| 29:D1:210:U:H3 | 35:DD:162:THR:N | 1.79 | 0.81 |
| 29:D1:993:G:O6 | 29:D1:1056:U:O4 | 1.99 | 0.81 |
| 29:D1:1449:A:C2 | 29:D1:2356:A:C4 | 2.70 | 0.81 |
| 29:D1:3135:U:C4 | 29:D1:3136:G:C5 | 2.69 | 0.81 |
| 29:D1:3324:C:O2' | 29:D1:3325:G:H5' | 1.80 | 0.81 |
| 31:D3:19:C:C6 | 31:D3:20:U:H5 | 1.98 | 0.81 |
| 31:D3:22:U:H4' | 31:D3:23:U:OP1 | 1.81 | 0.81 |
| 31:D3:74:U:OP2 | 31:D3:76:C:C2 | 2.34 | 0.81 |
| 38:DG:83:LEU:HA | 38:DG:84:VAL:CB | 2.11 | 0.81 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 43:DN:10:SER:H | 43:DN:11:ASN:HA | 1.45 | 0.81 |
| 45:DP:77:SER:O | 45:DP:79:ILE:N | 2.14 | 0.81 |
| 1:A1:1657:U:C4' | 1:A1:1658:G:O5' | 2.29 | 0.80 |
| 29:B1:1167:U:H5' | 29:B1:1167:U:H6 | 1.46 | 0.80 |
| 29:B1:1287:A:C2' | 29:B1:1288:U:H5' | 2.12 | 0.80 |
| 29:B1:2675:C:H41 | 29:B1:2676:A:H61 | 1.26 | 0.80 |
| 29:B1:3198:U:H3' | 29:B1:3199:G:C8 | 2.16 | 0.80 |
| 30:B2:64:A:C4' | 30:B2:65:G:O5' | 2.29 | 0.80 |
| 1:C1:518:A:H61 | 1:C1:535:A:H1' | 1.45 | 0.80 |
| 1:C1:528:U:O5' | 1:C1:529:A:H4' | 1.80 | 0.80 |
| 1:C1:555:A:H2 | 1:C1:556:A:C2 | 1.99 | 0.80 |
| 17:CP:85:ALA:HB1 | 17:CP:123:LYS:HA | 1.61 | 0.80 |
| 29:D1:41:G:C8 | 29:D1:42:C:C5 | 2.68 | 0.80 |
| 29:D1:402:A:H61 | 46:DQ:21:TYR:CB | 1.94 | 0.80 |
| 29:D1:611:A:H5' | 29:D1:612:U:OP1 | 1.81 | 0.80 |
| 29:D1:625:G:H2' | 29:D1:626:U:H6 | 1.43 | 0.80 |
| 29:D1:694:C:H2' | 29:D1:694:C:O2 | 1.81 | 0.80 |
| 29:D1:979:U:H4' | 29:D1:980:A:OP1 | 1.81 | 0.80 |
| 29:D1:1777:U:H2' | 29:D1:1778:G:C8 | 2.16 | 0.80 |
| 29:D1:2582:C:H5' | 29:D1:2583:C:OP2 | 1.80 | 0.80 |
| 29:D1:2680:A:OP1 | 29:D1:2681:U:C5 | 2.35 | 0.80 |
| 29:D1:3344:A:OP2 | 29:D1:3344:A:H2' | 1.82 | 0.80 |
| 1:A1:830:U:HO2' | 1:A1:831:U:H6 | 1.28 | 0.80 |
| 1:A1:1132:A:C2 | 1:A1:1133:A:C8 | 2.68 | 0.80 |
| 29:B1:414:U:H2' | 29:B1:415:G:H8 | 1.45 | 0.80 |
| 29:B1:718:G:H4' | 29:B1:719:U:O5' | 1.81 | 0.80 |
| 29:B1:762:U:C5 | 74:B1:3479:OHX:N3 | 2.50 | 0.80 |
| 29:B1:886:C:C2' | 29:B1:887:G:H5' | 2.09 | 0.80 |
| 29:B1:965:A:C6 | 29:B1:966:U:N3 | 2.49 | 0.80 |
| 29:B1:1705:U:O2' | 29:B1:1706:C:O4' | 1.99 | 0.80 |
| 29:B1:2145:A:C1' | 29:B1:2958:A:H4' | 2.11 | 0.80 |
| 29:B1:2224:A:H2' | 29:B1:2225:U:O4' | 1.79 | 0.80 |
| 29:B1:2485:A:H5' | 32:BA:106:LYS:HA | 1.61 | 0.80 |
| 29:B1:2591:A:C2 | 29:B1:2592:G:H1' | 2.15 | 0.80 |
| 29:B1:3187:A:C2 | 29:B1:3188:G:C4 | 2.70 | 0.80 |
| 29:B1:3264:G:C3' | 29:B1:3265:C:H5" | 2.11 | 0.80 |
| 29:B1:3322:A:H2' | 29:B1:3323:A:C8 | 2.15 | 0.80 |
| 31:B3:95:G:P | 31:B3:95:G:H21 | 2.03 | 0.80 |
| 1:C1:10:G:C8 | 1:C1:1633:A:N3 | 2.49 | 0.80 |
| 1:C1:133:U:H1' | 1:C1:134:U:OP1 | 1.80 | 0.80 |
| 1:C1:1149:G:O6 | 1:C1:1629:G:N1 | 2.14 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:281:G:C6 | 29:D1:282:G:O6 | 2.34 | 0.80 |
| 29:D1:304:G:OP2 | 29:D1:304:G:H3' | 1.80 | 0.80 |
| 29:D1:409:A:N6 | 31:D3:15:G:H1' | 1.96 | 0.80 |
| 29:D1:1307:G:O2' | 29:D1:1308:A:OP2 | 2.00 | 0.80 |
| 29:D1:1323:G:H3' | 29:D1:1324:U:C5' | 2.09 | 0.80 |
| 29:D1:3191:G:C4 | 29:D1:3202:G:N2 | 2.49 | 0.80 |
| 53:DX:33:ALA:O | 53:DX:47:ALA:HB1 | 1.81 | 0.80 |
| 1:A1:979:A:C2 | 1:A1:1775:U:H4' | 2.16 | 0.80 |
| 1:A1:1087:A:H3' | 1:A1:1088:A:C8 | 2.17 | 0.80 |
| 1:A1:1631:A:C2 | 1:A1:1638:G:N3 | 2.48 | 0.80 |
| 15:AN:54:GLY:HA3 | 15:AN:92:ASP:N | 1.95 | 0.80 |
| 29:B1:10:C:H42 | 31:B3:148:G:H1 | 1.25 | 0.80 |
| 29:B1:11:A:C1' | 29:B1:1557:A:N6 | 2.45 | 0.80 |
| 29:B1:43:A:N6 | 29:B1:2802:A:C2 | 2.47 | 0.80 |
| 29:B1:592:A:C2' | 29:B1:593:C:O4' | 2.22 | 0.80 |
| 29:B1:593:C:C4 | 29:B1:594:U:O2' | 2.33 | 0.80 |
| 29:B1:1212:A:C6 | 29:B1:1294:A:N1 | 2.50 | 0.80 |
| 29:B1:1393:A:N7 | 29:B1:1418:A:C8 | 2.50 | 0.80 |
| 29:B1:1478:C:H2' | 29:B1:1479:U:H6 | 1.41 | 0.80 |
| 29:B1:2285:C:C5 | 29:B1:2286:U:C2 | 2.68 | 0.80 |
| 29:B1:2382:G:H2' | 29:B1:2383:C:O4' | 1.81 | 0.80 |
| 29:B1:2672:G:O3' | 42:BK:105:GLY:HA2 | 1.81 | 0.80 |
| 29:B1:2676:A:H4' | 29:B1:2677:G:C8 | 2.15 | 0.80 |
| 29:B1:2678:A:H8 | 29:B1:2679:A:N3 | 1.79 | 0.80 |
| 29:B1:3307:A:O5' | 29:B1:3307:A:C8 | 2.32 | 0.80 |
| 30:B2:26:C:H4' | 30:B2:27:A:OP1 | 1.79 | 0.80 |
| 36:BE:199:ILE:O | 36:BE:201:GLY:HA2 | 1.81 | 0.80 |
| 1:C1:86:A:O2' | 1:C1:147:A:N3 | 2.13 | 0.80 |
| 1:C1:119:A:H2' | 1:C1:120:U:O4' | 1.82 | 0.80 |
| 1:C1:296:U:H2' | 1:C1:297:U:C6 | 2.17 | 0.80 |
| 1:C1:1190:C:H4' | 1:C1:1191:U:OP1 | 1.79 | 0.80 |
| 1:C1:1201:G:H2' | 1:C1:1202:A:C4' | 2.07 | 0.80 |
| 1:C1:1398:U:O2' | 1:C1:1399:C:H3' | 1.81 | 0.80 |
| 29:D1:422:A:H1' | 29:D1:423:A:H5' | 1.62 | 0.80 |
| 29:D1:596:C:H3' | 29:D1:597:G:H5" | 1.62 | 0.80 |
| 29:D1:2729:U:H4' | 29:D1:2730:G:OP2 | 1.81 | 0.80 |
| 29:D1:3127:A:H3' | 29:D1:3128:G:C8 | 2.16 | 0.80 |
| 29:D1:3394:U:H2' | 29:D1:3395:G:N7 | 1.95 | 0.80 |
| 30:D2:55:A:OP2 | 30:D2:55:A:H3' | 1.81 | 0.80 |
| 30:D2:106:U:C2 | 30:D2:107:C:C5 | 2.69 | 0.80 |
| 31:D3:19:C:C5 | 31:D3:20:U:H5 | 1.98 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:DC:161:LEU:HA | 34:DC:179:ALA:O | 1.81 | 0.80 |
| 37:DF:161:ALA:O | 37:DF:165:LEU:CB | 2.29 | 0.80 |
| 1:A1:304:U:O2 | 1:A1:304:U:H2' | 1.82 | 0.80 |
| 1:A1:527:A:H3' | 1:A1:528:U:H5' | 1.62 | 0.80 |
| 1:A1:764:U:H3 | 1:A1:772:G:H1 | 1.27 | 0.80 |
| 3:AB:148:LEU:HA | 3:AB:194:GLU:H | 1.47 | 0.80 |
| 14:AM:128:GLY:O | 14:AM:130:ARG:N | 2.14 | 0.80 |
| 29:B1:421:G:N2 | 29:B1:2365:C:C2 | 2.50 | 0.80 |
| 29:B1:660:A:C2 | 29:B1:1435:A:H2 | 2.00 | 0.80 |
| 29:B1:1001:G:OP2 | 29:B1:1001:G:H4' | 1.79 | 0.80 |
| 29:B1:1157:G:N3 | 29:B1:1158:A:H1' | 1.96 | 0.80 |
| 29:B1:2520:A:C4 | 29:B1:2521:U:N3 | 2.50 | 0.80 |
| 29:B1:3019:U:C5 | 29:B1:3020:U:C5 | 2.70 | 0.80 |
| 29:B1:3281:U:N3 | 29:B1:3282:U:C4 | 2.48 | 0.80 |
| 30:B2:91:G:C5 | 30:B2:92:A:N7 | 2.49 | 0.80 |
| 31:B3:70:G:H3' | 31:B3:71:A:C8 | 2.17 | 0.80 |
| 1:C1:380:U:H2' | 1:C1:381:C:H6 | 1.44 | 0.80 |
| 1:C1:480:G:N2 | 1:C1:508:U:H3 | 1.78 | 0.80 |
| 1:C1:1351:G:C5 | 1:C1:1352:G:N7 | 2.50 | 0.80 |
| 1:C1:1521:G:O6 | 74:C1:1930:OHX:N3 | 2.14 | 0.80 |
| 1:C1:1735:U:H2' | 1:C1:1736:G:C8 | 2.17 | 0.80 |
| 29:D1:578:A:O2' | 29:D1:579:G:OP2 | 1.99 | 0.80 |
| 29:D1:718:G:H4' | 29:D1:719:U:O5' | 1.81 | 0.80 |
| 29:D1:2145:A:C1' | 29:D1:2958:A:H4' | 2.12 | 0.80 |
| 29:D1:2285:C:C5 | 29:D1:2286:U:C2 | 2.69 | 0.80 |
| 29:D1:2743:A:H3' | 29:D1:2744:U:H6 | 1.45 | 0.80 |
| 29:D1:3199:G:H3' | 29:D1:3200:G:H8 | 1.45 | 0.80 |
| 30:D2:91:G:C4 | 30:D2:92:A:C8 | 2.69 | 0.80 |
| 34:DC:230:THR:O | 34:DC:234:GLY:HA2 | 1.81 | 0.80 |
| 54:DY:137:LYS:O | 54:DY:140:ALA:HB3 | 1.81 | 0.80 |
| 1:A1:611:U:O2 | 7:AF:96:LYS:HA | 1.82 | 0.80 |
| 1:A1:1696:G:N2 | 1:A1:1708:U:O2 | 2.14 | 0.80 |
| 29:B1:164:A:N6 | 29:B1:165:A:C6 | 2.50 | 0.80 |
| 29:B1:773:G:H2' | 29:B1:774:G:C8 | 2.17 | 0.80 |
| 29:B1:1150:A:N7 | 29:B1:1310:G:H5" | 1.97 | 0.80 |
| 29:B1:1178:G:H2' | 29:B1:1179:A:H5' | 1.62 | 0.80 |
| 29:B1:1615:C:H2' | 29:B1:1616:U:H6 | 1.46 | 0.80 |
| 29:B1:1778:G:H4' | 29:B1:1779:C:N3 | 1.96 | 0.80 |
| 29:B1:2149:A:H4' | 33:BB:178:PRO:O | 1.82 | 0.80 |
| 29:B1:2272:G:H4' | 29:B1:2273:G:OP1 | 1.81 | 0.80 |
| 29:B1:2643:A:C5' | 29:B1:2644:C:OP2 | 2.29 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2943:G:H2' | 29:B1:2944:U:O4' | 1.81 | 0.80 |
| 45:BP:58:LEU:HA | 45:BP:61:ALA:HB2 | 1.62 | 0.80 |
| 45:BP:124:LEU:CA | 45:BP:126:VAL:H | 1.94 | 0.80 |
| 1:C1:20:G:H4' | 1:C1:571:G:C2 | 2.16 | 0.80 |
| 1:C1:169:A:N7 | 1:C1:171:A:N6 | 2.29 | 0.80 |
| 1:C1:172:C:O2' | 1:C1:173:A:C5' | 2.30 | 0.80 |
| 1:C1:310:C:H2' | 1:C1:311:U:O5' | 1.82 | 0.80 |
| 1:C1:533:U:H3' | 1:C1:534:A:H8 | 1.45 | 0.80 |
| 1:C1:791:A:H2' | 1:C1:792:U:H6 | 1.46 | 0.80 |
| 1:C1:833:U:H3' | 1:C1:834:G:H5" | 1.61 | 0.80 |
| 1:C1:1654:G:H2' | 1:C1:1745:G:N2 | 1.97 | 0.80 |
| 29:D1:536:U:H6 | 29:D1:536:U:OP2 | 1.64 | 0.80 |
| 29:D1:721:G:H3' | 29:D1:721:G:N3 | 1.96 | 0.80 |
| 29:D1:992:A:N1 | 29:D1:993:G:N7 | 2.29 | 0.80 |
| 29:D1:1152:G:H8 | 29:D1:1152:G:O5' | 1.64 | 0.80 |
| 29:D1:1366:A:C2 | 29:D1:1367:G:C4 | 2.69 | 0.80 |
| 29:D1:2295:A:C6 | 29:D1:2296:A:N6 | 2.49 | 0.80 |
| 29:D1:2676:A:O2' | 29:D1:2677:G:H5" | 1.82 | 0.80 |
| 29:D1:2900:A:C2 | 29:D1:2901:G:C8 | 2.69 | 0.80 |
| 29:D1:3305:A:C4 | 29:D1:3306:U:O2 | 2.35 | 0.80 |
| 30:D2:38:U:O2' | 30:D2:40:C:H5" | 1.80 | 0.80 |
| 46:DQ:33:ALA:O | 46:DQ:35:ALA:N | 2.14 | 0.80 |
| 1:A1:133:U:H1' | 1:A1:134:U:OP1 | 1.80 | 0.80 |
| 1:A1:735:C:OP2 | 1:A1:735:C:H3' | 1.82 | 0.80 |
| 29:B1:504:A:C2 | 29:B1:587:U:O2 | 2.34 | 0.80 |
| 29:B1:637:C:C4 | 29:B1:638:C:N4 | 2.50 | 0.80 |
| 29:B1:759:U:C4 | 29:B1:773:G:C6 | 2.70 | 0.80 |
| 29:B1:1234:G:H3' | 29:B1:1235:U:C5' | 2.11 | 0.80 |
| 29:B1:1303:A:H8 | 29:B1:1304:A:C6 | 1.97 | 0.80 |
| 29:B1:1591:G:O2' | 29:B1:1799:A:N1 | 2.14 | 0.80 |
| 29:B1:2375:G:C8 | 29:B1:2378:C:N4 | 2.49 | 0.80 |
| 29:B1:2522:G:H1' | 29:B1:2523:A:P | 2.22 | 0.80 |
| 29:B1:2580:A:H1' | 29:B1:2581:U:P | 2.21 | 0.80 |
| 29:B1:2650:U:C5' | 29:B1:2651:G:OP2 | 2.29 | 0.80 |
| 29:B1:2912:G:C6 | 29:B1:3130:A:C5 | 2.69 | 0.80 |
| 29:B1:3377:G:N3 | 74:B1:3450:OHX:N2 | 2.29 | 0.80 |
| 30:B2:23:A:H3' | 30:B2:24:A:H8 | 1.46 | 0.80 |
| 1:C1:313:U:H5 | 1:C1:1118:G:N1 | 1.79 | 0.80 |
| 1:C1:1132:A:C2 | 1:C1:1133:A:C8 | 2.70 | 0.80 |
| 9:CH:21:ALA:H | 9:CH:85:ALA:HB2 | 1.46 | 0.80 |
| 29:D1:190:U:C5 | 29:D1:224:C:H1' | 2.17 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:325:A:H3' | 29:D1:327:A:OP2 | 1.81 | 0.80 |
| 29:D1:384:A:H3' | 29:D1:385:A:C8 | 2.11 | 0.80 |
| 29:D1:606:C:C2' | 29:D1:607:A:C1' | 2.59 | 0.80 |
| 29:D1:661:G:N1 | 29:D1:802:C:C6 | 2.50 | 0.80 |
| 29:D1:840:C:C2' | 29:D1:841:A:H5' | 2.11 | 0.80 |
| 29:D1:953:G:H4' | 29:D1:954:U:H6 | 1.47 | 0.80 |
| 29:D1:1174:G:C6 | 29:D1:1318:A:C2 | 2.70 | 0.80 |
| 29:D1:1912:U:O2' | 29:D1:1913:A:O5' | 2.00 | 0.80 |
| 29:D1:2284:C:H2' | 29:D1:2285:C:O2 | 1.82 | 0.80 |
| 29:D1:3237:U:H2' | 29:D1:3238:G:C8 | 2.16 | 0.80 |
| 30:D2:60:G:H2' | 30:D2:61:G:H8 | 1.46 | 0.80 |
| 31:D3:70:G:H3' | 31:D3:71:A:C8 | 2.17 | 0.80 |
| 40:DI:63:LYS:O | 40:DI:66:ALA:N | 2.14 | 0.80 |
| 44:DO:186:GLY:N | 44:DO:187:ARG:HA | 1.96 | 0.80 |
| 46:DQ:98:ALA:O | 46:DQ:99:ALA:C | 2.25 | 0.80 |
| 1:A1:44:U:C5' | 1:A1:45:U:C5 | 2.63 | 0.80 |
| 29:B1:515:C:C2 | 29:B1:516:A:C8 | 2.70 | 0.80 |
| 29:B1:564:G:H3' | 29:B1:565:U:C6 | 2.17 | 0.80 |
| 29:B1:1075:A:C2 | 69:Bp:245:UNK:C | 2.65 | 0.80 |
| 29:B1:1211:U:H2' | 29:B1:1212:A:H8 | 1.46 | 0.80 |
| 29:B1:1288:U:O2' | 29:B1:1289:G:H5' | 1.80 | 0.80 |
| 29:B1:2253:G:H3' | 29:B1:2254:U:C5 | 2.16 | 0.80 |
| 29:B1:2293:C:C5 | 29:B1:2294:U:H5 | 1.97 | 0.80 |
| 29:B1:2702:A:H8 | 29:B1:2704:A:C6 | 2.00 | 0.80 |
| 29:B1:2993:G:H2' | 29:B1:2993:G:N3 | 1.95 | 0.80 |
| 29:B1:3068:U:OP1 | 48:BS:58:HIS:HA | 1.82 | 0.80 |
| 29:B1:3151:U:OP2 | 29:B1:3152:U:OP1 | 1.99 | 0.80 |
| 31:B3:40:A:N3 | 31:B3:41:A:C8 | 2.49 | 0.80 |
| 1:C1:246:G:O6 | 1:C1:247:A:C2 | 2.34 | 0.80 |
| 1:C1:350:U:H4' | 1:C1:352:A:C8 | 2.16 | 0.80 |
| 1:C1:743:U:N3 | 1:C1:809:A:H2 | 1.73 | 0.80 |
| 1:C1:1474:G:C2 | 1:C1:1475:A:C5 | 2.70 | 0.80 |
| 1:C1:1646:C:O2 | 1:C1:1646:C:H2' | 1.81 | 0.80 |
| 29:D1:190:U:C6 | 29:D1:224:C:O4' | 2.35 | 0.80 |
| 29:D1:425:G:C8 | 29:D1:425:G:C5' | 2.65 | 0.80 |
| 29:D1:515:C:C2 | 29:D1:516:A:C8 | 2.69 | 0.80 |
| 29:D1:716:A:H2' | 29:D1:717:C:C1' | 2.11 | 0.80 |
| 29:D1:945:C:H1' | 29:D1:1407:A:H1' | 1.61 | 0.80 |
| 29:D1:1899:G:C2 | 29:D1:2334:U:C5 | 2.70 | 0.80 |
| 29:D1:2173:U:H2' | 29:D1:2174:G:C8 | 2.17 | 0.80 |
| 29:D1:2268:U:H2' | 29:D1:2269:U:C5 | 2.15 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2490:C:H1' | 29:D1:2491:A:N7 | 1.97 | 0.80 |
| 29:D1:2642:A:H5" | 29:D1:2643:A:OP2 | 1.82 | 0.80 |
| 29:D1:2948:C:H2' | 29:D1:2949:U:C6 | 2.15 | 0.80 |
| 29:D1:3203:U:OP2 | 29:D1:3203:U:C6 | 2.34 | 0.80 |
| 30:D2:114:U:H5' | 30:D2:115:G:OP2 | 1.81 | 0.80 |
| 34:DC:46:PHE:O | 34:DC:47:LEU:CB | 2.28 | 0.80 |
| 1:A1:515:A:N6 | 1:A1:537:G:H1 | 1.79 | 0.80 |
| 1:A1:871:G:HO2' | 1:A1:872:G:H8 | 1.29 | 0.80 |
| 15:AN:21:LYS:N | 15:AN:92:ASP:HA | 1.97 | 0.80 |
| 17:AP:132:LEU:N | 17:AP:133:LEU:CA | 2.45 | 0.80 |
| 29:B1:39:A:H5' | 29:B1:40:A:OP2 | 1.81 | 0.80 |
| 29:B1:288:C:H2' | 29:B1:289:A:C8 | 2.16 | 0.80 |
| 29:B1:504:A:H2 | 29:B1:587:U:O2 | 1.64 | 0.80 |
| 29:B1:560:G:H2' | 29:B1:561:C:C5 | 2.17 | 0.80 |
| 29:B1:761:A:H3' | 29:B1:762:U:H5" | 1.64 | 0.80 |
| 29:B1:1166:G:C2' | 29:B1:1167:U:H5" | 2.12 | 0.80 |
| 29:B1:1609:C:OP2 | 29:B1:1609:C:H2' | 1.80 | 0.80 |
| 30:B2:16:U:H2' | 30:B2:17:A:H8 | 1.46 | 0.80 |
| 34:BC:159:ARG:O | 34:BC:160:VAL:CB | 2.30 | 0.80 |
| 43:BN:49:PRO:N | 43:BN:50:LYS:HA | 1.96 | 0.80 |
| 1:C1:1196:A:H4' | 1:C1:1197:C:C5' | 2.12 | 0.80 |
| 1:C1:1600:A:HO2' | 1:C1:1602:C:H5 | 0.82 | 0.80 |
| 29:D1:15:C:H4' | 29:D1:16:A:OP1 | 1.82 | 0.80 |
| 29:D1:705:A:H4' | 29:D1:706:A:H5' | 1.63 | 0.80 |
| 29:D1:1095:U:H2' | 29:D1:1095:U:O2 | 1.81 | 0.80 |
| 29:D1:1196:C:H5 | 29:D1:1197:A:H62 | 0.85 | 0.80 |
| 29:D1:1303:A:C8 | 29:D1:1304:A:C5 | 2.70 | 0.80 |
| 29:D1:1340:G:H2' | 29:D1:1341:U:H6 | 1.46 | 0.80 |
| 29:D1:1844:C:C2 | 29:D1:1845:G:C8 | 2.69 | 0.80 |
| 29:D1:2257:C:H3' | 29:D1:2258:U:H6 | 1.46 | 0.80 |
| 29:D1:3131:U:H2' | 29:D1:3131:U:O2 | 1.81 | 0.80 |
| 29:D1:3189:G:N3 | 29:D1:3190:C:C6 | 2.50 | 0.80 |
| 30:D2:12:U:H5' | 30:D2:68:C:C2' | 2.11 | 0.80 |
| 37:DF:136:GLU:C | 37:DF:138:GLN:H | 1.85 | 0.80 |
| 40:DI:73:SER:O | 40:DI:76:ASP:N | 2.13 | 0.80 |
| 1:A1:407:A:H2' | 1:A1:408:C:H6 | 1.47 | 0.80 |
| 1:A1:515:A:H61 | 1:A1:537:G:H1 | 1.26 | 0.80 |
| 1:A1:647:G:C2 | 1:A1:687:G:C2 | 2.70 | 0.80 |
| 1:A1:1536:G:H2' | 1:A1:1536:G:N3 | 1.97 | 0.80 |
| 29:B1:69:C:N4 | 29:B1:70:A:H8 | 1.79 | 0.80 |
| 29:B1:591:G:O2' | 29:B1:592:A:H5' | 1.82 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:721:G:H3' | 29:B1:721:G:N3 | 1.96 | 0.80 |
| 29:B1:723:U:H2' | 29:B1:724:U:H5' | 1.61 | 0.80 |
| 29:B1:1192:C:OP2 | 29:B1:1192:C:C2 | 2.35 | 0.80 |
| 29:B1:1781:C:C2' | 29:B1:1782:U:H5' | 2.12 | 0.80 |
| 29:B1:3023:U:H2' | 29:B1:3024:A:H8 | 1.45 | 0.80 |
| 59:Bd:7:SER:O | 59:Bd:9:GLY:N | 2.15 | 0.80 |
| 26:Bj:6:UNK:O | 26:Bj:10:UNK:CB | 2.30 | 0.80 |
| 1:C1:224:C:N4 | 1:C1:838:G:N1 | 2.30 | 0.80 |
| 1:C1:973:A:C1' | 29:D1:847:A:H2 | 1.95 | 0.80 |
| 1:C1:1593:A:O2' | 1:C1:1594:G:H5' | 1.82 | 0.80 |
| 9:CH:21:ALA:N | 9:CH:85:ALA:HB2 | 1.96 | 0.80 |
| 29:D1:13:A:H61 | 31:D3:144:G:H1 | 1.29 | 0.80 |
| 29:D1:219:A:H2 | 29:D1:1390:A:H2' | 1.46 | 0.80 |
| 29:D1:284:A:N6 | 29:D1:2785:A:C4' | 2.45 | 0.80 |
| 29:D1:344:A:C4 | 29:D1:345:G:C8 | 2.70 | 0.80 |
| 29:D1:608:A:C6 | 29:D1:609:G:N7 | 2.50 | 0.80 |
| 29:D1:1927:G:H3' | 29:D1:1927:G:N3 | 1.96 | 0.80 |
| 29:D1:2376:G:C6 | 29:D1:2377:G:O6 | 2.35 | 0.80 |
| 29:D1:2376:G:N1 | 29:D1:2377:G:N1 | 2.30 | 0.80 |
| 29:D1:2684:C:C6 | 29:D1:2684:C:C5' | 2.56 | 0.80 |
| 29:D1:3114:A:N7 | 29:D1:3115:C:C6 | 2.50 | 0.80 |
| 30:D2:38:U:H3' | 30:D2:40:C:OP2 | 1.82 | 0.80 |
| 30:D2:73:C:N3 | 30:D2:74:C:C5 | 2.49 | 0.80 |
| 36:DE:159:VAL:C | 36:DE:161:GLY:H | 1.90 | 0.80 |
| 1:A1:521:A:H3' | 1:A1:523:G:N7 | 1.97 | 0.80 |
| 1:A1:1243:G:C5 | 1:A1:1244:A:N6 | 2.45 | 0.80 |
| 1:A1:1483:A:H1' | 1:A1:1524:A:H62 | 1.47 | 0.80 |
| 1:A1:1558:U:H6 | 1:A1:1559:A:H5" | 1.44 | 0.80 |
| 2:AA:130:ALA:C | 2:AA:132:ALA:H | 1.89 | 0.80 |
| 29:B1:580:C:C2 | 29:B1:581:U:H5 | 1.99 | 0.80 |
| 29:B1:707:U:H5" | 29:B1:782:U:O2' | 1.82 | 0.80 |
| 29:B1:980:A:N6 | 29:B1:1104:G:H8 | 1.80 | 0.80 |
| 29:B1:1405:U:H2' | 29:B1:1406:A:C8 | 2.17 | 0.80 |
| 29:B1:1441:G:O2' | 29:B1:1442:U:H5" | 1.80 | 0.80 |
| 29:B1:1448:U:C5 | 29:B1:2355:G:C2 | 2.69 | 0.80 |
| 29:B1:1484:U:H1' | 29:B1:1485:G:OP1 | 1.80 | 0.80 |
| 29:B1:1596:C:H2' | 29:B1:1597:C:C6 | 2.17 | 0.80 |
| 29:B1:1687:U:O3' | 29:B1:1688:U:H4' | 1.79 | 0.80 |
| 1:C1:364:G:N2 | 1:C1:381:C:C6 | 2.50 | 0.80 |
| 1:C1:1552:U:O2 | 1:C1:1552:U:H2' | 1.82 | 0.80 |
| 29:D1:1120:A:H5' | 29:D1:1121:U:OP2 | 1.82 | 0.80 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1625:A:H3' | 29:D1:1626:U:C4' | 2.12 | 0.80 |
| 29:D1:1640:G:O2' | 29:D1:1641:U:H6 | 1.63 | 0.80 |
| 29:D1:2599:U:H2' | 29:D1:2600:C:H6 | 1.46 | 0.80 |
| 29:D1:3367:C:C2' | 29:D1:3368:U:H5" | 2.12 | 0.80 |
| 37:DF:2:SER:O | 38:DG:79:ALA:HB3 | 1.80 | 0.80 |
| 1:A1:650:U:C2' | 1:A1:651:G:H5" | 2.11 | 0.79 |
| 1:A1:1468:U:O2' | 1:A1:1469:A:O5' | 1.98 | 0.79 |
| 1:A1:1485:C:H3' | 1:A1:1486:G:H5" | 1.61 | 0.79 |
| 1:A1:1584:G:N3 | 11:AJ:124:PRO:HA | 1.95 | 0.79 |
| 1:A1:1631:A:H5' | 1:A1:1764:C:O2' | 1.82 | 0.79 |
| 29:B1:118:U:H3 | 29:B1:150:A:H61 | 0.81 | 0.79 |
| 29:B1:608:A:H2' | 29:B1:609:G:O5' | 1.81 | 0.79 |
| 29:B1:822:G:H2' | 29:B1:823:C:C6 | 2.13 | 0.79 |
| 29:B1:1194:G:C8 | 29:B1:1319:G:H4' | 2.16 | 0.79 |
| 29:B1:3028:G:C2 | 29:B1:3029:A:C2 | 2.70 | 0.79 |
| 29:B1:3181:C:C6 | 45:BP:167:TYR:CB | 2.65 | 0.79 |
| 29:B1:3363:U:H3' | 29:B1:3364:C:H6 | 1.44 | 0.79 |
| 43:BN:33:ALA:CB | 43:BN:48:GLY:H | 1.94 | 0.79 |
| 44:BO:85:THR:HA | 44:BO:87:GLN:N | 1.97 | 0.79 |
| 45:BP:147:TRP:CB | 45:BP:148:LYS:HA | 2.13 | 0.79 |
| 47:BR:154:GLY:N | 47:BR:155:MET:HA | 1.92 | 0.79 |
| 1:C1:162:A:C3' | 1:C1:163:G:H8 | 1.95 | 0.79 |
| 1:C1:1018:U:H2' | 1:C1:1019:A:H8 | 1.47 | 0.79 |
| 1:C1:1242:A:C4' | 10:CI:78:THR:HA | 2.11 | 0.79 |
| 29:D1:406:G:N3 | 31:D3:16:G:C2 | 2.50 | 0.79 |
| 29:D1:2337:C:O2' | 29:D1:2338:C:H5' | 1.82 | 0.79 |
| 29:D1:2676:A:H2 | 29:D1:2680:A:C6 | 2.00 | 0.79 |
| 29:D1:3000:A:H2' | 29:D1:3001:C:C6 | 2.17 | 0.79 |
| 29:D1:3141:A:H5" | 29:D1:3143:C:C2 | 2.17 | 0.79 |
| 30:D2:3:U:H2' | 30:D2:4:U:H6 | 1.47 | 0.79 |
| 1:A1:16:G:H2' | 1:A1:17:C:H6 | 1.47 | 0.79 |
| 1:A1:20:G:H4' | 1:A1:571:G:C2 | 2.16 | 0.79 |
| 1:A1:173:A:C2 | 1:A1:174:U:C1' | 2.64 | 0.79 |
| 1:A1:353:A:N7 | 1:A1:354:C:C5 | 2.50 | 0.79 |
| 1:A1:427:C:O4' | 1:A1:459:G:O2' | 2.01 | 0.79 |
| 1:A1:1055:U:O4 | 1:A1:1064:G:O6 | 2.01 | 0.79 |
| 1:A1:1109:G:C2 | 1:A1:1110:G:C8 | 2.70 | 0.79 |
| 1:A1:1556:A:H2' | 1:A1:1560:U:C4 | 2.17 | 0.79 |
| 1:A1:1763:A:H3' | 1:A1:1764:C:H5" | 1.64 | 0.79 |
| 29:B1:10:C:N4 | 31:B3:148:G:N1 | 2.29 | 0.79 |
| 29:B1:597:G:N1 | 29:B1:607:A:C2 | 2.51 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:613:G:O2' | 29:B1:614:C:H5' | 1.82 | 0.79 |
| 29:B1:720:A:C8 | 29:B1:720:A:O5' | 2.35 | 0.79 |
| 29:B1:781:G:C6 | 29:B1:782:U:C4 | 2.70 | 0.79 |
| 29:B1:1351:U:O2 | 29:B1:1351:U:H2' | 1.80 | 0.79 |
| 29:B1:1804:A:H2' | 29:B1:1805:C:H6 | 1.46 | 0.79 |
| 29:B1:1877:U:H4' | 29:B1:1878:G:OP2 | 1.81 | 0.79 |
| 29:B1:2490:C:H1' | 29:B1:2491:A:N7 | 1.97 | 0.79 |
| 29:B1:2560:C:H3' | 29:B1:2561:A:H5" | 1.63 | 0.79 |
| 29:B1:2998:U:H2' | 29:B1:2999:U:C6 | 2.16 | 0.79 |
| 74:B1:3492:OHX:N1 | 54:BY:20:GLY:HA3 | 1.97 | 0.79 |
| 30:B2:69:C:H3' | 30:B2:70:U:C6 | 2.17 | 0.79 |
| 37:BF:43:LEU:H | 37:BF:84:VAL:CB | 1.95 | 0.79 |
| 52:BW:69:SER:H | 52:BW:72:ALA:HB3 | 1.46 | 0.79 |
| 71:Br:8:UNK:C | 71:Br:10:UNK:N | 2.43 | 0.79 |
| 1:C1:213:A:H2' | 1:C1:214:G:H5' | 1.64 | 0.79 |
| 1:C1:1388:A:C5 | 1:C1:1411:A:C6 | 2.70 | 0.79 |
| 2:CA:130:ALA:C | 2:CA:132:ALA:H | 1.90 | 0.79 |
| 3:CB:203:LYS:O | 3:CB:205:ARG:N | 2.15 | 0.79 |
| 29:D1:31:C:C2' | 29:D1:32:U:H5' | 2.13 | 0.79 |
| 29:D1:592:A:H3' | 29:D1:593:C:H4' | 1.63 | 0.79 |
| 29:D1:620:U:OP2 | 29:D1:620:U:C6 | 2.35 | 0.79 |
| 29:D1:2287:C:C2 | 29:D1:2298:U:O2 | 2.36 | 0.79 |
| 29:D1:2293:C:H5 | 29:D1:2294:U:C5 | 2.00 | 0.79 |
| 29:D1:2998:U:H5" | 29:D1:2998:U:C6 | 2.17 | 0.79 |
| 29:D1:3090:U:O2' | 29:D1:3091:A:OP1 | 1.98 | 0.79 |
| 29:D1:3301:U:OP1 | 29:D1:3301:U:C2 | 2.34 | 0.79 |
| 54:DY:80:THR:C | 54:DY:82:ILE:H | 1.89 | 0.79 |
| 1:A1:741:C:O2' | 1:A1:742:U:O5' | 2.00 | 0.79 |
| 3:AB:185:LYS:O | 3:AB:188:LEU:N | 2.15 | 0.79 |
| 29:B1:26:A:H2' | 29:B1:27:C:H6 | 1.47 | 0.79 |
| 29:B1:327:A:C2 | 29:B1:328:U:C4 | 2.70 | 0.79 |
| 29:B1:342:A:C2 | 29:B1:349:A:C8 | 2.70 | 0.79 |
| 29:B1:504:A:C8 | 29:B1:504:A:C3' | 2.63 | 0.79 |
| 29:B1:1139:G:C5' | 29:B1:1139:G:C8 | 2.65 | 0.79 |
| 29:B1:1528:G:H2' | 29:B1:1529:A:H8 | 1.47 | 0.79 |
| 29:B1:1941:C:N4 | 29:B1:2107:A:H61 | 1.79 | 0.79 |
| 29:B1:2739:A:H5" | 29:B1:2740:A:OP2 | 1.83 | 0.79 |
| 29:B1:3063:C:H2' | 29:B1:3064:U:C6 | 2.18 | 0.79 |
| 29:B1:3383:G:C2 | 29:B1:3384:U:C4 | 2.71 | 0.79 |
| 30:B2:91:G:H2' | 30:B2:92:A:H8 | 1.48 | 0.79 |
| 1:C1:194:U:H4' | 1:C1:195:G:O5' | 1.81 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:209:U:H5' | 1:C1:210:A:OP2 | 1.82 | 0.79 |
| 1:C1:555:A:C2 | 1:C1:556:A:C2 | 2.70 | 0.79 |
| 1:C1:1028:C:H1' | 1:C1:1029:U:H5" | 1.65 | 0.79 |
| 1:C1:1377:U:H2' | 1:C1:1378:U:C4' | 2.12 | 0.79 |
| 1:C1:1525:A:H2' | 1:C1:1526:A:H8 | 1.47 | 0.79 |
| 1:C1:1683:C:OP2 | 1:C1:1683:C:H3' | 1.82 | 0.79 |
| 20:CS:42:CYS:O | 20:CS:44:ARG:N | 2.14 | 0.79 |
| 29:D1:9:U:H2' | 29:D1:10:C:H5' | 1.64 | 0.79 |
| 29:D1:384:A:O5' | 29:D1:384:A:C8 | 2.34 | 0.79 |
| 29:D1:574:U:H5' | 29:D1:574:U:H6 | 1.46 | 0.79 |
| 29:D1:588:G:C6 | 29:D1:612:U:H5 | 2.01 | 0.79 |
| 29:D1:1941:C:N4 | 29:D1:2107:A:H61 | 1.80 | 0.79 |
| 29:D1:3129:A:H5" | 29:D1:3130:A:OP2 | 1.82 | 0.79 |
| 29:D1:3315:G:H1' | 29:D1:3320:A:C8 | 2.17 | 0.79 |
| 31:D3:40:A:H5' | 31:D3:40:A:C8 | 2.17 | 0.79 |
| 31:D3:67:U:H3' | 31:D3:68:G:H8 | 1.47 | 0.79 |
| 1:A1:1296:A:H2' | 1:A1:1297:G:H5" | 1.62 | 0.79 |
| 1:A1:1327:C:H2' | 1:A1:1328:G:H5' | 1.65 | 0.79 |
| 7:AF:75:VAL:HA | 7:AF:86:ILE:HA | 1.62 | 0.79 |
| 29:B1:150:A:N7 | 29:B1:151:A:N6 | 2.29 | 0.79 |
| 29:B1:1901:A:H4' | 29:B1:2918:G:H4' | 1.65 | 0.79 |
| 29:B1:2680:A:OP1 | 29:B1:2681:U:C5 | 2.36 | 0.79 |
| 29:B1:3251:U:H2' | 29:B1:3252:G:H8 | 1.45 | 0.79 |
| 1:C1:142:G:N7 | 1:C1:266:A:N1 | 2.30 | 0.79 |
| 1:C1:1491:U:H3' | 1:C1:1492:A:H2' | 1.65 | 0.79 |
| 1:C1:1728:A:H2' | 1:C1:1729:C:H6 | 1.45 | 0.79 |
| 29:D1:100:A:H2' | 29:D1:101:G:C8 | 2.17 | 0.79 |
| 29:D1:535:G:H3' | 29:D1:536:U:C5 | 2.16 | 0.79 |
| 29:D1:968:G:H2' | 29:D1:969:C:C6 | 2.17 | 0.79 |
| 29:D1:1605:A:OP1 | 29:D1:1835:A:OP1 | 1.99 | 0.79 |
| 29:D1:2450:G:H2' | 29:D1:2451:G:H5' | 1.65 | 0.79 |
| 29:D1:2853:A:C6 | 29:D1:2854:U:N3 | 2.51 | 0.79 |
| 30:D2:68:C:O2 | 30:D2:69:C:C1' | 2.29 | 0.79 |
| 34:DC:60:LEU:O | 34:DC:62:ARG:N | 2.14 | 0.79 |
| 45:DP:147:TRP:CB | 45:DP:148:LYS:HA | 2.13 | 0.79 |
| 1:A1:1274:C:C6 | 1:A1:1427:A:N7 | 2.50 | 0.79 |
| 1:A1:1377:U:C2' | 1:A1:1378:U:H4' | 2.11 | 0.79 |
| 29:B1:1450:G:C2 | 29:B1:1451:C:C5 | 2.70 | 0.79 |
| 29:B1:1464:G:H21 | 29:B1:1466:G:H3' | 1.47 | 0.79 |
| 29:B1:2122:G:C6 | 29:B1:2332:A:C2 | 2.70 | 0.79 |
| 29:B1:3174:A:O2' | 29:B1:3175:U:H5' | 1.81 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:B2:25:G:N3 | 30:B2:26:C:C5 | 2.51 | 0.79 |
| 30:B2:38:U:H3' | 30:B2:40:C:OP2 | 1.83 | 0.79 |
| 30:B2:73:C:N3 | 30:B2:74:C:C5 | 2.50 | 0.79 |
| 62:Bg:60:CYS:N | 74:Bg:101:OHX:N3 | 2.30 | 0.79 |
| 1:C1:527:A:H3' | 1:C1:528:U:H5' | 1.63 | 0.79 |
| 1:C1:646:C:H3' | 1:C1:647:G:H5" | 1.64 | 0.79 |
| 1:C1:650:U:C2' | 1:C1:651:G:H5" | 2.13 | 0.79 |
| 1:C1:1073:G:N1 | 1:C1:1074:G:C2 | 2.51 | 0.79 |
| 1:C1:1402:G:H2' | 1:C1:1403:C:C6 | 2.16 | 0.79 |
| 1:C1:1474:G:H2' | 1:C1:1475:A:H8 | 1.46 | 0.79 |
| 1:C1:1735:U:H2' | 1:C1:1736:G:H8 | 1.47 | 0.79 |
| 29:D1:150:A:H2' | 29:D1:151:A:C8 | 2.17 | 0.79 |
| 29:D1:1054:A:N3 | 29:D1:1054:A:H2' | 1.97 | 0.79 |
| 29:D1:1150:A:N7 | 29:D1:1310:G:H5" | 1.97 | 0.79 |
| 29:D1:1455:U:O4' | 29:D1:1455:U:OP2 | 2.01 | 0.79 |
| 29:D1:2294:U:H5' | 29:D1:2295:A:OP2 | 1.81 | 0.79 |
| 29:D1:2837:A:H2' | 29:D1:2845:A:N1 | 1.97 | 0.79 |
| 29:D1:2989:U:H2' | 29:D1:2990:G:O4' | 1.83 | 0.79 |
| 31:D3:80:A:H2' | 31:D3:81:U:C2 | 2.18 | 0.79 |
| 43:DN:49:PRO:N | 43:DN:50:LYS:HA | 1.96 | 0.79 |
| 1:A1:280:U:H3' | 1:A1:281:G:H8 | 1.46 | 0.79 |
| 1:A1:291:G:H2' | 1:A1:292:U:C5 | 2.16 | 0.79 |
| 1:A1:1719:A:H2' | 1:A1:1720:G:C5 | 2.16 | 0.79 |
| 29:B1:198:A:H1' | 29:B1:218:G:N3 | 1.98 | 0.79 |
| 29:B1:547:G:H3' | 29:B1:548:G:H8 | 1.47 | 0.79 |
| 29:B1:706:A:C5 | 29:B1:714:G:N2 | 2.51 | 0.79 |
| 29:B1:829:U:O2' | 29:B1:866:A:N1 | 2.16 | 0.79 |
| 29:B1:911:C:H2' | 29:B1:911:C:O2 | 1.81 | 0.79 |
| 29:B1:1315:U:O2 | 29:B1:1315:U:H2' | 1.81 | 0.79 |
| 29:B1:1651:U:O2' | 29:B1:1652:G:H5' | 1.82 | 0.79 |
| 29:B1:1908:A:N6 | 29:B1:1909:A:C6 | 2.50 | 0.79 |
| 29:B1:2136:C:H3' | 29:B1:2142:A:N6 | 1.97 | 0.79 |
| 29:B1:3323:A:H4' | 56:Ba:13:THR:CB | 2.12 | 0.79 |
| 74:B1:3492:OHX:N1 | 54:BY:20:GLY:CA | 2.46 | 0.79 |
| 74:B1:3536:OHX:N2 | 44:BO:84:PRO:HA | 1.96 | 0.79 |
| 30:B2:9:C:H2' | 30:B2:13:A:N6 | 1.97 | 0.79 |
| 31:B3:113:U:C1' | 31:B3:114:G:OP2 | 2.24 | 0.79 |
| 46:BQ:10:ASN:H | 46:BQ:11:PRO:HA | 0.67 | 0.79 |
| 58:Bc:3:GLY:HA3 | 58:Bc:4:VAL:CB | 2.12 | 0.79 |
| 1:C1:515:A:N6 | 1:C1:537:G:H1 | 1.80 | 0.79 |
| 1:C1:817:A:H2 | 1:C1:855:A:H2 | 1.30 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:420:G:H21 | 29:D1:2384:A:H3' | 1.47 | 0.79 |
| 29:D1:515:C:C2' | 29:D1:516:A:O4' | 2.24 | 0.79 |
| 29:D1:750:G:H22 | 29:D1:784:A:C1' | 1.95 | 0.79 |
| 29:D1:774:G:O2' | 29:D1:775:A:H5' | 1.83 | 0.79 |
| 29:D1:1157:G:C2 | 29:D1:1158:A:H1' | 2.17 | 0.79 |
| 29:D1:1174:G:C2 | 29:D1:1175:C:C5 | 2.70 | 0.79 |
| 29:D1:1455:U:H3' | 29:D1:1456:A:H8 | 1.46 | 0.79 |
| 29:D1:1504:A:H2' | 29:D1:1505:C:C6 | 2.18 | 0.79 |
| 29:D1:1680:G:N3 | 29:D1:1681:U:C6 | 2.50 | 0.79 |
| 29:D1:2642:A:C2 | 29:D1:2643:A:C5 | 2.70 | 0.79 |
| 29:D1:2947:G:C2 | 29:D1:2948:C:C4 | 2.71 | 0.79 |
| 30:D2:33:U:O2 | 30:D2:33:U:H2' | 1.83 | 0.79 |
| 30:D2:35:C:C6 | 30:D2:35:C:H5' | 2.17 | 0.79 |
| 34:DC:294:GLY:HA2 | 34:DC:295:ALA:C | 2.06 | 0.79 |
| 39:DH:187:GLY:HA3 | 39:DH:194:THR:O | 1.82 | 0.79 |
| 1:A1:194:U:H4' | 1:A1:195:G:O5' | 1.80 | 0.79 |
| 1:A1:590:C:H2' | 1:A1:591:A:H8 | 1.47 | 0.79 |
| 1:A1:739:G:H2' | 1:A1:740:A:H8 | 1.46 | 0.79 |
| 1:A1:827:C:H2' | 1:A1:828:U:N3 | 1.96 | 0.79 |
| 1:A1:1040:G:H1 | 1:A1:1079:U:H3 | 1.31 | 0.79 |
| 1:A1:1274:C:O2 | 1:A1:1274:C:H2' | 1.83 | 0.79 |
| 1:A1:1540:G:H2' | 1:A1:1541:G:O4' | 1.81 | 0.79 |
| 1:A1:1685:G:H22 | 1:A1:1718:G:H21 | 1.29 | 0.79 |
| 29:B1:331:G:N2 | 29:B1:332:C:C2 | 2.51 | 0.79 |
| 29:B1:351:A:H8 | 31:B3:53:A:HO2' | 1.30 | 0.79 |
| 29:B1:384:A:O5' | 29:B1:384:A:C8 | 2.33 | 0.79 |
| 29:B1:427:C:N4 | 29:B1:428:A:N6 | 2.31 | 0.79 |
| 29:B1:592:A:C2 | 29:B1:593:C:N1 | 2.51 | 0.79 |
| 29:B1:720:A:O5' | 29:B1:720:A:H8 | 1.64 | 0.79 |
| 29:B1:945:C:H1' | 29:B1:1407:A:H1' | 1.65 | 0.79 |
| 29:B1:1265:U:H2' | 29:B1:1266:G:C8 | 2.18 | 0.79 |
| 29:B1:1608:C:H2' | 29:B1:1609:C:H5' | 1.65 | 0.79 |
| 29:B1:1900:A:O4' | 29:B1:1901:A:C2 | 2.36 | 0.79 |
| 29:B1:2900:A:C2' | 29:B1:2901:G:O5' | 2.30 | 0.79 |
| 29:B1:3204:C:H2' | 29:B1:3205:G:OP1 | 1.82 | 0.79 |
| 29:B1:3305:A:C4 | 29:B1:3306:U:O2 | 2.34 | 0.79 |
| 30:B2:55:A:OP2 | 30:B2:55:A:H3' | 1.82 | 0.79 |
| 61:Bf:47:GLN:N | 61:Bf:48:SER:HA | 1.98 | 0.79 |
| 1:C1:44:U:O5' | 1:C1:45:U:H5 | 1.64 | 0.79 |
| 1:C1:104:A:H2' | 1:C1:106:U:OP1 | 1.83 | 0.79 |
| 1:C1:720:G:H2' | 1:C1:721:U:H5" | 1.65 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1221:A:H2' | 1:C1:1222:C:C6 | 2.16 | 0.79 |
| 3:CB:148:LEU:HA | 3:CB:194:GLU:H | 1.48 | 0.79 |
| 13:CL:65:GLU:O | 13:CL:68:ARG:N | 2.16 | 0.79 |
| 29:D1:16:A:H61 | 31:D3:143:U:H3 | 1.28 | 0.79 |
| 29:D1:586:C:O2 | 29:D1:586:C:H2' | 1.82 | 0.79 |
| 29:D1:796:U:H2' | 29:D1:797:U:H6 | 1.47 | 0.79 |
| 29:D1:911:C:H2' | 29:D1:912:G:H5' | 1.64 | 0.79 |
| 29:D1:1115:G:H8 | 29:D1:1115:G:H3' | 1.47 | 0.79 |
| 29:D1:1229:G:H2' | 29:D1:1230:G:C8 | 2.17 | 0.79 |
| 29:D1:1601:U:C5 | 29:D1:1604:G:C6 | 2.71 | 0.79 |
| 29:D1:2420:C:H2' | 29:D1:2421:U:H5' | 1.63 | 0.79 |
| 29:D1:2514:U:H4' | 29:D1:2515:A:OP1 | 1.82 | 0.79 |
| 30:D2:8:G:H2' | 30:D2:9:C:C6 | 2.18 | 0.79 |
| 36:DE:273:ARG:C | 36:DE:275:THR:H | 1.90 | 0.79 |
| 1:A1:192:U:H2' | 1:A1:193:U:O4' | 1.83 | 0.79 |
| 1:A1:316:A:H4' | 1:A1:316:A:OP1 | 1.82 | 0.79 |
| 1:A1:528:U:O5' | 1:A1:529:A:H4' | 1.82 | 0.79 |
| 1:A1:647:G:N2 | 1:A1:648:G:C2 | 2.50 | 0.79 |
| 1:A1:995:A:H5" | 1:A1:996:U:OP2 | 1.83 | 0.79 |
| 1:A1:1109:G:C2' | 1:A1:1110:G:H5" | 2.13 | 0.79 |
| 1:A1:1484:G:N2 | 1:A1:1606:C:H1' | 1.97 | 0.79 |
| 2:AA:145:ALA:O | 2:AA:160:ILE:HA | 1.82 | 0.79 |
| 29:B1:596:C:O2 | 29:B1:596:C:C3' | 2.30 | 0.79 |
| 29:B1:694:C:H2' | 29:B1:694:C:O2 | 1.80 | 0.79 |
| 29:B1:921:A:H3' | 29:B1:921:A:OP1 | 1.82 | 0.79 |
| 29:B1:1524:A:H1' | 29:B1:1525:G:OP1 | 1.81 | 0.79 |
| 29:B1:1798:A:H2' | 29:B1:1799:A:C8 | 2.18 | 0.79 |
| 29:B1:3317:U:H3 | 34:BC:123:TYR:HA | 1.47 | 0.79 |
| 29:B1:3327:G:C2 | 29:B1:3328:G:C8 | 2.71 | 0.79 |
| 29:B1:3350:C:H4' | 29:B1:3354:U:H5 | 1.47 | 0.79 |
| 31:B3:111:A:H5" | 31:B3:111:A:H8 | 1.48 | 0.79 |
| 34:BC:169:THR:O | 34:BC:170:PRO:C | 2.25 | 0.79 |
| 36:BE:126:GLU:C | 36:BE:128:GLU:H | 1.87 | 0.79 |
| 48:BS:62:ARG:O | 48:BS:65:ALA:HB3 | 1.81 | 0.79 |
| 56:Ba:29:ALA:O | 56:Ba:32:ALA:HB3 | 1.83 | 0.79 |
| 1:C1:258:C:O2' | 1:C1:259:U:C6 | 2.36 | 0.79 |
| 1:C1:415:C:O2 | 1:C1:418:G:N1 | 2.10 | 0.79 |
| 1:C1:1345:A:H2' | 1:C1:1346:A:N7 | 1.96 | 0.79 |
| 1:C1:1385:G:N3 | 1:C1:1386:G:C8 | 2.51 | 0.79 |
| 29:D1:355:A:H2' | 29:D1:356:C:O4' | 1.82 | 0.79 |
| 29:D1:549:U:H2' | 29:D1:550:A:H8 | 1.47 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:613:G:O2' | 29:D1:614:C:H5' | 1.81 | 0.79 |
| 29:D1:1153:A:N7 | 29:D1:1154:A:C5 | 2.51 | 0.79 |
| 29:D1:1394:A:C8 | 29:D1:1395:G:C8 | 2.70 | 0.79 |
| 29:D1:1440:G:O2' | 29:D1:1441:G:H5' | 1.82 | 0.79 |
| 29:D1:1504:A:H3' | 29:D1:1505:C:C5' | 2.12 | 0.79 |
| 29:D1:2997:G:N3 | 29:D1:2998:U:H5' | 1.98 | 0.79 |
| 29:D1:3072:C:H5 | 29:D1:3073:A:C5 | 2.01 | 0.79 |
| 29:D1:3140:G:H8 | 29:D1:3140:G:C5' | 1.96 | 0.79 |
| 29:D1:3141:A:H4' | 29:D1:3142:A:O5' | 1.83 | 0.79 |
| 30:D2:26:C:H4' | 30:D2:27:A:OP1 | 1.80 | 0.79 |
| 30:D2:69:C:H3' | 30:D2:70:U:C6 | 2.17 | 0.79 |
| 41:DJ:184:LYS:C | 41:DJ:186:GLU:H | 1.90 | 0.79 |
| 1:A1:1102:G:H2' | 1:A1:1103:U:O5' | 1.83 | 0.79 |
| 1:A1:1250:U:C4 | 1:A1:1251:U:C4 | 2.70 | 0.79 |
| 1:A1:1753:A:C3' | 1:A1:1754:A:H5" | 2.13 | 0.79 |
| 29:B1:15:C:H4' | 29:B1:16:A:OP1 | 1.81 | 0.79 |
| 29:B1:400:G:H5" | 29:B1:403:C:O2' | 1.82 | 0.79 |
| 29:B1:515:C:H6 | 29:B1:515:C:P | 2.06 | 0.79 |
| 29:B1:593:C:C2 | 29:B1:594:U:H4' | 2.17 | 0.79 |
| 29:B1:847:A:H2' | 29:B1:848:A:H8 | 1.48 | 0.79 |
| 29:B1:1196:C:N3 | 30:B2:86:U:C5 | 2.50 | 0.79 |
| 29:B1:2131:A:H2' | 29:B1:2132:C:H5" | 1.65 | 0.79 |
| 29:B1:2245:C:H2' | 29:B1:2246:G:O4' | 1.83 | 0.79 |
| 29:B1:2592:G:O6 | 74:B1:3449:OHX:N6 | 2.16 | 0.79 |
| 29:B1:2680:A:OP1 | 29:B1:2681:U:H5 | 1.65 | 0.79 |
| 30:B2:12:U:O4' | 30:B2:69:C:H4' | 1.83 | 0.79 |
| 36:BE:100:ALA:O | 36:BE:102:GLY:N | 2.16 | 0.79 |
| 46:BQ:9:THR:H | 46:BQ:10:ASN:HA | 1.46 | 0.79 |
| 50:BU:133:SER:O | 50:BU:135:VAL:N | 2.16 | 0.79 |
| 1:C1:149:C:H3' | 1:C1:150:U:C6 | 2.17 | 0.79 |
| 1:C1:219:A:H61 | 1:C1:843:U:H1' | 1.48 | 0.79 |
| 1:C1:996:U:H2' | 1:C1:996:U:O2 | 1.82 | 0.79 |
| 1:C1:1055:U:O4 | 1:C1:1064:G:O6 | 2.00 | 0.79 |
| 1:C1:1068:C:H2' | 1:C1:1069:A:H8 | 1.48 | 0.79 |
| 29:D1:23:A:H3' | 29:D1:24:G:H8 | 1.48 | 0.79 |
| 29:D1:39:A:H5' | 29:D1:40:A:OP2 | 1.83 | 0.79 |
| 29:D1:750:G:H2' | 29:D1:751:A:C8 | 2.16 | 0.79 |
| 29:D1:2465:G:H2' | 29:D1:2466:G:H8 | 1.46 | 0.79 |
| 29:D1:2650:U:OP2 | 29:D1:2650:U:H6 | 1.64 | 0.79 |
| 29:D1:3072:C:C5 | 29:D1:3073:A:C5 | 2.70 | 0.79 |
| 29:D1:3199:G:H2' | 29:D1:3200:G:C8 | 2.18 | 0.79 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3254:G:H2' | 29:D1:3254:G:N3 | 1.97 | 0.79 |
| 29:D1:3376:A:H5' | 29:D1:3377:G:H5" | 1.64 | 0.79 |
| 73:DM:17:GLU:C | 73:DM:19:LEU:H | 1.91 | 0.79 |
| 43:DN:50:LYS:H | 43:DN:53:VAL:CB | 1.96 | 0.79 |
| 1:A1:357:G:H2' | 1:A1:358:U:C6 | 2.17 | 0.79 |
| 1:A1:1291:G:H2' | 1:A1:1292:G:C8 | 2.17 | 0.79 |
| 1:A1:1330:G:H2' | 1:A1:1331:A:H8 | 1.47 | 0.79 |
| 1:A1:1775:U:O2' | 1:A1:1776:A:H5' | 1.82 | 0.79 |
| 15:AN:68:ARG:CA | 15:AN:79:TRP:HA | 2.05 | 0.79 |
| 29:B1:537:A:N6 | 29:B1:556:U:O2 | 2.16 | 0.79 |
| 29:B1:819:U:H2' | 29:B1:820:A:C8 | 2.18 | 0.79 |
| 29:B1:1593:A:H2' | 29:B1:1594:A:H8 | 1.44 | 0.79 |
| 29:B1:2672:G:H4' | 42:BK:104:PHE:O | 1.82 | 0.79 |
| 47:BR:31:LYS:O | 47:BR:35:PHE:N | 2.16 | 0.79 |
| 1:C1:94:U:H2' | 1:C1:95:G:O4' | 1.82 | 0.79 |
| 1:C1:369:A:H5' | 1:C1:370:A:OP2 | 1.83 | 0.79 |
| 1:C1:440:U:H3' | 1:C1:441:A:H5' | 1.64 | 0.79 |
| 1:C1:612:U:H4' | 1:C1:1099:U:C5 | 2.18 | 0.79 |
| 1:C1:1228:G:H5' | 1:C1:1229:G:OP2 | 1.81 | 0.79 |
| 1:C1:1244:A:H2 | 1:C1:1245:G:C1' | 1.95 | 0.79 |
| 1:C1:1771:U:H2' | 1:C1:1772:C:C6 | 2.17 | 0.79 |
| 29:D1:574:U:O2' | 29:D1:575:G:OP1 | 1.99 | 0.79 |
| 29:D1:1362:G:O2' | 29:D1:1363:A:H5' | 1.83 | 0.79 |
| 29:D1:1609:C:OP2 | 29:D1:1609:C:H2' | 1.83 | 0.79 |
| 29:D1:2143:A:H2' | 29:D1:2144:A:H5' | 1.65 | 0.79 |
| 29:D1:2146:C:C2' | 29:D1:2147:A:H5' | 2.07 | 0.79 |
| 29:D1:3116:G:O2' | 29:D1:3117:C:H5' | 1.84 | 0.79 |
| 29:D1:3262:U:OP2 | 29:D1:3262:U:H3' | 1.82 | 0.79 |
| 29:D1:3308:C:C5 | 29:D1:3309:G:C4 | 2.71 | 0.79 |
| 29:D1:3313:U:O2' | 29:D1:3314:A:O5' | 2.01 | 0.79 |
| 1:A1:833:U:H3' | 1:A1:834:G:H5" | 1.63 | 0.78 |
| 1:A1:1148:C:H2' | 1:A1:1149:G:N7 | 1.97 | 0.78 |
| 1:A1:1244:A:H2 | 1:A1:1245:G:C1' | 1.95 | 0.78 |
| 1:A1:1280:C:H2' | 1:A1:1281:G:C8 | 2.18 | 0.78 |
| 1:A1:1402:G:H2' | 1:A1:1403:C:H6 | 1.47 | 0.78 |
| 10:AI:45:PHE:CB | 10:AI:46:ALA:HA | 2.13 | 0.78 |
| 29:B1:88:A:H2' | 29:B1:89:A:O4' | 1.83 | 0.78 |
| 29:B1:207:U:H2' | 29:B1:208:C:C6 | 2.19 | 0.78 |
| 29:B1:675:C:O2 | 29:B1:679:U:H5' | 1.82 | 0.78 |
| 29:B1:705:A:H4' | 29:B1:706:A:H5' | 1.64 | 0.78 |
| 29:B1:1314:C:H5" | 29:B1:1315:U:OP2 | 1.84 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1818:U:H2' | 29:B1:1819:U:C2 | 2.18 | 0.78 |
| 29:B1:1903:U:C2 | 29:B1:1905:G:H5" | 2.17 | 0.78 |
| 29:B1:2825:C:H5' | 29:B1:2826:U:OP2 | 1.83 | 0.78 |
| 29:B1:2897:A:H2' | 29:B1:2899:C:H5" | 1.64 | 0.78 |
| 29:B1:3308:C:C5 | 29:B1:3309:G:C4 | 2.71 | 0.78 |
| 29:B1:3321:C:HO2' | 29:B1:3322:A:H8 | 0.81 | 0.78 |
| 1:C1:361:C:N4 | 1:C1:384:G:N1 | 2.29 | 0.78 |
| 1:C1:829:A:H1' | 1:C1:830:U:O5' | 1.83 | 0.78 |
| 1:C1:1250:U:C4 | 1:C1:1251:U:C4 | 2.71 | 0.78 |
| 14:CM:115:GLU:O | 14:CM:122:ARG:HA | 1.83 | 0.78 |
| 14:CM:128:GLY:C | 14:CM:130:ARG:N | 2.39 | 0.78 |
| 29:D1:564:G:H3' | 29:D1:565:U:C6 | 2.17 | 0.78 |
| 29:D1:1933:A:H2' | 29:D1:1934:G:H5' | 1.65 | 0.78 |
| 29:D1:2932:U:H2' | 29:D1:2932:U:O2 | 1.83 | 0.78 |
| 29:D1:3274:A:H1' | 29:D1:3275:U:P | 2.23 | 0.78 |
| 29:D1:3316:A:H61 | 29:D1:3388:C:N4 | 1.81 | 0.78 |
| 29:D1:3317:U:H3 | 34:DC:123:TYR:HA | 1.49 | 0.78 |
| 30:D2:64:A:C4' | 30:D2:65:G:O5' | 2.30 | 0.78 |
| 30:D2:98:C:C3' | 30:D2:99:G:H5" | 2.13 | 0.78 |
| 31:D3:69:U:C2' | 31:D3:70:G:H4' | 2.13 | 0.78 |
| 31:D3:76:C:H2' | 53:DX:76:LEU:CB | 2.13 | 0.78 |
| 31:D3:113:U:C1' | 31:D3:114:G:OP2 | 2.27 | 0.78 |
| 1:A1:12:U:H1' | 1:A1:1300:A:H1' | 1.66 | 0.78 |
| 1:A1:361:C:N3 | 1:A1:384:G:N2 | 2.30 | 0.78 |
| 1:A1:699:U:H2' | 1:A1:700:C:C5 | 2.18 | 0.78 |
| 1:A1:1107:G:H3' | 1:A1:1108:G:N2 | 1.98 | 0.78 |
| 1:A1:1166:A:C2 | 1:A1:1167:G:H1' | 2.18 | 0.78 |
| 1:A1:1619:C:C2 | 1:A1:1620:C:H5 | 2.00 | 0.78 |
| 1:A1:1663:G:H2' | 1:A1:1664:C:H6 | 1.46 | 0.78 |
| 29:B1:195:U:H4' | 29:B1:1391:C:C5 | 2.17 | 0.78 |
| 29:B1:305:U:H2' | 29:B1:305:U:O2 | 1.83 | 0.78 |
| 29:B1:394:G:H22 | 29:B1:396:A:H2' | 1.48 | 0.78 |
| 29:B1:430:U:H2' | 29:B1:431:U:C6 | 2.18 | 0.78 |
| 29:B1:674:G:H2' | 29:B1:675:C:C6 | 2.18 | 0.78 |
| 29:B1:762:U:C4 | 74:B1:3479:OHX:N6 | 2.51 | 0.78 |
| 29:B1:1412:G:C5 | 29:B1:1413:G:N7 | 2.51 | 0.78 |
| 29:B1:1815:U:C3' | 29:B1:1816:A:H5' | 2.14 | 0.78 |
| 29:B1:2286:U:C4 | 29:B1:2288:G:H1' | 2.18 | 0.78 |
| 29:B1:3048:A:N6 | 29:B1:3090:U:H3' | 1.98 | 0.78 |
| 29:B1:3180:A:H8 | 45:BP:114:LYS:CB | 1.96 | 0.78 |
| 45:BP:124:LEU:HA | 45:BP:125:ARG:C | 2.06 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:171:A:O2' | 1:C1:172:C:C5' | 2.30 | 0.78 |
| 1:C1:283:U:H3' | 1:C1:284:G:C5' | 2.13 | 0.78 |
| 1:C1:1536:G:H2' | 1:C1:1536:G:N3 | 1.97 | 0.78 |
| 29:D1:573:C:H2' | 29:D1:574:U:C6 | 2.18 | 0.78 |
| 29:D1:592:A:H2' | 29:D1:593:C:C2' | 2.12 | 0.78 |
| 29:D1:1198:C:C6 | 29:D1:1200:A:C8 | 2.72 | 0.78 |
| 29:D1:1230:G:C6 | 29:D1:1231:A:N7 | 2.51 | 0.78 |
| 29:D1:1263:A:H61 | 72:DL:135:THR:HA | 1.48 | 0.78 |
| 29:D1:1383:G:C4' | 35:DD:241:GLY:HA2 | 2.12 | 0.78 |
| 29:D1:1815:U:C3' | 29:D1:1816:A:H5' | 2.14 | 0.78 |
| 29:D1:2309:A:H2 | 29:D1:2961:G:H2' | 1.46 | 0.78 |
| 29:D1:2667:A:N6 | 29:D1:2690:G:C6 | 2.51 | 0.78 |
| 29:D1:2862:U:O2' | 29:D1:2863:G:H5' | 1.84 | 0.78 |
| 29:D1:3298:C:N4 | 29:D1:3299:A:N6 | 2.31 | 0.78 |
| 36:DE:18:THR:CB | 36:DE:19:PRO:HA | 2.14 | 0.78 |
| 1:A1:54:C:H2' | 1:A1:55:A:H5' | 1.63 | 0.78 |
| 1:A1:618:U:H2' | 1:A1:619:A:H5' | 1.64 | 0.78 |
| 1:A1:973:A:H2' | 1:A1:974:A:H8 | 1.47 | 0.78 |
| 1:A1:1516:A:H3' | 1:A1:1517:U:C5' | 2.13 | 0.78 |
| 2:AA:106:SER:C | 2:AA:108:THR:H | 1.91 | 0.78 |
| 14:AM:128:GLY:C | 14:AM:130:ARG:N | 2.40 | 0.78 |
| 29:B1:152:U:O2' | 29:B1:153:U:H5' | 1.83 | 0.78 |
| 29:B1:278:U:H2' | 29:B1:279:U:C6 | 2.16 | 0.78 |
| 29:B1:314:U:H2' | 29:B1:315:C:C6 | 2.18 | 0.78 |
| 29:B1:605:U:H6 | 29:B1:605:U:H5" | 1.45 | 0.78 |
| 29:B1:1063:G:OP1 | 29:B1:1063:G:O4' | 2.01 | 0.78 |
| 29:B1:1640:G:H5" | 29:B1:1738:C:OP1 | 1.83 | 0.78 |
| 29:B1:2172:A:C2' | 29:B1:2173:U:H5' | 2.13 | 0.78 |
| 29:B1:2842:U:H2' | 29:B1:2842:U:O2 | 1.82 | 0.78 |
| 29:B1:2990:G:C2' | 29:B1:2991:A:H5' | 2.12 | 0.78 |
| 30:B2:12:U:H5' | 30:B2:68:C:C2' | 2.12 | 0.78 |
| 30:B2:64:A:H1' | 30:B2:65:G:H5" | 1.64 | 0.78 |
| 31:B3:2:A:O2' | 31:B3:3:A:H5' | 1.83 | 0.78 |
| 36:BE:100:ALA:C | 36:BE:102:GLY:N | 2.37 | 0.78 |
| 36:BE:273:ARG:C | 36:BE:275:THR:H | 1.90 | 0.78 |
| 39:BH:99:PRO:C | 39:BH:101:THR:H | 1.89 | 0.78 |
| 1:C1:26:A:OP1 | 1:C1:27:U:OP2 | 2.00 | 0.78 |
| 1:C1:297:U:H2' | 1:C1:298:C:O5' | 1.84 | 0.78 |
| 1:C1:364:G:C2 | 1:C1:381:C:C2 | 2.71 | 0.78 |
| 1:C1:1003:A:C8 | 1:C1:1005:A:C5 | 2.72 | 0.78 |
| 1:C1:1364:G:N7 | 1:C1:1365:C:C5 | 2.51 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:64:G:O2' | 29:D1:77:A:H1' | 1.84 | 0.78 |
| 29:D1:305:U:H2' | 29:D1:305:U:O2 | 1.83 | 0.78 |
| 29:D1:540:U:H2' | 29:D1:541:U:C6 | 2.19 | 0.78 |
| 29:D1:547:G:H3' | 29:D1:548:G:H8 | 1.48 | 0.78 |
| 29:D1:645:A:H4' | 29:D1:646:A:OP1 | 1.84 | 0.78 |
| 29:D1:745:C:C4 | 29:D1:746:A:N6 | 2.51 | 0.78 |
| 29:D1:1156:C:H3' | 29:D1:1157:G:H5" | 1.63 | 0.78 |
| 29:D1:1157:G:N3 | 29:D1:1158:A:H1' | 1.97 | 0.78 |
| 29:D1:1914:G:H3' | 29:D1:1915:A:H8 | 1.47 | 0.78 |
| 29:D1:2147:A:H2' | 29:D1:2148:U:C6 | 2.18 | 0.78 |
| 29:D1:2676:A:H4' | 29:D1:2677:G:C8 | 2.18 | 0.78 |
| 29:D1:2857:C:H2' | 29:D1:2858:U:H6 | 1.47 | 0.78 |
| 33:DB:188:LYS:C | 33:DB:190:ARG:N | 2.35 | 0.78 |
| 1:A1:284:G:H4' | 1:A1:285:G:OP1 | 1.82 | 0.78 |
| 1:A1:534:A:H2' | 1:A1:535:A:C8 | 2.18 | 0.78 |
| 1:A1:1035:G:H2' | 1:A1:1036:A:O4' | 1.83 | 0.78 |
| 29:B1:355:A:C2 | 29:B1:365:A:C5 | 2.71 | 0.78 |
| 29:B1:406:G:N3 | 31:B3:16:G:C2 | 2.52 | 0.78 |
| 29:B1:606:C:C3' | 29:B1:607:A:H8 | 1.79 | 0.78 |
| 29:B1:937:G:H22 | 29:B1:960:U:C5' | 1.94 | 0.78 |
| 29:B1:1454:A:H5" | 29:B1:1878:G:C6 | 2.17 | 0.78 |
| 29:B1:2178:A:OP1 | 33:BB:126:LEU:HA | 1.83 | 0.78 |
| 29:B1:2293:C:C5 | 29:B1:2294:U:C5 | 2.72 | 0.78 |
| 29:B1:2326:A:C5' | 29:B1:2327:U:OP2 | 2.31 | 0.78 |
| 29:B1:2420:C:H2' | 29:B1:2421:U:H5' | 1.65 | 0.78 |
| 29:B1:2837:A:H2' | 29:B1:2845:A:N1 | 1.98 | 0.78 |
| 29:B1:3212:C:C4 | 29:B1:3213:A:H2 | 1.99 | 0.78 |
| 30:B2:27:A:H5' | 30:B2:28:C:OP2 | 1.82 | 0.78 |
| 31:B3:124:G:H5' | 31:B3:125:U:OP2 | 1.83 | 0.78 |
| 1:C1:314:C:N3 | 1:C1:354:C:N4 | 2.31 | 0.78 |
| 1:C1:757:A:C4 | 1:C1:758:U:C6 | 2.71 | 0.78 |
| 29:D1:43:A:N6 | 29:D1:2802:A:C2 | 2.48 | 0.78 |
| 29:D1:773:G:H2' | 29:D1:774:G:C8 | 2.17 | 0.78 |
| 29:D1:1271:A:N3 | 29:D1:1271:A:H2' | 1.98 | 0.78 |
| 29:D1:2111:G:O6 | 29:D1:3332:U:H3' | 1.84 | 0.78 |
| 29:D1:2122:G:C6 | 29:D1:2332:A:C2 | 2.71 | 0.78 |
| 29:D1:2245:C:H2' | 29:D1:2246:G:O4' | 1.84 | 0.78 |
| 29:D1:2273:G:O6 | 74:D1:3582:OHX:N5 | 2.17 | 0.78 |
| 29:D1:2682:C:C4 | 29:D1:2683:U:H5 | 2.01 | 0.78 |
| 29:D1:2766:U:H2' | 29:D1:2767:U:C6 | 2.18 | 0.78 |
| 29:D1:3195:U:H2' | 29:D1:3196:U:C2 | 2.19 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 74:D1:3543:OHX:N5 | 38:DG:217:PRO:HA | 1.98 | 0.78 |
| 30:D2:67:G:C6 | 30:D2:68:C:C4 | 2.71 | 0.78 |
| 1:A1:374:U:C4 | 1:A1:375:U:C5 | 2.71 | 0.78 |
| 1:A1:697:C:H3' | 1:A1:698:U:C5' | 2.14 | 0.78 |
| 1:A1:914:G:H4' | 1:A1:915:A:O5' | 1.82 | 0.78 |
| 1:A1:1182:U:H2' | 1:A1:1184:A:OP2 | 1.83 | 0.78 |
| 1:A1:1299:G:H2' | 1:A1:1300:A:C8 | 2.19 | 0.78 |
| 29:B1:679:U:H2' | 29:B1:680:G:C8 | 2.19 | 0.78 |
| 29:B1:985:U:H2' | 29:B1:986:U:H6 | 1.49 | 0.78 |
| 29:B1:1054:A:N3 | 29:B1:1054:A:H2' | 1.97 | 0.78 |
| 29:B1:1383:G:C4' | 35:BD:241:GLY:HA2 | 2.13 | 0.78 |
| 29:B1:1927:G:N2 | 29:B1:1928:G:C8 | 2.52 | 0.78 |
| 29:B1:2546:C:H5" | 29:B1:2547:A:OP2 | 1.83 | 0.78 |
| 29:B1:2594:C:H2' | 29:B1:2595:A:C8 | 2.17 | 0.78 |
| 29:B1:2680:A:H3' | 29:B1:2681:U:C5' | 2.13 | 0.78 |
| 29:B1:3237:U:H2' | 29:B1:3238:G:C8 | 2.18 | 0.78 |
| 30:B2:74:C:H2' | 30:B2:75:G:C5' | 2.02 | 0.78 |
| 30:B2:108:A:H2' | 30:B2:109:G:C8 | 2.18 | 0.78 |
| 34:BC:306:THR:O | 34:BC:308:MET:N | 2.17 | 0.78 |
| 54:BY:8:THR:O | 54:BY:10:LYS:N | 2.16 | 0.78 |
| 1:C1:437:A:H5" | 1:C1:438:A:OP1 | 1.83 | 0.78 |
| 1:C1:995:A:H5" | 1:C1:996:U:OP2 | 1.82 | 0.78 |
| 11:CJ:81:ILE:O | 11:CJ:84:ALA:HB3 | 1.84 | 0.78 |
| 29:D1:53:G:H2' | 29:D1:54:C:H6 | 1.49 | 0.78 |
| 29:D1:595:G:H2' | 29:D1:596:C:O4' | 1.82 | 0.78 |
| 29:D1:2269:U:H2' | 29:D1:2269:U:O2 | 1.83 | 0.78 |
| 29:D1:3316:A:N1 | 29:D1:3388:C:N4 | 2.31 | 0.78 |
| 37:DF:6:ALA:HA | 38:DG:75:TYR:HA | 1.66 | 0.78 |
| 38:DG:111:ILE:O | 38:DG:112:ASN:C | 2.25 | 0.78 |
| 54:DY:8:THR:O | 54:DY:10:LYS:N | 2.17 | 0.78 |
| 1:A1:718:U:H5' | 1:A1:719:U:OP2 | 1.84 | 0.78 |
| 1:A1:806:A:H2' | 1:A1:807:A:H5" | 1.64 | 0.78 |
| 1:A1:1617:U:O2' | 1:A1:1618:C:H5" | 1.83 | 0.78 |
| 13:AL:65:GLU:O | 13:AL:68:ARG:N | 2.15 | 0.78 |
| 29:B1:807:A:H3' | 29:B1:808:A:H5" | 1.62 | 0.78 |
| 29:B1:1794:G:O2' | 29:B1:1796:G:N2 | 2.17 | 0.78 |
| 29:B1:2407:C:H1' | 29:B1:2818:U:H3 | 1.49 | 0.78 |
| 29:B1:2465:G:H2' | 29:B1:2466:G:C8 | 2.19 | 0.78 |
| 29:B1:3037:U:O2' | 29:B1:3038:U:H5' | 1.84 | 0.78 |
| 29:B1:3333:G:N2 | 29:B1:3371:G:C8 | 2.52 | 0.78 |
| 31:B3:128:U:H5" | 31:B3:129:C:C5 | 2.18 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:973:A:C4' | 29:D1:847:A:H2 | 1.97 | 0.78 |
| 1:C1:1348:A:H3' | 1:C1:1348:A:C8 | 2.18 | 0.78 |
| 1:C1:1487:A:H2' | 1:C1:1488:G:C8 | 2.18 | 0.78 |
| 4:CC:140:GLY:HA3 | 4:CC:182:LEU:HA | 1.64 | 0.78 |
| 29:D1:405:U:O4 | 29:D1:406:G:C2 | 2.37 | 0.78 |
| 29:D1:822:G:H2' | 29:D1:823:C:C6 | 2.19 | 0.78 |
| 29:D1:960:U:H2' | 29:D1:961:C:O4' | 1.84 | 0.78 |
| 29:D1:995:U:O4 | 29:D1:2637:A:C5 | 2.36 | 0.78 |
| 29:D1:1461:A:C5 | 29:D1:1462:A:N7 | 2.52 | 0.78 |
| 29:D1:2253:G:H3' | 29:D1:2254:U:C5 | 2.18 | 0.78 |
| 29:D1:3219:G:C8 | 29:D1:3257:C:OP1 | 2.36 | 0.78 |
| 29:D1:3363:U:H3' | 29:D1:3364:C:H6 | 1.47 | 0.78 |
| 30:D2:13:A:C2 | 30:D2:13:A:O5' | 2.37 | 0.78 |
| 30:D2:88:G:C4 | 30:D2:89:G:N7 | 2.52 | 0.78 |
| 1:A1:44:U:O5' | 1:A1:45:U:H5 | 1.67 | 0.78 |
| 1:A1:646:C:H3' | 1:A1:647:G:H5" | 1.66 | 0.78 |
| 1:A1:817:A:H2 | 1:A1:855:A:H2 | 1.30 | 0.78 |
| 1:A1:883:C:H42 | 1:A1:945:U:H3 | 1.31 | 0.78 |
| 1:A1:1649:G:H2' | 1:A1:1650:U:H6 | 1.48 | 0.78 |
| 1:A1:1765:A:OP2 | 74:A1:1931:OHX:N5 | 2.17 | 0.78 |
| 29:B1:1080:A:C4 | 29:B1:1082:U:H5" | 2.18 | 0.78 |
| 29:B1:2280:A:C5 | 29:B1:2282:U:H5 | 2.02 | 0.78 |
| 29:B1:2696:A:C8 | 29:B1:2697:A:N7 | 2.51 | 0.78 |
| 30:B2:68:C:H2' | 30:B2:69:C:O4' | 1.84 | 0.78 |
| 31:B3:104:A:H5" | 31:B3:105:A:C8 | 2.18 | 0.78 |
| 59:Bd:21:ARG:O | 74:Bd:101:OHX:N1 | 2.17 | 0.78 |
| 1:C1:93:A:C4 | 1:C1:399:A:C2 | 2.72 | 0.78 |
| 1:C1:1594:G:C6 | 1:C1:1595:U:N3 | 2.52 | 0.78 |
| 29:D1:781:G:C6 | 29:D1:782:U:C4 | 2.72 | 0.78 |
| 29:D1:1140:G:H2' | 29:D1:1141:C:C6 | 2.19 | 0.78 |
| 29:D1:1304:A:C4 | 29:D1:2939:G:H1' | 2.18 | 0.78 |
| 29:D1:1448:U:H5 | 29:D1:2355:G:N2 | 1.82 | 0.78 |
| 29:D1:1471:U:H2' | 29:D1:1472:U:H6 | 1.49 | 0.78 |
| 29:D1:2286:U:C4 | 29:D1:2288:G:H1' | 2.17 | 0.78 |
| 29:D1:2374:C:N4 | 29:D1:2941:A:C4 | 2.52 | 0.78 |
| 29:D1:2561:A:H2' | 29:D1:2562:A:H8 | 1.49 | 0.78 |
| 29:D1:2916:U:H5 | 29:D1:2935:U:HO2' | 1.32 | 0.78 |
| 29:D1:2928:C:H2' | 29:D1:2929:C:H5' | 1.63 | 0.78 |
| 30:D2:11:A:H2 | 36:DE:16:PHE:HA | 1.47 | 0.78 |
| 30:D2:108:A:H2' | 30:D2:109:G:C8 | 2.18 | 0.78 |
| 34:DC:323:MET:O | 34:DC:324:VAL:O | 2.01 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 46:DQ:9:THR:H | 46:DQ:10:ASN:HA | 1.46 | 0.78 |
| 1:A1:996:U:H2' | 1:A1:996:U:O2 | 1.82 | 0.78 |
| 1:A1:1013:A:H2' | 1:A1:1014:G:O4' | 1.83 | 0.78 |
| 14:AM:99:SER:HA | 14:AM:102:ARG:CB | 2.14 | 0.78 |
| 24:Ac:4:UNK:HA | 24:Ac:98:UNK:HA | 1.65 | 0.78 |
| 29:B1:5:G:H22 | 31:B3:155:A:H1' | 1.46 | 0.78 |
| 29:B1:421:G:C2 | 29:B1:2365:C:C2 | 2.71 | 0.78 |
| 29:B1:580:C:N3 | 29:B1:581:U:H5 | 1.80 | 0.78 |
| 29:B1:937:G:N2 | 29:B1:960:U:H5' | 1.97 | 0.78 |
| 29:B1:979:U:H4' | 29:B1:980:A:OP1 | 1.81 | 0.78 |
| 29:B1:1625:A:H3' | 29:B1:1626:U:C4' | 2.13 | 0.78 |
| 29:B1:1658:G:H2' | 29:B1:1659:U:C6 | 2.19 | 0.78 |
| 29:B1:2111:G:H22 | 51:BV:49:ILE:HA | 1.48 | 0.78 |
| 29:B1:2636:A:H5" | 29:B1:2637:A:O5' | 1.82 | 0.78 |
| 29:B1:2883:U:H2' | 29:B1:2884:C:C6 | 2.17 | 0.78 |
| 29:B1:3176:G:H2' | 29:B1:3177:G:H5" | 1.66 | 0.78 |
| 30:B2:13:A:C2 | 30:B2:13:A:P | 2.77 | 0.78 |
| 31:B3:1:A:C2 | 31:B3:2:A:C4 | 2.72 | 0.78 |
| 35:BD:16:THR:CB | 35:BD:17:ALA:HA | 2.14 | 0.78 |
| 1:C1:226:A:HO2' | 1:C1:227:U:H6 | 1.31 | 0.78 |
| 1:C1:336:G:H2' | 1:C1:338:C:H5 | 1.48 | 0.78 |
| 1:C1:901:G:H3' | 1:C1:902:G:C8 | 2.18 | 0.78 |
| 1:C1:983:A:H2' | 1:C1:984:G:H8 | 1.45 | 0.78 |
| 1:C1:1199:G:C5 | 1:C1:1200:G:H1' | 2.19 | 0.78 |
| 1:C1:1243:G:C5 | 1:C1:1244:A:N6 | 2.47 | 0.78 |
| 1:C1:1347:U:N3 | 1:C1:1376:C:N4 | 2.32 | 0.78 |
| 1:C1:1484:G:N2 | 1:C1:1606:C:H1' | 1.99 | 0.78 |
| 1:C1:1523:G:H4' | 1:C1:1524:A:OP2 | 1.82 | 0.78 |
| 3:CB:160:GLY:C | 3:CB:209:ASN:HA | 2.09 | 0.78 |
| 10:CI:77:ARG:HA | 10:CI:95:GLY:H | 1.48 | 0.78 |
| 29:D1:384:A:H5" | 29:D1:385:A:OP2 | 1.83 | 0.78 |
| 29:D1:1157:G:H8 | 29:D1:1157:G:C5' | 1.96 | 0.78 |
| 29:D1:1449:A:H3' | 29:D1:1450:G:C8 | 2.18 | 0.78 |
| 29:D1:2541:U:O2 | 29:D1:2541:U:H2' | 1.82 | 0.78 |
| 29:D1:3203:U:OP2 | 29:D1:3203:U:H6 | 1.66 | 0.78 |
| 29:D1:3302:U:H3' | 29:D1:3303:G:H5" | 1.66 | 0.78 |
| 31:D3:72:A:N3 | 31:D3:88:A:N1 | 2.32 | 0.78 |
| 34:DC:106:TRP:C | 34:DC:108:GLU:N | 2.39 | 0.78 |
| 36:DE:97:ALA:HA | 36:DE:100:ALA:CB | 2.14 | 0.78 |
| 51:DV:41:LYS:C | 51:DV:43:ARG:H | 1.92 | 0.78 |
| 65:Dk:10:UNK:O | 65:Dk:13:UNK:N | 2.17 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1006:C:C6 | 1:A1:1007:C:H5 | 2.01 | 0.78 |
| 1:A1:1667:A:H2' | 1:A1:1668:G:C8 | 2.19 | 0.78 |
| 5:AD:64:VAL:HA | 5:AD:89:ILE:HA | 1.65 | 0.78 |
| 11:AJ:50:GLU:O | 11:AJ:54:LEU:CB | 2.32 | 0.78 |
| 15:AN:17:GLN:CB | 15:AN:18:GLN:C | 2.57 | 0.78 |
| 21:AT:181:TRP:HA | 21:AT:189:GLU:H | 1.47 | 0.78 |
| 29:B1:346:C:H41 | 29:B1:348:A:H3' | 1.49 | 0.78 |
| 29:B1:409:A:N6 | 31:B3:15:G:H1' | 1.99 | 0.78 |
| 29:B1:627:U:H4' | 29:B1:1399:A:H1' | 1.66 | 0.78 |
| 29:B1:659:G:C2' | 29:B1:660:A:C8 | 2.66 | 0.78 |
| 29:B1:1105:A:H2' | 29:B1:1106:G:C8 | 2.19 | 0.78 |
| 29:B1:1233:G:N7 | 29:B1:1262:G:H3' | 1.98 | 0.78 |
| 29:B1:1613:A:H2' | 29:B1:1614:C:C6 | 2.18 | 0.78 |
| 29:B1:2900:A:H2' | 29:B1:2901:G:O5' | 1.83 | 0.78 |
| 29:B1:3056:U:C2 | 29:B1:3079:U:C4 | 2.72 | 0.78 |
| 29:B1:3118:C:H2' | 29:B1:3119:U:H6 | 1.48 | 0.78 |
| 30:B2:55:A:H2 | 30:B2:56:A:C4 | 2.02 | 0.78 |
| 36:BE:272:TYR:N | 36:BE:273:ARG:HA | 1.99 | 0.78 |
| 47:BR:18:ALA:HA | 47:BR:53:PHE:CB | 2.13 | 0.78 |
| 1:C1:1719:A:H2' | 1:C1:1720:G:C5 | 2.18 | 0.78 |
| 29:D1:573:C:H2' | 29:D1:574:U:C5 | 2.19 | 0.78 |
| 29:D1:659:G:H8 | 29:D1:659:G:O5' | 1.67 | 0.78 |
| 29:D1:717:C:N4 | 29:D1:721:G:H5' | 1.95 | 0.78 |
| 29:D1:719:U:O2' | 29:D1:720:A:C8 | 2.35 | 0.78 |
| 29:D1:744:A:C5 | 29:D1:745:C:C4 | 2.72 | 0.78 |
| 29:D1:1139:G:C5' | 29:D1:1139:G:C8 | 2.66 | 0.78 |
| 29:D1:1277:C:H2' | 29:D1:1277:C:OP2 | 1.84 | 0.78 |
| 29:D1:1898:G:C8 | 29:D1:1899:G:N7 | 2.52 | 0.78 |
| 29:D1:2465:G:H2' | 29:D1:2466:G:C8 | 2.19 | 0.78 |
| 29:D1:2522:G:H1' | 29:D1:2523:A:P | 2.22 | 0.78 |
| 29:D1:2650:U:C5' | 29:D1:2651:G:OP2 | 2.32 | 0.78 |
| 29:D1:2727:A:C6 | 29:D1:2728:G:O6 | 2.37 | 0.78 |
| 29:D1:2997:G:C4 | 29:D1:2998:U:H5' | 2.19 | 0.78 |
| 34:DC:299:ASP:HA | 34:DC:302:LYS:O | 1.83 | 0.78 |
| 1:A1:274:G:H2' | 1:A1:275:C:C6 | 2.19 | 0.78 |
| 1:A1:480:G:N2 | 1:A1:508:U:H3 | 1.81 | 0.78 |
| 1:A1:593:U:H4' | 1:A1:595:G:H4' | 1.66 | 0.78 |
| 1:A1:737:A:H2' | 1:A1:737:A:OP2 | 1.83 | 0.78 |
| 1:A1:1402:G:H2' | 1:A1:1403:C:C6 | 2.19 | 0.78 |
| 1:A1:1765:A:OP2 | 74:A1:1931:OHX:N1 | 2.17 | 0.78 |
| 29:B1:624:G:C2 | 29:B1:625:G:C8 | 2.72 | 0.78 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1449:A:H3' | 29:B1:1450:G:C8 | 2.18 | 0.78 |
| 29:B1:2151:C:O2' | 29:B1:2243:A:N1 | 2.16 | 0.78 |
| 29:B1:3144:G:O6 | 74:B1:3428:OHX:N5 | 2.17 | 0.78 |
| 30:B2:11:A:O4' | 30:B2:13:A:H2' | 1.83 | 0.78 |
| 32:BA:177:ASP:O | 32:BA:181:ASN:CB | 2.31 | 0.78 |
| 34:BC:261:MET:C | 34:BC:263:SER:N | 2.33 | 0.78 |
| 39:BH:187:GLY:HA3 | 39:BH:194:THR:O | 1.84 | 0.78 |
| 29:D1:673:U:C2' | 29:D1:674:G:H5' | 2.14 | 0.78 |
| 29:D1:1075:A:C8 | 29:D1:1076:C:C6 | 2.71 | 0.78 |
| 29:D1:1786:G:H2' | 29:D1:1787:A:H8 | 1.48 | 0.78 |
| 29:D1:2725:U:H5 | 29:D1:2727:A:O2' | 1.67 | 0.78 |
| 29:D1:2743:A:H3' | 29:D1:2744:U:C6 | 2.19 | 0.78 |
| 29:D1:2896:A:C2' | 29:D1:2897:A:H5" | 2.14 | 0.78 |
| 29:D1:2970:C:H3' | 29:D1:2971:A:C5' | 2.13 | 0.78 |
| 30:D2:26:C:H2' | 30:D2:27:A:O4' | 1.82 | 0.78 |
| 42:DK:142:LYS:O | 42:DK:143:ARG:O | 2.01 | 0.78 |
| 1:A1:64:U:H5' | 1:A1:65:A:OP2 | 1.84 | 0.77 |
| 1:A1:108:A:H2' | 1:A1:109:G:C8 | 2.18 | 0.77 |
| 1:A1:190:C:H3' | 1:A1:191:C:C5' | 2.14 | 0.77 |
| 1:A1:318:U:H3 | 1:A1:346:G:H1 | 1.31 | 0.77 |
| 1:A1:569:C:H1' | 1:A1:583:C:H5' | 1.65 | 0.77 |
| 1:A1:606:A:C5 | 1:A1:608:U:H5 | 2.01 | 0.77 |
| 1:A1:1100:G:C4' | 1:A1:1101:G:OP1 | 2.25 | 0.77 |
| 1:A1:1364:G:N7 | 1:A1:1365:C:C5 | 2.53 | 0.77 |
| 1:A1:1784:C:H2' | 1:A1:1785:U:C6 | 2.19 | 0.77 |
| 3:AB:163:GLY:HA3 | 3:AB:203:LYS:CB | 2.14 | 0.77 |
| 29:B1:573:C:H2' | 29:B1:574:U:C6 | 2.17 | 0.77 |
| 29:B1:611:A:H5' | 29:B1:612:U:OP1 | 1.83 | 0.77 |
| 29:B1:726:G:C5 | 29:B1:727:G:C2 | 2.72 | 0.77 |
| 29:B1:1913:A:C5 | 29:B1:2120:A:N7 | 2.52 | 0.77 |
| 29:B1:2424:A:H5" | 29:B1:2425:G:OP2 | 1.83 | 0.77 |
| 29:B1:2649:A:H1' | 29:B1:2696:A:H1' | 1.65 | 0.77 |
| 30:B2:12:U:C2 | 30:B2:70:U:OP1 | 2.37 | 0.77 |
| 30:B2:30:G:N1 | 30:B2:49:G:N1 | 2.30 | 0.77 |
| 30:B2:95:A:H2' | 30:B2:96:U:H6 | 1.48 | 0.77 |
| 31:B3:28:C:H5' | 31:B3:29:U:OP2 | 1.84 | 0.77 |
| 31:B3:66:A:H2' | 31:B3:67:U:C6 | 2.18 | 0.77 |
| 34:BC:198:HIS:HA | 34:BC:201:LYS:CB | 2.14 | 0.77 |
| 38:BG:74:SER:CB | 38:BG:75:TYR:CA | 2.62 | 0.77 |
| 1:C1:611:U:O2 | 7:CF:96:LYS:HA | 1.84 | 0.77 |
| 1:C1:618:U:H5" | 1:C1:1030:A:C2 | 2.19 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:963:A:HO2' | 1:C1:964:U:H6 | 1.24 | 0.77 |
| 1:C1:1683:C:H2' | 1:C1:1719:A:N1 | 1.98 | 0.77 |
| 10:CI:33:PHE:C | 10:CI:35:LYS:H | 1.91 | 0.77 |
| 29:D1:195:U:H4' | 29:D1:1391:C:H5 | 1.48 | 0.77 |
| 29:D1:314:U:H2' | 29:D1:315:C:C6 | 2.18 | 0.77 |
| 29:D1:363:G:C3' | 29:D1:364:G:H5" | 2.13 | 0.77 |
| 29:D1:550:A:OP2 | 29:D1:550:A:H8 | 1.65 | 0.77 |
| 29:D1:1192:C:C2 | 29:D1:1192:C:OP2 | 2.37 | 0.77 |
| 29:D1:1939:G:O2' | 29:D1:1940:G:H5' | 1.84 | 0.77 |
| 29:D1:2996:U:H4' | 29:D1:2997:G:OP2 | 1.82 | 0.77 |
| 29:D1:3316:A:N1 | 29:D1:3388:C:N3 | 2.32 | 0.77 |
| 29:D1:3364:C:O2' | 29:D1:3365:U:H5' | 1.84 | 0.77 |
| 30:D2:16:U:H2' | 30:D2:17:A:C8 | 2.19 | 0.77 |
| 34:DC:154:TYR:N | 34:DC:155:ALA:HB2 | 1.97 | 0.77 |
| 36:DE:42:ALA:HB1 | 49:DT:69:LYS:CB | 2.13 | 0.77 |
| 63:Dh:53:UNK:HA | 63:Dh:54:UNK:CB | 2.14 | 0.77 |
| 1:A1:389:G:H2' | 1:A1:390:G:C8 | 2.19 | 0.77 |
| 1:A1:1003:A:C8 | 1:A1:1005:A:C5 | 2.71 | 0.77 |
| 1:A1:1269:U:H4' | 1:A1:1270:G:O5' | 1.84 | 0.77 |
| 1:A1:1472:C:H5 | 1:A1:1474:G:C2 | 2.01 | 0.77 |
| 2:AA:186:GLY:HA2 | 2:AA:187:ALA:CB | 2.13 | 0.77 |
| 29:B1:126:U:O2' | 29:B1:127:G:O5' | 2.01 | 0.77 |
| 29:B1:190:U:C6 | 29:B1:224:C:O4' | 2.37 | 0.77 |
| 29:B1:423:A:C2' | 29:B1:424:G:O5' | 2.33 | 0.77 |
| 29:B1:1819:U:C6 | 29:B1:1820:U:H5 | 2.02 | 0.77 |
| 29:B1:1930:A:H4' | 29:B1:1931:U:OP1 | 1.85 | 0.77 |
| 29:B1:2682:C:N3 | 29:B1:2683:U:C5 | 2.52 | 0.77 |
| 29:B1:3195:U:H2' | 29:B1:3196:U:C2 | 2.19 | 0.77 |
| 30:B2:30:G:N1 | 30:B2:49:G:C6 | 2.52 | 0.77 |
| 47:BR:43:PRO:O | 47:BR:45:ASN:N | 2.17 | 0.77 |
| 47:BR:110:ALA:O | 47:BR:112:ALA:N | 2.18 | 0.77 |
| 50:BU:129:VAL:O | 50:BU:133:SER:CB | 2.31 | 0.77 |
| 66:Bl:8:UNK:HA | 66:Bl:11:UNK:CB | 2.14 | 0.77 |
| 1:C1:44:U:H3' | 1:C1:45:U:H5' | 1.65 | 0.77 |
| 1:C1:1636:C:H4' | 1:C1:1637:C:OP2 | 1.83 | 0.77 |
| 1:C1:1679:G:C2 | 1:C1:1680:G:H1' | 2.20 | 0.77 |
| 29:D1:145:G:H5" | 29:D1:146:U:OP2 | 1.84 | 0.77 |
| 29:D1:406:G:N2 | 31:D3:16:G:C4 | 2.51 | 0.77 |
| 29:D1:407:A:O2' | 29:D1:408:A:H5' | 1.83 | 0.77 |
| 29:D1:605:U:C5' | 29:D1:605:U:H6 | 1.98 | 0.77 |
| 29:D1:1194:G:C4 | 29:D1:1309:U:O2 | 2.37 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1211:U:H2' | 29:D1:1212:A:H8 | 1.48 | 0.77 |
| 29:D1:1289:G:H2' | 29:D1:1290:A:C8 | 2.18 | 0.77 |
| 29:D1:1478:C:H2' | 29:D1:1479:U:H6 | 1.49 | 0.77 |
| 29:D1:2266:U:N3 | 29:D1:2267:C:N4 | 2.33 | 0.77 |
| 29:D1:2678:A:C8 | 29:D1:2679:A:C2 | 2.72 | 0.77 |
| 29:D1:2900:A:N3 | 29:D1:2901:G:C8 | 2.53 | 0.77 |
| 29:D1:2970:C:H3' | 29:D1:2971:A:H5" | 1.65 | 0.77 |
| 29:D1:3281:U:N3 | 29:D1:3282:U:C4 | 2.53 | 0.77 |
| 34:DC:192:VAL:O | 34:DC:195:ALA:HB3 | 1.84 | 0.77 |
| 1:A1:328:A:N6 | 1:A1:341:A:N6 | 2.32 | 0.77 |
| 1:A1:417:A:H8 | 1:A1:417:A:O5' | 1.66 | 0.77 |
| 1:A1:647:G:N1 | 1:A1:648:G:C6 | 2.52 | 0.77 |
| 1:A1:1149:G:O6 | 1:A1:1629:G:N1 | 2.17 | 0.77 |
| 1:A1:1347:U:N3 | 1:A1:1376:C:N4 | 2.32 | 0.77 |
| 1:A1:1590:G:H2' | 1:A1:1591:C:C6 | 2.19 | 0.77 |
| 1:A1:1645:G:N2 | 1:A1:1757:G:C4 | 2.52 | 0.77 |
| 1:A1:1764:C:H6 | 1:A1:1764:C:H5' | 1.50 | 0.77 |
| 23:Ab:75:UNK:O | 23:Ab:77:UNK:N | 2.17 | 0.77 |
| 29:B1:515:C:N3 | 29:B1:516:A:C8 | 2.51 | 0.77 |
| 29:B1:535:G:H3' | 29:B1:536:U:H5 | 1.50 | 0.77 |
| 29:B1:585:A:C3' | 29:B1:586:C:H6 | 1.97 | 0.77 |
| 29:B1:625:G:H8 | 29:B1:625:G:H5' | 1.47 | 0.77 |
| 29:B1:665:A:C2' | 29:B1:666:A:H5' | 2.14 | 0.77 |
| 29:B1:1435:A:C8 | 29:B1:1437:C:C6 | 2.71 | 0.77 |
| 29:B1:1747:G:H2' | 29:B1:1748:G:H5' | 1.65 | 0.77 |
| 29:B1:1857:C:O2' | 29:B1:1858:A:O4' | 2.03 | 0.77 |
| 29:B1:2838:A:C2 | 29:B1:2851:A:C4 | 2.72 | 0.77 |
| 29:B1:3273:A:O4' | 29:B1:3273:A:OP1 | 2.01 | 0.77 |
| 29:B1:3378:C:O3' | 34:BC:313:HIS:HA | 1.84 | 0.77 |
| 1:C1:167:U:H6 | 1:C1:167:U:C5' | 1.97 | 0.77 |
| 1:C1:173:A:N1 | 1:C1:174:U:H1' | 2.00 | 0.77 |
| 1:C1:214:G:O2' | 1:C1:215:A:H5' | 1.83 | 0.77 |
| 1:C1:282:C:H2' | 1:C1:283:U:H5' | 1.65 | 0.77 |
| 1:C1:606:A:C8 | 1:C1:608:U:C5 | 2.72 | 0.77 |
| 29:D1:43:A:H62 | 29:D1:2802:A:H2 | 1.31 | 0.77 |
| 29:D1:64:G:C6 | 29:D1:322:U:C5 | 2.72 | 0.77 |
| 29:D1:157:A:H4' | 29:D1:158:G:OP1 | 1.84 | 0.77 |
| 29:D1:385:A:H2' | 29:D1:386:A:C8 | 2.19 | 0.77 |
| 29:D1:518:G:H22 | 29:D1:572:A:H61 | 1.29 | 0.77 |
| 29:D1:610:G:H5" | 29:D1:611:A:OP2 | 1.84 | 0.77 |
| 29:D1:698:U:H1' | 29:D1:699:A:OP1 | 1.84 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:936:A:H5" | 29:D1:937:G:OP1 | 1.85 | 0.77 |
| 29:D1:1088:U:H2' | 29:D1:1089:G:H8 | 1.48 | 0.77 |
| 29:D1:1278:A:O2' | 29:D1:1279:C:H5' | 1.83 | 0.77 |
| 29:D1:1441:G:O2' | 29:D1:1442:U:H5" | 1.85 | 0.77 |
| 29:D1:1794:G:O2' | 29:D1:1796:G:N2 | 2.16 | 0.77 |
| 29:D1:2636:A:C5' | 29:D1:2637:A:H5' | 2.13 | 0.77 |
| 29:D1:2780:A:H2' | 29:D1:2781:U:C6 | 2.18 | 0.77 |
| 29:D1:2842:U:H2' | 29:D1:2842:U:O2 | 1.84 | 0.77 |
| 29:D1:3212:C:C4 | 29:D1:3213:A:H2 | 2.02 | 0.77 |
| 29:D1:3212:C:C4 | 29:D1:3213:A:C2 | 2.72 | 0.77 |
| 29:D1:3242:G:N2 | 29:D1:3244:A:H8 | 1.81 | 0.77 |
| 29:D1:3282:U:O2 | 29:D1:3283:U:C5 | 2.37 | 0.77 |
| 30:D2:9:C:H2' | 30:D2:13:A:N6 | 1.99 | 0.77 |
| 30:D2:61:G:H2' | 30:D2:62:U:H6 | 1.49 | 0.77 |
| 31:D3:95:G:H21 | 31:D3:95:G:P | 2.07 | 0.77 |
| 1:A1:85:A:HO2' | 1:A1:86:A:H8 | 0.82 | 0.77 |
| 1:A1:1018:U:H2' | 1:A1:1019:A:H8 | 1.48 | 0.77 |
| 1:A1:1100:G:C8 | 16:AO:76:SER:HA | 2.19 | 0.77 |
| 29:B1:118:U:N3 | 29:B1:150:A:N6 | 2.24 | 0.77 |
| 29:B1:382:U:H2' | 29:B1:383:G:C4' | 2.14 | 0.77 |
| 29:B1:910:G:C5 | 29:B1:911:C:C5 | 2.72 | 0.77 |
| 29:B1:1186:G:C2' | 29:B1:1187:C:H5' | 2.15 | 0.77 |
| 29:B1:1303:A:H8 | 29:B1:1304:A:C4 | 2.03 | 0.77 |
| 29:B1:1550:C:C2' | 29:B1:1551:C:H5' | 2.15 | 0.77 |
| 29:B1:2165:G:N2 | 29:B1:2170:U:C4 | 2.53 | 0.77 |
| 29:B1:2251:G:C1' | 29:B1:2252:A:OP1 | 2.32 | 0.77 |
| 29:B1:2582:C:H5' | 29:B1:2583:C:OP2 | 1.84 | 0.77 |
| 29:B1:3136:G:C6 | 29:B1:3137:C:C5 | 2.71 | 0.77 |
| 29:B1:3377:G:N3 | 29:B1:3379:C:OP2 | 2.17 | 0.77 |
| 47:BR:66:ARG:C | 47:BR:68:ALA:H | 1.92 | 0.77 |
| 56:Ba:30:PRO:C | 56:Ba:32:ALA:H | 1.90 | 0.77 |
| 1:C1:357:G:C5 | 1:C1:358:U:C5 | 2.73 | 0.77 |
| 1:C1:647:G:C2 | 1:C1:687:G:C2 | 2.72 | 0.77 |
| 1:C1:1410:A:H2' | 1:C1:1411:A:O4' | 1.83 | 0.77 |
| 1:C1:1613:U:O2 | 1:C1:1613:U:H2' | 1.84 | 0.77 |
| 6:CE:122:VAL:O | 6:CE:125:ALA:CB | 2.30 | 0.77 |
| 29:D1:67:A:C4 | 29:D1:317:A:C8 | 2.73 | 0.77 |
| 29:D1:581:U:O2' | 29:D1:582:G:H5' | 1.84 | 0.77 |
| 29:D1:593:C:H3' | 29:D1:594:U:O4' | 1.84 | 0.77 |
| 29:D1:718:G:H4' | 29:D1:719:U:C5' | 2.14 | 0.77 |
| 29:D1:1269:U:H3 | 29:D1:1271:A:N6 | 1.81 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1313:G:H2' | 29:D1:1314:C:H6 | 1.47 | 0.77 |
| 29:D1:1445:U:C6 | 29:D1:1446:A:C8 | 2.72 | 0.77 |
| 29:D1:1501:U:O2' | 29:D1:1502:C:H5' | 1.85 | 0.77 |
| 29:D1:1939:G:O4' | 29:D1:2114:C:H1' | 1.83 | 0.77 |
| 29:D1:2390:A:H4' | 29:D1:3307:A:H2 | 1.48 | 0.77 |
| 29:D1:2663:G:H5' | 29:D1:2664:C:OP2 | 1.84 | 0.77 |
| 29:D1:2704:A:OP2 | 74:D1:3402:OHX:N5 | 2.17 | 0.77 |
| 29:D1:2838:A:C2 | 29:D1:2851:A:C4 | 2.72 | 0.77 |
| 30:D2:11:A:O4' | 30:D2:13:A:H2' | 1.84 | 0.77 |
| 30:D2:12:U:O5' | 30:D2:68:C:O2' | 2.02 | 0.77 |
| 35:DD:7:THR:N | 35:DD:19:ALA:HA | 2.00 | 0.77 |
| 1:A1:44:U:H3' | 1:A1:45:U:H5' | 1.64 | 0.77 |
| 1:A1:224:C:H2' | 1:A1:225:A:C8 | 2.19 | 0.77 |
| 1:A1:1152:A:O2' | 1:A1:1153:G:H5' | 1.84 | 0.77 |
| 1:A1:1600:A:HO2' | 1:A1:1602:C:H5 | 0.79 | 0.77 |
| 29:B1:13:A:H5' | 29:B1:14:U:OP1 | 1.85 | 0.77 |
| 29:B1:515:C:H1' | 37:BF:145:LEU:HA | 1.65 | 0.77 |
| 29:B1:774:G:O2' | 29:B1:775:A:H5' | 1.85 | 0.77 |
| 29:B1:882:A:C2 | 29:B1:885:U:C6 | 2.72 | 0.77 |
| 29:B1:943:U:OP1 | 54:BY:13:GLY:HA2 | 1.84 | 0.77 |
| 29:B1:1205:A:C6 | 29:B1:1206:G:N7 | 2.53 | 0.77 |
| 29:B1:1725:C:H2' | 29:B1:1726:C:C6 | 2.20 | 0.77 |
| 29:B1:2314:U:OP2 | 29:B1:2314:U:H4' | 1.85 | 0.77 |
| 29:B1:2690:G:N3 | 29:B1:2690:G:C2' | 2.45 | 0.77 |
| 29:B1:2903:A:H2' | 29:B1:2904:U:O4' | 1.84 | 0.77 |
| 29:B1:2928:C:H2' | 29:B1:2929:C:H5' | 1.65 | 0.77 |
| 29:B1:3242:G:H1' | 29:B1:3246:G:N2 | 2.00 | 0.77 |
| 30:B2:70:U:H2' | 30:B2:71:G:H8 | 1.49 | 0.77 |
| 31:B3:95:G:H4' | 59:Bd:72:ARG:HA | 1.65 | 0.77 |
| 1:C1:321:C:C2' | 1:C1:322:G:H5' | 2.14 | 0.77 |
| 3:CB:239:PRO:C | 3:CB:241:ASP:H | 1.91 | 0.77 |
| 25:Cd:100:UNK:O | 25:Cd:103:UNK:CB | 2.33 | 0.77 |
| 29:D1:10:C:N4 | 31:D3:148:G:N1 | 2.31 | 0.77 |
| 29:D1:207:U:H2' | 29:D1:208:C:C6 | 2.19 | 0.77 |
| 29:D1:585:A:C2' | 29:D1:586:C:C6 | 2.67 | 0.77 |
| 29:D1:588:G:C5 | 29:D1:612:U:H5 | 2.03 | 0.77 |
| 29:D1:718:G:O6 | 29:D1:786:A:N7 | 2.18 | 0.77 |
| 29:D1:726:G:C5 | 29:D1:727:G:C2 | 2.73 | 0.77 |
| 29:D1:1454:A:H5" | 29:D1:1878:G:C6 | 2.19 | 0.77 |
| 29:D1:1658:G:C8 | 29:D1:1796:G:N7 | 2.52 | 0.77 |
| 29:D1:2255:A:OP1 | 74:D1:3415:OHX:N5 | 2.18 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2714:G:H4' | 29:D1:2715:A:OP1 | 1.82 | 0.77 |
| 29:D1:3141:A:H5' | 29:D1:3143:C:C2 | 2.20 | 0.77 |
| 29:D1:3199:G:C3' | 29:D1:3200:G:H8 | 1.97 | 0.77 |
| 29:D1:3203:U:H2' | 29:D1:3204:C:C6 | 2.20 | 0.77 |
| 29:D1:3268:A:H1' | 29:D1:3269:U:P | 2.25 | 0.77 |
| 30:D2:64:A:H1' | 30:D2:65:G:C5' | 2.15 | 0.77 |
| 30:D2:89:G:N2 | 30:D2:91:G:O5' | 2.18 | 0.77 |
| 34:DC:198:HIS:HA | 34:DC:201:LYS:CB | 2.15 | 0.77 |
| 45:DP:58:LEU:HA | 45:DP:61:ALA:HB2 | 1.65 | 0.77 |
| 47:DR:96:PHE:HA | 47:DR:97:PRO:CB | 2.12 | 0.77 |
| 57:Db:83:GLU:C | 57:Db:85:LEU:H | 1.92 | 0.77 |
| 58:Dc:38:ARG:CB | 58:Dc:39:PRO:HA | 2.13 | 0.77 |
| 65:Dk:10:UNK:O | 65:Dk:11:UNK:C | 2.33 | 0.77 |
| 1:A1:243:G:C6 | 1:A1:251:A:C6 | 2.69 | 0.77 |
| 1:A1:243:G:N3 | 1:A1:251:A:N1 | 2.33 | 0.77 |
| 1:A1:369:A:H5' | 1:A1:370:A:OP2 | 1.84 | 0.77 |
| 1:A1:621:A:N3 | 1:A1:1107:G:H1' | 2.00 | 0.77 |
| 1:A1:1388:A:C5 | 1:A1:1411:A:C6 | 2.72 | 0.77 |
| 1:A1:1613:U:H3 | 1:A1:1614:A:H8 | 1.28 | 0.77 |
| 21:AT:21:THR:H | 21:AT:37:SER:HA | 1.49 | 0.77 |
| 26:Ae:12:UNK:O | 26:Ae:15:UNK:N | 2.18 | 0.77 |
| 29:B1:287:G:H2' | 29:B1:288:C:H6 | 1.48 | 0.77 |
| 29:B1:511:G:N2 | 29:B1:580:C:C2 | 2.44 | 0.77 |
| 29:B1:620:U:H4' | 29:B1:621:A:OP1 | 1.83 | 0.77 |
| 29:B1:1192:C:O3' | 29:B1:1193:A:O4' | 2.02 | 0.77 |
| 29:B1:1239:C:N4 | 29:B1:1249:G:O6 | 2.13 | 0.77 |
| 29:B1:2541:U:O2 | 29:B1:2541:U:H2' | 1.84 | 0.77 |
| 29:B1:2699:G:H8 | 29:B1:2699:G:C5' | 1.98 | 0.77 |
| 29:B1:3098:G:H5" | 29:B1:3099:C:OP1 | 1.84 | 0.77 |
| 29:B1:3136:G:C6 | 29:B1:3137:C:C4 | 2.72 | 0.77 |
| 1:C1:48:G:C6 | 1:C1:432:G:N2 | 2.53 | 0.77 |
| 1:C1:231:U:O2 | 1:C1:234:G:O6 | 2.02 | 0.77 |
| 1:C1:288:A:N3 | 1:C1:289:U:H5 | 1.82 | 0.77 |
| 1:C1:1013:A:H2' | 1:C1:1014:G:O4' | 1.83 | 0.77 |
| 1:C1:1333:C:C2 | 1:C1:1419:G:N2 | 2.52 | 0.77 |
| 1:C1:1600:A:O2' | 1:C1:1602:C:C5 | 2.33 | 0.77 |
| 29:D1:327:A:C2 | 29:D1:328:U:C5 | 2.72 | 0.77 |
| 29:D1:824:C:H2' | 29:D1:825:U:C6 | 2.20 | 0.77 |
| 29:D1:1108:U:H2' | 29:D1:1109:U:H6 | 1.48 | 0.77 |
| 29:D1:1189:C:H4' | 29:D1:1192:C:C5 | 2.15 | 0.77 |
| 29:D1:1190:A:C2 | 29:D1:1191:U:H6 | 2.02 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1196:C:H5' | 29:D1:1197:A:OP2 | 1.85 | 0.77 |
| 29:D1:1278:A:O2' | 29:D1:1279:C:C6 | 2.29 | 0.77 |
| 29:D1:2482:U:O5' | 32:DA:81:GLY:HA3 | 1.84 | 0.77 |
| 29:D1:2682:C:C4 | 29:D1:2683:U:C5 | 2.73 | 0.77 |
| 30:D2:64:A:H1' | 30:D2:65:G:H5" | 1.66 | 0.77 |
| 30:D2:105:C:O2 | 30:D2:105:C:H2' | 1.85 | 0.77 |
| 38:DG:84:VAL:O | 38:DG:86:VAL:N | 2.17 | 0.77 |
| 58:Dc:3:GLY:HA3 | 58:Dc:4:VAL:CB | 2.15 | 0.77 |
| 63:Dh:8:UNK:O | 63:Dh:12:UNK:N | 2.17 | 0.77 |
| 1:A1:44:U:H5' | 1:A1:45:U:C4 | 2.19 | 0.77 |
| 1:A1:527:A:OP2 | 1:A1:528:U:H5' | 1.85 | 0.77 |
| 1:A1:1636:C:N3 | 1:A1:1765:A:N6 | 2.33 | 0.77 |
| 29:B1:308:A:C2 | 29:B1:2782:U:N3 | 2.52 | 0.77 |
| 29:B1:606:C:N4 | 29:B1:607:A:N6 | 2.33 | 0.77 |
| 29:B1:636:C:C5 | 29:B1:2378:C:O4' | 2.38 | 0.77 |
| 29:B1:649:A:C2 | 29:B1:650:C:C5 | 2.73 | 0.77 |
| 29:B1:1601:U:C5 | 29:B1:1604:G:C6 | 2.73 | 0.77 |
| 29:B1:1724:U:O2' | 29:B1:1725:C:O4' | 2.02 | 0.77 |
| 29:B1:2145:A:C2 | 29:B1:2146:C:C6 | 2.73 | 0.77 |
| 29:B1:2540:A:H2' | 29:B1:2541:U:H6 | 1.50 | 0.77 |
| 29:B1:3079:U:H2' | 29:B1:3079:U:O2 | 1.83 | 0.77 |
| 46:BQ:9:THR:HA | 46:BQ:14:SER:H | 1.50 | 0.77 |
| 58:Bc:41:LEU:N | 58:Bc:42:PRO:CA | 2.46 | 0.77 |
| 1:C1:224:C:H2' | 1:C1:225:A:H8 | 1.49 | 0.77 |
| 1:C1:264:G:C3' | 1:C1:265:A:H5' | 2.15 | 0.77 |
| 1:C1:396:G:H2' | 1:C1:397:A:O5' | 1.85 | 0.77 |
| 1:C1:1274:C:H6 | 1:C1:1427:A:N6 | 1.81 | 0.77 |
| 1:C1:1570:A:C2 | 1:C1:1571:C:H1' | 2.20 | 0.77 |
| 1:C1:1580:C:O2' | 1:C1:1581:C:O4' | 2.03 | 0.77 |
| 29:D1:250:U:H2' | 29:D1:250:U:O2 | 1.84 | 0.77 |
| 29:D1:625:G:H2' | 29:D1:626:U:C6 | 2.19 | 0.77 |
| 29:D1:744:A:C6 | 29:D1:745:C:N3 | 2.53 | 0.77 |
| 29:D1:1435:A:H5' | 29:D1:1436:U:C5' | 2.15 | 0.77 |
| 29:D1:1902:G:OP2 | 29:D1:2919:A:OP1 | 2.01 | 0.77 |
| 29:D1:2174:G:OP1 | 29:D1:2174:G:H8 | 1.66 | 0.77 |
| 29:D1:3218:A:H3' | 29:D1:3220:G:OP2 | 1.85 | 0.77 |
| 29:D1:3365:U:H2' | 29:D1:3366:G:C8 | 2.20 | 0.77 |
| 38:DG:69:ALA:HB1 | 38:DG:75:TYR:N | 1.99 | 0.77 |
| 63:Dh:49:UNK:C | 63:Dh:51:UNK:N | 2.39 | 0.77 |
| 1:A1:380:U:H2' | 1:A1:381:C:H6 | 1.47 | 0.77 |
| 1:A1:1193:A:H4' | 1:A1:1194:A:OP2 | 1.83 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1491:U:H3' | 1:A1:1492:A:H2' | 1.67 | 0.77 |
| 1:A1:1626:U:H2' | 1:A1:1627:U:H5' | 1.64 | 0.77 |
| 1:A1:1632:C:O2' | 1:A1:1633:A:H8 | 1.67 | 0.77 |
| 15:AN:102:ARG:C | 15:AN:104:THR:H | 1.92 | 0.77 |
| 29:B1:153:U:C4' | 29:B1:158:G:H21 | 1.98 | 0.77 |
| 29:B1:293:C:N3 | 29:B1:294:U:O2 | 2.17 | 0.77 |
| 29:B1:504:A:C2 | 29:B1:587:U:N3 | 2.46 | 0.77 |
| 29:B1:549:U:H2' | 29:B1:550:A:H8 | 1.49 | 0.77 |
| 29:B1:960:U:H2' | 29:B1:961:C:O4' | 1.83 | 0.77 |
| 29:B1:2271:A:H2' | 29:B1:2272:G:C5' | 2.11 | 0.77 |
| 29:B1:2514:U:H4' | 29:B1:2515:A:OP1 | 1.83 | 0.77 |
| 29:B1:2880:U:C2' | 29:B1:2881:C:H5' | 2.14 | 0.77 |
| 29:B1:3219:G:OP1 | 29:B1:3220:G:H5" | 1.85 | 0.77 |
| 29:B1:3271:G:N3 | 29:B1:3271:G:H2' | 1.99 | 0.77 |
| 30:B2:91:G:C4 | 30:B2:92:A:N7 | 2.53 | 0.77 |
| 31:B3:67:U:H3' | 31:B3:68:G:H8 | 1.50 | 0.77 |
| 34:BC:193:ASP:C | 34:BC:195:ALA:H | 1.89 | 0.77 |
| 34:BC:299:ASP:HA | 34:BC:302:LYS:O | 1.85 | 0.77 |
| 40:BI:86:TYR:CB | 40:BI:87:LYS:HA | 2.14 | 0.77 |
| 44:BO:85:THR:HA | 44:BO:86:ASN:CB | 2.14 | 0.77 |
| 46:BQ:128:ARG:HA | 46:BQ:138:LYS:HA | 1.67 | 0.77 |
| 1:C1:10:G:C8 | 1:C1:1633:A:C2 | 2.73 | 0.77 |
| 1:C1:169:A:C5 | 1:C1:171:A:C5 | 2.72 | 0.77 |
| 1:C1:224:C:H2' | 1:C1:225:A:C8 | 2.20 | 0.77 |
| 1:C1:272:U:H4' | 1:C1:273:G:OP2 | 1.85 | 0.77 |
| 1:C1:847:A:H2' | 1:C1:848:C:H5" | 1.67 | 0.77 |
| 1:C1:1237:G:H2' | 1:C1:1238:A:H8 | 1.49 | 0.77 |
| 1:C1:1274:C:C6 | 1:C1:1427:A:N7 | 2.53 | 0.77 |
| 1:C1:1685:G:H22 | 1:C1:1718:G:H21 | 1.31 | 0.77 |
| 1:C1:1719:A:H5' | 1:C1:1720:G:OP2 | 1.85 | 0.77 |
| 29:D1:679:U:H2' | 29:D1:680:G:C8 | 2.20 | 0.77 |
| 29:D1:1154:A:H5' | 29:D1:1155:C:C5 | 2.20 | 0.77 |
| 29:D1:1205:A:C6 | 29:D1:1206:G:N7 | 2.53 | 0.77 |
| 29:D1:1303:A:C2 | 29:D1:2887:A:C2 | 2.71 | 0.77 |
| 29:D1:1940:G:H2' | 29:D1:1941:C:O4' | 1.84 | 0.77 |
| 74:D3:202:OHX:N5 | 74:D3:212:OHX:N3 | 2.32 | 0.77 |
| 37:DF:43:LEU:H | 37:DF:84:VAL:CB | 1.96 | 0.77 |
| 37:DF:152:THR:HA | 37:DF:156:LYS:N | 2.00 | 0.77 |
| 41:DJ:177:ASP:HA | 41:DJ:178:ARG:C | 2.09 | 0.77 |
| 43:DN:9:ALA:O | 43:DN:21:VAL:HA | 1.84 | 0.77 |
| 44:DO:39:ALA:N | 44:DO:62:TYR:HA | 1.99 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 54:DY:131:SER:O | 54:DY:133:LEU:N | 2.18 | 0.77 |
| 59:Dd:7:SER:O | 59:Dd:9:GLY:N | 2.18 | 0.77 |
| 1:A1:231:U:O2 | 1:A1:234:G:O6 | 2.03 | 0.77 |
| 1:A1:380:U:H2' | 1:A1:380:U:O2 | 1.83 | 0.77 |
| 1:A1:749:U:H2' | 1:A1:750:U:C6 | 2.20 | 0.77 |
| 1:A1:1356:U:H2' | 1:A1:1357:A:H8 | 1.50 | 0.77 |
| 1:A1:1631:A:C1' | 1:A1:1764:C:O2 | 2.33 | 0.77 |
| 1:A1:1773:C:C2 | 1:A1:1789:G:C2 | 2.73 | 0.77 |
| 29:B1:20:A:O2' | 29:B1:21:G:O5' | 2.02 | 0.77 |
| 29:B1:264:G:C5 | 29:B1:265:A:N6 | 2.52 | 0.77 |
| 29:B1:405:U:C5 | 29:B1:406:G:C4 | 2.72 | 0.77 |
| 29:B1:501:A:C6 | 29:B1:502:U:C4 | 2.73 | 0.77 |
| 29:B1:620:U:OP2 | 29:B1:620:U:H6 | 1.66 | 0.77 |
| 29:B1:775:A:H2' | 29:B1:776:U:C4' | 2.15 | 0.77 |
| 29:B1:1128:U:O2 | 29:B1:1128:U:H2' | 1.85 | 0.77 |
| 29:B1:1914:G:H3' | 29:B1:1915:A:H8 | 1.50 | 0.77 |
| 29:B1:2215:A:C2 | 29:B1:2216:G:C8 | 2.73 | 0.77 |
| 29:B1:3121:U:H4' | 29:B1:3122:A:OP1 | 1.85 | 0.77 |
| 1:C1:914:G:H5" | 74:C1:1927:OHX:N4 | 2.00 | 0.77 |
| 1:C1:1346:A:H2 | 15:CN:13:GLU:O | 1.67 | 0.77 |
| 1:C1:1753:A:N1 | 1:C1:1754:A:N1 | 2.33 | 0.77 |
| 15:CN:17:GLN:CB | 15:CN:18:GLN:C | 2.58 | 0.77 |
| 29:D1:153:U:C4' | 29:D1:158:G:H21 | 1.98 | 0.77 |
| 29:D1:284:A:H62 | 29:D1:2785:A:C4' | 1.98 | 0.77 |
| 29:D1:511:G:N2 | 29:D1:579:G:N1 | 2.32 | 0.77 |
| 29:D1:636:C:H5 | 29:D1:2378:C:O4' | 1.67 | 0.77 |
| 29:D1:893:C:H5" | 29:D1:894:G:OP1 | 1.84 | 0.77 |
| 29:D1:910:G:C5 | 29:D1:911:C:C5 | 2.72 | 0.77 |
| 29:D1:1103:A:O2' | 29:D1:1104:G:OP2 | 2.02 | 0.77 |
| 29:D1:1792:C:O3' | 29:D1:1793:C:H3' | 1.85 | 0.77 |
| 29:D1:1817:G:H2' | 29:D1:1818:U:C6 | 2.19 | 0.77 |
| 29:D1:2223:A:O2' | 29:D1:2224:A:C8 | 2.29 | 0.77 |
| 29:D1:2359:C:H2' | 29:D1:2360:C:H6 | 1.50 | 0.77 |
| 29:D1:2690:G:O2' | 29:D1:2691:A:OP1 | 2.03 | 0.77 |
| 29:D1:2776:C:H5' | 29:D1:2777:G:H5" | 1.65 | 0.77 |
| 29:D1:3302:U:O2' | 29:D1:3303:G:O4' | 2.01 | 0.77 |
| 30:D2:111:U:O3' | 30:D2:112:G:O3' | 2.03 | 0.77 |
| 33:DB:188:LYS:C | 33:DB:190:ARG:H | 1.88 | 0.77 |
| 38:DG:66:LYS:O | 38:DG:69:ALA:HB3 | 1.84 | 0.77 |
| 1:A1:223:U:H3 | 1:A1:838:G:H1 | 1.33 | 0.77 |
| 1:A1:224:C:H2' | 1:A1:225:A:H8 | 1.48 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:356:G:C6 | 1:A1:357:G:N7 | 2.53 | 0.77 |
| 1:A1:457:G:C2' | 1:A1:458:G:H5' | 2.15 | 0.77 |
| 1:A1:530:C:H2' | 1:A1:531:C:C6 | 2.20 | 0.77 |
| 1:A1:1552:U:O2 | 1:A1:1552:U:H2' | 1.84 | 0.77 |
| 29:B1:64:G:H1' | 29:B1:77:A:N3 | 2.00 | 0.77 |
| 29:B1:585:A:C2' | 29:B1:586:C:C6 | 2.68 | 0.77 |
| 29:B1:719:U:O2' | 29:B1:720:A:C8 | 2.38 | 0.77 |
| 29:B1:742:G:H2' | 29:B1:743:C:H5" | 1.65 | 0.77 |
| 29:B1:1471:U:O2' | 29:B1:1472:U:H5' | 1.83 | 0.77 |
| 29:B1:1543:G:C2 | 29:B1:1544:G:C8 | 2.73 | 0.77 |
| 29:B1:1640:G:HO2' | 29:B1:1641:U:H6 | 0.80 | 0.77 |
| 29:B1:1856:C:C2' | 29:B1:1857:C:H5' | 2.15 | 0.77 |
| 29:B1:2253:G:C6 | 29:B1:2254:U:C2 | 2.73 | 0.77 |
| 29:B1:2337:C:O2' | 29:B1:2338:C:H5' | 1.84 | 0.77 |
| 29:B1:2716:U:O2 | 29:B1:2716:U:H2' | 1.85 | 0.77 |
| 29:B1:2885:C:O2' | 29:B1:2886:U:H5' | 1.85 | 0.77 |
| 29:B1:3277:U:C2' | 29:B1:3278:C:H5' | 2.15 | 0.77 |
| 29:B1:3316:A:N1 | 29:B1:3388:C:N4 | 2.33 | 0.77 |
| 29:B1:3327:G:C2 | 29:B1:3379:C:C2 | 2.72 | 0.77 |
| 1:C1:131:C:H2' | 1:C1:131:C:O2 | 1.84 | 0.77 |
| 1:C1:143:G:C6 | 1:C1:172:C:N4 | 2.52 | 0.77 |
| 1:C1:427:C:C5' | 1:C1:427:C:C6 | 2.66 | 0.77 |
| 1:C1:979:A:H2 | 1:C1:1775:U:H4' | 1.47 | 0.77 |
| 21:CT:5:GLU:HA | 21:CT:316:MET:O | 1.84 | 0.77 |
| 29:D1:520:U:H3 | 37:DF:138:GLN:CB | 1.98 | 0.77 |
| 29:D1:942:U:OP1 | 29:D1:1434:G:N7 | 2.18 | 0.77 |
| 29:D1:1194:G:C4' | 29:D1:1320:C:OP1 | 2.32 | 0.77 |
| 29:D1:1240:A:H5' | 72:DL:97:ASN:HA | 1.65 | 0.77 |
| 29:D1:1464:G:H21 | 29:D1:1466:G:H3' | 1.50 | 0.77 |
| 29:D1:1539:A:C2' | 29:D1:1540:U:H5' | 2.15 | 0.77 |
| 29:D1:1613:A:H2' | 29:D1:1614:C:C6 | 2.19 | 0.77 |
| 29:D1:1798:A:C2 | 29:D1:1799:A:C4 | 2.72 | 0.77 |
| 29:D1:2665:U:O2 | 29:D1:2706:G:C2 | 2.37 | 0.77 |
| 29:D1:3111:U:C2' | 29:D1:3112:G:H5' | 2.14 | 0.77 |
| 29:D1:3135:U:C5 | 29:D1:3136:G:N7 | 2.52 | 0.77 |
| 29:D1:3215:A:H5" | 29:D1:3218:A:OP1 | 1.85 | 0.77 |
| 29:D1:3242:G:H1' | 29:D1:3246:G:N2 | 1.98 | 0.77 |
| 29:D1:3361:G:H2' | 29:D1:3362:A:H5' | 1.67 | 0.77 |
| 31:D3:75:G:OP1 | 31:D3:90:U:C5' | 2.32 | 0.77 |
| 31:D3:78:G:C6 | 31:D3:79:A:N6 | 2.52 | 0.77 |
| 31:D3:144:G:C2' | 31:D3:145:U:H5' | 2.15 | 0.77 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:DD:148:ILE:HA | 35:DD:149:PRO:C | 2.09 | 0.77 |
| 1:A1:625:C:O2' | 1:A1:939:A:N3 | 2.17 | 0.76 |
| 1:A1:1149:G:H4' | 1:A1:1150:G:OP1 | 1.83 | 0.76 |
| 1:A1:1338:C:C2 | 1:A1:1410:A:C2 | 2.73 | 0.76 |
| 1:A1:1584:G:C2 | 1:A1:1585:U:OP1 | 2.38 | 0.76 |
| 20:AS:23:VAL:O | 74:AS:101:OHX:N5 | 2.18 | 0.76 |
| 29:B1:155:G:C4 | 29:B1:156:G:H2' | 2.19 | 0.76 |
| 29:B1:155:G:OP1 | 29:B1:155:G:H2' | 1.84 | 0.76 |
| 29:B1:398:A:H2 | 29:B1:1415:U:H5" | 1.50 | 0.76 |
| 29:B1:674:G:H2' | 29:B1:675:C:H6 | 1.49 | 0.76 |
| 29:B1:677:A:H4' | 29:B1:678:G:O5' | 1.84 | 0.76 |
| 29:B1:1156:C:H3' | 29:B1:1157:G:C5' | 2.14 | 0.76 |
| 29:B1:1741:A:H3' | 29:B1:1742:U:C6 | 2.20 | 0.76 |
| 29:B1:1914:G:H5" | 29:B1:1915:A:OP2 | 1.85 | 0.76 |
| 29:B1:2148:U:C4' | 29:B1:2149:A:OP1 | 2.29 | 0.76 |
| 29:B1:2665:U:O2 | 29:B1:2706:G:C2 | 2.38 | 0.76 |
| 29:B1:2688:U:O3' | 29:B1:2689:A:C8 | 2.39 | 0.76 |
| 29:B1:2743:A:H3' | 29:B1:2744:U:H6 | 1.49 | 0.76 |
| 29:B1:2834:G:C4 | 29:B1:2835:U:C5 | 2.74 | 0.76 |
| 29:B1:2999:U:H2' | 29:B1:3000:A:C8 | 2.20 | 0.76 |
| 29:B1:3099:C:HO2' | 29:B1:3100:U:H6 | 0.77 | 0.76 |
| 29:B1:3328:G:H1 | 29:B1:3375:A:H62 | 1.32 | 0.76 |
| 36:BE:257:GLU:CA | 36:BE:259:LYS:H | 1.99 | 0.76 |
| 41:BJ:181:TYR:O | 41:BJ:184:LYS:N | 2.16 | 0.76 |
| 71:Br:7:UNK:O | 71:Br:10:UNK:CB | 2.33 | 0.76 |
| 1:C1:313:U:C5 | 1:C1:1118:G:N1 | 2.54 | 0.76 |
| 1:C1:621:A:N3 | 1:C1:1107:G:H1' | 2.00 | 0.76 |
| 1:C1:879:G:O2' | 1:C1:880:C:H5' | 1.85 | 0.76 |
| 2:CA:106:SER:C | 2:CA:108:THR:H | 1.92 | 0.76 |
| 29:D1:515:C:N3 | 29:D1:516:A:C8 | 2.53 | 0.76 |
| 29:D1:1159:A:H2' | 29:D1:1159:A:N3 | 2.00 | 0.76 |
| 29:D1:1193:A:N7 | 29:D1:1194:G:C2 | 2.53 | 0.76 |
| 29:D1:1201:C:H2' | 29:D1:1202:A:H5' | 1.68 | 0.76 |
| 29:D1:1901:A:OP2 | 29:D1:2919:A:OP1 | 2.02 | 0.76 |
| 29:D1:2148:U:H2' | 29:D1:2149:A:C5 | 2.20 | 0.76 |
| 29:D1:2253:G:C6 | 29:D1:2254:U:C2 | 2.73 | 0.76 |
| 29:D1:2608:G:H2' | 29:D1:2609:A:C8 | 2.19 | 0.76 |
| 29:D1:2885:C:O2' | 29:D1:2886:U:H5' | 1.83 | 0.76 |
| 29:D1:3291:G:H2' | 29:D1:3292:A:C8 | 2.20 | 0.76 |
| 29:D1:3314:A:H2' | 34:DC:119:TYR:CA | 2.15 | 0.76 |
| 29:D1:3386:G:H2' | 29:D1:3387:U:C6 | 2.20 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:D2:67:G:N1 | 30:D2:68:C:C2 | 2.53 | 0.76 |
| 31:D3:59:A:H4' | 31:D3:60:U:H5" | 1.68 | 0.76 |
| 34:DC:159:ARG:O | 34:DC:160:VAL:CB | 2.32 | 0.76 |
| 37:DF:61:ASN:HA | 37:DF:80:ASN:O | 1.86 | 0.76 |
| 1:A1:28:A:H2' | 1:A1:29:U:H6 | 1.49 | 0.76 |
| 1:A1:647:G:C2 | 1:A1:648:G:C6 | 2.73 | 0.76 |
| 1:A1:1150:G:C2 | 1:A1:1151:A:H1' | 2.20 | 0.76 |
| 1:A1:1647:U:H2' | 1:A1:1648:A:H8 | 1.49 | 0.76 |
| 23:Ab:107:UNK:C | 23:Ab:109:UNK:N | 2.44 | 0.76 |
| 29:B1:557:A:C8 | 29:B1:557:A:H3' | 2.20 | 0.76 |
| 29:B1:606:C:C2' | 29:B1:607:A:H1' | 2.10 | 0.76 |
| 29:B1:821:U:O2' | 29:B1:822:G:H5' | 1.85 | 0.76 |
| 29:B1:826:G:O2' | 29:B1:1589:A:C8 | 2.33 | 0.76 |
| 29:B1:888:A:C6 | 29:B1:889:U:N3 | 2.54 | 0.76 |
| 29:B1:1201:C:H2' | 29:B1:1202:A:H5' | 1.66 | 0.76 |
| 29:B1:1339:C:H2' | 29:B1:1340:G:C8 | 2.20 | 0.76 |
| 29:B1:1658:G:C8 | 29:B1:1796:G:N7 | 2.54 | 0.76 |
| 29:B1:2253:G:H3' | 29:B1:2254:U:C6 | 2.20 | 0.76 |
| 29:B1:2255:A:N7 | 74:B1:3438:OHX:N6 | 2.33 | 0.76 |
| 29:B1:2269:U:O2 | 29:B1:2269:U:H2' | 1.84 | 0.76 |
| 29:B1:2675:C:H5 | 29:B1:2676:A:C6 | 2.04 | 0.76 |
| 30:B2:64:A:N1 | 30:B2:111:U:C4 | 2.53 | 0.76 |
| 37:BF:6:ALA:HA | 38:BG:75:TYR:HA | 1.66 | 0.76 |
| 38:BG:69:ALA:CB | 38:BG:75:TYR:H | 1.98 | 0.76 |
| 1:C1:989:U:H2' | 1:C1:990:C:H6 | 1.45 | 0.76 |
| 1:C1:1374:C:H3' | 1:C1:1375:A:C8 | 2.20 | 0.76 |
| 17:CP:48:HIS:HA | 17:CP:105:ALA:HB2 | 1.67 | 0.76 |
| 21:CT:21:THR:H | 21:CT:37:SER:HA | 1.50 | 0.76 |
| 29:D1:153:U:H4' | 29:D1:158:G:N2 | 2.01 | 0.76 |
| 29:D1:423:A:C2' | 29:D1:424:G:O5' | 2.33 | 0.76 |
| 29:D1:1072:G:H2' | 29:D1:1073:U:C6 | 2.20 | 0.76 |
| 29:D1:1192:C:O3' | 29:D1:1193:A:O4' | 2.03 | 0.76 |
| 29:D1:1750:A:O3' | 29:D1:1751:G:H8 | 1.67 | 0.76 |
| 29:D1:2102:U:H2' | 29:D1:2103:U:C6 | 2.20 | 0.76 |
| 29:D1:2279:A:H4' | 29:D1:2280:A:H5' | 1.65 | 0.76 |
| 29:D1:2727:A:C2 | 29:D1:2729:U:H5 | 2.03 | 0.76 |
| 29:D1:2903:A:H2' | 29:D1:2904:U:O4' | 1.85 | 0.76 |
| 30:D2:41:G:H2' | 30:D2:41:G:N3 | 1.98 | 0.76 |
| 31:D3:42:G:H5" | 59:Dd:55:ARG:CB | 2.15 | 0.76 |
| 46:DQ:47:TYR:C | 46:DQ:49:GLU:H | 1.92 | 0.76 |
| 1:A1:283:U:H3' | 1:A1:284:G:C5' | 2.16 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:778:G:N2 | 1:A1:783:G:C5 | 2.53 | 0.76 |
| 1:A1:1351:G:C5 | 1:A1:1352:G:N7 | 2.53 | 0.76 |
| 10:AI:36:LEU:HA | 10:AI:37:ALA:HB3 | 1.67 | 0.76 |
| 29:B1:155:G:P | 29:B1:155:G:H8 | 2.08 | 0.76 |
| 29:B1:430:U:H2' | 29:B1:431:U:H5' | 1.66 | 0.76 |
| 29:B1:679:U:H2' | 29:B1:680:G:H8 | 1.49 | 0.76 |
| 29:B1:796:U:H2' | 29:B1:797:U:C6 | 2.21 | 0.76 |
| 29:B1:1265:U:H2' | 29:B1:1266:G:H8 | 1.50 | 0.76 |
| 29:B1:1435:A:H8 | 29:B1:1437:C:C6 | 2.03 | 0.76 |
| 29:B1:2467:G:H21 | 29:B1:2488:A:H62 | 1.31 | 0.76 |
| 29:B1:2829:U:H2' | 29:B1:2830:G:H5' | 1.67 | 0.76 |
| 30:B2:10:C:O3' | 30:B2:13:A:C8 | 2.38 | 0.76 |
| 43:BN:9:ALA:O | 43:BN:21:VAL:HA | 1.85 | 0.76 |
| 1:C1:27:U:C2 | 1:C1:28:A:C8 | 2.73 | 0.76 |
| 1:C1:85:A:O2' | 1:C1:86:A:H8 | 1.69 | 0.76 |
| 1:C1:515:A:OP2 | 74:C1:1933:OHX:N6 | 2.19 | 0.76 |
| 1:C1:1237:G:H2' | 1:C1:1238:A:C8 | 2.19 | 0.76 |
| 1:C1:1338:C:C2 | 1:C1:1410:A:C2 | 2.73 | 0.76 |
| 1:C1:1351:G:H2' | 1:C1:1352:G:O4' | 1.85 | 0.76 |
| 1:C1:1466:G:C6 | 1:C1:1467:C:N4 | 2.54 | 0.76 |
| 1:C1:1474:G:H2' | 1:C1:1475:A:C8 | 2.20 | 0.76 |
| 15:CN:66:SER:HA | 15:CN:81:THR:HA | 1.67 | 0.76 |
| 29:D1:126:U:O2' | 29:D1:127:G:O5' | 2.03 | 0.76 |
| 29:D1:504:A:C8 | 29:D1:504:A:C3' | 2.67 | 0.76 |
| 29:D1:1453:A:N9 | 29:D1:1850:A:H2 | 1.83 | 0.76 |
| 29:D1:1679:A:C2 | 29:D1:1680:G:N7 | 2.53 | 0.76 |
| 29:D1:2120:A:HO2' | 29:D1:2121:G:P | 2.08 | 0.76 |
| 29:D1:2467:G:H21 | 29:D1:2488:A:H62 | 1.30 | 0.76 |
| 29:D1:2520:A:H2' | 29:D1:2521:U:C2 | 2.20 | 0.76 |
| 29:D1:2877:G:H2' | 29:D1:2878:G:O4' | 1.84 | 0.76 |
| 29:D1:3074:G:O2' | 29:D1:3075:G:H5' | 1.83 | 0.76 |
| 29:D1:3302:U:C3' | 29:D1:3303:G:H5" | 2.16 | 0.76 |
| 30:D2:91:G:C4 | 30:D2:92:A:N7 | 2.53 | 0.76 |
| 31:D3:92:A:H2' | 31:D3:93:U:H5' | 1.66 | 0.76 |
| 51:DV:45:ASN:O | 51:DV:47:ARG:N | 2.17 | 0.76 |
| 1:A1:855:A:O2' | 1:A1:856:A:H5' | 1.85 | 0.76 |
| 1:A1:1196:A:H4' | 1:A1:1197:C:C5' | 2.16 | 0.76 |
| 1:A1:1347:U:H3 | 1:A1:1376:C:N4 | 1.84 | 0.76 |
| 1:A1:1348:A:N3 | 1:A1:1378:U:C6 | 2.52 | 0.76 |
| 1:A1:1631:A:C6 | 1:A1:1636:C:C5 | 2.73 | 0.76 |
| 6:AE:55:ALA:O | 6:AE:58:ASP:N | 2.18 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:AI:77:ARG:HA | 10:AI:95:GLY:H | 1.50 | 0.76 |
| 29:B1:157:A:H2' | 29:B1:158:G:C5 | 2.19 | 0.76 |
| 29:B1:187:A:H1' | 29:B1:211:A:N6 | 2.00 | 0.76 |
| 29:B1:284:A:C2 | 29:B1:306:A:C1' | 2.55 | 0.76 |
| 29:B1:620:U:OP2 | 29:B1:620:U:C6 | 2.38 | 0.76 |
| 29:B1:716:A:C4 | 29:B1:716:A:OP2 | 2.38 | 0.76 |
| 29:B1:996:A:H2' | 29:B1:997:A:O4' | 1.85 | 0.76 |
| 29:B1:1462:A:H2' | 29:B1:1463:U:C6 | 2.21 | 0.76 |
| 29:B1:2858:U:H2' | 29:B1:2859:U:C5 | 2.20 | 0.76 |
| 29:B1:3013:U:C5' | 29:B1:3013:U:C6 | 2.68 | 0.76 |
| 29:B1:3297:U:C2 | 29:B1:3298:C:C5 | 2.73 | 0.76 |
| 29:B1:3394:U:H2' | 29:B1:3395:G:N7 | 1.99 | 0.76 |
| 34:BC:230:THR:O | 34:BC:234:GLY:HA2 | 1.86 | 0.76 |
| 37:BF:161:ALA:O | 37:BF:165:LEU:CB | 2.33 | 0.76 |
| 1:C1:217:A:H1' | 1:C1:218:A:H5' | 1.67 | 0.76 |
| 1:C1:410:A:H2 | 1:C1:423:G:H22 | 1.33 | 0.76 |
| 1:C1:973:A:H2' | 1:C1:974:A:C8 | 2.19 | 0.76 |
| 1:C1:1347:U:H3 | 1:C1:1376:C:N4 | 1.83 | 0.76 |
| 1:C1:1650:U:C3' | 1:C1:1651:A:H8 | 1.99 | 0.76 |
| 29:D1:11:A:H1' | 29:D1:1557:A:N6 | 2.00 | 0.76 |
| 29:D1:709:A:H8 | 29:D1:709:A:OP1 | 1.69 | 0.76 |
| 29:D1:725:G:C2' | 29:D1:726:G:H5" | 2.15 | 0.76 |
| 29:D1:880:G:N9 | 29:D1:882:A:N7 | 2.32 | 0.76 |
| 29:D1:1079:A:C6 | 29:D1:1080:A:C6 | 2.74 | 0.76 |
| 29:D1:1166:G:C2' | 29:D1:1167:U:H5" | 2.15 | 0.76 |
| 29:D1:1448:U:C5 | 29:D1:2355:G:C2 | 2.73 | 0.76 |
| 29:D1:2357:A:N1 | 29:D1:2983:C:H5 | 1.83 | 0.76 |
| 29:D1:2727:A:OP2 | 49:DT:80:VAL:O | 2.03 | 0.76 |
| 29:D1:3089:C:H3' | 29:D1:3090:U:H5" | 1.67 | 0.76 |
| 31:D3:76:C:C4' | 31:D3:77:A:OP1 | 2.34 | 0.76 |
| 31:D3:104:A:H5' | 31:D3:105:A:O5' | 1.86 | 0.76 |
| 31:D3:152:G:C2 | 31:D3:153:U:H1' | 2.20 | 0.76 |
| 36:DE:257:GLU:CA | 36:DE:259:LYS:H | 1.98 | 0.76 |
| 1:A1:61:A:H2' | 1:A1:61:A:N3 | 1.99 | 0.76 |
| 1:A1:396:G:N2 | 1:A1:398:G:H3' | 2.01 | 0.76 |
| 1:A1:750:U:O2' | 1:A1:751:G:H5' | 1.85 | 0.76 |
| 3:AB:133:LYS:O | 3:AB:135:SER:N | 2.18 | 0.76 |
| 5:AD:141:GLY:HA2 | 5:AD:171:ALA:HB2 | 1.67 | 0.76 |
| 29:B1:607:A:C8 | 29:B1:607:A:OP2 | 2.38 | 0.76 |
| 29:B1:698:U:H1' | 29:B1:699:A:OP1 | 1.85 | 0.76 |
| 29:B1:1228:C:H2' | 29:B1:1229:G:O4' | 1.86 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2725:U:C4 | 29:B1:2727:A:C2 | 2.72 | 0.76 |
| 29:B1:3000:A:H2' | 29:B1:3001:C:H6 | 1.49 | 0.76 |
| 29:B1:3049:A:N3 | 34:BC:75:ALA:HB2 | 2.00 | 0.76 |
| 30:B2:23:A:C3' | 30:B2:24:A:H8 | 1.99 | 0.76 |
| 31:B3:152:G:C2 | 31:B3:153:U:H1' | 2.20 | 0.76 |
| 37:BF:124:GLU:O | 37:BF:126:GLN:N | 2.15 | 0.76 |
| 1:C1:76:A:H1' | 1:C1:77:U:C5 | 2.21 | 0.76 |
| 1:C1:284:G:H4' | 1:C1:285:G:OP1 | 1.85 | 0.76 |
| 1:C1:1382:A:C5' | 15:CN:59:PRO:HA | 2.15 | 0.76 |
| 1:C1:1592:A:H2' | 1:C1:1593:A:C8 | 2.20 | 0.76 |
| 15:CN:102:ARG:C | 15:CN:104:THR:H | 1.93 | 0.76 |
| 23:Cb:126:UNK:HA | 23:Cb:133:UNK:O | 1.86 | 0.76 |
| 24:Cc:88:UNK:C | 24:Cc:90:UNK:N | 2.45 | 0.76 |
| 29:D1:956:U:H1' | 29:D1:2729:U:O4 | 1.84 | 0.76 |
| 29:D1:1047:A:H61 | 29:D1:2646:C:H1' | 1.48 | 0.76 |
| 29:D1:3367:C:O2' | 29:D1:3368:U:H5" | 1.86 | 0.76 |
| 30:D2:42:A:H2 | 30:D2:47:C:C4 | 2.03 | 0.76 |
| 30:D2:68:C:H2' | 30:D2:69:C:O4' | 1.85 | 0.76 |
| 34:DC:165:GLN:O | 34:DC:166:ILE:O | 2.03 | 0.76 |
| 37:DF:159:LEU:C | 37:DF:161:ALA:H | 1.92 | 0.76 |
| 38:DG:68:ASP:O | 38:DG:71:ALA:HB3 | 1.85 | 0.76 |
| 44:DO:78:GLY:CA | 44:DO:79:ALA:HB2 | 2.16 | 0.76 |
| 1:A1:445:A:H2' | 1:A1:446:A:H8 | 1.50 | 0.76 |
| 1:A1:757:A:C4 | 1:A1:758:U:C6 | 2.73 | 0.76 |
| 1:A1:1091:A:H4' | 1:A1:1092:A:O5' | 1.82 | 0.76 |
| 1:A1:1158:C:H42 | 1:A1:1163:A:H61 | 1.33 | 0.76 |
| 26:Ae:18:UNK:C | 26:Ae:20:UNK:N | 2.46 | 0.76 |
| 29:B1:1154:A:H5' | 29:B1:1155:C:C5 | 2.20 | 0.76 |
| 29:B1:1716:U:H3' | 29:B1:1717:U:C5' | 2.15 | 0.76 |
| 29:B1:1939:G:C2' | 29:B1:1940:G:H5' | 2.15 | 0.76 |
| 29:B1:2147:A:C5' | 29:B1:2147:A:C8 | 2.67 | 0.76 |
| 29:B1:2450:G:H2' | 29:B1:2451:G:H5' | 1.65 | 0.76 |
| 29:B1:2633:U:O4 | 49:BT:3:LYS:N | 2.19 | 0.76 |
| 29:B1:2676:A:H2 | 29:B1:2680:A:C6 | 2.03 | 0.76 |
| 29:B1:2888:U:N3 | 29:B1:2910:A:C2 | 2.54 | 0.76 |
| 29:B1:3257:C:O2' | 29:B1:3258:U:C5 | 2.39 | 0.76 |
| 29:B1:3328:G:N2 | 29:B1:3375:A:N7 | 2.34 | 0.76 |
| 30:B2:44:C:C4 | 30:B2:45:A:N7 | 2.54 | 0.76 |
| 30:B2:68:C:O2 | 30:B2:69:C:C1' | 2.33 | 0.76 |
| 1:C1:84:A:C2' | 1:C1:85:A:H5' | 2.11 | 0.76 |
| 1:C1:274:G:H2' | 1:C1:275:C:C6 | 2.20 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:528:U:H4' | 1:C1:529:A:O4' | 1.85 | 0.76 |
| 1:C1:646:C:C3' | 1:C1:647:G:H5" | 2.16 | 0.76 |
| 1:C1:1047:G:O6 | 1:C1:1071:U:O4 | 2.04 | 0.76 |
| 1:C1:1099:U:C6 | 1:C1:1100:G:C6 | 2.74 | 0.76 |
| 1:C1:1348:A:H2' | 1:C1:1349:G:H5" | 1.68 | 0.76 |
| 1:C1:1763:A:H3' | 1:C1:1764:C:H5" | 1.67 | 0.76 |
| 23:Cb:5:UNK:HA | 23:Cb:15:UNK:CB | 2.15 | 0.76 |
| 29:D1:33:G:N2 | 29:D1:50:U:C4 | 2.54 | 0.76 |
| 29:D1:405:U:C5 | 29:D1:406:G:C4 | 2.73 | 0.76 |
| 29:D1:405:U:C5 | 29:D1:406:G:C5 | 2.73 | 0.76 |
| 29:D1:605:U:H6 | 29:D1:605:U:H5" | 1.50 | 0.76 |
| 29:D1:775:A:H2' | 29:D1:776:U:C4' | 2.15 | 0.76 |
| 29:D1:1898:G:N7 | 29:D1:1899:G:N7 | 2.34 | 0.76 |
| 29:D1:2182:A:O2' | 29:D1:2183:A:H5' | 1.86 | 0.76 |
| 29:D1:2689:A:C2 | 29:D1:2702:A:H2 | 2.02 | 0.76 |
| 29:D1:2834:G:N3 | 29:D1:2835:U:C6 | 2.54 | 0.76 |
| 29:D1:3377:G:N3 | 74:D1:3452:OHX:N2 | 2.34 | 0.76 |
| 47:DR:68:ALA:O | 47:DR:71:LEU:O | 2.03 | 0.76 |
| 59:Dd:59:THR:C | 59:Dd:61:THR:H | 1.91 | 0.76 |
| 1:A1:707:A:H2' | 1:A1:731:C:H42 | 1.50 | 0.76 |
| 1:A1:1092:A:O2' | 1:A1:1093:A:H3' | 1.86 | 0.76 |
| 29:B1:65:A:H3' | 29:B1:111:C:H41 | 1.48 | 0.76 |
| 29:B1:125:C:H2' | 29:B1:126:U:H5' | 1.67 | 0.76 |
| 29:B1:591:G:N2 | 29:B1:592:A:N9 | 2.34 | 0.76 |
| 29:B1:740:G:C6 | 29:B1:741:U:H5 | 2.03 | 0.76 |
| 29:B1:893:C:H5" | 29:B1:894:G:OP1 | 1.86 | 0.76 |
| 29:B1:1198:C:C6 | 29:B1:1200:A:C8 | 2.73 | 0.76 |
| 29:B1:1412:G:C4 | 29:B1:1413:G:C8 | 2.74 | 0.76 |
| 29:B1:1504:A:H3' | 29:B1:1505:C:C5' | 2.16 | 0.76 |
| 29:B1:1560:G:OP2 | 29:B1:1560:G:H3' | 1.85 | 0.76 |
| 29:B1:1949:G:H2' | 29:B1:1950:U:C6 | 2.20 | 0.76 |
| 29:B1:2743:A:C5 | 29:B1:2744:U:C4 | 2.74 | 0.76 |
| 29:B1:2912:G:C5 | 29:B1:2913:C:N3 | 2.53 | 0.76 |
| 29:B1:2985:C:H2' | 29:B1:2986:U:C6 | 2.20 | 0.76 |
| 29:B1:3328:G:H1 | 29:B1:3375:A:N6 | 1.84 | 0.76 |
| 30:B2:88:G:C5 | 30:B2:89:G:N7 | 2.53 | 0.76 |
| 44:BO:160:GLU:O | 44:BO:161:ALA:HB2 | 1.86 | 0.76 |
| 45:BP:56:ASP:C | 45:BP:60:LYS:H | 1.92 | 0.76 |
| 46:BQ:99:ALA:O | 46:BQ:102:ALA:HB3 | 1.86 | 0.76 |
| 47:BR:68:ALA:O | 47:BR:71:LEU:O | 2.02 | 0.76 |
| 22:Bo:3:UNK:O | 22:Bo:5:UNK:N | 2.18 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:43:A:C2’ | 1:C1:44:U:H5” | 2.14 | 0.76 |
| 1:C1:292:U:H2’ | 1:C1:293:U:C6 | 2.20 | 0.76 |
| 1:C1:825:U:C5 | 1:C1:847:A:C6 | 2.64 | 0.76 |
| 1:C1:986:G:C2’ | 1:C1:987:G:H8 | 1.99 | 0.76 |
| 1:C1:1720:G:H2’ | 1:C1:1721:A:O4’ | 1.86 | 0.76 |
| 2:CA:145:ALA:O | 2:CA:160:ILE:HA | 1.85 | 0.76 |
| 4:CC:80:ALA:C | 4:CC:82:GLY:H | 1.93 | 0.76 |
| 29:D1:523:A:C2’ | 29:D1:524:U:H5’ | 2.15 | 0.76 |
| 29:D1:564:G:P | 29:D1:565:U:OP1 | 2.43 | 0.76 |
| 29:D1:576:C:C2’ | 29:D1:577:C:C5’ | 2.55 | 0.76 |
| 29:D1:661:G:C4 | 29:D1:802:C:O4’ | 2.38 | 0.76 |
| 29:D1:1180:A:C2 | 29:D1:1182:A:C4 | 2.73 | 0.76 |
| 29:D1:1357:G:H2’ | 29:D1:1358:C:C6 | 2.20 | 0.76 |
| 29:D1:1705:U:O2’ | 29:D1:1706:C:O4’ | 2.03 | 0.76 |
| 29:D1:2560:C:H6 | 29:D1:2560:C:O5’ | 1.69 | 0.76 |
| 29:D1:2895:G:O2’ | 29:D1:2896:A:H5” | 1.84 | 0.76 |
| 29:D1:2966:G:O2’ | 29:D1:2967:A:H5’ | 1.85 | 0.76 |
| 29:D1:3180:A:H8 | 45:DP:114:LYS:CB | 1.99 | 0.76 |
| 29:D1:3383:G:C2 | 29:D1:3384:U:C4 | 2.74 | 0.76 |
| 30:D2:73:C:H42 | 30:D2:74:C:N4 | 1.84 | 0.76 |
| 34:DC:169:THR:O | 34:DC:170:PRO:C | 2.28 | 0.76 |
| 36:DE:96:ALA:O | 36:DE:100:ALA:N | 2.18 | 0.76 |
| 1:A1:847:A:H2’ | 1:A1:848:C:H5’ | 1.68 | 0.76 |
| 1:A1:1281:G:C4 | 1:A1:1282:U:C5 | 2.74 | 0.76 |
| 1:A1:1327:C:C2’ | 1:A1:1328:G:H5’ | 2.16 | 0.76 |
| 6:AE:142:ASN:O | 6:AE:144:PRO:N | 2.19 | 0.76 |
| 29:B1:287:G:O2’ | 29:B1:288:C:H5’ | 1.85 | 0.76 |
| 29:B1:559:A:C4 | 29:B1:560:G:N7 | 2.54 | 0.76 |
| 29:B1:1047:A:H61 | 29:B1:2646:C:H1’ | 1.49 | 0.76 |
| 29:B1:1303:A:N3 | 29:B1:1303:A:O4’ | 2.17 | 0.76 |
| 29:B1:2148:U:H2’ | 29:B1:2149:A:C5 | 2.21 | 0.76 |
| 29:B1:2667:A:N6 | 29:B1:2690:G:C2 | 2.52 | 0.76 |
| 29:B1:2727:A:C2 | 29:B1:2729:U:H5 | 2.03 | 0.76 |
| 29:B1:3110:C:C2 | 29:B1:3111:U:C6 | 2.73 | 0.76 |
| 29:B1:3333:G:N2 | 29:B1:3370:A:H4’ | 2.00 | 0.76 |
| 30:B2:46:A:OP2 | 30:B2:46:A:C5 | 2.39 | 0.76 |
| 36:BE:238:ASP:O | 36:BE:240:TYR:N | 2.18 | 0.76 |
| 42:BK:135:GLY:HA2 | 42:BK:151:SER:CB | 2.15 | 0.76 |
| 1:C1:410:A:C2 | 1:C1:411:C:C2 | 2.73 | 0.76 |
| 1:C1:804:A:H2’ | 1:C1:805:U:H6 | 1.49 | 0.76 |
| 1:C1:1651:A:N3 | 1:C1:1652:C:C6 | 2.54 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1686:C:H2' | 1:C1:1687:U:C6 | 2.21 | 0.76 |
| 6:CE:62:ARG:N | 6:CE:63:ASP:CB | 2.49 | 0.76 |
| 29:D1:674:G:H2' | 29:D1:675:C:C6 | 2.21 | 0.76 |
| 29:D1:1158:A:O2' | 29:D1:1330:A:H2 | 1.66 | 0.76 |
| 29:D1:1303:A:H8 | 29:D1:1304:A:C4 | 2.02 | 0.76 |
| 29:D1:1794:G:H4' | 29:D1:1795:U:OP2 | 1.84 | 0.76 |
| 29:D1:1875:G:C3' | 29:D1:1876:U:H5" | 2.15 | 0.76 |
| 29:D1:3209:A:C6 | 29:D1:3210:A:C6 | 2.74 | 0.76 |
| 29:D1:3221:C:N3 | 29:D1:3222:U:C5 | 2.54 | 0.76 |
| 29:D1:3392:U:H2' | 29:D1:3393:U:C6 | 2.21 | 0.76 |
| 42:DK:101:ASN:O | 42:DK:103:GLY:N | 2.19 | 0.76 |
| 46:DQ:33:ALA:C | 46:DQ:35:ALA:H | 1.94 | 0.76 |
| 1:A1:61:A:C4' | 1:A1:62:A:O5' | 2.29 | 0.76 |
| 1:A1:167:U:H6 | 1:A1:167:U:C5' | 1.98 | 0.76 |
| 1:A1:298:C:H6 | 1:A1:298:C:H3' | 1.51 | 0.76 |
| 1:A1:983:A:H2' | 1:A1:984:G:H8 | 1.47 | 0.76 |
| 1:A1:1109:G:H2' | 1:A1:1110:G:C5' | 2.16 | 0.76 |
| 1:A1:1238:A:H2' | 1:A1:1239:U:H5' | 1.67 | 0.76 |
| 1:A1:1351:G:H2' | 1:A1:1352:G:O4' | 1.85 | 0.76 |
| 1:A1:1557:U:O5' | 1:A1:1560:U:O4 | 2.04 | 0.76 |
| 1:A1:1613:U:O2 | 1:A1:1613:U:H2' | 1.84 | 0.76 |
| 1:A1:1675:C:H1' | 1:A1:1677:C:N3 | 2.00 | 0.76 |
| 9:AH:100:ALA:O | 9:AH:104:ALA:CB | 2.34 | 0.76 |
| 21:AT:91:LEU:CB | 21:AT:101:GLN:O | 2.34 | 0.76 |
| 29:B1:46:U:C2' | 29:B1:47:C:H5' | 2.16 | 0.76 |
| 29:B1:540:U:H2' | 29:B1:541:U:C6 | 2.20 | 0.76 |
| 29:B1:597:G:C4 | 29:B1:598:A:C8 | 2.74 | 0.76 |
| 29:B1:660:A:N1 | 29:B1:1435:A:C2 | 2.54 | 0.76 |
| 29:B1:680:G:H2' | 29:B1:681:U:C6 | 2.20 | 0.76 |
| 29:B1:762:U:H5 | 74:B1:3479:OHX:N3 | 1.83 | 0.76 |
| 29:B1:775:A:C2' | 29:B1:776:U:C4' | 2.64 | 0.76 |
| 29:B1:1103:A:O2' | 29:B1:1104:G:OP2 | 2.02 | 0.76 |
| 29:B1:1366:A:C2 | 29:B1:1367:G:C4 | 2.74 | 0.76 |
| 29:B1:1804:A:H2' | 29:B1:1805:C:C6 | 2.21 | 0.76 |
| 29:B1:2390:A:H4' | 29:B1:3307:A:H2 | 1.51 | 0.76 |
| 29:B1:2918:G:C2 | 29:B1:2919:A:C8 | 2.74 | 0.76 |
| 29:B1:2955:U:H2' | 29:B1:2956:A:H8 | 1.50 | 0.76 |
| 29:B1:3198:U:C2' | 29:B1:3199:G:C8 | 2.69 | 0.76 |
| 50:BU:17:LEU:CB | 50:BU:52:ALA:HB3 | 2.16 | 0.76 |
| 70:Bq:6:UNK:O | 70:Bq:7:UNK:C | 2.30 | 0.76 |
| 1:C1:606:A:C5 | 1:C1:608:U:H5 | 2.04 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:647:G:C2 | 1:C1:648:G:C6 | 2.74 | 0.76 |
| 1:C1:1197:C:O2 | 1:C1:1197:C:H2' | 1.85 | 0.76 |
| 2:CA:17:LEU:C | 2:CA:19:ALA:N | 2.42 | 0.76 |
| 14:CM:55:TYR:O | 14:CM:58:ALA:HB3 | 1.86 | 0.76 |
| 29:D1:13:A:H5' | 29:D1:14:U:OP1 | 1.85 | 0.76 |
| 29:D1:66:A:H62 | 29:D1:76:G:H21 | 1.34 | 0.76 |
| 29:D1:1139:G:C8 | 29:D1:1139:G:H5' | 2.21 | 0.76 |
| 29:D1:3098:G:H5" | 29:D1:3099:C:OP1 | 1.85 | 0.76 |
| 29:D1:3234:A:H2 | 29:D1:3253:G:H22 | 1.34 | 0.76 |
| 29:D1:3323:A:H5" | 56:Da:13:THR:O | 1.85 | 0.76 |
| 44:DO:83:LYS:H | 44:DO:85:THR:N | 1.84 | 0.76 |
| 44:DO:84:PRO:HA | 74:DO:301:OHX:N6 | 2.01 | 0.76 |
| 45:DP:194:LEU:O | 45:DP:198:GLY:N | 2.19 | 0.76 |
| 1:A1:179:A:O2' | 1:A1:180:A:H5' | 1.84 | 0.76 |
| 1:A1:222:A:OP2 | 1:A1:833:U:H1' | 1.85 | 0.76 |
| 1:A1:439:U:H1' | 1:A1:440:U:OP1 | 1.84 | 0.76 |
| 1:A1:1138:A:O2' | 1:A1:1139:A:H5' | 1.86 | 0.76 |
| 1:A1:1754:A:O2' | 1:A1:1755:A:P | 2.44 | 0.76 |
| 1:A1:1791:A:O2' | 1:A1:1793:G:H5' | 1.86 | 0.76 |
| 20:AS:42:CYS:O | 20:AS:44:ARG:N | 2.17 | 0.76 |
| 29:B1:660:A:C2 | 29:B1:1435:A:C2 | 2.74 | 0.76 |
| 29:B1:943:U:O2 | 29:B1:1431:G:H2' | 1.86 | 0.76 |
| 29:B1:1504:A:C5 | 29:B1:1505:C:C5 | 2.74 | 0.76 |
| 29:B1:2369:G:H2' | 29:B1:2370:G:C8 | 2.19 | 0.76 |
| 30:B2:31:U:C6 | 30:B2:32:U:H5 | 2.03 | 0.76 |
| 30:B2:121:U:HO3' | 36:BE:266:ALA:HB3 | 1.50 | 0.76 |
| 31:B3:81:U:H3' | 31:B3:82:U:C5' | 2.16 | 0.76 |
| 33:BB:78:ALA:O | 33:BB:80:GLU:N | 2.19 | 0.76 |
| 34:BC:60:LEU:O | 34:BC:62:ARG:N | 2.17 | 0.76 |
| 1:C1:36:C:H2' | 1:C1:37:U:C6 | 2.21 | 0.76 |
| 1:C1:396:G:N2 | 1:C1:398:G:H3' | 1.99 | 0.76 |
| 1:C1:400:A:C4' | 1:C1:401:A:H5' | 2.16 | 0.76 |
| 1:C1:757:A:C5 | 1:C1:758:U:C5 | 2.74 | 0.76 |
| 1:C1:804:A:H2' | 1:C1:805:U:C6 | 2.21 | 0.76 |
| 1:C1:1099:U:O2' | 1:C1:1100:G:N9 | 2.18 | 0.76 |
| 1:C1:1467:C:H2' | 1:C1:1468:U:C6 | 2.20 | 0.76 |
| 1:C1:1515:A:H2' | 1:C1:1516:A:C4' | 2.16 | 0.76 |
| 1:C1:1579:U:H2' | 1:C1:1580:C:C6 | 2.21 | 0.76 |
| 1:C1:1650:U:H3' | 1:C1:1651:A:H8 | 1.51 | 0.76 |
| 29:D1:588:G:C2 | 29:D1:612:U:C5 | 2.74 | 0.76 |
| 29:D1:807:A:H3' | 29:D1:808:A:H5" | 1.66 | 0.76 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1647:A:N1 | 29:D1:1809:A:H1' | 2.01 | 0.76 |
| 29:D1:2326:A:H2' | 29:D1:2326:A:N3 | 2.01 | 0.76 |
| 29:D1:2676:A:C2 | 29:D1:2680:A:C6 | 2.74 | 0.76 |
| 29:D1:2727:A:N1 | 29:D1:2728:G:C6 | 2.53 | 0.76 |
| 29:D1:3191:G:C6 | 29:D1:3202:G:N1 | 2.54 | 0.76 |
| 30:D2:23:A:H3' | 30:D2:24:A:C8 | 2.20 | 0.76 |
| 30:D2:25:G:N3 | 30:D2:26:C:C4 | 2.54 | 0.76 |
| 31:D3:71:A:C4' | 31:D3:72:A:OP1 | 2.34 | 0.76 |
| 74:D3:202:OHX:N5 | 74:D3:212:OHX:N5 | 2.34 | 0.76 |
| 35:DD:100:PHE:O | 35:DD:101:ALA:C | 2.26 | 0.76 |
| 36:DE:109:THR:O | 36:DE:252:ALA:HB2 | 1.86 | 0.76 |
| 40:DI:42:ASP:O | 40:DI:43:VAL:CB | 2.34 | 0.76 |
| 41:DJ:75:TYR:O | 41:DJ:76:MET:C | 2.28 | 0.76 |
| 42:DK:135:GLY:HA2 | 42:DK:151:SER:CB | 2.16 | 0.76 |
| 43:DN:71:ALA:O | 43:DN:72:LEU:C | 2.27 | 0.76 |
| 1:A1:1235:C:H2' | 1:A1:1236:A:H8 | 1.49 | 0.75 |
| 1:A1:1364:G:C3' | 1:A1:1365:C:H5' | 2.16 | 0.75 |
| 29:B1:210:U:O4 | 35:BD:161:LYS:HA | 1.85 | 0.75 |
| 29:B1:501:A:N6 | 29:B1:502:U:C4 | 2.54 | 0.75 |
| 29:B1:1170:A:OP2 | 74:B1:3537:OHX:N3 | 2.18 | 0.75 |
| 29:B1:1394:A:C8 | 29:B1:1395:G:C8 | 2.74 | 0.75 |
| 29:B1:1875:G:C3' | 29:B1:1876:U:H5" | 2.17 | 0.75 |
| 29:B1:2257:C:H3' | 29:B1:2258:U:H6 | 1.52 | 0.75 |
| 29:B1:2763:U:O4 | 29:B1:2794:G:N1 | 2.15 | 0.75 |
| 29:B1:3117:C:C2' | 29:B1:3118:C:H5' | 2.15 | 0.75 |
| 29:B1:3179:U:O2' | 29:B1:3180:A:P | 2.44 | 0.75 |
| 30:B2:25:G:N3 | 30:B2:26:C:C4 | 2.54 | 0.75 |
| 35:BD:115:HIS:O | 35:BD:117:GLU:N | 2.20 | 0.75 |
| 37:BF:40:LEU:HA | 37:BF:85:ILE:CB | 2.16 | 0.75 |
| 42:BK:139:THR:C | 42:BK:141:ARG:H | 1.94 | 0.75 |
| 1:C1:524:U:H3' | 1:C1:524:U:O2 | 1.86 | 0.75 |
| 1:C1:1183:A:H2' | 1:C1:1210:C:O2' | 1.86 | 0.75 |
| 1:C1:1497:U:C2 | 1:C1:1498:G:C8 | 2.74 | 0.75 |
| 1:C1:1775:U:O2' | 1:C1:1776:A:H5' | 1.86 | 0.75 |
| 29:D1:661:G:C6 | 29:D1:802:C:C6 | 2.74 | 0.75 |
| 29:D1:851:C:H2' | 29:D1:852:U:C6 | 2.21 | 0.75 |
| 29:D1:2194:G:C2' | 29:D1:2195:C:H5' | 2.15 | 0.75 |
| 29:D1:2643:A:H3' | 29:D1:2644:C:H5" | 1.68 | 0.75 |
| 29:D1:2993:G:N3 | 29:D1:2993:G:H2' | 2.01 | 0.75 |
| 30:D2:70:U:H2' | 30:D2:71:G:H8 | 1.51 | 0.75 |
| 49:DT:50:LYS:C | 49:DT:52:MET:H | 1.93 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:364:G:N2 | 1:A1:381:C:C6 | 2.54 | 0.75 |
| 1:A1:629:U:C2' | 1:A1:630:A:H8 | 1.94 | 0.75 |
| 1:A1:1099:U:OP1 | 1:A1:1099:U:C4' | 2.35 | 0.75 |
| 1:A1:1552:U:H5' | 1:A1:1553:G:OP2 | 1.86 | 0.75 |
| 6:AE:122:VAL:O | 6:AE:125:ALA:CB | 2.32 | 0.75 |
| 29:B1:152:U:H2' | 29:B1:153:U:H6 | 1.49 | 0.75 |
| 29:B1:712:G:H21 | 29:B1:753:C:P | 2.09 | 0.75 |
| 29:B1:1196:C:C5 | 29:B1:1197:A:C5 | 2.74 | 0.75 |
| 29:B1:2561:A:H2' | 29:B1:2562:A:H8 | 1.52 | 0.75 |
| 29:B1:2703:A:H61 | 36:BE:26:GLY:HA2 | 1.51 | 0.75 |
| 29:B1:3047:U:O2' | 29:B1:3048:A:C5' | 2.29 | 0.75 |
| 29:B1:3320:A:OP2 | 29:B1:3320:A:H3' | 1.86 | 0.75 |
| 36:BE:103:LEU:O | 36:BE:106:ALA:O | 2.03 | 0.75 |
| 52:BW:57:LEU:CB | 52:BW:58:ASP:CB | 2.64 | 0.75 |
| 1:C1:110:U:H3' | 1:C1:111:U:H5" | 1.68 | 0.75 |
| 1:C1:192:U:H2' | 1:C1:193:U:O4' | 1.86 | 0.75 |
| 1:C1:304:U:O2 | 1:C1:304:U:H2' | 1.84 | 0.75 |
| 1:C1:527:A:OP2 | 1:C1:528:U:H5' | 1.86 | 0.75 |
| 1:C1:544:A:C2 | 1:C1:545:A:H8 | 2.03 | 0.75 |
| 1:C1:625:C:O2' | 1:C1:939:A:N3 | 2.17 | 0.75 |
| 1:C1:772:G:C5 | 1:C1:773:C:N3 | 2.54 | 0.75 |
| 1:C1:862:A:C4 | 1:C1:963:A:N6 | 2.54 | 0.75 |
| 1:C1:1043:A:H2' | 1:C1:1044:U:C5 | 2.21 | 0.75 |
| 1:C1:1524:A:C2' | 1:C1:1525:A:C8 | 2.63 | 0.75 |
| 3:CB:162:CYS:H | 3:CB:209:ASN:CB | 1.99 | 0.75 |
| 10:CI:36:LEU:HA | 10:CI:37:ALA:HB3 | 1.67 | 0.75 |
| 29:D1:113:C:C2' | 29:D1:114:A:H5' | 2.16 | 0.75 |
| 29:D1:323:A:H5' | 29:D1:324:A:OP2 | 1.85 | 0.75 |
| 29:D1:537:A:N7 | 29:D1:556:U:O4 | 2.18 | 0.75 |
| 29:D1:882:A:C2 | 29:D1:885:U:C6 | 2.74 | 0.75 |
| 29:D1:1042:U:OP2 | 29:D1:1042:U:C6 | 2.39 | 0.75 |
| 29:D1:1716:U:H3' | 29:D1:1717:U:C5' | 2.15 | 0.75 |
| 29:D1:1794:G:N1 | 33:DB:185:ALA:HB1 | 2.00 | 0.75 |
| 29:D1:2215:A:H2' | 29:D1:2215:A:N3 | 2.00 | 0.75 |
| 29:D1:2431:C:H2' | 29:D1:2432:A:H8 | 1.51 | 0.75 |
| 30:D2:42:A:C4 | 30:D2:45:A:N6 | 2.55 | 0.75 |
| 1:A1:336:G:C2' | 1:A1:337:G:H5" | 2.17 | 0.75 |
| 1:A1:524:U:H3' | 1:A1:524:U:O2 | 1.87 | 0.75 |
| 1:A1:646:C:C3' | 1:A1:647:G:H5" | 2.15 | 0.75 |
| 1:A1:1540:G:C2' | 1:A1:1541:G:H5' | 2.17 | 0.75 |
| 1:A1:1631:A:N3 | 1:A1:1638:G:N2 | 2.28 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1650:U:H3' | 1:A1:1651:A:C8 | 2.21 | 0.75 |
| 7:AF:122:ILE:N | 7:AF:144:ALA:HB3 | 2.00 | 0.75 |
| 17:AP:135:LEU:HA | 17:AP:139:LYS:HA | 1.68 | 0.75 |
| 29:B1:31:C:H2' | 29:B1:32:U:H5' | 1.66 | 0.75 |
| 29:B1:736:A:H2' | 29:B1:737:G:H8 | 1.49 | 0.75 |
| 29:B1:773:G:C2' | 29:B1:774:G:C8 | 2.70 | 0.75 |
| 29:B1:1268:G:C5 | 29:B1:1269:U:H1' | 2.21 | 0.75 |
| 29:B1:1388:U:O4 | 29:B1:1389:G:O6 | 2.03 | 0.75 |
| 29:B1:1495:U:H2' | 29:B1:1842:A:C2 | 2.21 | 0.75 |
| 29:B1:2150:G:H2' | 29:B1:2151:C:C5' | 2.14 | 0.75 |
| 29:B1:2277:C:C5' | 29:B1:2317:A:H4' | 2.16 | 0.75 |
| 29:B1:2278:C:N4 | 29:B1:2305:G:C8 | 2.55 | 0.75 |
| 29:B1:2673:A:HO2' | 42:BK:107:ASP:HA | 1.48 | 0.75 |
| 29:B1:2676:A:O2' | 29:B1:2677:G:H5" | 1.85 | 0.75 |
| 29:B1:3039:C:C2 | 29:B1:3040:A:C8 | 2.75 | 0.75 |
| 29:B1:3090:U:H4' | 29:B1:3090:U:OP1 | 1.87 | 0.75 |
| 35:BD:193:LYS:O | 35:BD:195:ARG:N | 2.19 | 0.75 |
| 1:C1:380:U:C2' | 1:C1:381:C:H6 | 1.98 | 0.75 |
| 1:C1:446:A:C5 | 1:C1:447:U:C5 | 2.74 | 0.75 |
| 29:D1:536:U:OP2 | 29:D1:536:U:C6 | 2.38 | 0.75 |
| 29:D1:1779:C:C4' | 29:D1:1780:G:H5" | 2.12 | 0.75 |
| 29:D1:2251:G:C1' | 29:D1:2252:A:OP1 | 2.34 | 0.75 |
| 29:D1:2383:C:H2' | 29:D1:2384:A:H8 | 1.49 | 0.75 |
| 29:D1:2393:G:N1 | 29:D1:2982:A:H2 | 1.82 | 0.75 |
| 29:D1:2673:A:H61 | 29:D1:2681:U:H3 | 1.34 | 0.75 |
| 29:D1:3024:A:N3 | 29:D1:3024:A:C2' | 2.48 | 0.75 |
| 34:DC:62:ARG:O | 34:DC:64:GLY:N | 2.18 | 0.75 |
| 1:A1:131:C:O2 | 1:A1:131:C:H2' | 1.86 | 0.75 |
| 1:A1:402:C:N4 | 1:A1:424:C:OP2 | 2.20 | 0.75 |
| 1:A1:963:A:O2' | 1:A1:964:U:H6 | 1.69 | 0.75 |
| 1:A1:1560:U:O2 | 1:A1:1560:U:C2' | 2.35 | 0.75 |
| 29:B1:498:A:H2' | 29:B1:499:G:C8 | 2.21 | 0.75 |
| 29:B1:556:U:H2' | 29:B1:557:A:O4' | 1.85 | 0.75 |
| 29:B1:564:G:OP1 | 29:B1:564:G:O3' | 2.05 | 0.75 |
| 29:B1:836:A:C2 | 29:B1:858:A:H1' | 2.22 | 0.75 |
| 29:B1:1681:U:H2' | 29:B1:1681:U:O2 | 1.86 | 0.75 |
| 29:B1:1817:G:H2' | 29:B1:1818:U:C6 | 2.21 | 0.75 |
| 29:B1:2678:A:H8 | 29:B1:2679:A:C2 | 2.04 | 0.75 |
| 29:B1:3116:G:O2' | 29:B1:3117:C:H5' | 1.86 | 0.75 |
| 29:B1:3378:C:O2 | 29:B1:3378:C:H2' | 1.85 | 0.75 |
| 31:B3:64:U:H2' | 31:B3:64:U:O2 | 1.86 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:B3:107:G:H2' | 31:B3:108:C:H5' | 1.67 | 0.75 |
| 38:BG:111:ILE:O | 38:BG:112:ASN:C | 2.27 | 0.75 |
| 45:BP:17:GLY:O | 45:BP:20:ALA:HB3 | 1.86 | 0.75 |
| 1:C1:1326:A:O2' | 1:C1:1327:C:H5' | 1.87 | 0.75 |
| 1:C1:1364:G:C3' | 1:C1:1365:C:H5' | 2.16 | 0.75 |
| 1:C1:1540:G:C2' | 1:C1:1541:G:H5' | 2.17 | 0.75 |
| 29:D1:86:G:N2 | 29:D1:98:G:H2' | 2.01 | 0.75 |
| 29:D1:288:C:H2' | 29:D1:289:A:C8 | 2.20 | 0.75 |
| 29:D1:517:G:H2' | 29:D1:518:G:C1' | 2.17 | 0.75 |
| 29:D1:1229:G:H2' | 29:D1:1230:G:H8 | 1.51 | 0.75 |
| 29:D1:1268:G:H5' | 29:D1:1269:U:OP2 | 1.87 | 0.75 |
| 29:D1:1901:A:O3' | 29:D1:2918:G:H5' | 1.87 | 0.75 |
| 29:D1:2420:C:C4 | 29:D1:2421:U:C5 | 2.75 | 0.75 |
| 29:D1:2546:C:H5" | 29:D1:2547:A:OP2 | 1.86 | 0.75 |
| 29:D1:2680:A:H3' | 29:D1:2681:U:H5' | 1.68 | 0.75 |
| 29:D1:2792:A:H8 | 29:D1:2792:A:O5' | 1.69 | 0.75 |
| 29:D1:2923:U:C2 | 29:D1:2924:U:H5 | 2.04 | 0.75 |
| 29:D1:3099:C:O2' | 29:D1:3100:U:P | 2.44 | 0.75 |
| 29:D1:3136:G:C6 | 29:D1:3137:C:C4 | 2.74 | 0.75 |
| 29:D1:3198:U:H3' | 29:D1:3199:G:C8 | 2.21 | 0.75 |
| 29:D1:3314:A:C8 | 34:DC:119:TYR:HA | 2.21 | 0.75 |
| 29:D1:3353:G:N3 | 29:D1:3353:G:H2' | 2.00 | 0.75 |
| 1:A1:407:A:H2' | 1:A1:408:C:C6 | 2.21 | 0.75 |
| 1:A1:1562:G:H2' | 1:A1:1563:C:H6 | 1.48 | 0.75 |
| 1:A1:1678:A:H2 | 1:A1:1725:U:N3 | 1.85 | 0.75 |
| 29:B1:385:A:H2' | 29:B1:386:A:C8 | 2.22 | 0.75 |
| 29:B1:1079:A:C6 | 29:B1:1080:A:N6 | 2.55 | 0.75 |
| 29:B1:1139:G:H8 | 29:B1:1139:G:H5" | 1.49 | 0.75 |
| 29:B1:1159:A:H2' | 29:B1:1159:A:N3 | 1.98 | 0.75 |
| 29:B1:2309:A:N3 | 29:B1:2962:U:H5' | 2.02 | 0.75 |
| 29:B1:2431:C:H2' | 29:B1:2432:A:H8 | 1.49 | 0.75 |
| 29:B1:2573:G:H2' | 29:B1:2574:G:O4' | 1.87 | 0.75 |
| 29:B1:2681:U:OP2 | 42:BK:51:ARG:O | 2.04 | 0.75 |
| 29:B1:2812:C:H2' | 29:B1:2813:A:C8 | 2.20 | 0.75 |
| 29:B1:3316:A:N1 | 29:B1:3388:C:N3 | 2.34 | 0.75 |
| 74:B1:3492:OHX:N5 | 54:BY:19:LYS:O | 2.19 | 0.75 |
| 33:BB:81:GLY:O | 62:Bg:64:VAL:HA | 1.87 | 0.75 |
| 39:BH:81:THR:O | 39:BH:82:LEU:C | 2.30 | 0.75 |
| 43:BN:47:ASP:CB | 43:BN:54:PRO:O | 2.34 | 0.75 |
| 65:Bk:7:UNK:O | 65:Bk:11:UNK:CB | 2.33 | 0.75 |
| 1:C1:929:A:H5" | 1:C1:930:A:OP2 | 1.85 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1382:A:H5' | 15:CN:59:PRO:HA | 1.68 | 0.75 |
| 1:C1:1455:G:C5 | 1:C1:1456:C:N3 | 2.54 | 0.75 |
| 1:C1:1651:A:C2 | 1:C1:1652:C:C6 | 2.74 | 0.75 |
| 17:CP:132:LEU:N | 17:CP:133:LEU:CA | 2.49 | 0.75 |
| 29:D1:23:A:H2' | 29:D1:23:A:N3 | 1.99 | 0.75 |
| 29:D1:596:C:O2 | 29:D1:597:G:C5' | 2.33 | 0.75 |
| 29:D1:740:G:C6 | 29:D1:741:U:C5 | 2.74 | 0.75 |
| 29:D1:826:G:C4 | 29:D1:827:A:C8 | 2.74 | 0.75 |
| 29:D1:963:G:H5' | 29:D1:963:G:C8 | 2.19 | 0.75 |
| 29:D1:2289:U:C2 | 29:D1:2290:C:C5 | 2.74 | 0.75 |
| 29:D1:2520:A:C2 | 29:D1:2521:U:N3 | 2.53 | 0.75 |
| 29:D1:3280:U:OP2 | 29:D1:3280:U:H6 | 1.68 | 0.75 |
| 29:D1:3360:C:O2 | 29:D1:3360:C:H2' | 1.86 | 0.75 |
| 30:D2:77:G:O2' | 30:D2:78:U:P | 2.44 | 0.75 |
| 31:D3:106:C:H4' | 31:D3:107:G:O5' | 1.86 | 0.75 |
| 33:DB:182:ALA:C | 33:DB:184:ARG:N | 2.43 | 0.75 |
| 36:DE:141:PRO:CB | 36:DE:142:PHE:CA | 2.63 | 0.75 |
| 41:DJ:181:TYR:O | 41:DJ:184:LYS:N | 2.18 | 0.75 |
| 47:DR:18:ALA:HA | 47:DR:53:PHE:CB | 2.17 | 0.75 |
| 1:A1:1065:A:H2' | 1:A1:1066:C:C6 | 2.21 | 0.75 |
| 1:A1:1632:C:O2' | 1:A1:1633:A:OP1 | 2.03 | 0.75 |
| 29:B1:420:G:N3 | 29:B1:2384:A:H2' | 2.02 | 0.75 |
| 29:B1:1492:G:H3' | 29:B1:1493:G:N2 | 2.02 | 0.75 |
| 29:B1:2553:U:H1' | 29:B1:2554:A:H5' | 1.69 | 0.75 |
| 29:B1:3210:A:C6 | 29:B1:3211:C:N4 | 2.54 | 0.75 |
| 30:B2:59:U:H2' | 30:B2:60:G:C8 | 2.21 | 0.75 |
| 1:C1:318:U:H3 | 1:C1:346:G:H1 | 1.35 | 0.75 |
| 1:C1:609:U:H5" | 1:C1:610:G:N7 | 2.02 | 0.75 |
| 1:C1:1148:C:N3 | 1:C1:1149:G:O6 | 2.20 | 0.75 |
| 1:C1:1221:A:H2' | 1:C1:1222:C:H6 | 1.49 | 0.75 |
| 1:C1:1349:G:H4' | 1:C1:1350:U:H5' | 1.69 | 0.75 |
| 1:C1:1492:A:H4' | 1:C1:1493:A:OP1 | 1.86 | 0.75 |
| 29:D1:353:G:O2' | 29:D1:364:G:O6 | 2.04 | 0.75 |
| 29:D1:361:A:C2 | 29:D1:928:C:O4' | 2.39 | 0.75 |
| 29:D1:705:A:C6 | 29:D1:715:A:N7 | 2.54 | 0.75 |
| 29:D1:1164:G:H2' | 29:D1:1165:A:C8 | 2.21 | 0.75 |
| 29:D1:1167:U:H5' | 29:D1:1167:U:C6 | 2.21 | 0.75 |
| 29:D1:1341:U:H2' | 29:D1:1342:C:H6 | 1.50 | 0.75 |
| 29:D1:2145:A:C2 | 29:D1:2146:C:C6 | 2.75 | 0.75 |
| 29:D1:2253:G:H3' | 29:D1:2254:U:C6 | 2.22 | 0.75 |
| 29:D1:2702:A:C8 | 29:D1:2704:A:N6 | 2.55 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2829:U:H2' | 29:D1:2830:G:H5' | 1.69 | 0.75 |
| 29:D1:2888:U:C5 | 29:D1:2910:A:C6 | 2.75 | 0.75 |
| 29:D1:3136:G:C6 | 29:D1:3137:C:C5 | 2.74 | 0.75 |
| 74:D1:3543:OHX:N6 | 38:DG:217:PRO:O | 2.20 | 0.75 |
| 31:D3:128:U:H5" | 31:D3:129:C:C5 | 2.18 | 0.75 |
| 1:A1:1237:G:H2' | 1:A1:1238:A:C8 | 2.21 | 0.75 |
| 29:B1:244:G:H2' | 29:B1:245:U:H5" | 1.67 | 0.75 |
| 29:B1:420:G:C2 | 29:B1:2384:A:C4 | 2.74 | 0.75 |
| 29:B1:595:G:C2 | 29:B1:610:G:OP1 | 2.39 | 0.75 |
| 29:B1:945:C:H5" | 29:B1:946:U:OP2 | 1.87 | 0.75 |
| 29:B1:1157:G:H5' | 29:B1:1157:G:C8 | 2.21 | 0.75 |
| 29:B1:1245:A:H4' | 29:B1:1246:G:O5' | 1.87 | 0.75 |
| 29:B1:1504:A:C4 | 29:B1:1505:C:C5 | 2.74 | 0.75 |
| 29:B1:1679:A:C2 | 29:B1:1680:G:N7 | 2.55 | 0.75 |
| 29:B1:1912:U:O2' | 29:B1:1913:A:O5' | 2.04 | 0.75 |
| 29:B1:2185:G:C6 | 29:B1:2186:U:C4 | 2.74 | 0.75 |
| 29:B1:2652:U:H2' | 29:B1:2653:C:C6 | 2.22 | 0.75 |
| 29:B1:2775:U:O2' | 29:B1:2776:C:O5' | 2.04 | 0.75 |
| 29:B1:3026:G:N2 | 29:B1:3030:G:C5 | 2.55 | 0.75 |
| 30:B2:12:U:O5' | 30:B2:68:C:O2' | 2.03 | 0.75 |
| 30:B2:116:C:H2' | 30:B2:117:A:C8 | 2.22 | 0.75 |
| 34:BC:142:ALA:O | 34:BC:144:ILE:N | 2.19 | 0.75 |
| 34:BC:164:THR:CB | 34:BC:177:HIS:H | 1.99 | 0.75 |
| 37:BF:156:LYS:O | 37:BF:159:LEU:N | 2.20 | 0.75 |
| 58:Bc:41:LEU:H | 58:Bc:42:PRO:HA | 1.50 | 0.75 |
| 1:C1:250:C:N3 | 1:C1:251:A:C5 | 2.55 | 0.75 |
| 1:C1:402:C:O2 | 1:C1:403:G:C4' | 2.35 | 0.75 |
| 1:C1:764:U:H3 | 1:C1:772:G:H1 | 1.32 | 0.75 |
| 1:C1:1150:G:C2 | 1:C1:1151:A:H1' | 2.21 | 0.75 |
| 1:C1:1675:C:H1' | 1:C1:1677:C:N3 | 2.02 | 0.75 |
| 5:CD:141:GLY:HA2 | 5:CD:171:ALA:HB2 | 1.69 | 0.75 |
| 15:CN:68:ARG:CA | 15:CN:79:TRP:HA | 2.07 | 0.75 |
| 29:D1:73:C:OP2 | 29:D1:74:G:O5' | 2.05 | 0.75 |
| 29:D1:218:G:H1' | 29:D1:372:A:H1' | 1.68 | 0.75 |
| 29:D1:594:U:C2 | 29:D1:595:G:C5 | 2.75 | 0.75 |
| 29:D1:627:U:H4' | 29:D1:1399:A:H1' | 1.69 | 0.75 |
| 29:D1:1103:A:O2' | 29:D1:1104:G:P | 2.43 | 0.75 |
| 29:D1:1288:U:C6 | 29:D1:1288:U:H5" | 2.22 | 0.75 |
| 29:D1:1390:A:C5 | 29:D1:1418:A:C5 | 2.74 | 0.75 |
| 29:D1:2554:A:N1 | 33:DB:86:GLN:HA | 2.01 | 0.75 |
| 29:D1:2603:G:H3' | 29:D1:2604:U:H6 | 1.50 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3271:G:H2' | 29:D1:3271:G:N3 | 2.02 | 0.75 |
| 30:D2:25:G:N2 | 30:D2:26:C:C2 | 2.54 | 0.75 |
| 31:D3:91:C:H2' | 31:D3:92:A:C8 | 2.22 | 0.75 |
| 31:D3:107:G:H2' | 31:D3:108:C:H5' | 1.69 | 0.75 |
| 35:DD:119:ARG:C | 35:DD:121:ALA:H | 1.94 | 0.75 |
| 36:DE:118:THR:HA | 36:DE:121:GLY:O | 1.86 | 0.75 |
| 1:A1:282:C:H2' | 1:A1:283:U:H5' | 1.67 | 0.75 |
| 1:A1:518:A:H61 | 1:A1:535:A:H1' | 1.51 | 0.75 |
| 1:A1:530:C:H5" | 1:A1:531:C:OP2 | 1.87 | 0.75 |
| 1:A1:733:A:H4' | 1:A1:734:A:N7 | 2.02 | 0.75 |
| 1:A1:1456:C:H5" | 1:A1:1457:C:C5' | 2.16 | 0.75 |
| 29:B1:250:U:H2' | 29:B1:250:U:O2 | 1.85 | 0.75 |
| 29:B1:349:A:C2 | 31:B3:24:G:C4 | 2.75 | 0.75 |
| 29:B1:515:C:C3' | 29:B1:516:A:C5' | 2.63 | 0.75 |
| 29:B1:609:G:C5 | 29:B1:610:G:C6 | 2.75 | 0.75 |
| 29:B1:1042:U:H2' | 29:B1:1043:C:H6 | 1.51 | 0.75 |
| 29:B1:1193:A:N7 | 29:B1:1194:G:C2 | 2.54 | 0.75 |
| 29:B1:1624:G:N2 | 29:B1:1822:C:C4 | 2.55 | 0.75 |
| 29:B1:2680:A:H61 | 42:BK:56:THR:C | 1.95 | 0.75 |
| 29:B1:2746:A:H2 | 36:BE:146:LEU:CB | 2.00 | 0.75 |
| 29:B1:3027:A:C2' | 29:B1:3028:G:C8 | 2.68 | 0.75 |
| 29:B1:3214:U:O3' | 29:B1:3218:A:C5' | 2.35 | 0.75 |
| 29:B1:3320:A:C6 | 29:B1:3321:C:N4 | 2.55 | 0.75 |
| 30:B2:22:A:H2' | 30:B2:23:A:C8 | 2.21 | 0.75 |
| 30:B2:98:C:H5' | 30:B2:99:G:OP2 | 1.85 | 0.75 |
| 1:C1:16:G:C2 | 1:C1:17:C:C4 | 2.74 | 0.75 |
| 1:C1:29:U:O2' | 1:C1:30:G:H5' | 1.86 | 0.75 |
| 1:C1:108:A:H2' | 1:C1:109:G:C8 | 2.21 | 0.75 |
| 1:C1:162:A:H2' | 1:C1:163:G:C8 | 2.21 | 0.75 |
| 1:C1:170:U:OP2 | 1:C1:267:U:O2' | 2.04 | 0.75 |
| 1:C1:179:A:O2' | 1:C1:180:A:H5' | 1.86 | 0.75 |
| 1:C1:362:G:O6 | 1:C1:382:C:N4 | 2.16 | 0.75 |
| 1:C1:1174:C:H2' | 1:C1:1175:U:C6 | 2.21 | 0.75 |
| 1:C1:1487:A:H2' | 1:C1:1488:G:H8 | 1.50 | 0.75 |
| 1:C1:1562:G:H2' | 1:C1:1563:C:H6 | 1.52 | 0.75 |
| 1:C1:1620:C:H2' | 1:C1:1620:C:O2 | 1.86 | 0.75 |
| 29:D1:25:U:O2' | 29:D1:26:A:H5' | 1.87 | 0.75 |
| 29:D1:125:C:H2' | 29:D1:126:U:H5' | 1.69 | 0.75 |
| 29:D1:157:A:H2' | 29:D1:158:G:C5 | 2.21 | 0.75 |
| 29:D1:244:G:H2' | 29:D1:245:U:H5" | 1.69 | 0.75 |
| 29:D1:420:G:C2 | 29:D1:2384:A:C4 | 2.74 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:542:G:H1 | 29:D1:549:U:H3 | 1.35 | 0.75 |
| 29:D1:751:A:N3 | 29:D1:751:A:H2' | 2.02 | 0.75 |
| 29:D1:888:A:C6 | 29:D1:889:U:N3 | 2.55 | 0.75 |
| 29:D1:1246:G:C6 | 29:D1:1264:G:N2 | 2.55 | 0.75 |
| 29:D1:1459:C:C2' | 29:D1:1460:A:H5' | 2.16 | 0.75 |
| 29:D1:2147:A:C5' | 29:D1:2147:A:H8 | 2.00 | 0.75 |
| 29:D1:2540:A:H2' | 29:D1:2541:U:H6 | 1.52 | 0.75 |
| 29:D1:2640:A:H2' | 29:D1:2641:U:C6 | 2.19 | 0.75 |
| 29:D1:3249:C:H2' | 29:D1:3249:C:O2 | 1.87 | 0.75 |
| 74:D1:3408:OHX:N2 | 74:D1:3582:OHX:N3 | 2.35 | 0.75 |
| 30:D2:44:C:C4 | 30:D2:45:A:N7 | 2.53 | 0.75 |
| 34:DC:105:VAL:O | 34:DC:106:TRP:C | 2.28 | 0.75 |
| 34:DC:193:ASP:C | 34:DC:195:ALA:H | 1.94 | 0.75 |
| 42:DK:139:THR:C | 42:DK:141:ARG:H | 1.94 | 0.75 |
| 1:A1:149:C:H3' | 1:A1:150:U:C6 | 2.21 | 0.75 |
| 1:A1:174:U:O2 | 1:A1:174:U:H2' | 1.87 | 0.75 |
| 1:A1:361:C:N4 | 1:A1:384:G:N1 | 2.35 | 0.75 |
| 1:A1:806:A:C2' | 1:A1:807:A:H5" | 2.17 | 0.75 |
| 1:A1:977:A:C6 | 1:A1:1025:A:C4 | 2.75 | 0.75 |
| 1:A1:1032:G:N2 | 1:A1:1033:C:C2 | 2.55 | 0.75 |
| 1:A1:1044:U:H2' | 1:A1:1044:U:O2 | 1.85 | 0.75 |
| 1:A1:1046:G:C5 | 1:A1:1073:G:N2 | 2.54 | 0.75 |
| 1:A1:1219:A:C5' | 1:A1:1220:C:H5 | 1.96 | 0.75 |
| 1:A1:1570:A:H3' | 1:A1:1571:C:H6 | 1.52 | 0.75 |
| 14:AM:28:LEU:C | 14:AM:30:VAL:H | 1.94 | 0.75 |
| 29:B1:13:A:H61 | 31:B3:144:G:H1 | 1.35 | 0.75 |
| 29:B1:871:U:H2' | 29:B1:872:U:H6 | 1.49 | 0.75 |
| 29:B1:963:G:H5' | 29:B1:963:G:C8 | 2.17 | 0.75 |
| 29:B1:1177:G:H8 | 29:B1:1177:G:O5' | 1.68 | 0.75 |
| 29:B1:1940:G:H2' | 29:B1:1941:C:O4' | 1.87 | 0.75 |
| 29:B1:2249:G:H2' | 29:B1:2250:G:C1' | 2.17 | 0.75 |
| 29:B1:2370:G:C4 | 29:B1:2371:G:C8 | 2.75 | 0.75 |
| 30:B2:12:U:OP2 | 30:B2:68:C:H4' | 1.87 | 0.75 |
| 30:B2:24:A:H2' | 30:B2:25:G:H8 | 1.51 | 0.75 |
| 30:B2:33:U:O2 | 30:B2:33:U:H2' | 1.87 | 0.75 |
| 33:BB:188:LYS:C | 33:BB:190:ARG:N | 2.41 | 0.75 |
| 44:BO:85:THR:HA | 44:BO:87:GLN:H | 1.49 | 0.75 |
| 1:C1:10:G:N7 | 1:C1:1633:A:C2 | 2.55 | 0.75 |
| 1:C1:72:A:C6 | 1:C1:82:U:O2 | 2.40 | 0.75 |
| 1:C1:149:C:C3' | 1:C1:150:U:H6 | 1.99 | 0.75 |
| 1:C1:283:U:O3' | 1:C1:284:G:H4' | 1.87 | 0.75 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:647:G:N1 | 1:C1:648:G:C6 | 2.54 | 0.75 |
| 1:C1:1171:A:H2' | 1:C1:1172:G:C8 | 2.22 | 0.75 |
| 1:C1:1356:U:H2' | 1:C1:1357:A:H8 | 1.51 | 0.75 |
| 2:CA:146:LEU:HA | 2:CA:160:ILE:HA | 1.68 | 0.75 |
| 25:Cd:112:UNK:O | 25:Cd:113:UNK:C | 2.33 | 0.75 |
| 29:D1:186:U:O2 | 29:D1:186:U:H2' | 1.87 | 0.75 |
| 29:D1:1196:C:H5 | 29:D1:1197:A:C6 | 2.05 | 0.75 |
| 29:D1:1303:A:N1 | 29:D1:2887:A:C6 | 2.55 | 0.75 |
| 29:D1:1378:U:H2' | 29:D1:1379:G:H8 | 1.51 | 0.75 |
| 29:D1:1714:A:H1' | 29:D1:1731:A:N6 | 2.01 | 0.75 |
| 29:D1:2277:C:C5' | 29:D1:2317:A:H4' | 2.13 | 0.75 |
| 29:D1:2407:C:C2 | 29:D1:2408:U:C5 | 2.75 | 0.75 |
| 29:D1:2904:U:O2 | 29:D1:2904:U:H3' | 1.87 | 0.75 |
| 29:D1:3198:U:C2' | 29:D1:3199:G:C8 | 2.69 | 0.75 |
| 29:D1:3260:G:H2' | 29:D1:3260:G:N3 | 2.02 | 0.75 |
| 31:D3:105:A:H4' | 31:D3:106:C:C5 | 2.22 | 0.75 |
| 33:DB:209:HIS:O | 33:DB:210:PRO:O | 2.04 | 0.75 |
| 36:DE:103:LEU:N | 36:DE:166:ALA:HA | 2.01 | 0.75 |
| 1:A1:1084:A:O2' | 1:A1:1085:G:H5' | 1.85 | 0.74 |
| 1:A1:1274:C:OP2 | 1:A1:1428:G:O5' | 2.05 | 0.74 |
| 1:A1:1382:A:H5' | 15:AN:59:PRO:HA | 1.68 | 0.74 |
| 15:AN:12:GLN:O | 15:AN:14:GLN:N | 2.20 | 0.74 |
| 29:B1:73:C:OP2 | 29:B1:74:G:O5' | 2.04 | 0.74 |
| 29:B1:155:G:OP2 | 29:B1:155:G:H8 | 1.69 | 0.74 |
| 29:B1:609:G:C4' | 29:B1:610:G:OP1 | 2.35 | 0.74 |
| 29:B1:750:G:C2' | 29:B1:751:A:H8 | 1.97 | 0.74 |
| 29:B1:985:U:H2' | 29:B1:986:U:C6 | 2.21 | 0.74 |
| 29:B1:988:U:H2' | 29:B1:989:A:H8 | 1.52 | 0.74 |
| 29:B1:1380:G:H2' | 29:B1:1380:G:N3 | 2.01 | 0.74 |
| 29:B1:2182:A:O2' | 29:B1:2183:A:H5' | 1.85 | 0.74 |
| 29:B1:2222:A:N6 | 29:B1:2783:U:H5' | 2.02 | 0.74 |
| 29:B1:2358:A:H2' | 29:B1:2359:C:O4' | 1.87 | 0.74 |
| 29:B1:3140:G:H5" | 29:B1:3140:G:C8 | 2.19 | 0.74 |
| 31:B3:142:C:H2' | 31:B3:142:C:O2 | 1.86 | 0.74 |
| 54:BY:28:HIS:O | 54:BY:30:GLY:N | 2.20 | 0.74 |
| 1:C1:273:G:C8 | 1:C1:273:G:OP1 | 2.40 | 0.74 |
| 1:C1:321:C:O2' | 1:C1:322:G:H5' | 1.87 | 0.74 |
| 1:C1:407:A:H2' | 1:C1:408:C:C6 | 2.21 | 0.74 |
| 1:C1:847:A:H2' | 1:C1:848:C:H5' | 1.68 | 0.74 |
| 29:D1:60:A:H2' | 29:D1:61:A:H5' | 1.67 | 0.74 |
| 29:D1:512:U:N3 | 29:D1:579:G:N1 | 2.34 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:593:C:O2 | 29:D1:594:U:H4' | 1.87 | 0.74 |
| 29:D1:659:G:C2' | 29:D1:660:A:C8 | 2.69 | 0.74 |
| 29:D1:1741:A:H3' | 29:D1:1742:U:C6 | 2.21 | 0.74 |
| 29:D1:1856:C:O2' | 29:D1:1857:C:H5' | 1.87 | 0.74 |
| 29:D1:2232:A:H2' | 29:D1:2233:A:O4' | 1.87 | 0.74 |
| 29:D1:2580:A:H1' | 29:D1:2581:U:OP2 | 1.86 | 0.74 |
| 29:D1:3079:U:H2' | 29:D1:3079:U:O2 | 1.87 | 0.74 |
| 29:D1:3113:A:C2 | 29:D1:3122:A:C5 | 2.74 | 0.74 |
| 31:D3:34:U:H2' | 31:D3:34:U:O2 | 1.86 | 0.74 |
| 1:A1:380:U:C2' | 1:A1:381:C:H6 | 2.00 | 0.74 |
| 1:A1:542:A:O2' | 1:A1:543:C:H3' | 1.87 | 0.74 |
| 1:A1:1068:C:H2' | 1:A1:1069:A:H8 | 1.51 | 0.74 |
| 1:A1:1377:U:H2' | 1:A1:1378:U:C4' | 2.15 | 0.74 |
| 21:AT:5:GLU:HA | 21:AT:316:MET:O | 1.86 | 0.74 |
| 24:Ac:7:UNK:HA | 24:Ac:68:UNK:CA | 2.14 | 0.74 |
| 29:B1:173:G:O6 | 29:B1:245:U:C2 | 2.40 | 0.74 |
| 29:B1:392:G:C6 | 29:B1:393:U:H5 | 2.05 | 0.74 |
| 29:B1:542:G:H1 | 29:B1:549:U:H3 | 1.33 | 0.74 |
| 29:B1:880:G:C8 | 29:B1:882:A:N7 | 2.54 | 0.74 |
| 29:B1:2327:U:H2' | 29:B1:2327:U:O2 | 1.86 | 0.74 |
| 29:B1:2420:C:C2' | 29:B1:2421:U:H5' | 2.17 | 0.74 |
| 29:B1:2667:A:H3' | 29:B1:2667:A:C4 | 2.21 | 0.74 |
| 29:B1:2676:A:H2 | 29:B1:2680:A:N1 | 1.85 | 0.74 |
| 29:B1:2928:C:C2' | 29:B1:2929:C:H5' | 2.15 | 0.74 |
| 29:B1:3024:A:N3 | 29:B1:3024:A:C2' | 2.50 | 0.74 |
| 29:B1:3096:C:H2' | 29:B1:3097:C:C6 | 2.21 | 0.74 |
| 29:B1:3127:A:H3' | 29:B1:3128:G:C8 | 2.20 | 0.74 |
| 30:B2:2:G:H2' | 30:B2:3:U:C6 | 2.22 | 0.74 |
| 54:BY:80:THR:C | 54:BY:82:ILE:N | 2.45 | 0.74 |
| 1:C1:14:C:OP2 | 3:CB:162:CYS:C | 2.30 | 0.74 |
| 1:C1:150:U:O2 | 1:C1:150:U:H2' | 1.87 | 0.74 |
| 1:C1:169:A:C4 | 1:C1:171:A:N7 | 2.55 | 0.74 |
| 1:C1:380:U:HO2' | 1:C1:381:C:H6 | 1.35 | 0.74 |
| 1:C1:446:A:C4 | 1:C1:447:U:C5 | 2.75 | 0.74 |
| 1:C1:1201:G:C4 | 1:C1:1202:A:O4' | 2.39 | 0.74 |
| 1:C1:1334:U:C2 | 1:C1:1335:U:C6 | 2.74 | 0.74 |
| 1:C1:1402:G:C4 | 1:C1:1403:C:C5 | 2.75 | 0.74 |
| 1:C1:1586:A:C5 | 1:C1:1611:A:C2 | 2.75 | 0.74 |
| 1:C1:1632:C:HO2' | 1:C1:1633:A:H8 | 1.34 | 0.74 |
| 29:D1:2900:A:C2 | 29:D1:2901:G:N7 | 2.55 | 0.74 |
| 29:D1:3090:U:O2' | 29:D1:3091:A:P | 2.45 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3111:U:H2' | 29:D1:3112:G:H5' | 1.69 | 0.74 |
| 29:D1:3191:G:C2 | 29:D1:3202:G:C2 | 2.75 | 0.74 |
| 29:D1:3214:U:O3' | 29:D1:3218:A:C5' | 2.36 | 0.74 |
| 29:D1:3321:C:HO2' | 29:D1:3322:A:H8 | 0.80 | 0.74 |
| 30:D2:23:A:H2' | 30:D2:24:A:C8 | 2.21 | 0.74 |
| 1:A1:62:A:H3' | 1:A1:62:A:OP2 | 1.86 | 0.74 |
| 1:A1:1137:A:H2 | 1:A1:1138:A:C5 | 2.05 | 0.74 |
| 1:A1:1339:C:O2' | 1:A1:1340:U:H5' | 1.87 | 0.74 |
| 1:A1:1559:A:N3 | 1:A1:1559:A:H2' | 2.02 | 0.74 |
| 5:AD:93:LEU:O | 5:AD:95:ASN:N | 2.20 | 0.74 |
| 17:AP:127:VAL:HA | 17:AP:128:SER:C | 2.11 | 0.74 |
| 23:Ab:22:UNK:O | 23:Ab:24:UNK:N | 2.20 | 0.74 |
| 29:B1:86:G:N2 | 29:B1:98:G:H2' | 2.02 | 0.74 |
| 29:B1:423:A:H2' | 29:B1:424:G:H8 | 1.51 | 0.74 |
| 29:B1:693:A:H2' | 29:B1:694:C:C6 | 2.21 | 0.74 |
| 29:B1:1060:U:H4' | 29:B1:1060:U:OP1 | 1.86 | 0.74 |
| 29:B1:1482:A:C4' | 29:B1:1483:G:OP2 | 2.31 | 0.74 |
| 29:B1:1558:A:OP1 | 29:B1:1559:A:C1' | 2.34 | 0.74 |
| 29:B1:2723:U:H2' | 29:B1:2724:U:C6 | 2.21 | 0.74 |
| 29:B1:3073:A:H2' | 29:B1:3074:G:O5' | 1.87 | 0.74 |
| 29:B1:3181:C:O2 | 29:B1:3181:C:H2' | 1.87 | 0.74 |
| 29:B1:3303:G:C1' | 29:B1:3304:U:H5' | 2.17 | 0.74 |
| 29:B1:3386:G:H8 | 29:B1:3386:G:O5' | 1.69 | 0.74 |
| 33:BB:188:LYS:C | 33:BB:190:ARG:H | 1.93 | 0.74 |
| 37:BF:124:GLU:C | 37:BF:126:GLN:H | 1.96 | 0.74 |
| 1:C1:811:A:O2' | 1:C1:858:G:H8 | 1.70 | 0.74 |
| 1:C1:855:A:O2' | 1:C1:856:A:H5' | 1.87 | 0.74 |
| 1:C1:884:A:H2' | 1:C1:885:G:C8 | 2.22 | 0.74 |
| 1:C1:1138:A:C2 | 1:C1:1139:A:C5 | 2.75 | 0.74 |
| 1:C1:1242:A:H4' | 10:CI:78:THR:HA | 1.69 | 0.74 |
| 1:C1:1291:G:H2' | 1:C1:1292:G:C8 | 2.23 | 0.74 |
| 1:C1:1408:G:H1' | 1:C1:1409:G:N2 | 2.01 | 0.74 |
| 1:C1:1515:A:C8 | 15:CN:58:LEU:CB | 2.70 | 0.74 |
| 29:D1:11:A:O2' | 29:D1:12:A:H5' | 1.87 | 0.74 |
| 29:D1:155:G:C4 | 29:D1:156:G:H2' | 2.22 | 0.74 |
| 29:D1:269:G:C2 | 29:D1:294:U:C5 | 2.76 | 0.74 |
| 29:D1:280:U:O2 | 29:D1:286:U:C2 | 2.41 | 0.74 |
| 29:D1:750:G:H5" | 29:D1:751:A:OP2 | 1.88 | 0.74 |
| 29:D1:953:G:H3' | 29:D1:953:G:C8 | 2.22 | 0.74 |
| 29:D1:1461:A:H2' | 29:D1:1462:A:C8 | 2.22 | 0.74 |
| 29:D1:1686:U:H4' | 29:D1:1687:U:OP2 | 1.82 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1724:U:O2' | 29:D1:1725:C:O4' | 2.05 | 0.74 |
| 29:D1:2272:G:H5' | 29:D1:2272:G:N3 | 2.01 | 0.74 |
| 29:D1:2295:A:C5 | 29:D1:2296:A:N6 | 2.55 | 0.74 |
| 29:D1:2513:U:C1' | 29:D1:2514:U:OP1 | 2.36 | 0.74 |
| 29:D1:2588:U:H5' | 29:D1:2589:G:OP2 | 1.86 | 0.74 |
| 29:D1:2746:A:C6 | 29:D1:2747:A:C2 | 2.75 | 0.74 |
| 29:D1:2834:G:O2' | 29:D1:2835:U:O5' | 2.05 | 0.74 |
| 29:D1:2875:U:H2' | 29:D1:2875:U:O2 | 1.87 | 0.74 |
| 29:D1:3225:C:H42 | 29:D1:3261:C:N4 | 1.84 | 0.74 |
| 29:D1:3327:G:C2 | 29:D1:3379:C:C2 | 2.75 | 0.74 |
| 29:D1:3328:G:H1 | 29:D1:3375:A:N6 | 1.85 | 0.74 |
| 38:DG:222:HIS:CB | 38:DG:227:GLY:HA3 | 2.17 | 0.74 |
| 39:DH:99:PRO:C | 39:DH:101:THR:N | 2.42 | 0.74 |
| 43:DN:107:GLU:O | 43:DN:110:ALA:N | 2.20 | 0.74 |
| 1:A1:226:A:HO2' | 1:A1:227:U:H6 | 1.33 | 0.74 |
| 1:A1:336:G:H2' | 1:A1:338:C:H5 | 1.52 | 0.74 |
| 1:A1:791:A:H2' | 1:A1:792:U:C6 | 2.20 | 0.74 |
| 1:A1:804:A:H2' | 1:A1:805:U:H6 | 1.52 | 0.74 |
| 1:A1:846:G:O2' | 1:A1:847:A:O4' | 2.06 | 0.74 |
| 1:A1:871:G:N3 | 1:A1:872:G:C8 | 2.55 | 0.74 |
| 1:A1:1346:A:C8 | 1:A1:1347:U:C6 | 2.74 | 0.74 |
| 29:B1:102:C:C1' | 29:B1:103:G:OP1 | 2.35 | 0.74 |
| 29:B1:197:G:C8 | 29:B1:395:A:H1' | 2.21 | 0.74 |
| 29:B1:284:A:N6 | 29:B1:2785:A:C4' | 2.50 | 0.74 |
| 29:B1:365:A:C2 | 29:B1:366:A:C4 | 2.75 | 0.74 |
| 29:B1:422:A:H1' | 29:B1:423:A:H5' | 1.68 | 0.74 |
| 29:B1:515:C:C2' | 29:B1:516:A:O4' | 2.26 | 0.74 |
| 29:B1:1481:A:N7 | 29:B1:1859:A:N7 | 2.36 | 0.74 |
| 29:B1:1581:C:H3' | 29:B1:1582:C:H4' | 1.70 | 0.74 |
| 29:B1:2255:A:C5 | 74:B1:3438:OHX:N5 | 2.55 | 0.74 |
| 29:B1:2293:C:H5 | 29:B1:2294:U:C5 | 2.05 | 0.74 |
| 29:B1:2912:G:C2 | 29:B1:2913:C:O2 | 2.41 | 0.74 |
| 29:B1:2912:G:O4' | 29:B1:3131:U:H5' | 1.87 | 0.74 |
| 29:B1:2970:C:H3' | 29:B1:2971:A:C5' | 2.17 | 0.74 |
| 29:B1:3104:U:C2' | 29:B1:3105:U:H5' | 2.15 | 0.74 |
| 30:B2:56:A:H5" | 30:B2:56:A:H8 | 1.52 | 0.74 |
| 34:BC:154:TYR:N | 34:BC:155:ALA:HB2 | 2.00 | 0.74 |
| 35:BD:76:ARG:HA | 35:BD:88:GLY:HA2 | 1.69 | 0.74 |
| 41:BJ:177:ASP:HA | 41:BJ:178:ARG:C | 2.09 | 0.74 |
| 46:BQ:33:ALA:C | 46:BQ:35:ALA:H | 1.95 | 0.74 |
| 59:Bd:64:MET:O | 59:Bd:66:TYR:N | 2.20 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:114:C:C4 | 1:C1:248:U:C4 | 2.75 | 0.74 |
| 1:C1:708:C:H2' | 1:C1:709:C:O4' | 1.86 | 0.74 |
| 1:C1:806:A:H2' | 1:C1:807:A:H5" | 1.68 | 0.74 |
| 1:C1:973:A:O4' | 29:D1:847:A:C2 | 2.40 | 0.74 |
| 1:C1:974:A:H5' | 29:D1:848:A:C1' | 2.17 | 0.74 |
| 1:C1:1456:C:H5" | 1:C1:1457:C:H5" | 1.69 | 0.74 |
| 1:C1:1458:G:C5' | 1:C1:1459:C:C5 | 2.62 | 0.74 |
| 1:C1:1516:A:H3' | 1:C1:1517:U:C5' | 2.18 | 0.74 |
| 16:CO:54:ASP:HA | 16:CO:59:GLY:CA | 2.17 | 0.74 |
| 29:D1:501:A:N6 | 29:D1:502:U:C4 | 2.55 | 0.74 |
| 29:D1:660:A:C2 | 29:D1:1435:A:H2 | 2.04 | 0.74 |
| 29:D1:726:G:C4 | 29:D1:744:A:N6 | 2.54 | 0.74 |
| 29:D1:775:A:H2' | 29:D1:776:U:O4' | 1.88 | 0.74 |
| 29:D1:1517:G:H2' | 29:D1:1518:U:C6 | 2.22 | 0.74 |
| 29:D1:1581:C:H3' | 29:D1:1582:C:H4' | 1.68 | 0.74 |
| 29:D1:1596:C:H2' | 29:D1:1597:C:C6 | 2.23 | 0.74 |
| 29:D1:2281:A:O2' | 29:D1:2282:U:H5" | 1.87 | 0.74 |
| 29:D1:2703:A:C5' | 29:D1:2704:A:H5' | 2.16 | 0.74 |
| 29:D1:2955:U:H2' | 29:D1:2956:A:H8 | 1.52 | 0.74 |
| 29:D1:3110:C:C2 | 29:D1:3111:U:C6 | 2.76 | 0.74 |
| 1:A1:273:G:C8 | 1:A1:273:G:OP1 | 2.40 | 0.74 |
| 1:A1:1200:G:H5' | 1:A1:1201:G:C8 | 2.22 | 0.74 |
| 1:A1:1348:A:H2' | 1:A1:1349:G:H5" | 1.67 | 0.74 |
| 1:A1:1358:G:N3 | 1:A1:1358:G:H2' | 2.01 | 0.74 |
| 1:A1:1466:G:C6 | 1:A1:1467:C:N4 | 2.55 | 0.74 |
| 1:A1:1575:G:OP1 | 1:A1:1575:G:H4' | 1.87 | 0.74 |
| 29:B1:23:A:OP1 | 74:B1:3406:OHX:N5 | 2.20 | 0.74 |
| 29:B1:30:G:C6 | 29:B1:55:G:O6 | 2.40 | 0.74 |
| 29:B1:281:G:C6 | 29:B1:282:G:O6 | 2.41 | 0.74 |
| 29:B1:606:C:H3' | 29:B1:607:A:H8 | 0.94 | 0.74 |
| 29:B1:1705:U:O2' | 29:B1:1706:C:O5' | 2.06 | 0.74 |
| 29:B1:2270:A:C2 | 29:B1:2271:A:C4 | 2.76 | 0.74 |
| 29:B1:2280:A:C5 | 29:B1:2282:U:C5 | 2.76 | 0.74 |
| 29:B1:2642:A:H5" | 29:B1:2643:A:OP2 | 1.88 | 0.74 |
| 29:B1:2880:U:H2' | 29:B1:2881:C:H5' | 1.68 | 0.74 |
| 29:B1:2912:G:N1 | 29:B1:2913:C:O2 | 2.20 | 0.74 |
| 29:B1:3074:G:O2' | 29:B1:3075:G:H5' | 1.87 | 0.74 |
| 29:B1:3215:A:O5' | 29:B1:3218:A:C5' | 2.36 | 0.74 |
| 30:B2:3:U:H2' | 30:B2:4:U:H6 | 1.52 | 0.74 |
| 30:B2:23:A:H2' | 30:B2:24:A:C8 | 2.23 | 0.74 |
| 30:B2:38:U:O2' | 30:B2:40:C:H5" | 1.87 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:B3:59:A:H4' | 31:B3:60:U:H5" | 1.69 | 0.74 |
| 70:Bq:13:UNK:O | 70:Bq:14:UNK:O | 2.06 | 0.74 |
| 1:C1:394:C:C2' | 1:C1:395:U:H5' | 2.17 | 0.74 |
| 1:C1:527:A:OP1 | 1:C1:528:U:H3' | 1.86 | 0.74 |
| 1:C1:1123:C:C5 | 1:C1:1124:A:C5 | 2.75 | 0.74 |
| 1:C1:1235:C:H2' | 1:C1:1236:A:H8 | 1.51 | 0.74 |
| 1:C1:1243:G:H2' | 1:C1:1244:A:N7 | 2.03 | 0.74 |
| 1:C1:1347:U:H2' | 1:C1:1349:G:N7 | 2.03 | 0.74 |
| 1:C1:1633:A:H1' | 1:C1:1634:C:OP2 | 1.87 | 0.74 |
| 29:D1:572:A:N7 | 29:D1:573:C:C5 | 2.55 | 0.74 |
| 29:D1:674:G:H2' | 29:D1:675:C:H6 | 1.50 | 0.74 |
| 29:D1:775:A:C2' | 29:D1:776:U:C4' | 2.64 | 0.74 |
| 29:D1:2369:G:H2' | 29:D1:2370:G:C8 | 2.23 | 0.74 |
| 29:D1:2725:U:C4 | 29:D1:2727:A:N3 | 2.55 | 0.74 |
| 29:D1:3209:A:C5 | 29:D1:3210:A:C6 | 2.76 | 0.74 |
| 30:D2:105:C:H2' | 30:D2:106:U:H5' | 1.68 | 0.74 |
| 31:D3:40:A:C4 | 31:D3:41:A:C8 | 2.76 | 0.74 |
| 1:A1:809:A:C2 | 1:A1:810:G:N1 | 2.56 | 0.74 |
| 1:A1:992:A:N1 | 1:A1:1012:U:C2 | 2.55 | 0.74 |
| 1:A1:1132:A:N3 | 1:A1:1133:A:C8 | 2.56 | 0.74 |
| 1:A1:1358:G:H5' | 1:A1:1359:C:OP2 | 1.87 | 0.74 |
| 29:B1:23:A:H3' | 29:B1:24:G:H8 | 1.51 | 0.74 |
| 29:B1:141:C:H2' | 29:B1:142:C:C6 | 2.22 | 0.74 |
| 29:B1:596:C:C3' | 29:B1:597:G:H5" | 2.18 | 0.74 |
| 29:B1:722:G:N1 | 29:B1:748:U:N3 | 2.36 | 0.74 |
| 29:B1:1075:A:H2 | 69:Bp:246:UNK:HA | 1.53 | 0.74 |
| 29:B1:1152:G:O5' | 29:B1:1152:G:C8 | 2.40 | 0.74 |
| 29:B1:1466:G:C6 | 29:B1:1511:U:C5 | 2.74 | 0.74 |
| 29:B1:1716:U:H2' | 29:B1:1716:U:O2 | 1.87 | 0.74 |
| 29:B1:1795:U:O2' | 29:B1:1796:G:P | 2.45 | 0.74 |
| 29:B1:2279:A:H4' | 29:B1:2280:A:H5' | 1.68 | 0.74 |
| 29:B1:2904:U:H3' | 29:B1:2904:U:O2 | 1.88 | 0.74 |
| 29:B1:2942:C:H3' | 29:B1:2942:C:C6 | 2.21 | 0.74 |
| 30:B2:49:G:C8 | 30:B2:49:G:OP2 | 2.41 | 0.74 |
| 45:BP:192:LYS:C | 45:BP:194:LEU:H | 1.94 | 0.74 |
| 1:C1:10:G:C2 | 1:C1:11:A:C4 | 2.76 | 0.74 |
| 1:C1:141:U:O4 | 25:Cd:116:UNK:O | 2.06 | 0.74 |
| 1:C1:142:G:C6 | 1:C1:266:A:N6 | 2.55 | 0.74 |
| 1:C1:251:A:H2' | 1:C1:252:U:H5' | 1.70 | 0.74 |
| 1:C1:750:U:H2' | 1:C1:751:G:H5' | 1.70 | 0.74 |
| 1:C1:776:G:C2 | 1:C1:785:U:C2 | 2.76 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:844:A:N7 | 74:C1:1917:OHX:N2 | 2.36 | 0.74 |
| 1:C1:1334:U:H5" | 1:C1:1335:U:OP2 | 1.87 | 0.74 |
| 1:C1:1753:A:C6 | 1:C1:1754:A:C6 | 2.75 | 0.74 |
| 1:C1:1757:G:C5 | 1:C1:1758:U:C5 | 2.75 | 0.74 |
| 9:CH:28:VAL:O | 9:CH:41:ARG:HA | 1.87 | 0.74 |
| 29:D1:213:A:N6 | 29:D1:227:G:H2' | 2.02 | 0.74 |
| 29:D1:593:C:H3' | 29:D1:609:G:N2 | 2.02 | 0.74 |
| 29:D1:600:G:N2 | 29:D1:604:G:C6 | 2.55 | 0.74 |
| 29:D1:715:A:H2 | 29:D1:784:A:C4' | 1.85 | 0.74 |
| 29:D1:953:G:H3' | 29:D1:953:G:H8 | 1.51 | 0.74 |
| 29:D1:1063:G:OP1 | 29:D1:1063:G:O4' | 2.04 | 0.74 |
| 29:D1:1448:U:O2' | 29:D1:1449:A:H5' | 1.87 | 0.74 |
| 29:D1:2561:A:OP1 | 29:D1:2561:A:H3' | 1.88 | 0.74 |
| 29:D1:2775:U:O2' | 29:D1:2776:C:P | 2.45 | 0.74 |
| 29:D1:3328:G:H2' | 29:D1:3328:G:N3 | 2.00 | 0.74 |
| 29:D1:3377:G:C2' | 29:D1:3378:C:OP1 | 2.34 | 0.74 |
| 29:D1:3383:G:N3 | 29:D1:3383:G:H2' | 2.03 | 0.74 |
| 30:D2:98:C:O2 | 30:D2:98:C:H2' | 1.87 | 0.74 |
| 31:D3:64:U:H2' | 31:D3:64:U:O2 | 1.87 | 0.74 |
| 40:DI:170:LYS:O | 40:DI:171:ASP:C | 2.30 | 0.74 |
| 46:DQ:47:TYR:O | 46:DQ:49:GLU:N | 2.21 | 0.74 |
| 46:DQ:128:ARG:H | 46:DQ:139:TYR:H | 1.35 | 0.74 |
| 1:A1:992:A:N1 | 1:A1:1012:U:O2 | 2.20 | 0.74 |
| 1:A1:1010:C:H5" | 74:A1:1958:OHX:N6 | 2.01 | 0.74 |
| 29:B1:153:U:H4' | 29:B1:158:G:N2 | 2.01 | 0.74 |
| 29:B1:284:A:H62 | 29:B1:2785:A:C4' | 2.00 | 0.74 |
| 29:B1:516:A:H3' | 29:B1:517:G:H8 | 1.49 | 0.74 |
| 29:B1:1157:G:H5' | 29:B1:1157:G:H8 | 1.51 | 0.74 |
| 29:B1:1196:C:H5 | 29:B1:1197:A:C6 | 2.05 | 0.74 |
| 29:B1:1236:G:H4' | 29:B1:1237:G:OP2 | 1.88 | 0.74 |
| 29:B1:2792:A:H8 | 29:B1:2792:A:O5' | 1.70 | 0.74 |
| 29:B1:2970:C:H3' | 29:B1:2971:A:H5" | 1.69 | 0.74 |
| 29:B1:3201:C:P | 29:B1:3201:C:C6 | 2.77 | 0.74 |
| 29:B1:3214:U:O3' | 29:B1:3218:A:H5' | 1.87 | 0.74 |
| 29:B1:3261:C:OP2 | 29:B1:3262:U:OP1 | 2.06 | 0.74 |
| 30:B2:46:A:N3 | 30:B2:46:A:O5' | 2.21 | 0.74 |
| 39:BH:185:ARG:C | 39:BH:187:GLY:H | 1.95 | 0.74 |
| 62:Bg:42:CYS:N | 74:Bg:101:OHX:N2 | 2.33 | 0.74 |
| 1:C1:104:A:H5' | 1:C1:105:A:OP2 | 1.88 | 0.74 |
| 1:C1:1101:G:OP2 | 1:C1:1101:G:C8 | 2.40 | 0.74 |
| 1:C1:1632:C:O2' | 1:C1:1633:A:H8 | 1.70 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:CC:67:ASN:O | 4:CC:71:LEU:CB | 2.35 | 0.74 |
| 11:CJ:12:LYS:HA | 11:CJ:17:THR:HA | 1.69 | 0.74 |
| 29:D1:102:C:H1' | 29:D1:103:G:OP1 | 1.88 | 0.74 |
| 29:D1:660:A:C2 | 29:D1:1435:A:C2 | 2.75 | 0.74 |
| 29:D1:1658:G:H2' | 29:D1:1659:U:H6 | 1.53 | 0.74 |
| 29:D1:2255:A:P | 74:D1:3415:OHX:N1 | 2.61 | 0.74 |
| 29:D1:2434:U:H4' | 29:D1:2435:G:H5' | 1.67 | 0.74 |
| 29:D1:3028:G:C2 | 29:D1:3029:A:N3 | 2.56 | 0.74 |
| 29:D1:3150:A:H5" | 34:DC:134:SER:HA | 1.70 | 0.74 |
| 30:D2:23:A:C8 | 30:D2:24:A:N7 | 2.55 | 0.74 |
| 30:D2:77:G:H1' | 30:D2:78:U:OP2 | 1.87 | 0.74 |
| 40:DI:100:ASN:O | 40:DI:114:VAL:HA | 1.88 | 0.74 |
| 42:DK:84:LEU:HA | 42:DK:89:TYR:CA | 2.16 | 0.74 |
| 46:DQ:10:ASN:H | 46:DQ:11:PRO:HA | 0.66 | 0.74 |
| 1:A1:148:A:H5" | 1:A1:149:C:OP2 | 1.88 | 0.74 |
| 1:A1:557:G:OP1 | 1:A1:557:G:H3' | 1.88 | 0.74 |
| 1:A1:1153:G:H8 | 1:A1:1153:G:OP2 | 1.69 | 0.74 |
| 1:A1:1348:A:C8 | 1:A1:1348:A:H3' | 2.22 | 0.74 |
| 29:B1:264:G:H3' | 29:B1:265:A:H8 | 1.52 | 0.74 |
| 29:B1:282:G:P | 29:B1:282:G:H3' | 2.26 | 0.74 |
| 29:B1:353:G:O2' | 29:B1:364:G:O6 | 2.04 | 0.74 |
| 29:B1:759:U:C4 | 29:B1:773:G:C5 | 2.75 | 0.74 |
| 29:B1:775:A:H2' | 29:B1:776:U:O4' | 1.87 | 0.74 |
| 29:B1:1042:U:OP2 | 29:B1:1042:U:C6 | 2.41 | 0.74 |
| 29:B1:1340:G:H2' | 29:B1:1341:U:H6 | 1.53 | 0.74 |
| 29:B1:1440:G:H2' | 29:B1:1441:G:C8 | 2.22 | 0.74 |
| 29:B1:1794:G:C2 | 33:BB:185:ALA:HB1 | 2.22 | 0.74 |
| 29:B1:2092:A:H3' | 29:B1:2093:A:C5' | 2.17 | 0.74 |
| 29:B1:2315:G:N2 | 29:B1:2316:G:N7 | 2.36 | 0.74 |
| 29:B1:3261:C:O5' | 29:B1:3262:U:OP1 | 2.06 | 0.74 |
| 29:B1:3383:G:N3 | 29:B1:3383:G:H2' | 2.02 | 0.74 |
| 31:B3:103:G:C6 | 31:B3:105:A:N6 | 2.56 | 0.74 |
| 35:BD:259:ASP:HA | 35:BD:260:GLN:C | 2.13 | 0.74 |
| 1:C1:331:A:H4' | 1:C1:1676:U:H6 | 1.52 | 0.74 |
| 1:C1:365:G:H2' | 1:C1:366:A:O5' | 1.86 | 0.74 |
| 1:C1:439:U:H1' | 1:C1:440:U:OP1 | 1.88 | 0.74 |
| 1:C1:1244:A:N3 | 1:C1:1244:A:C2' | 2.50 | 0.74 |
| 1:C1:1392:U:H2' | 1:C1:1393:C:C6 | 2.22 | 0.74 |
| 1:C1:1426:C:O2' | 1:C1:1427:A:H4' | 1.87 | 0.74 |
| 9:CH:100:ALA:O | 9:CH:104:ALA:CB | 2.36 | 0.74 |
| 29:D1:284:A:N6 | 29:D1:2785:A:H4' | 2.02 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:504:A:C2 | 29:D1:587:U:O2 | 2.41 | 0.74 |
| 29:D1:886:C:C2' | 29:D1:887:G:H5' | 2.18 | 0.74 |
| 29:D1:955:U:H2' | 29:D1:956:U:H6 | 1.49 | 0.74 |
| 29:D1:2137:U:H4' | 29:D1:2137:U:OP1 | 1.86 | 0.74 |
| 29:D1:2381:G:O2' | 29:D1:2382:G:H5' | 1.88 | 0.74 |
| 29:D1:2420:C:C2' | 29:D1:2421:U:H5' | 2.17 | 0.74 |
| 29:D1:2727:A:C2 | 29:D1:2728:G:C6 | 2.75 | 0.74 |
| 31:D3:143:U:H2' | 31:D3:144:G:C8 | 2.23 | 0.74 |
| 36:DE:100:ALA:C | 36:DE:102:GLY:H | 1.96 | 0.74 |
| 40:DI:161:LEU:O | 40:DI:163:GLN:N | 2.20 | 0.74 |
| 43:DN:22:LEU:CB | 43:DN:65:LEU:HA | 2.18 | 0.74 |
| 1:A1:153:G:H2' | 1:A1:154:G:C8 | 2.23 | 0.74 |
| 1:A1:741:C:H2' | 1:A1:741:C:O2 | 1.86 | 0.74 |
| 1:A1:818:C:H2' | 1:A1:819:G:N7 | 2.03 | 0.74 |
| 1:A1:1345:A:H2' | 1:A1:1346:A:N7 | 2.03 | 0.74 |
| 1:A1:1609:U:H2' | 1:A1:1610:G:O4' | 1.86 | 0.74 |
| 18:AQ:92:ILE:HA | 18:AQ:98:GLN:O | 1.88 | 0.74 |
| 29:B1:221:A:C2 | 29:B1:224:C:C5 | 2.74 | 0.74 |
| 29:B1:498:A:H2' | 29:B1:499:G:H8 | 1.53 | 0.74 |
| 29:B1:588:G:C6 | 29:B1:612:U:H5 | 2.05 | 0.74 |
| 29:B1:609:G:H4' | 29:B1:610:G:OP1 | 1.88 | 0.74 |
| 29:B1:610:G:N3 | 29:B1:610:G:C3' | 2.51 | 0.74 |
| 29:B1:715:A:H3' | 54:BY:115:LYS:CA | 2.18 | 0.74 |
| 29:B1:995:U:N3 | 29:B1:2637:A:C8 | 2.56 | 0.74 |
| 29:B1:1037:C:HO2' | 29:B1:1038:C:H6 | 1.36 | 0.74 |
| 29:B1:1390:A:C5 | 29:B1:1418:A:C5 | 2.76 | 0.74 |
| 29:B1:1453:A:C1' | 29:B1:1850:A:C2 | 2.71 | 0.74 |
| 29:B1:1530:U:O2 | 29:B1:1530:U:H2' | 1.85 | 0.74 |
| 29:B1:1560:G:O6 | 29:B1:1579:C:N3 | 2.21 | 0.74 |
| 29:B1:2630:C:O3' | 49:BT:6:GLY:HA3 | 1.88 | 0.74 |
| 29:B1:2750:U:O2' | 29:B1:2751:G:H5' | 1.88 | 0.74 |
| 31:B3:65:A:C2 | 31:B3:96:A:C5 | 2.76 | 0.74 |
| 31:B3:75:G:OP1 | 31:B3:90:U:C5' | 2.35 | 0.74 |
| 47:BR:128:ALA:HA | 47:BR:131:ALA:HB3 | 1.70 | 0.74 |
| 54:BY:110:GLY:O | 54:BY:128:ARG:CB | 2.36 | 0.74 |
| 1:C1:457:G:C2' | 1:C1:458:G:H5' | 2.18 | 0.74 |
| 1:C1:518:A:H61 | 1:C1:535:A:C1' | 2.00 | 0.74 |
| 1:C1:557:G:OP1 | 1:C1:557:G:H3' | 1.88 | 0.74 |
| 1:C1:1240:U:C3' | 1:C1:1241:G:H5' | 2.18 | 0.74 |
| 29:D1:134:U:N3 | 58:Dc:67:ARG:HA | 2.02 | 0.74 |
| 29:D1:537:A:N6 | 29:D1:556:U:O2 | 2.21 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:859:G:N2 | 29:D1:861:C:H1' | 2.03 | 0.74 |
| 29:D1:1232:C:H4' | 73:DM:35:SER:CA | 2.17 | 0.74 |
| 29:D1:1913:A:C5 | 29:D1:2120:A:N7 | 2.55 | 0.74 |
| 29:D1:2145:A:H1' | 29:D1:2958:A:H4' | 1.68 | 0.74 |
| 29:D1:2599:U:H2' | 29:D1:2600:C:C6 | 2.23 | 0.74 |
| 29:D1:2680:A:H3' | 29:D1:2681:U:C5' | 2.18 | 0.74 |
| 29:D1:3176:G:H2' | 29:D1:3177:G:H5" | 1.67 | 0.74 |
| 29:D1:3297:U:O2 | 29:D1:3298:C:C6 | 2.41 | 0.74 |
| 29:D1:3331:U:C2' | 29:D1:3332:U:H5' | 2.17 | 0.74 |
| 1:A1:162:A:C3' | 1:A1:163:G:H8 | 2.00 | 0.74 |
| 1:A1:385:A:OP2 | 1:A1:385:A:H8 | 1.70 | 0.74 |
| 1:A1:1243:G:C6 | 1:A1:1244:A:N6 | 2.55 | 0.74 |
| 1:A1:1395:G:H2' | 1:A1:1396:U:H5' | 1.70 | 0.74 |
| 1:A1:1595:U:C6 | 1:A1:1596:C:N3 | 2.55 | 0.74 |
| 29:B1:269:G:C2 | 29:B1:294:U:C5 | 2.76 | 0.74 |
| 29:B1:384:A:H3' | 29:B1:385:A:C8 | 2.16 | 0.74 |
| 29:B1:560:G:N2 | 29:B1:561:C:N3 | 2.36 | 0.74 |
| 29:B1:1294:A:H5" | 29:B1:1294:A:H8 | 1.52 | 0.74 |
| 29:B1:1627:U:H5' | 29:B1:1628:C:OP2 | 1.88 | 0.74 |
| 29:B1:2137:U:H2' | 29:B1:2137:U:O2 | 1.88 | 0.74 |
| 29:B1:2650:U:OP2 | 29:B1:2650:U:H6 | 1.69 | 0.74 |
| 29:B1:2729:U:H4' | 29:B1:2730:G:OP2 | 1.87 | 0.74 |
| 29:B1:3101:G:H2' | 29:B1:3102:G:C5' | 2.18 | 0.74 |
| 29:B1:3141:A:H5' | 29:B1:3143:C:O2 | 1.87 | 0.74 |
| 29:B1:3219:G:C8 | 29:B1:3257:C:OP1 | 2.39 | 0.74 |
| 30:B2:1:G:H2' | 30:B2:1:G:N3 | 2.01 | 0.74 |
| 46:BQ:10:ASN:N | 46:BQ:11:PRO:CA | 2.30 | 0.74 |
| 51:BV:41:LYS:C | 51:BV:43:ARG:H | 1.95 | 0.74 |
| 1:C1:257:A:H2' | 1:C1:258:C:C5' | 2.16 | 0.74 |
| 1:C1:380:U:H2' | 1:C1:380:U:O2 | 1.87 | 0.74 |
| 1:C1:1089:U:C2' | 1:C1:1090:C:H5' | 2.17 | 0.74 |
| 10:CI:59:LYS:O | 10:CI:63:ALA:HB3 | 1.87 | 0.74 |
| 29:D1:284:A:C2 | 29:D1:306:A:C8 | 2.76 | 0.74 |
| 29:D1:293:C:N3 | 29:D1:294:U:O2 | 2.21 | 0.74 |
| 29:D1:331:G:O2' | 29:D1:332:C:OP1 | 2.06 | 0.74 |
| 29:D1:533:A:H2' | 29:D1:534:U:C4 | 2.23 | 0.74 |
| 29:D1:1042:U:H2' | 29:D1:1043:C:H6 | 1.51 | 0.74 |
| 29:D1:1658:G:H2' | 29:D1:1659:U:C6 | 2.23 | 0.74 |
| 29:D1:2633:U:O4 | 49:DT:3:LYS:N | 2.20 | 0.74 |
| 29:D1:2942:C:H3' | 29:D1:2942:C:C6 | 2.21 | 0.74 |
| 29:D1:2998:U:H2' | 29:D1:2999:U:H6 | 1.52 | 0.74 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3144:G:O6 | 74:D1:3431:OHX:N2 | 2.21 | 0.74 |
| 29:D1:3215:A:O5' | 29:D1:3218:A:C5' | 2.34 | 0.74 |
| 29:D1:3316:A:OP2 | 29:D1:3318:G:H4' | 1.88 | 0.74 |
| 29:D1:3390:G:C6 | 29:D1:3391:A:C5 | 2.76 | 0.74 |
| 29:D1:3392:U:N3 | 29:D1:3393:U:O4 | 2.20 | 0.74 |
| 30:D2:14:U:C2' | 30:D2:15:C:O5' | 2.36 | 0.74 |
| 42:DK:85:LYS:O | 42:DK:86:VAL:C | 2.30 | 0.74 |
| 44:DO:85:THR:HA | 44:DO:87:GLN:N | 2.03 | 0.74 |
| 54:DY:69:TRP:N | 54:DY:110:GLY:HA2 | 2.02 | 0.74 |
| 1:A1:1237:G:H2' | 1:A1:1238:A:H8 | 1.52 | 0.73 |
| 8:AG:127:ARG:C | 8:AG:129:TYR:H | 1.96 | 0.73 |
| 15:AN:12:GLN:C | 15:AN:14:GLN:N | 2.39 | 0.73 |
| 17:AP:131:SER:C | 17:AP:133:LEU:HA | 2.12 | 0.73 |
| 29:B1:10:C:H2' | 29:B1:10:C:O2 | 1.87 | 0.73 |
| 29:B1:16:A:O2' | 29:B1:17:G:H5' | 1.87 | 0.73 |
| 29:B1:306:A:H61 | 29:B1:2783:U:H3 | 1.33 | 0.73 |
| 29:B1:548:G:C4 | 29:B1:549:U:H1' | 2.23 | 0.73 |
| 29:B1:699:A:H2' | 29:B1:700:C:O4' | 1.88 | 0.73 |
| 29:B1:760:G:H2' | 29:B1:760:G:N3 | 2.03 | 0.73 |
| 29:B1:912:G:H2' | 29:B1:914:A:N7 | 2.03 | 0.73 |
| 29:B1:1435:A:H5' | 29:B1:1436:U:C5' | 2.14 | 0.73 |
| 29:B1:1445:U:C5 | 29:B1:1446:A:N7 | 2.56 | 0.73 |
| 29:B1:1449:A:H3' | 29:B1:1450:G:H8 | 1.53 | 0.73 |
| 29:B1:1627:U:H5 | 29:B1:1628:C:C4 | 2.05 | 0.73 |
| 29:B1:1827:C:H2' | 29:B1:1828:A:C8 | 2.23 | 0.73 |
| 29:B1:2266:U:N3 | 29:B1:2267:C:N4 | 2.36 | 0.73 |
| 29:B1:2296:A:O2' | 29:B1:2297:U:H5' | 1.87 | 0.73 |
| 29:B1:2667:A:N6 | 29:B1:2690:G:C6 | 2.55 | 0.73 |
| 29:B1:2872:A:C4' | 29:B1:2873:U:OP1 | 2.35 | 0.73 |
| 29:B1:3209:A:N1 | 29:B1:3210:A:N1 | 2.36 | 0.73 |
| 29:B1:3290:G:H2' | 29:B1:3291:G:C8 | 2.23 | 0.73 |
| 29:B1:3298:C:N4 | 29:B1:3299:A:N6 | 2.36 | 0.73 |
| 29:B1:3360:C:H2' | 29:B1:3360:C:O2 | 1.86 | 0.73 |
| 29:B1:3376:A:H5' | 29:B1:3377:G:H5" | 1.69 | 0.73 |
| 30:B2:25:G:N2 | 30:B2:26:C:C2 | 2.56 | 0.73 |
| 34:BC:93:VAL:CB | 34:BC:156:SER:H | 2.01 | 0.73 |
| 1:C1:210:A:H2' | 1:C1:211:U:H6 | 1.53 | 0.73 |
| 1:C1:1152:A:O2' | 1:C1:1153:G:H5' | 1.88 | 0.73 |
| 1:C1:1559:A:H2' | 1:C1:1559:A:N3 | 2.03 | 0.73 |
| 1:C1:1595:U:H6 | 1:C1:1596:C:N3 | 1.85 | 0.73 |
| 18:CQ:92:ILE:HA | 18:CQ:98:GLN:O | 1.87 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:308:A:H2 | 29:D1:2782:U:C2 | 2.06 | 0.73 |
| 29:D1:411:U:O2' | 29:D1:412:G:H5' | 1.87 | 0.73 |
| 29:D1:790:U:C2 | 29:D1:791:A:C8 | 2.75 | 0.73 |
| 29:D1:872:U:O2' | 29:D1:873:C:H5' | 1.87 | 0.73 |
| 29:D1:963:G:H8 | 29:D1:963:G:C5' | 2.01 | 0.73 |
| 29:D1:1108:U:H2' | 29:D1:1109:U:C6 | 2.23 | 0.73 |
| 29:D1:1294:A:O2' | 29:D1:1295:G:P | 2.45 | 0.73 |
| 29:D1:1435:A:C8 | 29:D1:1437:C:C6 | 2.76 | 0.73 |
| 29:D1:1504:A:C5 | 29:D1:1505:C:C5 | 2.76 | 0.73 |
| 29:D1:2173:U:H2' | 29:D1:2174:G:H8 | 1.52 | 0.73 |
| 29:D1:2839:G:C5 | 29:D1:2850:G:N2 | 2.56 | 0.73 |
| 29:D1:3303:G:O2' | 29:D1:3304:U:H5' | 1.88 | 0.73 |
| 29:D1:3310:A:C6 | 29:D1:3311:C:C6 | 2.76 | 0.73 |
| 31:D3:65:A:C2 | 31:D3:96:A:C5 | 2.76 | 0.73 |
| 1:A1:26:A:OP1 | 1:A1:27:U:OP2 | 2.06 | 0.73 |
| 1:A1:389:G:H2' | 1:A1:390:G:H8 | 1.53 | 0.73 |
| 1:A1:1000:C:H5 | 1:A1:1003:A:OP2 | 1.71 | 0.73 |
| 1:A1:1146:G:H8 | 1:A1:1635:A:C2 | 2.06 | 0.73 |
| 1:A1:1186:U:H2' | 1:A1:1187:U:O4' | 1.88 | 0.73 |
| 1:A1:1378:U:C5' | 1:A1:1379:C:H5" | 2.18 | 0.73 |
| 1:A1:1420:C:C5 | 1:A1:1421:A:C8 | 2.71 | 0.73 |
| 1:A1:1627:U:O2' | 1:A1:1628:U:C6 | 2.38 | 0.73 |
| 15:AN:66:SER:HA | 15:AN:81:THR:HA | 1.69 | 0.73 |
| 29:B1:618:C:O2' | 29:B1:619:A:H5' | 1.88 | 0.73 |
| 29:B1:622:A:H2' | 29:B1:623:U:C6 | 2.23 | 0.73 |
| 29:B1:1328:C:H2' | 29:B1:1329:U:C5 | 2.23 | 0.73 |
| 29:B1:1896:A:C2 | 29:B1:3093:C:C6 | 2.76 | 0.73 |
| 29:B1:1939:G:O4' | 29:B1:2114:C:H1' | 1.89 | 0.73 |
| 29:B1:2260:U:H2' | 29:B1:2261:G:N7 | 2.02 | 0.73 |
| 29:B1:2287:C:C2 | 29:B1:2298:U:O2 | 2.40 | 0.73 |
| 29:B1:2289:U:O2' | 29:B1:2290:C:H5' | 1.88 | 0.73 |
| 29:B1:2309:A:H2 | 29:B1:2961:G:H2' | 1.53 | 0.73 |
| 29:B1:2678:A:O4' | 29:B1:2679:A:H2 | 1.72 | 0.73 |
| 29:B1:3308:C:C5 | 29:B1:3309:G:N3 | 2.56 | 0.73 |
| 36:BE:18:THR:CB | 36:BE:19:PRO:HA | 2.17 | 0.73 |
| 36:BE:42:ALA:CB | 49:BT:69:LYS:O | 2.36 | 0.73 |
| 1:C1:89:G:H2' | 1:C1:90:C:H6 | 1.52 | 0.73 |
| 1:C1:183:U:O2' | 1:C1:184:C:H5" | 1.88 | 0.73 |
| 1:C1:551:G:H5" | 1:C1:552:G:OP2 | 1.88 | 0.73 |
| 1:C1:734:A:C6 | 1:C1:735:C:C2 | 2.77 | 0.73 |
| 1:C1:778:G:N2 | 1:C1:783:G:C5 | 2.56 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:992:A:H2' | 1:C1:993:A:C5' | 2.15 | 0.73 |
| 1:C1:1003:A:N7 | 1:C1:1005:A:N1 | 2.36 | 0.73 |
| 1:C1:1378:U:C5' | 1:C1:1379:C:H5" | 2.18 | 0.73 |
| 29:D1:88:A:H2' | 29:D1:89:A:O4' | 1.88 | 0.73 |
| 29:D1:308:A:H2 | 29:D1:2782:U:N3 | 1.86 | 0.73 |
| 29:D1:514:G:O2' | 37:DF:145:LEU:O | 2.06 | 0.73 |
| 29:D1:727:G:H22 | 29:D1:741:U:H3 | 1.35 | 0.73 |
| 29:D1:1180:A:C5 | 29:D1:1182:A:C8 | 2.75 | 0.73 |
| 29:D1:1192:C:OP2 | 29:D1:1192:C:N1 | 2.20 | 0.73 |
| 29:D1:1864:A:H5" | 29:D1:1865:A:OP2 | 1.88 | 0.73 |
| 29:D1:2151:C:H6 | 29:D1:2151:C:C5' | 1.96 | 0.73 |
| 29:D1:2279:A:N7 | 29:D1:2288:G:C6 | 2.57 | 0.73 |
| 29:D1:2376:G:O2' | 29:D1:2377:G:O5' | 2.06 | 0.73 |
| 29:D1:2594:C:H2' | 29:D1:2595:A:C8 | 2.23 | 0.73 |
| 29:D1:2594:C:H6 | 29:D1:2594:C:OP2 | 1.71 | 0.73 |
| 29:D1:2928:C:C2' | 29:D1:2929:C:H5' | 2.18 | 0.73 |
| 29:D1:3314:A:C2' | 34:DC:119:TYR:N | 2.49 | 0.73 |
| 31:D3:81:U:H3' | 31:D3:82:U:C5' | 2.17 | 0.73 |
| 35:DD:16:THR:CB | 35:DD:17:ALA:HA | 2.18 | 0.73 |
| 47:DR:45:ASN:O | 47:DR:48:VAL:N | 2.21 | 0.73 |
| 63:Dh:46:UNK:O | 63:Dh:50:UNK:N | 2.21 | 0.73 |
| 1:A1:272:U:H4' | 1:A1:273:G:OP2 | 1.86 | 0.73 |
| 1:A1:1008:G:C2 | 1:A1:1009:U:H1' | 2.23 | 0.73 |
| 1:A1:1022:C:C4' | 1:A1:1124:A:H61 | 2.00 | 0.73 |
| 1:A1:1199:G:C5 | 1:A1:1200:G:H1' | 2.23 | 0.73 |
| 1:A1:1348:A:C2' | 1:A1:1349:G:H5" | 2.18 | 0.73 |
| 1:A1:1399:C:H2' | 1:A1:1400:A:C8 | 2.23 | 0.73 |
| 8:AG:125:LEU:O | 8:AG:126:ALA:C | 2.31 | 0.73 |
| 29:B1:122:A:H2' | 29:B1:123:A:C8 | 2.23 | 0.73 |
| 29:B1:213:A:N6 | 29:B1:227:G:H2' | 2.04 | 0.73 |
| 29:B1:392:G:C2 | 29:B1:393:U:C6 | 2.77 | 0.73 |
| 29:B1:537:A:N7 | 29:B1:556:U:O4 | 2.21 | 0.73 |
| 29:B1:2931:C:C4 | 29:B1:2932:U:H5 | 2.06 | 0.73 |
| 29:B1:3055:U:O2' | 29:B1:3056:U:H3' | 1.88 | 0.73 |
| 30:B2:22:A:N1 | 36:BE:277:LEU:CB | 2.50 | 0.73 |
| 30:B2:121:U:H5" | 36:BE:263:GLU:CB | 2.18 | 0.73 |
| 31:B3:138:A:C2 | 31:B3:139:U:C2 | 2.75 | 0.73 |
| 31:B3:143:U:H2' | 31:B3:144:G:C8 | 2.22 | 0.73 |
| 34:BC:350:ALA:O | 34:BC:351:LEU:CB | 2.36 | 0.73 |
| 38:BG:69:ALA:HB1 | 38:BG:75:TYR:N | 2.03 | 0.73 |
| 43:BN:33:ALA:HB1 | 43:BN:48:GLY:N | 2.01 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:341:A:C4 | 1:C1:342:C:C5 | 2.76 | 0.73 |
| 1:C1:617:U:O4' | 1:C1:1031:U:O2 | 2.05 | 0.73 |
| 1:C1:1084:A:O2' | 1:C1:1085:G:H5' | 1.87 | 0.73 |
| 1:C1:1091:A:H4' | 1:C1:1092:A:O5' | 1.86 | 0.73 |
| 1:C1:1332:C:O2' | 1:C1:1333:C:H6 | 1.70 | 0.73 |
| 1:C1:1763:A:OP2 | 1:C1:1768:G:OP2 | 2.05 | 0.73 |
| 16:CO:85:ASP:O | 16:CO:87:GLU:N | 2.21 | 0.73 |
| 21:CT:181:TRP:HA | 21:CT:189:GLU:H | 1.52 | 0.73 |
| 29:D1:23:A:C2 | 29:D1:24:G:C4 | 2.76 | 0.73 |
| 29:D1:213:A:C2 | 29:D1:214:G:H1' | 2.22 | 0.73 |
| 29:D1:285:A:C2 | 29:D1:305:U:O5' | 2.41 | 0.73 |
| 29:D1:698:U:C1' | 29:D1:699:A:OP1 | 2.36 | 0.73 |
| 29:D1:1196:C:C5 | 29:D1:1197:A:C5 | 2.76 | 0.73 |
| 29:D1:1259:A:H5" | 29:D1:1260:A:OP2 | 1.88 | 0.73 |
| 29:D1:1354:G:H8 | 29:D1:1355:A:C6 | 2.06 | 0.73 |
| 29:D1:1543:G:C2 | 29:D1:1544:G:C8 | 2.76 | 0.73 |
| 29:D1:1604:G:H8 | 29:D1:1605:A:H5" | 1.53 | 0.73 |
| 29:D1:2640:A:C8 | 29:D1:2641:U:H5 | 2.07 | 0.73 |
| 29:D1:2667:A:H3' | 29:D1:2667:A:C4 | 2.23 | 0.73 |
| 46:DQ:10:ASN:N | 46:DQ:11:PRO:CA | 2.28 | 0.73 |
| 1:A1:440:U:H3' | 1:A1:441:A:H5' | 1.68 | 0.73 |
| 1:A1:740:A:H2' | 1:A1:741:C:H5" | 1.70 | 0.73 |
| 1:A1:811:A:O2' | 1:A1:858:G:H8 | 1.70 | 0.73 |
| 1:A1:817:A:H5" | 1:A1:818:C:OP2 | 1.89 | 0.73 |
| 1:A1:1028:C:H1' | 1:A1:1029:U:H5" | 1.70 | 0.73 |
| 1:A1:1492:A:H4' | 1:A1:1493:A:OP1 | 1.86 | 0.73 |
| 9:AH:64:ALA:HA | 9:AH:68:ALA:H | 1.51 | 0.73 |
| 29:B1:383:G:H3' | 29:B1:384:A:C5' | 2.15 | 0.73 |
| 29:B1:532:A:H3' | 29:B1:533:A:C8 | 2.24 | 0.73 |
| 29:B1:826:G:C4 | 29:B1:827:A:C8 | 2.76 | 0.73 |
| 29:B1:887:G:H2' | 29:B1:888:A:C8 | 2.23 | 0.73 |
| 29:B1:1194:G:N3 | 29:B1:1309:U:O2 | 2.21 | 0.73 |
| 29:B1:1247:U:H3 | 29:B1:1274:A:H61 | 1.34 | 0.73 |
| 29:B1:1303:A:C2 | 29:B1:2887:A:C6 | 2.75 | 0.73 |
| 29:B1:2556:C:N4 | 29:B1:2557:A:C2 | 2.56 | 0.73 |
| 29:B1:2594:C:H6 | 29:B1:2594:C:OP2 | 1.71 | 0.73 |
| 29:B1:2673:A:H61 | 29:B1:2681:U:H3 | 1.34 | 0.73 |
| 29:B1:2854:U:O2' | 29:B1:2855:U:H5' | 1.89 | 0.73 |
| 29:B1:3028:G:O2' | 29:B1:3029:A:O4' | 2.05 | 0.73 |
| 29:B1:3097:C:H2' | 29:B1:3098:G:H8 | 1.53 | 0.73 |
| 29:B1:3107:U:O2' | 29:B1:3108:G:H5' | 1.88 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3316:A:OP2 | 29:B1:3318:G:H4' | 1.89 | 0.73 |
| 30:B2:11:A:H1' | 30:B2:67:G:N2 | 2.03 | 0.73 |
| 30:B2:14:U:C2' | 30:B2:15:C:O5' | 2.35 | 0.73 |
| 30:B2:42:A:C4 | 30:B2:45:A:N6 | 2.55 | 0.73 |
| 31:B3:74:U:H1' | 31:B3:89:A:C8 | 2.24 | 0.73 |
| 59:Bd:59:THR:C | 59:Bd:61:THR:H | 1.94 | 0.73 |
| 1:C1:250:C:OP2 | 1:C1:250:C:H3' | 1.88 | 0.73 |
| 1:C1:1201:G:N3 | 1:C1:1201:G:C3' | 2.45 | 0.73 |
| 1:C1:1764:C:H6 | 1:C1:1764:C:C5' | 1.99 | 0.73 |
| 7:CF:129:ARG:O | 7:CF:131:ILE:N | 2.22 | 0.73 |
| 28:Ch:14:UNK:O | 28:Ch:18:UNK:CB | 2.36 | 0.73 |
| 29:D1:70:A:C2 | 29:D1:71:A:O2' | 2.41 | 0.73 |
| 29:D1:71:A:C8 | 29:D1:72:C:C5 | 2.77 | 0.73 |
| 29:D1:312:C:H2' | 29:D1:313:A:H8 | 1.52 | 0.73 |
| 29:D1:338:A:H4' | 29:D1:338:A:OP2 | 1.88 | 0.73 |
| 29:D1:420:G:N3 | 29:D1:2384:A:H2' | 2.04 | 0.73 |
| 29:D1:580:C:N3 | 29:D1:581:U:C5 | 2.56 | 0.73 |
| 29:D1:665:A:C2' | 29:D1:666:A:H5' | 2.18 | 0.73 |
| 29:D1:693:A:H2' | 29:D1:694:C:C6 | 2.23 | 0.73 |
| 29:D1:710:A:O2' | 29:D1:711:A:H5' | 1.88 | 0.73 |
| 29:D1:716:A:H2' | 29:D1:717:C:C3' | 2.17 | 0.73 |
| 29:D1:1223:A:C2 | 29:D1:1285:G:C8 | 2.77 | 0.73 |
| 29:D1:1258:U:H2' | 29:D1:1259:A:O5' | 1.88 | 0.73 |
| 29:D1:1691:U:H2' | 29:D1:1692:U:C5 | 2.24 | 0.73 |
| 29:D1:2148:U:C4' | 29:D1:2149:A:OP1 | 2.33 | 0.73 |
| 29:D1:2652:U:H2' | 29:D1:2653:C:H6 | 1.50 | 0.73 |
| 29:D1:2688:U:O3' | 29:D1:2689:A:C8 | 2.42 | 0.73 |
| 29:D1:2714:G:N2 | 29:D1:2751:G:C5 | 2.56 | 0.73 |
| 29:D1:3326:G:C2 | 29:D1:3327:G:C8 | 2.76 | 0.73 |
| 30:D2:10:C:O3' | 30:D2:13:A:C8 | 2.41 | 0.73 |
| 31:D3:66:A:H2' | 31:D3:67:U:C6 | 2.24 | 0.73 |
| 35:DD:119:ARG:C | 35:DD:121:ALA:N | 2.44 | 0.73 |
| 40:DI:73:SER:O | 40:DI:74:LEU:C | 2.31 | 0.73 |
| 1:A1:605:A:N7 | 1:A1:606:A:C6 | 2.56 | 0.73 |
| 1:A1:644:C:N4 | 1:A1:691:C:H42 | 1.86 | 0.73 |
| 1:A1:1480:G:C5' | 1:A1:1480:G:C8 | 2.70 | 0.73 |
| 1:A1:1599:C:O2' | 1:A1:1600:A:N3 | 2.21 | 0.73 |
| 1:A1:1651:A:N3 | 1:A1:1652:C:C6 | 2.57 | 0.73 |
| 29:B1:161:G:H2' | 29:B1:162:G:H8 | 1.53 | 0.73 |
| 29:B1:385:A:C2 | 29:B1:386:A:C5 | 2.76 | 0.73 |
| 29:B1:652:G:OP1 | 29:B1:1436:U:O2' | 2.05 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:736:A:C8 | 29:B1:737:G:N7 | 2.56 | 0.73 |
| 29:B1:952:A:H1' | 29:B1:1114:U:O2' | 1.88 | 0.73 |
| 29:B1:1042:U:OP2 | 29:B1:1042:U:H6 | 1.71 | 0.73 |
| 29:B1:1210:U:H2' | 29:B1:1211:U:H5' | 1.70 | 0.73 |
| 29:B1:1282:G:C2' | 29:B1:1283:C:H5' | 2.18 | 0.73 |
| 29:B1:2802:A:H8 | 61:Bf:57:VAL:H | 1.32 | 0.73 |
| 29:B1:2875:U:H2' | 29:B1:2875:U:O2 | 1.88 | 0.73 |
| 29:B1:2980:U:N3 | 29:B1:2981:U:H5 | 1.87 | 0.73 |
| 29:B1:3057:U:H5' | 29:B1:3086:A:H61 | 1.54 | 0.73 |
| 29:B1:3325:G:C2 | 29:B1:3326:G:C4 | 2.76 | 0.73 |
| 29:B1:3353:G:N3 | 29:B1:3353:G:H2' | 2.02 | 0.73 |
| 29:B1:3381:U:H2' | 29:B1:3383:G:C4 | 2.24 | 0.73 |
| 29:B1:3390:G:C2 | 29:B1:3391:A:C4 | 2.77 | 0.73 |
| 31:B3:29:U:H2' | 31:B3:30:C:H6 | 1.53 | 0.73 |
| 31:B3:37:A:N6 | 31:B3:104:A:H2' | 2.03 | 0.73 |
| 31:B3:67:U:H2' | 31:B3:68:G:C8 | 2.24 | 0.73 |
| 31:B3:128:U:C5' | 31:B3:129:C:H5 | 2.01 | 0.73 |
| 34:BC:46:PHE:O | 34:BC:47:LEU:CB | 2.34 | 0.73 |
| 43:BN:23:ILE:O | 43:BN:32:LEU:HA | 1.86 | 0.73 |
| 70:Bq:14:UNK:O | 70:Bq:15:UNK:C | 2.36 | 0.73 |
| 1:C1:542:A:O2' | 1:C1:543:C:H3' | 1.88 | 0.73 |
| 1:C1:1541:G:C6 | 1:C1:1542:G:C6 | 2.77 | 0.73 |
| 1:C1:1722:A:H8 | 1:C1:1723:U:C6 | 2.06 | 0.73 |
| 10:CI:19:GLY:H | 13:CL:98:TYR:HA | 1.53 | 0.73 |
| 29:D1:11:A:C1' | 29:D1:1557:A:N6 | 2.52 | 0.73 |
| 29:D1:209:A:O2' | 29:D1:210:U:O2 | 2.07 | 0.73 |
| 29:D1:331:G:N2 | 29:D1:332:C:C2 | 2.57 | 0.73 |
| 29:D1:427:C:N4 | 29:D1:428:A:N6 | 2.35 | 0.73 |
| 29:D1:514:G:H3' | 29:D1:515:C:C6 | 2.22 | 0.73 |
| 29:D1:636:C:O2 | 29:D1:636:C:O2' | 2.07 | 0.73 |
| 29:D1:985:U:H2' | 29:D1:986:U:C6 | 2.23 | 0.73 |
| 29:D1:986:U:C2 | 29:D1:987:U:C6 | 2.76 | 0.73 |
| 29:D1:1263:A:N6 | 72:DL:135:THR:HA | 2.04 | 0.73 |
| 29:D1:1440:G:H2' | 29:D1:1441:G:C8 | 2.24 | 0.73 |
| 29:D1:1539:A:N6 | 29:D1:1583:A:C8 | 2.57 | 0.73 |
| 29:D1:1570:U:H4' | 31:D3:127:U:O4 | 1.87 | 0.73 |
| 29:D1:2640:A:C5 | 29:D1:2641:U:C5 | 2.75 | 0.73 |
| 29:D1:2676:A:H2 | 29:D1:2680:A:N1 | 1.86 | 0.73 |
| 29:D1:2761:G:H1 | 29:D1:2795:U:H3' | 1.54 | 0.73 |
| 29:D1:3316:A:N6 | 29:D1:3388:C:H42 | 1.85 | 0.73 |
| 29:D1:3333:G:N2 | 29:D1:3370:A:H4' | 2.03 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3378:C:O3' | 34:DC:313:HIS:HA | 1.89 | 0.73 |
| 29:D1:3381:U:H2' | 29:D1:3383:G:C4 | 2.23 | 0.73 |
| 30:D2:24:A:H2' | 30:D2:25:G:H8 | 1.54 | 0.73 |
| 44:DO:159:ARG:O | 44:DO:161:ALA:N | 2.19 | 0.73 |
| 45:DP:35:VAL:O | 45:DP:104:VAL:HA | 1.87 | 0.73 |
| 59:Dd:4:GLY:O | 59:Dd:5:THR:C | 2.32 | 0.73 |
| 1:A1:25:C:H6 | 1:A1:25:C:H3' | 1.53 | 0.73 |
| 1:A1:58:U:H2' | 1:A1:58:U:O2 | 1.88 | 0.73 |
| 1:A1:331:A:C2 | 1:A1:332:U:C2 | 2.77 | 0.73 |
| 1:A1:1221:A:O2' | 1:A1:1222:C:H5' | 1.89 | 0.73 |
| 1:A1:1764:C:H6 | 1:A1:1764:C:C5' | 2.01 | 0.73 |
| 29:B1:11:A:N1 | 31:B3:148:G:C6 | 2.56 | 0.73 |
| 29:B1:425:G:C8 | 29:B1:425:G:C5' | 2.71 | 0.73 |
| 29:B1:522:A:N7 | 29:B1:523:A:C8 | 2.57 | 0.73 |
| 29:B1:610:G:H5" | 29:B1:611:A:OP2 | 1.88 | 0.73 |
| 29:B1:959:C:H41 | 29:B1:2801:A:C5' | 2.02 | 0.73 |
| 29:B1:963:G:H8 | 29:B1:963:G:C5' | 2.00 | 0.73 |
| 29:B1:1103:A:O2' | 29:B1:1104:G:P | 2.46 | 0.73 |
| 29:B1:1913:A:N3 | 29:B1:2120:A:H8 | 1.87 | 0.73 |
| 29:B1:2407:C:C2 | 29:B1:2408:U:C5 | 2.76 | 0.73 |
| 29:B1:2776:C:H5' | 29:B1:2777:G:H5" | 1.71 | 0.73 |
| 29:B1:2980:U:N3 | 29:B1:2981:U:C5 | 2.56 | 0.73 |
| 30:B2:64:A:H1' | 30:B2:65:G:C5' | 2.19 | 0.73 |
| 31:B3:17:A:C5 | 31:B3:18:U:C5 | 2.77 | 0.73 |
| 34:BC:4:ARG:C | 34:BC:6:TYR:N | 2.44 | 0.73 |
| 34:BC:345:ASN:O | 34:BC:347:SER:N | 2.21 | 0.73 |
| 42:BK:133:ARG:N | 42:BK:155:THR:H | 1.86 | 0.73 |
| 57:Bb:73:THR:HA | 57:Bb:93:ALA:O | 1.89 | 0.73 |
| 1:C1:65:A:C4' | 1:C1:66:U:OP1 | 2.33 | 0.73 |
| 1:C1:153:G:H2' | 1:C1:154:G:C8 | 2.24 | 0.73 |
| 1:C1:457:G:O2' | 1:C1:458:G:H5' | 1.88 | 0.73 |
| 1:C1:1112:G:N2 | 1:C1:1134:C:C4 | 2.56 | 0.73 |
| 1:C1:1346:A:C8 | 1:C1:1347:U:C6 | 2.76 | 0.73 |
| 1:C1:1429:G:H2' | 1:C1:1430:U:C6 | 2.24 | 0.73 |
| 1:C1:1516:A:H8 | 15:CN:16:GLN:CB | 2.02 | 0.73 |
| 20:CS:37:ASN:CB | 20:CS:38:ILE:HA | 2.17 | 0.73 |
| 29:D1:11:A:C2 | 31:D3:148:G:C6 | 2.76 | 0.73 |
| 29:D1:173:G:O6 | 29:D1:245:U:C2 | 2.42 | 0.73 |
| 29:D1:517:G:H2' | 29:D1:518:G:N9 | 2.03 | 0.73 |
| 29:D1:699:A:H2' | 29:D1:700:C:O4' | 1.89 | 0.73 |
| 29:D1:1264:G:H4' | 29:D1:1265:U:OP1 | 1.88 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1288:U:C2' | 29:D1:1289:G:H5" | 2.19 | 0.73 |
| 29:D1:1819:U:C6 | 29:D1:1820:U:H5 | 2.06 | 0.73 |
| 29:D1:1827:C:H2' | 29:D1:1828:A:C8 | 2.24 | 0.73 |
| 29:D1:2573:G:H2' | 29:D1:2574:G:O4' | 1.87 | 0.73 |
| 29:D1:2701:U:O2' | 29:D1:2705:A:C8 | 2.40 | 0.73 |
| 29:D1:2825:C:H5' | 29:D1:2826:U:OP2 | 1.87 | 0.73 |
| 29:D1:3141:A:O4' | 29:D1:3143:C:H2' | 1.88 | 0.73 |
| 29:D1:3179:U:O2' | 29:D1:3180:A:P | 2.45 | 0.73 |
| 29:D1:3209:A:H2' | 29:D1:3210:A:C8 | 2.23 | 0.73 |
| 29:D1:3228:C:C2 | 29:D1:3229:G:N7 | 2.57 | 0.73 |
| 31:D3:29:U:H2' | 31:D3:30:C:H6 | 1.53 | 0.73 |
| 37:DF:40:LEU:HA | 37:DF:85:ILE:CA | 2.19 | 0.73 |
| 38:DG:74:SER:CB | 38:DG:75:TYR:HA | 2.18 | 0.73 |
| 45:DP:18:ARG:O | 45:DP:20:ALA:N | 2.22 | 0.73 |
| 1:A1:217:A:H2' | 1:A1:739:G:OP1 | 1.88 | 0.73 |
| 1:A1:257:A:H2' | 1:A1:258:C:C5' | 2.13 | 0.73 |
| 1:A1:738:G:H2' | 1:A1:739:G:C8 | 2.24 | 0.73 |
| 1:A1:1017:U:H2' | 1:A1:1018:U:C6 | 2.24 | 0.73 |
| 1:A1:1025:A:H2' | 1:A1:1027:A:H5" | 1.70 | 0.73 |
| 1:A1:1099:U:O2' | 1:A1:1100:G:N9 | 2.21 | 0.73 |
| 1:A1:1148:C:N3 | 1:A1:1149:G:O6 | 2.21 | 0.73 |
| 1:A1:1348:A:H5" | 15:AN:11:GLU:HA | 1.71 | 0.73 |
| 1:A1:1600:A:O2' | 1:A1:1602:C:C5 | 2.30 | 0.73 |
| 29:B1:63:A:H2' | 29:B1:64:G:C8 | 2.23 | 0.73 |
| 29:B1:573:C:C2 | 29:B1:574:U:C5 | 2.77 | 0.73 |
| 29:B1:591:G:N1 | 29:B1:592:A:C4 | 2.56 | 0.73 |
| 29:B1:649:A:H2' | 29:B1:650:C:C6 | 2.24 | 0.73 |
| 29:B1:988:U:H2' | 29:B1:989:A:C8 | 2.24 | 0.73 |
| 29:B1:1313:G:N3 | 29:B1:1314:C:C6 | 2.57 | 0.73 |
| 29:B1:1437:C:O2 | 29:B1:1437:C:H2' | 1.89 | 0.73 |
| 29:B1:1857:C:O2' | 29:B1:1858:A:C8 | 2.42 | 0.73 |
| 29:B1:2572:C:H3' | 74:B1:3558:OHX:N5 | 2.03 | 0.73 |
| 29:B1:2806:U:C2' | 29:B1:2807:U:H5' | 2.18 | 0.73 |
| 29:B1:3228:C:C2 | 29:B1:3229:G:N7 | 2.55 | 0.73 |
| 29:B1:3260:G:H2' | 29:B1:3260:G:N3 | 2.02 | 0.73 |
| 30:B2:14:U:C6 | 30:B2:14:U:P | 2.82 | 0.73 |
| 33:BB:229:ALA:O | 33:BB:231:SER:N | 2.21 | 0.73 |
| 1:C1:25:C:H3' | 1:C1:25:C:H6 | 1.53 | 0.73 |
| 1:C1:389:G:H2' | 1:C1:390:G:C8 | 2.23 | 0.73 |
| 1:C1:530:C:H2' | 1:C1:531:C:C6 | 2.24 | 0.73 |
| 1:C1:750:U:O2' | 1:C1:751:G:H5' | 1.88 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:871:G:O2' | 1:C1:872:G:H5" | 1.88 | 0.73 |
| 1:C1:1007:C:H5" | 1:C1:1008:G:OP2 | 1.88 | 0.73 |
| 1:C1:1388:A:C6 | 1:C1:1411:A:C5 | 2.77 | 0.73 |
| 1:C1:1489:U:H5 | 1:C1:1513:G:N1 | 1.87 | 0.73 |
| 1:C1:1609:U:H2' | 1:C1:1610:G:O4' | 1.87 | 0.73 |
| 1:C1:1619:C:C2 | 1:C1:1620:C:H5 | 2.07 | 0.73 |
| 9:CH:64:ALA:HA | 9:CH:68:ALA:N | 2.03 | 0.73 |
| 29:D1:199:A:C6 | 29:D1:219:A:N6 | 2.56 | 0.73 |
| 29:D1:382:U:H2' | 29:D1:383:G:C4' | 2.18 | 0.73 |
| 29:D1:595:G:N2 | 29:D1:610:G:OP1 | 2.20 | 0.73 |
| 29:D1:659:G:H2' | 29:D1:660:A:N7 | 2.03 | 0.73 |
| 29:D1:851:C:H2' | 29:D1:852:U:H6 | 1.54 | 0.73 |
| 29:D1:1186:G:C2' | 29:D1:1187:C:C5' | 2.65 | 0.73 |
| 29:D1:1194:G:N3 | 29:D1:1309:U:O2 | 2.21 | 0.73 |
| 29:D1:1507:G:H8 | 29:D1:1507:G:OP2 | 1.72 | 0.73 |
| 29:D1:2272:G:H4' | 29:D1:2273:G:OP1 | 1.89 | 0.73 |
| 29:D1:3058:U:HO2' | 29:D1:3059:G:P | 2.12 | 0.73 |
| 29:D1:3176:G:C2' | 29:D1:3177:G:H5" | 2.18 | 0.73 |
| 45:DP:137:THR:O | 45:DP:139:GLY:N | 2.21 | 0.73 |
| 1:A1:221:A:C5 | 1:A1:833:U:H5 | 2.06 | 0.73 |
| 1:A1:569:C:O4' | 1:A1:583:C:H4' | 1.88 | 0.73 |
| 1:A1:1109:G:C2 | 1:A1:1110:G:N7 | 2.57 | 0.73 |
| 1:A1:1340:U:O3' | 1:A1:1341:A:H2' | 1.88 | 0.73 |
| 1:A1:1409:G:H5' | 1:A1:1410:A:OP2 | 1.88 | 0.73 |
| 1:A1:1719:A:H2' | 1:A1:1720:G:N7 | 2.04 | 0.73 |
| 4:AC:135:GLU:HA | 4:AC:152:PHE:O | 1.89 | 0.73 |
| 6:AE:62:ARG:N | 6:AE:63:ASP:CB | 2.51 | 0.73 |
| 29:B1:182:U:H3 | 29:B1:234:G:H1 | 1.35 | 0.73 |
| 29:B1:344:A:C5 | 29:B1:345:G:C8 | 2.76 | 0.73 |
| 29:B1:943:U:H3' | 54:BY:10:LYS:HA | 1.69 | 0.73 |
| 29:B1:952:A:H5' | 29:B1:952:A:C8 | 2.23 | 0.73 |
| 29:B1:972:A:H2' | 29:B1:973:A:O4' | 1.89 | 0.73 |
| 29:B1:1013:G:H3' | 29:B1:1014:U:H4' | 1.71 | 0.73 |
| 29:B1:1368:U:H2' | 29:B1:1369:A:H8 | 1.51 | 0.73 |
| 29:B1:2726:C:H5" | 29:B1:2727:A:H5" | 1.70 | 0.73 |
| 29:B1:2806:U:O2' | 29:B1:2807:U:H5' | 1.89 | 0.73 |
| 29:B1:2820:A:H5' | 29:B1:2821:C:OP2 | 1.88 | 0.73 |
| 29:B1:2986:U:H2' | 29:B1:2987:A:H8 | 1.52 | 0.73 |
| 29:B1:3005:A:N3 | 29:B1:3140:G:N2 | 2.36 | 0.73 |
| 29:B1:3072:C:H5 | 29:B1:3073:A:C5 | 2.06 | 0.73 |
| 29:B1:3086:A:O3' | 34:BC:365:PHE:O | 2.07 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3215:A:H5" | 29:B1:3218:A:OP1 | 1.87 | 0.73 |
| 29:B1:3221:C:N3 | 29:B1:3222:U:C5 | 2.56 | 0.73 |
| 29:B1:3245:A:O2' | 29:B1:3246:G:O4' | 2.07 | 0.73 |
| 29:B1:3273:A:H2' | 29:B1:3274:A:O4' | 1.88 | 0.73 |
| 29:B1:3333:G:C2 | 29:B1:3371:G:C8 | 2.77 | 0.73 |
| 29:B1:3363:U:H5" | 29:B1:3364:C:OP2 | 1.89 | 0.73 |
| 74:B1:3536:OHX:N4 | 44:BO:84:PRO:HA | 2.04 | 0.73 |
| 30:B2:54:U:H2' | 30:B2:54:U:O2 | 1.88 | 0.73 |
| 31:B3:69:U:H2' | 31:B3:70:G:C4' | 2.18 | 0.73 |
| 31:B3:106:C:H4' | 31:B3:107:G:O5' | 1.86 | 0.73 |
| 54:BY:131:SER:C | 54:BY:133:LEU:N | 2.45 | 0.73 |
| 57:Bb:109:LEU:O | 57:Bb:110:ALA:C | 2.29 | 0.73 |
| 1:C1:14:C:P | 3:CB:161:LYS:O | 2.46 | 0.73 |
| 1:C1:61:A:N3 | 1:C1:61:A:H2' | 2.03 | 0.73 |
| 1:C1:749:U:H2' | 1:C1:750:U:C6 | 2.23 | 0.73 |
| 1:C1:913:G:H4' | 1:C1:914:G:OP2 | 1.87 | 0.73 |
| 1:C1:1363:U:H2' | 1:C1:1364:G:H1' | 1.70 | 0.73 |
| 1:C1:1681:A:H5' | 1:C1:1682:U:OP2 | 1.88 | 0.73 |
| 21:CT:21:THR:CB | 21:CT:69:GLN:HA | 2.18 | 0.73 |
| 29:D1:430:U:H2' | 29:D1:431:U:H5' | 1.68 | 0.73 |
| 29:D1:511:G:N2 | 29:D1:579:G:N2 | 2.36 | 0.73 |
| 29:D1:1141:C:C2 | 29:D1:1142:G:C8 | 2.76 | 0.73 |
| 29:D1:1624:G:N2 | 29:D1:1822:C:C4 | 2.56 | 0.73 |
| 29:D1:1931:U:C2 | 29:D1:2121:G:C2 | 2.76 | 0.73 |
| 29:D1:2383:C:C2 | 29:D1:2384:A:C8 | 2.77 | 0.73 |
| 29:D1:2761:G:N2 | 29:D1:2795:U:C2 | 2.57 | 0.73 |
| 29:D1:3049:A:C2 | 34:DC:75:ALA:HB2 | 2.23 | 0.73 |
| 29:D1:3104:U:O2 | 29:D1:3129:A:N7 | 2.22 | 0.73 |
| 29:D1:3201:C:C2' | 29:D1:3202:G:H5' | 2.18 | 0.73 |
| 30:D2:91:G:C5 | 30:D2:92:A:N7 | 2.57 | 0.73 |
| 31:D3:114:G:OP2 | 31:D3:114:G:H8 | 1.71 | 0.73 |
| 34:DC:295:ALA:H | 34:DC:305:ILE:H | 1.37 | 0.73 |
| 37:DF:160:SER:CB | 38:DG:49:ALA:HB2 | 2.19 | 0.73 |
| 1:A1:115:G:H21 | 1:A1:334:G:H21 | 1.35 | 0.73 |
| 1:A1:732:G:H1' | 1:A1:734:A:H61 | 1.52 | 0.73 |
| 1:A1:757:A:C5 | 1:A1:758:U:C5 | 2.76 | 0.73 |
| 1:A1:881:A:H5" | 1:A1:882:U:OP2 | 1.89 | 0.73 |
| 1:A1:899:G:N2 | 1:A1:915:A:H2 | 1.85 | 0.73 |
| 1:A1:1783:C:H2' | 1:A1:1784:C:H6 | 1.54 | 0.73 |
| 17:AP:104:LEU:O | 17:AP:105:ALA:HB2 | 1.89 | 0.73 |
| 29:B1:96:G:N2 | 29:B1:97:U:H1' | 2.04 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:337:G:N2 | 31:B3:27:U:C2 | 2.57 | 0.73 |
| 29:B1:592:A:C6 | 29:B1:593:C:C6 | 2.76 | 0.73 |
| 29:B1:595:G:N2 | 29:B1:610:G:OP1 | 2.21 | 0.73 |
| 29:B1:951:A:H2' | 29:B1:952:A:C5' | 2.10 | 0.73 |
| 29:B1:2279:A:O5' | 29:B1:2280:A:H5" | 1.88 | 0.73 |
| 29:B1:2592:G:C6 | 74:B1:3449:OHX:N3 | 2.57 | 0.73 |
| 29:B1:2667:A:H62 | 29:B1:2690:G:H1 | 1.36 | 0.73 |
| 29:B1:2682:C:H5' | 29:B1:2683:U:OP2 | 1.87 | 0.73 |
| 29:B1:3111:U:C2' | 29:B1:3112:G:H5' | 2.19 | 0.73 |
| 29:B1:3176:G:C2' | 29:B1:3177:G:H5" | 2.18 | 0.73 |
| 29:B1:3189:G:H2' | 29:B1:3190:C:C6 | 2.23 | 0.73 |
| 29:B1:3265:C:C4 | 29:B1:3266:G:N7 | 2.56 | 0.73 |
| 30:B2:98:C:C3' | 30:B2:99:G:H5" | 2.18 | 0.73 |
| 35:BD:100:PHE:O | 35:BD:101:ALA:C | 2.28 | 0.73 |
| 35:BD:165:ALA:O | 35:BD:166:VAL:C | 2.31 | 0.73 |
| 41:BJ:69:ARG:O | 41:BJ:72:ALA:HB3 | 1.88 | 0.73 |
| 44:BO:78:GLY:N | 44:BO:79:ALA:HB2 | 2.03 | 0.73 |
| 1:C1:1285:U:H4' | 1:C1:1286:U:OP1 | 1.87 | 0.73 |
| 1:C1:1579:U:C2 | 1:C1:1580:C:C5 | 2.77 | 0.73 |
| 1:C1:1604:U:H5" | 1:C1:1605:G:OP2 | 1.89 | 0.73 |
| 1:C1:1636:C:C2 | 1:C1:1765:A:N6 | 2.57 | 0.73 |
| 29:D1:515:C:C3' | 29:D1:516:A:C5' | 2.62 | 0.73 |
| 29:D1:707:U:H5" | 29:D1:782:U:O2' | 1.88 | 0.73 |
| 29:D1:742:G:H2' | 29:D1:743:C:H5" | 1.71 | 0.73 |
| 29:D1:1224:C:H5 | 29:D1:1285:G:O6 | 1.72 | 0.73 |
| 29:D1:1224:C:C5 | 29:D1:1285:G:O6 | 2.42 | 0.73 |
| 29:D1:1302:A:C2 | 29:D1:2887:A:C4 | 2.77 | 0.73 |
| 29:D1:1317:A:C8 | 29:D1:1319:G:N7 | 2.56 | 0.73 |
| 29:D1:1837:U:O2' | 29:D1:1842:A:C8 | 2.40 | 0.73 |
| 29:D1:2146:C:C2' | 29:D1:2147:A:C5' | 2.64 | 0.73 |
| 29:D1:2310:U:H2' | 29:D1:2311:G:O5' | 1.89 | 0.73 |
| 29:D1:2943:G:H2' | 29:D1:2944:U:O4' | 1.89 | 0.73 |
| 29:D1:2999:U:H2' | 29:D1:3000:A:H8 | 1.52 | 0.73 |
| 29:D1:3027:A:C2' | 29:D1:3028:G:C8 | 2.69 | 0.73 |
| 31:D3:74:U:H1' | 31:D3:89:A:C8 | 2.24 | 0.73 |
| 34:DC:12:GLY:O | 34:DC:13:HIS:C | 2.31 | 0.73 |
| 38:DG:30:ARG:O | 38:DG:31:ALA:C | 2.32 | 0.73 |
| 48:DS:62:ARG:O | 48:DS:65:ALA:HB3 | 1.89 | 0.73 |
| 29:B1:264:G:C5 | 29:B1:265:A:C6 | 2.77 | 0.73 |
| 29:B1:509:U:C2 | 29:B1:510:G:C8 | 2.77 | 0.73 |
| 29:B1:715:A:H3' | 54:BY:115:LYS:HA | 1.70 | 0.73 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:725:G:C2' | 29:B1:726:G:H5" | 2.19 | 0.73 |
| 29:B1:836:A:H1' | 29:B1:858:A:C2 | 2.23 | 0.73 |
| 29:B1:1276:U:N3 | 74:B1:3563:OHX:N3 | 2.37 | 0.73 |
| 29:B1:3199:G:H3' | 29:B1:3200:G:H8 | 1.53 | 0.73 |
| 29:B1:3218:A:H4' | 29:B1:3220:G:H8 | 1.54 | 0.73 |
| 30:B2:42:A:H2 | 30:B2:47:C:C4 | 2.07 | 0.73 |
| 31:B3:17:A:H2' | 31:B3:18:U:H6 | 1.53 | 0.73 |
| 31:B3:95:G:C4' | 59:Bd:72:ARG:HA | 2.18 | 0.73 |
| 47:BR:24:VAL:O | 47:BR:27:LYS:N | 2.22 | 0.73 |
| 1:C1:8:U:C5 | 1:C1:1140:G:O6 | 2.41 | 0.73 |
| 1:C1:292:U:H6 | 1:C1:292:U:O5' | 1.72 | 0.73 |
| 1:C1:768:C:O2' | 1:C1:769:A:H5' | 1.87 | 0.73 |
| 1:C1:1005:A:N7 | 1:C1:1006:C:C5 | 2.57 | 0.73 |
| 1:C1:1006:C:C6 | 1:C1:1007:C:H5 | 2.06 | 0.73 |
| 1:C1:1146:G:C8 | 1:C1:1635:A:C2 | 2.69 | 0.73 |
| 1:C1:1197:C:H5' | 1:C1:1198:G:OP2 | 1.89 | 0.73 |
| 1:C1:1348:A:N3 | 1:C1:1378:U:C6 | 2.56 | 0.73 |
| 7:CF:110:HIS:HA | 7:CF:111:VAL:CB | 2.19 | 0.73 |
| 10:CI:45:PHE:CB | 10:CI:46:ALA:HA | 2.17 | 0.73 |
| 17:CP:127:VAL:HA | 17:CP:128:SER:C | 2.14 | 0.73 |
| 29:D1:20:A:O2' | 29:D1:21:G:O5' | 2.05 | 0.73 |
| 29:D1:164:A:N6 | 29:D1:165:A:C6 | 2.56 | 0.73 |
| 29:D1:198:A:H1' | 29:D1:218:G:N3 | 2.04 | 0.73 |
| 29:D1:597:G:N1 | 29:D1:607:A:C2 | 2.57 | 0.73 |
| 29:D1:705:A:H4' | 29:D1:706:A:OP1 | 1.87 | 0.73 |
| 29:D1:1375:G:N3 | 29:D1:1407:A:H2 | 1.85 | 0.73 |
| 29:D1:1504:A:C4 | 29:D1:1505:C:C5 | 2.76 | 0.73 |
| 29:D1:2144:A:C2 | 29:D1:2281:A:C6 | 2.77 | 0.73 |
| 29:D1:2680:A:N6 | 42:DK:56:THR:C | 2.46 | 0.73 |
| 29:D1:2880:U:H2' | 29:D1:2881:C:H5' | 1.70 | 0.73 |
| 29:D1:2900:A:C2' | 29:D1:2901:G:O5' | 2.37 | 0.73 |
| 29:D1:3057:U:H5' | 29:D1:3086:A:H61 | 1.54 | 0.73 |
| 29:D1:3057:U:O2' | 29:D1:3058:U:H4' | 1.89 | 0.73 |
| 29:D1:3200:G:C8 | 29:D1:3200:G:OP2 | 2.41 | 0.73 |
| 29:D1:3314:A:H3' | 34:DC:118:PHE:O | 1.88 | 0.73 |
| 29:D1:3321:C:O2' | 29:D1:3322:A:C3' | 2.35 | 0.73 |
| 34:DC:142:ALA:O | 34:DC:144:ILE:N | 2.21 | 0.73 |
| 38:DG:238:LYS:HA | 38:DG:241:LYS:CB | 2.19 | 0.73 |
| 40:DI:161:LEU:O | 40:DI:164:ILE:N | 2.22 | 0.73 |
| 72:DL:38:SER:N | 72:DL:68:GLN:HA | 2.04 | 0.73 |
| 1:A1:556:A:C3' | 1:A1:558:U:OP2 | 2.36 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1006:C:H5” | 1:A1:1007:C:OP2 | 1.89 | 0.72 |
| 1:A1:1330:G:H2’ | 1:A1:1331:A:C8 | 2.23 | 0.72 |
| 1:A1:1349:G:H4’ | 1:A1:1350:U:H5’ | 1.70 | 0.72 |
| 1:A1:1712:A:H2’ | 1:A1:1713:G:C8 | 2.24 | 0.72 |
| 1:A1:1758:U:H2’ | 1:A1:1759:C:C6 | 2.23 | 0.72 |
| 20:AS:37:ASN:CB | 20:AS:38:ILE:HA | 2.18 | 0.72 |
| 29:B1:156:G:C8 | 29:B1:157:A:C1’ | 2.71 | 0.72 |
| 29:B1:391:A:OP1 | 29:B1:391:A:H4’ | 1.89 | 0.72 |
| 29:B1:637:C:C2 | 29:B1:2361:A:C2 | 2.77 | 0.72 |
| 29:B1:649:A:H2’ | 29:B1:650:C:H6 | 1.53 | 0.72 |
| 29:B1:1167:U:H5’ | 29:B1:1167:U:C6 | 2.23 | 0.72 |
| 29:B1:2167:A:H3’ | 29:B1:2168:A:H8 | 1.52 | 0.72 |
| 29:B1:2370:G:OP2 | 74:B1:3587:OHX:N1 | 2.21 | 0.72 |
| 29:B1:2540:A:H2’ | 29:B1:2541:U:C6 | 2.23 | 0.72 |
| 29:B1:2736:A:O3’ | 49:BT:72:VAL:CB | 2.37 | 0.72 |
| 29:B1:2834:G:HO2’ | 29:B1:2835:U:H6 | 0.77 | 0.72 |
| 29:B1:3201:C:C2’ | 29:B1:3202:G:H5’ | 2.19 | 0.72 |
| 30:B2:77:G:O2’ | 30:B2:78:U:P | 2.47 | 0.72 |
| 31:B3:2:A:C6 | 31:B3:3:A:C2 | 2.77 | 0.72 |
| 31:B3:69:U:N1 | 31:B3:70:G:H1’ | 2.03 | 0.72 |
| 31:B3:76:C:C4’ | 31:B3:77:A:OP1 | 2.37 | 0.72 |
| 31:B3:104:A:H5’ | 31:B3:105:A:O5’ | 1.89 | 0.72 |
| 45:BP:190:VAL:C | 45:BP:192:LYS:H | 1.96 | 0.72 |
| 65:Bk:11:UNK:O | 65:Bk:14:UNK:N | 2.22 | 0.72 |
| 1:C1:129:U:H4’ | 1:C1:129:U:OP1 | 1.87 | 0.72 |
| 1:C1:169:A:C5 | 1:C1:171:A:C6 | 2.77 | 0.72 |
| 1:C1:467:G:H5” | 1:C1:468:A:OP2 | 1.88 | 0.72 |
| 1:C1:644:C:N4 | 1:C1:691:C:H42 | 1.87 | 0.72 |
| 1:C1:1040:G:H1 | 1:C1:1079:U:H3 | 1.35 | 0.72 |
| 1:C1:1338:C:C1’ | 1:C1:1410:A:N3 | 2.52 | 0.72 |
| 1:C1:1388:A:N7 | 1:C1:1411:A:N6 | 2.36 | 0.72 |
| 1:C1:1631:A:C2 | 1:C1:1632:C:H1’ | 2.24 | 0.72 |
| 13:CL:71:GLN:O | 13:CL:75:ASN:N | 2.22 | 0.72 |
| 29:D1:624:G:C2 | 29:D1:625:G:C8 | 2.76 | 0.72 |
| 29:D1:748:U:O2 | 29:D1:748:U:H2’ | 1.85 | 0.72 |
| 29:D1:873:C:H4’ | 29:D1:1907:C:O2’ | 1.89 | 0.72 |
| 29:D1:1003:A:C2 | 29:D1:1004:U:H1’ | 2.24 | 0.72 |
| 29:D1:1224:C:O5’ | 29:D1:1224:C:H6 | 1.70 | 0.72 |
| 29:D1:1405:U:H5’ | 57:Db:58:GLY:CA | 2.14 | 0.72 |
| 29:D1:1930:A:C8 | 29:D1:1932:A:O4’ | 2.42 | 0.72 |
| 29:D1:3172:A:O2’ | 29:D1:3173:G:OP2 | 2.07 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3308:C:C5 | 29:D1:3309:G:N3 | 2.56 | 0.72 |
| 31:D3:58:G:H2' | 31:D3:99:C:O2' | 1.88 | 0.72 |
| 38:DG:187:GLU:O | 38:DG:189:ILE:N | 2.22 | 0.72 |
| 59:Dd:64:MET:O | 59:Dd:66:TYR:N | 2.22 | 0.72 |
| 1:A1:62:A:C4' | 1:A1:63:G:OP2 | 2.37 | 0.72 |
| 1:A1:401:A:O3' | 1:A1:402:C:H4' | 1.89 | 0.72 |
| 1:A1:551:G:C2 | 1:A1:552:G:C5 | 2.77 | 0.72 |
| 1:A1:643:G:C2 | 1:A1:692:C:N3 | 2.57 | 0.72 |
| 1:A1:1374:C:H3' | 1:A1:1375:A:C8 | 2.24 | 0.72 |
| 7:AF:128:CYS:H | 7:AF:137:PHE:HA | 1.54 | 0.72 |
| 9:AH:89:THR:HA | 9:AH:90:ARG:C | 2.14 | 0.72 |
| 29:B1:327:A:H2 | 29:B1:328:U:C5 | 2.05 | 0.72 |
| 29:B1:536:U:H1' | 29:B1:537:A:OP2 | 1.88 | 0.72 |
| 29:B1:659:G:H2' | 29:B1:660:A:N7 | 2.03 | 0.72 |
| 29:B1:693:A:H2' | 29:B1:694:C:H6 | 1.54 | 0.72 |
| 29:B1:908:G:C8 | 29:B1:925:A:N3 | 2.56 | 0.72 |
| 29:B1:1214:U:O2' | 29:B1:1215:U:H5' | 1.88 | 0.72 |
| 29:B1:1479:U:OP2 | 29:B1:1480:G:N2 | 2.21 | 0.72 |
| 29:B1:2701:U:O2' | 29:B1:2705:A:C8 | 2.42 | 0.72 |
| 29:B1:3123:A:N7 | 29:B1:3124:G:C8 | 2.58 | 0.72 |
| 29:B1:3198:U:C3' | 29:B1:3199:G:C8 | 2.69 | 0.72 |
| 29:B1:3199:G:C3' | 29:B1:3200:G:H8 | 2.02 | 0.72 |
| 29:B1:3256:G:H2' | 29:B1:3256:G:N3 | 2.03 | 0.72 |
| 29:B1:3257:C:O2' | 29:B1:3258:U:H5 | 1.72 | 0.72 |
| 31:B3:155:A:C2 | 31:B3:156:U:C2 | 2.77 | 0.72 |
| 1:C1:272:U:H3 | 1:C1:284:G:H1 | 0.77 | 0.72 |
| 29:D1:156:G:H1' | 29:D1:157:A:OP1 | 1.90 | 0.72 |
| 29:D1:383:G:H3' | 29:D1:384:A:C5' | 2.16 | 0.72 |
| 29:D1:592:A:OP2 | 29:D1:592:A:H8 | 1.72 | 0.72 |
| 29:D1:1212:A:H2' | 29:D1:1213:G:C5' | 2.12 | 0.72 |
| 29:D1:2675:C:H41 | 29:D1:2676:A:H61 | 1.35 | 0.72 |
| 29:D1:2696:A:H62 | 29:D1:2697:A:N6 | 1.87 | 0.72 |
| 29:D1:2854:U:O2' | 29:D1:2855:U:H5' | 1.89 | 0.72 |
| 29:D1:3101:G:H2' | 29:D1:3102:G:C5' | 2.17 | 0.72 |
| 29:D1:3189:G:H2' | 29:D1:3190:C:C6 | 2.22 | 0.72 |
| 29:D1:3214:U:O3' | 29:D1:3218:A:H5' | 1.90 | 0.72 |
| 31:D3:17:A:H2' | 31:D3:18:U:H6 | 1.53 | 0.72 |
| 1:A1:33:U:O2 | 1:A1:468:A:C2 | 2.42 | 0.72 |
| 1:A1:64:U:H2' | 1:A1:64:U:O2 | 1.87 | 0.72 |
| 1:A1:1139:A:C2' | 1:A1:1140:G:O5' | 2.33 | 0.72 |
| 1:A1:1235:C:O2' | 1:A1:1236:A:H5' | 1.89 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AB:236:PRO:O | 3:AB:237:VAL:C | 2.30 | 0.72 |
| 29:B1:284:A:N1 | 29:B1:306:A:C8 | 2.57 | 0.72 |
| 29:B1:511:G:C2 | 29:B1:579:G:N1 | 2.58 | 0.72 |
| 29:B1:528:U:H2' | 29:B1:528:U:O2 | 1.87 | 0.72 |
| 29:B1:573:C:H2' | 29:B1:574:U:C5 | 2.23 | 0.72 |
| 29:B1:836:A:H5' | 29:B1:837:A:OP2 | 1.90 | 0.72 |
| 29:B1:938:C:H2' | 29:B1:939:U:H5" | 1.71 | 0.72 |
| 29:B1:1095:U:H2' | 29:B1:1095:U:O2 | 1.87 | 0.72 |
| 29:B1:1229:G:H2' | 29:B1:1230:G:C8 | 2.25 | 0.72 |
| 29:B1:1256:G:O6 | 29:B1:1261:G:H5" | 1.89 | 0.72 |
| 29:B1:1623:G:C2 | 29:B1:1624:G:H1' | 2.24 | 0.72 |
| 29:B1:1696:A:C2 | 29:B1:1697:A:C6 | 2.77 | 0.72 |
| 29:B1:1795:U:O3' | 29:B1:1796:G:O4' | 2.06 | 0.72 |
| 29:B1:1827:C:H2' | 29:B1:1828:A:H8 | 1.54 | 0.72 |
| 29:B1:1913:A:N3 | 29:B1:2120:A:C8 | 2.56 | 0.72 |
| 29:B1:2144:A:C2 | 29:B1:2281:A:C6 | 2.76 | 0.72 |
| 29:B1:2294:U:H5' | 29:B1:2295:A:OP2 | 1.89 | 0.72 |
| 29:B1:2376:G:N1 | 29:B1:2377:G:N1 | 2.37 | 0.72 |
| 29:B1:2561:A:OP1 | 29:B1:2561:A:H3' | 1.89 | 0.72 |
| 29:B1:2608:G:H2' | 29:B1:2609:A:C8 | 2.25 | 0.72 |
| 29:B1:3242:G:H1 | 29:B1:3244:A:C2' | 1.96 | 0.72 |
| 29:B1:3333:G:C2 | 29:B1:3370:A:H4' | 2.24 | 0.72 |
| 31:B3:69:U:H2' | 31:B3:70:G:H4' | 1.72 | 0.72 |
| 1:C1:142:G:C4 | 1:C1:266:A:N6 | 2.57 | 0.72 |
| 1:C1:148:A:H5" | 1:C1:149:C:OP2 | 1.89 | 0.72 |
| 1:C1:1625:C:H2' | 1:C1:1626:U:C6 | 2.24 | 0.72 |
| 1:C1:1684:U:O4 | 1:C1:1721:A:C2 | 2.42 | 0.72 |
| 1:C1:1711:C:H2' | 1:C1:1712:A:C8 | 2.23 | 0.72 |
| 29:D1:122:A:H2' | 29:D1:123:A:C8 | 2.24 | 0.72 |
| 29:D1:391:A:H4' | 29:D1:391:A:OP1 | 1.89 | 0.72 |
| 29:D1:580:C:C2 | 29:D1:581:U:C5 | 2.77 | 0.72 |
| 29:D1:776:U:H5' | 29:D1:777:U:H6 | 1.53 | 0.72 |
| 29:D1:945:C:H5" | 29:D1:946:U:OP2 | 1.89 | 0.72 |
| 29:D1:1236:G:H3' | 29:D1:1237:G:C5' | 2.19 | 0.72 |
| 29:D1:1615:C:H2' | 29:D1:1616:U:H6 | 1.54 | 0.72 |
| 29:D1:1647:A:C2' | 29:D1:1648:A:H5' | 2.18 | 0.72 |
| 29:D1:2540:A:H2' | 29:D1:2541:U:C6 | 2.24 | 0.72 |
| 29:D1:2680:A:OP2 | 29:D1:2681:U:C4 | 2.42 | 0.72 |
| 29:D1:3214:U:OP2 | 29:D1:3215:A:OP2 | 2.07 | 0.72 |
| 29:D1:3271:G:N3 | 29:D1:3272:C:OP1 | 2.22 | 0.72 |
| 30:D2:88:G:C5 | 30:D2:89:G:N7 | 2.57 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:D2:90:U:C4 | 30:D2:91:G:C5 | 2.76 | 0.72 |
| 34:DC:2:SER:O | 34:DC:4:ARG:N | 2.21 | 0.72 |
| 41:DJ:37:GLY:HA3 | 41:DJ:86:HIS:H | 1.53 | 0.72 |
| 1:A1:394:C:N4 | 1:A1:401:A:H62 | 1.85 | 0.72 |
| 1:A1:427:C:C5' | 1:A1:427:C:C6 | 2.72 | 0.72 |
| 1:A1:1160:A:C4 | 1:A1:1161:C:C5 | 2.77 | 0.72 |
| 1:A1:1197:C:O2 | 1:A1:1197:C:H2' | 1.87 | 0.72 |
| 1:A1:1333:C:C2 | 1:A1:1419:G:N2 | 2.58 | 0.72 |
| 1:A1:1346:A:H3' | 1:A1:1347:U:H6 | 1.54 | 0.72 |
| 1:A1:1464:G:O2' | 1:A1:1465:C:H5' | 1.90 | 0.72 |
| 1:A1:1686:C:H2' | 1:A1:1687:U:C6 | 2.22 | 0.72 |
| 7:AF:129:ARG:O | 7:AF:131:ILE:N | 2.21 | 0.72 |
| 25:Ad:107:UNK:O | 25:Ad:109:UNK:N | 2.22 | 0.72 |
| 29:B1:25:U:O2' | 29:B1:26:A:H5' | 1.90 | 0.72 |
| 29:B1:516:A:OP1 | 29:B1:517:G:OP1 | 2.07 | 0.72 |
| 29:B1:524:U:O2' | 29:B1:525:C:H5' | 1.89 | 0.72 |
| 29:B1:661:G:C4 | 29:B1:802:C:O4' | 2.43 | 0.72 |
| 29:B1:952:A:H62 | 29:B1:1142:G:N2 | 1.87 | 0.72 |
| 29:B1:1199:C:O2 | 29:B1:1199:C:H2' | 1.87 | 0.72 |
| 29:B1:1354:G:H8 | 29:B1:1355:A:C6 | 2.07 | 0.72 |
| 29:B1:1415:U:C2 | 29:B1:1416:C:C5 | 2.78 | 0.72 |
| 29:B1:1625:A:H5" | 29:B1:1626:U:H5" | 1.72 | 0.72 |
| 29:B1:2278:C:H2' | 29:B1:2279:A:H5" | 1.70 | 0.72 |
| 29:B1:2359:C:H2' | 29:B1:2360:C:C6 | 2.25 | 0.72 |
| 29:B1:2612:U:H1' | 29:B1:2803:A:C2 | 2.24 | 0.72 |
| 29:B1:3037:U:H2' | 29:B1:3038:U:C6 | 2.25 | 0.72 |
| 29:B1:3219:G:C8 | 29:B1:3257:C:C5' | 2.69 | 0.72 |
| 34:BC:76:VAL:HA | 34:BC:325:LYS:CB | 2.19 | 0.72 |
| 35:BD:119:ARG:C | 35:BD:121:ALA:H | 1.94 | 0.72 |
| 57:Bb:22:SER:C | 57:Bb:24:ARG:H | 1.98 | 0.72 |
| 1:C1:546:U:H2' | 1:C1:547:U:H6 | 1.54 | 0.72 |
| 1:C1:973:A:C4' | 29:D1:847:A:C2 | 2.72 | 0.72 |
| 1:C1:1172:G:C6 | 1:C1:1173:C:N4 | 2.57 | 0.72 |
| 1:C1:1409:G:H5' | 1:C1:1410:A:OP2 | 1.90 | 0.72 |
| 1:C1:1676:U:H4' | 1:C1:1677:C:OP2 | 1.88 | 0.72 |
| 15:CN:54:GLY:HA3 | 15:CN:92:ASP:N | 1.98 | 0.72 |
| 24:Cc:12:UNK:HA | 24:Cc:13:UNK:O | 1.90 | 0.72 |
| 29:D1:534:U:OP2 | 29:D1:534:U:C5 | 2.43 | 0.72 |
| 29:D1:819:U:H2' | 29:D1:820:A:C8 | 2.24 | 0.72 |
| 29:D1:995:U:O4 | 29:D1:2637:A:C4 | 2.43 | 0.72 |
| 29:D1:1130:A:H2' | 29:D1:1132:C:C5 | 2.24 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1140:G:H2' | 29:D1:1141:C:H6 | 1.53 | 0.72 |
| 29:D1:1409:G:C2' | 29:D1:1410:U:H5' | 2.19 | 0.72 |
| 29:D1:1577:G:H2' | 29:D1:1578:C:C6 | 2.24 | 0.72 |
| 29:D1:1912:U:C4 | 29:D1:1913:A:C2 | 2.76 | 0.72 |
| 29:D1:2254:U:C4 | 74:D1:3583:OHX:N6 | 2.58 | 0.72 |
| 29:D1:2267:C:H2' | 29:D1:2268:U:O4' | 1.89 | 0.72 |
| 29:D1:2696:A:C8 | 29:D1:2697:A:N7 | 2.58 | 0.72 |
| 29:D1:3001:C:O2' | 29:D1:3002:C:H5' | 1.88 | 0.72 |
| 29:D1:3085:G:H5' | 29:D1:3331:U:OP1 | 1.89 | 0.72 |
| 29:D1:3139:A:H5' | 29:D1:3139:A:C8 | 2.25 | 0.72 |
| 29:D1:3204:C:H2' | 29:D1:3205:G:OP1 | 1.87 | 0.72 |
| 29:D1:3215:A:P | 29:D1:3218:A:H5" | 2.29 | 0.72 |
| 31:D3:1:A:C2 | 31:D3:2:A:C4 | 2.78 | 0.72 |
| 73:DM:14:LYS:O | 73:DM:17:GLU:N | 2.22 | 0.72 |
| 1:A1:55:A:O2' | 1:A1:56:U:P | 2.47 | 0.72 |
| 1:A1:646:C:C2' | 1:A1:647:G:H5" | 2.19 | 0.72 |
| 1:A1:1246:C:C5 | 1:A1:1247:U:C5 | 2.77 | 0.72 |
| 1:A1:1363:U:H2' | 1:A1:1364:G:H1' | 1.70 | 0.72 |
| 1:A1:1771:U:H2' | 1:A1:1772:C:C6 | 2.23 | 0.72 |
| 28:Ah:2:UNK:O | 28:Ah:3:UNK:C | 2.37 | 0.72 |
| 29:B1:422:A:C1' | 29:B1:423:A:C5' | 2.65 | 0.72 |
| 29:B1:946:U:H2' | 29:B1:947:G:H5' | 1.71 | 0.72 |
| 29:B1:1376:C:C4 | 29:B1:1377:G:N7 | 2.57 | 0.72 |
| 29:B1:1493:G:P | 29:B1:1493:G:H21 | 2.12 | 0.72 |
| 29:B1:1525:G:H1' | 29:B1:1829:G:N3 | 2.04 | 0.72 |
| 29:B1:1618:G:H4' | 31:B3:129:C:H1' | 1.72 | 0.72 |
| 29:B1:2288:G:C4 | 29:B1:2289:U:C5 | 2.78 | 0.72 |
| 29:B1:2513:U:O2' | 29:B1:2514:U:O5' | 2.08 | 0.72 |
| 29:B1:2697:A:H2' | 29:B1:2698:G:H8 | 1.53 | 0.72 |
| 29:B1:2772:C:OP1 | 29:B1:2772:C:H4' | 1.89 | 0.72 |
| 29:B1:2933:A:N6 | 29:B1:2934:A:N1 | 2.37 | 0.72 |
| 29:B1:2997:G:N3 | 29:B1:2998:U:H5' | 2.03 | 0.72 |
| 29:B1:3344:A:OP2 | 29:B1:3344:A:H2' | 1.89 | 0.72 |
| 31:B3:72:A:O2' | 31:B3:73:U:OP2 | 2.08 | 0.72 |
| 31:B3:78:G:C6 | 31:B3:79:A:N6 | 2.57 | 0.72 |
| 37:BF:99:GLU:O | 37:BF:102:ASN:N | 2.23 | 0.72 |
| 59:Bd:38:GLY:O | 59:Bd:40:PRO:O | 2.07 | 0.72 |
| 1:C1:17:C:C2 | 1:C1:18:C:C5 | 2.76 | 0.72 |
| 1:C1:43:A:H2' | 1:C1:44:U:H5" | 1.71 | 0.72 |
| 1:C1:385:A:H8 | 1:C1:385:A:OP2 | 1.72 | 0.72 |
| 1:C1:400:A:H4' | 1:C1:401:A:O5' | 1.89 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:518:A:C8 | 1:C1:519:C:H5” | 2.24 | 0.72 |
| 1:C1:605:A:N7 | 1:C1:606:A:C6 | 2.57 | 0.72 |
| 1:C1:922:G:O2’ | 1:C1:923:A:H8 | 1.73 | 0.72 |
| 1:C1:1099:U:C5 | 1:C1:1100:G:C6 | 2.77 | 0.72 |
| 1:C1:1378:U:C5’ | 1:C1:1379:C:H6 | 2.03 | 0.72 |
| 16:CO:37:PHE:C | 16:CO:39:GLN:H | 1.97 | 0.72 |
| 17:CP:102:VAL:HA | 17:CP:127:VAL:CB | 2.19 | 0.72 |
| 29:D1:19:U:C4 | 29:D1:20:A:N6 | 2.56 | 0.72 |
| 29:D1:221:A:O2’ | 29:D1:223:U:OP2 | 2.07 | 0.72 |
| 29:D1:704:U:H6 | 29:D1:704:U:H3’ | 1.52 | 0.72 |
| 29:D1:716:A:H2’ | 29:D1:717:C:C2’ | 2.18 | 0.72 |
| 29:D1:1232:C:C2 | 29:D1:1261:G:C6 | 2.76 | 0.72 |
| 29:D1:1528:G:O2’ | 29:D1:1529:A:H5’ | 1.89 | 0.72 |
| 29:D1:1857:C:O2’ | 29:D1:1858:A:O4’ | 2.07 | 0.72 |
| 29:D1:1949:G:H2’ | 29:D1:1950:U:C6 | 2.24 | 0.72 |
| 29:D1:2423:U:H2’ | 29:D1:2424:A:C8 | 2.24 | 0.72 |
| 29:D1:3333:G:N2 | 29:D1:3371:G:C8 | 2.58 | 0.72 |
| 74:D1:3408:OHX:N6 | 74:D1:3582:OHX:N5 | 2.38 | 0.72 |
| 30:D2:55:A:H2 | 30:D2:56:A:C4 | 2.07 | 0.72 |
| 31:D3:138:A:C2 | 31:D3:139:U:C2 | 2.78 | 0.72 |
| 61:Df:47:GLN:N | 61:Df:48:SER:HA | 2.04 | 0.72 |
| 1:A1:221:A:C4 | 1:A1:833:U:H5 | 2.07 | 0.72 |
| 1:A1:1201:G:C4 | 1:A1:1202:A:O4’ | 2.42 | 0.72 |
| 74:A1:1913:OHX:N2 | 74:A1:1986:OHX:N4 | 2.38 | 0.72 |
| 6:AE:66:ASP:C | 6:AE:68:LYS:N | 2.44 | 0.72 |
| 10:AI:21:ASP:HA | 10:AI:25:LEU:CB | 2.19 | 0.72 |
| 29:B1:712:G:N2 | 29:B1:752:C:O3’ | 2.23 | 0.72 |
| 29:B1:834:U:H6 | 29:B1:834:U:C5’ | 2.02 | 0.72 |
| 29:B1:1079:A:H2’ | 29:B1:1080:A:H8 | 1.55 | 0.72 |
| 29:B1:2674:A:C8 | 42:BK:108:GLU:N | 2.57 | 0.72 |
| 29:B1:2680:A:OP2 | 29:B1:2681:U:C4 | 2.42 | 0.72 |
| 29:B1:2696:A:H62 | 29:B1:2697:A:N6 | 1.88 | 0.72 |
| 29:B1:2702:A:C8 | 29:B1:2704:A:C6 | 2.76 | 0.72 |
| 29:B1:2775:U:O2’ | 29:B1:2776:C:P | 2.48 | 0.72 |
| 29:B1:2844:C:H42 | 29:B1:2898:G:H22 | 1.38 | 0.72 |
| 29:B1:3113:A:C2 | 29:B1:3122:A:C4 | 2.78 | 0.72 |
| 29:B1:3207:U:C5 | 29:B1:3209:A:C2 | 2.77 | 0.72 |
| 29:B1:3308:C:H6 | 29:B1:3308:C:H3’ | 1.54 | 0.72 |
| 34:BC:133:TYR:C | 34:BC:135:ALA:H | 1.97 | 0.72 |
| 45:BP:81:TYR:O | 45:BP:82:LYS:C | 2.31 | 0.72 |
| 1:C1:537:G:H2’ | 1:C1:537:G:N3 | 2.04 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:791:A:H2' | 1:C1:792:U:C6 | 2.24 | 0.72 |
| 1:C1:1485:C:H3' | 1:C1:1486:G:H5" | 1.71 | 0.72 |
| 1:C1:1786:G:H2' | 1:C1:1787:C:C6 | 2.24 | 0.72 |
| 5:CD:199:ILE:C | 5:CD:201:ALA:H | 1.98 | 0.72 |
| 5:CD:204:GLY:C | 5:CD:206:SER:H | 1.96 | 0.72 |
| 21:CT:81:LEU:HA | 21:CT:91:LEU:HA | 1.70 | 0.72 |
| 28:Ch:58:UNK:O | 28:Ch:62:UNK:CB | 2.37 | 0.72 |
| 29:D1:65:A:H3' | 29:D1:111:C:H41 | 1.54 | 0.72 |
| 29:D1:501:A:C6 | 29:D1:502:U:C4 | 2.78 | 0.72 |
| 29:D1:556:U:H2' | 29:D1:557:A:O4' | 1.89 | 0.72 |
| 29:D1:836:A:OP2 | 29:D1:836:A:H8 | 1.73 | 0.72 |
| 29:D1:1450:G:O5' | 29:D1:1450:G:C8 | 2.40 | 0.72 |
| 29:D1:1627:U:H5 | 29:D1:1628:C:C4 | 2.07 | 0.72 |
| 29:D1:2285:C:H5 | 29:D1:2286:U:N3 | 1.86 | 0.72 |
| 29:D1:2290:C:O2' | 29:D1:2291:A:O4' | 2.06 | 0.72 |
| 29:D1:2417:U:H5 | 29:D1:2606:G:N7 | 1.88 | 0.72 |
| 29:D1:2872:A:C4' | 29:D1:2873:U:OP1 | 2.37 | 0.72 |
| 29:D1:3273:A:N1 | 29:D1:3274:A:C5 | 2.58 | 0.72 |
| 29:D1:3295:A:O2' | 29:D1:3296:A:H5' | 1.90 | 0.72 |
| 31:D3:10:A:H2' | 31:D3:11:C:H6 | 1.54 | 0.72 |
| 31:D3:78:G:O6 | 31:D3:79:A:N6 | 2.23 | 0.72 |
| 72:DL:46:ILE:HA | 72:DL:49:ALA:HB2 | 1.71 | 0.72 |
| 1:A1:34:G:C6 | 1:A1:475:A:N6 | 2.57 | 0.72 |
| 1:A1:114:C:C5 | 1:A1:248:U:O4 | 2.43 | 0.72 |
| 1:A1:553:G:H3' | 1:A1:554:C:H5" | 1.71 | 0.72 |
| 1:A1:646:C:H2' | 1:A1:647:G:H5" | 1.72 | 0.72 |
| 1:A1:1663:G:C5 | 1:A1:1664:C:C5 | 2.78 | 0.72 |
| 1:A1:1673:G:C2' | 1:A1:1674:C:H5' | 2.18 | 0.72 |
| 1:A1:1753:A:N1 | 1:A1:1754:A:C6 | 2.58 | 0.72 |
| 10:AI:33:PHE:C | 10:AI:35:LYS:H | 1.97 | 0.72 |
| 29:B1:112:U:O2' | 29:B1:113:C:O5' | 2.06 | 0.72 |
| 29:B1:331:G:O2' | 29:B1:332:C:OP1 | 2.08 | 0.72 |
| 29:B1:338:A:H4' | 29:B1:338:A:OP2 | 1.89 | 0.72 |
| 29:B1:359:U:O2' | 59:Bd:15:SER:CB | 2.37 | 0.72 |
| 29:B1:760:G:H2' | 29:B1:761:A:H8 | 1.54 | 0.72 |
| 29:B1:1145:G:C5 | 29:B1:1146:C:C5 | 2.77 | 0.72 |
| 29:B1:1563:C:H2' | 29:B1:1564:U:C6 | 2.25 | 0.72 |
| 29:B1:2150:G:C2' | 29:B1:2151:C:H5" | 2.20 | 0.72 |
| 29:B1:2359:C:H2' | 29:B1:2360:C:H6 | 1.54 | 0.72 |
| 29:B1:2545:C:H2' | 29:B1:2546:C:H6 | 1.54 | 0.72 |
| 29:B1:2640:A:H2' | 29:B1:2641:U:H6 | 1.55 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2761:G:H1 | 29:B1:2795:U:H3' | 1.55 | 0.72 |
| 29:B1:2797:C:H3' | 29:B1:2798:C:C5' | 2.19 | 0.72 |
| 29:B1:3202:G:C2 | 29:B1:3203:U:N3 | 2.57 | 0.72 |
| 29:B1:3328:G:N2 | 29:B1:3329:U:C5 | 2.58 | 0.72 |
| 30:B2:77:G:H5" | 37:BF:107:ALA:HA | 1.71 | 0.72 |
| 31:B3:114:G:OP2 | 31:B3:114:G:H8 | 1.72 | 0.72 |
| 35:BD:273:GLY:O | 35:BD:275:THR:N | 2.22 | 0.72 |
| 1:C1:66:U:H3 | 1:C1:71:A:H62 | 1.33 | 0.72 |
| 1:C1:480:G:O2' | 1:C1:481:A:H5' | 1.89 | 0.72 |
| 1:C1:730:G:H2' | 1:C1:731:C:H5' | 1.71 | 0.72 |
| 1:C1:1044:U:H2' | 1:C1:1044:U:O2 | 1.88 | 0.72 |
| 1:C1:1109:G:N3 | 1:C1:1110:G:C8 | 2.57 | 0.72 |
| 1:C1:1139:A:C2' | 1:C1:1140:G:O5' | 2.37 | 0.72 |
| 5:CD:133:VAL:O | 5:CD:136:ALA:HB3 | 1.89 | 0.72 |
| 29:D1:115:A:C5 | 29:D1:116:A:N1 | 2.58 | 0.72 |
| 29:D1:156:G:C8 | 29:D1:157:A:C1' | 2.73 | 0.72 |
| 29:D1:255:A:H2' | 29:D1:256:G:C8 | 2.25 | 0.72 |
| 29:D1:264:G:C5 | 29:D1:265:A:N6 | 2.57 | 0.72 |
| 29:D1:1471:U:H2' | 29:D1:1472:U:C6 | 2.25 | 0.72 |
| 29:D1:1705:U:O2' | 29:D1:1706:C:O5' | 2.08 | 0.72 |
| 29:D1:1903:U:C2 | 29:D1:1905:G:H5" | 2.23 | 0.72 |
| 29:D1:2112:U:O2 | 29:D1:2113:A:N1 | 2.22 | 0.72 |
| 29:D1:2379:U:H2' | 29:D1:2380:U:C6 | 2.25 | 0.72 |
| 29:D1:2520:A:N3 | 29:D1:2521:U:N3 | 2.37 | 0.72 |
| 29:D1:2971:A:OP1 | 29:D1:2971:A:H3' | 1.89 | 0.72 |
| 29:D1:3055:U:O2' | 29:D1:3056:U:H3' | 1.90 | 0.72 |
| 29:D1:3141:A:H5' | 29:D1:3143:C:O2 | 1.88 | 0.72 |
| 29:D1:3320:A:OP2 | 29:D1:3320:A:H3' | 1.90 | 0.72 |
| 29:D1:3328:G:H1 | 29:D1:3375:A:H62 | 1.34 | 0.72 |
| 29:D1:3383:G:C2 | 29:D1:3384:U:C5 | 2.78 | 0.72 |
| 72:DL:38:SER:H | 72:DL:68:GLN:HA | 1.54 | 0.72 |
| 44:DO:85:THR:HA | 44:DO:87:GLN:H | 1.53 | 0.72 |
| 49:DT:14:MET:C | 49:DT:16:GLN:H | 1.97 | 0.72 |
| 1:A1:560:U:H2' | 1:A1:561:G:H8 | 1.55 | 0.72 |
| 1:A1:1244:A:N3 | 1:A1:1244:A:C2' | 2.51 | 0.72 |
| 1:A1:1515:A:H2' | 1:A1:1516:A:C4' | 2.20 | 0.72 |
| 1:A1:1760:G:C5 | 1:A1:1761:U:H5 | 2.07 | 0.72 |
| 29:B1:284:A:N6 | 29:B1:2785:A:H4' | 2.05 | 0.72 |
| 29:B1:354:U:H2' | 29:B1:354:U:O2 | 1.90 | 0.72 |
| 29:B1:392:G:C6 | 29:B1:393:U:C5 | 2.77 | 0.72 |
| 29:B1:886:C:O2' | 29:B1:887:G:H5' | 1.90 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1109:U:H5” | 29:B1:1110:U:OP2 | 1.89 | 0.72 |
| 29:B1:2155:G:H2’ | 29:B1:2156:C:C6 | 2.24 | 0.72 |
| 29:B1:2281:A:O2’ | 29:B1:2282:U:H5” | 1.90 | 0.72 |
| 29:B1:2655:U:H4’ | 29:B1:2656:A:O5’ | 1.90 | 0.72 |
| 29:B1:2961:G:C6 | 29:B1:2962:U:C4 | 2.76 | 0.72 |
| 29:B1:3271:G:N3 | 29:B1:3272:C:OP1 | 2.23 | 0.72 |
| 29:B1:3303:G:H1’ | 29:B1:3304:U:O5’ | 1.90 | 0.72 |
| 29:B1:3383:G:C2 | 29:B1:3384:U:C5 | 2.78 | 0.72 |
| 45:BP:57:PHE:N | 45:BP:60:LYS:CB | 2.53 | 0.72 |
| 1:C1:375:U:O2 | 1:C1:375:U:H2’ | 1.88 | 0.72 |
| 1:C1:556:A:H3’ | 1:C1:558:U:OP2 | 1.89 | 0.72 |
| 1:C1:883:C:H2’ | 1:C1:883:C:O2 | 1.90 | 0.72 |
| 1:C1:916:U:H5 | 1:C1:917:U:C4 | 2.08 | 0.72 |
| 1:C1:985:G:C4 | 1:C1:986:G:N7 | 2.58 | 0.72 |
| 1:C1:1166:A:C6 | 1:C1:1167:G:C8 | 2.77 | 0.72 |
| 1:C1:1280:C:H4’ | 15:CN:70:THR:CB | 2.19 | 0.72 |
| 1:C1:1348:A:C2’ | 1:C1:1349:G:H5” | 2.19 | 0.72 |
| 1:C1:1617:U:O2’ | 1:C1:1618:C:H5” | 1.89 | 0.72 |
| 1:C1:1759:C:H2’ | 1:C1:1760:G:C8 | 2.25 | 0.72 |
| 21:CT:91:LEU:CB | 21:CT:101:GLN:O | 2.38 | 0.72 |
| 24:Cc:6:UNK:N | 24:Cc:71:UNK:N | 2.38 | 0.72 |
| 29:D1:882:A:H2’ | 29:D1:883:A:H5” | 1.72 | 0.72 |
| 29:D1:1138:U:H2’ | 29:D1:1139:G:H5” | 1.70 | 0.72 |
| 29:D1:1454:A:O2’ | 29:D1:1455:U:OP1 | 2.03 | 0.72 |
| 29:D1:2192:C:H2’ | 29:D1:2193:U:H5’ | 1.71 | 0.72 |
| 29:D1:2287:C:N3 | 29:D1:2298:U:O2 | 2.23 | 0.72 |
| 29:D1:2356:A:C2 | 29:D1:2357:A:C4 | 2.78 | 0.72 |
| 29:D1:2816:G:H4’ | 29:D1:2817:A:C5’ | 2.19 | 0.72 |
| 29:D1:2912:G:C6 | 29:D1:2913:C:N3 | 2.58 | 0.72 |
| 29:D1:3078:U:H1’ | 29:D1:3079:U:OP2 | 1.90 | 0.72 |
| 29:D1:3190:C:H2’ | 29:D1:3190:C:O2 | 1.88 | 0.72 |
| 30:D2:27:A:C2 | 30:D2:28:C:C2 | 2.78 | 0.72 |
| 31:D3:141:C:H2’ | 31:D3:142:C:H6 | 1.53 | 0.72 |
| 45:DP:57:PHE:O | 45:DP:58:LEU:CB | 2.37 | 0.72 |
| 1:A1:272:U:H4’ | 1:A1:272:U:OP1 | 1.87 | 0.72 |
| 1:A1:272:U:H3 | 1:A1:284:G:H1 | 0.77 | 0.72 |
| 1:A1:315:A:C5 | 1:A1:350:U:H5 | 2.07 | 0.72 |
| 1:A1:427:C:H6 | 1:A1:427:C:H5’ | 1.52 | 0.72 |
| 1:A1:651:G:O2’ | 1:A1:652:G:H5” | 1.89 | 0.72 |
| 13:AL:71:GLN:O | 13:AL:75:ASN:N | 2.23 | 0.72 |
| 29:B1:53:G:H2’ | 29:B1:54:C:H6 | 1.54 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:680:G:C6 | 29:B1:681:U:O4 | 2.43 | 0.72 |
| 29:B1:705:A:H4' | 29:B1:706:A:OP1 | 1.90 | 0.72 |
| 29:B1:761:A:H3' | 29:B1:762:U:C5' | 2.20 | 0.72 |
| 29:B1:849:C:O2' | 29:B1:850:U:H5' | 1.89 | 0.72 |
| 29:B1:1159:A:O2' | 29:B1:1160:C:OP2 | 2.08 | 0.72 |
| 29:B1:1875:G:C5 | 29:B1:1876:U:C5 | 2.77 | 0.72 |
| 29:B1:2150:G:H2' | 29:B1:2151:C:H5" | 1.70 | 0.72 |
| 29:B1:2699:G:H2' | 29:B1:2700:G:O4' | 1.90 | 0.72 |
| 29:B1:2702:A:H8 | 29:B1:2704:A:N6 | 1.83 | 0.72 |
| 29:B1:2766:U:H2' | 29:B1:2767:U:C6 | 2.25 | 0.72 |
| 30:B2:121:U:O3' | 36:BE:266:ALA:HB3 | 1.89 | 0.72 |
| 35:BD:7:THR:N | 35:BD:19:ALA:HA | 2.03 | 0.72 |
| 40:BI:157:ASN:O | 40:BI:158:ALA:C | 2.32 | 0.72 |
| 41:BJ:155:ALA:O | 41:BJ:158:LYS:N | 2.21 | 0.72 |
| 42:BK:142:LYS:O | 42:BK:143:ARG:O | 2.08 | 0.72 |
| 56:Ba:85:ALA:CB | 56:Ba:86:LYS:HA | 2.18 | 0.72 |
| 1:C1:591:A:H2' | 1:C1:592:A:H8 | 1.55 | 0.72 |
| 1:C1:611:U:H5 | 1:C1:612:U:C5 | 2.08 | 0.72 |
| 1:C1:930:A:H5" | 1:C1:931:C:OP2 | 1.88 | 0.72 |
| 1:C1:1099:U:OP1 | 1:C1:1099:U:C4' | 2.36 | 0.72 |
| 1:C1:1358:G:C6 | 1:C1:1359:C:N4 | 2.58 | 0.72 |
| 1:C1:1364:G:C5 | 1:C1:1365:C:C5 | 2.77 | 0.72 |
| 1:C1:1385:G:C2 | 1:C1:1386:G:C8 | 2.78 | 0.72 |
| 1:C1:1558:U:H6 | 1:C1:1558:U:H3' | 1.55 | 0.72 |
| 1:C1:1613:U:H3 | 1:C1:1614:A:H8 | 1.35 | 0.72 |
| 1:C1:1657:U:C4 | 74:C1:1955:OHX:N2 | 2.58 | 0.72 |
| 1:C1:1663:G:C5 | 1:C1:1664:C:C5 | 2.77 | 0.72 |
| 29:D1:511:G:C2 | 29:D1:579:G:N1 | 2.57 | 0.72 |
| 29:D1:592:A:C2' | 29:D1:593:C:O2' | 2.38 | 0.72 |
| 29:D1:594:U:C6 | 29:D1:609:G:N2 | 2.57 | 0.72 |
| 29:D1:609:G:C4' | 29:D1:610:G:OP1 | 2.38 | 0.72 |
| 29:D1:898:U:C4 | 29:D1:899:U:C5 | 2.78 | 0.72 |
| 29:D1:1540:U:O2 | 29:D1:1540:U:H2' | 1.88 | 0.72 |
| 29:D1:2114:C:H4' | 29:D1:2116:G:C4 | 2.24 | 0.72 |
| 29:D1:2278:C:H2' | 29:D1:2279:A:H5" | 1.71 | 0.72 |
| 29:D1:2363:A:C2 | 29:D1:2376:G:C5 | 2.78 | 0.72 |
| 29:D1:2682:C:OP1 | 42:DK:51:ARG:N | 2.22 | 0.72 |
| 29:D1:2716:U:O2 | 29:D1:2716:U:H2' | 1.88 | 0.72 |
| 29:D1:3205:G:N2 | 43:DN:89:ALA:HB1 | 2.05 | 0.72 |
| 29:D1:3308:C:H6 | 29:D1:3308:C:H3' | 1.54 | 0.72 |
| 29:D1:3316:A:H61 | 29:D1:3388:C:H42 | 1.35 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:DG:75:TYR:CB | 38:DG:76:TYR:HA | 2.19 | 0.72 |
| 40:DI:161:LEU:C | 40:DI:163:GLN:H | 1.98 | 0.72 |
| 47:DR:150:VAL:CB | 47:DR:151:ARG:HA | 2.19 | 0.72 |
| 48:DS:130:ASN:C | 48:DS:132:PHE:H | 1.96 | 0.72 |
| 1:A1:258:C:O2' | 1:A1:259:U:C6 | 2.42 | 0.72 |
| 1:A1:379:U:OP2 | 1:A1:380:U:OP2 | 2.08 | 0.72 |
| 1:A1:518:A:H61 | 1:A1:535:A:C1' | 2.03 | 0.72 |
| 1:A1:521:A:H3' | 1:A1:523:G:C8 | 2.25 | 0.72 |
| 1:A1:551:G:H5" | 1:A1:552:G:OP2 | 1.90 | 0.72 |
| 1:A1:622:A:H4' | 1:A1:623:A:OP1 | 1.82 | 0.72 |
| 1:A1:1003:A:C8 | 1:A1:1005:A:C6 | 2.78 | 0.72 |
| 1:A1:1119:G:H2' | 1:A1:1120:U:C6 | 2.23 | 0.72 |
| 1:A1:1188:G:H2' | 1:A1:1189:A:H8 | 1.55 | 0.72 |
| 1:A1:1364:G:C5 | 1:A1:1365:C:C5 | 2.78 | 0.72 |
| 2:AA:186:GLY:CA | 2:AA:187:ALA:HB2 | 2.16 | 0.72 |
| 13:AL:121:ALA:HB3 | 13:AL:124:GLY:HA3 | 1.72 | 0.72 |
| 29:B1:157:A:O2' | 29:B1:158:G:C4 | 2.39 | 0.72 |
| 29:B1:736:A:H2' | 29:B1:737:G:C8 | 2.25 | 0.72 |
| 29:B1:891:G:O2' | 29:B1:892:U:H5' | 1.90 | 0.72 |
| 29:B1:1054:A:N6 | 29:B1:1055:A:C2 | 2.57 | 0.72 |
| 29:B1:1268:G:H22 | 29:B1:1272:C:H42 | 1.38 | 0.72 |
| 29:B1:1448:U:O2' | 29:B1:1449:A:H5' | 1.90 | 0.72 |
| 29:B1:1686:U:H4' | 29:B1:1687:U:OP2 | 1.86 | 0.72 |
| 29:B1:1900:A:N3 | 29:B1:1906:G:C8 | 2.57 | 0.72 |
| 29:B1:1915:A:H2' | 29:B1:1916:U:C6 | 2.25 | 0.72 |
| 29:B1:1927:G:H3' | 29:B1:1927:G:N3 | 2.05 | 0.72 |
| 29:B1:2145:A:C2 | 29:B1:2146:C:C5 | 2.78 | 0.72 |
| 29:B1:2602:G:C4 | 29:B1:2603:G:C8 | 2.78 | 0.72 |
| 29:B1:3096:C:C2 | 29:B1:3097:C:C5 | 2.78 | 0.72 |
| 29:B1:3205:G:N2 | 43:BN:89:ALA:HB1 | 2.05 | 0.72 |
| 29:B1:3257:C:OP2 | 29:B1:3257:C:H6 | 1.72 | 0.72 |
| 30:B2:67:G:N1 | 30:B2:68:C:C2 | 2.57 | 0.72 |
| 31:B3:42:G:H5" | 59:Bd:55:ARG:CB | 2.19 | 0.72 |
| 35:BD:39:PHE:O | 35:BD:40:THR:C | 2.32 | 0.72 |
| 60:Be:26:TRP:O | 60:Be:28:ARG:N | 2.23 | 0.72 |
| 1:C1:328:A:N6 | 1:C1:341:A:N6 | 2.37 | 0.72 |
| 1:C1:523:G:C4 | 1:C1:524:U:O4 | 2.43 | 0.72 |
| 1:C1:1193:A:H4' | 1:C1:1194:A:OP2 | 1.89 | 0.72 |
| 1:C1:1235:C:O2' | 1:C1:1236:A:H5' | 1.89 | 0.72 |
| 1:C1:1339:C:O2' | 1:C1:1340:U:H5' | 1.89 | 0.72 |
| 1:C1:1468:U:O2' | 1:C1:1469:A:O4' | 2.08 | 0.72 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1678:A:H2 | 1:C1:1725:U:N3 | 1.87 | 0.72 |
| 29:D1:563:U:C2' | 29:D1:564:G:H4' | 2.19 | 0.72 |
| 29:D1:680:G:H2' | 29:D1:681:U:C6 | 2.25 | 0.72 |
| 29:D1:826:G:H2' | 29:D1:827:A:C8 | 2.24 | 0.72 |
| 29:D1:836:A:OP2 | 29:D1:836:A:C8 | 2.43 | 0.72 |
| 29:D1:891:G:O2' | 29:D1:892:U:H5' | 1.90 | 0.72 |
| 29:D1:1204:A:H62 | 29:D1:1300:G:H21 | 1.38 | 0.72 |
| 29:D1:1452:A:H1' | 29:D1:2347:U:C5' | 2.20 | 0.72 |
| 29:D1:1725:C:H2' | 29:D1:1726:C:C6 | 2.25 | 0.72 |
| 29:D1:1740:U:C2' | 29:D1:1741:A:H5' | 2.19 | 0.72 |
| 29:D1:1747:G:H2' | 29:D1:1748:G:H5' | 1.70 | 0.72 |
| 29:D1:1777:U:H2' | 29:D1:1778:G:H8 | 1.55 | 0.72 |
| 29:D1:1795:U:O3' | 29:D1:1796:G:O4' | 2.08 | 0.72 |
| 29:D1:2249:G:O4' | 29:D1:2272:G:C8 | 2.42 | 0.72 |
| 29:D1:2370:G:C4 | 29:D1:2371:G:C8 | 2.78 | 0.72 |
| 29:D1:2880:U:O2' | 29:D1:2881:C:H5' | 1.89 | 0.72 |
| 29:D1:3035:A:C5 | 29:D1:3036:G:N7 | 2.58 | 0.72 |
| 29:D1:3048:A:H62 | 29:D1:3090:U:H3' | 1.55 | 0.72 |
| 29:D1:3178:A:O2' | 29:D1:3179:U:OP1 | 2.06 | 0.72 |
| 29:D1:3209:A:H3' | 29:D1:3210:A:C8 | 2.25 | 0.72 |
| 29:D1:3228:C:H2' | 29:D1:3229:G:H8 | 1.55 | 0.72 |
| 29:D1:3299:A:C2 | 29:D1:3300:U:C5 | 2.78 | 0.72 |
| 37:DF:99:GLU:O | 37:DF:102:ASN:N | 2.23 | 0.72 |
| 1:A1:104:A:H5' | 1:A1:105:A:OP2 | 1.90 | 0.71 |
| 1:A1:365:G:C6 | 1:A1:377:G:C6 | 2.78 | 0.71 |
| 1:A1:606:A:C5 | 1:A1:608:U:C5 | 2.77 | 0.71 |
| 1:A1:826:U:H2' | 1:A1:827:C:C6 | 2.25 | 0.71 |
| 1:A1:1073:G:C6 | 1:A1:1074:G:C6 | 2.78 | 0.71 |
| 1:A1:1315:U:H5" | 1:A1:1329:A:N3 | 2.04 | 0.71 |
| 1:A1:1625:C:H2' | 1:A1:1626:U:C6 | 2.25 | 0.71 |
| 14:AM:60:SER:C | 14:AM:62:ALA:H | 1.94 | 0.71 |
| 14:AM:126:GLU:O | 14:AM:128:GLY:N | 2.22 | 0.71 |
| 29:B1:422:A:H4' | 29:B1:423:A:OP2 | 1.90 | 0.71 |
| 29:B1:1123:U:H2' | 29:B1:1124:U:O4' | 1.90 | 0.71 |
| 29:B1:2267:C:H2' | 29:B1:2268:U:O4' | 1.90 | 0.71 |
| 29:B1:2301:U:H2' | 29:B1:2302:G:H8 | 1.55 | 0.71 |
| 29:B1:2357:A:N1 | 29:B1:2983:C:H5 | 1.87 | 0.71 |
| 29:B1:3219:G:C2 | 29:B1:3258:U:OP2 | 2.43 | 0.71 |
| 30:B2:2:G:H2' | 30:B2:3:U:H6 | 1.54 | 0.71 |
| 36:BE:28:THR:C | 36:BE:30:TYR:N | 2.43 | 0.71 |
| 1:C1:776:G:C2 | 1:C1:785:U:O2 | 2.43 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1656:U:H5" | 1:C1:1657:U:O5' | 1.90 | 0.71 |
| 15:CN:12:GLN:C | 15:CN:14:GLN:N | 2.44 | 0.71 |
| 29:D1:11:A:N1 | 31:D3:148:G:C6 | 2.58 | 0.71 |
| 29:D1:190:U:H5' | 29:D1:191:U:OP1 | 1.90 | 0.71 |
| 29:D1:213:A:H61 | 29:D1:227:G:C2' | 2.02 | 0.71 |
| 29:D1:327:A:C2 | 29:D1:328:U:C4 | 2.75 | 0.71 |
| 29:D1:392:G:C2 | 29:D1:393:U:C6 | 2.78 | 0.71 |
| 29:D1:562:C:O2' | 29:D1:563:U:H5' | 1.90 | 0.71 |
| 29:D1:722:G:N2 | 29:D1:749:C:C6 | 2.58 | 0.71 |
| 29:D1:722:G:N1 | 29:D1:748:U:N3 | 2.37 | 0.71 |
| 29:D1:761:A:H3' | 29:D1:762:U:C5' | 2.20 | 0.71 |
| 29:D1:2513:U:H1' | 29:D1:2514:U:H2' | 1.72 | 0.71 |
| 29:D1:2592:G:O6 | 74:D1:3463:OHX:N4 | 2.22 | 0.71 |
| 29:D1:2997:G:H1' | 29:D1:2998:U:C5' | 2.19 | 0.71 |
| 29:D1:3165:A:C2' | 29:D1:3166:C:H5' | 2.20 | 0.71 |
| 74:D1:3502:OHX:N4 | 54:DY:20:GLY:HA2 | 2.04 | 0.71 |
| 31:D3:40:A:N3 | 31:D3:41:A:C8 | 2.58 | 0.71 |
| 31:D3:123:G:C6 | 31:D3:131:A:N6 | 2.58 | 0.71 |
| 31:D3:155:A:C2 | 31:D3:156:U:C2 | 2.78 | 0.71 |
| 36:DE:28:THR:C | 36:DE:30:TYR:N | 2.37 | 0.71 |
| 72:DL:23:GLY:O | 72:DL:27:ALA:HB3 | 1.89 | 0.71 |
| 72:DL:77:ALA:O | 72:DL:79:SER:N | 2.23 | 0.71 |
| 1:A1:36:C:H2' | 1:A1:37:U:C6 | 2.25 | 0.71 |
| 1:A1:400:A:C4' | 1:A1:401:A:H5' | 2.18 | 0.71 |
| 1:A1:750:U:H2' | 1:A1:751:G:H5' | 1.72 | 0.71 |
| 1:A1:830:U:H2' | 1:A1:830:U:O2 | 1.90 | 0.71 |
| 20:AS:24:CYS:CB | 74:AS:101:OHX:N2 | 2.53 | 0.71 |
| 21:AT:81:LEU:HA | 21:AT:91:LEU:HA | 1.70 | 0.71 |
| 29:B1:144:A:H2' | 29:B1:145:G:O4' | 1.89 | 0.71 |
| 29:B1:354:U:OP2 | 29:B1:364:G:N1 | 2.22 | 0.71 |
| 29:B1:360:G:H2' | 29:B1:361:A:C8 | 2.26 | 0.71 |
| 29:B1:716:A:H2' | 29:B1:717:C:C3' | 2.20 | 0.71 |
| 29:B1:1167:U:O3' | 38:BG:211:SER:O | 2.08 | 0.71 |
| 29:B1:2628:A:H1' | 29:B1:2798:C:C5 | 2.25 | 0.71 |
| 29:B1:2761:G:N2 | 29:B1:2795:U:C2 | 2.58 | 0.71 |
| 29:B1:2853:A:C6 | 29:B1:2854:U:N3 | 2.58 | 0.71 |
| 29:B1:3012:A:N1 | 29:B1:3043:C:C2 | 2.58 | 0.71 |
| 29:B1:3316:A:O4' | 29:B1:3317:U:OP2 | 2.08 | 0.71 |
| 30:B2:9:C:C5 | 30:B2:10:C:O2 | 2.43 | 0.71 |
| 30:B2:14:U:O4' | 30:B2:14:U:OP2 | 2.07 | 0.71 |
| 1:C1:138:A:N6 | 1:C1:142:G:H1' | 2.04 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:827:C:C2 | 1:C1:846:G:C6 | 2.76 | 0.71 |
| 1:C1:1003:A:C8 | 1:C1:1005:A:C6 | 2.78 | 0.71 |
| 1:C1:1149:G:H4' | 1:C1:1150:G:OP1 | 1.89 | 0.71 |
| 1:C1:1358:G:H2' | 1:C1:1358:G:N3 | 2.02 | 0.71 |
| 1:C1:1379:C:C3' | 1:C1:1380:U:H5' | 2.21 | 0.71 |
| 1:C1:1459:C:H4' | 1:C1:1460:A:OP1 | 1.87 | 0.71 |
| 11:CJ:93:HIS:CB | 11:CJ:94:GLN:CA | 2.68 | 0.71 |
| 29:D1:132:C:O2 | 29:D1:132:C:C2' | 2.38 | 0.71 |
| 29:D1:548:G:C4 | 29:D1:549:U:H1' | 2.25 | 0.71 |
| 29:D1:1057:A:C5 | 29:D1:1058:U:C5 | 2.79 | 0.71 |
| 29:D1:1130:A:O2' | 29:D1:1131:G:H3' | 1.89 | 0.71 |
| 29:D1:1350:A:H5' | 29:D1:1351:U:C5 | 2.23 | 0.71 |
| 29:D1:1563:C:H2' | 29:D1:1564:U:C6 | 2.25 | 0.71 |
| 29:D1:2141:U:N3 | 29:D1:2956:A:C2 | 2.58 | 0.71 |
| 29:D1:2145:A:C2 | 29:D1:2146:C:C5 | 2.78 | 0.71 |
| 29:D1:2545:C:H2' | 29:D1:2546:C:H6 | 1.54 | 0.71 |
| 29:D1:2678:A:H8 | 29:D1:2679:A:N3 | 1.87 | 0.71 |
| 29:D1:3000:A:H2' | 29:D1:3001:C:H6 | 1.54 | 0.71 |
| 29:D1:3121:U:H4' | 29:D1:3122:A:OP1 | 1.90 | 0.71 |
| 29:D1:3297:U:C2 | 29:D1:3298:C:C6 | 2.77 | 0.71 |
| 29:D1:3301:U:H2' | 29:D1:3302:U:C5 | 2.25 | 0.71 |
| 29:D1:3316:A:C4' | 29:D1:3317:U:OP2 | 2.37 | 0.71 |
| 30:D2:64:A:N1 | 30:D2:111:U:C4 | 2.58 | 0.71 |
| 30:D2:75:G:P | 74:D2:201:OHX:N1 | 2.63 | 0.71 |
| 34:DC:51:ALA:CB | 34:DC:79:VAL:HA | 2.19 | 0.71 |
| 36:DE:78:ALA:HB1 | 36:DE:105:ILE:CB | 2.19 | 0.71 |
| 38:DG:75:TYR:CB | 38:DG:76:TYR:CA | 2.68 | 0.71 |
| 45:DP:158:ALA:O | 45:DP:159:LYS:C | 2.34 | 0.71 |
| 47:DR:43:PRO:O | 47:DR:45:ASN:N | 2.23 | 0.71 |
| 48:DS:18:GLY:O | 48:DS:20:ARG:N | 2.22 | 0.71 |
| 1:A1:76:A:H1' | 1:A1:77:U:C5 | 2.25 | 0.71 |
| 1:A1:183:U:O2' | 1:A1:184:C:H5" | 1.90 | 0.71 |
| 1:A1:251:A:H2' | 1:A1:252:U:H5' | 1.73 | 0.71 |
| 1:A1:296:U:H2' | 1:A1:297:U:C6 | 2.25 | 0.71 |
| 1:A1:314:C:N3 | 1:A1:354:C:N4 | 2.36 | 0.71 |
| 1:A1:404:G:H2' | 1:A1:405:C:C6 | 2.25 | 0.71 |
| 1:A1:1109:G:H2' | 1:A1:1110:G:H5' | 1.71 | 0.71 |
| 1:A1:1109:G:O6 | 1:A1:1136:U:O4 | 2.08 | 0.71 |
| 1:A1:1385:G:N3 | 1:A1:1386:G:C8 | 2.58 | 0.71 |
| 4:AC:67:ASN:O | 4:AC:71:LEU:CB | 2.38 | 0.71 |
| 29:B1:132:C:O2 | 29:B1:132:C:C2' | 2.38 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:596:C:H5' | 29:B1:597:G:OP1 | 1.91 | 0.71 |
| 29:B1:718:G:H4' | 29:B1:719:U:C5' | 2.19 | 0.71 |
| 29:B1:952:A:N3 | 29:B1:1114:U:H4' | 2.05 | 0.71 |
| 29:B1:1158:A:O2' | 29:B1:1330:A:C2 | 2.44 | 0.71 |
| 29:B1:1213:G:H8 | 29:B1:1213:G:C5' | 2.03 | 0.71 |
| 29:B1:1317:A:C8 | 29:B1:1319:G:N7 | 2.59 | 0.71 |
| 29:B1:1375:G:N3 | 29:B1:1407:A:H2 | 1.87 | 0.71 |
| 29:B1:1495:U:C5' | 29:B1:1496:C:C5 | 2.72 | 0.71 |
| 29:B1:1539:A:N6 | 29:B1:1583:A:C8 | 2.58 | 0.71 |
| 29:B1:2223:A:O2' | 29:B1:2224:A:C8 | 2.29 | 0.71 |
| 29:B1:2602:G:H2' | 29:B1:2603:G:H8 | 1.54 | 0.71 |
| 29:B1:2703:A:H3' | 29:B1:2704:A:C5' | 2.21 | 0.71 |
| 29:B1:3165:A:C2' | 29:B1:3166:C:H5' | 2.21 | 0.71 |
| 29:B1:3225:C:N4 | 29:B1:3261:C:N4 | 2.38 | 0.71 |
| 29:B1:3302:U:C3' | 29:B1:3303:G:H5" | 2.19 | 0.71 |
| 29:B1:3364:C:O2' | 29:B1:3365:U:H5' | 1.90 | 0.71 |
| 29:B1:3390:G:C6 | 29:B1:3391:A:C5 | 2.78 | 0.71 |
| 31:B3:103:G:C6 | 31:B3:105:A:C6 | 2.78 | 0.71 |
| 44:BO:78:GLY:HA3 | 44:BO:79:ALA:HB2 | 1.73 | 0.71 |
| 1:C1:389:G:H2' | 1:C1:390:G:H8 | 1.55 | 0.71 |
| 1:C1:425:A:H5' | 1:C1:425:A:H8 | 1.54 | 0.71 |
| 1:C1:830:U:HO2' | 1:C1:831:U:H6 | 1.36 | 0.71 |
| 1:C1:1109:G:H2' | 1:C1:1110:G:H5' | 1.72 | 0.71 |
| 1:C1:1579:U:C4 | 1:C1:1580:C:N4 | 2.58 | 0.71 |
| 1:C1:1594:G:O6 | 1:C1:1595:U:N3 | 2.23 | 0.71 |
| 1:C1:1622:G:H3' | 1:C1:1623:C:H6 | 1.55 | 0.71 |
| 29:D1:199:A:C6 | 29:D1:219:A:C6 | 2.79 | 0.71 |
| 29:D1:524:U:O2' | 29:D1:525:C:H5' | 1.90 | 0.71 |
| 29:D1:591:G:N2 | 29:D1:592:A:N9 | 2.37 | 0.71 |
| 29:D1:951:A:N3 | 29:D1:1369:A:C2 | 2.57 | 0.71 |
| 29:D1:1002:A:O2' | 29:D1:1003:A:H5' | 1.90 | 0.71 |
| 29:D1:1167:U:H5' | 29:D1:1167:U:H6 | 1.54 | 0.71 |
| 29:D1:1175:C:O2' | 29:D1:1176:C:O5' | 2.07 | 0.71 |
| 29:D1:2168:A:C2 | 29:D1:2170:U:C1' | 2.73 | 0.71 |
| 29:D1:2379:U:H2' | 29:D1:2380:U:H6 | 1.53 | 0.71 |
| 29:D1:2987:A:C4 | 29:D1:2988:C:C5 | 2.78 | 0.71 |
| 29:D1:3118:C:H2' | 29:D1:3119:U:C6 | 2.25 | 0.71 |
| 31:D3:129:C:C2 | 31:D3:130:C:C5 | 2.78 | 0.71 |
| 33:DB:171:GLY:C | 62:Dg:68:ALA:HB2 | 2.15 | 0.71 |
| 33:DB:229:ALA:O | 33:DB:231:SER:N | 2.24 | 0.71 |
| 34:DC:85:VAL:O | 34:DC:87:VAL:N | 2.22 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:DI:86:TYR:CB | 40:DI:87:LYS:HA | 2.19 | 0.71 |
| 41:DJ:65:LEU:O | 41:DJ:68:ALA:HB3 | 1.90 | 0.71 |
| 43:DN:24:LYS:HA | 43:DN:31:LYS:C | 2.16 | 0.71 |
| 59:Dd:23:GLY:N | 74:Dd:101:OHX:N4 | 2.36 | 0.71 |
| 1:A1:872:G:H5' | 1:A1:873:U:OP2 | 1.89 | 0.71 |
| 1:A1:1008:G:N2 | 1:A1:1009:U:H1' | 2.04 | 0.71 |
| 1:A1:1515:A:H2' | 1:A1:1516:A:H5" | 1.72 | 0.71 |
| 1:A1:1711:C:H2' | 1:A1:1712:A:C8 | 2.25 | 0.71 |
| 29:B1:648:C:C5 | 29:B1:2375:G:O5' | 2.42 | 0.71 |
| 29:B1:1184:A:H5' | 29:B1:1184:A:H8 | 1.55 | 0.71 |
| 29:B1:1313:G:C4 | 29:B1:1314:C:C5 | 2.78 | 0.71 |
| 29:B1:1337:A:C5 | 29:B1:1338:C:C5 | 2.79 | 0.71 |
| 29:B1:1350:A:H5' | 29:B1:1351:U:C5 | 2.24 | 0.71 |
| 29:B1:1454:A:O2' | 29:B1:1455:U:OP1 | 2.05 | 0.71 |
| 29:B1:1539:A:C5 | 29:B1:1540:U:H5 | 2.08 | 0.71 |
| 29:B1:1777:U:H2' | 29:B1:1778:G:H8 | 1.54 | 0.71 |
| 29:B1:2284:C:H2' | 29:B1:2285:C:O2 | 1.90 | 0.71 |
| 29:B1:2676:A:C2 | 29:B1:2680:A:C6 | 2.78 | 0.71 |
| 29:B1:3152:U:H4' | 29:B1:3153:U:OP2 | 1.90 | 0.71 |
| 30:B2:4:U:H2' | 30:B2:5:G:C8 | 2.25 | 0.71 |
| 39:BH:99:PRO:C | 39:BH:101:THR:N | 2.44 | 0.71 |
| 1:C1:25:C:H3' | 1:C1:25:C:C6 | 2.25 | 0.71 |
| 1:C1:336:G:H4' | 7:CF:132:SER:HA | 1.72 | 0.71 |
| 1:C1:356:G:C6 | 1:C1:357:G:N7 | 2.58 | 0.71 |
| 1:C1:479:C:H3' | 1:C1:480:G:C8 | 2.26 | 0.71 |
| 1:C1:651:G:O2' | 1:C1:652:G:H5" | 1.90 | 0.71 |
| 1:C1:714:G:H2' | 1:C1:715:U:C6 | 2.25 | 0.71 |
| 1:C1:1356:U:H2' | 1:C1:1357:A:C8 | 2.25 | 0.71 |
| 1:C1:1558:U:C6 | 1:C1:1559:A:C2 | 2.78 | 0.71 |
| 1:C1:1713:G:H2' | 1:C1:1713:G:N3 | 2.05 | 0.71 |
| 1:C1:1764:C:H5' | 1:C1:1764:C:C6 | 2.25 | 0.71 |
| 12:CK:58:MET:HA | 12:CK:63:LYS:H | 1.55 | 0.71 |
| 14:CM:58:ALA:O | 14:CM:62:ALA:HB2 | 1.90 | 0.71 |
| 14:CM:128:GLY:C | 14:CM:130:ARG:H | 1.97 | 0.71 |
| 29:D1:517:G:H3' | 29:D1:517:G:P | 2.31 | 0.71 |
| 29:D1:557:A:C8 | 29:D1:557:A:H3' | 2.24 | 0.71 |
| 29:D1:1013:G:H3' | 29:D1:1014:U:H4' | 1.73 | 0.71 |
| 29:D1:1220:U:P | 29:D1:1222:G:O2' | 2.49 | 0.71 |
| 29:D1:1399:A:N3 | 29:D1:1399:A:H2' | 2.04 | 0.71 |
| 29:D1:1495:U:C5' | 29:D1:1496:C:C5 | 2.73 | 0.71 |
| 29:D1:1930:A:H4' | 29:D1:1931:U:OP1 | 1.88 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2581:U:H5” | 74:D1:3567:OHX:N3 | 2.06 | 0.71 |
| 29:D1:2628:A:H1’ | 29:D1:2798:C:C5 | 2.24 | 0.71 |
| 29:D1:2655:U:H4’ | 29:D1:2656:A:O5’ | 1.86 | 0.71 |
| 29:D1:3086:A:O3’ | 34:DC:365:PHE:O | 2.08 | 0.71 |
| 29:D1:3296:A:C2 | 29:D1:3297:U:H1’ | 2.25 | 0.71 |
| 30:D2:12:U:OP2 | 30:D2:68:C:H4’ | 1.90 | 0.71 |
| 35:DD:115:HIS:O | 35:DD:117:GLU:N | 2.23 | 0.71 |
| 37:DF:21:THR:HA | 37:DF:112:THR:N | 2.04 | 0.71 |
| 37:DF:152:THR:HA | 37:DF:156:LYS:H | 1.55 | 0.71 |
| 1:A1:457:G:O2’ | 1:A1:458:G:H5’ | 1.90 | 0.71 |
| 1:A1:467:G:H5” | 1:A1:468:A:OP2 | 1.90 | 0.71 |
| 1:A1:824:G:C5’ | 1:A1:825:U:H5’ | 2.19 | 0.71 |
| 1:A1:847:A:H2’ | 1:A1:848:C:H5” | 1.72 | 0.71 |
| 29:B1:566:G:O2’ | 29:B1:567:G:H5’ | 1.89 | 0.71 |
| 29:B1:605:U:H6 | 29:B1:605:U:C5’ | 2.03 | 0.71 |
| 29:B1:609:G:H3’ | 29:B1:609:G:OP1 | 1.89 | 0.71 |
| 29:B1:979:U:C4’ | 29:B1:980:A:OP1 | 2.38 | 0.71 |
| 29:B1:1075:A:N1 | 69:Bp:245:UNK:C | 2.53 | 0.71 |
| 29:B1:1303:A:C2 | 29:B1:2887:A:C2 | 2.77 | 0.71 |
| 29:B1:1459:C:C2’ | 29:B1:1460:A:H5’ | 2.21 | 0.71 |
| 29:B1:3174:A:H4’ | 29:B1:3174:A:OP2 | 1.90 | 0.71 |
| 29:B1:3217:C:H1’ | 29:B1:3220:G:O2’ | 1.91 | 0.71 |
| 36:BE:109:THR:O | 36:BE:252:ALA:HB2 | 1.90 | 0.71 |
| 39:BH:93:LEU:O | 39:BH:94:PHE:C | 2.33 | 0.71 |
| 1:C1:127:G:O6 | 1:C1:179:A:C6 | 2.29 | 0.71 |
| 1:C1:569:C:O4’ | 1:C1:583:C:H4’ | 1.90 | 0.71 |
| 1:C1:594:A:C4’ | 1:C1:595:G:H5’ | 2.21 | 0.71 |
| 1:C1:619:A:P | 1:C1:620:A:OP2 | 2.49 | 0.71 |
| 1:C1:813:U:O2 | 1:C1:813:U:H2’ | 1.89 | 0.71 |
| 1:C1:825:U:O2’ | 1:C1:826:U:C6 | 2.42 | 0.71 |
| 1:C1:1346:A:H3’ | 1:C1:1347:U:H6 | 1.55 | 0.71 |
| 1:C1:1558:U:H2’ | 1:C1:1559:A:C2 | 2.25 | 0.71 |
| 4:CC:175:VAL:CB | 4:CC:183:GLY:H | 2.03 | 0.71 |
| 29:D1:679:U:H2’ | 29:D1:680:G:H8 | 1.55 | 0.71 |
| 29:D1:1063:G:C8 | 29:D1:1064:A:O4’ | 2.44 | 0.71 |
| 29:D1:1560:G:O6 | 29:D1:1579:C:N3 | 2.23 | 0.71 |
| 29:D1:2092:A:H3’ | 29:D1:2093:A:C5’ | 2.19 | 0.71 |
| 29:D1:2682:C:H5’ | 29:D1:2683:U:OP2 | 1.91 | 0.71 |
| 29:D1:3136:G:C4 | 29:D1:3137:C:C6 | 2.78 | 0.71 |
| 30:D2:95:A:C2 | 30:D2:96:U:C2 | 2.79 | 0.71 |
| 34:DC:72:VAL:HA | 50:DU:88:ARG:O | 1.90 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:169:A:C5 | 1:A1:171:A:C6 | 2.78 | 0.71 |
| 1:A1:560:U:H2' | 1:A1:561:G:C8 | 2.26 | 0.71 |
| 1:A1:804:A:H2' | 1:A1:805:U:C6 | 2.25 | 0.71 |
| 1:A1:844:A:H2' | 1:A1:845:G:H8 | 1.56 | 0.71 |
| 1:A1:1227:A:C8 | 1:A1:1229:G:H5' | 2.26 | 0.71 |
| 1:A1:1558:U:H2' | 1:A1:1559:A:C2 | 2.25 | 0.71 |
| 1:A1:1781:A:H8 | 1:A1:1781:A:O5' | 1.72 | 0.71 |
| 17:AP:106:GLY:HA2 | 17:AP:122:PHE:HA | 1.73 | 0.71 |
| 24:Ac:36:UNK:O | 24:Ac:40:UNK:N | 2.23 | 0.71 |
| 29:B1:115:A:H2' | 29:B1:116:A:H2 | 1.55 | 0.71 |
| 29:B1:307:A:O2' | 29:B1:2223:A:H1' | 1.90 | 0.71 |
| 29:B1:637:C:C2 | 29:B1:2361:A:N3 | 2.59 | 0.71 |
| 29:B1:705:A:C6 | 29:B1:715:A:N7 | 2.59 | 0.71 |
| 29:B1:727:G:H22 | 29:B1:741:U:H3 | 1.37 | 0.71 |
| 29:B1:827:A:H2' | 29:B1:827:A:N3 | 2.04 | 0.71 |
| 29:B1:1310:G:H5' | 29:B1:1310:G:H8 | 1.56 | 0.71 |
| 29:B1:1495:U:C2 | 29:B1:1842:A:C2 | 2.75 | 0.71 |
| 29:B1:3101:G:O2' | 29:B1:3102:G:H5" | 1.89 | 0.71 |
| 30:B2:5:G:H2' | 30:B2:6:C:H5" | 1.73 | 0.71 |
| 31:B3:24:G:N2 | 31:B3:25:G:H1' | 2.06 | 0.71 |
| 33:BB:49:VAL:O | 33:BB:50:HIS:O | 2.09 | 0.71 |
| 35:BD:119:ARG:C | 35:BD:121:ALA:N | 2.45 | 0.71 |
| 37:BF:157:GLN:C | 37:BF:159:LEU:H | 1.99 | 0.71 |
| 38:BG:83:LEU:HA | 38:BG:84:VAL:CB | 2.18 | 0.71 |
| 45:BP:57:PHE:O | 45:BP:58:LEU:CB | 2.38 | 0.71 |
| 65:Bk:6:UNK:O | 65:Bk:9:UNK:N | 2.24 | 0.71 |
| 1:C1:44:U:H5' | 1:C1:45:U:O4 | 1.90 | 0.71 |
| 1:C1:981:U:H1' | 1:C1:1124:A:H2 | 1.55 | 0.71 |
| 1:C1:1092:A:O2' | 1:C1:1093:A:H3' | 1.91 | 0.71 |
| 1:C1:1094:G:H2' | 1:C1:1095:U:H5 | 1.56 | 0.71 |
| 1:C1:1330:G:H2' | 1:C1:1331:A:H8 | 1.54 | 0.71 |
| 1:C1:1756:A:O2' | 1:C1:1757:G:H5' | 1.89 | 0.71 |
| 20:CS:24:CYS:CB | 74:CS:101:OHX:N4 | 2.53 | 0.71 |
| 20:CS:38:ILE:C | 20:CS:40:ARG:N | 2.47 | 0.71 |
| 29:D1:542:G:H2' | 29:D1:543:C:H6 | 1.55 | 0.71 |
| 29:D1:1175:C:OP2 | 29:D1:1175:C:H3' | 1.91 | 0.71 |
| 29:D1:1192:C:H5' | 29:D1:1298:C:OP1 | 1.90 | 0.71 |
| 29:D1:1238:C:H2' | 29:D1:1239:C:C6 | 2.26 | 0.71 |
| 29:D1:2746:A:N6 | 29:D1:2747:A:C2 | 2.59 | 0.71 |
| 29:D1:2858:U:H2' | 29:D1:2859:U:C5 | 2.25 | 0.71 |
| 29:D1:2947:G:H2' | 29:D1:2948:C:C5 | 2.25 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3072:C:H5 | 29:D1:3073:A:N7 | 1.86 | 0.71 |
| 29:D1:3370:A:H5' | 29:D1:3371:G:OP1 | 1.90 | 0.71 |
| 29:D1:3383:G:N3 | 29:D1:3384:U:C5 | 2.58 | 0.71 |
| 32:DA:154:THR:C | 32:DA:157:PHE:H | 1.97 | 0.71 |
| 45:DP:18:ARG:C | 45:DP:20:ALA:N | 2.46 | 0.71 |
| 1:A1:65:A:C4' | 1:A1:66:U:OP1 | 2.34 | 0.71 |
| 1:A1:115:G:N2 | 1:A1:334:G:N2 | 2.37 | 0.71 |
| 1:A1:157:A:O2' | 1:A1:158:U:H5' | 1.91 | 0.71 |
| 1:A1:264:G:C3' | 1:A1:265:A:H5' | 2.19 | 0.71 |
| 1:A1:707:A:H2' | 1:A1:731:C:N4 | 2.05 | 0.71 |
| 1:A1:1175:U:H3 | 1:A1:1464:G:H1 | 1.39 | 0.71 |
| 2:AA:17:LEU:C | 2:AA:19:ALA:N | 2.41 | 0.71 |
| 29:B1:159:A:H2' | 29:B1:160:G:C8 | 2.25 | 0.71 |
| 29:B1:503:C:N3 | 29:B1:588:G:N1 | 2.38 | 0.71 |
| 29:B1:596:C:H3' | 29:B1:597:G:C5' | 2.18 | 0.71 |
| 29:B1:770:G:H2' | 29:B1:771:A:O4' | 1.91 | 0.71 |
| 29:B1:1180:A:C5 | 29:B1:1182:A:C8 | 2.78 | 0.71 |
| 29:B1:1311:G:H1' | 29:B1:2381:G:H5' | 1.73 | 0.71 |
| 29:B1:1468:A:C2 | 29:B1:1469:C:C4 | 2.78 | 0.71 |
| 29:B1:1482:A:OP2 | 29:B1:1858:A:C5 | 2.43 | 0.71 |
| 29:B1:2517:U:O2 | 29:B1:2517:U:H2' | 1.91 | 0.71 |
| 29:B1:2702:A:O4' | 29:B1:2704:A:C8 | 2.43 | 0.71 |
| 29:B1:2852:C:C5 | 29:B1:2853:A:C4 | 2.78 | 0.71 |
| 29:B1:2953:U:H2' | 29:B1:2954:U:C6 | 2.24 | 0.71 |
| 29:B1:3160:U:C2 | 29:B1:3161:C:C5 | 2.78 | 0.71 |
| 29:B1:3228:C:H2' | 29:B1:3229:G:H8 | 1.56 | 0.71 |
| 29:B1:3302:U:H3' | 29:B1:3303:G:H5" | 1.70 | 0.71 |
| 30:B2:77:G:H1' | 30:B2:78:U:OP2 | 1.91 | 0.71 |
| 30:B2:91:G:C6 | 30:B2:92:A:C5 | 2.78 | 0.71 |
| 31:B3:72:A:N3 | 31:B3:88:A:N1 | 2.38 | 0.71 |
| 1:C1:330:G:C4 | 1:C1:331:A:C8 | 2.79 | 0.71 |
| 1:C1:365:G:C6 | 1:C1:377:G:C6 | 2.79 | 0.71 |
| 1:C1:1219:A:H5' | 1:C1:1220:C:C5 | 2.15 | 0.71 |
| 1:C1:1466:G:C4 | 1:C1:1467:C:C5 | 2.78 | 0.71 |
| 1:C1:1556:A:H2' | 1:C1:1560:U:C4 | 2.26 | 0.71 |
| 1:C1:1722:A:H4' | 1:C1:1722:A:OP1 | 1.85 | 0.71 |
| 29:D1:140:C:H2' | 29:D1:141:C:H6 | 1.53 | 0.71 |
| 29:D1:188:U:O2 | 29:D1:222:A:C2 | 2.44 | 0.71 |
| 29:D1:534:U:C6 | 29:D1:534:U:P | 2.84 | 0.71 |
| 29:D1:1223:A:N6 | 29:D1:1285:G:OP2 | 2.23 | 0.71 |
| 29:D1:1334:U:H5" | 38:DG:206:LYS:O | 1.90 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1337:A:H2' | 29:D1:1338:C:H6 | 1.55 | 0.71 |
| 29:D1:1901:A:C5' | 29:D1:2919:A:OP1 | 2.38 | 0.71 |
| 29:D1:2397:A:H8 | 29:D1:2941:A:H61 | 1.39 | 0.71 |
| 29:D1:3060:C:O2' | 29:D1:3331:U:O2 | 2.08 | 0.71 |
| 29:D1:3201:C:P | 29:D1:3201:C:C6 | 2.77 | 0.71 |
| 30:D2:14:U:C6 | 30:D2:14:U:P | 2.84 | 0.71 |
| 33:DB:216:HIS:O | 33:DB:217:GLN:CB | 2.39 | 0.71 |
| 37:DF:21:THR:HA | 37:DF:111:LEU:O | 1.90 | 0.71 |
| 72:DL:62:LEU:HA | 72:DL:70:ALA:O | 1.91 | 0.71 |
| 1:A1:913:G:H4' | 1:A1:914:G:OP2 | 1.89 | 0.71 |
| 1:A1:951:A:H2' | 1:A1:952:A:O5' | 1.89 | 0.71 |
| 1:A1:1121:C:H1' | 1:A1:1127:G:N2 | 2.06 | 0.71 |
| 1:A1:1533:C:H5" | 1:A1:1534:G:OP2 | 1.90 | 0.71 |
| 1:A1:1683:C:H2' | 1:A1:1719:A:N1 | 2.06 | 0.71 |
| 5:AD:204:GLY:C | 5:AD:206:SER:H | 1.97 | 0.71 |
| 29:B1:13:A:H2 | 29:B1:15:C:H3' | 1.56 | 0.71 |
| 29:B1:18:G:N2 | 31:B3:142:C:C2 | 2.59 | 0.71 |
| 29:B1:312:C:H2' | 29:B1:313:A:H8 | 1.55 | 0.71 |
| 29:B1:627:U:O3' | 29:B1:1399:A:C8 | 2.43 | 0.71 |
| 29:B1:829:U:C4' | 29:B1:866:A:H2 | 2.02 | 0.71 |
| 29:B1:1302:A:C4 | 29:B1:2887:A:C2 | 2.78 | 0.71 |
| 29:B1:1317:A:O2' | 29:B1:1318:A:H3' | 1.90 | 0.71 |
| 29:B1:1371:G:H5' | 29:B1:1372:C:OP2 | 1.91 | 0.71 |
| 29:B1:1472:U:O2' | 29:B1:1473:G:H5' | 1.91 | 0.71 |
| 29:B1:2593:A:H4' | 29:B1:2594:C:C5' | 2.18 | 0.71 |
| 29:B1:2816:G:H4' | 29:B1:2817:A:C5' | 2.21 | 0.71 |
| 29:B1:2847:A:H3' | 29:B1:2848:G:H8 | 1.55 | 0.71 |
| 29:B1:3107:U:H2' | 29:B1:3108:G:H8 | 1.56 | 0.71 |
| 29:B1:3136:G:C4 | 29:B1:3137:C:C6 | 2.79 | 0.71 |
| 33:BB:145:LYS:O | 33:BB:156:LYS:HA | 1.90 | 0.71 |
| 37:BF:160:SER:CB | 38:BG:49:ALA:HB2 | 2.20 | 0.71 |
| 1:C1:500:C:H2' | 1:C1:501:U:C6 | 2.25 | 0.71 |
| 1:C1:568:G:H4' | 17:CP:90:ASP:HA | 1.73 | 0.71 |
| 1:C1:792:U:H2' | 1:C1:792:U:O2 | 1.90 | 0.71 |
| 1:C1:872:G:H5' | 1:C1:873:U:OP2 | 1.90 | 0.71 |
| 1:C1:1017:U:H2' | 1:C1:1018:U:C6 | 2.26 | 0.71 |
| 1:C1:1378:U:C5' | 1:C1:1379:C:C6 | 2.73 | 0.71 |
| 6:CE:82:ARG:CB | 6:CE:149:ARG:HA | 2.20 | 0.71 |
| 9:CH:63:ALA:O | 9:CH:65:GLN:N | 2.23 | 0.71 |
| 29:D1:115:A:H2' | 29:D1:116:A:H2 | 1.55 | 0.71 |
| 29:D1:421:G:H8 | 29:D1:421:G:C3' | 1.94 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:608:A:C8 | 29:D1:608:A:C3' | 2.74 | 0.71 |
| 29:D1:986:U:C2' | 29:D1:987:U:O5' | 2.39 | 0.71 |
| 29:D1:1075:A:C8 | 29:D1:1076:C:H6 | 2.06 | 0.71 |
| 29:D1:1550:C:C2' | 29:D1:1551:C:H5' | 2.20 | 0.71 |
| 29:D1:1560:G:OP2 | 29:D1:1560:G:H3' | 1.90 | 0.71 |
| 29:D1:1716:U:H2' | 29:D1:1716:U:O2 | 1.90 | 0.71 |
| 29:D1:2631:U:O2' | 29:D1:2632:G:H5' | 1.91 | 0.71 |
| 29:D1:3049:A:N3 | 34:DC:75:ALA:HB2 | 2.05 | 0.71 |
| 29:D1:3102:G:H8 | 29:D1:3102:G:C5' | 2.02 | 0.71 |
| 29:D1:3107:U:H2' | 29:D1:3108:G:H8 | 1.55 | 0.71 |
| 30:D2:16:U:O2' | 30:D2:17:A:H5' | 1.90 | 0.71 |
| 31:D3:29:U:O2' | 31:D3:30:C:H5' | 1.89 | 0.71 |
| 37:DF:165:LEU:O | 37:DF:166:LYS:C | 2.33 | 0.71 |
| 42:DK:121:GLY:C | 42:DK:123:PHE:H | 1.97 | 0.71 |
| 44:DO:155:VAL:O | 44:DO:157:LYS:N | 2.23 | 0.71 |
| 54:DY:15:VAL:O | 54:DY:17:ALA:HA | 1.90 | 0.71 |
| 1:A1:268:C:N3 | 1:A1:288:A:H2 | 1.89 | 0.71 |
| 1:A1:802:G:C6 | 1:A1:803:A:N1 | 2.59 | 0.71 |
| 1:A1:1125:A:C5 | 1:A1:1126:G:H1' | 2.26 | 0.71 |
| 1:A1:1382:A:H5" | 15:AN:59:PRO:HA | 1.72 | 0.71 |
| 1:A1:1507:G:C2 | 1:A1:1508:U:H1' | 2.26 | 0.71 |
| 1:A1:1676:U:H4' | 1:A1:1677:C:OP2 | 1.89 | 0.71 |
| 18:AQ:46:LYS:O | 18:AQ:50:ILE:CB | 2.39 | 0.71 |
| 22:Aa:11:UNK:O | 22:Aa:14:UNK:CB | 2.39 | 0.71 |
| 29:B1:12:A:H8 | 29:B1:12:A:OP2 | 1.74 | 0.71 |
| 29:B1:140:C:H2' | 29:B1:141:C:H6 | 1.54 | 0.71 |
| 29:B1:344:A:H2' | 29:B1:345:G:O5' | 1.91 | 0.71 |
| 29:B1:1115:G:H8 | 29:B1:1115:G:H3' | 1.55 | 0.71 |
| 29:B1:1455:U:H3' | 29:B1:1456:A:H8 | 1.55 | 0.71 |
| 29:B1:1720:U:O4 | 48:BS:124:TYR:CB | 2.37 | 0.71 |
| 29:B1:1806:A:H2' | 29:B1:1807:G:O4' | 1.91 | 0.71 |
| 29:B1:2376:G:C6 | 29:B1:2377:G:O6 | 2.44 | 0.71 |
| 29:B1:2633:U:O2' | 29:B1:2634:U:H5' | 1.91 | 0.71 |
| 29:B1:2900:A:C2 | 29:B1:2901:G:C5 | 2.79 | 0.71 |
| 42:BK:7:ASN:HA | 42:BK:8:PRO:CB | 2.21 | 0.71 |
| 1:C1:129:U:C5 | 1:C1:264:G:O6 | 2.43 | 0.71 |
| 1:C1:806:A:C2' | 1:C1:807:A:H5" | 2.21 | 0.71 |
| 1:C1:1065:A:H2' | 1:C1:1066:C:C6 | 2.26 | 0.71 |
| 1:C1:1364:G:H3' | 1:C1:1365:C:H5' | 1.73 | 0.71 |
| 1:C1:1599:C:O2' | 1:C1:1600:A:N3 | 2.23 | 0.71 |
| 29:D1:182:U:H3 | 29:D1:234:G:H1 | 1.35 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:415:G:H2' | 29:D1:416:A:H8 | 1.56 | 0.71 |
| 29:D1:504:A:H2 | 29:D1:587:U:O2 | 1.73 | 0.71 |
| 29:D1:761:A:C2 | 29:D1:762:U:H1' | 2.26 | 0.71 |
| 29:D1:821:U:O2' | 29:D1:822:G:H5' | 1.91 | 0.71 |
| 29:D1:952:A:N3 | 29:D1:1114:U:H4' | 2.05 | 0.71 |
| 29:D1:1023:C:H3' | 29:D1:1024:G:C4' | 2.21 | 0.71 |
| 29:D1:1213:G:H8 | 29:D1:1213:G:C5' | 2.01 | 0.71 |
| 29:D1:1804:A:H2' | 29:D1:1805:C:H6 | 1.56 | 0.71 |
| 29:D1:1908:A:N6 | 29:D1:1909:A:C6 | 2.59 | 0.71 |
| 29:D1:2209:U:C6 | 29:D1:2209:U:OP2 | 2.43 | 0.71 |
| 29:D1:2270:A:C2 | 29:D1:2271:A:C4 | 2.78 | 0.71 |
| 29:D1:2826:U:C2' | 29:D1:2827:U:H5' | 2.20 | 0.71 |
| 29:D1:3047:U:O2' | 29:D1:3048:A:C5' | 2.38 | 0.71 |
| 29:D1:3241:G:N2 | 29:D1:3246:G:C2 | 2.59 | 0.71 |
| 30:D2:3:U:H2' | 30:D2:4:U:C6 | 2.26 | 0.71 |
| 31:D3:17:A:C5 | 31:D3:18:U:C5 | 2.79 | 0.71 |
| 45:DP:21:SER:O | 45:DP:22:VAL:C | 2.34 | 0.71 |
| 56:Da:85:ALA:CB | 56:Da:86:LYS:HA | 2.17 | 0.71 |
| 1:A1:221:A:C5 | 1:A1:833:U:C5 | 2.79 | 0.71 |
| 1:A1:500:C:H2' | 1:A1:501:U:C6 | 2.26 | 0.71 |
| 1:A1:1713:G:H2' | 1:A1:1713:G:N3 | 2.06 | 0.71 |
| 29:B1:11:A:O2' | 29:B1:12:A:H5' | 1.91 | 0.71 |
| 29:B1:284:A:H2' | 29:B1:284:A:N3 | 2.05 | 0.71 |
| 29:B1:744:A:C6 | 29:B1:745:C:N3 | 2.58 | 0.71 |
| 29:B1:821:U:C2' | 29:B1:822:G:H5' | 2.19 | 0.71 |
| 29:B1:1041:U:H2' | 29:B1:1042:U:H5' | 1.72 | 0.71 |
| 29:B1:1295:G:H2' | 29:B1:1296:C:C6 | 2.26 | 0.71 |
| 29:B1:1353:U:H2' | 29:B1:1354:G:H5" | 1.73 | 0.71 |
| 29:B1:1422:G:C5 | 29:B1:1423:C:C5 | 2.78 | 0.71 |
| 29:B1:1539:A:C2' | 29:B1:1540:U:H5' | 2.20 | 0.71 |
| 29:B1:2898:G:H8 | 29:B1:2898:G:O5' | 1.74 | 0.71 |
| 30:B2:23:A:C8 | 30:B2:24:A:N7 | 2.59 | 0.71 |
| 31:B3:70:G:C8 | 31:B3:71:A:N6 | 2.59 | 0.71 |
| 41:BJ:75:TYR:O | 41:BJ:76:MET:C | 2.32 | 0.71 |
| 1:C1:250:C:O2 | 1:C1:251:A:C8 | 2.44 | 0.71 |
| 1:C1:515:A:H2' | 1:C1:516:G:OP1 | 1.91 | 0.71 |
| 1:C1:889:U:O2' | 1:C1:890:C:H5' | 1.91 | 0.71 |
| 1:C1:1761:U:O2' | 1:C1:1762:A:OP2 | 2.07 | 0.71 |
| 5:CD:208:SER:CB | 5:CD:209:TYR:HA | 2.21 | 0.71 |
| 6:CE:143:ILE:O | 6:CE:145:SER:N | 2.23 | 0.71 |
| 8:CG:125:LEU:O | 8:CG:126:ALA:C | 2.32 | 0.71 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:CT:116:ASP:CB | 21:CT:121:MET:H | 2.04 | 0.71 |
| 29:D1:141:C:H2' | 29:D1:142:C:C6 | 2.26 | 0.71 |
| 29:D1:208:C:C2' | 29:D1:209:A:C5' | 2.68 | 0.71 |
| 29:D1:235:A:H2' | 29:D1:236:G:C8 | 2.26 | 0.71 |
| 29:D1:606:C:C2' | 29:D1:607:A:H1' | 2.16 | 0.71 |
| 29:D1:739:G:H2' | 29:D1:740:G:C8 | 2.25 | 0.71 |
| 29:D1:1054:A:N6 | 29:D1:1055:A:C2 | 2.59 | 0.71 |
| 29:D1:1220:U:H4' | 29:D1:1222:G:H3' | 1.73 | 0.71 |
| 29:D1:1234:G:H3' | 29:D1:1235:U:H2' | 1.72 | 0.71 |
| 29:D1:1435:A:H8 | 29:D1:1437:C:C6 | 2.08 | 0.71 |
| 29:D1:2638:C:C2 | 29:D1:2639:G:C8 | 2.79 | 0.71 |
| 29:D1:3058:U:O2' | 29:D1:3059:G:OP1 | 2.08 | 0.71 |
| 29:D1:3068:U:OP1 | 48:DS:58:HIS:HA | 1.91 | 0.71 |
| 29:D1:3141:A:C4' | 29:D1:3143:C:H2' | 2.19 | 0.71 |
| 31:D3:2:A:O2' | 31:D3:3:A:H5' | 1.91 | 0.71 |
| 31:D3:10:A:N3 | 31:D3:11:C:C6 | 2.59 | 0.71 |
| 31:D3:128:U:C5' | 31:D3:129:C:H5 | 2.02 | 0.71 |
| 36:DE:223:PHE:O | 36:DE:225:GLY:HA3 | 1.90 | 0.71 |
| 44:DO:49:ARG:HA | 44:DO:53:TYR:CB | 2.21 | 0.71 |
| 1:A1:66:U:H3 | 1:A1:71:A:H62 | 1.33 | 0.70 |
| 1:A1:93:A:N3 | 1:A1:399:A:C2 | 2.59 | 0.70 |
| 1:A1:110:U:H4' | 1:A1:797:G:H21 | 1.54 | 0.70 |
| 1:A1:394:C:C2' | 1:A1:395:U:H5' | 2.21 | 0.70 |
| 1:A1:553:G:H3' | 1:A1:554:C:C5' | 2.20 | 0.70 |
| 1:A1:772:G:C5 | 1:A1:773:C:N3 | 2.58 | 0.70 |
| 1:A1:951:A:C2' | 1:A1:952:A:O5' | 2.38 | 0.70 |
| 1:A1:1170:G:O6 | 1:A1:1574:G:C6 | 2.44 | 0.70 |
| 1:A1:1259:U:O5' | 1:A1:1259:U:C6 | 2.44 | 0.70 |
| 1:A1:1347:U:H2' | 1:A1:1349:G:N7 | 2.06 | 0.70 |
| 1:A1:1348:A:C2 | 1:A1:1378:U:C6 | 2.79 | 0.70 |
| 29:B1:11:A:H1' | 29:B1:1557:A:H61 | 1.53 | 0.70 |
| 29:B1:306:A:N6 | 29:B1:2783:U:H3 | 1.89 | 0.70 |
| 29:B1:340:C:H2' | 29:B1:341:G:C8 | 2.26 | 0.70 |
| 29:B1:1140:G:H2' | 29:B1:1141:C:C6 | 2.26 | 0.70 |
| 29:B1:1194:G:H4' | 29:B1:1320:C:OP1 | 1.91 | 0.70 |
| 29:B1:1307:G:O2' | 29:B1:1308:A:OP2 | 2.08 | 0.70 |
| 29:B1:1310:G:H2' | 29:B1:1311:G:O5' | 1.91 | 0.70 |
| 29:B1:1463:U:C4 | 29:B1:1464:G:N7 | 2.58 | 0.70 |
| 29:B1:2269:U:C6 | 29:B1:2272:G:O6 | 2.44 | 0.70 |
| 29:B1:2423:U:H2' | 29:B1:2424:A:C8 | 2.26 | 0.70 |
| 29:B1:3005:A:C2 | 29:B1:3140:G:N3 | 2.59 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3311:C:H2' | 29:B1:3312:U:C6 | 2.26 | 0.70 |
| 29:B1:3316:A:C4' | 29:B1:3317:U:OP2 | 2.39 | 0.70 |
| 29:B1:3392:U:H2' | 29:B1:3393:U:C6 | 2.25 | 0.70 |
| 34:BC:189:SER:O | 34:BC:190:GLU:C | 2.34 | 0.70 |
| 35:BD:10:SER:HA | 35:BD:17:ALA:H | 1.54 | 0.70 |
| 40:BI:92:TYR:HA | 40:BI:179:ILE:HA | 1.73 | 0.70 |
| 44:BO:39:ALA:N | 44:BO:62:TYR:HA | 2.00 | 0.70 |
| 1:C1:61:A:C4' | 1:C1:62:A:H5' | 2.21 | 0.70 |
| 1:C1:509:G:C2' | 1:C1:510:G:H8 | 2.01 | 0.70 |
| 1:C1:557:G:C2' | 1:C1:558:U:H4' | 2.21 | 0.70 |
| 1:C1:595:G:H2' | 1:C1:596:C:C6 | 2.26 | 0.70 |
| 1:C1:1003:A:N7 | 1:C1:1005:A:C2 | 2.59 | 0.70 |
| 1:C1:1195:C:OP1 | 1:C1:1197:C:H1' | 1.90 | 0.70 |
| 1:C1:1399:C:H2' | 1:C1:1400:A:C8 | 2.26 | 0.70 |
| 1:C1:1464:G:O2' | 1:C1:1465:C:H5' | 1.91 | 0.70 |
| 29:D1:284:A:N6 | 29:D1:2785:A:O4' | 2.24 | 0.70 |
| 29:D1:423:A:H2' | 29:D1:424:G:O5' | 1.90 | 0.70 |
| 29:D1:723:U:H2' | 29:D1:724:U:C5' | 2.21 | 0.70 |
| 29:D1:821:U:C2' | 29:D1:822:G:H5' | 2.20 | 0.70 |
| 29:D1:979:U:C4' | 29:D1:980:A:OP1 | 2.38 | 0.70 |
| 29:D1:1041:U:H2' | 29:D1:1042:U:H5' | 1.73 | 0.70 |
| 29:D1:1060:U:H4' | 29:D1:1060:U:OP1 | 1.91 | 0.70 |
| 29:D1:1130:A:H2' | 29:D1:1132:C:H6 | 1.54 | 0.70 |
| 29:D1:1368:U:H2' | 29:D1:1369:A:H8 | 1.56 | 0.70 |
| 29:D1:1461:A:H2' | 29:D1:1462:A:H8 | 1.55 | 0.70 |
| 29:D1:1784:G:O2' | 29:D1:1785:U:H5' | 1.89 | 0.70 |
| 29:D1:2105:G:H5' | 29:D1:2105:G:C8 | 2.26 | 0.70 |
| 29:D1:2151:C:O2' | 29:D1:2243:A:N1 | 2.17 | 0.70 |
| 29:D1:2772:C:OP1 | 29:D1:2772:C:H4' | 1.90 | 0.70 |
| 29:D1:2912:G:C6 | 29:D1:3130:A:C5 | 2.79 | 0.70 |
| 29:D1:3071:U:O2' | 29:D1:3072:C:C5' | 2.39 | 0.70 |
| 29:D1:3160:U:C2 | 29:D1:3161:C:C5 | 2.79 | 0.70 |
| 51:DV:22:VAL:O | 51:DV:23:ARG:O | 2.09 | 0.70 |
| 60:De:10:LYS:O | 60:De:11:GLN:C | 2.32 | 0.70 |
| 1:A1:270:C:H3' | 1:A1:271:A:H5" | 1.73 | 0.70 |
| 1:A1:533:U:H3' | 1:A1:534:A:C8 | 2.26 | 0.70 |
| 1:A1:844:A:H2' | 1:A1:845:G:C8 | 2.26 | 0.70 |
| 1:A1:883:C:H2' | 1:A1:883:C:O2 | 1.90 | 0.70 |
| 1:A1:1094:G:H2' | 1:A1:1095:U:H5 | 1.54 | 0.70 |
| 1:A1:1110:G:O2' | 1:A1:1111:G:O5' | 2.08 | 0.70 |
| 1:A1:1304:G:N7 | 1:A1:1305:U:C5 | 2.59 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1338:C:C1’ | 1:A1:1410:A:N3 | 2.55 | 0.70 |
| 1:A1:1347:U:H5’ | 15:AN:10:GLU:CA | 2.18 | 0.70 |
| 1:A1:1773:C:H5” | 1:A1:1774:G:OP2 | 1.90 | 0.70 |
| 10:AI:19:GLY:H | 13:AL:98:TYR:HA | 1.56 | 0.70 |
| 20:AS:38:ILE:C | 20:AS:40:ARG:N | 2.48 | 0.70 |
| 29:B1:52:A:H2’ | 29:B1:53:G:O5’ | 1.90 | 0.70 |
| 29:B1:121:A:OP2 | 29:B1:121:A:C4 | 2.44 | 0.70 |
| 29:B1:213:A:H2’ | 29:B1:214:G:O4’ | 1.90 | 0.70 |
| 29:B1:258:G:C2 | 29:B1:259:C:C6 | 2.78 | 0.70 |
| 29:B1:1105:A:H2’ | 29:B1:1106:G:H8 | 1.52 | 0.70 |
| 29:B1:1139:G:C8 | 29:B1:1139:G:H5’ | 2.26 | 0.70 |
| 29:B1:1406:A:C2 | 29:B1:1407:A:C5 | 2.79 | 0.70 |
| 29:B1:1625:A:H3’ | 29:B1:1626:U:H5” | 1.73 | 0.70 |
| 29:B1:1695:U:O2’ | 29:B1:1749:A:N1 | 2.19 | 0.70 |
| 29:B1:1750:A:H5’ | 29:B1:1751:G:C8 | 2.27 | 0.70 |
| 29:B1:2256:A:O2’ | 29:B1:2257:C:P | 2.49 | 0.70 |
| 29:B1:2834:G:N3 | 29:B1:2835:U:C6 | 2.59 | 0.70 |
| 29:B1:3383:G:N3 | 29:B1:3384:U:C5 | 2.58 | 0.70 |
| 37:BF:150:LYS:O | 37:BF:152:THR:N | 2.24 | 0.70 |
| 43:BN:50:LYS:H | 43:BN:53:VAL:CB | 2.03 | 0.70 |
| 45:BP:148:LYS:CB | 45:BP:149:TYR:CB | 2.69 | 0.70 |
| 1:C1:17:C:H2’ | 1:C1:18:C:H6 | 1.56 | 0.70 |
| 1:C1:269:G:C6 | 1:C1:287:G:N1 | 2.59 | 0.70 |
| 1:C1:553:G:H3’ | 1:C1:554:C:H5” | 1.73 | 0.70 |
| 1:C1:970:A:H2’ | 1:C1:971:A:H5’ | 1.72 | 0.70 |
| 5:CD:153:GLY:CA | 5:CD:154:ALA:HB3 | 2.20 | 0.70 |
| 29:D1:247:C:H2’ | 29:D1:248:U:H4’ | 1.72 | 0.70 |
| 29:D1:503:C:N3 | 29:D1:588:G:N1 | 2.39 | 0.70 |
| 29:D1:736:A:H2’ | 29:D1:737:G:H8 | 1.56 | 0.70 |
| 29:D1:965:A:C6 | 29:D1:966:U:N3 | 2.59 | 0.70 |
| 29:D1:1517:G:H2’ | 29:D1:1518:U:H6 | 1.55 | 0.70 |
| 29:D1:1539:A:H2’ | 29:D1:1540:U:H5’ | 1.73 | 0.70 |
| 29:D1:2149:A:H8 | 29:D1:2149:A:H3’ | 1.56 | 0.70 |
| 29:D1:2520:A:N3 | 29:D1:2521:U:C2 | 2.59 | 0.70 |
| 29:D1:3244:A:C8 | 29:D1:3245:A:N7 | 2.59 | 0.70 |
| 29:D1:3273:A:H2’ | 29:D1:3274:A:O4’ | 1.91 | 0.70 |
| 29:D1:3304:U:O2’ | 29:D1:3305:A:H5’ | 1.90 | 0.70 |
| 30:D2:7:G:H2’ | 30:D2:8:G:O4’ | 1.90 | 0.70 |
| 30:D2:64:A:C1’ | 30:D2:65:G:O5’ | 2.40 | 0.70 |
| 31:D3:109:A:C2’ | 31:D3:110:C:H5’ | 2.21 | 0.70 |
| 34:DC:53:MET:HA | 34:DC:77:THR:HA | 1.73 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:DC:76:VAL:HA | 34:DC:325:LYS:CB | 2.20 | 0.70 |
| 45:DP:124:LEU:CB | 45:DP:128:ARG:N | 2.54 | 0.70 |
| 45:DP:190:VAL:C | 45:DP:192:LYS:H | 1.98 | 0.70 |
| 1:A1:17:C:H2' | 1:A1:18:C:H6 | 1.55 | 0.70 |
| 1:A1:297:U:H2' | 1:A1:298:C:O5' | 1.91 | 0.70 |
| 1:A1:319:U:H6 | 1:A1:319:U:H5' | 1.54 | 0.70 |
| 1:A1:611:U:H5" | 1:A1:612:U:OP2 | 1.91 | 0.70 |
| 1:A1:737:A:O2' | 1:A1:738:G:C8 | 2.40 | 0.70 |
| 1:A1:922:G:O2' | 1:A1:923:A:H8 | 1.74 | 0.70 |
| 1:A1:973:A:H2' | 1:A1:974:A:C8 | 2.26 | 0.70 |
| 1:A1:1032:G:H2' | 1:A1:1033:C:C6 | 2.26 | 0.70 |
| 1:A1:1089:U:C2' | 1:A1:1090:C:H5' | 2.21 | 0.70 |
| 1:A1:1292:G:H2' | 1:A1:1293:U:C6 | 2.26 | 0.70 |
| 1:A1:1382:A:O2' | 1:A1:1383:G:H5" | 1.91 | 0.70 |
| 21:AT:289:ALA:CA | 21:AT:305:TYR:HA | 2.11 | 0.70 |
| 29:B1:1152:G:O2' | 29:B1:1153:A:OP1 | 2.08 | 0.70 |
| 29:B1:1564:U:C2 | 29:B1:1565:G:C8 | 2.80 | 0.70 |
| 29:B1:1577:G:H2' | 29:B1:1578:C:C6 | 2.26 | 0.70 |
| 29:B1:1716:U:H3' | 29:B1:1717:U:C4' | 2.20 | 0.70 |
| 29:B1:1785:U:HO2' | 29:B1:1786:G:H8 | 1.36 | 0.70 |
| 29:B1:2271:A:C3' | 29:B1:2272:G:H5" | 2.20 | 0.70 |
| 29:B1:2673:A:H2 | 29:B1:2674:A:C5 | 2.08 | 0.70 |
| 29:B1:2714:G:N2 | 29:B1:2751:G:C5 | 2.60 | 0.70 |
| 29:B1:2931:C:C4 | 29:B1:2932:U:C5 | 2.78 | 0.70 |
| 29:B1:3196:U:H5 | 29:B1:3198:U:C6 | 2.10 | 0.70 |
| 29:B1:3273:A:C6 | 29:B1:3274:A:C8 | 2.78 | 0.70 |
| 29:B1:3305:A:C6 | 29:B1:3306:U:N3 | 2.58 | 0.70 |
| 29:B1:3377:G:H1' | 29:B1:3378:C:OP1 | 1.91 | 0.70 |
| 30:B2:11:A:N1 | 36:BE:16:PHE:HA | 2.07 | 0.70 |
| 31:B3:29:U:O2' | 31:B3:30:C:H5' | 1.92 | 0.70 |
| 38:BG:73:GLY:HA2 | 38:BG:74:SER:C | 2.12 | 0.70 |
| 39:BH:99:PRO:HA | 39:BH:236:GLY:N | 2.06 | 0.70 |
| 1:C1:518:A:H8 | 1:C1:519:C:H5" | 1.53 | 0.70 |
| 1:C1:620:A:C5 | 1:C1:621:A:N1 | 2.59 | 0.70 |
| 1:C1:1109:G:H2' | 1:C1:1110:G:C5' | 2.21 | 0.70 |
| 1:C1:1255:G:O4' | 1:C1:1255:G:OP2 | 2.10 | 0.70 |
| 1:C1:1358:G:H5' | 1:C1:1359:C:OP2 | 1.90 | 0.70 |
| 1:C1:1632:C:C2 | 1:C1:1633:A:N7 | 2.60 | 0.70 |
| 29:D1:59:G:O3' | 29:D1:60:A:H4' | 1.89 | 0.70 |
| 29:D1:514:G:O3' | 29:D1:515:C:O4' | 2.09 | 0.70 |
| 29:D1:532:A:H3' | 29:D1:533:A:C8 | 2.25 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1056:U:H6 | 29:D1:1056:U:O5' | 1.74 | 0.70 |
| 29:D1:1212:A:C3' | 29:D1:1213:G:H5" | 2.21 | 0.70 |
| 29:D1:1226:G:N3 | 29:D1:1227:C:C6 | 2.59 | 0.70 |
| 29:D1:1358:C:O2 | 29:D1:1358:C:H2' | 1.91 | 0.70 |
| 29:D1:1393:A:C8 | 29:D1:1418:A:C5 | 2.79 | 0.70 |
| 29:D1:1405:U:H2' | 29:D1:1406:A:C8 | 2.21 | 0.70 |
| 29:D1:2150:G:C2' | 29:D1:2151:C:H5" | 2.20 | 0.70 |
| 29:D1:2249:G:O4' | 29:D1:2272:G:H8 | 1.74 | 0.70 |
| 29:D1:2386:A:C8 | 29:D1:2994:A:N1 | 2.58 | 0.70 |
| 29:D1:2503:G:H2' | 29:D1:2504:U:C6 | 2.26 | 0.70 |
| 29:D1:2661:G:H5' | 29:D1:2749:G:N2 | 2.07 | 0.70 |
| 29:D1:3307:A:O5' | 29:D1:3307:A:C8 | 2.39 | 0.70 |
| 30:D2:49:G:C8 | 30:D2:49:G:OP2 | 2.44 | 0.70 |
| 31:D3:88:A:H2' | 31:D3:89:A:C6 | 2.27 | 0.70 |
| 34:DC:189:SER:O | 34:DC:190:GLU:C | 2.35 | 0.70 |
| 35:DD:130:ALA:O | 35:DD:131:VAL:C | 2.34 | 0.70 |
| 42:DK:133:ARG:N | 42:DK:155:THR:H | 1.89 | 0.70 |
| 72:DL:138:SER:C | 72:DL:140:GLY:H | 1.97 | 0.70 |
| 1:A1:65:A:H2 | 1:A1:84:A:H62 | 1.38 | 0.70 |
| 1:A1:269:G:C6 | 1:A1:287:G:N1 | 2.60 | 0.70 |
| 1:A1:825:U:O2' | 1:A1:826:U:C6 | 2.44 | 0.70 |
| 1:A1:1118:G:O2' | 1:A1:1119:G:O5' | 2.09 | 0.70 |
| 1:A1:1244:A:C2 | 1:A1:1245:G:N9 | 2.60 | 0.70 |
| 1:A1:1765:A:H4' | 1:A1:1766:A:OP2 | 1.91 | 0.70 |
| 29:B1:5:G:N2 | 31:B3:155:A:H1' | 2.05 | 0.70 |
| 29:B1:247:C:H2' | 29:B1:248:U:H4' | 1.73 | 0.70 |
| 29:B1:592:A:O2' | 29:B1:593:C:O2' | 2.07 | 0.70 |
| 29:B1:743:C:H4' | 47:BR:142:GLY:HA2 | 1.72 | 0.70 |
| 29:B1:1131:G:C2 | 29:B1:2373:A:C4 | 2.79 | 0.70 |
| 29:B1:1175:C:OP2 | 29:B1:1175:C:H3' | 1.91 | 0.70 |
| 29:B1:1194:G:C2' | 29:B1:1309:U:O2 | 2.40 | 0.70 |
| 29:B1:1471:U:H2' | 29:B1:1472:U:H6 | 1.55 | 0.70 |
| 29:B1:1580:A:H3' | 29:B1:1581:C:H5' | 1.73 | 0.70 |
| 29:B1:1697:A:H2' | 29:B1:1698:C:C5' | 2.17 | 0.70 |
| 29:B1:1715:A:H3' | 29:B1:1716:U:C5' | 2.20 | 0.70 |
| 29:B1:2599:U:H2' | 29:B1:2600:C:H6 | 1.57 | 0.70 |
| 29:B1:2640:A:C5 | 29:B1:2641:U:C5 | 2.79 | 0.70 |
| 29:B1:2676:A:H2 | 29:B1:2680:A:C2 | 2.09 | 0.70 |
| 29:B1:3110:C:H2' | 29:B1:3111:U:H6 | 1.56 | 0.70 |
| 29:B1:3262:U:H2' | 29:B1:3263:G:H8 | 1.56 | 0.70 |
| 29:B1:3268:A:H1' | 29:B1:3269:U:P | 2.30 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3393:U:C2' | 29:B1:3394:U:H5' | 2.21 | 0.70 |
| 31:B3:17:A:C4 | 31:B3:18:U:C5 | 2.79 | 0.70 |
| 49:BT:100:LYS:C | 49:BT:102:ARG:H | 1.96 | 0.70 |
| 1:C1:37:U:OP1 | 1:C1:531:C:O2' | 2.09 | 0.70 |
| 1:C1:142:G:C8 | 1:C1:266:A:N1 | 2.59 | 0.70 |
| 1:C1:365:G:OP2 | 1:C1:365:G:H8 | 1.74 | 0.70 |
| 1:C1:1153:G:OP2 | 1:C1:1153:G:H8 | 1.75 | 0.70 |
| 1:C1:1756:A:C8 | 1:C1:1756:A:OP2 | 2.44 | 0.70 |
| 21:CT:255:ALA:HA | 21:CT:260:ILE:HA | 1.73 | 0.70 |
| 29:D1:219:A:C2 | 29:D1:1390:A:H2' | 2.26 | 0.70 |
| 29:D1:421:G:N2 | 29:D1:2365:C:C1' | 2.53 | 0.70 |
| 29:D1:637:C:C2 | 29:D1:638:C:C5 | 2.79 | 0.70 |
| 29:D1:676:G:H4' | 29:D1:678:G:O3' | 1.91 | 0.70 |
| 29:D1:773:G:C2' | 29:D1:774:G:C8 | 2.71 | 0.70 |
| 29:D1:826:G:H21 | 29:D1:1589:A:N6 | 1.88 | 0.70 |
| 29:D1:1806:A:H2' | 29:D1:1807:G:O4' | 1.91 | 0.70 |
| 29:D1:1914:G:H5" | 29:D1:1915:A:OP2 | 1.91 | 0.70 |
| 29:D1:2614:G:C2 | 29:D1:2797:C:C6 | 2.80 | 0.70 |
| 29:D1:2815:G:O2' | 29:D1:2817:A:H2' | 1.91 | 0.70 |
| 29:D1:2895:G:C2' | 29:D1:2896:A:H5" | 2.21 | 0.70 |
| 29:D1:3019:U:C5 | 29:D1:3020:U:C5 | 2.80 | 0.70 |
| 29:D1:3135:U:C6 | 29:D1:3136:G:N7 | 2.59 | 0.70 |
| 29:D1:3228:C:H3' | 29:D1:3229:G:C8 | 2.25 | 0.70 |
| 29:D1:3317:U:H3' | 29:D1:3317:U:P | 2.31 | 0.70 |
| 29:D1:3323:A:C6 | 29:D1:3324:C:C4 | 2.79 | 0.70 |
| 30:D2:25:G:C4 | 30:D2:26:C:C5 | 2.80 | 0.70 |
| 31:D3:69:U:N1 | 31:D3:70:G:H1' | 2.07 | 0.70 |
| 41:DJ:135:ILE:O | 41:DJ:137:SER:N | 2.25 | 0.70 |
| 1:A1:1240:U:C3' | 1:A1:1241:G:H5' | 2.20 | 0.70 |
| 1:A1:1272:U:H5" | 1:A1:1273:G:OP2 | 1.91 | 0.70 |
| 1:A1:1579:U:C4 | 1:A1:1580:C:N4 | 2.59 | 0.70 |
| 1:A1:1594:G:C6 | 1:A1:1595:U:N3 | 2.60 | 0.70 |
| 1:A1:1683:C:OP2 | 1:A1:1683:C:H3' | 1.91 | 0.70 |
| 16:AO:98:GLN:O | 16:AO:100:GLY:N | 2.25 | 0.70 |
| 20:AS:49:ASP:H | 20:AS:50:ILE:CB | 2.03 | 0.70 |
| 29:B1:11:A:C2' | 29:B1:12:A:H5' | 2.20 | 0.70 |
| 29:B1:115:A:C5 | 29:B1:116:A:N1 | 2.59 | 0.70 |
| 29:B1:504:A:H8 | 29:B1:504:A:C3' | 1.98 | 0.70 |
| 29:B1:559:A:C2' | 29:B1:560:G:H8 | 2.05 | 0.70 |
| 29:B1:563:U:H2' | 29:B1:564:G:H4' | 1.72 | 0.70 |
| 29:B1:722:G:O2' | 29:B1:723:U:OP2 | 2.07 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:730:C:C2’ | 29:B1:731:U:H5’ | 2.22 | 0.70 |
| 29:B1:1180:A:C2 | 29:B1:1182:A:C4 | 2.80 | 0.70 |
| 29:B1:1351:U:O2 | 29:B1:1352:A:C5 | 2.45 | 0.70 |
| 29:B1:1352:A:P | 29:B1:1352:A:H8 | 2.14 | 0.70 |
| 29:B1:1901:A:OP2 | 29:B1:2919:A:OP1 | 2.10 | 0.70 |
| 29:B1:2912:G:C6 | 29:B1:2913:C:N3 | 2.60 | 0.70 |
| 29:B1:3291:G:H2’ | 29:B1:3292:A:C8 | 2.27 | 0.70 |
| 38:BG:29:GLU:O | 38:BG:32:ALA:HB3 | 1.91 | 0.70 |
| 43:BN:107:GLU:O | 43:BN:110:ALA:N | 2.24 | 0.70 |
| 45:BP:18:ARG:O | 45:BP:20:ALA:N | 2.24 | 0.70 |
| 45:BP:63:ALA:HB2 | 45:BP:69:GLY:HA3 | 1.73 | 0.70 |
| 1:C1:336:G:H2’ | 1:C1:338:C:C5 | 2.26 | 0.70 |
| 1:C1:736:C:H2’ | 1:C1:737:A:H8 | 1.55 | 0.70 |
| 1:C1:1003:A:H1’ | 1:C1:1004:U:OP2 | 1.90 | 0.70 |
| 1:C1:1296:A:H2’ | 1:C1:1297:G:H5” | 1.74 | 0.70 |
| 1:C1:1468:U:O2’ | 1:C1:1469:A:O5’ | 2.06 | 0.70 |
| 1:C1:1481:C:C5 | 1:C1:1482:C:C2 | 2.80 | 0.70 |
| 1:C1:1494:C:O2’ | 1:C1:1495:C:H5’ | 1.91 | 0.70 |
| 6:CE:111:THR:O | 6:CE:113:VAL:N | 2.24 | 0.70 |
| 29:D1:156:G:H1’ | 29:D1:157:A:H4’ | 1.73 | 0.70 |
| 29:D1:159:A:H2’ | 29:D1:160:G:C8 | 2.27 | 0.70 |
| 29:D1:305:U:O2’ | 29:D1:306:A:C8 | 2.44 | 0.70 |
| 29:D1:370:U:H5 | 29:D1:371:G:C5 | 2.08 | 0.70 |
| 29:D1:395:A:H8 | 29:D1:395:A:OP1 | 1.74 | 0.70 |
| 29:D1:660:A:N1 | 29:D1:1435:A:C2 | 2.59 | 0.70 |
| 29:D1:1088:U:H2’ | 29:D1:1089:G:C8 | 2.26 | 0.70 |
| 29:D1:1239:C:H2’ | 29:D1:1240:A:C8 | 2.26 | 0.70 |
| 29:D1:1416:C:O2 | 29:D1:1416:C:C2’ | 2.39 | 0.70 |
| 29:D1:1478:C:H6 | 29:D1:1478:C:H5” | 1.56 | 0.70 |
| 29:D1:1687:U:H6 | 29:D1:1687:U:P | 2.13 | 0.70 |
| 29:D1:1884:A:C4 | 29:D1:1885:U:N3 | 2.59 | 0.70 |
| 29:D1:2196:C:N4 | 29:D1:2242:A:N7 | 2.40 | 0.70 |
| 29:D1:2253:G:N7 | 29:D1:2254:U:C4 | 2.59 | 0.70 |
| 29:D1:2407:C:H1’ | 29:D1:2818:U:H3 | 1.56 | 0.70 |
| 29:D1:2846:U:H1’ | 74:D1:3570:OHX:N5 | 2.07 | 0.70 |
| 29:D1:2868:U:H2’ | 29:D1:2869:U:H6 | 1.56 | 0.70 |
| 29:D1:2883:U:C2 | 29:D1:2884:C:C5 | 2.79 | 0.70 |
| 29:D1:3245:A:O2’ | 29:D1:3246:G:O4’ | 2.09 | 0.70 |
| 29:D1:3309:G:C2 | 29:D1:3310:A:C8 | 2.80 | 0.70 |
| 30:D2:54:U:H2’ | 30:D2:54:U:O2 | 1.90 | 0.70 |
| 38:DG:47:ARG:O | 38:DG:50:ALA:HB3 | 1.91 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:127:G:O6 | 1:A1:179:A:N1 | 2.24 | 0.70 |
| 1:A1:272:U:O4 | 1:A1:284:G:O6 | 2.10 | 0.70 |
| 1:A1:1102:G:C2' | 1:A1:1103:U:O5' | 2.37 | 0.70 |
| 1:A1:1118:G:C2 | 1:A1:1119:G:C4 | 2.80 | 0.70 |
| 1:A1:1391:A:H5" | 1:A1:1392:U:OP2 | 1.91 | 0.70 |
| 1:A1:1629:G:H2' | 1:A1:1630:U:O4' | 1.91 | 0.70 |
| 2:AA:182:LEU:O | 2:AA:187:ALA:HA | 1.92 | 0.70 |
| 4:AC:80:ALA:C | 4:AC:82:GLY:H | 2.00 | 0.70 |
| 5:AD:208:SER:CB | 5:AD:209:TYR:HA | 2.21 | 0.70 |
| 14:AM:60:SER:C | 14:AM:62:ALA:N | 2.48 | 0.70 |
| 29:B1:9:U:H2' | 29:B1:10:C:H5' | 1.73 | 0.70 |
| 29:B1:255:A:H2' | 29:B1:256:G:C8 | 2.27 | 0.70 |
| 29:B1:285:A:C2 | 29:B1:305:U:O5' | 2.44 | 0.70 |
| 29:B1:749:C:H2' | 29:B1:750:G:H8 | 1.55 | 0.70 |
| 29:B1:910:G:C4 | 29:B1:911:C:C6 | 2.79 | 0.70 |
| 29:B1:1129:A:C6 | 29:B1:1130:A:N6 | 2.59 | 0.70 |
| 29:B1:1166:G:H2' | 29:B1:1167:U:H5" | 1.71 | 0.70 |
| 29:B1:1351:U:H2' | 29:B1:1352:A:C5 | 2.27 | 0.70 |
| 29:B1:1354:G:H8 | 29:B1:1355:A:N1 | 1.89 | 0.70 |
| 29:B1:1435:A:C5' | 29:B1:1436:U:H5" | 2.17 | 0.70 |
| 29:B1:1740:U:C2' | 29:B1:1741:A:H5' | 2.22 | 0.70 |
| 29:B1:1812:G:H2' | 29:B1:1812:G:N3 | 2.06 | 0.70 |
| 29:B1:2141:U:N3 | 29:B1:2956:A:C2 | 2.60 | 0.70 |
| 29:B1:3089:C:H3' | 29:B1:3090:U:H5" | 1.74 | 0.70 |
| 29:B1:3308:C:C5 | 29:B1:3309:G:C2 | 2.77 | 0.70 |
| 29:B1:3384:U:C4 | 29:B1:3385:U:O4 | 2.45 | 0.70 |
| 30:B2:64:A:H4' | 30:B2:65:G:O5' | 1.90 | 0.70 |
| 31:B3:34:U:H3' | 31:B3:34:U:C2 | 2.26 | 0.70 |
| 31:B3:71:A:N6 | 31:B3:87:G:N7 | 2.40 | 0.70 |
| 37:BF:159:LEU:C | 37:BF:161:ALA:H | 1.99 | 0.70 |
| 46:BQ:33:ALA:O | 46:BQ:35:ALA:N | 2.23 | 0.70 |
| 1:C1:210:A:H2' | 1:C1:211:U:C6 | 2.27 | 0.70 |
| 1:C1:575:C:C5' | 1:C1:576:G:OP2 | 2.39 | 0.70 |
| 1:C1:623:A:H2 | 1:C1:1105:C:HO2' | 1.36 | 0.70 |
| 1:C1:1219:A:C5' | 1:C1:1220:C:H5 | 2.02 | 0.70 |
| 1:C1:1349:G:O2' | 1:C1:1350:U:OP2 | 2.10 | 0.70 |
| 1:C1:1521:G:C6 | 74:C1:1930:OHX:N5 | 2.60 | 0.70 |
| 1:C1:1521:G:O6 | 74:C1:1930:OHX:N1 | 2.22 | 0.70 |
| 1:C1:1592:A:H2' | 1:C1:1593:A:H8 | 1.55 | 0.70 |
| 1:C1:1719:A:H2' | 1:C1:1720:G:N7 | 2.05 | 0.70 |
| 1:C1:1734:U:H2' | 1:C1:1735:U:H6 | 1.54 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:498:A:H2' | 29:D1:499:G:H8 | 1.54 | 0.70 |
| 29:D1:536:U:OP2 | 29:D1:536:U:H2' | 1.92 | 0.70 |
| 29:D1:590:G:O2' | 29:D1:591:G:P | 2.50 | 0.70 |
| 29:D1:1037:C:HO2' | 29:D1:1038:C:H6 | 1.36 | 0.70 |
| 29:D1:1401:A:H2' | 29:D1:1402:C:H6 | 1.57 | 0.70 |
| 29:D1:1691:U:H2' | 29:D1:1692:U:C6 | 2.27 | 0.70 |
| 29:D1:2113:A:C2' | 29:D1:2114:C:H5' | 2.21 | 0.70 |
| 29:D1:2389:C:O2' | 29:D1:2390:A:H5' | 1.91 | 0.70 |
| 29:D1:3161:C:O2 | 29:D1:3161:C:H2' | 1.90 | 0.70 |
| 29:D1:3218:A:H4' | 29:D1:3220:G:H8 | 1.56 | 0.70 |
| 29:D1:3376:A:H5" | 29:D1:3376:A:N3 | 2.06 | 0.70 |
| 30:D2:25:G:N1 | 30:D2:26:C:N4 | 2.38 | 0.70 |
| 30:D2:34:C:O2 | 30:D2:34:C:C2' | 2.37 | 0.70 |
| 1:A1:357:G:C5 | 1:A1:358:U:C5 | 2.79 | 0.70 |
| 1:A1:390:G:H22 | 1:A1:407:A:H61 | 1.37 | 0.70 |
| 1:A1:1132:A:C2 | 1:A1:1133:A:N7 | 2.60 | 0.70 |
| 1:A1:1310:U:H2' | 1:A1:1311:U:H6 | 1.56 | 0.70 |
| 1:A1:1346:A:H2 | 15:AN:13:GLU:O | 1.74 | 0.70 |
| 1:A1:1388:A:C6 | 1:A1:1411:A:C5 | 2.79 | 0.70 |
| 1:A1:1409:G:H2' | 1:A1:1411:A:N7 | 2.07 | 0.70 |
| 1:A1:1558:U:H6 | 1:A1:1558:U:H3' | 1.55 | 0.70 |
| 29:B1:67:A:C8 | 29:B1:317:A:H1' | 2.27 | 0.70 |
| 29:B1:517:G:H3' | 29:B1:517:G:P | 2.29 | 0.70 |
| 29:B1:710:A:O2' | 29:B1:711:A:H5' | 1.91 | 0.70 |
| 29:B1:953:G:C8 | 29:B1:953:G:C3' | 2.73 | 0.70 |
| 29:B1:1189:C:H4' | 29:B1:1192:C:C5 | 2.22 | 0.70 |
| 29:B1:1260:A:H3' | 29:B1:1261:G:N2 | 2.07 | 0.70 |
| 29:B1:1324:U:C6 | 29:B1:1324:U:H5' | 2.27 | 0.70 |
| 29:B1:2137:U:OP1 | 29:B1:2137:U:H4' | 1.92 | 0.70 |
| 29:B1:2146:C:C2' | 29:B1:2147:A:C5' | 2.69 | 0.70 |
| 29:B1:2259:A:H3' | 29:B1:2260:U:H6 | 1.57 | 0.70 |
| 29:B1:2294:U:H2' | 29:B1:2294:U:O2 | 1.92 | 0.70 |
| 29:B1:2348:A:H5' | 29:B1:2349:U:OP2 | 1.92 | 0.70 |
| 29:B1:2780:A:H2' | 29:B1:2781:U:C6 | 2.27 | 0.70 |
| 29:B1:2932:U:O2 | 29:B1:2932:U:C2' | 2.40 | 0.70 |
| 29:B1:3001:C:O2' | 29:B1:3002:C:H5' | 1.91 | 0.70 |
| 29:B1:3063:C:O2' | 29:B1:3064:U:H5' | 1.92 | 0.70 |
| 29:B1:3214:U:OP2 | 29:B1:3215:A:OP2 | 2.09 | 0.70 |
| 31:B3:92:A:H2' | 31:B3:92:A:N3 | 2.07 | 0.70 |
| 44:BO:157:LYS:C | 44:BO:159:ARG:H | 1.98 | 0.70 |
| 45:BP:81:TYR:O | 45:BP:83:ALA:N | 2.24 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 45:BP:119:VAL:O | 45:BP:120:VAL:O | 2.09 | 0.70 |
| 1:C1:202:A:C6 | 1:C1:203:U:O4 | 2.45 | 0.70 |
| 1:C1:1456:C:H5" | 1:C1:1457:C:C5' | 2.22 | 0.70 |
| 15:CN:21:LYS:H | 15:CN:92:ASP:HA | 1.55 | 0.70 |
| 29:D1:130:A:C2 | 29:D1:131:C:N4 | 2.60 | 0.70 |
| 29:D1:155:G:OP2 | 29:D1:155:G:H8 | 1.74 | 0.70 |
| 29:D1:750:G:N1 | 29:D1:784:A:H1' | 2.06 | 0.70 |
| 29:D1:760:G:H2' | 29:D1:760:G:N3 | 2.04 | 0.70 |
| 29:D1:887:G:C6 | 29:D1:888:A:C6 | 2.80 | 0.70 |
| 29:D1:1315:U:O2 | 29:D1:1315:U:H2' | 1.89 | 0.70 |
| 29:D1:1646:G:O2' | 29:D1:1808:G:N2 | 2.21 | 0.70 |
| 29:D1:1838:G:H8 | 29:D1:1838:G:O5' | 1.74 | 0.70 |
| 29:D1:1915:A:H2' | 29:D1:1916:U:C6 | 2.27 | 0.70 |
| 29:D1:2234:G:O6 | 74:D1:3473:OHX:N5 | 2.25 | 0.70 |
| 29:D1:2896:A:H2' | 29:D1:2897:A:H5" | 1.74 | 0.70 |
| 29:D1:3198:U:C3' | 29:D1:3199:G:C8 | 2.74 | 0.70 |
| 29:D1:3377:G:C1' | 29:D1:3378:C:OP1 | 2.39 | 0.70 |
| 30:D2:121:U:H5" | 36:DE:263:GLU:CB | 2.22 | 0.70 |
| 30:D2:121:U:O3' | 36:DE:266:ALA:HB3 | 1.91 | 0.70 |
| 31:D3:55:U:H2' | 31:D3:56:G:C8 | 2.23 | 0.70 |
| 47:DR:57:ILE:C | 47:DR:59:ARG:H | 1.97 | 0.70 |
| 1:A1:228:G:O2' | 1:A1:229:U:H6 | 1.75 | 0.70 |
| 1:A1:351:C:N3 | 7:AF:102:LYS:O | 2.24 | 0.70 |
| 1:A1:813:U:O2 | 1:A1:813:U:H2' | 1.90 | 0.70 |
| 1:A1:1203:A:H4' | 1:A1:1204:A:OP2 | 1.92 | 0.70 |
| 1:A1:1334:U:H5" | 1:A1:1335:U:OP2 | 1.91 | 0.70 |
| 1:A1:1764:C:H5' | 1:A1:1764:C:C6 | 2.27 | 0.70 |
| 29:B1:683:U:C2' | 29:B1:684:G:H5' | 2.22 | 0.70 |
| 29:B1:995:U:O4 | 29:B1:2637:A:C4 | 2.45 | 0.70 |
| 29:B1:1192:C:H5' | 29:B1:1298:C:OP1 | 1.91 | 0.70 |
| 29:B1:1288:U:O2 | 29:B1:1289:G:C8 | 2.45 | 0.70 |
| 29:B1:1543:G:OP1 | 44:BO:34:ASN:HA | 1.92 | 0.70 |
| 29:B1:1830:G:H2' | 29:B1:1831:U:H6 | 1.55 | 0.70 |
| 29:B1:2684:C:C2 | 29:B1:2685:C:C6 | 2.80 | 0.70 |
| 29:B1:2932:U:C2 | 29:B1:2934:A:OP2 | 2.45 | 0.70 |
| 29:B1:3060:C:O2' | 29:B1:3331:U:O2 | 2.05 | 0.70 |
| 29:B1:3087:A:H2' | 29:B1:3088:G:C8 | 2.27 | 0.70 |
| 29:B1:3111:U:H2' | 29:B1:3112:G:H5' | 1.73 | 0.70 |
| 29:B1:3204:C:H5' | 43:BN:88:ALA:HB3 | 1.73 | 0.70 |
| 30:B2:60:G:H2' | 30:B2:61:G:H8 | 1.56 | 0.70 |
| 30:B2:95:A:C2 | 30:B2:96:U:C2 | 2.80 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:B3:69:U:H2' | 31:B3:70:G:C1' | 2.22 | 0.70 |
| 33:BB:171:GLY:CA | 62:Bg:68:ALA:HB2 | 2.22 | 0.70 |
| 37:BF:86:ALA:HB1 | 37:BF:87:THR:CA | 2.21 | 0.70 |
| 44:BO:79:ALA:H | 44:BO:80:THR:CB | 2.04 | 0.70 |
| 61:Bf:47:GLN:H | 61:Bf:48:SER:HA | 1.57 | 0.70 |
| 70:Bq:8:UNK:O | 70:Bq:10:UNK:N | 2.25 | 0.70 |
| 1:C1:272:U:H4' | 1:C1:272:U:OP1 | 1.90 | 0.70 |
| 1:C1:315:A:C5 | 1:C1:350:U:H5 | 2.10 | 0.70 |
| 1:C1:973:A:O3' | 29:D1:848:A:H1' | 1.90 | 0.70 |
| 1:C1:1142:A:O2' | 1:C1:1143:A:O4' | 2.09 | 0.70 |
| 1:C1:1238:A:H2' | 1:C1:1239:U:H5' | 1.73 | 0.70 |
| 1:C1:1243:G:C6 | 1:C1:1244:A:N6 | 2.59 | 0.70 |
| 1:C1:1315:U:H5" | 1:C1:1329:A:N3 | 2.07 | 0.70 |
| 1:C1:1657:U:H1' | 1:C1:1658:G:OP2 | 1.91 | 0.70 |
| 9:CH:11:SER:CB | 9:CH:12:GLN:HA | 2.22 | 0.70 |
| 29:D1:12:A:H8 | 29:D1:12:A:OP2 | 1.75 | 0.70 |
| 29:D1:152:U:O2' | 29:D1:153:U:H5' | 1.91 | 0.70 |
| 29:D1:158:G:C6 | 29:D1:159:A:O2' | 2.45 | 0.70 |
| 29:D1:280:U:C6 | 29:D1:282:G:OP2 | 2.45 | 0.70 |
| 29:D1:287:G:O2' | 29:D1:288:C:H5' | 1.92 | 0.70 |
| 29:D1:536:U:H1' | 29:D1:537:A:OP2 | 1.90 | 0.70 |
| 29:D1:585:A:H3' | 29:D1:586:C:H6 | 1.57 | 0.70 |
| 29:D1:834:U:H6 | 29:D1:834:U:C5' | 2.05 | 0.70 |
| 29:D1:1543:G:OP1 | 44:DO:34:ASN:HA | 1.92 | 0.70 |
| 29:D1:1884:A:C6 | 29:D1:1885:U:N3 | 2.58 | 0.70 |
| 29:D1:2553:U:H1' | 29:D1:2554:A:H5' | 1.72 | 0.70 |
| 29:D1:2846:U:O2 | 29:D1:2850:G:O6 | 2.09 | 0.70 |
| 29:D1:2997:G:N3 | 29:D1:2998:U:C5' | 2.55 | 0.70 |
| 29:D1:3114:A:C5 | 29:D1:3115:C:C5 | 2.80 | 0.70 |
| 29:D1:3153:U:C4 | 29:D1:3160:U:H1' | 2.27 | 0.70 |
| 29:D1:3174:A:OP2 | 29:D1:3174:A:H4' | 1.91 | 0.70 |
| 29:D1:3181:C:O2 | 29:D1:3181:C:H2' | 1.92 | 0.70 |
| 29:D1:3257:C:OP2 | 29:D1:3257:C:H6 | 1.75 | 0.70 |
| 30:D2:73:C:H42 | 30:D2:74:C:H41 | 1.38 | 0.70 |
| 31:D3:67:U:H3' | 31:D3:68:G:C8 | 2.25 | 0.70 |
| 31:D3:106:C:O4' | 31:D3:138:A:C8 | 2.45 | 0.70 |
| 35:DD:252:GLU:C | 35:DD:254:ALA:H | 1.97 | 0.70 |
| 37:DF:56:LYS:C | 37:DF:58:LEU:H | 1.99 | 0.70 |
| 1:A1:312:A:C2 | 1:A1:314:C:H2' | 2.27 | 0.70 |
| 1:A1:438:A:O2' | 1:A1:439:U:H5" | 1.91 | 0.70 |
| 1:A1:518:A:N1 | 1:A1:535:A:N3 | 2.40 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1123:C:H5 | 1:A1:1124:A:C5 | 2.08 | 0.70 |
| 1:A1:1334:U:C2 | 1:A1:1335:U:C6 | 2.79 | 0.70 |
| 1:A1:1524:A:C2' | 1:A1:1525:A:C8 | 2.72 | 0.70 |
| 1:A1:1592:A:C4 | 1:A1:1605:G:N2 | 2.59 | 0.70 |
| 1:A1:1614:A:C2 | 1:A1:1616:G:OP2 | 2.43 | 0.70 |
| 1:A1:1656:U:C5' | 1:A1:1657:U:O5' | 2.40 | 0.70 |
| 1:A1:1714:A:H2' | 1:A1:1715:G:O4' | 1.91 | 0.70 |
| 3:AB:160:GLY:C | 3:AB:209:ASN:HA | 2.16 | 0.70 |
| 15:AN:25:THR:HA | 15:AN:90:TYR:HA | 1.74 | 0.70 |
| 29:B1:536:U:H6 | 29:B1:536:U:P | 2.13 | 0.70 |
| 29:B1:564:G:H3' | 29:B1:565:U:C5 | 2.27 | 0.70 |
| 29:B1:1261:G:O2' | 29:B1:1262:G:C5 | 2.45 | 0.70 |
| 29:B1:1689:U:C4 | 29:B1:1690:C:C5 | 2.79 | 0.70 |
| 29:B1:1857:C:H6 | 29:B1:1857:C:OP2 | 1.74 | 0.70 |
| 29:B1:2506:U:H2' | 29:B1:2507:C:C5 | 2.26 | 0.70 |
| 29:B1:2513:U:C5 | 29:B1:2591:A:N1 | 2.58 | 0.70 |
| 29:B1:2713:U:H3' | 61:Bf:9:LYS:O | 1.91 | 0.70 |
| 29:B1:2897:A:C2 | 29:B1:2905:U:C2 | 2.79 | 0.70 |
| 29:B1:3135:U:C4 | 29:B1:3136:G:C5 | 2.80 | 0.70 |
| 29:B1:3215:A:P | 29:B1:3218:A:H5" | 2.32 | 0.70 |
| 29:B1:3280:U:OP2 | 29:B1:3280:U:H6 | 1.74 | 0.70 |
| 30:B2:13:A:OP2 | 30:B2:112:G:N2 | 2.21 | 0.70 |
| 30:B2:14:U:H2' | 30:B2:15:C:O5' | 1.92 | 0.70 |
| 34:BC:94:GLU:HA | 34:BC:154:TYR:CB | 2.21 | 0.70 |
| 38:BG:237:ASN:O | 38:BG:240:VAL:N | 2.25 | 0.70 |
| 41:BJ:184:LYS:C | 41:BJ:186:GLU:H | 2.00 | 0.70 |
| 47:BR:126:GLN:O | 47:BR:128:ALA:N | 2.23 | 0.70 |
| 1:C1:18:C:C2 | 1:C1:19:A:C8 | 2.80 | 0.70 |
| 1:C1:326:G:O6 | 1:C1:337:G:O6 | 2.08 | 0.70 |
| 1:C1:817:A:H5" | 1:C1:818:C:OP2 | 1.91 | 0.70 |
| 1:C1:833:U:H3' | 1:C1:834:G:C5' | 2.22 | 0.70 |
| 1:C1:926:A:H2' | 1:C1:927:C:H5' | 1.74 | 0.70 |
| 1:C1:1118:G:C2 | 1:C1:1119:G:C4 | 2.79 | 0.70 |
| 1:C1:1158:C:H42 | 1:C1:1163:A:H61 | 1.37 | 0.70 |
| 4:CC:27:ARG:O | 4:CC:29:LEU:N | 2.25 | 0.70 |
| 17:CP:109:ARG:N | 17:CP:110:LYS:CA | 2.54 | 0.70 |
| 17:CP:131:SER:C | 17:CP:133:LEU:HA | 2.16 | 0.70 |
| 29:D1:344:A:C2 | 29:D1:345:G:H1' | 2.27 | 0.70 |
| 29:D1:563:U:C2 | 29:D1:564:G:O4' | 2.44 | 0.70 |
| 29:D1:573:C:C2 | 29:D1:574:U:C5 | 2.80 | 0.70 |
| 29:D1:959:C:H41 | 29:D1:2801:A:C5' | 2.04 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1105:A:H2' | 29:D1:1106:G:C8 | 2.25 | 0.70 |
| 29:D1:1174:G:O2' | 29:D1:1175:C:H5' | 1.91 | 0.70 |
| 29:D1:1199:C:H2' | 29:D1:1199:C:O2 | 1.91 | 0.70 |
| 29:D1:1393:A:C8 | 29:D1:1418:A:C4 | 2.79 | 0.70 |
| 29:D1:1498:A:O2' | 29:D1:1499:C:H5' | 1.92 | 0.70 |
| 29:D1:1625:A:H3' | 29:D1:1626:U:H5" | 1.74 | 0.70 |
| 29:D1:2098:C:H2' | 29:D1:2099:A:C8 | 2.26 | 0.70 |
| 29:D1:2135:U:H2' | 29:D1:2136:C:H6 | 1.56 | 0.70 |
| 29:D1:2255:A:P | 74:D1:3415:OHX:N2 | 2.65 | 0.70 |
| 29:D1:2289:U:C2' | 29:D1:2290:C:H5' | 2.22 | 0.70 |
| 29:D1:2299:A:H5' | 29:D1:2299:A:H8 | 1.56 | 0.70 |
| 29:D1:2378:C:H2' | 29:D1:2378:C:O2 | 1.91 | 0.70 |
| 29:D1:2424:A:H5" | 29:D1:2425:G:OP2 | 1.91 | 0.70 |
| 29:D1:2665:U:N3 | 29:D1:2706:G:N1 | 2.40 | 0.70 |
| 29:D1:3013:U:C5' | 29:D1:3013:U:C6 | 2.75 | 0.70 |
| 29:D1:3063:C:O2' | 29:D1:3064:U:H5' | 1.92 | 0.70 |
| 74:D1:3543:OHX:N3 | 38:DG:217:PRO:O | 2.25 | 0.70 |
| 73:DM:100:ILE:O | 73:DM:102:SER:N | 2.23 | 0.70 |
| 47:DR:126:GLN:O | 47:DR:128:ALA:N | 2.22 | 0.70 |
| 1:A1:283:U:O3' | 1:A1:284:G:H4' | 1.92 | 0.70 |
| 1:A1:528:U:H4' | 1:A1:529:A:O4' | 1.91 | 0.70 |
| 1:A1:544:A:C2 | 1:A1:545:A:H8 | 2.09 | 0.70 |
| 1:A1:739:G:H2' | 1:A1:740:A:C8 | 2.27 | 0.70 |
| 1:A1:1367:G:H5" | 1:A1:1368:G:OP2 | 1.91 | 0.70 |
| 1:A1:1497:U:C2 | 1:A1:1498:G:C8 | 2.80 | 0.70 |
| 1:A1:1681:A:H5' | 1:A1:1682:U:OP2 | 1.92 | 0.70 |
| 10:AI:17:TYR:CB | 10:AI:18:ARG:CB | 2.70 | 0.70 |
| 29:B1:115:A:C8 | 29:B1:116:A:C2 | 2.80 | 0.70 |
| 29:B1:416:A:C2 | 29:B1:417:A:C4 | 2.80 | 0.70 |
| 29:B1:423:A:H2' | 29:B1:424:G:O5' | 1.92 | 0.70 |
| 29:B1:504:A:C2 | 29:B1:587:U:C2 | 2.70 | 0.70 |
| 29:B1:542:G:H2' | 29:B1:543:C:H6 | 1.54 | 0.70 |
| 29:B1:592:A:C2 | 29:B1:593:C:C2 | 2.80 | 0.70 |
| 29:B1:776:U:H5' | 29:B1:777:U:H6 | 1.55 | 0.70 |
| 29:B1:785:G:C8 | 29:B1:785:G:OP1 | 2.45 | 0.70 |
| 29:B1:865:U:O4 | 29:B1:866:A:C6 | 2.45 | 0.70 |
| 29:B1:866:A:H8 | 29:B1:867:G:C8 | 2.09 | 0.70 |
| 29:B1:1063:G:C8 | 29:B1:1064:A:O4' | 2.44 | 0.70 |
| 29:B1:1204:A:H62 | 29:B1:1300:G:H21 | 1.39 | 0.70 |
| 29:B1:1287:A:OP1 | 29:B1:1287:A:H4' | 1.92 | 0.70 |
| 29:B1:1604:G:H8 | 29:B1:1605:A:H5" | 1.57 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2294:U:O2 | 29:B1:2296:A:H2' | 1.90 | 0.70 |
| 29:B1:2846:U:O2 | 29:B1:2850:G:O6 | 2.09 | 0.70 |
| 29:B1:3113:A:C2 | 29:B1:3122:A:C5 | 2.80 | 0.70 |
| 29:B1:3218:A:H2' | 29:B1:3219:G:H3' | 1.73 | 0.70 |
| 29:B1:3325:G:H2' | 29:B1:3326:G:O4' | 1.92 | 0.70 |
| 29:B1:3328:G:C2 | 29:B1:3375:A:N7 | 2.60 | 0.70 |
| 30:B2:40:C:O2 | 42:BK:69:VAL:HA | 1.90 | 0.70 |
| 34:BC:2:SER:O | 34:BC:4:ARG:N | 2.24 | 0.70 |
| 34:BC:192:VAL:O | 34:BC:195:ALA:HB3 | 1.92 | 0.70 |
| 45:BP:18:ARG:C | 45:BP:20:ALA:H | 1.97 | 0.70 |
| 57:Bb:83:GLU:C | 57:Bb:85:LEU:N | 2.40 | 0.70 |
| 66:Bl:15:UNK:O | 66:Bl:18:UNK:N | 2.24 | 0.70 |
| 1:C1:149:C:C2 | 1:C1:150:U:C5 | 2.80 | 0.70 |
| 1:C1:157:A:O2' | 1:C1:158:U:H5' | 1.92 | 0.70 |
| 1:C1:469:C:N3 | 1:C1:469:C:OP1 | 2.25 | 0.70 |
| 1:C1:509:G:C4 | 1:C1:510:G:N7 | 2.60 | 0.70 |
| 1:C1:686:C:C2' | 1:C1:687:G:H8 | 1.97 | 0.70 |
| 1:C1:811:A:N3 | 1:C1:858:G:H1' | 2.07 | 0.70 |
| 1:C1:1186:U:H2' | 1:C1:1187:U:O4' | 1.92 | 0.70 |
| 1:C1:1200:G:H5' | 1:C1:1201:G:C8 | 2.26 | 0.70 |
| 1:C1:1515:A:H8 | 15:CN:58:LEU:CB | 2.03 | 0.70 |
| 1:C1:1533:C:H3' | 1:C1:1534:G:C8 | 2.27 | 0.70 |
| 4:CC:115:ILE:HA | 4:CC:118:ALA:HB3 | 1.72 | 0.70 |
| 9:CH:22:SER:C | 9:CH:24:ASN:N | 2.49 | 0.70 |
| 21:CT:53:LYS:C | 21:CT:55:GLY:H | 2.00 | 0.70 |
| 29:D1:588:G:C6 | 29:D1:612:U:C5 | 2.80 | 0.70 |
| 29:D1:769:G:C2 | 29:D1:770:G:C4 | 2.80 | 0.70 |
| 29:D1:779:G:C4 | 29:D1:780:A:C8 | 2.80 | 0.70 |
| 29:D1:937:G:N2 | 29:D1:960:U:C5' | 2.53 | 0.70 |
| 29:D1:1178:G:C2' | 29:D1:1179:A:H5' | 2.22 | 0.70 |
| 29:D1:1493:G:P | 29:D1:1493:G:H21 | 2.15 | 0.70 |
| 29:D1:1580:A:H3' | 29:D1:1581:C:H5' | 1.73 | 0.70 |
| 29:D1:1713:G:C8 | 29:D1:1714:A:H2 | 2.09 | 0.70 |
| 29:D1:1851:G:H8 | 29:D1:1851:G:O5' | 1.74 | 0.70 |
| 29:D1:1913:A:N3 | 29:D1:2120:A:C8 | 2.59 | 0.70 |
| 29:D1:2296:A:O2' | 29:D1:2297:U:H5' | 1.92 | 0.70 |
| 29:D1:2513:U:O2' | 29:D1:2514:U:O5' | 2.09 | 0.70 |
| 29:D1:3050:U:C5 | 29:D1:3051:U:C5 | 2.80 | 0.70 |
| 29:D1:3069:G:C2 | 29:D1:3070:A:N7 | 2.60 | 0.70 |
| 29:D1:3099:C:H6 | 29:D1:3099:C:H5' | 1.57 | 0.70 |
| 29:D1:3303:G:C1' | 29:D1:3304:U:H5' | 2.22 | 0.70 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3316:A:N6 | 29:D1:3387:U:N3 | 2.40 | 0.70 |
| 33:DB:49:VAL:O | 33:DB:50:HIS:O | 2.10 | 0.70 |
| 36:DE:128:GLU:CB | 36:DE:129:TYR:CA | 2.69 | 0.70 |
| 41:DJ:174:THR:O | 41:DJ:175:ASN:C | 2.34 | 0.70 |
| 1:A1:26:A:H2 | 1:A1:600:U:C2 | 2.10 | 0.69 |
| 1:A1:350:U:C4' | 1:A1:352:A:C8 | 2.75 | 0.69 |
| 1:A1:912:U:OP1 | 1:A1:912:U:H4' | 1.91 | 0.69 |
| 1:A1:1274:C:H6 | 1:A1:1427:A:N6 | 1.87 | 0.69 |
| 1:A1:1468:U:O2' | 1:A1:1469:A:O4' | 2.10 | 0.69 |
| 1:A1:1689:A:N3 | 1:A1:1689:A:H2' | 2.06 | 0.69 |
| 1:A1:1745:G:O2' | 1:A1:1746:A:C8 | 2.45 | 0.69 |
| 29:B1:285:A:C2 | 29:B1:304:G:O3' | 2.45 | 0.69 |
| 29:B1:431:U:O2' | 29:B1:432:G:P | 2.50 | 0.69 |
| 29:B1:594:U:O2 | 29:B1:594:U:C2' | 2.39 | 0.69 |
| 29:B1:637:C:O2' | 29:B1:638:C:H6 | 1.74 | 0.69 |
| 29:B1:698:U:C1' | 29:B1:699:A:OP1 | 2.39 | 0.69 |
| 29:B1:1169:A:C2 | 29:B1:1330:A:C6 | 2.79 | 0.69 |
| 29:B1:1324:U:C5' | 29:B1:1324:U:C6 | 2.73 | 0.69 |
| 29:B1:1448:U:C5 | 29:B1:2355:G:N2 | 2.57 | 0.69 |
| 29:B1:1644:C:C4 | 74:B1:3505:OHX:N1 | 2.60 | 0.69 |
| 29:B1:2287:C:N3 | 29:B1:2298:U:O2 | 2.25 | 0.69 |
| 29:B1:2673:A:H2 | 29:B1:2674:A:C6 | 2.09 | 0.69 |
| 29:B1:2697:A:H2' | 29:B1:2698:G:C8 | 2.26 | 0.69 |
| 29:B1:2746:A:C6 | 29:B1:2747:A:C2 | 2.80 | 0.69 |
| 29:B1:2881:C:O2' | 29:B1:2882:U:O4' | 2.05 | 0.69 |
| 29:B1:2896:A:O2' | 29:B1:2897:A:P | 2.50 | 0.69 |
| 29:B1:3135:U:C5 | 29:B1:3136:G:N7 | 2.60 | 0.69 |
| 29:B1:3274:A:C1' | 29:B1:3275:U:P | 2.79 | 0.69 |
| 30:B2:12:U:C2' | 30:B2:13:A:N1 | 2.55 | 0.69 |
| 30:B2:16:U:H2' | 30:B2:17:A:C8 | 2.26 | 0.69 |
| 30:B2:98:C:O2 | 30:B2:98:C:H2' | 1.90 | 0.69 |
| 30:B2:111:U:O3' | 30:B2:112:G:O3' | 2.10 | 0.69 |
| 31:B3:19:C:C5 | 31:B3:20:U:C5 | 2.79 | 0.69 |
| 31:B3:78:G:O6 | 31:B3:79:A:N6 | 2.25 | 0.69 |
| 31:B3:104:A:OP2 | 31:B3:105:A:H2' | 1.91 | 0.69 |
| 34:BC:4:ARG:C | 34:BC:6:TYR:H | 2.00 | 0.69 |
| 38:BG:51:TYR:C | 38:BG:53:LYS:H | 2.00 | 0.69 |
| 1:C1:55:A:C2 | 1:C1:403:G:C5 | 2.80 | 0.69 |
| 1:C1:129:U:H5 | 1:C1:264:G:C5 | 2.10 | 0.69 |
| 1:C1:270:C:H3' | 1:C1:271:A:H5" | 1.73 | 0.69 |
| 1:C1:569:C:H1' | 1:C1:583:C:H5' | 1.74 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:606:A:C5 | 1:C1:608:U:C5 | 2.80 | 0.69 |
| 1:C1:746:A:H2' | 1:C1:747:C:O4' | 1.92 | 0.69 |
| 1:C1:807:A:C2 | 1:C1:808:U:C2 | 2.80 | 0.69 |
| 1:C1:824:G:C5' | 1:C1:825:U:H5' | 2.21 | 0.69 |
| 1:C1:830:U:H2' | 1:C1:830:U:O2 | 1.91 | 0.69 |
| 1:C1:1259:U:O5' | 1:C1:1259:U:C6 | 2.44 | 0.69 |
| 1:C1:1269:U:N3 | 1:C1:1432:U:O4' | 2.24 | 0.69 |
| 1:C1:1614:A:C2 | 1:C1:1616:G:OP2 | 2.44 | 0.69 |
| 1:C1:1689:A:N3 | 1:C1:1689:A:H2' | 2.06 | 0.69 |
| 22:Ca:5:UNK:O | 22:Ca:6:UNK:C | 2.40 | 0.69 |
| 29:D1:49:A:C6 | 29:D1:279:U:H4' | 2.27 | 0.69 |
| 29:D1:299:G:O5' | 29:D1:299:G:H8 | 1.74 | 0.69 |
| 29:D1:606:C:H3' | 29:D1:607:A:H8 | 1.00 | 0.69 |
| 29:D1:1220:U:H3' | 29:D1:1220:U:C6 | 2.27 | 0.69 |
| 29:D1:1640:G:H5" | 29:D1:1738:C:OP1 | 1.92 | 0.69 |
| 29:D1:3108:G:C2 | 29:D1:3109:G:C8 | 2.80 | 0.69 |
| 29:D1:3210:A:C8 | 29:D1:3211:C:H5 | 2.10 | 0.69 |
| 29:D1:3390:G:C2 | 29:D1:3391:A:C4 | 2.80 | 0.69 |
| 30:D2:69:C:H2' | 30:D2:69:C:O2 | 1.92 | 0.69 |
| 31:D3:69:U:H2' | 31:D3:70:G:C4' | 2.22 | 0.69 |
| 38:DG:74:SER:CB | 38:DG:75:TYR:CA | 2.69 | 0.69 |
| 1:A1:105:A:C2 | 74:A1:1910:OHX:N6 | 2.60 | 0.69 |
| 1:A1:217:A:H1' | 1:A1:218:A:H5' | 1.72 | 0.69 |
| 1:A1:410:A:C2 | 1:A1:411:C:C2 | 2.80 | 0.69 |
| 1:A1:1104:U:C5 | 1:A1:1105:C:C5 | 2.80 | 0.69 |
| 1:A1:1137:A:C2 | 1:A1:1138:A:C5 | 2.80 | 0.69 |
| 1:A1:1356:U:H2' | 1:A1:1357:A:C8 | 2.25 | 0.69 |
| 1:A1:1481:C:H4' | 1:A1:1482:C:OP1 | 1.91 | 0.69 |
| 1:A1:1746:A:H1' | 29:B1:2291:A:H1' | 1.74 | 0.69 |
| 1:A1:1780:G:C1' | 29:B1:2262:A:O2' | 2.35 | 0.69 |
| 9:AH:11:SER:CB | 9:AH:12:GLN:HA | 2.22 | 0.69 |
| 11:AJ:81:ILE:O | 11:AJ:84:ALA:HB3 | 1.92 | 0.69 |
| 29:B1:226:C:H2' | 29:B1:227:G:O4' | 1.91 | 0.69 |
| 29:B1:413:U:C2 | 29:B1:414:U:C5 | 2.80 | 0.69 |
| 29:B1:723:U:H2' | 29:B1:724:U:C5' | 2.21 | 0.69 |
| 29:B1:744:A:C5 | 29:B1:745:C:C4 | 2.80 | 0.69 |
| 29:B1:807:A:H3' | 29:B1:807:A:H8 | 1.56 | 0.69 |
| 29:B1:1119:C:C2 | 29:B1:1120:A:C8 | 2.80 | 0.69 |
| 29:B1:1838:G:H8 | 29:B1:1838:G:O5' | 1.75 | 0.69 |
| 29:B1:2095:G:C2' | 29:B1:2096:A:H5' | 2.22 | 0.69 |
| 29:B1:2168:A:N1 | 29:B1:2170:U:H1' | 2.07 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2295:A:N6 | 29:B1:2296:A:N6 | 2.40 | 0.69 |
| 29:B1:2596:U:H2' | 29:B1:2597:U:C6 | 2.27 | 0.69 |
| 29:B1:2677:G:N1 | 29:B1:2679:A:C5 | 2.60 | 0.69 |
| 29:B1:2703:A:C3' | 29:B1:2704:A:H5' | 2.21 | 0.69 |
| 29:B1:2872:A:H4' | 29:B1:2873:U:OP1 | 1.91 | 0.69 |
| 29:B1:3041:U:O2' | 29:B1:3042:U:H5' | 1.92 | 0.69 |
| 29:B1:3282:U:O2 | 29:B1:3283:U:C5 | 2.45 | 0.69 |
| 29:B1:3324:C:H2' | 29:B1:3325:G:C8 | 2.22 | 0.69 |
| 30:B2:75:G:OP1 | 74:B2:201:OHX:N2 | 2.25 | 0.69 |
| 39:BH:194:THR:CB | 39:BH:195:SER:CA | 2.70 | 0.69 |
| 59:Bd:4:GLY:O | 59:Bd:5:THR:C | 2.36 | 0.69 |
| 71:Br:3:UNK:HA | 71:Br:6:UNK:CB | 2.21 | 0.69 |
| 1:C1:379:U:OP2 | 1:C1:380:U:OP2 | 2.11 | 0.69 |
| 1:C1:590:C:H2' | 1:C1:591:A:C8 | 2.27 | 0.69 |
| 1:C1:867:G:C4 | 1:C1:868:G:C8 | 2.80 | 0.69 |
| 1:C1:1124:A:O2' | 1:C1:1125:A:H5' | 1.93 | 0.69 |
| 1:C1:1246:C:C5 | 1:C1:1247:U:C5 | 2.79 | 0.69 |
| 1:C1:1391:A:H2' | 1:C1:1392:U:C6 | 2.26 | 0.69 |
| 1:C1:1409:G:H2' | 1:C1:1411:A:N7 | 2.07 | 0.69 |
| 1:C1:1583:A:N3 | 1:C1:1585:U:N3 | 2.40 | 0.69 |
| 1:C1:1616:G:O2' | 1:C1:1617:U:H5' | 1.91 | 0.69 |
| 1:C1:1754:A:H1' | 1:C1:1755:A:C2 | 2.27 | 0.69 |
| 11:CJ:35:PRO:C | 11:CJ:37:THR:H | 2.00 | 0.69 |
| 16:CO:98:GLN:O | 16:CO:100:GLY:N | 2.24 | 0.69 |
| 29:D1:64:G:H22 | 29:D1:322:U:H2' | 1.55 | 0.69 |
| 29:D1:144:A:H2' | 29:D1:145:G:O4' | 1.92 | 0.69 |
| 29:D1:221:A:C2 | 29:D1:224:C:C5 | 2.80 | 0.69 |
| 29:D1:400:G:H5" | 29:D1:403:C:O2' | 1.92 | 0.69 |
| 29:D1:597:G:C2 | 29:D1:598:A:C4 | 2.81 | 0.69 |
| 29:D1:680:G:H5" | 29:D1:681:U:OP2 | 1.92 | 0.69 |
| 29:D1:712:G:H21 | 29:D1:753:C:P | 2.16 | 0.69 |
| 29:D1:1317:A:H8 | 29:D1:1317:A:H5' | 1.57 | 0.69 |
| 29:D1:2287:C:O2 | 29:D1:2298:U:O2 | 2.11 | 0.69 |
| 29:D1:2359:C:H2' | 29:D1:2360:C:C6 | 2.27 | 0.69 |
| 29:D1:3299:A:N3 | 29:D1:3300:U:C6 | 2.61 | 0.69 |
| 29:D1:3322:A:N6 | 29:D1:3323:A:N6 | 2.40 | 0.69 |
| 30:D2:1:G:H2' | 30:D2:1:G:N3 | 2.05 | 0.69 |
| 33:DB:78:ALA:O | 33:DB:80:GLU:N | 2.25 | 0.69 |
| 37:DF:21:THR:H | 37:DF:112:THR:HA | 1.55 | 0.69 |
| 73:DM:53:MET:CB | 73:DM:85:GLY:HA2 | 2.22 | 0.69 |
| 43:DN:89:ALA:O | 43:DN:90:VAL:C | 2.35 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:17:C:C2 | 1:A1:18:C:C5 | 2.81 | 0.69 |
| 1:A1:29:U:H2' | 1:A1:30:G:H8 | 1.57 | 0.69 |
| 1:A1:243:G:H2' | 1:A1:244:A:C8 | 2.22 | 0.69 |
| 1:A1:1075:C:C4 | 1:A1:1076:A:C6 | 2.80 | 0.69 |
| 1:A1:1097:U:C2' | 1:A1:1098:U:H5' | 2.21 | 0.69 |
| 1:A1:1778:G:N1 | 1:A1:1779:U:C4 | 2.60 | 0.69 |
| 17:AP:127:VAL:CB | 17:AP:129:GLY:H | 2.06 | 0.69 |
| 24:Ac:12:UNK:HA | 24:Ac:13:UNK:CB | 2.22 | 0.69 |
| 29:B1:190:U:H5' | 29:B1:191:U:OP1 | 1.91 | 0.69 |
| 29:B1:586:C:O2 | 29:B1:586:C:H2' | 1.92 | 0.69 |
| 29:B1:590:G:O2' | 29:B1:591:G:P | 2.50 | 0.69 |
| 29:B1:649:A:N3 | 29:B1:650:C:C5 | 2.60 | 0.69 |
| 29:B1:759:U:N3 | 29:B1:773:G:C5 | 2.60 | 0.69 |
| 29:B1:769:G:C2 | 29:B1:770:G:C4 | 2.80 | 0.69 |
| 29:B1:880:G:N9 | 29:B1:882:A:N7 | 2.41 | 0.69 |
| 29:B1:917:A:C2 | 29:B1:918:C:C2 | 2.79 | 0.69 |
| 29:B1:1377:G:C2 | 29:B1:1378:U:C5 | 2.80 | 0.69 |
| 29:B1:1468:A:H2' | 29:B1:1469:C:C6 | 2.26 | 0.69 |
| 29:B1:1658:G:C6 | 29:B1:1796:G:O6 | 2.44 | 0.69 |
| 29:B1:2102:U:H2' | 29:B1:2103:U:C6 | 2.27 | 0.69 |
| 29:B1:2196:C:N4 | 29:B1:2242:A:N7 | 2.40 | 0.69 |
| 29:B1:2592:G:O6 | 74:B1:3449:OHX:N4 | 2.25 | 0.69 |
| 29:B1:2877:G:H2' | 29:B1:2878:G:O4' | 1.90 | 0.69 |
| 29:B1:2963:C:C2' | 29:B1:2964:G:H5' | 2.22 | 0.69 |
| 29:B1:3026:G:C2 | 29:B1:3030:G:C6 | 2.80 | 0.69 |
| 29:B1:3049:A:C2 | 34:BC:75:ALA:HB2 | 2.27 | 0.69 |
| 29:B1:3065:G:H2' | 29:B1:3066:U:H6 | 1.56 | 0.69 |
| 29:B1:3211:C:H2' | 29:B1:3212:C:C6 | 2.26 | 0.69 |
| 29:B1:3299:A:O2' | 29:B1:3300:U:OP1 | 2.08 | 0.69 |
| 29:B1:3386:G:H3' | 29:B1:3386:G:C8 | 2.28 | 0.69 |
| 30:B2:46:A:OP2 | 30:B2:46:A:C6 | 2.45 | 0.69 |
| 36:BE:128:GLU:CB | 36:BE:129:TYR:CA | 2.71 | 0.69 |
| 45:BP:14:HIS:HA | 45:BP:122:GLN:O | 1.92 | 0.69 |
| 49:BT:50:LYS:C | 49:BT:52:MET:H | 1.98 | 0.69 |
| 1:C1:560:U:H2' | 1:C1:561:G:H8 | 1.57 | 0.69 |
| 1:C1:912:U:H4' | 1:C1:912:U:OP1 | 1.90 | 0.69 |
| 1:C1:951:A:H2' | 1:C1:952:A:O5' | 1.92 | 0.69 |
| 1:C1:1000:C:C5 | 1:C1:1003:A:OP2 | 2.42 | 0.69 |
| 1:C1:1175:U:H3 | 1:C1:1464:G:H1 | 1.39 | 0.69 |
| 1:C1:1625:C:H2' | 1:C1:1626:U:H6 | 1.56 | 0.69 |
| 1:C1:1714:A:H2' | 1:C1:1715:G:O4' | 1.92 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1733:C:C4 | 1:C1:1734:U:C4 | 2.80 | 0.69 |
| 20:CS:21:CYS:O | 20:CS:23:VAL:O | 2.10 | 0.69 |
| 29:D1:186:U:H5" | 29:D1:187:A:OP2 | 1.91 | 0.69 |
| 29:D1:510:G:N2 | 29:D1:511:G:H1' | 2.07 | 0.69 |
| 29:D1:516:A:H3' | 29:D1:517:G:N7 | 2.07 | 0.69 |
| 29:D1:608:A:H2' | 29:D1:609:G:O5' | 1.93 | 0.69 |
| 29:D1:1129:A:N6 | 29:D1:1130:A:N6 | 2.40 | 0.69 |
| 29:D1:1196:C:C6 | 29:D1:1197:A:N7 | 2.60 | 0.69 |
| 29:D1:1209:G:H2' | 29:D1:1210:U:C6 | 2.27 | 0.69 |
| 29:D1:1453:A:C1' | 29:D1:1850:A:C2 | 2.75 | 0.69 |
| 29:D1:1608:C:C2' | 29:D1:1609:C:H5' | 2.22 | 0.69 |
| 29:D1:1623:G:C2 | 29:D1:1624:G:H1' | 2.26 | 0.69 |
| 29:D1:2395:G:H2' | 29:D1:2396:G:C5' | 2.22 | 0.69 |
| 29:D1:2716:U:C3' | 29:D1:2717:U:H5" | 2.21 | 0.69 |
| 29:D1:2776:C:H5' | 29:D1:2777:G:C5' | 2.22 | 0.69 |
| 29:D1:3117:C:C2' | 29:D1:3118:C:H5' | 2.16 | 0.69 |
| 34:DC:236:LYS:O | 34:DC:237:LYS:C | 2.35 | 0.69 |
| 41:DJ:155:ALA:O | 41:DJ:158:LYS:N | 2.24 | 0.69 |
| 63:Dh:14:UNK:CB | 63:Dh:14:UNK:HA | 2.13 | 0.69 |
| 1:A1:14:C:OP2 | 3:AB:162:CYS:C | 2.35 | 0.69 |
| 1:A1:142:G:C5 | 1:A1:266:A:C6 | 2.80 | 0.69 |
| 1:A1:336:G:H2' | 1:A1:338:C:C5 | 2.27 | 0.69 |
| 1:A1:1043:A:H2' | 1:A1:1044:U:C5 | 2.28 | 0.69 |
| 1:A1:1099:U:C6 | 1:A1:1100:G:C6 | 2.80 | 0.69 |
| 1:A1:1185:U:O2' | 1:A1:1456:C:H4' | 1.93 | 0.69 |
| 1:A1:1207:C:O2 | 1:A1:1455:G:N1 | 2.25 | 0.69 |
| 1:A1:1363:U:H2' | 1:A1:1364:G:C8 | 2.28 | 0.69 |
| 1:A1:1378:U:C5' | 1:A1:1379:C:H6 | 2.06 | 0.69 |
| 1:A1:1526:A:OP2 | 1:A1:1527:C:H5 | 1.75 | 0.69 |
| 2:AA:139:VAL:O | 2:AA:141:ILE:N | 2.26 | 0.69 |
| 8:AG:88:LEU:C | 8:AG:90:TYR:H | 1.99 | 0.69 |
| 21:AT:53:LYS:C | 21:AT:55:GLY:H | 2.00 | 0.69 |
| 29:B1:23:A:H2' | 29:B1:23:A:N3 | 2.07 | 0.69 |
| 29:B1:70:A:H2 | 29:B1:71:A:O2' | 1.73 | 0.69 |
| 29:B1:219:A:H2 | 29:B1:1390:A:H2' | 1.55 | 0.69 |
| 29:B1:522:A:H3' | 29:B1:523:A:H5" | 1.74 | 0.69 |
| 29:B1:591:G:N2 | 29:B1:592:A:C4 | 2.60 | 0.69 |
| 29:B1:715:A:H3' | 54:BY:115:LYS:CB | 2.23 | 0.69 |
| 29:B1:882:A:H2' | 29:B1:883:A:H5" | 1.73 | 0.69 |
| 29:B1:887:G:H2' | 29:B1:888:A:H8 | 1.57 | 0.69 |
| 29:B1:983:A:C2 | 29:B1:985:U:C4 | 2.80 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1144:U:O5’ | 29:B1:1144:U:H6 | 1.75 | 0.69 |
| 29:B1:1178:G:N7 | 29:B1:1179:A:C6 | 2.61 | 0.69 |
| 29:B1:1280:C:H2’ | 29:B1:1281:G:H8 | 1.52 | 0.69 |
| 29:B1:1323:G:H3’ | 29:B1:1324:U:C5’ | 2.16 | 0.69 |
| 29:B1:1393:A:C8 | 29:B1:1418:A:C5 | 2.80 | 0.69 |
| 29:B1:1450:G:O5’ | 29:B1:1450:G:C8 | 2.46 | 0.69 |
| 29:B1:2098:C:H2’ | 29:B1:2099:A:C8 | 2.27 | 0.69 |
| 29:B1:2253:G:C8 | 29:B1:2254:U:C5 | 2.81 | 0.69 |
| 29:B1:2393:G:N1 | 29:B1:2982:A:C2 | 2.56 | 0.69 |
| 29:B1:2571:U:H3’ | 29:B1:2572:C:H6 | 1.58 | 0.69 |
| 29:B1:2997:G:H1’ | 29:B1:2998:U:C5’ | 2.22 | 0.69 |
| 29:B1:3297:U:C2 | 29:B1:3298:C:C6 | 2.80 | 0.69 |
| 30:B2:9:C:C2’ | 30:B2:13:A:N6 | 2.54 | 0.69 |
| 30:B2:88:G:H2’ | 30:B2:89:G:H8 | 1.58 | 0.69 |
| 36:BE:43:LYS:N | 49:BT:69:LYS:C | 2.50 | 0.69 |
| 41:BJ:37:GLY:HA3 | 41:BJ:86:HIS:H | 1.57 | 0.69 |
| 42:BK:18:VAL:HA | 42:BK:70:THR:CB | 2.22 | 0.69 |
| 56:Ba:54:GLU:HA | 56:Ba:57:GLN:CB | 2.21 | 0.69 |
| 70:Bq:13:UNK:O | 70:Bq:14:UNK:C | 2.38 | 0.69 |
| 1:C1:10:G:C5 | 1:C1:1633:A:C2 | 2.79 | 0.69 |
| 1:C1:35:U:O2’ | 1:C1:36:C:H5’ | 1.92 | 0.69 |
| 1:C1:50:C:C4 | 1:C1:424:C:C5 | 2.80 | 0.69 |
| 1:C1:267:U:O2 | 1:C1:267:U:C2’ | 2.40 | 0.69 |
| 1:C1:396:G:H22 | 1:C1:399:A:H5” | 1.58 | 0.69 |
| 1:C1:643:G:C2 | 1:C1:692:C:N3 | 2.60 | 0.69 |
| 1:C1:710:U:C2 | 1:C1:729:G:C2 | 2.81 | 0.69 |
| 1:C1:742:U:HO2’ | 1:C1:744:U:H5 | 1.41 | 0.69 |
| 1:C1:833:U:H2’ | 1:C1:833:U:O2 | 1.93 | 0.69 |
| 6:CE:106:GLU:HA | 6:CE:111:THR:CB | 2.23 | 0.69 |
| 29:D1:346:C:H41 | 29:D1:348:A:H3’ | 1.53 | 0.69 |
| 29:D1:592:A:C6 | 29:D1:593:C:C6 | 2.79 | 0.69 |
| 29:D1:776:U:C5’ | 29:D1:777:U:H6 | 2.06 | 0.69 |
| 29:D1:1382:G:H2’ | 29:D1:1383:G:O4’ | 1.92 | 0.69 |
| 29:D1:1495:U:H3’ | 29:D1:1496:C:H5’ | 1.74 | 0.69 |
| 29:D1:1618:G:H4’ | 31:D3:129:C:H1’ | 1.74 | 0.69 |
| 29:D1:1914:G:H3’ | 29:D1:1915:A:C8 | 2.27 | 0.69 |
| 29:D1:2155:G:H2’ | 29:D1:2156:C:C6 | 2.26 | 0.69 |
| 29:D1:2300:G:O2’ | 29:D1:2328:U:H1’ | 1.92 | 0.69 |
| 29:D1:2812:C:H2’ | 29:D1:2813:A:C8 | 2.23 | 0.69 |
| 29:D1:3096:C:H2’ | 29:D1:3097:C:C6 | 2.27 | 0.69 |
| 29:D1:3303:G:H1’ | 29:D1:3304:U:O5’ | 1.92 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:D3:34:U:H3' | 31:D3:34:U:C2 | 2.26 | 0.69 |
| 45:DP:14:HIS:HA | 45:DP:122:GLN:O | 1.91 | 0.69 |
| 65:Dk:7:UNK:O | 65:Dk:8:UNK:C | 2.39 | 0.69 |
| 1:A1:55:A:O2' | 1:A1:56:U:O5' | 2.08 | 0.69 |
| 1:A1:61:A:H4' | 1:A1:62:A:H3' | 1.74 | 0.69 |
| 1:A1:310:C:C2' | 1:A1:311:U:O5' | 2.41 | 0.69 |
| 1:A1:498:G:H1' | 1:A1:499:U:H5 | 1.57 | 0.69 |
| 1:A1:879:G:O2' | 1:A1:880:C:H5' | 1.92 | 0.69 |
| 1:A1:1003:A:N7 | 1:A1:1005:A:N1 | 2.39 | 0.69 |
| 1:A1:1364:G:H3' | 1:A1:1365:C:H5' | 1.72 | 0.69 |
| 1:A1:1481:C:C5 | 1:A1:1482:C:C2 | 2.80 | 0.69 |
| 1:A1:1558:U:OP2 | 1:A1:1559:A:H5' | 1.92 | 0.69 |
| 5:AD:108:LEU:C | 5:AD:110:ALA:H | 1.99 | 0.69 |
| 17:AP:132:LEU:CB | 17:AP:134:ALA:O | 2.40 | 0.69 |
| 29:B1:88:A:N3 | 29:B1:89:A:H1' | 2.07 | 0.69 |
| 29:B1:581:U:O2' | 29:B1:582:G:H5' | 1.93 | 0.69 |
| 29:B1:836:A:C6 | 29:B1:837:A:N7 | 2.60 | 0.69 |
| 29:B1:1023:C:H3' | 29:B1:1024:G:C4' | 2.21 | 0.69 |
| 29:B1:1174:G:C2 | 29:B1:1175:C:C6 | 2.81 | 0.69 |
| 29:B1:1913:A:C4 | 29:B1:2120:A:N7 | 2.59 | 0.69 |
| 29:B1:2218:G:O2' | 29:B1:2219:A:H5' | 1.92 | 0.69 |
| 29:B1:2583:C:H4' | 29:B1:2583:C:OP1 | 1.92 | 0.69 |
| 29:B1:3212:C:N3 | 29:B1:3213:A:C2 | 2.59 | 0.69 |
| 29:B1:3249:C:H2' | 29:B1:3249:C:O2 | 1.90 | 0.69 |
| 29:B1:3377:G:C2' | 29:B1:3378:C:OP1 | 2.40 | 0.69 |
| 29:B1:3395:G:O2' | 29:B1:3396:U:P | 2.51 | 0.69 |
| 30:B2:25:G:C4 | 30:B2:26:C:C5 | 2.80 | 0.69 |
| 30:B2:74:C:O3' | 74:B2:201:OHX:N6 | 2.25 | 0.69 |
| 30:B2:90:U:C4 | 30:B2:91:G:C5 | 2.80 | 0.69 |
| 31:B3:88:A:H2' | 31:B3:89:A:C6 | 2.27 | 0.69 |
| 36:BE:238:ASP:O | 36:BE:239:ILE:C | 2.35 | 0.69 |
| 45:BP:194:LEU:O | 45:BP:198:GLY:N | 2.26 | 0.69 |
| 52:BW:88:MET:C | 52:BW:90:ALA:H | 2.01 | 0.69 |
| 53:BX:18:ALA:O | 53:BX:22:ALA:HB2 | 1.92 | 0.69 |
| 1:C1:28:A:H2' | 1:C1:29:U:H6 | 1.50 | 0.69 |
| 1:C1:167:U:H6 | 1:C1:167:U:H5' | 1.58 | 0.69 |
| 1:C1:243:G:C6 | 1:C1:250:C:N4 | 2.58 | 0.69 |
| 1:C1:498:G:H1' | 1:C1:499:U:H5 | 1.56 | 0.69 |
| 1:C1:623:A:H3' | 1:C1:623:A:OP2 | 1.93 | 0.69 |
| 1:C1:639:U:P | 23:Cb:72:UNK:HA | 2.33 | 0.69 |
| 1:C1:931:C:H3' | 1:C1:932:U:H2' | 1.74 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:986:G:H2' | 1:C1:987:G:H8 | 1.57 | 0.69 |
| 1:C1:1092:A:C4 | 1:C1:1094:G:N7 | 2.59 | 0.69 |
| 1:C1:1363:U:H2' | 1:C1:1364:G:C8 | 2.28 | 0.69 |
| 1:C1:1575:G:OP1 | 1:C1:1575:G:H4' | 1.91 | 0.69 |
| 1:C1:1712:A:H2' | 1:C1:1713:G:C8 | 2.26 | 0.69 |
| 8:CG:49:GLN:HA | 8:CG:50:ILE:CB | 2.22 | 0.69 |
| 29:D1:523:A:C5 | 29:D1:524:U:C5 | 2.79 | 0.69 |
| 29:D1:550:A:H2' | 29:D1:551:A:C8 | 2.27 | 0.69 |
| 29:D1:1119:C:H1' | 29:D1:1154:A:N3 | 2.06 | 0.69 |
| 29:D1:1226:G:C4 | 29:D1:1227:C:C5 | 2.80 | 0.69 |
| 29:D1:1415:U:C2 | 29:D1:1416:C:C5 | 2.79 | 0.69 |
| 29:D1:1745:C:H2' | 29:D1:1746:U:C6 | 2.28 | 0.69 |
| 29:D1:2168:A:N1 | 29:D1:2170:U:H1' | 2.05 | 0.69 |
| 29:D1:2294:U:C5' | 29:D1:2295:A:OP2 | 2.40 | 0.69 |
| 29:D1:2667:A:N6 | 29:D1:2690:G:C2 | 2.57 | 0.69 |
| 29:D1:2697:A:H2' | 29:D1:2698:G:C8 | 2.26 | 0.69 |
| 29:D1:3152:U:H4' | 29:D1:3153:U:OP2 | 1.92 | 0.69 |
| 29:D1:3271:G:N3 | 29:D1:3271:G:C2' | 2.56 | 0.69 |
| 29:D1:3375:A:H4' | 29:D1:3375:A:OP2 | 1.92 | 0.69 |
| 29:D1:3393:U:H6 | 29:D1:3393:U:O5' | 1.75 | 0.69 |
| 31:D3:17:A:C4 | 31:D3:18:U:C5 | 2.81 | 0.69 |
| 31:D3:92:A:H2' | 31:D3:92:A:N3 | 2.07 | 0.69 |
| 45:DP:60:LYS:O | 45:DP:61:ALA:O | 2.09 | 0.69 |
| 45:DP:124:LEU:CA | 45:DP:126:VAL:H | 2.03 | 0.69 |
| 1:A1:84:A:H2' | 1:A1:85:A:C5' | 2.13 | 0.69 |
| 1:A1:329:G:N3 | 1:A1:330:G:C8 | 2.61 | 0.69 |
| 1:A1:539:G:N2 | 1:A1:543:C:N3 | 2.41 | 0.69 |
| 1:A1:825:U:C4 | 1:A1:847:A:N6 | 2.58 | 0.69 |
| 1:A1:871:G:C4 | 1:A1:872:G:C8 | 2.80 | 0.69 |
| 1:A1:978:A:N1 | 1:A1:1024:U:O2 | 2.26 | 0.69 |
| 1:A1:986:G:C2' | 1:A1:987:G:H8 | 2.05 | 0.69 |
| 1:A1:1364:G:H2' | 1:A1:1365:C:H5' | 1.74 | 0.69 |
| 1:A1:1429:G:C4 | 1:A1:1430:U:C5 | 2.79 | 0.69 |
| 1:A1:1684:U:O4 | 1:A1:1721:A:C2 | 2.44 | 0.69 |
| 1:A1:1685:G:N2 | 1:A1:1718:G:H21 | 1.90 | 0.69 |
| 1:A1:1760:G:C4 | 1:A1:1761:U:H5 | 2.10 | 0.69 |
| 9:AH:22:SER:C | 9:AH:24:ASN:N | 2.50 | 0.69 |
| 29:B1:72:C:C2 | 29:B1:73:C:O4' | 2.46 | 0.69 |
| 29:B1:306:A:H2' | 29:B1:306:A:N3 | 2.07 | 0.69 |
| 29:B1:349:A:C2 | 31:B3:24:G:N9 | 2.60 | 0.69 |
| 29:B1:1130:A:O2' | 29:B1:1131:G:H3' | 1.93 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1286:A:C2 | 29:B1:1287:A:H1' | 2.27 | 0.69 |
| 29:B1:1405:U:C5 | 29:B1:1406:A:N7 | 2.61 | 0.69 |
| 29:B1:1621:A:O2' | 29:B1:1622:U:H5' | 1.93 | 0.69 |
| 29:B1:2285:C:H5 | 29:B1:2286:U:N3 | 1.90 | 0.69 |
| 29:B1:2555:G:H2' | 29:B1:2555:G:N3 | 2.07 | 0.69 |
| 29:B1:2626:A:C8 | 29:B1:2644:C:H5' | 2.27 | 0.69 |
| 29:B1:2716:U:H5' | 29:B1:2717:U:OP2 | 1.91 | 0.69 |
| 29:B1:2834:G:O2' | 29:B1:2835:U:O5' | 2.08 | 0.69 |
| 29:B1:3069:G:C2 | 29:B1:3070:A:N7 | 2.61 | 0.69 |
| 29:B1:3093:C:H6 | 29:B1:3093:C:H5' | 1.57 | 0.69 |
| 29:B1:3271:G:N3 | 29:B1:3271:G:C2' | 2.54 | 0.69 |
| 29:B1:3393:U:O5' | 29:B1:3393:U:H6 | 1.75 | 0.69 |
| 30:B2:73:C:H42 | 30:B2:74:C:N4 | 1.90 | 0.69 |
| 30:B2:74:C:O3' | 74:B2:201:OHX:N5 | 2.25 | 0.69 |
| 30:B2:113:C:O2' | 30:B2:114:U:O4' | 2.09 | 0.69 |
| 36:BE:97:ALA:CA | 36:BE:100:ALA:HB3 | 2.16 | 0.69 |
| 42:BK:55:ARG:O | 42:BK:57:PHE:N | 2.26 | 0.69 |
| 48:BS:59:SER:O | 48:BS:61:SER:N | 2.23 | 0.69 |
| 64:Bi:5:UNK:O | 64:Bi:8:UNK:N | 2.25 | 0.69 |
| 1:C1:26:A:H2 | 1:C1:600:U:C2 | 2.10 | 0.69 |
| 1:C1:58:U:O2 | 1:C1:58:U:H2' | 1.93 | 0.69 |
| 1:C1:207:U:C2 | 1:C1:208:U:C5 | 2.80 | 0.69 |
| 1:C1:809:A:C2 | 1:C1:810:G:N1 | 2.60 | 0.69 |
| 1:C1:912:U:H1' | 1:C1:914:G:O6 | 1.92 | 0.69 |
| 1:C1:1005:A:N7 | 1:C1:1006:C:C4 | 2.61 | 0.69 |
| 1:C1:1159:C:H3' | 1:C1:1160:A:H5' | 1.74 | 0.69 |
| 1:C1:1239:U:C5 | 1:C1:1241:G:C6 | 2.80 | 0.69 |
| 1:C1:1472:C:H5 | 1:C1:1474:G:C2 | 2.11 | 0.69 |
| 3:CB:118:ALA:HB2 | 3:CB:124:ALA:HB2 | 1.73 | 0.69 |
| 12:CK:12:ALA:HA | 12:CK:15:ALA:HB3 | 1.72 | 0.69 |
| 29:D1:52:A:H2' | 29:D1:53:G:O5' | 1.93 | 0.69 |
| 29:D1:423:A:OP1 | 29:D1:2363:A:H4' | 1.93 | 0.69 |
| 29:D1:575:G:C5' | 29:D1:575:G:H8 | 2.00 | 0.69 |
| 29:D1:582:G:C2 | 29:D1:583:G:C8 | 2.81 | 0.69 |
| 29:D1:759:U:H2' | 29:D1:760:G:H5" | 1.74 | 0.69 |
| 29:D1:770:G:H2' | 29:D1:771:A:O4' | 1.93 | 0.69 |
| 29:D1:829:U:O2' | 29:D1:866:A:N1 | 2.22 | 0.69 |
| 29:D1:900:G:H1' | 29:D1:1589:A:H61 | 1.58 | 0.69 |
| 29:D1:1103:A:HO2' | 29:D1:1104:G:P | 2.15 | 0.69 |
| 29:D1:1389:G:HO2' | 29:D1:1390:A:P | 2.14 | 0.69 |
| 29:D1:1424:C:C4 | 29:D1:1425:U:C5 | 2.80 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1478:C:H6 | 29:D1:1478:C:C5’ | 2.06 | 0.69 |
| 29:D1:1900:A:N3 | 29:D1:1906:G:C8 | 2.61 | 0.69 |
| 29:D1:3028:G:O2’ | 29:D1:3029:A:O4’ | 2.08 | 0.69 |
| 29:D1:3058:U:OP1 | 29:D1:3058:U:H3’ | 1.92 | 0.69 |
| 29:D1:3144:G:C5 | 74:D1:3431:OHX:N5 | 2.61 | 0.69 |
| 29:D1:3328:G:N2 | 29:D1:3375:A:N7 | 2.39 | 0.69 |
| 29:D1:3377:G:C4 | 74:D1:3452:OHX:N2 | 2.60 | 0.69 |
| 31:D3:67:U:H2’ | 31:D3:68:G:C8 | 2.27 | 0.69 |
| 34:DC:51:ALA:HB2 | 34:DC:79:VAL:HA | 1.74 | 0.69 |
| 34:DC:106:TRP:O | 34:DC:108:GLU:N | 2.25 | 0.69 |
| 46:DQ:52:LEU:H | 46:DQ:54:HIS:H | 1.40 | 0.69 |
| 1:A1:177:U:OP2 | 1:A1:177:U:H6 | 1.76 | 0.69 |
| 1:A1:321:C:C2’ | 1:A1:322:G:H5’ | 2.23 | 0.69 |
| 1:A1:388:G:C2 | 1:A1:389:G:C8 | 2.80 | 0.69 |
| 1:A1:390:G:N2 | 1:A1:391:A:C5 | 2.60 | 0.69 |
| 1:A1:468:A:N6 | 1:A1:595:G:C6 | 2.59 | 0.69 |
| 1:A1:515:A:H2’ | 1:A1:516:G:OP1 | 1.92 | 0.69 |
| 1:A1:862:A:C8 | 1:A1:963:A:C6 | 2.80 | 0.69 |
| 1:A1:1114:G:O2’ | 1:A1:1115:U:OP2 | 2.11 | 0.69 |
| 1:A1:1533:C:H3’ | 1:A1:1534:G:C8 | 2.27 | 0.69 |
| 1:A1:1670:G:N2 | 1:A1:1732:A:N6 | 2.41 | 0.69 |
| 74:A1:1913:OHX:N1 | 74:A1:1986:OHX:N3 | 2.40 | 0.69 |
| 28:Ah:16:UNK:O | 28:Ah:20:UNK:CB | 2.41 | 0.69 |
| 29:B1:59:G:O3’ | 29:B1:60:A:H4’ | 1.93 | 0.69 |
| 29:B1:82:C:H2’ | 29:B1:83:U:O5’ | 1.93 | 0.69 |
| 29:B1:563:U:C4 | 29:B1:564:G:C8 | 2.80 | 0.69 |
| 29:B1:683:U:H2’ | 29:B1:684:G:H5’ | 1.74 | 0.69 |
| 29:B1:742:G:C2’ | 29:B1:743:C:H5” | 2.21 | 0.69 |
| 29:B1:826:G:H2’ | 29:B1:827:A:C8 | 2.25 | 0.69 |
| 29:B1:836:A:C8 | 29:B1:836:A:OP2 | 2.45 | 0.69 |
| 29:B1:987:U:H2’ | 29:B1:988:U:C6 | 2.27 | 0.69 |
| 29:B1:1093:A:H2’ | 29:B1:1094:U:C2 | 2.27 | 0.69 |
| 29:B1:1302:A:H1’ | 29:B1:2887:A:C2 | 2.27 | 0.69 |
| 29:B1:1550:C:O2’ | 29:B1:1551:C:H5’ | 1.93 | 0.69 |
| 29:B1:1811:G:C6 | 29:B1:1812:G:C8 | 2.81 | 0.69 |
| 29:B1:2491:A:H2’ | 29:B1:2492:C:O4’ | 1.92 | 0.69 |
| 29:B1:2837:A:C8 | 29:B1:2845:A:C2 | 2.81 | 0.69 |
| 29:B1:3102:G:H2’ | 29:B1:3103:A:O4’ | 1.93 | 0.69 |
| 29:B1:3331:U:C2’ | 29:B1:3332:U:H5’ | 2.23 | 0.69 |
| 30:B2:79:A:O2’ | 30:B2:80:G:H5’ | 1.93 | 0.69 |
| 34:BC:131:THR:O | 34:BC:132:LYS:O | 2.09 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BC:166:ILE:O | 34:BC:168:LYS:N | 2.25 | 0.69 |
| 35:BD:85:SER:C | 35:BD:87:GLN:H | 2.01 | 0.69 |
| 37:BF:121:LEU:O | 37:BF:123:PRO:N | 2.26 | 0.69 |
| 61:Bf:39:GLY:O | 61:Bf:43:TYR:CB | 2.41 | 0.69 |
| 1:C1:29:U:H2' | 1:C1:30:G:H8 | 1.58 | 0.69 |
| 1:C1:445:A:H1' | 1:C1:524:U:H4' | 1.73 | 0.69 |
| 1:C1:687:G:N2 | 1:C1:688:G:C4 | 2.61 | 0.69 |
| 1:C1:942:G:OP1 | 1:C1:977:A:H1' | 1.91 | 0.69 |
| 1:C1:1140:G:C2 | 1:C1:1141:G:C8 | 2.81 | 0.69 |
| 1:C1:1147:A:H2' | 1:C1:1148:C:C6 | 2.27 | 0.69 |
| 1:C1:1209:C:C2 | 1:C1:1455:G:N2 | 2.61 | 0.69 |
| 1:C1:1221:A:O2' | 1:C1:1222:C:H5' | 1.92 | 0.69 |
| 1:C1:1455:G:C4 | 1:C1:1456:C:N3 | 2.61 | 0.69 |
| 1:C1:1722:A:C8 | 1:C1:1723:U:C6 | 2.80 | 0.69 |
| 11:CJ:50:GLU:O | 11:CJ:54:LEU:CB | 2.41 | 0.69 |
| 16:CO:54:ASP:CA | 16:CO:59:GLY:HA2 | 2.21 | 0.69 |
| 29:D1:40:A:N7 | 29:D1:937:G:C5 | 2.60 | 0.69 |
| 29:D1:509:U:H2' | 29:D1:510:G:H5' | 1.73 | 0.69 |
| 29:D1:516:A:OP1 | 29:D1:517:G:OP1 | 2.10 | 0.69 |
| 29:D1:533:A:N6 | 29:D1:555:U:O2' | 2.24 | 0.69 |
| 29:D1:560:G:N2 | 29:D1:561:C:N3 | 2.40 | 0.69 |
| 29:D1:612:U:H1' | 29:D1:613:G:N7 | 2.06 | 0.69 |
| 29:D1:717:C:C5 | 29:D1:721:G:P | 2.85 | 0.69 |
| 29:D1:757:C:O2 | 29:D1:757:C:C2' | 2.41 | 0.69 |
| 29:D1:947:G:H2' | 29:D1:948:C:H6 | 1.56 | 0.69 |
| 29:D1:968:G:C6 | 29:D1:969:C:N4 | 2.61 | 0.69 |
| 29:D1:1689:U:H2' | 29:D1:1690:C:O4' | 1.93 | 0.69 |
| 29:D1:2222:A:O2' | 29:D1:2223:A:C8 | 2.45 | 0.69 |
| 29:D1:2413:A:C2 | 29:D1:2414:G:N7 | 2.61 | 0.69 |
| 29:D1:2529:A:H2' | 29:D1:2530:G:C8 | 2.28 | 0.69 |
| 29:D1:2583:C:H4' | 29:D1:2583:C:OP1 | 1.91 | 0.69 |
| 29:D1:2677:G:N2 | 29:D1:2679:A:C4 | 2.61 | 0.69 |
| 29:D1:2847:A:N3 | 29:D1:2847:A:H2' | 2.08 | 0.69 |
| 29:D1:2899:C:H42 | 40:DI:173:ARG:CB | 2.06 | 0.69 |
| 29:D1:2900:A:H2' | 29:D1:2901:G:O5' | 1.91 | 0.69 |
| 29:D1:3299:A:O2' | 29:D1:3300:U:OP1 | 2.07 | 0.69 |
| 29:D1:3333:G:H1 | 29:D1:3370:A:C4' | 2.05 | 0.69 |
| 30:D2:31:U:C6 | 30:D2:32:U:H5 | 2.10 | 0.69 |
| 30:D2:33:U:O2' | 30:D2:34:C:C6 | 2.45 | 0.69 |
| 30:D2:97:A:H8 | 30:D2:97:A:OP2 | 1.76 | 0.69 |
| 31:D3:71:A:N6 | 31:D3:87:G:N7 | 2.40 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:DC:58:ARG:O | 34:DC:71:GLU:O | 2.10 | 0.69 |
| 36:DE:134:ALA:N | 36:DE:135:VAL:HA | 2.05 | 0.69 |
| 39:DH:93:LEU:O | 39:DH:94:PHE:C | 2.36 | 0.69 |
| 45:DP:124:LEU:HA | 45:DP:126:VAL:H | 1.55 | 0.69 |
| 1:A1:105:A:N1 | 74:A1:1910:OHX:N4 | 2.41 | 0.69 |
| 1:A1:224:C:H42 | 1:A1:837:G:H1 | 1.40 | 0.69 |
| 1:A1:335:U:H3' | 1:A1:336:G:H8 | 1.55 | 0.69 |
| 1:A1:426:G:H2' | 1:A1:427:C:H5" | 1.75 | 0.69 |
| 1:A1:981:U:H1' | 1:A1:1124:A:H2 | 1.57 | 0.69 |
| 1:A1:1032:G:H2' | 1:A1:1033:C:H6 | 1.57 | 0.69 |
| 1:A1:1092:A:C4 | 1:A1:1094:G:N7 | 2.60 | 0.69 |
| 1:A1:1241:G:H2' | 1:A1:1242:A:H3' | 1.72 | 0.69 |
| 1:A1:1604:U:C3' | 1:A1:1605:G:H5" | 2.20 | 0.69 |
| 5:AD:153:GLY:CA | 5:AD:154:ALA:HB3 | 2.21 | 0.69 |
| 29:B1:64:G:H22 | 29:B1:322:U:H2' | 1.57 | 0.69 |
| 29:B1:80:G:C2 | 29:B1:81:C:C5 | 2.81 | 0.69 |
| 29:B1:113:C:H2' | 29:B1:114:A:H5' | 1.72 | 0.69 |
| 29:B1:208:C:C2' | 29:B1:209:A:C5' | 2.70 | 0.69 |
| 29:B1:311:C:O2 | 29:B1:2779:A:C2 | 2.46 | 0.69 |
| 29:B1:421:G:H8 | 29:B1:421:G:C3' | 1.99 | 0.69 |
| 29:B1:534:U:P | 29:B1:534:U:C6 | 2.86 | 0.69 |
| 29:B1:704:U:H3' | 29:B1:704:U:C6 | 2.28 | 0.69 |
| 29:B1:747:A:H2' | 29:B1:748:U:OP1 | 1.93 | 0.69 |
| 29:B1:762:U:OP1 | 29:B1:762:U:H4' | 1.91 | 0.69 |
| 29:B1:898:U:C4 | 29:B1:899:U:C5 | 2.81 | 0.69 |
| 29:B1:975:C:H2' | 29:B1:976:U:C5 | 2.28 | 0.69 |
| 29:B1:1522:U:H4' | 29:B1:1523:U:OP2 | 1.92 | 0.69 |
| 29:B1:1647:A:C2' | 29:B1:1648:A:H5' | 2.19 | 0.69 |
| 29:B1:1689:U:H2' | 29:B1:1690:C:O4' | 1.93 | 0.69 |
| 29:B1:1915:A:H2' | 29:B1:1916:U:H6 | 1.57 | 0.69 |
| 29:B1:2111:G:H21 | 51:BV:49:ILE:HA | 1.56 | 0.69 |
| 29:B1:2113:A:C2' | 29:B1:2114:C:H5' | 2.20 | 0.69 |
| 29:B1:2168:A:C2 | 29:B1:2170:U:C1' | 2.74 | 0.69 |
| 29:B1:2239:G:O2' | 29:B1:2240:G:H5' | 1.93 | 0.69 |
| 29:B1:2503:G:H2' | 29:B1:2504:U:C6 | 2.28 | 0.69 |
| 29:B1:2520:A:C2 | 29:B1:2521:U:N3 | 2.58 | 0.69 |
| 29:B1:2628:A:C1' | 29:B1:2798:C:C5 | 2.76 | 0.69 |
| 29:B1:2703:A:C5' | 29:B1:2704:A:H5' | 2.21 | 0.69 |
| 29:B1:2727:A:N1 | 29:B1:2728:G:C6 | 2.60 | 0.69 |
| 29:B1:2743:A:H3' | 29:B1:2744:U:C6 | 2.26 | 0.69 |
| 29:B1:2777:G:N3 | 29:B1:2777:G:C2' | 2.54 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2933:A:N7 | 29:B1:2934:A:C6 | 2.61 | 0.69 |
| 29:B1:3078:U:H1' | 29:B1:3079:U:OP2 | 1.92 | 0.69 |
| 29:B1:3141:A:H5" | 29:B1:3143:C:C2 | 2.26 | 0.69 |
| 29:B1:3171:U:C1' | 29:B1:3172:A:OP2 | 2.41 | 0.69 |
| 29:B1:3181:C:N4 | 29:B1:3190:C:OP1 | 2.25 | 0.69 |
| 29:B1:3202:G:C2 | 29:B1:3203:U:C2 | 2.81 | 0.69 |
| 29:B1:3203:U:OP2 | 29:B1:3203:U:H6 | 1.74 | 0.69 |
| 29:B1:3295:A:O2' | 29:B1:3296:A:H5' | 1.93 | 0.69 |
| 30:B2:3:U:H2' | 30:B2:4:U:C6 | 2.27 | 0.69 |
| 35:BD:39:PHE:O | 35:BD:41:SER:N | 2.26 | 0.69 |
| 36:BE:223:PHE:O | 36:BE:225:GLY:HA3 | 1.92 | 0.69 |
| 37:BF:20:LYS:C | 37:BF:112:THR:HA | 2.16 | 0.69 |
| 37:BF:40:LEU:HA | 37:BF:85:ILE:CA | 2.23 | 0.69 |
| 37:BF:136:GLU:C | 37:BF:138:GLN:N | 2.50 | 0.69 |
| 45:BP:137:THR:O | 45:BP:139:GLY:N | 2.25 | 0.69 |
| 62:Bg:36:ARG:CA | 62:Bg:37:TYR:CB | 2.65 | 0.69 |
| 1:C1:26:A:H2 | 1:C1:600:U:O2 | 1.76 | 0.69 |
| 1:C1:190:C:H3' | 1:C1:191:C:C5' | 2.16 | 0.69 |
| 1:C1:313:U:C6 | 1:C1:1118:G:C2 | 2.81 | 0.69 |
| 1:C1:528:U:H4' | 1:C1:529:A:C4' | 2.23 | 0.69 |
| 1:C1:528:U:C4' | 1:C1:529:A:O4' | 2.41 | 0.69 |
| 1:C1:647:G:N2 | 1:C1:648:G:N1 | 2.41 | 0.69 |
| 1:C1:767:U:O2' | 1:C1:768:C:C6 | 2.45 | 0.69 |
| 1:C1:789:A:C4 | 1:C1:790:U:C6 | 2.81 | 0.69 |
| 1:C1:871:G:O2' | 1:C1:872:G:C8 | 2.36 | 0.69 |
| 1:C1:1107:G:O2' | 1:C1:1108:G:OP1 | 2.10 | 0.69 |
| 1:C1:1241:G:H2' | 1:C1:1242:A:H3' | 1.73 | 0.69 |
| 1:C1:1351:G:C4 | 1:C1:1352:G:C8 | 2.81 | 0.69 |
| 1:C1:1364:G:H2' | 1:C1:1365:C:H5' | 1.73 | 0.69 |
| 1:C1:1557:U:H2' | 1:C1:1558:U:H5' | 1.75 | 0.69 |
| 1:C1:1558:U:C5 | 1:C1:1559:A:H2' | 2.27 | 0.69 |
| 1:C1:1609:U:H6 | 1:C1:1609:U:H5" | 1.57 | 0.69 |
| 1:C1:1609:U:H6 | 1:C1:1609:U:C5' | 2.06 | 0.69 |
| 5:CD:166:ARG:O | 5:CD:168:VAL:N | 2.25 | 0.69 |
| 17:CP:58:GLY:O | 17:CP:59:ILE:O | 2.11 | 0.69 |
| 18:CQ:46:LYS:O | 18:CQ:50:ILE:CB | 2.40 | 0.69 |
| 28:Ch:16:UNK:O | 28:Ch:17:UNK:C | 2.41 | 0.69 |
| 29:D1:22:G:H5' | 31:D3:104:A:O2' | 1.93 | 0.69 |
| 29:D1:69:C:N4 | 29:D1:70:A:C8 | 2.61 | 0.69 |
| 29:D1:226:C:H2' | 29:D1:227:G:O4' | 1.93 | 0.69 |
| 29:D1:372:A:N6 | 29:D1:373:A:C6 | 2.61 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:404:G:N1 | 29:D1:405:U:O2 | 2.25 | 0.69 |
| 29:D1:504:A:C2 | 29:D1:587:U:C2 | 2.74 | 0.69 |
| 29:D1:522:A:N7 | 29:D1:523:A:C8 | 2.61 | 0.69 |
| 29:D1:558:U:O2' | 29:D1:559:A:OP1 | 2.09 | 0.69 |
| 29:D1:627:U:H2' | 29:D1:628:A:C8 | 2.28 | 0.69 |
| 29:D1:715:A:H3' | 54:DY:115:LYS:HA | 1.75 | 0.69 |
| 29:D1:744:A:C6 | 29:D1:745:C:C4 | 2.81 | 0.69 |
| 29:D1:749:C:H2' | 29:D1:750:G:H8 | 1.55 | 0.69 |
| 29:D1:808:A:C4 | 29:D1:809:G:C8 | 2.80 | 0.69 |
| 29:D1:915:A:H3' | 29:D1:915:A:C8 | 2.28 | 0.69 |
| 29:D1:972:A:H2' | 29:D1:973:A:O4' | 1.93 | 0.69 |
| 29:D1:1115:G:H3' | 29:D1:1115:G:C8 | 2.28 | 0.69 |
| 29:D1:1303:A:N3 | 29:D1:1303:A:O4' | 2.19 | 0.69 |
| 29:D1:1380:G:H2' | 29:D1:1380:G:N3 | 2.08 | 0.69 |
| 29:D1:1827:C:H2' | 29:D1:1828:A:H8 | 1.57 | 0.69 |
| 29:D1:1830:G:C8 | 29:D1:1830:G:OP2 | 2.46 | 0.69 |
| 29:D1:2095:G:C2' | 29:D1:2096:A:H5' | 2.23 | 0.69 |
| 29:D1:2101:C:C2' | 29:D1:2102:U:H5' | 2.23 | 0.69 |
| 29:D1:2315:G:N2 | 29:D1:2316:G:N7 | 2.41 | 0.69 |
| 29:D1:2354:C:H2' | 29:D1:2354:C:O2 | 1.91 | 0.69 |
| 29:D1:2360:C:H5" | 29:D1:2361:A:OP2 | 1.92 | 0.69 |
| 29:D1:2407:C:H2' | 29:D1:2408:U:H6 | 1.58 | 0.69 |
| 29:D1:2501:U:C4' | 29:D1:2502:A:OP1 | 2.39 | 0.69 |
| 29:D1:2820:A:H5' | 29:D1:2821:C:OP2 | 1.92 | 0.69 |
| 29:D1:2834:G:O2' | 29:D1:2835:U:H6 | 1.70 | 0.69 |
| 29:D1:2903:A:C5 | 29:D1:2904:U:C6 | 2.80 | 0.69 |
| 29:D1:2915:U:O2 | 29:D1:2915:U:C2' | 2.40 | 0.69 |
| 29:D1:2931:C:C4 | 29:D1:2932:U:C5 | 2.81 | 0.69 |
| 29:D1:3046:A:C5 | 29:D1:3047:U:C5 | 2.81 | 0.69 |
| 29:D1:3063:C:H2' | 29:D1:3064:U:C6 | 2.23 | 0.69 |
| 29:D1:3102:G:H5' | 29:D1:3102:G:C8 | 2.25 | 0.69 |
| 29:D1:3141:A:C5' | 29:D1:3143:C:O2 | 2.40 | 0.69 |
| 29:D1:3202:G:O2' | 29:D1:3203:U:O4' | 2.09 | 0.69 |
| 29:D1:3231:U:H2' | 29:D1:3232:G:C8 | 2.27 | 0.69 |
| 29:D1:3290:G:H2' | 29:D1:3291:G:C8 | 2.28 | 0.69 |
| 29:D1:3386:G:O5' | 29:D1:3386:G:C8 | 2.45 | 0.69 |
| 30:D2:28:C:H2' | 30:D2:28:C:O2 | 1.93 | 0.69 |
| 31:D3:124:G:H5' | 31:D3:125:U:OP2 | 1.92 | 0.69 |
| 37:DF:86:ALA:HB1 | 37:DF:87:THR:CA | 2.22 | 0.69 |
| 39:DH:99:PRO:HA | 39:DH:236:GLY:N | 2.08 | 0.69 |
| 1:A1:556:A:H3' | 1:A1:558:U:OP2 | 1.91 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:760:A:C2 | 1:A1:791:A:C4 | 2.81 | 0.69 |
| 1:A1:955:A:H2' | 1:A1:956:C:H6 | 1.57 | 0.69 |
| 1:A1:1042:G:H2' | 1:A1:1043:A:O4' | 1.92 | 0.69 |
| 1:A1:1116:A:C6 | 1:A1:1117:U:C4 | 2.80 | 0.69 |
| 1:A1:1250:U:O4 | 1:A1:1251:U:O4 | 2.10 | 0.69 |
| 1:A1:1265:G:O5' | 1:A1:1265:G:H8 | 1.76 | 0.69 |
| 1:A1:1285:U:H4' | 1:A1:1286:U:OP1 | 1.91 | 0.69 |
| 1:A1:1494:C:O2' | 1:A1:1495:C:H5' | 1.93 | 0.69 |
| 1:A1:1597:A:C6 | 1:A1:1598:U:N3 | 2.60 | 0.69 |
| 1:A1:1754:A:H1' | 1:A1:1755:A:C2 | 2.28 | 0.69 |
| 4:AC:115:ILE:HA | 4:AC:118:ALA:HB3 | 1.75 | 0.69 |
| 16:AO:54:ASP:HA | 16:AO:59:GLY:CA | 2.21 | 0.69 |
| 29:B1:197:G:N2 | 29:B1:372:A:C8 | 2.61 | 0.69 |
| 29:B1:517:G:H2' | 29:B1:518:G:C1' | 2.22 | 0.69 |
| 29:B1:851:C:H2' | 29:B1:852:U:C6 | 2.27 | 0.69 |
| 29:B1:995:U:O4 | 29:B1:2637:A:C5 | 2.46 | 0.69 |
| 29:B1:1038:C:H2' | 29:B1:1039:U:C6 | 2.27 | 0.69 |
| 29:B1:1146:C:H4' | 29:B1:1331:U:C5 | 2.28 | 0.69 |
| 29:B1:1633:C:C4 | 29:B1:1634:G:N7 | 2.61 | 0.69 |
| 29:B1:1839:A:C5' | 29:B1:1840:U:OP1 | 2.35 | 0.69 |
| 29:B1:1900:A:C2 | 29:B1:1906:G:C8 | 2.81 | 0.69 |
| 29:B1:3057:U:C3' | 29:B1:3058:U:H4' | 2.23 | 0.69 |
| 29:B1:3099:C:C5' | 29:B1:3099:C:H6 | 2.06 | 0.69 |
| 29:B1:3313:U:O2' | 29:B1:3314:A:H8 | 1.74 | 0.69 |
| 31:B3:19:C:C4 | 31:B3:20:U:C5 | 2.81 | 0.69 |
| 31:B3:48:A:C2 | 31:B3:51:G:C6 | 2.80 | 0.69 |
| 31:B3:144:G:C2' | 31:B3:145:U:H5' | 2.23 | 0.69 |
| 35:BD:159:ILE:O | 35:BD:161:LYS:N | 2.26 | 0.69 |
| 36:BE:103:LEU:N | 36:BE:166:ALA:HA | 2.07 | 0.69 |
| 63:Bh:18:UNK:O | 63:Bh:21:UNK:CB | 2.41 | 0.69 |
| 1:C1:646:C:C2' | 1:C1:647:G:H5" | 2.23 | 0.69 |
| 1:C1:772:G:C6 | 1:C1:773:C:N3 | 2.61 | 0.69 |
| 1:C1:802:G:C6 | 1:C1:803:A:N1 | 2.60 | 0.69 |
| 1:C1:871:G:N3 | 1:C1:872:G:C8 | 2.61 | 0.69 |
| 1:C1:883:C:N4 | 1:C1:945:U:H3 | 1.89 | 0.69 |
| 1:C1:1008:G:C2 | 1:C1:1009:U:H1' | 2.27 | 0.69 |
| 7:CF:128:CYS:H | 7:CF:137:PHE:HA | 1.56 | 0.69 |
| 29:D1:210:U:H3 | 35:DD:162:THR:H | 1.38 | 0.69 |
| 29:D1:400:G:C1' | 29:D1:401:U:OP2 | 2.41 | 0.69 |
| 29:D1:760:G:H2' | 29:D1:761:A:H8 | 1.57 | 0.69 |
| 29:D1:920:A:H5" | 29:D1:922:U:C4 | 2.27 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:965:A:H2' | 29:D1:965:A:N3 | 2.07 | 0.69 |
| 29:D1:1156:C:H3' | 29:D1:1157:G:C5' | 2.23 | 0.69 |
| 29:D1:1189:C:C4' | 29:D1:1192:C:H5 | 2.02 | 0.69 |
| 29:D1:1812:G:H4' | 29:D1:1812:G:OP1 | 1.93 | 0.69 |
| 29:D1:2118:C:O5' | 29:D1:2118:C:H6 | 1.75 | 0.69 |
| 29:D1:2185:G:C6 | 29:D1:2186:U:C4 | 2.80 | 0.69 |
| 29:D1:2310:U:C2' | 29:D1:2311:G:O5' | 2.41 | 0.69 |
| 29:D1:3123:A:C2' | 29:D1:3124:G:H5' | 2.21 | 0.69 |
| 30:D2:49:G:OP2 | 30:D2:49:G:N9 | 2.25 | 0.69 |
| 31:D3:34:U:O2 | 31:D3:34:U:C2' | 2.40 | 0.69 |
| 43:DN:48:GLY:O | 43:DN:49:PRO:C | 2.34 | 0.69 |
| 44:DO:157:LYS:C | 44:DO:159:ARG:H | 2.00 | 0.69 |
| 54:DY:84:GLU:HA | 54:DY:85:ASP:CB | 2.22 | 0.69 |
| 59:Dd:22:CYS:CB | 74:Dd:101:OHX:N4 | 2.55 | 0.69 |
| 1:A1:214:G:O2' | 1:A1:215:A:H5' | 1.92 | 0.69 |
| 1:A1:313:U:C5 | 1:A1:1118:G:C2 | 2.80 | 0.69 |
| 1:A1:605:A:N6 | 1:A1:606:A:N6 | 2.40 | 0.69 |
| 1:A1:845:G:H2' | 1:A1:846:G:H5" | 1.75 | 0.69 |
| 1:A1:1752:U:C2' | 1:A1:1753:A:H8 | 2.04 | 0.69 |
| 1:A1:1786:G:H2' | 1:A1:1787:C:C6 | 2.28 | 0.69 |
| 21:AT:21:THR:CB | 21:AT:69:GLN:HA | 2.22 | 0.69 |
| 29:B1:13:A:H2 | 29:B1:15:C:C3' | 2.06 | 0.69 |
| 29:B1:608:A:N6 | 29:B1:609:G:N7 | 2.41 | 0.69 |
| 29:B1:949:C:O2 | 29:B1:971:G:H5" | 1.92 | 0.69 |
| 29:B1:1339:C:H2' | 29:B1:1340:G:H8 | 1.57 | 0.69 |
| 29:B1:1406:A:C2 | 29:B1:1407:A:C6 | 2.81 | 0.69 |
| 29:B1:1728:G:H4' | 29:B1:1729:A:OP2 | 1.93 | 0.69 |
| 29:B1:2320:A:H8 | 29:B1:2320:A:O5' | 1.75 | 0.69 |
| 29:B1:2513:U:C1' | 29:B1:2514:U:OP1 | 2.41 | 0.69 |
| 29:B1:2603:G:H3' | 29:B1:2604:U:C6 | 2.28 | 0.69 |
| 29:B1:2619:G:P | 29:B1:2619:G:H8 | 2.16 | 0.69 |
| 29:B1:2696:A:N7 | 29:B1:2697:A:C5 | 2.61 | 0.69 |
| 29:B1:2788:C:H2' | 29:B1:2789:U:C6 | 2.28 | 0.69 |
| 29:B1:2909:U:C4 | 29:B1:2910:A:C8 | 2.80 | 0.69 |
| 29:B1:3141:A:C4' | 29:B1:3143:C:H2' | 2.23 | 0.69 |
| 29:B1:3218:A:H3' | 29:B1:3220:G:OP2 | 1.92 | 0.69 |
| 31:B3:74:U:H3' | 31:B3:76:C:H5" | 1.75 | 0.69 |
| 31:B3:106:C:O4' | 31:B3:138:A:C8 | 2.46 | 0.69 |
| 1:C1:119:A:O4' | 1:C1:397:A:H1' | 1.93 | 0.69 |
| 1:C1:278:U:H3' | 1:C1:278:U:O2 | 1.93 | 0.69 |
| 1:C1:364:G:C2 | 1:C1:381:C:N3 | 2.62 | 0.69 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:618:U:C2' | 1:C1:619:A:H5' | 2.22 | 0.69 |
| 1:C1:1637:C:OP2 | 1:C1:1637:C:H4' | 1.92 | 0.69 |
| 1:C1:1651:A:C2 | 1:C1:1652:C:C5 | 2.80 | 0.69 |
| 7:CF:75:VAL:HA | 7:CF:86:ILE:HA | 1.75 | 0.69 |
| 8:CG:142:GLU:C | 8:CG:144:ALA:H | 2.01 | 0.69 |
| 29:D1:16:A:O2' | 29:D1:17:G:H5' | 1.93 | 0.69 |
| 29:D1:307:A:O2' | 29:D1:2223:A:H1' | 1.92 | 0.69 |
| 29:D1:394:G:H22 | 29:D1:396:A:H2' | 1.56 | 0.69 |
| 29:D1:1166:G:H2' | 29:D1:1167:U:H5" | 1.73 | 0.69 |
| 29:D1:1196:C:C5 | 29:D1:1197:A:N6 | 2.38 | 0.69 |
| 29:D1:1453:A:H1' | 29:D1:1850:A:C2 | 2.28 | 0.69 |
| 29:D1:1804:A:H2' | 29:D1:1805:C:C6 | 2.28 | 0.69 |
| 29:D1:2149:A:H4' | 33:DB:178:PRO:O | 1.93 | 0.69 |
| 29:D1:2222:A:N6 | 29:D1:2783:U:H5' | 2.08 | 0.69 |
| 29:D1:3176:G:C2' | 29:D1:3177:G:C5' | 2.70 | 0.69 |
| 29:D1:3388:C:H2' | 29:D1:3389:U:C5 | 2.28 | 0.69 |
| 34:DC:4:ARG:C | 34:DC:6:TYR:N | 2.49 | 0.69 |
| 73:DM:102:SER:C | 73:DM:104:ARG:H | 2.00 | 0.69 |
| 45:DP:95:GLY:O | 45:DP:97:ALA:N | 2.25 | 0.69 |
| 57:Db:109:LEU:O | 57:Db:110:ALA:C | 2.36 | 0.69 |
| 1:A1:149:C:C3' | 1:A1:150:U:H6 | 2.06 | 0.68 |
| 1:A1:537:G:H2' | 1:A1:537:G:N3 | 2.06 | 0.68 |
| 1:A1:1163:A:N6 | 1:A1:1164:G:C6 | 2.60 | 0.68 |
| 1:A1:1244:A:H2 | 1:A1:1245:G:N9 | 1.91 | 0.68 |
| 1:A1:1372:U:H2' | 1:A1:1373:C:O4' | 1.93 | 0.68 |
| 1:A1:1457:C:C4 | 1:A1:1559:A:N6 | 2.60 | 0.68 |
| 4:AC:9:ARG:CB | 4:AC:13:ALA:HB2 | 2.24 | 0.68 |
| 29:B1:232:G:C5 | 29:B1:233:C:C5 | 2.80 | 0.68 |
| 29:B1:507:U:H4' | 29:B1:1167:U:OP1 | 1.92 | 0.68 |
| 29:B1:535:G:H3' | 29:B1:536:U:C5 | 2.27 | 0.68 |
| 29:B1:592:A:C2' | 29:B1:593:C:O2' | 2.41 | 0.68 |
| 29:B1:818:C:H2' | 29:B1:819:U:H5' | 1.75 | 0.68 |
| 29:B1:1002:A:O2' | 29:B1:1003:A:H5' | 1.93 | 0.68 |
| 29:B1:1522:U:C5 | 29:B1:1835:A:H1' | 2.28 | 0.68 |
| 29:B1:1528:G:C6 | 29:B1:1833:G:C6 | 2.81 | 0.68 |
| 29:B1:1539:A:C5 | 29:B1:1540:U:C5 | 2.81 | 0.68 |
| 29:B1:1779:C:C4' | 29:B1:1780:G:H5" | 2.15 | 0.68 |
| 29:B1:2320:A:H5" | 29:B1:2321:A:OP2 | 1.92 | 0.68 |
| 29:B1:2826:U:C2' | 29:B1:2827:U:H5' | 2.22 | 0.68 |
| 29:B1:2997:G:C4 | 29:B1:2998:U:H5' | 2.28 | 0.68 |
| 29:B1:3126:C:C4 | 29:B1:3127:A:N7 | 2.61 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3203:U:OP2 | 29:B1:3203:U:C6 | 2.47 | 0.68 |
| 29:B1:3316:A:C1' | 29:B1:3317:U:OP2 | 2.42 | 0.68 |
| 30:B2:12:U:H3' | 30:B2:13:A:N1 | 2.04 | 0.68 |
| 34:BC:20:LYS:O | 34:BC:21:ARG:O | 2.11 | 0.68 |
| 35:BD:42:VAL:O | 35:BD:45:ASN:N | 2.21 | 0.68 |
| 36:BE:134:ALA:N | 36:BE:135:VAL:HA | 2.08 | 0.68 |
| 1:C1:59:C:N4 | 1:C1:89:G:C2 | 2.61 | 0.68 |
| 1:C1:65:A:H2 | 1:C1:84:A:H62 | 1.40 | 0.68 |
| 1:C1:272:U:O4 | 1:C1:284:G:O6 | 2.10 | 0.68 |
| 1:C1:429:G:H5" | 1:C1:439:U:H3' | 1.73 | 0.68 |
| 1:C1:710:U:C2 | 1:C1:729:G:N1 | 2.61 | 0.68 |
| 1:C1:716:C:C5 | 1:C1:717:C:H5 | 2.10 | 0.68 |
| 1:C1:1109:G:C2' | 1:C1:1110:G:H5" | 2.22 | 0.68 |
| 1:C1:1683:C:P | 1:C1:1684:U:OP1 | 2.51 | 0.68 |
| 1:C1:1720:G:C2' | 1:C1:1721:A:H5' | 2.22 | 0.68 |
| 10:CI:19:GLY:N | 13:CL:98:TYR:HA | 2.08 | 0.68 |
| 12:CK:48:ASN:HA | 12:CK:51:ALA:HB3 | 1.75 | 0.68 |
| 29:D1:392:G:C6 | 29:D1:393:U:C5 | 2.81 | 0.68 |
| 29:D1:421:G:H21 | 29:D1:2365:C:H1' | 1.54 | 0.68 |
| 29:D1:593:C:C2' | 29:D1:594:U:C4' | 2.66 | 0.68 |
| 29:D1:1157:G:C8 | 29:D1:1157:G:C5' | 2.74 | 0.68 |
| 29:D1:1190:A:H2 | 29:D1:1191:U:C6 | 2.09 | 0.68 |
| 29:D1:1303:A:H8 | 29:D1:1304:A:C6 | 2.07 | 0.68 |
| 29:D1:1354:G:H8 | 29:D1:1355:A:N1 | 1.91 | 0.68 |
| 29:D1:2414:G:C2' | 29:D1:2415:C:O5' | 2.41 | 0.68 |
| 29:D1:2614:G:C2 | 29:D1:2797:C:H6 | 2.10 | 0.68 |
| 29:D1:2853:A:N6 | 29:D1:2854:U:H3 | 1.92 | 0.68 |
| 29:D1:3299:A:C2 | 29:D1:3300:U:C4 | 2.80 | 0.68 |
| 29:D1:3316:A:N1 | 29:D1:3388:C:C4 | 2.61 | 0.68 |
| 37:DF:145:LEU:O | 37:DF:146:ILE:O | 2.11 | 0.68 |
| 45:DP:106:GLU:C | 45:DP:107:GLY:O | 2.31 | 0.68 |
| 65:Dk:11:UNK:O | 65:Dk:14:UNK:N | 2.26 | 0.68 |
| 1:A1:26:A:H2 | 1:A1:600:U:H3 | 1.39 | 0.68 |
| 1:A1:429:G:H5" | 1:A1:439:U:H3' | 1.75 | 0.68 |
| 1:A1:934:C:H2' | 1:A1:934:C:O2 | 1.92 | 0.68 |
| 1:A1:1242:A:C4' | 10:AI:78:THR:HA | 2.23 | 0.68 |
| 29:B1:509:U:N3 | 29:B1:510:G:C8 | 2.61 | 0.68 |
| 29:B1:514:G:O3' | 29:B1:515:C:O4' | 2.11 | 0.68 |
| 29:B1:580:C:N3 | 29:B1:581:U:C5 | 2.61 | 0.68 |
| 29:B1:836:A:OP2 | 29:B1:836:A:H8 | 1.76 | 0.68 |
| 29:B1:878:G:O4' | 29:B1:880:G:N2 | 2.26 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:972:A:O2' | 29:B1:973:A:H5' | 1.93 | 0.68 |
| 29:B1:1212:A:C3' | 29:B1:1213:G:H5" | 2.23 | 0.68 |
| 29:B1:1278:A:N7 | 29:B1:1279:C:C5 | 2.61 | 0.68 |
| 29:B1:1495:U:H3' | 29:B1:1496:C:H5' | 1.74 | 0.68 |
| 29:B1:1876:U:H2' | 29:B1:1877:U:C5 | 2.28 | 0.68 |
| 29:B1:1931:U:C2 | 29:B1:2121:G:C2 | 2.81 | 0.68 |
| 29:B1:2361:A:N6 | 29:B1:2377:G:C6 | 2.62 | 0.68 |
| 29:B1:2417:U:H5 | 29:B1:2606:G:N7 | 1.88 | 0.68 |
| 29:B1:2545:C:H2' | 29:B1:2546:C:C6 | 2.28 | 0.68 |
| 29:B1:2673:A:C2 | 29:B1:2674:A:C5 | 2.81 | 0.68 |
| 29:B1:2860:U:C5 | 29:B1:2938:G:H4' | 2.28 | 0.68 |
| 29:B1:3117:C:H2' | 29:B1:3118:C:C5' | 2.18 | 0.68 |
| 29:B1:3310:A:C2 | 29:B1:3311:C:O4' | 2.46 | 0.68 |
| 33:BB:209:HIS:O | 33:BB:210:PRO:O | 2.11 | 0.68 |
| 36:BE:141:PRO:C | 36:BE:143:LYS:H | 1.99 | 0.68 |
| 37:BF:42:LEU:HA | 37:BF:84:VAL:CB | 2.23 | 0.68 |
| 1:C1:172:C:HO2' | 1:C1:173:A:H8 | 1.37 | 0.68 |
| 1:C1:289:U:O2 | 1:C1:290:G:C8 | 2.46 | 0.68 |
| 1:C1:310:C:C2' | 1:C1:311:U:O5' | 2.41 | 0.68 |
| 1:C1:521:A:H3' | 1:C1:523:G:N7 | 2.08 | 0.68 |
| 1:C1:934:C:H2' | 1:C1:934:C:O2 | 1.91 | 0.68 |
| 1:C1:964:U:H1' | 1:C1:965:U:OP2 | 1.93 | 0.68 |
| 1:C1:1072:C:H5" | 1:C1:1073:G:OP2 | 1.94 | 0.68 |
| 1:C1:1147:A:H2' | 1:C1:1148:C:O4' | 1.92 | 0.68 |
| 1:C1:1185:U:O2' | 1:C1:1456:C:H4' | 1.93 | 0.68 |
| 1:C1:1341:A:H2' | 1:C1:1341:A:N3 | 2.08 | 0.68 |
| 1:C1:1627:U:O2' | 1:C1:1628:U:C6 | 2.45 | 0.68 |
| 1:C1:1633:A:O4' | 1:C1:1634:C:OP2 | 2.11 | 0.68 |
| 1:C1:1657:U:C4' | 1:C1:1658:G:O5' | 2.42 | 0.68 |
| 11:CJ:91:ALA:HB3 | 11:CJ:96:TYR:CB | 2.22 | 0.68 |
| 29:D1:208:C:N3 | 29:D1:209:A:N7 | 2.42 | 0.68 |
| 29:D1:318:A:H8 | 29:D1:318:A:OP2 | 1.77 | 0.68 |
| 29:D1:988:U:H2' | 29:D1:989:A:H8 | 1.58 | 0.68 |
| 29:D1:1039:U:H2' | 29:D1:1040:A:C8 | 2.28 | 0.68 |
| 29:D1:1076:C:H5' | 29:D1:1077:U:OP2 | 1.92 | 0.68 |
| 29:D1:1139:G:H8 | 29:D1:1139:G:H5" | 1.55 | 0.68 |
| 29:D1:1167:U:O3' | 38:DG:211:SER:O | 2.10 | 0.68 |
| 29:D1:1687:U:OP1 | 29:D1:1687:U:H6 | 1.75 | 0.68 |
| 29:D1:2119:A:C5 | 29:D1:2120:A:C2 | 2.82 | 0.68 |
| 29:D1:2326:A:C5' | 29:D1:2327:U:OP2 | 2.38 | 0.68 |
| 29:D1:2327:U:H5" | 29:D1:2328:U:OP2 | 1.93 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2555:G:N3 | 29:D1:2555:G:H2' | 2.08 | 0.68 |
| 29:D1:3176:G:H2' | 29:D1:3177:G:H5' | 1.75 | 0.68 |
| 29:D1:3212:C:C2 | 29:D1:3213:A:C2 | 2.81 | 0.68 |
| 29:D1:3273:A:O4' | 29:D1:3273:A:OP1 | 2.11 | 0.68 |
| 29:D1:3384:U:H2' | 29:D1:3385:U:C6 | 2.27 | 0.68 |
| 31:D3:72:A:O2' | 31:D3:73:U:OP2 | 2.09 | 0.68 |
| 45:DP:95:GLY:O | 45:DP:96:LYS:C | 2.35 | 0.68 |
| 1:A1:34:G:O6 | 1:A1:474:A:H2 | 1.76 | 0.68 |
| 1:A1:341:A:C4 | 1:A1:342:C:C5 | 2.81 | 0.68 |
| 1:A1:378:A:C8 | 1:A1:378:A:OP1 | 2.47 | 0.68 |
| 1:A1:437:A:H5" | 1:A1:438:A:OP1 | 1.92 | 0.68 |
| 1:A1:446:A:C5 | 1:A1:447:U:C5 | 2.81 | 0.68 |
| 1:A1:523:G:C4 | 1:A1:524:U:O4 | 2.45 | 0.68 |
| 1:A1:546:U:H2' | 1:A1:547:U:H6 | 1.54 | 0.68 |
| 1:A1:612:U:H5' | 1:A1:613:G:H3' | 1.75 | 0.68 |
| 1:A1:767:U:O2' | 1:A1:768:C:C6 | 2.44 | 0.68 |
| 1:A1:768:C:O2' | 1:A1:769:A:H5' | 1.92 | 0.68 |
| 1:A1:833:U:O2 | 1:A1:833:U:H2' | 1.93 | 0.68 |
| 1:A1:867:G:C4 | 1:A1:868:G:C8 | 2.81 | 0.68 |
| 1:A1:989:U:C2' | 1:A1:990:C:C6 | 2.76 | 0.68 |
| 1:A1:1094:G:C2 | 1:A1:1095:U:C4 | 2.82 | 0.68 |
| 1:A1:1756:A:H2' | 1:A1:1757:G:H5' | 1.76 | 0.68 |
| 3:AB:178:ILE:HA | 3:AB:195:ASP:O | 1.93 | 0.68 |
| 29:B1:188:U:O2 | 29:B1:222:A:C2 | 2.46 | 0.68 |
| 29:B1:522:A:C5 | 29:B1:523:A:C8 | 2.80 | 0.68 |
| 29:B1:594:U:N3 | 29:B1:595:G:C4 | 2.62 | 0.68 |
| 29:B1:607:A:C6 | 29:B1:608:A:C5 | 2.80 | 0.68 |
| 29:B1:760:G:HO2' | 29:B1:761:A:H8 | 1.40 | 0.68 |
| 29:B1:1275:C:C4 | 29:B1:1276:U:C4 | 2.81 | 0.68 |
| 29:B1:1358:C:H2' | 29:B1:1358:C:O2 | 1.94 | 0.68 |
| 29:B1:1445:U:C5 | 29:B1:1446:A:C8 | 2.80 | 0.68 |
| 29:B1:1471:U:C2 | 29:B1:1472:U:C5 | 2.82 | 0.68 |
| 29:B1:1615:C:H2' | 29:B1:1616:U:C6 | 2.26 | 0.68 |
| 29:B1:2244:A:O2' | 33:BB:222:ALA:HB3 | 1.93 | 0.68 |
| 29:B1:2252:A:C2 | 29:B1:2253:G:C5 | 2.81 | 0.68 |
| 29:B1:2371:G:H5" | 29:B1:2372:A:OP2 | 1.94 | 0.68 |
| 29:B1:2556:C:H2' | 29:B1:2556:C:O2 | 1.92 | 0.68 |
| 29:B1:2616:C:C2' | 29:B1:2617:U:H5' | 2.23 | 0.68 |
| 29:B1:2651:G:C2 | 29:B1:2796:G:C2 | 2.82 | 0.68 |
| 29:B1:2875:U:H5' | 29:B1:2876:C:OP2 | 1.94 | 0.68 |
| 29:B1:2997:G:N3 | 29:B1:2998:U:C5' | 2.57 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3322:A:N6 | 29:B1:3323:A:N6 | 2.41 | 0.68 |
| 29:B1:3363:U:H5 | 29:B1:3364:C:H1' | 1.58 | 0.68 |
| 37:BF:124:GLU:C | 37:BF:126:GLN:N | 2.51 | 0.68 |
| 1:C1:40:A:C2 | 1:C1:469:C:H1' | 2.28 | 0.68 |
| 1:C1:404:G:H2' | 1:C1:405:C:C6 | 2.26 | 0.68 |
| 1:C1:611:U:H5" | 1:C1:612:U:OP2 | 1.94 | 0.68 |
| 1:C1:806:A:H2' | 1:C1:807:A:H8 | 1.59 | 0.68 |
| 1:C1:1035:G:H2' | 1:C1:1036:A:O4' | 1.93 | 0.68 |
| 1:C1:1106:U:O2' | 1:C1:1107:G:H5' | 1.93 | 0.68 |
| 1:C1:1121:C:H1' | 1:C1:1127:G:N2 | 2.09 | 0.68 |
| 1:C1:1132:A:N3 | 1:C1:1133:A:C8 | 2.61 | 0.68 |
| 1:C1:1614:A:H2' | 1:C1:1615:C:H5" | 1.73 | 0.68 |
| 1:C1:1656:U:C5' | 1:C1:1657:U:O5' | 2.42 | 0.68 |
| 3:CB:157:LYS:O | 3:CB:213:ALA:HB1 | 1.93 | 0.68 |
| 13:CL:116:LEU:O | 13:CL:118:LYS:N | 2.26 | 0.68 |
| 29:D1:78:U:H3 | 29:D1:325:A:H61 | 1.41 | 0.68 |
| 29:D1:157:A:O2' | 29:D1:158:G:C4 | 2.45 | 0.68 |
| 29:D1:185:C:C2 | 29:D1:186:U:C5 | 2.81 | 0.68 |
| 29:D1:769:G:H4' | 29:D1:770:G:OP1 | 1.93 | 0.68 |
| 29:D1:986:U:H2' | 29:D1:987:U:H6 | 1.58 | 0.68 |
| 29:D1:1167:U:H6 | 29:D1:1167:U:C5' | 2.06 | 0.68 |
| 29:D1:1352:A:P | 29:D1:1352:A:H8 | 2.16 | 0.68 |
| 29:D1:1469:C:C2 | 29:D1:1509:A:C2 | 2.81 | 0.68 |
| 29:D1:1564:U:C2 | 29:D1:1565:G:C8 | 2.80 | 0.68 |
| 29:D1:1625:A:H5" | 29:D1:1626:U:H5" | 1.75 | 0.68 |
| 29:D1:1716:U:H3' | 29:D1:1717:U:C4' | 2.21 | 0.68 |
| 29:D1:2306:C:H3' | 29:D1:2306:C:C6 | 2.27 | 0.68 |
| 29:D1:2436:U:H5' | 29:D1:2437:G:OP2 | 1.94 | 0.68 |
| 29:D1:2592:G:O6 | 74:D1:3463:OHX:N3 | 2.26 | 0.68 |
| 29:D1:2649:A:H1' | 29:D1:2696:A:H1' | 1.74 | 0.68 |
| 29:D1:2726:C:H5" | 29:D1:2727:A:H5" | 1.74 | 0.68 |
| 29:D1:3037:U:H2' | 29:D1:3038:U:C6 | 2.27 | 0.68 |
| 29:D1:3196:U:H5 | 29:D1:3198:U:C6 | 2.12 | 0.68 |
| 29:D1:3262:U:O2' | 29:D1:3263:G:H5' | 1.93 | 0.68 |
| 29:D1:3309:G:C4 | 29:D1:3310:A:C8 | 2.81 | 0.68 |
| 29:D1:3316:A:O4' | 29:D1:3317:U:OP2 | 2.11 | 0.68 |
| 29:D1:3350:C:H4' | 29:D1:3354:U:C5 | 2.28 | 0.68 |
| 31:D3:104:A:H5" | 31:D3:105:A:C8 | 2.27 | 0.68 |
| 39:DH:219:ASP:O | 39:DH:223:ALA:HB3 | 1.93 | 0.68 |
| 45:DP:158:ALA:O | 45:DP:161:LYS:N | 2.25 | 0.68 |
| 1:A1:365:G:H2' | 1:A1:366:A:O5' | 1.93 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:416:A:C4' | 1:A1:417:A:OP2 | 2.37 | 0.68 |
| 1:A1:610:G:C2 | 1:A1:614:C:C2 | 2.82 | 0.68 |
| 20:AS:23:VAL:C | 74:AS:101:OHX:N1 | 2.51 | 0.68 |
| 29:B1:10:C:H5 | 31:B3:149:A:H2 | 1.41 | 0.68 |
| 29:B1:43:A:N7 | 29:B1:2803:A:N6 | 2.42 | 0.68 |
| 29:B1:338:A:OP2 | 29:B1:338:A:C4' | 2.41 | 0.68 |
| 29:B1:379:C:H5" | 29:B1:379:C:C6 | 2.24 | 0.68 |
| 29:B1:383:G:C3' | 29:B1:384:A:H5" | 2.17 | 0.68 |
| 29:B1:533:A:H2' | 29:B1:534:U:C4 | 2.27 | 0.68 |
| 29:B1:588:G:C6 | 29:B1:612:U:C5 | 2.81 | 0.68 |
| 29:B1:797:U:O2' | 29:B1:798:G:H5' | 1.93 | 0.68 |
| 29:B1:890:C:O2' | 29:B1:2324:A:N3 | 2.26 | 0.68 |
| 29:B1:911:C:H2' | 29:B1:912:G:H5' | 1.74 | 0.68 |
| 29:B1:1691:U:H2' | 29:B1:1692:U:C5 | 2.29 | 0.68 |
| 29:B1:1793:C:C1' | 29:B1:1794:G:OP1 | 2.41 | 0.68 |
| 29:B1:2269:U:C4 | 29:B1:2272:G:N1 | 2.61 | 0.68 |
| 29:B1:2434:U:H4' | 29:B1:2435:G:H5' | 1.76 | 0.68 |
| 29:B1:2584:G:OP1 | 29:B1:2584:G:H4' | 1.93 | 0.68 |
| 29:B1:2888:U:C5 | 29:B1:2910:A:N1 | 2.61 | 0.68 |
| 29:B1:3333:G:O2' | 29:B1:3369:G:N2 | 2.27 | 0.68 |
| 30:B2:77:G:O5' | 37:BF:107:ALA:HB2 | 1.93 | 0.68 |
| 59:Bd:65:ARG:C | 59:Bd:67:LEU:H | 2.02 | 0.68 |
| 1:C1:825:U:C4 | 1:C1:847:A:N6 | 2.58 | 0.68 |
| 1:C1:992:A:N1 | 1:C1:1012:U:C2 | 2.62 | 0.68 |
| 1:C1:1032:G:N2 | 1:C1:1033:C:C2 | 2.61 | 0.68 |
| 1:C1:1104:U:C5 | 1:C1:1105:C:C5 | 2.81 | 0.68 |
| 1:C1:1244:A:C2 | 1:C1:1245:G:N9 | 2.61 | 0.68 |
| 1:C1:1457:C:C4 | 1:C1:1559:A:N6 | 2.61 | 0.68 |
| 1:C1:1457:C:C6 | 1:C1:1559:A:N6 | 2.56 | 0.68 |
| 1:C1:1477:G:H2' | 1:C1:1478:G:H5' | 1.75 | 0.68 |
| 1:C1:1657:U:N3 | 74:C1:1955:OHX:N5 | 2.42 | 0.68 |
| 8:CG:109:LYS:C | 8:CG:111:ALA:H | 2.00 | 0.68 |
| 20:CS:41:GLN:CB | 74:CS:101:OHX:N5 | 2.57 | 0.68 |
| 29:D1:405:U:H5 | 29:D1:406:G:C4 | 2.12 | 0.68 |
| 29:D1:686:G:H2' | 29:D1:687:U:O4' | 1.94 | 0.68 |
| 29:D1:716:A:C4 | 29:D1:716:A:OP2 | 2.47 | 0.68 |
| 29:D1:789:A:O2' | 29:D1:790:U:H5' | 1.92 | 0.68 |
| 29:D1:829:U:C4' | 29:D1:866:A:H2 | 2.03 | 0.68 |
| 29:D1:983:A:C2 | 29:D1:985:U:C4 | 2.82 | 0.68 |
| 29:D1:1224:C:C5 | 29:D1:1285:G:C6 | 2.81 | 0.68 |
| 29:D1:1330:A:H2' | 29:D1:1331:U:H3' | 1.75 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1337:A:C5 | 29:D1:1338:C:C5 | 2.81 | 0.68 |
| 29:D1:1351:U:H2' | 29:D1:1352:A:C5 | 2.28 | 0.68 |
| 29:D1:1468:A:H2' | 29:D1:1469:C:C6 | 2.29 | 0.68 |
| 29:D1:1748:G:H2' | 29:D1:1749:A:C8 | 2.28 | 0.68 |
| 29:D1:3174:A:O2' | 29:D1:3175:U:H5' | 1.92 | 0.68 |
| 29:D1:3273:A:C5 | 29:D1:3274:A:C8 | 2.81 | 0.68 |
| 35:DD:14:GLU:N | 35:DD:15:ALA:HA | 2.09 | 0.68 |
| 35:DD:39:PHE:O | 35:DD:42:VAL:N | 2.26 | 0.68 |
| 36:DE:234:ASP:C | 36:DE:236:LEU:H | 2.02 | 0.68 |
| 44:DO:84:PRO:HA | 74:DO:301:OHX:N5 | 2.07 | 0.68 |
| 1:A1:110:U:H3' | 1:A1:111:U:H5" | 1.75 | 0.68 |
| 1:A1:450:U:H5" | 1:A1:451:A:OP2 | 1.92 | 0.68 |
| 1:A1:666:U:O2' | 1:A1:667:U:H5' | 1.94 | 0.68 |
| 1:A1:916:U:H5 | 1:A1:917:U:C4 | 2.11 | 0.68 |
| 1:A1:963:A:O2' | 1:A1:964:U:C6 | 2.45 | 0.68 |
| 1:A1:1459:C:H4' | 1:A1:1460:A:OP1 | 1.92 | 0.68 |
| 1:A1:1684:U:C4 | 1:A1:1721:A:H2 | 2.12 | 0.68 |
| 3:AB:239:PRO:O | 3:AB:241:ASP:N | 2.27 | 0.68 |
| 21:AT:116:ASP:CB | 21:AT:121:MET:H | 2.06 | 0.68 |
| 29:B1:23:A:C2 | 29:B1:24:G:C4 | 2.81 | 0.68 |
| 29:B1:157:A:N1 | 29:B1:266:A:C2 | 2.61 | 0.68 |
| 29:B1:195:U:H2' | 29:B1:196:G:O4' | 1.94 | 0.68 |
| 29:B1:585:A:C3' | 29:B1:586:C:C6 | 2.77 | 0.68 |
| 29:B1:776:U:C5' | 29:B1:777:U:H6 | 2.07 | 0.68 |
| 29:B1:1103:A:H1' | 29:B1:1104:G:OP1 | 1.92 | 0.68 |
| 29:B1:1105:A:C6 | 29:B1:1106:G:C6 | 2.81 | 0.68 |
| 29:B1:1653:G:C2' | 29:B1:1654:A:H5' | 2.20 | 0.68 |
| 29:B1:1868:G:C5 | 29:B1:1869:C:C5 | 2.81 | 0.68 |
| 29:B1:2114:C:H4' | 29:B1:2116:G:C4 | 2.28 | 0.68 |
| 29:B1:2174:G:H8 | 29:B1:2174:G:OP1 | 1.76 | 0.68 |
| 29:B1:2501:U:C4' | 29:B1:2502:A:OP1 | 2.39 | 0.68 |
| 29:B1:2550:U:H5' | 29:B1:2551:U:OP2 | 1.94 | 0.68 |
| 29:B1:2586:G:N7 | 64:Bi:2:UNK:HA | 2.07 | 0.68 |
| 29:B1:3027:A:C2' | 29:B1:3028:G:H8 | 2.05 | 0.68 |
| 29:B1:3301:U:H2' | 29:B1:3302:U:C5 | 2.28 | 0.68 |
| 29:B1:3304:U:O2' | 29:B1:3305:A:H5' | 1.91 | 0.68 |
| 29:B1:3314:A:H2' | 34:BC:119:TYR:CA | 2.22 | 0.68 |
| 30:B2:56:A:O3' | 42:BK:149:GLY:HA2 | 1.92 | 0.68 |
| 47:BR:57:ILE:C | 47:BR:59:ARG:H | 1.99 | 0.68 |
| 1:C1:579:A:N1 | 4:CC:144:ALA:HB2 | 2.07 | 0.68 |
| 1:C1:926:A:C2' | 1:C1:927:C:H5' | 2.23 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1008:G:N2 | 1:C1:1009:U:H1' | 2.07 | 0.68 |
| 1:C1:1111:G:H2' | 1:C1:1112:G:O4' | 1.94 | 0.68 |
| 1:C1:1486:G:O6 | 1:C1:1520:U:O2 | 2.12 | 0.68 |
| 1:C1:1555:A:N3 | 1:C1:1555:A:H2' | 2.09 | 0.68 |
| 1:C1:1756:A:C2' | 1:C1:1757:G:H5' | 2.23 | 0.68 |
| 9:CH:89:THR:HA | 9:CH:90:ARG:C | 2.19 | 0.68 |
| 29:D1:195:U:H4' | 29:D1:1391:C:C5 | 2.28 | 0.68 |
| 29:D1:531:G:N2 | 29:D1:561:C:C2 | 2.43 | 0.68 |
| 29:D1:636:C:H5 | 29:D1:2378:C:C1' | 2.05 | 0.68 |
| 29:D1:688:G:H1' | 29:D1:692:A:N6 | 2.08 | 0.68 |
| 29:D1:846:A:C4 | 29:D1:847:A:C8 | 2.81 | 0.68 |
| 29:D1:1106:G:C5 | 29:D1:1107:C:C5 | 2.82 | 0.68 |
| 29:D1:1204:A:H5" | 29:D1:1205:A:OP2 | 1.92 | 0.68 |
| 29:D1:1226:G:C2 | 29:D1:1227:C:C4 | 2.82 | 0.68 |
| 29:D1:1252:A:H2' | 29:D1:1253:U:H5' | 1.74 | 0.68 |
| 29:D1:1256:G:C4 | 29:D1:1257:C:H6 | 2.11 | 0.68 |
| 29:D1:1310:G:H8 | 29:D1:1310:G:H5' | 1.59 | 0.68 |
| 29:D1:1324:U:C6 | 29:D1:1324:U:H5' | 2.29 | 0.68 |
| 29:D1:1514:G:O2' | 29:D1:1515:A:H5' | 1.94 | 0.68 |
| 29:D1:1899:G:N2 | 29:D1:2334:U:C5 | 2.62 | 0.68 |
| 29:D1:2252:A:C2 | 29:D1:2253:G:C5 | 2.81 | 0.68 |
| 29:D1:2328:U:C3' | 29:D1:2329:C:H5" | 2.24 | 0.68 |
| 29:D1:2743:A:C5 | 29:D1:2744:U:C4 | 2.82 | 0.68 |
| 29:D1:2897:A:N1 | 29:D1:2904:U:O4 | 2.26 | 0.68 |
| 34:DC:166:ILE:O | 34:DC:168:LYS:N | 2.26 | 0.68 |
| 40:DI:47:LYS:O | 40:DI:48:VAL:C | 2.36 | 0.68 |
| 43:DN:89:ALA:O | 43:DN:93:LYS:N | 2.27 | 0.68 |
| 1:A1:59:C:N4 | 1:A1:89:G:C2 | 2.61 | 0.68 |
| 1:A1:461:G:H2' | 1:A1:462:G:H8 | 1.59 | 0.68 |
| 1:A1:541:A:H4' | 1:A1:542:A:OP1 | 1.94 | 0.68 |
| 1:A1:912:U:H1' | 1:A1:914:G:O6 | 1.93 | 0.68 |
| 1:A1:1046:G:C5 | 1:A1:1073:G:C2 | 2.81 | 0.68 |
| 1:A1:1515:A:C8 | 15:AN:58:LEU:CB | 2.77 | 0.68 |
| 1:A1:1536:G:N2 | 1:A1:1538:U:H3 | 1.92 | 0.68 |
| 3:AB:118:ALA:HB2 | 3:AB:124:ALA:HB2 | 1.75 | 0.68 |
| 3:AB:165:VAL:HA | 3:AB:166:THR:CB | 2.23 | 0.68 |
| 4:AC:144:ALA:O | 4:AC:145:ALA:HB2 | 1.93 | 0.68 |
| 9:AH:28:VAL:O | 9:AH:41:ARG:HA | 1.94 | 0.68 |
| 16:AO:85:ASP:O | 16:AO:87:GLU:N | 2.27 | 0.68 |
| 29:B1:213:A:C2 | 29:B1:214:G:H1' | 2.28 | 0.68 |
| 29:B1:355:A:H2' | 29:B1:356:C:O4' | 1.93 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:386:A:C2' | 29:B1:387:A:O5' | 2.42 | 0.68 |
| 29:B1:534:U:OP2 | 29:B1:534:U:C5 | 2.47 | 0.68 |
| 29:B1:595:G:N1 | 29:B1:609:G:C4' | 2.54 | 0.68 |
| 29:B1:740:G:C6 | 29:B1:741:U:C5 | 2.82 | 0.68 |
| 29:B1:808:A:C4 | 29:B1:809:G:C8 | 2.81 | 0.68 |
| 29:B1:1311:G:C1' | 29:B1:2381:G:H5' | 2.24 | 0.68 |
| 29:B1:1452:A:H1' | 29:B1:2347:U:C5' | 2.23 | 0.68 |
| 29:B1:2642:A:C2 | 29:B1:2643:A:C5 | 2.82 | 0.68 |
| 29:B1:2714:G:H4' | 29:B1:2715:A:OP1 | 1.93 | 0.68 |
| 29:B1:3005:A:C4 | 29:B1:3140:G:N2 | 2.62 | 0.68 |
| 29:B1:3096:C:H2' | 29:B1:3097:C:H6 | 1.58 | 0.68 |
| 29:B1:3296:A:C2 | 29:B1:3297:U:H1' | 2.28 | 0.68 |
| 29:B1:3297:U:O2 | 29:B1:3298:C:C6 | 2.47 | 0.68 |
| 29:B1:3303:G:C4' | 29:B1:3304:U:OP1 | 2.38 | 0.68 |
| 35:BD:16:THR:CB | 35:BD:152:VAL:HA | 2.23 | 0.68 |
| 38:BG:75:TYR:CB | 38:BG:76:TYR:HA | 2.22 | 0.68 |
| 54:BY:72:VAL:C | 54:BY:74:ASN:H | 2.00 | 0.68 |
| 54:BY:84:GLU:HA | 54:BY:85:ASP:CB | 2.23 | 0.68 |
| 1:C1:106:U:C4 | 1:C1:107:C:C4 | 2.81 | 0.68 |
| 1:C1:215:A:H8 | 1:C1:215:A:O5' | 1.76 | 0.68 |
| 1:C1:442:C:O2' | 1:C1:443:C:H5' | 1.93 | 0.68 |
| 1:C1:521:A:C4' | 1:C1:522:U:OP1 | 2.42 | 0.68 |
| 1:C1:560:U:H2' | 1:C1:561:G:C8 | 2.28 | 0.68 |
| 1:C1:879:G:C2' | 1:C1:880:C:H5' | 2.24 | 0.68 |
| 1:C1:1167:G:H2' | 1:C1:1167:G:N3 | 2.07 | 0.68 |
| 29:D1:317:A:C2 | 29:D1:318:A:C4 | 2.81 | 0.68 |
| 29:D1:338:A:OP2 | 29:D1:338:A:C4' | 2.41 | 0.68 |
| 29:D1:342:A:N1 | 29:D1:349:A:C8 | 2.62 | 0.68 |
| 29:D1:360:G:O2' | 29:D1:361:A:H5' | 1.93 | 0.68 |
| 29:D1:629:U:H3' | 29:D1:630:A:H8 | 1.58 | 0.68 |
| 29:D1:730:C:C2' | 29:D1:731:U:H5' | 2.24 | 0.68 |
| 29:D1:756:U:H5" | 29:D1:757:C:OP2 | 1.92 | 0.68 |
| 29:D1:810:A:H5" | 29:D1:811:U:OP2 | 1.94 | 0.68 |
| 29:D1:849:C:O2' | 29:D1:850:U:H5' | 1.94 | 0.68 |
| 29:D1:891:G:C6 | 29:D1:892:U:C4 | 2.81 | 0.68 |
| 29:D1:1001:G:C8 | 29:D1:1042:U:OP1 | 2.47 | 0.68 |
| 29:D1:1627:U:H5' | 29:D1:1628:C:OP2 | 1.93 | 0.68 |
| 29:D1:1913:A:N3 | 29:D1:2120:A:H8 | 1.92 | 0.68 |
| 29:D1:2556:C:N4 | 29:D1:2557:A:C2 | 2.62 | 0.68 |
| 29:D1:3010:U:O2' | 29:D1:3011:A:H5' | 1.93 | 0.68 |
| 30:D2:14:U:O4' | 30:D2:14:U:OP2 | 2.12 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:D3:65:A:C6 | 31:D3:66:A:C6 | 2.81 | 0.68 |
| 1:A1:278:U:H3' | 1:A1:278:U:O2 | 1.94 | 0.68 |
| 1:A1:1112:G:N2 | 1:A1:1134:C:C4 | 2.62 | 0.68 |
| 1:A1:1199:G:C6 | 1:A1:1200:G:H1' | 2.28 | 0.68 |
| 1:A1:1269:U:O2 | 1:A1:1269:U:O4' | 2.07 | 0.68 |
| 5:AD:199:ILE:C | 5:AD:201:ALA:H | 2.01 | 0.68 |
| 11:AJ:93:HIS:CB | 11:AJ:94:GLN:CA | 2.72 | 0.68 |
| 29:B1:60:A:C4 | 29:B1:328:U:N3 | 2.62 | 0.68 |
| 29:B1:213:A:H61 | 29:B1:227:G:H2' | 1.59 | 0.68 |
| 29:B1:361:A:O2' | 29:B1:362:U:O4' | 2.12 | 0.68 |
| 29:B1:411:U:C2' | 29:B1:412:G:H5' | 2.24 | 0.68 |
| 29:B1:422:A:N3 | 29:B1:422:A:O4' | 2.23 | 0.68 |
| 29:B1:512:U:N3 | 29:B1:579:G:N1 | 2.42 | 0.68 |
| 29:B1:947:G:C4 | 29:B1:948:C:C5 | 2.82 | 0.68 |
| 29:B1:1498:A:O2' | 29:B1:1499:C:H5' | 1.94 | 0.68 |
| 29:B1:2307:G:C6 | 29:B1:2310:U:O4 | 2.47 | 0.68 |
| 29:B1:2560:C:H6 | 29:B1:2560:C:O5' | 1.76 | 0.68 |
| 29:B1:2591:A:C2 | 29:B1:2592:G:C1' | 2.76 | 0.68 |
| 29:B1:2651:G:C4 | 29:B1:2796:G:N2 | 2.62 | 0.68 |
| 29:B1:3090:U:O2' | 29:B1:3091:A:OP1 | 2.12 | 0.68 |
| 29:B1:3118:C:H2' | 29:B1:3119:U:C6 | 2.28 | 0.68 |
| 29:B1:3316:A:N1 | 29:B1:3388:C:C4 | 2.61 | 0.68 |
| 30:B2:44:C:C5 | 30:B2:45:A:N7 | 2.62 | 0.68 |
| 31:B3:58:G:H2' | 31:B3:99:C:O2' | 1.94 | 0.68 |
| 31:B3:69:U:H3' | 31:B3:70:G:H4' | 1.75 | 0.68 |
| 36:BE:43:LYS:H | 49:BT:69:LYS:C | 2.01 | 0.68 |
| 43:BN:26:GLY:O | 43:BN:27:GLN:O | 2.12 | 0.68 |
| 63:Bh:36:UNK:O | 63:Bh:39:UNK:N | 2.27 | 0.68 |
| 1:C1:586:G:H2' | 1:C1:587:C:C6 | 2.29 | 0.68 |
| 1:C1:826:U:H2' | 1:C1:827:C:C6 | 2.28 | 0.68 |
| 1:C1:930:A:H3' | 1:C1:931:C:C6 | 2.28 | 0.68 |
| 1:C1:1178:G:N2 | 1:C1:1462:G:C4 | 2.62 | 0.68 |
| 1:C1:1250:U:O4 | 1:C1:1251:U:O4 | 2.10 | 0.68 |
| 1:C1:1267:G:H21 | 1:C1:1448:G:C5' | 2.06 | 0.68 |
| 1:C1:1389:C:O5' | 22:Ca:17:UNK:HA | 1.94 | 0.68 |
| 1:C1:1580:C:H4' | 1:C1:1581:C:OP1 | 1.93 | 0.68 |
| 1:C1:1663:G:C4 | 1:C1:1664:C:C5 | 2.82 | 0.68 |
| 1:C1:1671:A:C8 | 1:C1:1731:A:N6 | 2.61 | 0.68 |
| 1:C1:1720:G:H2' | 1:C1:1721:A:H8 | 1.59 | 0.68 |
| 5:CD:117:THR:CA | 5:CD:191:ALA:HB1 | 2.24 | 0.68 |
| 29:D1:11:A:C2' | 29:D1:12:A:H5' | 2.23 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:271:C:O2' | 29:D1:272:G:C8 | 2.46 | 0.68 |
| 29:D1:355:A:C8 | 29:D1:356:C:C6 | 2.81 | 0.68 |
| 29:D1:565:U:C2' | 29:D1:566:G:H5' | 2.23 | 0.68 |
| 29:D1:1256:G:C4 | 29:D1:1257:C:C6 | 2.81 | 0.68 |
| 29:D1:1450:G:C2 | 29:D1:1451:C:C5 | 2.82 | 0.68 |
| 29:D1:1631:C:H5' | 29:D1:1813:A:C2 | 2.29 | 0.68 |
| 29:D1:1847:A:H2 | 29:D1:1849:C:O4' | 1.77 | 0.68 |
| 29:D1:2131:A:H2' | 29:D1:2132:C:C5' | 2.18 | 0.68 |
| 29:D1:2386:A:N6 | 29:D1:2993:G:O2' | 2.25 | 0.68 |
| 29:D1:2697:A:H2' | 29:D1:2698:G:H8 | 1.58 | 0.68 |
| 29:D1:2833:A:C6 | 29:D1:2834:G:C8 | 2.82 | 0.68 |
| 29:D1:2883:U:H2' | 29:D1:2884:C:C6 | 2.28 | 0.68 |
| 29:D1:3240:C:O2' | 29:D1:3241:G:H5' | 1.94 | 0.68 |
| 29:D1:3315:G:H5" | 29:D1:3319:U:H5' | 1.76 | 0.68 |
| 30:D2:2:G:H2' | 30:D2:3:U:C6 | 2.29 | 0.68 |
| 30:D2:9:C:H3' | 30:D2:10:C:H4' | 1.75 | 0.68 |
| 30:D2:22:A:H2' | 30:D2:23:A:C8 | 2.28 | 0.68 |
| 31:D3:69:U:H2' | 31:D3:70:G:C1' | 2.24 | 0.68 |
| 31:D3:69:U:H2' | 31:D3:70:G:H4' | 1.75 | 0.68 |
| 31:D3:106:C:C4 | 31:D3:138:A:N6 | 2.62 | 0.68 |
| 37:DF:40:LEU:C | 37:DF:85:ILE:HA | 2.19 | 0.68 |
| 37:DF:42:LEU:HA | 37:DF:84:VAL:CB | 2.22 | 0.68 |
| 47:DR:123:THR:O | 47:DR:125:ASP:N | 2.26 | 0.68 |
| 49:DT:70:SER:O | 49:DT:72:VAL:N | 2.27 | 0.68 |
| 54:DY:90:TYR:O | 54:DY:92:LYS:HA | 1.93 | 0.68 |
| 57:Db:22:SER:C | 57:Db:24:ARG:H | 2.01 | 0.68 |
| 1:A1:129:U:OP1 | 1:A1:129:U:H4' | 1.91 | 0.68 |
| 1:A1:150:U:H2' | 1:A1:150:U:O2 | 1.93 | 0.68 |
| 1:A1:1558:U:C6 | 1:A1:1559:A:C2 | 2.82 | 0.68 |
| 74:A1:1913:OHX:N1 | 74:A1:1986:OHX:N4 | 2.42 | 0.68 |
| 29:B1:44:U:C5 | 29:B1:45:A:C4 | 2.81 | 0.68 |
| 29:B1:213:A:H61 | 29:B1:227:G:C2' | 2.06 | 0.68 |
| 29:B1:221:A:O2' | 29:B1:223:U:OP2 | 2.12 | 0.68 |
| 29:B1:722:G:N2 | 29:B1:749:C:C6 | 2.62 | 0.68 |
| 29:B1:891:G:H2' | 29:B1:892:U:O5' | 1.94 | 0.68 |
| 29:B1:955:U:C2 | 29:B1:956:U:C5 | 2.81 | 0.68 |
| 29:B1:1129:A:N6 | 29:B1:1130:A:C6 | 2.61 | 0.68 |
| 29:B1:1130:A:H2' | 29:B1:1132:C:H6 | 1.57 | 0.68 |
| 29:B1:1174:G:N3 | 29:B1:1175:C:C6 | 2.62 | 0.68 |
| 29:B1:1229:G:H2' | 29:B1:1230:G:H8 | 1.58 | 0.68 |
| 29:B1:2520:A:H2' | 29:B1:2521:U:C2 | 2.29 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3328:G:N2 | 29:B1:3329:U:C2 | 2.61 | 0.68 |
| 30:B2:16:U:O2' | 30:B2:17:A:H5' | 1.94 | 0.68 |
| 42:BK:84:LEU:O | 42:BK:89:TYR:N | 2.26 | 0.68 |
| 49:BT:84:TYR:O | 49:BT:85:LEU:C | 2.36 | 0.68 |
| 1:C1:523:G:H2' | 1:C1:524:U:C4 | 2.29 | 0.68 |
| 1:C1:1043:A:H2' | 1:C1:1044:U:H5 | 1.59 | 0.68 |
| 1:C1:1272:U:H5" | 1:C1:1273:G:OP2 | 1.94 | 0.68 |
| 1:C1:1765:A:H4' | 1:C1:1766:A:OP2 | 1.94 | 0.68 |
| 3:CB:245:ASP:C | 3:CB:247:ALA:H | 1.98 | 0.68 |
| 6:CE:95:TYR:O | 6:CE:98:ALA:HB3 | 1.94 | 0.68 |
| 16:CO:53:ILE:O | 16:CO:60:LYS:N | 2.26 | 0.68 |
| 29:D1:112:U:O2' | 29:D1:113:C:O5' | 2.09 | 0.68 |
| 29:D1:230:U:H2' | 29:D1:231:G:O4' | 1.94 | 0.68 |
| 29:D1:232:G:C5 | 29:D1:233:C:C5 | 2.82 | 0.68 |
| 29:D1:342:A:C2 | 29:D1:349:A:C8 | 2.82 | 0.68 |
| 29:D1:423:A:N1 | 29:D1:637:C:OP1 | 2.26 | 0.68 |
| 29:D1:712:G:N2 | 29:D1:752:C:O3' | 2.27 | 0.68 |
| 29:D1:785:G:C8 | 29:D1:785:G:OP1 | 2.47 | 0.68 |
| 29:D1:1042:U:OP2 | 29:D1:1042:U:H6 | 1.77 | 0.68 |
| 29:D1:1294:A:C2' | 29:D1:1295:G:O5' | 2.42 | 0.68 |
| 29:D1:1353:U:H2' | 29:D1:1354:G:H5" | 1.76 | 0.68 |
| 29:D1:1437:C:O2 | 29:D1:1437:C:H2' | 1.91 | 0.68 |
| 29:D1:1468:A:O2' | 29:D1:1469:C:P | 2.52 | 0.68 |
| 29:D1:1635:G:OP2 | 29:D1:1635:G:H2' | 1.94 | 0.68 |
| 29:D1:2698:G:H2' | 29:D1:2699:G:C5' | 2.21 | 0.68 |
| 29:D1:2918:G:C2 | 29:D1:2919:A:C8 | 2.82 | 0.68 |
| 29:D1:3102:G:H2' | 29:D1:3103:A:O4' | 1.93 | 0.68 |
| 29:D1:3219:G:C4 | 29:D1:3257:C:H3' | 2.29 | 0.68 |
| 30:D2:62:U:H5' | 30:D2:63:A:OP2 | 1.94 | 0.68 |
| 30:D2:94:C:H2' | 30:D2:95:A:H8 | 1.59 | 0.68 |
| 41:DJ:144:ASN:O | 41:DJ:147:VAL:CB | 2.41 | 0.68 |
| 73:DM:46:ARG:HA | 73:DM:49:ALA:HB2 | 1.75 | 0.68 |
| 43:DN:126:GLN:O | 43:DN:128:ARG:N | 2.27 | 0.68 |
| 46:DQ:76:PHE:CA | 46:DQ:78:VAL:H | 2.00 | 0.68 |
| 57:Db:75:LEU:O | 57:Db:76:VAL:C | 2.34 | 0.68 |
| 62:Dg:36:ARG:CA | 62:Dg:37:TYR:CB | 2.66 | 0.68 |
| 1:A1:44:U:H5' | 1:A1:45:U:O4 | 1.94 | 0.68 |
| 1:A1:286:C:H2' | 1:A1:287:G:C8 | 2.29 | 0.68 |
| 1:A1:587:C:O5' | 1:A1:587:C:H6 | 1.77 | 0.68 |
| 1:A1:1024:U:OP1 | 1:A1:1127:G:O2' | 2.11 | 0.68 |
| 1:A1:1046:G:C6 | 1:A1:1073:G:C2 | 2.82 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1238:A:C2' | 1:A1:1239:U:H5' | 2.22 | 0.68 |
| 1:A1:1388:A:N7 | 1:A1:1411:A:N6 | 2.42 | 0.68 |
| 1:A1:1571:C:H3' | 1:A1:1572:G:H5" | 1.74 | 0.68 |
| 1:A1:1676:U:H2' | 1:A1:1677:C:C5 | 2.29 | 0.68 |
| 1:A1:1721:A:H3' | 1:A1:1722:A:C5' | 2.22 | 0.68 |
| 1:A1:1746:A:O2' | 29:B1:2290:C:H1' | 1.94 | 0.68 |
| 29:B1:158:G:C6 | 29:B1:159:A:O2' | 2.46 | 0.68 |
| 29:B1:177:U:H2' | 29:B1:177:U:O2 | 1.92 | 0.68 |
| 29:B1:336:A:O2' | 29:B1:337:G:C5' | 2.41 | 0.68 |
| 29:B1:384:A:H5" | 29:B1:385:A:OP2 | 1.94 | 0.68 |
| 29:B1:392:G:C2 | 29:B1:393:U:H6 | 2.12 | 0.68 |
| 29:B1:585:A:H3' | 29:B1:586:C:H6 | 1.58 | 0.68 |
| 29:B1:745:C:N4 | 29:B1:746:A:H61 | 1.89 | 0.68 |
| 29:B1:910:G:C4 | 29:B1:911:C:C5 | 2.82 | 0.68 |
| 29:B1:965:A:H2' | 29:B1:965:A:N3 | 2.08 | 0.68 |
| 29:B1:1127:G:N2 | 29:B1:1132:C:N4 | 2.41 | 0.68 |
| 29:B1:1453:A:H1' | 29:B1:1850:A:C2 | 2.28 | 0.68 |
| 29:B1:2131:A:C2' | 29:B1:2132:C:H5" | 2.22 | 0.68 |
| 29:B1:2193:U:H5' | 29:B1:2312:A:C2 | 2.29 | 0.68 |
| 29:B1:2356:A:C2 | 29:B1:2357:A:C4 | 2.82 | 0.68 |
| 29:B1:2684:C:C2 | 29:B1:2685:C:C5 | 2.82 | 0.68 |
| 29:B1:2699:G:C8 | 29:B1:2699:G:C5' | 2.73 | 0.68 |
| 29:B1:2981:U:O2' | 29:B1:2982:A:H5" | 1.94 | 0.68 |
| 29:B1:3019:U:C4 | 29:B1:3020:U:C5 | 2.81 | 0.68 |
| 29:B1:3131:U:H2' | 29:B1:3131:U:O2 | 1.92 | 0.68 |
| 29:B1:3315:G:H5" | 29:B1:3319:U:H5' | 1.76 | 0.68 |
| 29:B1:3384:U:H2' | 29:B1:3385:U:C6 | 2.28 | 0.68 |
| 30:B2:23:A:H3' | 30:B2:24:A:C8 | 2.29 | 0.68 |
| 30:B2:35:C:C6 | 30:B2:35:C:H5' | 2.28 | 0.68 |
| 31:B3:12:A:H2' | 31:B3:13:A:H5' | 1.76 | 0.68 |
| 34:BC:50:LYS:CB | 34:BC:334:ARG:H | 2.07 | 0.68 |
| 34:BC:154:TYR:H | 34:BC:155:ALA:CB | 2.04 | 0.68 |
| 43:BN:71:ALA:O | 43:BN:72:LEU:C | 2.37 | 0.68 |
| 43:BN:81:VAL:O | 43:BN:83:LYS:N | 2.27 | 0.68 |
| 57:Bb:120:THR:O | 57:Bb:122:PRO:N | 2.26 | 0.68 |
| 1:C1:115:G:N2 | 1:C1:334:G:N2 | 2.42 | 0.68 |
| 1:C1:319:U:H6 | 1:C1:319:U:H5' | 1.58 | 0.68 |
| 1:C1:417:A:O5' | 1:C1:417:A:C8 | 2.43 | 0.68 |
| 1:C1:702:G:H2' | 1:C1:702:G:N3 | 2.07 | 0.68 |
| 1:C1:824:G:O3' | 1:C1:825:U:O2 | 2.12 | 0.68 |
| 1:C1:1195:C:H41 | 11:CJ:142:TYR:HA | 1.59 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1483:A:H1' | 1:C1:1524:A:H62 | 1.58 | 0.68 |
| 3:CB:165:VAL:HA | 3:CB:166:THR:CB | 2.23 | 0.68 |
| 9:CH:22:SER:O | 9:CH:24:ASN:N | 2.27 | 0.68 |
| 19:CR:25:VAL:O | 19:CR:38:ARG:HA | 1.94 | 0.68 |
| 29:D1:591:G:N2 | 29:D1:592:A:C4 | 2.61 | 0.68 |
| 29:D1:971:G:O2' | 29:D1:972:A:H5' | 1.94 | 0.68 |
| 29:D1:1225:A:C2' | 29:D1:1226:G:OP1 | 2.42 | 0.68 |
| 29:D1:1798:A:H2' | 29:D1:1799:A:C8 | 2.28 | 0.68 |
| 29:D1:2491:A:H2' | 29:D1:2492:C:O4' | 1.92 | 0.68 |
| 29:D1:2689:A:H4' | 29:D1:2690:G:C5' | 2.21 | 0.68 |
| 29:D1:2690:G:HO2' | 29:D1:2691:A:P | 2.17 | 0.68 |
| 29:D1:2797:C:H3' | 29:D1:2798:C:C5' | 2.22 | 0.68 |
| 29:D1:3179:U:HO2' | 29:D1:3180:A:P | 2.17 | 0.68 |
| 29:D1:3295:A:OP1 | 34:DC:132:LYS:CB | 2.42 | 0.68 |
| 29:D1:3327:G:C2 | 29:D1:3328:G:N7 | 2.62 | 0.68 |
| 40:DI:21:LYS:O | 40:DI:22:SER:C | 2.37 | 0.68 |
| 1:A1:32:U:H3 | 1:A1:468:A:N6 | 1.91 | 0.68 |
| 1:A1:345:U:H4' | 1:A1:346:G:OP1 | 1.94 | 0.68 |
| 1:A1:811:A:N3 | 1:A1:858:G:H1' | 2.09 | 0.68 |
| 1:A1:1094:G:H2' | 1:A1:1095:U:C5 | 2.29 | 0.68 |
| 1:A1:1656:U:H5" | 1:A1:1657:U:O5' | 1.94 | 0.68 |
| 74:A1:1913:OHX:N2 | 74:A1:1986:OHX:N6 | 2.41 | 0.68 |
| 15:AN:21:LYS:H | 15:AN:92:ASP:HA | 1.57 | 0.68 |
| 16:AO:102:VAL:H | 16:AO:113:HIS:CB | 2.07 | 0.68 |
| 17:AP:102:VAL:HA | 17:AP:127:VAL:CB | 2.24 | 0.68 |
| 29:B1:19:U:H2' | 29:B1:20:A:C8 | 2.29 | 0.68 |
| 29:B1:162:G:N2 | 29:B1:163:C:H1' | 2.09 | 0.68 |
| 29:B1:564:G:C3' | 29:B1:565:U:C6 | 2.76 | 0.68 |
| 29:B1:595:G:H1 | 29:B1:609:G:H4' | 1.58 | 0.68 |
| 29:B1:627:U:H2' | 29:B1:628:A:C8 | 2.30 | 0.68 |
| 29:B1:668:G:H2' | 29:B1:669:U:H6 | 1.58 | 0.68 |
| 29:B1:883:A:C5 | 29:B1:921:A:C6 | 2.82 | 0.68 |
| 29:B1:1035:G:C4 | 29:B1:1036:A:C8 | 2.82 | 0.68 |
| 29:B1:1595:U:HO2' | 29:B1:1596:C:H6 | 1.41 | 0.68 |
| 29:B1:2295:A:C6 | 29:B1:2296:A:N6 | 2.62 | 0.68 |
| 29:B1:2336:U:C5 | 29:B1:2337:C:C5 | 2.82 | 0.68 |
| 29:B1:2354:C:H2' | 29:B1:2354:C:O2 | 1.93 | 0.68 |
| 29:B1:2968:G:H2' | 29:B1:2969:A:O5' | 1.94 | 0.68 |
| 29:B1:3072:C:C5 | 29:B1:3073:A:C5 | 2.81 | 0.68 |
| 29:B1:3141:A:C5' | 29:B1:3143:C:O2 | 2.42 | 0.68 |
| 29:B1:3210:A:C8 | 29:B1:3211:C:H5 | 2.12 | 0.68 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3321:C:O2' | 29:B1:3322:A:C3' | 2.37 | 0.68 |
| 29:B1:3350:C:H4' | 29:B1:3354:U:C5 | 2.28 | 0.68 |
| 30:B2:3:U:C2 | 30:B2:4:U:C5 | 2.82 | 0.68 |
| 30:B2:33:U:O2' | 30:B2:34:C:N1 | 2.27 | 0.68 |
| 30:B2:69:C:H2' | 30:B2:69:C:O2 | 1.93 | 0.68 |
| 31:B3:11:C:O2' | 46:BQ:4:TYR:HA | 1.94 | 0.68 |
| 31:B3:34:U:H2' | 31:B3:34:U:O2 | 1.93 | 0.68 |
| 31:B3:71:A:C4' | 31:B3:72:A:OP1 | 2.42 | 0.68 |
| 43:BN:89:ALA:O | 43:BN:90:VAL:C | 2.37 | 0.68 |
| 1:C1:57:G:C5 | 1:C1:58:U:C5 | 2.81 | 0.68 |
| 1:C1:212:U:O2' | 1:C1:213:A:H5' | 1.93 | 0.68 |
| 1:C1:331:A:C2 | 1:C1:332:U:C2 | 2.81 | 0.68 |
| 1:C1:390:G:N2 | 1:C1:391:A:C5 | 2.63 | 0.68 |
| 1:C1:567:A:N6 | 1:C1:568:G:C4 | 2.62 | 0.68 |
| 1:C1:572:C:H5" | 1:C1:573:C:OP2 | 1.93 | 0.68 |
| 1:C1:743:U:O4 | 1:C1:809:A:N1 | 2.27 | 0.68 |
| 1:C1:844:A:H2' | 1:C1:845:G:H8 | 1.58 | 0.68 |
| 1:C1:1209:C:H2' | 1:C1:1210:C:H6 | 1.58 | 0.68 |
| 1:C1:1348:A:C2 | 1:C1:1378:U:C6 | 2.82 | 0.68 |
| 1:C1:1647:U:H2' | 1:C1:1648:A:H8 | 1.59 | 0.68 |
| 3:CB:236:PRO:O | 3:CB:237:VAL:C | 2.36 | 0.68 |
| 29:D1:284:A:H2' | 29:D1:284:A:N3 | 2.08 | 0.68 |
| 29:D1:759:U:C4 | 29:D1:773:G:C5 | 2.82 | 0.68 |
| 29:D1:1226:G:C2' | 29:D1:1227:C:H6 | 2.04 | 0.68 |
| 29:D1:1455:U:C3' | 29:D1:1456:A:H8 | 2.07 | 0.68 |
| 29:D1:2275:A:C2 | 29:D1:2312:A:C5 | 2.82 | 0.68 |
| 29:D1:2288:G:C4 | 29:D1:2289:U:C5 | 2.82 | 0.68 |
| 29:D1:2595:A:H2' | 29:D1:2596:U:H6 | 1.58 | 0.68 |
| 29:D1:2636:A:H5" | 29:D1:2637:A:O5' | 1.93 | 0.68 |
| 29:D1:2714:G:C8 | 29:D1:2716:U:C5 | 2.82 | 0.68 |
| 29:D1:2914:G:C4 | 29:D1:2915:U:C6 | 2.82 | 0.68 |
| 29:D1:3208:G:H2' | 29:D1:3208:G:N3 | 2.07 | 0.68 |
| 30:D2:25:G:H2' | 30:D2:26:C:C6 | 2.29 | 0.68 |
| 34:DC:51:ALA:CB | 34:DC:78:VAL:O | 2.42 | 0.68 |
| 35:DD:259:ASP:HA | 35:DD:260:GLN:C | 2.19 | 0.68 |
| 36:DE:238:ASP:O | 36:DE:240:TYR:N | 2.27 | 0.68 |
| 1:A1:147:A:H3' | 1:A1:148:A:H8 | 1.57 | 0.67 |
| 1:A1:226:A:O2' | 1:A1:227:U:H6 | 1.77 | 0.67 |
| 1:A1:594:A:C4' | 1:A1:595:G:H5' | 2.23 | 0.67 |
| 1:A1:740:A:C2' | 1:A1:741:C:H5" | 2.24 | 0.67 |
| 1:A1:871:G:O2' | 1:A1:872:G:H5" | 1.94 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1556:A:H2' | 1:A1:1560:U:C5 | 2.29 | 0.67 |
| 29:B1:11:A:O3' | 29:B1:1558:A:C2 | 2.47 | 0.67 |
| 29:B1:67:A:C4 | 29:B1:317:A:C8 | 2.81 | 0.67 |
| 29:B1:416:A:C2 | 29:B1:417:A:C8 | 2.83 | 0.67 |
| 29:B1:625:G:O2' | 29:B1:626:U:O5' | 2.13 | 0.67 |
| 29:B1:779:G:H8 | 29:B1:779:G:H3' | 1.60 | 0.67 |
| 29:B1:796:U:H2' | 29:B1:797:U:H6 | 1.57 | 0.67 |
| 29:B1:986:U:C2' | 29:B1:987:U:O5' | 2.42 | 0.67 |
| 29:B1:1086:C:H5' | 29:B1:1087:G:OP2 | 1.93 | 0.67 |
| 29:B1:1234:G:H3' | 29:B1:1235:U:H5" | 1.76 | 0.67 |
| 29:B1:1819:U:C6 | 29:B1:1820:U:C5 | 2.82 | 0.67 |
| 29:B1:2207:A:H8 | 29:B1:2237:C:O2 | 1.76 | 0.67 |
| 29:B1:2221:G:N2 | 29:B1:2225:U:N3 | 2.41 | 0.67 |
| 29:B1:2643:A:H3' | 29:B1:2644:C:H5" | 1.76 | 0.67 |
| 29:B1:3135:U:C6 | 29:B1:3136:G:N7 | 2.62 | 0.67 |
| 29:B1:3160:U:H2' | 29:B1:3161:C:C6 | 2.29 | 0.67 |
| 31:B3:109:A:C2' | 31:B3:110:C:H5' | 2.24 | 0.67 |
| 35:BD:215:ILE:O | 35:BD:216:VAL:C | 2.37 | 0.67 |
| 38:BG:66:LYS:O | 38:BG:69:ALA:CB | 2.40 | 0.67 |
| 45:BP:21:SER:O | 45:BP:22:VAL:C | 2.35 | 0.67 |
| 54:BY:126:LYS:O | 54:BY:147:LEU:HA | 1.94 | 0.67 |
| 54:BY:127:ALA:C | 54:BY:129:PHE:H | 2.02 | 0.67 |
| 63:Bh:45:UNK:O | 63:Bh:49:UNK:HA | 1.95 | 0.67 |
| 1:C1:427:C:H6 | 1:C1:427:C:H5' | 1.57 | 0.67 |
| 1:C1:610:G:C2 | 1:C1:614:C:C2 | 2.82 | 0.67 |
| 1:C1:666:U:O2' | 1:C1:667:U:H5' | 1.94 | 0.67 |
| 1:C1:1372:U:H2' | 1:C1:1373:C:O4' | 1.93 | 0.67 |
| 1:C1:1385:G:H2' | 1:C1:1386:G:H8 | 1.59 | 0.67 |
| 1:C1:1392:U:H2' | 1:C1:1393:C:H6 | 1.59 | 0.67 |
| 1:C1:1781:A:H8 | 1:C1:1781:A:O5' | 1.76 | 0.67 |
| 4:CC:135:GLU:HA | 4:CC:152:PHE:O | 1.93 | 0.67 |
| 25:Cd:105:UNK:O | 25:Cd:106:UNK:C | 2.42 | 0.67 |
| 29:D1:566:G:O2' | 29:D1:567:G:H5' | 1.94 | 0.67 |
| 29:D1:589:A:OP2 | 29:D1:611:A:C2 | 2.47 | 0.67 |
| 29:D1:878:G:O4' | 29:D1:880:G:N2 | 2.27 | 0.67 |
| 29:D1:1248:C:H2' | 29:D1:1249:G:H5' | 1.76 | 0.67 |
| 29:D1:1302:A:H1' | 29:D1:2887:A:C2 | 2.29 | 0.67 |
| 29:D1:2506:U:H2' | 29:D1:2507:C:C5 | 2.28 | 0.67 |
| 29:D1:2628:A:C1' | 29:D1:2798:C:C5 | 2.76 | 0.67 |
| 29:D1:3096:C:O2' | 29:D1:3097:C:H5' | 1.94 | 0.67 |
| 29:D1:3217:C:H1' | 29:D1:3220:G:O2' | 1.94 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3265:C:C4 | 29:D1:3266:G:N7 | 2.62 | 0.67 |
| 31:D3:24:G:H2' | 31:D3:25:G:O5' | 1.94 | 0.67 |
| 36:DE:226:TYR:CB | 36:DE:234:ASP:H | 2.07 | 0.67 |
| 46:DQ:128:ARG:HA | 46:DQ:138:LYS:HA | 1.74 | 0.67 |
| 62:Dg:56:THR:HA | 62:Dg:63:THR:HA | 1.73 | 0.67 |
| 1:A1:127:G:O6 | 1:A1:179:A:C6 | 2.28 | 0.67 |
| 1:A1:518:A:H2' | 1:A1:519:C:C5' | 2.23 | 0.67 |
| 1:A1:817:A:C2 | 1:A1:855:A:H2 | 2.12 | 0.67 |
| 1:A1:1045:C:O2 | 1:A1:1045:C:C2' | 2.40 | 0.67 |
| 1:A1:1244:A:C2 | 1:A1:1245:G:C8 | 2.82 | 0.67 |
| 1:A1:1302:U:OP2 | 1:A1:1302:U:H6 | 1.77 | 0.67 |
| 1:A1:1341:A:H2' | 1:A1:1341:A:N3 | 2.08 | 0.67 |
| 1:A1:1379:C:H2' | 1:A1:1379:C:O2 | 1.94 | 0.67 |
| 1:A1:1454:G:H2' | 1:A1:1455:G:H5' | 1.75 | 0.67 |
| 1:A1:1591:C:HO2' | 1:A1:1592:A:C5' | 2.06 | 0.67 |
| 15:AN:45:ALA:C | 15:AN:47:GLN:H | 2.03 | 0.67 |
| 29:B1:149:U:C2 | 44:BO:55:ALA:HA | 2.30 | 0.67 |
| 29:B1:185:C:C2 | 29:B1:186:U:C5 | 2.83 | 0.67 |
| 29:B1:306:A:C2 | 29:B1:307:A:C8 | 2.82 | 0.67 |
| 29:B1:510:G:N2 | 29:B1:511:G:H1' | 2.09 | 0.67 |
| 29:B1:769:G:H4' | 29:B1:770:G:OP1 | 1.94 | 0.67 |
| 29:B1:851:C:H2' | 29:B1:852:U:H6 | 1.59 | 0.67 |
| 29:B1:1376:C:H5' | 29:B1:1407:A:N1 | 2.10 | 0.67 |
| 29:B1:1815:U:H3' | 29:B1:1816:A:H5' | 1.77 | 0.67 |
| 29:B1:2222:A:O2' | 29:B1:2223:A:C8 | 2.46 | 0.67 |
| 29:B1:2255:A:C2 | 74:B1:3438:OHX:N5 | 2.62 | 0.67 |
| 29:B1:2255:A:N3 | 74:B1:3438:OHX:N5 | 2.42 | 0.67 |
| 29:B1:2262:A:H5" | 29:B1:2263:C:H5' | 1.76 | 0.67 |
| 29:B1:2682:C:C4 | 29:B1:2683:U:H5 | 2.12 | 0.67 |
| 29:B1:2919:A:H3' | 29:B1:2920:U:H5' | 1.77 | 0.67 |
| 29:B1:2989:U:H2' | 29:B1:2990:G:O4' | 1.93 | 0.67 |
| 29:B1:3005:A:N3 | 29:B1:3140:G:C2 | 2.63 | 0.67 |
| 29:B1:3123:A:H2' | 29:B1:3124:G:H5' | 1.77 | 0.67 |
| 46:BQ:9:THR:C | 46:BQ:12:ALA:H | 2.03 | 0.67 |
| 1:C1:8:U:H3 | 1:C1:1139:A:H62 | 1.41 | 0.67 |
| 1:C1:93:A:C6 | 1:C1:398:G:C6 | 2.82 | 0.67 |
| 1:C1:461:G:H2' | 1:C1:462:G:H8 | 1.59 | 0.67 |
| 1:C1:478:A:C2 | 1:C1:479:C:C2 | 2.82 | 0.67 |
| 1:C1:553:G:H3' | 1:C1:554:C:C5' | 2.24 | 0.67 |
| 1:C1:1240:U:H2' | 1:C1:1241:G:C5' | 2.14 | 0.67 |
| 1:C1:1402:G:C6 | 1:C1:1403:C:C4 | 2.83 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1566:U:O2' | 1:C1:1567:U:H5" | 1.94 | 0.67 |
| 1:C1:1685:G:H22 | 1:C1:1718:G:N2 | 1.92 | 0.67 |
| 1:C1:1753:A:H61 | 1:C1:1754:A:H61 | 1.42 | 0.67 |
| 4:CC:144:ALA:O | 4:CC:145:ALA:HB2 | 1.95 | 0.67 |
| 29:D1:20:A:H4' | 29:D1:21:G:OP1 | 1.94 | 0.67 |
| 29:D1:563:U:C4 | 29:D1:564:G:C8 | 2.82 | 0.67 |
| 29:D1:609:G:H4' | 29:D1:610:G:OP1 | 1.92 | 0.67 |
| 29:D1:701:G:H2' | 29:D1:702:C:C6 | 2.30 | 0.67 |
| 29:D1:716:A:H3' | 29:D1:717:C:H4' | 1.75 | 0.67 |
| 29:D1:1065:A:O2' | 29:D1:1066:G:C8 | 2.44 | 0.67 |
| 29:D1:1103:A:H1' | 29:D1:1104:G:OP1 | 1.94 | 0.67 |
| 29:D1:1119:C:H3' | 29:D1:1120:A:H8 | 1.59 | 0.67 |
| 29:D1:1248:C:C5 | 29:D1:1249:G:C8 | 2.82 | 0.67 |
| 29:D1:1256:G:C2 | 29:D1:1257:C:H1' | 2.30 | 0.67 |
| 29:D1:2239:G:O2' | 29:D1:2240:G:H5' | 1.93 | 0.67 |
| 29:D1:2271:A:C3' | 29:D1:2272:G:H5" | 2.23 | 0.67 |
| 29:D1:2363:A:C2 | 29:D1:2376:G:C6 | 2.83 | 0.67 |
| 29:D1:2517:U:O2 | 29:D1:2517:U:H2' | 1.93 | 0.67 |
| 29:D1:2550:U:H5' | 29:D1:2551:U:OP2 | 1.93 | 0.67 |
| 29:D1:2678:A:O4' | 29:D1:2679:A:H2 | 1.77 | 0.67 |
| 29:D1:2861:U:H2' | 29:D1:2862:U:C6 | 2.29 | 0.67 |
| 29:D1:3074:G:C2' | 29:D1:3075:G:H5' | 2.24 | 0.67 |
| 29:D1:3181:C:N4 | 29:D1:3190:C:OP1 | 2.27 | 0.67 |
| 30:D2:75:G:P | 74:D2:201:OHX:N2 | 2.66 | 0.67 |
| 34:DC:350:ALA:O | 34:DC:351:LEU:CB | 2.42 | 0.67 |
| 36:DE:12:TYR:O | 36:DE:13:SER:CB | 2.42 | 0.67 |
| 41:DJ:69:ARG:O | 41:DJ:72:ALA:HB3 | 1.94 | 0.67 |
| 42:DK:18:VAL:HA | 42:DK:70:THR:CB | 2.25 | 0.67 |
| 42:DK:84:LEU:HA | 42:DK:89:TYR:HA | 1.76 | 0.67 |
| 42:DK:153:LYS:O | 42:DK:155:THR:N | 2.27 | 0.67 |
| 46:DQ:32:THR:O | 46:DQ:35:ALA:HB3 | 1.94 | 0.67 |
| 57:Db:42:VAL:O | 57:Db:44:ARG:N | 2.27 | 0.67 |
| 57:Db:89:THR:CB | 57:Db:90:LYS:C | 2.68 | 0.67 |
| 62:Dg:60:CYS:CB | 74:Dg:101:OHX:N5 | 2.57 | 0.67 |
| 1:A1:97:C:O2 | 1:A1:425:A:O2' | 2.13 | 0.67 |
| 1:A1:445:A:H2' | 1:A1:446:A:C8 | 2.29 | 0.67 |
| 1:A1:590:C:H2' | 1:A1:591:A:C8 | 2.30 | 0.67 |
| 1:A1:766:U:C4 | 1:A1:769:A:N7 | 2.62 | 0.67 |
| 1:A1:825:U:C6 | 1:A1:847:A:N1 | 2.58 | 0.67 |
| 1:A1:861:U:C5 | 1:A1:862:A:H8 | 2.12 | 0.67 |
| 1:A1:1239:U:C5 | 1:A1:1241:G:C6 | 2.81 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1283:U:C2 | 1:A1:1284:C:H5 | 2.12 | 0.67 |
| 1:A1:1728:A:C5 | 1:A1:1729:C:C5 | 2.81 | 0.67 |
| 3:AB:245:ASP:C | 3:AB:247:ALA:H | 1.99 | 0.67 |
| 8:AG:108:ASP:O | 8:AG:111:ALA:N | 2.27 | 0.67 |
| 29:B1:258:G:O2' | 29:B1:259:C:O5' | 2.11 | 0.67 |
| 29:B1:618:C:C2 | 29:B1:619:A:C8 | 2.82 | 0.67 |
| 29:B1:638:C:H2' | 29:B1:639:G:C8 | 2.29 | 0.67 |
| 29:B1:952:A:H62 | 29:B1:1142:G:H21 | 1.42 | 0.67 |
| 29:B1:1167:U:H6 | 29:B1:1167:U:C5' | 2.07 | 0.67 |
| 29:B1:1174:G:H1' | 29:B1:1181:U:N3 | 2.10 | 0.67 |
| 29:B1:1233:G:O2' | 29:B1:1234:G:H5" | 1.95 | 0.67 |
| 29:B1:1688:U:C2' | 29:B1:1689:U:C5 | 2.77 | 0.67 |
| 29:B1:1904:C:C4 | 29:B1:1905:G:N7 | 2.62 | 0.67 |
| 29:B1:2407:C:H2' | 29:B1:2408:U:H6 | 1.58 | 0.67 |
| 29:B1:3094:A:H2' | 29:B1:3095:U:C6 | 2.29 | 0.67 |
| 29:B1:3148:U:H2' | 29:B1:3149:G:H8 | 1.60 | 0.67 |
| 31:B3:104:A:H5' | 31:B3:105:A:C5' | 2.23 | 0.67 |
| 31:B3:104:A:C5' | 31:B3:105:A:H8 | 2.06 | 0.67 |
| 34:BC:175:LYS:O | 34:BC:176:ALA:O | 2.11 | 0.67 |
| 44:BO:85:THR:CB | 44:BO:88:GLY:H | 2.08 | 0.67 |
| 57:Bb:54:LYS:O | 57:Bb:55:ILE:C | 2.37 | 0.67 |
| 1:C1:20:G:H2' | 1:C1:21:U:H5' | 1.76 | 0.67 |
| 1:C1:143:G:N3 | 1:C1:144:U:H1' | 2.09 | 0.67 |
| 1:C1:450:U:C2 | 1:C1:451:A:N7 | 2.62 | 0.67 |
| 1:C1:463:U:H2' | 1:C1:464:A:C8 | 2.29 | 0.67 |
| 1:C1:1089:U:H2' | 1:C1:1090:C:H5' | 1.77 | 0.67 |
| 1:C1:1102:G:H2' | 1:C1:1103:U:O5' | 1.95 | 0.67 |
| 29:D1:9:U:N3 | 29:D1:10:C:C5 | 2.63 | 0.67 |
| 29:D1:158:G:C5 | 29:D1:159:A:H1' | 2.29 | 0.67 |
| 29:D1:207:U:C2 | 29:D1:208:C:C5 | 2.82 | 0.67 |
| 29:D1:495:G:C2' | 29:D1:496:C:H5' | 2.24 | 0.67 |
| 29:D1:574:U:H6 | 29:D1:574:U:C5' | 2.06 | 0.67 |
| 29:D1:585:A:C4 | 29:D1:586:C:C5 | 2.82 | 0.67 |
| 29:D1:1466:G:C6 | 29:D1:1511:U:C5 | 2.82 | 0.67 |
| 29:D1:1482:A:OP2 | 29:D1:1858:A:C5 | 2.47 | 0.67 |
| 29:D1:1547:G:H2' | 29:D1:1548:C:C5 | 2.28 | 0.67 |
| 29:D1:1590:G:C2 | 29:D1:1591:G:C8 | 2.82 | 0.67 |
| 29:D1:1687:U:OP1 | 29:D1:1687:U:C6 | 2.48 | 0.67 |
| 29:D1:2178:A:H5' | 33:DB:128:ARG:CB | 2.25 | 0.67 |
| 29:D1:2289:U:H2' | 29:D1:2290:C:H5' | 1.75 | 0.67 |
| 29:D1:2405:C:O2 | 29:D1:2405:C:C2' | 2.41 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2621:G:H2' | 29:D1:2622:C:C6 | 2.28 | 0.67 |
| 29:D1:2703:A:C3' | 29:D1:2704:A:H5' | 2.23 | 0.67 |
| 29:D1:3041:U:O2' | 29:D1:3042:U:C5' | 2.43 | 0.67 |
| 29:D1:3309:G:N7 | 29:D1:3310:A:H1' | 2.09 | 0.67 |
| 34:DC:94:GLU:HA | 34:DC:154:TYR:CB | 2.24 | 0.67 |
| 37:DF:93:VAL:O | 37:DF:97:ASN:N | 2.27 | 0.67 |
| 37:DF:159:LEU:C | 37:DF:161:ALA:N | 2.49 | 0.67 |
| 43:DN:33:ALA:HB1 | 43:DN:48:GLY:N | 2.07 | 0.67 |
| 43:DN:47:ASP:CB | 43:DN:54:PRO:O | 2.42 | 0.67 |
| 1:A1:364:G:C8 | 1:A1:377:G:N2 | 2.62 | 0.67 |
| 1:A1:1003:A:H1' | 1:A1:1004:U:OP2 | 1.95 | 0.67 |
| 1:A1:1101:G:OP2 | 1:A1:1101:G:C8 | 2.43 | 0.67 |
| 1:A1:1138:A:N3 | 1:A1:1139:A:C8 | 2.62 | 0.67 |
| 1:A1:1166:A:O2' | 1:A1:1587:A:H4' | 1.95 | 0.67 |
| 1:A1:1174:C:C2 | 1:A1:1466:G:C2 | 2.82 | 0.67 |
| 1:A1:1324:G:C6 | 1:A1:1325:A:N7 | 2.62 | 0.67 |
| 1:A1:1631:A:N6 | 1:A1:1636:C:C5 | 2.60 | 0.67 |
| 1:A1:1651:A:C2 | 1:A1:1652:C:C6 | 2.81 | 0.67 |
| 10:AI:98:ASN:N | 10:AI:101:ALA:HB3 | 2.10 | 0.67 |
| 29:B1:126:U:O2' | 29:B1:127:G:H8 | 1.74 | 0.67 |
| 29:B1:279:U:O2' | 29:B1:280:U:H5' | 1.94 | 0.67 |
| 29:B1:624:G:C2 | 29:B1:625:G:N7 | 2.63 | 0.67 |
| 29:B1:693:A:C4 | 29:B1:694:C:C5 | 2.81 | 0.67 |
| 29:B1:701:G:H2' | 29:B1:702:C:C6 | 2.30 | 0.67 |
| 29:B1:992:A:N1 | 29:B1:993:G:C5 | 2.63 | 0.67 |
| 29:B1:1196:C:H5 | 29:B1:1197:A:C5 | 2.13 | 0.67 |
| 29:B1:1479:U:C3' | 29:B1:1480:G:C5' | 2.57 | 0.67 |
| 29:B1:1629:U:H3' | 29:B1:1630:U:H5" | 1.76 | 0.67 |
| 29:B1:2393:G:C6 | 29:B1:2982:A:H2 | 2.04 | 0.67 |
| 29:B1:2714:G:C8 | 29:B1:2716:U:C5 | 2.81 | 0.67 |
| 29:B1:2841:G:C6 | 29:B1:2844:C:C4 | 2.82 | 0.67 |
| 29:B1:2858:U:H2' | 29:B1:2859:U:C6 | 2.30 | 0.67 |
| 29:B1:2897:A:C8 | 29:B1:2899:C:O4' | 2.47 | 0.67 |
| 29:B1:2949:U:C5 | 29:B1:2950:G:O6 | 2.47 | 0.67 |
| 29:B1:3314:A:C8 | 34:BC:119:TYR:HA | 2.29 | 0.67 |
| 29:B1:3377:G:N9 | 74:B1:3450:OHX:N4 | 2.43 | 0.67 |
| 31:B3:125:U:N3 | 74:B3:206:OHX:N6 | 2.42 | 0.67 |
| 37:BF:56:LYS:C | 37:BF:58:LEU:H | 2.01 | 0.67 |
| 37:BF:152:THR:HA | 37:BF:156:LYS:N | 2.10 | 0.67 |
| 1:C1:57:G:C6 | 1:C1:58:U:C5 | 2.82 | 0.67 |
| 1:C1:846:G:O2' | 1:C1:847:A:O4' | 2.11 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:985:G:C5 | 1:C1:986:G:N7 | 2.62 | 0.67 |
| 1:C1:1256:A:H2' | 1:C1:1256:A:N3 | 2.10 | 0.67 |
| 1:C1:1340:U:O3' | 1:C1:1341:A:H2' | 1.94 | 0.67 |
| 1:C1:1408:G:H1' | 1:C1:1409:G:C2 | 2.30 | 0.67 |
| 1:C1:1585:U:C5 | 1:C1:1610:G:N2 | 2.62 | 0.67 |
| 1:C1:1756:A:N6 | 74:C1:1901:OHX:N4 | 2.43 | 0.67 |
| 2:CA:88:LYS:O | 2:CA:90:ALA:N | 2.27 | 0.67 |
| 6:CE:71:PHE:O | 6:CE:75:ALA:CB | 2.43 | 0.67 |
| 29:D1:64:G:H1' | 29:D1:77:A:N3 | 2.09 | 0.67 |
| 29:D1:197:G:C8 | 29:D1:395:A:H1' | 2.29 | 0.67 |
| 29:D1:594:U:O2 | 29:D1:595:G:C5 | 2.47 | 0.67 |
| 29:D1:648:C:H5 | 29:D1:2374:C:O3' | 1.77 | 0.67 |
| 29:D1:773:G:N2 | 29:D1:774:G:C4 | 2.63 | 0.67 |
| 29:D1:841:A:H5" | 48:DS:125:LYS:O | 1.93 | 0.67 |
| 29:D1:907:G:C6 | 29:D1:926:A:C8 | 2.83 | 0.67 |
| 29:D1:974:G:C5 | 29:D1:975:C:C5 | 2.82 | 0.67 |
| 29:D1:988:U:H2' | 29:D1:989:A:C8 | 2.29 | 0.67 |
| 29:D1:993:G:H1' | 29:D1:2637:A:H2' | 1.77 | 0.67 |
| 29:D1:1224:C:H6 | 29:D1:1224:C:P | 2.17 | 0.67 |
| 29:D1:1715:A:N6 | 29:D1:1716:U:C5 | 2.60 | 0.67 |
| 29:D1:1724:U:H2' | 29:D1:1725:C:C6 | 2.28 | 0.67 |
| 29:D1:2259:A:H3' | 29:D1:2260:U:H6 | 1.57 | 0.67 |
| 29:D1:2265:C:N4 | 29:D1:2266:U:C4 | 2.63 | 0.67 |
| 29:D1:2374:C:N4 | 29:D1:2941:A:N3 | 2.42 | 0.67 |
| 29:D1:2555:G:H1' | 29:D1:2556:C:OP2 | 1.94 | 0.67 |
| 29:D1:2676:A:H2 | 29:D1:2680:A:C2 | 2.11 | 0.67 |
| 29:D1:2764:C:OP2 | 29:D1:2764:C:H6 | 1.77 | 0.67 |
| 29:D1:3090:U:OP1 | 29:D1:3090:U:H4' | 1.95 | 0.67 |
| 29:D1:3200:G:H2' | 29:D1:3201:C:C5 | 2.28 | 0.67 |
| 29:D1:3331:U:C3' | 29:D1:3332:U:H5' | 2.24 | 0.67 |
| 29:D1:3393:U:C2' | 29:D1:3394:U:H5' | 2.24 | 0.67 |
| 30:D2:46:A:OP2 | 30:D2:46:A:C5 | 2.48 | 0.67 |
| 31:D3:2:A:C6 | 31:D3:3:A:C2 | 2.83 | 0.67 |
| 33:DB:200:ARG:C | 33:DB:202:VAL:H | 2.01 | 0.67 |
| 72:DL:125:LEU:HA | 72:DL:129:THR:CB | 2.25 | 0.67 |
| 52:DW:57:LEU:CB | 52:DW:58:ASP:CB | 2.72 | 0.67 |
| 1:A1:26:A:H2 | 1:A1:600:U:N3 | 1.93 | 0.67 |
| 1:A1:267:U:O2 | 1:A1:267:U:C2' | 2.41 | 0.67 |
| 1:A1:500:C:H2' | 1:A1:501:U:C5 | 2.30 | 0.67 |
| 1:A1:512:A:O2' | 1:A1:513:U:O5' | 2.13 | 0.67 |
| 1:A1:1274:C:O2' | 1:A1:1275:A:OP2 | 2.11 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1302:U:OP2 | 1:A1:1302:U:C6 | 2.48 | 0.67 |
| 1:A1:1720:G:H2' | 1:A1:1721:A:O4' | 1.94 | 0.67 |
| 5:AD:197:GLU:H | 5:AD:200:ASN:N | 1.91 | 0.67 |
| 16:AO:8:ALA:O | 16:AO:12:ASN:CB | 2.42 | 0.67 |
| 29:B1:78:U:H3 | 29:B1:325:A:H61 | 1.43 | 0.67 |
| 29:B1:156:G:H1' | 29:B1:157:A:OP1 | 1.95 | 0.67 |
| 29:B1:827:A:H3' | 29:B1:828:A:H8 | 1.58 | 0.67 |
| 29:B1:998:A:H2' | 29:B1:999:G:H5' | 1.76 | 0.67 |
| 29:B1:1153:A:N7 | 29:B1:1154:A:C2 | 2.62 | 0.67 |
| 29:B1:1302:A:C1' | 29:B1:2887:A:C2 | 2.78 | 0.67 |
| 29:B1:1351:U:O2 | 29:B1:1352:A:N7 | 2.28 | 0.67 |
| 29:B1:1838:G:C4' | 29:B1:1839:A:C8 | 2.78 | 0.67 |
| 29:B1:2249:G:O4' | 29:B1:2272:G:C8 | 2.48 | 0.67 |
| 29:B1:2687:G:N3 | 29:B1:2687:G:C3' | 2.49 | 0.67 |
| 29:B1:2689:A:C2 | 29:B1:2702:A:H2 | 2.13 | 0.67 |
| 29:B1:2861:U:H2' | 29:B1:2862:U:H6 | 1.58 | 0.67 |
| 29:B1:3026:G:N2 | 29:B1:3030:G:C6 | 2.62 | 0.67 |
| 29:B1:3071:U:O2' | 29:B1:3072:C:H5' | 1.95 | 0.67 |
| 29:B1:3215:A:C6 | 63:Bh:1:UNK:HA | 2.30 | 0.67 |
| 29:B1:3313:U:O2' | 29:B1:3314:A:O5' | 2.13 | 0.67 |
| 29:B1:3333:G:N3 | 29:B1:3371:G:C8 | 2.63 | 0.67 |
| 30:B2:9:C:H3' | 30:B2:10:C:H4' | 1.76 | 0.67 |
| 30:B2:26:C:C2' | 30:B2:27:A:O4' | 2.42 | 0.67 |
| 30:B2:91:G:H2' | 30:B2:92:A:C8 | 2.30 | 0.67 |
| 31:B3:140:G:C6 | 31:B3:141:C:N3 | 2.62 | 0.67 |
| 37:BF:173:MET:O | 37:BF:174:LEU:CB | 2.43 | 0.67 |
| 39:BH:81:THR:O | 39:BH:84:ARG:N | 2.28 | 0.67 |
| 45:BP:158:ALA:O | 45:BP:159:LYS:C | 2.36 | 0.67 |
| 47:BR:66:ARG:O | 47:BR:68:ALA:N | 2.26 | 0.67 |
| 1:C1:331:A:N3 | 1:C1:331:A:H2' | 2.10 | 0.67 |
| 1:C1:646:C:H2' | 1:C1:647:G:H5" | 1.77 | 0.67 |
| 1:C1:1005:A:C8 | 1:C1:1006:C:C5 | 2.82 | 0.67 |
| 1:C1:1540:G:C4 | 1:C1:1541:G:C8 | 2.83 | 0.67 |
| 1:C1:1629:G:H2' | 1:C1:1630:U:O4' | 1.94 | 0.67 |
| 1:C1:1760:G:C5 | 1:C1:1761:U:C5 | 2.82 | 0.67 |
| 1:C1:1767:G:OP1 | 1:C1:1770:U:H4' | 1.95 | 0.67 |
| 5:CD:108:LEU:C | 5:CD:110:ALA:N | 2.52 | 0.67 |
| 20:CS:38:ILE:N | 74:CS:101:OHX:N3 | 2.39 | 0.67 |
| 29:D1:11:A:O3' | 29:D1:1558:A:C2 | 2.48 | 0.67 |
| 29:D1:637:C:C2 | 29:D1:2361:A:C2 | 2.82 | 0.67 |
| 29:D1:1144:U:O5' | 29:D1:1144:U:H6 | 1.77 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1220:U:O3' | 29:D1:1222:G:OP1 | 2.12 | 0.67 |
| 29:D1:1449:A:H3' | 29:D1:1450:G:H8 | 1.58 | 0.67 |
| 29:D1:2545:C:H2' | 29:D1:2546:C:C6 | 2.29 | 0.67 |
| 29:D1:2584:G:OP1 | 29:D1:2584:G:H4' | 1.94 | 0.67 |
| 29:D1:2681:U:O2' | 29:D1:2682:C:H5" | 1.95 | 0.67 |
| 29:D1:2986:U:C2 | 29:D1:2987:A:C8 | 2.82 | 0.67 |
| 29:D1:3026:G:O6 | 74:D1:3413:OHX:N2 | 2.28 | 0.67 |
| 29:D1:3135:U:C5 | 29:D1:3136:G:C6 | 2.83 | 0.67 |
| 29:D1:3144:G:N7 | 74:D1:3431:OHX:N1 | 2.42 | 0.67 |
| 30:D2:77:G:C2 | 30:D2:101:G:C5 | 2.82 | 0.67 |
| 30:D2:77:G:N2 | 30:D2:101:G:C4 | 2.63 | 0.67 |
| 31:D3:103:G:C6 | 31:D3:105:A:N6 | 2.62 | 0.67 |
| 31:D3:142:C:H2' | 31:D3:142:C:O2 | 1.93 | 0.67 |
| 32:DA:66:CYS:H | 32:DA:110:PHE:HA | 1.59 | 0.67 |
| 40:DI:111:PHE:HA | 40:DI:112:ILE:O | 1.94 | 0.67 |
| 44:DO:78:GLY:HA3 | 44:DO:79:ALA:HB2 | 1.75 | 0.67 |
| 1:A1:40:A:C2 | 1:A1:469:C:H1' | 2.29 | 0.67 |
| 1:A1:44:U:H3' | 1:A1:45:U:C5' | 2.24 | 0.67 |
| 1:A1:806:A:H2' | 1:A1:807:A:H8 | 1.59 | 0.67 |
| 1:A1:1109:G:N3 | 1:A1:1110:G:C8 | 2.63 | 0.67 |
| 1:A1:1138:A:C2 | 1:A1:1139:A:N7 | 2.61 | 0.67 |
| 1:A1:1489:U:H5 | 1:A1:1513:G:N1 | 1.93 | 0.67 |
| 1:A1:1516:A:H3' | 1:A1:1517:U:H5' | 1.75 | 0.67 |
| 1:A1:1722:A:H4' | 1:A1:1722:A:OP1 | 1.94 | 0.67 |
| 1:A1:1778:G:C2 | 1:A1:1779:U:C5 | 2.83 | 0.67 |
| 6:AE:82:ARG:CB | 6:AE:149:ARG:HA | 2.24 | 0.67 |
| 10:AI:67:ALA:HA | 10:AI:68:PRO:O | 1.93 | 0.67 |
| 24:Ac:27:UNK:C | 24:Ac:29:UNK:N | 2.57 | 0.67 |
| 29:B1:19:U:H2' | 29:B1:20:A:N7 | 2.10 | 0.67 |
| 29:B1:264:G:C4 | 29:B1:265:A:N7 | 2.62 | 0.67 |
| 29:B1:915:A:H3' | 29:B1:915:A:C8 | 2.30 | 0.67 |
| 29:B1:932:U:O4' | 29:B1:933:A:H5" | 1.95 | 0.67 |
| 29:B1:1088:U:H2' | 29:B1:1089:G:H8 | 1.59 | 0.67 |
| 29:B1:1282:G:H2' | 29:B1:1283:C:H5' | 1.77 | 0.67 |
| 29:B1:1303:A:O2' | 29:B1:1304:A:C8 | 2.46 | 0.67 |
| 29:B1:1342:C:H2' | 29:B1:1343:A:C8 | 2.29 | 0.67 |
| 29:B1:1377:G:C2 | 29:B1:1378:U:C6 | 2.82 | 0.67 |
| 29:B1:1514:G:O2' | 29:B1:1515:A:H5' | 1.93 | 0.67 |
| 29:B1:1728:G:H5' | 29:B1:1730:G:O4' | 1.95 | 0.67 |
| 29:B1:1912:U:O2' | 29:B1:1913:A:C8 | 2.48 | 0.67 |
| 29:B1:2105:G:H5' | 29:B1:2105:G:C8 | 2.30 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2111:G:O6 | 29:B1:3332:U:H3' | 1.95 | 0.67 |
| 29:B1:2225:U:O2' | 29:B1:2226:U:H5' | 1.95 | 0.67 |
| 29:B1:2682:C:C4 | 29:B1:2683:U:C5 | 2.82 | 0.67 |
| 29:B1:2725:U:H5 | 29:B1:2727:A:O2' | 1.78 | 0.67 |
| 29:B1:2732:G:C6 | 29:B1:2733:A:C5 | 2.83 | 0.67 |
| 29:B1:2946:A:C5 | 29:B1:2982:A:N6 | 2.62 | 0.67 |
| 29:B1:3165:A:H2' | 29:B1:3166:C:H5' | 1.76 | 0.67 |
| 29:B1:3234:A:H2 | 29:B1:3253:G:H22 | 1.40 | 0.67 |
| 30:B2:8:G:H2' | 30:B2:9:C:C6 | 2.29 | 0.67 |
| 31:B3:103:G:N1 | 31:B3:105:A:N6 | 2.42 | 0.67 |
| 34:BC:271:GLY:O | 34:BC:273:HIS:N | 2.27 | 0.67 |
| 35:BD:165:ALA:O | 35:BD:168:ALA:N | 2.28 | 0.67 |
| 1:C1:345:U:H4' | 1:C1:346:G:OP1 | 1.92 | 0.67 |
| 1:C1:500:C:H2' | 1:C1:501:U:C5 | 2.30 | 0.67 |
| 1:C1:622:A:H4' | 1:C1:623:A:OP1 | 1.91 | 0.67 |
| 1:C1:827:C:H2' | 1:C1:828:U:N3 | 2.09 | 0.67 |
| 1:C1:1025:A:H2' | 1:C1:1027:A:H5" | 1.77 | 0.67 |
| 1:C1:1097:U:O2' | 1:C1:1098:U:C5' | 2.39 | 0.67 |
| 1:C1:1324:G:C6 | 1:C1:1325:A:N7 | 2.62 | 0.67 |
| 1:C1:1554:U:C5 | 1:C1:1555:A:C8 | 2.82 | 0.67 |
| 1:C1:1684:U:C5 | 1:C1:1721:A:H2 | 2.12 | 0.67 |
| 1:C1:1685:G:N2 | 1:C1:1718:G:H21 | 1.92 | 0.67 |
| 8:CG:88:LEU:C | 8:CG:90:TYR:H | 2.01 | 0.67 |
| 29:D1:142:C:H2' | 29:D1:143:G:H8 | 1.60 | 0.67 |
| 29:D1:200:C:H5' | 29:D1:221:A:N3 | 2.09 | 0.67 |
| 29:D1:315:C:H2' | 29:D1:316:U:H6 | 1.59 | 0.67 |
| 29:D1:504:A:O2' | 29:D1:505:G:H5' | 1.95 | 0.67 |
| 29:D1:1621:A:O2' | 29:D1:1622:U:H5' | 1.95 | 0.67 |
| 29:D1:2111:G:H22 | 51:DV:50:ALA:H | 1.43 | 0.67 |
| 29:D1:2117:A:OP2 | 29:D1:2118:C:N4 | 2.28 | 0.67 |
| 29:D1:2516:U:H2' | 29:D1:2517:U:H6 | 1.60 | 0.67 |
| 29:D1:2912:G:C5 | 29:D1:2913:C:C2 | 2.83 | 0.67 |
| 29:D1:3305:A:C6 | 29:D1:3306:U:N3 | 2.62 | 0.67 |
| 29:D1:3320:A:H2' | 29:D1:3321:C:N1 | 2.09 | 0.67 |
| 30:D2:41:G:C6 | 30:D2:43:U:C4 | 2.83 | 0.67 |
| 30:D2:75:G:OP1 | 74:D2:201:OHX:N2 | 2.28 | 0.67 |
| 43:DN:23:ILE:O | 43:DN:32:LEU:HA | 1.94 | 0.67 |
| 50:DU:97:ASP:O | 50:DU:98:ASN:CB | 2.42 | 0.67 |
| 1:A1:72:A:C6 | 1:A1:82:U:O2 | 2.48 | 0.67 |
| 1:A1:86:A:O2' | 1:A1:147:A:N3 | 2.20 | 0.67 |
| 1:A1:119:A:O4' | 1:A1:397:A:H1' | 1.94 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:330:G:C4 | 1:A1:331:A:C8 | 2.83 | 0.67 |
| 1:A1:833:U:H3' | 1:A1:834:G:C5' | 2.23 | 0.67 |
| 1:A1:838:G:N7 | 74:A1:1917:OHX:N6 | 2.42 | 0.67 |
| 1:A1:977:A:C4 | 1:A1:1025:A:C2 | 2.81 | 0.67 |
| 1:A1:1209:C:H2' | 1:A1:1210:C:H6 | 1.60 | 0.67 |
| 1:A1:1416:G:C5 | 1:A1:1417:A:C8 | 2.82 | 0.67 |
| 1:A1:1431:C:C3' | 1:A1:1432:U:H5' | 2.25 | 0.67 |
| 1:A1:1561:U:H2' | 1:A1:1562:G:C8 | 2.30 | 0.67 |
| 1:A1:1602:C:H3' | 1:A1:1603:U:C6 | 2.25 | 0.67 |
| 1:A1:1679:G:C2 | 1:A1:1680:G:H1' | 2.30 | 0.67 |
| 74:A1:1913:OHX:N5 | 74:A1:1986:OHX:N6 | 2.43 | 0.67 |
| 7:AF:110:HIS:HA | 7:AF:111:VAL:CB | 2.24 | 0.67 |
| 29:B1:58:G:H5" | 29:B1:59:G:OP2 | 1.94 | 0.67 |
| 29:B1:422:A:C1' | 29:B1:423:A:H5" | 2.24 | 0.67 |
| 29:B1:565:U:C2' | 29:B1:566:G:H5' | 2.25 | 0.67 |
| 29:B1:576:C:H2' | 29:B1:577:C:O5' | 1.94 | 0.67 |
| 29:B1:733:G:N1 | 29:B1:736:A:N1 | 2.43 | 0.67 |
| 29:B1:883:A:C6 | 29:B1:921:A:C6 | 2.83 | 0.67 |
| 29:B1:1075:A:C2 | 69:Bp:245:UNK:O | 2.48 | 0.67 |
| 29:B1:1075:A:C8 | 29:B1:1076:C:C6 | 2.82 | 0.67 |
| 29:B1:1077:U:HO2' | 29:B1:1078:U:H6 | 1.41 | 0.67 |
| 29:B1:1655:G:N2 | 29:B1:1801:U:C4 | 2.63 | 0.67 |
| 29:B1:1912:U:C4 | 29:B1:1913:A:C2 | 2.82 | 0.67 |
| 29:B1:1939:G:H2' | 29:B1:1940:G:H5' | 1.75 | 0.67 |
| 29:B1:2420:C:C4 | 29:B1:2421:U:C5 | 2.82 | 0.67 |
| 29:B1:2513:U:H1' | 29:B1:2514:U:H2' | 1.77 | 0.67 |
| 29:B1:2529:A:H2' | 29:B1:2530:G:C8 | 2.30 | 0.67 |
| 29:B1:2571:U:H2' | 29:B1:2571:U:O2 | 1.93 | 0.67 |
| 29:B1:2592:G:C6 | 74:B1:3449:OHX:N4 | 2.62 | 0.67 |
| 29:B1:3201:C:C2' | 29:B1:3202:G:H8 | 2.04 | 0.67 |
| 29:B1:3302:U:O2' | 29:B1:3303:G:O4' | 2.10 | 0.67 |
| 29:B1:3309:G:C2 | 29:B1:3310:A:C8 | 2.83 | 0.67 |
| 30:B2:105:C:H2' | 30:B2:106:U:H5' | 1.75 | 0.67 |
| 42:BK:84:LEU:HA | 42:BK:89:TYR:HA | 1.75 | 0.67 |
| 44:BO:49:ARG:HA | 44:BO:53:TYR:CB | 2.25 | 0.67 |
| 46:BQ:52:LEU:C | 46:BQ:54:HIS:N | 2.49 | 0.67 |
| 1:C1:127:G:O6 | 1:C1:179:A:N1 | 2.26 | 0.67 |
| 1:C1:688:G:H2' | 1:C1:689:G:H8 | 1.60 | 0.67 |
| 1:C1:828:U:O2' | 1:C1:829:A:H5' | 1.95 | 0.67 |
| 1:C1:887:A:C2 | 1:C1:888:U:C2 | 2.83 | 0.67 |
| 1:C1:951:A:C2' | 1:C1:952:A:O5' | 2.43 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:955:A:H2' | 1:C1:956:C:H6 | 1.60 | 0.67 |
| 1:C1:972:G:O2' | 29:D1:847:A:N6 | 2.27 | 0.67 |
| 1:C1:1107:G:H3' | 1:C1:1108:G:N2 | 2.09 | 0.67 |
| 1:C1:1274:C:O2' | 1:C1:1275:A:OP2 | 2.11 | 0.67 |
| 1:C1:1558:U:C6 | 1:C1:1559:A:H2 | 2.12 | 0.67 |
| 2:CA:186:GLY:HA2 | 2:CA:187:ALA:CB | 2.15 | 0.67 |
| 29:D1:85:A:H4' | 29:D1:86:G:OP1 | 1.95 | 0.67 |
| 29:D1:195:U:H2' | 29:D1:196:G:O4' | 1.95 | 0.67 |
| 29:D1:347:G:C2 | 29:D1:353:G:C5 | 2.82 | 0.67 |
| 29:D1:596:C:O2 | 29:D1:596:C:C3' | 2.40 | 0.67 |
| 29:D1:701:G:H2' | 29:D1:702:C:H6 | 1.60 | 0.67 |
| 29:D1:836:A:H5' | 29:D1:837:A:OP2 | 1.95 | 0.67 |
| 29:D1:890:C:O2' | 29:D1:2324:A:N3 | 2.26 | 0.67 |
| 29:D1:952:A:H5' | 29:D1:952:A:C8 | 2.29 | 0.67 |
| 29:D1:1212:A:C6 | 29:D1:1294:A:C2 | 2.82 | 0.67 |
| 29:D1:1525:G:H1' | 29:D1:1829:G:N3 | 2.08 | 0.67 |
| 29:D1:1728:G:H21 | 29:D1:1730:G:N2 | 1.92 | 0.67 |
| 29:D1:1812:G:H2' | 29:D1:1812:G:N3 | 2.10 | 0.67 |
| 29:D1:2393:G:N1 | 29:D1:2982:A:C2 | 2.62 | 0.67 |
| 29:D1:2904:U:O2 | 29:D1:2904:U:C2' | 2.42 | 0.67 |
| 29:D1:2912:G:N1 | 29:D1:2913:C:O2 | 2.27 | 0.67 |
| 29:D1:3148:U:H2' | 29:D1:3149:G:H8 | 1.58 | 0.67 |
| 29:D1:3202:G:O2' | 29:D1:3203:U:H5' | 1.94 | 0.67 |
| 29:D1:3308:C:H5 | 29:D1:3309:G:N3 | 1.93 | 0.67 |
| 29:D1:3327:G:N3 | 29:D1:3328:G:C8 | 2.62 | 0.67 |
| 29:D1:3333:G:C2 | 29:D1:3370:A:H4' | 2.30 | 0.67 |
| 29:D1:3363:U:H5 | 29:D1:3364:C:H1' | 1.59 | 0.67 |
| 32:DA:55:LEU:H | 32:DA:167:VAL:HA | 1.59 | 0.67 |
| 35:DD:193:LYS:O | 35:DD:195:ARG:N | 2.28 | 0.67 |
| 45:DP:148:LYS:CB | 45:DP:149:TYR:CB | 2.73 | 0.67 |
| 45:DP:192:LYS:C | 45:DP:194:LEU:H | 2.01 | 0.67 |
| 46:DQ:47:TYR:C | 46:DQ:49:GLU:N | 2.51 | 0.67 |
| 1:A1:364:G:C2 | 1:A1:381:C:N3 | 2.62 | 0.67 |
| 1:A1:401:A:C2 | 1:A1:404:G:C8 | 2.82 | 0.67 |
| 1:A1:410:A:H2 | 1:A1:423:G:H22 | 1.42 | 0.67 |
| 1:A1:513:U:H5 | 1:A1:538:A:C6 | 2.12 | 0.67 |
| 1:A1:518:A:H8 | 1:A1:519:C:H5" | 1.59 | 0.67 |
| 1:A1:647:G:N2 | 1:A1:648:G:N1 | 2.42 | 0.67 |
| 1:A1:647:G:N1 | 1:A1:687:G:N1 | 2.42 | 0.67 |
| 1:A1:1159:C:H3' | 1:A1:1160:A:H5' | 1.75 | 0.67 |
| 1:A1:1426:C:O2' | 1:A1:1427:A:H4' | 1.95 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1584:G:N3 | 1:A1:1585:U:OP1 | 2.28 | 0.67 |
| 2:AA:146:LEU:HA | 2:AA:160:ILE:CA | 2.24 | 0.67 |
| 8:AG:94:LYS:O | 8:AG:98:VAL:CB | 2.43 | 0.67 |
| 9:AH:64:ALA:HA | 9:AH:68:ALA:N | 2.09 | 0.67 |
| 16:AO:8:ALA:HB2 | 16:AO:75:ILE:CB | 2.25 | 0.67 |
| 24:Ac:6:UNK:HA | 24:Ac:95:UNK:O | 1.95 | 0.67 |
| 28:Ah:21:UNK:HA | 28:Ah:25:UNK:CA | 2.20 | 0.67 |
| 29:B1:8:C:C2' | 29:B1:9:U:C6 | 2.77 | 0.67 |
| 29:B1:495:G:C2' | 29:B1:496:C:H5' | 2.24 | 0.67 |
| 29:B1:645:A:C5 | 29:B1:649:A:N7 | 2.63 | 0.67 |
| 29:B1:716:A:H2' | 29:B1:717:C:C2' | 2.24 | 0.67 |
| 29:B1:730:C:H2' | 29:B1:731:U:H5' | 1.77 | 0.67 |
| 29:B1:1267:U:H2' | 29:B1:1268:G:C8 | 2.30 | 0.67 |
| 29:B1:1444:G:H1 | 29:B1:2359:C:H42 | 1.40 | 0.67 |
| 29:B1:1724:U:H2' | 29:B1:1725:C:C6 | 2.29 | 0.67 |
| 29:B1:1856:C:H2' | 29:B1:1857:C:H5' | 1.76 | 0.67 |
| 29:B1:2284:C:C2 | 29:B1:2308:C:O4' | 2.48 | 0.67 |
| 29:B1:2792:A:O2' | 29:B1:2793:G:H5' | 1.94 | 0.67 |
| 29:B1:2931:C:C2 | 29:B1:2932:U:C6 | 2.82 | 0.67 |
| 29:B1:3273:A:C6 | 29:B1:3274:A:C5 | 2.83 | 0.67 |
| 31:B3:67:U:H3' | 31:B3:68:G:C8 | 2.29 | 0.67 |
| 31:B3:114:G:O2' | 31:B3:115:C:H5' | 1.95 | 0.67 |
| 34:BC:85:VAL:O | 34:BC:87:VAL:N | 2.28 | 0.67 |
| 43:BN:126:GLN:O | 43:BN:128:ARG:N | 2.27 | 0.67 |
| 1:C1:71:A:C6 | 1:C1:83:G:N1 | 2.63 | 0.67 |
| 1:C1:226:A:O2' | 1:C1:227:U:H6 | 1.77 | 0.67 |
| 1:C1:390:G:H22 | 1:C1:407:A:H61 | 1.41 | 0.67 |
| 1:C1:515:A:H5' | 74:C1:1933:OHX:N4 | 2.09 | 0.67 |
| 1:C1:1007:C:O2 | 1:C1:1007:C:C2' | 2.41 | 0.67 |
| 1:C1:1199:G:C6 | 1:C1:1200:G:H1' | 2.30 | 0.67 |
| 1:C1:1238:A:C2' | 1:C1:1239:U:H5' | 2.24 | 0.67 |
| 1:C1:1345:A:H2' | 1:C1:1346:A:C8 | 2.28 | 0.67 |
| 11:CJ:86:ALA:C | 11:CJ:88:GLY:H | 2.03 | 0.67 |
| 28:Ch:56:UNK:O | 28:Ch:59:UNK:N | 2.28 | 0.67 |
| 29:D1:372:A:C6 | 29:D1:373:A:C6 | 2.83 | 0.67 |
| 29:D1:430:U:O2' | 29:D1:431:U:H5' | 1.95 | 0.67 |
| 29:D1:515:C:C6 | 29:D1:515:C:P | 2.88 | 0.67 |
| 29:D1:517:G:H8 | 29:D1:517:G:P | 2.18 | 0.67 |
| 29:D1:892:U:H2' | 29:D1:893:C:O4' | 1.93 | 0.67 |
| 29:D1:1038:C:H2' | 29:D1:1039:U:C6 | 2.30 | 0.67 |
| 29:D1:1140:G:C2 | 29:D1:1141:C:C5 | 2.83 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1210:U:H2' | 29:D1:1211:U:H5' | 1.76 | 0.67 |
| 29:D1:1302:A:C4 | 29:D1:2887:A:C2 | 2.83 | 0.67 |
| 29:D1:1311:G:H1' | 29:D1:2381:G:H5' | 1.77 | 0.67 |
| 29:D1:1366:A:H2' | 29:D1:1367:G:C8 | 2.29 | 0.67 |
| 29:D1:1376:C:O4' | 29:D1:1407:A:C2 | 2.48 | 0.67 |
| 29:D1:1660:C:O2' | 29:D1:1661:G:H8 | 1.78 | 0.67 |
| 29:D1:2123:G:O2' | 29:D1:2124:G:H5' | 1.95 | 0.67 |
| 29:D1:2310:U:OP1 | 74:D1:3582:OHX:N1 | 2.28 | 0.67 |
| 29:D1:2375:G:O2' | 29:D1:2377:G:OP2 | 2.12 | 0.67 |
| 29:D1:2571:U:H3' | 29:D1:2572:C:H6 | 1.60 | 0.67 |
| 29:D1:2628:A:C6 | 29:D1:2629:U:C5 | 2.83 | 0.67 |
| 29:D1:2836:C:O2 | 29:D1:2836:C:C2' | 2.43 | 0.67 |
| 29:D1:3320:A:C2' | 29:D1:3321:C:C6 | 2.71 | 0.67 |
| 29:D1:3322:A:C6 | 29:D1:3386:G:N2 | 2.63 | 0.67 |
| 30:D2:11:A:N1 | 36:DE:15:ARG:O | 2.28 | 0.67 |
| 30:D2:13:A:O5' | 30:D2:13:A:N3 | 2.28 | 0.67 |
| 34:DC:105:VAL:O | 34:DC:107:ALA:N | 2.26 | 0.67 |
| 37:DF:156:LYS:O | 37:DF:159:LEU:N | 2.27 | 0.67 |
| 1:A1:436:A:H5" | 1:A1:437:A:OP2 | 1.95 | 0.67 |
| 1:A1:510:G:H5" | 1:A1:511:A:O5' | 1.94 | 0.67 |
| 1:A1:518:A:H8 | 1:A1:519:C:C5' | 2.08 | 0.67 |
| 1:A1:1778:G:H2' | 1:A1:1779:U:H5' | 1.77 | 0.67 |
| 17:AP:132:LEU:H | 17:AP:133:LEU:C | 2.02 | 0.67 |
| 19:AR:28:VAL:CB | 19:AR:35:ASP:H | 2.08 | 0.67 |
| 29:B1:314:U:H2' | 29:B1:315:C:H6 | 1.58 | 0.67 |
| 29:B1:701:G:H2' | 29:B1:702:C:H6 | 1.60 | 0.67 |
| 29:B1:727:G:N2 | 29:B1:741:U:N3 | 2.42 | 0.67 |
| 29:B1:811:U:C2 | 29:B1:812:G:C8 | 2.83 | 0.67 |
| 29:B1:952:A:H5' | 29:B1:952:A:H8 | 1.60 | 0.67 |
| 29:B1:1018:G:H2' | 29:B1:1019:G:H8 | 1.59 | 0.67 |
| 29:B1:1413:G:C2 | 29:B1:1414:G:C8 | 2.82 | 0.67 |
| 29:B1:1703:U:H5' | 29:B1:1704:A:OP2 | 1.95 | 0.67 |
| 29:B1:2222:A:O2' | 29:B1:2223:A:H8 | 1.78 | 0.67 |
| 29:B1:2251:G:N3 | 29:B1:2252:A:C8 | 2.63 | 0.67 |
| 29:B1:2295:A:C5 | 29:B1:2296:A:N6 | 2.63 | 0.67 |
| 29:B1:2308:C:H2' | 29:B1:2309:A:H8 | 1.59 | 0.67 |
| 29:B1:2554:A:C2 | 33:BB:84:THR:O | 2.48 | 0.67 |
| 29:B1:2741:C:O3' | 61:Bf:19:LYS:HA | 1.94 | 0.67 |
| 29:B1:2916:U:H5 | 29:B1:2935:U:O2' | 1.75 | 0.67 |
| 29:B1:3201:C:C2 | 29:B1:3202:G:N7 | 2.63 | 0.67 |
| 29:B1:3323:A:H5" | 56:Ba:13:THR:O | 1.95 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:B2:46:A:O5' | 30:B2:46:A:C4 | 2.48 | 0.67 |
| 30:B2:92:A:C2' | 30:B2:93:C:O4' | 2.41 | 0.67 |
| 42:BK:153:LYS:O | 42:BK:155:THR:N | 2.28 | 0.67 |
| 43:BN:49:PRO:O | 43:BN:53:VAL:N | 2.27 | 0.67 |
| 43:BN:82:SER:O | 43:BN:85:TRP:N | 2.28 | 0.67 |
| 49:BT:79:MET:CB | 49:BT:84:TYR:O | 2.43 | 0.67 |
| 62:Bg:52:ALA:O | 62:Bg:54:ILE:N | 2.28 | 0.67 |
| 1:C1:587:C:O5' | 1:C1:587:C:H6 | 1.76 | 0.67 |
| 1:C1:825:U:C6 | 1:C1:847:A:N1 | 2.58 | 0.67 |
| 1:C1:959:U:H1' | 1:C1:960:U:OP1 | 1.94 | 0.67 |
| 1:C1:1188:G:H2' | 1:C1:1189:A:H8 | 1.59 | 0.67 |
| 1:C1:1497:U:C4 | 1:C1:1498:G:N7 | 2.63 | 0.67 |
| 1:C1:1561:U:H2' | 1:C1:1562:G:C8 | 2.30 | 0.67 |
| 17:CP:135:LEU:HA | 17:CP:139:LYS:HA | 1.77 | 0.67 |
| 19:CR:28:VAL:CB | 19:CR:35:ASP:H | 2.07 | 0.67 |
| 20:CS:37:ASN:O | 74:CS:101:OHX:N6 | 2.28 | 0.67 |
| 29:D1:102:C:C1' | 29:D1:103:G:OP1 | 2.43 | 0.67 |
| 29:D1:392:G:C6 | 29:D1:393:U:H5 | 2.13 | 0.67 |
| 29:D1:597:G:C2 | 29:D1:607:A:C2 | 2.83 | 0.67 |
| 29:D1:759:U:C4 | 29:D1:773:G:C6 | 2.83 | 0.67 |
| 29:D1:885:U:H2' | 29:D1:885:U:O2 | 1.95 | 0.67 |
| 29:D1:887:G:H2' | 29:D1:888:A:C8 | 2.30 | 0.67 |
| 29:D1:1184:A:H8 | 29:D1:1184:A:H5' | 1.60 | 0.67 |
| 29:D1:1303:A:O2' | 29:D1:1304:A:C8 | 2.47 | 0.67 |
| 29:D1:1422:G:H2' | 29:D1:1423:C:H6 | 1.59 | 0.67 |
| 29:D1:1912:U:O2' | 29:D1:1913:A:C8 | 2.47 | 0.67 |
| 29:D1:1915:A:H2' | 29:D1:1916:U:H6 | 1.58 | 0.67 |
| 29:D1:2414:G:H2' | 29:D1:2415:C:O5' | 1.94 | 0.67 |
| 29:D1:2616:C:C2' | 29:D1:2617:U:H5' | 2.23 | 0.67 |
| 29:D1:2903:A:C4 | 29:D1:2904:U:H6 | 2.13 | 0.67 |
| 29:D1:3091:A:O2' | 29:D1:3092:C:P | 2.52 | 0.67 |
| 29:D1:3217:C:H5' | 29:D1:3276:G:H22 | 1.58 | 0.67 |
| 29:D1:3280:U:C2 | 29:D1:3281:U:H5 | 2.13 | 0.67 |
| 30:D2:27:A:H5' | 30:D2:28:C:OP2 | 1.95 | 0.67 |
| 31:D3:43:A:H2' | 31:D3:44:A:C8 | 2.30 | 0.67 |
| 31:D3:123:G:H3' | 31:D3:124:G:H5" | 1.77 | 0.67 |
| 54:DY:131:SER:CB | 54:DY:134:ALA:HB2 | 2.23 | 0.67 |
| 62:Dg:17:ARG:O | 62:Dg:18:TYR:CB | 2.43 | 0.67 |
| 62:Dg:33:GLN:O | 62:Dg:34:HIS:CB | 2.42 | 0.67 |
| 1:A1:162:A:H2' | 1:A1:163:G:C8 | 2.30 | 0.67 |
| 1:A1:243:G:N2 | 1:A1:251:A:N3 | 2.41 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:274:G:H2' | 1:A1:275:C:H6 | 1.60 | 0.67 |
| 1:A1:553:G:C6 | 1:A1:554:C:N3 | 2.63 | 0.67 |
| 1:A1:1047:G:O6 | 1:A1:1071:U:O4 | 2.13 | 0.67 |
| 1:A1:1466:G:C4 | 1:A1:1467:C:C5 | 2.83 | 0.67 |
| 1:A1:1475:A:C5 | 1:A1:1476:C:C5 | 2.83 | 0.67 |
| 1:A1:1651:A:C2 | 1:A1:1652:C:C5 | 2.82 | 0.67 |
| 3:AB:162:CYS:H | 3:AB:209:ASN:CB | 2.08 | 0.67 |
| 29:B1:402:A:H61 | 46:BQ:21:TYR:CB | 2.08 | 0.67 |
| 29:B1:761:A:N1 | 29:B1:762:U:H1' | 2.09 | 0.67 |
| 29:B1:908:G:C8 | 29:B1:925:A:C2 | 2.83 | 0.67 |
| 29:B1:1107:C:C2 | 29:B1:1108:U:C5 | 2.83 | 0.67 |
| 29:B1:1143:A:H1' | 29:B1:1368:U:C5 | 2.29 | 0.67 |
| 29:B1:1170:A:OP2 | 74:B1:3537:OHX:N5 | 2.28 | 0.67 |
| 29:B1:1481:A:C8 | 29:B1:1859:A:N7 | 2.63 | 0.67 |
| 29:B1:1517:G:H2' | 29:B1:1518:U:C6 | 2.30 | 0.67 |
| 29:B1:1635:G:OP2 | 29:B1:1635:G:H2' | 1.95 | 0.67 |
| 29:B1:1656:A:H1' | 29:B1:1657:C:C5 | 2.30 | 0.67 |
| 29:B1:1851:G:C5 | 29:B1:1852:G:N7 | 2.63 | 0.67 |
| 29:B1:2306:C:H3' | 29:B1:2306:C:C6 | 2.25 | 0.67 |
| 29:B1:2640:A:H2' | 29:B1:2641:U:C6 | 2.29 | 0.67 |
| 29:B1:2727:A:C2 | 29:B1:2728:G:C6 | 2.83 | 0.67 |
| 29:B1:3090:U:O2' | 29:B1:3091:A:P | 2.53 | 0.67 |
| 29:B1:3208:G:H2' | 29:B1:3208:G:N3 | 2.10 | 0.67 |
| 30:B2:9:C:O2' | 30:B2:13:A:N6 | 2.28 | 0.67 |
| 30:B2:22:A:C6 | 30:B2:23:A:C6 | 2.81 | 0.67 |
| 31:B3:14:C:H3' | 31:B3:15:G:H8 | 1.60 | 0.67 |
| 36:BE:96:ALA:O | 36:BE:100:ALA:N | 2.25 | 0.67 |
| 38:BG:223:PHE:C | 38:BG:224:ILE:O | 2.37 | 0.67 |
| 42:BK:65:ILE:O | 42:BK:66:ALA:HB2 | 1.95 | 0.67 |
| 47:BR:77:ALA:C | 47:BR:79:LYS:H | 2.03 | 0.67 |
| 1:C1:710:U:N3 | 1:C1:729:G:C6 | 2.63 | 0.67 |
| 1:C1:844:A:H2' | 1:C1:845:G:C8 | 2.28 | 0.67 |
| 1:C1:975:C:H2' | 1:C1:976:G:H8 | 1.59 | 0.67 |
| 1:C1:1049:U:H2' | 1:C1:1050:G:C8 | 2.30 | 0.67 |
| 1:C1:1138:A:O2' | 1:C1:1139:A:H5' | 1.95 | 0.67 |
| 1:C1:1198:G:C3' | 1:C1:1199:G:H5' | 2.24 | 0.67 |
| 1:C1:1310:U:O5' | 1:C1:1310:U:H6 | 1.79 | 0.67 |
| 1:C1:1330:G:H2' | 1:C1:1331:A:C8 | 2.30 | 0.67 |
| 1:C1:1496:U:H4' | 1:C1:1519:U:O2' | 1.95 | 0.67 |
| 29:D1:200:C:H4' | 29:D1:201:A:OP2 | 1.94 | 0.67 |
| 29:D1:355:A:C2 | 29:D1:365:A:C4 | 2.83 | 0.67 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:361:A:O2' | 29:D1:362:U:O4' | 2.12 | 0.67 |
| 29:D1:516:A:H4' | 29:D1:517:G:OP1 | 1.94 | 0.67 |
| 29:D1:560:G:H2' | 29:D1:561:C:C5 | 2.29 | 0.67 |
| 29:D1:910:G:C4 | 29:D1:911:C:C6 | 2.83 | 0.67 |
| 29:D1:1105:A:H2' | 29:D1:1106:G:H8 | 1.60 | 0.67 |
| 29:D1:1471:U:C2 | 29:D1:1472:U:C5 | 2.83 | 0.67 |
| 29:D1:1481:A:C8 | 29:D1:1859:A:N7 | 2.63 | 0.67 |
| 29:D1:1627:U:OP1 | 29:D1:1627:U:H4' | 1.95 | 0.67 |
| 29:D1:1627:U:H3' | 29:D1:1628:C:O4' | 1.94 | 0.67 |
| 29:D1:2186:U:H2' | 29:D1:2187:G:C8 | 2.29 | 0.67 |
| 29:D1:2223:A:N1 | 29:D1:2783:U:H1' | 2.09 | 0.67 |
| 29:D1:2654:C:H5' | 29:D1:2657:A:C6 | 2.30 | 0.67 |
| 29:D1:2655:U:H4' | 29:D1:2656:A:H5' | 1.75 | 0.67 |
| 29:D1:2725:U:C5 | 29:D1:2727:A:O2' | 2.45 | 0.67 |
| 29:D1:2888:U:C4 | 29:D1:2910:A:C2 | 2.82 | 0.67 |
| 29:D1:3072:C:C5 | 29:D1:3073:A:C8 | 2.83 | 0.67 |
| 29:D1:3099:C:H6 | 29:D1:3099:C:C5' | 2.08 | 0.67 |
| 29:D1:3142:A:O3' | 29:D1:3144:G:H8 | 1.78 | 0.67 |
| 29:D1:3323:A:C6 | 29:D1:3324:C:C5 | 2.83 | 0.67 |
| 31:D3:19:C:C5 | 31:D3:20:U:C5 | 2.81 | 0.67 |
| 31:D3:140:G:C6 | 31:D3:141:C:N3 | 2.63 | 0.67 |
| 34:DC:294:GLY:O | 34:DC:305:ILE:N | 2.28 | 0.67 |
| 37:DF:144:ALA:C | 37:DF:146:ILE:N | 2.51 | 0.67 |
| 38:DG:160:ARG:C | 38:DG:162:PRO:N | 2.51 | 0.67 |
| 38:DG:201:PHE:O | 38:DG:202:LEU:CB | 2.43 | 0.67 |
| 38:DG:237:ASN:O | 38:DG:240:VAL:N | 2.27 | 0.67 |
| 39:DH:247:ASP:O | 39:DH:249:ARG:N | 2.28 | 0.67 |
| 43:DN:73:PRO:O | 43:DN:75:GLY:N | 2.28 | 0.67 |
| 47:DR:110:ALA:O | 47:DR:112:ALA:N | 2.27 | 0.67 |
| 1:A1:377:G:O2' | 1:A1:378:A:OP2 | 2.10 | 0.66 |
| 1:A1:725:U:H2' | 1:A1:725:U:O2 | 1.95 | 0.66 |
| 1:A1:824:G:O3' | 1:A1:825:U:O2 | 2.12 | 0.66 |
| 1:A1:884:A:H2' | 1:A1:885:G:C8 | 2.30 | 0.66 |
| 1:A1:926:A:H2' | 1:A1:927:C:H5' | 1.77 | 0.66 |
| 1:A1:1007:C:O2 | 1:A1:1007:C:C2' | 2.40 | 0.66 |
| 1:A1:1478:G:H2' | 1:A1:1479:A:O4' | 1.95 | 0.66 |
| 1:A1:1570:A:H3' | 1:A1:1571:C:C6 | 2.30 | 0.66 |
| 1:A1:1622:G:H3' | 1:A1:1623:C:H6 | 1.59 | 0.66 |
| 29:B1:517:G:H8 | 29:B1:517:G:P | 2.18 | 0.66 |
| 29:B1:691:A:H4' | 29:B1:692:A:OP2 | 1.94 | 0.66 |
| 29:B1:750:G:H5" | 29:B1:751:A:OP2 | 1.94 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:891:G:C2’ | 29:B1:892:U:O5’ | 2.43 | 0.66 |
| 29:B1:1140:G:H2’ | 29:B1:1141:C:H6 | 1.59 | 0.66 |
| 29:B1:1153:A:N7 | 29:B1:1154:A:C4 | 2.64 | 0.66 |
| 29:B1:1211:U:H2’ | 29:B1:1212:A:C8 | 2.28 | 0.66 |
| 29:B1:1376:C:N3 | 29:B1:1377:G:N7 | 2.44 | 0.66 |
| 29:B1:1468:A:O2’ | 29:B1:1469:C:P | 2.52 | 0.66 |
| 29:B1:1901:A:O3’ | 29:B1:2918:G:C5’ | 2.38 | 0.66 |
| 29:B1:2280:A:C6 | 29:B1:2282:U:C5 | 2.83 | 0.66 |
| 29:B1:2815:G:O2’ | 29:B1:2817:A:H2’ | 1.95 | 0.66 |
| 29:B1:2836:C:H5 | 29:B1:2853:A:N1 | 1.93 | 0.66 |
| 29:B1:2909:U:C4 | 29:B1:2910:A:N7 | 2.63 | 0.66 |
| 29:B1:3057:U:O2’ | 29:B1:3058:U:H4’ | 1.94 | 0.66 |
| 30:B2:49:G:OP2 | 30:B2:49:G:N9 | 2.27 | 0.66 |
| 34:BC:51:ALA:CB | 34:BC:79:VAL:HA | 2.24 | 0.66 |
| 35:BD:12:THR:CB | 35:BD:13:GLY:CA | 2.73 | 0.66 |
| 38:BG:68:ASP:O | 38:BG:71:ALA:HB3 | 1.95 | 0.66 |
| 60:Be:15:LYS:O | 60:Be:16:ALA:C | 2.38 | 0.66 |
| 1:C1:61:A:H4’ | 1:C1:62:A:H3’ | 1.76 | 0.66 |
| 1:C1:228:G:C5 | 1:C1:229:U:C4 | 2.82 | 0.66 |
| 1:C1:469:C:OP1 | 1:C1:469:C:C2 | 2.48 | 0.66 |
| 1:C1:550:A:H5” | 1:C1:551:G:OP1 | 1.95 | 0.66 |
| 1:C1:743:U:O4 | 1:C1:809:A:C2 | 2.47 | 0.66 |
| 1:C1:1123:C:H2’ | 1:C1:1124:A:O5’ | 1.94 | 0.66 |
| 1:C1:1134:C:O2’ | 1:C1:1135:U:H5’ | 1.95 | 0.66 |
| 1:C1:1560:U:O2 | 1:C1:1561:U:C5 | 2.48 | 0.66 |
| 1:C1:1583:A:N3 | 1:C1:1585:U:C4 | 2.63 | 0.66 |
| 1:C1:1720:G:C5 | 1:C1:1721:A:C4 | 2.83 | 0.66 |
| 1:C1:1773:C:H5” | 1:C1:1774:G:OP2 | 1.95 | 0.66 |
| 3:CB:177:GLY:O | 3:CB:195:ASP:HA | 1.95 | 0.66 |
| 6:CE:55:ALA:O | 6:CE:58:ASP:N | 2.28 | 0.66 |
| 6:CE:77:ILE:C | 6:CE:79:ARG:H | 2.02 | 0.66 |
| 29:D1:54:C:O2’ | 29:D1:55:G:H5’ | 1.96 | 0.66 |
| 29:D1:115:A:C8 | 29:D1:116:A:C2 | 2.84 | 0.66 |
| 29:D1:281:G:C2 | 29:D1:282:G:N7 | 2.63 | 0.66 |
| 29:D1:1145:G:C5 | 29:D1:1146:C:C5 | 2.83 | 0.66 |
| 29:D1:1507:G:OP2 | 29:D1:1507:G:C8 | 2.47 | 0.66 |
| 29:D1:1594:A:H1’ | 29:D1:1615:C:H1’ | 1.78 | 0.66 |
| 29:D1:2419:A:N6 | 29:D1:2804:A:N6 | 2.43 | 0.66 |
| 29:D1:3021:A:C4 | 29:D1:3023:U:O4 | 2.48 | 0.66 |
| 29:D1:3363:U:H5” | 29:D1:3364:C:OP2 | 1.94 | 0.66 |
| 36:DE:238:ASP:O | 36:DE:239:ILE:C | 2.36 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 45:DP:187:GLU:O | 45:DP:189:ASP:N | 2.28 | 0.66 |
| 47:DR:83:VAL:O | 47:DR:103:ALA:HB3 | 1.95 | 0.66 |
| 47:DR:98:LYS:CA | 47:DR:117:ALA:HB1 | 2.24 | 0.66 |
| 54:DY:68:PHE:C | 54:DY:110:GLY:HA2 | 2.19 | 0.66 |
| 1:A1:25:C:H3' | 1:A1:25:C:C6 | 2.29 | 0.66 |
| 1:A1:400:A:H4' | 1:A1:401:A:O5' | 1.94 | 0.66 |
| 1:A1:610:G:N2 | 1:A1:614:C:N3 | 2.44 | 0.66 |
| 1:A1:946:U:H2' | 1:A1:946:U:O2 | 1.95 | 0.66 |
| 1:A1:1041:G:O2' | 1:A1:1042:G:H5' | 1.95 | 0.66 |
| 1:A1:1255:G:O4' | 1:A1:1255:G:OP2 | 2.12 | 0.66 |
| 1:A1:1515:A:H8 | 15:AN:58:LEU:CB | 2.08 | 0.66 |
| 1:A1:1685:G:H22 | 1:A1:1718:G:N2 | 1.92 | 0.66 |
| 1:A1:1761:U:H1' | 1:A1:1762:A:N7 | 2.10 | 0.66 |
| 3:AB:238:SER:O | 3:AB:240:LEU:N | 2.28 | 0.66 |
| 4:AC:175:VAL:CB | 4:AC:183:GLY:H | 2.08 | 0.66 |
| 29:B1:157:A:N1 | 29:B1:266:A:H2 | 1.93 | 0.66 |
| 29:B1:308:A:H2 | 29:B1:2782:U:C2 | 2.14 | 0.66 |
| 29:B1:349:A:H2 | 31:B3:24:G:C8 | 2.13 | 0.66 |
| 29:B1:380:U:C2 | 29:B1:381:U:C5 | 2.83 | 0.66 |
| 29:B1:514:G:H2' | 29:B1:515:C:C6 | 2.31 | 0.66 |
| 29:B1:556:U:C2' | 29:B1:557:A:O4' | 2.43 | 0.66 |
| 29:B1:952:A:C2' | 29:B1:953:G:H5" | 2.13 | 0.66 |
| 29:B1:1024:G:H2' | 29:B1:1025:A:H5' | 1.78 | 0.66 |
| 29:B1:1303:A:N1 | 29:B1:2887:A:C6 | 2.63 | 0.66 |
| 29:B1:1347:U:H4' | 29:B1:1348:U:OP2 | 1.93 | 0.66 |
| 29:B1:1631:C:H5' | 29:B1:1813:A:C2 | 2.30 | 0.66 |
| 29:B1:1660:C:O2' | 29:B1:1661:G:H8 | 1.79 | 0.66 |
| 29:B1:2249:G:O4' | 29:B1:2272:G:H8 | 1.76 | 0.66 |
| 29:B1:2279:A:C8 | 29:B1:2288:G:C6 | 2.83 | 0.66 |
| 29:B1:2649:A:C1' | 29:B1:2696:A:H1' | 2.26 | 0.66 |
| 29:B1:2684:C:O2' | 29:B1:2685:C:O4' | 2.11 | 0.66 |
| 29:B1:3099:C:H6 | 29:B1:3099:C:H5' | 1.60 | 0.66 |
| 29:B1:3171:U:O2' | 29:B1:3172:A:P | 2.53 | 0.66 |
| 29:B1:3325:G:H1 | 29:B1:3380:U:H3 | 1.41 | 0.66 |
| 29:B1:3381:U:H2' | 29:B1:3383:G:N9 | 2.10 | 0.66 |
| 30:B2:59:U:H2' | 30:B2:60:G:H8 | 1.58 | 0.66 |
| 30:B2:73:C:H42 | 30:B2:74:C:H41 | 1.44 | 0.66 |
| 31:B3:72:A:H61 | 31:B3:85:G:H5" | 1.59 | 0.66 |
| 33:BB:171:GLY:C | 62:Bg:68:ALA:HB2 | 2.19 | 0.66 |
| 40:BI:161:LEU:O | 40:BI:163:GLN:N | 2.28 | 0.66 |
| 40:BI:170:LYS:O | 40:BI:171:ASP:C | 2.37 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:55:A:O2' | 1:C1:56:U:O5' | 2.11 | 0.66 |
| 1:C1:63:G:C6 | 1:C1:88:U:O2 | 2.48 | 0.66 |
| 1:C1:170:U:P | 1:C1:267:U:HO2' | 2.14 | 0.66 |
| 1:C1:217:A:H1' | 1:C1:218:A:OP2 | 1.94 | 0.66 |
| 1:C1:330:G:H2' | 1:C1:331:A:H8 | 1.58 | 0.66 |
| 1:C1:357:G:C5 | 1:C1:358:U:C4 | 2.83 | 0.66 |
| 1:C1:450:U:H2' | 1:C1:451:A:H8 | 1.58 | 0.66 |
| 1:C1:556:A:O3' | 1:C1:558:U:OP2 | 2.12 | 0.66 |
| 1:C1:650:U:C4 | 1:C1:684:A:N6 | 2.63 | 0.66 |
| 1:C1:985:G:H2' | 1:C1:986:G:H8 | 1.61 | 0.66 |
| 1:C1:1138:A:C6 | 1:C1:1139:A:N6 | 2.63 | 0.66 |
| 1:C1:1166:A:H5" | 1:C1:1167:G:OP2 | 1.94 | 0.66 |
| 1:C1:1364:G:C2' | 1:C1:1365:C:H5' | 2.25 | 0.66 |
| 1:C1:1501:C:C2' | 1:C1:1502:G:H5' | 2.25 | 0.66 |
| 1:C1:1511:U:H2' | 1:C1:1512:G:C8 | 2.30 | 0.66 |
| 1:C1:1727:G:C6 | 1:C1:1728:A:N6 | 2.64 | 0.66 |
| 1:C1:1765:A:OP2 | 74:C1:1983:OHX:N2 | 2.28 | 0.66 |
| 4:CC:14:ASP:C | 4:CC:16:VAL:N | 2.50 | 0.66 |
| 13:CL:71:GLN:O | 13:CL:72:ILE:C | 2.37 | 0.66 |
| 29:D1:518:G:H22 | 29:D1:572:A:N6 | 1.92 | 0.66 |
| 29:D1:637:C:O2' | 29:D1:638:C:H6 | 1.72 | 0.66 |
| 29:D1:953:G:C8 | 29:D1:953:G:C3' | 2.79 | 0.66 |
| 29:D1:996:A:C6 | 29:D1:1054:A:C8 | 2.83 | 0.66 |
| 29:D1:1018:G:H2' | 29:D1:1019:G:H8 | 1.60 | 0.66 |
| 29:D1:1129:A:C2' | 29:D1:1130:A:H5' | 2.24 | 0.66 |
| 29:D1:1324:U:C5' | 29:D1:1324:U:C6 | 2.78 | 0.66 |
| 29:D1:1351:U:H2' | 29:D1:1351:U:O2 | 1.93 | 0.66 |
| 29:D1:1352:A:H3' | 29:D1:1353:U:H4' | 1.77 | 0.66 |
| 29:D1:1941:C:O2' | 29:D1:3363:U:O2 | 2.10 | 0.66 |
| 29:D1:2269:U:C6 | 29:D1:2272:G:O6 | 2.49 | 0.66 |
| 29:D1:2571:U:H2' | 29:D1:2571:U:O2 | 1.94 | 0.66 |
| 29:D1:2593:A:H4' | 29:D1:2594:C:C5' | 2.25 | 0.66 |
| 29:D1:2614:G:C4 | 29:D1:2797:C:C5 | 2.83 | 0.66 |
| 29:D1:2750:U:O2' | 29:D1:2751:G:H5' | 1.95 | 0.66 |
| 29:D1:2872:A:H4' | 29:D1:2873:U:OP1 | 1.95 | 0.66 |
| 29:D1:2903:A:C5 | 29:D1:2904:U:H6 | 2.13 | 0.66 |
| 29:D1:3035:A:C4 | 29:D1:3036:G:C8 | 2.83 | 0.66 |
| 29:D1:3139:A:H2' | 29:D1:3140:G:C8 | 2.30 | 0.66 |
| 29:D1:3160:U:H2' | 29:D1:3161:C:C6 | 2.30 | 0.66 |
| 29:D1:3377:G:N3 | 29:D1:3379:C:OP2 | 2.28 | 0.66 |
| 34:DC:118:PHE:CA | 34:DC:119:TYR:CB | 2.73 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:DC:295:ALA:N | 34:DC:305:ILE:H | 1.92 | 0.66 |
| 38:DG:80:GLN:CA | 38:DG:81:HIS:CB | 2.73 | 0.66 |
| 39:DH:185:ARG:C | 39:DH:187:GLY:H | 2.03 | 0.66 |
| 49:DT:75:ILE:O | 49:DT:76:ILE:CB | 2.43 | 0.66 |
| 59:Dd:4:GLY:O | 59:Dd:7:SER:N | 2.27 | 0.66 |
| 1:A1:135:A:H4' | 1:A1:135:A:OP1 | 1.94 | 0.66 |
| 1:A1:224:C:C2' | 1:A1:225:A:H8 | 2.09 | 0.66 |
| 1:A1:289:U:OP1 | 1:A1:453:U:OP2 | 2.13 | 0.66 |
| 1:A1:718:U:H5 | 1:A1:722:G:C5 | 2.13 | 0.66 |
| 1:A1:720:G:H1' | 1:A1:721:U:O5' | 1.94 | 0.66 |
| 1:A1:827:C:C2 | 1:A1:846:G:C6 | 2.82 | 0.66 |
| 1:A1:1280:C:H4' | 15:AN:70:THR:CB | 2.25 | 0.66 |
| 1:A1:1287:A:N3 | 1:A1:1288:G:H1' | 2.10 | 0.66 |
| 1:A1:1511:U:H2' | 1:A1:1512:G:C8 | 2.30 | 0.66 |
| 3:AB:177:GLY:O | 3:AB:195:ASP:HA | 1.96 | 0.66 |
| 29:B1:420:G:H21 | 29:B1:2384:A:C3' | 2.07 | 0.66 |
| 29:B1:597:G:C2 | 29:B1:598:A:C4 | 2.83 | 0.66 |
| 29:B1:686:G:H2' | 29:B1:687:U:O4' | 1.95 | 0.66 |
| 29:B1:943:U:N1 | 29:B1:1432:C:C5 | 2.63 | 0.66 |
| 29:B1:1164:G:H2' | 29:B1:1165:A:H8 | 1.60 | 0.66 |
| 29:B1:1230:G:H3' | 29:B1:1231:A:C8 | 2.31 | 0.66 |
| 29:B1:1399:A:N1 | 31:B3:8:C:O4' | 2.28 | 0.66 |
| 29:B1:1901:A:C5' | 29:B1:2919:A:OP1 | 2.42 | 0.66 |
| 29:B1:2144:A:N3 | 29:B1:2281:A:C6 | 2.63 | 0.66 |
| 29:B1:2682:C:OP1 | 42:BK:50:ALA:N | 2.29 | 0.66 |
| 29:B1:2694:A:H2' | 29:B1:2695:A:H1' | 1.77 | 0.66 |
| 29:B1:2702:A:C4' | 29:B1:2704:A:C8 | 2.79 | 0.66 |
| 29:B1:2750:U:C2' | 29:B1:2751:G:H5' | 2.25 | 0.66 |
| 30:B2:87:G:N2 | 30:B2:95:A:C4 | 2.63 | 0.66 |
| 30:B2:91:G:C6 | 30:B2:92:A:C6 | 2.83 | 0.66 |
| 46:BQ:47:TYR:C | 46:BQ:49:GLU:H | 2.01 | 0.66 |
| 48:BS:127:SER:O | 48:BS:129:GLY:N | 2.29 | 0.66 |
| 57:Bb:75:LEU:O | 57:Bb:76:VAL:C | 2.36 | 0.66 |
| 58:Bc:16:GLN:C | 58:Bc:18:ALA:N | 2.49 | 0.66 |
| 61:Bf:14:GLY:N | 61:Bf:15:LYS:HA | 2.10 | 0.66 |
| 22:Bo:11:UNK:O | 22:Bo:15:UNK:CB | 2.44 | 0.66 |
| 1:C1:162:A:C3' | 1:C1:163:G:C8 | 2.76 | 0.66 |
| 1:C1:298:C:H3' | 1:C1:298:C:C6 | 2.30 | 0.66 |
| 1:C1:402:C:N4 | 1:C1:424:C:OP2 | 2.28 | 0.66 |
| 1:C1:1227:A:C8 | 1:C1:1229:G:H5' | 2.30 | 0.66 |
| 1:C1:1466:G:C6 | 1:C1:1467:C:C4 | 2.84 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1584:G:C2 | 1:C1:1585:U:OP1 | 2.49 | 0.66 |
| 1:C1:1603:U:O2 | 1:C1:1603:U:H2' | 1.94 | 0.66 |
| 3:CB:59:HIS:CB | 3:CB:61:LEU:H | 2.07 | 0.66 |
| 5:CD:160:VAL:CB | 19:CR:51:ASN:HA | 2.25 | 0.66 |
| 8:CG:94:LYS:O | 8:CG:98:VAL:CB | 2.43 | 0.66 |
| 10:CI:97:TYR:HA | 10:CI:102:PHE:H | 1.58 | 0.66 |
| 29:D1:49:A:N1 | 29:D1:279:U:H4' | 2.10 | 0.66 |
| 29:D1:72:C:H3' | 29:D1:73:C:H5' | 1.75 | 0.66 |
| 29:D1:196:G:N2 | 29:D1:219:A:H62 | 1.92 | 0.66 |
| 29:D1:269:G:C6 | 29:D1:294:U:H5 | 2.14 | 0.66 |
| 29:D1:315:C:H2' | 29:D1:316:U:C6 | 2.29 | 0.66 |
| 29:D1:596:C:H3' | 29:D1:597:G:C5' | 2.26 | 0.66 |
| 29:D1:637:C:N1 | 29:D1:638:C:C5 | 2.64 | 0.66 |
| 29:D1:914:A:H4' | 29:D1:915:A:H5' | 1.77 | 0.66 |
| 29:D1:1123:U:H2' | 29:D1:1124:U:O4' | 1.95 | 0.66 |
| 29:D1:1172:G:O2' | 29:D1:1173:U:H5' | 1.95 | 0.66 |
| 29:D1:1503:A:H5" | 29:D1:1503:A:C8 | 2.30 | 0.66 |
| 29:D1:1815:U:H3' | 29:D1:1816:A:H5' | 1.75 | 0.66 |
| 29:D1:2144:A:N3 | 29:D1:2281:A:C6 | 2.64 | 0.66 |
| 29:D1:2278:C:C2' | 29:D1:2279:A:H5" | 2.25 | 0.66 |
| 29:D1:2672:G:H4' | 42:DK:104:PHE:O | 1.95 | 0.66 |
| 29:D1:2880:U:O2 | 34:DC:250:ALA:HB3 | 1.95 | 0.66 |
| 29:D1:2985:C:H2' | 29:D1:2986:U:H6 | 1.60 | 0.66 |
| 29:D1:3324:C:H2' | 29:D1:3325:G:C8 | 2.23 | 0.66 |
| 34:DC:93:VAL:O | 34:DC:99:LEU:HA | 1.95 | 0.66 |
| 36:DE:40:HIS:HA | 36:DE:41:LYS:O | 1.94 | 0.66 |
| 36:DE:100:ALA:C | 36:DE:102:GLY:N | 2.51 | 0.66 |
| 37:DF:150:LYS:O | 37:DF:152:THR:N | 2.29 | 0.66 |
| 41:DJ:175:ASN:CB | 41:DJ:176:LEU:HA | 2.25 | 0.66 |
| 49:DT:78:LYS:O | 49:DT:79:MET:CB | 2.43 | 0.66 |
| 1:A1:395:U:O4 | 1:A1:396:G:C6 | 2.48 | 0.66 |
| 1:A1:489:C:H2' | 1:A1:490:C:C5 | 2.30 | 0.66 |
| 1:A1:491:C:H2' | 1:A1:492:A:C8 | 2.30 | 0.66 |
| 1:A1:688:G:H2' | 1:A1:689:G:H8 | 1.58 | 0.66 |
| 1:A1:751:G:O2' | 1:A1:752:A:H5' | 1.96 | 0.66 |
| 1:A1:1379:C:C3' | 1:A1:1380:U:H5' | 2.24 | 0.66 |
| 74:A1:1913:OHX:N5 | 74:A1:1986:OHX:N3 | 2.43 | 0.66 |
| 5:AD:108:LEU:C | 5:AD:110:ALA:N | 2.48 | 0.66 |
| 29:B1:284:A:N6 | 29:B1:2785:A:O4' | 2.28 | 0.66 |
| 29:B1:347:G:C2 | 29:B1:353:G:C5 | 2.83 | 0.66 |
| 29:B1:776:U:H3' | 29:B1:777:U:C4' | 2.24 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:826:G:OP1 | 29:B1:1590:G:O2' | 2.13 | 0.66 |
| 29:B1:1302:A:C4 | 29:B1:2887:A:N1 | 2.63 | 0.66 |
| 29:B1:1399:A:N3 | 29:B1:1399:A:H2' | 2.09 | 0.66 |
| 29:B1:1715:A:C3' | 29:B1:1716:U:H5" | 2.23 | 0.66 |
| 29:B1:2254:U:H2' | 29:B1:2261:G:H1 | 1.60 | 0.66 |
| 29:B1:2394:G:H21 | 34:BC:258:ALA:HA | 1.61 | 0.66 |
| 29:B1:2673:A:N1 | 29:B1:2676:A:C8 | 2.63 | 0.66 |
| 29:B1:2987:A:C4 | 29:B1:2988:C:C5 | 2.83 | 0.66 |
| 29:B1:3071:U:O2' | 29:B1:3072:C:C5' | 2.44 | 0.66 |
| 29:B1:3119:U:H2' | 29:B1:3120:C:H5' | 1.76 | 0.66 |
| 29:B1:3182:G:O2' | 29:B1:3183:A:H5' | 1.96 | 0.66 |
| 29:B1:3322:A:C6 | 29:B1:3386:G:N2 | 2.63 | 0.66 |
| 29:B1:3333:G:N2 | 29:B1:3371:G:H8 | 1.94 | 0.66 |
| 74:B1:3537:OHX:N4 | 38:BG:217:PRO:O | 2.28 | 0.66 |
| 37:BF:43:LEU:O | 37:BF:45:GLY:N | 2.28 | 0.66 |
| 44:BO:159:ARG:C | 44:BO:161:ALA:N | 2.54 | 0.66 |
| 47:BR:117:ALA:CB | 47:BR:118:GLY:HA2 | 2.22 | 0.66 |
| 49:BT:14:MET:C | 49:BT:16:GLN:H | 2.02 | 0.66 |
| 53:BX:36:SER:O | 53:BX:40:ARG:N | 2.21 | 0.66 |
| 56:Ba:20:LEU:HA | 56:Ba:22:GLY:O | 1.95 | 0.66 |
| 1:C1:551:G:C2 | 1:C1:552:G:C5 | 2.84 | 0.66 |
| 1:C1:765:G:H4' | 1:C1:766:U:OP1 | 1.94 | 0.66 |
| 1:C1:1073:G:C6 | 1:C1:1074:G:C5 | 2.83 | 0.66 |
| 1:C1:1170:G:N2 | 1:C1:1571:C:H4' | 2.10 | 0.66 |
| 1:C1:1174:C:C2 | 1:C1:1466:G:C2 | 2.83 | 0.66 |
| 1:C1:1368:G:H5' | 14:CM:70:GLN:CB | 2.25 | 0.66 |
| 1:C1:1416:G:C5 | 1:C1:1417:A:C8 | 2.83 | 0.66 |
| 1:C1:1592:A:C4 | 1:C1:1605:G:N2 | 2.63 | 0.66 |
| 1:C1:1635:A:O5' | 1:C1:1635:A:H8 | 1.78 | 0.66 |
| 1:C1:1670:G:N2 | 1:C1:1732:A:N6 | 2.43 | 0.66 |
| 29:D1:213:A:H61 | 29:D1:227:G:H2' | 1.60 | 0.66 |
| 29:D1:285:A:C2 | 29:D1:304:G:O3' | 2.47 | 0.66 |
| 29:D1:285:A:N1 | 29:D1:305:U:O5' | 2.28 | 0.66 |
| 29:D1:299:G:C6 | 29:D1:300:G:C5 | 2.83 | 0.66 |
| 29:D1:422:A:H4' | 29:D1:423:A:OP2 | 1.94 | 0.66 |
| 29:D1:677:A:H4' | 29:D1:678:G:O5' | 1.95 | 0.66 |
| 29:D1:943:U:C3' | 54:DY:10:LYS:HA | 2.21 | 0.66 |
| 29:D1:1194:G:C8 | 29:D1:1319:G:C4' | 2.77 | 0.66 |
| 29:D1:1269:U:H3 | 29:D1:1272:C:N4 | 1.93 | 0.66 |
| 29:D1:1522:U:C5 | 29:D1:1835:A:H1' | 2.31 | 0.66 |
| 29:D1:2443:A:H2' | 29:D1:2444:C:C6 | 2.31 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3149:G:H2' | 29:D1:3150:A:O4' | 1.96 | 0.66 |
| 29:D1:3201:C:HO2' | 29:D1:3202:G:H5' | 1.60 | 0.66 |
| 29:D1:3219:G:C5 | 29:D1:3257:C:H3' | 2.31 | 0.66 |
| 30:D2:69:C:H1' | 30:D2:110:G:H22 | 1.60 | 0.66 |
| 30:D2:75:G:P | 74:D2:201:OHX:N4 | 2.69 | 0.66 |
| 35:DD:12:THR:CB | 35:DD:13:GLY:CA | 2.73 | 0.66 |
| 40:DI:67:ALA:O | 40:DI:68:LEU:C | 2.38 | 0.66 |
| 47:DR:37:ALA:O | 47:DR:39:ARG:N | 2.28 | 0.66 |
| 1:A1:217:A:H1' | 1:A1:218:A:OP2 | 1.95 | 0.66 |
| 1:A1:446:A:C4 | 1:A1:447:U:C5 | 2.84 | 0.66 |
| 1:A1:539:G:N3 | 1:A1:543:C:N3 | 2.44 | 0.66 |
| 1:A1:624:G:H1' | 1:A1:1027:A:N3 | 2.11 | 0.66 |
| 1:A1:635:A:H2' | 1:A1:636:A:C8 | 2.30 | 0.66 |
| 1:A1:969:C:H4' | 1:A1:1104:U:O2' | 1.96 | 0.66 |
| 1:A1:1087:A:H5" | 1:A1:1088:A:OP2 | 1.95 | 0.66 |
| 1:A1:1099:U:C5 | 1:A1:1100:G:C6 | 2.82 | 0.66 |
| 1:A1:1140:G:C2 | 1:A1:1141:G:C8 | 2.84 | 0.66 |
| 1:A1:1431:C:C4' | 1:A1:1432:U:H5' | 2.24 | 0.66 |
| 1:A1:1521:G:H5' | 1:A1:1523:G:P | 2.36 | 0.66 |
| 1:A1:1566:U:C2' | 1:A1:1567:U:H5" | 2.24 | 0.66 |
| 1:A1:1631:A:C6 | 1:A1:1632:C:O2 | 2.49 | 0.66 |
| 1:A1:1761:U:O2' | 1:A1:1762:A:OP2 | 2.12 | 0.66 |
| 29:B1:156:G:H1' | 29:B1:157:A:H4' | 1.78 | 0.66 |
| 29:B1:405:U:H5 | 29:B1:406:G:N7 | 1.92 | 0.66 |
| 29:B1:408:A:C2 | 29:B1:409:A:C2 | 2.84 | 0.66 |
| 29:B1:437:G:C6 | 29:B1:438:A:C6 | 2.84 | 0.66 |
| 29:B1:597:G:C2 | 29:B1:607:A:H2 | 2.12 | 0.66 |
| 29:B1:789:A:O2' | 29:B1:790:U:H5' | 1.95 | 0.66 |
| 29:B1:1156:C:C2' | 29:B1:1157:G:H5" | 2.26 | 0.66 |
| 29:B1:2255:A:C6 | 74:B1:3438:OHX:N6 | 2.62 | 0.66 |
| 29:B1:2395:G:H2' | 29:B1:2396:G:C5' | 2.24 | 0.66 |
| 29:B1:3102:G:H5' | 29:B1:3102:G:C8 | 2.29 | 0.66 |
| 29:B1:3218:A:C4' | 29:B1:3220:G:H8 | 2.09 | 0.66 |
| 29:B1:3277:U:C6 | 29:B1:3277:U:OP2 | 2.48 | 0.66 |
| 30:B2:27:A:H1' | 30:B2:57:G:N2 | 2.10 | 0.66 |
| 31:B3:129:C:C2 | 31:B3:130:C:C5 | 2.83 | 0.66 |
| 35:BD:159:ILE:C | 35:BD:161:LYS:H | 2.02 | 0.66 |
| 44:BO:187:ARG:CB | 44:BO:188:ARG:CB | 2.73 | 0.66 |
| 1:C1:48:G:C5 | 1:C1:432:G:N2 | 2.63 | 0.66 |
| 1:C1:57:G:C5 | 1:C1:58:U:H5 | 2.13 | 0.66 |
| 1:C1:135:A:H4' | 1:C1:135:A:OP1 | 1.94 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:329:G:N3 | 1:C1:330:G:C8 | 2.63 | 0.66 |
| 1:C1:365:G:C2' | 1:C1:366:A:O5' | 2.44 | 0.66 |
| 1:C1:977:A:C6 | 1:C1:1025:A:C4 | 2.83 | 0.66 |
| 1:C1:1691:A:C6 | 1:C1:1713:G:C2 | 2.83 | 0.66 |
| 14:CM:101:ASN:O | 14:CM:103:LYS:N | 2.28 | 0.66 |
| 29:D1:7:C:O2 | 29:D1:7:C:C3' | 2.42 | 0.66 |
| 29:D1:177:U:H2' | 29:D1:177:U:O2 | 1.95 | 0.66 |
| 29:D1:439:C:H2' | 29:D1:439:C:O2 | 1.95 | 0.66 |
| 29:D1:514:G:O3' | 29:D1:515:C:C6 | 2.49 | 0.66 |
| 29:D1:523:A:C4 | 29:D1:524:U:C6 | 2.83 | 0.66 |
| 29:D1:585:A:C3' | 29:D1:586:C:C6 | 2.76 | 0.66 |
| 29:D1:716:A:OP2 | 29:D1:716:A:N3 | 2.28 | 0.66 |
| 29:D1:726:G:N1 | 29:D1:727:G:O6 | 2.29 | 0.66 |
| 29:D1:736:A:C8 | 29:D1:737:G:N7 | 2.63 | 0.66 |
| 29:D1:836:A:C2 | 29:D1:858:A:H1' | 2.30 | 0.66 |
| 29:D1:1799:A:C2 | 29:D1:1800:A:C2 | 2.83 | 0.66 |
| 29:D1:2556:C:O2 | 29:D1:2556:C:H2' | 1.94 | 0.66 |
| 29:D1:2912:G:O4' | 29:D1:3131:U:H5' | 1.96 | 0.66 |
| 29:D1:2942:C:C6 | 29:D1:2942:C:C3' | 2.79 | 0.66 |
| 29:D1:3179:U:O5' | 29:D1:3179:U:H6 | 1.79 | 0.66 |
| 29:D1:3314:A:H2' | 34:DC:119:TYR:C | 2.20 | 0.66 |
| 29:D1:3387:U:H2' | 29:D1:3388:C:H5 | 1.57 | 0.66 |
| 30:D2:14:U:H2' | 30:D2:15:C:O5' | 1.95 | 0.66 |
| 30:D2:64:A:H4' | 30:D2:65:G:O5' | 1.95 | 0.66 |
| 30:D2:91:G:N3 | 30:D2:92:A:C8 | 2.64 | 0.66 |
| 35:DD:100:PHE:O | 35:DD:102:PRO:N | 2.29 | 0.66 |
| 48:DS:23:TRP:O | 48:DS:50:ILE:HA | 1.96 | 0.66 |
| 49:DT:100:LYS:C | 49:DT:102:ARG:H | 2.03 | 0.66 |
| 1:A1:100:A:OP2 | 1:A1:101:U:OP2 | 2.13 | 0.66 |
| 1:A1:140:A:OP2 | 1:A1:140:A:H4' | 1.95 | 0.66 |
| 1:A1:322:G:O4' | 1:A1:323:A:H8 | 1.79 | 0.66 |
| 1:A1:385:A:OP2 | 1:A1:385:A:C8 | 2.49 | 0.66 |
| 1:A1:518:A:C8 | 1:A1:519:C:H5" | 2.30 | 0.66 |
| 1:A1:557:G:C2' | 1:A1:558:U:H4' | 2.26 | 0.66 |
| 1:A1:824:G:H5" | 1:A1:825:U:H5' | 1.76 | 0.66 |
| 1:A1:1147:A:H2' | 1:A1:1148:C:H6 | 1.61 | 0.66 |
| 1:A1:1351:G:C4 | 1:A1:1352:G:C8 | 2.83 | 0.66 |
| 1:A1:1454:G:C2' | 1:A1:1455:G:H5' | 2.25 | 0.66 |
| 1:A1:1457:C:C6 | 1:A1:1559:A:N6 | 2.61 | 0.66 |
| 1:A1:1632:C:C2 | 1:A1:1633:A:N7 | 2.63 | 0.66 |
| 1:A1:1756:A:O5' | 1:A1:1756:A:C8 | 2.41 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AG:49:GLN:HA | 8:AG:50:ILE:CB | 2.26 | 0.66 |
| 29:B1:85:A:H4' | 29:B1:86:G:OP1 | 1.95 | 0.66 |
| 29:B1:158:G:C5 | 29:B1:159:A:H1' | 2.31 | 0.66 |
| 29:B1:666:A:C6 | 29:B1:667:C:C5 | 2.84 | 0.66 |
| 29:B1:724:U:H2' | 29:B1:725:G:H8 | 1.59 | 0.66 |
| 29:B1:759:U:N3 | 29:B1:773:G:C6 | 2.64 | 0.66 |
| 29:B1:807:A:H3' | 29:B1:807:A:C8 | 2.31 | 0.66 |
| 29:B1:818:C:C2' | 29:B1:819:U:H5' | 2.25 | 0.66 |
| 29:B1:846:A:C4 | 29:B1:847:A:C8 | 2.83 | 0.66 |
| 29:B1:938:C:C2' | 29:B1:939:U:H5" | 2.25 | 0.66 |
| 29:B1:965:A:C6 | 29:B1:966:U:C2 | 2.83 | 0.66 |
| 29:B1:1047:A:O2' | 29:B1:1048:A:H5' | 1.95 | 0.66 |
| 29:B1:1183:C:C2' | 29:B1:1184:A:H5" | 2.25 | 0.66 |
| 29:B1:1386:A:O2' | 29:B1:1387:G:OP2 | 2.13 | 0.66 |
| 29:B1:1422:G:H2' | 29:B1:1423:C:H6 | 1.60 | 0.66 |
| 29:B1:1471:U:H2' | 29:B1:1472:U:C6 | 2.30 | 0.66 |
| 29:B1:1478:C:C5' | 29:B1:1478:C:H6 | 2.09 | 0.66 |
| 29:B1:2596:U:H2' | 29:B1:2597:U:H6 | 1.60 | 0.66 |
| 29:B1:2714:G:N2 | 29:B1:2751:G:C6 | 2.64 | 0.66 |
| 29:B1:3320:A:H2' | 29:B1:3321:C:N1 | 2.11 | 0.66 |
| 31:B3:8:C:H2' | 31:B3:9:A:C8 | 2.27 | 0.66 |
| 35:BD:89:ALA:O | 35:BD:91:GLY:N | 2.29 | 0.66 |
| 35:BD:252:GLU:C | 35:BD:254:ALA:H | 2.04 | 0.66 |
| 36:BE:35:ARG:HA | 36:BE:38:THR:O | 1.96 | 0.66 |
| 45:BP:142:SER:O | 45:BP:146:GLY:N | 2.28 | 0.66 |
| 51:BV:22:VAL:O | 51:BV:23:ARG:O | 2.13 | 0.66 |
| 54:BY:77:LYS:O | 54:BY:79:TRP:N | 2.29 | 0.66 |
| 1:C1:105:A:C2 | 74:C1:1916:OHX:N3 | 2.64 | 0.66 |
| 1:C1:139:C:H4' | 1:C1:140:A:H4' | 1.77 | 0.66 |
| 1:C1:374:U:C4 | 1:C1:375:U:C5 | 2.84 | 0.66 |
| 1:C1:588:U:H2' | 1:C1:589:C:H6 | 1.61 | 0.66 |
| 1:C1:906:A:H2' | 1:C1:907:A:O4' | 1.96 | 0.66 |
| 1:C1:1507:G:C2 | 1:C1:1508:U:H1' | 2.29 | 0.66 |
| 1:C1:1583:A:C2 | 1:C1:1585:U:C4 | 2.83 | 0.66 |
| 1:C1:1642:G:H2' | 1:C1:1781:A:O2' | 1.96 | 0.66 |
| 2:CA:169:SER:C | 2:CA:171:GLY:N | 2.51 | 0.66 |
| 3:CB:238:SER:O | 3:CB:240:LEU:N | 2.27 | 0.66 |
| 21:CT:240:VAL:HA | 21:CT:256:THR:HA | 1.77 | 0.66 |
| 29:D1:18:G:N2 | 31:D3:142:C:C2 | 2.64 | 0.66 |
| 29:D1:31:C:H2' | 29:D1:32:U:H5' | 1.77 | 0.66 |
| 29:D1:43:A:C6 | 29:D1:2802:A:H2 | 2.13 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:331:G:C6 | 31:D3:33:A:N1 | 2.64 | 0.66 |
| 29:D1:383:G:C3' | 29:D1:385:A:OP2 | 2.44 | 0.66 |
| 29:D1:430:U:H2' | 29:D1:431:U:H6 | 1.59 | 0.66 |
| 29:D1:736:A:H2' | 29:D1:737:G:C8 | 2.30 | 0.66 |
| 29:D1:1054:A:OP1 | 74:D1:3591:OHX:N4 | 2.28 | 0.66 |
| 29:D1:1127:G:N2 | 29:D1:1132:C:N4 | 2.44 | 0.66 |
| 29:D1:1444:G:H2' | 29:D1:1445:U:O5' | 1.96 | 0.66 |
| 29:D1:2592:G:C6 | 74:D1:3463:OHX:N3 | 2.64 | 0.66 |
| 29:D1:2596:U:H2' | 29:D1:2597:U:C6 | 2.30 | 0.66 |
| 29:D1:2732:G:H2' | 29:D1:2733:A:O4' | 1.95 | 0.66 |
| 29:D1:2985:C:H2' | 29:D1:2986:U:C6 | 2.31 | 0.66 |
| 29:D1:3070:A:C5 | 29:D1:3071:U:C5 | 2.84 | 0.66 |
| 29:D1:3308:C:C5 | 29:D1:3309:G:C2 | 2.81 | 0.66 |
| 30:D2:11:A:H1' | 30:D2:67:G:N2 | 2.06 | 0.66 |
| 34:DC:133:TYR:C | 34:DC:135:ALA:H | 2.03 | 0.66 |
| 34:DC:345:ASN:O | 34:DC:347:SER:N | 2.28 | 0.66 |
| 35:DD:10:SER:HA | 35:DD:17:ALA:H | 1.61 | 0.66 |
| 41:DJ:151:GLY:O | 41:DJ:154:ARG:N | 2.27 | 0.66 |
| 45:DP:83:ALA:O | 45:DP:84:LEU:C | 2.38 | 0.66 |
| 56:Da:28:ARG:O | 56:Da:30:PRO:N | 2.29 | 0.66 |
| 1:A1:50:C:C4 | 1:A1:424:C:C5 | 2.84 | 0.66 |
| 1:A1:71:A:C6 | 1:A1:83:G:N1 | 2.64 | 0.66 |
| 1:A1:156:A:H5' | 1:A1:416:A:C8 | 2.31 | 0.66 |
| 1:A1:199:G:C4 | 1:A1:200:A:N7 | 2.63 | 0.66 |
| 1:A1:515:A:OP2 | 74:A1:1936:OHX:N1 | 2.28 | 0.66 |
| 1:A1:737:A:HO2' | 1:A1:738:G:H8 | 1.41 | 0.66 |
| 1:A1:814:A:C4 | 1:A1:816:G:N2 | 2.64 | 0.66 |
| 1:A1:1242:A:H4' | 10:AI:78:THR:HA | 1.78 | 0.66 |
| 2:AA:198:MET:O | 2:AA:200:ASP:HA | 1.95 | 0.66 |
| 6:AE:130:THR:O | 6:AE:132:ARG:N | 2.28 | 0.66 |
| 9:AH:22:SER:O | 9:AH:24:ASN:N | 2.29 | 0.66 |
| 10:AI:67:ALA:HA | 10:AI:68:PRO:C | 2.20 | 0.66 |
| 29:B1:5:G:N2 | 31:B3:155:A:N3 | 2.44 | 0.66 |
| 29:B1:380:U:H2' | 29:B1:381:U:C6 | 2.31 | 0.66 |
| 29:B1:536:U:H6 | 29:B1:536:U:OP2 | 1.77 | 0.66 |
| 29:B1:574:U:O2' | 29:B1:575:G:OP1 | 2.08 | 0.66 |
| 29:B1:611:A:C3' | 29:B1:612:U:H5" | 2.15 | 0.66 |
| 29:B1:672:A:C6 | 29:B1:791:A:C6 | 2.84 | 0.66 |
| 29:B1:977:C:C2 | 29:B1:978:G:N7 | 2.64 | 0.66 |
| 29:B1:993:G:C8 | 29:B1:2637:A:C2 | 2.83 | 0.66 |
| 29:B1:1039:U:H2' | 29:B1:1040:A:C8 | 2.31 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1144:U:O2' | 29:B1:1145:G:OP2 | 2.11 | 0.66 |
| 29:B1:1157:G:C5' | 29:B1:1157:G:H8 | 2.07 | 0.66 |
| 29:B1:1317:A:C4 | 29:B1:1319:G:C8 | 2.84 | 0.66 |
| 29:B1:1539:A:H2' | 29:B1:1540:U:H5' | 1.76 | 0.66 |
| 29:B1:1678:G:C8 | 29:B1:1678:G:OP2 | 2.49 | 0.66 |
| 29:B1:2276:G:C6 | 29:B1:2277:C:C4 | 2.84 | 0.66 |
| 29:B1:2443:A:H2' | 29:B1:2444:C:C6 | 2.30 | 0.66 |
| 29:B1:2652:U:H2' | 29:B1:2653:C:H6 | 1.60 | 0.66 |
| 29:B1:2738:A:H5" | 29:B1:2739:A:OP2 | 1.96 | 0.66 |
| 29:B1:2889:C:O2' | 29:B1:2890:A:H5' | 1.96 | 0.66 |
| 29:B1:3238:G:C8 | 29:B1:3238:G:OP2 | 2.49 | 0.66 |
| 34:BC:93:VAL:O | 34:BC:99:LEU:HA | 1.95 | 0.66 |
| 35:BD:9:HIS:O | 35:BD:17:ALA:HB3 | 1.96 | 0.66 |
| 36:BE:113:LEU:N | 36:BE:114:GLY:HA3 | 2.11 | 0.66 |
| 44:BO:38:ARG:O | 44:BO:39:ALA:O | 2.12 | 0.66 |
| 45:BP:95:GLY:O | 45:BP:97:ALA:N | 2.28 | 0.66 |
| 62:Bg:33:GLN:O | 62:Bg:34:HIS:CB | 2.44 | 0.66 |
| 1:C1:497:G:H2' | 1:C1:498:G:H5' | 1.78 | 0.66 |
| 1:C1:527:A:P | 1:C1:527:A:H3' | 2.35 | 0.66 |
| 1:C1:916:U:C5 | 1:C1:917:U:C4 | 2.84 | 0.66 |
| 1:C1:1129:U:C5 | 1:C1:1130:G:N7 | 2.64 | 0.66 |
| 1:C1:1151:A:OP1 | 1:C1:1766:A:C2 | 2.49 | 0.66 |
| 1:C1:1339:C:C2' | 1:C1:1340:U:H5' | 2.26 | 0.66 |
| 1:C1:1552:U:H5' | 1:C1:1553:G:OP2 | 1.95 | 0.66 |
| 1:C1:1557:U:OP2 | 1:C1:1560:U:O4 | 2.13 | 0.66 |
| 1:C1:1715:G:H2' | 1:C1:1716:C:O4' | 1.95 | 0.66 |
| 1:C1:1760:G:C6 | 1:C1:1761:U:C5 | 2.84 | 0.66 |
| 3:CB:107:SER:HA | 3:CB:190:LEU:O | 1.95 | 0.66 |
| 29:D1:383:G:C3' | 29:D1:384:A:H5" | 2.18 | 0.66 |
| 29:D1:420:G:H21 | 29:D1:2384:A:C3' | 2.07 | 0.66 |
| 29:D1:498:A:O2' | 29:D1:499:G:H5' | 1.94 | 0.66 |
| 29:D1:545:U:H2' | 29:D1:546:C:C5 | 2.31 | 0.66 |
| 29:D1:727:G:N2 | 29:D1:741:U:N3 | 2.43 | 0.66 |
| 29:D1:1038:C:H4' | 29:D1:1038:C:OP1 | 1.96 | 0.66 |
| 29:D1:1079:A:H2' | 29:D1:1080:A:H8 | 1.58 | 0.66 |
| 29:D1:1481:A:N7 | 29:D1:1859:A:N7 | 2.44 | 0.66 |
| 29:D1:1666:G:H2' | 29:D1:1667:A:C8 | 2.31 | 0.66 |
| 29:D1:1689:U:C4 | 29:D1:1690:C:C5 | 2.84 | 0.66 |
| 29:D1:1728:G:N2 | 29:D1:1730:G:N2 | 2.42 | 0.66 |
| 29:D1:1875:G:C5 | 29:D1:1876:U:C5 | 2.84 | 0.66 |
| 29:D1:2129:U:H5" | 29:D1:2130:G:OP2 | 1.95 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2628:A:C1' | 29:D1:2798:C:C4 | 2.78 | 0.66 |
| 29:D1:2667:A:H62 | 29:D1:2690:G:H1 | 1.41 | 0.66 |
| 29:D1:2673:A:N1 | 29:D1:2676:A:C8 | 2.64 | 0.66 |
| 29:D1:2725:U:H6 | 29:D1:2725:U:H3' | 1.59 | 0.66 |
| 29:D1:2896:A:O2' | 29:D1:2897:A:P | 2.53 | 0.66 |
| 29:D1:2919:A:H3' | 29:D1:2920:U:H5' | 1.76 | 0.66 |
| 29:D1:3262:U:H2' | 29:D1:3263:G:C8 | 2.26 | 0.66 |
| 30:D2:13:A:N3 | 30:D2:13:A:O4' | 2.21 | 0.66 |
| 31:D3:19:C:C4 | 31:D3:20:U:C5 | 2.84 | 0.66 |
| 31:D3:144:G:O2' | 31:D3:145:U:H5' | 1.96 | 0.66 |
| 38:DG:237:ASN:O | 38:DG:241:LYS:N | 2.24 | 0.66 |
| 44:DO:85:THR:HA | 44:DO:86:ASN:CB | 2.24 | 0.66 |
| 49:DT:69:LYS:O | 49:DT:71:SER:N | 2.27 | 0.66 |
| 52:DW:88:MET:C | 52:DW:90:ALA:H | 2.04 | 0.66 |
| 57:Db:83:GLU:O | 57:Db:85:LEU:N | 2.28 | 0.66 |
| 1:A1:26:A:H2 | 1:A1:600:U:O2 | 1.79 | 0.66 |
| 1:A1:134:U:H3' | 1:A1:135:A:H5" | 1.78 | 0.66 |
| 1:A1:195:G:O2' | 1:A1:196:G:H5" | 1.96 | 0.66 |
| 1:A1:756:A:C5 | 1:A1:757:A:N7 | 2.63 | 0.66 |
| 1:A1:959:U:H1' | 1:A1:960:U:OP1 | 1.96 | 0.66 |
| 1:A1:1256:A:H2' | 1:A1:1256:A:N3 | 2.10 | 0.66 |
| 1:A1:1269:U:N3 | 1:A1:1432:U:O4' | 2.29 | 0.66 |
| 1:A1:1727:G:C6 | 1:A1:1728:A:N6 | 2.64 | 0.66 |
| 5:AD:148:ARG:O | 5:AD:157:ARG:HA | 1.96 | 0.66 |
| 9:AH:99:GLN:O | 9:AH:103:ARG:CB | 2.44 | 0.66 |
| 29:B1:10:C:O2 | 29:B1:11:A:O4' | 2.14 | 0.66 |
| 29:B1:395:A:H8 | 29:B1:395:A:OP1 | 1.79 | 0.66 |
| 29:B1:573:C:O2' | 29:B1:574:U:H5' | 1.95 | 0.66 |
| 29:B1:580:C:C2 | 29:B1:581:U:C5 | 2.82 | 0.66 |
| 29:B1:1056:U:H4' | 30:B2:82:G:H4' | 1.78 | 0.66 |
| 29:B1:1061:A:N6 | 29:B1:1062:A:N6 | 2.43 | 0.66 |
| 29:B1:1174:G:C6 | 29:B1:1318:A:C2 | 2.83 | 0.66 |
| 29:B1:1608:C:C2' | 29:B1:1609:C:H5' | 2.26 | 0.66 |
| 29:B1:1624:G:N2 | 29:B1:1625:A:N3 | 2.43 | 0.66 |
| 29:B1:1687:U:H6 | 29:B1:1687:U:P | 2.18 | 0.66 |
| 29:B1:1846:C:O2 | 29:B1:1846:C:C2' | 2.40 | 0.66 |
| 29:B1:2282:U:C6 | 29:B1:2282:U:H5' | 2.30 | 0.66 |
| 29:B1:2593:A:C4' | 29:B1:2594:C:H5' | 2.24 | 0.66 |
| 29:B1:2714:G:C2 | 29:B1:2751:G:C2 | 2.84 | 0.66 |
| 29:B1:2719:U:C5 | 29:B1:2720:G:C5 | 2.84 | 0.66 |
| 29:B1:3086:A:H2' | 29:B1:3087:A:O4' | 1.96 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3092:C:O2' | 29:B1:3094:A:OP2 | 2.12 | 0.66 |
| 29:B1:3269:U:O2' | 29:B1:3270:U:C5' | 2.43 | 0.66 |
| 29:B1:3327:G:C6 | 29:B1:3328:G:N7 | 2.63 | 0.66 |
| 29:B1:3327:G:N3 | 29:B1:3328:G:C8 | 2.63 | 0.66 |
| 30:B2:24:A:H2' | 30:B2:25:G:C8 | 2.30 | 0.66 |
| 34:BC:167:ARG:HA | 74:BC:401:OHX:N4 | 2.10 | 0.66 |
| 36:BE:147:ASP:O | 36:BE:148:ILE:C | 2.39 | 0.66 |
| 37:BF:136:GLU:O | 37:BF:138:GLN:N | 2.29 | 0.66 |
| 54:BY:129:PHE:CB | 54:BY:130:VAL:CA | 2.73 | 0.66 |
| 1:C1:34:G:C5 | 1:C1:475:A:N6 | 2.64 | 0.66 |
| 1:C1:529:A:C8 | 1:C1:529:A:OP2 | 2.49 | 0.66 |
| 1:C1:636:A:N1 | 1:C1:860:U:C4 | 2.63 | 0.66 |
| 1:C1:1075:C:C4 | 1:C1:1076:A:C6 | 2.84 | 0.66 |
| 1:C1:1094:G:C2 | 1:C1:1095:U:C4 | 2.84 | 0.66 |
| 1:C1:1321:A:C6 | 2:CA:105:GLY:HA3 | 2.30 | 0.66 |
| 13:CL:65:GLU:O | 13:CL:67:GLU:N | 2.27 | 0.66 |
| 13:CL:75:ASN:O | 13:CL:78:HIS:O | 2.13 | 0.66 |
| 29:D1:244:G:C6 | 29:D1:245:U:O2 | 2.49 | 0.66 |
| 29:D1:504:A:C2 | 29:D1:587:U:N3 | 2.43 | 0.66 |
| 29:D1:560:G:HO2' | 29:D1:561:C:H5' | 1.61 | 0.66 |
| 29:D1:594:U:O4 | 29:D1:610:G:O5' | 2.13 | 0.66 |
| 29:D1:625:G:H5' | 29:D1:625:G:C8 | 2.28 | 0.66 |
| 29:D1:771:A:H3' | 29:D1:772:U:H5' | 1.77 | 0.66 |
| 29:D1:1210:U:C2' | 29:D1:1211:U:H5' | 2.25 | 0.66 |
| 29:D1:1257:C:H3' | 29:D1:1258:U:H6 | 1.60 | 0.66 |
| 29:D1:1303:A:H4' | 29:D1:1303:A:OP1 | 1.96 | 0.66 |
| 29:D1:1351:U:O2 | 29:D1:1352:A:C5 | 2.49 | 0.66 |
| 29:D1:1728:G:H5' | 29:D1:1730:G:O4' | 1.96 | 0.66 |
| 29:D1:1913:A:C4 | 29:D1:2120:A:N7 | 2.64 | 0.66 |
| 29:D1:2197:C:N4 | 29:D1:2241:U:H2' | 2.11 | 0.66 |
| 29:D1:2232:A:H1' | 29:D1:2429:G:H5' | 1.77 | 0.66 |
| 29:D1:2725:U:C4 | 29:D1:2727:A:C2 | 2.84 | 0.66 |
| 29:D1:2909:U:C4 | 29:D1:2910:A:N7 | 2.64 | 0.66 |
| 29:D1:3058:U:O4' | 29:D1:3058:U:O2 | 2.10 | 0.66 |
| 29:D1:3209:A:C6 | 29:D1:3210:A:N1 | 2.64 | 0.66 |
| 29:D1:3303:G:C4' | 29:D1:3304:U:OP1 | 2.40 | 0.66 |
| 29:D1:3305:A:H2' | 29:D1:3306:U:O2 | 1.95 | 0.66 |
| 33:DB:12:ALA:O | 33:DB:14:SER:N | 2.28 | 0.66 |
| 34:DC:93:VAL:CB | 34:DC:156:SER:H | 2.09 | 0.66 |
| 47:DR:24:VAL:O | 47:DR:27:LYS:N | 2.29 | 0.66 |
| 50:DU:129:VAL:O | 50:DU:133:SER:CB | 2.44 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:148:A:O5' | 1:A1:149:C:H5 | 1.78 | 0.66 |
| 1:A1:176:C:H3' | 1:A1:177:U:C6 | 2.31 | 0.66 |
| 1:A1:212:U:C2' | 1:A1:213:A:H5' | 2.25 | 0.66 |
| 1:A1:252:U:O2' | 1:A1:253:A:O5' | 2.14 | 0.66 |
| 1:A1:479:C:H3' | 1:A1:480:G:C8 | 2.31 | 0.66 |
| 1:A1:841:U:C4 | 1:A1:842:C:C4 | 2.84 | 0.66 |
| 1:A1:992:A:C4 | 1:A1:1013:A:C2 | 2.83 | 0.66 |
| 1:A1:1003:A:N7 | 1:A1:1005:A:C2 | 2.64 | 0.66 |
| 1:A1:1049:U:H2' | 1:A1:1050:G:C8 | 2.30 | 0.66 |
| 1:A1:1385:G:H2' | 1:A1:1386:G:H8 | 1.61 | 0.66 |
| 1:A1:1552:U:N3 | 1:A1:1553:G:C4 | 2.63 | 0.66 |
| 1:A1:1593:A:O2' | 1:A1:1594:G:H5' | 1.95 | 0.66 |
| 1:A1:1788:G:H8 | 1:A1:1788:G:OP2 | 1.79 | 0.66 |
| 14:AM:134:ARG:O | 14:AM:137:ALA:N | 2.28 | 0.66 |
| 29:B1:20:A:O2' | 29:B1:21:G:C5' | 2.44 | 0.66 |
| 29:B1:120:G:H3' | 29:B1:121:A:N3 | 2.10 | 0.66 |
| 29:B1:373:A:C6 | 29:B1:375:A:N6 | 2.64 | 0.66 |
| 29:B1:550:A:H2' | 29:B1:551:A:C8 | 2.29 | 0.66 |
| 29:B1:716:A:H3' | 29:B1:717:C:H4' | 1.78 | 0.66 |
| 29:B1:726:G:N1 | 29:B1:727:G:O6 | 2.29 | 0.66 |
| 29:B1:742:G:C3' | 29:B1:743:C:H5" | 2.26 | 0.66 |
| 29:B1:889:U:H2' | 29:B1:890:C:H6 | 1.61 | 0.66 |
| 29:B1:1172:G:O2' | 29:B1:1173:U:H5' | 1.94 | 0.66 |
| 29:B1:1461:A:C4 | 29:B1:1462:A:C8 | 2.83 | 0.66 |
| 29:B1:2638:C:C2 | 29:B1:2639:G:C8 | 2.84 | 0.66 |
| 29:B1:2673:A:C2 | 29:B1:2674:A:C6 | 2.84 | 0.66 |
| 29:B1:2755:C:H2' | 29:B1:2755:C:O2 | 1.95 | 0.66 |
| 29:B1:2909:U:C5 | 29:B1:2910:A:N7 | 2.63 | 0.66 |
| 29:B1:2912:G:O6 | 29:B1:3130:A:C6 | 2.49 | 0.66 |
| 29:B1:2918:G:N2 | 29:B1:2919:A:C8 | 2.63 | 0.66 |
| 29:B1:3035:A:C5 | 29:B1:3036:G:N7 | 2.64 | 0.66 |
| 29:B1:3045:G:H2' | 29:B1:3046:A:O5' | 1.96 | 0.66 |
| 29:B1:3174:A:OP2 | 29:B1:3174:A:C4' | 2.44 | 0.66 |
| 29:B1:3202:G:O2' | 29:B1:3203:U:H5' | 1.95 | 0.66 |
| 30:B2:22:A:C5 | 30:B2:23:A:C6 | 2.83 | 0.66 |
| 30:B2:91:G:N3 | 30:B2:92:A:C8 | 2.64 | 0.66 |
| 30:B2:115:G:H2' | 30:B2:115:G:N3 | 2.11 | 0.66 |
| 31:B3:72:A:H62 | 31:B3:85:G:N2 | 1.94 | 0.66 |
| 36:BE:126:GLU:C | 36:BE:128:GLU:N | 2.53 | 0.66 |
| 43:BN:73:PRO:O | 43:BN:75:GLY:N | 2.29 | 0.66 |
| 45:BP:97:ALA:O | 45:BP:100:GLU:N | 2.29 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 46:BQ:116:HIS:O | 46:BQ:148:LEU:HA | 1.95 | 0.66 |
| 63:Bh:39:UNK:HA | 63:Bh:42:UNK:CB | 2.26 | 0.66 |
| 1:C1:134:U:H3' | 1:C1:135:A:H5" | 1.78 | 0.66 |
| 1:C1:212:U:C2' | 1:C1:213:A:H5' | 2.25 | 0.66 |
| 1:C1:224:C:C2' | 1:C1:225:A:H8 | 2.08 | 0.66 |
| 1:C1:817:A:C2 | 1:C1:855:A:H2 | 2.13 | 0.66 |
| 1:C1:1138:A:N3 | 1:C1:1139:A:C8 | 2.64 | 0.66 |
| 1:C1:1196:A:C4' | 1:C1:1197:C:H5" | 2.20 | 0.66 |
| 1:C1:1636:C:N3 | 1:C1:1765:A:N6 | 2.43 | 0.66 |
| 1:C1:1650:U:H3' | 1:C1:1651:A:C8 | 2.30 | 0.66 |
| 1:C1:1746:A:H3' | 1:C1:1747:G:H8 | 1.60 | 0.66 |
| 1:C1:1783:C:H2' | 1:C1:1784:C:H6 | 1.60 | 0.66 |
| 2:CA:139:VAL:O | 2:CA:141:ILE:N | 2.29 | 0.66 |
| 16:CO:37:PHE:C | 16:CO:39:GLN:N | 2.52 | 0.66 |
| 29:D1:145:G:N3 | 29:D1:145:G:H2' | 2.09 | 0.66 |
| 29:D1:306:A:C2 | 29:D1:307:A:C8 | 2.83 | 0.66 |
| 29:D1:591:G:N1 | 29:D1:592:A:C4 | 2.63 | 0.66 |
| 29:D1:707:U:O2' | 29:D1:752:C:O2 | 2.14 | 0.66 |
| 29:D1:915:A:C8 | 29:D1:916:G:H4' | 2.31 | 0.66 |
| 29:D1:1224:C:H5 | 29:D1:1285:G:C6 | 2.14 | 0.66 |
| 29:D1:1364:C:H2' | 29:D1:1365:G:C8 | 2.31 | 0.66 |
| 29:D1:1412:G:C5 | 29:D1:1413:G:N7 | 2.63 | 0.66 |
| 29:D1:2326:A:C6 | 29:D1:2327:U:C5 | 2.83 | 0.66 |
| 29:D1:2650:U:H2' | 29:D1:2650:U:O2 | 1.96 | 0.66 |
| 29:D1:2806:U:O2' | 29:D1:2807:U:H5' | 1.96 | 0.66 |
| 29:D1:3132:C:O2' | 29:D1:3133:C:H5' | 1.96 | 0.66 |
| 29:D1:3212:C:N3 | 29:D1:3213:A:C2 | 2.60 | 0.66 |
| 29:D1:3325:G:H2' | 29:D1:3326:G:O4' | 1.96 | 0.66 |
| 29:D1:3327:G:N3 | 29:D1:3328:G:N7 | 2.43 | 0.66 |
| 30:D2:22:A:C6 | 30:D2:23:A:C6 | 2.83 | 0.66 |
| 33:DB:102:LEU:O | 33:DB:104:LEU:N | 2.29 | 0.66 |
| 1:A1:126:A:N6 | 1:A1:292:U:C2 | 2.64 | 0.66 |
| 1:A1:312:A:H2 | 1:A1:314:C:H2' | 1.60 | 0.66 |
| 1:A1:320:U:OP2 | 1:A1:322:G:H5" | 1.96 | 0.66 |
| 1:A1:375:U:H2' | 1:A1:375:U:O2 | 1.96 | 0.66 |
| 1:A1:427:C:H6 | 1:A1:427:C:H5" | 1.58 | 0.66 |
| 1:A1:687:G:N2 | 1:A1:688:G:C4 | 2.64 | 0.66 |
| 1:A1:955:A:H2' | 1:A1:956:C:O4' | 1.96 | 0.66 |
| 1:A1:1138:A:N3 | 1:A1:1139:A:N7 | 2.44 | 0.66 |
| 1:A1:1332:C:O2' | 1:A1:1333:C:H6 | 1.79 | 0.66 |
| 1:A1:1337:A:H5' | 1:A1:1338:C:OP2 | 1.95 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 9:AH:21:ALA:N | 9:AH:85:ALA:HB2 | 2.11 | 0.66 |
| 29:B1:77:A:C2 | 29:B1:78:U:H1' | 2.31 | 0.66 |
| 29:B1:86:G:H22 | 29:B1:98:G:C2' | 2.06 | 0.66 |
| 29:B1:398:A:C2 | 29:B1:1415:U:H5" | 2.30 | 0.66 |
| 29:B1:519:A:H62 | 37:BF:30:LEU:HA | 1.61 | 0.66 |
| 29:B1:592:A:C5 | 29:B1:593:C:C6 | 2.84 | 0.66 |
| 29:B1:592:A:H3' | 29:B1:593:C:H4' | 1.73 | 0.66 |
| 29:B1:773:G:N2 | 29:B1:774:G:C4 | 2.64 | 0.66 |
| 29:B1:840:C:H2' | 29:B1:841:A:H5' | 1.77 | 0.66 |
| 29:B1:891:G:C6 | 29:B1:892:U:C4 | 2.84 | 0.66 |
| 29:B1:1169:A:C2 | 29:B1:1330:A:C5 | 2.84 | 0.66 |
| 29:B1:1287:A:C6 | 29:B1:1288:U:C4 | 2.83 | 0.66 |
| 29:B1:1303:A:OP1 | 29:B1:1303:A:H4' | 1.95 | 0.66 |
| 29:B1:1349:G:O2' | 29:B1:1350:A:OP2 | 2.14 | 0.66 |
| 29:B1:1585:C:O2' | 29:B1:1586:G:H5' | 1.96 | 0.66 |
| 29:B1:2421:U:C4 | 29:B1:2422:C:C5 | 2.84 | 0.66 |
| 29:B1:2674:A:P | 42:BK:106:ILE:O | 2.54 | 0.66 |
| 29:B1:3178:A:O2' | 29:B1:3179:U:OP1 | 2.12 | 0.66 |
| 30:B2:94:C:O2 | 30:B2:95:A:C8 | 2.49 | 0.66 |
| 30:B2:106:U:O2 | 30:B2:107:C:C6 | 2.49 | 0.66 |
| 31:B3:109:A:C2 | 31:B3:114:G:C6 | 2.83 | 0.66 |
| 34:BC:193:ASP:C | 34:BC:195:ALA:N | 2.49 | 0.66 |
| 40:BI:63:LYS:O | 40:BI:64:HIS:C | 2.38 | 0.66 |
| 40:BI:90:MET:HA | 40:BI:181:VAL:HA | 1.77 | 0.66 |
| 46:BQ:50:GLN:O | 46:BQ:54:HIS:N | 2.28 | 0.66 |
| 47:BR:45:ASN:O | 47:BR:48:VAL:N | 2.28 | 0.66 |
| 48:BS:25:ASP:C | 48:BS:27:ASN:N | 2.52 | 0.66 |
| 1:C1:129:U:H5 | 1:C1:264:G:C6 | 2.08 | 0.66 |
| 1:C1:223:U:H5' | 1:C1:224:C:OP2 | 1.96 | 0.66 |
| 1:C1:243:G:C2 | 1:C1:251:A:C6 | 2.77 | 0.66 |
| 1:C1:1327:C:C2' | 1:C1:1328:G:H5' | 2.25 | 0.66 |
| 1:C1:1602:C:H3' | 1:C1:1603:U:C6 | 2.27 | 0.66 |
| 1:C1:1752:U:C2' | 1:C1:1753:A:H8 | 2.05 | 0.66 |
| 1:C1:1767:G:O2' | 1:C1:1768:G:OP2 | 2.12 | 0.66 |
| 1:C1:1779:U:O2' | 1:C1:1780:G:P | 2.53 | 0.66 |
| 29:D1:585:A:C6 | 29:D1:586:C:N4 | 2.64 | 0.66 |
| 29:D1:597:G:C2 | 29:D1:607:A:H2 | 2.14 | 0.66 |
| 29:D1:832:G:C2 | 29:D1:863:C:C2 | 2.84 | 0.66 |
| 29:D1:840:C:H2' | 29:D1:841:A:H5' | 1.78 | 0.66 |
| 29:D1:972:A:O2' | 29:D1:973:A:H5' | 1.94 | 0.66 |
| 29:D1:1152:G:O2' | 29:D1:1153:A:OP1 | 2.14 | 0.66 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1294:A:O2' | 29:D1:1295:G:O5' | 2.13 | 0.66 |
| 29:D1:1302:A:C1' | 29:D1:2887:A:C2 | 2.79 | 0.66 |
| 29:D1:1330:A:N1 | 29:D1:1332:A:H1' | 2.11 | 0.66 |
| 29:D1:1811:G:C6 | 29:D1:1812:G:C8 | 2.84 | 0.66 |
| 29:D1:1907:C:H2' | 29:D1:1908:A:H5' | 1.78 | 0.66 |
| 29:D1:2562:A:H2' | 29:D1:2563:G:H8 | 1.60 | 0.66 |
| 29:D1:2761:G:H22 | 29:D1:2795:U:H2' | 1.61 | 0.66 |
| 29:D1:2847:A:N7 | 29:D1:2898:G:C5 | 2.64 | 0.66 |
| 29:D1:2980:U:C2' | 29:D1:2981:U:H5' | 2.26 | 0.66 |
| 29:D1:3201:C:C2 | 29:D1:3202:G:N7 | 2.64 | 0.66 |
| 29:D1:3390:G:C4 | 29:D1:3391:A:C8 | 2.84 | 0.66 |
| 31:D3:65:A:C5 | 31:D3:66:A:C5 | 2.84 | 0.66 |
| 31:D3:72:A:H62 | 31:D3:85:G:H21 | 1.44 | 0.66 |
| 34:DC:50:LYS:CB | 34:DC:334:ARG:H | 2.08 | 0.66 |
| 54:DY:72:VAL:C | 54:DY:74:ASN:H | 2.03 | 0.66 |
| 1:A1:63:G:H5' | 1:A1:170:U:C4 | 2.32 | 0.65 |
| 1:A1:228:G:O2' | 1:A1:229:U:C6 | 2.49 | 0.65 |
| 1:A1:789:A:C4 | 1:A1:790:U:C6 | 2.83 | 0.65 |
| 1:A1:861:U:H5 | 1:A1:862:A:C8 | 2.10 | 0.65 |
| 1:A1:999:U:H2' | 1:A1:1000:C:O2 | 1.96 | 0.65 |
| 1:A1:1166:A:H5" | 1:A1:1167:G:OP2 | 1.96 | 0.65 |
| 1:A1:1202:A:N6 | 1:A1:1457:C:OP1 | 2.30 | 0.65 |
| 1:A1:1429:G:H2' | 1:A1:1430:U:C6 | 2.29 | 0.65 |
| 1:A1:1603:U:O2 | 1:A1:1603:U:H2' | 1.95 | 0.65 |
| 1:A1:1746:A:H3' | 1:A1:1747:G:H8 | 1.60 | 0.65 |
| 1:A1:1750:A:C5 | 1:A1:1751:C:C5 | 2.83 | 0.65 |
| 1:A1:1780:G:H1' | 29:B1:2262:A:C2' | 2.25 | 0.65 |
| 14:AM:55:TYR:O | 14:AM:58:ALA:HB3 | 1.96 | 0.65 |
| 29:B1:542:G:C2 | 29:B1:543:C:C4 | 2.84 | 0.65 |
| 29:B1:592:A:N3 | 29:B1:593:C:N1 | 2.42 | 0.65 |
| 29:B1:887:G:C6 | 29:B1:888:A:C6 | 2.84 | 0.65 |
| 29:B1:1389:G:O2' | 29:B1:1390:A:O5' | 2.13 | 0.65 |
| 29:B1:1785:U:O2' | 29:B1:1786:G:H8 | 1.79 | 0.65 |
| 29:B1:2223:A:C2 | 29:B1:2224:A:C4 | 2.84 | 0.65 |
| 29:B1:2424:A:OP2 | 29:B1:2424:A:H8 | 1.79 | 0.65 |
| 29:B1:2690:G:O2' | 29:B1:2691:A:OP1 | 2.14 | 0.65 |
| 29:B1:2908:G:C5 | 29:B1:2909:U:C5 | 2.84 | 0.65 |
| 29:B1:2987:A:C5 | 29:B1:2988:C:C5 | 2.84 | 0.65 |
| 29:B1:3176:G:C2' | 29:B1:3177:G:C5' | 2.73 | 0.65 |
| 29:B1:3240:C:O2' | 29:B1:3241:G:H5' | 1.95 | 0.65 |
| 29:B1:3276:G:H2' | 29:B1:3277:U:O4' | 1.95 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3281:U:C4 | 29:B1:3282:U:O4 | 2.50 | 0.65 |
| 29:B1:3368:U:H5' | 29:B1:3368:U:H6 | 1.61 | 0.65 |
| 29:B1:3386:G:O5' | 29:B1:3386:G:C8 | 2.48 | 0.65 |
| 30:B2:79:A:H1' | 30:B2:102:A:N6 | 2.11 | 0.65 |
| 33:BB:102:LEU:O | 33:BB:104:LEU:N | 2.29 | 0.65 |
| 34:BC:295:ALA:H | 34:BC:305:ILE:H | 1.42 | 0.65 |
| 35:BD:20:LEU:O | 35:BD:21:PRO:CB | 2.42 | 0.65 |
| 36:BE:194:LEU:O | 36:BE:196:ARG:N | 2.29 | 0.65 |
| 40:BI:73:SER:O | 40:BI:76:ASP:N | 2.27 | 0.65 |
| 45:BP:74:ARG:O | 45:BP:75:ALA:O | 2.14 | 0.65 |
| 45:BP:124:LEU:CB | 45:BP:128:ARG:N | 2.59 | 0.65 |
| 52:BW:69:SER:O | 52:BW:71:THR:N | 2.30 | 0.65 |
| 1:C1:115:G:H21 | 1:C1:334:G:H21 | 1.43 | 0.65 |
| 1:C1:269:G:H2' | 1:C1:270:C:H6 | 1.61 | 0.65 |
| 1:C1:1032:G:H2' | 1:C1:1033:C:H6 | 1.61 | 0.65 |
| 1:C1:1049:U:H2' | 1:C1:1050:G:H8 | 1.61 | 0.65 |
| 1:C1:1345:A:N7 | 1:C1:1347:U:N3 | 2.45 | 0.65 |
| 1:C1:1612:U:H3' | 1:C1:1613:U:H5" | 1.78 | 0.65 |
| 1:C1:1684:U:C4 | 1:C1:1721:A:H2 | 2.13 | 0.65 |
| 17:CP:58:GLY:HA2 | 17:CP:70:LYS:HA | 1.78 | 0.65 |
| 29:D1:8:C:C2 | 29:D1:9:U:H5 | 2.13 | 0.65 |
| 29:D1:264:G:H3' | 29:D1:265:A:H8 | 1.57 | 0.65 |
| 29:D1:354:U:OP2 | 29:D1:364:G:N1 | 2.28 | 0.65 |
| 29:D1:422:A:N3 | 29:D1:422:A:O4' | 2.24 | 0.65 |
| 29:D1:656:A:H3' | 29:D1:657:A:C8 | 2.31 | 0.65 |
| 29:D1:675:C:O2 | 29:D1:679:U:H5' | 1.95 | 0.65 |
| 29:D1:1152:G:O5' | 29:D1:1152:G:C8 | 2.47 | 0.65 |
| 29:D1:1198:C:C6 | 29:D1:1200:A:H8 | 2.14 | 0.65 |
| 29:D1:1278:A:HO2' | 29:D1:1279:C:H6 | 0.73 | 0.65 |
| 29:D1:1349:G:O2' | 29:D1:1350:A:OP2 | 2.14 | 0.65 |
| 29:D1:1656:A:H1' | 29:D1:1657:C:C5 | 2.31 | 0.65 |
| 29:D1:1899:G:N3 | 29:D1:2334:U:C5 | 2.64 | 0.65 |
| 29:D1:1901:A:H4' | 29:D1:2918:G:H4' | 1.78 | 0.65 |
| 29:D1:1948:G:C2 | 29:D1:1949:G:N7 | 2.64 | 0.65 |
| 29:D1:2112:U:H1' | 29:D1:2113:A:OP2 | 1.95 | 0.65 |
| 29:D1:2147:A:OP1 | 33:DB:199:THR:N | 2.26 | 0.65 |
| 29:D1:2766:U:H2' | 29:D1:2767:U:H6 | 1.58 | 0.65 |
| 29:D1:3180:A:C8 | 45:DP:114:LYS:CB | 2.78 | 0.65 |
| 29:D1:3246:G:H2' | 29:D1:3247:G:H8 | 1.59 | 0.65 |
| 29:D1:3299:A:HO2' | 29:D1:3300:U:P | 2.18 | 0.65 |
| 29:D1:3334:U:O2 | 29:D1:3335:A:C4 | 2.49 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:D2:12:U:H3' | 30:D2:13:A:N1 | 2.10 | 0.65 |
| 30:D2:23:A:C2' | 30:D2:24:A:C8 | 2.79 | 0.65 |
| 30:D2:75:G:OP1 | 74:D2:201:OHX:N1 | 2.28 | 0.65 |
| 35:DD:134:LEU:O | 35:DD:136:LEU:N | 2.28 | 0.65 |
| 44:DO:38:ARG:O | 44:DO:39:ALA:O | 2.13 | 0.65 |
| 44:DO:187:ARG:CB | 44:DO:188:ARG:CB | 2.74 | 0.65 |
| 1:A1:175:G:C5 | 74:A1:1915:OHX:N2 | 2.64 | 0.65 |
| 1:A1:213:A:H2' | 1:A1:214:G:H5' | 1.78 | 0.65 |
| 1:A1:480:G:O2' | 1:A1:481:A:H5' | 1.94 | 0.65 |
| 1:A1:1142:A:O2' | 1:A1:1143:A:O4' | 2.07 | 0.65 |
| 1:A1:1183:A:H2' | 1:A1:1210:C:O2' | 1.95 | 0.65 |
| 1:A1:1691:A:C6 | 1:A1:1713:G:C2 | 2.84 | 0.65 |
| 2:AA:169:SER:C | 2:AA:171:GLY:N | 2.45 | 0.65 |
| 5:AD:140:THR:O | 5:AD:171:ALA:HB1 | 1.97 | 0.65 |
| 6:AE:99:LEU:O | 6:AE:101:VAL:N | 2.29 | 0.65 |
| 29:B1:318:A:H8 | 29:B1:318:A:OP2 | 1.79 | 0.65 |
| 29:B1:351:A:H8 | 31:B3:53:A:H1' | 1.61 | 0.65 |
| 29:B1:406:G:N2 | 31:B3:16:G:C4 | 2.64 | 0.65 |
| 29:B1:1102:A:O3' | 29:B1:1103:A:H4' | 1.95 | 0.65 |
| 29:B1:1194:G:H2' | 29:B1:1309:U:O2 | 1.95 | 0.65 |
| 29:B1:1428:A:OP2 | 54:BY:1:MET:CB | 2.44 | 0.65 |
| 29:B1:1441:G:C2' | 29:B1:1442:U:C5' | 2.59 | 0.65 |
| 29:B1:1830:G:C4 | 29:B1:1831:U:C6 | 2.83 | 0.65 |
| 29:B1:2221:G:H3' | 29:B1:2221:G:C8 | 2.31 | 0.65 |
| 29:B1:2299:A:C4 | 29:B1:2300:G:C8 | 2.84 | 0.65 |
| 29:B1:2436:U:H5' | 29:B1:2437:G:OP2 | 1.94 | 0.65 |
| 29:B1:2716:U:C3' | 29:B1:2717:U:H5" | 2.26 | 0.65 |
| 29:B1:3314:A:H2' | 34:BC:119:TYR:C | 2.22 | 0.65 |
| 29:B1:3333:G:H1 | 29:B1:3370:A:C4' | 2.09 | 0.65 |
| 34:BC:68:HIS:O | 34:BC:69:LYS:C | 2.39 | 0.65 |
| 34:BC:193:ASP:O | 34:BC:195:ALA:N | 2.28 | 0.65 |
| 38:BG:238:LYS:HA | 38:BG:241:LYS:CB | 2.26 | 0.65 |
| 45:BP:190:VAL:C | 45:BP:192:LYS:N | 2.54 | 0.65 |
| 60:Be:10:LYS:O | 60:Be:13:MET:N | 2.29 | 0.65 |
| 1:C1:228:G:O2' | 1:C1:229:U:H6 | 1.75 | 0.65 |
| 1:C1:742:U:O2' | 1:C1:744:U:H5 | 1.80 | 0.65 |
| 1:C1:879:G:H5' | 8:CG:108:ASP:HA | 1.78 | 0.65 |
| 1:C1:974:A:OP1 | 29:D1:848:A:O2' | 2.11 | 0.65 |
| 1:C1:1041:G:O2' | 1:C1:1042:G:H5' | 1.96 | 0.65 |
| 1:C1:1144:U:H2' | 1:C1:1145:U:H6 | 1.62 | 0.65 |
| 1:C1:1160:A:C4 | 1:C1:1161:C:C5 | 2.85 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1330:G:C4 | 1:C1:1331:A:C8 | 2.84 | 0.65 |
| 1:C1:1458:G:H5" | 1:C1:1459:C:H5 | 1.58 | 0.65 |
| 1:C1:1467:C:C2' | 1:C1:1468:U:H5' | 2.25 | 0.65 |
| 1:C1:1602:C:H5' | 1:C1:1603:U:OP2 | 1.97 | 0.65 |
| 3:CB:160:GLY:O | 3:CB:209:ASN:HA | 1.96 | 0.65 |
| 3:CB:188:LEU:O | 3:CB:189:GLN:C | 2.38 | 0.65 |
| 17:CP:48:HIS:O | 17:CP:49:ALA:HB2 | 1.95 | 0.65 |
| 29:D1:69:C:N3 | 29:D1:70:A:H1' | 2.11 | 0.65 |
| 29:D1:314:U:H2' | 29:D1:315:C:H6 | 1.61 | 0.65 |
| 29:D1:425:G:O6 | 29:D1:635:G:C6 | 2.49 | 0.65 |
| 29:D1:594:U:O2 | 29:D1:594:U:H2' | 1.95 | 0.65 |
| 29:D1:672:A:C6 | 29:D1:791:A:C6 | 2.83 | 0.65 |
| 29:D1:880:G:OP2 | 46:DQ:131:ARG:HA | 1.94 | 0.65 |
| 29:D1:1254:C:H5 | 29:D1:1263:A:OP1 | 1.79 | 0.65 |
| 29:D1:1262:G:C8 | 29:D1:1262:G:OP2 | 2.49 | 0.65 |
| 29:D1:1406:A:C2 | 29:D1:1407:A:C6 | 2.84 | 0.65 |
| 29:D1:1688:U:C2' | 29:D1:1689:U:C5 | 2.78 | 0.65 |
| 29:D1:2148:U:H3' | 29:D1:2187:G:N2 | 2.11 | 0.65 |
| 29:D1:2285:C:C5 | 29:D1:2286:U:N3 | 2.65 | 0.65 |
| 29:D1:2361:A:N6 | 29:D1:2377:G:C6 | 2.64 | 0.65 |
| 29:D1:2696:A:N7 | 29:D1:2697:A:C5 | 2.64 | 0.65 |
| 29:D1:2861:U:H2' | 29:D1:2862:U:O4' | 1.95 | 0.65 |
| 29:D1:3057:U:H5' | 29:D1:3086:A:N6 | 2.11 | 0.65 |
| 29:D1:3097:C:O2' | 29:D1:3098:G:P | 2.53 | 0.65 |
| 29:D1:3102:G:C2 | 29:D1:3103:A:C4 | 2.85 | 0.65 |
| 29:D1:3133:C:H2' | 29:D1:3134:A:O4' | 1.96 | 0.65 |
| 29:D1:3210:A:C6 | 29:D1:3211:C:N4 | 2.64 | 0.65 |
| 29:D1:3295:A:H2' | 29:D1:3296:A:H8 | 1.61 | 0.65 |
| 29:D1:3373:U:C4 | 29:D1:3374:U:C5 | 2.85 | 0.65 |
| 30:D2:24:A:H2' | 30:D2:25:G:C8 | 2.31 | 0.65 |
| 30:D2:33:U:O2' | 30:D2:34:C:N1 | 2.29 | 0.65 |
| 31:D3:70:G:C8 | 31:D3:71:A:N6 | 2.63 | 0.65 |
| 36:DE:194:LEU:O | 36:DE:195:LEU:C | 2.39 | 0.65 |
| 36:DE:241:THR:O | 36:DE:243:ALA:N | 2.30 | 0.65 |
| 38:DG:159:GLN:O | 38:DG:160:ARG:O | 2.13 | 0.65 |
| 45:DP:94:ARG:O | 45:DP:95:GLY:C | 2.38 | 0.65 |
| 57:Db:42:VAL:C | 57:Db:44:ARG:N | 2.51 | 0.65 |
| 1:A1:16:G:C2 | 1:A1:17:C:C4 | 2.84 | 0.65 |
| 1:A1:1232:U:H3' | 1:A1:1232:U:O2 | 1.96 | 0.65 |
| 1:A1:1570:A:C2 | 1:A1:1571:C:H1' | 2.31 | 0.65 |
| 21:AT:35:SER:CB | 21:AT:43:ILE:O | 2.45 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:64:G:HO2' | 29:B1:77:A:H1' | 1.61 | 0.65 |
| 29:B1:66:A:H2 | 29:B1:77:A:O3' | 1.78 | 0.65 |
| 29:B1:315:C:H2' | 29:B1:316:U:C6 | 2.31 | 0.65 |
| 29:B1:1281:G:C8 | 29:B1:1281:G:OP2 | 2.48 | 0.65 |
| 29:B1:2173:U:C4 | 29:B1:2174:G:C6 | 2.84 | 0.65 |
| 29:B1:2676:A:C2 | 29:B1:2680:A:N1 | 2.64 | 0.65 |
| 29:B1:2912:G:C6 | 29:B1:3130:A:C4 | 2.84 | 0.65 |
| 29:B1:2912:G:C5 | 29:B1:2913:C:C2 | 2.84 | 0.65 |
| 29:B1:3215:A:O5' | 29:B1:3218:A:C4' | 2.44 | 0.65 |
| 29:B1:3269:U:O2' | 29:B1:3270:U:H5' | 1.96 | 0.65 |
| 29:B1:3309:G:C4 | 29:B1:3310:A:C8 | 2.84 | 0.65 |
| 29:B1:3328:G:H2' | 29:B1:3328:G:N3 | 2.10 | 0.65 |
| 30:B2:33:U:O2' | 30:B2:34:C:C6 | 2.49 | 0.65 |
| 31:B3:123:G:H3' | 31:B3:124:G:H5" | 1.79 | 0.65 |
| 34:BC:106:TRP:O | 34:BC:107:ALA:C | 2.39 | 0.65 |
| 45:BP:18:ARG:C | 45:BP:20:ALA:N | 2.48 | 0.65 |
| 54:BY:137:LYS:O | 54:BY:140:ALA:CB | 2.44 | 0.65 |
| 55:BZ:45:ALA:HA | 55:BZ:70:PHE:CB | 2.26 | 0.65 |
| 56:Ba:29:ALA:HB2 | 56:Ba:64:VAL:O | 1.96 | 0.65 |
| 1:C1:378:A:N3 | 1:C1:378:A:H2' | 2.09 | 0.65 |
| 1:C1:1179:G:N2 | 1:C1:1461:C:N4 | 2.45 | 0.65 |
| 1:C1:1454:G:H2' | 1:C1:1455:G:H5' | 1.78 | 0.65 |
| 1:C1:1685:G:N2 | 1:C1:1686:C:C2 | 2.64 | 0.65 |
| 13:CL:121:ALA:O | 13:CL:124:GLY:N | 2.19 | 0.65 |
| 21:CT:289:ALA:CA | 21:CT:305:TYR:HA | 2.15 | 0.65 |
| 29:D1:22:G:O2' | 31:D3:40:A:N1 | 2.22 | 0.65 |
| 29:D1:146:U:C4 | 29:D1:147:U:C2 | 2.84 | 0.65 |
| 29:D1:542:G:C2 | 29:D1:543:C:C4 | 2.85 | 0.65 |
| 29:D1:556:U:C2' | 29:D1:557:A:O4' | 2.44 | 0.65 |
| 29:D1:642:U:C5 | 29:D1:644:G:P | 2.89 | 0.65 |
| 29:D1:764:U:H4' | 29:D1:766:U:H5 | 1.62 | 0.65 |
| 29:D1:1004:U:N3 | 29:D1:1005:G:N7 | 2.45 | 0.65 |
| 29:D1:1158:A:C3' | 29:D1:1159:A:H5" | 2.26 | 0.65 |
| 29:D1:1406:A:C2 | 29:D1:1407:A:C5 | 2.84 | 0.65 |
| 29:D1:2147:A:H5' | 29:D1:2147:A:H8 | 1.61 | 0.65 |
| 29:D1:2256:A:O2' | 29:D1:2257:C:P | 2.53 | 0.65 |
| 29:D1:2374:C:C4 | 29:D1:2941:A:C4 | 2.85 | 0.65 |
| 29:D1:2768:U:C2' | 29:D1:2769:A:H5' | 2.27 | 0.65 |
| 29:D1:3025:C:C2' | 29:D1:3026:G:H5' | 2.26 | 0.65 |
| 29:D1:3176:G:O2' | 29:D1:3177:G:H5" | 1.96 | 0.65 |
| 29:D1:3211:C:H2' | 29:D1:3212:C:C6 | 2.31 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3215:A:O5' | 29:D1:3218:A:C4' | 2.44 | 0.65 |
| 30:D2:9:C:C5 | 30:D2:10:C:O2 | 2.49 | 0.65 |
| 31:D3:24:G:N2 | 31:D3:25:G:H1' | 2.11 | 0.65 |
| 31:D3:37:A:N6 | 31:D3:104:A:H2' | 2.06 | 0.65 |
| 34:DC:175:LYS:O | 34:DC:176:ALA:O | 2.14 | 0.65 |
| 41:DJ:152:LEU:O | 41:DJ:153:ARG:C | 2.40 | 0.65 |
| 44:DO:53:TYR:O | 44:DO:55:ALA:N | 2.29 | 0.65 |
| 49:DT:77:ASN:HA | 49:DT:87:LYS:O | 1.97 | 0.65 |
| 56:Da:30:PRO:C | 56:Da:32:ALA:H | 2.03 | 0.65 |
| 1:A1:102:U:O4 | 1:A1:360:A:H2' | 1.95 | 0.65 |
| 1:A1:225:A:N6 | 1:A1:836:U:H3 | 1.93 | 0.65 |
| 1:A1:289:U:O2 | 1:A1:289:U:C2' | 2.43 | 0.65 |
| 1:A1:528:U:H4' | 1:A1:529:A:C4' | 2.27 | 0.65 |
| 1:A1:636:A:N1 | 1:A1:860:U:C4 | 2.64 | 0.65 |
| 1:A1:1165:G:O6 | 1:A1:1166:A:N6 | 2.30 | 0.65 |
| 1:A1:1515:A:H2' | 1:A1:1516:A:C5' | 2.26 | 0.65 |
| 1:A1:1718:G:H2' | 1:A1:1719:A:C5' | 2.24 | 0.65 |
| 10:AI:97:TYR:HA | 10:AI:102:PHE:N | 2.11 | 0.65 |
| 24:Ac:88:UNK:O | 24:Ac:90:UNK:C | 2.44 | 0.65 |
| 29:B1:400:G:C1' | 29:B1:401:U:OP2 | 2.45 | 0.65 |
| 29:B1:514:G:H3' | 29:B1:515:C:C6 | 2.30 | 0.65 |
| 29:B1:534:U:O5' | 29:B1:534:U:C6 | 2.45 | 0.65 |
| 29:B1:789:A:C2 | 29:B1:790:U:C4 | 2.84 | 0.65 |
| 29:B1:824:C:O2' | 29:B1:825:U:H5' | 1.97 | 0.65 |
| 29:B1:1212:A:C6 | 29:B1:1294:A:C2 | 2.85 | 0.65 |
| 29:B1:1212:A:C2 | 29:B1:1294:A:C2 | 2.84 | 0.65 |
| 29:B1:1254:C:C2 | 29:B1:1255:C:C5 | 2.84 | 0.65 |
| 29:B1:1255:C:C5 | 74:B1:3567:OHX:N5 | 2.64 | 0.65 |
| 29:B1:1341:U:H2' | 29:B1:1342:C:H6 | 1.62 | 0.65 |
| 29:B1:1623:G:H2' | 29:B1:1624:G:O4' | 1.95 | 0.65 |
| 29:B1:2553:U:O2 | 29:B1:2554:A:H2' | 1.96 | 0.65 |
| 29:B1:2602:G:N3 | 29:B1:2603:G:C8 | 2.65 | 0.65 |
| 29:B1:2732:G:H2' | 29:B1:2733:A:O4' | 1.95 | 0.65 |
| 29:B1:2912:G:O6 | 29:B1:3130:A:C5 | 2.49 | 0.65 |
| 29:B1:2948:C:C6 | 29:B1:2948:C:H5" | 2.30 | 0.65 |
| 29:B1:3180:A:C8 | 45:BP:114:LYS:CB | 2.79 | 0.65 |
| 29:B1:3326:G:C2 | 29:B1:3327:G:C8 | 2.84 | 0.65 |
| 29:B1:3333:G:H22 | 29:B1:3370:A:C3' | 2.08 | 0.65 |
| 30:B2:41:G:C6 | 30:B2:43:U:C4 | 2.85 | 0.65 |
| 31:B3:154:C:C2 | 31:B3:155:A:C8 | 2.84 | 0.65 |
| 38:BG:85:PHE:HA | 38:BG:115:THR:O | 1.96 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 39:BH:247:ASP:O | 39:BH:249:ARG:N | 2.29 | 0.65 |
| 41:BJ:146:ASP:O | 41:BJ:147:VAL:O | 2.14 | 0.65 |
| 44:BO:159:ARG:O | 44:BO:161:ALA:N | 2.27 | 0.65 |
| 1:C1:89:G:C2 | 1:C1:90:C:C2 | 2.84 | 0.65 |
| 1:C1:166:C:C2' | 1:C1:167:U:H5" | 2.26 | 0.65 |
| 1:C1:243:G:N2 | 1:C1:251:A:N3 | 2.44 | 0.65 |
| 1:C1:259:U:C4 | 1:C1:261:U:O4 | 2.48 | 0.65 |
| 1:C1:482:U:H2' | 1:C1:483:A:C8 | 2.32 | 0.65 |
| 1:C1:491:C:H2' | 1:C1:492:A:C8 | 2.31 | 0.65 |
| 1:C1:557:G:H3' | 1:C1:557:G:P | 2.36 | 0.65 |
| 1:C1:647:G:N1 | 1:C1:687:G:N1 | 2.43 | 0.65 |
| 1:C1:734:A:H2' | 1:C1:735:C:O4' | 1.95 | 0.65 |
| 1:C1:845:G:O6 | 74:C1:1917:OHX:N4 | 2.29 | 0.65 |
| 1:C1:1683:C:O5' | 1:C1:1684:U:OP1 | 2.15 | 0.65 |
| 11:CJ:46:PHE:C | 11:CJ:48:VAL:N | 2.54 | 0.65 |
| 24:Cc:77:UNK:C | 24:Cc:79:UNK:N | 2.54 | 0.65 |
| 29:D1:120:G:H3' | 29:D1:121:A:N3 | 2.12 | 0.65 |
| 29:D1:313:A:H2' | 29:D1:314:U:C6 | 2.32 | 0.65 |
| 29:D1:393:U:O2 | 29:D1:393:U:H2' | 1.94 | 0.65 |
| 29:D1:610:G:N3 | 29:D1:610:G:C3' | 2.57 | 0.65 |
| 29:D1:644:G:C4' | 29:D1:1153:A:C2 | 2.56 | 0.65 |
| 29:D1:776:U:H3' | 29:D1:777:U:C4' | 2.26 | 0.65 |
| 29:D1:952:A:H5' | 29:D1:952:A:H8 | 1.61 | 0.65 |
| 29:D1:953:G:C8 | 29:D1:1117:G:C8 | 2.84 | 0.65 |
| 29:D1:1336:U:O2' | 29:D1:1337:A:H5' | 1.96 | 0.65 |
| 29:D1:1504:A:C3' | 29:D1:1505:C:H5" | 2.26 | 0.65 |
| 29:D1:1544:G:N2 | 29:D1:1545:A:H1' | 2.12 | 0.65 |
| 29:D1:1602:A:C6 | 29:D1:1603:A:C6 | 2.85 | 0.65 |
| 29:D1:1830:G:H2' | 29:D1:1831:U:H6 | 1.60 | 0.65 |
| 29:D1:1933:A:C2' | 29:D1:1934:G:H5' | 2.26 | 0.65 |
| 29:D1:2192:C:HO2' | 29:D1:2312:A:H2 | 1.42 | 0.65 |
| 29:D1:2675:C:H5 | 29:D1:2676:A:C6 | 2.15 | 0.65 |
| 29:D1:2680:A:N6 | 42:DK:56:THR:O | 2.29 | 0.65 |
| 29:D1:2837:A:C8 | 29:D1:2845:A:C2 | 2.83 | 0.65 |
| 29:D1:3165:A:H2' | 29:D1:3166:C:H5' | 1.78 | 0.65 |
| 29:D1:3218:A:H2' | 29:D1:3219:G:H3' | 1.79 | 0.65 |
| 30:D2:67:G:C6 | 30:D2:68:C:N3 | 2.64 | 0.65 |
| 34:DC:4:ARG:C | 34:DC:6:TYR:H | 2.05 | 0.65 |
| 34:DC:332:ARG:O | 34:DC:333:LYS:CB | 2.44 | 0.65 |
| 47:DR:66:ARG:C | 47:DR:68:ALA:H | 2.02 | 0.65 |
| 49:DT:73:GLY:H | 49:DT:92:ARG:HA | 1.61 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:25:C:C4 | 1:A1:367:A:C1' | 2.78 | 0.65 |
| 1:A1:228:G:C5 | 1:A1:229:U:C4 | 2.84 | 0.65 |
| 1:A1:448:C:C2' | 1:A1:449:C:H6 | 1.97 | 0.65 |
| 1:A1:509:G:C4 | 1:A1:510:G:N7 | 2.64 | 0.65 |
| 1:A1:776:G:N1 | 1:A1:785:U:C2 | 2.65 | 0.65 |
| 1:A1:992:A:H2' | 1:A1:993:A:C5' | 2.17 | 0.65 |
| 1:A1:1250:U:N3 | 1:A1:1251:U:N3 | 2.45 | 0.65 |
| 1:A1:1402:G:C4 | 1:A1:1403:C:C5 | 2.84 | 0.65 |
| 1:A1:1715:G:H2' | 1:A1:1716:C:O4' | 1.97 | 0.65 |
| 15:AN:97:VAL:C | 15:AN:99:ILE:H | 2.05 | 0.65 |
| 29:B1:51:A:H2' | 29:B1:52:A:H8 | 1.61 | 0.65 |
| 29:B1:331:G:N1 | 29:B1:332:C:C4 | 2.64 | 0.65 |
| 29:B1:379:C:H2' | 29:B1:380:U:C6 | 2.31 | 0.65 |
| 29:B1:606:C:C2' | 29:B1:607:A:C8 | 2.79 | 0.65 |
| 29:B1:606:C:C2' | 29:B1:607:A:N9 | 2.60 | 0.65 |
| 29:B1:645:A:C8 | 29:B1:649:A:C6 | 2.85 | 0.65 |
| 29:B1:665:A:O2' | 29:B1:666:A:H5' | 1.95 | 0.65 |
| 29:B1:856:G:C6 | 29:B1:857:G:C2 | 2.84 | 0.65 |
| 29:B1:1297:C:C2' | 29:B1:1298:C:H5' | 2.23 | 0.65 |
| 29:B1:1313:G:H2' | 29:B1:1314:C:C6 | 2.29 | 0.65 |
| 29:B1:1484:U:C1' | 29:B1:1485:G:OP1 | 2.43 | 0.65 |
| 29:B1:1541:G:H4' | 29:B1:1542:G:OP2 | 1.97 | 0.65 |
| 29:B1:1599:G:C2 | 29:B1:1600:U:O2 | 2.49 | 0.65 |
| 29:B1:1634:G:C6 | 29:B1:1640:G:O6 | 2.49 | 0.65 |
| 29:B1:1640:G:C5' | 29:B1:1738:C:OP1 | 2.43 | 0.65 |
| 29:B1:1748:G:H2' | 29:B1:1749:A:C8 | 2.31 | 0.65 |
| 29:B1:2365:C:H6 | 29:B1:2365:C:OP1 | 1.80 | 0.65 |
| 29:B1:2779:A:H8 | 29:B1:2779:A:C5' | 1.98 | 0.65 |
| 29:B1:2961:G:H5" | 29:B1:2962:U:OP2 | 1.97 | 0.65 |
| 29:B1:2971:A:H4' | 29:B1:2972:G:O5' | 1.95 | 0.65 |
| 29:B1:3013:U:H5" | 29:B1:3013:U:C6 | 2.32 | 0.65 |
| 29:B1:3191:G:C4 | 29:B1:3202:G:N2 | 2.65 | 0.65 |
| 29:B1:3209:A:C5 | 29:B1:3210:A:C6 | 2.84 | 0.65 |
| 29:B1:3289:G:N7 | 74:B1:3581:OHX:N3 | 2.45 | 0.65 |
| 30:B2:34:C:O2 | 30:B2:34:C:C2' | 2.45 | 0.65 |
| 38:BG:75:TYR:CB | 38:BG:76:TYR:CA | 2.74 | 0.65 |
| 38:BG:160:ARG:C | 38:BG:162:PRO:N | 2.54 | 0.65 |
| 70:Bq:12:UNK:O | 70:Bq:13:UNK:C | 2.43 | 0.65 |
| 1:C1:142:G:O6 | 1:C1:266:A:C5 | 2.49 | 0.65 |
| 1:C1:243:G:H2' | 1:C1:244:A:C8 | 2.28 | 0.65 |
| 1:C1:427:C:H5" | 1:C1:427:C:C6 | 2.29 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:527:A:H3' | 1:C1:527:A:OP2 | 1.96 | 0.65 |
| 1:C1:542:A:O2' | 1:C1:543:C:O5' | 2.12 | 0.65 |
| 1:C1:1170:G:O6 | 1:C1:1574:G:C6 | 2.50 | 0.65 |
| 1:C1:1347:U:H5' | 15:CN:10:GLU:CA | 2.22 | 0.65 |
| 1:C1:1734:U:C4 | 1:C1:1735:U:O4 | 2.49 | 0.65 |
| 1:C1:1793:G:O2' | 1:C1:1794:A:P | 2.55 | 0.65 |
| 3:CB:245:ASP:C | 3:CB:247:ALA:N | 2.54 | 0.65 |
| 5:CD:108:LEU:C | 5:CD:110:ALA:H | 2.04 | 0.65 |
| 9:CH:99:GLN:O | 9:CH:103:ARG:CB | 2.44 | 0.65 |
| 29:D1:46:U:H2' | 29:D1:47:C:H5' | 1.77 | 0.65 |
| 29:D1:557:A:N7 | 29:D1:559:A:N6 | 2.45 | 0.65 |
| 29:D1:606:C:C2' | 29:D1:607:A:C8 | 2.79 | 0.65 |
| 29:D1:1480:G:H4' | 29:D1:1481:A:OP2 | 1.97 | 0.65 |
| 29:D1:1728:G:H4' | 29:D1:1729:A:OP2 | 1.97 | 0.65 |
| 29:D1:2113:A:N7 | 29:D1:2114:C:C4 | 2.64 | 0.65 |
| 29:D1:2515:A:N6 | 29:D1:2593:A:N7 | 2.44 | 0.65 |
| 29:D1:2626:A:C8 | 29:D1:2644:C:H5' | 2.31 | 0.65 |
| 29:D1:2699:G:H2' | 29:D1:2700:G:O4' | 1.97 | 0.65 |
| 29:D1:2875:U:H5' | 29:D1:2876:C:OP2 | 1.96 | 0.65 |
| 29:D1:2980:U:O2' | 29:D1:2981:U:H5' | 1.96 | 0.65 |
| 29:D1:3142:A:H5' | 29:D1:3143:C:C5 | 2.31 | 0.65 |
| 29:D1:3314:A:C5' | 34:DC:119:TYR:H | 2.09 | 0.65 |
| 30:D2:25:G:H2' | 30:D2:26:C:C5 | 2.31 | 0.65 |
| 34:DC:79:VAL:O | 34:DC:321:PHE:HA | 1.96 | 0.65 |
| 36:DE:144:VAL:O | 36:DE:173:VAL:HA | 1.96 | 0.65 |
| 42:DK:7:ASN:HA | 42:DK:8:PRO:CB | 2.26 | 0.65 |
| 59:Dd:68:LYS:C | 59:Dd:70:VAL:H | 2.03 | 0.65 |
| 1:A1:48:G:C6 | 1:A1:432:G:N2 | 2.65 | 0.65 |
| 1:A1:139:C:H4' | 1:A1:140:A:H4' | 1.78 | 0.65 |
| 1:A1:729:G:C5 | 1:A1:730:G:C8 | 2.85 | 0.65 |
| 1:A1:1025:A:H2' | 1:A1:1027:A:C5' | 2.26 | 0.65 |
| 1:A1:1455:G:C5 | 1:A1:1456:C:N3 | 2.64 | 0.65 |
| 1:A1:1602:C:H2' | 1:A1:1602:C:O2 | 1.96 | 0.65 |
| 1:A1:1757:G:H2' | 1:A1:1758:U:O5' | 1.96 | 0.65 |
| 5:AD:153:GLY:HA3 | 5:AD:154:ALA:CB | 2.26 | 0.65 |
| 13:AL:44:ASN:O | 13:AL:48:LYS:CB | 2.44 | 0.65 |
| 29:B1:51:A:O2' | 29:B1:52:A:H5' | 1.97 | 0.65 |
| 29:B1:190:U:C5 | 29:B1:224:C:C1' | 2.78 | 0.65 |
| 29:B1:218:G:H1' | 29:B1:372:A:H1' | 1.78 | 0.65 |
| 29:B1:219:A:C2 | 29:B1:1390:A:H2' | 2.31 | 0.65 |
| 29:B1:238:A:H8 | 29:B1:238:A:OP2 | 1.80 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:996:A:C6 | 29:B1:1054:A:C8 | 2.85 | 0.65 |
| 29:B1:1616:U:H2' | 29:B1:1617:G:C8 | 2.32 | 0.65 |
| 29:B1:1639:C:H2' | 29:B1:1640:G:O5' | 1.97 | 0.65 |
| 29:B1:1691:U:H2' | 29:B1:1692:U:C6 | 2.31 | 0.65 |
| 29:B1:1896:A:C4 | 29:B1:3093:C:C5 | 2.84 | 0.65 |
| 29:B1:2129:U:H5" | 29:B1:2130:G:OP2 | 1.97 | 0.65 |
| 29:B1:2523:A:C4' | 29:B1:2524:A:OP1 | 2.44 | 0.65 |
| 29:B1:2631:U:O2' | 29:B1:2632:G:H5' | 1.96 | 0.65 |
| 29:B1:2768:U:C2' | 29:B1:2769:A:H5' | 2.26 | 0.65 |
| 29:B1:3161:C:O2 | 29:B1:3161:C:H2' | 1.96 | 0.65 |
| 29:B1:3299:A:N3 | 29:B1:3300:U:C6 | 2.64 | 0.65 |
| 30:B2:25:G:N1 | 30:B2:26:C:N4 | 2.43 | 0.65 |
| 32:BA:188:ASN:C | 32:BA:190:PHE:H | 2.05 | 0.65 |
| 37:BF:61:ASN:HA | 37:BF:80:ASN:O | 1.96 | 0.65 |
| 38:BG:32:ALA:O | 38:BG:33:ARG:C | 2.39 | 0.65 |
| 42:BK:134:PRO:O | 42:BK:151:SER:O | 2.14 | 0.65 |
| 46:BQ:128:ARG:N | 46:BQ:139:TYR:H | 1.95 | 0.65 |
| 1:C1:269:G:C4 | 1:C1:270:C:C5 | 2.84 | 0.65 |
| 1:C1:295:A:C2 | 1:C1:296:U:C2 | 2.84 | 0.65 |
| 1:C1:313:U:C5 | 1:C1:1118:G:C6 | 2.85 | 0.65 |
| 1:C1:320:U:OP1 | 1:C1:321:C:H4' | 1.95 | 0.65 |
| 1:C1:489:C:H2' | 1:C1:490:C:C5 | 2.30 | 0.65 |
| 1:C1:607:G:H5' | 1:C1:613:G:N2 | 2.11 | 0.65 |
| 1:C1:1119:G:O2' | 1:C1:1120:U:H5' | 1.96 | 0.65 |
| 1:C1:1327:C:H2' | 1:C1:1328:G:H5' | 1.78 | 0.65 |
| 1:C1:1656:U:C6 | 1:C1:1656:U:OP2 | 2.49 | 0.65 |
| 18:CQ:57:TYR:CB | 18:CQ:58:ARG:CA | 2.73 | 0.65 |
| 29:D1:26:A:H2' | 29:D1:27:C:H6 | 1.59 | 0.65 |
| 29:D1:564:G:H3' | 29:D1:565:U:C5 | 2.30 | 0.65 |
| 29:D1:717:C:C5 | 29:D1:721:G:OP2 | 2.50 | 0.65 |
| 29:D1:835:G:C4 | 29:D1:857:G:N2 | 2.64 | 0.65 |
| 29:D1:965:A:N1 | 29:D1:966:U:C2 | 2.64 | 0.65 |
| 29:D1:974:G:C4 | 29:D1:975:C:C5 | 2.84 | 0.65 |
| 29:D1:1018:G:H2' | 29:D1:1019:G:C8 | 2.32 | 0.65 |
| 29:D1:1199:C:N4 | 74:D1:3574:OHX:N3 | 2.45 | 0.65 |
| 29:D1:1338:C:N3 | 29:D1:1339:C:C5 | 2.65 | 0.65 |
| 29:D1:1703:U:H5' | 29:D1:1704:A:OP2 | 1.96 | 0.65 |
| 29:D1:1867:A:H2' | 29:D1:1868:G:C8 | 2.32 | 0.65 |
| 29:D1:1878:G:C8 | 29:D1:1878:G:H3' | 2.31 | 0.65 |
| 29:D1:2254:U:O2 | 29:D1:2261:G:N2 | 2.29 | 0.65 |
| 29:D1:2374:C:N4 | 29:D1:2941:A:O4' | 2.29 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2953:U:H2' | 29:D1:2954:U:C6 | 2.31 | 0.65 |
| 29:D1:3196:U:C5 | 29:D1:3198:U:C5 | 2.84 | 0.65 |
| 31:D3:109:A:C2 | 31:D3:114:G:C6 | 2.85 | 0.65 |
| 34:DC:131:THR:O | 34:DC:132:LYS:O | 2.15 | 0.65 |
| 35:DD:153:SER:C | 35:DD:155:ASP:H | 2.05 | 0.65 |
| 45:DP:190:VAL:C | 45:DP:192:LYS:N | 2.53 | 0.65 |
| 47:DR:31:LYS:O | 47:DR:35:PHE:N | 2.27 | 0.65 |
| 58:Dc:16:GLN:C | 58:Dc:18:ALA:N | 2.50 | 0.65 |
| 1:A1:27:U:C2 | 1:A1:28:A:C8 | 2.85 | 0.65 |
| 1:A1:176:C:H3' | 1:A1:177:U:H6 | 1.62 | 0.65 |
| 1:A1:290:G:O2' | 1:A1:291:G:C8 | 2.50 | 0.65 |
| 1:A1:355:G:N2 | 1:A1:356:G:H1' | 2.12 | 0.65 |
| 1:A1:621:A:H1' | 1:A1:1107:G:O4' | 1.97 | 0.65 |
| 1:A1:914:G:H5" | 74:A1:1937:OHX:N5 | 2.12 | 0.65 |
| 1:A1:1388:A:C6 | 1:A1:1412:G:C6 | 2.85 | 0.65 |
| 1:A1:1468:U:HO2' | 1:A1:1469:A:C5' | 2.09 | 0.65 |
| 1:A1:1560:U:O2 | 1:A1:1561:U:C5 | 2.47 | 0.65 |
| 2:AA:171:GLY:O | 2:AA:173:ILE:N | 2.29 | 0.65 |
| 4:AC:27:ARG:O | 4:AC:29:LEU:N | 2.29 | 0.65 |
| 29:B1:246:U:H3' | 29:B1:247:C:H5" | 1.79 | 0.65 |
| 29:B1:586:C:O2 | 29:B1:586:C:C2' | 2.42 | 0.65 |
| 29:B1:649:A:C2 | 29:B1:650:C:C4 | 2.85 | 0.65 |
| 29:B1:776:U:OP1 | 29:B1:777:U:OP2 | 2.14 | 0.65 |
| 29:B1:790:U:C2 | 29:B1:791:A:C8 | 2.84 | 0.65 |
| 29:B1:866:A:H3' | 29:B1:867:G:H8 | 1.59 | 0.65 |
| 29:B1:966:U:H2' | 29:B1:967:A:H8 | 1.56 | 0.65 |
| 29:B1:1018:G:H2' | 29:B1:1019:G:C8 | 2.32 | 0.65 |
| 29:B1:1306:G:C6 | 45:BP:63:ALA:HA | 2.31 | 0.65 |
| 29:B1:2619:G:H8 | 29:B1:2619:G:OP1 | 1.79 | 0.65 |
| 29:B1:2663:G:H3' | 29:B1:2664:C:H6 | 1.62 | 0.65 |
| 29:B1:2676:A:C4' | 29:B1:2677:G:C8 | 2.80 | 0.65 |
| 29:B1:2882:U:H2' | 29:B1:2883:U:O5' | 1.97 | 0.65 |
| 29:B1:2892:A:H2' | 29:B1:2893:C:H6 | 1.62 | 0.65 |
| 29:B1:2895:G:O2' | 29:B1:2896:A:H5" | 1.96 | 0.65 |
| 29:B1:3196:U:C5 | 29:B1:3198:U:C5 | 2.85 | 0.65 |
| 29:B1:3280:U:O2' | 29:B1:3281:U:P | 2.55 | 0.65 |
| 29:B1:3294:A:N6 | 29:B1:3295:A:C5 | 2.65 | 0.65 |
| 29:B1:3356:G:H2' | 29:B1:3357:U:O5' | 1.96 | 0.65 |
| 30:B2:31:U:C6 | 30:B2:32:U:C5 | 2.84 | 0.65 |
| 31:B3:10:A:N3 | 31:B3:11:C:C6 | 2.64 | 0.65 |
| 31:B3:28:C:H2' | 31:B3:28:C:O2 | 1.96 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:B3:66:A:C6 | 31:B3:67:U:O4 | 2.50 | 0.65 |
| 36:BE:20:PHE:O | 36:BE:21:ARG:CB | 2.45 | 0.65 |
| 37:BF:97:ASN:O | 37:BF:98:VAL:C | 2.40 | 0.65 |
| 42:BK:85:LYS:O | 42:BK:86:VAL:C | 2.40 | 0.65 |
| 45:BP:92:THR:O | 45:BP:94:ARG:N | 2.29 | 0.65 |
| 46:BQ:76:PHE:CA | 46:BQ:78:VAL:H | 2.07 | 0.65 |
| 47:BR:96:PHE:CA | 47:BR:97:PRO:CB | 2.73 | 0.65 |
| 50:BU:46:LEU:O | 50:BU:47:ASN:CB | 2.44 | 0.65 |
| 56:Ba:82:GLU:CB | 56:Ba:83:GLU:CA | 2.74 | 0.65 |
| 1:C1:119:A:H1' | 1:C1:397:A:C8 | 2.30 | 0.65 |
| 1:C1:512:A:O2' | 1:C1:513:U:O5' | 2.15 | 0.65 |
| 1:C1:534:A:C2' | 1:C1:535:A:C8 | 2.79 | 0.65 |
| 1:C1:899:G:N2 | 1:C1:915:A:H2 | 1.95 | 0.65 |
| 1:C1:981:U:H1' | 1:C1:1124:A:C2 | 2.30 | 0.65 |
| 1:C1:1168:U:C2' | 1:C1:1169:G:H5' | 2.27 | 0.65 |
| 1:C1:1634:C:P | 1:C1:1634:C:C6 | 2.89 | 0.65 |
| 1:C1:1694:A:H61 | 1:C1:1708:U:H2' | 1.61 | 0.65 |
| 11:CJ:54:LEU:C | 11:CJ:56:GLY:N | 2.52 | 0.65 |
| 29:D1:161:G:H2' | 29:D1:162:G:H8 | 1.61 | 0.65 |
| 29:D1:344:A:H2' | 29:D1:345:G:O5' | 1.97 | 0.65 |
| 29:D1:889:U:H2' | 29:D1:890:C:H6 | 1.60 | 0.65 |
| 29:D1:935:U:H2' | 29:D1:936:A:C8 | 2.31 | 0.65 |
| 29:D1:962:A:O2' | 29:D1:963:G:H5" | 1.96 | 0.65 |
| 29:D1:1461:A:C6 | 29:D1:1462:A:C5 | 2.85 | 0.65 |
| 29:D1:1605:A:C2 | 29:D1:1608:C:C6 | 2.85 | 0.65 |
| 29:D1:2358:A:H2' | 29:D1:2359:C:O4' | 1.97 | 0.65 |
| 29:D1:2523:A:C4' | 29:D1:2524:A:OP1 | 2.44 | 0.65 |
| 29:D1:3257:C:O2' | 29:D1:3258:U:C5 | 2.49 | 0.65 |
| 29:D1:3261:C:O5' | 29:D1:3262:U:OP1 | 2.14 | 0.65 |
| 29:D1:3333:G:C2 | 29:D1:3371:G:C8 | 2.84 | 0.65 |
| 30:D2:60:G:N3 | 30:D2:61:G:C8 | 2.65 | 0.65 |
| 34:DC:154:TYR:H | 34:DC:155:ALA:CB | 2.04 | 0.65 |
| 44:DO:146:ALA:C | 44:DO:148:TYR:H | 2.04 | 0.65 |
| 54:DY:77:LYS:O | 54:DY:79:TRP:N | 2.29 | 0.65 |
| 1:A1:450:U:C2 | 1:A1:451:A:N7 | 2.64 | 0.65 |
| 1:A1:557:G:H3' | 1:A1:557:G:P | 2.37 | 0.65 |
| 1:A1:1178:G:N2 | 1:A1:1462:G:C4 | 2.65 | 0.65 |
| 1:A1:1308:G:H2' | 1:A1:1309:C:H6 | 1.61 | 0.65 |
| 1:A1:1364:G:C2' | 1:A1:1365:C:H5' | 2.26 | 0.65 |
| 1:A1:1493:A:H2' | 1:A1:1493:A:N3 | 2.11 | 0.65 |
| 1:A1:1663:G:C4 | 1:A1:1664:C:C5 | 2.84 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 7:AF:95:PRO:O | 7:AF:96:LYS:C | 2.40 | 0.65 |
| 21:AT:255:ALA:HA | 21:AT:260:ILE:HA | 1.78 | 0.65 |
| 21:AT:301:LEU:O | 21:AT:312:VAL:HA | 1.97 | 0.65 |
| 29:B1:28:C:H2' | 29:B1:28:C:O2 | 1.95 | 0.65 |
| 29:B1:28:C:O2' | 29:B1:61:A:H1' | 1.97 | 0.65 |
| 29:B1:35:A:C6 | 29:B1:36:C:C5 | 2.85 | 0.65 |
| 29:B1:40:A:C8 | 54:BY:30:GLY:O | 2.50 | 0.65 |
| 29:B1:135:C:H5' | 29:B1:136:G:OP2 | 1.96 | 0.65 |
| 29:B1:785:G:OP1 | 29:B1:785:G:O4' | 2.15 | 0.65 |
| 29:B1:1120:A:C2 | 29:B1:1121:U:C4 | 2.84 | 0.65 |
| 29:B1:1200:A:H3' | 29:B1:1200:A:N3 | 2.12 | 0.65 |
| 29:B1:1280:C:H2' | 29:B1:1281:G:N7 | 2.11 | 0.65 |
| 29:B1:1661:G:H5" | 29:B1:1661:G:H8 | 1.62 | 0.65 |
| 29:B1:2148:U:O3' | 29:B1:2149:A:C8 | 2.50 | 0.65 |
| 29:B1:2357:A:H2' | 29:B1:2358:A:H8 | 1.62 | 0.65 |
| 29:B1:3308:C:H3' | 29:B1:3308:C:C6 | 2.32 | 0.65 |
| 29:B1:3333:G:N1 | 29:B1:3370:A:O2' | 2.29 | 0.65 |
| 29:B1:3353:G:H3' | 29:B1:3354:U:C5' | 2.26 | 0.65 |
| 29:B1:3391:A:C2 | 29:B1:3392:U:C5 | 2.84 | 0.65 |
| 31:B3:34:U:O2 | 31:B3:34:U:C2' | 2.45 | 0.65 |
| 35:BD:100:PHE:O | 35:BD:102:PRO:N | 2.30 | 0.65 |
| 53:BX:64:LYS:C | 53:BX:66:GLN:H | 2.05 | 0.65 |
| 56:Ba:30:PRO:O | 56:Ba:32:ALA:N | 2.29 | 0.65 |
| 57:Bb:123:LYS:CB | 57:Bb:124:GLY:CA | 2.75 | 0.65 |
| 59:Bd:27:PHE:O | 59:Bd:29:VAL:N | 2.29 | 0.65 |
| 1:C1:26:A:H2 | 1:C1:600:U:H3 | 1.42 | 0.65 |
| 1:C1:100:A:C2 | 1:C1:101:U:C2 | 2.84 | 0.65 |
| 1:C1:330:G:C8 | 1:C1:330:G:OP2 | 2.50 | 0.65 |
| 1:C1:479:C:H5' | 6:CE:124:HIS:CB | 2.26 | 0.65 |
| 1:C1:695:U:H4' | 1:C1:696:C:OP2 | 1.95 | 0.65 |
| 1:C1:718:U:H1' | 1:C1:719:U:OP1 | 1.96 | 0.65 |
| 1:C1:763:G:H2' | 1:C1:764:U:H6 | 1.57 | 0.65 |
| 1:C1:1297:G:H2' | 1:C1:1299:G:N7 | 2.12 | 0.65 |
| 1:C1:1429:G:C4 | 1:C1:1430:U:C5 | 2.84 | 0.65 |
| 12:CK:46:LEU:C | 12:CK:48:ASN:H | 2.03 | 0.65 |
| 20:CS:42:CYS:C | 20:CS:44:ARG:H | 2.05 | 0.65 |
| 23:Cb:132:UNK:HA | 23:Cb:133:UNK:CB | 2.25 | 0.65 |
| 29:D1:121:A:OP2 | 29:D1:121:A:C4 | 2.49 | 0.65 |
| 29:D1:374:A:C2 | 29:D1:375:A:C5 | 2.85 | 0.65 |
| 29:D1:550:A:H2' | 29:D1:551:A:H8 | 1.62 | 0.65 |
| 29:D1:564:G:C3' | 29:D1:565:U:C6 | 2.80 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:715:A:H3' | 54:DY:115:LYS:CA | 2.26 | 0.65 |
| 29:D1:1277:C:OP2 | 29:D1:1277:C:H6 | 1.80 | 0.65 |
| 29:D1:1478:C:C5' | 29:D1:1478:C:C6 | 2.80 | 0.65 |
| 29:D1:1541:G:H4' | 29:D1:1542:G:OP2 | 1.97 | 0.65 |
| 29:D1:1625:A:N7 | 29:D1:1626:U:C6 | 2.65 | 0.65 |
| 29:D1:1662:G:H2' | 29:D1:1663:C:H6 | 1.62 | 0.65 |
| 29:D1:1750:A:H5' | 29:D1:1751:G:C8 | 2.32 | 0.65 |
| 29:D1:2186:U:H5" | 29:D1:2315:G:OP2 | 1.96 | 0.65 |
| 29:D1:2255:A:OP1 | 74:D1:3415:OHX:N1 | 2.29 | 0.65 |
| 29:D1:2841:G:C6 | 29:D1:2844:C:C4 | 2.84 | 0.65 |
| 29:D1:2923:U:C2 | 29:D1:2924:U:C5 | 2.84 | 0.65 |
| 29:D1:3087:A:H2' | 29:D1:3088:G:C8 | 2.31 | 0.65 |
| 29:D1:3165:A:C2 | 29:D1:3286:G:C4 | 2.85 | 0.65 |
| 29:D1:3174:A:OP2 | 29:D1:3174:A:C4' | 2.45 | 0.65 |
| 29:D1:3217:C:H2' | 29:D1:3217:C:O2 | 1.95 | 0.65 |
| 29:D1:3280:U:OP2 | 29:D1:3280:U:C6 | 2.50 | 0.65 |
| 30:D2:25:G:C4 | 30:D2:26:C:C4 | 2.85 | 0.65 |
| 30:D2:46:A:OP2 | 30:D2:46:A:C6 | 2.49 | 0.65 |
| 30:D2:112:G:OP2 | 30:D2:113:C:OP1 | 2.15 | 0.65 |
| 33:DB:171:GLY:CA | 62:Dg:68:ALA:HB2 | 2.27 | 0.65 |
| 1:A1:11:A:H1' | 1:A1:1300:A:O2' | 1.96 | 0.65 |
| 1:A1:224:C:N4 | 1:A1:837:G:H1 | 1.95 | 0.65 |
| 1:A1:259:U:C4 | 1:A1:261:U:O4 | 2.50 | 0.65 |
| 1:A1:391:A:H4' | 1:A1:1730:A:H4' | 1.79 | 0.65 |
| 1:A1:979:A:N3 | 1:A1:1775:U:O2' | 2.28 | 0.65 |
| 1:A1:1149:G:C4' | 1:A1:1150:G:OP1 | 2.44 | 0.65 |
| 1:A1:1171:A:H2' | 1:A1:1172:G:C8 | 2.32 | 0.65 |
| 1:A1:1645:G:O2' | 1:A1:1646:C:O5' | 2.10 | 0.65 |
| 3:AB:106:ASP:O | 3:AB:108:ASN:N | 2.27 | 0.65 |
| 14:AM:57:ARG:O | 14:AM:58:ALA:HB2 | 1.95 | 0.65 |
| 19:AR:25:VAL:O | 19:AR:38:ARG:HA | 1.97 | 0.65 |
| 29:B1:39:A:H5" | 29:B1:40:A:H4' | 1.77 | 0.65 |
| 29:B1:377:A:H1' | 29:B1:392:G:N2 | 2.12 | 0.65 |
| 29:B1:600:G:N2 | 29:B1:604:G:C6 | 2.65 | 0.65 |
| 29:B1:682:U:C4 | 29:B1:699:A:H2 | 2.15 | 0.65 |
| 29:B1:1130:A:H2' | 29:B1:1132:C:C5 | 2.32 | 0.65 |
| 29:B1:1296:C:H2' | 29:B1:1297:C:O5' | 1.96 | 0.65 |
| 29:B1:1303:A:N7 | 29:B1:1304:A:C6 | 2.65 | 0.65 |
| 29:B1:1351:U:O3' | 29:B1:1352:A:C8 | 2.50 | 0.65 |
| 29:B1:1479:U:OP2 | 29:B1:1480:G:C2 | 2.50 | 0.65 |
| 29:B1:1655:G:N2 | 29:B1:1801:U:N3 | 2.45 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1878:G:C8 | 29:B1:1878:G:H3' | 2.31 | 0.65 |
| 29:B1:2194:G:C2' | 29:B1:2195:C:H5' | 2.27 | 0.65 |
| 29:B1:2674:A:H8 | 42:BK:108:GLU:N | 1.94 | 0.65 |
| 29:B1:2785:A:C5 | 29:B1:2786:G:C8 | 2.84 | 0.65 |
| 29:B1:2934:A:H5" | 29:B1:2935:U:OP2 | 1.97 | 0.65 |
| 29:B1:3133:C:H2' | 29:B1:3134:A:O4' | 1.96 | 0.65 |
| 29:B1:3150:A:H5" | 34:BC:134:SER:CA | 2.24 | 0.65 |
| 29:B1:3256:G:C6 | 29:B1:3257:C:C4 | 2.84 | 0.65 |
| 30:B2:1:G:H2' | 30:B2:2:G:C8 | 2.32 | 0.65 |
| 31:B3:121:U:H3 | 31:B3:132:G:H1 | 1.45 | 0.65 |
| 32:BA:53:LEU:CB | 32:BA:54:LYS:HA | 2.26 | 0.65 |
| 34:BC:106:TRP:C | 34:BC:108:GLU:H | 2.03 | 0.65 |
| 34:BC:332:ARG:O | 34:BC:333:LYS:CB | 2.45 | 0.65 |
| 35:BD:39:PHE:O | 35:BD:42:VAL:N | 2.30 | 0.65 |
| 37:BF:21:THR:HA | 37:BF:111:LEU:O | 1.97 | 0.65 |
| 54:BY:15:VAL:O | 54:BY:17:ALA:HA | 1.96 | 0.65 |
| 54:BY:85:ASP:H | 54:BY:87:ARG:CB | 2.10 | 0.65 |
| 56:Ba:16:LEU:O | 56:Ba:19:ARG:N | 2.30 | 0.65 |
| 59:Bd:37:CYS:C | 74:Bd:101:OHX:N6 | 2.55 | 0.65 |
| 1:C1:587:C:H2' | 1:C1:588:U:C6 | 2.32 | 0.65 |
| 1:C1:605:A:N6 | 1:C1:606:A:N6 | 2.44 | 0.65 |
| 1:C1:1003:A:N7 | 1:C1:1005:A:C6 | 2.65 | 0.65 |
| 1:C1:1042:G:H2' | 1:C1:1043:A:O4' | 1.96 | 0.65 |
| 1:C1:1347:U:H2' | 1:C1:1349:G:C5 | 2.32 | 0.65 |
| 1:C1:1515:A:H2' | 1:C1:1516:A:H5" | 1.77 | 0.65 |
| 10:CI:25:LEU:O | 10:CI:28:MET:N | 2.29 | 0.65 |
| 29:D1:585:A:H3' | 29:D1:586:C:C6 | 2.32 | 0.65 |
| 29:D1:877:C:H6 | 29:D1:877:C:H3' | 1.61 | 0.65 |
| 29:D1:995:U:O2' | 29:D1:996:A:P | 2.55 | 0.65 |
| 29:D1:1035:G:C4 | 29:D1:1036:A:C8 | 2.85 | 0.65 |
| 29:D1:1142:G:H3' | 29:D1:1143:A:H5' | 1.78 | 0.65 |
| 29:D1:1401:A:H2' | 29:D1:1402:C:C6 | 2.31 | 0.65 |
| 29:D1:2111:G:H22 | 51:DV:49:ILE:HA | 1.62 | 0.65 |
| 29:D1:2218:G:O2' | 29:D1:2219:A:H5' | 1.97 | 0.65 |
| 29:D1:2602:G:H2' | 29:D1:2603:G:H8 | 1.62 | 0.65 |
| 29:D1:2800:G:H5" | 29:D1:2801:A:OP1 | 1.97 | 0.65 |
| 29:D1:2836:C:O2 | 29:D1:2836:C:H3' | 1.97 | 0.65 |
| 29:D1:2909:U:C5 | 29:D1:2910:A:N7 | 2.65 | 0.65 |
| 29:D1:3191:G:N1 | 29:D1:3202:G:C2 | 2.65 | 0.65 |
| 29:D1:3316:A:N6 | 29:D1:3387:U:H3 | 1.94 | 0.65 |
| 29:D1:3325:G:C2 | 29:D1:3326:G:C4 | 2.85 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3386:G:H2' | 29:D1:3387:U:H6 | 1.62 | 0.65 |
| 35:DD:134:LEU:O | 35:DD:137:ALA:N | 2.30 | 0.65 |
| 37:DF:164:SER:HA | 38:DG:182:ASP:CB | 2.26 | 0.65 |
| 73:DM:25:LEU:N | 73:DM:191:TYR:HA | 2.10 | 0.65 |
| 56:Da:20:LEU:HA | 56:Da:22:GLY:O | 1.95 | 0.65 |
| 1:A1:46:A:N6 | 1:A1:433:C:H4' | 2.12 | 0.65 |
| 1:A1:115:G:H21 | 1:A1:334:G:N2 | 1.94 | 0.65 |
| 1:A1:292:U:H6 | 1:A1:292:U:O5' | 1.79 | 0.65 |
| 1:A1:354:C:H2' | 1:A1:355:G:O4' | 1.97 | 0.65 |
| 1:A1:792:U:H2' | 1:A1:792:U:O2 | 1.97 | 0.65 |
| 1:A1:832:U:H3' | 1:A1:833:U:C5' | 2.26 | 0.65 |
| 1:A1:1297:G:N1 | 1:A1:1300:A:OP2 | 2.30 | 0.65 |
| 1:A1:1474:G:C2 | 1:A1:1475:A:C5 | 2.85 | 0.65 |
| 1:A1:1684:U:C5 | 1:A1:1721:A:H2 | 2.15 | 0.65 |
| 4:AC:64:ARG:O | 4:AC:68:GLU:CB | 2.45 | 0.65 |
| 4:AC:133:GLY:HA3 | 4:AC:154:ASP:O | 1.98 | 0.65 |
| 14:AM:67:MET:O | 14:AM:69:LYS:N | 2.30 | 0.65 |
| 29:B1:11:A:C2 | 31:B3:148:G:C6 | 2.85 | 0.65 |
| 29:B1:69:C:N4 | 29:B1:70:A:C8 | 2.64 | 0.65 |
| 29:B1:137:G:C8 | 29:B1:137:G:H3' | 2.32 | 0.65 |
| 29:B1:284:A:H2 | 29:B1:306:A:N9 | 1.94 | 0.65 |
| 29:B1:285:A:N1 | 29:B1:305:U:O5' | 2.30 | 0.65 |
| 29:B1:515:C:H2' | 29:B1:516:A:C4' | 2.26 | 0.65 |
| 29:B1:1220:U:O4' | 29:B1:1223:A:H1' | 1.97 | 0.65 |
| 29:B1:1362:G:H2' | 29:B1:1363:A:C8 | 2.31 | 0.65 |
| 29:B1:1376:C:H1' | 29:B1:1407:A:H2' | 1.79 | 0.65 |
| 29:B1:1505:C:H5" | 29:B1:1505:C:C6 | 2.32 | 0.65 |
| 29:B1:1595:U:H4' | 29:B1:1595:U:OP1 | 1.96 | 0.65 |
| 29:B1:2406:C:H1' | 29:B1:2819:A:C6 | 2.31 | 0.65 |
| 29:B1:2413:A:C2 | 29:B1:2414:G:N7 | 2.65 | 0.65 |
| 29:B1:3079:U:O2 | 29:B1:3079:U:C2' | 2.44 | 0.65 |
| 29:B1:3204:C:C2' | 29:B1:3205:G:OP1 | 2.45 | 0.65 |
| 29:B1:3225:C:N4 | 29:B1:3261:C:H42 | 1.94 | 0.65 |
| 29:B1:3273:A:H2' | 29:B1:3274:A:C4' | 2.27 | 0.65 |
| 29:B1:3297:U:N3 | 29:B1:3298:C:C5 | 2.65 | 0.65 |
| 31:B3:92:A:C2' | 31:B3:93:U:H5' | 2.25 | 0.65 |
| 31:B3:114:G:C2' | 31:B3:115:C:H5' | 2.27 | 0.65 |
| 41:BJ:191:LYS:HA | 41:BJ:192:ASP:CB | 2.27 | 0.65 |
| 49:BT:70:SER:O | 49:BT:72:VAL:N | 2.26 | 0.65 |
| 68:Bn:30:UNK:O | 68:Bn:33:UNK:N | 2.30 | 0.65 |
| 1:C1:55:A:O2' | 1:C1:56:U:P | 2.54 | 0.65 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:635:A:H2' | 1:C1:636:A:C8 | 2.31 | 0.65 |
| 1:C1:1251:U:H2' | 1:C1:1252:C:O4' | 1.96 | 0.65 |
| 1:C1:1454:G:N2 | 1:C1:1455:G:H1' | 2.10 | 0.65 |
| 1:C1:1588:G:C6 | 1:C1:1589:C:C4 | 2.85 | 0.65 |
| 1:C1:1694:A:H4' | 1:C1:1695:G:OP1 | 1.97 | 0.65 |
| 29:D1:19:U:H2' | 29:D1:20:A:C8 | 2.32 | 0.65 |
| 29:D1:264:G:C5 | 29:D1:265:A:C6 | 2.85 | 0.65 |
| 29:D1:271:C:O2' | 29:D1:272:G:O4' | 2.15 | 0.65 |
| 29:D1:379:C:H5" | 29:D1:379:C:C6 | 2.27 | 0.65 |
| 29:D1:563:U:H3' | 29:D1:564:G:C4' | 2.27 | 0.65 |
| 29:D1:569:A:C5 | 29:D1:570:A:C8 | 2.85 | 0.65 |
| 29:D1:595:G:C2 | 29:D1:610:G:OP1 | 2.49 | 0.65 |
| 29:D1:1107:C:C2 | 29:D1:1108:U:C5 | 2.85 | 0.65 |
| 29:D1:1226:G:OP1 | 29:D1:1226:G:O4' | 2.14 | 0.65 |
| 29:D1:1445:U:C5 | 29:D1:1446:A:N7 | 2.64 | 0.65 |
| 29:D1:1602:A:C5 | 29:D1:1603:A:C6 | 2.84 | 0.65 |
| 29:D1:1900:A:C2 | 29:D1:1906:G:C8 | 2.85 | 0.65 |
| 29:D1:2352:A:H2' | 29:D1:2353:G:C8 | 2.32 | 0.65 |
| 29:D1:2768:U:H2' | 29:D1:2769:A:H8 | 1.59 | 0.65 |
| 29:D1:3005:A:N3 | 29:D1:3140:G:N2 | 2.44 | 0.65 |
| 29:D1:3091:A:O2' | 29:D1:3092:C:OP2 | 2.15 | 0.65 |
| 29:D1:3311:C:H2' | 29:D1:3312:U:O4' | 1.98 | 0.65 |
| 29:D1:3376:A:C5' | 29:D1:3377:G:H5" | 2.27 | 0.65 |
| 31:D3:28:C:H5' | 31:D3:29:U:OP2 | 1.96 | 0.65 |
| 34:DC:261:MET:C | 34:DC:263:SER:H | 2.03 | 0.65 |
| 37:DF:99:GLU:O | 37:DF:100:LYS:C | 2.40 | 0.65 |
| 44:DO:85:THR:CB | 44:DO:88:GLY:H | 2.11 | 0.65 |
| 44:DO:141:ALA:HA | 44:DO:144:ARG:CB | 2.27 | 0.65 |
| 1:A1:80:A:H3' | 1:A1:81:G:H8 | 1.63 | 0.64 |
| 1:A1:127:G:O6 | 1:A1:179:A:C2 | 2.50 | 0.64 |
| 1:A1:257:A:C2' | 1:A1:258:C:H5' | 2.21 | 0.64 |
| 1:A1:295:A:C2 | 1:A1:296:U:C2 | 2.84 | 0.64 |
| 1:A1:906:A:H2' | 1:A1:907:A:O4' | 1.96 | 0.64 |
| 1:A1:931:C:H3' | 1:A1:932:U:H2' | 1.79 | 0.64 |
| 1:A1:1241:G:O3' | 1:A1:1242:A:H8 | 1.79 | 0.64 |
| 1:A1:1365:C:H2' | 1:A1:1366:U:C4' | 2.27 | 0.64 |
| 1:A1:1595:U:H2' | 1:A1:1596:C:O2 | 1.97 | 0.64 |
| 3:AB:126:ARG:O | 3:AB:128:GLY:N | 2.30 | 0.64 |
| 13:AL:27:LYS:HA | 13:AL:57:ARG:HA | 1.78 | 0.64 |
| 29:B1:22:G:C5 | 29:B1:23:A:C8 | 2.85 | 0.64 |
| 29:B1:36:C:H4' | 29:B1:808:A:C2 | 2.32 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:130:A:C2 | 29:B1:131:C:N4 | 2.63 | 0.64 |
| 29:B1:299:G:H8 | 29:B1:299:G:O5' | 1.78 | 0.64 |
| 29:B1:352:A:C4 | 29:B1:354:U:C5 | 2.85 | 0.64 |
| 29:B1:421:G:H21 | 29:B1:2365:C:C1' | 2.05 | 0.64 |
| 29:B1:563:U:C2 | 29:B1:564:G:O4' | 2.50 | 0.64 |
| 29:B1:585:A:H3' | 29:B1:586:C:C6 | 2.31 | 0.64 |
| 29:B1:648:C:H5 | 29:B1:2374:C:O3' | 1.80 | 0.64 |
| 29:B1:937:G:N2 | 29:B1:960:U:C5' | 2.58 | 0.64 |
| 29:B1:1313:G:C2 | 29:B1:1314:C:C6 | 2.85 | 0.64 |
| 29:B1:1350:A:H3' | 29:B1:1351:U:C6 | 2.31 | 0.64 |
| 29:B1:1351:U:O2 | 29:B1:1351:U:C2' | 2.43 | 0.64 |
| 29:B1:1504:A:C3' | 29:B1:1505:C:H5" | 2.28 | 0.64 |
| 29:B1:1540:U:O2 | 29:B1:1540:U:C2' | 2.44 | 0.64 |
| 29:B1:1680:G:C2 | 29:B1:1681:U:C6 | 2.84 | 0.64 |
| 29:B1:2315:G:N2 | 29:B1:2316:G:C8 | 2.65 | 0.64 |
| 29:B1:2545:C:H2' | 29:B1:2546:C:O4' | 1.97 | 0.64 |
| 29:B1:2614:G:C4 | 29:B1:2797:C:C5 | 2.85 | 0.64 |
| 29:B1:3105:U:C5 | 29:B1:3106:A:C5 | 2.85 | 0.64 |
| 29:B1:3153:U:C4 | 29:B1:3160:U:H1' | 2.32 | 0.64 |
| 29:B1:3299:A:C2 | 29:B1:3300:U:C5 | 2.85 | 0.64 |
| 29:B1:3309:G:H3' | 29:B1:3310:A:H8 | 1.61 | 0.64 |
| 31:B3:106:C:C4 | 31:B3:138:A:N6 | 2.65 | 0.64 |
| 34:BC:39:LYS:O | 34:BC:41:VAL:N | 2.30 | 0.64 |
| 35:BD:237:GLN:C | 35:BD:239:ALA:H | 2.02 | 0.64 |
| 40:BI:21:LYS:O | 40:BI:22:SER:C | 2.40 | 0.64 |
| 43:BN:48:GLY:O | 43:BN:49:PRO:C | 2.40 | 0.64 |
| 53:BX:19:TYR:C | 53:BX:21:THR:H | 2.04 | 0.64 |
| 1:C1:274:G:H2' | 1:C1:275:C:H6 | 1.62 | 0.64 |
| 1:C1:364:G:H5' | 1:C1:365:G:OP2 | 1.98 | 0.64 |
| 1:C1:728:U:O2 | 1:C1:728:U:H2' | 1.97 | 0.64 |
| 1:C1:871:G:C4 | 1:C1:872:G:C8 | 2.85 | 0.64 |
| 1:C1:871:G:C6 | 1:C1:957:G:C6 | 2.85 | 0.64 |
| 4:CC:14:ASP:O | 4:CC:16:VAL:O | 2.15 | 0.64 |
| 5:CD:128:ASN:O | 5:CD:130:ILE:N | 2.30 | 0.64 |
| 29:D1:10:C:H5 | 31:D3:149:A:H2 | 1.44 | 0.64 |
| 29:D1:67:A:N3 | 29:D1:317:A:C8 | 2.65 | 0.64 |
| 29:D1:113:C:H2' | 29:D1:114:A:H5' | 1.78 | 0.64 |
| 29:D1:344:A:C5 | 29:D1:345:G:C8 | 2.85 | 0.64 |
| 29:D1:385:A:N3 | 29:D1:386:A:C8 | 2.65 | 0.64 |
| 29:D1:866:A:H8 | 29:D1:867:G:C8 | 2.14 | 0.64 |
| 29:D1:965:A:C6 | 29:D1:966:U:C2 | 2.84 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1097:G:H1' | 29:D1:1098:A:O2' | 1.97 | 0.64 |
| 29:D1:1128:U:O2 | 29:D1:1128:U:C2' | 2.44 | 0.64 |
| 29:D1:1232:C:C4 | 29:D1:1261:G:C2 | 2.85 | 0.64 |
| 29:D1:1257:C:H3' | 29:D1:1258:U:C6 | 2.32 | 0.64 |
| 29:D1:1260:A:H1' | 29:D1:1280:C:H1' | 1.78 | 0.64 |
| 29:D1:1916:U:H2' | 29:D1:1917:C:C6 | 2.32 | 0.64 |
| 29:D1:2105:G:H5' | 29:D1:2105:G:H8 | 1.59 | 0.64 |
| 29:D1:2172:A:H1' | 33:DB:10:LYS:O | 1.97 | 0.64 |
| 29:D1:2254:U:O3' | 74:D1:3415:OHX:N2 | 2.30 | 0.64 |
| 29:D1:2260:U:H2' | 29:D1:2261:G:N7 | 2.13 | 0.64 |
| 29:D1:2650:U:OP2 | 29:D1:2650:U:C6 | 2.48 | 0.64 |
| 29:D1:2687:G:N3 | 29:D1:2687:G:C3' | 2.54 | 0.64 |
| 29:D1:2869:U:H2' | 29:D1:2869:U:O2 | 1.98 | 0.64 |
| 29:D1:2877:G:N7 | 74:D1:3530:OHX:N1 | 2.44 | 0.64 |
| 29:D1:3047:U:N3 | 29:D1:3048:A:C2 | 2.65 | 0.64 |
| 29:D1:3297:U:N3 | 29:D1:3298:C:C5 | 2.65 | 0.64 |
| 29:D1:3328:G:H22 | 29:D1:3375:A:N6 | 1.95 | 0.64 |
| 31:D3:102:U:H2' | 31:D3:103:G:C8 | 2.32 | 0.64 |
| 45:DP:119:VAL:O | 45:DP:120:VAL:O | 2.15 | 0.64 |
| 46:DQ:9:THR:HA | 46:DQ:14:SER:N | 2.10 | 0.64 |
| 52:DW:76:VAL:O | 52:DW:132:ALA:HB1 | 1.97 | 0.64 |
| 1:A1:169:A:C4 | 1:A1:171:A:N7 | 2.65 | 0.64 |
| 1:A1:207:U:C2 | 1:A1:208:U:C5 | 2.85 | 0.64 |
| 1:A1:209:U:C2 | 1:A1:210:A:C8 | 2.86 | 0.64 |
| 1:A1:528:U:C4' | 1:A1:529:A:O4' | 2.45 | 0.64 |
| 1:A1:595:G:H2' | 1:A1:596:C:C6 | 2.33 | 0.64 |
| 1:A1:686:C:C2' | 1:A1:687:G:C8 | 2.71 | 0.64 |
| 1:A1:930:A:H5" | 1:A1:931:C:OP2 | 1.96 | 0.64 |
| 1:A1:1196:A:N3 | 1:A1:1196:A:H5" | 2.12 | 0.64 |
| 1:A1:1618:C:H5' | 1:A1:1619:C:OP2 | 1.98 | 0.64 |
| 6:AE:71:PHE:O | 6:AE:75:ALA:CB | 2.46 | 0.64 |
| 11:AJ:127:LYS:HA | 11:AJ:134:ALA:H | 1.62 | 0.64 |
| 15:AN:45:ALA:C | 15:AN:47:GLN:N | 2.53 | 0.64 |
| 29:B1:200:C:H5' | 29:B1:221:A:N3 | 2.12 | 0.64 |
| 29:B1:269:G:C6 | 29:B1:294:U:H5 | 2.14 | 0.64 |
| 29:B1:271:C:C5 | 29:B1:295:A:N7 | 2.65 | 0.64 |
| 29:B1:313:A:H2' | 29:B1:314:U:C6 | 2.31 | 0.64 |
| 29:B1:331:G:C6 | 31:B3:33:A:N1 | 2.66 | 0.64 |
| 29:B1:680:G:H5" | 29:B1:681:U:OP2 | 1.96 | 0.64 |
| 29:B1:716:A:H3' | 29:B1:716:A:H8 | 1.62 | 0.64 |
| 29:B1:724:U:H2' | 29:B1:725:G:C8 | 2.32 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1129:A:N6 | 29:B1:1130:A:H61 | 1.94 | 0.64 |
| 29:B1:1553:U:H1' | 29:B1:1582:C:H5 | 1.63 | 0.64 |
| 29:B1:1666:G:H2' | 29:B1:1667:A:C8 | 2.32 | 0.64 |
| 29:B1:1795:U:C4 | 62:Bg:51:ALA:HB2 | 2.32 | 0.64 |
| 29:B1:1864:A:H3' | 29:B1:1865:A:H8 | 1.62 | 0.64 |
| 29:B1:1933:A:H2' | 29:B1:1934:G:H5' | 1.79 | 0.64 |
| 29:B1:2119:A:C5 | 29:B1:2120:A:C2 | 2.86 | 0.64 |
| 29:B1:2369:G:C6 | 29:B1:2370:G:C6 | 2.85 | 0.64 |
| 29:B1:2554:A:H4' | 29:B1:2555:G:O5' | 1.96 | 0.64 |
| 29:B1:2894:C:H2' | 29:B1:2895:G:H8 | 1.61 | 0.64 |
| 29:B1:3058:U:O2' | 29:B1:3059:G:OP1 | 2.16 | 0.64 |
| 29:B1:3211:C:C2' | 29:B1:3211:C:O2 | 2.43 | 0.64 |
| 29:B1:3329:U:O3' | 34:BC:366:GLY:HA3 | 1.98 | 0.64 |
| 30:B2:42:A:H2 | 30:B2:47:C:C5 | 2.15 | 0.64 |
| 31:B3:19:C:C6 | 31:B3:20:U:C5 | 2.84 | 0.64 |
| 31:B3:72:A:H61 | 31:B3:85:G:C5' | 2.10 | 0.64 |
| 31:B3:72:A:H62 | 31:B3:85:G:H21 | 1.45 | 0.64 |
| 31:B3:144:G:O2' | 31:B3:145:U:H5' | 1.98 | 0.64 |
| 34:BC:4:ARG:HA | 34:BC:6:TYR:O | 1.98 | 0.64 |
| 34:BC:51:ALA:CB | 34:BC:78:VAL:O | 2.42 | 0.64 |
| 53:BX:75:ARG:C | 53:BX:77:LYS:H | 2.06 | 0.64 |
| 1:C1:80:A:H3' | 1:C1:81:G:H8 | 1.62 | 0.64 |
| 1:C1:168:A:H2' | 1:C1:169:A:C8 | 2.31 | 0.64 |
| 1:C1:177:U:OP2 | 1:C1:177:U:H6 | 1.79 | 0.64 |
| 1:C1:250:C:N3 | 1:C1:251:A:N7 | 2.45 | 0.64 |
| 1:C1:296:U:H2' | 1:C1:297:U:N1 | 2.12 | 0.64 |
| 1:C1:396:G:C2' | 1:C1:397:A:O5' | 2.44 | 0.64 |
| 1:C1:619:A:O5' | 1:C1:620:A:OP2 | 2.14 | 0.64 |
| 1:C1:1177:C:H2' | 1:C1:1178:G:O4' | 1.96 | 0.64 |
| 1:C1:1216:C:H4' | 1:C1:1217:A:H5' | 1.77 | 0.64 |
| 1:C1:1244:A:C2 | 1:C1:1245:G:C8 | 2.85 | 0.64 |
| 1:C1:1515:A:H2' | 1:C1:1516:A:C5' | 2.27 | 0.64 |
| 1:C1:1538:U:H6 | 1:C1:1538:U:H3' | 1.62 | 0.64 |
| 5:CD:63:GLN:O | 5:CD:92:ARG:HA | 1.97 | 0.64 |
| 16:CO:37:PHE:O | 16:CO:39:GLN:N | 2.30 | 0.64 |
| 29:D1:173:G:H2' | 29:D1:174:C:C6 | 2.33 | 0.64 |
| 29:D1:221:A:C4 | 29:D1:224:C:N4 | 2.65 | 0.64 |
| 29:D1:312:C:H2' | 29:D1:313:A:C8 | 2.31 | 0.64 |
| 29:D1:507:U:H4' | 29:D1:1167:U:OP1 | 1.97 | 0.64 |
| 29:D1:515:C:C4 | 29:D1:516:A:N7 | 2.65 | 0.64 |
| 29:D1:523:A:H2' | 29:D1:524:U:C5' | 2.24 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:573:C:C2' | 29:D1:574:U:H5' | 2.27 | 0.64 |
| 29:D1:702:C:C2 | 29:D1:703:G:C8 | 2.85 | 0.64 |
| 29:D1:720:A:H4' | 29:D1:721:G:OP2 | 1.96 | 0.64 |
| 29:D1:730:C:H2' | 29:D1:731:U:H5' | 1.77 | 0.64 |
| 29:D1:1106:G:C6 | 29:D1:1107:C:C4 | 2.84 | 0.64 |
| 29:D1:1535:A:C8 | 29:D1:1536:G:C8 | 2.86 | 0.64 |
| 29:D1:2743:A:C6 | 29:D1:2751:G:C6 | 2.85 | 0.64 |
| 29:D1:2932:U:O2 | 29:D1:2934:A:OP2 | 2.13 | 0.64 |
| 29:D1:3086:A:H2' | 29:D1:3087:A:O4' | 1.97 | 0.64 |
| 29:D1:3126:C:C4 | 29:D1:3127:A:N7 | 2.65 | 0.64 |
| 29:D1:3313:U:O2' | 29:D1:3314:A:H8 | 1.76 | 0.64 |
| 31:D3:72:A:H61 | 31:D3:85:G:C5' | 2.11 | 0.64 |
| 31:D3:74:U:H1' | 31:D3:89:A:N7 | 2.12 | 0.64 |
| 31:D3:106:C:N1 | 31:D3:138:A:N7 | 2.44 | 0.64 |
| 53:DX:17:LYS:C | 53:DX:19:TYR:N | 2.50 | 0.64 |
| 58:Dc:62:GLN:O | 58:Dc:65:ALA:HB3 | 1.97 | 0.64 |
| 63:Dh:9:UNK:O | 63:Dh:10:UNK:C | 2.45 | 0.64 |
| 1:A1:17:C:H2' | 1:A1:18:C:C6 | 2.32 | 0.64 |
| 1:A1:250:C:H2' | 1:A1:251:A:C8 | 2.32 | 0.64 |
| 1:A1:814:A:C5 | 1:A1:816:G:C2 | 2.84 | 0.64 |
| 1:A1:883:C:N4 | 1:A1:945:U:H3 | 1.94 | 0.64 |
| 1:A1:926:A:C2' | 1:A1:927:C:H5' | 2.27 | 0.64 |
| 1:A1:1378:U:C5' | 1:A1:1379:C:C6 | 2.77 | 0.64 |
| 1:A1:1584:G:H8 | 11:AJ:123:ARG:H | 1.38 | 0.64 |
| 1:A1:1612:U:H3' | 1:A1:1613:U:H5" | 1.79 | 0.64 |
| 1:A1:1614:A:H2' | 1:A1:1615:C:H5" | 1.79 | 0.64 |
| 1:A1:1694:A:H4' | 1:A1:1695:G:OP1 | 1.96 | 0.64 |
| 1:A1:1733:C:C4 | 1:A1:1734:U:C4 | 2.84 | 0.64 |
| 9:AH:63:ALA:O | 9:AH:65:GLN:N | 2.30 | 0.64 |
| 12:AK:58:MET:HA | 12:AK:63:LYS:H | 1.61 | 0.64 |
| 14:AM:60:SER:O | 14:AM:62:ALA:N | 2.30 | 0.64 |
| 29:B1:145:G:N3 | 29:B1:145:G:H2' | 2.13 | 0.64 |
| 29:B1:504:A:C6 | 29:B1:505:G:C6 | 2.85 | 0.64 |
| 29:B1:748:U:O2 | 29:B1:748:U:H2' | 1.95 | 0.64 |
| 29:B1:1234:G:C5 | 29:B1:1235:U:H2' | 2.31 | 0.64 |
| 29:B1:1328:C:H2' | 29:B1:1329:U:C6 | 2.32 | 0.64 |
| 29:B1:1368:U:O2' | 29:B1:1369:A:H5' | 1.98 | 0.64 |
| 29:B1:2172:A:H1' | 33:BB:10:LYS:O | 1.98 | 0.64 |
| 29:B1:2308:C:H2' | 29:B1:2309:A:C8 | 2.31 | 0.64 |
| 29:B1:2363:A:C2 | 29:B1:2376:G:C5 | 2.85 | 0.64 |
| 29:B1:2868:U:H2' | 29:B1:2869:U:H6 | 1.61 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2895:G:C2’ | 29:B1:2896:A:H5” | 2.27 | 0.64 |
| 30:B2:25:G:C4 | 30:B2:26:C:C4 | 2.84 | 0.64 |
| 42:BK:84:LEU:HA | 42:BK:89:TYR:CB | 2.27 | 0.64 |
| 42:BK:101:ASN:O | 42:BK:103:GLY:N | 2.30 | 0.64 |
| 43:BN:22:LEU:O | 43:BN:23:ILE:CB | 2.45 | 0.64 |
| 44:BO:53:TYR:O | 44:BO:55:ALA:N | 2.30 | 0.64 |
| 48:BS:151:ARG:HA | 48:BS:154:ALA:HB3 | 1.79 | 0.64 |
| 54:BY:73:LEU:HA | 54:BY:116:GLY:HA3 | 1.80 | 0.64 |
| 54:BY:129:PHE:CB | 54:BY:130:VAL:CB | 2.75 | 0.64 |
| 1:C1:14:C:H5’ | 3:CB:164:SER:H | 1.63 | 0.64 |
| 1:C1:26:A:H2 | 1:C1:600:U:N3 | 1.95 | 0.64 |
| 1:C1:207:U:N3 | 1:C1:208:U:C5 | 2.65 | 0.64 |
| 1:C1:710:U:O2 | 1:C1:729:G:C2 | 2.51 | 0.64 |
| 1:C1:940:A:H2’ | 1:C1:941:A:H8 | 1.61 | 0.64 |
| 1:C1:1367:G:H5” | 1:C1:1368:G:OP2 | 1.96 | 0.64 |
| 1:C1:1503:A:H2’ | 1:C1:1504:G:H5’ | 1.79 | 0.64 |
| 1:C1:1745:G:O2’ | 1:C1:1746:A:C8 | 2.47 | 0.64 |
| 1:C1:1764:C:H2’ | 1:C1:1767:G:N7 | 2.12 | 0.64 |
| 4:CC:95:GLY:O | 4:CC:96:LEU:CB | 2.45 | 0.64 |
| 17:CP:104:LEU:O | 17:CP:105:ALA:HB2 | 1.96 | 0.64 |
| 29:D1:597:G:H2’ | 29:D1:598:A:O4’ | 1.97 | 0.64 |
| 29:D1:611:A:C5’ | 29:D1:612:U:OP1 | 2.45 | 0.64 |
| 29:D1:968:G:H2’ | 29:D1:969:C:H6 | 1.61 | 0.64 |
| 29:D1:1042:U:H2’ | 29:D1:1043:C:C6 | 2.32 | 0.64 |
| 29:D1:1199:C:N3 | 74:D1:3574:OHX:N6 | 2.45 | 0.64 |
| 29:D1:1341:U:H2’ | 29:D1:1342:C:C6 | 2.31 | 0.64 |
| 29:D1:1435:A:C5’ | 29:D1:1436:U:H5” | 2.19 | 0.64 |
| 29:D1:1492:G:H3’ | 29:D1:1493:G:H21 | 1.61 | 0.64 |
| 29:D1:1559:A:H2’ | 29:D1:1560:G:H5’ | 1.79 | 0.64 |
| 29:D1:1680:G:C4 | 29:D1:1681:U:C6 | 2.86 | 0.64 |
| 29:D1:1696:A:C2 | 29:D1:1697:A:C6 | 2.85 | 0.64 |
| 29:D1:1715:A:H3’ | 29:D1:1716:U:C5’ | 2.24 | 0.64 |
| 29:D1:1793:C:C1’ | 29:D1:1794:G:OP1 | 2.44 | 0.64 |
| 29:D1:1939:G:H2’ | 29:D1:1940:G:H5’ | 1.78 | 0.64 |
| 29:D1:2280:A:C5 | 29:D1:2282:U:H5 | 2.14 | 0.64 |
| 29:D1:2568:C:O2’ | 29:D1:2569:A:H4’ | 1.97 | 0.64 |
| 29:D1:2716:U:H3’ | 29:D1:2717:U:C5’ | 2.26 | 0.64 |
| 29:D1:2858:U:H2’ | 29:D1:2859:U:C6 | 2.33 | 0.64 |
| 29:D1:3045:G:H2’ | 29:D1:3046:A:O5’ | 1.95 | 0.64 |
| 29:D1:3181:C:H1’ | 45:DP:167:TYR:CB | 2.27 | 0.64 |
| 29:D1:3219:G:OP1 | 29:D1:3220:G:C5’ | 2.44 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3228:C:H2' | 29:D1:3229:G:C8 | 2.33 | 0.64 |
| 29:D1:3262:U:C2' | 29:D1:3263:G:H8 | 2.11 | 0.64 |
| 33:DB:182:ALA:C | 33:DB:185:ALA:H | 2.04 | 0.64 |
| 34:DC:50:LYS:CB | 34:DC:331:ASN:O | 2.45 | 0.64 |
| 63:Dh:49:UNK:O | 63:Dh:50:UNK:C | 2.45 | 0.64 |
| 1:A1:183:U:C4' | 1:A1:184:C:OP1 | 2.46 | 0.64 |
| 1:A1:544:A:O2' | 1:A1:545:A:P | 2.55 | 0.64 |
| 1:A1:760:A:H2' | 1:A1:761:G:H5' | 1.78 | 0.64 |
| 1:A1:986:G:N3 | 1:A1:987:G:C8 | 2.65 | 0.64 |
| 1:A1:1147:A:H2' | 1:A1:1148:C:C6 | 2.31 | 0.64 |
| 1:A1:1449:U:H2' | 1:A1:1450:U:H6 | 1.62 | 0.64 |
| 1:A1:1567:U:H2' | 1:A1:1568:C:O4' | 1.97 | 0.64 |
| 1:A1:1609:U:C5' | 1:A1:1609:U:H6 | 2.11 | 0.64 |
| 1:A1:1777:G:C5 | 1:A1:1778:G:N7 | 2.66 | 0.64 |
| 4:AC:61:GLU:C | 4:AC:63:GLY:H | 2.02 | 0.64 |
| 8:AG:109:LYS:C | 8:AG:111:ALA:H | 2.05 | 0.64 |
| 21:AT:240:VAL:HA | 21:AT:256:THR:HA | 1.77 | 0.64 |
| 29:B1:43:A:C6 | 29:B1:2802:A:H2 | 2.15 | 0.64 |
| 29:B1:532:A:H2' | 29:B1:533:A:C8 | 2.33 | 0.64 |
| 29:B1:582:G:C2 | 29:B1:583:G:C8 | 2.85 | 0.64 |
| 29:B1:1178:G:C2' | 29:B1:1179:A:H5' | 2.28 | 0.64 |
| 29:B1:1192:C:P | 29:B1:1192:C:C3' | 2.73 | 0.64 |
| 29:B1:1352:A:H3' | 29:B1:1353:U:H4' | 1.79 | 0.64 |
| 29:B1:2288:G:C6 | 29:B1:2289:U:O4 | 2.50 | 0.64 |
| 29:B1:2300:G:O2' | 29:B1:2328:U:H1' | 1.97 | 0.64 |
| 29:B1:3006:A:C2 | 29:B1:3141:A:C2 | 2.85 | 0.64 |
| 29:B1:3218:A:O2' | 29:B1:3218:A:N3 | 2.30 | 0.64 |
| 29:B1:3323:A:C6 | 29:B1:3324:C:C4 | 2.86 | 0.64 |
| 31:B3:55:U:H2' | 31:B3:56:G:C8 | 2.23 | 0.64 |
| 34:BC:103:THR:O | 34:BC:104:THR:C | 2.41 | 0.64 |
| 41:BJ:161:GLY:CA | 41:BJ:162:GLN:CB | 2.69 | 0.64 |
| 46:BQ:31:GLU:O | 46:BQ:35:ALA:HB2 | 1.96 | 0.64 |
| 59:Bd:36:SER:CB | 74:Bd:101:OHX:N4 | 2.61 | 0.64 |
| 1:C1:518:A:H8 | 1:C1:519:C:C5' | 2.10 | 0.64 |
| 1:C1:571:G:H2' | 1:C1:571:G:N3 | 2.12 | 0.64 |
| 1:C1:594:A:H4' | 1:C1:595:G:OP1 | 1.96 | 0.64 |
| 1:C1:617:U:O4' | 1:C1:1031:U:C2 | 2.50 | 0.64 |
| 1:C1:989:U:C2' | 1:C1:990:C:C6 | 2.79 | 0.64 |
| 1:C1:1068:C:H2' | 1:C1:1069:A:C8 | 2.32 | 0.64 |
| 1:C1:1265:G:H2' | 1:C1:1266:U:O4' | 1.97 | 0.64 |
| 1:C1:1283:U:C2 | 1:C1:1284:C:H5 | 2.15 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1391:A:H5” | 1:C1:1392:U:OP2 | 1.97 | 0.64 |
| 1:C1:1521:G:H5’ | 1:C1:1523:G:P | 2.37 | 0.64 |
| 3:CB:163:GLY:O | 3:CB:165:VAL:N | 2.31 | 0.64 |
| 5:CD:191:ALA:O | 5:CD:195:ALA:N | 2.28 | 0.64 |
| 7:CF:110:HIS:CA | 7:CF:111:VAL:CB | 2.76 | 0.64 |
| 13:CL:27:LYS:HA | 13:CL:57:ARG:HA | 1.79 | 0.64 |
| 29:D1:19:U:H2’ | 29:D1:20:A:N7 | 2.12 | 0.64 |
| 29:D1:258:G:OP2 | 29:D1:258:G:H2’ | 1.97 | 0.64 |
| 29:D1:407:A:N1 | 31:D3:17:A:H1’ | 2.12 | 0.64 |
| 29:D1:518:G:N2 | 29:D1:572:A:H61 | 1.95 | 0.64 |
| 29:D1:540:U:C2 | 29:D1:541:U:C5 | 2.85 | 0.64 |
| 29:D1:779:G:H3’ | 29:D1:779:G:H8 | 1.61 | 0.64 |
| 29:D1:1174:G:H1’ | 29:D1:1181:U:N3 | 2.13 | 0.64 |
| 29:D1:1616:U:H2’ | 29:D1:1617:G:C8 | 2.31 | 0.64 |
| 29:D1:2234:G:O6 | 74:D1:3473:OHX:N6 | 2.30 | 0.64 |
| 29:D1:2290:C:C2 | 29:D1:2303:A:C2 | 2.85 | 0.64 |
| 29:D1:2510:U:N3 | 29:D1:2511:A:C8 | 2.66 | 0.64 |
| 29:D1:3028:G:C2 | 29:D1:3029:A:C2 | 2.86 | 0.64 |
| 29:D1:3069:G:C2 | 29:D1:3070:A:C8 | 2.86 | 0.64 |
| 30:D2:1:G:H2’ | 30:D2:2:G:C8 | 2.33 | 0.64 |
| 30:D2:12:U:C2’ | 30:D2:13:A:N1 | 2.60 | 0.64 |
| 31:D3:29:U:C2 | 31:D3:30:C:H5 | 2.16 | 0.64 |
| 31:D3:72:A:C4 | 31:D3:88:A:N1 | 2.66 | 0.64 |
| 31:D3:123:G:H5” | 74:D3:205:OHX:N5 | 2.13 | 0.64 |
| 31:D3:157:U:H2’ | 31:D3:158:U:H5” | 1.79 | 0.64 |
| 36:DE:111:GLN:H | 36:DE:115:LEU:N | 1.96 | 0.64 |
| 40:DI:72:LYS:O | 40:DI:73:SER:C | 2.38 | 0.64 |
| 44:DO:54:LYS:O | 44:DO:56:LYS:N | 2.30 | 0.64 |
| 45:DP:56:ASP:O | 45:DP:58:LEU:O | 2.16 | 0.64 |
| 49:DT:68:THR:O | 49:DT:70:SER:N | 2.30 | 0.64 |
| 49:DT:84:TYR:O | 49:DT:85:LEU:C | 2.38 | 0.64 |
| 54:DY:127:ALA:C | 54:DY:129:PHE:H | 2.05 | 0.64 |
| 1:A1:331:A:N3 | 1:A1:331:A:H2’ | 2.12 | 0.64 |
| 1:A1:469:C:OP1 | 1:A1:469:C:N3 | 2.29 | 0.64 |
| 1:A1:650:U:C4 | 1:A1:684:A:N6 | 2.65 | 0.64 |
| 1:A1:1657:U:N3 | 74:A1:1949:OHX:N2 | 2.43 | 0.64 |
| 29:B1:9:U:H3’ | 29:B1:9:U:O2 | 1.96 | 0.64 |
| 29:B1:211:A:H5’ | 29:B1:229:G:O2’ | 1.97 | 0.64 |
| 29:B1:416:A:C2 | 29:B1:417:A:C5 | 2.86 | 0.64 |
| 29:B1:545:U:H2’ | 29:B1:546:C:C5 | 2.33 | 0.64 |
| 29:B1:597:G:C2 | 29:B1:607:A:C2 | 2.86 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:760:G:O2' | 29:B1:761:A:O4' | 2.14 | 0.64 |
| 29:B1:836:A:C5 | 29:B1:837:A:N7 | 2.66 | 0.64 |
| 29:B1:956:U:H1' | 29:B1:2729:U:O4 | 1.97 | 0.64 |
| 29:B1:1302:A:N3 | 29:B1:2887:A:C2 | 2.65 | 0.64 |
| 29:B1:1454:A:C5' | 29:B1:1878:G:N1 | 2.60 | 0.64 |
| 29:B1:1524:A:C1' | 29:B1:1525:G:OP1 | 2.45 | 0.64 |
| 29:B1:1529:A:P | 29:B1:1592:G:H22 | 2.20 | 0.64 |
| 29:B1:1731:A:C6 | 29:B1:1732:U:C2 | 2.85 | 0.64 |
| 29:B1:2571:U:H3' | 29:B1:2572:C:C6 | 2.33 | 0.64 |
| 29:B1:2631:U:H2' | 29:B1:2632:G:H8 | 1.63 | 0.64 |
| 29:B1:3176:G:O2' | 29:B1:3177:G:H5" | 1.98 | 0.64 |
| 29:B1:3191:G:C6 | 29:B1:3192:U:C2 | 2.85 | 0.64 |
| 31:B3:74:U:H1' | 31:B3:89:A:N7 | 2.13 | 0.64 |
| 36:BE:77:ALA:O | 36:BE:78:ALA:HB2 | 1.97 | 0.64 |
| 37:BF:159:LEU:C | 37:BF:161:ALA:N | 2.53 | 0.64 |
| 40:BI:161:LEU:O | 40:BI:164:ILE:N | 2.31 | 0.64 |
| 71:Br:-1:UNK:O | 71:Br:1:UNK:N | 2.31 | 0.64 |
| 1:C1:198:A:O2' | 1:C1:199:G:O4' | 2.15 | 0.64 |
| 1:C1:321:C:H2' | 1:C1:322:G:H5' | 1.80 | 0.64 |
| 1:C1:481:A:H2' | 1:C1:482:U:C6 | 2.33 | 0.64 |
| 1:C1:545:A:C5 | 1:C1:594:A:N7 | 2.66 | 0.64 |
| 1:C1:963:A:O2' | 1:C1:964:U:P | 2.55 | 0.64 |
| 1:C1:1107:G:O2' | 1:C1:1108:G:P | 2.54 | 0.64 |
| 1:C1:1113:A:O3' | 1:C1:1114:G:H4' | 1.97 | 0.64 |
| 1:C1:1250:U:N3 | 1:C1:1251:U:N3 | 2.45 | 0.64 |
| 1:C1:1281:G:C4 | 1:C1:1282:U:C5 | 2.84 | 0.64 |
| 1:C1:1472:C:H5' | 1:C1:1474:G:H1' | 1.79 | 0.64 |
| 1:C1:1558:U:H3' | 1:C1:1559:A:C5' | 2.27 | 0.64 |
| 1:C1:1728:A:C5 | 1:C1:1729:C:C5 | 2.86 | 0.64 |
| 10:CI:17:TYR:CB | 10:CI:18:ARG:CB | 2.75 | 0.64 |
| 24:Cc:53:UNK:HA | 24:Cc:63:UNK:C | 2.28 | 0.64 |
| 29:D1:11:A:O4' | 29:D1:1557:A:N6 | 2.31 | 0.64 |
| 29:D1:37:U:H2' | 29:D1:37:U:O2 | 1.97 | 0.64 |
| 29:D1:126:U:C2 | 29:D1:127:G:C8 | 2.86 | 0.64 |
| 29:D1:199:A:N3 | 29:D1:201:A:C8 | 2.66 | 0.64 |
| 29:D1:344:A:C2 | 29:D1:345:G:C1' | 2.80 | 0.64 |
| 29:D1:384:A:C5 | 29:D1:1465:A:C2 | 2.85 | 0.64 |
| 29:D1:593:C:N3 | 29:D1:594:U:O2' | 2.30 | 0.64 |
| 29:D1:995:U:N3 | 29:D1:2637:A:C8 | 2.66 | 0.64 |
| 29:D1:1286:A:C4' | 29:D1:1287:A:H5' | 2.27 | 0.64 |
| 29:D1:1357:G:C4 | 29:D1:1358:C:C5 | 2.86 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1443:G:O2' | 29:D1:1444:G:H5' | 1.97 | 0.64 |
| 29:D1:1446:A:OP1 | 29:D1:2984:C:H5" | 1.97 | 0.64 |
| 29:D1:1653:G:C2' | 29:D1:1654:A:H5' | 2.27 | 0.64 |
| 29:D1:1655:G:N2 | 29:D1:1801:U:C4 | 2.66 | 0.64 |
| 29:D1:2131:A:H61 | 62:Dg:18:TYR:HA | 1.60 | 0.64 |
| 29:D1:2149:A:H3' | 29:D1:2149:A:C8 | 2.33 | 0.64 |
| 29:D1:2269:U:N3 | 29:D1:2272:G:N1 | 2.40 | 0.64 |
| 29:D1:2371:G:H5" | 29:D1:2372:A:OP2 | 1.97 | 0.64 |
| 29:D1:3012:A:N1 | 29:D1:3043:C:C2 | 2.65 | 0.64 |
| 29:D1:3094:A:H2' | 29:D1:3095:U:C6 | 2.32 | 0.64 |
| 29:D1:3271:G:C4 | 29:D1:3271:G:H3' | 2.32 | 0.64 |
| 29:D1:3356:G:H2' | 29:D1:3357:U:O5' | 1.97 | 0.64 |
| 29:D1:3392:U:C4 | 29:D1:3393:U:C4 | 2.82 | 0.64 |
| 30:D2:10:C:HO2' | 30:D2:13:A:H8 | 1.43 | 0.64 |
| 30:D2:91:G:C6 | 30:D2:92:A:C5 | 2.85 | 0.64 |
| 31:D3:13:A:C2 | 31:D3:14:C:C2 | 2.85 | 0.64 |
| 31:D3:72:A:H62 | 31:D3:85:G:N2 | 1.95 | 0.64 |
| 31:D3:114:G:O2' | 31:D3:115:C:H5' | 1.97 | 0.64 |
| 37:DF:97:ASN:O | 37:DF:98:VAL:C | 2.40 | 0.64 |
| 40:DI:7:GLU:HA | 40:DI:56:ALA:HA | 1.79 | 0.64 |
| 57:Db:83:GLU:C | 57:Db:85:LEU:N | 2.56 | 0.64 |
| 63:Dh:15:UNK:O | 63:Dh:17:UNK:N | 2.30 | 0.64 |
| 1:A1:29:U:O2' | 1:A1:30:G:H5' | 1.97 | 0.64 |
| 1:A1:210:A:H2' | 1:A1:211:U:C6 | 2.33 | 0.64 |
| 1:A1:249:U:H3' | 1:A1:250:C:C5' | 2.25 | 0.64 |
| 1:A1:929:A:H5" | 1:A1:930:A:OP2 | 1.97 | 0.64 |
| 1:A1:977:A:C6 | 1:A1:1025:A:N3 | 2.66 | 0.64 |
| 1:A1:985:G:C6 | 1:A1:986:G:C6 | 2.85 | 0.64 |
| 1:A1:985:G:C4 | 1:A1:986:G:N7 | 2.65 | 0.64 |
| 1:A1:1042:G:H2' | 1:A1:1043:A:C8 | 2.33 | 0.64 |
| 1:A1:1243:G:H2' | 1:A1:1244:A:N7 | 2.13 | 0.64 |
| 1:A1:1267:G:H21 | 1:A1:1448:G:C5' | 2.10 | 0.64 |
| 5:AD:99:MET:C | 5:AD:101:GLY:H | 2.06 | 0.64 |
| 10:AI:25:LEU:O | 10:AI:28:MET:N | 2.28 | 0.64 |
| 29:B1:271:C:O2' | 29:B1:272:G:O4' | 2.16 | 0.64 |
| 29:B1:506:U:O2' | 29:B1:1166:G:H4' | 1.97 | 0.64 |
| 29:B1:515:C:C4 | 29:B1:516:A:N7 | 2.65 | 0.64 |
| 29:B1:594:U:O4 | 29:B1:595:G:N1 | 2.30 | 0.64 |
| 29:B1:609:G:C8 | 29:B1:610:G:N1 | 2.65 | 0.64 |
| 29:B1:636:C:H5 | 29:B1:2378:C:C1' | 2.10 | 0.64 |
| 29:B1:648:C:O2 | 29:B1:2397:A:O4' | 2.14 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:715:A:H8 | 29:B1:715:A:O5' | 1.81 | 0.64 |
| 29:B1:770:G:H3' | 29:B1:771:A:H5" | 1.79 | 0.64 |
| 29:B1:1212:A:H2' | 29:B1:1213:G:C5' | 2.10 | 0.64 |
| 29:B1:1453:A:C1' | 29:B1:1850:A:H2 | 2.09 | 0.64 |
| 29:B1:1470:U:C2 | 29:B1:1471:U:C5 | 2.85 | 0.64 |
| 29:B1:1745:C:H2' | 29:B1:1746:U:C6 | 2.33 | 0.64 |
| 29:B1:2113:A:C2' | 29:B1:2114:C:C5' | 2.76 | 0.64 |
| 29:B1:2137:U:N3 | 29:B1:2141:U:C5 | 2.65 | 0.64 |
| 29:B1:2253:G:C5 | 29:B1:2254:U:C4 | 2.86 | 0.64 |
| 29:B1:2621:G:H2' | 29:B1:2622:C:C6 | 2.33 | 0.64 |
| 29:B1:2912:G:C6 | 29:B1:2913:C:C2 | 2.85 | 0.64 |
| 29:B1:3010:U:O4' | 34:BC:15:GLY:HA3 | 1.98 | 0.64 |
| 29:B1:3058:U:HO2' | 29:B1:3059:G:P | 2.20 | 0.64 |
| 29:B1:3139:A:H5' | 29:B1:3139:A:C8 | 2.28 | 0.64 |
| 29:B1:3199:G:C2' | 29:B1:3200:G:C8 | 2.80 | 0.64 |
| 29:B1:3209:A:C6 | 29:B1:3210:A:C6 | 2.85 | 0.64 |
| 29:B1:3300:U:H2' | 29:B1:3300:U:O2 | 1.96 | 0.64 |
| 30:B2:14:U:O5' | 30:B2:14:U:H6 | 1.81 | 0.64 |
| 30:B2:77:G:O2' | 30:B2:78:U:OP2 | 2.15 | 0.64 |
| 31:B3:157:U:H2' | 31:B3:158:U:H5" | 1.79 | 0.64 |
| 34:BC:299:ASP:C | 34:BC:301:THR:H | 2.05 | 0.64 |
| 38:BG:30:ARG:O | 38:BG:31:ALA:C | 2.39 | 0.64 |
| 38:BG:80:GLN:CA | 38:BG:81:HIS:CB | 2.76 | 0.64 |
| 43:BN:9:ALA:O | 43:BN:10:SER:CB | 2.44 | 0.64 |
| 1:C1:34:G:O6 | 1:C1:474:A:H2 | 1.80 | 0.64 |
| 1:C1:44:U:H3' | 1:C1:45:U:C5' | 2.27 | 0.64 |
| 1:C1:127:G:O6 | 1:C1:179:A:C2 | 2.50 | 0.64 |
| 1:C1:426:G:H2' | 1:C1:427:C:H5" | 1.78 | 0.64 |
| 1:C1:515:A:OP1 | 74:C1:1933:OHX:N4 | 2.31 | 0.64 |
| 1:C1:861:U:H5 | 1:C1:862:A:C8 | 2.13 | 0.64 |
| 1:C1:1142:A:C2 | 1:C1:1143:A:C4 | 2.85 | 0.64 |
| 1:C1:1379:C:H2' | 1:C1:1379:C:O2 | 1.96 | 0.64 |
| 1:C1:1431:C:C4' | 1:C1:1432:U:H5' | 2.28 | 0.64 |
| 1:C1:1579:U:H2' | 1:C1:1580:C:H6 | 1.58 | 0.64 |
| 2:CA:198:MET:O | 2:CA:200:ASP:HA | 1.98 | 0.64 |
| 25:Cd:94:UNK:C | 25:Cd:96:UNK:N | 2.58 | 0.64 |
| 29:D1:31:C:O2 | 29:D1:1546:A:H2 | 1.81 | 0.64 |
| 29:D1:40:A:C5 | 29:D1:937:G:C6 | 2.85 | 0.64 |
| 29:D1:189:G:C2 | 29:D1:191:U:O4 | 2.50 | 0.64 |
| 29:D1:258:G:C2 | 29:D1:259:C:C6 | 2.86 | 0.64 |
| 29:D1:339:C:H2' | 29:D1:340:C:H5" | 1.78 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:380:U:H2' | 29:D1:381:U:C6 | 2.33 | 0.64 |
| 29:D1:592:A:OP2 | 29:D1:592:A:C8 | 2.51 | 0.64 |
| 29:D1:648:C:C5 | 29:D1:2375:G:O5' | 2.50 | 0.64 |
| 29:D1:1394:A:H2' | 29:D1:1395:G:O5' | 1.98 | 0.64 |
| 29:D1:1523:U:H5' | 52:DW:113:LEU:CB | 2.28 | 0.64 |
| 29:D1:1529:A:P | 29:D1:1592:G:H22 | 2.21 | 0.64 |
| 29:D1:1599:G:C2 | 29:D1:1600:U:O2 | 2.51 | 0.64 |
| 29:D1:1685:C:C5 | 29:D1:3069:G:N2 | 2.62 | 0.64 |
| 29:D1:1846:C:O2 | 29:D1:1846:C:C2' | 2.45 | 0.64 |
| 29:D1:2144:A:C4 | 29:D1:2281:A:C6 | 2.85 | 0.64 |
| 29:D1:2587:U:H2' | 29:D1:2588:U:O4' | 1.97 | 0.64 |
| 29:D1:2703:A:H3' | 29:D1:2704:A:C5' | 2.28 | 0.64 |
| 29:D1:2881:C:O2' | 29:D1:2882:U:O4' | 2.07 | 0.64 |
| 29:D1:2931:C:C4 | 29:D1:2932:U:H5 | 2.15 | 0.64 |
| 29:D1:3011:A:H5" | 29:D1:3011:A:N3 | 2.12 | 0.64 |
| 29:D1:3064:U:C2 | 29:D1:3065:G:C8 | 2.86 | 0.64 |
| 34:DC:160:VAL:O | 34:DC:161:LEU:C | 2.40 | 0.64 |
| 40:DI:86:TYR:CB | 40:DI:87:LYS:CA | 2.75 | 0.64 |
| 42:DK:65:ILE:O | 42:DK:66:ALA:HB2 | 1.95 | 0.64 |
| 48:DS:70:LYS:C | 48:DS:72:GLU:H | 2.06 | 0.64 |
| 1:A1:177:U:OP2 | 1:A1:177:U:C6 | 2.50 | 0.64 |
| 1:A1:363:G:C2 | 1:A1:364:G:H1' | 2.31 | 0.64 |
| 1:A1:1139:A:C2 | 1:A1:1140:G:H1' | 2.32 | 0.64 |
| 1:A1:1147:A:C2 | 1:A1:1148:C:C2 | 2.86 | 0.64 |
| 1:A1:1594:G:O6 | 1:A1:1595:U:N3 | 2.31 | 0.64 |
| 1:A1:1778:G:C6 | 1:A1:1779:U:C4 | 2.86 | 0.64 |
| 8:AG:137:PRO:O | 8:AG:141:TYR:N | 2.31 | 0.64 |
| 25:Ad:89:UNK:C | 25:Ad:91:UNK:N | 2.57 | 0.64 |
| 25:Ad:94:UNK:C | 25:Ad:96:UNK:N | 2.59 | 0.64 |
| 29:B1:258:G:OP2 | 29:B1:258:G:H2' | 1.98 | 0.64 |
| 29:B1:381:U:C2 | 29:B1:388:G:N1 | 2.66 | 0.64 |
| 29:B1:959:C:H41 | 29:B1:2801:A:H5" | 1.63 | 0.64 |
| 29:B1:1209:G:C5 | 29:B1:1210:U:C4 | 2.86 | 0.64 |
| 29:B1:1452:A:H5' | 29:B1:1453:A:OP1 | 1.98 | 0.64 |
| 29:B1:1627:U:H3' | 29:B1:1628:C:O4' | 1.98 | 0.64 |
| 29:B1:1659:U:C4 | 29:B1:1660:C:N4 | 2.66 | 0.64 |
| 29:B1:1820:U:OP2 | 29:B1:1820:U:H2' | 1.98 | 0.64 |
| 29:B1:1895:A:C2 | 29:B1:2341:A:C2 | 2.85 | 0.64 |
| 29:B1:2148:U:H3' | 29:B1:2187:G:N2 | 2.13 | 0.64 |
| 29:B1:2149:A:H3' | 29:B1:2149:A:H8 | 1.63 | 0.64 |
| 29:B1:2182:A:C2 | 29:B1:2183:A:C8 | 2.85 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2301:U:H2' | 29:B1:2302:G:C8 | 2.32 | 0.64 |
| 29:B1:2431:C:H2' | 29:B1:2432:A:C8 | 2.32 | 0.64 |
| 29:B1:2883:U:C2 | 29:B1:2884:C:C5 | 2.86 | 0.64 |
| 29:B1:3129:A:H5" | 29:B1:3130:A:OP2 | 1.98 | 0.64 |
| 29:B1:3209:A:H2' | 29:B1:3210:A:C8 | 2.33 | 0.64 |
| 29:B1:3314:A:H2' | 34:BC:119:TYR:O | 1.96 | 0.64 |
| 29:B1:3317:U:H3' | 29:B1:3317:U:P | 2.38 | 0.64 |
| 29:B1:3363:U:C5 | 29:B1:3364:C:H1' | 2.31 | 0.64 |
| 34:BC:50:LYS:CB | 34:BC:331:ASN:O | 2.46 | 0.64 |
| 35:BD:130:ALA:O | 35:BD:131:VAL:C | 2.41 | 0.64 |
| 36:BE:40:HIS:HA | 36:BE:41:LYS:O | 1.97 | 0.64 |
| 41:BJ:175:ASN:CB | 41:BJ:176:LEU:HA | 2.27 | 0.64 |
| 45:BP:169:ALA:O | 45:BP:172:ARG:N | 2.29 | 0.64 |
| 52:BW:94:GLN:O | 52:BW:95:ILE:C | 2.40 | 0.64 |
| 54:BY:138:ILE:C | 54:BY:143:GLY:HA3 | 2.23 | 0.64 |
| 1:C1:143:G:C4 | 1:C1:144:U:H1' | 2.33 | 0.64 |
| 1:C1:206:A:H2' | 1:C1:207:U:H6 | 1.62 | 0.64 |
| 1:C1:286:C:H2' | 1:C1:287:G:C8 | 2.33 | 0.64 |
| 1:C1:287:G:C6 | 1:C1:288:A:C6 | 2.85 | 0.64 |
| 1:C1:302:U:H2' | 1:C1:303:U:H5' | 1.78 | 0.64 |
| 1:C1:361:C:C2 | 1:C1:384:G:N2 | 2.65 | 0.64 |
| 1:C1:824:G:H5" | 1:C1:825:U:H5' | 1.78 | 0.64 |
| 1:C1:938:G:N2 | 1:C1:942:G:C5 | 2.66 | 0.64 |
| 1:C1:967:A:O2' | 1:C1:968:U:H5' | 1.97 | 0.64 |
| 1:C1:1066:C:C4 | 1:C1:1067:C:C5 | 2.86 | 0.64 |
| 1:C1:1633:A:O3' | 1:C1:1634:C:C5 | 2.51 | 0.64 |
| 1:C1:1720:G:H2' | 1:C1:1721:A:C5' | 2.28 | 0.64 |
| 4:CC:61:GLU:C | 4:CC:63:GLY:H | 2.04 | 0.64 |
| 5:CD:99:MET:C | 5:CD:101:GLY:H | 2.05 | 0.64 |
| 13:CL:80:LYS:C | 13:CL:82:PRO:N | 2.53 | 0.64 |
| 29:D1:557:A:C8 | 29:D1:557:A:O5' | 2.50 | 0.64 |
| 29:D1:559:A:C2' | 29:D1:560:G:H8 | 2.11 | 0.64 |
| 29:D1:575:G:H2' | 29:D1:576:C:H6 | 1.57 | 0.64 |
| 29:D1:618:C:O2' | 29:D1:619:A:H5' | 1.96 | 0.64 |
| 29:D1:645:A:C5 | 29:D1:649:A:N7 | 2.65 | 0.64 |
| 29:D1:1393:A:H2 | 29:D1:1394:A:N9 | 1.95 | 0.64 |
| 29:D1:1820:U:OP2 | 29:D1:1820:U:H2' | 1.97 | 0.64 |
| 29:D1:1843:C:N3 | 29:D1:1844:C:C5 | 2.66 | 0.64 |
| 29:D1:2179:C:O2 | 33:DB:129:ALA:O | 2.15 | 0.64 |
| 29:D1:2269:U:C4 | 29:D1:2272:G:N1 | 2.65 | 0.64 |
| 29:D1:2353:G:C4 | 29:D1:2354:C:C6 | 2.86 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2612:U:H1' | 29:D1:2803:A:C2 | 2.32 | 0.64 |
| 29:D1:2847:A:C4 | 29:D1:2848:G:C8 | 2.86 | 0.64 |
| 29:D1:3148:U:H2' | 29:D1:3149:G:C8 | 2.32 | 0.64 |
| 29:D1:3201:C:N3 | 29:D1:3202:G:C5 | 2.65 | 0.64 |
| 30:D2:73:C:N4 | 30:D2:74:C:H41 | 1.95 | 0.64 |
| 36:DE:199:ILE:O | 36:DE:201:GLY:CA | 2.46 | 0.64 |
| 43:DN:124:ARG:O | 43:DN:126:GLN:N | 2.30 | 0.64 |
| 45:DP:114:LYS:O | 45:DP:115:LYS:CB | 2.45 | 0.64 |
| 1:A1:105:A:N1 | 74:A1:1910:OHX:N3 | 2.45 | 0.64 |
| 1:A1:210:A:H2' | 1:A1:211:U:H6 | 1.63 | 0.64 |
| 1:A1:246:G:O6 | 1:A1:247:A:C2 | 2.51 | 0.64 |
| 1:A1:362:G:C6 | 1:A1:363:G:C5 | 2.85 | 0.64 |
| 1:A1:469:C:OP1 | 1:A1:469:C:C2 | 2.51 | 0.64 |
| 1:A1:1107:G:O2' | 1:A1:1108:G:P | 2.55 | 0.64 |
| 1:A1:1280:C:H2' | 1:A1:1281:G:H8 | 1.60 | 0.64 |
| 1:A1:1311:U:O2 | 1:A1:1313:A:C8 | 2.50 | 0.64 |
| 1:A1:1377:U:O5' | 1:A1:1377:U:C6 | 2.51 | 0.64 |
| 2:AA:57:LEU:O | 2:AA:60:ALA:HB3 | 1.98 | 0.64 |
| 5:AD:215:ASP:O | 5:AD:218:GLU:N | 2.30 | 0.64 |
| 10:AI:86:VAL:CB | 10:AI:87:PRO:HA | 2.28 | 0.64 |
| 29:B1:8:C:C2 | 29:B1:9:U:H5 | 2.15 | 0.64 |
| 29:B1:211:A:C6 | 29:B1:229:G:N2 | 2.65 | 0.64 |
| 29:B1:283:G:OP2 | 29:B1:285:A:H2' | 1.98 | 0.64 |
| 29:B1:593:C:N3 | 29:B1:594:U:O2' | 2.30 | 0.64 |
| 29:B1:608:A:C8 | 29:B1:608:A:C3' | 2.80 | 0.64 |
| 29:B1:676:G:H4' | 29:B1:678:G:O3' | 1.98 | 0.64 |
| 29:B1:779:G:H3' | 29:B1:779:G:C8 | 2.33 | 0.64 |
| 29:B1:864:G:OP2 | 74:B1:3415:OHX:N5 | 2.30 | 0.64 |
| 29:B1:876:A:C2' | 29:B1:877:C:H5' | 2.27 | 0.64 |
| 29:B1:885:U:H2' | 29:B1:885:U:O2 | 1.97 | 0.64 |
| 29:B1:1036:A:H2' | 29:B1:1037:C:C5 | 2.32 | 0.64 |
| 29:B1:1075:A:C2 | 69:Bp:246:UNK:HA | 2.33 | 0.64 |
| 29:B1:1186:G:C2' | 29:B1:1187:C:C5' | 2.74 | 0.64 |
| 29:B1:1324:U:H6 | 29:B1:1324:U:H5' | 1.58 | 0.64 |
| 29:B1:1552:G:C5' | 29:B1:1553:U:OP2 | 2.46 | 0.64 |
| 29:B1:1830:G:C5 | 29:B1:1831:U:C5 | 2.86 | 0.64 |
| 29:B1:2111:G:N2 | 51:BV:49:ILE:CA | 2.55 | 0.64 |
| 29:B1:2279:A:N1 | 29:B1:2283:G:N2 | 2.46 | 0.64 |
| 29:B1:2328:U:C3' | 29:B1:2329:C:H5" | 2.27 | 0.64 |
| 29:B1:2614:G:C2 | 29:B1:2797:C:C6 | 2.86 | 0.64 |
| 29:B1:2797:C:C3' | 29:B1:2798:C:H5' | 2.25 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2901:G:H2' | 29:B1:2902:A:O4' | 1.97 | 0.64 |
| 29:B1:2947:G:H2' | 29:B1:2948:C:C5 | 2.32 | 0.64 |
| 29:B1:3201:C:N3 | 29:B1:3202:G:C5 | 2.66 | 0.64 |
| 29:B1:3217:C:H5' | 29:B1:3276:G:H22 | 1.62 | 0.64 |
| 29:B1:3314:A:C2' | 34:BC:119:TYR:N | 2.59 | 0.64 |
| 31:B3:13:A:C2 | 31:B3:14:C:C2 | 2.86 | 0.64 |
| 34:BC:133:TYR:C | 34:BC:135:ALA:N | 2.54 | 0.64 |
| 38:BG:160:ARG:O | 38:BG:162:PRO:N | 2.31 | 0.64 |
| 1:C1:17:C:H2' | 1:C1:18:C:C6 | 2.33 | 0.64 |
| 1:C1:354:C:H2' | 1:C1:355:G:O4' | 1.98 | 0.64 |
| 1:C1:381:C:C2 | 1:C1:382:C:C5 | 2.86 | 0.64 |
| 1:C1:1118:G:H2' | 1:C1:1119:G:C8 | 2.33 | 0.64 |
| 1:C1:1297:G:N1 | 1:C1:1300:A:OP2 | 2.30 | 0.64 |
| 1:C1:1338:C:N1 | 1:C1:1410:A:C2 | 2.66 | 0.64 |
| 1:C1:1604:U:C3' | 1:C1:1605:G:H5" | 2.24 | 0.64 |
| 1:C1:1750:A:C5 | 1:C1:1751:C:C5 | 2.86 | 0.64 |
| 29:D1:189:G:N3 | 29:D1:191:U:C4 | 2.66 | 0.64 |
| 29:D1:199:A:C5 | 29:D1:219:A:N6 | 2.65 | 0.64 |
| 29:D1:392:G:C5 | 29:D1:393:U:H5 | 2.15 | 0.64 |
| 29:D1:586:C:O2 | 29:D1:586:C:C2' | 2.40 | 0.64 |
| 29:D1:680:G:C6 | 29:D1:681:U:O4 | 2.51 | 0.64 |
| 29:D1:1036:A:H2' | 29:D1:1037:C:C5 | 2.32 | 0.64 |
| 29:D1:1288:U:H5" | 29:D1:1288:U:H6 | 1.62 | 0.64 |
| 29:D1:1376:C:H1' | 29:D1:1407:A:H2' | 1.80 | 0.64 |
| 29:D1:1782:U:OP2 | 29:D1:1782:U:C6 | 2.49 | 0.64 |
| 29:D1:2407:C:H2' | 29:D1:2408:U:C6 | 2.32 | 0.64 |
| 29:D1:2702:A:C8 | 29:D1:2704:A:C6 | 2.86 | 0.64 |
| 29:D1:2788:C:H2' | 29:D1:2789:U:C6 | 2.33 | 0.64 |
| 29:D1:2970:C:C3' | 29:D1:2971:A:H5" | 2.26 | 0.64 |
| 29:D1:3180:A:H8 | 45:DP:114:LYS:CA | 2.11 | 0.64 |
| 30:D2:25:G:N1 | 30:D2:26:C:C4 | 2.66 | 0.64 |
| 31:D3:8:C:H2' | 31:D3:9:A:C8 | 2.29 | 0.64 |
| 31:D3:19:C:C6 | 31:D3:20:U:C5 | 2.83 | 0.64 |
| 33:DB:172:GLY:C | 33:DB:174:ARG:N | 2.54 | 0.64 |
| 35:DD:85:SER:C | 35:DD:87:GLN:H | 2.04 | 0.64 |
| 42:DK:134:PRO:O | 42:DK:151:SER:O | 2.15 | 0.64 |
| 43:DN:49:PRO:O | 43:DN:53:VAL:N | 2.31 | 0.64 |
| 43:DN:50:LYS:N | 43:DN:53:VAL:CB | 2.60 | 0.64 |
| 49:DT:28:SER:C | 49:DT:30:TYR:N | 2.53 | 0.64 |
| 62:Dg:52:ALA:O | 62:Dg:54:ILE:N | 2.30 | 0.64 |
| 1:A1:114:C:H42 | 1:A1:250:C:C4' | 2.10 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:300:A:H2' | 1:A1:301:A:O4' | 1.97 | 0.64 |
| 1:A1:535:A:O2' | 1:A1:536:C:H5' | 1.97 | 0.64 |
| 1:A1:572:C:H5" | 1:A1:573:C:OP2 | 1.98 | 0.64 |
| 1:A1:607:G:N7 | 1:A1:613:G:C4 | 2.66 | 0.64 |
| 1:A1:789:A:H3' | 1:A1:790:U:H6 | 1.63 | 0.64 |
| 1:A1:880:C:H2' | 1:A1:881:A:C8 | 2.33 | 0.64 |
| 1:A1:1179:G:C6 | 1:A1:1180:C:C2 | 2.86 | 0.64 |
| 1:A1:1552:U:O4 | 1:A1:1553:G:C6 | 2.51 | 0.64 |
| 1:A1:1602:C:H5' | 1:A1:1603:U:OP2 | 1.98 | 0.64 |
| 3:AB:185:LYS:O | 3:AB:186:LYS:C | 2.41 | 0.64 |
| 16:AO:37:PHE:C | 16:AO:39:GLN:H | 2.06 | 0.64 |
| 23:Ab:82:UNK:HA | 23:Ab:86:UNK:CB | 2.28 | 0.64 |
| 24:Ac:32:UNK:O | 24:Ac:36:UNK:N | 2.31 | 0.64 |
| 25:Ad:95:UNK:O | 25:Ad:98:UNK:CB | 2.45 | 0.64 |
| 29:B1:517:G:H2' | 29:B1:518:G:N9 | 2.12 | 0.64 |
| 29:B1:550:A:H2' | 29:B1:551:A:H8 | 1.63 | 0.64 |
| 29:B1:597:G:H2' | 29:B1:598:A:H8 | 1.61 | 0.64 |
| 29:B1:725:G:C2 | 29:B1:726:G:O4' | 2.51 | 0.64 |
| 29:B1:944:C:C5 | 29:B1:1431:G:C6 | 2.86 | 0.64 |
| 29:B1:967:A:H5' | 29:B1:968:G:OP2 | 1.98 | 0.64 |
| 29:B1:1065:A:N3 | 29:B1:1065:A:C3' | 2.57 | 0.64 |
| 29:B1:1153:A:N7 | 29:B1:1154:A:N1 | 2.45 | 0.64 |
| 29:B1:1189:C:C4' | 29:B1:1192:C:H5 | 2.07 | 0.64 |
| 29:B1:1687:U:OP1 | 29:B1:1687:U:H6 | 1.81 | 0.64 |
| 29:B1:1699:A:H2' | 29:B1:1700:G:C8 | 2.33 | 0.64 |
| 29:B1:1714:A:H1' | 29:B1:1731:A:N6 | 2.12 | 0.64 |
| 29:B1:2117:A:OP2 | 29:B1:2118:C:N4 | 2.31 | 0.64 |
| 29:B1:2119:A:C8 | 29:B1:2120:A:C2 | 2.85 | 0.64 |
| 29:B1:2143:A:H3' | 29:B1:2143:A:H8 | 1.62 | 0.64 |
| 29:B1:2197:C:N4 | 29:B1:2241:U:H2' | 2.13 | 0.64 |
| 29:B1:2285:C:C5 | 29:B1:2286:U:N3 | 2.66 | 0.64 |
| 29:B1:2374:C:N4 | 29:B1:2941:A:O4' | 2.30 | 0.64 |
| 29:B1:2720:G:H2' | 29:B1:2721:A:H8 | 1.63 | 0.64 |
| 29:B1:2725:U:C5 | 29:B1:2727:A:O2' | 2.50 | 0.64 |
| 29:B1:2830:G:O2' | 29:B1:2831:G:H5' | 1.98 | 0.64 |
| 29:B1:2847:A:N7 | 29:B1:2898:G:C5 | 2.66 | 0.64 |
| 29:B1:3172:A:O2' | 29:B1:3173:G:OP2 | 2.11 | 0.64 |
| 29:B1:3373:U:C4 | 29:B1:3374:U:C5 | 2.86 | 0.64 |
| 30:B2:97:A:H8 | 30:B2:97:A:OP2 | 1.80 | 0.64 |
| 31:B3:123:G:C6 | 31:B3:131:A:N6 | 2.66 | 0.64 |
| 31:B3:129:C:O5' | 31:B3:129:C:H6 | 1.79 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BI:42:ASP:O | 40:BI:43:VAL:CB | 2.46 | 0.64 |
| 42:BK:118:PRO:HA | 42:BK:119:SER:CB | 2.27 | 0.64 |
| 46:BQ:32:THR:O | 46:BQ:35:ALA:HB3 | 1.97 | 0.64 |
| 46:BQ:109:ALA:O | 46:BQ:111:LYS:N | 2.31 | 0.64 |
| 52:BW:132:ALA:O | 52:BW:136:ALA:N | 2.31 | 0.64 |
| 57:Bb:107:VAL:O | 57:Bb:110:ALA:HB3 | 1.96 | 0.64 |
| 60:Be:7:PHE:HA | 60:Be:10:LYS:CB | 2.28 | 0.64 |
| 70:Bq:5:UNK:O | 70:Bq:9:UNK:N | 2.30 | 0.64 |
| 1:C1:58:U:O2' | 1:C1:451:A:N3 | 2.30 | 0.64 |
| 1:C1:142:G:C6 | 1:C1:266:A:C6 | 2.86 | 0.64 |
| 1:C1:426:G:C2 | 1:C1:427:C:C5 | 2.86 | 0.64 |
| 1:C1:861:U:C5 | 1:C1:862:A:H8 | 2.15 | 0.64 |
| 1:C1:992:A:C4 | 1:C1:1013:A:C2 | 2.86 | 0.64 |
| 1:C1:1147:A:H2' | 1:C1:1148:C:H6 | 1.61 | 0.64 |
| 1:C1:1308:G:H2' | 1:C1:1309:C:H6 | 1.62 | 0.64 |
| 1:C1:1606:C:H2' | 1:C1:1607:G:C8 | 2.33 | 0.64 |
| 1:C1:1757:G:C6 | 1:C1:1758:U:C4 | 2.86 | 0.64 |
| 1:C1:1796:C:OP2 | 1:C1:1797:A:C8 | 2.50 | 0.64 |
| 3:CB:126:ARG:O | 3:CB:128:GLY:N | 2.31 | 0.64 |
| 5:CD:215:ASP:O | 5:CD:216:GLU:C | 2.41 | 0.64 |
| 9:CH:57:PRO:O | 9:CH:60:ALA:N | 2.31 | 0.64 |
| 10:CI:80:MET:C | 10:CI:82:ASN:H | 2.05 | 0.64 |
| 15:CN:45:ALA:C | 15:CN:47:GLN:N | 2.56 | 0.64 |
| 29:D1:23:A:H3' | 29:D1:24:G:C8 | 2.32 | 0.64 |
| 29:D1:77:A:C2 | 29:D1:78:U:H1' | 2.33 | 0.64 |
| 29:D1:210:U:C6 | 29:D1:210:U:P | 2.91 | 0.64 |
| 29:D1:706:A:C6 | 29:D1:714:G:N2 | 2.65 | 0.64 |
| 29:D1:733:G:N1 | 29:D1:736:A:N1 | 2.45 | 0.64 |
| 29:D1:742:G:C2' | 29:D1:743:C:H5" | 2.27 | 0.64 |
| 29:D1:771:A:H3' | 29:D1:772:U:C5' | 2.28 | 0.64 |
| 29:D1:869:G:H2' | 29:D1:870:G:C8 | 2.33 | 0.64 |
| 29:D1:1120:A:C2 | 29:D1:1121:U:C4 | 2.85 | 0.64 |
| 29:D1:1230:G:O2' | 73:DM:34:SER:CB | 2.46 | 0.64 |
| 29:D1:1487:G:N7 | 74:D1:3588:OHX:N4 | 2.46 | 0.64 |
| 29:D1:1624:G:N2 | 29:D1:1625:A:N3 | 2.46 | 0.64 |
| 29:D1:2336:U:C5 | 29:D1:2337:C:C5 | 2.86 | 0.64 |
| 29:D1:2342:U:H2' | 29:D1:2343:C:H6 | 1.62 | 0.64 |
| 29:D1:2355:G:O2' | 29:D1:2356:A:O4' | 2.15 | 0.64 |
| 29:D1:2852:C:C5 | 29:D1:2853:A:C4 | 2.86 | 0.64 |
| 29:D1:2932:U:O2 | 29:D1:2932:U:C2' | 2.45 | 0.64 |
| 29:D1:3123:A:N7 | 29:D1:3124:G:C8 | 2.65 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3367:C:H2' | 29:D1:3368:U:H5" | 1.78 | 0.64 |
| 30:D2:48:U:H2' | 30:D2:49:G:C5 | 2.33 | 0.64 |
| 30:D2:64:A:H1' | 30:D2:65:G:O5' | 1.97 | 0.64 |
| 30:D2:92:A:C2' | 30:D2:93:C:O4' | 2.45 | 0.64 |
| 36:DE:130:GLU:HA | 36:DE:131:LEU:CB | 2.26 | 0.64 |
| 1:A1:89:G:C2 | 1:A1:90:C:C2 | 2.85 | 0.64 |
| 1:A1:859:A:H4' | 1:A1:860:U:OP2 | 1.98 | 0.64 |
| 1:A1:1112:G:N7 | 1:A1:1113:A:N7 | 2.45 | 0.64 |
| 1:A1:1239:U:O2' | 1:A1:1240:U:H5' | 1.98 | 0.64 |
| 1:A1:1497:U:C4 | 1:A1:1498:G:N7 | 2.66 | 0.64 |
| 1:A1:1683:C:P | 1:A1:1684:U:OP1 | 2.56 | 0.64 |
| 14:AM:13:ASP:C | 14:AM:15:ILE:H | 2.06 | 0.64 |
| 20:AS:25:SER:O | 20:AS:27:HIS:N | 2.30 | 0.64 |
| 29:B1:210:U:OP2 | 29:B1:210:U:H6 | 1.77 | 0.64 |
| 29:B1:221:A:C4 | 29:B1:224:C:N4 | 2.66 | 0.64 |
| 29:B1:296:A:C5 | 29:B1:297:G:N1 | 2.66 | 0.64 |
| 29:B1:342:A:C6 | 29:B1:349:A:C8 | 2.87 | 0.64 |
| 29:B1:515:C:C6 | 29:B1:515:C:P | 2.91 | 0.64 |
| 29:B1:559:A:H2' | 29:B1:560:G:H8 | 1.63 | 0.64 |
| 29:B1:589:A:OP2 | 29:B1:611:A:C2 | 2.51 | 0.64 |
| 29:B1:591:G:C2 | 29:B1:592:A:C1' | 2.78 | 0.64 |
| 29:B1:592:A:C2 | 29:B1:593:C:C6 | 2.86 | 0.64 |
| 29:B1:998:A:C2' | 29:B1:999:G:H5' | 2.27 | 0.64 |
| 29:B1:1547:G:H2' | 29:B1:1548:C:C5 | 2.32 | 0.64 |
| 29:B1:1684:U:H6 | 29:B1:1684:U:H3' | 1.63 | 0.64 |
| 29:B1:1815:U:C2' | 29:B1:1816:A:H5' | 2.28 | 0.64 |
| 29:B1:2405:C:O2 | 29:B1:2405:C:C2' | 2.46 | 0.64 |
| 29:B1:2520:A:N3 | 29:B1:2521:U:N3 | 2.46 | 0.64 |
| 29:B1:2631:U:C2 | 29:B1:2632:G:C8 | 2.86 | 0.64 |
| 29:B1:2673:A:P | 42:BK:105:GLY:HA2 | 2.38 | 0.64 |
| 29:B1:2984:C:O2' | 29:B1:2985:C:H5' | 1.97 | 0.64 |
| 29:B1:3105:U:C5 | 29:B1:3106:A:N7 | 2.65 | 0.64 |
| 29:B1:3121:U:C2 | 29:B1:3122:A:N7 | 2.66 | 0.64 |
| 29:B1:3263:G:N2 | 29:B1:3264:G:C4 | 2.66 | 0.64 |
| 35:BD:6:VAL:CB | 35:BD:20:LEU:H | 2.11 | 0.64 |
| 47:BR:123:THR:O | 47:BR:125:ASP:N | 2.31 | 0.64 |
| 49:BT:73:GLY:H | 49:BT:92:ARG:HA | 1.62 | 0.64 |
| 1:C1:67:A:H4' | 1:C1:68:A:OP1 | 1.98 | 0.64 |
| 1:C1:142:G:C6 | 1:C1:266:A:C5 | 2.86 | 0.64 |
| 1:C1:252:U:O2' | 1:C1:253:A:O5' | 2.16 | 0.64 |
| 1:C1:300:A:H2' | 1:C1:301:A:O4' | 1.98 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:541:A:H4' | 1:C1:542:A:OP1 | 1.98 | 0.64 |
| 1:C1:1244:A:H2 | 1:C1:1245:G:N9 | 1.93 | 0.64 |
| 1:C1:1334:U:N3 | 1:C1:1335:U:C5 | 2.65 | 0.64 |
| 1:C1:1382:A:N3 | 1:C1:1383:G:C8 | 2.66 | 0.64 |
| 1:C1:1489:U:H5 | 1:C1:1513:G:C2 | 2.15 | 0.64 |
| 1:C1:1591:C:H4' | 1:C1:1592:A:OP1 | 1.97 | 0.64 |
| 1:C1:1676:U:H2' | 1:C1:1677:C:C5 | 2.31 | 0.64 |
| 3:CB:188:LEU:O | 3:CB:191:ALA:N | 2.32 | 0.64 |
| 5:CD:146:THR:HA | 5:CD:158:GLN:O | 1.99 | 0.64 |
| 24:Cc:4:UNK:C | 24:Cc:99:UNK:N | 2.61 | 0.64 |
| 29:D1:69:C:H2' | 29:D1:69:C:O2 | 1.97 | 0.64 |
| 29:D1:80:G:C2 | 29:D1:81:C:C5 | 2.86 | 0.64 |
| 29:D1:424:G:C2' | 29:D1:425:G:OP1 | 2.46 | 0.64 |
| 29:D1:559:A:C5 | 29:D1:560:G:N7 | 2.65 | 0.64 |
| 29:D1:588:G:N1 | 29:D1:612:U:C5 | 2.66 | 0.64 |
| 29:D1:724:U:H2' | 29:D1:725:G:C8 | 2.32 | 0.64 |
| 29:D1:974:G:C6 | 29:D1:975:C:C4 | 2.86 | 0.64 |
| 29:D1:1174:G:C2 | 29:D1:1175:C:C6 | 2.86 | 0.64 |
| 29:D1:1178:G:N7 | 29:D1:1179:A:C6 | 2.66 | 0.64 |
| 29:D1:1194:G:C8 | 29:D1:1319:G:H5" | 2.33 | 0.64 |
| 29:D1:1412:G:C4 | 29:D1:1413:G:C8 | 2.86 | 0.64 |
| 29:D1:1621:A:H2' | 29:D1:1622:U:H6 | 1.62 | 0.64 |
| 29:D1:2119:A:C5 | 29:D1:2120:A:N1 | 2.66 | 0.64 |
| 29:D1:2511:A:H2' | 29:D1:2512:C:H5' | 1.80 | 0.64 |
| 29:D1:2545:C:H2' | 29:D1:2546:C:O4' | 1.98 | 0.64 |
| 29:D1:2555:G:C1' | 29:D1:2556:C:OP2 | 2.46 | 0.64 |
| 29:D1:2580:A:C1' | 29:D1:2581:U:P | 2.86 | 0.64 |
| 29:D1:2673:A:H2 | 29:D1:2674:A:C5 | 2.15 | 0.64 |
| 29:D1:2677:G:N1 | 29:D1:2679:A:C4 | 2.66 | 0.64 |
| 29:D1:2738:A:H5" | 29:D1:2739:A:OP2 | 1.98 | 0.64 |
| 29:D1:2909:U:C4 | 29:D1:2910:A:C8 | 2.86 | 0.64 |
| 29:D1:2987:A:C5 | 29:D1:2988:C:C5 | 2.86 | 0.64 |
| 29:D1:3067:C:O2' | 29:D1:3068:U:H5' | 1.97 | 0.64 |
| 29:D1:3141:A:C2 | 29:D1:3144:G:P | 2.91 | 0.64 |
| 29:D1:3147:G:H4' | 34:DC:101:SER:H | 1.63 | 0.64 |
| 29:D1:3353:G:H3' | 29:D1:3354:U:C5' | 2.26 | 0.64 |
| 30:D2:44:C:C5 | 30:D2:45:A:N7 | 2.66 | 0.64 |
| 74:D3:202:OHX:N5 | 74:D3:212:OHX:N1 | 2.46 | 0.64 |
| 36:DE:111:GLN:N | 36:DE:114:GLY:C | 2.51 | 0.64 |
| 36:DE:217:GLU:O | 36:DE:221:GLU:N | 2.27 | 0.64 |
| 39:DH:205:ALA:H | 39:DH:206:GLU:C | 2.06 | 0.64 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 52:DW:110:VAL:O | 52:DW:111:ASN:C | 2.40 | 0.64 |
| 53:DX:64:LYS:C | 53:DX:66:GLN:H | 2.05 | 0.64 |
| 54:DY:130:VAL:O | 54:DY:134:ALA:HB3 | 1.98 | 0.64 |
| 1:A1:142:G:C6 | 1:A1:266:A:C5 | 2.86 | 0.63 |
| 1:A1:187:G:H4' | 1:A1:187:G:OP1 | 1.97 | 0.63 |
| 1:A1:288:A:C4 | 1:A1:289:U:C5 | 2.86 | 0.63 |
| 1:A1:326:G:O6 | 1:A1:337:G:O6 | 2.16 | 0.63 |
| 1:A1:618:U:C2' | 1:A1:619:A:H5' | 2.27 | 0.63 |
| 1:A1:879:G:H5' | 8:AG:108:ASP:HA | 1.80 | 0.63 |
| 1:A1:1131:A:N3 | 1:A1:1131:A:H2' | 2.13 | 0.63 |
| 1:A1:1273:G:H4' | 1:A1:1274:C:C4' | 2.28 | 0.63 |
| 1:A1:1291:G:O5' | 1:A1:1291:G:H8 | 1.80 | 0.63 |
| 1:A1:1305:U:H3' | 1:A1:1306:C:C2 | 2.33 | 0.63 |
| 1:A1:1409:G:H8 | 1:A1:1411:A:OP2 | 1.81 | 0.63 |
| 1:A1:1467:C:C2' | 1:A1:1468:U:H5' | 2.27 | 0.63 |
| 1:A1:1488:G:O2' | 1:A1:1494:C:H1' | 1.98 | 0.63 |
| 17:AP:127:VAL:CA | 17:AP:129:GLY:N | 2.62 | 0.63 |
| 29:B1:122:A:H1' | 29:B1:150:A:H4' | 1.80 | 0.63 |
| 29:B1:286:U:C2' | 29:B1:287:G:C8 | 2.67 | 0.63 |
| 29:B1:536:U:OP2 | 29:B1:536:U:H2' | 1.97 | 0.63 |
| 29:B1:548:G:H2' | 29:B1:549:U:H4' | 1.80 | 0.63 |
| 29:B1:726:G:C6 | 29:B1:727:G:C6 | 2.85 | 0.63 |
| 29:B1:835:G:N3 | 29:B1:857:G:N2 | 2.46 | 0.63 |
| 29:B1:878:G:H2' | 29:B1:2980:U:O2' | 1.98 | 0.63 |
| 29:B1:880:G:H2' | 29:B1:882:A:OP2 | 1.98 | 0.63 |
| 29:B1:950:G:H8 | 29:B1:950:G:O5' | 1.81 | 0.63 |
| 29:B1:1115:G:H3' | 29:B1:1115:G:C8 | 2.33 | 0.63 |
| 29:B1:1509:A:C6 | 29:B1:1510:G:C2 | 2.86 | 0.63 |
| 29:B1:1844:C:N3 | 29:B1:1845:G:C8 | 2.65 | 0.63 |
| 29:B1:2123:G:O2' | 29:B1:2124:G:H5' | 1.97 | 0.63 |
| 29:B1:2167:A:C3' | 29:B1:2168:A:H8 | 2.11 | 0.63 |
| 29:B1:2223:A:N1 | 29:B1:2783:U:H1' | 2.13 | 0.63 |
| 29:B1:2275:A:C2 | 29:B1:2312:A:C5 | 2.86 | 0.63 |
| 29:B1:2278:C:C2' | 29:B1:2279:A:H5" | 2.27 | 0.63 |
| 29:B1:2326:A:H2' | 29:B1:2326:A:N3 | 2.12 | 0.63 |
| 29:B1:2383:C:C2 | 29:B1:2384:A:C8 | 2.85 | 0.63 |
| 29:B1:2383:C:H2' | 29:B1:2384:A:H8 | 1.64 | 0.63 |
| 29:B1:2510:U:N3 | 29:B1:2511:A:C8 | 2.66 | 0.63 |
| 29:B1:2746:A:N6 | 29:B1:2747:A:C2 | 2.66 | 0.63 |
| 29:B1:2752:U:H3' | 29:B1:2752:U:O2 | 1.98 | 0.63 |
| 29:B1:2814:G:C2 | 29:B1:2815:G:C4 | 2.86 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2903:A:C4 | 29:B1:2904:U:H6 | 2.16 | 0.63 |
| 29:B1:2947:G:C2 | 29:B1:2948:C:C4 | 2.85 | 0.63 |
| 31:B3:10:A:H2' | 31:B3:11:C:H6 | 1.61 | 0.63 |
| 31:B3:48:A:C6 | 31:B3:51:G:C5 | 2.86 | 0.63 |
| 31:B3:91:C:H2' | 31:B3:92:A:C8 | 2.33 | 0.63 |
| 34:BC:105:VAL:O | 34:BC:107:ALA:N | 2.31 | 0.63 |
| 66:Bl:5:UNK:O | 66:Bl:9:UNK:CB | 2.46 | 0.63 |
| 1:C1:123:G:C6 | 1:C1:295:A:N6 | 2.66 | 0.63 |
| 1:C1:183:U:C4' | 1:C1:184:C:OP1 | 2.45 | 0.63 |
| 1:C1:336:G:C2' | 1:C1:337:G:H5" | 2.27 | 0.63 |
| 1:C1:963:A:O2' | 1:C1:964:U:O5' | 2.16 | 0.63 |
| 1:C1:969:C:H4' | 1:C1:1104:U:O2' | 1.98 | 0.63 |
| 1:C1:1149:G:C2 | 1:C1:1150:G:N7 | 2.66 | 0.63 |
| 1:C1:1159:C:H3' | 1:C1:1160:A:C5' | 2.27 | 0.63 |
| 1:C1:1196:A:H5" | 1:C1:1196:A:N3 | 2.13 | 0.63 |
| 1:C1:1291:G:O5' | 1:C1:1291:G:H8 | 1.81 | 0.63 |
| 1:C1:1335:U:O2 | 1:C1:1335:U:H2' | 1.97 | 0.63 |
| 1:C1:1337:A:H5' | 1:C1:1338:C:OP2 | 1.98 | 0.63 |
| 1:C1:1338:C:H1' | 1:C1:1410:A:N3 | 2.12 | 0.63 |
| 1:C1:1720:G:H2' | 1:C1:1721:A:C8 | 2.33 | 0.63 |
| 5:CD:200:ASN:C | 5:CD:204:GLY:HA3 | 2.24 | 0.63 |
| 11:CJ:14:LYS:O | 11:CJ:15:SER:CB | 2.46 | 0.63 |
| 21:CT:84:SER:C | 21:CT:86:ASP:N | 2.56 | 0.63 |
| 29:D1:158:G:H2' | 29:D1:159:A:H4' | 1.80 | 0.63 |
| 29:D1:525:C:H2' | 29:D1:526:C:C6 | 2.33 | 0.63 |
| 29:D1:533:A:H2' | 29:D1:534:U:C5 | 2.33 | 0.63 |
| 29:D1:609:G:H3' | 29:D1:609:G:OP1 | 1.98 | 0.63 |
| 29:D1:636:C:O2 | 29:D1:636:C:C2' | 2.44 | 0.63 |
| 29:D1:722:G:N1 | 29:D1:748:U:C2 | 2.66 | 0.63 |
| 29:D1:724:U:H2' | 29:D1:725:G:H8 | 1.63 | 0.63 |
| 29:D1:887:G:H2' | 29:D1:888:A:H8 | 1.63 | 0.63 |
| 29:D1:911:C:O2 | 29:D1:911:C:C2' | 2.46 | 0.63 |
| 29:D1:1232:C:N3 | 29:D1:1261:G:C2 | 2.66 | 0.63 |
| 29:D1:1286:A:H4' | 29:D1:1287:A:H5' | 1.79 | 0.63 |
| 29:D1:1350:A:H3' | 29:D1:1351:U:C6 | 2.32 | 0.63 |
| 29:D1:1351:U:O3' | 29:D1:1352:A:C8 | 2.51 | 0.63 |
| 29:D1:1469:C:O2 | 29:D1:1509:A:C2 | 2.51 | 0.63 |
| 29:D1:1623:G:H2' | 29:D1:1624:G:O4' | 1.97 | 0.63 |
| 29:D1:2112:U:C1' | 29:D1:2113:A:OP2 | 2.46 | 0.63 |
| 29:D1:2315:G:N2 | 29:D1:2316:G:C8 | 2.66 | 0.63 |
| 29:D1:2354:C:O2 | 29:D1:2354:C:C2' | 2.45 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2476:C:H2' | 29:D1:2477:G:C4' | 2.28 | 0.63 |
| 29:D1:2595:A:H2' | 29:D1:2596:U:C6 | 2.32 | 0.63 |
| 29:D1:2676:A:C2 | 29:D1:2680:A:N1 | 2.65 | 0.63 |
| 29:D1:2714:G:C2 | 29:D1:2751:G:C2 | 2.86 | 0.63 |
| 29:D1:2716:U:H5' | 29:D1:2717:U:OP2 | 1.97 | 0.63 |
| 29:D1:2946:A:C5 | 29:D1:2982:A:N6 | 2.64 | 0.63 |
| 29:D1:3226:A:H8 | 29:D1:3226:A:O5' | 1.80 | 0.63 |
| 29:D1:3394:U:H2' | 29:D1:3395:G:C8 | 2.33 | 0.63 |
| 29:D1:3395:G:O2' | 29:D1:3396:U:P | 2.56 | 0.63 |
| 74:D1:3543:OHX:N5 | 38:DG:217:PRO:O | 2.31 | 0.63 |
| 30:D2:11:A:N1 | 36:DE:16:PHE:HA | 2.14 | 0.63 |
| 30:D2:56:A:O3' | 42:DK:149:GLY:HA2 | 1.98 | 0.63 |
| 31:D3:81:U:C3' | 31:D3:82:U:H5" | 2.28 | 0.63 |
| 32:DA:68:PHE:H | 32:DA:112:ALA:CB | 2.11 | 0.63 |
| 35:DD:84:ARG:C | 35:DD:86:GLY:H | 2.06 | 0.63 |
| 35:DD:177:ASP:C | 35:DD:179:LEU:H | 2.05 | 0.63 |
| 38:DG:84:VAL:C | 38:DG:86:VAL:H | 2.05 | 0.63 |
| 1:A1:284:G:C8 | 25:Ad:114:UNK:C | 2.81 | 0.63 |
| 1:A1:320:U:OP1 | 1:A1:321:C:H4' | 1.98 | 0.63 |
| 1:A1:390:G:N2 | 1:A1:391:A:C6 | 2.67 | 0.63 |
| 1:A1:704:C:C4' | 1:A1:705:U:OP1 | 2.46 | 0.63 |
| 1:A1:1251:U:H2' | 1:A1:1252:C:O4' | 1.98 | 0.63 |
| 1:A1:1339:C:C2' | 1:A1:1340:U:H5' | 2.27 | 0.63 |
| 1:A1:1579:U:C2 | 1:A1:1580:C:C5 | 2.86 | 0.63 |
| 29:B1:326:U:H4' | 29:B1:327:A:OP2 | 1.97 | 0.63 |
| 29:B1:692:A:H2' | 29:B1:693:A:C8 | 2.33 | 0.63 |
| 29:B1:1018:G:N1 | 29:B1:1019:G:O6 | 2.31 | 0.63 |
| 29:B1:1064:A:O2' | 29:B1:1065:A:P | 2.55 | 0.63 |
| 29:B1:1119:C:H3' | 29:B1:1120:A:H8 | 1.63 | 0.63 |
| 29:B1:1280:C:O2' | 29:B1:1281:G:H5' | 1.98 | 0.63 |
| 29:B1:1453:A:N3 | 29:B1:1878:G:N2 | 2.46 | 0.63 |
| 29:B1:1540:U:H2' | 29:B1:1541:G:H5' | 1.80 | 0.63 |
| 29:B1:1647:A:N1 | 29:B1:1809:A:H1' | 2.12 | 0.63 |
| 29:B1:1838:G:H4' | 29:B1:1839:A:C8 | 2.32 | 0.63 |
| 29:B1:1941:C:O2' | 29:B1:3363:U:H1' | 1.99 | 0.63 |
| 29:B1:2255:A:C2 | 29:B1:2260:U:O4 | 2.51 | 0.63 |
| 29:B1:2276:G:C6 | 29:B1:2277:C:C5 | 2.86 | 0.63 |
| 29:B1:2560:C:H3' | 29:B1:2561:A:C5' | 2.29 | 0.63 |
| 29:B1:2830:G:C4 | 29:B1:2831:G:C8 | 2.86 | 0.63 |
| 29:B1:3028:G:N1 | 29:B1:3029:A:C2 | 2.67 | 0.63 |
| 29:B1:3294:A:C6 | 29:B1:3295:A:C5 | 2.86 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:B2:25:G:H2' | 30:B2:26:C:C5 | 2.33 | 0.63 |
| 34:BC:105:VAL:O | 34:BC:106:TRP:C | 2.39 | 0.63 |
| 36:BE:226:TYR:O | 36:BE:230:ASP:HA | 1.97 | 0.63 |
| 40:BI:161:LEU:C | 40:BI:163:GLN:H | 2.06 | 0.63 |
| 42:BK:74:PRO:C | 42:BK:76:ALA:H | 2.07 | 0.63 |
| 44:BO:148:TYR:O | 44:BO:150:TRP:N | 2.32 | 0.63 |
| 54:BY:73:LEU:HA | 54:BY:116:GLY:CA | 2.29 | 0.63 |
| 57:Bb:89:THR:CB | 57:Bb:90:LYS:C | 2.71 | 0.63 |
| 1:C1:97:C:C1' | 1:C1:426:G:H5' | 2.24 | 0.63 |
| 1:C1:105:A:N1 | 74:C1:1916:OHX:N5 | 2.47 | 0.63 |
| 1:C1:195:G:O2' | 1:C1:196:G:H5" | 1.98 | 0.63 |
| 1:C1:282:C:H2' | 1:C1:282:C:O2 | 1.98 | 0.63 |
| 1:C1:400:A:C5' | 1:C1:401:A:H5' | 2.28 | 0.63 |
| 1:C1:436:A:H5" | 1:C1:437:A:OP2 | 1.98 | 0.63 |
| 1:C1:849:C:C4 | 1:C1:850:A:N7 | 2.66 | 0.63 |
| 1:C1:908:U:C5 | 1:C1:909:U:C6 | 2.87 | 0.63 |
| 1:C1:1005:A:C5 | 1:C1:1006:C:C4 | 2.87 | 0.63 |
| 1:C1:1172:G:C6 | 1:C1:1173:C:C4 | 2.86 | 0.63 |
| 1:C1:1382:A:O2' | 1:C1:1383:G:H5" | 1.98 | 0.63 |
| 1:C1:1453:G:H2' | 1:C1:1454:G:H8 | 1.63 | 0.63 |
| 1:C1:1602:C:C3' | 1:C1:1603:U:H6 | 2.11 | 0.63 |
| 5:CD:169:ASN:O | 5:CD:172:ILE:N | 2.31 | 0.63 |
| 10:CI:73:PRO:O | 10:CI:74:ALA:HB2 | 1.98 | 0.63 |
| 13:CL:121:ALA:HB3 | 13:CL:124:GLY:CA | 2.26 | 0.63 |
| 22:Ca:7:UNK:O | 22:Ca:8:UNK:C | 2.46 | 0.63 |
| 29:D1:11:A:H1' | 29:D1:1557:A:H61 | 1.62 | 0.63 |
| 29:D1:882:A:H5" | 29:D1:1849:C:O2 | 1.99 | 0.63 |
| 29:D1:940:G:OP1 | 29:D1:2871:G:O6 | 2.16 | 0.63 |
| 29:D1:1013:G:C3' | 29:D1:1014:U:H4' | 2.27 | 0.63 |
| 29:D1:1230:G:H5' | 73:DM:32:ASN:CB | 2.29 | 0.63 |
| 29:D1:1453:A:N3 | 29:D1:1878:G:N2 | 2.46 | 0.63 |
| 29:D1:1857:C:H6 | 29:D1:1857:C:OP2 | 1.81 | 0.63 |
| 29:D1:2116:G:H5' | 29:D1:2116:G:N3 | 2.13 | 0.63 |
| 29:D1:2194:G:H2' | 29:D1:2195:C:H5' | 1.79 | 0.63 |
| 29:D1:2289:U:O2' | 29:D1:2290:C:H5' | 1.98 | 0.63 |
| 29:D1:2290:C:H2' | 29:D1:2291:A:H8 | 1.64 | 0.63 |
| 29:D1:2702:A:H8 | 29:D1:2704:A:C6 | 2.16 | 0.63 |
| 29:D1:3265:C:H5' | 29:D1:3265:C:H6 | 1.62 | 0.63 |
| 29:D1:3386:G:C8 | 29:D1:3386:G:H3' | 2.32 | 0.63 |
| 31:D3:28:C:H2' | 31:D3:28:C:O2 | 1.98 | 0.63 |
| 31:D3:72:A:H61 | 31:D3:85:G:H5" | 1.61 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:D3:141:C:C2 | 31:D3:142:C:C5 | 2.86 | 0.63 |
| 34:DC:48:GLY:O | 34:DC:49:TYR:CB | 2.46 | 0.63 |
| 34:DC:299:ASP:C | 34:DC:301:THR:H | 2.06 | 0.63 |
| 35:DD:237:GLN:C | 35:DD:239:ALA:H | 2.04 | 0.63 |
| 36:DE:226:TYR:CB | 36:DE:233:ALA:H | 2.12 | 0.63 |
| 41:DJ:161:GLY:CA | 41:DJ:162:GLN:CB | 2.74 | 0.63 |
| 44:DO:29:GLU:O | 44:DO:30:TYR:C | 2.42 | 0.63 |
| 46:DQ:52:LEU:C | 46:DQ:54:HIS:N | 2.52 | 0.63 |
| 54:DY:129:PHE:CB | 54:DY:130:VAL:CA | 2.75 | 0.63 |
| 56:Da:12:TYR:O | 56:Da:72:ARG:HA | 1.98 | 0.63 |
| 1:A1:63:G:C2 | 1:A1:64:U:H1' | 2.33 | 0.63 |
| 1:A1:168:A:H2' | 1:A1:169:A:C8 | 2.33 | 0.63 |
| 1:A1:199:G:C6 | 1:A1:200:A:N6 | 2.67 | 0.63 |
| 1:A1:218:A:H61 | 1:A1:844:A:H1' | 1.64 | 0.63 |
| 1:A1:243:G:O2' | 1:A1:244:A:H5' | 1.98 | 0.63 |
| 1:A1:719:U:O2 | 1:A1:719:U:H3' | 1.98 | 0.63 |
| 1:A1:772:G:C6 | 1:A1:773:C:N3 | 2.66 | 0.63 |
| 1:A1:1392:U:H6 | 1:A1:1392:U:H5" | 1.62 | 0.63 |
| 1:A1:1458:G:H5" | 1:A1:1458:G:C4 | 2.33 | 0.63 |
| 1:A1:1472:C:C1' | 1:A1:1473:U:OP2 | 2.45 | 0.63 |
| 1:A1:1481:C:C6 | 1:A1:1482:C:C2 | 2.86 | 0.63 |
| 1:A1:1625:C:H2' | 1:A1:1626:U:H6 | 1.61 | 0.63 |
| 1:A1:1636:C:C4 | 1:A1:1765:A:N6 | 2.66 | 0.63 |
| 8:AG:91:LEU:O | 8:AG:95:ALA:CB | 2.47 | 0.63 |
| 29:B1:235:A:H2' | 29:B1:236:G:C8 | 2.33 | 0.63 |
| 29:B1:558:U:O2' | 29:B1:559:A:OP1 | 2.16 | 0.63 |
| 29:B1:564:G:H2' | 29:B1:565:U:C6 | 2.33 | 0.63 |
| 29:B1:645:A:N7 | 29:B1:649:A:C6 | 2.66 | 0.63 |
| 29:B1:739:G:C2' | 29:B1:740:G:C8 | 2.81 | 0.63 |
| 29:B1:764:U:H4' | 29:B1:766:U:H5 | 1.61 | 0.63 |
| 29:B1:1013:G:C3' | 29:B1:1014:U:H4' | 2.27 | 0.63 |
| 29:B1:1056:U:H6 | 29:B1:1056:U:O5' | 1.81 | 0.63 |
| 29:B1:1190:A:N3 | 29:B1:1190:A:H2' | 2.12 | 0.63 |
| 29:B1:1196:C:O2 | 30:B2:86:U:C6 | 2.51 | 0.63 |
| 29:B1:1212:A:N1 | 29:B1:1294:A:C2 | 2.66 | 0.63 |
| 29:B1:1356:U:H2' | 29:B1:1356:U:O2 | 1.98 | 0.63 |
| 29:B1:1394:A:H2' | 29:B1:1395:G:O5' | 1.98 | 0.63 |
| 29:B1:1656:A:C1' | 29:B1:1657:C:C5 | 2.82 | 0.63 |
| 29:B1:1902:G:OP2 | 29:B1:2919:A:OP1 | 2.17 | 0.63 |
| 29:B1:1939:G:O2' | 29:B1:1940:G:H5' | 1.99 | 0.63 |
| 29:B1:2143:A:C8 | 29:B1:2145:A:N7 | 2.67 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2719:U:H4' | 29:B1:2719:U:OP1 | 1.99 | 0.63 |
| 29:B1:2746:A:C2 | 36:BE:146:LEU:CB | 2.81 | 0.63 |
| 29:B1:3065:G:O2' | 29:B1:3066:U:O5' | 2.11 | 0.63 |
| 29:B1:3097:C:O2' | 29:B1:3098:G:P | 2.56 | 0.63 |
| 29:B1:3309:G:C2 | 29:B1:3310:A:N7 | 2.67 | 0.63 |
| 29:B1:3333:G:N1 | 29:B1:3370:A:H4' | 2.13 | 0.63 |
| 30:B2:100:C:H5' | 30:B2:101:G:OP2 | 1.98 | 0.63 |
| 47:BR:150:VAL:CB | 47:BR:151:ARG:HA | 2.29 | 0.63 |
| 1:C1:97:C:O2 | 1:C1:425:A:O2' | 2.14 | 0.63 |
| 1:C1:535:A:O2' | 1:C1:536:C:H5' | 1.98 | 0.63 |
| 1:C1:611:U:C5 | 1:C1:612:U:C5 | 2.86 | 0.63 |
| 1:C1:749:U:C4 | 1:C1:750:U:O4 | 2.51 | 0.63 |
| 1:C1:790:U:H2' | 1:C1:790:U:O2 | 1.98 | 0.63 |
| 1:C1:992:A:N1 | 1:C1:1012:U:O2 | 2.31 | 0.63 |
| 1:C1:1125:A:C5 | 1:C1:1126:G:H1' | 2.33 | 0.63 |
| 1:C1:1297:G:N2 | 1:C1:1301:U:C2 | 2.66 | 0.63 |
| 1:C1:1491:U:C3' | 1:C1:1492:A:H2' | 2.28 | 0.63 |
| 1:C1:1586:A:C4 | 1:C1:1611:A:C2 | 2.86 | 0.63 |
| 1:C1:1634:C:C6 | 1:C1:1634:C:O5' | 2.52 | 0.63 |
| 2:CA:80:THR:C | 2:CA:82:GLY:H | 2.06 | 0.63 |
| 3:CB:165:VAL:CA | 3:CB:166:THR:CB | 2.75 | 0.63 |
| 4:CC:16:VAL:O | 4:CC:18:TYR:N | 2.32 | 0.63 |
| 29:D1:25:U:N3 | 29:D1:331:G:C8 | 2.66 | 0.63 |
| 29:D1:337:G:C6 | 29:D1:339:C:N4 | 2.66 | 0.63 |
| 29:D1:407:A:C8 | 29:D1:407:A:O5' | 2.51 | 0.63 |
| 29:D1:648:C:O2 | 29:D1:2397:A:O4' | 2.17 | 0.63 |
| 29:D1:705:A:C5 | 29:D1:715:A:N6 | 2.67 | 0.63 |
| 29:D1:718:G:H4' | 29:D1:719:U:H5" | 1.79 | 0.63 |
| 29:D1:1053:A:H2' | 29:D1:1053:A:N3 | 2.13 | 0.63 |
| 29:D1:1056:U:H4' | 30:D2:82:G:H4' | 1.81 | 0.63 |
| 29:D1:1093:A:H2' | 29:D1:1094:U:C2 | 2.32 | 0.63 |
| 29:D1:1484:U:C1' | 29:D1:1485:G:OP1 | 2.45 | 0.63 |
| 29:D1:1522:U:H4' | 29:D1:1523:U:OP2 | 1.98 | 0.63 |
| 29:D1:1779:C:C4' | 29:D1:1779:C:OP1 | 2.46 | 0.63 |
| 29:D1:1830:G:C4 | 29:D1:1831:U:C6 | 2.86 | 0.63 |
| 29:D1:2107:A:C4 | 29:D1:2108:C:C5 | 2.85 | 0.63 |
| 29:D1:2143:A:H3' | 29:D1:2143:A:H8 | 1.64 | 0.63 |
| 29:D1:2288:G:H2' | 29:D1:2289:U:C6 | 2.31 | 0.63 |
| 29:D1:2857:C:H2' | 29:D1:2858:U:C6 | 2.31 | 0.63 |
| 29:D1:2912:G:C2 | 29:D1:2913:C:O2 | 2.52 | 0.63 |
| 29:D1:3098:G:C5' | 29:D1:3099:C:OP1 | 2.46 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3142:A:H3' | 29:D1:3143:C:H5' | 1.81 | 0.63 |
| 29:D1:3171:U:O2' | 29:D1:3172:A:P | 2.56 | 0.63 |
| 29:D1:3209:A:N1 | 29:D1:3210:A:C2 | 2.66 | 0.63 |
| 29:D1:3209:A:H2' | 29:D1:3210:A:N9 | 2.13 | 0.63 |
| 29:D1:3218:A:O2' | 29:D1:3219:G:C3' | 2.41 | 0.63 |
| 29:D1:3314:A:H2' | 34:DC:119:TYR:O | 1.97 | 0.63 |
| 30:D2:67:G:N2 | 30:D2:68:C:O4' | 2.32 | 0.63 |
| 31:D3:56:G:C6 | 31:D3:62:C:N4 | 2.66 | 0.63 |
| 31:D3:75:G:OP1 | 31:D3:90:U:H5" | 1.97 | 0.63 |
| 31:D3:82:U:H2' | 31:D3:83:C:O2 | 1.98 | 0.63 |
| 34:DC:164:THR:CB | 34:DC:177:HIS:H | 2.11 | 0.63 |
| 40:DI:111:PHE:CA | 40:DI:112:ILE:C | 2.71 | 0.63 |
| 41:DJ:47:PRO:O | 41:DJ:140:THR:O | 2.16 | 0.63 |
| 45:DP:166:GLU:O | 45:DP:168:TYR:N | 2.31 | 0.63 |
| 54:DY:129:PHE:CB | 54:DY:130:VAL:HA | 2.27 | 0.63 |
| 62:Dg:59:CYS:C | 74:Dg:101:OHX:N5 | 2.55 | 0.63 |
| 1:A1:66:U:O2' | 1:A1:67:A:P | 2.56 | 0.63 |
| 1:A1:215:A:H8 | 1:A1:215:A:O5' | 1.81 | 0.63 |
| 1:A1:238:U:H4' | 1:A1:239:C:H5" | 1.80 | 0.63 |
| 1:A1:297:U:H2' | 1:A1:298:C:C5' | 2.29 | 0.63 |
| 1:A1:832:U:H5' | 1:A1:833:U:OP2 | 1.97 | 0.63 |
| 1:A1:1410:A:H2' | 1:A1:1411:A:O4' | 1.98 | 0.63 |
| 1:A1:1637:C:OP2 | 1:A1:1637:C:H4' | 1.98 | 0.63 |
| 1:A1:1734:U:C2 | 1:A1:1735:U:C5 | 2.87 | 0.63 |
| 2:AA:219:THR:O | 2:AA:220:THR:O | 2.16 | 0.63 |
| 3:AB:157:LYS:O | 3:AB:213:ALA:HB1 | 1.98 | 0.63 |
| 11:AJ:35:PRO:C | 11:AJ:37:THR:H | 2.06 | 0.63 |
| 29:B1:72:C:H3' | 29:B1:73:C:H5' | 1.79 | 0.63 |
| 29:B1:286:U:C2 | 29:B1:287:G:N7 | 2.66 | 0.63 |
| 29:B1:296:A:C5 | 29:B1:297:G:C2 | 2.87 | 0.63 |
| 29:B1:386:A:O5' | 29:B1:386:A:H8 | 1.80 | 0.63 |
| 29:B1:1198:C:C2' | 29:B1:1200:A:H8 | 2.11 | 0.63 |
| 29:B1:1764:U:H2' | 29:B1:1765:U:O4' | 1.99 | 0.63 |
| 29:B1:1909:A:N1 | 29:B1:1910:A:N3 | 2.46 | 0.63 |
| 29:B1:2310:U:H2' | 29:B1:2311:G:O5' | 1.98 | 0.63 |
| 29:B1:2655:U:H4' | 29:B1:2656:A:H5' | 1.78 | 0.63 |
| 29:B1:2942:C:C6 | 29:B1:2942:C:C3' | 2.81 | 0.63 |
| 29:B1:3149:G:C4 | 29:B1:3150:A:C8 | 2.87 | 0.63 |
| 29:B1:3316:A:N6 | 29:B1:3388:C:N4 | 2.43 | 0.63 |
| 29:B1:3386:G:C8 | 29:B1:3386:G:C3' | 2.81 | 0.63 |
| 32:BA:101:LYS:O | 32:BA:105:LYS:N | 2.31 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:BR:83:VAL:O | 47:BR:103:ALA:HB3 | 1.99 | 0.63 |
| 65:Bk:8:UNK:O | 65:Bk:12:UNK:N | 2.30 | 0.63 |
| 1:C1:478:A:N1 | 1:C1:479:C:C4 | 2.67 | 0.63 |
| 1:C1:513:U:H5 | 1:C1:538:A:C6 | 2.15 | 0.63 |
| 1:C1:515:A:P | 74:C1:1933:OHX:N6 | 2.71 | 0.63 |
| 1:C1:530:C:H5" | 1:C1:531:C:OP2 | 1.98 | 0.63 |
| 1:C1:610:G:C2 | 1:C1:614:C:N3 | 2.66 | 0.63 |
| 1:C1:832:U:H5' | 1:C1:833:U:OP2 | 1.99 | 0.63 |
| 1:C1:860:U:O2 | 1:C1:860:U:H2' | 1.97 | 0.63 |
| 1:C1:973:A:H4' | 29:D1:847:A:C2 | 2.33 | 0.63 |
| 1:C1:1322:A:H2' | 1:C1:1323:C:C6 | 2.33 | 0.63 |
| 1:C1:1542:G:H8 | 1:C1:1542:G:OP2 | 1.81 | 0.63 |
| 1:C1:1665:U:O4 | 74:C1:1993:OHX:N5 | 2.31 | 0.63 |
| 3:CB:185:LYS:O | 3:CB:186:LYS:C | 2.41 | 0.63 |
| 13:CL:78:HIS:O | 13:CL:80:LYS:N | 2.31 | 0.63 |
| 14:CM:126:GLU:O | 14:CM:128:GLY:N | 2.30 | 0.63 |
| 16:CO:8:ALA:O | 16:CO:12:ASN:CB | 2.47 | 0.63 |
| 29:D1:58:G:H5" | 29:D1:59:G:OP2 | 1.97 | 0.63 |
| 29:D1:88:A:C2 | 29:D1:281:G:N3 | 2.67 | 0.63 |
| 29:D1:114:A:OP2 | 29:D1:154:U:O4 | 2.17 | 0.63 |
| 29:D1:351:A:H8 | 31:D3:53:A:H1' | 1.64 | 0.63 |
| 29:D1:383:G:C2' | 29:D1:385:A:O5' | 2.38 | 0.63 |
| 29:D1:688:G:C1' | 29:D1:692:A:H61 | 2.11 | 0.63 |
| 29:D1:693:A:C4 | 29:D1:694:C:C5 | 2.86 | 0.63 |
| 29:D1:747:A:OP1 | 29:D1:747:A:C8 | 2.51 | 0.63 |
| 29:D1:824:C:O2' | 29:D1:825:U:H5' | 1.99 | 0.63 |
| 29:D1:826:G:C5 | 29:D1:827:A:N7 | 2.66 | 0.63 |
| 29:D1:941:G:O4' | 29:D1:1435:A:H1' | 1.99 | 0.63 |
| 29:D1:1003:A:C2 | 29:D1:1004:U:C1' | 2.81 | 0.63 |
| 29:D1:1079:A:C6 | 29:D1:1080:A:N6 | 2.67 | 0.63 |
| 29:D1:1282:G:H2' | 29:D1:1283:C:O4' | 1.99 | 0.63 |
| 29:D1:1607:U:C1' | 29:D1:1608:C:OP1 | 2.43 | 0.63 |
| 29:D1:1615:C:H2' | 29:D1:1616:U:C6 | 2.32 | 0.63 |
| 29:D1:1819:U:C6 | 29:D1:1820:U:C5 | 2.86 | 0.63 |
| 29:D1:1895:A:C6 | 29:D1:2341:A:C6 | 2.87 | 0.63 |
| 29:D1:1896:A:C2 | 29:D1:3093:C:C6 | 2.86 | 0.63 |
| 29:D1:1931:U:N3 | 29:D1:2121:G:N3 | 2.46 | 0.63 |
| 29:D1:3079:U:O2 | 29:D1:3079:U:C2' | 2.46 | 0.63 |
| 29:D1:3113:A:C2' | 29:D1:3114:A:H5' | 2.29 | 0.63 |
| 29:D1:3137:C:O2 | 29:D1:3137:C:C2' | 2.40 | 0.63 |
| 29:D1:3199:G:C2' | 29:D1:3200:G:C8 | 2.82 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3218:A:C4' | 29:D1:3220:G:H8 | 2.12 | 0.63 |
| 29:D1:3277:U:H3' | 29:D1:3277:U:C6 | 2.33 | 0.63 |
| 29:D1:3309:G:N3 | 29:D1:3310:A:C8 | 2.67 | 0.63 |
| 29:D1:3309:G:H3' | 29:D1:3310:A:H8 | 1.64 | 0.63 |
| 29:D1:3320:A:C5 | 29:D1:3321:C:N4 | 2.67 | 0.63 |
| 30:D2:46:A:O5' | 30:D2:46:A:C4 | 2.52 | 0.63 |
| 30:D2:69:C:C4 | 30:D2:70:U:O4 | 2.51 | 0.63 |
| 38:DG:83:LEU:CA | 38:DG:84:VAL:CB | 2.75 | 0.63 |
| 40:DI:69:ARG:C | 40:DI:71:VAL:N | 2.53 | 0.63 |
| 40:DI:117:PHE:O | 40:DI:118:LEU:C | 2.41 | 0.63 |
| 40:DI:157:ASN:O | 40:DI:158:ALA:C | 2.42 | 0.63 |
| 43:DN:97:SER:C | 43:DN:99:TRP:H | 2.06 | 0.63 |
| 45:DP:45:GLY:N | 45:DP:134:LYS:O | 2.26 | 0.63 |
| 46:DQ:68:GLY:O | 46:DQ:69:ARG:O | 2.17 | 0.63 |
| 1:A1:166:C:C4 | 1:A1:167:U:O4 | 2.52 | 0.63 |
| 1:A1:310:C:H3' | 1:A1:310:C:C6 | 2.33 | 0.63 |
| 1:A1:322:G:O4' | 1:A1:323:A:C8 | 2.52 | 0.63 |
| 1:A1:1049:U:H2' | 1:A1:1050:G:H8 | 1.61 | 0.63 |
| 1:A1:1113:A:O3' | 1:A1:1114:G:H4' | 1.98 | 0.63 |
| 1:A1:1358:G:C6 | 1:A1:1359:C:N4 | 2.67 | 0.63 |
| 13:AL:78:HIS:O | 13:AL:80:LYS:N | 2.31 | 0.63 |
| 16:AO:62:VAL:O | 16:AO:63:VAL:CB | 2.45 | 0.63 |
| 17:AP:46:SER:C | 17:AP:48:HIS:H | 2.07 | 0.63 |
| 29:B1:130:A:C2 | 29:B1:139:G:C5 | 2.85 | 0.63 |
| 29:B1:271:C:C6 | 29:B1:295:A:N6 | 2.67 | 0.63 |
| 29:B1:594:U:C4 | 29:B1:595:G:N1 | 2.66 | 0.63 |
| 29:B1:715:A:HO2' | 29:B1:716:A:P | 2.22 | 0.63 |
| 29:B1:1153:A:N6 | 29:B1:1154:A:N1 | 2.41 | 0.63 |
| 29:B1:1164:G:H2' | 29:B1:1165:A:C8 | 2.33 | 0.63 |
| 29:B1:1255:C:C5 | 74:B1:3567:OHX:N2 | 2.66 | 0.63 |
| 29:B1:1257:C:C5 | 29:B1:1258:U:H1' | 2.32 | 0.63 |
| 29:B1:1782:U:OP2 | 29:B1:1782:U:H3' | 1.99 | 0.63 |
| 29:B1:1864:A:H5" | 29:B1:1865:A:OP2 | 1.97 | 0.63 |
| 29:B1:1899:G:C2 | 29:B1:2334:U:C5 | 2.87 | 0.63 |
| 29:B1:2378:C:H2' | 29:B1:2378:C:O2 | 1.99 | 0.63 |
| 29:B1:2520:A:N3 | 29:B1:2521:U:C2 | 2.66 | 0.63 |
| 29:B1:2639:G:N2 | 29:B1:2640:A:H1' | 2.14 | 0.63 |
| 29:B1:2678:A:H3' | 29:B1:2679:A:N3 | 2.14 | 0.63 |
| 29:B1:2904:U:O2 | 29:B1:2904:U:C2' | 2.46 | 0.63 |
| 29:B1:2945:G:O2' | 29:B1:2948:C:OP2 | 2.16 | 0.63 |
| 29:B1:2998:U:H2' | 29:B1:2999:U:H6 | 1.62 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3105:U:C5 | 29:B1:3128:G:N2 | 2.63 | 0.63 |
| 36:BE:156:GLY:HA2 | 36:BE:181:PRO:HA | 1.78 | 0.63 |
| 48:BS:98:ARG:O | 48:BS:101:VAL:N | 2.31 | 0.63 |
| 49:BT:53:PRO:O | 49:BT:55:LYS:N | 2.32 | 0.63 |
| 54:BY:67:HIS:CB | 54:BY:107:ALA:O | 2.47 | 0.63 |
| 65:Bk:6:UNK:O | 65:Bk:10:UNK:N | 2.32 | 0.63 |
| 1:C1:187:G:OP1 | 1:C1:187:G:H4' | 1.96 | 0.63 |
| 1:C1:235:G:H2' | 1:C1:236:A:C8 | 2.33 | 0.63 |
| 1:C1:246:G:O6 | 1:C1:247:A:H2 | 1.80 | 0.63 |
| 1:C1:534:A:C3' | 1:C1:535:A:C8 | 2.82 | 0.63 |
| 1:C1:832:U:H3' | 1:C1:833:U:C5' | 2.29 | 0.63 |
| 1:C1:841:U:C4 | 1:C1:842:C:C4 | 2.86 | 0.63 |
| 1:C1:975:C:C2 | 1:C1:976:G:C8 | 2.87 | 0.63 |
| 1:C1:1132:A:C2 | 1:C1:1133:A:N7 | 2.66 | 0.63 |
| 1:C1:1454:G:C2' | 1:C1:1455:G:H5' | 2.29 | 0.63 |
| 1:C1:1560:U:O2 | 1:C1:1560:U:C2' | 2.41 | 0.63 |
| 1:C1:1595:U:C6 | 1:C1:1596:C:N3 | 2.64 | 0.63 |
| 1:C1:1754:A:HO2' | 1:C1:1755:A:P | 2.22 | 0.63 |
| 1:C1:1761:U:H1' | 1:C1:1762:A:N7 | 2.14 | 0.63 |
| 6:CE:130:THR:O | 6:CE:132:ARG:N | 2.31 | 0.63 |
| 29:D1:511:G:C2 | 29:D1:580:C:N3 | 2.63 | 0.63 |
| 29:D1:522:A:C5 | 29:D1:523:A:C8 | 2.86 | 0.63 |
| 29:D1:703:G:C6 | 29:D1:704:U:C4 | 2.86 | 0.63 |
| 29:D1:748:U:O2 | 29:D1:748:U:C2' | 2.46 | 0.63 |
| 29:D1:781:G:O2' | 29:D1:782:U:H5' | 1.99 | 0.63 |
| 29:D1:972:A:C2' | 29:D1:973:A:H5' | 2.27 | 0.63 |
| 29:D1:1297:C:C2' | 29:D1:1298:C:H5' | 2.26 | 0.63 |
| 29:D1:1389:G:O2' | 29:D1:1390:A:O5' | 2.16 | 0.63 |
| 29:D1:1455:U:H3' | 29:D1:1456:A:C8 | 2.32 | 0.63 |
| 29:D1:1634:G:C6 | 29:D1:1640:G:O6 | 2.51 | 0.63 |
| 29:D1:2101:C:H2' | 29:D1:2102:U:O4' | 1.99 | 0.63 |
| 29:D1:2119:A:H8 | 29:D1:2119:A:O5' | 1.82 | 0.63 |
| 29:D1:2259:A:H5" | 29:D1:2260:U:H5 | 1.62 | 0.63 |
| 29:D1:2294:U:O2 | 29:D1:2294:U:H2' | 1.98 | 0.63 |
| 29:D1:2467:G:N2 | 29:D1:2488:A:H62 | 1.96 | 0.63 |
| 29:D1:2609:A:H2' | 29:D1:2610:G:C8 | 2.34 | 0.63 |
| 29:D1:2947:G:N3 | 29:D1:2948:C:C5 | 2.66 | 0.63 |
| 29:D1:3004:C:O2' | 29:D1:3005:A:H5' | 1.98 | 0.63 |
| 29:D1:3314:A:OP2 | 34:DC:174:LYS:O | 2.17 | 0.63 |
| 29:D1:3343:G:C8 | 29:D1:3344:A:N7 | 2.67 | 0.63 |
| 29:D1:3357:U:H2' | 29:D1:3358:U:C5 | 2.33 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:D2:64:A:O4' | 30:D2:65:G:O5' | 2.16 | 0.63 |
| 36:DE:35:ARG:HA | 36:DE:38:THR:O | 1.97 | 0.63 |
| 41:DJ:87:LEU:HA | 41:DJ:138:VAL:CB | 2.28 | 0.63 |
| 41:DJ:191:LYS:HA | 41:DJ:192:ASP:CB | 2.27 | 0.63 |
| 43:DN:81:VAL:O | 43:DN:83:LYS:N | 2.31 | 0.63 |
| 47:DR:45:ASN:O | 47:DR:46:LYS:C | 2.42 | 0.63 |
| 61:Df:39:GLY:O | 61:Df:43:TYR:CB | 2.46 | 0.63 |
| 62:Dg:81:SER:O | 62:Dg:82:THR:C | 2.41 | 0.63 |
| 1:A1:289:U:O2 | 1:A1:290:G:C8 | 2.52 | 0.63 |
| 1:A1:481:A:H2' | 1:A1:482:U:C6 | 2.34 | 0.63 |
| 1:A1:523:G:H2' | 1:A1:524:U:C4 | 2.34 | 0.63 |
| 1:A1:643:G:C2 | 1:A1:692:C:C2 | 2.86 | 0.63 |
| 1:A1:986:G:C4 | 1:A1:987:G:C8 | 2.87 | 0.63 |
| 1:A1:1214:U:H4' | 1:A1:1245:G:H21 | 1.64 | 0.63 |
| 1:A1:1523:G:OP2 | 1:A1:1524:A:OP2 | 2.16 | 0.63 |
| 1:A1:1555:A:N3 | 1:A1:1555:A:H2' | 2.13 | 0.63 |
| 1:A1:1603:U:H5" | 1:A1:1604:U:OP2 | 1.98 | 0.63 |
| 6:AE:95:TYR:O | 6:AE:98:ALA:HB3 | 1.99 | 0.63 |
| 9:AH:118:VAL:O | 9:AH:119:THR:C | 2.42 | 0.63 |
| 13:AL:76:PRO:HA | 13:AL:81:ILE:H | 1.64 | 0.63 |
| 29:B1:172:G:N2 | 29:B1:173:G:C5 | 2.67 | 0.63 |
| 29:B1:373:A:C2 | 29:B1:375:A:C5 | 2.87 | 0.63 |
| 29:B1:536:U:OP2 | 29:B1:536:U:C6 | 2.51 | 0.63 |
| 29:B1:716:A:H3' | 29:B1:716:A:C8 | 2.34 | 0.63 |
| 29:B1:717:C:C5 | 29:B1:721:G:P | 2.92 | 0.63 |
| 29:B1:722:G:N1 | 29:B1:748:U:C2 | 2.66 | 0.63 |
| 29:B1:757:C:O2 | 29:B1:757:C:C2' | 2.45 | 0.63 |
| 29:B1:811:U:C2 | 29:B1:812:G:N7 | 2.67 | 0.63 |
| 29:B1:1302:A:C2 | 29:B1:2887:A:C4 | 2.86 | 0.63 |
| 29:B1:1352:A:P | 29:B1:1352:A:C8 | 2.92 | 0.63 |
| 29:B1:1354:G:H2' | 29:B1:1355:A:C5 | 2.34 | 0.63 |
| 29:B1:1799:A:C2 | 29:B1:1800:A:C2 | 2.87 | 0.63 |
| 29:B1:2246:G:C2 | 29:B1:2247:G:C8 | 2.86 | 0.63 |
| 29:B1:2614:G:C2 | 29:B1:2797:C:H6 | 2.17 | 0.63 |
| 29:B1:2667:A:N7 | 29:B1:2690:G:N2 | 2.46 | 0.63 |
| 29:B1:2677:G:N2 | 29:B1:2679:A:C4 | 2.67 | 0.63 |
| 29:B1:2847:A:N7 | 29:B1:2898:G:C6 | 2.66 | 0.63 |
| 29:B1:2897:A:H2 | 29:B1:2905:U:C2 | 2.15 | 0.63 |
| 29:B1:3021:A:C4 | 29:B1:3023:U:O4 | 2.51 | 0.63 |
| 29:B1:3231:U:H2' | 29:B1:3232:G:C8 | 2.33 | 0.63 |
| 29:B1:3296:A:C2 | 29:B1:3297:U:N1 | 2.67 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:B3:54:A:C6 | 31:B3:55:U:C2 | 2.87 | 0.63 |
| 36:BE:116:ASP:C | 36:BE:118:THR:H | 2.05 | 0.63 |
| 36:BE:226:TYR:CB | 36:BE:233:ALA:H | 2.10 | 0.63 |
| 39:BH:205:ALA:H | 39:BH:206:GLU:C | 2.07 | 0.63 |
| 41:BJ:87:LEU:HA | 41:BJ:138:VAL:CB | 2.29 | 0.63 |
| 45:BP:56:ASP:O | 45:BP:60:LYS:N | 2.29 | 0.63 |
| 62:Bg:42:CYS:O | 74:Bg:101:OHX:N5 | 2.32 | 0.63 |
| 63:Bh:7:UNK:C | 63:Bh:9:UNK:N | 2.61 | 0.63 |
| 1:C1:13:C:C5' | 3:CB:161:LYS:O | 2.47 | 0.63 |
| 1:C1:131:C:H3' | 1:C1:132:U:H4' | 1.80 | 0.63 |
| 1:C1:166:C:H2' | 1:C1:167:U:H5" | 1.80 | 0.63 |
| 1:C1:183:U:C5 | 1:C1:184:C:C4 | 2.86 | 0.63 |
| 1:C1:209:U:C2 | 1:C1:210:A:C8 | 2.87 | 0.63 |
| 1:C1:974:A:H5' | 29:D1:848:A:H1' | 1.80 | 0.63 |
| 1:C1:1246:C:C4 | 1:C1:1247:U:C5 | 2.87 | 0.63 |
| 1:C1:1449:U:H2' | 1:C1:1450:U:H6 | 1.64 | 0.63 |
| 1:C1:1533:C:H5" | 1:C1:1534:G:OP2 | 1.98 | 0.63 |
| 1:C1:1654:G:H2' | 1:C1:1745:G:H22 | 1.62 | 0.63 |
| 1:C1:1744:A:H2' | 1:C1:1745:G:H5' | 1.81 | 0.63 |
| 10:CI:33:PHE:C | 10:CI:35:LYS:N | 2.55 | 0.63 |
| 15:CN:25:THR:HA | 15:CN:90:TYR:HA | 1.79 | 0.63 |
| 21:CT:264:SER:O | 21:CT:268:GLN:HA | 1.99 | 0.63 |
| 29:D1:285:A:H2 | 29:D1:305:U:P | 2.22 | 0.63 |
| 29:D1:531:G:C2' | 29:D1:532:A:H8 | 2.06 | 0.63 |
| 29:D1:548:G:H2' | 29:D1:549:U:H4' | 1.80 | 0.63 |
| 29:D1:627:U:O3' | 29:D1:1399:A:C8 | 2.52 | 0.63 |
| 29:D1:722:G:C2 | 29:D1:748:U:C2 | 2.86 | 0.63 |
| 29:D1:726:G:C6 | 29:D1:727:G:C6 | 2.85 | 0.63 |
| 29:D1:773:G:N3 | 29:D1:774:G:C8 | 2.66 | 0.63 |
| 29:D1:1099:A:C2' | 29:D1:1100:U:H5' | 2.29 | 0.63 |
| 29:D1:1110:U:H2' | 29:D1:1111:U:C6 | 2.33 | 0.63 |
| 29:D1:1225:A:N3 | 29:D1:1225:A:H2' | 2.14 | 0.63 |
| 29:D1:1328:C:H2' | 29:D1:1329:U:C5 | 2.34 | 0.63 |
| 29:D1:2251:G:N2 | 29:D1:2252:A:C4 | 2.66 | 0.63 |
| 29:D1:2375:G:C8 | 29:D1:2378:C:N4 | 2.67 | 0.63 |
| 29:D1:2643:A:C5' | 29:D1:2644:C:OP2 | 2.44 | 0.63 |
| 29:D1:2687:G:H5' | 74:D1:3430:OHX:N2 | 2.13 | 0.63 |
| 29:D1:3218:A:O2' | 29:D1:3218:A:N3 | 2.32 | 0.63 |
| 29:D1:3393:U:C4 | 29:D1:3394:U:C5 | 2.87 | 0.63 |
| 30:D2:106:U:O2 | 30:D2:107:C:C6 | 2.52 | 0.63 |
| 32:DA:54:LYS:HA | 32:DA:55:LEU:CB | 2.29 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:DG:53:LYS:O | 38:DG:54:GLU:C | 2.40 | 0.63 |
| 40:DI:116:ASN:C | 40:DI:120:ASP:H | 2.06 | 0.63 |
| 44:DO:78:GLY:N | 44:DO:79:ALA:HB2 | 2.14 | 0.63 |
| 45:DP:37:ARG:HA | 45:DP:107:GLY:HA2 | 1.79 | 0.63 |
| 46:DQ:28:ASN:C | 46:DQ:30:ARG:N | 2.54 | 0.63 |
| 47:DR:21:SER:O | 47:DR:22:ASP:CB | 2.47 | 0.63 |
| 58:Dc:60:GLU:C | 58:Dc:62:GLN:H | 2.07 | 0.63 |
| 1:A1:849:C:C4 | 1:A1:850:A:N7 | 2.67 | 0.63 |
| 1:A1:1003:A:N7 | 1:A1:1005:A:C6 | 2.66 | 0.63 |
| 1:A1:1314:U:O2' | 1:A1:1315:U:P | 2.56 | 0.63 |
| 1:A1:1391:A:H2' | 1:A1:1392:U:C6 | 2.33 | 0.63 |
| 1:A1:1525:A:C2 | 1:A1:1526:A:C4 | 2.87 | 0.63 |
| 1:A1:1558:U:C5 | 1:A1:1559:A:H2' | 2.34 | 0.63 |
| 13:AL:124:GLY:C | 13:AL:126:ARG:N | 2.55 | 0.63 |
| 20:AS:21:CYS:O | 20:AS:23:VAL:O | 2.16 | 0.63 |
| 24:Ac:77:UNK:O | 24:Ac:78:UNK:C | 2.46 | 0.63 |
| 29:B1:88:A:C2 | 29:B1:281:G:N3 | 2.67 | 0.63 |
| 29:B1:173:G:H2' | 29:B1:174:C:C6 | 2.33 | 0.63 |
| 29:B1:305:U:O2' | 29:B1:306:A:C8 | 2.52 | 0.63 |
| 29:B1:407:A:N1 | 31:B3:17:A:H1' | 2.13 | 0.63 |
| 29:B1:776:U:O5' | 29:B1:777:U:OP2 | 2.16 | 0.63 |
| 29:B1:1194:G:O6 | 29:B1:1314:C:N3 | 2.32 | 0.63 |
| 29:B1:1405:U:H5' | 57:Bb:58:GLY:CA | 2.23 | 0.63 |
| 29:B1:1551:C:H2' | 29:B1:1552:G:C8 | 2.34 | 0.63 |
| 29:B1:1845:G:H1 | 29:B1:1849:C:C2' | 2.11 | 0.63 |
| 29:B1:1895:A:C6 | 29:B1:2341:A:C6 | 2.86 | 0.63 |
| 29:B1:2119:A:N7 | 29:B1:2120:A:N1 | 2.46 | 0.63 |
| 29:B1:2251:G:N2 | 29:B1:2252:A:C4 | 2.66 | 0.63 |
| 29:B1:2516:U:H2' | 29:B1:2517:U:H6 | 1.62 | 0.63 |
| 29:B1:2864:A:C5 | 29:B1:2865:U:C5 | 2.86 | 0.63 |
| 29:B1:2892:A:H2' | 29:B1:2893:C:C6 | 2.34 | 0.63 |
| 29:B1:3018:C:C4 | 29:B1:3019:U:C5 | 2.87 | 0.63 |
| 29:B1:3218:A:H4' | 29:B1:3220:G:C8 | 2.34 | 0.63 |
| 30:B2:25:G:H2' | 30:B2:26:C:C6 | 2.34 | 0.63 |
| 30:B2:94:C:H2' | 30:B2:95:A:H8 | 1.63 | 0.63 |
| 30:B2:116:C:H2' | 30:B2:117:A:H8 | 1.64 | 0.63 |
| 31:B3:65:A:C5 | 31:B3:66:A:C5 | 2.87 | 0.63 |
| 36:BE:125:VAL:HA | 36:BE:169:GLY:HA3 | 1.81 | 0.63 |
| 36:BE:188:GLU:CB | 36:BE:189:GLU:HA | 2.29 | 0.63 |
| 39:BH:208:GLU:O | 39:BH:209:ALA:C | 2.42 | 0.63 |
| 41:BJ:97:LEU:O | 41:BJ:123:HIS:N | 2.32 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 62:Bg:25:GLN:C | 62:Bg:27:LYS:H | 2.06 | 0.63 |
| 1:C1:100:A:OP2 | 1:C1:101:U:OP2 | 2.17 | 0.63 |
| 1:C1:339:C:H2' | 1:C1:340:U:H6 | 1.62 | 0.63 |
| 1:C1:364:G:C8 | 1:C1:377:G:N2 | 2.67 | 0.63 |
| 1:C1:1365:C:C4 | 1:C1:1366:U:C5 | 2.87 | 0.63 |
| 1:C1:1499:G:H2' | 1:C1:1500:C:H6 | 1.64 | 0.63 |
| 1:C1:1536:G:N2 | 1:C1:1538:U:H3 | 1.96 | 0.63 |
| 1:C1:1552:U:O2 | 1:C1:1552:U:C2' | 2.46 | 0.63 |
| 1:C1:1602:C:H2' | 1:C1:1602:C:O2 | 1.98 | 0.63 |
| 1:C1:1624:C:H2' | 1:C1:1624:C:O2 | 1.98 | 0.63 |
| 2:CA:171:GLY:O | 2:CA:173:ILE:N | 2.32 | 0.63 |
| 8:CG:108:ASP:O | 8:CG:111:ALA:HB3 | 1.98 | 0.63 |
| 11:CJ:40:GLU:C | 11:CJ:42:GLU:N | 2.53 | 0.63 |
| 16:CO:102:VAL:O | 16:CO:104:LEU:N | 2.32 | 0.63 |
| 17:CP:106:GLY:HA2 | 17:CP:122:PHE:HA | 1.79 | 0.63 |
| 29:D1:21:G:O2' | 31:D3:37:A:N6 | 2.32 | 0.63 |
| 29:D1:297:G:H4' | 29:D1:299:G:H4' | 1.80 | 0.63 |
| 29:D1:609:G:C5 | 29:D1:610:G:C6 | 2.87 | 0.63 |
| 29:D1:785:G:OP1 | 29:D1:785:G:O4' | 2.16 | 0.63 |
| 29:D1:789:A:H2' | 29:D1:790:U:C6 | 2.34 | 0.63 |
| 29:D1:847:A:C2 | 29:D1:848:A:C4 | 2.86 | 0.63 |
| 29:D1:1680:G:O2' | 29:D1:1681:U:O5' | 2.16 | 0.63 |
| 29:D1:2714:G:N2 | 29:D1:2751:G:C6 | 2.66 | 0.63 |
| 29:D1:2847:A:N7 | 29:D1:2898:G:C6 | 2.66 | 0.63 |
| 29:D1:2904:U:O2 | 29:D1:2904:U:C3' | 2.46 | 0.63 |
| 29:D1:2997:G:C1' | 29:D1:2998:U:P | 2.82 | 0.63 |
| 29:D1:3202:G:H3' | 29:D1:3202:G:P | 2.38 | 0.63 |
| 29:D1:3212:C:C5 | 29:D1:3213:A:N1 | 2.66 | 0.63 |
| 29:D1:3325:G:H1 | 29:D1:3380:U:H3 | 1.46 | 0.63 |
| 29:D1:3387:U:C4 | 29:D1:3388:C:N4 | 2.66 | 0.63 |
| 30:D2:42:A:N3 | 30:D2:45:A:N6 | 2.47 | 0.63 |
| 30:D2:76:A:C4 | 30:D2:78:U:O4 | 2.52 | 0.63 |
| 31:D3:111:A:H5" | 31:D3:111:A:H8 | 1.63 | 0.63 |
| 36:DE:194:LEU:O | 36:DE:196:ARG:N | 2.31 | 0.63 |
| 39:DH:85:ASN:O | 39:DH:88:ALA:HB3 | 1.99 | 0.63 |
| 73:DM:36:GLN:C | 73:DM:38:MET:N | 2.56 | 0.63 |
| 53:DX:34:PRO:HA | 53:DX:47:ALA:HB2 | 1.80 | 0.63 |
| 54:DY:134:ALA:O | 54:DY:135:GLU:C | 2.41 | 0.63 |
| 60:De:26:TRP:O | 60:De:28:ARG:N | 2.31 | 0.63 |
| 1:A1:22:A:C6 | 1:A1:604:A:N1 | 2.67 | 0.63 |
| 1:A1:610:G:C2 | 1:A1:614:C:N3 | 2.67 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:697:C:H3' | 1:A1:698:U:H5" | 1.79 | 0.63 |
| 1:A1:701:U:H3' | 1:A1:702:G:C5' | 2.29 | 0.63 |
| 1:A1:897:C:C2 | 1:A1:914:G:N2 | 2.67 | 0.63 |
| 1:A1:1506:G:O2' | 1:A1:1507:G:H5' | 1.99 | 0.63 |
| 1:A1:1558:U:C5 | 1:A1:1559:A:H5" | 2.34 | 0.63 |
| 1:A1:1583:A:O2' | 1:A1:1584:G:C5' | 2.45 | 0.63 |
| 1:A1:1635:A:O5' | 1:A1:1635:A:H8 | 1.82 | 0.63 |
| 3:AB:139:ILE:O | 3:AB:141:ARG:N | 2.32 | 0.63 |
| 25:Ad:108:UNK:O | 25:Ad:112:UNK:N | 2.32 | 0.63 |
| 29:B1:208:C:N3 | 29:B1:209:A:N7 | 2.47 | 0.63 |
| 29:B1:284:A:C2 | 29:B1:306:A:N9 | 2.67 | 0.63 |
| 29:B1:523:A:C2' | 29:B1:524:U:H5' | 2.27 | 0.63 |
| 29:B1:609:G:P | 29:B1:609:G:C3' | 2.86 | 0.63 |
| 29:B1:759:U:H2' | 29:B1:760:G:H5" | 1.80 | 0.63 |
| 29:B1:776:U:H5' | 29:B1:777:U:C5' | 2.21 | 0.63 |
| 29:B1:791:A:H5" | 29:B1:792:G:OP2 | 1.99 | 0.63 |
| 29:B1:965:A:N1 | 29:B1:966:U:C2 | 2.67 | 0.63 |
| 29:B1:1157:G:N1 | 29:B1:1158:A:N3 | 2.47 | 0.63 |
| 29:B1:1210:U:C2' | 29:B1:1211:U:H5' | 2.28 | 0.63 |
| 29:B1:1257:C:C4 | 29:B1:1258:U:H1' | 2.33 | 0.63 |
| 29:B1:1294:A:O2' | 29:B1:1295:G:P | 2.57 | 0.63 |
| 29:B1:1353:U:C5 | 29:B1:1355:A:N6 | 2.66 | 0.63 |
| 29:B1:1370:G:OP1 | 54:BY:17:ALA:O | 2.16 | 0.63 |
| 29:B1:1508:C:O2' | 29:B1:2353:G:H1' | 1.98 | 0.63 |
| 29:B1:1697:A:N7 | 29:B1:1698:C:C5 | 2.67 | 0.63 |
| 29:B1:1902:G:P | 29:B1:2918:G:H5' | 2.39 | 0.63 |
| 29:B1:1902:G:C2 | 29:B1:1903:U:H1' | 2.33 | 0.63 |
| 29:B1:1949:G:H2' | 29:B1:1950:U:H6 | 1.63 | 0.63 |
| 29:B1:2101:C:C2' | 29:B1:2102:U:H5' | 2.29 | 0.63 |
| 29:B1:2254:U:O2 | 29:B1:2261:G:C2 | 2.50 | 0.63 |
| 29:B1:2289:U:C2 | 29:B1:2290:C:C5 | 2.86 | 0.63 |
| 29:B1:2308:C:H3' | 29:B1:2309:A:H5" | 1.79 | 0.63 |
| 29:B1:2776:C:H5' | 29:B1:2777:G:C5' | 2.27 | 0.63 |
| 29:B1:2881:C:C2 | 29:B1:2882:U:C5 | 2.87 | 0.63 |
| 29:B1:2918:G:N3 | 29:B1:2919:A:C8 | 2.67 | 0.63 |
| 29:B1:3046:A:C6 | 29:B1:3047:U:C4 | 2.86 | 0.63 |
| 29:B1:3209:A:C3' | 29:B1:3210:A:C8 | 2.82 | 0.63 |
| 29:B1:3221:C:O2' | 29:B1:3222:U:H5' | 1.99 | 0.63 |
| 29:B1:3316:A:C6 | 29:B1:3388:C:N3 | 2.67 | 0.63 |
| 29:B1:3393:U:C4 | 29:B1:3394:U:C5 | 2.86 | 0.63 |
| 31:B3:65:A:C6 | 31:B3:66:A:C6 | 2.87 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BC:193:ASP:O | 34:BC:196:ARG:N | 2.31 | 0.63 |
| 35:BD:153:SER:C | 35:BD:155:ASP:H | 2.05 | 0.63 |
| 37:BF:144:ALA:C | 37:BF:146:ILE:N | 2.53 | 0.63 |
| 43:BN:22:LEU:CB | 43:BN:65:LEU:CA | 2.76 | 0.63 |
| 46:BQ:28:ASN:C | 46:BQ:30:ARG:N | 2.55 | 0.63 |
| 47:BR:98:LYS:CA | 47:BR:117:ALA:HB1 | 2.25 | 0.63 |
| 1:C1:210:A:C4 | 1:C1:211:U:C5 | 2.87 | 0.63 |
| 1:C1:479:C:C3' | 1:C1:480:G:C8 | 2.82 | 0.63 |
| 1:C1:727:U:C2 | 1:C1:728:U:H5 | 2.17 | 0.63 |
| 1:C1:901:G:OP1 | 1:C1:901:G:H4' | 1.98 | 0.63 |
| 1:C1:1493:A:H2' | 1:C1:1493:A:N3 | 2.13 | 0.63 |
| 1:C1:1677:C:H2' | 1:C1:1677:C:O2 | 1.98 | 0.63 |
| 1:C1:1778:G:N1 | 1:C1:1779:U:C4 | 2.67 | 0.63 |
| 17:CP:46:SER:C | 17:CP:48:HIS:H | 2.06 | 0.63 |
| 17:CP:127:VAL:CB | 17:CP:129:GLY:H | 2.12 | 0.63 |
| 28:Ch:7:UNK:C | 28:Ch:9:UNK:H2 | 2.11 | 0.63 |
| 29:D1:122:A:H1' | 29:D1:150:A:H4' | 1.80 | 0.63 |
| 29:D1:137:G:C8 | 29:D1:137:G:H3' | 2.34 | 0.63 |
| 29:D1:157:A:N1 | 29:D1:266:A:C2 | 2.67 | 0.63 |
| 29:D1:910:G:C4 | 29:D1:911:C:C5 | 2.87 | 0.63 |
| 29:D1:1235:U:C5 | 29:D1:1237:G:H4' | 2.33 | 0.63 |
| 29:D1:1342:C:H2' | 29:D1:1343:A:C8 | 2.34 | 0.63 |
| 29:D1:1370:G:OP1 | 54:DY:17:ALA:O | 2.17 | 0.63 |
| 29:D1:1495:U:O2' | 29:D1:1514:G:H4' | 1.98 | 0.63 |
| 29:D1:1730:G:C6 | 55:DZ:26:GLY:HA2 | 2.34 | 0.63 |
| 29:D1:2202:C:H2' | 29:D1:2202:C:O2 | 1.99 | 0.63 |
| 29:D1:2383:C:C2' | 29:D1:2384:A:H8 | 2.12 | 0.63 |
| 29:D1:2510:U:C2 | 29:D1:2511:A:C8 | 2.87 | 0.63 |
| 29:D1:2921:U:H3' | 29:D1:2923:U:OP2 | 1.99 | 0.63 |
| 29:D1:2922:G:H1' | 29:D1:2951:G:H21 | 1.61 | 0.63 |
| 29:D1:3201:C:C2' | 29:D1:3202:G:H8 | 2.06 | 0.63 |
| 29:D1:3321:C:C2 | 29:D1:3322:A:N7 | 2.67 | 0.63 |
| 29:D1:3363:U:C5 | 29:D1:3364:C:H1' | 2.34 | 0.63 |
| 30:D2:119:U:H5' | 30:D2:120:C:OP2 | 1.98 | 0.63 |
| 31:D3:114:G:C2' | 31:D3:115:C:H5' | 2.29 | 0.63 |
| 34:DC:60:LEU:C | 34:DC:62:ARG:H | 2.06 | 0.63 |
| 36:DE:241:THR:C | 36:DE:243:ALA:H | 2.06 | 0.63 |
| 46:DQ:85:ALA:O | 46:DQ:87:SER:N | 2.32 | 0.63 |
| 59:Dd:36:SER:CB | 74:Dd:101:OHX:N2 | 2.61 | 0.63 |
| 1:A1:396:G:H22 | 1:A1:399:A:H5" | 1.63 | 0.63 |
| 1:A1:600:U:H2' | 1:A1:601:A:C8 | 2.34 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:708:C:O2' | 1:A1:709:C:H5' | 1.99 | 0.63 |
| 1:A1:763:G:H2' | 1:A1:764:U:H6 | 1.62 | 0.63 |
| 1:A1:938:G:N2 | 1:A1:942:G:C5 | 2.67 | 0.63 |
| 1:A1:1030:A:H4' | 1:A1:1031:U:OP2 | 1.99 | 0.63 |
| 1:A1:1075:C:N4 | 1:A1:1076:A:N6 | 2.46 | 0.63 |
| 1:A1:1685:G:N2 | 1:A1:1686:C:C2 | 2.67 | 0.63 |
| 29:B1:278:U:C2 | 29:B1:279:U:C5 | 2.87 | 0.63 |
| 29:B1:377:A:C2' | 29:B1:391:A:H61 | 2.12 | 0.63 |
| 29:B1:512:U:C1' | 29:B1:579:G:N2 | 2.62 | 0.63 |
| 29:B1:692:A:C4 | 29:B1:693:A:C8 | 2.87 | 0.63 |
| 29:B1:739:G:H3' | 29:B1:740:G:H8 | 1.64 | 0.63 |
| 29:B1:762:U:C5 | 74:B1:3479:OHX:N6 | 2.66 | 0.63 |
| 29:B1:872:U:O2' | 29:B1:873:C:H5' | 1.99 | 0.63 |
| 29:B1:993:G:H1' | 29:B1:2637:A:H2' | 1.81 | 0.63 |
| 29:B1:1001:G:C8 | 29:B1:1042:U:OP1 | 2.52 | 0.63 |
| 29:B1:1049:C:C2 | 29:B1:1050:U:C5 | 2.86 | 0.63 |
| 29:B1:1144:U:HO2' | 29:B1:1145:G:P | 2.22 | 0.63 |
| 29:B1:1337:A:C6 | 29:B1:1338:C:C4 | 2.86 | 0.63 |
| 29:B1:1439:U:C2 | 29:B1:1440:G:N7 | 2.67 | 0.63 |
| 29:B1:1627:U:OP1 | 29:B1:1627:U:H4' | 1.98 | 0.63 |
| 29:B1:1654:A:C2 | 29:B1:1655:G:H1' | 2.34 | 0.63 |
| 29:B1:1815:U:H2' | 29:B1:1816:A:H5' | 1.80 | 0.63 |
| 29:B1:1867:A:H2' | 29:B1:1868:G:C8 | 2.34 | 0.63 |
| 29:B1:2143:A:N7 | 29:B1:2145:A:C5 | 2.67 | 0.63 |
| 29:B1:2151:C:H5' | 29:B1:2151:C:C6 | 2.26 | 0.63 |
| 29:B1:2353:G:C4 | 29:B1:2354:C:C6 | 2.87 | 0.63 |
| 29:B1:2966:G:C2' | 29:B1:2967:A:H5' | 2.28 | 0.63 |
| 29:B1:3095:U:C2' | 29:B1:3096:C:O5' | 2.46 | 0.63 |
| 29:B1:3160:U:O4 | 29:B1:3290:G:O6 | 2.17 | 0.63 |
| 29:B1:3184:A:H5" | 29:B1:3184:A:C8 | 2.25 | 0.63 |
| 30:B2:30:G:H2' | 30:B2:31:U:O5' | 1.98 | 0.63 |
| 31:B3:82:U:H2' | 31:B3:83:C:O2 | 1.99 | 0.63 |
| 48:BS:130:ASN:C | 48:BS:132:PHE:H | 2.04 | 0.63 |
| 50:BU:45:ARG:O | 50:BU:47:ASN:N | 2.23 | 0.63 |
| 52:BW:76:VAL:O | 52:BW:132:ALA:HB1 | 1.98 | 0.63 |
| 54:BY:29:PRO:O | 54:BY:30:GLY:C | 2.42 | 0.63 |
| 1:C1:518:A:N6 | 1:C1:535:A:H1' | 2.13 | 0.63 |
| 1:C1:563:U:C4 | 1:C1:564:G:C6 | 2.87 | 0.63 |
| 1:C1:789:A:H3' | 1:C1:790:U:H6 | 1.64 | 0.63 |
| 1:C1:871:G:O6 | 1:C1:957:G:C6 | 2.52 | 0.63 |
| 1:C1:1032:G:H2' | 1:C1:1033:C:C6 | 2.34 | 0.63 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1094:G:H2' | 1:C1:1095:U:C5 | 2.34 | 0.63 |
| 1:C1:1149:G:C4' | 1:C1:1150:G:OP1 | 2.47 | 0.63 |
| 1:C1:1189:A:H2' | 1:C1:1189:A:N3 | 2.14 | 0.63 |
| 2:CA:84:ARG:C | 2:CA:86:VAL:H | 2.07 | 0.63 |
| 8:CG:129:TYR:C | 8:CG:132:VAL:H | 2.05 | 0.63 |
| 14:CM:67:MET:O | 14:CM:69:LYS:C | 2.42 | 0.63 |
| 19:CR:25:VAL:C | 19:CR:38:ARG:HA | 2.23 | 0.63 |
| 29:D1:5:G:H22 | 31:D3:155:A:H1' | 1.61 | 0.63 |
| 29:D1:536:U:H6 | 29:D1:536:U:O5' | 1.82 | 0.63 |
| 29:D1:573:C:O2' | 29:D1:574:U:H5' | 1.99 | 0.63 |
| 29:D1:607:A:C6 | 29:D1:608:A:C5 | 2.87 | 0.63 |
| 29:D1:656:A:H3' | 29:D1:657:A:H8 | 1.63 | 0.63 |
| 29:D1:693:A:H2' | 29:D1:694:C:H6 | 1.63 | 0.63 |
| 29:D1:758:C:H1' | 29:D1:759:U:OP2 | 1.99 | 0.63 |
| 29:D1:760:G:HO2' | 29:D1:761:A:H8 | 1.47 | 0.63 |
| 29:D1:1024:G:H2' | 29:D1:1025:A:H5' | 1.79 | 0.63 |
| 29:D1:1347:U:H4' | 29:D1:1348:U:OP2 | 1.99 | 0.63 |
| 29:D1:1468:A:O2' | 29:D1:1469:C:O5' | 2.16 | 0.63 |
| 29:D1:1876:U:H2' | 29:D1:1877:U:C5 | 2.34 | 0.63 |
| 29:D1:2119:A:N7 | 29:D1:2120:A:N1 | 2.47 | 0.63 |
| 29:D1:2233:A:C8 | 29:D1:2234:G:C8 | 2.87 | 0.63 |
| 29:D1:2549:G:H4' | 29:D1:2550:U:OP1 | 1.96 | 0.63 |
| 29:D1:2592:G:C5 | 74:D1:3463:OHX:N1 | 2.67 | 0.63 |
| 29:D1:3093:C:H6 | 29:D1:3093:C:H5' | 1.64 | 0.63 |
| 29:D1:3225:C:N4 | 29:D1:3261:C:N4 | 2.47 | 0.63 |
| 29:D1:3277:U:H3' | 29:D1:3277:U:H6 | 1.63 | 0.63 |
| 29:D1:3376:A:H4' | 29:D1:3376:A:OP2 | 1.99 | 0.63 |
| 31:D3:41:A:OP2 | 59:Dd:58:THR:C | 2.42 | 0.63 |
| 31:D3:74:U:H3' | 31:D3:76:C:H5" | 1.80 | 0.63 |
| 31:D3:103:G:N1 | 31:D3:105:A:N6 | 2.46 | 0.63 |
| 37:DF:43:LEU:O | 37:DF:45:GLY:N | 2.32 | 0.63 |
| 41:DJ:12:GLN:O | 41:DJ:14:ASN:N | 2.32 | 0.63 |
| 58:Dc:41:LEU:N | 58:Dc:42:PRO:CA | 2.52 | 0.63 |
| 1:A1:114:C:C4 | 1:A1:248:U:C4 | 2.87 | 0.62 |
| 1:A1:150:U:H5' | 1:A1:151:G:OP2 | 1.98 | 0.62 |
| 1:A1:289:U:O2 | 1:A1:290:G:H5" | 1.99 | 0.62 |
| 1:A1:445:A:H1' | 1:A1:524:U:H4' | 1.81 | 0.62 |
| 1:A1:461:G:H2' | 1:A1:462:G:C8 | 2.34 | 0.62 |
| 1:A1:521:A:C3' | 1:A1:523:G:C8 | 2.82 | 0.62 |
| 1:A1:802:G:C5 | 1:A1:803:A:N1 | 2.67 | 0.62 |
| 1:A1:863:A:C8 | 1:A1:865:A:C8 | 2.86 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:955:A:H2' | 1:A1:956:C:C6 | 2.33 | 0.62 |
| 1:A1:1168:U:C2' | 1:A1:1169:G:H5' | 2.29 | 0.62 |
| 1:A1:1368:G:H5" | 1:A1:1369:U:OP2 | 1.99 | 0.62 |
| 1:A1:1694:A:H61 | 1:A1:1708:U:H2' | 1.62 | 0.62 |
| 4:AC:21:LEU:O | 4:AC:22:ASN:C | 2.42 | 0.62 |
| 6:AE:143:ILE:O | 6:AE:145:SER:N | 2.28 | 0.62 |
| 15:AN:20:ILE:CB | 15:AN:21:LYS:HA | 2.28 | 0.62 |
| 17:AP:104:LEU:O | 17:AP:105:ALA:CB | 2.46 | 0.62 |
| 29:B1:10:C:C5 | 31:B3:149:A:H2 | 2.17 | 0.62 |
| 29:B1:22:G:O6 | 31:B3:35:C:N4 | 2.32 | 0.62 |
| 29:B1:199:A:C6 | 29:B1:219:A:N6 | 2.68 | 0.62 |
| 29:B1:395:A:OP1 | 29:B1:395:A:C8 | 2.53 | 0.62 |
| 29:B1:585:A:C5' | 29:B1:586:C:OP2 | 2.46 | 0.62 |
| 29:B1:644:G:C4' | 29:B1:1153:A:C2 | 2.66 | 0.62 |
| 29:B1:693:A:H5" | 29:B1:694:C:OP2 | 1.99 | 0.62 |
| 29:B1:716:A:OP2 | 29:B1:716:A:N3 | 2.32 | 0.62 |
| 29:B1:771:A:H3' | 29:B1:772:U:C5' | 2.28 | 0.62 |
| 29:B1:847:A:C2' | 29:B1:848:A:C8 | 2.78 | 0.62 |
| 29:B1:935:U:H2' | 29:B1:936:A:C8 | 2.34 | 0.62 |
| 29:B1:1388:U:H2' | 29:B1:1389:G:H8 | 1.63 | 0.62 |
| 29:B1:1898:G:O2' | 50:BU:21:ALA:HB2 | 1.99 | 0.62 |
| 29:B1:2289:U:C2' | 29:B1:2290:C:H5' | 2.29 | 0.62 |
| 29:B1:2992:U:C2' | 29:B1:2993:G:H5' | 2.13 | 0.62 |
| 29:B1:3005:A:C4 | 29:B1:3140:G:C2 | 2.87 | 0.62 |
| 29:B1:3208:G:O2' | 29:B1:3209:A:OP1 | 2.17 | 0.62 |
| 29:B1:3252:G:H2' | 29:B1:3253:G:C8 | 2.34 | 0.62 |
| 29:B1:3327:G:C2 | 29:B1:3328:G:N7 | 2.67 | 0.62 |
| 29:B1:3328:G:N1 | 29:B1:3375:A:N7 | 2.46 | 0.62 |
| 29:B1:3388:C:H2' | 29:B1:3389:U:C5 | 2.34 | 0.62 |
| 30:B2:7:G:H2' | 30:B2:8:G:O4' | 1.98 | 0.62 |
| 30:B2:46:A:O2' | 30:B2:47:C:H5' | 1.99 | 0.62 |
| 31:B3:125:U:N3 | 74:B3:206:OHX:N2 | 2.46 | 0.62 |
| 36:BE:94:ASN:O | 36:BE:96:ALA:N | 2.32 | 0.62 |
| 45:BP:95:GLY:O | 45:BP:96:LYS:C | 2.40 | 0.62 |
| 46:BQ:47:TYR:C | 46:BQ:49:GLU:N | 2.57 | 0.62 |
| 49:BT:77:ASN:HA | 49:BT:87:LYS:O | 1.99 | 0.62 |
| 54:BY:90:TYR:O | 54:BY:92:LYS:HA | 1.99 | 0.62 |
| 57:Bb:110:ALA:O | 57:Bb:113:LYS:N | 2.32 | 0.62 |
| 1:C1:129:U:C4 | 1:C1:264:G:C5 | 2.86 | 0.62 |
| 1:C1:162:A:C2' | 1:C1:163:G:C8 | 2.81 | 0.62 |
| 1:C1:1145:U:C3' | 1:C1:1146:G:H5" | 2.29 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1172:G:C4 | 1:C1:1173:C:C5 | 2.86 | 0.62 |
| 1:C1:1314:U:O2' | 1:C1:1315:U:P | 2.57 | 0.62 |
| 1:C1:1331:A:H2' | 1:C1:1332:C:O5' | 1.99 | 0.62 |
| 1:C1:1453:G:H2' | 1:C1:1454:G:C8 | 2.34 | 0.62 |
| 1:C1:1567:U:H2' | 1:C1:1568:C:O4' | 1.98 | 0.62 |
| 1:C1:1645:G:O2' | 1:C1:1646:C:O5' | 2.13 | 0.62 |
| 1:C1:1765:A:OP2 | 74:C1:1983:OHX:N4 | 2.32 | 0.62 |
| 1:C1:1777:G:C5 | 1:C1:1778:G:N7 | 2.67 | 0.62 |
| 6:CE:55:ALA:O | 6:CE:56:ALA:C | 2.41 | 0.62 |
| 8:CG:67:THR:O | 8:CG:71:ILE:CB | 2.46 | 0.62 |
| 15:CN:12:GLN:O | 15:CN:14:GLN:N | 2.32 | 0.62 |
| 29:D1:157:A:N1 | 29:D1:266:A:H2 | 1.97 | 0.62 |
| 29:D1:225:C:H2' | 29:D1:226:C:C6 | 2.34 | 0.62 |
| 29:D1:258:G:O2' | 29:D1:259:C:O5' | 2.17 | 0.62 |
| 29:D1:308:A:C2 | 29:D1:2782:U:C2 | 2.83 | 0.62 |
| 29:D1:703:G:N1 | 29:D1:704:U:N3 | 2.47 | 0.62 |
| 29:D1:776:U:OP1 | 29:D1:777:U:OP2 | 2.16 | 0.62 |
| 29:D1:955:U:C2 | 29:D1:956:U:C5 | 2.86 | 0.62 |
| 29:D1:1080:A:C2 | 29:D1:1082:U:O5' | 2.52 | 0.62 |
| 29:D1:1157:G:C6 | 29:D1:1158:A:C4 | 2.86 | 0.62 |
| 29:D1:1291:A:H2' | 29:D1:1292:C:O5' | 1.99 | 0.62 |
| 29:D1:1550:C:O2' | 29:D1:1551:C:H5' | 1.99 | 0.62 |
| 29:D1:1571:A:C6 | 29:D1:1572:U:H1' | 2.35 | 0.62 |
| 29:D1:1671:C:H2' | 29:D1:1671:C:O2 | 1.99 | 0.62 |
| 29:D1:2160:G:H2' | 29:D1:2161:G:H8 | 1.64 | 0.62 |
| 29:D1:2207:A:H8 | 29:D1:2237:C:O2 | 1.81 | 0.62 |
| 29:D1:2254:U:O4 | 74:D1:3583:OHX:N5 | 2.32 | 0.62 |
| 29:D1:2576:G:H2' | 29:D1:2577:C:H6 | 1.64 | 0.62 |
| 29:D1:2603:G:H3' | 29:D1:2604:U:C6 | 2.33 | 0.62 |
| 29:D1:2699:G:H2' | 29:D1:2700:G:C8 | 2.34 | 0.62 |
| 29:D1:2830:G:O2' | 29:D1:2831:G:H5' | 1.98 | 0.62 |
| 29:D1:3322:A:C5 | 29:D1:3386:G:N2 | 2.67 | 0.62 |
| 33:DB:172:GLY:N | 62:Dg:68:ALA:HB2 | 2.13 | 0.62 |
| 35:DD:215:ILE:O | 35:DD:216:VAL:C | 2.42 | 0.62 |
| 26:Dj:16:UNK:O | 26:Dj:17:UNK:C | 2.47 | 0.62 |
| 1:A1:246:G:C6 | 1:A1:247:A:C2 | 2.87 | 0.62 |
| 1:A1:298:C:H3' | 1:A1:298:C:C6 | 2.34 | 0.62 |
| 1:A1:330:G:H5" | 1:A1:331:A:OP2 | 2.00 | 0.62 |
| 1:A1:617:U:O4' | 1:A1:1031:U:O2 | 2.17 | 0.62 |
| 1:A1:702:G:N2 | 1:A1:703:G:C2 | 2.67 | 0.62 |
| 1:A1:915:A:OP2 | 1:A1:915:A:H8 | 1.82 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:964:U:H1' | 1:A1:965:U:OP2 | 1.99 | 0.62 |
| 1:A1:1472:C:C5 | 1:A1:1474:G:C2 | 2.86 | 0.62 |
| 1:A1:1517:U:O2' | 1:A1:1518:C:H5' | 1.99 | 0.62 |
| 1:A1:1558:U:C6 | 1:A1:1558:U:H3' | 2.34 | 0.62 |
| 1:A1:1609:U:H6 | 1:A1:1609:U:H5" | 1.63 | 0.62 |
| 1:A1:1719:A:O3' | 1:A1:1720:G:C8 | 2.52 | 0.62 |
| 6:AE:55:ALA:O | 6:AE:56:ALA:C | 2.42 | 0.62 |
| 10:AI:20:VAL:O | 10:AI:24:LYS:C | 2.42 | 0.62 |
| 29:B1:84:U:C5 | 29:B1:85:A:C4 | 2.88 | 0.62 |
| 29:B1:158:G:H2' | 29:B1:159:A:H4' | 1.81 | 0.62 |
| 29:B1:223:U:O2' | 29:B1:224:C:OP1 | 2.14 | 0.62 |
| 29:B1:571:U:C2' | 29:B1:572:A:H5' | 2.29 | 0.62 |
| 29:B1:591:G:O2' | 29:B1:592:A:C5' | 2.47 | 0.62 |
| 29:B1:900:G:H1' | 29:B1:1589:A:H61 | 1.63 | 0.62 |
| 29:B1:955:U:N3 | 29:B1:956:U:C4 | 2.67 | 0.62 |
| 29:B1:989:A:O2' | 29:B1:990:U:H5' | 1.98 | 0.62 |
| 29:B1:1199:C:O2 | 74:B1:3587:OHX:N3 | 2.32 | 0.62 |
| 29:B1:1315:U:O2 | 29:B1:1315:U:C2' | 2.46 | 0.62 |
| 29:B1:1317:A:H8 | 29:B1:1317:A:H5' | 1.64 | 0.62 |
| 29:B1:1329:U:O5' | 29:B1:1329:U:H6 | 1.81 | 0.62 |
| 29:B1:1680:G:O2' | 29:B1:1681:U:O5' | 2.16 | 0.62 |
| 29:B1:1780:G:H2' | 29:B1:1781:C:C5 | 2.34 | 0.62 |
| 29:B1:2414:G:C2' | 29:B1:2415:C:O5' | 2.47 | 0.62 |
| 29:B1:3067:C:O2' | 29:B1:3068:U:H5' | 1.99 | 0.62 |
| 29:B1:3148:U:H2' | 29:B1:3149:G:C8 | 2.35 | 0.62 |
| 29:B1:3213:A:C8 | 29:B1:3213:A:H3' | 2.34 | 0.62 |
| 29:B1:3370:A:H5' | 29:B1:3371:G:OP1 | 1.99 | 0.62 |
| 31:B3:56:G:H2' | 31:B3:57:C:H6 | 1.65 | 0.62 |
| 41:BJ:144:ASN:O | 41:BJ:147:VAL:CB | 2.47 | 0.62 |
| 50:BU:97:ASP:O | 50:BU:98:ASN:CB | 2.46 | 0.62 |
| 1:C1:22:A:C6 | 1:C1:604:A:N1 | 2.67 | 0.62 |
| 1:C1:44:U:OP2 | 1:C1:45:U:O4 | 2.17 | 0.62 |
| 1:C1:289:U:O2 | 1:C1:290:G:H8 | 1.82 | 0.62 |
| 1:C1:426:G:N1 | 1:C1:427:C:C4 | 2.67 | 0.62 |
| 1:C1:845:G:H2' | 1:C1:846:G:H5" | 1.81 | 0.62 |
| 1:C1:862:A:N9 | 1:C1:963:A:N6 | 2.47 | 0.62 |
| 1:C1:1179:G:C6 | 1:C1:1180:C:C2 | 2.87 | 0.62 |
| 1:C1:1348:A:C8 | 1:C1:1348:A:C3' | 2.81 | 0.62 |
| 1:C1:1410:A:N6 | 1:C1:1411:A:C2 | 2.67 | 0.62 |
| 1:C1:1501:C:H2' | 1:C1:1502:G:H5' | 1.81 | 0.62 |
| 1:C1:1673:G:C5 | 1:C1:1674:C:C5 | 2.88 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1673:G:H2' | 1:C1:1674:C:H5' | 1.79 | 0.62 |
| 3:CB:208:GLU:O | 3:CB:212:LYS:CB | 2.47 | 0.62 |
| 5:CD:166:ARG:O | 5:CD:167:ARG:C | 2.42 | 0.62 |
| 20:CS:25:SER:O | 20:CS:27:HIS:N | 2.32 | 0.62 |
| 20:CS:49:ASP:H | 20:CS:50:ILE:CB | 2.12 | 0.62 |
| 29:D1:158:G:C5 | 29:D1:159:A:O2' | 2.43 | 0.62 |
| 29:D1:301:G:O2' | 29:D1:302:U:H5' | 1.98 | 0.62 |
| 29:D1:340:C:O2' | 29:D1:341:G:O4' | 2.10 | 0.62 |
| 29:D1:515:C:C4 | 29:D1:516:A:C8 | 2.88 | 0.62 |
| 29:D1:563:U:C3' | 29:D1:564:G:H4' | 2.28 | 0.62 |
| 29:D1:576:C:H2' | 29:D1:577:C:O5' | 1.97 | 0.62 |
| 29:D1:977:C:C2 | 29:D1:978:G:N7 | 2.67 | 0.62 |
| 29:D1:1013:G:H2' | 29:D1:1015:U:OP2 | 2.00 | 0.62 |
| 29:D1:1105:A:C6 | 29:D1:1106:G:C6 | 2.88 | 0.62 |
| 29:D1:1306:G:N9 | 45:DP:62:THR:CB | 2.62 | 0.62 |
| 29:D1:1553:U:H1' | 29:D1:1582:C:H5 | 1.64 | 0.62 |
| 29:D1:1856:C:H2' | 29:D1:1857:C:H5' | 1.81 | 0.62 |
| 29:D1:2167:A:H3' | 29:D1:2168:A:H8 | 1.65 | 0.62 |
| 29:D1:2294:U:C6 | 29:D1:2297:U:H5 | 2.17 | 0.62 |
| 29:D1:2617:U:H4' | 29:D1:2644:C:C5 | 2.33 | 0.62 |
| 29:D1:2836:C:H5 | 29:D1:2853:A:N1 | 1.98 | 0.62 |
| 29:D1:3097:C:H2' | 29:D1:3098:G:H8 | 1.63 | 0.62 |
| 29:D1:3194:C:N4 | 29:D1:3196:U:OP1 | 2.32 | 0.62 |
| 30:D2:25:G:N2 | 30:D2:26:C:N3 | 2.47 | 0.62 |
| 31:D3:128:U:H5' | 31:D3:129:C:OP2 | 1.99 | 0.62 |
| 36:DE:97:ALA:CA | 36:DE:100:ALA:HB3 | 2.22 | 0.62 |
| 38:DG:85:PHE:HA | 38:DG:115:THR:O | 1.98 | 0.62 |
| 40:DI:155:SER:O | 40:DI:158:ALA:HB3 | 1.99 | 0.62 |
| 42:DK:83:GLY:O | 42:DK:84:LEU:C | 2.40 | 0.62 |
| 74:DO:301:OHX:N1 | 61:Df:47:GLN:O | 2.32 | 0.62 |
| 45:DP:99:LEU:O | 45:DP:101:ARG:N | 2.25 | 0.62 |
| 46:DQ:9:THR:H | 46:DQ:10:ASN:CA | 2.12 | 0.62 |
| 1:A1:4:C:H2' | 1:A1:5:U:C6 | 2.34 | 0.62 |
| 1:A1:18:C:C2 | 1:A1:19:A:C8 | 2.88 | 0.62 |
| 1:A1:198:A:O2' | 1:A1:199:G:O4' | 2.16 | 0.62 |
| 1:A1:288:A:N3 | 1:A1:289:U:C5 | 2.63 | 0.62 |
| 1:A1:477:A:C4 | 1:A1:539:G:O6 | 2.52 | 0.62 |
| 1:A1:730:G:H2' | 1:A1:730:G:N3 | 2.13 | 0.62 |
| 1:A1:981:U:H1' | 1:A1:1124:A:C2 | 2.34 | 0.62 |
| 1:A1:1109:G:C2' | 1:A1:1110:G:C5' | 2.74 | 0.62 |
| 1:A1:1435:G:C4' | 1:A1:1436:A:OP2 | 2.46 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1473:U:O4' | 1:A1:1473:U:O2 | 2.17 | 0.62 |
| 17:AP:86:PHE:C | 17:AP:88:PRO:N | 2.53 | 0.62 |
| 20:AS:23:VAL:O | 20:AS:24:CYS:O | 2.17 | 0.62 |
| 20:AS:38:ILE:N | 74:AS:101:OHX:N3 | 2.47 | 0.62 |
| 29:B1:32:U:C4 | 29:B1:33:G:C5 | 2.88 | 0.62 |
| 29:B1:37:U:OP1 | 29:B1:934:G:N2 | 2.31 | 0.62 |
| 29:B1:244:G:C6 | 29:B1:245:U:O2 | 2.51 | 0.62 |
| 29:B1:325:A:C3' | 29:B1:327:A:OP1 | 2.44 | 0.62 |
| 29:B1:516:A:H3' | 29:B1:517:G:N7 | 2.10 | 0.62 |
| 29:B1:524:U:O2' | 29:B1:525:C:C5' | 2.47 | 0.62 |
| 29:B1:557:A:C8 | 29:B1:557:A:C3' | 2.82 | 0.62 |
| 29:B1:564:G:P | 29:B1:565:U:OP1 | 2.58 | 0.62 |
| 29:B1:738:A:H2' | 29:B1:738:A:N3 | 2.14 | 0.62 |
| 29:B1:962:A:O2' | 29:B1:963:G:H5" | 1.99 | 0.62 |
| 29:B1:1461:A:C5 | 29:B1:1462:A:N7 | 2.67 | 0.62 |
| 29:B1:1461:A:H2' | 29:B1:1462:A:C8 | 2.34 | 0.62 |
| 29:B1:1911:A:O4' | 29:B1:2333:C:O2' | 2.16 | 0.62 |
| 29:B1:2100:A:H4' | 29:B1:2101:C:OP1 | 1.99 | 0.62 |
| 29:B1:2251:G:C6 | 29:B1:2266:U:O2 | 2.52 | 0.62 |
| 29:B1:2262:A:N3 | 29:B1:2263:C:H5" | 2.13 | 0.62 |
| 29:B1:2407:C:H1' | 29:B1:2818:U:N3 | 2.14 | 0.62 |
| 29:B1:2592:G:H4' | 29:B1:2594:C:N3 | 2.14 | 0.62 |
| 29:B1:2694:A:H2' | 29:B1:2695:A:C1' | 2.30 | 0.62 |
| 29:B1:3056:U:OP1 | 29:B1:3056:U:N3 | 2.32 | 0.62 |
| 29:B1:3232:G:O6 | 29:B1:3255:U:O4 | 2.17 | 0.62 |
| 29:B1:3294:A:H2' | 29:B1:3295:A:H5' | 1.81 | 0.62 |
| 29:B1:3322:A:C5 | 29:B1:3386:G:N2 | 2.68 | 0.62 |
| 29:B1:3331:U:C3' | 29:B1:3332:U:H5' | 2.29 | 0.62 |
| 74:B1:3537:OHX:N6 | 38:BG:217:PRO:O | 2.33 | 0.62 |
| 31:B3:81:U:C3' | 31:B3:82:U:H5" | 2.27 | 0.62 |
| 42:BK:121:GLY:C | 42:BK:123:PHE:H | 2.07 | 0.62 |
| 46:BQ:16:SER:HA | 46:BQ:149:VAL:HA | 1.81 | 0.62 |
| 60:Be:7:PHE:O | 60:Be:10:LYS:N | 2.33 | 0.62 |
| 1:C1:107:C:O2' | 1:C1:362:G:N3 | 2.32 | 0.62 |
| 1:C1:539:G:N2 | 1:C1:543:C:N3 | 2.46 | 0.62 |
| 1:C1:544:A:O2' | 1:C1:545:A:P | 2.58 | 0.62 |
| 1:C1:568:G:C2' | 1:C1:569:C:H5' | 2.29 | 0.62 |
| 1:C1:643:G:C2 | 1:C1:692:C:C2 | 2.86 | 0.62 |
| 1:C1:651:G:N7 | 74:C1:1970:OHX:N5 | 2.47 | 0.62 |
| 1:C1:1076:A:N7 | 1:C1:1077:C:C6 | 2.66 | 0.62 |
| 1:C1:1304:G:N7 | 1:C1:1305:U:C5 | 2.67 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1780:G:C6 | 1:C1:1781:A:C6 | 2.87 | 0.62 |
| 5:CD:93:LEU:O | 5:CD:95:ASN:N | 2.32 | 0.62 |
| 5:CD:161:ASP:CA | 5:CD:162:VAL:CB | 2.74 | 0.62 |
| 11:CJ:35:PRO:O | 11:CJ:37:THR:N | 2.32 | 0.62 |
| 14:CM:125:SER:O | 14:CM:126:GLU:C | 2.41 | 0.62 |
| 29:D1:28:C:O2' | 29:D1:61:A:H1' | 1.99 | 0.62 |
| 29:D1:84:U:C5 | 29:D1:85:A:C4 | 2.88 | 0.62 |
| 29:D1:156:G:H1' | 29:D1:157:A:C4' | 2.29 | 0.62 |
| 29:D1:336:A:O2' | 29:D1:337:G:C5' | 2.44 | 0.62 |
| 29:D1:504:A:C6 | 29:D1:505:G:C6 | 2.87 | 0.62 |
| 29:D1:600:G:C2 | 29:D1:604:G:C6 | 2.87 | 0.62 |
| 29:D1:637:C:C2 | 29:D1:2361:A:N3 | 2.67 | 0.62 |
| 29:D1:722:G:H22 | 29:D1:749:C:H6 | 1.47 | 0.62 |
| 29:D1:835:G:N3 | 29:D1:857:G:N2 | 2.47 | 0.62 |
| 29:D1:965:A:OP1 | 74:D1:3568:OHX:N1 | 2.32 | 0.62 |
| 29:D1:1661:G:H5" | 29:D1:1661:G:H8 | 1.64 | 0.62 |
| 29:D1:2834:G:N3 | 29:D1:2835:U:C5 | 2.66 | 0.62 |
| 29:D1:2963:C:C2' | 29:D1:2964:G:H5' | 2.29 | 0.62 |
| 29:D1:3019:U:C4 | 29:D1:3020:U:C5 | 2.88 | 0.62 |
| 29:D1:3199:G:H3' | 29:D1:3200:G:C8 | 2.31 | 0.62 |
| 29:D1:3207:U:C5 | 29:D1:3209:A:C2 | 2.87 | 0.62 |
| 29:D1:3221:C:C2 | 29:D1:3222:U:C5 | 2.88 | 0.62 |
| 29:D1:3333:G:N1 | 29:D1:3370:A:H4' | 2.13 | 0.62 |
| 29:D1:3384:U:C4 | 29:D1:3385:U:O4 | 2.53 | 0.62 |
| 30:D2:63:A:O2' | 30:D2:65:G:C8 | 2.52 | 0.62 |
| 31:D3:129:C:O5' | 31:D3:129:C:H6 | 1.81 | 0.62 |
| 33:DB:145:LYS:O | 33:DB:156:LYS:HA | 1.99 | 0.62 |
| 37:DF:173:MET:O | 37:DF:174:LEU:CB | 2.46 | 0.62 |
| 46:DQ:30:ARG:O | 46:DQ:31:GLU:C | 2.42 | 0.62 |
| 51:DV:4:GLU:O | 51:DV:5:ILE:CB | 2.47 | 0.62 |
| 1:A1:285:G:C6 | 1:A1:286:C:C4 | 2.87 | 0.62 |
| 1:A1:930:A:H3' | 1:A1:931:C:C6 | 2.34 | 0.62 |
| 1:A1:1330:G:C4 | 1:A1:1331:A:C8 | 2.86 | 0.62 |
| 1:A1:1353:U:O2 | 1:A1:1353:U:H2' | 1.99 | 0.62 |
| 1:A1:1378:U:C4 | 11:AJ:19:VAL:CB | 2.82 | 0.62 |
| 1:A1:1654:G:H2' | 1:A1:1745:G:N2 | 2.14 | 0.62 |
| 1:A1:1746:A:H5" | 1:A1:1747:G:OP2 | 1.99 | 0.62 |
| 29:B1:70:A:N3 | 29:B1:71:A:H4' | 2.15 | 0.62 |
| 29:B1:186:U:O2 | 29:B1:186:U:H2' | 1.97 | 0.62 |
| 29:B1:282:G:C2 | 29:B1:286:U:H4' | 2.35 | 0.62 |
| 29:B1:392:G:C5 | 29:B1:393:U:H5 | 2.17 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:760:G:C2' | 29:B1:761:A:H8 | 2.12 | 0.62 |
| 29:B1:773:G:N3 | 29:B1:774:G:C8 | 2.67 | 0.62 |
| 29:B1:974:G:C4 | 29:B1:975:C:C5 | 2.87 | 0.62 |
| 29:B1:1178:G:N7 | 29:B1:1179:A:C5 | 2.67 | 0.62 |
| 29:B1:1526:U:O4' | 29:B1:1594:A:C2 | 2.52 | 0.62 |
| 29:B1:1748:G:H2' | 29:B1:1749:A:H8 | 1.64 | 0.62 |
| 29:B1:2157:G:H4' | 29:B1:2158:A:H5' | 1.82 | 0.62 |
| 29:B1:2628:A:C6 | 29:B1:2629:U:C5 | 2.87 | 0.62 |
| 29:B1:2702:A:O4' | 29:B1:2704:A:N7 | 2.32 | 0.62 |
| 29:B1:2839:G:C5 | 29:B1:2850:G:N2 | 2.67 | 0.62 |
| 29:B1:2857:C:H2' | 29:B1:2858:U:H6 | 1.65 | 0.62 |
| 29:B1:2931:C:N3 | 29:B1:2932:U:C5 | 2.68 | 0.62 |
| 29:B1:3057:U:H5' | 29:B1:3086:A:N6 | 2.14 | 0.62 |
| 29:B1:3120:C:OP2 | 74:B1:3434:OHX:N6 | 2.33 | 0.62 |
| 29:B1:3121:U:O4' | 29:B1:3122:A:H5' | 1.99 | 0.62 |
| 29:B1:3228:C:H2' | 29:B1:3229:G:C8 | 2.35 | 0.62 |
| 29:B1:3315:G:C5' | 29:B1:3319:U:H5' | 2.28 | 0.62 |
| 31:B3:2:A:N6 | 31:B3:3:A:C2 | 2.67 | 0.62 |
| 31:B3:25:G:C6 | 31:B3:26:U:N3 | 2.67 | 0.62 |
| 36:BE:226:TYR:CB | 36:BE:234:ASP:H | 2.11 | 0.62 |
| 1:C1:97:C:H1' | 1:C1:426:G:C5' | 2.23 | 0.62 |
| 1:C1:238:U:H4' | 1:C1:239:C:H5" | 1.81 | 0.62 |
| 1:C1:542:A:HO2' | 1:C1:543:C:H3' | 1.64 | 0.62 |
| 1:C1:601:A:C5' | 1:C1:602:U:OP2 | 2.47 | 0.62 |
| 1:C1:897:C:C2 | 1:C1:914:G:N2 | 2.67 | 0.62 |
| 1:C1:974:A:H5" | 29:D1:848:A:O2' | 1.99 | 0.62 |
| 1:C1:1254:U:O2' | 1:C1:1255:G:P | 2.58 | 0.62 |
| 1:C1:1721:A:O5' | 1:C1:1722:A:O5' | 2.16 | 0.62 |
| 3:CB:57:PHE:C | 3:CB:59:HIS:N | 2.53 | 0.62 |
| 3:CB:124:ALA:O | 3:CB:125:ILE:C | 2.42 | 0.62 |
| 8:CG:129:TYR:C | 8:CG:131:THR:N | 2.53 | 0.62 |
| 15:CN:12:GLN:O | 15:CN:13:GLU:C | 2.41 | 0.62 |
| 21:CT:301:LEU:O | 21:CT:312:VAL:HA | 2.00 | 0.62 |
| 29:D1:591:G:O2' | 29:D1:592:A:C5' | 2.47 | 0.62 |
| 29:D1:649:A:C2 | 29:D1:650:C:C5 | 2.87 | 0.62 |
| 29:D1:738:A:H2' | 29:D1:738:A:N3 | 2.13 | 0.62 |
| 29:D1:1214:U:C2' | 29:D1:1215:U:H5' | 2.28 | 0.62 |
| 29:D1:1256:G:N2 | 29:D1:1257:C:H1' | 2.14 | 0.62 |
| 29:D1:1369:A:H2' | 29:D1:1370:G:O4' | 1.99 | 0.62 |
| 29:D1:1455:U:N3 | 29:D1:3077:A:OP1 | 2.29 | 0.62 |
| 29:D1:1539:A:C5 | 29:D1:1540:U:H5 | 2.17 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1795:U:O2' | 29:D1:1796:G:P | 2.56 | 0.62 |
| 29:D1:2137:U:H2' | 29:D1:2137:U:O2 | 2.00 | 0.62 |
| 29:D1:2181:C:C2 | 29:D1:2182:A:C8 | 2.88 | 0.62 |
| 29:D1:2284:C:C2 | 29:D1:2308:C:O4' | 2.51 | 0.62 |
| 29:D1:2325:G:C2 | 29:D1:2326:A:C8 | 2.87 | 0.62 |
| 29:D1:2743:A:C3' | 29:D1:2744:U:H6 | 2.11 | 0.62 |
| 29:D1:2966:G:C6 | 29:D1:2967:A:N6 | 2.68 | 0.62 |
| 29:D1:3149:G:N3 | 29:D1:3150:A:C1' | 2.61 | 0.62 |
| 29:D1:3237:U:H2' | 29:D1:3238:G:H8 | 1.65 | 0.62 |
| 29:D1:3244:A:C8 | 29:D1:3245:A:C8 | 2.87 | 0.62 |
| 29:D1:3280:U:O2' | 29:D1:3281:U:P | 2.57 | 0.62 |
| 29:D1:3381:U:H2' | 29:D1:3383:G:N9 | 2.14 | 0.62 |
| 30:D2:70:U:O2' | 30:D2:71:G:H5' | 2.00 | 0.62 |
| 31:D3:67:U:C3' | 31:D3:68:G:C8 | 2.81 | 0.62 |
| 31:D3:102:U:C4 | 31:D3:103:G:C6 | 2.86 | 0.62 |
| 31:D3:103:G:C6 | 31:D3:105:A:C6 | 2.88 | 0.62 |
| 35:DD:9:HIS:O | 35:DD:17:ALA:HB3 | 1.99 | 0.62 |
| 37:DF:124:GLU:C | 37:DF:126:GLN:H | 2.07 | 0.62 |
| 39:DH:248:LYS:O | 39:DH:250:ALA:N | 2.32 | 0.62 |
| 43:DN:107:GLU:O | 43:DN:108:ARG:C | 2.42 | 0.62 |
| 46:DQ:11:PRO:O | 46:DQ:12:ALA:HB2 | 1.99 | 0.62 |
| 48:DS:23:TRP:N | 48:DS:51:VAL:O | 2.33 | 0.62 |
| 1:A1:106:U:H3' | 1:A1:107:C:H6 | 1.64 | 0.62 |
| 1:A1:313:U:C5 | 1:A1:1118:G:N1 | 2.67 | 0.62 |
| 1:A1:396:G:H2' | 1:A1:397:A:O5' | 1.99 | 0.62 |
| 1:A1:442:C:O2' | 1:A1:443:C:H5' | 1.98 | 0.62 |
| 1:A1:623:A:H2 | 1:A1:1105:C:HO2' | 1.45 | 0.62 |
| 1:A1:714:G:C2 | 1:A1:715:U:H1' | 2.34 | 0.62 |
| 1:A1:879:G:C2' | 1:A1:880:C:H5' | 2.29 | 0.62 |
| 1:A1:885:G:H2' | 1:A1:886:U:C6 | 2.35 | 0.62 |
| 1:A1:1068:C:H2' | 1:A1:1069:A:C8 | 2.34 | 0.62 |
| 1:A1:1216:C:H4' | 1:A1:1217:A:H5' | 1.82 | 0.62 |
| 1:A1:1326:A:O2' | 1:A1:1327:C:H5' | 1.99 | 0.62 |
| 1:A1:1555:A:H5" | 1:A1:1556:A:OP2 | 1.99 | 0.62 |
| 1:A1:1586:A:OP1 | 11:AJ:134:ALA:HB3 | 1.99 | 0.62 |
| 1:A1:1650:U:H5" | 1:A1:1651:A:OP2 | 1.99 | 0.62 |
| 1:A1:1759:C:H2' | 1:A1:1760:G:C8 | 2.34 | 0.62 |
| 4:AC:16:VAL:O | 4:AC:18:TYR:N | 2.33 | 0.62 |
| 29:B1:34:A:OP1 | 29:B1:34:A:H4' | 1.99 | 0.62 |
| 29:B1:35:A:C2 | 29:B1:36:C:C6 | 2.87 | 0.62 |
| 29:B1:80:G:N1 | 29:B1:81:C:C4 | 2.68 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:256:G:N3 | 29:B1:256:G:H2' | 2.15 | 0.62 |
| 29:B1:312:C:H2' | 29:B1:313:A:C8 | 2.33 | 0.62 |
| 29:B1:508:U:H2' | 29:B1:508:U:O2 | 1.98 | 0.62 |
| 29:B1:592:A:O3' | 29:B1:593:C:H4' | 1.96 | 0.62 |
| 29:B1:749:C:H2' | 29:B1:750:G:C8 | 2.33 | 0.62 |
| 29:B1:863:C:H2' | 29:B1:864:G:H5' | 1.81 | 0.62 |
| 29:B1:945:C:H2' | 29:B1:946:U:C6 | 2.34 | 0.62 |
| 29:B1:991:G:N2 | 29:B1:992:A:H1' | 2.14 | 0.62 |
| 29:B1:1076:C:H5' | 29:B1:1077:U:OP2 | 1.98 | 0.62 |
| 29:B1:1313:G:C5 | 29:B1:1314:C:C5 | 2.88 | 0.62 |
| 29:B1:1494:U:O2' | 29:B1:1496:C:N4 | 2.33 | 0.62 |
| 29:B1:2294:U:C5' | 29:B1:2295:A:OP2 | 2.47 | 0.62 |
| 29:B1:2376:G:O2' | 29:B1:2377:G:O5' | 2.17 | 0.62 |
| 29:B1:2388:U:O2' | 29:B1:2389:C:H5' | 1.99 | 0.62 |
| 29:B1:2549:G:H4' | 29:B1:2550:U:OP1 | 1.98 | 0.62 |
| 29:B1:2628:A:C1' | 29:B1:2798:C:C4 | 2.80 | 0.62 |
| 29:B1:2851:A:H3' | 29:B1:2852:C:H5" | 1.82 | 0.62 |
| 29:B1:2980:U:C2' | 29:B1:2981:U:H5' | 2.29 | 0.62 |
| 29:B1:3063:C:C2 | 29:B1:3064:U:C5 | 2.87 | 0.62 |
| 29:B1:3121:U:O2 | 29:B1:3122:A:N7 | 2.32 | 0.62 |
| 29:B1:3141:A:H5' | 29:B1:3143:C:C2' | 2.29 | 0.62 |
| 29:B1:3377:G:H2' | 74:B1:3450:OHX:N6 | 2.15 | 0.62 |
| 31:B3:156:U:H2' | 31:B3:157:U:C5 | 2.35 | 0.62 |
| 37:BF:91:VAL:O | 37:BF:92:SER:O | 2.16 | 0.62 |
| 49:BT:69:LYS:O | 49:BT:71:SER:N | 2.32 | 0.62 |
| 59:Bd:43:LYS:C | 59:Bd:45:ARG:H | 2.07 | 0.62 |
| 60:Be:10:LYS:O | 60:Be:11:GLN:C | 2.42 | 0.62 |
| 22:Bo:15:UNK:C | 22:Bo:17:UNK:N | 2.62 | 0.62 |
| 1:C1:61:A:C5' | 1:C1:62:A:H5' | 2.30 | 0.62 |
| 1:C1:365:G:C2 | 1:C1:366:A:C8 | 2.88 | 0.62 |
| 1:C1:553:G:C6 | 1:C1:554:C:N3 | 2.67 | 0.62 |
| 1:C1:750:U:O5' | 1:C1:750:U:H6 | 1.83 | 0.62 |
| 1:C1:940:A:N3 | 1:C1:941:A:C8 | 2.67 | 0.62 |
| 1:C1:1174:C:H4' | 1:C1:1601:G:C6 | 2.34 | 0.62 |
| 1:C1:1199:G:C5 | 1:C1:1200:G:C1' | 2.83 | 0.62 |
| 1:C1:1200:G:H5" | 1:C1:1200:G:H8 | 1.64 | 0.62 |
| 1:C1:1204:A:H2' | 1:C1:1204:A:N3 | 2.14 | 0.62 |
| 1:C1:1273:G:C5' | 1:C1:1274:C:H5' | 2.28 | 0.62 |
| 1:C1:1345:A:C8 | 1:C1:1346:A:N7 | 2.68 | 0.62 |
| 1:C1:1377:U:C6 | 1:C1:1377:U:O5' | 2.52 | 0.62 |
| 1:C1:1458:G:H3' | 1:C1:1459:C:C6 | 2.33 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1571:C:H3' | 1:C1:1572:G:H5" | 1.80 | 0.62 |
| 1:C1:1671:A:C8 | 1:C1:1731:A:C6 | 2.87 | 0.62 |
| 2:CA:88:LYS:C | 2:CA:90:ALA:H | 2.08 | 0.62 |
| 3:CB:139:ILE:O | 3:CB:141:ARG:N | 2.32 | 0.62 |
| 21:CT:267:PRO:C | 21:CT:269:TYR:H | 2.06 | 0.62 |
| 28:Ch:62:UNK:O | 28:Ch:64:UNK:N | 2.32 | 0.62 |
| 29:D1:44:U:C5 | 29:D1:45:A:C4 | 2.87 | 0.62 |
| 29:D1:80:G:C6 | 29:D1:106:A:C6 | 2.88 | 0.62 |
| 29:D1:211:A:H5' | 29:D1:229:G:O2' | 1.99 | 0.62 |
| 29:D1:246:U:H3' | 29:D1:247:C:H5" | 1.80 | 0.62 |
| 29:D1:569:A:C6 | 29:D1:570:A:C8 | 2.87 | 0.62 |
| 29:D1:762:U:OP1 | 29:D1:762:U:H4' | 1.99 | 0.62 |
| 29:D1:773:G:O2' | 29:D1:774:G:C5' | 2.48 | 0.62 |
| 29:D1:898:U:C4 | 29:D1:899:U:C4 | 2.87 | 0.62 |
| 29:D1:1102:A:O3' | 29:D1:1103:A:H4' | 1.98 | 0.62 |
| 29:D1:1174:G:N3 | 29:D1:1175:C:C6 | 2.68 | 0.62 |
| 29:D1:1236:G:C2 | 29:D1:1245:A:C5 | 2.87 | 0.62 |
| 29:D1:1358:C:C2 | 29:D1:1359:C:C5 | 2.87 | 0.62 |
| 29:D1:1449:A:H2' | 29:D1:1450:G:O4' | 1.99 | 0.62 |
| 29:D1:1468:A:C2 | 29:D1:1469:C:C4 | 2.87 | 0.62 |
| 29:D1:1633:C:C4 | 29:D1:1634:G:N7 | 2.67 | 0.62 |
| 29:D1:1795:U:C4 | 62:Dg:51:ALA:HB2 | 2.34 | 0.62 |
| 29:D1:2222:A:O2' | 29:D1:2223:A:H8 | 1.82 | 0.62 |
| 29:D1:2805:G:O2' | 29:D1:2806:U:H5' | 1.99 | 0.62 |
| 29:D1:3030:G:O2' | 29:D1:3031:G:O4' | 2.16 | 0.62 |
| 29:D1:3128:G:H5" | 29:D1:3129:A:OP2 | 2.00 | 0.62 |
| 29:D1:3308:C:H3' | 29:D1:3308:C:C6 | 2.34 | 0.62 |
| 30:D2:2:G:H2' | 30:D2:3:U:H6 | 1.63 | 0.62 |
| 30:D2:88:G:H2' | 30:D2:89:G:H8 | 1.64 | 0.62 |
| 30:D2:115:G:H2' | 30:D2:115:G:N3 | 2.13 | 0.62 |
| 39:DH:194:THR:CB | 39:DH:195:SER:CA | 2.68 | 0.62 |
| 43:DN:111:ALA:O | 43:DN:112:LEU:C | 2.42 | 0.62 |
| 44:DO:20:ARG:C | 44:DO:22:LEU:H | 2.06 | 0.62 |
| 46:DQ:98:ALA:O | 46:DQ:101:ASN:N | 2.32 | 0.62 |
| 54:DY:110:GLY:O | 54:DY:128:ARG:CB | 2.47 | 0.62 |
| 1:A1:239:C:H1' | 1:A1:240:U:C6 | 2.35 | 0.62 |
| 1:A1:940:A:N3 | 1:A1:941:A:C8 | 2.67 | 0.62 |
| 1:A1:1089:U:H2' | 1:A1:1090:C:H5' | 1.81 | 0.62 |
| 1:A1:1196:A:O2' | 1:A1:1197:C:OP2 | 2.14 | 0.62 |
| 1:A1:1284:C:O2 | 1:A1:1286:U:C4 | 2.53 | 0.62 |
| 1:A1:1483:A:H1' | 1:A1:1524:A:N6 | 2.14 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:AL:112:ASP:C | 13:AL:114:GLU:H | 2.07 | 0.62 |
| 20:AS:37:ASN:O | 74:AS:101:OHX:N5 | 2.32 | 0.62 |
| 21:AT:267:PRO:C | 21:AT:269:TYR:H | 2.07 | 0.62 |
| 28:Ah:54:UNK:O | 28:Ah:58:UNK:CB | 2.48 | 0.62 |
| 29:B1:608:A:C2' | 29:B1:609:G:O5' | 2.48 | 0.62 |
| 29:B1:688:G:H1' | 29:B1:692:A:N6 | 2.14 | 0.62 |
| 29:B1:705:A:C4' | 29:B1:706:A:H5' | 2.28 | 0.62 |
| 29:B1:707:U:H5" | 29:B1:782:U:C2' | 2.29 | 0.62 |
| 29:B1:790:U:O5' | 29:B1:790:U:H6 | 1.83 | 0.62 |
| 29:B1:835:G:C4 | 29:B1:857:G:N2 | 2.68 | 0.62 |
| 29:B1:1292:C:O2' | 29:B1:1293:U:H5' | 2.00 | 0.62 |
| 29:B1:1455:U:C3' | 29:B1:1456:A:H8 | 2.12 | 0.62 |
| 29:B1:1501:U:O2' | 29:B1:1502:C:H5' | 1.99 | 0.62 |
| 29:B1:2383:C:C4 | 29:B1:2384:A:C5 | 2.88 | 0.62 |
| 29:B1:2414:G:H2' | 29:B1:2415:C:O5' | 2.00 | 0.62 |
| 29:B1:2554:A:C2 | 33:BB:86:GLN:HA | 2.34 | 0.62 |
| 29:B1:2580:A:C1' | 29:B1:2581:U:P | 2.88 | 0.62 |
| 29:B1:2681:U:O2' | 29:B1:2682:C:H5" | 1.99 | 0.62 |
| 29:B1:3064:U:C2 | 29:B1:3065:G:C8 | 2.87 | 0.62 |
| 29:B1:3149:G:H2' | 29:B1:3150:A:O4' | 1.99 | 0.62 |
| 29:B1:3150:A:C5' | 34:BC:134:SER:HA | 2.26 | 0.62 |
| 29:B1:3262:U:O2 | 29:B1:3263:G:C8 | 2.53 | 0.62 |
| 29:B1:3341:U:C4 | 29:B1:3362:A:C2 | 2.87 | 0.62 |
| 29:B1:3392:U:C2 | 29:B1:3393:U:C5 | 2.88 | 0.62 |
| 30:B2:27:A:C2 | 30:B2:28:C:C2 | 2.87 | 0.62 |
| 30:B2:86:U:H4' | 30:B2:87:G:O5' | 2.00 | 0.62 |
| 31:B3:69:U:H2' | 31:B3:70:G:C2' | 2.29 | 0.62 |
| 33:BB:182:ALA:C | 33:BB:184:ARG:N | 2.57 | 0.62 |
| 35:BD:7:THR:O | 35:BD:9:HIS:N | 2.33 | 0.62 |
| 36:BE:194:LEU:O | 36:BE:195:LEU:C | 2.41 | 0.62 |
| 39:BH:237:ILE:O | 39:BH:238:LEU:C | 2.43 | 0.62 |
| 40:BI:7:GLU:HA | 40:BI:56:ALA:HA | 1.80 | 0.62 |
| 43:BN:21:VAL:O | 43:BN:34:ALA:HB2 | 2.00 | 0.62 |
| 47:BR:43:PRO:C | 47:BR:45:ASN:N | 2.57 | 0.62 |
| 48:BS:25:ASP:C | 48:BS:27:ASN:H | 2.06 | 0.62 |
| 54:BY:42:ARG:O | 54:BY:43:ILE:C | 2.43 | 0.62 |
| 62:Bg:81:SER:O | 62:Bg:82:THR:C | 2.43 | 0.62 |
| 63:Bh:45:UNK:O | 63:Bh:49:UNK:CA | 2.47 | 0.62 |
| 1:C1:174:U:O2 | 1:C1:174:U:C2' | 2.46 | 0.62 |
| 1:C1:214:G:C2' | 1:C1:215:A:H5' | 2.30 | 0.62 |
| 1:C1:243:G:C6 | 1:C1:251:A:N1 | 2.65 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:340:U:H3' | 1:C1:341:A:C8 | 2.25 | 0.62 |
| 1:C1:389:G:C5 | 1:C1:390:G:C5 | 2.87 | 0.62 |
| 1:C1:510:G:H5" | 1:C1:511:A:O5' | 2.00 | 0.62 |
| 1:C1:1114:G:O2' | 1:C1:1115:U:OP2 | 2.17 | 0.62 |
| 1:C1:1305:U:H3' | 1:C1:1306:C:C2 | 2.33 | 0.62 |
| 1:C1:1385:G:C4 | 1:C1:1386:G:C8 | 2.87 | 0.62 |
| 1:C1:1480:G:H2' | 1:C1:1481:C:H5" | 1.80 | 0.62 |
| 1:C1:1584:G:C8 | 11:CJ:123:ARG:O | 2.53 | 0.62 |
| 1:C1:1597:A:C6 | 1:C1:1598:U:N3 | 2.67 | 0.62 |
| 3:CB:142:GLY:O | 3:CB:149:GLY:O | 2.17 | 0.62 |
| 10:CI:86:VAL:CB | 10:CI:87:PRO:HA | 2.30 | 0.62 |
| 16:CO:62:VAL:O | 16:CO:63:VAL:CB | 2.47 | 0.62 |
| 29:D1:618:C:C2 | 29:D1:619:A:C8 | 2.88 | 0.62 |
| 29:D1:676:G:H5' | 29:D1:679:U:OP1 | 1.98 | 0.62 |
| 29:D1:744:A:C2 | 29:D1:745:C:C2 | 2.88 | 0.62 |
| 29:D1:1127:G:N2 | 29:D1:1132:C:C4 | 2.68 | 0.62 |
| 29:D1:1135:A:C2' | 29:D1:1136:A:H5' | 2.30 | 0.62 |
| 29:D1:1303:A:N1 | 29:D1:2887:A:C5 | 2.67 | 0.62 |
| 29:D1:1354:G:H2' | 29:D1:1355:A:C5 | 2.34 | 0.62 |
| 29:D1:1454:A:C5' | 29:D1:1878:G:N1 | 2.62 | 0.62 |
| 29:D1:1511:U:H5' | 29:D1:1512:U:H5 | 1.63 | 0.62 |
| 29:D1:1780:G:H2' | 29:D1:1781:C:C5 | 2.35 | 0.62 |
| 29:D1:1946:A:H5" | 29:D1:1947:G:OP2 | 1.99 | 0.62 |
| 29:D1:2376:G:N1 | 29:D1:2377:G:C6 | 2.66 | 0.62 |
| 29:D1:2851:A:H3' | 29:D1:2852:C:H5" | 1.82 | 0.62 |
| 29:D1:2919:A:C3' | 29:D1:2920:U:H5' | 2.30 | 0.62 |
| 29:D1:2931:C:O2' | 29:D1:2932:U:H5' | 2.00 | 0.62 |
| 29:D1:2934:A:H5" | 29:D1:2935:U:OP2 | 1.98 | 0.62 |
| 29:D1:3160:U:H2' | 29:D1:3161:C:H6 | 1.65 | 0.62 |
| 29:D1:3316:A:C6 | 29:D1:3388:C:N3 | 2.68 | 0.62 |
| 29:D1:3328:G:C2 | 29:D1:3375:A:N7 | 2.68 | 0.62 |
| 30:D2:27:A:H1' | 30:D2:57:G:N2 | 2.14 | 0.62 |
| 36:DE:116:ASP:C | 36:DE:118:THR:H | 2.06 | 0.62 |
| 37:DF:159:LEU:O | 37:DF:162:SER:N | 2.33 | 0.62 |
| 45:DP:169:ALA:O | 45:DP:172:ARG:N | 2.32 | 0.62 |
| 1:A1:11:A:H8 | 1:A1:11:A:O5' | 1.83 | 0.62 |
| 1:A1:20:G:H2' | 1:A1:21:U:H5' | 1.80 | 0.62 |
| 1:A1:120:U:O4 | 1:A1:297:U:O4 | 2.18 | 0.62 |
| 1:A1:131:C:H3' | 1:A1:132:U:H4' | 1.80 | 0.62 |
| 1:A1:365:G:C6 | 1:A1:377:G:O6 | 2.53 | 0.62 |
| 1:A1:390:G:N2 | 1:A1:407:A:H61 | 1.97 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:702:G:OP1 | 1:A1:702:G:H4' | 1.99 | 0.62 |
| 1:A1:718:U:H5 | 1:A1:722:G:C6 | 2.17 | 0.62 |
| 1:A1:1066:C:C4 | 1:A1:1067:C:C5 | 2.88 | 0.62 |
| 1:A1:1072:C:H5" | 1:A1:1073:G:OP2 | 1.99 | 0.62 |
| 1:A1:1149:G:C2 | 1:A1:1150:G:N7 | 2.67 | 0.62 |
| 1:A1:1297:G:H2' | 1:A1:1299:G:N7 | 2.15 | 0.62 |
| 1:A1:1338:C:H1' | 1:A1:1410:A:N3 | 2.15 | 0.62 |
| 1:A1:1591:C:H4' | 1:A1:1592:A:OP1 | 1.99 | 0.62 |
| 2:AA:80:THR:C | 2:AA:82:GLY:H | 2.08 | 0.62 |
| 9:AH:78:ALA:HA | 9:AH:110:LEU:HA | 1.82 | 0.62 |
| 10:AI:73:PRO:O | 10:AI:74:ALA:HB2 | 1.99 | 0.62 |
| 23:Ab:79:UNK:O | 23:Ab:81:UNK:N | 2.33 | 0.62 |
| 29:B1:7:C:O2 | 29:B1:7:C:C3' | 2.45 | 0.62 |
| 29:B1:225:C:H2' | 29:B1:226:C:C6 | 2.35 | 0.62 |
| 29:B1:285:A:H2 | 29:B1:305:U:P | 2.22 | 0.62 |
| 29:B1:315:C:H2' | 29:B1:316:U:H6 | 1.64 | 0.62 |
| 29:B1:342:A:C2 | 29:B1:349:A:H8 | 2.15 | 0.62 |
| 29:B1:591:G:C2 | 29:B1:592:A:C8 | 2.88 | 0.62 |
| 29:B1:682:U:C5 | 29:B1:683:U:C5 | 2.88 | 0.62 |
| 29:B1:719:U:OP1 | 47:BR:69:ARG:CB | 2.48 | 0.62 |
| 29:B1:858:A:H5" | 29:B1:858:A:C8 | 2.35 | 0.62 |
| 29:B1:917:A:C6 | 29:B1:918:C:C4 | 2.88 | 0.62 |
| 29:B1:954:U:H4' | 29:B1:954:U:OP1 | 1.99 | 0.62 |
| 29:B1:957:C:O3' | 29:B1:2799:A:C8 | 2.52 | 0.62 |
| 29:B1:966:U:C2' | 29:B1:967:A:C8 | 2.76 | 0.62 |
| 29:B1:1281:G:C5 | 29:B1:1282:G:C8 | 2.87 | 0.62 |
| 29:B1:1495:U:H3' | 29:B1:1496:C:C5' | 2.29 | 0.62 |
| 29:B1:1914:G:H3' | 29:B1:1915:A:C8 | 2.32 | 0.62 |
| 29:B1:2185:G:C5 | 29:B1:2186:U:C5 | 2.87 | 0.62 |
| 29:B1:2209:U:C6 | 29:B1:2209:U:OP2 | 2.52 | 0.62 |
| 29:B1:2232:A:H1' | 29:B1:2429:G:H5' | 1.81 | 0.62 |
| 29:B1:2476:C:H2' | 29:B1:2477:G:C4' | 2.28 | 0.62 |
| 29:B1:2562:A:H2' | 29:B1:2563:G:H8 | 1.65 | 0.62 |
| 29:B1:2568:C:O2' | 29:B1:2569:A:H4' | 1.99 | 0.62 |
| 29:B1:2678:A:H5" | 29:B1:2679:A:C2 | 2.35 | 0.62 |
| 29:B1:2933:A:C6 | 29:B1:2934:A:C2 | 2.88 | 0.62 |
| 29:B1:3037:U:C2 | 29:B1:3038:U:C5 | 2.88 | 0.62 |
| 29:B1:3094:A:H2' | 29:B1:3095:U:H6 | 1.65 | 0.62 |
| 29:B1:3135:U:H3' | 29:B1:3136:G:H8 | 1.63 | 0.62 |
| 29:B1:3381:U:C4 | 29:B1:3383:G:O6 | 2.52 | 0.62 |
| 29:B1:3390:G:C4 | 29:B1:3391:A:C8 | 2.87 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:B3:41:A:H2' | 31:B3:41:A:N3 | 2.15 | 0.62 |
| 31:B3:49:G:C5 | 31:B3:50:C:C5 | 2.87 | 0.62 |
| 31:B3:75:G:OP1 | 31:B3:90:U:H5" | 1.99 | 0.62 |
| 36:BE:12:TYR:O | 36:BE:13:SER:CB | 2.47 | 0.62 |
| 49:BT:8:ARG:O | 49:BT:11:THR:CB | 2.47 | 0.62 |
| 1:C1:353:A:N7 | 1:C1:354:C:C5 | 2.68 | 0.62 |
| 1:C1:401:A:O3' | 1:C1:402:C:H4' | 1.99 | 0.62 |
| 1:C1:733:A:H5" | 1:C1:734:A:C8 | 2.35 | 0.62 |
| 1:C1:989:U:C4 | 1:C1:990:C:N4 | 2.67 | 0.62 |
| 1:C1:1002:G:C2 | 1:C1:1003:A:N1 | 2.68 | 0.62 |
| 1:C1:1482:C:O2' | 1:C1:1483:A:O5' | 2.17 | 0.62 |
| 1:C1:1632:C:O2' | 1:C1:1633:A:OP1 | 2.18 | 0.62 |
| 1:C1:1725:U:O5' | 1:C1:1725:U:H6 | 1.82 | 0.62 |
| 1:C1:1756:A:OP2 | 1:C1:1756:A:N7 | 2.32 | 0.62 |
| 5:CD:196:GLU:HA | 5:CD:199:ILE:CB | 2.30 | 0.62 |
| 11:CJ:46:PHE:O | 11:CJ:48:VAL:N | 2.31 | 0.62 |
| 29:D1:116:A:N1 | 29:D1:265:A:OP2 | 2.31 | 0.62 |
| 29:D1:213:A:C6 | 29:D1:214:G:C4 | 2.88 | 0.62 |
| 29:D1:352:A:C4 | 29:D1:354:U:C5 | 2.87 | 0.62 |
| 29:D1:577:C:C6 | 29:D1:577:C:H5' | 2.34 | 0.62 |
| 29:D1:584:G:N3 | 29:D1:585:A:C8 | 2.67 | 0.62 |
| 29:D1:747:A:H2' | 29:D1:748:U:OP1 | 1.99 | 0.62 |
| 29:D1:886:C:O2' | 29:D1:887:G:H5' | 2.00 | 0.62 |
| 29:D1:891:G:H2' | 29:D1:892:U:O5' | 2.00 | 0.62 |
| 29:D1:1151:U:H5" | 29:D1:1152:G:OP2 | 1.99 | 0.62 |
| 29:D1:1177:G:H8 | 29:D1:1177:G:O5' | 1.82 | 0.62 |
| 29:D1:2179:C:C2 | 33:DB:129:ALA:O | 2.52 | 0.62 |
| 29:D1:2258:U:H3' | 29:D1:2259:A:H8 | 1.64 | 0.62 |
| 29:D1:2785:A:C5 | 29:D1:2786:G:C8 | 2.87 | 0.62 |
| 29:D1:3006:A:H8 | 29:D1:3007:U:C6 | 2.17 | 0.62 |
| 29:D1:3045:G:H3' | 29:D1:3045:G:C8 | 2.34 | 0.62 |
| 31:D3:29:U:C2 | 31:D3:30:C:C5 | 2.87 | 0.62 |
| 38:DG:222:HIS:CB | 38:DG:226:GLY:O | 2.47 | 0.62 |
| 41:DJ:17:TYR:C | 41:DJ:19:LYS:H | 2.08 | 0.62 |
| 42:DK:84:LEU:O | 42:DK:89:TYR:N | 2.29 | 0.62 |
| 73:DM:36:GLN:C | 73:DM:38:MET:H | 2.07 | 0.62 |
| 61:Df:14:GLY:N | 61:Df:15:LYS:HA | 2.13 | 0.62 |
| 1:A1:143:G:N3 | 1:A1:144:U:H1' | 2.15 | 0.62 |
| 1:A1:202:A:C6 | 1:A1:203:U:O4 | 2.52 | 0.62 |
| 1:A1:332:U:C5' | 1:A1:333:A:OP2 | 2.47 | 0.62 |
| 1:A1:518:A:C2' | 1:A1:519:C:H5" | 2.23 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:607:G:C6 | 1:A1:613:G:H5' | 2.35 | 0.62 |
| 1:A1:777:C:H5' | 1:A1:778:G:OP2 | 2.00 | 0.62 |
| 1:A1:1165:G:H5" | 1:A1:1166:A:OP2 | 1.99 | 0.62 |
| 1:A1:1363:U:H2' | 1:A1:1364:G:N9 | 2.15 | 0.62 |
| 1:A1:1753:A:H2' | 1:A1:1753:A:N3 | 2.14 | 0.62 |
| 2:AA:52:LYS:C | 2:AA:54:TRP:H | 2.07 | 0.62 |
| 2:AA:54:TRP:O | 2:AA:55:GLU:C | 2.42 | 0.62 |
| 3:AB:215:PHE:HA | 3:AB:218:ILE:CB | 2.30 | 0.62 |
| 4:AC:140:GLY:CA | 4:AC:182:LEU:HA | 2.29 | 0.62 |
| 24:Ac:4:UNK:HA | 24:Ac:98:UNK:CA | 2.29 | 0.62 |
| 29:B1:60:A:H2' | 29:B1:61:A:H5' | 1.81 | 0.62 |
| 29:B1:210:U:C6 | 29:B1:210:U:P | 2.92 | 0.62 |
| 29:B1:372:A:N7 | 29:B1:395:A:N7 | 2.47 | 0.62 |
| 29:B1:502:U:O2' | 29:B1:503:C:H5' | 2.00 | 0.62 |
| 29:B1:563:U:H3' | 29:B1:564:G:C4' | 2.29 | 0.62 |
| 29:B1:607:A:N1 | 29:B1:608:A:C4 | 2.68 | 0.62 |
| 29:B1:722:G:H22 | 29:B1:749:C:H6 | 1.48 | 0.62 |
| 29:B1:789:A:H2' | 29:B1:790:U:C6 | 2.35 | 0.62 |
| 29:B1:940:G:OP1 | 29:B1:2871:G:O6 | 2.18 | 0.62 |
| 29:B1:1141:C:C2 | 29:B1:1142:G:C8 | 2.88 | 0.62 |
| 29:B1:1247:U:H5" | 29:B1:1248:C:OP1 | 2.00 | 0.62 |
| 29:B1:1453:A:N9 | 29:B1:1850:A:C2 | 2.65 | 0.62 |
| 29:B1:1546:A:N7 | 29:B1:1547:G:C5 | 2.68 | 0.62 |
| 29:B1:2120:A:HO2' | 29:B1:2121:G:P | 2.21 | 0.62 |
| 29:B1:2188:A:H2 | 62:Bg:19:GLY:HA2 | 1.65 | 0.62 |
| 29:B1:2247:G:H5" | 74:B1:3404:OHX:N3 | 2.15 | 0.62 |
| 29:B1:2576:G:H2' | 29:B1:2577:C:H6 | 1.65 | 0.62 |
| 29:B1:2599:U:H2' | 29:B1:2600:C:C6 | 2.35 | 0.62 |
| 29:B1:2945:G:N3 | 29:B1:2945:G:C5' | 2.63 | 0.62 |
| 29:B1:2960:C:H3' | 29:B1:2961:G:H8 | 1.65 | 0.62 |
| 29:B1:3070:A:C5 | 29:B1:3071:U:C5 | 2.88 | 0.62 |
| 29:B1:3225:C:H2' | 29:B1:3226:A:C8 | 2.34 | 0.62 |
| 30:B2:9:C:N4 | 30:B2:10:C:O2 | 2.33 | 0.62 |
| 33:BB:209:HIS:O | 33:BB:210:PRO:C | 2.40 | 0.62 |
| 34:BC:323:MET:O | 34:BC:324:VAL:O | 2.18 | 0.62 |
| 36:BE:118:THR:HA | 36:BE:121:GLY:O | 2.00 | 0.62 |
| 37:BF:12:SER:H | 37:BF:116:LYS:HA | 1.62 | 0.62 |
| 37:BF:125:GLN:HA | 37:BF:129:GLU:CB | 2.29 | 0.62 |
| 41:BJ:20:SER:O | 41:BJ:22:TYR:N | 2.32 | 0.62 |
| 41:BJ:77:THR:O | 41:BJ:79:VAL:N | 2.32 | 0.62 |
| 55:BZ:85:PHE:O | 55:BZ:87:VAL:N | 2.32 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:173:A:C4 | 1:C1:174:U:H6 | 2.16 | 0.62 |
| 1:C1:760:A:N6 | 1:C1:761:G:C2 | 2.67 | 0.62 |
| 1:C1:891:A:N1 | 1:C1:922:G:C6 | 2.67 | 0.62 |
| 1:C1:915:A:OP2 | 1:C1:915:A:H8 | 1.82 | 0.62 |
| 1:C1:955:A:H2' | 1:C1:956:C:O4' | 2.00 | 0.62 |
| 1:C1:1124:A:N6 | 1:C1:1125:A:C6 | 2.68 | 0.62 |
| 1:C1:1308:G:H2' | 1:C1:1309:C:C6 | 2.35 | 0.62 |
| 1:C1:1334:U:C4 | 1:C1:1335:U:C5 | 2.87 | 0.62 |
| 1:C1:1353:U:H2' | 1:C1:1353:U:O2 | 2.00 | 0.62 |
| 8:CG:129:TYR:HA | 8:CG:133:ALA:H | 1.65 | 0.62 |
| 29:D1:60:A:C2' | 29:D1:61:A:H5' | 2.29 | 0.62 |
| 29:D1:70:A:N3 | 29:D1:71:A:H4' | 2.14 | 0.62 |
| 29:D1:149:U:N3 | 44:DO:55:ALA:HA | 2.14 | 0.62 |
| 29:D1:513:G:H1' | 37:DF:148:GLU:CB | 2.30 | 0.62 |
| 29:D1:682:U:C5 | 29:D1:683:U:C5 | 2.88 | 0.62 |
| 29:D1:692:A:C2 | 29:D1:693:A:H1' | 2.34 | 0.62 |
| 29:D1:722:G:N2 | 29:D1:748:U:H2' | 2.14 | 0.62 |
| 29:D1:830:A:C5 | 29:D1:865:U:O2 | 2.53 | 0.62 |
| 29:D1:900:G:N3 | 29:D1:1589:A:C6 | 2.68 | 0.62 |
| 29:D1:950:G:O5' | 29:D1:950:G:H8 | 1.83 | 0.62 |
| 29:D1:979:U:H2' | 29:D1:979:U:O2 | 2.00 | 0.62 |
| 29:D1:987:U:H2' | 29:D1:988:U:C6 | 2.34 | 0.62 |
| 29:D1:1054:A:OP1 | 74:D1:3591:OHX:N2 | 2.33 | 0.62 |
| 29:D1:1077:U:O2' | 29:D1:1078:U:H6 | 1.83 | 0.62 |
| 29:D1:1114:U:C4 | 29:D1:1115:G:N2 | 2.68 | 0.62 |
| 29:D1:1558:A:OP1 | 29:D1:1559:A:C1' | 2.40 | 0.62 |
| 29:D1:1659:U:C4 | 29:D1:1660:C:N4 | 2.67 | 0.62 |
| 29:D1:1815:U:C2' | 29:D1:1816:A:H5' | 2.28 | 0.62 |
| 29:D1:2145:A:O4' | 29:D1:2958:A:H4' | 1.99 | 0.62 |
| 29:D1:2164:A:C2 | 29:D1:2171:G:C4 | 2.88 | 0.62 |
| 29:D1:2251:G:C6 | 29:D1:2266:U:O2 | 2.53 | 0.62 |
| 29:D1:2254:U:H3' | 74:D1:3415:OHX:N5 | 2.15 | 0.62 |
| 29:D1:2308:C:C4 | 29:D1:2309:A:C5 | 2.88 | 0.62 |
| 29:D1:2571:U:H3' | 29:D1:2572:C:C6 | 2.35 | 0.62 |
| 29:D1:2680:A:H2' | 42:DK:53:THR:O | 2.00 | 0.62 |
| 29:D1:2847:A:C2 | 29:D1:2848:G:H1' | 2.35 | 0.62 |
| 29:D1:2901:G:H2' | 29:D1:2902:A:O4' | 2.00 | 0.62 |
| 29:D1:2986:U:O2' | 29:D1:2987:A:H5' | 2.00 | 0.62 |
| 29:D1:3050:U:C4 | 29:D1:3051:U:C4 | 2.88 | 0.62 |
| 29:D1:3144:G:C6 | 74:D1:3431:OHX:N5 | 2.67 | 0.62 |
| 29:D1:3202:G:C2 | 29:D1:3203:U:C2 | 2.87 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3221:C:O2' | 29:D1:3222:U:H5' | 2.00 | 0.62 |
| 29:D1:3238:G:C8 | 29:D1:3238:G:OP2 | 2.53 | 0.62 |
| 29:D1:3294:A:N6 | 29:D1:3295:A:C5 | 2.67 | 0.62 |
| 29:D1:3315:G:C5' | 29:D1:3319:U:H5' | 2.30 | 0.62 |
| 29:D1:3333:G:H22 | 29:D1:3370:A:H4' | 1.64 | 0.62 |
| 74:D1:3502:OHX:N4 | 54:DY:19:LYS:O | 2.32 | 0.62 |
| 32:DA:56:PRO:O | 32:DA:168:ALA:HB2 | 2.00 | 0.62 |
| 34:DC:105:VAL:C | 34:DC:107:ALA:N | 2.57 | 0.62 |
| 36:DE:100:ALA:O | 36:DE:102:GLY:N | 2.32 | 0.62 |
| 41:DJ:45:GLU:O | 41:DJ:47:PRO:N | 2.33 | 0.62 |
| 43:DN:97:SER:C | 43:DN:99:TRP:N | 2.55 | 0.62 |
| 47:DR:131:ALA:O | 47:DR:132:PRO:C | 2.42 | 0.62 |
| 1:A1:407:A:H1' | 1:A1:1671:A:H2 | 1.63 | 0.62 |
| 1:A1:1105:C:H2' | 1:A1:1106:U:H6 | 1.64 | 0.62 |
| 1:A1:1236:A:H3' | 1:A1:1237:G:H8 | 1.63 | 0.62 |
| 1:A1:1501:C:C2' | 1:A1:1502:G:H5' | 2.29 | 0.62 |
| 1:A1:1540:G:C4 | 1:A1:1541:G:C8 | 2.88 | 0.62 |
| 1:A1:1585:U:N3 | 1:A1:1611:A:H2 | 1.96 | 0.62 |
| 1:A1:1684:U:O4 | 1:A1:1721:A:H2 | 1.83 | 0.62 |
| 9:AH:17:ALA:HB2 | 9:AH:30:VAL:CB | 2.30 | 0.62 |
| 12:AK:24:LEU:H | 12:AK:64:GLY:H | 1.48 | 0.62 |
| 21:AT:300:THR:HA | 21:AT:314:GLN:CB | 2.29 | 0.62 |
| 23:Ab:84:UNK:C | 23:Ab:86:UNK:H | 2.12 | 0.62 |
| 28:Ah:56:UNK:HA | 29:B1:3352:U:H5 | 1.63 | 0.62 |
| 29:B1:29:C:H3' | 29:B1:29:C:C6 | 2.35 | 0.62 |
| 29:B1:308:A:C5 | 29:B1:309:U:N3 | 2.68 | 0.62 |
| 29:B1:365:A:N1 | 29:B1:366:A:C2 | 2.68 | 0.62 |
| 29:B1:421:G:C2 | 29:B1:2365:C:N1 | 2.67 | 0.62 |
| 29:B1:512:U:N1 | 29:B1:579:G:N2 | 2.48 | 0.62 |
| 29:B1:594:U:N3 | 29:B1:595:G:C5 | 2.68 | 0.62 |
| 29:B1:769:G:C4 | 29:B1:770:G:C8 | 2.87 | 0.62 |
| 29:B1:779:G:C4 | 29:B1:780:A:C8 | 2.88 | 0.62 |
| 29:B1:1066:G:O5' | 29:B1:1067:U:OP2 | 2.18 | 0.62 |
| 29:B1:1225:A:N3 | 29:B1:1225:A:H2' | 2.15 | 0.62 |
| 29:B1:1479:U:H5' | 29:B1:1480:G:OP2 | 1.99 | 0.62 |
| 29:B1:1496:C:C2 | 29:B1:1521:G:N2 | 2.67 | 0.62 |
| 29:B1:1535:A:C8 | 29:B1:1536:G:C8 | 2.88 | 0.62 |
| 29:B1:1571:A:C6 | 29:B1:1572:U:H1' | 2.35 | 0.62 |
| 29:B1:1779:C:C4' | 29:B1:1779:C:OP1 | 2.47 | 0.62 |
| 29:B1:2101:C:H2' | 29:B1:2102:U:O4' | 1.99 | 0.62 |
| 29:B1:2119:A:H8 | 29:B1:2119:A:O5' | 1.81 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2306:C:C6 | 29:B1:2306:C:C3' | 2.81 | 0.62 |
| 29:B1:2682:C:C2 | 29:B1:2683:U:C5 | 2.88 | 0.62 |
| 29:B1:2761:G:H22 | 29:B1:2795:U:H2' | 1.64 | 0.62 |
| 29:B1:3181:C:H1' | 45:BP:167:TYR:CB | 2.30 | 0.62 |
| 29:B1:3219:G:N9 | 29:B1:3257:C:H5" | 2.15 | 0.62 |
| 29:B1:3228:C:N3 | 29:B1:3229:G:O6 | 2.33 | 0.62 |
| 29:B1:3292:A:O2' | 29:B1:3293:U:O3' | 2.14 | 0.62 |
| 30:B2:26:C:H2' | 30:B2:27:A:H8 | 1.65 | 0.62 |
| 31:B3:65:A:C5 | 31:B3:66:A:N7 | 2.68 | 0.62 |
| 31:B3:141:C:H2' | 31:B3:142:C:H6 | 1.65 | 0.62 |
| 53:BX:17:LYS:C | 53:BX:19:TYR:N | 2.50 | 0.62 |
| 1:C1:73:U:H2' | 1:C1:74:U:O4' | 2.00 | 0.62 |
| 1:C1:245:U:C2 | 1:C1:247:A:OP2 | 2.52 | 0.62 |
| 1:C1:289:U:O2 | 1:C1:289:U:C2' | 2.48 | 0.62 |
| 1:C1:438:A:H8 | 1:C1:438:A:O5' | 1.83 | 0.62 |
| 1:C1:518:A:H2' | 1:C1:519:C:C5' | 2.28 | 0.62 |
| 1:C1:985:G:C6 | 1:C1:986:G:C6 | 2.87 | 0.62 |
| 1:C1:1367:G:N3 | 1:C1:1367:G:H2' | 2.13 | 0.62 |
| 1:C1:1478:G:H5' | 1:C1:1478:G:C8 | 2.32 | 0.62 |
| 1:C1:1570:A:H3' | 1:C1:1571:C:H6 | 1.63 | 0.62 |
| 1:C1:1690:G:H2' | 1:C1:1691:A:H5" | 1.82 | 0.62 |
| 2:CA:186:GLY:CA | 2:CA:187:ALA:HB2 | 2.21 | 0.62 |
| 3:CB:178:ILE:HA | 3:CB:195:ASP:O | 2.00 | 0.62 |
| 3:CB:215:PHE:C | 3:CB:217:ALA:N | 2.54 | 0.62 |
| 9:CH:44:GLY:O | 9:CH:46:MET:N | 2.32 | 0.62 |
| 29:D1:25:U:N3 | 29:D1:331:G:H8 | 1.98 | 0.62 |
| 29:D1:377:A:C2' | 29:D1:391:A:H61 | 2.13 | 0.62 |
| 29:D1:423:A:H2' | 29:D1:424:G:H8 | 1.60 | 0.62 |
| 29:D1:649:A:H2' | 29:D1:650:C:C6 | 2.35 | 0.62 |
| 29:D1:692:A:H2' | 29:D1:693:A:C8 | 2.35 | 0.62 |
| 29:D1:693:A:H5" | 29:D1:694:C:OP2 | 2.00 | 0.62 |
| 29:D1:760:G:O2' | 29:D1:761:A:O4' | 2.17 | 0.62 |
| 29:D1:832:G:N2 | 29:D1:863:C:C2 | 2.68 | 0.62 |
| 29:D1:913:A:H2 | 29:D1:2134:G:N3 | 1.98 | 0.62 |
| 29:D1:1530:U:O2 | 29:D1:1530:U:H2' | 1.98 | 0.62 |
| 29:D1:1631:C:H5' | 29:D1:1813:A:H2 | 1.64 | 0.62 |
| 29:D1:1843:C:C2 | 29:D1:1844:C:C5 | 2.88 | 0.62 |
| 29:D1:2104:A:C3' | 29:D1:2105:G:H5" | 2.30 | 0.62 |
| 29:D1:2560:C:H3' | 29:D1:2561:A:C5' | 2.29 | 0.62 |
| 29:D1:2587:U:C2 | 29:D1:2588:U:C6 | 2.88 | 0.62 |
| 29:D1:2678:A:H8 | 29:D1:2679:A:C2 | 2.13 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3022:G:HO2' | 29:D1:3023:U:P | 2.16 | 0.62 |
| 29:D1:3119:U:H2' | 29:D1:3120:C:H5' | 1.81 | 0.62 |
| 29:D1:3199:G:C3' | 29:D1:3200:G:C8 | 2.83 | 0.62 |
| 29:D1:3309:G:C2 | 29:D1:3310:A:N7 | 2.67 | 0.62 |
| 29:D1:3323:A:C5' | 56:Da:13:THR:O | 2.48 | 0.62 |
| 30:D2:14:U:O5' | 30:D2:14:U:H6 | 1.81 | 0.62 |
| 30:D2:23:A:C3' | 30:D2:24:A:C8 | 2.78 | 0.62 |
| 30:D2:91:G:C6 | 30:D2:92:A:C6 | 2.87 | 0.62 |
| 31:D3:74:U:H4' | 31:D3:89:A:C2 | 2.34 | 0.62 |
| 35:DD:252:GLU:C | 35:DD:254:ALA:N | 2.52 | 0.62 |
| 36:DE:189:GLU:CB | 36:DE:190:ILE:HA | 2.29 | 0.62 |
| 44:DO:20:ARG:O | 44:DO:22:LEU:N | 2.33 | 0.62 |
| 1:A1:100:A:C2 | 1:A1:101:U:C2 | 2.87 | 0.62 |
| 1:A1:534:A:C2' | 1:A1:535:A:C8 | 2.83 | 0.62 |
| 1:A1:1134:C:O2' | 1:A1:1135:U:H5' | 2.00 | 0.62 |
| 1:A1:1189:A:H2' | 1:A1:1189:A:N3 | 2.15 | 0.62 |
| 1:A1:1200:G:H5" | 1:A1:1200:G:H8 | 1.65 | 0.62 |
| 1:A1:1204:A:N3 | 1:A1:1204:A:H2' | 2.15 | 0.62 |
| 1:A1:1308:G:H2' | 1:A1:1309:C:C6 | 2.35 | 0.62 |
| 2:AA:13:ASP:O | 2:AA:14:ALA:HB2 | 2.00 | 0.62 |
| 3:AB:56:ILE:O | 3:AB:59:HIS:N | 2.32 | 0.62 |
| 3:AB:107:SER:HA | 3:AB:190:LEU:O | 1.99 | 0.62 |
| 9:AH:39:ILE:O | 9:AH:40:ALA:HB2 | 2.00 | 0.62 |
| 10:AI:80:MET:C | 10:AI:82:ASN:H | 2.08 | 0.62 |
| 13:AL:48:LYS:C | 13:AL:50:ALA:H | 2.08 | 0.62 |
| 29:B1:370:U:H5 | 29:B1:371:G:C5 | 2.17 | 0.62 |
| 29:B1:563:U:C2' | 29:B1:564:G:H4' | 2.30 | 0.62 |
| 29:B1:705:A:C5 | 29:B1:715:A:N6 | 2.68 | 0.62 |
| 29:B1:943:U:C6 | 29:B1:1432:C:C5 | 2.88 | 0.62 |
| 29:B1:1038:C:H4' | 29:B1:1038:C:OP1 | 1.99 | 0.62 |
| 29:B1:1142:G:H3' | 29:B1:1143:A:H5' | 1.82 | 0.62 |
| 29:B1:1313:G:C4 | 29:B1:1314:C:C6 | 2.87 | 0.62 |
| 29:B1:1620:U:H3 | 29:B1:1825:G:H1 | 1.47 | 0.62 |
| 29:B1:1687:U:OP1 | 29:B1:1687:U:C6 | 2.53 | 0.62 |
| 29:B1:1782:U:OP2 | 29:B1:1782:U:C6 | 2.47 | 0.62 |
| 29:B1:2197:C:H4' | 29:B1:2198:A:C8 | 2.35 | 0.62 |
| 29:B1:2211:U:H2' | 29:B1:2212:C:O4' | 1.99 | 0.62 |
| 29:B1:2260:U:O4 | 74:B1:3438:OHX:N2 | 2.33 | 0.62 |
| 29:B1:2511:A:H2' | 29:B1:2512:C:H5' | 1.81 | 0.62 |
| 29:B1:2768:U:H2' | 29:B1:2769:A:H8 | 1.64 | 0.62 |
| 29:B1:2912:G:C6 | 29:B1:2913:C:O2 | 2.52 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3189:G:N3 | 29:B1:3190:C:C6 | 2.68 | 0.62 |
| 29:B1:3321:C:C2' | 29:B1:3322:A:H8 | 2.12 | 0.62 |
| 29:B1:3377:G:H2' | 74:B1:3450:OHX:N4 | 2.15 | 0.62 |
| 30:B2:64:A:C6 | 30:B2:111:U:C4 | 2.87 | 0.62 |
| 31:B3:69:U:O3' | 31:B3:70:G:H4' | 2.00 | 0.62 |
| 31:B3:141:C:C2 | 31:B3:142:C:C5 | 2.88 | 0.62 |
| 37:BF:165:LEU:O | 37:BF:166:LYS:C | 2.42 | 0.62 |
| 38:BG:180:SER:O | 38:BG:183:ASP:N | 2.32 | 0.62 |
| 41:BJ:7:ARG:C | 41:BJ:9:TYR:H | 2.07 | 0.62 |
| 54:BY:130:VAL:C | 54:BY:132:LYS:H | 2.07 | 0.62 |
| 1:C1:4:C:H2' | 1:C1:5:U:C6 | 2.33 | 0.62 |
| 1:C1:651:G:C8 | 74:C1:1970:OHX:N3 | 2.67 | 0.62 |
| 1:C1:1028:C:O2' | 1:C1:1029:U:OP2 | 2.18 | 0.62 |
| 1:C1:1087:A:H3' | 1:C1:1088:A:C8 | 2.31 | 0.62 |
| 1:C1:1275:A:N6 | 1:C1:1431:C:N3 | 2.48 | 0.62 |
| 1:C1:1481:C:H1' | 1:C1:1482:C:C5' | 2.29 | 0.62 |
| 1:C1:1756:A:H2' | 1:C1:1757:G:H8 | 1.64 | 0.62 |
| 1:C1:1765:A:OP2 | 74:C1:1983:OHX:N1 | 2.33 | 0.62 |
| 12:CK:46:LEU:C | 12:CK:48:ASN:N | 2.55 | 0.62 |
| 23:Cb:13:UNK:O | 23:Cb:14:UNK:CB | 2.48 | 0.62 |
| 23:Cb:110:UNK:C | 23:Cb:112:UNK:H | 2.11 | 0.62 |
| 28:Ch:16:UNK:O | 28:Ch:19:UNK:N | 2.32 | 0.62 |
| 29:D1:86:G:H22 | 29:D1:98:G:C2' | 2.13 | 0.62 |
| 29:D1:404:G:C2 | 29:D1:405:U:C1' | 2.81 | 0.62 |
| 29:D1:528:U:C4 | 29:D1:564:G:O6 | 2.52 | 0.62 |
| 29:D1:714:G:O2' | 29:D1:751:A:O2' | 2.17 | 0.62 |
| 29:D1:717:C:C4 | 29:D1:721:G:OP1 | 2.52 | 0.62 |
| 29:D1:779:G:H3' | 29:D1:779:G:C8 | 2.34 | 0.62 |
| 29:D1:951:A:C2' | 29:D1:952:A:C5' | 2.60 | 0.62 |
| 29:D1:1064:A:O2' | 29:D1:1065:A:P | 2.58 | 0.62 |
| 29:D1:1288:U:H2' | 29:D1:1289:G:H8 | 1.65 | 0.62 |
| 29:D1:1815:U:H2' | 29:D1:1816:A:H5' | 1.80 | 0.62 |
| 29:D1:2128:C:C4 | 29:D1:2129:U:C5 | 2.88 | 0.62 |
| 29:D1:2676:A:C4' | 29:D1:2677:G:C8 | 2.83 | 0.62 |
| 29:D1:2775:U:HO2' | 29:D1:2776:C:P | 2.21 | 0.62 |
| 29:D1:2833:A:N1 | 29:D1:2834:G:C8 | 2.68 | 0.62 |
| 29:D1:2882:U:H2' | 29:D1:2883:U:O5' | 2.00 | 0.62 |
| 29:D1:2908:G:C5 | 29:D1:2909:U:C5 | 2.87 | 0.62 |
| 29:D1:2974:U:H2' | 29:D1:2975:U:C6 | 2.34 | 0.62 |
| 29:D1:3068:U:OP1 | 48:DS:59:SER:N | 2.30 | 0.62 |
| 29:D1:3086:A:C4 | 29:D1:3087:A:C8 | 2.88 | 0.62 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3135:U:C4 | 29:D1:3136:G:C6 | 2.88 | 0.62 |
| 29:D1:3269:U:O2' | 29:D1:3270:U:C5' | 2.48 | 0.62 |
| 29:D1:3274:A:C1' | 29:D1:3275:U:P | 2.87 | 0.62 |
| 30:D2:66:A:H8 | 30:D2:66:A:O5' | 1.82 | 0.62 |
| 34:DC:27:ALA:HB2 | 34:DC:219:ALA:HA | 1.82 | 0.62 |
| 35:DD:162:THR:HA | 35:DD:218:ALA:HB1 | 1.82 | 0.62 |
| 39:DH:137:ASN:HA | 44:DO:3:ALA:HB2 | 1.82 | 0.62 |
| 42:DK:118:PRO:HA | 42:DK:119:SER:CB | 2.29 | 0.62 |
| 48:DS:151:ARG:HA | 48:DS:154:ALA:CB | 2.30 | 0.62 |
| 49:DT:114:ALA:O | 49:DT:117:ALA:HB3 | 1.99 | 0.62 |
| 1:A1:97:C:C1' | 1:A1:426:G:H5' | 2.24 | 0.61 |
| 1:A1:115:G:N2 | 1:A1:334:G:H21 | 1.95 | 0.61 |
| 1:A1:169:A:C5 | 1:A1:171:A:C5 | 2.88 | 0.61 |
| 1:A1:268:C:N3 | 1:A1:288:A:C2 | 2.68 | 0.61 |
| 1:A1:332:U:H5" | 1:A1:333:A:OP2 | 1.99 | 0.61 |
| 1:A1:372:G:H1' | 1:A1:612:U:H3 | 1.65 | 0.61 |
| 1:A1:790:U:C2 | 1:A1:791:A:C8 | 2.88 | 0.61 |
| 1:A1:989:U:C4 | 1:A1:990:C:N4 | 2.68 | 0.61 |
| 1:A1:1172:G:C4 | 1:A1:1173:C:C5 | 2.88 | 0.61 |
| 1:A1:1499:G:H2' | 1:A1:1500:C:H6 | 1.64 | 0.61 |
| 1:A1:1503:A:H2' | 1:A1:1504:G:H5' | 1.82 | 0.61 |
| 1:A1:1541:G:C6 | 1:A1:1542:G:C6 | 2.87 | 0.61 |
| 1:A1:1597:A:C5 | 1:A1:1598:U:N3 | 2.68 | 0.61 |
| 15:AN:83:GLU:H | 20:AS:53:ASN:CB | 2.13 | 0.61 |
| 17:AP:132:LEU:N | 17:AP:133:LEU:C | 2.58 | 0.61 |
| 24:Ac:46:UNK:HA | 24:Ac:68:UNK:O | 1.99 | 0.61 |
| 29:B1:44:U:C5 | 29:B1:45:A:N9 | 2.68 | 0.61 |
| 29:B1:190:U:C4 | 29:B1:224:C:H1' | 2.35 | 0.61 |
| 29:B1:282:G:C4' | 29:B1:283:G:H8 | 2.12 | 0.61 |
| 29:B1:287:G:C5 | 29:B1:288:C:C5 | 2.88 | 0.61 |
| 29:B1:625:G:O2' | 29:B1:626:U:O4' | 2.17 | 0.61 |
| 29:B1:771:A:H3' | 29:B1:772:U:H5' | 1.82 | 0.61 |
| 29:B1:773:G:O2' | 29:B1:774:G:C5' | 2.47 | 0.61 |
| 29:B1:915:A:C8 | 29:B1:916:G:H4' | 2.35 | 0.61 |
| 29:B1:972:A:C2' | 29:B1:973:A:H5' | 2.30 | 0.61 |
| 29:B1:1042:U:H2' | 29:B1:1043:C:C6 | 2.34 | 0.61 |
| 29:B1:1113:G:H4' | 54:BY:17:ALA:HB1 | 1.82 | 0.61 |
| 29:B1:1175:C:O2' | 29:B1:1176:C:O5' | 2.17 | 0.61 |
| 29:B1:1536:G:C5 | 29:B1:1586:G:N2 | 2.68 | 0.61 |
| 29:B1:1547:G:H2' | 29:B1:1548:C:H6 | 1.65 | 0.61 |
| 29:B1:1723:A:H5" | 29:B1:1724:U:OP2 | 2.00 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2150:G:H2' | 29:B1:2151:C:H5' | 1.81 | 0.61 |
| 29:B1:2522:G:C1' | 29:B1:2523:A:P | 2.87 | 0.61 |
| 29:B1:2576:G:C6 | 29:B1:2577:C:C4 | 2.88 | 0.61 |
| 29:B1:2594:C:OP2 | 29:B1:2594:C:C6 | 2.53 | 0.61 |
| 29:B1:2805:G:O2' | 29:B1:2806:U:H5' | 1.99 | 0.61 |
| 29:B1:2859:U:H4' | 29:B1:2860:U:OP1 | 2.01 | 0.61 |
| 29:B1:2973:G:O2' | 29:B1:2974:U:H5' | 2.00 | 0.61 |
| 29:B1:3130:A:H5' | 29:B1:3131:U:C5 | 2.35 | 0.61 |
| 29:B1:3191:G:C2 | 29:B1:3202:G:C2 | 2.88 | 0.61 |
| 30:B2:67:G:C6 | 30:B2:68:C:C4 | 2.88 | 0.61 |
| 34:BC:294:GLY:O | 34:BC:305:ILE:N | 2.33 | 0.61 |
| 40:BI:85:GLY:HA3 | 40:BI:187:ILE:C | 2.25 | 0.61 |
| 47:BR:131:ALA:O | 47:BR:132:PRO:C | 2.42 | 0.61 |
| 48:BS:23:TRP:O | 48:BS:50:ILE:HA | 2.00 | 0.61 |
| 54:BY:80:THR:O | 54:BY:82:ILE:N | 2.33 | 0.61 |
| 68:Bn:14:UNK:C | 68:Bn:16:UNK:H | 2.13 | 0.61 |
| 1:C1:47:A:C8 | 1:C1:425:A:C5 | 2.88 | 0.61 |
| 1:C1:915:A:N7 | 1:C1:916:U:C4 | 2.67 | 0.61 |
| 1:C1:1118:G:C6 | 1:C1:1119:G:C5 | 2.88 | 0.61 |
| 1:C1:1118:G:H2' | 1:C1:1119:G:H8 | 1.65 | 0.61 |
| 1:C1:1203:A:N1 | 1:C1:1556:A:C4 | 2.68 | 0.61 |
| 1:C1:1446:A:O2' | 1:C1:1448:G:N7 | 2.30 | 0.61 |
| 1:C1:1517:U:O2' | 1:C1:1518:C:H5' | 2.00 | 0.61 |
| 1:C1:1598:U:C5 | 1:C1:1599:C:C5 | 2.87 | 0.61 |
| 1:C1:1632:C:C2 | 1:C1:1633:A:C8 | 2.88 | 0.61 |
| 3:CB:152:HIS:C | 3:CB:154:LEU:H | 2.08 | 0.61 |
| 3:CB:237:VAL:O | 3:CB:238:SER:C | 2.43 | 0.61 |
| 5:CD:148:ARG:O | 5:CD:157:ARG:HA | 1.99 | 0.61 |
| 13:CL:26:ILE:O | 13:CL:27:LYS:O | 2.18 | 0.61 |
| 14:CM:60:SER:C | 14:CM:62:ALA:N | 2.57 | 0.61 |
| 28:Ch:3:UNK:O | 28:Ch:6:UNK:O | 2.16 | 0.61 |
| 29:D1:46:U:C2' | 29:D1:47:C:H5' | 2.30 | 0.61 |
| 29:D1:155:G:P | 29:D1:155:G:C8 | 2.88 | 0.61 |
| 29:D1:238:A:H8 | 29:D1:238:A:OP2 | 1.83 | 0.61 |
| 29:D1:386:A:O5' | 29:D1:386:A:H8 | 1.83 | 0.61 |
| 29:D1:524:U:O2' | 29:D1:525:C:C5' | 2.48 | 0.61 |
| 29:D1:588:G:C4' | 29:D1:589:A:H62 | 2.13 | 0.61 |
| 29:D1:645:A:C6 | 29:D1:649:A:C8 | 2.88 | 0.61 |
| 29:D1:683:U:H2' | 29:D1:684:G:H5' | 1.82 | 0.61 |
| 29:D1:776:U:H5' | 29:D1:777:U:C5' | 2.23 | 0.61 |
| 29:D1:781:G:C5 | 29:D1:782:U:C5 | 2.88 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1279:C:C2 | 29:D1:1280:C:C5 | 2.88 | 0.61 |
| 29:D1:1315:U:O2 | 29:D1:1315:U:C2' | 2.48 | 0.61 |
| 29:D1:1394:A:H2' | 29:D1:1395:G:O4' | 2.00 | 0.61 |
| 29:D1:1539:A:C5 | 29:D1:1540:U:C5 | 2.88 | 0.61 |
| 29:D1:1655:G:C8 | 29:D1:1656:A:C8 | 2.87 | 0.61 |
| 29:D1:1740:U:C3' | 29:D1:1741:A:H5' | 2.29 | 0.61 |
| 29:D1:1830:G:C5 | 29:D1:1831:U:C5 | 2.88 | 0.61 |
| 29:D1:1838:G:C5' | 29:D1:1839:A:OP1 | 2.46 | 0.61 |
| 29:D1:2165:G:N2 | 29:D1:2170:U:C4 | 2.67 | 0.61 |
| 29:D1:2222:A:HO2' | 29:D1:2223:A:H8 | 1.42 | 0.61 |
| 29:D1:2713:U:H4' | 29:D1:2714:G:OP1 | 1.99 | 0.61 |
| 29:D1:2750:U:C2' | 29:D1:2751:G:H5' | 2.29 | 0.61 |
| 29:D1:2880:U:H1' | 34:DC:250:ALA:HB3 | 1.80 | 0.61 |
| 29:D1:3092:C:H5' | 29:D1:3093:C:OP2 | 2.00 | 0.61 |
| 29:D1:3300:U:H2' | 29:D1:3300:U:O2 | 2.00 | 0.61 |
| 31:D3:56:G:O2' | 31:D3:57:C:H5' | 2.00 | 0.61 |
| 31:D3:56:G:H2' | 31:D3:57:C:H6 | 1.65 | 0.61 |
| 36:DE:94:ASN:O | 36:DE:96:ALA:N | 2.32 | 0.61 |
| 38:DG:240:VAL:O | 38:DG:241:LYS:C | 2.43 | 0.61 |
| 47:DR:22:ASP:O | 47:DR:23:ASN:C | 2.43 | 0.61 |
| 51:DV:39:LEU:O | 51:DV:42:GLN:N | 2.31 | 0.61 |
| 53:DX:19:TYR:C | 53:DX:21:THR:H | 2.03 | 0.61 |
| 1:A1:47:A:C2 | 1:A1:100:A:C4 | 2.89 | 0.61 |
| 1:A1:110:U:H5" | 1:A1:111:U:OP2 | 2.00 | 0.61 |
| 1:A1:162:A:C3' | 1:A1:163:G:C8 | 2.79 | 0.61 |
| 1:A1:568:G:C2' | 1:A1:569:C:H5' | 2.30 | 0.61 |
| 1:A1:701:U:O4 | 1:A1:702:G:N3 | 2.32 | 0.61 |
| 1:A1:1172:G:C6 | 1:A1:1173:C:N4 | 2.69 | 0.61 |
| 1:A1:1398:U:HO2' | 1:A1:1399:C:H3' | 1.63 | 0.61 |
| 1:A1:1486:G:O6 | 1:A1:1520:U:O2 | 2.18 | 0.61 |
| 1:A1:1525:A:C6 | 1:A1:1526:A:C6 | 2.88 | 0.61 |
| 1:A1:1566:U:O2' | 1:A1:1567:U:H5" | 2.00 | 0.61 |
| 1:A1:1614:A:H2 | 1:A1:1616:G:OP2 | 1.82 | 0.61 |
| 1:A1:1645:G:N1 | 1:A1:1757:G:C6 | 2.68 | 0.61 |
| 1:A1:1683:C:H1' | 1:A1:1720:G:O6 | 2.00 | 0.61 |
| 1:A1:1783:C:H2' | 1:A1:1784:C:C6 | 2.35 | 0.61 |
| 3:AB:165:VAL:CA | 3:AB:166:THR:CB | 2.78 | 0.61 |
| 5:AD:200:ASN:C | 5:AD:204:GLY:HA3 | 2.25 | 0.61 |
| 24:Ac:11:UNK:C | 24:Ac:62:UNK:HA | 2.31 | 0.61 |
| 29:B1:25:U:N3 | 29:B1:331:G:C8 | 2.68 | 0.61 |
| 29:B1:339:C:H2' | 29:B1:340:C:H5" | 1.82 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:431:U:H6 | 29:B1:431:U:C5' | 2.13 | 0.61 |
| 29:B1:719:U:O2' | 29:B1:720:A:H8 | 1.81 | 0.61 |
| 29:B1:822:G:C4 | 29:B1:823:C:C6 | 2.88 | 0.61 |
| 29:B1:829:U:H3 | 29:B1:895:A:H62 | 1.41 | 0.61 |
| 29:B1:931:C:H3' | 29:B1:932:U:H2' | 1.82 | 0.61 |
| 29:B1:1114:U:C4 | 29:B1:1115:G:N2 | 2.68 | 0.61 |
| 29:B1:1127:G:N2 | 29:B1:1132:C:C4 | 2.67 | 0.61 |
| 29:B1:1780:G:H2' | 29:B1:1781:C:H5 | 1.66 | 0.61 |
| 29:B1:1785:U:O2' | 29:B1:1786:G:C8 | 2.51 | 0.61 |
| 29:B1:1931:U:N3 | 29:B1:2121:G:N3 | 2.49 | 0.61 |
| 29:B1:2101:C:O2' | 29:B1:2102:U:H5' | 2.00 | 0.61 |
| 29:B1:2112:U:H1' | 29:B1:2113:A:OP2 | 2.00 | 0.61 |
| 29:B1:2125:A:H5' | 29:B1:2126:A:OP2 | 1.99 | 0.61 |
| 29:B1:2144:A:C4 | 29:B1:2281:A:C6 | 2.87 | 0.61 |
| 29:B1:2214:A:H2' | 29:B1:2215:A:H8 | 1.64 | 0.61 |
| 29:B1:2259:A:H5" | 29:B1:2260:U:H5 | 1.64 | 0.61 |
| 29:B1:2516:U:O2' | 29:B1:2517:U:O4' | 2.15 | 0.61 |
| 29:B1:2578:U:H2' | 29:B1:2579:G:O4' | 2.00 | 0.61 |
| 29:B1:2746:A:H2' | 29:B1:2747:A:O4' | 1.99 | 0.61 |
| 29:B1:3299:A:O2' | 29:B1:3300:U:OP2 | 2.18 | 0.61 |
| 36:BE:189:GLU:CB | 36:BE:190:ILE:HA | 2.30 | 0.61 |
| 38:BG:224:ILE:C | 38:BG:226:GLY:H | 2.08 | 0.61 |
| 1:C1:48:G:C6 | 1:C1:432:G:C2 | 2.88 | 0.61 |
| 1:C1:147:A:H3' | 1:C1:148:A:H8 | 1.64 | 0.61 |
| 1:C1:297:U:H2' | 1:C1:298:C:C5' | 2.30 | 0.61 |
| 1:C1:749:U:O2 | 1:C1:801:G:C4 | 2.53 | 0.61 |
| 1:C1:888:U:H3' | 1:C1:889:U:C6 | 2.34 | 0.61 |
| 1:C1:1646:C:O2 | 1:C1:1646:C:C2' | 2.48 | 0.61 |
| 1:C1:1733:C:H2' | 1:C1:1734:U:C6 | 2.35 | 0.61 |
| 1:C1:1734:U:N3 | 1:C1:1735:U:C4 | 2.68 | 0.61 |
| 2:CA:52:LYS:C | 2:CA:54:TRP:H | 2.07 | 0.61 |
| 5:CD:112:ARG:O | 5:CD:113:ILE:C | 2.43 | 0.61 |
| 13:CL:46:VAL:C | 13:CL:48:LYS:H | 2.07 | 0.61 |
| 21:CT:50:ASP:H | 21:CT:54:PHE:HA | 1.65 | 0.61 |
| 29:D1:155:G:OP2 | 29:D1:155:G:C8 | 2.54 | 0.61 |
| 29:D1:384:A:C4 | 29:D1:1465:A:C6 | 2.88 | 0.61 |
| 29:D1:395:A:OP1 | 29:D1:395:A:C8 | 2.52 | 0.61 |
| 29:D1:651:G:C6 | 29:D1:652:G:C6 | 2.88 | 0.61 |
| 29:D1:747:A:C6 | 29:D1:748:U:H5 | 2.17 | 0.61 |
| 29:D1:1062:A:H3' | 29:D1:1063:G:C8 | 2.34 | 0.61 |
| 29:D1:1324:U:H6 | 29:D1:1324:U:H5' | 1.64 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1393:A:C2 | 29:D1:1394:A:C4 | 2.87 | 0.61 |
| 29:D1:1453:A:C2 | 29:D1:1878:G:N2 | 2.67 | 0.61 |
| 29:D1:1585:C:O2' | 29:D1:1586:G:H5' | 1.99 | 0.61 |
| 29:D1:2149:A:H62 | 29:D1:2187:G:H21 | 1.49 | 0.61 |
| 29:D1:2265:C:N4 | 29:D1:2266:U:N3 | 2.48 | 0.61 |
| 29:D1:2314:U:OP2 | 29:D1:2314:U:H4' | 2.00 | 0.61 |
| 29:D1:2353:G:C4 | 29:D1:2354:C:H6 | 2.18 | 0.61 |
| 29:D1:2513:U:C5 | 29:D1:2591:A:N1 | 2.63 | 0.61 |
| 29:D1:2694:A:H2' | 29:D1:2695:A:H1' | 1.82 | 0.61 |
| 29:D1:2945:G:C8 | 29:D1:2979:U:O2 | 2.53 | 0.61 |
| 29:D1:3099:C:C5' | 29:D1:3099:C:C6 | 2.83 | 0.61 |
| 29:D1:3191:G:C5 | 29:D1:3202:G:N2 | 2.68 | 0.61 |
| 29:D1:3327:G:C6 | 29:D1:3328:G:N7 | 2.67 | 0.61 |
| 29:D1:3359:A:H2' | 29:D1:3360:C:O4' | 2.01 | 0.61 |
| 30:D2:22:A:C5 | 30:D2:23:A:C6 | 2.88 | 0.61 |
| 30:D2:30:G:H2' | 30:D2:31:U:O5' | 2.01 | 0.61 |
| 30:D2:63:A:N1 | 30:D2:65:G:O6 | 2.33 | 0.61 |
| 30:D2:98:C:C5' | 30:D2:99:G:OP2 | 2.45 | 0.61 |
| 31:D3:77:A:H62 | 53:DX:72:SER:CB | 2.13 | 0.61 |
| 35:DD:256:THR:O | 35:DD:257:LYS:CB | 2.48 | 0.61 |
| 36:DE:216:GLU:C | 36:DE:219:PHE:H | 2.08 | 0.61 |
| 37:DF:92:SER:O | 37:DF:93:VAL:C | 2.43 | 0.61 |
| 40:DI:63:LYS:CA | 40:DI:66:ALA:HB3 | 2.25 | 0.61 |
| 40:DI:90:MET:HA | 40:DI:181:VAL:HA | 1.81 | 0.61 |
| 50:DU:45:ARG:O | 50:DU:47:ASN:N | 2.29 | 0.61 |
| 54:DY:73:LEU:HA | 54:DY:116:GLY:HA3 | 1.81 | 0.61 |
| 1:A1:591:A:H2' | 1:A1:592:A:H8 | 1.62 | 0.61 |
| 1:A1:916:U:C5 | 1:A1:917:U:C4 | 2.89 | 0.61 |
| 1:A1:1349:G:C4' | 1:A1:1350:U:H5' | 2.31 | 0.61 |
| 1:A1:1552:U:O2 | 1:A1:1552:U:C2' | 2.48 | 0.61 |
| 1:A1:1575:G:C2 | 1:A1:1576:A:C4 | 2.89 | 0.61 |
| 1:A1:1575:G:H5' | 1:A1:1576:A:OP2 | 2.01 | 0.61 |
| 1:A1:1616:G:O2' | 1:A1:1617:U:H5' | 2.01 | 0.61 |
| 1:A1:1683:C:O2' | 1:A1:1684:U:N3 | 2.32 | 0.61 |
| 4:AC:174:HIS:O | 4:AC:183:GLY:HA2 | 2.01 | 0.61 |
| 5:AD:161:ASP:CA | 5:AD:162:VAL:CB | 2.77 | 0.61 |
| 5:AD:180:ARG:O | 5:AD:182:ALA:N | 2.33 | 0.61 |
| 13:AL:101:LEU:O | 13:AL:102:ALA:HB2 | 1.99 | 0.61 |
| 29:B1:155:G:OP2 | 29:B1:155:G:C8 | 2.52 | 0.61 |
| 29:B1:733:G:O6 | 29:B1:737:G:N1 | 2.34 | 0.61 |
| 29:B1:943:U:C2 | 29:B1:1432:C:H5 | 2.18 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:995:U:C4 | 29:B1:2637:A:C4 | 2.88 | 0.61 |
| 29:B1:1198:C:OP2 | 29:B1:1200:A:N7 | 2.33 | 0.61 |
| 29:B1:1198:C:H2' | 29:B1:1200:A:H8 | 1.65 | 0.61 |
| 29:B1:1260:A:C5 | 29:B1:1279:C:H1' | 2.35 | 0.61 |
| 29:B1:1276:U:C4 | 74:B1:3563:OHX:N4 | 2.68 | 0.61 |
| 29:B1:1329:U:O2' | 29:B1:1330:A:O5' | 2.17 | 0.61 |
| 29:B1:1339:C:C2 | 29:B1:1340:G:C8 | 2.88 | 0.61 |
| 29:B1:1393:A:C8 | 29:B1:1418:A:C4 | 2.88 | 0.61 |
| 29:B1:1517:G:H2' | 29:B1:1518:U:H6 | 1.65 | 0.61 |
| 29:B1:1559:A:H2' | 29:B1:1560:G:H5' | 1.81 | 0.61 |
| 29:B1:1725:C:H2' | 29:B1:1726:C:C5 | 2.34 | 0.61 |
| 29:B1:2147:A:H2' | 29:B1:2148:U:H6 | 1.63 | 0.61 |
| 29:B1:2249:G:C4 | 29:B1:2272:G:N7 | 2.67 | 0.61 |
| 29:B1:2279:A:H2 | 29:B1:2285:C:N4 | 1.98 | 0.61 |
| 29:B1:2510:U:C2 | 29:B1:2511:A:C8 | 2.87 | 0.61 |
| 29:B1:2523:A:H4' | 29:B1:2524:A:OP1 | 2.00 | 0.61 |
| 29:B1:2761:G:N2 | 29:B1:2795:U:N1 | 2.48 | 0.61 |
| 29:B1:3049:A:C6 | 29:B1:3050:U:C2 | 2.88 | 0.61 |
| 29:B1:3160:U:H2' | 29:B1:3161:C:H6 | 1.64 | 0.61 |
| 31:B3:117:C:H2' | 31:B3:118:C:H6 | 1.65 | 0.61 |
| 34:BC:132:LYS:C | 34:BC:134:SER:H | 2.09 | 0.61 |
| 40:BI:71:VAL:O | 40:BI:72:LYS:C | 2.43 | 0.61 |
| 40:BI:86:TYR:CB | 40:BI:87:LYS:CA | 2.78 | 0.61 |
| 59:Bd:68:LYS:C | 59:Bd:70:VAL:H | 2.07 | 0.61 |
| 1:C1:10:G:N2 | 1:C1:11:A:H1' | 2.15 | 0.61 |
| 1:C1:225:A:N6 | 1:C1:837:G:C2 | 2.68 | 0.61 |
| 1:C1:402:C:C2 | 1:C1:403:G:C4' | 2.82 | 0.61 |
| 1:C1:477:A:C5 | 1:C1:539:G:O6 | 2.53 | 0.61 |
| 1:C1:621:A:H1' | 1:C1:1107:G:O4' | 2.00 | 0.61 |
| 1:C1:760:A:H2' | 1:C1:761:G:H5' | 1.82 | 0.61 |
| 1:C1:1092:A:N3 | 1:C1:1094:G:N7 | 2.48 | 0.61 |
| 1:C1:1326:A:C2' | 1:C1:1327:C:H5' | 2.30 | 0.61 |
| 1:C1:1365:C:H2' | 1:C1:1366:U:C4' | 2.29 | 0.61 |
| 1:C1:1480:G:C8 | 1:C1:1480:G:C5' | 2.71 | 0.61 |
| 1:C1:1559:A:O2' | 1:C1:1560:U:O4' | 2.18 | 0.61 |
| 1:C1:1636:C:C4 | 1:C1:1765:A:N6 | 2.67 | 0.61 |
| 1:C1:1720:G:C5 | 1:C1:1721:A:C5 | 2.88 | 0.61 |
| 6:CE:151:ASP:O | 6:CE:153:GLU:N | 2.33 | 0.61 |
| 10:CI:98:ASN:N | 10:CI:101:ALA:HB3 | 2.16 | 0.61 |
| 13:CL:48:LYS:C | 13:CL:50:ALA:H | 2.08 | 0.61 |
| 14:CM:28:LEU:C | 14:CM:30:VAL:N | 2.56 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:72:C:C2 | 29:D1:73:C:O4' | 2.53 | 0.61 |
| 29:D1:135:C:H5' | 29:D1:136:G:OP2 | 2.00 | 0.61 |
| 29:D1:308:A:C5 | 29:D1:309:U:N3 | 2.67 | 0.61 |
| 29:D1:394:G:N2 | 29:D1:399:A:N7 | 2.48 | 0.61 |
| 29:D1:522:A:H3' | 29:D1:523:A:H5" | 1.82 | 0.61 |
| 29:D1:533:A:C2 | 29:D1:534:U:O4 | 2.53 | 0.61 |
| 29:D1:704:U:H3' | 29:D1:704:U:C6 | 2.34 | 0.61 |
| 29:D1:827:A:H3' | 29:D1:828:A:H8 | 1.65 | 0.61 |
| 29:D1:1099:A:C6 | 29:D1:1100:U:C4 | 2.88 | 0.61 |
| 29:D1:1109:U:H5" | 29:D1:1110:U:OP2 | 2.00 | 0.61 |
| 29:D1:1174:G:C6 | 29:D1:1318:A:N3 | 2.67 | 0.61 |
| 29:D1:1226:G:N2 | 29:D1:1227:C:C2 | 2.68 | 0.61 |
| 29:D1:1351:U:O2 | 29:D1:1352:A:N7 | 2.34 | 0.61 |
| 29:D1:1405:U:C5 | 29:D1:1406:A:N7 | 2.68 | 0.61 |
| 29:D1:1780:G:O2' | 29:D1:1781:C:P | 2.57 | 0.61 |
| 29:D1:2667:A:C3' | 29:D1:2667:A:C4 | 2.83 | 0.61 |
| 29:D1:3005:A:C4 | 29:D1:3140:G:N2 | 2.68 | 0.61 |
| 29:D1:3117:C:C4 | 29:D1:3118:C:C6 | 2.88 | 0.61 |
| 29:D1:3140:G:C8 | 29:D1:3140:G:C5' | 2.77 | 0.61 |
| 31:D3:37:A:N6 | 31:D3:104:A:C4 | 2.69 | 0.61 |
| 34:DC:189:SER:O | 34:DC:192:VAL:N | 2.33 | 0.61 |
| 43:DN:88:ALA:O | 43:DN:90:VAL:N | 2.33 | 0.61 |
| 45:DP:56:ASP:O | 45:DP:59:ARG:CB | 2.48 | 0.61 |
| 50:DU:111:GLY:O | 50:DU:112:SER:O | 2.18 | 0.61 |
| 54:DY:80:THR:C | 54:DY:82:ILE:N | 2.58 | 0.61 |
| 63:Dh:14:UNK:CB | 63:Dh:14:UNK:C | 2.75 | 0.61 |
| 1:A1:8:U:H5 | 1:A1:1140:G:O6 | 1.82 | 0.61 |
| 1:A1:57:G:C5 | 1:A1:58:U:C5 | 2.89 | 0.61 |
| 1:A1:172:C:N3 | 1:A1:173:A:C8 | 2.68 | 0.61 |
| 1:A1:1074:G:H2' | 1:A1:1075:C:H5" | 1.83 | 0.61 |
| 1:A1:1202:A:N6 | 1:A1:1456:C:H2' | 2.15 | 0.61 |
| 1:A1:1203:A:C4 | 1:A1:1555:A:N1 | 2.69 | 0.61 |
| 1:A1:1265:G:H2' | 1:A1:1266:U:O4' | 2.00 | 0.61 |
| 1:A1:1273:G:C5' | 1:A1:1274:C:H5' | 2.30 | 0.61 |
| 1:A1:1346:A:N3 | 15:AN:14:GLN:HA | 2.14 | 0.61 |
| 1:A1:1368:G:H5' | 14:AM:70:GLN:CB | 2.31 | 0.61 |
| 1:A1:1458:G:H5" | 1:A1:1459:C:H5 | 1.60 | 0.61 |
| 1:A1:1496:U:H4' | 1:A1:1519:U:O2' | 1.99 | 0.61 |
| 1:A1:1562:G:H2' | 1:A1:1563:C:C6 | 2.34 | 0.61 |
| 1:A1:1728:A:H2' | 1:A1:1729:C:C6 | 2.28 | 0.61 |
| 1:A1:1757:G:C6 | 1:A1:1758:U:C4 | 2.88 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1793:G:O2' | 1:A1:1794:A:P | 2.57 | 0.61 |
| 3:AB:124:ALA:O | 3:AB:125:ILE:C | 2.41 | 0.61 |
| 5:AD:117:THR:CA | 5:AD:191:ALA:HB1 | 2.30 | 0.61 |
| 24:Ac:3:UNK:HA | 24:Ac:72:UNK:HA | 1.81 | 0.61 |
| 29:B1:13:A:C2 | 29:B1:15:C:H3' | 2.35 | 0.61 |
| 29:B1:200:C:H4' | 29:B1:201:A:OP2 | 2.00 | 0.61 |
| 29:B1:347:G:C6 | 29:B1:348:A:C6 | 2.88 | 0.61 |
| 29:B1:559:A:C5 | 29:B1:560:G:N7 | 2.68 | 0.61 |
| 29:B1:705:A:C4 | 29:B1:715:A:N6 | 2.68 | 0.61 |
| 29:B1:771:A:H2' | 29:B1:772:U:H5" | 1.82 | 0.61 |
| 29:B1:1079:A:N6 | 29:B1:1080:A:N6 | 2.48 | 0.61 |
| 29:B1:1284:C:C5 | 29:B1:1285:G:N2 | 2.65 | 0.61 |
| 29:B1:1354:G:C8 | 29:B1:1355:A:N1 | 2.68 | 0.61 |
| 29:B1:1456:A:H2 | 29:B1:1476:G:N3 | 1.97 | 0.61 |
| 29:B1:1522:U:C5 | 29:B1:1835:A:C1' | 2.83 | 0.61 |
| 29:B1:1779:C:OP1 | 29:B1:1779:C:O4' | 2.18 | 0.61 |
| 29:B1:2111:G:H22 | 51:BV:50:ALA:H | 1.49 | 0.61 |
| 29:B1:2160:G:H2' | 29:B1:2161:G:H8 | 1.65 | 0.61 |
| 29:B1:2307:G:C6 | 29:B1:2310:U:C4 | 2.88 | 0.61 |
| 29:B1:2310:U:O2' | 29:B1:2311:G:H5' | 2.01 | 0.61 |
| 29:B1:2311:G:O2' | 29:B1:2312:A:O4' | 2.18 | 0.61 |
| 29:B1:2640:A:C5 | 29:B1:2641:U:C4 | 2.88 | 0.61 |
| 29:B1:2651:G:O2' | 29:B1:2796:G:N1 | 2.33 | 0.61 |
| 29:B1:2916:U:C5 | 29:B1:2935:U:C2 | 2.89 | 0.61 |
| 29:B1:3137:C:O2 | 29:B1:3137:C:C2' | 2.41 | 0.61 |
| 29:B1:3209:A:H3' | 29:B1:3210:A:H8 | 1.60 | 0.61 |
| 29:B1:3215:A:P | 29:B1:3218:A:O4' | 2.58 | 0.61 |
| 31:B3:70:G:P | 31:B3:71:A:OP2 | 2.58 | 0.61 |
| 31:B3:102:U:H2' | 31:B3:103:G:C8 | 2.35 | 0.61 |
| 34:BC:142:ALA:C | 34:BC:144:ILE:H | 2.08 | 0.61 |
| 35:BD:14:GLU:N | 35:BD:15:ALA:HA | 2.13 | 0.61 |
| 41:BJ:174:THR:O | 41:BJ:175:ASN:C | 2.42 | 0.61 |
| 44:BO:158:HIS:C | 44:BO:160:GLU:H | 2.08 | 0.61 |
| 52:BW:110:VAL:O | 52:BW:111:ASN:C | 2.43 | 0.61 |
| 54:BY:129:PHE:CB | 54:BY:130:VAL:HA | 2.31 | 0.61 |
| 56:Ba:58:ALA:O | 56:Ba:60:TRP:N | 2.33 | 0.61 |
| 57:Bb:42:VAL:O | 57:Bb:45:ARG:N | 2.34 | 0.61 |
| 58:Bc:5:LYS:C | 58:Bc:7:TYR:H | 2.07 | 0.61 |
| 1:C1:20:G:C2' | 1:C1:21:U:H5' | 2.29 | 0.61 |
| 1:C1:64:U:O2 | 1:C1:64:U:H2' | 1.99 | 0.61 |
| 1:C1:142:G:C8 | 1:C1:266:A:C6 | 2.89 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:156:A:H5' | 1:C1:416:A:C8 | 2.36 | 0.61 |
| 1:C1:210:A:C6 | 1:C1:211:U:C4 | 2.88 | 0.61 |
| 1:C1:269:G:H2' | 1:C1:270:C:C6 | 2.36 | 0.61 |
| 1:C1:604:A:C6 | 1:C1:605:A:C6 | 2.88 | 0.61 |
| 1:C1:766:U:H3' | 1:C1:768:C:OP2 | 2.01 | 0.61 |
| 1:C1:854:U:O2' | 1:C1:855:A:H5' | 2.01 | 0.61 |
| 1:C1:888:U:H3' | 1:C1:889:U:H6 | 1.66 | 0.61 |
| 1:C1:1023:A:C8 | 74:C1:1961:OHX:N6 | 2.68 | 0.61 |
| 1:C1:1150:G:N3 | 1:C1:1766:A:OP1 | 2.32 | 0.61 |
| 1:C1:1267:G:H21 | 1:C1:1448:G:C4' | 2.13 | 0.61 |
| 1:C1:1489:U:C5 | 1:C1:1513:G:C2 | 2.89 | 0.61 |
| 1:C1:1685:G:N2 | 1:C1:1718:G:N2 | 2.48 | 0.61 |
| 1:C1:1759:C:H5" | 1:C1:1760:G:OP2 | 1.99 | 0.61 |
| 1:C1:1763:A:C2' | 1:C1:1764:C:H5" | 2.30 | 0.61 |
| 1:C1:1773:C:C2 | 1:C1:1789:G:C2 | 2.88 | 0.61 |
| 1:C1:1793:G:O2' | 1:C1:1794:A:O5' | 2.17 | 0.61 |
| 3:CB:56:ILE:O | 3:CB:59:HIS:N | 2.29 | 0.61 |
| 10:CI:67:ALA:HA | 10:CI:68:PRO:C | 2.25 | 0.61 |
| 13:CL:76:PRO:HA | 13:CL:81:ILE:H | 1.64 | 0.61 |
| 17:CP:86:PHE:C | 17:CP:88:PRO:N | 2.58 | 0.61 |
| 29:D1:39:A:H5" | 29:D1:40:A:H4' | 1.82 | 0.61 |
| 29:D1:53:G:H2' | 29:D1:54:C:C6 | 2.33 | 0.61 |
| 29:D1:221:A:C8 | 29:D1:224:C:N4 | 2.68 | 0.61 |
| 29:D1:370:U:C5 | 29:D1:371:G:C5 | 2.89 | 0.61 |
| 29:D1:1144:U:O2' | 29:D1:1145:G:OP2 | 2.16 | 0.61 |
| 29:D1:1302:A:C4 | 29:D1:2887:A:N1 | 2.68 | 0.61 |
| 29:D1:1595:U:HO2' | 29:D1:1596:C:H6 | 1.49 | 0.61 |
| 29:D1:1620:U:H3 | 29:D1:1825:G:H1 | 1.48 | 0.61 |
| 29:D1:1666:G:H2' | 29:D1:1667:A:H8 | 1.65 | 0.61 |
| 29:D1:1797:A:H2' | 29:D1:1798:A:C8 | 2.36 | 0.61 |
| 29:D1:2258:U:H2' | 29:D1:2258:U:O2 | 2.00 | 0.61 |
| 29:D1:2297:U:O2 | 29:D1:2299:A:C5 | 2.53 | 0.61 |
| 29:D1:2386:A:N9 | 29:D1:2994:A:C2 | 2.68 | 0.61 |
| 29:D1:2562:A:H2' | 29:D1:2563:G:C8 | 2.35 | 0.61 |
| 29:D1:2821:C:C2' | 29:D1:2822:U:H5' | 2.30 | 0.61 |
| 29:D1:3057:U:C3' | 29:D1:3058:U:H4' | 2.29 | 0.61 |
| 29:D1:3059:G:C8 | 29:D1:3059:G:H5" | 2.34 | 0.61 |
| 29:D1:3089:C:H3' | 29:D1:3090:U:C5' | 2.26 | 0.61 |
| 29:D1:3142:A:H1' | 29:D1:3144:G:C8 | 2.35 | 0.61 |
| 31:D3:13:A:H2' | 31:D3:14:C:C6 | 2.35 | 0.61 |
| 34:DC:247:ARG:O | 34:DC:248:LYS:CB | 2.48 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:DR:66:ARG:O | 47:DR:68:ALA:N | 2.33 | 0.61 |
| 52:DW:69:SER:O | 52:DW:71:THR:N | 2.33 | 0.61 |
| 59:Dd:65:ARG:C | 59:Dd:67:LEU:H | 2.07 | 0.61 |
| 1:A1:39:A:C5 | 1:A1:467:G:N2 | 2.67 | 0.61 |
| 1:A1:445:A:N3 | 1:A1:446:A:C8 | 2.68 | 0.61 |
| 1:A1:515:A:H2' | 1:A1:515:A:N3 | 2.14 | 0.61 |
| 1:A1:768:C:H2' | 1:A1:769:A:O4' | 2.00 | 0.61 |
| 1:A1:977:A:C2' | 1:A1:978:A:H5' | 2.30 | 0.61 |
| 1:A1:979:A:H2 | 1:A1:1775:U:H4' | 1.64 | 0.61 |
| 1:A1:1173:C:O2' | 1:A1:1174:C:H5' | 2.00 | 0.61 |
| 1:A1:1196:A:C4' | 1:A1:1197:C:H5" | 2.29 | 0.61 |
| 1:A1:1196:A:C8 | 1:A1:1602:C:H4' | 2.35 | 0.61 |
| 1:A1:1402:G:C6 | 1:A1:1403:C:C4 | 2.88 | 0.61 |
| 1:A1:1433:G:N2 | 1:A1:1434:U:C4 | 2.68 | 0.61 |
| 1:A1:1485:C:H3' | 1:A1:1486:G:C5' | 2.30 | 0.61 |
| 1:A1:1586:A:C5 | 1:A1:1611:A:C2 | 2.89 | 0.61 |
| 1:A1:1616:G:H21 | 1:A1:1618:C:N4 | 1.93 | 0.61 |
| 1:A1:1753:A:N6 | 1:A1:1754:A:C6 | 2.68 | 0.61 |
| 29:B1:33:G:N2 | 29:B1:50:U:C5 | 2.68 | 0.61 |
| 29:B1:189:G:C2 | 29:B1:191:U:O4 | 2.53 | 0.61 |
| 29:B1:293:C:N3 | 29:B1:294:U:C2 | 2.68 | 0.61 |
| 29:B1:428:A:H2' | 29:B1:429:U:O5' | 2.00 | 0.61 |
| 29:B1:623:U:C2' | 29:B1:624:G:H8 | 2.09 | 0.61 |
| 29:B1:998:A:O2' | 30:B2:103:A:N3 | 2.30 | 0.61 |
| 29:B1:1129:A:C2' | 29:B1:1130:A:H5' | 2.29 | 0.61 |
| 29:B1:1156:C:H5" | 29:B1:1157:G:OP2 | 2.01 | 0.61 |
| 29:B1:1337:A:H2' | 29:B1:1338:C:H6 | 1.65 | 0.61 |
| 29:B1:1376:C:O4' | 29:B1:1407:A:C2 | 2.54 | 0.61 |
| 29:B1:1539:A:C6 | 29:B1:1583:A:C8 | 2.88 | 0.61 |
| 29:B1:1587:A:C2 | 29:B1:1590:G:C4 | 2.89 | 0.61 |
| 29:B1:2186:U:H5" | 29:B1:2315:G:OP2 | 1.99 | 0.61 |
| 29:B1:2396:G:O2' | 29:B1:2398:A:C4' | 2.47 | 0.61 |
| 29:B1:2700:G:OP1 | 49:BT:17:ARG:CB | 2.49 | 0.61 |
| 29:B1:2702:A:H4' | 29:B1:2704:A:C8 | 2.36 | 0.61 |
| 29:B1:2703:A:C3' | 29:B1:2704:A:C5' | 2.78 | 0.61 |
| 29:B1:2847:A:C4 | 29:B1:2848:G:C8 | 2.88 | 0.61 |
| 31:B3:55:U:O2 | 31:B3:62:C:H5 | 1.83 | 0.61 |
| 31:B3:95:G:OP2 | 31:B3:95:G:N2 | 2.33 | 0.61 |
| 34:BC:274:SER:O | 34:BC:275:ARG:CB | 2.49 | 0.61 |
| 36:BE:78:ALA:HB1 | 36:BE:105:ILE:CB | 2.30 | 0.61 |
| 36:BE:199:ILE:O | 36:BE:201:GLY:CA | 2.48 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BG:102:VAL:O | 38:BG:103:LEU:C | 2.42 | 0.61 |
| 40:BI:67:ALA:O | 40:BI:68:LEU:C | 2.42 | 0.61 |
| 1:C1:33:U:H3' | 1:C1:33:U:H6 | 1.65 | 0.61 |
| 1:C1:66:U:O2' | 1:C1:67:A:P | 2.57 | 0.61 |
| 1:C1:145:A:C2 | 1:C1:146:U:H1' | 2.35 | 0.61 |
| 1:C1:297:U:C2' | 1:C1:298:C:O5' | 2.47 | 0.61 |
| 1:C1:755:A:H1' | 1:C1:756:A:C8 | 2.36 | 0.61 |
| 1:C1:984:G:H1 | 1:C1:1017:U:H3 | 1.48 | 0.61 |
| 1:C1:986:G:O2' | 1:C1:987:G:H8 | 1.83 | 0.61 |
| 1:C1:1109:G:C5 | 1:C1:1137:A:N6 | 2.68 | 0.61 |
| 1:C1:1395:G:H2' | 1:C1:1396:U:H5' | 1.83 | 0.61 |
| 1:C1:1719:A:O3' | 1:C1:1720:G:C8 | 2.53 | 0.61 |
| 2:CA:79:ARG:O | 2:CA:82:GLY:N | 2.33 | 0.61 |
| 12:CK:24:LEU:H | 12:CK:64:GLY:H | 1.46 | 0.61 |
| 13:CL:70:VAL:O | 13:CL:74:GLN:C | 2.42 | 0.61 |
| 14:CM:27:LYS:C | 14:CM:29:GLU:H | 2.08 | 0.61 |
| 16:CO:106:THR:O | 16:CO:107:SER:C | 2.44 | 0.61 |
| 29:D1:90:C:O4' | 29:D1:281:G:O2' | 2.18 | 0.61 |
| 29:D1:208:C:N4 | 29:D1:209:A:H62 | 1.97 | 0.61 |
| 29:D1:278:U:C2 | 29:D1:279:U:C5 | 2.89 | 0.61 |
| 29:D1:349:A:H2 | 31:D3:24:G:C8 | 2.18 | 0.61 |
| 29:D1:807:A:C5' | 29:D1:808:A:OP2 | 2.45 | 0.61 |
| 29:D1:908:G:C8 | 29:D1:925:A:N3 | 2.68 | 0.61 |
| 29:D1:964:G:H4' | 54:DY:28:HIS:O | 2.01 | 0.61 |
| 29:D1:1076:C:O2 | 29:D1:1076:C:H2' | 2.00 | 0.61 |
| 29:D1:1156:C:C2' | 29:D1:1157:G:H5" | 2.30 | 0.61 |
| 29:D1:1222:G:H3' | 29:D1:1222:G:OP1 | 1.99 | 0.61 |
| 29:D1:1352:A:P | 29:D1:1352:A:C8 | 2.94 | 0.61 |
| 29:D1:1371:G:H5' | 29:D1:1372:C:OP2 | 2.00 | 0.61 |
| 29:D1:1479:U:C3' | 29:D1:1480:G:C5' | 2.57 | 0.61 |
| 29:D1:2249:G:H2' | 29:D1:2250:G:C1' | 2.30 | 0.61 |
| 29:D1:2371:G:H5" | 29:D1:2372:A:P | 2.41 | 0.61 |
| 29:D1:2581:U:P | 29:D1:2581:U:H6 | 2.23 | 0.61 |
| 29:D1:2581:U:H5" | 74:D1:3567:OHX:N1 | 2.16 | 0.61 |
| 29:D1:2671:A:N6 | 29:D1:2672:G:O6 | 2.34 | 0.61 |
| 29:D1:2684:C:C2 | 29:D1:2685:C:C6 | 2.87 | 0.61 |
| 29:D1:2717:U:C4 | 29:D1:2740:A:N1 | 2.69 | 0.61 |
| 29:D1:2764:C:OP2 | 29:D1:2764:C:C6 | 2.54 | 0.61 |
| 29:D1:2850:G:H5" | 29:D1:2850:G:C8 | 2.35 | 0.61 |
| 29:D1:2916:U:H5 | 29:D1:2935:U:O2' | 1.84 | 0.61 |
| 29:D1:3149:G:C4 | 29:D1:3150:A:C8 | 2.88 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3310:A:N6 | 29:D1:3311:C:C5 | 2.68 | 0.61 |
| 29:D1:3333:G:HO2' | 29:D1:3369:G:N2 | 1.97 | 0.61 |
| 31:D3:53:A:C6 | 31:D3:54:A:C5 | 2.88 | 0.61 |
| 34:DC:281:LYS:O | 34:DC:324:VAL:HA | 2.01 | 0.61 |
| 43:DN:58:ILE:CB | 43:DN:59:ASN:CB | 2.78 | 0.61 |
| 44:DO:159:ARG:C | 44:DO:161:ALA:N | 2.50 | 0.61 |
| 1:A1:60:U:H2' | 1:A1:61:A:H5' | 1.81 | 0.61 |
| 1:A1:292:U:H2' | 1:A1:293:U:C6 | 2.35 | 0.61 |
| 1:A1:333:A:C6 | 1:A1:334:G:C6 | 2.88 | 0.61 |
| 1:A1:417:A:C4' | 1:A1:418:G:O5' | 2.49 | 0.61 |
| 1:A1:550:A:H5" | 1:A1:551:G:OP1 | 2.01 | 0.61 |
| 1:A1:611:U:C5' | 1:A1:612:U:OP2 | 2.49 | 0.61 |
| 1:A1:1106:U:O2' | 1:A1:1107:G:H5' | 2.00 | 0.61 |
| 1:A1:1227:A:H4' | 1:A1:1230:A:N6 | 2.16 | 0.61 |
| 1:A1:1597:A:N7 | 1:A1:1598:U:C4 | 2.68 | 0.61 |
| 1:A1:1691:A:C5 | 1:A1:1692:G:H1' | 2.35 | 0.61 |
| 1:A1:1728:A:C4 | 1:A1:1729:C:C5 | 2.89 | 0.61 |
| 6:AE:106:GLU:HA | 6:AE:111:THR:CB | 2.30 | 0.61 |
| 8:AG:67:THR:O | 8:AG:71:ILE:CB | 2.48 | 0.61 |
| 8:AG:142:GLU:C | 8:AG:144:ALA:H | 2.07 | 0.61 |
| 10:AI:37:ALA:HA | 10:AI:40:ARG:CB | 2.30 | 0.61 |
| 12:AK:7:LYS:C | 12:AK:9:VAL:H | 2.07 | 0.61 |
| 24:Ac:88:UNK:C | 24:Ac:90:UNK:N | 2.62 | 0.61 |
| 29:B1:26:A:C8 | 29:B1:27:C:C5 | 2.88 | 0.61 |
| 29:B1:71:A:C8 | 29:B1:72:C:C5 | 2.88 | 0.61 |
| 29:B1:416:A:H61 | 31:B3:7:U:H3 | 1.48 | 0.61 |
| 29:B1:514:G:O3' | 29:B1:515:C:C6 | 2.54 | 0.61 |
| 29:B1:564:G:C3' | 29:B1:565:U:H6 | 2.13 | 0.61 |
| 29:B1:595:G:H22 | 29:B1:609:G:H4' | 1.65 | 0.61 |
| 29:B1:628:A:H5" | 29:B1:1399:A:C5 | 2.35 | 0.61 |
| 29:B1:659:G:C6 | 29:B1:1432:C:N3 | 2.69 | 0.61 |
| 29:B1:703:G:N1 | 29:B1:704:U:C2 | 2.69 | 0.61 |
| 29:B1:837:A:N3 | 29:B1:837:A:H2' | 2.15 | 0.61 |
| 29:B1:951:A:C2 | 29:B1:1369:A:C2 | 2.89 | 0.61 |
| 29:B1:1110:U:H2' | 29:B1:1111:U:C6 | 2.35 | 0.61 |
| 29:B1:1233:G:O2' | 29:B1:1234:G:C5' | 2.48 | 0.61 |
| 29:B1:1376:C:C2 | 29:B1:1377:G:C8 | 2.88 | 0.61 |
| 29:B1:1455:U:N3 | 29:B1:3077:A:OP1 | 2.33 | 0.61 |
| 29:B1:1704:A:C2 | 29:B1:1741:A:C5 | 2.89 | 0.61 |
| 29:B1:2128:C:C4 | 29:B1:2129:U:C5 | 2.89 | 0.61 |
| 29:B1:2215:A:N3 | 29:B1:2216:G:C8 | 2.68 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2342:U:H2' | 29:B1:2343:C:H6 | 1.65 | 0.61 |
| 29:B1:2573:G:N7 | 74:B1:3558:OHX:N5 | 2.48 | 0.61 |
| 29:B1:2716:U:H3' | 29:B1:2717:U:C5' | 2.30 | 0.61 |
| 29:B1:2743:A:C6 | 29:B1:2751:G:C6 | 2.88 | 0.61 |
| 29:B1:2766:U:H2' | 29:B1:2767:U:H6 | 1.66 | 0.61 |
| 29:B1:2879:C:C5 | 29:B1:2880:U:C4 | 2.89 | 0.61 |
| 29:B1:2895:G:H5' | 29:B1:3107:U:O2' | 2.01 | 0.61 |
| 29:B1:2945:G:N3 | 29:B1:2945:G:H5' | 2.16 | 0.61 |
| 29:B1:3183:A:H2' | 29:B1:3184:A:C8 | 2.35 | 0.61 |
| 29:B1:3209:A:H2' | 29:B1:3210:A:N9 | 2.15 | 0.61 |
| 29:B1:3373:U:O4 | 29:B1:3374:U:O4 | 2.19 | 0.61 |
| 29:B1:3377:G:O4' | 74:B1:3450:OHX:N2 | 2.33 | 0.61 |
| 29:B1:3393:U:H2' | 29:B1:3394:U:H6 | 1.66 | 0.61 |
| 46:BQ:9:THR:H | 46:BQ:10:ASN:CA | 2.14 | 0.61 |
| 47:BR:66:ARG:C | 47:BR:68:ALA:N | 2.56 | 0.61 |
| 49:BT:78:LYS:O | 49:BT:79:MET:CB | 2.48 | 0.61 |
| 56:Ba:28:ARG:O | 56:Ba:30:PRO:N | 2.34 | 0.61 |
| 1:C1:63:G:H5' | 1:C1:170:U:C4 | 2.35 | 0.61 |
| 1:C1:272:U:C4' | 1:C1:273:G:OP2 | 2.49 | 0.61 |
| 1:C1:520:A:C4 | 1:C1:521:A:N7 | 2.68 | 0.61 |
| 1:C1:610:G:N2 | 1:C1:614:C:N3 | 2.47 | 0.61 |
| 1:C1:618:U:H2' | 1:C1:619:A:C5' | 2.30 | 0.61 |
| 1:C1:635:A:C5 | 1:C1:863:A:N7 | 2.68 | 0.61 |
| 1:C1:686:C:C2' | 1:C1:687:G:C8 | 2.69 | 0.61 |
| 1:C1:1214:U:H4' | 1:C1:1245:G:H21 | 1.66 | 0.61 |
| 1:C1:1298:U:O5' | 1:C1:1298:U:H6 | 1.83 | 0.61 |
| 1:C1:1481:C:C6 | 1:C1:1482:C:C2 | 2.89 | 0.61 |
| 1:C1:1584:G:N1 | 11:CJ:125:GLU:O | 2.33 | 0.61 |
| 1:C1:1645:G:C2' | 1:C1:1646:C:O5' | 2.48 | 0.61 |
| 1:C1:1656:U:OP2 | 1:C1:1656:U:H6 | 1.82 | 0.61 |
| 1:C1:1754:A:O2' | 1:C1:1755:A:O5' | 2.14 | 0.61 |
| 29:D1:22:G:O6 | 31:D3:35:C:N4 | 2.33 | 0.61 |
| 29:D1:26:A:C8 | 29:D1:27:C:C5 | 2.87 | 0.61 |
| 29:D1:29:C:H3' | 29:D1:29:C:C6 | 2.35 | 0.61 |
| 29:D1:359:U:C4 | 29:D1:360:G:C6 | 2.88 | 0.61 |
| 29:D1:594:U:O4' | 29:D1:609:G:N2 | 2.33 | 0.61 |
| 29:D1:998:A:H2' | 29:D1:999:G:H5' | 1.83 | 0.61 |
| 29:D1:1047:A:O2' | 29:D1:1048:A:H5' | 2.01 | 0.61 |
| 29:D1:1289:G:N3 | 29:D1:1290:A:C8 | 2.68 | 0.61 |
| 29:D1:1390:A:N7 | 29:D1:1418:A:N7 | 2.48 | 0.61 |
| 29:D1:1723:A:H5" | 29:D1:1724:U:OP2 | 1.99 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1780:G:H2' | 29:D1:1781:C:H5 | 1.65 | 0.61 |
| 29:D1:1907:C:H2' | 29:D1:1908:A:C5' | 2.29 | 0.61 |
| 29:D1:2185:G:C5 | 29:D1:2186:U:C5 | 2.88 | 0.61 |
| 29:D1:2385:G:H5" | 74:D1:3547:OHX:N5 | 2.14 | 0.61 |
| 29:D1:2471:U:H4' | 32:DA:23:THR:H | 1.64 | 0.61 |
| 29:D1:2520:A:N3 | 29:D1:2521:U:O2 | 2.34 | 0.61 |
| 29:D1:2814:G:C2 | 29:D1:2815:G:C4 | 2.89 | 0.61 |
| 29:D1:2943:G:N7 | 29:D1:2944:U:C5 | 2.69 | 0.61 |
| 29:D1:3201:C:C6 | 29:D1:3201:C:OP2 | 2.53 | 0.61 |
| 30:D2:11:A:C2 | 30:D2:67:G:O2' | 2.48 | 0.61 |
| 30:D2:26:C:C2' | 30:D2:27:A:O4' | 2.48 | 0.61 |
| 31:D3:156:U:H2' | 31:D3:157:U:C5 | 2.35 | 0.61 |
| 33:DB:148:VAL:O | 33:DB:149:ARG:CB | 2.48 | 0.61 |
| 36:DE:110:LEU:HA | 36:DE:111:GLN:CB | 2.31 | 0.61 |
| 37:DF:12:SER:H | 37:DF:116:LYS:HA | 1.63 | 0.61 |
| 1:A1:14:C:H5' | 3:AB:164:SER:H | 1.65 | 0.61 |
| 1:A1:113:U:H5" | 1:A1:114:C:C5' | 2.22 | 0.61 |
| 1:A1:378:A:N3 | 1:A1:378:A:H2' | 2.15 | 0.61 |
| 1:A1:385:A:O2' | 1:A1:386:G:H5' | 2.00 | 0.61 |
| 1:A1:452:A:C2 | 1:A1:454:U:O5' | 2.54 | 0.61 |
| 1:A1:686:C:C2' | 1:A1:687:G:H8 | 2.01 | 0.61 |
| 1:A1:862:A:C4 | 1:A1:963:A:N6 | 2.68 | 0.61 |
| 1:A1:1043:A:H2' | 1:A1:1044:U:H5 | 1.65 | 0.61 |
| 1:A1:1150:G:O2' | 1:A1:1766:A:C2 | 2.54 | 0.61 |
| 1:A1:1179:G:N2 | 1:A1:1461:C:N4 | 2.47 | 0.61 |
| 1:A1:1349:G:O2' | 1:A1:1350:U:OP2 | 2.19 | 0.61 |
| 1:A1:1437:U:O2 | 1:A1:1437:U:C2' | 2.40 | 0.61 |
| 1:A1:1482:C:O2' | 1:A1:1483:A:O5' | 2.19 | 0.61 |
| 1:A1:1491:U:C3' | 1:A1:1492:A:H2' | 2.30 | 0.61 |
| 1:A1:1543:A:C2 | 1:A1:1544:U:C1' | 2.83 | 0.61 |
| 1:A1:1558:U:C6 | 1:A1:1559:A:H2 | 2.16 | 0.61 |
| 1:A1:1575:G:C6 | 1:A1:1576:A:C6 | 2.88 | 0.61 |
| 1:A1:1584:G:C2 | 11:AJ:124:PRO:HA | 2.35 | 0.61 |
| 1:A1:1602:C:C3' | 1:A1:1603:U:H6 | 2.12 | 0.61 |
| 1:A1:1646:C:O2 | 1:A1:1646:C:C2' | 2.43 | 0.61 |
| 1:A1:1690:G:H2' | 1:A1:1691:A:H5" | 1.81 | 0.61 |
| 3:AB:118:ALA:HB2 | 3:AB:124:ALA:N | 2.15 | 0.61 |
| 17:AP:127:VAL:CB | 17:AP:129:GLY:N | 2.63 | 0.61 |
| 25:Ad:100:UNK:O | 25:Ad:102:UNK:N | 2.33 | 0.61 |
| 28:Ah:20:UNK:O | 28:Ah:24:UNK:N | 2.33 | 0.61 |
| 29:B1:344:A:C2 | 29:B1:345:G:H1' | 2.36 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:576:C:H2' | 29:B1:577:C:H5' | 1.77 | 0.61 |
| 29:B1:606:C:N4 | 29:B1:607:A:C6 | 2.69 | 0.61 |
| 29:B1:607:A:N6 | 29:B1:608:A:C6 | 2.69 | 0.61 |
| 29:B1:648:C:C5 | 29:B1:2375:G:P | 2.94 | 0.61 |
| 29:B1:749:C:C2 | 29:B1:750:G:N7 | 2.68 | 0.61 |
| 29:B1:980:A:O2' | 29:B1:981:U:H4' | 2.01 | 0.61 |
| 29:B1:1177:G:O5' | 29:B1:1177:G:C8 | 2.51 | 0.61 |
| 29:B1:1255:C:C2' | 29:B1:1256:G:H4' | 2.26 | 0.61 |
| 29:B1:1443:G:O2' | 29:B1:1444:G:H5' | 2.01 | 0.61 |
| 29:B1:1608:C:C2 | 29:B1:1609:C:C5 | 2.88 | 0.61 |
| 29:B1:1624:G:N2 | 29:B1:1822:C:N3 | 2.49 | 0.61 |
| 29:B1:1627:U:C5 | 29:B1:1628:C:C4 | 2.88 | 0.61 |
| 29:B1:1680:G:C4 | 29:B1:1681:U:C6 | 2.88 | 0.61 |
| 29:B1:1787:A:C5 | 29:B1:1788:C:C5 | 2.88 | 0.61 |
| 29:B1:2119:A:C8 | 29:B1:2120:A:H2 | 2.18 | 0.61 |
| 29:B1:2587:U:H2' | 29:B1:2588:U:O4' | 2.01 | 0.61 |
| 29:B1:2888:U:C4 | 29:B1:2910:A:N1 | 2.68 | 0.61 |
| 29:B1:3219:G:C4 | 29:B1:3257:C:H3' | 2.35 | 0.61 |
| 29:B1:3221:C:C2 | 29:B1:3222:U:C6 | 2.89 | 0.61 |
| 29:B1:3375:A:H4' | 29:B1:3375:A:OP2 | 2.00 | 0.61 |
| 30:B2:23:A:C2' | 30:B2:24:A:C8 | 2.83 | 0.61 |
| 30:B2:76:A:C4 | 30:B2:78:U:O4 | 2.53 | 0.61 |
| 31:B3:74:U:H4' | 31:B3:89:A:C2 | 2.36 | 0.61 |
| 35:BD:101:ALA:O | 35:BD:102:PRO:O | 2.18 | 0.61 |
| 36:BE:49:TYR:CA | 36:BE:50:ARG:CB | 2.77 | 0.61 |
| 36:BE:144:VAL:O | 36:BE:173:VAL:HA | 2.00 | 0.61 |
| 44:BO:29:GLU:O | 44:BO:30:TYR:C | 2.43 | 0.61 |
| 45:BP:158:ALA:O | 45:BP:161:LYS:N | 2.33 | 0.61 |
| 47:BR:22:ASP:O | 47:BR:23:ASN:C | 2.42 | 0.61 |
| 48:BS:64:ARG:HA | 48:BS:67:ALA:HB3 | 1.83 | 0.61 |
| 1:C1:177:U:OP2 | 1:C1:177:U:C6 | 2.53 | 0.61 |
| 1:C1:184:C:C5 | 1:C1:202:A:C2 | 2.89 | 0.61 |
| 1:C1:217:A:H1' | 1:C1:218:A:C5' | 2.31 | 0.61 |
| 1:C1:358:U:H5" | 1:C1:359:A:P | 2.41 | 0.61 |
| 1:C1:426:G:C6 | 1:C1:427:C:N4 | 2.68 | 0.61 |
| 1:C1:525:A:OP1 | 1:C1:526:A:N7 | 2.33 | 0.61 |
| 1:C1:553:G:C5 | 1:C1:554:C:C4 | 2.88 | 0.61 |
| 1:C1:1488:G:O2' | 1:C1:1494:C:H1' | 2.00 | 0.61 |
| 1:C1:1527:C:H2' | 1:C1:1527:C:O2 | 2.00 | 0.61 |
| 1:C1:1584:G:C2 | 11:CJ:124:PRO:HA | 2.36 | 0.61 |
| 1:C1:1684:U:O2 | 1:C1:1684:U:C3' | 2.47 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:CA:50:VAL:O | 2:CA:53:THR:N | 2.34 | 0.61 |
| 6:CE:100:LYS:HA | 6:CE:104:PHE:H | 1.64 | 0.61 |
| 13:CL:76:PRO:O | 13:CL:81:ILE:N | 2.33 | 0.61 |
| 16:CO:8:ALA:HB2 | 16:CO:75:ILE:CB | 2.30 | 0.61 |
| 28:Ch:9:UNK:O | 28:Ch:13:UNK:N | 2.34 | 0.61 |
| 29:D1:34:A:OP1 | 29:D1:34:A:H4' | 1.99 | 0.61 |
| 29:D1:83:U:C2' | 29:D1:84:U:H5' | 2.30 | 0.61 |
| 29:D1:162:G:N2 | 29:D1:163:C:H1' | 2.16 | 0.61 |
| 29:D1:284:A:N3 | 29:D1:306:A:H1' | 2.14 | 0.61 |
| 29:D1:287:G:H2' | 29:D1:288:C:C6 | 2.31 | 0.61 |
| 29:D1:520:U:H4' | 29:D1:521:A:O5' | 1.99 | 0.61 |
| 29:D1:585:A:C5' | 29:D1:586:C:OP2 | 2.46 | 0.61 |
| 29:D1:974:G:C6 | 29:D1:975:C:N4 | 2.68 | 0.61 |
| 29:D1:1190:A:N3 | 29:D1:1190:A:H2' | 2.14 | 0.61 |
| 29:D1:1277:C:OP2 | 29:D1:1277:C:C6 | 2.54 | 0.61 |
| 29:D1:1314:C:H5" | 29:D1:1315:U:OP2 | 1.99 | 0.61 |
| 29:D1:1764:U:H2' | 29:D1:1765:U:O4' | 2.00 | 0.61 |
| 29:D1:1916:U:C2 | 29:D1:1917:C:C5 | 2.89 | 0.61 |
| 29:D1:2149:A:H62 | 29:D1:2187:G:N2 | 1.98 | 0.61 |
| 29:D1:2235:C:N4 | 74:D1:3473:OHX:N5 | 2.48 | 0.61 |
| 29:D1:2678:A:H5" | 29:D1:2679:A:C2 | 2.35 | 0.61 |
| 29:D1:2931:C:C5 | 29:D1:2932:U:H5 | 2.19 | 0.61 |
| 29:D1:3332:U:C2' | 29:D1:3333:G:OP2 | 2.49 | 0.61 |
| 31:D3:96:A:H5' | 31:D3:97:A:OP2 | 1.99 | 0.61 |
| 33:DB:172:GLY:O | 33:DB:174:ARG:N | 2.33 | 0.61 |
| 33:DB:209:HIS:O | 33:DB:210:PRO:C | 2.43 | 0.61 |
| 36:DE:116:ASP:C | 36:DE:118:THR:N | 2.58 | 0.61 |
| 43:DN:84:LYS:C | 43:DN:86:ALA:H | 2.09 | 0.61 |
| 54:DY:28:HIS:O | 54:DY:30:GLY:N | 2.33 | 0.61 |
| 57:Db:120:THR:O | 57:Db:122:PRO:N | 2.34 | 0.61 |
| 1:A1:542:A:O2' | 1:A1:543:C:O5' | 2.13 | 0.61 |
| 1:A1:586:G:H2' | 1:A1:587:C:C6 | 2.35 | 0.61 |
| 1:A1:647:G:N1 | 1:A1:648:G:O6 | 2.34 | 0.61 |
| 1:A1:649:U:O4 | 1:A1:685:A:N1 | 2.34 | 0.61 |
| 1:A1:766:U:H3' | 1:A1:768:C:OP2 | 2.01 | 0.61 |
| 1:A1:948:G:H2' | 1:A1:949:C:C6 | 2.36 | 0.61 |
| 1:A1:1123:C:H2' | 1:A1:1124:A:O5' | 1.99 | 0.61 |
| 1:A1:1246:C:C4 | 1:A1:1247:U:C5 | 2.88 | 0.61 |
| 1:A1:1720:G:C2' | 1:A1:1721:A:H5' | 2.30 | 0.61 |
| 1:A1:1748:G:H5" | 29:B1:2304:C:H5" | 1.82 | 0.61 |
| 1:A1:1791:A:H8 | 1:A1:1791:A:C5' | 2.13 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1791:A:H8 | 1:A1:1791:A:H5' | 1.64 | 0.61 |
| 5:AD:195:ALA:O | 5:AD:196:GLU:C | 2.44 | 0.61 |
| 29:B1:25:U:N3 | 29:B1:331:G:H8 | 1.98 | 0.61 |
| 29:B1:107:A:C2 | 29:B1:108:A:N3 | 2.69 | 0.61 |
| 29:B1:121:A:H5' | 29:B1:150:A:C2 | 2.35 | 0.61 |
| 29:B1:124:U:H2' | 29:B1:125:C:C1' | 2.30 | 0.61 |
| 29:B1:196:G:N2 | 29:B1:219:A:H62 | 1.98 | 0.61 |
| 29:B1:222:A:C6 | 29:B1:223:U:C4 | 2.88 | 0.61 |
| 29:B1:386:A:H2' | 29:B1:387:A:O5' | 2.00 | 0.61 |
| 29:B1:522:A:N7 | 29:B1:523:A:H8 | 1.98 | 0.61 |
| 29:B1:528:U:C4 | 29:B1:564:G:O6 | 2.53 | 0.61 |
| 29:B1:588:G:C2 | 29:B1:612:U:C5 | 2.88 | 0.61 |
| 29:B1:722:G:H1 | 29:B1:748:U:H3 | 1.48 | 0.61 |
| 29:B1:1040:A:C6 | 29:B1:1041:U:C6 | 2.89 | 0.61 |
| 29:B1:1140:G:C2 | 29:B1:1141:C:C5 | 2.88 | 0.61 |
| 29:B1:1445:U:C6 | 29:B1:1446:A:N7 | 2.69 | 0.61 |
| 29:B1:1446:A:N1 | 29:B1:2356:A:H5" | 2.15 | 0.61 |
| 29:B1:1725:C:H2' | 29:B1:1726:C:H6 | 1.65 | 0.61 |
| 29:B1:2270:A:C2 | 29:B1:2271:A:N3 | 2.69 | 0.61 |
| 29:B1:2279:A:H2 | 29:B1:2285:C:H41 | 1.46 | 0.61 |
| 29:B1:2309:A:C2 | 29:B1:2962:U:O4' | 2.54 | 0.61 |
| 29:B1:2326:A:C6 | 29:B1:2327:U:C5 | 2.88 | 0.61 |
| 29:B1:2370:G:H2' | 29:B1:2371:G:H8 | 1.66 | 0.61 |
| 29:B1:2506:U:H2' | 29:B1:2507:C:C6 | 2.36 | 0.61 |
| 29:B1:2555:G:H1' | 29:B1:2556:C:OP2 | 2.00 | 0.61 |
| 29:B1:2764:C:OP2 | 29:B1:2764:C:H6 | 1.82 | 0.61 |
| 29:B1:2900:A:C2 | 29:B1:2901:G:C8 | 2.88 | 0.61 |
| 29:B1:3035:A:C4 | 29:B1:3036:G:C8 | 2.89 | 0.61 |
| 29:B1:3060:C:OP1 | 29:B1:3374:U:H5' | 2.01 | 0.61 |
| 29:B1:3180:A:H8 | 45:BP:114:LYS:CA | 2.13 | 0.61 |
| 30:B2:88:G:O6 | 30:B2:89:G:O6 | 2.19 | 0.61 |
| 31:B3:40:A:C4 | 31:B3:41:A:N7 | 2.69 | 0.61 |
| 31:B3:107:G:C2' | 31:B3:108:C:H5' | 2.30 | 0.61 |
| 31:B3:111:A:H5" | 31:B3:111:A:C8 | 2.34 | 0.61 |
| 32:BA:95:LYS:HA | 32:BA:100:ILE:N | 2.15 | 0.61 |
| 38:BG:219:LYS:HA | 38:BG:227:GLY:O | 2.01 | 0.61 |
| 39:BH:85:ASN:O | 39:BH:88:ALA:HB3 | 2.01 | 0.61 |
| 39:BH:219:ASP:O | 39:BH:223:ALA:CB | 2.49 | 0.61 |
| 49:BT:114:ALA:O | 49:BT:117:ALA:HB3 | 2.00 | 0.61 |
| 57:Bb:65:PHE:C | 57:Bb:67:SER:CB | 2.74 | 0.61 |
| 57:Bb:68:PRO:O | 57:Bb:69:SER:CB | 2.49 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:23:G:O2' | 1:C1:368:U:OP1 | 2.19 | 0.61 |
| 1:C1:27:U:O2' | 1:C1:28:A:H5' | 2.00 | 0.61 |
| 1:C1:118:U:O2 | 1:C1:299:A:C2 | 2.53 | 0.61 |
| 1:C1:359:A:H3' | 1:C1:359:A:OP1 | 2.01 | 0.61 |
| 1:C1:859:A:H4' | 1:C1:860:U:OP2 | 2.00 | 0.61 |
| 1:C1:877:G:H5' | 1:C1:936:G:N2 | 2.15 | 0.61 |
| 1:C1:923:A:H2' | 1:C1:924:A:C8 | 2.36 | 0.61 |
| 1:C1:1176:G:C6 | 1:C1:1177:C:C4 | 2.88 | 0.61 |
| 1:C1:1363:U:H2' | 1:C1:1364:G:N9 | 2.14 | 0.61 |
| 1:C1:1428:G:O5' | 1:C1:1429:G:OP2 | 2.19 | 0.61 |
| 1:C1:1481:C:H5 | 1:C1:1482:C:C2 | 2.18 | 0.61 |
| 1:C1:1634:C:O2 | 1:C1:1634:C:C2' | 2.46 | 0.61 |
| 1:C1:1661:U:H2' | 1:C1:1662:G:H8 | 1.63 | 0.61 |
| 2:CA:130:ALA:C | 2:CA:132:ALA:N | 2.59 | 0.61 |
| 3:CB:215:PHE:O | 3:CB:217:ALA:N | 2.33 | 0.61 |
| 6:CE:26:ALA:O | 6:CE:29:LYS:N | 2.34 | 0.61 |
| 14:CM:13:ASP:C | 14:CM:15:ILE:H | 2.09 | 0.61 |
| 25:Cd:102:UNK:O | 25:Cd:105:UNK:CB | 2.49 | 0.61 |
| 29:D1:88:A:H2 | 29:D1:281:G:N3 | 1.99 | 0.61 |
| 29:D1:189:G:C2 | 29:D1:191:U:C4 | 2.89 | 0.61 |
| 29:D1:425:G:C6 | 29:D1:635:G:C2 | 2.89 | 0.61 |
| 29:D1:873:C:H3' | 29:D1:874:U:H4' | 1.83 | 0.61 |
| 29:D1:891:G:H5' | 29:D1:2324:A:N3 | 2.15 | 0.61 |
| 29:D1:959:C:H41 | 29:D1:2801:A:H5" | 1.64 | 0.61 |
| 29:D1:992:A:N1 | 29:D1:993:G:C5 | 2.69 | 0.61 |
| 29:D1:1272:C:H2' | 29:D1:1273:A:C4' | 2.31 | 0.61 |
| 29:D1:1390:A:C4 | 29:D1:1418:A:C6 | 2.89 | 0.61 |
| 29:D1:1463:U:H2' | 29:D1:1464:G:H8 | 1.65 | 0.61 |
| 29:D1:1526:U:O4' | 29:D1:1594:A:C2 | 2.54 | 0.61 |
| 29:D1:1713:G:C8 | 29:D1:1714:A:C2 | 2.88 | 0.61 |
| 29:D1:2269:U:H2' | 29:D1:2270:A:H5' | 1.83 | 0.61 |
| 29:D1:2280:A:C5 | 29:D1:2282:U:C5 | 2.88 | 0.61 |
| 29:D1:2339:C:H5 | 29:D1:3093:C:OP1 | 1.83 | 0.61 |
| 29:D1:2502:A:N3 | 29:D1:2502:A:H2' | 2.15 | 0.61 |
| 29:D1:2640:A:N9 | 29:D1:2641:U:H5 | 1.98 | 0.61 |
| 29:D1:2673:A:H2 | 29:D1:2674:A:C6 | 2.19 | 0.61 |
| 29:D1:2673:A:C2 | 29:D1:2674:A:C5 | 2.88 | 0.61 |
| 29:D1:2912:G:C6 | 29:D1:2913:C:C2 | 2.89 | 0.61 |
| 29:D1:2932:U:H5" | 50:DU:41:GLY:HA2 | 1.83 | 0.61 |
| 29:D1:3010:U:O4' | 34:DC:15:GLY:HA3 | 2.01 | 0.61 |
| 29:D1:3095:U:C2' | 29:D1:3096:C:O5' | 2.48 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3180:A:OP1 | 29:D1:3180:A:C4' | 2.48 | 0.61 |
| 29:D1:3180:A:OP1 | 29:D1:3180:A:H4' | 1.99 | 0.61 |
| 29:D1:3320:A:C5 | 29:D1:3321:C:C4 | 2.89 | 0.61 |
| 31:D3:78:G:H2' | 31:D3:79:A:C8 | 2.36 | 0.61 |
| 37:DF:157:GLN:C | 37:DF:159:LEU:H | 2.08 | 0.61 |
| 42:DK:85:LYS:O | 42:DK:87:LYS:N | 2.34 | 0.61 |
| 73:DM:94:THR:O | 73:DM:95:GLU:C | 2.43 | 0.61 |
| 43:DN:107:GLU:O | 43:DN:109:ARG:N | 2.32 | 0.61 |
| 45:DP:95:GLY:O | 45:DP:97:ALA:C | 2.44 | 0.61 |
| 1:A1:166:C:H2' | 1:A1:167:U:H5" | 1.83 | 0.61 |
| 1:A1:225:A:C4 | 1:A1:226:A:C8 | 2.88 | 0.61 |
| 1:A1:330:G:N3 | 1:A1:331:A:C8 | 2.69 | 0.61 |
| 1:A1:381:C:C2 | 1:A1:382:C:C5 | 2.88 | 0.61 |
| 1:A1:463:U:H2' | 1:A1:464:A:O4' | 2.01 | 0.61 |
| 1:A1:553:G:N2 | 1:A1:572:C:N3 | 2.49 | 0.61 |
| 1:A1:609:U:C5' | 1:A1:610:G:C5 | 2.80 | 0.61 |
| 1:A1:750:U:O5' | 1:A1:750:U:H6 | 1.84 | 0.61 |
| 1:A1:824:G:H4' | 1:A1:825:U:C5' | 2.17 | 0.61 |
| 1:A1:899:G:N2 | 1:A1:915:A:C2 | 2.67 | 0.61 |
| 1:A1:1129:U:C5 | 1:A1:1130:G:N7 | 2.68 | 0.61 |
| 1:A1:1310:U:O5' | 1:A1:1310:U:H6 | 1.84 | 0.61 |
| 1:A1:1538:U:H5 | 1:A1:1540:G:C8 | 2.19 | 0.61 |
| 1:A1:1579:U:H2' | 1:A1:1580:C:C6 | 2.35 | 0.61 |
| 1:A1:1584:G:C8 | 11:AJ:123:ARG:N | 2.59 | 0.61 |
| 1:A1:1614:A:H2' | 1:A1:1614:A:N3 | 2.16 | 0.61 |
| 1:A1:1633:A:H1' | 1:A1:1634:C:OP2 | 2.01 | 0.61 |
| 1:A1:1796:C:OP2 | 1:A1:1797:A:C8 | 2.54 | 0.61 |
| 3:AB:142:GLY:HA2 | 3:AB:147:ASN:CB | 2.30 | 0.61 |
| 8:AG:129:TYR:HA | 8:AG:133:ALA:H | 1.65 | 0.61 |
| 16:AO:106:THR:O | 16:AO:107:SER:C | 2.43 | 0.61 |
| 20:AS:41:GLN:N | 74:AS:101:OHX:N4 | 2.49 | 0.61 |
| 29:B1:22:G:H5' | 31:B3:104:A:O2' | 2.00 | 0.61 |
| 29:B1:51:A:C2' | 29:B1:52:A:H5' | 2.30 | 0.61 |
| 29:B1:60:A:N1 | 29:B1:328:U:O2 | 2.34 | 0.61 |
| 29:B1:611:A:C5' | 29:B1:612:U:OP1 | 2.48 | 0.61 |
| 29:B1:731:U:H5" | 47:BR:136:ASN:H | 1.65 | 0.61 |
| 29:B1:1281:G:C6 | 29:B1:1282:G:C5 | 2.88 | 0.61 |
| 29:B1:1369:A:H2' | 29:B1:1370:G:O4' | 2.01 | 0.61 |
| 29:B1:1422:G:C4 | 29:B1:1423:C:C5 | 2.88 | 0.61 |
| 29:B1:1469:C:O2 | 29:B1:1509:A:C2 | 2.54 | 0.61 |
| 29:B1:1594:A:H1' | 29:B1:1615:C:H1' | 1.81 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1631:C:H5' | 29:B1:1813:A:H2 | 1.64 | 0.61 |
| 29:B1:1812:G:H4' | 29:B1:1812:G:OP1 | 2.01 | 0.61 |
| 29:B1:1916:U:H2' | 29:B1:1917:C:C6 | 2.35 | 0.61 |
| 29:B1:2118:C:H6 | 29:B1:2118:C:O5' | 1.84 | 0.61 |
| 29:B1:2219:A:H2' | 29:B1:2220:A:H5' | 1.83 | 0.61 |
| 29:B1:2375:G:O2' | 29:B1:2377:G:OP2 | 2.17 | 0.61 |
| 29:B1:2390:A:C4' | 29:B1:3307:A:H2 | 2.10 | 0.61 |
| 29:B1:2636:A:C5' | 29:B1:2637:A:H5' | 2.29 | 0.61 |
| 29:B1:3104:U:O2 | 29:B1:3129:A:N7 | 2.34 | 0.61 |
| 29:B1:3142:A:H1' | 29:B1:3144:G:C8 | 2.36 | 0.61 |
| 29:B1:3320:A:O2' | 29:B1:3321:C:O4' | 2.14 | 0.61 |
| 30:B2:37:G:N2 | 30:B2:45:A:N6 | 2.49 | 0.61 |
| 30:B2:94:C:O2' | 30:B2:95:A:H5' | 2.00 | 0.61 |
| 31:B3:67:U:C3' | 31:B3:68:G:H8 | 2.14 | 0.61 |
| 41:BJ:121:LYS:O | 41:BJ:122:PRO:C | 2.43 | 0.61 |
| 46:BQ:47:TYR:O | 46:BQ:49:GLU:N | 2.34 | 0.61 |
| 61:Bf:38:GLN:O | 61:Bf:39:GLY:C | 2.43 | 0.61 |
| 62:Bg:17:ARG:O | 62:Bg:18:TYR:CB | 2.48 | 0.61 |
| 1:C1:33:U:O2 | 1:C1:468:A:C2 | 2.53 | 0.61 |
| 1:C1:333:A:C6 | 1:C1:334:G:C6 | 2.88 | 0.61 |
| 1:C1:751:G:O2' | 1:C1:752:A:H5' | 2.01 | 0.61 |
| 1:C1:894:U:H1' | 1:C1:919:A:C2 | 2.36 | 0.61 |
| 1:C1:920:U:OP2 | 1:C1:920:U:H6 | 1.84 | 0.61 |
| 1:C1:1160:A:C2' | 1:C1:1161:C:H6 | 2.12 | 0.61 |
| 1:C1:1321:A:C5 | 2:CA:105:GLY:HA3 | 2.36 | 0.61 |
| 1:C1:1327:C:O3' | 4:CC:158:ILE:CB | 2.48 | 0.61 |
| 1:C1:1392:U:H5" | 1:C1:1392:U:H6 | 1.65 | 0.61 |
| 1:C1:1523:G:OP2 | 1:C1:1524:A:OP2 | 2.18 | 0.61 |
| 1:C1:1555:A:H5" | 1:C1:1556:A:OP2 | 2.01 | 0.61 |
| 1:C1:1614:A:H2' | 1:C1:1614:A:N3 | 2.15 | 0.61 |
| 1:C1:1634:C:C6 | 1:C1:1634:C:OP1 | 2.54 | 0.61 |
| 3:CB:128:GLY:O | 3:CB:131:ILE:N | 2.29 | 0.61 |
| 5:CD:56:ALA:O | 5:CD:58:LEU:N | 2.34 | 0.61 |
| 5:CD:218:GLU:C | 5:CD:220:VAL:H | 2.09 | 0.61 |
| 8:CG:127:ARG:C | 8:CG:129:TYR:H | 2.08 | 0.61 |
| 9:CH:39:ILE:O | 9:CH:40:ALA:HB2 | 1.99 | 0.61 |
| 29:D1:51:A:O2' | 29:D1:52:A:H5' | 2.00 | 0.61 |
| 29:D1:154:U:C4' | 29:D1:155:G:OP2 | 2.43 | 0.61 |
| 29:D1:423:A:N6 | 29:D1:637:C:OP1 | 2.32 | 0.61 |
| 29:D1:515:C:H2' | 29:D1:516:A:C4' | 2.27 | 0.61 |
| 29:D1:807:A:H3' | 29:D1:807:A:H8 | 1.65 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1139:G:C4 | 29:D1:1140:G:C8 | 2.89 | 0.61 |
| 29:D1:1158:A:O2' | 29:D1:1330:A:C2 | 2.53 | 0.61 |
| 29:D1:1201:C:H2' | 29:D1:1202:A:C5' | 2.30 | 0.61 |
| 29:D1:1279:C:O2' | 29:D1:1280:C:O5' | 2.16 | 0.61 |
| 29:D1:1337:A:C4 | 29:D1:1338:C:C5 | 2.89 | 0.61 |
| 29:D1:1785:U:HO2' | 29:D1:1786:G:H8 | 1.45 | 0.61 |
| 29:D1:2179:C:O2 | 33:DB:129:ALA:HB3 | 2.01 | 0.61 |
| 29:D1:2257:C:H5' | 29:D1:2258:U:H5 | 1.66 | 0.61 |
| 29:D1:2259:A:H3' | 29:D1:2260:U:C5 | 2.36 | 0.61 |
| 29:D1:2315:G:C2 | 29:D1:2316:G:C8 | 2.89 | 0.61 |
| 29:D1:2546:C:N4 | 29:D1:2547:A:H62 | 1.99 | 0.61 |
| 29:D1:2651:G:HO2' | 29:D1:2796:G:H1 | 1.48 | 0.61 |
| 29:D1:3040:A:O5' | 50:DU:11:PHE:HA | 2.01 | 0.61 |
| 29:D1:3157:U:H6 | 29:D1:3157:U:P | 2.24 | 0.61 |
| 29:D1:3204:C:C2' | 29:D1:3205:G:OP1 | 2.48 | 0.61 |
| 29:D1:3218:A:H4' | 29:D1:3220:G:C8 | 2.36 | 0.61 |
| 29:D1:3264:G:H2' | 29:D1:3265:C:C5' | 2.28 | 0.61 |
| 29:D1:3377:G:H5' | 74:D1:3452:OHX:N2 | 2.15 | 0.61 |
| 30:D2:11:A:C4' | 30:D2:13:A:H2' | 2.31 | 0.61 |
| 33:DB:81:GLY:O | 62:Dg:64:VAL:HA | 2.00 | 0.61 |
| 34:DC:68:HIS:O | 34:DC:69:LYS:C | 2.43 | 0.61 |
| 38:DG:29:GLU:O | 38:DG:32:ALA:HB3 | 2.00 | 0.61 |
| 41:DJ:91:VAL:O | 41:DJ:92:HIS:CB | 2.49 | 0.61 |
| 42:DK:50:ALA:CB | 42:DK:63:GLU:H | 2.08 | 0.61 |
| 43:DN:9:ALA:O | 43:DN:10:SER:CB | 2.49 | 0.61 |
| 47:DR:51:ALA:O | 47:DR:52:LEU:C | 2.44 | 0.61 |
| 47:DR:131:ALA:O | 47:DR:133:LYS:N | 2.34 | 0.61 |
| 59:Dd:27:PHE:O | 59:Dd:29:VAL:N | 2.33 | 0.61 |
| 1:A1:89:G:H2' | 1:A1:90:C:H6 | 1.64 | 0.61 |
| 1:A1:127:G:C5 | 1:A1:179:A:C5 | 2.89 | 0.61 |
| 1:A1:219:A:N6 | 1:A1:843:U:H1' | 2.16 | 0.61 |
| 1:A1:245:U:C2 | 1:A1:247:A:OP2 | 2.54 | 0.61 |
| 1:A1:262:U:H2' | 1:A1:263:C:C6 | 2.36 | 0.61 |
| 1:A1:401:A:O2' | 1:A1:402:C:O2' | 2.19 | 0.61 |
| 1:A1:542:A:H2 | 1:A1:544:A:H3' | 1.66 | 0.61 |
| 1:A1:986:G:O2' | 1:A1:987:G:H8 | 1.84 | 0.61 |
| 1:A1:1075:C:C4 | 1:A1:1076:A:N1 | 2.69 | 0.61 |
| 1:A1:1254:U:O2' | 1:A1:1255:G:P | 2.58 | 0.61 |
| 1:A1:1336:A:C6 | 1:A1:1416:G:C6 | 2.88 | 0.61 |
| 1:A1:1466:G:C6 | 1:A1:1467:C:C4 | 2.88 | 0.61 |
| 1:A1:1634:C:C6 | 1:A1:1634:C:O5' | 2.54 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1757:G:C2’ | 1:A1:1758:U:O5’ | 2.49 | 0.61 |
| 13:AL:71:GLN:O | 13:AL:72:ILE:C | 2.41 | 0.61 |
| 14:AM:27:LYS:C | 14:AM:29:GLU:H | 2.08 | 0.61 |
| 15:AN:12:GLN:O | 15:AN:13:GLU:C | 2.43 | 0.61 |
| 29:B1:237:G:C2’ | 29:B1:238:A:H5’ | 2.31 | 0.61 |
| 29:B1:514:G:O2’ | 37:BF:145:LEU:O | 2.19 | 0.61 |
| 29:B1:516:A:P | 29:B1:517:G:OP1 | 2.59 | 0.61 |
| 29:B1:592:A:H3’ | 29:B1:593:C:C4’ | 2.30 | 0.61 |
| 29:B1:594:U:C4 | 29:B1:595:G:C6 | 2.89 | 0.61 |
| 29:B1:636:C:H5 | 29:B1:2378:C:O4’ | 1.81 | 0.61 |
| 29:B1:783:A:N7 | 74:B1:3483:OHX:N1 | 2.49 | 0.61 |
| 29:B1:863:C:H2’ | 29:B1:864:G:C5’ | 2.31 | 0.61 |
| 29:B1:934:G:C5 | 29:B1:935:U:C5 | 2.89 | 0.61 |
| 29:B1:1201:C:H2’ | 29:B1:1202:A:C5’ | 2.31 | 0.61 |
| 29:B1:1390:A:C4 | 29:B1:1418:A:C6 | 2.89 | 0.61 |
| 29:B1:1453:A:C2 | 29:B1:1878:G:N2 | 2.69 | 0.61 |
| 29:B1:1465:A:N6 | 29:B1:1466:G:N1 | 2.49 | 0.61 |
| 29:B1:1626:U:H2’ | 29:B1:1627:U:C1’ | 2.30 | 0.61 |
| 29:B1:2164:A:C2 | 29:B1:2171:G:C4 | 2.88 | 0.61 |
| 29:B1:2219:A:C2’ | 29:B1:2220:A:H5’ | 2.31 | 0.61 |
| 29:B1:2277:C:H5” | 29:B1:2317:A:C4’ | 2.21 | 0.61 |
| 29:B1:2674:A:N3 | 29:B1:2674:A:H2’ | 2.16 | 0.61 |
| 29:B1:3058:U:O2’ | 29:B1:3059:G:P | 2.59 | 0.61 |
| 29:B1:3110:C:O2’ | 29:B1:3111:U:H5’ | 2.01 | 0.61 |
| 29:B1:3176:G:H2’ | 29:B1:3177:G:H5’ | 1.82 | 0.61 |
| 29:B1:3314:A:C5’ | 34:BC:119:TYR:H | 2.10 | 0.61 |
| 30:B2:2:G:N3 | 30:B2:3:U:C6 | 2.69 | 0.61 |
| 31:B3:128:U:H5’ | 31:B3:129:C:OP2 | 2.01 | 0.61 |
| 63:Bh:7:UNK:O | 63:Bh:10:UNK:CB | 2.48 | 0.61 |
| 68:Bn:10:UNK:O | 68:Bn:14:UNK:CB | 2.49 | 0.61 |
| 1:C1:61:A:H4’ | 1:C1:62:A:OP2 | 1.97 | 0.61 |
| 1:C1:238:U:O5’ | 1:C1:239:C:H3’ | 2.01 | 0.61 |
| 1:C1:364:G:C2 | 1:C1:381:C:C4 | 2.88 | 0.61 |
| 1:C1:390:G:N2 | 1:C1:407:A:H61 | 1.98 | 0.61 |
| 1:C1:416:A:C4’ | 1:C1:417:A:OP2 | 2.31 | 0.61 |
| 1:C1:733:A:C2 | 1:C1:734:A:C5 | 2.89 | 0.61 |
| 1:C1:955:A:C2 | 1:C1:956:C:C2 | 2.89 | 0.61 |
| 1:C1:1241:G:O3’ | 1:C1:1242:A:H8 | 1.84 | 0.61 |
| 1:C1:1309:C:H2’ | 1:C1:1310:U:O5’ | 2.00 | 0.61 |
| 1:C1:1320:U:O2 | 1:C1:1322:A:H5’ | 1.99 | 0.61 |
| 1:C1:1349:G:C4’ | 1:C1:1350:U:H5’ | 2.30 | 0.61 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1467:C:H2' | 1:C1:1468:U:H6 | 1.65 | 0.61 |
| 1:C1:1623:C:H2' | 1:C1:1623:C:O2 | 2.00 | 0.61 |
| 1:C1:1779:U:O2' | 1:C1:1780:G:O5' | 2.17 | 0.61 |
| 3:CB:142:GLY:HA2 | 3:CB:147:ASN:CB | 2.31 | 0.61 |
| 14:CM:60:SER:O | 14:CM:62:ALA:N | 2.34 | 0.61 |
| 29:D1:118:U:N3 | 29:D1:150:A:N6 | 2.28 | 0.61 |
| 29:D1:312:C:O2' | 29:D1:313:A:H5' | 2.01 | 0.61 |
| 29:D1:392:G:C2 | 29:D1:393:U:H6 | 2.17 | 0.61 |
| 29:D1:607:A:C2 | 29:D1:608:A:N9 | 2.69 | 0.61 |
| 29:D1:986:U:O2' | 29:D1:987:U:O5' | 2.19 | 0.61 |
| 29:D1:1237:G:C2 | 29:D1:1252:A:C2 | 2.89 | 0.61 |
| 29:D1:1449:A:H4' | 29:D1:2983:C:C2 | 2.35 | 0.61 |
| 29:D1:1715:A:C3' | 29:D1:1716:U:H5" | 2.27 | 0.61 |
| 29:D1:1899:G:N2 | 29:D1:2334:U:C6 | 2.69 | 0.61 |
| 29:D1:2186:U:H2' | 29:D1:2187:G:H8 | 1.65 | 0.61 |
| 29:D1:2380:U:C2 | 29:D1:2381:G:C8 | 2.89 | 0.61 |
| 29:D1:2561:A:N6 | 29:D1:2579:G:C4 | 2.69 | 0.61 |
| 29:D1:3260:G:O6 | 29:D1:3261:C:H1' | 2.00 | 0.61 |
| 29:D1:3305:A:C4 | 29:D1:3306:U:C2 | 2.88 | 0.61 |
| 29:D1:3374:U:O2' | 29:D1:3375:A:O5' | 2.18 | 0.61 |
| 30:D2:49:G:OP2 | 30:D2:49:G:C4 | 2.54 | 0.61 |
| 30:D2:74:C:C5 | 30:D2:75:G:C8 | 2.89 | 0.61 |
| 31:D3:69:U:O3' | 31:D3:70:G:H4' | 1.98 | 0.61 |
| 34:DC:133:TYR:C | 34:DC:135:ALA:N | 2.58 | 0.61 |
| 36:DE:147:ASP:O | 36:DE:148:ILE:C | 2.44 | 0.61 |
| 73:DM:42:ARG:O | 73:DM:45:LEU:N | 2.34 | 0.61 |
| 46:DQ:30:ARG:O | 46:DQ:32:THR:N | 2.33 | 0.61 |
| 59:Dd:28:HIS:O | 59:Dd:31:LYS:N | 2.34 | 0.61 |
| 1:A1:746:A:H2' | 1:A1:747:C:O4' | 2.01 | 0.60 |
| 1:A1:766:U:H5 | 1:A1:769:A:OP2 | 1.84 | 0.60 |
| 1:A1:1391:A:N1 | 1:A1:1409:G:N2 | 2.49 | 0.60 |
| 1:A1:1501:C:H2' | 1:A1:1502:G:H5' | 1.83 | 0.60 |
| 1:A1:1558:U:H3' | 1:A1:1559:A:C5' | 2.31 | 0.60 |
| 1:A1:1712:A:H2' | 1:A1:1713:G:H8 | 1.64 | 0.60 |
| 3:AB:163:GLY:O | 3:AB:165:VAL:N | 2.34 | 0.60 |
| 4:AC:74:GLN:O | 4:AC:75:LYS:C | 2.44 | 0.60 |
| 29:B1:583:G:C6 | 29:B1:584:G:N7 | 2.69 | 0.60 |
| 29:B1:592:A:C1' | 29:B1:593:C:O4' | 2.49 | 0.60 |
| 29:B1:722:G:C2 | 29:B1:748:U:C2 | 2.88 | 0.60 |
| 29:B1:1570:U:H4' | 31:B3:127:U:O4 | 2.00 | 0.60 |
| 29:B1:1607:U:O2' | 29:B1:1608:C:P | 2.58 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2116:G:H5' | 29:B1:2116:G:N3 | 2.16 | 0.60 |
| 29:B1:2352:A:C6 | 29:B1:2353:G:C6 | 2.89 | 0.60 |
| 29:B1:2646:C:O2' | 29:B1:2647:A:H5' | 2.00 | 0.60 |
| 29:B1:2725:U:H6 | 29:B1:2725:U:H3' | 1.64 | 0.60 |
| 29:B1:2830:G:H1 | 29:B1:2858:U:H3 | 1.48 | 0.60 |
| 29:B1:3050:U:C5 | 29:B1:3051:U:C5 | 2.89 | 0.60 |
| 29:B1:3069:G:C2 | 29:B1:3070:A:C8 | 2.89 | 0.60 |
| 29:B1:3217:C:H4' | 29:B1:3218:A:OP2 | 2.00 | 0.60 |
| 29:B1:3386:G:H8 | 29:B1:3386:G:H3' | 1.64 | 0.60 |
| 34:BC:60:LEU:C | 34:BC:62:ARG:H | 2.08 | 0.60 |
| 34:BC:294:GLY:CA | 34:BC:295:ALA:C | 2.74 | 0.60 |
| 39:BH:168:ALA:C | 39:BH:170:CYS:H | 2.09 | 0.60 |
| 40:BI:87:LYS:HA | 40:BI:147:SER:CB | 2.31 | 0.60 |
| 41:BJ:12:GLN:O | 41:BJ:14:ASN:N | 2.34 | 0.60 |
| 41:BJ:61:SER:HA | 41:BJ:126:ALA:CB | 2.31 | 0.60 |
| 44:BO:155:VAL:O | 44:BO:157:LYS:N | 2.34 | 0.60 |
| 59:Bd:28:HIS:O | 59:Bd:29:VAL:C | 2.43 | 0.60 |
| 1:C1:10:G:C6 | 1:C1:11:A:C6 | 2.89 | 0.60 |
| 1:C1:138:A:C6 | 1:C1:142:G:H1' | 2.36 | 0.60 |
| 1:C1:534:A:C3' | 1:C1:535:A:H8 | 2.14 | 0.60 |
| 1:C1:887:A:C4 | 1:C1:888:U:C5 | 2.89 | 0.60 |
| 1:C1:1116:A:C6 | 1:C1:1117:U:C4 | 2.89 | 0.60 |
| 1:C1:1390:U:H2' | 1:C1:1391:A:OP2 | 2.01 | 0.60 |
| 1:C1:1541:G:C5 | 1:C1:1542:G:C6 | 2.88 | 0.60 |
| 1:C1:1558:U:C5 | 1:C1:1559:A:H5" | 2.36 | 0.60 |
| 1:C1:1753:A:H2' | 1:C1:1753:A:N3 | 2.16 | 0.60 |
| 2:CA:8:ASP:C | 2:CA:10:THR:N | 2.56 | 0.60 |
| 2:CA:182:LEU:O | 2:CA:187:ALA:HA | 1.99 | 0.60 |
| 6:CE:99:LEU:O | 6:CE:101:VAL:N | 2.33 | 0.60 |
| 7:CF:95:PRO:O | 7:CF:96:LYS:C | 2.44 | 0.60 |
| 13:CL:71:GLN:HA | 13:CL:75:ASN:CB | 2.31 | 0.60 |
| 29:D1:237:G:C2' | 29:D1:238:A:H5' | 2.30 | 0.60 |
| 29:D1:607:A:N1 | 29:D1:608:A:C4 | 2.69 | 0.60 |
| 29:D1:645:A:N7 | 29:D1:649:A:C6 | 2.69 | 0.60 |
| 29:D1:699:A:C8 | 29:D1:699:A:H3' | 2.36 | 0.60 |
| 29:D1:1077:U:H3 | 29:D1:1083:G:N2 | 1.97 | 0.60 |
| 29:D1:1199:C:C4 | 74:D1:3574:OHX:N3 | 2.69 | 0.60 |
| 29:D1:2178:A:OP1 | 33:DB:126:LEU:HA | 2.01 | 0.60 |
| 29:D1:2314:U:O2 | 29:D1:2314:U:O4' | 2.18 | 0.60 |
| 29:D1:2681:U:O2' | 29:D1:2682:C:C5' | 2.48 | 0.60 |
| 29:D1:2868:U:C5 | 29:D1:2869:U:H5 | 2.19 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2986:U:C2' | 29:D1:2987:A:H5' | 2.31 | 0.60 |
| 29:D1:3282:U:C2 | 29:D1:3283:U:C5 | 2.88 | 0.60 |
| 29:D1:3377:G:C1' | 29:D1:3378:C:H5' | 2.31 | 0.60 |
| 30:D2:13:A:C2 | 30:D2:13:A:P | 2.94 | 0.60 |
| 30:D2:77:G:N3 | 30:D2:101:G:C6 | 2.69 | 0.60 |
| 34:DC:27:ALA:CB | 34:DC:219:ALA:HA | 2.31 | 0.60 |
| 36:DE:234:ASP:O | 36:DE:236:LEU:N | 2.34 | 0.60 |
| 36:DE:273:ARG:C | 36:DE:275:THR:N | 2.59 | 0.60 |
| 39:DH:81:THR:O | 39:DH:82:LEU:C | 2.44 | 0.60 |
| 72:DL:62:LEU:HA | 72:DL:70:ALA:C | 2.25 | 0.60 |
| 43:DN:24:LYS:HA | 43:DN:31:LYS:N | 2.15 | 0.60 |
| 46:DQ:50:GLN:O | 46:DQ:54:HIS:N | 2.33 | 0.60 |
| 50:DU:39:VAL:O | 50:DU:40:LYS:C | 2.42 | 0.60 |
| 56:Da:13:THR:O | 56:Da:14:ILE:C | 2.44 | 0.60 |
| 1:A1:34:G:C5 | 1:A1:475:A:N6 | 2.69 | 0.60 |
| 1:A1:426:G:N1 | 1:A1:427:C:C4 | 2.70 | 0.60 |
| 1:A1:564:G:O2' | 1:A1:577:G:H4' | 2.01 | 0.60 |
| 1:A1:897:C:N3 | 1:A1:914:G:C2 | 2.69 | 0.60 |
| 1:A1:1005:A:H2' | 1:A1:1006:C:O4' | 2.00 | 0.60 |
| 1:A1:1118:G:C6 | 1:A1:1119:G:C6 | 2.89 | 0.60 |
| 1:A1:1348:A:C2 | 1:A1:1378:U:H6 | 2.19 | 0.60 |
| 1:A1:1424:A:O2' | 3:AB:92:ALA:HB3 | 2.00 | 0.60 |
| 1:A1:1454:G:N2 | 1:A1:1455:G:H1' | 2.16 | 0.60 |
| 1:A1:1683:C:O5' | 1:A1:1684:U:OP1 | 2.18 | 0.60 |
| 1:A1:1725:U:H6 | 1:A1:1725:U:O5' | 1.83 | 0.60 |
| 1:A1:1739:C:H2' | 1:A1:1740:A:C8 | 2.37 | 0.60 |
| 3:AB:133:LYS:C | 3:AB:135:SER:H | 2.09 | 0.60 |
| 8:AG:83:GLU:O | 8:AG:84:ILE:CB | 2.49 | 0.60 |
| 8:AG:127:ARG:O | 8:AG:129:TYR:N | 2.34 | 0.60 |
| 16:AO:80:ASN:O | 16:AO:123:GLY:O | 2.19 | 0.60 |
| 26:Ae:18:UNK:O | 26:Ae:20:UNK:N | 2.34 | 0.60 |
| 29:B1:146:U:C4 | 29:B1:147:U:C2 | 2.88 | 0.60 |
| 29:B1:331:G:C2 | 29:B1:332:C:C4 | 2.89 | 0.60 |
| 29:B1:501:A:C2 | 29:B1:613:G:C2 | 2.88 | 0.60 |
| 29:B1:515:C:C4 | 29:B1:516:A:C8 | 2.89 | 0.60 |
| 29:B1:519:A:H62 | 37:BF:30:LEU:CA | 2.14 | 0.60 |
| 29:B1:702:C:C2 | 29:B1:703:G:C8 | 2.88 | 0.60 |
| 29:B1:726:G:C5 | 29:B1:727:G:N1 | 2.69 | 0.60 |
| 29:B1:1415:U:C2 | 29:B1:1416:C:H5 | 2.18 | 0.60 |
| 29:B1:1416:C:O2 | 29:B1:1416:C:C2' | 2.46 | 0.60 |
| 29:B1:1453:A:H2' | 29:B1:1878:G:N1 | 2.16 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1514:G:N7 | 29:B1:1841:A:C2 | 2.69 | 0.60 |
| 29:B1:1525:G:C8 | 29:B1:1829:G:C5 | 2.89 | 0.60 |
| 29:B1:1837:U:O2' | 29:B1:1842:A:C8 | 2.53 | 0.60 |
| 29:B1:2467:G:N2 | 29:B1:2488:A:H62 | 1.98 | 0.60 |
| 29:B1:2842:U:O2 | 29:B1:2842:U:C2' | 2.49 | 0.60 |
| 29:B1:2859:U:O2 | 74:B1:3417:OHX:N4 | 2.34 | 0.60 |
| 29:B1:2904:U:O2 | 29:B1:2904:U:C3' | 2.49 | 0.60 |
| 29:B1:2914:G:C4 | 29:B1:2915:U:C6 | 2.89 | 0.60 |
| 29:B1:2934:A:C5' | 29:B1:2935:U:OP2 | 2.50 | 0.60 |
| 29:B1:3062:G:C6 | 29:B1:3063:C:C4 | 2.89 | 0.60 |
| 29:B1:3141:A:O4' | 29:B1:3143:C:H2' | 2.01 | 0.60 |
| 29:B1:3161:C:C6 | 29:B1:3161:C:OP2 | 2.54 | 0.60 |
| 29:B1:3218:A:HO2' | 29:B1:3219:G:P | 2.21 | 0.60 |
| 29:B1:3273:A:C2 | 29:B1:3274:A:C4 | 2.90 | 0.60 |
| 30:B2:25:G:N1 | 30:B2:26:C:C4 | 2.69 | 0.60 |
| 30:B2:69:C:H1' | 30:B2:110:G:H22 | 1.66 | 0.60 |
| 31:B3:13:A:H2' | 31:B3:14:C:C6 | 2.35 | 0.60 |
| 31:B3:43:A:H2' | 31:B3:44:A:C8 | 2.36 | 0.60 |
| 31:B3:67:U:C3' | 31:B3:68:G:C8 | 2.83 | 0.60 |
| 41:BJ:159:PHE:O | 41:BJ:161:GLY:N | 2.34 | 0.60 |
| 45:BP:47:PHE:O | 45:BP:51:LYS:CB | 2.49 | 0.60 |
| 53:BX:24:SER:O | 53:BX:26:GLN:N | 2.34 | 0.60 |
| 1:C1:32:U:O2 | 1:C1:595:G:C2 | 2.54 | 0.60 |
| 1:C1:34:G:H2' | 1:C1:35:U:H6 | 1.66 | 0.60 |
| 1:C1:44:U:O5' | 1:C1:45:U:C5 | 2.50 | 0.60 |
| 1:C1:340:U:C3' | 1:C1:341:A:H8 | 2.11 | 0.60 |
| 1:C1:717:C:H1' | 1:C1:718:U:P | 2.41 | 0.60 |
| 1:C1:1368:G:H5" | 1:C1:1369:U:OP2 | 2.02 | 0.60 |
| 1:C1:1393:C:H2' | 1:C1:1394:G:C8 | 2.36 | 0.60 |
| 1:C1:1506:G:O2' | 1:C1:1507:G:H5' | 2.01 | 0.60 |
| 1:C1:1560:U:O5' | 1:C1:1560:U:C6 | 2.55 | 0.60 |
| 1:C1:1562:G:H2' | 1:C1:1563:C:C6 | 2.36 | 0.60 |
| 1:C1:1657:U:C2 | 74:C1:1955:OHX:N1 | 2.70 | 0.60 |
| 2:CA:67:ILE:O | 2:CA:69:ASN:N | 2.34 | 0.60 |
| 2:CA:129:ASP:O | 2:CA:132:ALA:HB3 | 2.02 | 0.60 |
| 2:CA:211:GLU:O | 2:CA:215:ALA:HB2 | 2.00 | 0.60 |
| 6:CE:73:GLY:C | 6:CE:75:ALA:N | 2.58 | 0.60 |
| 6:CE:143:ILE:C | 6:CE:145:SER:H | 2.08 | 0.60 |
| 15:CN:20:ILE:CB | 15:CN:21:LYS:HA | 2.29 | 0.60 |
| 29:D1:196:G:N1 | 29:D1:199:A:OP2 | 2.34 | 0.60 |
| 29:D1:288:C:H5" | 44:DO:171:SER:HA | 1.83 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:379:C:H2' | 29:D1:380:U:C6 | 2.36 | 0.60 |
| 29:D1:431:U:H6 | 29:D1:431:U:C5' | 2.15 | 0.60 |
| 29:D1:722:G:H1 | 29:D1:748:U:H3 | 1.49 | 0.60 |
| 29:D1:784:A:C2' | 29:D1:785:G:H8 | 2.11 | 0.60 |
| 29:D1:891:G:C5 | 29:D1:892:U:C4 | 2.89 | 0.60 |
| 29:D1:1059:G:H2' | 29:D1:1059:G:N3 | 2.16 | 0.60 |
| 29:D1:1150:A:OP1 | 29:D1:1151:U:O4 | 2.18 | 0.60 |
| 29:D1:1158:A:H3' | 29:D1:1159:A:H5" | 1.83 | 0.60 |
| 29:D1:1273:A:C8 | 29:D1:1274:A:N7 | 2.68 | 0.60 |
| 29:D1:1311:G:H2' | 29:D1:1312:C:O5' | 2.00 | 0.60 |
| 29:D1:1338:C:H2' | 29:D1:1338:C:O2 | 2.00 | 0.60 |
| 29:D1:1528:G:C6 | 29:D1:1833:G:C6 | 2.88 | 0.60 |
| 29:D1:1739:U:H2' | 29:D1:1740:U:O4' | 2.00 | 0.60 |
| 29:D1:1868:G:C5 | 29:D1:1869:C:C5 | 2.89 | 0.60 |
| 29:D1:2185:G:N3 | 29:D1:2185:G:H2' | 2.16 | 0.60 |
| 29:D1:2554:A:H4' | 29:D1:2555:G:O5' | 2.01 | 0.60 |
| 29:D1:2961:G:C6 | 29:D1:2962:U:C4 | 2.89 | 0.60 |
| 29:D1:3003:G:C2 | 29:D1:3004:C:C4 | 2.88 | 0.60 |
| 29:D1:3179:U:OP2 | 29:D1:3179:U:H2' | 2.00 | 0.60 |
| 29:D1:3252:G:H2' | 29:D1:3253:G:C8 | 2.36 | 0.60 |
| 29:D1:3310:A:C2 | 29:D1:3311:C:O4' | 2.54 | 0.60 |
| 29:D1:3386:G:C8 | 29:D1:3386:G:C3' | 2.84 | 0.60 |
| 32:DA:68:PHE:H | 32:DA:112:ALA:HB2 | 1.66 | 0.60 |
| 35:DD:174:ALA:O | 35:DD:175:HIS:C | 2.44 | 0.60 |
| 57:Db:42:VAL:O | 57:Db:45:ARG:N | 2.33 | 0.60 |
| 57:Db:114:ALA:O | 57:Db:116:GLY:N | 2.34 | 0.60 |
| 1:A1:635:A:C2 | 1:A1:863:A:C8 | 2.88 | 0.60 |
| 1:A1:901:G:OP1 | 1:A1:901:G:H4' | 1.99 | 0.60 |
| 1:A1:1412:G:H4' | 1:A1:1413:U:OP1 | 2.00 | 0.60 |
| 1:A1:1428:G:H2' | 1:A1:1428:G:N3 | 2.16 | 0.60 |
| 1:A1:1495:C:O5' | 1:A1:1495:C:H6 | 1.85 | 0.60 |
| 1:A1:1575:G:OP1 | 1:A1:1575:G:C4' | 2.49 | 0.60 |
| 1:A1:1684:U:O2 | 1:A1:1684:U:C3' | 2.49 | 0.60 |
| 1:A1:1781:A:C2 | 1:A1:1782:A:C2 | 2.89 | 0.60 |
| 6:AE:119:ALA:HB1 | 6:AE:125:ALA:HB2 | 1.83 | 0.60 |
| 15:AN:28:SER:CB | 15:AN:112:VAL:HA | 2.30 | 0.60 |
| 29:B1:11:A:O4' | 29:B1:1557:A:N6 | 2.34 | 0.60 |
| 29:B1:25:U:H2' | 29:B1:26:A:C8 | 2.36 | 0.60 |
| 29:B1:149:U:N3 | 44:BO:55:ALA:HA | 2.17 | 0.60 |
| 29:B1:195:U:C4' | 29:B1:1391:C:H5 | 2.13 | 0.60 |
| 29:B1:351:A:C8 | 31:B3:53:A:H1' | 2.36 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:379:C:H6 | 29:B1:379:C:C5' | 2.12 | 0.60 |
| 29:B1:406:G:C1' | 31:B3:16:G:H22 | 2.07 | 0.60 |
| 29:B1:435:C:H2' | 29:B1:436:A:C8 | 2.35 | 0.60 |
| 29:B1:704:U:C6 | 29:B1:704:U:C3' | 2.84 | 0.60 |
| 29:B1:717:C:C5 | 29:B1:721:G:OP2 | 2.54 | 0.60 |
| 29:B1:743:C:H6 | 29:B1:743:C:H3' | 1.66 | 0.60 |
| 29:B1:924:G:C8 | 29:B1:2809:C:O2 | 2.54 | 0.60 |
| 29:B1:974:G:C5 | 29:B1:975:C:C5 | 2.89 | 0.60 |
| 29:B1:1242:G:OP2 | 29:B1:1242:G:H4' | 2.00 | 0.60 |
| 29:B1:1249:G:N3 | 29:B1:1249:G:H2' | 2.17 | 0.60 |
| 29:B1:1454:A:O4' | 29:B1:1878:G:C2 | 2.54 | 0.60 |
| 29:B1:1739:U:H2' | 29:B1:1740:U:O4' | 2.01 | 0.60 |
| 29:B1:2167:A:C2' | 29:B1:2168:A:C8 | 2.84 | 0.60 |
| 29:B1:2556:C:C4 | 29:B1:2557:A:C2 | 2.88 | 0.60 |
| 29:B1:2689:A:O2' | 29:B1:2702:A:C6 | 2.54 | 0.60 |
| 29:B1:3013:U:C6 | 29:B1:3013:U:H5' | 2.36 | 0.60 |
| 29:B1:3142:A:H3' | 29:B1:3143:C:H5' | 1.83 | 0.60 |
| 29:B1:3203:U:H2' | 29:B1:3204:C:C6 | 2.37 | 0.60 |
| 29:B1:3217:C:H2' | 29:B1:3217:C:O2 | 2.00 | 0.60 |
| 34:BC:128:LYS:CB | 34:BC:129:ALA:HA | 2.31 | 0.60 |
| 35:BD:252:GLU:C | 35:BD:254:ALA:N | 2.57 | 0.60 |
| 42:BK:143:ARG:O | 42:BK:144:CYS:C | 2.44 | 0.60 |
| 43:BN:84:LYS:C | 43:BN:86:ALA:H | 2.09 | 0.60 |
| 43:BN:89:ALA:O | 43:BN:93:LYS:N | 2.34 | 0.60 |
| 44:BO:74:PRO:O | 44:BO:75:VAL:CB | 2.48 | 0.60 |
| 49:BT:14:MET:O | 49:BT:16:GLN:N | 2.31 | 0.60 |
| 49:BT:31:LEU:O | 49:BT:32:LYS:O | 2.19 | 0.60 |
| 57:Bb:20:HIS:O | 57:Bb:21:HIS:C | 2.44 | 0.60 |
| 59:Bd:8:PHE:O | 59:Bd:10:LYS:N | 2.34 | 0.60 |
| 1:C1:55:A:H3' | 1:C1:56:U:C5' | 2.31 | 0.60 |
| 1:C1:173:A:C6 | 1:C1:174:U:C5 | 2.88 | 0.60 |
| 1:C1:225:A:N6 | 1:C1:837:G:N1 | 2.50 | 0.60 |
| 1:C1:407:A:C4 | 1:C1:408:C:C5 | 2.89 | 0.60 |
| 1:C1:418:G:N2 | 1:C1:419:G:C4 | 2.69 | 0.60 |
| 1:C1:461:G:H2' | 1:C1:462:G:C8 | 2.35 | 0.60 |
| 1:C1:473:A:N6 | 1:C1:474:A:C2 | 2.69 | 0.60 |
| 1:C1:554:C:O3' | 1:C1:555:A:H2' | 2.00 | 0.60 |
| 1:C1:623:A:C2 | 1:C1:1105:C:H4' | 2.36 | 0.60 |
| 1:C1:862:A:H4' | 1:C1:863:A:O5' | 2.01 | 0.60 |
| 1:C1:925:G:H5' | 1:C1:987:G:OP1 | 2.00 | 0.60 |
| 1:C1:955:A:H2' | 1:C1:956:C:C6 | 2.35 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1321:A:N6 | 2:CA:105:GLY:HA3 | 2.16 | 0.60 |
| 1:C1:1559:A:C1' | 13:CL:135:GLY:HA2 | 2.32 | 0.60 |
| 4:CC:174:HIS:O | 4:CC:183:GLY:HA2 | 2.00 | 0.60 |
| 8:CG:138:ASN:O | 8:CG:140:LYS:N | 2.33 | 0.60 |
| 23:Cb:62:UNK:O | 23:Cb:63:UNK:C | 2.50 | 0.60 |
| 29:D1:176:G:HO2' | 29:D1:177:U:H6 | 1.48 | 0.60 |
| 29:D1:225:C:H2' | 29:D1:226:C:H6 | 1.65 | 0.60 |
| 29:D1:525:C:C2 | 29:D1:526:C:C5 | 2.89 | 0.60 |
| 29:D1:601:U:N3 | 29:D1:602:A:C8 | 2.69 | 0.60 |
| 29:D1:705:A:C4 | 29:D1:715:A:N6 | 2.69 | 0.60 |
| 29:D1:771:A:H2' | 29:D1:772:U:H5" | 1.83 | 0.60 |
| 29:D1:856:G:C6 | 29:D1:857:G:C2 | 2.88 | 0.60 |
| 29:D1:1251:A:H8 | 74:D1:3557:OHX:N2 | 1.98 | 0.60 |
| 29:D1:1347:U:H3' | 29:D1:1348:U:C5 | 2.36 | 0.60 |
| 29:D1:1643:A:H5" | 29:D1:1822:C:H5" | 1.83 | 0.60 |
| 29:D1:2100:A:H4' | 29:D1:2101:C:OP1 | 2.01 | 0.60 |
| 29:D1:2251:G:N3 | 29:D1:2252:A:C8 | 2.69 | 0.60 |
| 29:D1:2689:A:H1' | 29:D1:2702:A:H61 | 1.67 | 0.60 |
| 29:D1:2703:A:C3' | 29:D1:2704:A:C5' | 2.78 | 0.60 |
| 29:D1:2849:C:H2' | 29:D1:2849:C:O2 | 2.00 | 0.60 |
| 29:D1:2981:U:O2' | 29:D1:2982:A:H5" | 2.02 | 0.60 |
| 29:D1:3013:U:H5" | 29:D1:3013:U:C6 | 2.36 | 0.60 |
| 29:D1:3191:G:C6 | 29:D1:3202:G:C2 | 2.90 | 0.60 |
| 29:D1:3256:G:H2' | 29:D1:3256:G:N3 | 2.14 | 0.60 |
| 29:D1:3321:C:C2' | 29:D1:3322:A:H8 | 2.14 | 0.60 |
| 30:D2:59:U:H2' | 30:D2:60:G:C8 | 2.36 | 0.60 |
| 36:DE:226:TYR:O | 36:DE:230:ASP:HA | 2.02 | 0.60 |
| 37:DF:125:GLN:HA | 37:DF:129:GLU:CB | 2.31 | 0.60 |
| 72:DL:41:LYS:O | 72:DL:71:ALA:HB3 | 2.01 | 0.60 |
| 45:DP:95:GLY:O | 45:DP:98:ALA:N | 2.34 | 0.60 |
| 46:DQ:128:ARG:N | 46:DQ:139:TYR:H | 1.98 | 0.60 |
| 54:DY:126:LYS:O | 54:DY:147:LEU:HA | 2.02 | 0.60 |
| 56:Da:82:GLU:CB | 56:Da:83:GLU:CA | 2.79 | 0.60 |
| 1:A1:38:C:C3' | 1:A1:39:A:H5" | 2.32 | 0.60 |
| 1:A1:63:G:C6 | 1:A1:88:U:O2 | 2.54 | 0.60 |
| 1:A1:142:G:N2 | 1:A1:173:A:C6 | 2.68 | 0.60 |
| 1:A1:248:U:O2' | 1:A1:249:U:H5" | 2.01 | 0.60 |
| 1:A1:606:A:H4' | 1:A1:607:G:C3' | 2.32 | 0.60 |
| 1:A1:1097:U:O2' | 1:A1:1098:U:C5' | 2.39 | 0.60 |
| 1:A1:1198:G:C3' | 1:A1:1199:G:H5' | 2.31 | 0.60 |
| 1:A1:1326:A:C2' | 1:A1:1327:C:H5' | 2.31 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1333:C:H2' | 1:A1:1334:U:C6 | 2.36 | 0.60 |
| 1:A1:1557:U:H3' | 1:A1:1557:U:O2 | 2.01 | 0.60 |
| 3:AB:142:GLY:O | 3:AB:149:GLY:O | 2.19 | 0.60 |
| 7:AF:110:HIS:CA | 7:AF:111:VAL:CB | 2.80 | 0.60 |
| 7:AF:125:VAL:HA | 7:AF:139:VAL:HA | 1.82 | 0.60 |
| 12:AK:54:THR:O | 12:AK:55:THR:C | 2.45 | 0.60 |
| 16:AO:94:LEU:O | 16:AO:95:PRO:CB | 2.50 | 0.60 |
| 20:AS:42:CYS:C | 20:AS:44:ARG:H | 2.08 | 0.60 |
| 29:B1:19:U:C4 | 29:B1:20:A:N6 | 2.69 | 0.60 |
| 29:B1:34:A:C8 | 29:B1:51:A:C6 | 2.89 | 0.60 |
| 29:B1:88:A:H2 | 29:B1:281:G:N3 | 2.00 | 0.60 |
| 29:B1:160:G:N2 | 29:B1:263:C:HO2' | 1.99 | 0.60 |
| 29:B1:207:U:C2 | 29:B1:208:C:C5 | 2.90 | 0.60 |
| 29:B1:539:C:H2' | 29:B1:539:C:O2 | 2.01 | 0.60 |
| 29:B1:682:U:C4 | 29:B1:699:A:C2 | 2.89 | 0.60 |
| 29:B1:781:G:C5 | 29:B1:782:U:C5 | 2.89 | 0.60 |
| 29:B1:888:A:N1 | 29:B1:889:U:C2 | 2.69 | 0.60 |
| 29:B1:1059:G:H2' | 29:B1:1059:G:N3 | 2.15 | 0.60 |
| 29:B1:1196:C:O2 | 30:B2:86:U:O4' | 2.20 | 0.60 |
| 29:B1:1312:C:H5' | 29:B1:1313:G:OP2 | 2.02 | 0.60 |
| 29:B1:1847:A:H2 | 29:B1:1849:C:O4' | 1.84 | 0.60 |
| 29:B1:2113:A:N7 | 29:B1:2114:C:C4 | 2.69 | 0.60 |
| 29:B1:2235:C:C4 | 29:B1:2236:G:C6 | 2.89 | 0.60 |
| 29:B1:2383:C:H2' | 29:B1:2384:A:O5' | 2.01 | 0.60 |
| 29:B1:2386:A:C8 | 29:B1:2994:A:N1 | 2.69 | 0.60 |
| 29:B1:2640:A:C8 | 29:B1:2641:U:H5 | 2.19 | 0.60 |
| 29:B1:2702:A:H8 | 29:B1:2704:A:C5 | 2.18 | 0.60 |
| 29:B1:2732:G:C4 | 29:B1:2733:A:C8 | 2.89 | 0.60 |
| 29:B1:2861:U:H2' | 29:B1:2862:U:O4' | 2.02 | 0.60 |
| 29:B1:2963:C:H2' | 29:B1:2964:G:H5' | 1.82 | 0.60 |
| 29:B1:2968:G:C2' | 29:B1:2969:A:O5' | 2.49 | 0.60 |
| 29:B1:3142:A:O3' | 29:B1:3144:G:H8 | 1.84 | 0.60 |
| 29:B1:3359:A:H2' | 29:B1:3360:C:O4' | 2.00 | 0.60 |
| 33:BB:198:LYS:O | 33:BB:200:ARG:N | 2.33 | 0.60 |
| 34:BC:160:VAL:O | 34:BC:161:LEU:C | 2.42 | 0.60 |
| 36:BE:133:GLU:CB | 36:BE:134:ALA:HA | 2.31 | 0.60 |
| 45:BP:192:LYS:C | 45:BP:194:LEU:N | 2.58 | 0.60 |
| 58:Bc:16:GLN:C | 58:Bc:18:ALA:H | 2.08 | 0.60 |
| 1:C1:330:G:H2' | 1:C1:331:A:C8 | 2.35 | 0.60 |
| 1:C1:971:A:N6 | 29:D1:846:A:H62 | 2.00 | 0.60 |
| 1:C1:1112:G:OP2 | 1:C1:1113:A:H2' | 2.01 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1157:A:H2' | 1:C1:1160:A:N7 | 2.17 | 0.60 |
| 1:C1:1283:U:H5" | 1:C1:1284:C:H2' | 1.83 | 0.60 |
| 1:C1:1402:G:C5 | 1:C1:1403:C:C5 | 2.88 | 0.60 |
| 1:C1:1558:U:C6 | 1:C1:1558:U:H3' | 2.34 | 0.60 |
| 1:C1:1683:C:H4' | 1:C1:1684:U:C5 | 2.35 | 0.60 |
| 1:C1:1690:G:N2 | 1:C1:1713:G:H1 | 2.00 | 0.60 |
| 1:C1:1720:G:C6 | 1:C1:1721:A:C4 | 2.89 | 0.60 |
| 6:CE:119:ALA:HB1 | 6:CE:125:ALA:HB2 | 1.83 | 0.60 |
| 24:Cc:4:UNK:O | 24:Cc:5:UNK:O | 2.18 | 0.60 |
| 29:D1:10:C:O2 | 29:D1:11:A:O4' | 2.19 | 0.60 |
| 29:D1:62:A:H2' | 29:D1:63:A:H8 | 1.67 | 0.60 |
| 29:D1:408:A:C2 | 29:D1:409:A:C2 | 2.89 | 0.60 |
| 29:D1:649:A:H2' | 29:D1:650:C:H6 | 1.66 | 0.60 |
| 29:D1:1018:G:N1 | 29:D1:1019:G:O6 | 2.34 | 0.60 |
| 29:D1:1063:G:O2' | 29:D1:1064:A:P | 2.59 | 0.60 |
| 29:D1:1079:A:H4' | 36:DE:140:ARG:CB | 2.32 | 0.60 |
| 29:D1:1107:C:H2' | 29:D1:1108:U:H6 | 1.66 | 0.60 |
| 29:D1:1300:G:C6 | 29:D1:1301:A:N6 | 2.68 | 0.60 |
| 29:D1:1325:U:O4 | 29:D1:1326:A:N6 | 2.34 | 0.60 |
| 29:D1:1362:G:H2' | 29:D1:1363:A:C8 | 2.36 | 0.60 |
| 29:D1:1394:A:H2' | 29:D1:1395:G:C5' | 2.31 | 0.60 |
| 29:D1:1524:A:H1' | 29:D1:1525:G:OP1 | 2.00 | 0.60 |
| 29:D1:1552:G:C5' | 29:D1:1553:U:OP2 | 2.49 | 0.60 |
| 29:D1:1629:U:H3' | 29:D1:1630:U:H5" | 1.82 | 0.60 |
| 29:D1:1928:G:C5 | 29:D1:1929:G:C8 | 2.89 | 0.60 |
| 29:D1:2184:U:C2 | 29:D1:2185:G:C8 | 2.90 | 0.60 |
| 29:D1:2523:A:H4' | 29:D1:2524:A:OP1 | 2.00 | 0.60 |
| 29:D1:2609:A:H2' | 29:D1:2610:G:H8 | 1.65 | 0.60 |
| 29:D1:2698:G:C3' | 29:D1:2699:G:H5" | 2.31 | 0.60 |
| 29:D1:2700:G:OP1 | 49:DT:17:ARG:CB | 2.49 | 0.60 |
| 29:D1:2897:A:C2 | 29:D1:2905:U:N3 | 2.69 | 0.60 |
| 29:D1:2925:C:H2' | 29:D1:2926:A:O4' | 2.00 | 0.60 |
| 29:D1:2950:G:N3 | 29:D1:2950:G:H2' | 2.15 | 0.60 |
| 29:D1:3019:U:C4 | 29:D1:3020:U:C4 | 2.90 | 0.60 |
| 29:D1:3026:G:N2 | 29:D1:3030:G:C5 | 2.70 | 0.60 |
| 29:D1:3111:U:H2' | 29:D1:3112:G:C5' | 2.32 | 0.60 |
| 29:D1:3294:A:C6 | 29:D1:3295:A:C5 | 2.89 | 0.60 |
| 31:D3:10:A:C4 | 31:D3:11:C:C5 | 2.90 | 0.60 |
| 31:D3:154:C:C2 | 31:D3:155:A:C8 | 2.89 | 0.60 |
| 47:DR:92:ARG:O | 47:DR:94:PHE:N | 2.34 | 0.60 |
| 1:A1:63:G:O4' | 1:A1:170:U:C2 | 2.54 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:365:G:C2 | 1:A1:366:A:C8 | 2.88 | 0.60 |
| 1:A1:374:U:C2 | 1:A1:375:U:C6 | 2.89 | 0.60 |
| 1:A1:588:U:H2' | 1:A1:589:C:H6 | 1.67 | 0.60 |
| 1:A1:605:A:C5 | 1:A1:606:A:C6 | 2.90 | 0.60 |
| 1:A1:873:U:N3 | 1:A1:874:C:C4 | 2.70 | 0.60 |
| 1:A1:880:C:H2' | 1:A1:881:A:H8 | 1.65 | 0.60 |
| 1:A1:923:A:H2' | 1:A1:924:A:C8 | 2.36 | 0.60 |
| 1:A1:1348:A:C8 | 1:A1:1348:A:C3' | 2.84 | 0.60 |
| 1:A1:1385:G:C2 | 1:A1:1386:G:C8 | 2.88 | 0.60 |
| 1:A1:1497:U:C4 | 1:A1:1511:U:C2 | 2.90 | 0.60 |
| 1:A1:1720:G:H2' | 1:A1:1721:A:C5' | 2.31 | 0.60 |
| 3:AB:128:GLY:O | 3:AB:131:ILE:N | 2.32 | 0.60 |
| 8:AG:88:LEU:C | 8:AG:90:TYR:N | 2.57 | 0.60 |
| 11:AJ:35:PRO:O | 11:AJ:37:THR:N | 2.34 | 0.60 |
| 24:Ac:4:UNK:HA | 24:Ac:98:UNK:C | 2.32 | 0.60 |
| 29:B1:252:U:H3' | 29:B1:253:A:C5' | 2.31 | 0.60 |
| 29:B1:264:G:C6 | 29:B1:265:A:N6 | 2.68 | 0.60 |
| 29:B1:287:G:H2' | 29:B1:288:C:C6 | 2.33 | 0.60 |
| 29:B1:307:A:C8 | 29:B1:307:A:H3' | 2.36 | 0.60 |
| 29:B1:505:G:H2' | 29:B1:506:U:O5' | 2.00 | 0.60 |
| 29:B1:511:G:N2 | 29:B1:579:G:N2 | 2.49 | 0.60 |
| 29:B1:532:A:C6 | 29:B1:533:A:C2 | 2.90 | 0.60 |
| 29:B1:560:G:C2 | 29:B1:561:C:C4 | 2.89 | 0.60 |
| 29:B1:659:G:H8 | 29:B1:659:G:O5' | 1.84 | 0.60 |
| 29:B1:1139:G:H8 | 29:B1:1139:G:H5' | 1.65 | 0.60 |
| 29:B1:1171:G:N7 | 74:B1:3537:OHX:N2 | 2.48 | 0.60 |
| 29:B1:1303:A:N1 | 29:B1:2887:A:C5 | 2.70 | 0.60 |
| 29:B1:1338:C:N3 | 29:B1:1339:C:C5 | 2.69 | 0.60 |
| 29:B1:1715:A:C8 | 29:B1:1716:U:O4' | 2.54 | 0.60 |
| 29:B1:2132:C:H6 | 29:B1:2132:C:C5' | 2.11 | 0.60 |
| 29:B1:2554:A:H2 | 33:BB:85:GLY:C | 2.09 | 0.60 |
| 29:B1:2903:A:C5 | 29:B1:2904:U:C6 | 2.90 | 0.60 |
| 29:B1:3163:A:OP2 | 29:B1:3163:A:H8 | 1.84 | 0.60 |
| 29:B1:3295:A:H2' | 29:B1:3296:A:H8 | 1.67 | 0.60 |
| 29:B1:3303:G:O2' | 29:B1:3304:U:H5' | 2.01 | 0.60 |
| 29:B1:3314:A:OP2 | 34:BC:174:LYS:O | 2.19 | 0.60 |
| 29:B1:3321:C:C4 | 29:B1:3322:A:N7 | 2.69 | 0.60 |
| 29:B1:3357:U:H2' | 29:B1:3358:U:C5 | 2.36 | 0.60 |
| 30:B2:7:G:O6 | 30:B2:114:U:O4 | 2.19 | 0.60 |
| 30:B2:64:A:O4' | 30:B2:65:G:O5' | 2.19 | 0.60 |
| 31:B3:42:G:O6 | 31:B3:103:G:C2 | 2.54 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:B3:53:A:C6 | 31:B3:54:A:C5 | 2.89 | 0.60 |
| 31:B3:113:U:HO2' | 31:B3:114:G:P | 2.23 | 0.60 |
| 31:B3:138:A:H2 | 31:B3:139:U:N1 | 1.99 | 0.60 |
| 32:BA:54:LYS:HA | 32:BA:55:LEU:CB | 2.31 | 0.60 |
| 32:BA:55:LEU:N | 32:BA:186:SER:HA | 2.17 | 0.60 |
| 43:BN:82:SER:O | 43:BN:83:LYS:C | 2.44 | 0.60 |
| 47:BR:37:ALA:O | 47:BR:39:ARG:N | 2.33 | 0.60 |
| 1:C1:4:C:H2' | 1:C1:5:U:H6 | 1.66 | 0.60 |
| 1:C1:381:C:O2' | 1:C1:755:A:N1 | 2.34 | 0.60 |
| 1:C1:448:C:C2' | 1:C1:449:C:H6 | 2.01 | 0.60 |
| 1:C1:533:U:H3' | 1:C1:534:A:C8 | 2.31 | 0.60 |
| 1:C1:635:A:OP1 | 1:C1:636:A:OP2 | 2.19 | 0.60 |
| 1:C1:932:U:H4' | 1:C1:933:A:O5' | 2.00 | 0.60 |
| 1:C1:986:G:O2' | 1:C1:987:G:O5' | 2.18 | 0.60 |
| 1:C1:1054:U:H2' | 1:C1:1055:U:H6 | 1.66 | 0.60 |
| 1:C1:1118:G:C6 | 1:C1:1119:G:C6 | 2.88 | 0.60 |
| 1:C1:1150:G:O2' | 1:C1:1151:A:OP1 | 2.19 | 0.60 |
| 1:C1:1409:G:H8 | 1:C1:1411:A:OP2 | 1.84 | 0.60 |
| 1:C1:1483:A:H61 | 1:C1:1591:C:H1' | 1.66 | 0.60 |
| 2:CA:59:LEU:O | 2:CA:60:ALA:C | 2.44 | 0.60 |
| 2:CA:67:ILE:C | 2:CA:69:ASN:H | 2.10 | 0.60 |
| 16:CO:102:VAL:H | 16:CO:113:HIS:CB | 2.14 | 0.60 |
| 29:D1:43:A:N7 | 29:D1:2803:A:C6 | 2.69 | 0.60 |
| 29:D1:43:A:C8 | 29:D1:2803:A:N6 | 2.69 | 0.60 |
| 29:D1:66:A:H62 | 29:D1:76:G:N2 | 1.98 | 0.60 |
| 29:D1:88:A:H2 | 29:D1:281:G:C2 | 2.18 | 0.60 |
| 29:D1:222:A:C6 | 29:D1:223:U:C4 | 2.89 | 0.60 |
| 29:D1:333:G:H2' | 29:D1:334:A:H8 | 1.66 | 0.60 |
| 29:D1:534:U:O5' | 29:D1:534:U:C6 | 2.46 | 0.60 |
| 29:D1:705:A:C4' | 29:D1:706:A:H5' | 2.31 | 0.60 |
| 29:D1:739:G:H3' | 29:D1:740:G:H8 | 1.67 | 0.60 |
| 29:D1:759:U:N3 | 29:D1:773:G:C5 | 2.70 | 0.60 |
| 29:D1:1085:A:H5' | 29:D1:1086:C:OP2 | 2.01 | 0.60 |
| 29:D1:1242:G:C8 | 29:D1:1242:G:OP1 | 2.54 | 0.60 |
| 29:D1:1258:U:H2' | 29:D1:1258:U:O2 | 2.02 | 0.60 |
| 29:D1:1354:G:C8 | 29:D1:1355:A:N1 | 2.69 | 0.60 |
| 29:D1:1448:U:C5 | 29:D1:2355:G:N2 | 2.68 | 0.60 |
| 29:D1:1560:G:H2' | 29:D1:1561:G:O4' | 2.01 | 0.60 |
| 29:D1:1921:A:C6 | 29:D1:1929:G:N2 | 2.69 | 0.60 |
| 29:D1:2115:G:N2 | 74:D1:3448:OHX:N2 | 2.50 | 0.60 |
| 29:D1:2169:G:O6 | 74:D1:3492:OHX:N3 | 2.35 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2282:U:H5' | 29:D1:2282:U:C6 | 2.36 | 0.60 |
| 29:D1:2520:A:C5 | 29:D1:2521:U:O4 | 2.54 | 0.60 |
| 29:D1:2540:A:O2' | 29:D1:2541:U:H5' | 2.02 | 0.60 |
| 29:D1:2561:A:H2' | 29:D1:2562:A:C8 | 2.35 | 0.60 |
| 29:D1:2715:A:OP1 | 29:D1:2715:A:H2' | 2.01 | 0.60 |
| 29:D1:3011:A:H1' | 29:D1:3012:A:O4' | 2.01 | 0.60 |
| 29:D1:3092:C:O2' | 29:D1:3094:A:OP2 | 2.15 | 0.60 |
| 30:D2:10:C:O2' | 30:D2:13:A:H8 | 1.84 | 0.60 |
| 30:D2:77:G:O2' | 30:D2:78:U:OP2 | 2.19 | 0.60 |
| 30:D2:117:A:C2' | 30:D2:118:A:H5' | 2.32 | 0.60 |
| 31:D3:49:G:C5 | 31:D3:50:C:C5 | 2.89 | 0.60 |
| 31:D3:95:G:H4' | 59:Dd:72:ARG:HA | 1.83 | 0.60 |
| 31:D3:125:U:O4 | 74:D3:205:OHX:N1 | 2.34 | 0.60 |
| 34:DC:20:LYS:O | 34:DC:21:ARG:O | 2.20 | 0.60 |
| 36:DE:126:GLU:C | 36:DE:128:GLU:N | 2.53 | 0.60 |
| 38:DG:32:ALA:O | 38:DG:33:ARG:C | 2.44 | 0.60 |
| 38:DG:224:ILE:C | 38:DG:226:GLY:H | 2.09 | 0.60 |
| 42:DK:50:ALA:C | 42:DK:62:ASN:HA | 2.27 | 0.60 |
| 46:DQ:73:GLY:O | 46:DQ:75:GLU:O | 2.18 | 0.60 |
| 65:Dk:6:UNK:C | 65:Dk:8:UNK:N | 2.62 | 0.60 |
| 1:A1:57:G:C5 | 1:A1:58:U:H5 | 2.19 | 0.60 |
| 1:A1:168:A:H3' | 1:A1:169:A:C8 | 2.37 | 0.60 |
| 1:A1:207:U:N3 | 1:A1:208:U:C5 | 2.69 | 0.60 |
| 1:A1:212:U:O2' | 1:A1:213:A:H5' | 2.01 | 0.60 |
| 1:A1:302:U:H2' | 1:A1:303:U:H5' | 1.84 | 0.60 |
| 1:A1:734:A:O2' | 1:A1:735:C:H5' | 2.02 | 0.60 |
| 1:A1:798:C:C2' | 1:A1:799:A:H5' | 2.32 | 0.60 |
| 1:A1:830:U:C2 | 1:A1:831:U:C5 | 2.90 | 0.60 |
| 1:A1:1458:G:H3' | 1:A1:1459:C:C6 | 2.36 | 0.60 |
| 1:A1:1508:U:O4 | 74:A1:1909:OHX:N5 | 2.34 | 0.60 |
| 2:AA:90:ALA:HB1 | 2:AA:95:ALA:O | 2.02 | 0.60 |
| 29:B1:200:C:N4 | 29:B1:217:U:C6 | 2.69 | 0.60 |
| 29:B1:297:G:H4' | 29:B1:299:G:H4' | 1.83 | 0.60 |
| 29:B1:439:C:H2' | 29:B1:439:C:O2 | 2.01 | 0.60 |
| 29:B1:593:C:H3' | 29:B1:594:U:O4' | 2.02 | 0.60 |
| 29:B1:773:G:O2' | 29:B1:774:G:O4' | 2.20 | 0.60 |
| 29:B1:1260:A:H2 | 29:B1:1278:A:C6 | 2.20 | 0.60 |
| 29:B1:1330:A:H2' | 29:B1:1331:U:H3' | 1.82 | 0.60 |
| 29:B1:1453:A:H2' | 29:B1:1878:G:H1 | 1.65 | 0.60 |
| 29:B1:1627:U:C5 | 29:B1:1628:C:N3 | 2.70 | 0.60 |
| 29:B1:2554:A:C2 | 33:BB:85:GLY:C | 2.79 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2650:U:H2' | 29:B1:2650:U:O2 | 2.01 | 0.60 |
| 29:B1:3028:G:N2 | 29:B1:3029:A:C2 | 2.68 | 0.60 |
| 29:B1:3086:A:C4 | 29:B1:3087:A:C8 | 2.89 | 0.60 |
| 29:B1:3089:C:H3' | 29:B1:3090:U:C5' | 2.30 | 0.60 |
| 29:B1:3197:G:OP2 | 29:B1:3198:U:H5 | 1.84 | 0.60 |
| 29:B1:3257:C:HO2' | 29:B1:3258:U:H5 | 1.43 | 0.60 |
| 30:B2:42:A:N3 | 30:B2:45:A:N6 | 2.49 | 0.60 |
| 30:B2:70:U:H2' | 30:B2:71:G:C8 | 2.34 | 0.60 |
| 33:BB:12:ALA:O | 33:BB:14:SER:N | 2.34 | 0.60 |
| 38:BG:143:THR:O | 38:BG:147:LEU:CB | 2.49 | 0.60 |
| 44:BO:83:LYS:C | 44:BO:85:THR:H | 2.09 | 0.60 |
| 44:BO:141:ALA:O | 44:BO:142:ILE:C | 2.44 | 0.60 |
| 44:BO:186:GLY:N | 44:BO:187:ARG:CA | 2.64 | 0.60 |
| 47:BR:24:VAL:O | 47:BR:25:TYR:C | 2.44 | 0.60 |
| 56:Ba:37:LYS:O | 56:Ba:40:ALA:HB3 | 2.01 | 0.60 |
| 1:C1:148:A:O5' | 1:C1:149:C:H5 | 1.84 | 0.60 |
| 1:C1:166:C:C4 | 1:C1:167:U:O4 | 2.55 | 0.60 |
| 1:C1:199:G:C4 | 1:C1:200:A:N7 | 2.69 | 0.60 |
| 1:C1:926:A:H2 | 9:CH:125:SER:HA | 1.67 | 0.60 |
| 1:C1:938:G:H5' | 1:C1:939:A:OP2 | 2.02 | 0.60 |
| 1:C1:946:U:H2' | 1:C1:946:U:O2 | 2.00 | 0.60 |
| 1:C1:1200:G:H5" | 1:C1:1200:G:C8 | 2.36 | 0.60 |
| 1:C1:1336:A:C5' | 1:C1:1337:A:OP2 | 2.49 | 0.60 |
| 1:C1:1570:A:N3 | 1:C1:1571:C:H1' | 2.16 | 0.60 |
| 1:C1:1778:G:C2 | 1:C1:1779:U:C5 | 2.89 | 0.60 |
| 14:CM:17:ALA:C | 14:CM:19:ALA:N | 2.58 | 0.60 |
| 15:CN:97:VAL:C | 15:CN:99:ILE:H | 2.09 | 0.60 |
| 29:D1:385:A:N3 | 29:D1:386:A:N7 | 2.49 | 0.60 |
| 29:D1:525:C:H2' | 29:D1:526:C:H6 | 1.66 | 0.60 |
| 29:D1:583:G:C6 | 29:D1:584:G:N7 | 2.70 | 0.60 |
| 29:D1:747:A:P | 29:D1:747:A:H8 | 2.24 | 0.60 |
| 29:D1:791:A:H5" | 29:D1:792:G:OP2 | 2.02 | 0.60 |
| 29:D1:945:C:C1' | 29:D1:1407:A:H1' | 2.31 | 0.60 |
| 29:D1:957:C:O3' | 29:D1:2799:A:C8 | 2.54 | 0.60 |
| 29:D1:995:U:C4 | 29:D1:2637:A:C4 | 2.89 | 0.60 |
| 29:D1:1454:A:O4' | 29:D1:1878:G:N2 | 2.35 | 0.60 |
| 29:D1:1655:G:N2 | 29:D1:1801:U:N3 | 2.49 | 0.60 |
| 29:D1:1748:G:H2' | 29:D1:1749:A:H8 | 1.65 | 0.60 |
| 29:D1:2290:C:O2' | 29:D1:2291:A:O5' | 2.20 | 0.60 |
| 29:D1:2682:C:C2 | 29:D1:2683:U:C5 | 2.89 | 0.60 |
| 29:D1:3178:A:O2' | 29:D1:3179:U:P | 2.59 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3273:A:C6 | 29:D1:3274:A:C5 | 2.90 | 0.60 |
| 30:D2:31:U:C6 | 30:D2:32:U:C5 | 2.90 | 0.60 |
| 31:D3:150:G:H2' | 31:D3:152:G:OP2 | 2.02 | 0.60 |
| 33:DB:207:VAL:O | 33:DB:208:ASP:O | 2.20 | 0.60 |
| 34:DC:43:LEU:O | 34:DC:44:THR:CB | 2.48 | 0.60 |
| 37:DF:23:LYS:HA | 37:DF:114:LYS:CB | 2.30 | 0.60 |
| 39:DH:237:ILE:O | 39:DH:238:LEU:C | 2.45 | 0.60 |
| 40:DI:63:LYS:O | 40:DI:67:ALA:N | 2.33 | 0.60 |
| 40:DI:85:GLY:O | 40:DI:186:PHE:HA | 2.01 | 0.60 |
| 41:DJ:97:LEU:O | 41:DJ:123:HIS:N | 2.33 | 0.60 |
| 43:DN:89:ALA:O | 43:DN:92:GLU:N | 2.34 | 0.60 |
| 44:DO:160:GLU:O | 44:DO:161:ALA:HB2 | 1.99 | 0.60 |
| 64:Di:3:UNK:C | 64:Di:5:UNK:N | 2.62 | 0.60 |
| 1:A1:288:A:C4 | 1:A1:289:U:H5 | 2.19 | 0.60 |
| 1:A1:310:C:C6 | 1:A1:310:C:C3' | 2.85 | 0.60 |
| 1:A1:699:U:H2' | 1:A1:700:C:H5 | 1.63 | 0.60 |
| 1:A1:1042:G:C2 | 1:A1:1043:A:C4 | 2.89 | 0.60 |
| 1:A1:1157:A:H2' | 1:A1:1160:A:N7 | 2.16 | 0.60 |
| 1:A1:1237:G:C4 | 1:A1:1238:A:C8 | 2.90 | 0.60 |
| 1:A1:1606:C:H2' | 1:A1:1607:G:C8 | 2.37 | 0.60 |
| 1:A1:1772:C:H2' | 1:A1:1772:C:O2 | 2.01 | 0.60 |
| 2:AA:129:ASP:O | 2:AA:132:ALA:HB3 | 2.02 | 0.60 |
| 3:AB:83:ILE:HA | 3:AB:100:ALA:HB2 | 1.82 | 0.60 |
| 6:AE:54:ARG:O | 6:AE:55:ALA:O | 2.19 | 0.60 |
| 17:AP:92:CYS:C | 17:AP:94:ASN:H | 2.10 | 0.60 |
| 29:B1:69:C:H2' | 29:B1:69:C:O2 | 2.01 | 0.60 |
| 29:B1:70:A:H2 | 29:B1:71:A:HO2' | 1.33 | 0.60 |
| 29:B1:308:A:C2 | 29:B1:2782:U:C2 | 2.89 | 0.60 |
| 29:B1:342:A:C6 | 29:B1:349:A:N7 | 2.70 | 0.60 |
| 29:B1:361:A:O2' | 29:B1:362:U:C4' | 2.50 | 0.60 |
| 29:B1:515:C:H5' | 37:BF:143:LYS:CB | 2.31 | 0.60 |
| 29:B1:629:U:H3' | 29:B1:630:A:H8 | 1.65 | 0.60 |
| 29:B1:645:A:C6 | 29:B1:649:A:C8 | 2.89 | 0.60 |
| 29:B1:756:U:H5" | 29:B1:757:C:OP2 | 2.02 | 0.60 |
| 29:B1:986:U:H2' | 29:B1:987:U:O5' | 2.01 | 0.60 |
| 29:B1:1023:C:H3' | 29:B1:1024:G:C5' | 2.32 | 0.60 |
| 29:B1:1178:G:H2' | 29:B1:1179:A:C5' | 2.31 | 0.60 |
| 29:B1:1364:C:H2' | 29:B1:1365:G:C8 | 2.37 | 0.60 |
| 29:B1:1379:G:N3 | 29:B1:1379:G:H2' | 2.16 | 0.60 |
| 29:B1:1401:A:H2' | 29:B1:1402:C:C6 | 2.37 | 0.60 |
| 29:B1:1444:G:N2 | 29:B1:2359:C:N3 | 2.50 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1552:G:H5” | 29:B1:1553:U:OP2 | 2.01 | 0.60 |
| 29:B1:1914:G:H1’ | 29:B1:2115:G:C8 | 2.37 | 0.60 |
| 29:B1:2119:A:N7 | 29:B1:2120:A:C2 | 2.68 | 0.60 |
| 29:B1:2258:U:H2’ | 29:B1:2258:U:O2 | 2.01 | 0.60 |
| 29:B1:2341:A:H8 | 29:B1:2341:A:OP2 | 1.85 | 0.60 |
| 29:B1:3135:U:C5 | 29:B1:3136:G:C6 | 2.90 | 0.60 |
| 30:B2:5:G:C2’ | 30:B2:6:C:H5” | 2.31 | 0.60 |
| 30:B2:72:A:H2’ | 30:B2:73:C:H6 | 1.64 | 0.60 |
| 30:B2:77:G:C2 | 30:B2:101:G:C5 | 2.89 | 0.60 |
| 31:B3:41:A:OP2 | 59:Bd:58:THR:C | 2.44 | 0.60 |
| 31:B3:80:A:H2’ | 31:B3:81:U:N1 | 2.16 | 0.60 |
| 31:B3:97:A:C2’ | 31:B3:98:U:H5’ | 2.31 | 0.60 |
| 31:B3:107:G:C5 | 31:B3:116:G:O6 | 2.54 | 0.60 |
| 32:BA:95:LYS:CB | 32:BA:124:LEU:HA | 2.31 | 0.60 |
| 40:BI:45:PHE:O | 40:BI:46:THR:CB | 2.50 | 0.60 |
| 45:BP:83:ALA:O | 45:BP:84:LEU:C | 2.43 | 0.60 |
| 65:Bk:6:UNK:O | 65:Bk:7:UNK:C | 2.50 | 0.60 |
| 1:C1:454:U:O2’ | 1:C1:455:C:O4’ | 2.19 | 0.60 |
| 1:C1:511:A:H4’ | 1:C1:512:A:OP2 | 2.02 | 0.60 |
| 1:C1:518:A:N1 | 1:C1:535:A:N3 | 2.49 | 0.60 |
| 1:C1:824:G:H4’ | 1:C1:825:U:C5’ | 2.17 | 0.60 |
| 1:C1:1109:G:C2’ | 1:C1:1110:G:C5’ | 2.79 | 0.60 |
| 1:C1:1282:U:C2 | 1:C1:1283:U:C5 | 2.90 | 0.60 |
| 1:C1:1378:U:C4 | 11:CJ:19:VAL:CB | 2.85 | 0.60 |
| 4:CC:133:GLY:HA3 | 4:CC:154:ASP:O | 2.02 | 0.60 |
| 5:CD:197:GLU:H | 5:CD:200:ASN:N | 1.95 | 0.60 |
| 29:D1:383:G:O2’ | 29:D1:385:A:C8 | 2.52 | 0.60 |
| 29:D1:431:U:C6 | 29:D1:431:U:H3’ | 2.37 | 0.60 |
| 29:D1:431:U:C2 | 29:D1:432:G:C8 | 2.90 | 0.60 |
| 29:D1:516:A:P | 29:D1:517:G:OP1 | 2.60 | 0.60 |
| 29:D1:532:A:H2’ | 29:D1:533:A:C8 | 2.36 | 0.60 |
| 29:D1:534:U:O2 | 29:D1:559:A:H2 | 1.85 | 0.60 |
| 29:D1:637:C:C2 | 29:D1:638:C:C4 | 2.90 | 0.60 |
| 29:D1:774:G:H2’ | 29:D1:775:A:H5’ | 1.79 | 0.60 |
| 29:D1:968:G:C4 | 29:D1:969:C:C5 | 2.90 | 0.60 |
| 29:D1:1170:A:C8 | 29:D1:1171:G:C8 | 2.90 | 0.60 |
| 29:D1:1192:C:OP1 | 29:D1:1192:C:C3’ | 2.36 | 0.60 |
| 29:D1:1302:A:N3 | 29:D1:2887:A:C2 | 2.70 | 0.60 |
| 29:D1:1317:A:C8 | 29:D1:1317:A:H5’ | 2.36 | 0.60 |
| 29:D1:1317:A:C5 | 29:D1:1319:G:N7 | 2.68 | 0.60 |
| 29:D1:1445:U:C5 | 29:D1:1446:A:C8 | 2.89 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1539:A:C6 | 29:D1:1583:A:C8 | 2.89 | 0.60 |
| 29:D1:1681:U:O2 | 29:D1:1681:U:C2' | 2.49 | 0.60 |
| 29:D1:1780:G:N3 | 29:D1:1781:C:C5 | 2.69 | 0.60 |
| 29:D1:2113:A:C2' | 29:D1:2114:C:C5' | 2.79 | 0.60 |
| 29:D1:2278:C:N4 | 29:D1:2305:G:N7 | 2.49 | 0.60 |
| 29:D1:2516:U:O2' | 29:D1:2517:U:O4' | 2.14 | 0.60 |
| 29:D1:2522:G:O2' | 29:D1:2523:A:OP1 | 2.17 | 0.60 |
| 29:D1:3073:A:H2' | 29:D1:3074:G:O5' | 2.00 | 0.60 |
| 29:D1:3305:A:C5 | 29:D1:3306:U:N3 | 2.69 | 0.60 |
| 29:D1:3377:G:C8 | 74:D1:3452:OHX:N5 | 2.70 | 0.60 |
| 30:D2:2:G:H2' | 30:D2:2:G:N3 | 2.14 | 0.60 |
| 30:D2:66:A:H2' | 30:D2:67:G:O4' | 2.02 | 0.60 |
| 36:DE:133:GLU:CB | 36:DE:134:ALA:HA | 2.32 | 0.60 |
| 38:DG:73:GLY:HA2 | 38:DG:74:SER:C | 2.24 | 0.60 |
| 72:DL:138:SER:C | 72:DL:140:GLY:N | 2.60 | 0.60 |
| 43:DN:82:SER:O | 43:DN:85:TRP:N | 2.35 | 0.60 |
| 44:DO:141:ALA:O | 44:DO:142:ILE:C | 2.44 | 0.60 |
| 53:DX:18:ALA:O | 53:DX:22:ALA:HB2 | 2.02 | 0.60 |
| 1:A1:10:G:H2' | 1:A1:11:A:C8 | 2.37 | 0.60 |
| 1:A1:11:A:O2' | 1:A1:1300:A:H4' | 2.02 | 0.60 |
| 1:A1:35:U:O2' | 1:A1:36:C:H5' | 2.02 | 0.60 |
| 1:A1:190:C:N4 | 1:A1:192:U:H3 | 2.00 | 0.60 |
| 1:A1:223:U:H5' | 1:A1:224:C:OP2 | 2.02 | 0.60 |
| 1:A1:296:U:H2' | 1:A1:297:U:N1 | 2.16 | 0.60 |
| 1:A1:497:G:H2' | 1:A1:498:G:H5' | 1.84 | 0.60 |
| 1:A1:1110:G:C2 | 1:A1:1111:G:C4 | 2.90 | 0.60 |
| 1:A1:1153:G:OP2 | 1:A1:1153:G:C8 | 2.53 | 0.60 |
| 1:A1:1455:G:C4 | 1:A1:1456:C:N3 | 2.69 | 0.60 |
| 1:A1:1585:U:C5 | 1:A1:1610:G:N2 | 2.69 | 0.60 |
| 1:A1:1673:G:C5 | 1:A1:1674:C:C5 | 2.90 | 0.60 |
| 1:A1:1685:G:N2 | 1:A1:1718:G:N2 | 2.47 | 0.60 |
| 5:AD:135:ASP:HA | 5:AD:138:THR:CB | 2.32 | 0.60 |
| 9:AH:44:GLY:O | 9:AH:46:MET:N | 2.35 | 0.60 |
| 10:AI:19:GLY:N | 13:AL:98:TYR:HA | 2.16 | 0.60 |
| 28:Ah:11:UNK:C | 28:Ah:13:UNK:N | 2.61 | 0.60 |
| 29:B1:20:A:H4' | 29:B1:21:G:OP1 | 2.01 | 0.60 |
| 29:B1:209:A:O3' | 29:B1:210:U:C6 | 2.54 | 0.60 |
| 29:B1:301:G:O2' | 29:B1:302:U:H5' | 2.01 | 0.60 |
| 29:B1:514:G:C2' | 29:B1:515:C:C6 | 2.84 | 0.60 |
| 29:B1:648:C:C5 | 29:B1:2374:C:O3' | 2.54 | 0.60 |
| 29:B1:688:G:C1' | 29:B1:692:A:H61 | 2.13 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:784:A:C2' | 29:B1:785:G:H8 | 2.14 | 0.60 |
| 29:B1:1062:A:H3' | 29:B1:1063:G:C8 | 2.37 | 0.60 |
| 29:B1:1183:C:H2' | 29:B1:1184:A:H5" | 1.84 | 0.60 |
| 29:B1:1317:A:C5 | 29:B1:1319:G:N7 | 2.70 | 0.60 |
| 29:B1:1357:G:C4 | 29:B1:1358:C:C5 | 2.89 | 0.60 |
| 29:B1:1742:U:H2' | 29:B1:1743:G:H8 | 1.67 | 0.60 |
| 29:B1:1884:A:C4 | 29:B1:1885:U:N3 | 2.70 | 0.60 |
| 29:B1:2104:A:C3' | 29:B1:2105:G:H5" | 2.31 | 0.60 |
| 29:B1:2144:A:N3 | 29:B1:2281:A:N6 | 2.50 | 0.60 |
| 29:B1:2315:G:C2 | 29:B1:2316:G:C8 | 2.90 | 0.60 |
| 29:B1:2522:G:C6 | 29:B1:2587:U:C4 | 2.89 | 0.60 |
| 29:B1:2556:C:O2 | 29:B1:2556:C:C2' | 2.49 | 0.60 |
| 29:B1:2582:C:OP2 | 29:B1:2582:C:H6 | 1.83 | 0.60 |
| 29:B1:2696:A:N7 | 29:B1:2697:A:N7 | 2.49 | 0.60 |
| 29:B1:2961:G:C5 | 29:B1:2962:U:C5 | 2.90 | 0.60 |
| 29:B1:3328:G:O2' | 29:B1:3329:U:C4' | 2.50 | 0.60 |
| 37:BF:152:THR:HA | 37:BF:156:LYS:H | 1.66 | 0.60 |
| 41:BJ:146:ASP:O | 41:BJ:147:VAL:C | 2.43 | 0.60 |
| 44:BO:97:SER:O | 44:BO:99:ARG:N | 2.35 | 0.60 |
| 45:BP:25:LYS:O | 45:BP:26:GLN:C | 2.45 | 0.60 |
| 45:BP:56:ASP:C | 45:BP:60:LYS:N | 2.60 | 0.60 |
| 46:BQ:30:ARG:O | 46:BQ:31:GLU:C | 2.45 | 0.60 |
| 48:BS:70:LYS:C | 48:BS:72:GLU:H | 2.09 | 0.60 |
| 50:BU:27:ASP:CB | 50:BU:101:VAL:HA | 2.31 | 0.60 |
| 1:C1:59:C:N4 | 1:C1:89:G:C4 | 2.70 | 0.60 |
| 1:C1:168:A:C6 | 1:C1:169:A:N6 | 2.70 | 0.60 |
| 1:C1:337:G:H4' | 1:C1:338:C:H5" | 1.84 | 0.60 |
| 1:C1:380:U:H2' | 1:C1:381:C:C5 | 2.37 | 0.60 |
| 1:C1:445:A:H2' | 1:C1:446:A:H8 | 1.65 | 0.60 |
| 1:C1:539:G:N3 | 1:C1:543:C:N3 | 2.49 | 0.60 |
| 1:C1:611:U:C5' | 1:C1:612:U:OP2 | 2.49 | 0.60 |
| 1:C1:782:U:H1' | 1:C1:783:G:OP2 | 2.01 | 0.60 |
| 1:C1:885:G:H2' | 1:C1:886:U:C6 | 2.36 | 0.60 |
| 1:C1:978:A:N1 | 1:C1:1024:U:O2 | 2.34 | 0.60 |
| 1:C1:1166:A:O2' | 1:C1:1587:A:H4' | 2.01 | 0.60 |
| 1:C1:1236:A:H3' | 1:C1:1237:G:H8 | 1.66 | 0.60 |
| 1:C1:1294:G:C2 | 1:C1:1295:G:C8 | 2.89 | 0.60 |
| 1:C1:1331:A:C2' | 1:C1:1332:C:O5' | 2.50 | 0.60 |
| 1:C1:1431:C:C3' | 1:C1:1432:U:H5' | 2.32 | 0.60 |
| 1:C1:1520:U:N3 | 74:C1:1930:OHX:N4 | 2.50 | 0.60 |
| 1:C1:1718:G:H2' | 1:C1:1719:A:C5' | 2.31 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:CC:9:ARG:CB | 4:CC:13:ALA:HB2 | 2.31 | 0.60 |
| 12:CK:55:THR:O | 12:CK:59:LYS:N | 2.32 | 0.60 |
| 13:CL:46:VAL:O | 13:CL:48:LYS:N | 2.29 | 0.60 |
| 13:CL:101:LEU:O | 13:CL:102:ALA:HB2 | 2.01 | 0.60 |
| 23:Cb:65:UNK:C | 23:Cb:67:UNK:H | 2.14 | 0.60 |
| 29:D1:44:U:C5 | 29:D1:45:A:N9 | 2.70 | 0.60 |
| 29:D1:287:G:C5 | 29:D1:288:C:C5 | 2.89 | 0.60 |
| 29:D1:760:G:N3 | 29:D1:761:A:C8 | 2.70 | 0.60 |
| 29:D1:1170:A:OP2 | 74:D1:3543:OHX:N3 | 2.34 | 0.60 |
| 29:D1:1224:C:C6 | 29:D1:1224:C:OP1 | 2.55 | 0.60 |
| 29:D1:1302:A:N3 | 29:D1:2887:A:C4 | 2.70 | 0.60 |
| 29:D1:1662:G:C5 | 29:D1:1663:C:C5 | 2.89 | 0.60 |
| 29:D1:1699:A:H2' | 29:D1:1700:G:C8 | 2.36 | 0.60 |
| 29:D1:1839:A:C5' | 29:D1:1840:U:OP1 | 2.44 | 0.60 |
| 29:D1:1888:U:OP1 | 34:DC:228:GLY:HA3 | 2.01 | 0.60 |
| 29:D1:2147:A:C5' | 29:D1:2147:A:C8 | 2.84 | 0.60 |
| 29:D1:2163:C:H2' | 29:D1:2163:C:O2 | 2.01 | 0.60 |
| 29:D1:2279:A:H2 | 29:D1:2285:C:N4 | 2.00 | 0.60 |
| 29:D1:2611:U:C2' | 29:D1:2612:U:C6 | 2.66 | 0.60 |
| 29:D1:2806:U:C2' | 29:D1:2807:U:H5' | 2.31 | 0.60 |
| 29:D1:2931:C:H2' | 29:D1:2932:U:H6 | 1.66 | 0.60 |
| 29:D1:2942:C:H6 | 29:D1:2942:C:C3' | 2.12 | 0.60 |
| 29:D1:2968:G:H2' | 29:D1:2969:A:O5' | 2.02 | 0.60 |
| 29:D1:2986:U:C2 | 29:D1:2987:A:N7 | 2.70 | 0.60 |
| 29:D1:3029:A:H3' | 29:D1:3030:G:C5' | 2.29 | 0.60 |
| 30:D2:97:A:OP2 | 30:D2:97:A:C8 | 2.54 | 0.60 |
| 34:DC:40:PRO:O | 34:DC:41:VAL:C | 2.44 | 0.60 |
| 40:DI:45:PHE:O | 40:DI:46:THR:CB | 2.49 | 0.60 |
| 41:DJ:73:ASN:O | 41:DJ:74:LYS:C | 2.45 | 0.60 |
| 42:DK:55:ARG:O | 42:DK:57:PHE:N | 2.35 | 0.60 |
| 45:DP:56:ASP:C | 45:DP:60:LYS:H | 2.09 | 0.60 |
| 45:DP:58:LEU:H | 45:DP:60:LYS:CB | 2.15 | 0.60 |
| 49:DT:28:SER:C | 49:DT:30:TYR:H | 2.08 | 0.60 |
| 1:A1:34:G:H2' | 1:A1:35:U:H6 | 1.65 | 0.60 |
| 1:A1:330:G:H2' | 1:A1:331:A:H8 | 1.67 | 0.60 |
| 1:A1:614:C:C2 | 1:A1:615:A:C8 | 2.89 | 0.60 |
| 1:A1:624:G:C4 | 1:A1:1027:A:C2 | 2.90 | 0.60 |
| 1:A1:1065:A:C5 | 1:A1:1066:C:C4 | 2.90 | 0.60 |
| 1:A1:1267:G:H21 | 1:A1:1448:G:H5" | 1.66 | 0.60 |
| 1:A1:1309:C:H2' | 1:A1:1310:U:O5' | 2.01 | 0.60 |
| 1:A1:1527:C:H2' | 1:A1:1527:C:O2 | 2.02 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1543:A:C8 | 1:A1:1569:A:N6 | 2.70 | 0.60 |
| 1:A1:1624:C:H2' | 1:A1:1624:C:O2 | 2.00 | 0.60 |
| 14:AM:101:ASN:O | 14:AM:103:LYS:N | 2.35 | 0.60 |
| 17:AP:58:GLY:HA2 | 17:AP:70:LYS:HA | 1.84 | 0.60 |
| 29:B1:10:C:C5 | 31:B3:149:A:C2 | 2.90 | 0.60 |
| 29:B1:35:A:C5 | 29:B1:36:C:C5 | 2.89 | 0.60 |
| 29:B1:88:A:C5 | 29:B1:99:A:N6 | 2.69 | 0.60 |
| 29:B1:386:A:H2' | 29:B1:387:A:O4' | 2.01 | 0.60 |
| 29:B1:396:A:H4' | 29:B1:397:A:OP1 | 2.02 | 0.60 |
| 29:B1:407:A:C2' | 29:B1:408:A:H5' | 2.32 | 0.60 |
| 29:B1:592:A:H2' | 29:B1:593:C:O2' | 2.02 | 0.60 |
| 29:B1:677:A:H2 | 29:B1:703:G:H21 | 1.49 | 0.60 |
| 29:B1:761:A:N6 | 29:B1:770:G:H22 | 2.00 | 0.60 |
| 29:B1:876:A:H2' | 29:B1:877:C:H5' | 1.83 | 0.60 |
| 29:B1:960:U:C2' | 29:B1:961:C:O4' | 2.50 | 0.60 |
| 29:B1:1079:A:H5' | 36:BE:141:PRO:CB | 2.32 | 0.60 |
| 29:B1:1088:U:H2' | 29:B1:1089:G:C8 | 2.37 | 0.60 |
| 29:B1:1192:C:OP2 | 29:B1:1192:C:N1 | 2.34 | 0.60 |
| 29:B1:1280:C:C2' | 29:B1:1281:G:C8 | 2.81 | 0.60 |
| 29:B1:1463:U:H2' | 29:B1:1464:G:H8 | 1.67 | 0.60 |
| 29:B1:1544:G:N2 | 29:B1:1545:A:H1' | 2.17 | 0.60 |
| 29:B1:1638:A:N1 | 29:B1:1736:G:H2' | 2.16 | 0.60 |
| 29:B1:1779:C:H4' | 29:B1:1780:G:OP1 | 2.00 | 0.60 |
| 29:B1:2166:A:H2' | 29:B1:2167:A:C8 | 2.36 | 0.60 |
| 29:B1:2184:U:C2 | 29:B1:2185:G:C8 | 2.89 | 0.60 |
| 29:B1:2294:U:C6 | 29:B1:2297:U:H5 | 2.20 | 0.60 |
| 29:B1:2361:A:C8 | 29:B1:2362:C:C5 | 2.90 | 0.60 |
| 29:B1:2429:G:O2' | 29:B1:2430:A:H5' | 2.02 | 0.60 |
| 29:B1:3136:G:C4 | 29:B1:3137:C:C5 | 2.89 | 0.60 |
| 29:B1:3305:A:H2' | 29:B1:3306:U:O2 | 2.02 | 0.60 |
| 34:BC:133:TYR:O | 34:BC:135:ALA:N | 2.34 | 0.60 |
| 34:BC:295:ALA:N | 34:BC:305:ILE:H | 1.99 | 0.60 |
| 54:BY:134:ALA:O | 54:BY:135:GLU:C | 2.43 | 0.60 |
| 57:Bb:4:LEU:C | 57:Bb:6:HIS:H | 2.07 | 0.60 |
| 57:Bb:120:THR:C | 57:Bb:122:PRO:N | 2.60 | 0.60 |
| 58:Bc:60:GLU:C | 58:Bc:62:GLN:H | 2.10 | 0.60 |
| 59:Bd:40:PRO:C | 59:Bd:42:ALA:H | 2.10 | 0.60 |
| 1:C1:169:A:O2' | 1:C1:171:A:C8 | 2.47 | 0.60 |
| 1:C1:268:C:N3 | 1:C1:288:A:H2 | 1.99 | 0.60 |
| 1:C1:330:G:N3 | 1:C1:331:A:C8 | 2.70 | 0.60 |
| 1:C1:483:A:P | 1:C1:483:A:H8 | 2.25 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:524:U:N3 | 1:C1:527:A:C6 | 2.70 | 0.60 |
| 1:C1:614:C:C2 | 1:C1:615:A:C8 | 2.90 | 0.60 |
| 1:C1:635:A:C4 | 1:C1:863:A:C8 | 2.90 | 0.60 |
| 1:C1:871:G:O6 | 1:C1:957:G:O6 | 2.19 | 0.60 |
| 1:C1:1150:G:N2 | 1:C1:1795:U:OP2 | 2.35 | 0.60 |
| 1:C1:1634:C:P | 1:C1:1634:C:C5 | 2.94 | 0.60 |
| 1:C1:1691:A:C5 | 1:C1:1692:G:H1' | 2.37 | 0.60 |
| 2:CA:126:PRO:O | 2:CA:130:ALA:HB2 | 2.01 | 0.60 |
| 10:CI:68:PRO:HA | 10:CI:69:GLU:C | 2.27 | 0.60 |
| 14:CM:57:ARG:O | 14:CM:58:ALA:HB2 | 2.02 | 0.60 |
| 14:CM:112:GLY:O | 14:CM:113:ILE:CB | 2.50 | 0.60 |
| 15:CN:45:ALA:C | 15:CN:47:GLN:H | 2.09 | 0.60 |
| 29:D1:9:U:O4 | 29:D1:10:C:H5 | 1.85 | 0.60 |
| 29:D1:637:C:N3 | 29:D1:638:C:C4 | 2.69 | 0.60 |
| 29:D1:744:A:H2' | 29:D1:745:C:C6 | 2.36 | 0.60 |
| 29:D1:746:A:H8 | 29:D1:746:A:O5' | 1.84 | 0.60 |
| 29:D1:836:A:C6 | 29:D1:837:A:N7 | 2.69 | 0.60 |
| 29:D1:1042:U:OP2 | 29:D1:1042:U:C5 | 2.55 | 0.60 |
| 29:D1:1193:A:C8 | 29:D1:1194:G:N2 | 2.70 | 0.60 |
| 29:D1:1232:C:H41 | 29:D1:1261:G:H3' | 1.67 | 0.60 |
| 29:D1:1249:G:H2' | 29:D1:1250:G:C8 | 2.37 | 0.60 |
| 29:D1:1255:C:O2' | 72:DL:131:GLU:HA | 2.01 | 0.60 |
| 29:D1:1307:G:C2 | 29:D1:1308:A:C2 | 2.89 | 0.60 |
| 29:D1:1356:U:O2 | 29:D1:1356:U:H2' | 2.01 | 0.60 |
| 29:D1:1409:G:H2' | 29:D1:1410:U:H5' | 1.82 | 0.60 |
| 29:D1:1528:G:H2' | 29:D1:1529:A:C8 | 2.30 | 0.60 |
| 29:D1:1607:U:O2' | 29:D1:1608:C:O5' | 2.19 | 0.60 |
| 29:D1:1623:G:H3' | 29:D1:1624:G:H8 | 1.67 | 0.60 |
| 29:D1:1662:G:H1 | 29:D1:1787:A:H61 | 1.49 | 0.60 |
| 29:D1:1857:C:O2' | 29:D1:1858:A:C8 | 2.55 | 0.60 |
| 29:D1:1909:A:N6 | 29:D1:1910:A:N1 | 2.50 | 0.60 |
| 29:D1:2299:A:C4 | 29:D1:2300:G:C8 | 2.90 | 0.60 |
| 29:D1:2898:G:H8 | 29:D1:2898:G:O5' | 1.84 | 0.60 |
| 29:D1:3006:A:C2 | 29:D1:3141:A:C2 | 2.90 | 0.60 |
| 29:D1:3194:C:H3' | 29:D1:3194:C:C6 | 2.36 | 0.60 |
| 29:D1:3203:U:O3' | 29:D1:3204:C:O4' | 2.20 | 0.60 |
| 29:D1:3281:U:C4 | 29:D1:3282:U:O4 | 2.55 | 0.60 |
| 29:D1:3328:G:N2 | 29:D1:3375:A:H62 | 1.98 | 0.60 |
| 30:D2:12:U:N3 | 30:D2:70:U:OP1 | 2.35 | 0.60 |
| 30:D2:30:G:H2' | 30:D2:31:U:C5' | 2.31 | 0.60 |
| 30:D2:38:U:C5 | 30:D2:41:G:H5" | 2.35 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:D3:14:C:H3' | 31:D3:15:G:C8 | 2.25 | 0.60 |
| 31:D3:48:A:C2 | 31:D3:51:G:C6 | 2.89 | 0.60 |
| 31:D3:74:U:H4' | 31:D3:89:A:N3 | 2.16 | 0.60 |
| 35:DD:118:LYS:C | 35:DD:121:ALA:HB3 | 2.27 | 0.60 |
| 37:DF:43:LEU:H | 37:DF:84:VAL:HA | 1.67 | 0.60 |
| 38:DG:120:THR:O | 38:DG:123:THR:N | 2.34 | 0.60 |
| 41:DJ:38:LYS:O | 41:DJ:39:LYS:O | 2.19 | 0.60 |
| 45:DP:56:ASP:O | 45:DP:60:LYS:N | 2.35 | 0.60 |
| 54:DY:85:ASP:H | 54:DY:87:ARG:CB | 2.15 | 0.60 |
| 1:A1:108:A:C3' | 1:A1:109:G:H8 | 2.15 | 0.60 |
| 1:A1:143:G:C4 | 1:A1:144:U:H1' | 2.37 | 0.60 |
| 1:A1:183:U:C5 | 1:A1:184:C:C4 | 2.90 | 0.60 |
| 1:A1:206:A:H2' | 1:A1:207:U:H6 | 1.66 | 0.60 |
| 1:A1:340:U:C2 | 1:A1:341:A:C8 | 2.90 | 0.60 |
| 1:A1:634:G:C2 | 1:A1:966:A:C6 | 2.90 | 0.60 |
| 1:A1:814:A:C4 | 1:A1:816:G:C2 | 2.90 | 0.60 |
| 1:A1:935:U:H2' | 1:A1:936:G:H8 | 1.66 | 0.60 |
| 1:A1:975:C:C2 | 1:A1:976:G:C8 | 2.89 | 0.60 |
| 1:A1:993:A:OP1 | 1:A1:1777:G:N2 | 2.24 | 0.60 |
| 1:A1:1053:G:H2' | 1:A1:1054:U:C6 | 2.36 | 0.60 |
| 1:A1:1111:G:H2' | 1:A1:1112:G:O4' | 2.02 | 0.60 |
| 1:A1:1309:C:C2' | 1:A1:1310:U:O5' | 2.50 | 0.60 |
| 1:A1:1345:A:H2' | 1:A1:1346:A:C8 | 2.37 | 0.60 |
| 1:A1:1543:A:C2 | 1:A1:1544:U:H1' | 2.37 | 0.60 |
| 1:A1:1758:U:H2' | 1:A1:1759:C:H6 | 1.66 | 0.60 |
| 3:AB:118:ALA:HB2 | 3:AB:124:ALA:H | 1.67 | 0.60 |
| 5:AD:218:GLU:C | 5:AD:220:VAL:H | 2.10 | 0.60 |
| 29:B1:31:C:O2 | 29:B1:1546:A:H2 | 1.84 | 0.60 |
| 29:B1:121:A:H4' | 29:B1:150:A:C2 | 2.36 | 0.60 |
| 29:B1:431:U:C6 | 29:B1:431:U:H3' | 2.36 | 0.60 |
| 29:B1:563:U:C6 | 29:B1:564:G:H5" | 2.37 | 0.60 |
| 29:B1:602:A:H2' | 29:B1:602:A:N3 | 2.17 | 0.60 |
| 29:B1:847:A:C2 | 29:B1:848:A:C4 | 2.90 | 0.60 |
| 29:B1:1021:G:H2' | 29:B1:1022:U:H6 | 1.66 | 0.60 |
| 29:B1:1498:A:C2 | 29:B1:1519:G:C2 | 2.90 | 0.60 |
| 29:B1:1536:G:C6 | 29:B1:1586:G:C2 | 2.90 | 0.60 |
| 29:B1:1623:G:H3' | 29:B1:1624:G:H8 | 1.67 | 0.60 |
| 29:B1:1625:A:N7 | 29:B1:1626:U:C6 | 2.70 | 0.60 |
| 29:B1:1721:U:C2 | 29:B1:1723:A:OP2 | 2.54 | 0.60 |
| 29:B1:1728:G:H21 | 29:B1:1730:G:N2 | 1.99 | 0.60 |
| 29:B1:1736:G:C6 | 29:B1:1737:U:C4 | 2.89 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2204:C:O5' | 29:B1:2204:C:H6 | 1.85 | 0.60 |
| 29:B1:2310:U:C2' | 29:B1:2311:G:O5' | 2.50 | 0.60 |
| 29:B1:2353:G:C4 | 29:B1:2354:C:H6 | 2.19 | 0.60 |
| 29:B1:2727:A:H2 | 29:B1:2729:U:H5 | 1.46 | 0.60 |
| 29:B1:2966:G:C6 | 29:B1:2967:A:N6 | 2.70 | 0.60 |
| 29:B1:3000:A:C2 | 29:B1:3001:C:C4 | 2.89 | 0.60 |
| 29:B1:3046:A:C5 | 29:B1:3047:U:C5 | 2.90 | 0.60 |
| 29:B1:3212:C:C2 | 29:B1:3213:A:C2 | 2.90 | 0.60 |
| 29:B1:3268:A:O3' | 29:B1:3269:U:H4' | 2.02 | 0.60 |
| 30:B2:14:U:OP2 | 30:B2:14:U:N1 | 2.34 | 0.60 |
| 30:B2:55:A:C2 | 30:B2:56:A:C4 | 2.87 | 0.60 |
| 30:B2:102:A:C2' | 30:B2:103:A:O5' | 2.49 | 0.60 |
| 31:B3:12:A:C2' | 31:B3:13:A:H5' | 2.31 | 0.60 |
| 31:B3:106:C:N1 | 31:B3:138:A:N7 | 2.50 | 0.60 |
| 36:BE:241:THR:C | 36:BE:243:ALA:H | 2.10 | 0.60 |
| 41:BJ:38:LYS:O | 41:BJ:39:LYS:O | 2.20 | 0.60 |
| 46:BQ:44:ALA:O | 46:BQ:46:LYS:N | 2.35 | 0.60 |
| 47:BR:60:PRO:O | 47:BR:61:PRO:CB | 2.50 | 0.60 |
| 56:Ba:38:LYS:C | 56:Ba:40:ALA:H | 2.10 | 0.60 |
| 1:C1:25:C:C4 | 1:C1:367:A:C1' | 2.82 | 0.60 |
| 1:C1:225:A:C4 | 1:C1:226:A:C8 | 2.90 | 0.60 |
| 1:C1:243:G:O2' | 1:C1:244:A:H5' | 2.01 | 0.60 |
| 1:C1:248:U:O2' | 1:C1:249:U:C5' | 2.50 | 0.60 |
| 1:C1:250:C:C2 | 1:C1:251:A:C5 | 2.89 | 0.60 |
| 1:C1:260:U:H3' | 1:C1:261:U:C5' | 2.32 | 0.60 |
| 1:C1:314:C:O2 | 1:C1:354:C:N3 | 2.35 | 0.60 |
| 1:C1:317:C:N4 | 1:C1:318:U:O4 | 2.34 | 0.60 |
| 1:C1:449:C:H5" | 1:C1:450:U:OP2 | 2.01 | 0.60 |
| 1:C1:480:G:C4 | 1:C1:481:A:C8 | 2.90 | 0.60 |
| 1:C1:695:U:OP2 | 1:C1:696:C:H1' | 2.02 | 0.60 |
| 1:C1:1002:G:N1 | 1:C1:1003:A:N1 | 2.50 | 0.60 |
| 1:C1:1105:C:H2' | 1:C1:1106:U:H6 | 1.67 | 0.60 |
| 1:C1:1110:G:HO2' | 1:C1:1111:G:P | 2.24 | 0.60 |
| 1:C1:1426:C:HO2' | 1:C1:1427:A:H4' | 1.66 | 0.60 |
| 1:C1:1481:C:H4' | 1:C1:1482:C:OP1 | 2.01 | 0.60 |
| 1:C1:1517:U:O2 | 15:CN:17:GLN:N | 2.35 | 0.60 |
| 1:C1:1786:G:C6 | 1:C1:1787:C:N4 | 2.70 | 0.60 |
| 5:CD:92:ARG:O | 5:CD:94:THR:N | 2.34 | 0.60 |
| 6:CE:73:GLY:C | 6:CE:75:ALA:H | 2.10 | 0.60 |
| 8:CG:88:LEU:C | 8:CG:90:TYR:N | 2.59 | 0.60 |
| 29:D1:71:A:N7 | 29:D1:72:C:C5 | 2.70 | 0.60 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:190:U:C5 | 29:D1:224:C:C1’ | 2.84 | 0.60 |
| 29:D1:310:U:H3’ | 29:D1:311:C:H5” | 1.84 | 0.60 |
| 29:D1:707:U:H5” | 29:D1:782:U:C2’ | 2.31 | 0.60 |
| 29:D1:826:G:N2 | 29:D1:1589:A:H62 | 1.94 | 0.60 |
| 29:D1:1023:C:H3’ | 29:D1:1024:G:C5’ | 2.31 | 0.60 |
| 29:D1:1168:U:OP1 | 38:DG:212:GLY:O | 2.20 | 0.60 |
| 29:D1:1211:U:H2’ | 29:D1:1212:A:C8 | 2.32 | 0.60 |
| 29:D1:1237:G:N2 | 29:D1:1252:A:C2 | 2.69 | 0.60 |
| 29:D1:1242:G:OP1 | 29:D1:1242:G:H3’ | 2.02 | 0.60 |
| 29:D1:1270:A:C8 | 29:D1:1271:A:C8 | 2.90 | 0.60 |
| 29:D1:1833:G:C2 | 29:D1:1834:U:O2 | 2.54 | 0.60 |
| 29:D1:1907:C:H6 | 29:D1:1907:C:H3’ | 1.67 | 0.60 |
| 29:D1:1914:G:H1’ | 29:D1:2115:G:C8 | 2.37 | 0.60 |
| 29:D1:2147:A:H5’ | 29:D1:2147:A:C8 | 2.37 | 0.60 |
| 29:D1:2506:U:H2’ | 29:D1:2507:C:C6 | 2.36 | 0.60 |
| 29:D1:2513:U:H5” | 29:D1:2592:G:H22 | 1.67 | 0.60 |
| 29:D1:3107:U:C2 | 29:D1:3108:G:C8 | 2.90 | 0.60 |
| 29:D1:3135:U:H3’ | 29:D1:3136:G:H8 | 1.66 | 0.60 |
| 29:D1:3189:G:O6 | 29:D1:3204:C:N4 | 2.31 | 0.60 |
| 29:D1:3215:A:P | 29:D1:3218:A:O4’ | 2.60 | 0.60 |
| 29:D1:3260:G:OP2 | 29:D1:3261:C:H5” | 2.02 | 0.60 |
| 29:D1:3280:U:O2 | 29:D1:3281:U:C6 | 2.55 | 0.60 |
| 29:D1:3311:C:H2’ | 29:D1:3312:U:C6 | 2.37 | 0.60 |
| 29:D1:3333:G:N3 | 29:D1:3371:G:C8 | 2.70 | 0.60 |
| 31:D3:18:U:N3 | 31:D3:19:C:C5 | 2.70 | 0.60 |
| 32:DA:55:LEU:N | 32:DA:167:VAL:HA | 2.16 | 0.60 |
| 34:DC:121:ASN:O | 34:DC:122:TRP:CB | 2.49 | 0.60 |
| 34:DC:169:THR:O | 34:DC:171:LEU:N | 2.35 | 0.60 |
| 35:DD:165:ALA:O | 35:DD:166:VAL:C | 2.45 | 0.60 |
| 35:DD:165:ALA:O | 35:DD:168:ALA:N | 2.35 | 0.60 |
| 35:DD:177:ASP:C | 35:DD:179:LEU:N | 2.59 | 0.60 |
| 47:DR:43:PRO:C | 47:DR:45:ASN:N | 2.60 | 0.60 |
| 58:Dc:4:VAL:HA | 58:Dc:5:LYS:CB | 2.30 | 0.60 |
| 1:A1:59:C:N4 | 1:A1:89:G:C4 | 2.70 | 0.59 |
| 1:A1:123:G:C6 | 1:A1:295:A:N6 | 2.69 | 0.59 |
| 1:A1:129:U:C5 | 1:A1:264:G:O6 | 2.54 | 0.59 |
| 1:A1:129:U:H5 | 1:A1:264:G:C5 | 2.17 | 0.59 |
| 1:A1:357:G:C5 | 1:A1:358:U:C4 | 2.90 | 0.59 |
| 1:A1:1185:U:C5 | 1:A1:1458:G:C8 | 2.90 | 0.59 |
| 1:A1:1331:A:H2’ | 1:A1:1332:C:O5’ | 2.01 | 0.59 |
| 1:A1:1433:G:N2 | 1:A1:1434:U:C5 | 2.67 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1481:C:H5 | 1:A1:1482:C:C2 | 2.21 | 0.59 |
| 14:AM:125:SER:O | 14:AM:126:GLU:C | 2.45 | 0.59 |
| 29:B1:258:G:H1' | 29:B1:259:C:H5' | 1.84 | 0.59 |
| 29:B1:588:G:C4' | 29:B1:589:A:H62 | 2.15 | 0.59 |
| 29:B1:595:G:C6 | 29:B1:609:G:O4' | 2.54 | 0.59 |
| 29:B1:722:G:N2 | 29:B1:748:U:H2' | 2.16 | 0.59 |
| 29:B1:760:G:N3 | 29:B1:761:A:C8 | 2.70 | 0.59 |
| 29:B1:767:U:O3' | 29:B1:768:C:H4' | 2.02 | 0.59 |
| 29:B1:819:U:H4' | 29:B1:2138:A:N1 | 2.17 | 0.59 |
| 29:B1:952:A:C8 | 29:B1:952:A:H3' | 2.36 | 0.59 |
| 29:B1:1235:U:C5 | 29:B1:1263:A:N6 | 2.70 | 0.59 |
| 29:B1:1359:C:H2' | 29:B1:1359:C:O2 | 2.00 | 0.59 |
| 29:B1:1383:G:N7 | 74:B1:3433:OHX:N3 | 2.49 | 0.59 |
| 29:B1:1409:G:C2' | 29:B1:1410:U:H5' | 2.32 | 0.59 |
| 29:B1:1478:C:H6 | 29:B1:1478:C:H5" | 1.67 | 0.59 |
| 29:B1:1499:C:O2' | 29:B1:1500:G:H5' | 2.02 | 0.59 |
| 29:B1:1888:U:OP1 | 34:BC:228:GLY:HA3 | 2.01 | 0.59 |
| 29:B1:1909:A:N6 | 29:B1:1910:A:N1 | 2.49 | 0.59 |
| 29:B1:2157:G:N2 | 29:B1:2178:A:OP2 | 2.33 | 0.59 |
| 29:B1:2485:A:C5' | 32:BA:106:LYS:HA | 2.32 | 0.59 |
| 29:B1:2592:G:C6 | 74:B1:3449:OHX:N6 | 2.70 | 0.59 |
| 29:B1:2650:U:OP2 | 29:B1:2650:U:C6 | 2.54 | 0.59 |
| 29:B1:2792:A:C2' | 29:B1:2793:G:H5' | 2.31 | 0.59 |
| 29:B1:2896:A:H5' | 29:B1:2896:A:C8 | 2.37 | 0.59 |
| 29:B1:3237:U:H2' | 29:B1:3238:G:H8 | 1.64 | 0.59 |
| 29:B1:3289:G:N7 | 74:B1:3581:OHX:N4 | 2.49 | 0.59 |
| 29:B1:3305:A:H1' | 29:B1:3311:C:O2 | 2.02 | 0.59 |
| 29:B1:3323:A:H2' | 29:B1:3324:C:O5' | 2.00 | 0.59 |
| 29:B1:3373:U:N3 | 29:B1:3374:U:C5 | 2.70 | 0.59 |
| 29:B1:3377:G:C5 | 74:B1:3450:OHX:N1 | 2.70 | 0.59 |
| 30:B2:69:C:C4 | 30:B2:70:U:O4 | 2.54 | 0.59 |
| 30:B2:121:U:OP2 | 36:BE:260:PHE:HA | 2.02 | 0.59 |
| 31:B3:94:C:H41 | 59:Bd:63:ARG:CB | 2.15 | 0.59 |
| 31:B3:131:A:C2 | 31:B3:132:G:C8 | 2.90 | 0.59 |
| 36:BE:234:ASP:C | 36:BE:236:LEU:H | 2.10 | 0.59 |
| 37:BF:9:TRP:O | 37:BF:10:TYR:CB | 2.49 | 0.59 |
| 38:BG:160:ARG:O | 38:BG:161:VAL:C | 2.44 | 0.59 |
| 40:BI:47:LYS:O | 40:BI:48:VAL:C | 2.44 | 0.59 |
| 40:BI:137:SER:O | 40:BI:138:THR:CB | 2.50 | 0.59 |
| 42:BK:73:GLY:O | 42:BK:76:ALA:HB2 | 2.02 | 0.59 |
| 44:BO:83:LYS:N | 44:BO:85:THR:N | 2.48 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 45:BP:56:ASP:O | 45:BP:59:ARG:CB | 2.50 | 0.59 |
| 47:BR:92:ARG:O | 47:BR:94:PHE:N | 2.35 | 0.59 |
| 1:C1:85:A:O2' | 1:C1:86:A:P | 2.60 | 0.59 |
| 1:C1:93:A:H8 | 1:C1:398:G:H2' | 1.65 | 0.59 |
| 1:C1:269:G:C6 | 1:C1:270:C:N4 | 2.70 | 0.59 |
| 1:C1:288:A:C4 | 1:C1:289:U:C5 | 2.90 | 0.59 |
| 1:C1:323:A:O2' | 1:C1:324:U:H5' | 2.01 | 0.59 |
| 1:C1:337:G:H5" | 1:C1:338:C:C5 | 2.37 | 0.59 |
| 1:C1:612:U:H5' | 1:C1:613:G:H3' | 1.84 | 0.59 |
| 1:C1:730:G:C2' | 1:C1:731:C:H5' | 2.32 | 0.59 |
| 1:C1:735:C:H2' | 1:C1:736:C:C6 | 2.37 | 0.59 |
| 1:C1:747:C:H2' | 1:C1:748:U:C6 | 2.37 | 0.59 |
| 1:C1:1032:G:N3 | 1:C1:1033:C:C6 | 2.70 | 0.59 |
| 1:C1:1161:C:H1' | 1:C1:1620:C:H42 | 1.67 | 0.59 |
| 1:C1:1284:C:O2 | 1:C1:1286:U:C4 | 2.55 | 0.59 |
| 1:C1:1458:G:N3 | 1:C1:1458:G:C2' | 2.61 | 0.59 |
| 6:CE:82:ARG:O | 6:CE:148:VAL:O | 2.20 | 0.59 |
| 9:CH:78:ALA:HA | 9:CH:110:LEU:HA | 1.84 | 0.59 |
| 12:CK:7:LYS:C | 12:CK:9:VAL:H | 2.08 | 0.59 |
| 17:CP:127:VAL:CA | 17:CP:129:GLY:N | 2.65 | 0.59 |
| 29:D1:67:A:C8 | 29:D1:317:A:H1' | 2.37 | 0.59 |
| 29:D1:106:A:O2' | 29:D1:107:A:H5' | 2.02 | 0.59 |
| 29:D1:124:U:H2' | 29:D1:125:C:C1' | 2.31 | 0.59 |
| 29:D1:505:G:H2' | 29:D1:506:U:O5' | 2.02 | 0.59 |
| 29:D1:575:G:O2' | 29:D1:576:C:O5' | 2.18 | 0.59 |
| 29:D1:665:A:O2' | 29:D1:666:A:H5' | 2.01 | 0.59 |
| 29:D1:702:C:H2' | 29:D1:703:G:O4' | 2.02 | 0.59 |
| 29:D1:759:U:C2' | 29:D1:760:G:H5" | 2.31 | 0.59 |
| 29:D1:767:U:O3' | 29:D1:768:C:H4' | 2.02 | 0.59 |
| 29:D1:792:G:H2' | 29:D1:793:C:C6 | 2.37 | 0.59 |
| 29:D1:810:A:N3 | 29:D1:810:A:H2' | 2.16 | 0.59 |
| 29:D1:858:A:H5" | 29:D1:858:A:C8 | 2.36 | 0.59 |
| 29:D1:931:C:C2 | 29:D1:932:U:C5 | 2.90 | 0.59 |
| 29:D1:1013:G:N2 | 29:D1:1038:C:C2 | 2.70 | 0.59 |
| 29:D1:1256:G:C5 | 29:D1:1257:C:C6 | 2.90 | 0.59 |
| 29:D1:1257:C:O2 | 29:D1:1257:C:C2' | 2.48 | 0.59 |
| 29:D1:1310:G:H2' | 29:D1:1311:G:O5' | 2.01 | 0.59 |
| 29:D1:1454:A:H5" | 29:D1:1878:G:N1 | 2.16 | 0.59 |
| 29:D1:1949:G:H2' | 29:D1:1950:U:H6 | 1.66 | 0.59 |
| 29:D1:2101:C:O2' | 29:D1:2102:U:H5' | 2.01 | 0.59 |
| 29:D1:2277:C:H5" | 29:D1:2317:A:C4' | 2.19 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2338:C:H4' | 50:DU:47:ASN:O | 2.02 | 0.59 |
| 29:D1:2702:A:O4' | 29:D1:2704:A:C8 | 2.55 | 0.59 |
| 29:D1:2728:G:N3 | 29:D1:2728:G:C2' | 2.60 | 0.59 |
| 29:D1:3006:A:H2 | 29:D1:3141:A:C2 | 2.20 | 0.59 |
| 29:D1:3231:U:O2 | 29:D1:3256:G:N2 | 2.35 | 0.59 |
| 29:D1:3374:U:C2 | 29:D1:3375:A:C2 | 2.90 | 0.59 |
| 30:D2:9:C:C2' | 30:D2:13:A:N6 | 2.60 | 0.59 |
| 31:D3:54:A:C6 | 31:D3:55:U:C2 | 2.90 | 0.59 |
| 31:D3:138:A:H2 | 31:D3:139:U:N1 | 1.99 | 0.59 |
| 34:DC:106:TRP:C | 34:DC:108:GLU:H | 2.08 | 0.59 |
| 34:DC:196:ARG:O | 34:DC:197:GLU:O | 2.20 | 0.59 |
| 34:DC:271:GLY:O | 34:DC:273:HIS:N | 2.35 | 0.59 |
| 35:DD:53:SER:O | 35:DD:55:LYS:N | 2.35 | 0.59 |
| 36:DE:222:LEU:O | 36:DE:224:LYS:N | 2.35 | 0.59 |
| 37:DF:162:SER:O | 37:DF:165:LEU:N | 2.35 | 0.59 |
| 49:DT:35:LYS:O | 49:DT:37:GLY:N | 2.35 | 0.59 |
| 1:A1:341:A:N3 | 1:A1:341:A:H2' | 2.16 | 0.59 |
| 1:A1:359:A:H3' | 1:A1:359:A:OP1 | 2.01 | 0.59 |
| 1:A1:525:A:OP1 | 1:A1:526:A:N7 | 2.35 | 0.59 |
| 1:A1:832:U:H3' | 1:A1:833:U:H5" | 1.83 | 0.59 |
| 1:A1:1384:A:H2' | 1:A1:1385:G:H8 | 1.66 | 0.59 |
| 1:A1:1537:C:H5' | 1:A1:1538:U:OP1 | 2.02 | 0.59 |
| 1:A1:1576:A:H2' | 1:A1:1577:A:O4' | 2.01 | 0.59 |
| 1:A1:1584:G:C4 | 1:A1:1584:G:H3' | 2.37 | 0.59 |
| 1:A1:1607:G:C6 | 1:A1:1608:U:C4 | 2.90 | 0.59 |
| 1:A1:1631:A:C5 | 1:A1:1632:C:C2 | 2.89 | 0.59 |
| 1:A1:1763:A:C2' | 1:A1:1764:C:H5" | 2.31 | 0.59 |
| 2:AA:54:TRP:O | 2:AA:57:LEU:N | 2.35 | 0.59 |
| 4:AC:95:GLY:O | 4:AC:96:LEU:CB | 2.49 | 0.59 |
| 4:AC:104:SER:O | 4:AC:107:PHE:N | 2.31 | 0.59 |
| 5:AD:215:ASP:O | 5:AD:216:GLU:C | 2.44 | 0.59 |
| 10:AI:21:ASP:O | 10:AI:23:GLU:N | 2.34 | 0.59 |
| 24:Ac:62:UNK:O | 24:Ac:63:UNK:O | 2.20 | 0.59 |
| 29:B1:208:C:N4 | 29:B1:209:A:H62 | 1.99 | 0.59 |
| 29:B1:258:G:C8 | 29:B1:258:G:OP2 | 2.55 | 0.59 |
| 29:B1:290:G:H2' | 29:B1:291:C:C6 | 2.36 | 0.59 |
| 29:B1:306:A:H2 | 29:B1:307:A:N9 | 2.00 | 0.59 |
| 29:B1:416:A:N3 | 29:B1:417:A:C8 | 2.70 | 0.59 |
| 29:B1:518:G:P | 29:B1:520:U:H5 | 2.25 | 0.59 |
| 29:B1:528:U:O4 | 29:B1:564:G:O6 | 2.21 | 0.59 |
| 29:B1:559:A:H2' | 29:B1:560:G:C8 | 2.37 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:570:A:C5 | 29:B1:571:U:C5 | 2.90 | 0.59 |
| 29:B1:719:U:HO2' | 29:B1:720:A:H8 | 1.45 | 0.59 |
| 29:B1:720:A:H4' | 29:B1:721:G:OP2 | 2.00 | 0.59 |
| 29:B1:746:A:H8 | 29:B1:746:A:O5' | 1.84 | 0.59 |
| 29:B1:1007:U:O2 | 29:B1:1007:U:H2' | 2.01 | 0.59 |
| 29:B1:1040:A:C6 | 29:B1:1041:U:C5 | 2.91 | 0.59 |
| 29:B1:1246:G:C6 | 29:B1:1247:U:H1' | 2.36 | 0.59 |
| 29:B1:1469:C:C2 | 29:B1:1509:A:C2 | 2.90 | 0.59 |
| 29:B1:1478:C:C5' | 29:B1:1478:C:C6 | 2.85 | 0.59 |
| 29:B1:1560:G:H2' | 29:B1:1561:G:O4' | 2.02 | 0.59 |
| 29:B1:1630:U:H3' | 29:B1:1813:A:N1 | 2.17 | 0.59 |
| 29:B1:1728:G:N2 | 29:B1:1730:G:N2 | 2.50 | 0.59 |
| 29:B1:2152:A:H1' | 29:B1:2243:A:N3 | 2.16 | 0.59 |
| 29:B1:2383:C:C2' | 29:B1:2384:A:O5' | 2.50 | 0.59 |
| 29:B1:2674:A:C1' | 42:BK:108:GLU:H | 2.14 | 0.59 |
| 29:B1:2937:G:H2' | 29:B1:2938:G:H5' | 1.84 | 0.59 |
| 29:B1:2949:U:C2 | 29:B1:2950:G:N7 | 2.71 | 0.59 |
| 29:B1:2997:G:C1' | 29:B1:2998:U:P | 2.84 | 0.59 |
| 29:B1:3057:U:O3' | 29:B1:3058:U:H4' | 2.03 | 0.59 |
| 29:B1:3099:C:C5' | 29:B1:3099:C:C6 | 2.85 | 0.59 |
| 29:B1:3271:G:C4 | 29:B1:3271:G:H3' | 2.37 | 0.59 |
| 30:B2:10:C:O2' | 30:B2:13:A:H8 | 1.85 | 0.59 |
| 30:B2:11:A:C4' | 30:B2:13:A:H2' | 2.32 | 0.59 |
| 31:B3:107:G:C2 | 31:B3:116:G:C5 | 2.90 | 0.59 |
| 36:BE:50:ARG:HA | 36:BE:145:PHE:H | 1.67 | 0.59 |
| 36:BE:141:PRO:CB | 36:BE:142:PHE:CA | 2.73 | 0.59 |
| 38:BG:237:ASN:O | 38:BG:241:LYS:N | 2.32 | 0.59 |
| 45:BP:92:THR:O | 45:BP:93:ALA:C | 2.45 | 0.59 |
| 45:BP:137:THR:O | 45:BP:140:LYS:N | 2.32 | 0.59 |
| 46:BQ:5:GLY:N | 46:BQ:6:ALA:HA | 2.12 | 0.59 |
| 1:C1:25:C:C6 | 1:C1:25:C:C3' | 2.85 | 0.59 |
| 1:C1:240:U:O2' | 1:C1:241:U:H5' | 2.02 | 0.59 |
| 1:C1:385:A:O2' | 1:C1:386:G:H5' | 2.02 | 0.59 |
| 1:C1:623:A:H2 | 1:C1:1105:C:O2' | 1.84 | 0.59 |
| 1:C1:1056:U:H1' | 1:C1:1064:G:N2 | 2.17 | 0.59 |
| 1:C1:1086:A:H2 | 1:C1:1141:G:N3 | 1.99 | 0.59 |
| 1:C1:1265:G:O5' | 1:C1:1265:G:H8 | 1.85 | 0.59 |
| 1:C1:1391:A:N1 | 1:C1:1409:G:N2 | 2.49 | 0.59 |
| 1:C1:1419:G:H2' | 1:C1:1420:C:O5' | 2.02 | 0.59 |
| 1:C1:1525:A:C2 | 1:C1:1526:A:C4 | 2.90 | 0.59 |
| 1:C1:1532:U:H2' | 1:C1:1533:C:C6 | 2.37 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1597:A:C5 | 1:C1:1598:U:N3 | 2.70 | 0.59 |
| 1:C1:1720:G:C8 | 1:C1:1721:A:N7 | 2.69 | 0.59 |
| 3:CB:206:THR:O | 3:CB:209:ASN:N | 2.35 | 0.59 |
| 4:CC:76:ARG:O | 4:CC:78:LYS:N | 2.35 | 0.59 |
| 15:CN:45:ALA:HB1 | 15:CN:49:ASN:CB | 2.32 | 0.59 |
| 17:CP:132:LEU:CB | 17:CP:134:ALA:O | 2.50 | 0.59 |
| 29:D1:13:A:H2 | 29:D1:15:C:C3' | 2.15 | 0.59 |
| 29:D1:28:C:O2' | 29:D1:61:A:N3 | 2.36 | 0.59 |
| 29:D1:34:A:H5' | 29:D1:35:A:OP2 | 2.02 | 0.59 |
| 29:D1:196:G:C6 | 29:D1:199:A:OP2 | 2.55 | 0.59 |
| 29:D1:281:G:O6 | 29:D1:282:G:O6 | 2.20 | 0.59 |
| 29:D1:523:A:C2 | 29:D1:524:U:C6 | 2.91 | 0.59 |
| 29:D1:588:G:C4' | 29:D1:589:A:N7 | 2.58 | 0.59 |
| 29:D1:1106:G:C6 | 29:D1:1107:C:C5 | 2.90 | 0.59 |
| 29:D1:1140:G:N3 | 29:D1:1141:C:C6 | 2.70 | 0.59 |
| 29:D1:1338:C:C2 | 29:D1:1339:C:C5 | 2.90 | 0.59 |
| 29:D1:1388:U:O4 | 29:D1:1389:G:O6 | 2.20 | 0.59 |
| 29:D1:1452:A:C1' | 29:D1:2347:U:H5" | 2.29 | 0.59 |
| 29:D1:1464:G:H22 | 29:D1:1466:G:H3' | 1.65 | 0.59 |
| 29:D1:1505:C:H5" | 29:D1:1505:C:C6 | 2.37 | 0.59 |
| 29:D1:2609:A:N3 | 29:D1:2610:G:C8 | 2.69 | 0.59 |
| 29:D1:2611:U:C2' | 29:D1:2612:U:H6 | 2.06 | 0.59 |
| 29:D1:2914:G:H2' | 29:D1:2915:U:H6 | 1.66 | 0.59 |
| 29:D1:2918:G:N2 | 29:D1:2919:A:C8 | 2.70 | 0.59 |
| 29:D1:3026:G:O6 | 74:D1:3413:OHX:N6 | 2.34 | 0.59 |
| 29:D1:3110:C:H2' | 29:D1:3111:U:H6 | 1.66 | 0.59 |
| 29:D1:3117:C:C5 | 29:D1:3118:C:C5 | 2.90 | 0.59 |
| 29:D1:3202:G:C2 | 29:D1:3203:U:N3 | 2.70 | 0.59 |
| 29:D1:3203:U:H2' | 29:D1:3204:C:N1 | 2.17 | 0.59 |
| 29:D1:3323:A:H2' | 29:D1:3324:C:O5' | 2.01 | 0.59 |
| 29:D1:3379:C:O2' | 29:D1:3380:U:H5' | 2.02 | 0.59 |
| 30:D2:27:A:C2 | 30:D2:54:U:H5 | 2.20 | 0.59 |
| 30:D2:113:C:O2' | 30:D2:114:U:O4' | 2.13 | 0.59 |
| 31:D3:78:G:H21 | 60:De:26:TRP:CB | 2.14 | 0.59 |
| 33:DB:102:LEU:C | 33:DB:104:LEU:H | 2.10 | 0.59 |
| 36:DE:156:GLY:HA2 | 36:DE:181:PRO:HA | 1.84 | 0.59 |
| 44:DO:148:TYR:O | 44:DO:150:TRP:N | 2.35 | 0.59 |
| 45:DP:81:TYR:O | 45:DP:83:ALA:N | 2.35 | 0.59 |
| 47:DR:77:ALA:C | 47:DR:79:LYS:H | 2.08 | 0.59 |
| 62:Dg:86:LEU:O | 62:Dg:89:MET:O | 2.19 | 0.59 |
| 1:A1:104:A:H2' | 1:A1:106:U:OP1 | 2.02 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:235:G:H2' | 1:A1:236:A:C8 | 2.37 | 0.59 |
| 1:A1:391:A:C6 | 1:A1:392:G:C5 | 2.91 | 0.59 |
| 1:A1:450:U:H2' | 1:A1:451:A:H8 | 1.64 | 0.59 |
| 1:A1:454:U:O2' | 1:A1:455:C:O4' | 2.20 | 0.59 |
| 1:A1:515:A:H5' | 74:A1:1936:OHX:N5 | 2.16 | 0.59 |
| 1:A1:1076:A:N7 | 1:A1:1077:C:C6 | 2.70 | 0.59 |
| 1:A1:1147:A:H2' | 1:A1:1148:C:O4' | 2.03 | 0.59 |
| 1:A1:1348:A:H3' | 1:A1:1349:G:C5' | 2.31 | 0.59 |
| 1:A1:1478:G:H5' | 1:A1:1478:G:C8 | 2.31 | 0.59 |
| 1:A1:1558:U:H5" | 13:AL:122:HIS:CB | 2.32 | 0.59 |
| 1:A1:1567:U:H6 | 1:A1:1567:U:H5' | 1.67 | 0.59 |
| 1:A1:1675:C:O2' | 1:A1:1678:A:C8 | 2.55 | 0.59 |
| 1:A1:1687:U:C4 | 1:A1:1688:U:H1' | 2.37 | 0.59 |
| 1:A1:1753:A:C6 | 1:A1:1754:A:N6 | 2.66 | 0.59 |
| 4:AC:21:LEU:O | 4:AC:23:GLU:N | 2.36 | 0.59 |
| 5:AD:162:VAL:O | 5:AD:164:PRO:N | 2.35 | 0.59 |
| 5:AD:196:GLU:HA | 5:AD:199:ILE:CB | 2.33 | 0.59 |
| 7:AF:75:VAL:HA | 7:AF:86:ILE:CA | 2.33 | 0.59 |
| 11:AJ:40:GLU:C | 11:AJ:42:GLU:N | 2.60 | 0.59 |
| 11:AJ:91:ALA:HB3 | 11:AJ:96:TYR:CB | 2.32 | 0.59 |
| 12:AK:53:TYR:O | 12:AK:56:HIS:CB | 2.50 | 0.59 |
| 29:B1:189:G:N3 | 29:B1:191:U:C4 | 2.69 | 0.59 |
| 29:B1:221:A:C5 | 29:B1:224:C:C4 | 2.90 | 0.59 |
| 29:B1:383:G:C3' | 29:B1:385:A:OP2 | 2.48 | 0.59 |
| 29:B1:421:G:N2 | 29:B1:2365:C:N1 | 2.49 | 0.59 |
| 29:B1:536:U:C1' | 29:B1:537:A:OP2 | 2.51 | 0.59 |
| 29:B1:560:G:N2 | 29:B1:561:C:C2 | 2.70 | 0.59 |
| 29:B1:747:A:C8 | 29:B1:747:A:OP1 | 2.55 | 0.59 |
| 29:B1:784:A:N3 | 29:B1:785:G:N7 | 2.50 | 0.59 |
| 29:B1:971:G:O2' | 29:B1:972:A:H5' | 2.01 | 0.59 |
| 29:B1:1155:C:O2 | 29:B1:1155:C:H2' | 2.02 | 0.59 |
| 29:B1:1176:C:H3' | 29:B1:1177:G:H5" | 1.83 | 0.59 |
| 29:B1:1247:U:H3 | 29:B1:1274:A:N6 | 1.99 | 0.59 |
| 29:B1:1265:U:C2 | 29:B1:1266:G:C8 | 2.91 | 0.59 |
| 29:B1:1287:A:O2' | 29:B1:1288:U:H5' | 2.02 | 0.59 |
| 29:B1:1697:A:C8 | 29:B1:1698:C:C5 | 2.90 | 0.59 |
| 29:B1:1919:G:N2 | 29:B1:1920:U:O2 | 2.35 | 0.59 |
| 29:B1:1930:A:C8 | 29:B1:1932:A:O4' | 2.55 | 0.59 |
| 29:B1:1953:G:C8 | 29:B1:2093:A:C6 | 2.91 | 0.59 |
| 29:B1:2152:A:O4' | 29:B1:2243:A:C2 | 2.54 | 0.59 |
| 29:B1:2165:G:N2 | 29:B1:2170:U:N3 | 2.50 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2540:A:O2' | 29:B1:2541:U:H5' | 2.02 | 0.59 |
| 29:B1:2681:U:O2' | 29:B1:2682:C:P | 2.61 | 0.59 |
| 29:B1:2761:G:H4' | 29:B1:2762:A:OP1 | 2.01 | 0.59 |
| 29:B1:2853:A:N6 | 29:B1:2854:U:H3 | 2.00 | 0.59 |
| 29:B1:3000:A:C2' | 29:B1:3001:C:H6 | 2.15 | 0.59 |
| 29:B1:3078:U:H4' | 29:B1:3079:U:H5' | 1.84 | 0.59 |
| 29:B1:3196:U:C5 | 29:B1:3198:U:C6 | 2.91 | 0.59 |
| 29:B1:3221:C:C2 | 29:B1:3222:U:C5 | 2.90 | 0.59 |
| 29:B1:3273:A:N6 | 29:B1:3274:A:N7 | 2.50 | 0.59 |
| 29:B1:3314:A:H3' | 34:BC:118:PHE:O | 2.02 | 0.59 |
| 30:B2:67:G:C6 | 30:B2:68:C:N3 | 2.70 | 0.59 |
| 31:B3:10:A:C4 | 31:B3:11:C:C5 | 2.90 | 0.59 |
| 31:B3:48:A:C5 | 31:B3:51:G:N7 | 2.70 | 0.59 |
| 36:BE:130:GLU:HA | 36:BE:131:LEU:CB | 2.30 | 0.59 |
| 38:BG:233:GLU:N | 38:BG:234:GLU:O | 2.35 | 0.59 |
| 56:Ba:58:ALA:O | 56:Ba:59:ILE:C | 2.45 | 0.59 |
| 65:Bk:5:UNK:O | 65:Bk:9:UNK:CB | 2.51 | 0.59 |
| 66:Bl:11:UNK:O | 66:Bl:12:UNK:C | 2.50 | 0.59 |
| 1:C1:84:A:H2' | 1:C1:85:A:C5' | 2.15 | 0.59 |
| 1:C1:605:A:C5 | 1:C1:606:A:C6 | 2.91 | 0.59 |
| 1:C1:607:G:C4' | 1:C1:608:U:OP2 | 2.50 | 0.59 |
| 1:C1:647:G:C2 | 1:C1:687:G:N2 | 2.70 | 0.59 |
| 1:C1:1024:U:OP1 | 1:C1:1127:G:O2' | 2.20 | 0.59 |
| 1:C1:1053:G:H2' | 1:C1:1054:U:C6 | 2.36 | 0.59 |
| 1:C1:1075:C:C4 | 1:C1:1076:A:N1 | 2.70 | 0.59 |
| 1:C1:1374:C:C4 | 1:C1:1375:A:C6 | 2.90 | 0.59 |
| 1:C1:1584:G:C4 | 11:CJ:124:PRO:HA | 2.37 | 0.59 |
| 1:C1:1607:G:OP2 | 11:CJ:125:GLU:HA | 2.02 | 0.59 |
| 1:C1:1663:G:H2' | 1:C1:1664:C:C6 | 2.31 | 0.59 |
| 3:CB:106:ASP:O | 3:CB:108:ASN:N | 2.29 | 0.59 |
| 6:CE:68:LYS:C | 6:CE:70:LEU:N | 2.57 | 0.59 |
| 7:CF:110:HIS:CB | 7:CF:138:ASN:HA | 2.32 | 0.59 |
| 10:CI:116:LEU:C | 10:CI:118:GLU:H | 2.11 | 0.59 |
| 19:CR:7:VAL:O | 19:CR:8:THR:C | 2.46 | 0.59 |
| 21:CT:18:GLY:O | 21:CT:308:ASN:HA | 2.02 | 0.59 |
| 23:Cb:126:UNK:CB | 23:Cb:133:UNK:N | 2.65 | 0.59 |
| 28:Ch:9:UNK:O | 28:Ch:12:UNK:N | 2.36 | 0.59 |
| 29:D1:158:G:C8 | 29:D1:159:A:H4' | 2.37 | 0.59 |
| 29:D1:302:U:O2' | 29:D1:303:G:H5' | 2.02 | 0.59 |
| 29:D1:641:C:OP1 | 74:D1:3502:OHX:N6 | 2.35 | 0.59 |
| 29:D1:677:A:N6 | 29:D1:786:A:O2' | 2.34 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:688:G:H8 | 29:D1:688:G:O5' | 1.84 | 0.59 |
| 29:D1:783:A:N6 | 74:D1:3537:OHX:N6 | 2.50 | 0.59 |
| 29:D1:1057:A:N6 | 29:D1:1058:U:C4 | 2.70 | 0.59 |
| 29:D1:1077:U:N3 | 29:D1:1083:G:N2 | 2.50 | 0.59 |
| 29:D1:1115:G:C8 | 29:D1:1115:G:C3' | 2.83 | 0.59 |
| 29:D1:1155:C:O2 | 29:D1:1155:C:C2' | 2.46 | 0.59 |
| 29:D1:1200:A:H3' | 29:D1:1200:A:N3 | 2.16 | 0.59 |
| 29:D1:1274:A:C6 | 29:D1:1275:C:C5 | 2.91 | 0.59 |
| 29:D1:1298:C:C4 | 29:D1:1299:U:C5 | 2.90 | 0.59 |
| 29:D1:1358:C:H2' | 29:D1:1359:C:C6 | 2.37 | 0.59 |
| 29:D1:1461:A:H2' | 29:D1:1462:A:O4' | 2.02 | 0.59 |
| 29:D1:1495:U:H3' | 29:D1:1496:C:C5' | 2.32 | 0.59 |
| 29:D1:1655:G:H5' | 29:D1:1656:A:O5' | 2.02 | 0.59 |
| 29:D1:1785:U:O2' | 29:D1:1786:G:C8 | 2.55 | 0.59 |
| 29:D1:2431:C:H2' | 29:D1:2432:A:C8 | 2.36 | 0.59 |
| 29:D1:2431:C:C2 | 29:D1:2432:A:C8 | 2.90 | 0.59 |
| 29:D1:2522:G:C1' | 29:D1:2523:A:P | 2.88 | 0.59 |
| 29:D1:3328:G:N2 | 29:D1:3329:U:C4 | 2.69 | 0.59 |
| 31:D3:37:A:H2 | 31:D3:106:C:H42 | 1.46 | 0.59 |
| 31:D3:141:C:C2 | 31:D3:142:C:H5 | 2.20 | 0.59 |
| 36:DE:111:GLN:O | 36:DE:115:LEU:CB | 2.50 | 0.59 |
| 36:DE:196:ARG:O | 36:DE:197:SER:C | 2.45 | 0.59 |
| 40:DI:86:TYR:CB | 40:DI:148:GLY:O | 2.49 | 0.59 |
| 49:DT:35:LYS:C | 49:DT:37:GLY:H | 2.10 | 0.59 |
| 1:A1:379:U:C2 | 1:A1:380:U:H5 | 2.19 | 0.59 |
| 1:A1:576:G:O6 | 17:AP:65:ASN:HA | 2.02 | 0.59 |
| 1:A1:814:A:C2' | 1:A1:816:G:H21 | 2.16 | 0.59 |
| 1:A1:971:A:C8 | 1:A1:972:G:C8 | 2.91 | 0.59 |
| 1:A1:1172:G:H2' | 1:A1:1173:C:C6 | 2.38 | 0.59 |
| 1:A1:1616:G:N2 | 1:A1:1618:C:H41 | 1.93 | 0.59 |
| 4:AC:191:ASP:C | 4:AC:193:ALA:H | 2.09 | 0.59 |
| 11:AJ:28:LEU:HA | 14:AM:1:MET:HA | 1.85 | 0.59 |
| 13:AL:71:GLN:HA | 13:AL:75:ASN:CB | 2.33 | 0.59 |
| 16:AO:13:ALA:O | 16:AO:17:ALA:HB2 | 2.01 | 0.59 |
| 29:B1:40:A:C3' | 29:B1:41:G:H5' | 2.32 | 0.59 |
| 29:B1:69:C:N3 | 29:B1:70:A:H1' | 2.17 | 0.59 |
| 29:B1:97:U:C6 | 29:B1:97:U:H5" | 2.38 | 0.59 |
| 29:B1:171:G:C2 | 29:B1:172:G:C8 | 2.91 | 0.59 |
| 29:B1:285:A:C2 | 29:B1:305:U:P | 2.96 | 0.59 |
| 29:B1:380:U:C4 | 29:B1:381:U:O4 | 2.56 | 0.59 |
| 29:B1:504:A:O2' | 29:B1:505:G:H5' | 2.02 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:592:A:H2' | 29:B1:593:C:H4' | 1.12 | 0.59 |
| 29:B1:628:A:H5" | 29:B1:1399:A:N7 | 2.17 | 0.59 |
| 29:B1:693:A:C2' | 29:B1:694:C:H6 | 2.16 | 0.59 |
| 29:B1:743:C:H3' | 29:B1:743:C:C6 | 2.37 | 0.59 |
| 29:B1:774:G:H2' | 29:B1:775:A:O4' | 2.03 | 0.59 |
| 29:B1:809:G:N3 | 29:B1:810:A:C8 | 2.70 | 0.59 |
| 29:B1:826:G:N2 | 29:B1:1589:A:H62 | 1.93 | 0.59 |
| 29:B1:1203:A:H2 | 29:B1:2855:U:O2 | 1.85 | 0.59 |
| 29:B1:1205:A:H5" | 29:B1:1206:G:OP2 | 2.02 | 0.59 |
| 29:B1:1366:A:H2' | 29:B1:1367:G:C8 | 2.37 | 0.59 |
| 29:B1:1389:G:HO2' | 29:B1:1390:A:P | 2.24 | 0.59 |
| 29:B1:1389:G:C6 | 29:B1:1419:A:N6 | 2.69 | 0.59 |
| 29:B1:1844:C:N3 | 29:B1:1845:G:N7 | 2.50 | 0.59 |
| 29:B1:2137:U:H3 | 29:B1:2141:U:H5 | 1.51 | 0.59 |
| 29:B1:2546:C:N4 | 29:B1:2547:A:H62 | 2.00 | 0.59 |
| 29:B1:2609:A:C2 | 29:B1:2610:G:C5 | 2.89 | 0.59 |
| 29:B1:2831:G:C6 | 29:B1:2832:C:C4 | 2.90 | 0.59 |
| 29:B1:3021:A:O4' | 29:B1:3023:U:C2 | 2.55 | 0.59 |
| 29:B1:3112:G:N2 | 29:B1:3121:U:C2 | 2.70 | 0.59 |
| 29:B1:3280:U:OP2 | 29:B1:3280:U:C6 | 2.55 | 0.59 |
| 30:B2:51:A:H2' | 30:B2:51:A:N3 | 2.18 | 0.59 |
| 31:B3:102:U:C4 | 31:B3:103:G:C6 | 2.90 | 0.59 |
| 37:BF:86:ALA:CB | 37:BF:87:THR:HA | 2.24 | 0.59 |
| 37:BF:99:GLU:O | 37:BF:100:LYS:C | 2.42 | 0.59 |
| 43:BN:49:PRO:N | 43:BN:50:LYS:CA | 2.65 | 0.59 |
| 49:BT:34:TYR:O | 49:BT:35:LYS:CB | 2.50 | 0.59 |
| 1:C1:170:U:H5' | 1:C1:267:U:O2' | 2.03 | 0.59 |
| 1:C1:239:C:H1' | 1:C1:240:U:C6 | 2.36 | 0.59 |
| 1:C1:564:G:O2' | 1:C1:577:G:H4' | 2.02 | 0.59 |
| 1:C1:814:A:N1 | 1:C1:858:G:C2 | 2.70 | 0.59 |
| 1:C1:961:U:H4' | 8:CG:36:GLN:O | 2.02 | 0.59 |
| 1:C1:1273:G:H4' | 1:C1:1274:C:C4' | 2.32 | 0.59 |
| 1:C1:1323:C:H2' | 1:C1:1324:G:C1' | 2.32 | 0.59 |
| 17:CP:48:HIS:O | 17:CP:49:ALA:CB | 2.50 | 0.59 |
| 29:D1:51:A:H2' | 29:D1:52:A:H8 | 1.68 | 0.59 |
| 29:D1:62:A:C4 | 29:D1:63:A:C8 | 2.90 | 0.59 |
| 29:D1:210:U:C4 | 35:DD:161:LYS:HA | 2.37 | 0.59 |
| 29:D1:271:C:C6 | 29:D1:295:A:N6 | 2.71 | 0.59 |
| 29:D1:519:A:H62 | 37:DF:30:LEU:C | 2.11 | 0.59 |
| 29:D1:520:U:N3 | 37:DF:138:GLN:CB | 2.65 | 0.59 |
| 29:D1:652:G:OP1 | 29:D1:1436:U:O2' | 2.19 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:682:U:C4 | 29:D1:699:A:H2 | 2.20 | 0.59 |
| 29:D1:726:G:C5 | 29:D1:727:G:N1 | 2.70 | 0.59 |
| 29:D1:769:G:C4' | 29:D1:770:G:OP1 | 2.50 | 0.59 |
| 29:D1:774:G:H2' | 29:D1:775:A:O4' | 2.02 | 0.59 |
| 29:D1:779:G:C5 | 29:D1:780:A:N7 | 2.70 | 0.59 |
| 29:D1:866:A:H3' | 29:D1:867:G:H8 | 1.66 | 0.59 |
| 29:D1:934:G:C5 | 29:D1:935:U:C4 | 2.90 | 0.59 |
| 29:D1:957:C:H2' | 29:D1:958:C:H6 | 1.68 | 0.59 |
| 29:D1:1021:G:H2' | 29:D1:1022:U:H6 | 1.66 | 0.59 |
| 29:D1:1026:A:H4' | 29:D1:1027:A:OP2 | 2.00 | 0.59 |
| 29:D1:1040:A:O5' | 29:D1:1040:A:H8 | 1.86 | 0.59 |
| 29:D1:1055:A:N7 | 29:D1:1056:U:C4 | 2.70 | 0.59 |
| 29:D1:1182:A:N3 | 29:D1:1182:A:H2' | 2.17 | 0.59 |
| 29:D1:1721:U:C2 | 29:D1:1723:A:OP2 | 2.56 | 0.59 |
| 29:D1:1886:A:O4' | 29:D1:3307:A:H5' | 2.03 | 0.59 |
| 29:D1:2133:U:H2' | 29:D1:2134:G:C5' | 2.32 | 0.59 |
| 29:D1:2279:A:C8 | 29:D1:2288:G:C5 | 2.89 | 0.59 |
| 29:D1:2309:A:C2 | 29:D1:2961:G:H2' | 2.34 | 0.59 |
| 29:D1:2571:U:H2' | 29:D1:2572:C:H5' | 1.83 | 0.59 |
| 29:D1:2640:A:N9 | 29:D1:2641:U:C5 | 2.69 | 0.59 |
| 29:D1:2714:G:N2 | 29:D1:2751:G:C4 | 2.71 | 0.59 |
| 29:D1:2833:A:H2' | 29:D1:2833:A:N3 | 2.18 | 0.59 |
| 29:D1:2833:A:C6 | 29:D1:2834:G:N7 | 2.71 | 0.59 |
| 31:D3:43:A:H2' | 31:D3:44:A:H8 | 1.65 | 0.59 |
| 74:D3:202:OHX:N3 | 74:D3:212:OHX:N3 | 2.50 | 0.59 |
| 36:DE:94:ASN:C | 36:DE:96:ALA:H | 2.10 | 0.59 |
| 36:DE:197:SER:O | 36:DE:198:TYR:C | 2.45 | 0.59 |
| 36:DE:255:PRO:O | 36:DE:257:GLU:N | 2.35 | 0.59 |
| 37:DF:136:GLU:C | 37:DF:138:GLN:N | 2.52 | 0.59 |
| 41:DJ:35:ASP:O | 41:DJ:36:LEU:C | 2.45 | 0.59 |
| 45:DP:92:THR:O | 45:DP:94:ARG:N | 2.35 | 0.59 |
| 47:DR:117:ALA:CB | 47:DR:118:GLY:HA2 | 2.16 | 0.59 |
| 49:DT:56:PHE:C | 49:DT:58:GLN:H | 2.11 | 0.59 |
| 51:DV:34:SER:O | 51:DV:36:SER:N | 2.35 | 0.59 |
| 63:Dh:15:UNK:O | 63:Dh:16:UNK:C | 2.50 | 0.59 |
| 1:A1:241:U:HO2' | 1:A1:242:U:H3 | 1.48 | 0.59 |
| 1:A1:295:A:C2 | 1:A1:296:U:O2 | 2.56 | 0.59 |
| 1:A1:330:G:C8 | 1:A1:330:G:OP2 | 2.55 | 0.59 |
| 1:A1:542:A:O2' | 1:A1:543:C:P | 2.61 | 0.59 |
| 1:A1:605:A:C5 | 1:A1:606:A:N1 | 2.70 | 0.59 |
| 1:A1:891:A:N1 | 1:A1:922:G:C6 | 2.70 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1329:A:C8 | 1:A1:1330:G:C8 | 2.90 | 0.59 |
| 1:A1:1338:C:N1 | 1:A1:1410:A:C2 | 2.70 | 0.59 |
| 1:A1:1545:A:OP1 | 13:AL:133:VAL:N | 2.33 | 0.59 |
| 1:A1:1586:A:C4 | 1:A1:1611:A:C2 | 2.90 | 0.59 |
| 1:A1:1631:A:N9 | 1:A1:1638:G:N2 | 2.48 | 0.59 |
| 1:A1:1751:C:O2 | 1:A1:1751:C:H2' | 2.02 | 0.59 |
| 12:AK:55:THR:O | 12:AK:59:LYS:N | 2.33 | 0.59 |
| 14:AM:7:ARG:O | 14:AM:8:ASP:CB | 2.51 | 0.59 |
| 29:B1:40:A:N7 | 29:B1:937:G:C5 | 2.70 | 0.59 |
| 29:B1:317:A:C2 | 29:B1:318:A:C4 | 2.90 | 0.59 |
| 29:B1:423:A:N1 | 29:B1:424:G:C2 | 2.70 | 0.59 |
| 29:B1:533:A:N6 | 29:B1:555:U:O2' | 2.35 | 0.59 |
| 29:B1:944:C:C6 | 29:B1:1431:G:C6 | 2.90 | 0.59 |
| 29:B1:1131:G:C5 | 29:B1:2373:A:C2 | 2.91 | 0.59 |
| 29:B1:1285:G:H2' | 29:B1:1286:A:O5' | 2.02 | 0.59 |
| 29:B1:1401:A:H2' | 29:B1:1402:C:H6 | 1.66 | 0.59 |
| 29:B1:2135:U:H2' | 29:B1:2136:C:H6 | 1.68 | 0.59 |
| 29:B1:2919:A:C3' | 29:B1:2920:U:C5' | 2.81 | 0.59 |
| 29:B1:3069:G:N3 | 29:B1:3070:A:C8 | 2.70 | 0.59 |
| 29:B1:3180:A:N1 | 45:BP:166:GLU:CB | 2.65 | 0.59 |
| 29:B1:3194:C:N4 | 29:B1:3196:U:OP1 | 2.35 | 0.59 |
| 29:B1:3246:G:H2' | 29:B1:3247:G:H8 | 1.67 | 0.59 |
| 29:B1:3261:C:C5' | 29:B1:3262:U:OP1 | 2.50 | 0.59 |
| 29:B1:3356:G:H2' | 29:B1:3357:U:C4' | 2.32 | 0.59 |
| 29:B1:3393:U:N3 | 29:B1:3394:U:C5 | 2.71 | 0.59 |
| 30:B2:11:A:C2 | 30:B2:67:G:O2' | 2.51 | 0.59 |
| 30:B2:68:C:C2' | 30:B2:69:C:O4' | 2.49 | 0.59 |
| 31:B3:45:C:H2' | 31:B3:46:G:O4' | 2.02 | 0.59 |
| 33:BB:112:ILE:HA | 33:BB:165:VAL:H | 1.67 | 0.59 |
| 33:BB:172:GLY:C | 33:BB:174:ARG:N | 2.59 | 0.59 |
| 34:BC:40:PRO:O | 34:BC:41:VAL:C | 2.46 | 0.59 |
| 34:BC:63:PRO:HA | 34:BC:68:HIS:CB | 2.32 | 0.59 |
| 35:BD:193:LYS:C | 35:BD:195:ARG:H | 2.10 | 0.59 |
| 45:BP:60:LYS:O | 45:BP:61:ALA:O | 2.21 | 0.59 |
| 45:BP:95:GLY:O | 45:BP:98:ALA:N | 2.36 | 0.59 |
| 50:BU:53:SER:O | 50:BU:55:GLY:N | 2.34 | 0.59 |
| 53:BX:78:PHE:O | 53:BX:79:ALA:HB2 | 2.01 | 0.59 |
| 59:Bd:41:ALA:O | 59:Bd:43:LYS:N | 2.35 | 0.59 |
| 65:Bk:9:UNK:C | 65:Bk:11:UNK:N | 2.64 | 0.59 |
| 71:Br:8:UNK:O | 71:Br:10:UNK:N | 2.34 | 0.59 |
| 1:C1:123:G:C5 | 1:C1:124:A:C8 | 2.90 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:169:A:C4 | 1:C1:171:A:C5 | 2.90 | 0.59 |
| 1:C1:169:A:O2' | 1:C1:171:A:H8 | 1.82 | 0.59 |
| 1:C1:225:A:O2' | 1:C1:226:A:H8 | 1.84 | 0.59 |
| 1:C1:262:U:C4 | 1:C1:263:C:N4 | 2.71 | 0.59 |
| 1:C1:492:A:C4 | 1:C1:494:U:H5" | 2.36 | 0.59 |
| 1:C1:588:U:H2' | 1:C1:589:C:C6 | 2.38 | 0.59 |
| 1:C1:943:C:H5" | 1:C1:944:A:OP2 | 2.02 | 0.59 |
| 1:C1:1000:C:H2' | 1:C1:1002:G:N7 | 2.18 | 0.59 |
| 1:C1:1039:A:O2' | 1:C1:1040:G:P | 2.61 | 0.59 |
| 1:C1:1145:U:H3' | 1:C1:1146:G:H5" | 1.85 | 0.59 |
| 1:C1:1275:A:OP1 | 1:C1:1275:A:H8 | 1.83 | 0.59 |
| 1:C1:1282:U:H5" | 1:C1:1283:U:OP2 | 2.03 | 0.59 |
| 1:C1:1325:A:C2 | 1:C1:1326:A:N7 | 2.71 | 0.59 |
| 1:C1:1369:U:O4 | 74:C1:1912:OHX:N3 | 2.35 | 0.59 |
| 1:C1:1505:A:N7 | 1:C1:1506:G:H1' | 2.17 | 0.59 |
| 1:C1:1607:G:C6 | 1:C1:1608:U:C4 | 2.90 | 0.59 |
| 1:C1:1618:C:H5' | 1:C1:1619:C:OP2 | 2.02 | 0.59 |
| 1:C1:1721:A:H3' | 1:C1:1722:A:C5' | 2.33 | 0.59 |
| 1:C1:1771:U:C2 | 1:C1:1772:C:C5 | 2.90 | 0.59 |
| 3:CB:203:LYS:C | 3:CB:205:ARG:H | 2.09 | 0.59 |
| 9:CH:42:VAL:O | 9:CH:43:THR:O | 2.20 | 0.59 |
| 11:CJ:28:LEU:H | 14:CM:1:MET:CB | 2.15 | 0.59 |
| 18:CQ:41:ILE:HA | 18:CQ:44:GLN:N | 2.09 | 0.59 |
| 20:CS:41:GLN:CB | 74:CS:101:OHX:N1 | 2.65 | 0.59 |
| 29:D1:22:G:C5 | 29:D1:23:A:C8 | 2.90 | 0.59 |
| 29:D1:285:A:C2 | 29:D1:305:U:P | 2.96 | 0.59 |
| 29:D1:536:U:C6 | 29:D1:536:U:O5' | 2.56 | 0.59 |
| 29:D1:562:C:C2' | 29:D1:563:U:C5 | 2.73 | 0.59 |
| 29:D1:564:G:C3' | 29:D1:565:U:H6 | 2.14 | 0.59 |
| 29:D1:742:G:C3' | 29:D1:743:C:H5" | 2.31 | 0.59 |
| 29:D1:749:C:H2' | 29:D1:750:G:C8 | 2.36 | 0.59 |
| 29:D1:1054:A:OP1 | 74:D1:3591:OHX:N1 | 2.35 | 0.59 |
| 29:D1:1237:G:N1 | 29:D1:1252:A:C2 | 2.71 | 0.59 |
| 29:D1:1415:U:C2 | 29:D1:1416:C:H5 | 2.21 | 0.59 |
| 29:D1:1681:U:H5' | 29:D1:1682:U:OP2 | 2.03 | 0.59 |
| 29:D1:2175:U:H4' | 29:D1:2176:U:OP2 | 2.03 | 0.59 |
| 29:D1:2326:A:C6 | 29:D1:2327:U:C4 | 2.90 | 0.59 |
| 29:D1:2650:U:O2 | 29:D1:2650:U:C2' | 2.48 | 0.59 |
| 29:D1:2677:G:H3' | 29:D1:2677:G:N3 | 2.18 | 0.59 |
| 29:D1:2774:C:O2' | 29:D1:2775:U:H5' | 2.02 | 0.59 |
| 29:D1:2821:C:H3' | 29:D1:2821:C:H6 | 1.67 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2942:C:OP1 | 29:D1:2943:G:OP1 | 2.21 | 0.59 |
| 29:D1:3091:A:C2 | 29:D1:3094:A:O4' | 2.55 | 0.59 |
| 29:D1:3102:G:C2' | 29:D1:3103:A:O5' | 2.50 | 0.59 |
| 29:D1:3184:A:C2 | 29:D1:3188:G:O2' | 2.53 | 0.59 |
| 29:D1:3189:G:C4 | 29:D1:3190:C:C6 | 2.91 | 0.59 |
| 29:D1:3210:A:H3' | 29:D1:3211:C:C5 | 2.34 | 0.59 |
| 29:D1:3341:U:C4 | 29:D1:3362:A:C2 | 2.90 | 0.59 |
| 29:D1:3350:C:O3' | 29:D1:3354:U:C5 | 2.55 | 0.59 |
| 30:D2:15:C:N4 | 30:D2:16:U:C4 | 2.70 | 0.59 |
| 30:D2:72:A:H2' | 30:D2:73:C:H6 | 1.66 | 0.59 |
| 34:DC:63:PRO:HA | 34:DC:68:HIS:CB | 2.32 | 0.59 |
| 35:DD:234:ASN:C | 35:DD:236:LEU:N | 2.59 | 0.59 |
| 38:DG:194:HIS:O | 38:DG:195:PHE:C | 2.45 | 0.59 |
| 38:DG:233:GLU:CB | 38:DG:234:GLU:CB | 2.81 | 0.59 |
| 40:DI:85:GLY:HA3 | 40:DI:187:ILE:C | 2.27 | 0.59 |
| 43:DN:76:ALA:C | 43:DN:78:THR:H | 2.11 | 0.59 |
| 52:DW:69:SER:N | 52:DW:72:ALA:HB3 | 2.14 | 0.59 |
| 54:DY:83:PRO:CB | 54:DY:84:GLU:HA | 2.33 | 0.59 |
| 57:Db:8:LYS:C | 57:Db:10:VAL:H | 2.10 | 0.59 |
| 59:Dd:5:THR:O | 59:Dd:7:SER:O | 2.20 | 0.59 |
| 1:A1:269:G:H2' | 1:A1:270:C:H6 | 1.66 | 0.59 |
| 1:A1:339:C:H2' | 1:A1:340:U:H6 | 1.66 | 0.59 |
| 1:A1:518:A:N6 | 1:A1:535:A:H1' | 2.17 | 0.59 |
| 1:A1:554:C:O3' | 1:A1:555:A:H2' | 2.01 | 0.59 |
| 1:A1:889:U:O2' | 1:A1:890:C:H5' | 2.01 | 0.59 |
| 1:A1:1118:G:C6 | 1:A1:1119:G:C5 | 2.90 | 0.59 |
| 1:A1:1174:C:H4' | 1:A1:1601:G:C6 | 2.37 | 0.59 |
| 1:A1:1358:G:HO2' | 14:AM:129:GLN:C | 2.09 | 0.59 |
| 1:A1:1458:G:N3 | 1:A1:1458:G:C2' | 2.65 | 0.59 |
| 1:A1:1513:G:H2' | 1:A1:1514:U:OP1 | 2.02 | 0.59 |
| 6:AE:111:THR:O | 6:AE:113:VAL:N | 2.36 | 0.59 |
| 8:AG:91:LEU:O | 8:AG:95:ALA:HB3 | 2.03 | 0.59 |
| 17:AP:79:ASN:C | 17:AP:81:LYS:H | 2.09 | 0.59 |
| 21:AT:50:ASP:H | 21:AT:54:PHE:HA | 1.67 | 0.59 |
| 29:B1:106:A:H5" | 29:B1:684:G:O3' | 2.03 | 0.59 |
| 29:B1:269:G:N1 | 29:B1:294:U:C5 | 2.71 | 0.59 |
| 29:B1:287:G:C4 | 29:B1:288:C:C5 | 2.91 | 0.59 |
| 29:B1:311:C:C4 | 29:B1:312:C:C5 | 2.91 | 0.59 |
| 29:B1:436:A:H8 | 29:B1:436:A:O5' | 1.85 | 0.59 |
| 29:B1:540:U:C2 | 29:B1:541:U:C5 | 2.89 | 0.59 |
| 29:B1:547:G:H5" | 29:B1:548:G:N7 | 2.18 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:876:A:O2' | 29:B1:877:C:H5' | 2.00 | 0.59 |
| 29:B1:892:U:H2' | 29:B1:893:C:O4' | 2.01 | 0.59 |
| 29:B1:943:U:C1' | 29:B1:1432:C:C6 | 2.85 | 0.59 |
| 29:B1:952:A:C8 | 29:B1:952:A:C3' | 2.85 | 0.59 |
| 29:B1:1057:A:C5 | 29:B1:1058:U:C5 | 2.91 | 0.59 |
| 29:B1:1145:G:O2' | 57:Bb:45:ARG:O | 2.19 | 0.59 |
| 29:B1:1169:A:N1 | 29:B1:1330:A:C5 | 2.71 | 0.59 |
| 29:B1:1247:U:OP1 | 29:B1:1248:C:H5 | 1.85 | 0.59 |
| 29:B1:1336:U:O2' | 29:B1:1337:A:H5' | 2.02 | 0.59 |
| 29:B1:1495:U:O2' | 29:B1:1514:G:H4' | 2.03 | 0.59 |
| 29:B1:1640:G:O5' | 29:B1:1640:G:H8 | 1.86 | 0.59 |
| 29:B1:1671:C:H2' | 29:B1:1671:C:O2 | 2.01 | 0.59 |
| 29:B1:1731:A:N7 | 29:B1:1732:U:C5 | 2.70 | 0.59 |
| 29:B1:1784:G:O2' | 29:B1:1785:U:H5' | 2.03 | 0.59 |
| 29:B1:1900:A:O2' | 29:B1:1906:G:N7 | 2.32 | 0.59 |
| 29:B1:2131:A:H61 | 62:Bg:18:TYR:HA | 1.68 | 0.59 |
| 29:B1:2296:A:C2 | 29:B1:2919:A:H1' | 2.38 | 0.59 |
| 29:B1:3321:C:C2 | 29:B1:3322:A:N7 | 2.69 | 0.59 |
| 74:B1:3537:OHX:N3 | 38:BG:217:PRO:O | 2.36 | 0.59 |
| 30:B2:64:A:C1' | 30:B2:65:G:O5' | 2.49 | 0.59 |
| 35:BD:119:ARG:O | 35:BD:121:ALA:N | 2.35 | 0.59 |
| 38:BG:47:ARG:O | 38:BG:50:ALA:HB3 | 2.02 | 0.59 |
| 40:BI:111:PHE:CA | 40:BI:112:ILE:C | 2.75 | 0.59 |
| 45:BP:194:LEU:O | 45:BP:195:ALA:C | 2.46 | 0.59 |
| 46:BQ:6:ALA:O | 46:BQ:8:SER:N | 2.36 | 0.59 |
| 46:BQ:68:GLY:O | 46:BQ:69:ARG:O | 2.20 | 0.59 |
| 50:BU:127:PRO:O | 50:BU:130:ALA:HB3 | 2.03 | 0.59 |
| 1:C1:98:U:H2' | 1:C1:99:C:C6 | 2.37 | 0.59 |
| 1:C1:391:A:C6 | 1:C1:392:G:C5 | 2.90 | 0.59 |
| 1:C1:534:A:O3' | 1:C1:535:A:H8 | 1.84 | 0.59 |
| 1:C1:542:A:O2' | 1:C1:543:C:P | 2.60 | 0.59 |
| 1:C1:881:A:H5" | 1:C1:882:U:OP2 | 2.02 | 0.59 |
| 1:C1:999:U:H2' | 1:C1:1000:C:O2 | 2.03 | 0.59 |
| 1:C1:1035:G:N2 | 1:C1:1101:G:C4 | 2.71 | 0.59 |
| 1:C1:1066:C:H2' | 1:C1:1067:C:H5' | 1.83 | 0.59 |
| 1:C1:1073:G:C6 | 1:C1:1074:G:N1 | 2.70 | 0.59 |
| 1:C1:1107:G:HO2' | 1:C1:1108:G:P | 2.26 | 0.59 |
| 1:C1:1295:G:H1' | 1:C1:1321:A:C2 | 2.37 | 0.59 |
| 1:C1:1347:U:H3 | 1:C1:1376:C:H41 | 1.51 | 0.59 |
| 1:C1:1483:A:C5' | 1:C1:1521:G:O2' | 2.51 | 0.59 |
| 1:C1:1650:U:H5" | 1:C1:1651:A:OP2 | 2.03 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 11:CJ:40:GLU:C | 11:CJ:42:GLU:H | 2.11 | 0.59 |
| 11:CJ:40:GLU:O | 11:CJ:42:GLU:N | 2.34 | 0.59 |
| 29:D1:109:A:N6 | 29:D1:323:A:H1' | 2.18 | 0.59 |
| 29:D1:306:A:H61 | 29:D1:2783:U:H3 | 1.50 | 0.59 |
| 29:D1:366:A:N6 | 29:D1:367:A:C2 | 2.71 | 0.59 |
| 29:D1:372:A:C6 | 29:D1:373:A:C5 | 2.91 | 0.59 |
| 29:D1:381:U:C2 | 29:D1:388:G:N1 | 2.70 | 0.59 |
| 29:D1:607:A:H8 | 29:D1:607:A:P | 2.25 | 0.59 |
| 29:D1:624:G:C2 | 29:D1:625:G:N7 | 2.71 | 0.59 |
| 29:D1:864:G:O6 | 29:D1:893:C:H3' | 2.03 | 0.59 |
| 29:D1:1129:A:C6 | 29:D1:1130:A:N6 | 2.70 | 0.59 |
| 29:D1:1194:G:H2' | 29:D1:1309:U:O2 | 2.02 | 0.59 |
| 29:D1:1403:C:C5' | 29:D1:1404:G:OP2 | 2.51 | 0.59 |
| 29:D1:1482:A:C4' | 29:D1:1483:G:OP2 | 2.40 | 0.59 |
| 29:D1:1602:A:C6 | 29:D1:1603:A:N1 | 2.71 | 0.59 |
| 29:D1:1662:G:H2' | 29:D1:1663:C:C6 | 2.38 | 0.59 |
| 29:D1:1714:A:H1' | 29:D1:1731:A:C6 | 2.37 | 0.59 |
| 29:D1:2665:U:N3 | 29:D1:2706:G:C6 | 2.68 | 0.59 |
| 29:D1:2677:G:H2' | 29:D1:2678:A:O5' | 2.01 | 0.59 |
| 29:D1:2868:U:H5" | 29:D1:2869:U:OP2 | 2.03 | 0.59 |
| 29:D1:2971:A:H4' | 29:D1:2972:G:O5' | 2.03 | 0.59 |
| 29:D1:2986:U:H2' | 29:D1:2987:A:C8 | 2.32 | 0.59 |
| 29:D1:3044:G:O3' | 34:DC:12:GLY:CA | 2.48 | 0.59 |
| 29:D1:3046:A:C6 | 29:D1:3047:U:C4 | 2.90 | 0.59 |
| 29:D1:3234:A:C2 | 29:D1:3253:G:N2 | 2.67 | 0.59 |
| 29:D1:3273:A:H2' | 29:D1:3274:A:C4' | 2.32 | 0.59 |
| 29:D1:3280:U:C2 | 29:D1:3281:U:C5 | 2.89 | 0.59 |
| 29:D1:3296:A:C2 | 29:D1:3297:U:N1 | 2.70 | 0.59 |
| 30:D2:72:A:O2' | 30:D2:73:C:H5' | 2.02 | 0.59 |
| 31:D3:49:G:C6 | 31:D3:50:C:C4 | 2.89 | 0.59 |
| 31:D3:92:A:C2' | 31:D3:93:U:H5' | 2.33 | 0.59 |
| 37:DF:56:LYS:C | 37:DF:58:LEU:N | 2.59 | 0.59 |
| 72:DL:107:ASP:C | 72:DL:109:ILE:H | 2.11 | 0.59 |
| 59:Dd:40:PRO:C | 59:Dd:42:ALA:H | 2.09 | 0.59 |
| 60:De:7:PHE:O | 60:De:10:LYS:N | 2.35 | 0.59 |
| 1:A1:4:C:H2' | 1:A1:5:U:H6 | 1.67 | 0.59 |
| 1:A1:13:C:O3' | 3:AB:161:LYS:O | 2.19 | 0.59 |
| 1:A1:15:U:C2' | 1:A1:16:G:H5' | 2.32 | 0.59 |
| 1:A1:55:A:C5 | 1:A1:426:G:C6 | 2.90 | 0.59 |
| 1:A1:57:G:C6 | 1:A1:58:U:C5 | 2.90 | 0.59 |
| 1:A1:97:C:H2' | 1:A1:98:U:O4' | 2.03 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:137:U:H4' | 1:A1:138:A:OP2 | 2.03 | 0.59 |
| 1:A1:183:U:HO2' | 1:A1:184:C:H5" | 1.67 | 0.59 |
| 1:A1:206:A:N3 | 1:A1:262:U:C4 | 2.71 | 0.59 |
| 1:A1:527:A:P | 1:A1:528:U:H5' | 2.43 | 0.59 |
| 1:A1:755:A:C5 | 1:A1:756:A:C5 | 2.90 | 0.59 |
| 1:A1:800:U:H2' | 1:A1:800:U:O2 | 2.03 | 0.59 |
| 1:A1:932:U:H4' | 1:A1:933:A:O5' | 2.03 | 0.59 |
| 1:A1:1056:U:H1' | 1:A1:1064:G:N2 | 2.16 | 0.59 |
| 1:A1:1144:U:O4' | 1:A1:1300:A:N1 | 2.35 | 0.59 |
| 1:A1:1159:C:H3' | 1:A1:1160:A:C5' | 2.32 | 0.59 |
| 1:A1:1186:U:OP1 | 1:A1:1456:C:H1' | 2.02 | 0.59 |
| 1:A1:1232:U:O2 | 1:A1:1233:G:C8 | 2.56 | 0.59 |
| 1:A1:1294:G:C2 | 1:A1:1295:G:C8 | 2.91 | 0.59 |
| 1:A1:1375:A:C2' | 1:A1:1376:C:C6 | 2.84 | 0.59 |
| 1:A1:1472:C:H1' | 1:A1:1473:U:OP2 | 2.02 | 0.59 |
| 1:A1:1483:A:C8 | 1:A1:1524:A:N7 | 2.70 | 0.59 |
| 1:A1:1634:C:O2 | 1:A1:1634:C:C2' | 2.50 | 0.59 |
| 1:A1:1793:G:O2' | 1:A1:1794:A:O5' | 2.20 | 0.59 |
| 13:AL:65:GLU:O | 13:AL:67:GLU:N | 2.36 | 0.59 |
| 16:AO:102:VAL:O | 16:AO:104:LEU:N | 2.36 | 0.59 |
| 29:B1:37:U:O2 | 29:B1:37:U:C2' | 2.51 | 0.59 |
| 29:B1:82:C:C2' | 29:B1:83:U:O5' | 2.47 | 0.59 |
| 29:B1:88:A:C8 | 29:B1:99:A:N6 | 2.70 | 0.59 |
| 29:B1:200:C:H41 | 29:B1:217:U:H2' | 1.68 | 0.59 |
| 29:B1:519:A:N6 | 37:BF:30:LEU:HA | 2.16 | 0.59 |
| 29:B1:608:A:C6 | 29:B1:609:G:N7 | 2.70 | 0.59 |
| 29:B1:656:A:H3' | 29:B1:657:A:C8 | 2.38 | 0.59 |
| 29:B1:750:G:N1 | 29:B1:784:A:C1' | 2.65 | 0.59 |
| 29:B1:774:G:H2' | 29:B1:775:A:H5' | 1.81 | 0.59 |
| 29:B1:781:G:O2' | 29:B1:782:U:H5' | 2.01 | 0.59 |
| 29:B1:784:A:H3' | 29:B1:785:G:C5' | 2.31 | 0.59 |
| 29:B1:807:A:C8 | 29:B1:807:A:C3' | 2.86 | 0.59 |
| 29:B1:836:A:C4 | 29:B1:837:A:C8 | 2.91 | 0.59 |
| 29:B1:962:A:C3' | 29:B1:963:G:H5" | 2.33 | 0.59 |
| 29:B1:1878:G:H3' | 29:B1:1878:G:H8 | 1.68 | 0.59 |
| 29:B1:2112:U:C1' | 29:B1:2113:A:OP2 | 2.50 | 0.59 |
| 29:B1:2143:A:H3' | 29:B1:2143:A:C8 | 2.37 | 0.59 |
| 29:B1:2580:A:C1' | 29:B1:2581:U:OP2 | 2.51 | 0.59 |
| 29:B1:2631:U:C4 | 29:B1:2648:G:N1 | 2.70 | 0.59 |
| 29:B1:2802:A:C8 | 61:Bf:55:LYS:O | 2.55 | 0.59 |
| 29:B1:2883:U:C2' | 29:B1:2884:C:H6 | 2.11 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2900:A:N3 | 29:B1:2901:G:C8 | 2.71 | 0.59 |
| 29:B1:2925:C:H2' | 29:B1:2926:A:O4' | 2.02 | 0.59 |
| 29:B1:2943:G:N7 | 29:B1:2944:U:C5 | 2.71 | 0.59 |
| 29:B1:3055:U:O2' | 29:B1:3057:U:OP1 | 2.21 | 0.59 |
| 29:B1:3131:U:C6 | 29:B1:3131:U:OP2 | 2.56 | 0.59 |
| 29:B1:3221:C:C2' | 29:B1:3222:U:H5' | 2.32 | 0.59 |
| 29:B1:3281:U:C2 | 29:B1:3282:U:C4 | 2.91 | 0.59 |
| 29:B1:3299:A:O5' | 29:B1:3299:A:H2' | 2.03 | 0.59 |
| 29:B1:3311:C:H2' | 29:B1:3312:U:O4' | 2.03 | 0.59 |
| 31:B3:56:G:C6 | 31:B3:62:C:N4 | 2.70 | 0.59 |
| 46:BQ:9:THR:HA | 46:BQ:14:SER:N | 2.17 | 0.59 |
| 50:BU:39:VAL:O | 50:BU:40:LYS:C | 2.46 | 0.59 |
| 1:C1:22:A:C6 | 1:C1:604:A:C6 | 2.90 | 0.59 |
| 1:C1:156:A:H2' | 1:C1:157:A:O4' | 2.03 | 0.59 |
| 1:C1:215:A:N7 | 1:C1:216:U:C4 | 2.71 | 0.59 |
| 1:C1:390:G:N2 | 1:C1:391:A:C6 | 2.70 | 0.59 |
| 1:C1:600:U:H2' | 1:C1:601:A:C8 | 2.38 | 0.59 |
| 1:C1:606:A:H4' | 1:C1:607:G:C3' | 2.32 | 0.59 |
| 1:C1:643:G:N1 | 1:C1:692:C:C4 | 2.71 | 0.59 |
| 1:C1:863:A:O2' | 1:C1:865:A:H5" | 2.03 | 0.59 |
| 1:C1:878:G:C6 | 1:C1:951:A:N1 | 2.71 | 0.59 |
| 1:C1:975:C:N4 | 1:C1:976:G:C6 | 2.71 | 0.59 |
| 1:C1:1124:A:N6 | 1:C1:1125:A:N1 | 2.51 | 0.59 |
| 1:C1:1124:A:C6 | 1:C1:1125:A:C6 | 2.90 | 0.59 |
| 1:C1:1309:C:C2' | 1:C1:1310:U:O5' | 2.50 | 0.59 |
| 1:C1:1560:U:OP2 | 1:C1:1560:U:C5 | 2.55 | 0.59 |
| 1:C1:1566:U:C2' | 1:C1:1567:U:H5" | 2.33 | 0.59 |
| 3:CB:106:ASP:C | 3:CB:108:ASN:H | 2.11 | 0.59 |
| 5:CD:140:THR:O | 5:CD:171:ALA:HB1 | 2.03 | 0.59 |
| 29:D1:9:U:O2 | 29:D1:9:U:H3' | 2.02 | 0.59 |
| 29:D1:107:A:C2 | 29:D1:108:A:N3 | 2.71 | 0.59 |
| 29:D1:597:G:H2' | 29:D1:598:A:H8 | 1.68 | 0.59 |
| 29:D1:642:U:H4' | 29:D1:1116:G:C6 | 2.36 | 0.59 |
| 29:D1:835:G:C2 | 29:D1:857:G:C2 | 2.91 | 0.59 |
| 29:D1:926:A:H2' | 29:D1:927:C:C6 | 2.38 | 0.59 |
| 29:D1:993:G:C8 | 29:D1:2637:A:C2 | 2.90 | 0.59 |
| 29:D1:1085:A:H3' | 29:D1:1086:C:H6 | 1.68 | 0.59 |
| 29:D1:1164:G:C4 | 29:D1:1165:A:C8 | 2.90 | 0.59 |
| 29:D1:1226:G:N3 | 29:D1:1227:C:C5 | 2.71 | 0.59 |
| 29:D1:1368:U:O2' | 29:D1:1369:A:H5' | 2.01 | 0.59 |
| 29:D1:1454:A:O4' | 29:D1:1878:G:C2 | 2.55 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1640:G:C5' | 29:D1:1738:C:OP1 | 2.50 | 0.59 |
| 29:D1:1683:A:N7 | 29:D1:1684:U:C4 | 2.71 | 0.59 |
| 29:D1:1841:A:C2 | 29:D1:1848:G:C8 | 2.90 | 0.59 |
| 29:D1:1916:U:H2' | 29:D1:1917:C:H6 | 1.66 | 0.59 |
| 29:D1:2554:A:C2 | 33:DB:84:THR:O | 2.55 | 0.59 |
| 29:D1:2689:A:C4 | 29:D1:2702:A:C2 | 2.91 | 0.59 |
| 29:D1:2919:A:C3' | 29:D1:2920:U:C5' | 2.81 | 0.59 |
| 29:D1:3018:C:C4 | 29:D1:3019:U:C5 | 2.90 | 0.59 |
| 29:D1:3197:G:OP2 | 29:D1:3198:U:H5 | 1.86 | 0.59 |
| 29:D1:3218:A:O3' | 29:D1:3220:G:C8 | 2.56 | 0.59 |
| 29:D1:3324:C:C2 | 29:D1:3325:G:C8 | 2.90 | 0.59 |
| 30:D2:73:C:N3 | 30:D2:74:C:C4 | 2.70 | 0.59 |
| 31:D3:4:C:C2' | 31:D3:5:U:H5' | 2.33 | 0.59 |
| 31:D3:10:A:H2' | 31:D3:11:C:C6 | 2.37 | 0.59 |
| 31:D3:104:A:OP2 | 31:D3:105:A:H2' | 2.02 | 0.59 |
| 37:DF:31:ARG:O | 37:DF:32:ALA:O | 2.20 | 0.59 |
| 37:DF:40:LEU:HA | 37:DF:85:ILE:HA | 1.84 | 0.59 |
| 37:DF:43:LEU:H | 37:DF:84:VAL:CA | 2.14 | 0.59 |
| 44:DO:20:ARG:C | 44:DO:22:LEU:N | 2.57 | 0.59 |
| 45:DP:174:PHE:O | 45:DP:175:THR:C | 2.44 | 0.59 |
| 46:DQ:95:LEU:O | 46:DQ:98:ALA:HB3 | 2.02 | 0.59 |
| 47:DR:66:ARG:C | 47:DR:68:ALA:N | 2.57 | 0.59 |
| 53:DX:36:SER:O | 53:DX:40:ARG:N | 2.24 | 0.59 |
| 54:DY:29:PRO:O | 54:DY:30:GLY:C | 2.45 | 0.59 |
| 1:A1:8:U:O2' | 74:A1:1976:OHX:N2 | 2.35 | 0.59 |
| 1:A1:97:C:H1' | 1:A1:426:G:C5' | 2.26 | 0.59 |
| 1:A1:169:A:HO2' | 1:A1:171:A:H8 | 1.49 | 0.59 |
| 1:A1:607:G:C4' | 1:A1:608:U:OP2 | 2.50 | 0.59 |
| 1:A1:782:U:H1' | 1:A1:783:G:OP2 | 2.03 | 0.59 |
| 1:A1:963:A:O2' | 1:A1:964:U:P | 2.61 | 0.59 |
| 1:A1:985:G:C5 | 1:A1:986:G:N7 | 2.70 | 0.59 |
| 1:A1:1056:U:H3' | 1:A1:1057:U:C6 | 2.38 | 0.59 |
| 1:A1:1259:U:H2' | 1:A1:1260:U:O5' | 2.03 | 0.59 |
| 1:A1:1306:C:O2 | 1:A1:1306:C:O4' | 2.18 | 0.59 |
| 1:A1:1575:G:N1 | 1:A1:1576:A:C4 | 2.71 | 0.59 |
| 1:A1:1623:C:O2 | 1:A1:1623:C:H2' | 2.01 | 0.59 |
| 1:A1:1765:A:H2 | 1:A1:1768:G:H22 | 1.48 | 0.59 |
| 5:AD:59:VAL:C | 5:AD:61:TYR:N | 2.56 | 0.59 |
| 6:AE:151:ASP:O | 6:AE:153:GLU:N | 2.36 | 0.59 |
| 7:AF:110:HIS:CB | 7:AF:138:ASN:HA | 2.32 | 0.59 |
| 29:B1:8:C:O2 | 31:B3:152:G:C2 | 2.56 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:58:G:O2' | 29:B1:61:A:H5' | 2.02 | 0.59 |
| 29:B1:157:A:H2' | 29:B1:158:G:N7 | 2.17 | 0.59 |
| 29:B1:246:U:P | 29:B1:247:C:H5" | 2.43 | 0.59 |
| 29:B1:374:A:C2 | 29:B1:375:A:C5 | 2.90 | 0.59 |
| 29:B1:424:G:N1 | 29:B1:635:G:N2 | 2.51 | 0.59 |
| 29:B1:438:A:O2' | 29:B1:494:G:H1' | 2.03 | 0.59 |
| 29:B1:514:G:C2' | 29:B1:515:C:N1 | 2.64 | 0.59 |
| 29:B1:692:A:H2' | 29:B1:693:A:H8 | 1.66 | 0.59 |
| 29:B1:692:A:C2 | 29:B1:693:A:H1' | 2.38 | 0.59 |
| 29:B1:882:A:H5" | 29:B1:1849:C:O2 | 2.03 | 0.59 |
| 29:B1:1153:A:C8 | 29:B1:1154:A:C4 | 2.91 | 0.59 |
| 29:B1:1157:G:C6 | 29:B1:1158:A:C4 | 2.90 | 0.59 |
| 29:B1:1357:G:H2' | 29:B1:1358:C:H6 | 1.62 | 0.59 |
| 29:B1:1378:U:C2' | 29:B1:1379:G:H8 | 2.14 | 0.59 |
| 29:B1:1444:G:H1 | 29:B1:2359:C:N4 | 2.01 | 0.59 |
| 29:B1:1480:G:H4' | 29:B1:1481:A:OP2 | 2.01 | 0.59 |
| 29:B1:1662:G:H1 | 29:B1:1787:A:H61 | 1.49 | 0.59 |
| 29:B1:1673:G:C4 | 29:B1:1775:G:C2 | 2.90 | 0.59 |
| 29:B1:2137:U:N3 | 29:B1:2141:U:H5 | 2.01 | 0.59 |
| 29:B1:2143:A:N7 | 29:B1:2145:A:C6 | 2.71 | 0.59 |
| 29:B1:2343:C:H2' | 29:B1:2344:U:H6 | 1.67 | 0.59 |
| 29:B1:2513:U:O4 | 29:B1:2592:G:H1' | 2.03 | 0.59 |
| 29:B1:2555:G:C1' | 29:B1:2556:C:OP2 | 2.51 | 0.59 |
| 29:B1:2655:U:C2 | 29:B1:2656:A:N1 | 2.71 | 0.59 |
| 29:B1:2666:C:H5" | 29:B1:2667:A:OP2 | 2.03 | 0.59 |
| 29:B1:2948:C:C6 | 29:B1:2948:C:C5' | 2.85 | 0.59 |
| 29:B1:3073:A:C2' | 29:B1:3074:G:O5' | 2.51 | 0.59 |
| 29:B1:3133:C:H2' | 29:B1:3134:A:O5' | 2.03 | 0.59 |
| 29:B1:3187:A:N1 | 29:B1:3188:G:C4 | 2.71 | 0.59 |
| 29:B1:3315:G:O4' | 29:B1:3320:A:O5' | 2.21 | 0.59 |
| 30:B2:48:U:H2' | 30:B2:49:G:C5 | 2.38 | 0.59 |
| 30:B2:97:A:OP2 | 30:B2:97:A:C8 | 2.56 | 0.59 |
| 31:B3:18:U:N3 | 31:B3:19:C:C5 | 2.71 | 0.59 |
| 59:Bd:28:HIS:O | 59:Bd:31:LYS:N | 2.36 | 0.59 |
| 1:C1:53:G:C6 | 1:C1:54:C:C4 | 2.90 | 0.59 |
| 1:C1:210:A:C5 | 1:C1:211:U:C5 | 2.90 | 0.59 |
| 1:C1:298:C:C5 | 1:C1:299:A:C8 | 2.91 | 0.59 |
| 1:C1:402:C:N3 | 1:C1:403:G:O4' | 2.35 | 0.59 |
| 1:C1:576:G:H5" | 1:C1:577:G:OP2 | 2.02 | 0.59 |
| 1:C1:604:A:H5" | 1:C1:605:A:OP2 | 2.02 | 0.59 |
| 1:C1:607:G:N7 | 1:C1:613:G:C4 | 2.71 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:729:G:O2' | 1:C1:730:G:P | 2.60 | 0.59 |
| 1:C1:977:A:C4 | 1:C1:1025:A:C2 | 2.91 | 0.59 |
| 1:C1:1042:G:H2' | 1:C1:1043:A:C8 | 2.37 | 0.59 |
| 1:C1:1092:A:C2 | 1:C1:1094:G:N7 | 2.70 | 0.59 |
| 1:C1:1123:C:H5 | 1:C1:1124:A:C5 | 2.20 | 0.59 |
| 1:C1:1138:A:C4 | 1:C1:1139:A:N7 | 2.71 | 0.59 |
| 1:C1:1207:C:C4 | 1:C1:1208:A:N6 | 2.71 | 0.59 |
| 1:C1:1336:A:C6 | 1:C1:1416:G:C6 | 2.91 | 0.59 |
| 1:C1:1383:G:C2' | 1:C1:1384:A:O5' | 2.50 | 0.59 |
| 1:C1:1649:G:C4 | 1:C1:1650:U:C5 | 2.91 | 0.59 |
| 1:C1:1720:G:C8 | 1:C1:1721:A:C8 | 2.91 | 0.59 |
| 17:CP:43:PHE:C | 17:CP:45:GLY:H | 2.10 | 0.59 |
| 21:CT:300:THR:HA | 21:CT:314:GLN:CB | 2.32 | 0.59 |
| 29:D1:359:U:O4 | 29:D1:360:G:N1 | 2.35 | 0.59 |
| 29:D1:386:A:H2' | 29:D1:387:A:O4' | 2.03 | 0.59 |
| 29:D1:438:A:O2' | 29:D1:494:G:H1' | 2.02 | 0.59 |
| 29:D1:560:G:N2 | 29:D1:561:C:C2 | 2.71 | 0.59 |
| 29:D1:606:C:C4 | 29:D1:607:A:N6 | 2.69 | 0.59 |
| 29:D1:784:A:H3' | 29:D1:785:G:C5' | 2.24 | 0.59 |
| 29:D1:1150:A:C2 | 29:D1:1151:U:H1' | 2.38 | 0.59 |
| 29:D1:1223:A:H2 | 29:D1:1285:G:C8 | 2.21 | 0.59 |
| 29:D1:1342:C:H2' | 29:D1:1342:C:O2 | 2.03 | 0.59 |
| 29:D1:1453:A:C1' | 29:D1:1850:A:H2 | 2.13 | 0.59 |
| 29:D1:1548:C:H3' | 29:D1:1549:U:O4' | 2.02 | 0.59 |
| 29:D1:1658:G:C6 | 29:D1:1659:U:C4 | 2.89 | 0.59 |
| 29:D1:2136:C:H3' | 29:D1:2142:A:N6 | 2.17 | 0.59 |
| 29:D1:2259:A:C5 | 29:D1:2260:U:C2 | 2.90 | 0.59 |
| 29:D1:2289:U:N3 | 29:D1:2290:C:C5 | 2.71 | 0.59 |
| 29:D1:2306:C:C6 | 29:D1:2306:C:C3' | 2.84 | 0.59 |
| 29:D1:2592:G:C6 | 74:D1:3463:OHX:N1 | 2.70 | 0.59 |
| 29:D1:2609:A:C2 | 29:D1:2610:G:C5 | 2.91 | 0.59 |
| 29:D1:2621:G:H2' | 29:D1:2622:C:H6 | 1.67 | 0.59 |
| 29:D1:2904:U:O2 | 29:D1:2905:U:C6 | 2.56 | 0.59 |
| 29:D1:2909:U:H2' | 29:D1:2910:A:H5' | 1.85 | 0.59 |
| 29:D1:3102:G:H2' | 29:D1:3103:A:O5' | 2.03 | 0.59 |
| 29:D1:3187:A:N1 | 29:D1:3188:G:C4 | 2.70 | 0.59 |
| 29:D1:3191:G:C6 | 29:D1:3192:U:C2 | 2.91 | 0.59 |
| 29:D1:3315:G:HO2' | 29:D1:3316:A:H8 | 1.42 | 0.59 |
| 29:D1:3316:A:C1' | 29:D1:3317:U:OP2 | 2.51 | 0.59 |
| 30:D2:14:U:OP2 | 30:D2:14:U:N1 | 2.36 | 0.59 |
| 35:DD:177:ASP:O | 35:DD:179:LEU:N | 2.36 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 36:DE:125:VAL:O | 36:DE:246:ALA:HB2 | 2.02 | 0.59 |
| 40:DI:63:LYS:O | 40:DI:64:HIS:C | 2.43 | 0.59 |
| 48:DS:37:SER:C | 48:DS:39:ASN:N | 2.61 | 0.59 |
| 49:DT:79:MET:CB | 49:DT:84:TYR:O | 2.51 | 0.59 |
| 62:Dg:25:GLN:C | 62:Dg:27:LYS:H | 2.10 | 0.59 |
| 63:Dh:44:UNK:O | 63:Dh:45:UNK:C | 2.49 | 0.59 |
| 1:A1:22:A:C6 | 1:A1:604:A:C6 | 2.91 | 0.59 |
| 1:A1:221:A:H3' | 1:A1:833:U:H6 | 1.66 | 0.59 |
| 1:A1:302:U:C4 | 1:A1:303:U:O2 | 2.56 | 0.59 |
| 1:A1:333:A:C2 | 1:A1:334:G:C4 | 2.91 | 0.59 |
| 1:A1:365:G:C5 | 1:A1:377:G:N1 | 2.71 | 0.59 |
| 1:A1:388:G:N3 | 1:A1:389:G:C8 | 2.71 | 0.59 |
| 1:A1:567:A:OP2 | 17:AP:67:ALA:HB1 | 2.03 | 0.59 |
| 1:A1:653:C:C5 | 1:A1:654:C:H5 | 2.21 | 0.59 |
| 1:A1:704:C:O2 | 1:A1:704:C:H2' | 2.03 | 0.59 |
| 1:A1:977:A:H2' | 1:A1:978:A:H5' | 1.83 | 0.59 |
| 1:A1:1297:G:N2 | 1:A1:1301:U:C2 | 2.71 | 0.59 |
| 1:A1:1336:A:C6 | 1:A1:1416:G:O6 | 2.56 | 0.59 |
| 1:A1:1583:A:N3 | 1:A1:1585:U:N3 | 2.51 | 0.59 |
| 3:AB:122:ALA:O | 3:AB:125:ILE:N | 2.35 | 0.59 |
| 3:AB:245:ASP:C | 3:AB:247:ALA:N | 2.55 | 0.59 |
| 6:AE:77:ILE:C | 6:AE:79:ARG:H | 2.11 | 0.59 |
| 7:AF:95:PRO:O | 7:AF:97:TYR:N | 2.36 | 0.59 |
| 13:AL:112:ASP:C | 13:AL:114:GLU:N | 2.58 | 0.59 |
| 29:B1:26:A:C2' | 29:B1:27:C:H6 | 2.15 | 0.59 |
| 29:B1:213:A:C6 | 29:B1:214:G:C4 | 2.90 | 0.59 |
| 29:B1:384:A:C8 | 29:B1:385:A:N7 | 2.70 | 0.59 |
| 29:B1:393:U:O2 | 29:B1:393:U:H2' | 2.03 | 0.59 |
| 29:B1:431:U:C6 | 29:B1:431:U:C3' | 2.86 | 0.59 |
| 29:B1:576:C:O2' | 29:B1:577:C:H5" | 2.03 | 0.59 |
| 29:B1:758:C:H1' | 29:B1:759:U:OP2 | 2.02 | 0.59 |
| 29:B1:768:C:H2' | 29:B1:769:G:C5 | 2.37 | 0.59 |
| 29:B1:769:G:C4' | 29:B1:770:G:OP1 | 2.51 | 0.59 |
| 29:B1:776:U:P | 29:B1:777:U:OP2 | 2.60 | 0.59 |
| 29:B1:865:U:C4 | 29:B1:866:A:C5 | 2.91 | 0.59 |
| 29:B1:1405:U:C6 | 29:B1:1406:A:N7 | 2.71 | 0.59 |
| 29:B1:2253:G:C8 | 29:B1:2254:U:C4 | 2.91 | 0.59 |
| 29:B1:2260:U:C2' | 29:B1:2261:G:N7 | 2.65 | 0.59 |
| 29:B1:2407:C:H2' | 29:B1:2408:U:C6 | 2.37 | 0.59 |
| 29:B1:2502:A:N3 | 29:B1:2502:A:H2' | 2.17 | 0.59 |
| 29:B1:2618:G:C4' | 29:B1:2619:G:OP2 | 2.50 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2787:G:C4 | 29:B1:2788:C:C5 | 2.90 | 0.59 |
| 29:B1:2948:C:O2' | 29:B1:2949:U:C5' | 2.48 | 0.59 |
| 29:B1:2970:C:C3' | 29:B1:2971:A:H5" | 2.31 | 0.59 |
| 29:B1:3114:A:N7 | 29:B1:3115:C:C5 | 2.71 | 0.59 |
| 29:B1:3157:U:H6 | 29:B1:3157:U:P | 2.26 | 0.59 |
| 29:B1:3191:G:C6 | 29:B1:3202:G:N1 | 2.71 | 0.59 |
| 29:B1:3212:C:C5 | 29:B1:3213:A:N1 | 2.71 | 0.59 |
| 29:B1:3294:A:H2' | 29:B1:3295:A:C5' | 2.33 | 0.59 |
| 29:B1:3377:G:C1' | 29:B1:3378:C:OP1 | 2.51 | 0.59 |
| 29:B1:3384:U:C4 | 29:B1:3385:U:C4 | 2.91 | 0.59 |
| 30:B2:25:G:N2 | 30:B2:26:C:N3 | 2.51 | 0.59 |
| 30:B2:74:C:C5 | 30:B2:75:G:C8 | 2.90 | 0.59 |
| 31:B3:48:A:C5 | 31:B3:51:G:C8 | 2.91 | 0.59 |
| 33:BB:221:LYS:O | 33:BB:222:ALA:HB2 | 2.02 | 0.59 |
| 35:BD:256:THR:O | 35:BD:257:LYS:CB | 2.50 | 0.59 |
| 36:BE:94:ASN:C | 36:BE:96:ALA:H | 2.11 | 0.59 |
| 36:BE:197:SER:O | 36:BE:198:TYR:C | 2.45 | 0.59 |
| 43:BN:97:SER:C | 43:BN:99:TRP:H | 2.10 | 0.59 |
| 45:BP:114:LYS:O | 45:BP:115:LYS:CB | 2.49 | 0.59 |
| 46:BQ:44:ALA:O | 46:BQ:45:GLN:C | 2.43 | 0.59 |
| 47:BR:21:SER:O | 47:BR:22:ASP:CB | 2.50 | 0.59 |
| 47:BR:37:ALA:C | 47:BR:39:ARG:N | 2.59 | 0.59 |
| 67:Bm:13:UNK:O | 67:Bm:14:UNK:C | 2.49 | 0.59 |
| 1:C1:53:G:C6 | 1:C1:54:C:C5 | 2.90 | 0.59 |
| 1:C1:108:A:H3' | 1:C1:109:G:H8 | 1.68 | 0.59 |
| 1:C1:330:G:H5" | 1:C1:331:A:OP2 | 2.03 | 0.59 |
| 1:C1:557:G:OP2 | 1:C1:589:C:H1' | 2.03 | 0.59 |
| 1:C1:647:G:N1 | 1:C1:648:G:O6 | 2.36 | 0.59 |
| 1:C1:847:A:C2' | 1:C1:848:C:C5' | 2.81 | 0.59 |
| 1:C1:897:C:N3 | 1:C1:914:G:C2 | 2.70 | 0.59 |
| 1:C1:977:A:H2' | 1:C1:978:A:H5' | 1.82 | 0.59 |
| 1:C1:978:A:N6 | 1:C1:1024:U:C4 | 2.71 | 0.59 |
| 1:C1:1109:G:N1 | 1:C1:1110:G:C5 | 2.71 | 0.59 |
| 1:C1:1168:U:H2' | 1:C1:1169:G:H5' | 1.85 | 0.59 |
| 1:C1:1185:U:C5 | 1:C1:1458:G:C8 | 2.91 | 0.59 |
| 1:C1:1259:U:H2' | 1:C1:1260:U:O5' | 2.03 | 0.59 |
| 1:C1:1376:C:O5' | 1:C1:1376:C:H6 | 1.85 | 0.59 |
| 1:C1:1388:A:N6 | 1:C1:1411:A:N7 | 2.50 | 0.59 |
| 1:C1:1673:G:O2' | 1:C1:1674:C:H5' | 2.02 | 0.59 |
| 1:C1:1687:U:C4 | 1:C1:1688:U:H1' | 2.38 | 0.59 |
| 2:CA:106:SER:C | 2:CA:108:THR:N | 2.60 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:CB:203:LYS:C | 3:CB:205:ARG:N | 2.59 | 0.59 |
| 13:CL:68:ARG:HA | 13:CL:71:GLN:CB | 2.33 | 0.59 |
| 14:CM:28:LEU:O | 14:CM:30:VAL:N | 2.36 | 0.59 |
| 29:D1:40:A:N6 | 29:D1:937:G:C2 | 2.71 | 0.59 |
| 29:D1:82:C:H2' | 29:D1:83:U:O5' | 2.03 | 0.59 |
| 29:D1:142:C:H2' | 29:D1:143:G:C8 | 2.37 | 0.59 |
| 29:D1:284:A:N1 | 29:D1:306:A:C8 | 2.71 | 0.59 |
| 29:D1:337:G:H1 | 31:D3:26:U:H3 | 1.51 | 0.59 |
| 29:D1:404:G:H2' | 29:D1:405:U:H5' | 1.84 | 0.59 |
| 29:D1:569:A:C2 | 29:D1:570:A:C1' | 2.86 | 0.59 |
| 29:D1:692:A:C4 | 29:D1:693:A:C8 | 2.91 | 0.59 |
| 29:D1:747:A:OP1 | 29:D1:747:A:H8 | 1.85 | 0.59 |
| 29:D1:888:A:C6 | 29:D1:889:U:C4 | 2.90 | 0.59 |
| 29:D1:962:A:C3' | 29:D1:963:G:H5" | 2.33 | 0.59 |
| 29:D1:1209:G:C5 | 29:D1:1210:U:C4 | 2.90 | 0.59 |
| 29:D1:1535:A:H5" | 29:D1:1536:G:OP2 | 2.02 | 0.59 |
| 29:D1:1540:U:H2' | 29:D1:1541:G:H5' | 1.85 | 0.59 |
| 29:D1:1543:G:N7 | 74:D1:3556:OHX:N3 | 2.51 | 0.59 |
| 29:D1:1697:A:N7 | 29:D1:1698:C:C5 | 2.70 | 0.59 |
| 29:D1:1715:A:N6 | 29:D1:1716:U:C4 | 2.71 | 0.59 |
| 29:D1:1725:C:H2' | 29:D1:1726:C:C5 | 2.38 | 0.59 |
| 29:D1:1742:U:H2' | 29:D1:1743:G:H8 | 1.68 | 0.59 |
| 29:D1:1780:G:HO2' | 29:D1:1781:C:H6 | 1.49 | 0.59 |
| 29:D1:2257:C:H3' | 29:D1:2258:U:C6 | 2.35 | 0.59 |
| 29:D1:2262:A:H5" | 29:D1:2263:C:H5' | 1.85 | 0.59 |
| 29:D1:2403:G:C4 | 29:D1:2872:A:C6 | 2.91 | 0.59 |
| 29:D1:2591:A:C2 | 29:D1:2592:G:H1' | 2.38 | 0.59 |
| 29:D1:2666:C:H5" | 29:D1:2667:A:OP2 | 2.02 | 0.59 |
| 29:D1:2816:G:H4' | 29:D1:2817:A:H5" | 1.85 | 0.59 |
| 29:D1:2896:A:O2' | 29:D1:2897:A:O5' | 2.20 | 0.59 |
| 29:D1:3072:C:C5 | 29:D1:3073:A:C4 | 2.91 | 0.59 |
| 29:D1:3142:A:N3 | 74:D1:3431:OHX:N1 | 2.51 | 0.59 |
| 29:D1:3269:U:O2' | 29:D1:3270:U:H5' | 2.03 | 0.59 |
| 30:D2:43:U:H2' | 30:D2:43:U:O2 | 2.03 | 0.59 |
| 30:D2:69:C:H5' | 30:D2:70:U:OP2 | 2.03 | 0.59 |
| 30:D2:80:G:H2' | 30:D2:81:U:H6 | 1.68 | 0.59 |
| 30:D2:82:G:C5 | 30:D2:99:G:C2 | 2.91 | 0.59 |
| 33:DB:182:ALA:C | 33:DB:184:ARG:H | 1.96 | 0.59 |
| 35:DD:6:VAL:CB | 35:DD:20:LEU:H | 2.16 | 0.59 |
| 37:DF:124:GLU:C | 37:DF:126:GLN:N | 2.61 | 0.59 |
| 41:DJ:57:LEU:HA | 41:DJ:129:VAL:O | 2.03 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 50:DU:27:ASP:CB | 50:DU:101:VAL:HA | 2.32 | 0.59 |
| 54:DY:42:ARG:O | 54:DY:43:ILE:C | 2.45 | 0.59 |
| 57:Db:6:HIS:O | 57:Db:7:PRO:O | 2.20 | 0.59 |
| 1:A1:147:A:H3' | 1:A1:148:A:C8 | 2.37 | 0.59 |
| 1:A1:166:C:C2' | 1:A1:167:U:H5" | 2.33 | 0.59 |
| 1:A1:168:A:C6 | 1:A1:169:A:N6 | 2.71 | 0.59 |
| 1:A1:594:A:H4' | 1:A1:595:G:OP1 | 2.02 | 0.59 |
| 1:A1:739:G:C2' | 1:A1:740:A:H8 | 2.14 | 0.59 |
| 1:A1:866:G:C2 | 1:A1:867:G:C8 | 2.91 | 0.59 |
| 1:A1:901:G:C6 | 1:A1:902:G:C2 | 2.90 | 0.59 |
| 1:A1:1007:C:C5' | 1:A1:1008:G:OP2 | 2.49 | 0.59 |
| 1:A1:1056:U:H1' | 1:A1:1064:G:H21 | 1.67 | 0.59 |
| 1:A1:1418:G:C2' | 1:A1:1419:G:H5' | 2.32 | 0.59 |
| 1:A1:1489:U:H5 | 1:A1:1513:G:C2 | 2.21 | 0.59 |
| 1:A1:1559:A:H1' | 13:AL:135:GLY:HA2 | 1.84 | 0.59 |
| 1:A1:1559:A:O2' | 1:A1:1560:U:O4' | 2.21 | 0.59 |
| 1:A1:1567:U:H5' | 1:A1:1567:U:C6 | 2.38 | 0.59 |
| 3:AB:133:LYS:C | 3:AB:135:SER:N | 2.60 | 0.59 |
| 18:AQ:57:TYR:CB | 18:AQ:58:ARG:CA | 2.75 | 0.59 |
| 29:B1:11:A:H4' | 29:B1:1558:A:C2 | 2.38 | 0.59 |
| 29:B1:189:G:C2 | 29:B1:191:U:C4 | 2.90 | 0.59 |
| 29:B1:198:A:O4' | 29:B1:218:G:C2 | 2.56 | 0.59 |
| 29:B1:198:A:N1 | 29:B1:219:A:C5 | 2.70 | 0.59 |
| 29:B1:210:U:C4 | 35:BD:161:LYS:HA | 2.38 | 0.59 |
| 29:B1:264:G:N7 | 29:B1:265:A:N6 | 2.51 | 0.59 |
| 29:B1:560:G:C2 | 29:B1:561:C:N3 | 2.70 | 0.59 |
| 29:B1:952:A:N6 | 29:B1:1142:G:H21 | 1.99 | 0.59 |
| 29:B1:1220:U:OP2 | 29:B1:1223:A:H4' | 2.01 | 0.59 |
| 29:B1:1257:C:H3' | 29:B1:1258:U:O4' | 2.02 | 0.59 |
| 29:B1:1495:U:O3' | 29:B1:1514:G:H5' | 2.02 | 0.59 |
| 29:B1:1654:A:HO2' | 29:B1:1655:G:P | 2.26 | 0.59 |
| 29:B1:1666:G:H2' | 29:B1:1667:A:H8 | 1.67 | 0.59 |
| 29:B1:1704:A:N6 | 29:B1:1739:U:C4 | 2.70 | 0.59 |
| 29:B1:1895:A:C5 | 29:B1:2335:G:N7 | 2.71 | 0.59 |
| 29:B1:2107:A:C4 | 29:B1:2108:C:C5 | 2.91 | 0.59 |
| 29:B1:2112:U:O2 | 29:B1:2113:A:N1 | 2.36 | 0.59 |
| 29:B1:2277:C:O2' | 29:B1:2278:C:O5' | 2.13 | 0.59 |
| 29:B1:2376:G:N1 | 29:B1:2377:G:C6 | 2.71 | 0.59 |
| 29:B1:2643:A:N6 | 29:B1:2645:G:H1' | 2.17 | 0.59 |
| 29:B1:2690:G:HO2' | 29:B1:2691:A:P | 2.25 | 0.59 |
| 29:B1:2827:U:O2 | 29:B1:2827:U:H2' | 2.02 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2836:C:C2' | 29:B1:2836:C:O2 | 2.51 | 0.59 |
| 29:B1:2869:U:H2' | 29:B1:2869:U:O2 | 2.00 | 0.59 |
| 29:B1:3295:A:OP1 | 34:BC:132:LYS:CB | 2.51 | 0.59 |
| 29:B1:3299:A:C4 | 29:B1:3300:U:C5 | 2.90 | 0.59 |
| 29:B1:3377:G:C1' | 29:B1:3378:C:H5' | 2.33 | 0.59 |
| 30:B2:12:U:C3' | 30:B2:13:A:N1 | 2.65 | 0.59 |
| 31:B3:48:A:C2 | 31:B3:51:G:O6 | 2.56 | 0.59 |
| 31:B3:141:C:C2 | 31:B3:142:C:H5 | 2.21 | 0.59 |
| 34:BC:41:VAL:CB | 34:BC:186:GLY:H | 2.15 | 0.59 |
| 36:BE:30:TYR:C | 36:BE:32:GLN:N | 2.57 | 0.59 |
| 38:BG:228:SER:O | 38:BG:230:GLY:N | 2.36 | 0.59 |
| 40:BI:63:LYS:O | 40:BI:65:VAL:N | 2.36 | 0.59 |
| 40:BI:116:ASN:C | 40:BI:120:ASP:H | 2.11 | 0.59 |
| 40:BI:134:ILE:HA | 40:BI:146:LEU:CB | 2.33 | 0.59 |
| 42:BK:134:PRO:C | 42:BK:151:SER:O | 2.46 | 0.59 |
| 47:BR:144:ARG:O | 47:BR:145:ASN:O | 2.20 | 0.59 |
| 56:Ba:43:HIS:O | 56:Ba:44:MET:C | 2.45 | 0.59 |
| 57:Bb:42:VAL:C | 57:Bb:44:ARG:N | 2.60 | 0.59 |
| 1:C1:190:C:N4 | 1:C1:192:U:H3 | 2.01 | 0.59 |
| 1:C1:576:G:O6 | 17:CP:65:ASN:HA | 2.02 | 0.59 |
| 1:C1:768:C:C2' | 1:C1:769:A:H5' | 2.33 | 0.59 |
| 1:C1:789:A:C4 | 1:C1:790:U:C5 | 2.91 | 0.59 |
| 1:C1:971:A:N6 | 29:D1:846:A:N6 | 2.51 | 0.59 |
| 1:C1:972:G:C2 | 29:D1:846:A:N6 | 2.67 | 0.59 |
| 1:C1:1138:A:C2 | 1:C1:1139:A:N7 | 2.71 | 0.59 |
| 1:C1:1202:A:N6 | 1:C1:1456:C:H2' | 2.18 | 0.59 |
| 1:C1:1287:A:N3 | 1:C1:1288:G:H1' | 2.17 | 0.59 |
| 1:C1:1449:U:C2' | 1:C1:1450:U:O5' | 2.51 | 0.59 |
| 1:C1:1541:G:C6 | 1:C1:1542:G:O6 | 2.56 | 0.59 |
| 3:CB:239:PRO:C | 3:CB:241:ASP:N | 2.58 | 0.59 |
| 6:CE:96:VAL:O | 6:CE:99:LEU:N | 2.36 | 0.59 |
| 19:CR:7:VAL:HA | 19:CR:28:VAL:C | 2.28 | 0.59 |
| 24:Cc:54:UNK:HA | 24:Cc:62:UNK:N | 2.18 | 0.59 |
| 29:D1:130:A:C2 | 29:D1:139:G:C5 | 2.90 | 0.59 |
| 29:D1:543:C:C3' | 29:D1:544:C:H5' | 2.33 | 0.59 |
| 29:D1:628:A:H5" | 29:D1:1399:A:C5 | 2.38 | 0.59 |
| 29:D1:745:C:N4 | 29:D1:746:A:H61 | 2.00 | 0.59 |
| 29:D1:891:G:C2' | 29:D1:892:U:O5' | 2.51 | 0.59 |
| 29:D1:992:A:C3' | 29:D1:993:G:H5" | 2.33 | 0.59 |
| 29:D1:1128:U:O2' | 41:DJ:7:ARG:CB | 2.51 | 0.59 |
| 29:D1:1196:C:O2 | 30:D2:86:U:N1 | 2.36 | 0.59 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1269:U:H2' | 29:D1:1270:A:H5" | 1.85 | 0.59 |
| 29:D1:1270:A:H5' | 29:D1:1271:A:OP2 | 2.03 | 0.59 |
| 29:D1:1452:A:H5' | 29:D1:1453:A:OP1 | 2.03 | 0.59 |
| 29:D1:1498:A:C5 | 29:D1:1499:C:C5 | 2.91 | 0.59 |
| 29:D1:1601:U:H5 | 29:D1:1604:G:O6 | 1.86 | 0.59 |
| 29:D1:1658:G:C6 | 29:D1:1796:G:O6 | 2.56 | 0.59 |
| 29:D1:2157:G:H4' | 29:D1:2158:A:H5' | 1.84 | 0.59 |
| 29:D1:2278:C:C4 | 29:D1:2307:G:C2 | 2.91 | 0.59 |
| 29:D1:2378:C:O2 | 29:D1:2379:U:C5 | 2.56 | 0.59 |
| 29:D1:2701:U:H1' | 29:D1:2705:A:C4 | 2.38 | 0.59 |
| 29:D1:2702:A:H8 | 29:D1:2704:A:N6 | 1.99 | 0.59 |
| 29:D1:3027:A:C2' | 29:D1:3028:G:H8 | 2.07 | 0.59 |
| 29:D1:3264:G:H3' | 29:D1:3265:C:H5" | 1.84 | 0.59 |
| 29:D1:3273:A:O2' | 29:D1:3274:A:H4' | 2.02 | 0.59 |
| 29:D1:3368:U:C5' | 29:D1:3368:U:H6 | 2.16 | 0.59 |
| 74:D1:3408:OHX:N5 | 74:D1:3582:OHX:N5 | 2.50 | 0.59 |
| 30:D2:70:U:H2' | 30:D2:71:G:C8 | 2.36 | 0.59 |
| 31:D3:24:G:C2' | 31:D3:25:G:O5' | 2.50 | 0.59 |
| 31:D3:45:C:H2' | 31:D3:46:G:O4' | 2.03 | 0.59 |
| 31:D3:106:C:C2 | 31:D3:138:A:N7 | 2.71 | 0.59 |
| 34:DC:41:VAL:O | 34:DC:42:ALA:O | 2.21 | 0.59 |
| 34:DC:137:TYR:O | 34:DC:138:ALA:HB3 | 2.03 | 0.59 |
| 35:DD:162:THR:O | 35:DD:165:ALA:HB3 | 2.03 | 0.59 |
| 39:DH:168:ALA:C | 39:DH:170:CYS:H | 2.10 | 0.59 |
| 40:DI:85:GLY:O | 40:DI:187:ILE:N | 2.36 | 0.59 |
| 41:DJ:212:GLU:O | 41:DJ:213:PHE:C | 2.46 | 0.59 |
| 42:DK:133:ARG:CB | 42:DK:155:THR:H | 2.15 | 0.59 |
| 47:DR:36:LEU:O | 47:DR:37:ALA:O | 2.20 | 0.59 |
| 48:DS:37:SER:C | 48:DS:39:ASN:H | 2.10 | 0.59 |
| 54:DY:130:VAL:C | 54:DY:132:LYS:H | 2.09 | 0.59 |
| 1:A1:61:A:OP1 | 1:A1:62:A:C8 | 2.56 | 0.58 |
| 1:A1:67:A:H4' | 1:A1:68:A:OP1 | 2.03 | 0.58 |
| 1:A1:933:A:H62 | 1:A1:935:U:H1' | 1.66 | 0.58 |
| 1:A1:1142:A:C2 | 1:A1:1143:A:C4 | 2.91 | 0.58 |
| 1:A1:1275:A:N6 | 1:A1:1431:C:N3 | 2.51 | 0.58 |
| 1:A1:1508:U:O4 | 74:A1:1909:OHX:N6 | 2.36 | 0.58 |
| 1:A1:1584:G:C5 | 11:AJ:123:ARG:O | 2.55 | 0.58 |
| 1:A1:1689:A:OP1 | 1:A1:1689:A:H4' | 2.03 | 0.58 |
| 1:A1:1754:A:O2' | 1:A1:1755:A:O5' | 2.20 | 0.58 |
| 2:AA:25:GLY:O | 2:AA:26:ALA:HB3 | 2.03 | 0.58 |
| 8:AG:93:LYS:O | 8:AG:96:VAL:N | 2.35 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:AI:33:PHE:C | 10:AI:35:LYS:N | 2.61 | 0.58 |
| 16:AO:53:ILE:O | 16:AO:60:LYS:N | 2.36 | 0.58 |
| 29:B1:54:C:O2' | 29:B1:55:G:H5' | 2.03 | 0.58 |
| 29:B1:88:A:N7 | 29:B1:99:A:N6 | 2.51 | 0.58 |
| 29:B1:265:A:C8 | 29:B1:265:A:OP1 | 2.56 | 0.58 |
| 29:B1:380:U:H2' | 29:B1:381:U:C5 | 2.37 | 0.58 |
| 29:B1:398:A:H2 | 29:B1:1415:U:C5' | 2.15 | 0.58 |
| 29:B1:414:U:H2' | 29:B1:415:G:C8 | 2.34 | 0.58 |
| 29:B1:516:A:H4' | 29:B1:517:G:OP1 | 2.02 | 0.58 |
| 29:B1:639:G:O2' | 29:B1:640:U:H5' | 2.02 | 0.58 |
| 29:B1:835:G:C2 | 29:B1:857:G:C2 | 2.91 | 0.58 |
| 29:B1:844:G:C2 | 29:B1:850:U:C2 | 2.91 | 0.58 |
| 29:B1:926:A:C2 | 29:B1:927:C:C2 | 2.91 | 0.58 |
| 29:B1:1246:G:H3' | 29:B1:1246:G:OP1 | 2.03 | 0.58 |
| 29:B1:1332:A:H2' | 29:B1:1333:C:C6 | 2.38 | 0.58 |
| 29:B1:1540:U:H2' | 29:B1:1541:G:C5' | 2.33 | 0.58 |
| 29:B1:1566:A:H62 | 29:B1:1568:U:H3 | 1.50 | 0.58 |
| 29:B1:1719:G:H4' | 29:B1:1732:U:H4' | 1.85 | 0.58 |
| 29:B1:1747:G:C2' | 29:B1:1748:G:H5' | 2.32 | 0.58 |
| 29:B1:2095:G:H2' | 29:B1:2096:A:H5' | 1.84 | 0.58 |
| 29:B1:2202:C:H2' | 29:B1:2202:C:O2 | 2.02 | 0.58 |
| 29:B1:2280:A:H4' | 29:B1:2281:A:OP1 | 2.02 | 0.58 |
| 29:B1:2290:C:O2' | 29:B1:2291:A:O4' | 2.20 | 0.58 |
| 29:B1:2308:C:C4 | 29:B1:2309:A:C5 | 2.91 | 0.58 |
| 29:B1:2403:G:C4 | 29:B1:2872:A:C6 | 2.90 | 0.58 |
| 29:B1:2703:A:N6 | 36:BE:26:GLY:HA2 | 2.16 | 0.58 |
| 29:B1:3274:A:C1' | 29:B1:3275:U:OP2 | 2.51 | 0.58 |
| 29:B1:3280:U:C2 | 29:B1:3281:U:H5 | 2.20 | 0.58 |
| 29:B1:3299:A:H1' | 29:B1:3300:U:OP2 | 2.03 | 0.58 |
| 29:B1:3323:A:O2' | 29:B1:3324:C:H5' | 2.03 | 0.58 |
| 30:B2:26:C:O2' | 30:B2:27:A:O4' | 2.21 | 0.58 |
| 31:B3:56:G:O2' | 31:B3:57:C:H5' | 2.03 | 0.58 |
| 31:B3:71:A:H1' | 31:B3:72:A:H5' | 1.85 | 0.58 |
| 31:B3:96:A:H5' | 31:B3:97:A:OP2 | 2.03 | 0.58 |
| 35:BD:8:VAL:O | 35:BD:18:ASN:N | 2.30 | 0.58 |
| 71:Br:-2:UNK:H | 71:Br:1:UNK:CB | 2.15 | 0.58 |
| 1:C1:62:A:H2 | 1:C1:63:G:N7 | 1.99 | 0.58 |
| 1:C1:127:G:C5 | 1:C1:179:A:C5 | 2.89 | 0.58 |
| 1:C1:199:G:C6 | 1:C1:200:A:N6 | 2.71 | 0.58 |
| 1:C1:289:U:H2' | 1:C1:290:G:H5" | 1.85 | 0.58 |
| 1:C1:690:G:H2' | 1:C1:691:C:C5' | 2.31 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1022:C:C4' | 1:C1:1124:A:H61 | 2.12 | 0.58 |
| 1:C1:1061:A:H2' | 1:C1:1062:A:O4' | 2.03 | 0.58 |
| 1:C1:1239:U:O2' | 1:C1:1240:U:H5' | 2.03 | 0.58 |
| 1:C1:1375:A:H2' | 1:C1:1376:C:C2 | 2.38 | 0.58 |
| 1:C1:1503:A:C2' | 1:C1:1504:G:H5' | 2.33 | 0.58 |
| 1:C1:1552:U:N3 | 1:C1:1553:G:C4 | 2.66 | 0.58 |
| 1:C1:1640:C:H1' | 1:C1:1763:A:N1 | 2.18 | 0.58 |
| 1:C1:1665:U:O4 | 74:C1:1993:OHX:N2 | 2.36 | 0.58 |
| 1:C1:1683:C:H1' | 1:C1:1720:G:O6 | 2.03 | 0.58 |
| 1:C1:1720:G:O2' | 1:C1:1721:A:H5' | 2.02 | 0.58 |
| 1:C1:1760:G:C4 | 1:C1:1761:U:C5 | 2.86 | 0.58 |
| 2:CA:178:ALA:HA | 2:CA:182:LEU:H | 1.68 | 0.58 |
| 4:CC:104:SER:O | 4:CC:107:PHE:N | 2.32 | 0.58 |
| 29:D1:11:A:H4' | 29:D1:1558:A:C2 | 2.38 | 0.58 |
| 29:D1:40:A:C6 | 29:D1:937:G:C2 | 2.91 | 0.58 |
| 29:D1:51:A:C2' | 29:D1:52:A:H5' | 2.33 | 0.58 |
| 29:D1:73:C:O5' | 29:D1:74:G:OP2 | 2.21 | 0.58 |
| 29:D1:283:G:N2 | 54:DY:60:TYR:O | 2.36 | 0.58 |
| 29:D1:416:A:H61 | 31:D3:7:U:H3 | 1.51 | 0.58 |
| 29:D1:579:G:H2' | 29:D1:580:C:C6 | 2.37 | 0.58 |
| 29:D1:648:C:C5 | 29:D1:2374:C:O3' | 2.55 | 0.58 |
| 29:D1:664:U:H2' | 29:D1:665:A:C8 | 2.38 | 0.58 |
| 29:D1:719:U:O2' | 29:D1:720:A:H8 | 1.81 | 0.58 |
| 29:D1:768:C:H2' | 29:D1:769:G:C5 | 2.38 | 0.58 |
| 29:D1:888:A:N1 | 29:D1:889:U:C2 | 2.71 | 0.58 |
| 29:D1:901:G:C4 | 29:D1:902:G:C8 | 2.91 | 0.58 |
| 29:D1:934:G:H5" | 29:D1:935:U:OP2 | 2.03 | 0.58 |
| 29:D1:969:C:H2' | 29:D1:969:C:O2 | 2.02 | 0.58 |
| 29:D1:1097:G:O3' | 29:D1:1098:A:C4' | 2.51 | 0.58 |
| 29:D1:1229:G:H2' | 29:D1:1230:G:O4' | 2.03 | 0.58 |
| 29:D1:1277:C:O2' | 29:D1:1278:A:P | 2.61 | 0.58 |
| 29:D1:1292:C:H2' | 29:D1:1292:C:O2 | 2.02 | 0.58 |
| 29:D1:1566:A:H62 | 29:D1:1568:U:H3 | 1.51 | 0.58 |
| 29:D1:1607:U:O2' | 29:D1:1608:C:P | 2.60 | 0.58 |
| 29:D1:1898:G:OP2 | 74:D1:3470:OHX:N6 | 2.36 | 0.58 |
| 29:D1:2253:G:C8 | 29:D1:2254:U:C5 | 2.91 | 0.58 |
| 29:D1:2553:U:O2 | 29:D1:2554:A:H2' | 2.02 | 0.58 |
| 29:D1:2592:G:H4' | 29:D1:2594:C:N3 | 2.18 | 0.58 |
| 29:D1:2980:U:N3 | 29:D1:2981:U:C5 | 2.71 | 0.58 |
| 29:D1:3005:A:O2' | 29:D1:3140:G:N2 | 2.35 | 0.58 |
| 29:D1:3042:U:C5 | 29:D1:3043:C:C5 | 2.91 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3097:C:O2' | 29:D1:3098:G:OP1 | 2.21 | 0.58 |
| 29:D1:3105:U:C5 | 29:D1:3106:A:C5 | 2.91 | 0.58 |
| 29:D1:3207:U:C3' | 29:D1:3208:G:H5' | 2.33 | 0.58 |
| 30:D2:60:G:C2 | 30:D2:61:G:C5 | 2.91 | 0.58 |
| 31:D3:12:A:H2' | 31:D3:13:A:H5' | 1.84 | 0.58 |
| 31:D3:95:G:OP2 | 31:D3:95:G:N2 | 2.36 | 0.58 |
| 31:D3:104:A:H5' | 31:D3:105:A:C5' | 2.33 | 0.58 |
| 31:D3:117:C:H2' | 31:D3:118:C:H6 | 1.68 | 0.58 |
| 35:DD:39:PHE:O | 35:DD:41:SER:N | 2.36 | 0.58 |
| 36:DE:241:THR:C | 36:DE:243:ALA:N | 2.58 | 0.58 |
| 38:DG:187:GLU:O | 38:DG:188:ILE:C | 2.45 | 0.58 |
| 41:DJ:174:THR:C | 41:DJ:176:LEU:CB | 2.76 | 0.58 |
| 46:DQ:74:LYS:O | 46:DQ:75:GLU:CB | 2.50 | 0.58 |
| 49:DT:34:TYR:O | 49:DT:35:LYS:CB | 2.51 | 0.58 |
| 57:Db:112:ALA:O | 57:Db:113:LYS:C | 2.46 | 0.58 |
| 60:De:7:PHE:O | 60:De:8:ARG:C | 2.45 | 0.58 |
| 1:A1:20:G:C2' | 1:A1:21:U:H5' | 2.32 | 0.58 |
| 1:A1:105:A:C2 | 74:A1:1910:OHX:N3 | 2.71 | 0.58 |
| 1:A1:106:U:H5" | 1:A1:107:C:OP2 | 2.03 | 0.58 |
| 1:A1:479:C:C3' | 1:A1:480:G:C8 | 2.86 | 0.58 |
| 1:A1:570:A:H61 | 17:AP:116:ASP:CB | 2.16 | 0.58 |
| 1:A1:846:G:O2' | 1:A1:847:A:O5' | 2.20 | 0.58 |
| 1:A1:920:U:OP2 | 1:A1:920:U:H6 | 1.87 | 0.58 |
| 1:A1:1271:G:H2' | 1:A1:1272:U:H6 | 1.66 | 0.58 |
| 1:A1:1408:G:H1' | 1:A1:1409:G:N2 | 2.18 | 0.58 |
| 1:A1:1475:A:C4 | 1:A1:1476:C:C6 | 2.91 | 0.58 |
| 1:A1:1515:A:C2' | 1:A1:1516:A:H5" | 2.32 | 0.58 |
| 29:B1:47:C:N4 | 29:B1:48:A:C6 | 2.71 | 0.58 |
| 29:B1:89:A:C2 | 29:B1:90:C:C6 | 2.90 | 0.58 |
| 29:B1:311:C:N4 | 29:B1:312:C:N4 | 2.51 | 0.58 |
| 29:B1:334:A:N3 | 29:B1:335:G:C8 | 2.71 | 0.58 |
| 29:B1:559:A:H2' | 29:B1:560:G:H5" | 1.85 | 0.58 |
| 29:B1:1013:G:H2' | 29:B1:1015:U:OP2 | 2.02 | 0.58 |
| 29:B1:1021:G:H2' | 29:B1:1022:U:C6 | 2.38 | 0.58 |
| 29:B1:1371:G:H5" | 29:B1:1371:G:H8 | 1.68 | 0.58 |
| 29:B1:1666:G:O2' | 29:B1:1667:A:H5' | 2.03 | 0.58 |
| 29:B1:1780:G:O2' | 29:B1:1781:C:P | 2.62 | 0.58 |
| 29:B1:1898:G:N7 | 29:B1:1899:G:N7 | 2.51 | 0.58 |
| 29:B1:1909:A:N1 | 29:B1:1910:A:C2 | 2.71 | 0.58 |
| 29:B1:2515:A:H3' | 29:B1:2516:U:H5 | 1.69 | 0.58 |
| 29:B1:2571:U:H2' | 29:B1:2572:C:H5' | 1.85 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2762:A:H2' | 29:B1:2763:U:H6 | 1.68 | 0.58 |
| 29:B1:2915:U:O2 | 29:B1:2915:U:C2' | 2.51 | 0.58 |
| 29:B1:3077:A:N6 | 29:B1:3080:G:C5 | 2.71 | 0.58 |
| 29:B1:3141:A:C2 | 29:B1:3144:G:P | 2.97 | 0.58 |
| 29:B1:3179:U:OP2 | 29:B1:3179:U:H2' | 2.03 | 0.58 |
| 29:B1:3279:A:H2' | 29:B1:3280:U:C6 | 2.38 | 0.58 |
| 29:B1:3296:A:C2 | 29:B1:3297:U:C1' | 2.87 | 0.58 |
| 29:B1:3320:A:C5 | 29:B1:3321:C:N4 | 2.71 | 0.58 |
| 29:B1:3394:U:H2' | 29:B1:3395:G:C8 | 2.37 | 0.58 |
| 30:B2:121:U:H3' | 36:BE:263:GLU:O | 2.02 | 0.58 |
| 34:BC:116:ARG:O | 34:BC:117:ARG:CB | 2.51 | 0.58 |
| 34:BC:247:ARG:O | 34:BC:248:LYS:CB | 2.51 | 0.58 |
| 35:BD:123:ALA:O | 35:BD:124:SER:C | 2.45 | 0.58 |
| 36:BE:53:VAL:CB | 36:BE:62:CYS:HA | 2.34 | 0.58 |
| 36:BE:116:ASP:C | 36:BE:118:THR:N | 2.60 | 0.58 |
| 36:BE:170:GLY:O | 36:BE:171:LEU:O | 2.22 | 0.58 |
| 37:BF:56:LYS:C | 37:BF:58:LEU:N | 2.60 | 0.58 |
| 41:BJ:91:VAL:O | 41:BJ:92:HIS:CB | 2.51 | 0.58 |
| 42:BK:65:ILE:O | 42:BK:66:ALA:CB | 2.51 | 0.58 |
| 48:BS:97:ARG:O | 48:BS:98:ARG:C | 2.44 | 0.58 |
| 58:Bc:63:ARG:C | 58:Bc:65:ALA:N | 2.59 | 0.58 |
| 71:Br:-2:UNK:O | 71:Br:-1:UNK:C | 2.50 | 0.58 |
| 1:C1:140:A:H4' | 1:C1:140:A:OP2 | 2.03 | 0.58 |
| 1:C1:322:G:O4' | 1:C1:323:A:H8 | 1.85 | 0.58 |
| 1:C1:544:A:O2' | 1:C1:545:A:O5' | 2.21 | 0.58 |
| 1:C1:575:C:H5" | 1:C1:576:G:OP2 | 2.02 | 0.58 |
| 1:C1:618:U:C2' | 1:C1:619:A:C5' | 2.81 | 0.58 |
| 1:C1:757:A:C4 | 1:C1:758:U:C5 | 2.92 | 0.58 |
| 1:C1:760:A:C2 | 1:C1:791:A:C4 | 2.91 | 0.58 |
| 1:C1:948:G:H2' | 1:C1:949:C:C6 | 2.38 | 0.58 |
| 1:C1:1056:U:H3' | 1:C1:1057:U:C6 | 2.38 | 0.58 |
| 1:C1:1165:G:H5" | 1:C1:1166:A:OP2 | 2.03 | 0.58 |
| 1:C1:1245:G:C5 | 1:C1:1246:C:C5 | 2.92 | 0.58 |
| 1:C1:1352:G:N3 | 1:C1:1352:G:H2' | 2.18 | 0.58 |
| 1:C1:1540:G:O2' | 1:C1:1541:G:H5' | 2.02 | 0.58 |
| 1:C1:1733:C:H2' | 1:C1:1734:U:O4' | 2.03 | 0.58 |
| 5:CD:195:ALA:O | 5:CD:196:GLU:C | 2.45 | 0.58 |
| 13:CL:35:ILE:O | 13:CL:36:LYS:C | 2.46 | 0.58 |
| 17:CP:61:SER:CB | 17:CP:67:ALA:H | 2.16 | 0.58 |
| 29:D1:126:U:O2' | 29:D1:127:G:H8 | 1.75 | 0.58 |
| 29:D1:223:U:O2' | 29:D1:224:C:OP1 | 2.21 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:384:A:C8 | 29:D1:385:A:N7 | 2.72 | 0.58 |
| 29:D1:396:A:H4' | 29:D1:397:A:OP1 | 2.03 | 0.58 |
| 29:D1:402:A:N6 | 46:DQ:21:TYR:CB | 2.64 | 0.58 |
| 29:D1:504:A:C2' | 29:D1:505:G:H5' | 2.33 | 0.58 |
| 29:D1:727:G:C8 | 29:D1:743:C:N4 | 2.71 | 0.58 |
| 29:D1:826:G:OP1 | 29:D1:1590:G:O2' | 2.17 | 0.58 |
| 29:D1:847:A:C6 | 29:D1:848:A:C6 | 2.92 | 0.58 |
| 29:D1:1111:U:O2' | 29:D1:1112:A:O5' | 2.14 | 0.58 |
| 29:D1:1140:G:N3 | 29:D1:1141:C:C5 | 2.71 | 0.58 |
| 29:D1:1639:C:H2' | 29:D1:1640:G:O5' | 2.03 | 0.58 |
| 29:D1:1656:A:C1' | 29:D1:1657:C:C5 | 2.87 | 0.58 |
| 29:D1:1784:G:C6 | 29:D1:1785:U:C4 | 2.91 | 0.58 |
| 29:D1:1785:U:O2' | 29:D1:1786:G:H8 | 1.85 | 0.58 |
| 29:D1:2365:C:H6 | 29:D1:2365:C:OP1 | 1.86 | 0.58 |
| 29:D1:2383:C:C2' | 29:D1:2384:A:O5' | 2.51 | 0.58 |
| 29:D1:2672:G:O6 | 29:D1:2683:U:O4 | 2.21 | 0.58 |
| 29:D1:3044:G:C2' | 29:D1:3045:G:H5' | 2.33 | 0.58 |
| 29:D1:3080:G:C6 | 29:D1:3081:C:C4 | 2.92 | 0.58 |
| 29:D1:3165:A:O2' | 29:D1:3166:C:H5' | 2.03 | 0.58 |
| 29:D1:3232:G:O6 | 29:D1:3255:U:O4 | 2.20 | 0.58 |
| 29:D1:3356:G:H2' | 29:D1:3357:U:C4' | 2.33 | 0.58 |
| 29:D1:3391:A:C2 | 29:D1:3392:U:C5 | 2.91 | 0.58 |
| 34:DC:132:LYS:C | 34:DC:134:SER:H | 2.11 | 0.58 |
| 34:DC:164:THR:O | 34:DC:165:GLN:CB | 2.51 | 0.58 |
| 36:DE:156:GLY:CA | 36:DE:181:PRO:HA | 2.33 | 0.58 |
| 36:DE:272:TYR:N | 36:DE:273:ARG:HA | 2.00 | 0.58 |
| 41:DJ:34:TYR:O | 41:DJ:35:ASP:CB | 2.51 | 0.58 |
| 42:DK:91:LEU:O | 42:DK:92:ARG:C | 2.46 | 0.58 |
| 46:DQ:9:THR:C | 46:DQ:12:ALA:H | 2.10 | 0.58 |
| 52:DW:55:ASN:O | 52:DW:57:LEU:O | 2.21 | 0.58 |
| 58:Dc:5:LYS:C | 58:Dc:7:TYR:H | 2.09 | 0.58 |
| 1:A1:113:U:C5' | 1:A1:114:C:H5' | 2.25 | 0.58 |
| 1:A1:426:G:C6 | 1:A1:427:C:N4 | 2.71 | 0.58 |
| 1:A1:795:U:C5 | 1:A1:796:A:C5 | 2.92 | 0.58 |
| 1:A1:848:C:H2' | 1:A1:849:C:C6 | 2.37 | 0.58 |
| 1:A1:1031:U:H4' | 1:A1:1032:G:OP2 | 2.02 | 0.58 |
| 1:A1:1061:A:H2' | 1:A1:1062:A:O4' | 2.03 | 0.58 |
| 1:A1:1087:A:C3' | 1:A1:1088:A:H8 | 2.12 | 0.58 |
| 1:A1:1196:A:N7 | 1:A1:1602:C:H4' | 2.18 | 0.58 |
| 1:A1:1449:U:H2' | 1:A1:1450:U:O5' | 2.03 | 0.58 |
| 1:A1:1467:C:H2' | 1:A1:1468:U:C6 | 2.38 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1521:G:N1 | 74:A1:1943:OHX:N4 | 2.52 | 0.58 |
| 1:A1:1690:G:N2 | 1:A1:1713:G:H1 | 2.00 | 0.58 |
| 29:B1:73:C:C5 | 29:B1:74:G:C8 | 2.91 | 0.58 |
| 29:B1:163:C:H5' | 29:B1:164:A:OP2 | 2.03 | 0.58 |
| 29:B1:323:A:H5' | 29:B1:324:A:OP2 | 2.04 | 0.58 |
| 29:B1:579:G:H2' | 29:B1:580:C:C6 | 2.38 | 0.58 |
| 29:B1:883:A:C6 | 29:B1:921:A:C5 | 2.91 | 0.58 |
| 29:B1:1298:C:C4 | 29:B1:1299:U:C5 | 2.92 | 0.58 |
| 29:B1:1602:A:C5 | 29:B1:1603:A:C6 | 2.91 | 0.58 |
| 29:B1:1898:G:C8 | 29:B1:1899:G:N7 | 2.72 | 0.58 |
| 29:B1:2248:C:OP2 | 74:B1:3404:OHX:N3 | 2.36 | 0.58 |
| 29:B1:2290:C:C2 | 29:B1:2303:A:C2 | 2.90 | 0.58 |
| 29:B1:2665:U:N3 | 29:B1:2706:G:N1 | 2.51 | 0.58 |
| 29:B1:2675:C:C5 | 29:B1:2676:A:C6 | 2.88 | 0.58 |
| 29:B1:2896:A:O2' | 29:B1:2897:A:O5' | 2.21 | 0.58 |
| 29:B1:3107:U:H2' | 29:B1:3108:G:C8 | 2.37 | 0.58 |
| 29:B1:3179:U:O5' | 29:B1:3179:U:H6 | 1.87 | 0.58 |
| 29:B1:3343:G:C8 | 29:B1:3344:A:N7 | 2.71 | 0.58 |
| 30:B2:66:A:C8 | 30:B2:66:A:OP2 | 2.56 | 0.58 |
| 34:BC:261:MET:C | 34:BC:263:SER:H | 2.11 | 0.58 |
| 35:BD:168:ALA:C | 35:BD:170:LYS:H | 2.10 | 0.58 |
| 37:BF:21:THR:H | 37:BF:112:THR:HA | 1.66 | 0.58 |
| 47:BR:103:ALA:O | 47:BR:104:LEU:C | 2.46 | 0.58 |
| 48:BS:127:SER:C | 48:BS:129:GLY:H | 2.12 | 0.58 |
| 1:C1:125:U:HO2' | 1:C1:126:A:H5' | 1.65 | 0.58 |
| 1:C1:142:G:C6 | 1:C1:266:A:N7 | 2.70 | 0.58 |
| 1:C1:176:C:H3' | 1:C1:177:U:H6 | 1.69 | 0.58 |
| 1:C1:181:A:C6 | 1:C1:182:A:N1 | 2.71 | 0.58 |
| 1:C1:248:U:C4' | 1:C1:249:U:OP1 | 2.52 | 0.58 |
| 1:C1:389:G:C4 | 1:C1:390:G:N7 | 2.71 | 0.58 |
| 1:C1:635:A:C2 | 1:C1:863:A:C8 | 2.91 | 0.58 |
| 1:C1:749:U:OP1 | 16:CO:82:LYS:CB | 2.51 | 0.58 |
| 1:C1:954:G:C5 | 1:C1:955:A:N7 | 2.71 | 0.58 |
| 1:C1:986:G:N3 | 1:C1:987:G:C8 | 2.71 | 0.58 |
| 1:C1:1005:A:H2' | 1:C1:1006:C:O4' | 2.02 | 0.58 |
| 1:C1:1102:G:C2' | 1:C1:1103:U:O5' | 2.51 | 0.58 |
| 1:C1:1228:G:N7 | 1:C1:1229:G:N7 | 2.51 | 0.58 |
| 1:C1:1242:A:O4' | 10:CI:78:THR:HA | 2.03 | 0.58 |
| 1:C1:1281:G:H4' | 15:CN:75:GLY:HA2 | 1.83 | 0.58 |
| 1:C1:1407:U:C6 | 1:C1:1408:G:H8 | 2.20 | 0.58 |
| 1:C1:1501:C:H2' | 1:C1:1502:G:C5' | 2.33 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1751:C:O2 | 1:C1:1751:C:H2' | 2.02 | 0.58 |
| 29:D1:9:U:C4 | 29:D1:10:C:C5 | 2.91 | 0.58 |
| 29:D1:283:G:H2' | 29:D1:285:A:N7 | 2.19 | 0.58 |
| 29:D1:380:U:C2 | 29:D1:381:U:C5 | 2.91 | 0.58 |
| 29:D1:385:A:H2' | 29:D1:386:A:H8 | 1.65 | 0.58 |
| 29:D1:412:G:C2 | 29:D1:413:U:C2 | 2.91 | 0.58 |
| 29:D1:423:A:N1 | 29:D1:424:G:C2 | 2.71 | 0.58 |
| 29:D1:596:C:C3' | 29:D1:597:G:H5" | 2.31 | 0.58 |
| 29:D1:645:A:C8 | 29:D1:649:A:C6 | 2.92 | 0.58 |
| 29:D1:720:A:H8 | 29:D1:720:A:P | 2.26 | 0.58 |
| 29:D1:878:G:H2' | 29:D1:2980:U:O2' | 2.03 | 0.58 |
| 29:D1:915:A:H8 | 29:D1:916:G:H4' | 1.67 | 0.58 |
| 29:D1:1121:U:H2' | 29:D1:1122:U:C6 | 2.38 | 0.58 |
| 29:D1:1353:U:C5 | 29:D1:1355:A:N6 | 2.71 | 0.58 |
| 29:D1:1405:U:C5' | 57:Db:58:GLY:HA2 | 2.20 | 0.58 |
| 29:D1:1915:A:O2' | 29:D1:1916:U:H5' | 2.03 | 0.58 |
| 29:D1:1933:A:C8 | 29:D1:1934:G:C8 | 2.91 | 0.58 |
| 29:D1:2117:A:H3' | 29:D1:2118:C:C5 | 2.37 | 0.58 |
| 29:D1:2181:C:H2' | 29:D1:2182:A:O5' | 2.03 | 0.58 |
| 29:D1:2746:A:H2' | 29:D1:2747:A:O4' | 2.03 | 0.58 |
| 29:D1:2888:U:C2 | 29:D1:2911:A:C6 | 2.90 | 0.58 |
| 29:D1:2900:A:C2 | 29:D1:2901:G:C4 | 2.91 | 0.58 |
| 29:D1:3094:A:H2' | 29:D1:3095:U:H6 | 1.68 | 0.58 |
| 29:D1:3171:U:O2' | 29:D1:3172:A:OP2 | 2.22 | 0.58 |
| 29:D1:3225:C:H5 | 74:D1:3489:OHX:N6 | 2.01 | 0.58 |
| 30:D2:3:U:N3 | 30:D2:4:U:C5 | 2.72 | 0.58 |
| 30:D2:26:C:O2' | 30:D2:27:A:O5' | 2.21 | 0.58 |
| 34:DC:193:ASP:C | 34:DC:195:ALA:N | 2.57 | 0.58 |
| 36:DE:194:LEU:C | 36:DE:196:ARG:N | 2.60 | 0.58 |
| 38:DG:223:PHE:C | 38:DG:224:ILE:O | 2.43 | 0.58 |
| 39:DH:187:GLY:HA3 | 39:DH:194:THR:C | 2.28 | 0.58 |
| 42:DK:87:LYS:O | 42:DK:89:TYR:N | 2.36 | 0.58 |
| 72:DL:88:PRO:O | 72:DL:90:ARG:N | 2.36 | 0.58 |
| 73:DM:55:LYS:O | 73:DM:59:VAL:N | 2.35 | 0.58 |
| 44:DO:82:GLY:HA3 | 44:DO:87:GLN:CB | 2.33 | 0.58 |
| 45:DP:38:ALA:O | 45:DP:39:GLU:C | 2.45 | 0.58 |
| 47:DR:144:ARG:O | 47:DR:145:ASN:O | 2.20 | 0.58 |
| 49:DT:31:LEU:O | 49:DT:32:LYS:O | 2.21 | 0.58 |
| 1:A1:33:U:H6 | 1:A1:33:U:H3' | 1.68 | 0.58 |
| 1:A1:50:C:C2 | 1:A1:424:C:C5 | 2.92 | 0.58 |
| 1:A1:240:U:O2' | 1:A1:241:U:H5' | 2.04 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:542:A:HO2' | 1:A1:543:C:H3' | 1.66 | 0.58 |
| 1:A1:647:G:C2 | 1:A1:687:G:N2 | 2.71 | 0.58 |
| 1:A1:697:C:C3' | 1:A1:698:U:C5' | 2.82 | 0.58 |
| 1:A1:743:U:C5 | 1:A1:809:A:C2 | 2.91 | 0.58 |
| 1:A1:1008:G:H5' | 1:A1:1009:U:OP2 | 2.02 | 0.58 |
| 1:A1:1120:U:C2 | 1:A1:1121:C:C5 | 2.92 | 0.58 |
| 1:A1:1139:A:H2' | 1:A1:1140:G:C5' | 2.34 | 0.58 |
| 1:A1:1209:C:C2 | 1:A1:1455:G:N2 | 2.72 | 0.58 |
| 1:A1:1243:G:N2 | 1:A1:1452:U:H4' | 2.17 | 0.58 |
| 1:A1:1446:A:O2' | 1:A1:1448:G:N7 | 2.30 | 0.58 |
| 1:A1:1554:U:H5' | 1:A1:1555:A:OP2 | 2.03 | 0.58 |
| 1:A1:1744:A:H2' | 1:A1:1745:G:H5' | 1.85 | 0.58 |
| 2:AA:106:SER:C | 2:AA:108:THR:N | 2.58 | 0.58 |
| 11:AJ:46:PHE:C | 11:AJ:48:VAL:N | 2.52 | 0.58 |
| 13:AL:116:LEU:O | 13:AL:118:LYS:N | 2.36 | 0.58 |
| 23:Ab:52:UNK:HA | 23:Ab:55:UNK:CB | 2.33 | 0.58 |
| 29:B1:23:A:H3' | 29:B1:24:G:C8 | 2.35 | 0.58 |
| 29:B1:52:A:C2' | 29:B1:53:G:O5' | 2.50 | 0.58 |
| 29:B1:156:G:N7 | 29:B1:157:A:H1' | 2.18 | 0.58 |
| 29:B1:310:U:H3' | 29:B1:311:C:H5" | 1.85 | 0.58 |
| 29:B1:498:A:O2' | 29:B1:499:G:H5' | 2.03 | 0.58 |
| 29:B1:543:C:C3' | 29:B1:544:C:H5' | 2.33 | 0.58 |
| 29:B1:548:G:H8 | 29:B1:548:G:OP2 | 1.87 | 0.58 |
| 29:B1:703:G:N3 | 29:B1:703:G:C2' | 2.60 | 0.58 |
| 29:B1:812:G:H2' | 29:B1:813:G:H8 | 1.68 | 0.58 |
| 29:B1:1377:G:N3 | 29:B1:1378:U:C6 | 2.71 | 0.58 |
| 29:B1:1412:G:H2' | 29:B1:1413:G:H8 | 1.68 | 0.58 |
| 29:B1:1449:A:H2' | 29:B1:1450:G:O4' | 2.03 | 0.58 |
| 29:B1:1453:A:O4' | 29:B1:1850:A:N1 | 2.36 | 0.58 |
| 29:B1:1454:A:O5' | 29:B1:1878:G:N1 | 2.37 | 0.58 |
| 29:B1:1607:U:O2' | 29:B1:1608:C:O5' | 2.18 | 0.58 |
| 29:B1:1662:G:H2' | 29:B1:1663:C:H6 | 1.69 | 0.58 |
| 29:B1:1779:C:OP1 | 29:B1:1780:G:OP1 | 2.22 | 0.58 |
| 29:B1:1841:A:C2 | 29:B1:1848:G:C8 | 2.91 | 0.58 |
| 29:B1:1901:A:O2' | 29:B1:2918:G:O5' | 2.22 | 0.58 |
| 29:B1:2393:G:C5 | 29:B1:2982:A:C2 | 2.91 | 0.58 |
| 29:B1:2515:A:H3' | 29:B1:2516:U:C5 | 2.37 | 0.58 |
| 29:B1:2609:A:N3 | 29:B1:2610:G:C8 | 2.71 | 0.58 |
| 29:B1:3160:U:C4 | 29:B1:3161:C:N4 | 2.71 | 0.58 |
| 29:B1:3180:A:C2 | 45:BP:166:GLU:CB | 2.86 | 0.58 |
| 29:B1:3241:G:N2 | 29:B1:3246:G:C2 | 2.68 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:B2:15:C:N4 | 30:B2:16:U:C4 | 2.71 | 0.58 |
| 31:B3:53:A:H2' | 31:B3:54:A:H8 | 1.68 | 0.58 |
| 31:B3:90:U:H2' | 31:B3:91:C:C6 | 2.38 | 0.58 |
| 31:B3:118:C:H2' | 31:B3:118:C:O2 | 2.02 | 0.58 |
| 35:BD:63:GLU:O | 35:BD:75:PRO:CA | 2.46 | 0.58 |
| 35:BD:66:GLY:O | 35:BD:67:THR:C | 2.45 | 0.58 |
| 36:BE:222:LEU:O | 36:BE:224:LYS:N | 2.37 | 0.58 |
| 36:BE:241:THR:C | 36:BE:243:ALA:N | 2.62 | 0.58 |
| 37:BF:131:LYS:O | 37:BF:132:ALA:C | 2.46 | 0.58 |
| 42:BK:133:ARG:CA | 42:BK:155:THR:H | 2.15 | 0.58 |
| 43:BN:97:SER:C | 43:BN:99:TRP:N | 2.60 | 0.58 |
| 46:BQ:111:LYS:O | 46:BQ:112:LEU:C | 2.47 | 0.58 |
| 49:BT:56:PHE:C | 49:BT:58:GLN:H | 2.11 | 0.58 |
| 70:Bq:14:UNK:O | 70:Bq:16:UNK:N | 2.36 | 0.58 |
| 1:C1:38:C:C3' | 1:C1:39:A:H5" | 2.33 | 0.58 |
| 1:C1:974:A:C5' | 29:D1:848:A:O2' | 2.51 | 0.58 |
| 1:C1:1140:G:C2 | 1:C1:1141:G:N7 | 2.72 | 0.58 |
| 1:C1:1322:A:H2' | 1:C1:1323:C:H6 | 1.68 | 0.58 |
| 1:C1:1371:A:N1 | 1:C1:1372:U:C4 | 2.71 | 0.58 |
| 1:C1:1410:A:N7 | 1:C1:1411:A:C4 | 2.71 | 0.58 |
| 1:C1:1468:U:HO2' | 1:C1:1469:A:C5' | 2.15 | 0.58 |
| 1:C1:1570:A:H3' | 1:C1:1571:C:C6 | 2.38 | 0.58 |
| 29:D1:13:A:H2 | 29:D1:15:C:H3' | 1.69 | 0.58 |
| 29:D1:269:G:N1 | 29:D1:294:U:C5 | 2.71 | 0.58 |
| 29:D1:340:C:H6 | 29:D1:340:C:C5' | 2.15 | 0.58 |
| 29:D1:377:A:H1' | 29:D1:392:G:N2 | 2.19 | 0.58 |
| 29:D1:386:A:C2' | 29:D1:387:A:O5' | 2.51 | 0.58 |
| 29:D1:397:A:H4' | 29:D1:398:A:H5' | 1.84 | 0.58 |
| 29:D1:661:G:N1 | 29:D1:802:C:C5 | 2.71 | 0.58 |
| 29:D1:949:C:O2 | 29:D1:971:G:H5" | 2.02 | 0.58 |
| 29:D1:955:U:N3 | 29:D1:956:U:C4 | 2.72 | 0.58 |
| 29:D1:1546:A:N7 | 29:D1:1547:G:C5 | 2.71 | 0.58 |
| 29:D1:1551:C:H2' | 29:D1:1552:G:C8 | 2.38 | 0.58 |
| 29:D1:1627:U:C5 | 29:D1:1628:C:N3 | 2.71 | 0.58 |
| 29:D1:2144:A:N3 | 29:D1:2281:A:N6 | 2.51 | 0.58 |
| 29:D1:2149:A:C2' | 29:D1:2150:G:O5' | 2.52 | 0.58 |
| 29:D1:2217:U:O2' | 29:D1:2218:G:H5' | 2.03 | 0.58 |
| 29:D1:2342:U:O2' | 29:D1:2343:C:H5' | 2.03 | 0.58 |
| 29:D1:2355:G:OP1 | 46:DQ:141:SER:CB | 2.52 | 0.58 |
| 29:D1:2568:C:C2' | 29:D1:2569:A:H4' | 2.33 | 0.58 |
| 29:D1:2677:G:N2 | 29:D1:2679:A:N3 | 2.52 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2678:A:H3' | 29:D1:2679:A:N3 | 2.18 | 0.58 |
| 29:D1:2894:C:C2 | 29:D1:2908:G:C2 | 2.91 | 0.58 |
| 29:D1:2904:U:O2 | 29:D1:2904:U:H2' | 2.02 | 0.58 |
| 29:D1:2917:G:O2' | 29:D1:2918:G:O5' | 2.21 | 0.58 |
| 29:D1:2933:A:N7 | 29:D1:2934:A:C6 | 2.71 | 0.58 |
| 29:D1:3021:A:C4 | 29:D1:3023:U:C4 | 2.91 | 0.58 |
| 29:D1:3182:G:N2 | 29:D1:3189:G:OP1 | 2.32 | 0.58 |
| 29:D1:3262:U:O2 | 29:D1:3263:G:C8 | 2.57 | 0.58 |
| 30:D2:42:A:H2 | 30:D2:47:C:C5 | 2.21 | 0.58 |
| 30:D2:68:C:C2' | 30:D2:69:C:O4' | 2.51 | 0.58 |
| 31:D3:106:C:O4' | 31:D3:138:A:H8 | 1.86 | 0.58 |
| 34:DC:41:VAL:CB | 34:DC:186:GLY:H | 2.16 | 0.58 |
| 41:DJ:66:GLU:O | 41:DJ:67:ALA:C | 2.44 | 0.58 |
| 42:DK:65:ILE:O | 42:DK:66:ALA:CB | 2.51 | 0.58 |
| 43:DN:28:SER:O | 43:DN:29:ALA:HB2 | 2.02 | 0.58 |
| 62:Dg:42:CYS:O | 74:Dg:101:OHX:N5 | 2.36 | 0.58 |
| 63:Dh:9:UNK:O | 63:Dh:12:UNK:N | 2.36 | 0.58 |
| 1:A1:23:G:C5 | 1:A1:24:U:C5 | 2.91 | 0.58 |
| 1:A1:64:U:O2 | 1:A1:64:U:C2' | 2.51 | 0.58 |
| 1:A1:238:U:O5' | 1:A1:239:C:H3' | 2.02 | 0.58 |
| 1:A1:534:A:C3' | 1:A1:535:A:C8 | 2.86 | 0.58 |
| 1:A1:623:A:H2 | 1:A1:1105:C:O2' | 1.85 | 0.58 |
| 1:A1:722:G:H2' | 1:A1:722:G:N3 | 2.19 | 0.58 |
| 1:A1:975:C:H2' | 1:A1:976:G:H8 | 1.69 | 0.58 |
| 1:A1:1092:A:N3 | 1:A1:1094:G:N7 | 2.51 | 0.58 |
| 1:A1:1167:G:H2' | 1:A1:1167:G:N3 | 2.19 | 0.58 |
| 1:A1:1347:U:H2' | 1:A1:1349:G:C5 | 2.39 | 0.58 |
| 1:A1:1627:U:O2' | 1:A1:1628:U:O5' | 2.21 | 0.58 |
| 1:A1:1653:C:N4 | 1:A1:1654:G:C6 | 2.70 | 0.58 |
| 1:A1:1720:G:C5 | 1:A1:1721:A:C4 | 2.91 | 0.58 |
| 1:A1:1722:A:H5' | 1:A1:1723:U:C5 | 2.39 | 0.58 |
| 3:AB:147:ASN:C | 3:AB:149:GLY:H | 2.12 | 0.58 |
| 13:AL:26:ILE:O | 13:AL:27:LYS:O | 2.21 | 0.58 |
| 19:AR:25:VAL:C | 19:AR:38:ARG:HA | 2.28 | 0.58 |
| 29:B1:114:A:C2 | 29:B1:267:G:C2 | 2.92 | 0.58 |
| 29:B1:115:A:H2' | 29:B1:116:A:C2 | 2.39 | 0.58 |
| 29:B1:158:G:C8 | 29:B1:159:A:H4' | 2.38 | 0.58 |
| 29:B1:344:A:C5 | 29:B1:345:G:N7 | 2.72 | 0.58 |
| 29:B1:431:U:O2' | 29:B1:432:G:O5' | 2.21 | 0.58 |
| 29:B1:609:G:N7 | 29:B1:610:G:C6 | 2.71 | 0.58 |
| 29:B1:802:C:C2 | 29:B1:803:C:C5 | 2.91 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:802:C:H2' | 29:B1:803:C:H6 | 1.68 | 0.58 |
| 29:B1:807:A:C5' | 29:B1:808:A:OP2 | 2.45 | 0.58 |
| 29:B1:873:C:H3' | 29:B1:874:U:H4' | 1.85 | 0.58 |
| 29:B1:882:A:H2 | 29:B1:885:U:C6 | 2.22 | 0.58 |
| 29:B1:1268:G:N7 | 29:B1:1269:U:H1' | 2.17 | 0.58 |
| 29:B1:1415:U:C2' | 29:B1:1416:C:H6 | 1.86 | 0.58 |
| 29:B1:1530:U:O2 | 29:B1:1530:U:C2' | 2.52 | 0.58 |
| 29:B1:1604:G:C6 | 29:B1:1605:A:C5 | 2.91 | 0.58 |
| 29:B1:2253:G:C5 | 29:B1:2254:U:N3 | 2.72 | 0.58 |
| 29:B1:2270:A:C8 | 29:B1:2270:A:C5' | 2.76 | 0.58 |
| 29:B1:2617:U:H4' | 29:B1:2644:C:C5 | 2.39 | 0.58 |
| 30:B2:9:C:H5 | 30:B2:10:C:O2 | 1.83 | 0.58 |
| 30:B2:25:G:C4 | 30:B2:26:C:N4 | 2.71 | 0.58 |
| 33:BB:98:VAL:C | 33:BB:99:GLY:O | 2.45 | 0.58 |
| 34:BC:154:TYR:CB | 34:BC:155:ALA:HA | 2.33 | 0.58 |
| 34:BC:191:LYS:O | 34:BC:192:VAL:C | 2.46 | 0.58 |
| 38:BG:53:LYS:O | 38:BG:54:GLU:C | 2.46 | 0.58 |
| 41:BJ:56:GLU:O | 41:BJ:57:LEU:C | 2.47 | 0.58 |
| 43:BN:88:ALA:O | 43:BN:90:VAL:N | 2.37 | 0.58 |
| 49:BT:28:SER:C | 49:BT:30:TYR:N | 2.61 | 0.58 |
| 1:C1:448:C:C2 | 1:C1:449:C:C5 | 2.91 | 0.58 |
| 1:C1:450:U:H5" | 1:C1:451:A:OP2 | 2.03 | 0.58 |
| 1:C1:1147:A:C2 | 1:C1:1148:C:C2 | 2.91 | 0.58 |
| 1:C1:1203:A:C4 | 1:C1:1555:A:N1 | 2.72 | 0.58 |
| 1:C1:1650:U:H2' | 1:C1:1651:A:C8 | 2.39 | 0.58 |
| 7:CF:122:ILE:N | 7:CF:144:ALA:HB3 | 2.16 | 0.58 |
| 13:CL:76:PRO:CA | 13:CL:81:ILE:H | 2.16 | 0.58 |
| 13:CL:78:HIS:O | 13:CL:79:TYR:C | 2.47 | 0.58 |
| 14:CM:58:ALA:C | 14:CM:60:SER:H | 2.10 | 0.58 |
| 14:CM:60:SER:C | 14:CM:62:ALA:H | 2.11 | 0.58 |
| 16:CO:103:ILE:HA | 16:CO:112:ASP:HA | 1.85 | 0.58 |
| 29:D1:88:A:C5 | 29:D1:99:A:N6 | 2.71 | 0.58 |
| 29:D1:185:C:H2' | 29:D1:186:U:C6 | 2.38 | 0.58 |
| 29:D1:252:U:H3' | 29:D1:253:A:C5' | 2.33 | 0.58 |
| 29:D1:361:A:O2' | 29:D1:362:U:C4' | 2.52 | 0.58 |
| 29:D1:512:U:N1 | 29:D1:579:G:N2 | 2.52 | 0.58 |
| 29:D1:608:A:H3' | 29:D1:608:A:H8 | 1.68 | 0.58 |
| 29:D1:776:U:C3' | 29:D1:777:U:C5' | 2.81 | 0.58 |
| 29:D1:927:C:O2' | 29:D1:928:C:H5' | 2.03 | 0.58 |
| 29:D1:1149:G:H3' | 29:D1:1150:A:H5" | 1.84 | 0.58 |
| 29:D1:1156:C:H5" | 29:D1:1157:G:OP2 | 2.03 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1196:C:H5 | 29:D1:1197:A:C5 | 2.20 | 0.58 |
| 29:D1:1357:G:H2' | 29:D1:1357:G:N3 | 2.18 | 0.58 |
| 29:D1:1376:C:C4 | 29:D1:1377:G:N7 | 2.72 | 0.58 |
| 29:D1:1597:C:H5' | 29:D1:1696:A:H1' | 1.84 | 0.58 |
| 29:D1:2119:A:N7 | 29:D1:2120:A:C2 | 2.71 | 0.58 |
| 29:D1:2370:G:H2' | 29:D1:2371:G:H8 | 1.68 | 0.58 |
| 29:D1:2916:U:C5 | 29:D1:2935:U:C2 | 2.91 | 0.58 |
| 29:D1:2933:A:N6 | 29:D1:2934:A:N1 | 2.51 | 0.58 |
| 29:D1:3045:G:H2' | 29:D1:3046:A:O4' | 2.03 | 0.58 |
| 29:D1:3186:A:H4' | 29:D1:3187:A:O5' | 2.02 | 0.58 |
| 29:D1:3268:A:O3' | 29:D1:3269:U:H4' | 2.04 | 0.58 |
| 29:D1:3292:A:O2' | 29:D1:3293:U:O3' | 2.16 | 0.58 |
| 29:D1:3309:G:C5 | 29:D1:3310:A:H1' | 2.39 | 0.58 |
| 30:D2:43:U:H2' | 30:D2:44:C:H5' | 1.84 | 0.58 |
| 30:D2:46:A:C8 | 30:D2:47:C:C5 | 2.91 | 0.58 |
| 33:DB:223:SER:O | 33:DB:236:GLY:O | 2.22 | 0.58 |
| 35:DD:159:ILE:C | 35:DD:161:LYS:H | 2.11 | 0.58 |
| 38:DG:102:VAL:O | 38:DG:103:LEU:C | 2.45 | 0.58 |
| 39:DH:86:THR:O | 39:DH:87:ALA:C | 2.46 | 0.58 |
| 39:DH:178:ALA:O | 39:DH:180:VAL:N | 2.36 | 0.58 |
| 41:DJ:77:THR:O | 41:DJ:79:VAL:N | 2.36 | 0.58 |
| 72:DL:24:ALA:HB3 | 72:DL:27:ALA:HB3 | 1.85 | 0.58 |
| 73:DM:56:ASN:HA | 73:DM:59:VAL:CB | 2.33 | 0.58 |
| 46:DQ:28:ASN:O | 46:DQ:30:ARG:N | 2.35 | 0.58 |
| 50:DU:81:GLN:O | 50:DU:82:ALA:HB2 | 2.03 | 0.58 |
| 56:Da:36:ILE:O | 56:Da:37:LYS:C | 2.45 | 0.58 |
| 1:A1:269:G:H2' | 1:A1:270:C:C6 | 2.38 | 0.58 |
| 1:A1:425:A:H8 | 1:A1:425:A:H5' | 1.68 | 0.58 |
| 1:A1:480:G:C4 | 1:A1:481:A:C8 | 2.91 | 0.58 |
| 1:A1:699:U:H5' | 1:A1:700:C:P | 2.43 | 0.58 |
| 1:A1:828:U:O2' | 1:A1:829:A:H5' | 2.03 | 0.58 |
| 1:A1:1000:C:H2' | 1:A1:1002:G:N7 | 2.18 | 0.58 |
| 1:A1:1082:C:C5 | 1:A1:1083:G:N7 | 2.71 | 0.58 |
| 1:A1:1139:A:H2' | 1:A1:1140:G:O4' | 2.03 | 0.58 |
| 1:A1:1199:G:C5 | 1:A1:1200:G:C1' | 2.87 | 0.58 |
| 1:A1:1228:G:N7 | 1:A1:1229:G:N7 | 2.51 | 0.58 |
| 1:A1:1345:A:N7 | 1:A1:1347:U:N3 | 2.51 | 0.58 |
| 1:A1:1410:A:N6 | 1:A1:1411:A:C2 | 2.72 | 0.58 |
| 1:A1:1540:G:C5 | 1:A1:1541:G:C5 | 2.92 | 0.58 |
| 14:AM:67:MET:O | 14:AM:69:LYS:C | 2.47 | 0.58 |
| 17:AP:43:PHE:C | 17:AP:45:GLY:H | 2.10 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:280:U:C6 | 29:B1:282:G:OP2 | 2.56 | 0.58 |
| 29:B1:341:G:O2' | 31:B3:22:U:O4 | 2.21 | 0.58 |
| 29:B1:383:G:O2' | 29:B1:385:A:C8 | 2.52 | 0.58 |
| 29:B1:422:A:H3' | 29:B1:2364:G:H5" | 1.86 | 0.58 |
| 29:B1:722:G:O2' | 29:B1:723:U:P | 2.62 | 0.58 |
| 29:B1:747:A:C6 | 29:B1:748:U:H5 | 2.22 | 0.58 |
| 29:B1:783:A:N6 | 74:B1:3483:OHX:N5 | 2.51 | 0.58 |
| 29:B1:792:G:H2' | 29:B1:793:C:C6 | 2.38 | 0.58 |
| 29:B1:826:G:H21 | 29:B1:1589:A:N6 | 1.92 | 0.58 |
| 29:B1:858:A:H3' | 29:B1:859:G:H8 | 1.67 | 0.58 |
| 29:B1:933:A:H3' | 29:B1:934:G:H5' | 1.84 | 0.58 |
| 29:B1:1063:G:C5' | 29:B1:1098:A:P | 2.89 | 0.58 |
| 29:B1:1104:G:H2' | 29:B1:1105:A:O4' | 2.03 | 0.58 |
| 29:B1:1106:G:C5 | 29:B1:1107:C:C5 | 2.91 | 0.58 |
| 29:B1:1131:G:N3 | 29:B1:2373:A:C2 | 2.71 | 0.58 |
| 29:B1:1194:G:C4' | 29:B1:1320:C:OP1 | 2.52 | 0.58 |
| 29:B1:1224:C:O2' | 29:B1:1225:A:O5' | 2.21 | 0.58 |
| 29:B1:1367:G:O2' | 29:B1:1368:U:P | 2.62 | 0.58 |
| 29:B1:1382:G:H2' | 29:B1:1383:G:O4' | 2.03 | 0.58 |
| 29:B1:1584:U:O2' | 29:B1:1585:C:H5' | 2.03 | 0.58 |
| 29:B1:1729:A:H61 | 62:Bg:42:CYS:CB | 2.16 | 0.58 |
| 29:B1:1753:G:N3 | 29:B1:1754:G:C8 | 2.71 | 0.58 |
| 29:B1:2136:C:H2' | 29:B1:2136:C:O2 | 2.03 | 0.58 |
| 29:B1:2611:U:C2' | 29:B1:2612:U:C6 | 2.74 | 0.58 |
| 29:B1:2664:C:H2' | 29:B1:2664:C:O2 | 2.03 | 0.58 |
| 29:B1:3003:G:C2 | 29:B1:3004:C:C5 | 2.90 | 0.58 |
| 29:B1:3044:G:O2' | 29:B1:3045:G:H5' | 2.03 | 0.58 |
| 29:B1:3050:U:H5" | 29:B1:3051:U:OP2 | 2.04 | 0.58 |
| 29:B1:3055:U:O3' | 29:B1:3056:U:C5 | 2.56 | 0.58 |
| 29:B1:3153:U:O5' | 29:B1:3153:U:H6 | 1.86 | 0.58 |
| 29:B1:3190:C:O2 | 29:B1:3190:C:C2' | 2.51 | 0.58 |
| 29:B1:3202:G:H3' | 29:B1:3202:G:P | 2.43 | 0.58 |
| 29:B1:3277:U:C6 | 29:B1:3277:U:H3' | 2.39 | 0.58 |
| 29:B1:3387:U:H2' | 29:B1:3388:C:H5 | 1.62 | 0.58 |
| 30:B2:48:U:C5 | 30:B2:49:G:O6 | 2.57 | 0.58 |
| 30:B2:64:A:C1' | 30:B2:65:G:H5" | 2.32 | 0.58 |
| 31:B3:42:G:C2 | 31:B3:43:A:C8 | 2.91 | 0.58 |
| 31:B3:74:U:H4' | 31:B3:89:A:N3 | 2.18 | 0.58 |
| 34:BC:196:ARG:O | 34:BC:197:GLU:O | 2.21 | 0.58 |
| 35:BD:237:GLN:O | 35:BD:239:ALA:N | 2.35 | 0.58 |
| 39:BH:158:ASP:HA | 39:BH:159:PRO:C | 2.28 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 41:BJ:42:THR:C | 41:BJ:44:ASP:H | 2.12 | 0.58 |
| 44:BO:30:TYR:O | 44:BO:31:ARG:C | 2.44 | 0.58 |
| 44:BO:146:ALA:C | 44:BO:148:TYR:H | 2.10 | 0.58 |
| 1:C1:196:G:H1' | 1:C1:197:A:H5' | 1.86 | 0.58 |
| 1:C1:354:C:OP2 | 74:C1:1908:OHX:N5 | 2.37 | 0.58 |
| 1:C1:426:G:H21 | 1:C1:459:G:H2' | 1.68 | 0.58 |
| 1:C1:449:C:H2' | 1:C1:450:U:C6 | 2.38 | 0.58 |
| 1:C1:649:U:O4 | 1:C1:685:A:N1 | 2.37 | 0.58 |
| 1:C1:773:C:H4' | 1:C1:774:A:OP1 | 2.03 | 0.58 |
| 1:C1:990:C:H4' | 9:CH:127:ARG:O | 2.04 | 0.58 |
| 1:C1:1082:C:C5 | 1:C1:1083:G:N7 | 2.72 | 0.58 |
| 1:C1:1123:C:C2' | 1:C1:1124:A:O5' | 2.51 | 0.58 |
| 1:C1:1227:A:H4' | 1:C1:1230:A:N6 | 2.17 | 0.58 |
| 1:C1:1554:U:H5' | 1:C1:1555:A:OP2 | 2.02 | 0.58 |
| 1:C1:1584:G:C5 | 11:CJ:123:ARG:O | 2.56 | 0.58 |
| 15:CN:24:ILE:HA | 15:CN:115:GLU:O | 2.03 | 0.58 |
| 16:CO:125:ILE:O | 16:CO:127:GLY:N | 2.37 | 0.58 |
| 18:CQ:66:VAL:C | 18:CQ:68:ARG:H | 2.11 | 0.58 |
| 29:D1:154:U:P | 29:D1:156:G:O6 | 2.60 | 0.58 |
| 29:D1:244:G:C5 | 29:D1:245:U:O2 | 2.56 | 0.58 |
| 29:D1:400:G:H5" | 29:D1:403:C:H1' | 1.85 | 0.58 |
| 29:D1:528:U:O4 | 29:D1:564:G:O6 | 2.20 | 0.58 |
| 29:D1:557:A:C8 | 29:D1:557:A:C3' | 2.86 | 0.58 |
| 29:D1:733:G:N2 | 29:D1:736:A:N1 | 2.52 | 0.58 |
| 29:D1:773:G:O2' | 29:D1:774:G:O4' | 2.21 | 0.58 |
| 29:D1:773:G:H21 | 29:D1:774:G:H1' | 1.68 | 0.58 |
| 29:D1:1472:U:O2' | 29:D1:1473:G:H5' | 2.03 | 0.58 |
| 29:D1:1731:A:C6 | 29:D1:1732:U:C2 | 2.91 | 0.58 |
| 29:D1:2143:A:O2' | 29:D1:2144:A:H5' | 2.03 | 0.58 |
| 29:D1:2174:G:C8 | 29:D1:2174:G:OP1 | 2.53 | 0.58 |
| 29:D1:2300:G:C6 | 29:D1:2301:U:C4 | 2.92 | 0.58 |
| 29:D1:2407:C:C2 | 29:D1:2815:G:N2 | 2.72 | 0.58 |
| 29:D1:2640:A:C5 | 29:D1:2641:U:C4 | 2.91 | 0.58 |
| 29:D1:2749:G:N7 | 29:D1:2750:U:C5 | 2.72 | 0.58 |
| 29:D1:2912:G:C6 | 29:D1:2913:C:O2 | 2.57 | 0.58 |
| 29:D1:3065:G:O2' | 29:D1:3066:U:O5' | 2.22 | 0.58 |
| 29:D1:3191:G:C2 | 29:D1:3202:G:N3 | 2.71 | 0.58 |
| 29:D1:3218:A:HO2' | 29:D1:3219:G:P | 2.25 | 0.58 |
| 29:D1:3378:C:O2 | 29:D1:3378:C:C2' | 2.48 | 0.58 |
| 29:D1:3392:U:N3 | 29:D1:3393:U:N3 | 2.51 | 0.58 |
| 31:D3:113:U:HO2' | 31:D3:114:G:P | 2.26 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 44:DO:99:ARG:O | 44:DO:102:ALA:HB3 | 2.03 | 0.58 |
| 46:DQ:85:ALA:O | 46:DQ:86:LYS:C | 2.47 | 0.58 |
| 52:DW:94:GLN:O | 52:DW:95:ILE:C | 2.46 | 0.58 |
| 57:Db:61:LYS:C | 57:Db:63:THR:H | 2.09 | 0.58 |
| 1:A1:214:G:C2' | 1:A1:215:A:H5' | 2.33 | 0.58 |
| 1:A1:217:A:H1' | 1:A1:218:A:C5' | 2.33 | 0.58 |
| 1:A1:228:G:HO2' | 1:A1:229:U:H6 | 1.50 | 0.58 |
| 1:A1:365:G:OP2 | 1:A1:365:G:H8 | 1.85 | 0.58 |
| 1:A1:374:U:C4 | 1:A1:375:U:C4 | 2.91 | 0.58 |
| 1:A1:463:U:H2' | 1:A1:464:A:C8 | 2.39 | 0.58 |
| 1:A1:482:U:H2' | 1:A1:483:A:C8 | 2.39 | 0.58 |
| 1:A1:487:G:C2 | 1:A1:488:G:N7 | 2.71 | 0.58 |
| 1:A1:635:A:C4 | 1:A1:863:A:C8 | 2.92 | 0.58 |
| 1:A1:693:U:H3' | 1:A1:694:U:H5' | 1.86 | 0.58 |
| 1:A1:776:G:C6 | 1:A1:785:U:N3 | 2.72 | 0.58 |
| 1:A1:955:A:C2 | 1:A1:956:C:C2 | 2.91 | 0.58 |
| 1:A1:1275:A:OP1 | 1:A1:1275:A:H8 | 1.85 | 0.58 |
| 1:A1:1352:G:N3 | 1:A1:1352:G:H2' | 2.18 | 0.58 |
| 1:A1:1395:G:C2' | 1:A1:1396:U:H5' | 2.34 | 0.58 |
| 1:A1:1397:U:H5" | 1:A1:1398:U:OP2 | 2.03 | 0.58 |
| 1:A1:1526:A:H8 | 1:A1:1526:A:O5' | 1.87 | 0.58 |
| 1:A1:1541:G:C5 | 1:A1:1542:G:C6 | 2.92 | 0.58 |
| 1:A1:1598:U:C5 | 1:A1:1599:C:C5 | 2.92 | 0.58 |
| 1:A1:1762:A:OP1 | 1:A1:1763:A:OP2 | 2.22 | 0.58 |
| 2:AA:8:ASP:C | 2:AA:10:THR:N | 2.58 | 0.58 |
| 8:AG:138:ASN:O | 8:AG:140:LYS:N | 2.36 | 0.58 |
| 13:AL:75:ASN:O | 13:AL:78:HIS:O | 2.22 | 0.58 |
| 29:B1:40:A:H3' | 29:B1:41:G:H5' | 1.86 | 0.58 |
| 29:B1:153:U:C3' | 29:B1:158:G:H21 | 2.17 | 0.58 |
| 29:B1:156:G:H1' | 29:B1:157:A:C4' | 2.33 | 0.58 |
| 29:B1:225:C:H2' | 29:B1:226:C:H6 | 1.68 | 0.58 |
| 29:B1:424:G:C2' | 29:B1:425:G:OP1 | 2.52 | 0.58 |
| 29:B1:677:A:N6 | 29:B1:786:A:O2' | 2.36 | 0.58 |
| 29:B1:760:G:H2' | 29:B1:761:A:C8 | 2.38 | 0.58 |
| 29:B1:762:U:O4 | 74:B1:3479:OHX:N6 | 2.35 | 0.58 |
| 29:B1:776:U:C6 | 29:B1:777:U:C1' | 2.86 | 0.58 |
| 29:B1:776:U:C3' | 29:B1:777:U:C5' | 2.80 | 0.58 |
| 29:B1:934:G:C5 | 29:B1:935:U:C4 | 2.92 | 0.58 |
| 29:B1:934:G:N3 | 29:B1:935:U:C6 | 2.72 | 0.58 |
| 29:B1:974:G:C6 | 29:B1:975:C:C4 | 2.92 | 0.58 |
| 29:B1:1079:A:H8 | 29:B1:1079:A:OP1 | 1.87 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1153:A:C8 | 29:B1:1154:A:C5 | 2.91 | 0.58 |
| 29:B1:1659:U:C2 | 29:B1:1660:C:C5 | 2.91 | 0.58 |
| 29:B1:2092:A:H5" | 29:B1:2093:A:OP2 | 2.04 | 0.58 |
| 29:B1:2149:A:C8 | 29:B1:2149:A:H3' | 2.39 | 0.58 |
| 29:B1:2343:C:H2' | 29:B1:2344:U:C6 | 2.39 | 0.58 |
| 29:B1:2352:A:H2' | 29:B1:2353:G:C8 | 2.38 | 0.58 |
| 29:B1:2386:A:C8 | 29:B1:2387:A:C8 | 2.92 | 0.58 |
| 29:B1:2698:G:C3' | 29:B1:2699:G:H5" | 2.33 | 0.58 |
| 29:B1:3020:U:H2' | 29:B1:3021:A:C8 | 2.39 | 0.58 |
| 29:B1:3065:G:H2' | 29:B1:3066:U:C6 | 2.37 | 0.58 |
| 29:B1:3102:G:H8 | 29:B1:3102:G:C5' | 2.14 | 0.58 |
| 30:B2:10:C:O2' | 30:B2:13:A:C8 | 2.56 | 0.58 |
| 30:B2:85:G:O6 | 30:B2:95:A:N1 | 2.37 | 0.58 |
| 34:BC:164:THR:O | 34:BC:165:GLN:CB | 2.52 | 0.58 |
| 36:BE:156:GLY:CA | 36:BE:181:PRO:HA | 2.34 | 0.58 |
| 43:BN:28:SER:O | 43:BN:29:ALA:HB2 | 2.02 | 0.58 |
| 57:Bb:108:ILE:O | 57:Bb:109:LEU:O | 2.22 | 0.58 |
| 58:Bc:5:LYS:C | 58:Bc:7:TYR:N | 2.61 | 0.58 |
| 61:Bf:47:GLN:N | 61:Bf:48:SER:CA | 2.66 | 0.58 |
| 1:C1:50:C:N3 | 1:C1:424:C:C5 | 2.72 | 0.58 |
| 1:C1:80:A:H2' | 1:C1:80:A:N3 | 2.18 | 0.58 |
| 1:C1:89:G:O6 | 74:C1:1995:OHX:N6 | 2.37 | 0.58 |
| 1:C1:173:A:N6 | 1:C1:174:U:C5 | 2.71 | 0.58 |
| 1:C1:176:C:H3' | 1:C1:177:U:C6 | 2.39 | 0.58 |
| 1:C1:335:U:H3' | 1:C1:336:G:N7 | 2.15 | 0.58 |
| 1:C1:362:G:C6 | 1:C1:363:G:C5 | 2.91 | 0.58 |
| 1:C1:623:A:N1 | 1:C1:1105:C:H4' | 2.18 | 0.58 |
| 1:C1:739:G:OP2 | 1:C1:739:G:C8 | 2.56 | 0.58 |
| 1:C1:776:G:N1 | 1:C1:785:U:C2 | 2.71 | 0.58 |
| 1:C1:1046:G:C5 | 1:C1:1073:G:N2 | 2.72 | 0.58 |
| 1:C1:1391:A:C4 | 1:C1:1392:U:C5 | 2.92 | 0.58 |
| 1:C1:1418:G:C2' | 1:C1:1419:G:H5' | 2.33 | 0.58 |
| 1:C1:1689:A:OP1 | 1:C1:1689:A:H4' | 2.01 | 0.58 |
| 2:CA:109:ASN:O | 2:CA:111:ILE:O | 2.21 | 0.58 |
| 4:CC:15:GLY:HA2 | 20:CS:49:ASP:O | 2.04 | 0.58 |
| 7:CF:132:SER:O | 7:CF:133:LYS:C | 2.46 | 0.58 |
| 20:CS:41:GLN:N | 74:CS:101:OHX:N1 | 2.51 | 0.58 |
| 29:D1:199:A:C2 | 29:D1:201:A:C8 | 2.92 | 0.58 |
| 29:D1:311:C:C4 | 29:D1:312:C:C5 | 2.90 | 0.58 |
| 29:D1:341:G:O2' | 31:D3:22:U:O4 | 2.21 | 0.58 |
| 29:D1:572:A:C6 | 29:D1:573:C:C4 | 2.92 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:934:G:N3 | 29:D1:935:U:C6 | 2.72 | 0.58 |
| 29:D1:963:G:C8 | 29:D1:963:G:C3' | 2.87 | 0.58 |
| 29:D1:999:G:C6 | 29:D1:1000:C:N4 | 2.72 | 0.58 |
| 29:D1:1052:U:C5 | 29:D1:1053:A:C8 | 2.92 | 0.58 |
| 29:D1:1271:A:N6 | 29:D1:1272:C:N4 | 2.52 | 0.58 |
| 29:D1:1332:A:O5' | 29:D1:1332:A:H8 | 1.87 | 0.58 |
| 29:D1:1630:U:H3' | 29:D1:1813:A:N1 | 2.19 | 0.58 |
| 29:D1:1656:A:C4 | 29:D1:1657:C:N4 | 2.71 | 0.58 |
| 29:D1:1660:C:O2' | 29:D1:1661:G:C8 | 2.56 | 0.58 |
| 29:D1:2095:G:H2' | 29:D1:2096:A:H5' | 1.84 | 0.58 |
| 29:D1:2143:A:N7 | 29:D1:2145:A:C5 | 2.72 | 0.58 |
| 29:D1:2581:U:OP2 | 29:D1:2581:U:H6 | 1.86 | 0.58 |
| 29:D1:2719:U:H4' | 29:D1:2719:U:OP1 | 2.02 | 0.58 |
| 29:D1:2777:G:N3 | 29:D1:2777:G:C2' | 2.63 | 0.58 |
| 29:D1:2808:A:H4' | 29:D1:2809:C:C5' | 2.33 | 0.58 |
| 29:D1:3027:A:C5 | 29:D1:3028:G:C5 | 2.92 | 0.58 |
| 29:D1:3062:G:C6 | 29:D1:3063:C:C4 | 2.91 | 0.58 |
| 29:D1:3143:C:OP2 | 29:D1:3144:G:H5" | 2.04 | 0.58 |
| 29:D1:3180:A:H8 | 45:DP:114:LYS:HA | 1.69 | 0.58 |
| 30:D2:9:C:O2' | 30:D2:13:A:N6 | 2.37 | 0.58 |
| 30:D2:105:C:H2' | 30:D2:106:U:C5' | 2.34 | 0.58 |
| 31:D3:109:A:H2' | 31:D3:110:C:H5' | 1.84 | 0.58 |
| 31:D3:121:U:H3 | 31:D3:132:G:H1 | 1.49 | 0.58 |
| 33:DB:198:LYS:O | 33:DB:200:ARG:N | 2.36 | 0.58 |
| 36:DE:170:GLY:O | 36:DE:171:LEU:O | 2.20 | 0.58 |
| 42:DK:74:PRO:C | 42:DK:76:ALA:H | 2.11 | 0.58 |
| 73:DM:59:VAL:O | 73:DM:62:ALA:HB3 | 2.03 | 0.58 |
| 45:DP:142:SER:O | 45:DP:146:GLY:N | 2.37 | 0.58 |
| 1:A1:64:U:H5' | 1:A1:65:A:P | 2.44 | 0.58 |
| 1:A1:272:U:C4' | 1:A1:273:G:OP2 | 2.51 | 0.58 |
| 1:A1:327:U:H5" | 1:A1:328:A:OP2 | 2.04 | 0.58 |
| 1:A1:426:G:C2 | 1:A1:427:C:C5 | 2.92 | 0.58 |
| 1:A1:533:U:C3' | 1:A1:534:A:H8 | 2.14 | 0.58 |
| 1:A1:544:A:O2' | 1:A1:545:A:O5' | 2.18 | 0.58 |
| 1:A1:643:G:N1 | 1:A1:692:C:C4 | 2.72 | 0.58 |
| 1:A1:829:A:HO2' | 1:A1:830:U:P | 2.23 | 0.58 |
| 1:A1:854:U:O2' | 1:A1:855:A:H5' | 2.04 | 0.58 |
| 1:A1:1032:G:N3 | 1:A1:1033:C:C6 | 2.72 | 0.58 |
| 1:A1:1330:G:C2' | 1:A1:1331:A:H8 | 2.17 | 0.58 |
| 1:A1:1685:G:N3 | 1:A1:1719:A:C2 | 2.72 | 0.58 |
| 1:A1:1723:U:C2 | 1:A1:1724:U:C6 | 2.91 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1756:A:N7 | 74:A1:1901:OHX:N2 | 2.52 | 0.58 |
| 4:AC:133:GLY:HA3 | 4:AC:155:GLY:HA3 | 1.84 | 0.58 |
| 5:AD:92:ARG:O | 5:AD:94:THR:N | 2.37 | 0.58 |
| 6:AE:143:ILE:C | 6:AE:145:SER:H | 2.11 | 0.58 |
| 9:AH:42:VAL:O | 9:AH:43:THR:O | 2.21 | 0.58 |
| 29:B1:21:G:O2' | 31:B3:37:A:N6 | 2.35 | 0.58 |
| 29:B1:47:C:C4 | 29:B1:48:A:C5 | 2.91 | 0.58 |
| 29:B1:230:U:H2' | 29:B1:231:G:O4' | 2.03 | 0.58 |
| 29:B1:337:G:N2 | 31:B3:27:U:O2 | 2.37 | 0.58 |
| 29:B1:355:A:N1 | 29:B1:365:A:C4 | 2.71 | 0.58 |
| 29:B1:404:G:C2 | 29:B1:405:U:C1' | 2.83 | 0.58 |
| 29:B1:513:G:H1' | 37:BF:148:GLU:CB | 2.33 | 0.58 |
| 29:B1:516:A:C3' | 29:B1:517:G:H8 | 2.11 | 0.58 |
| 29:B1:523:A:C5 | 29:B1:524:U:C5 | 2.92 | 0.58 |
| 29:B1:707:U:OP1 | 29:B1:782:U:O2' | 2.17 | 0.58 |
| 29:B1:749:C:C2 | 29:B1:750:G:C8 | 2.91 | 0.58 |
| 29:B1:817:A:C6 | 59:Bd:14:LYS:HA | 2.38 | 0.58 |
| 29:B1:830:A:C5 | 29:B1:865:U:O2 | 2.57 | 0.58 |
| 29:B1:864:G:O6 | 29:B1:893:C:H3' | 2.03 | 0.58 |
| 29:B1:931:C:C2 | 29:B1:932:U:C5 | 2.92 | 0.58 |
| 29:B1:933:A:H3' | 29:B1:934:G:C5' | 2.33 | 0.58 |
| 29:B1:1063:G:O2' | 29:B1:1064:A:P | 2.61 | 0.58 |
| 29:B1:1196:C:H5' | 29:B1:1197:A:OP2 | 2.04 | 0.58 |
| 29:B1:1294:A:O2' | 29:B1:1295:G:O5' | 2.21 | 0.58 |
| 29:B1:1394:A:H3' | 29:B1:1394:A:H8 | 1.69 | 0.58 |
| 29:B1:1908:A:C5 | 29:B1:1909:A:C5 | 2.92 | 0.58 |
| 29:B1:1948:G:C2 | 29:B1:1949:G:N7 | 2.72 | 0.58 |
| 29:B1:2096:A:H2' | 29:B1:2097:U:O4' | 2.03 | 0.58 |
| 29:B1:2258:U:H3' | 29:B1:2259:A:H8 | 1.66 | 0.58 |
| 29:B1:2304:C:C4 | 29:B1:2305:G:N2 | 2.72 | 0.58 |
| 29:B1:2651:G:C5 | 29:B1:2796:G:N2 | 2.72 | 0.58 |
| 29:B1:2849:C:H2' | 29:B1:2849:C:O2 | 2.03 | 0.58 |
| 29:B1:3034:C:H2' | 29:B1:3035:A:H5' | 1.85 | 0.58 |
| 29:B1:3041:U:O2' | 29:B1:3042:U:C5' | 2.51 | 0.58 |
| 29:B1:3126:C:H2' | 29:B1:3127:A:O4' | 2.04 | 0.58 |
| 29:B1:3142:A:C2 | 74:B1:3428:OHX:N5 | 2.72 | 0.58 |
| 29:B1:3218:A:O3' | 29:B1:3220:G:C8 | 2.57 | 0.58 |
| 29:B1:3318:G:N3 | 29:B1:3318:G:C2' | 2.65 | 0.58 |
| 30:B2:112:G:OP2 | 30:B2:113:C:OP1 | 2.22 | 0.58 |
| 31:B3:54:A:H2' | 31:B3:55:U:C5' | 2.34 | 0.58 |
| 34:BC:298:PHE:HA | 34:BC:299:ASP:CB | 2.34 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BG:83:LEU:CA | 38:BG:84:VAL:CB | 2.82 | 0.58 |
| 41:BJ:68:ALA:O | 41:BJ:72:ALA:HB2 | 2.04 | 0.58 |
| 41:BJ:170:LYS:H | 41:BJ:177:ASP:C | 2.11 | 0.58 |
| 44:BO:78:GLY:CA | 44:BO:79:ALA:CB | 2.79 | 0.58 |
| 44:BO:96:ARG:O | 44:BO:97:SER:CB | 2.52 | 0.58 |
| 45:BP:57:PHE:H | 45:BP:60:LYS:CB | 2.16 | 0.58 |
| 47:BR:110:ALA:O | 47:BR:113:LYS:N | 2.36 | 0.58 |
| 60:Be:30:ARG:O | 60:Be:32:ASN:N | 2.37 | 0.58 |
| 1:C1:46:A:N6 | 1:C1:433:C:H4' | 2.18 | 0.58 |
| 1:C1:89:G:N2 | 1:C1:90:C:C2 | 2.72 | 0.58 |
| 1:C1:241:U:HO2' | 1:C1:242:U:H3 | 1.50 | 0.58 |
| 1:C1:252:U:O2' | 1:C1:253:A:P | 2.61 | 0.58 |
| 1:C1:288:A:C4 | 1:C1:289:U:H5 | 2.21 | 0.58 |
| 1:C1:363:G:C2 | 1:C1:382:C:N3 | 2.72 | 0.58 |
| 1:C1:417:A:C4' | 1:C1:418:G:O5' | 2.51 | 0.58 |
| 1:C1:480:G:H1 | 1:C1:508:U:H3 | 1.50 | 0.58 |
| 1:C1:515:A:H2' | 1:C1:515:A:N3 | 2.16 | 0.58 |
| 1:C1:568:G:O2' | 1:C1:569:C:H5' | 2.04 | 0.58 |
| 1:C1:777:C:H5' | 1:C1:778:G:OP2 | 2.04 | 0.58 |
| 1:C1:830:U:O2' | 1:C1:831:U:H6 | 1.86 | 0.58 |
| 1:C1:920:U:OP2 | 1:C1:920:U:C6 | 2.56 | 0.58 |
| 1:C1:932:U:O4' | 1:C1:933:A:C2 | 2.56 | 0.58 |
| 1:C1:940:A:C2 | 1:C1:941:A:C8 | 2.92 | 0.58 |
| 1:C1:1149:G:N3 | 1:C1:1150:G:N7 | 2.51 | 0.58 |
| 1:C1:1346:A:H3' | 1:C1:1347:U:C6 | 2.38 | 0.58 |
| 1:C1:1614:A:H2 | 1:C1:1616:G:OP2 | 1.85 | 0.58 |
| 1:C1:1778:G:C6 | 1:C1:1779:U:C4 | 2.91 | 0.58 |
| 3:CB:239:PRO:O | 3:CB:241:ASP:N | 2.35 | 0.58 |
| 4:CC:140:GLY:CA | 4:CC:182:LEU:HA | 2.34 | 0.58 |
| 13:CL:33:THR:HA | 13:CL:38:VAL:O | 2.04 | 0.58 |
| 23:Cb:133:UNK:O | 23:Cb:134:UNK:CB | 2.52 | 0.58 |
| 29:D1:149:U:O2' | 29:D1:150:A:OP1 | 2.22 | 0.58 |
| 29:D1:359:U:C2' | 29:D1:360:G:H5' | 2.33 | 0.58 |
| 29:D1:359:U:C2 | 29:D1:920:A:C6 | 2.92 | 0.58 |
| 29:D1:539:C:H2' | 29:D1:539:C:O2 | 2.03 | 0.58 |
| 29:D1:591:G:C2 | 29:D1:592:A:C1' | 2.86 | 0.58 |
| 29:D1:729:C:H2' | 29:D1:730:C:O4' | 2.02 | 0.58 |
| 29:D1:760:G:C2' | 29:D1:761:A:H8 | 2.16 | 0.58 |
| 29:D1:858:A:H3' | 29:D1:859:G:H8 | 1.69 | 0.58 |
| 29:D1:1051:U:O2 | 29:D1:1051:U:H2' | 2.03 | 0.58 |
| 29:D1:1153:A:N7 | 29:D1:1154:A:C4 | 2.71 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1174:G:C5 | 29:D1:1318:A:C4 | 2.91 | 0.58 |
| 29:D1:1715:A:C8 | 29:D1:1716:U:O4' | 2.57 | 0.58 |
| 29:D1:1745:C:H2' | 29:D1:1746:U:H6 | 1.69 | 0.58 |
| 29:D1:1878:G:H3' | 29:D1:1878:G:H8 | 1.68 | 0.58 |
| 29:D1:2096:A:H2' | 29:D1:2097:U:O4' | 2.04 | 0.58 |
| 29:D1:2273:G:H1' | 29:D1:2274:U:H5 | 1.68 | 0.58 |
| 29:D1:2382:G:H2' | 29:D1:2383:C:O4' | 2.03 | 0.58 |
| 29:D1:2556:C:O2 | 29:D1:2556:C:C2' | 2.52 | 0.58 |
| 29:D1:2765:C:O3' | 61:Df:39:GLY:HA3 | 2.04 | 0.58 |
| 29:D1:3035:A:C6 | 29:D1:3036:G:N7 | 2.72 | 0.58 |
| 29:D1:3063:C:C2 | 29:D1:3064:U:C5 | 2.92 | 0.58 |
| 29:D1:3328:G:N2 | 29:D1:3329:U:C2 | 2.71 | 0.58 |
| 30:D2:35:C:H5' | 30:D2:35:C:H6 | 1.66 | 0.58 |
| 33:DB:82:VAL:O | 33:DB:83:HIS:C | 2.46 | 0.58 |
| 35:DD:191:LYS:O | 35:DD:192:GLY:C | 2.47 | 0.58 |
| 38:DG:160:ARG:O | 38:DG:162:PRO:N | 2.37 | 0.58 |
| 40:DI:69:ARG:O | 40:DI:71:VAL:N | 2.36 | 0.58 |
| 42:DK:90:GLN:CB | 42:DK:169:ALA:HB3 | 2.33 | 0.58 |
| 73:DM:17:GLU:C | 73:DM:19:LEU:N | 2.56 | 0.58 |
| 46:DQ:52:LEU:H | 46:DQ:54:HIS:N | 2.02 | 0.58 |
| 53:DX:75:ARG:C | 53:DX:77:LYS:H | 2.11 | 0.58 |
| 56:Da:32:ALA:O | 56:Da:33:VAL:C | 2.46 | 0.58 |
| 1:A1:45:U:H5' | 1:A1:45:U:C6 | 2.39 | 0.58 |
| 1:A1:62:A:H3' | 1:A1:62:A:P | 2.43 | 0.58 |
| 1:A1:82:U:H5' | 1:A1:83:G:OP2 | 2.04 | 0.58 |
| 1:A1:324:U:H5' | 1:A1:324:U:H6 | 1.69 | 0.58 |
| 1:A1:361:C:C2 | 1:A1:384:G:N2 | 2.71 | 0.58 |
| 1:A1:529:A:C8 | 1:A1:529:A:OP2 | 2.57 | 0.58 |
| 1:A1:776:G:N1 | 1:A1:785:U:N3 | 2.52 | 0.58 |
| 1:A1:984:G:H1 | 1:A1:1017:U:H3 | 1.51 | 0.58 |
| 1:A1:1137:A:N3 | 1:A1:1138:A:C8 | 2.72 | 0.58 |
| 1:A1:1255:G:O3' | 1:A1:1257:U:OP1 | 2.21 | 0.58 |
| 1:A1:1291:G:N2 | 1:A1:1324:G:H22 | 2.02 | 0.58 |
| 1:A1:1305:U:OP2 | 1:A1:1306:C:N4 | 2.36 | 0.58 |
| 1:A1:1778:G:N1 | 1:A1:1779:U:C5 | 2.71 | 0.58 |
| 2:AA:84:ARG:C | 2:AA:86:VAL:H | 2.12 | 0.58 |
| 5:AD:146:THR:HA | 5:AD:158:GLN:O | 2.04 | 0.58 |
| 6:AE:135:ALA:CB | 6:AE:140:ILE:HA | 2.33 | 0.58 |
| 13:AL:124:GLY:C | 13:AL:126:ARG:H | 2.10 | 0.58 |
| 14:AM:62:ALA:C | 14:AM:64:HIS:N | 2.55 | 0.58 |
| 20:AS:38:ILE:N | 74:AS:101:OHX:N6 | 2.48 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:141:C:H2' | 29:B1:142:C:H6 | 1.68 | 0.58 |
| 29:B1:495:G:O2' | 29:B1:496:C:H5' | 2.03 | 0.58 |
| 29:B1:651:G:C6 | 29:B1:652:G:C6 | 2.92 | 0.58 |
| 29:B1:733:G:H3' | 29:B1:733:G:N3 | 2.19 | 0.58 |
| 29:B1:882:A:C2 | 29:B1:885:U:N1 | 2.71 | 0.58 |
| 29:B1:1347:U:H3' | 29:B1:1348:U:C5 | 2.39 | 0.58 |
| 29:B1:2150:G:C2' | 29:B1:2151:C:C5' | 2.80 | 0.58 |
| 29:B1:2204:C:H2' | 29:B1:2205:U:H5" | 1.86 | 0.58 |
| 29:B1:2222:A:H61 | 29:B1:2783:U:H5' | 1.69 | 0.58 |
| 29:B1:2764:C:OP2 | 29:B1:2764:C:C6 | 2.56 | 0.58 |
| 29:B1:2876:C:O2' | 29:B1:2877:G:H5' | 2.04 | 0.58 |
| 29:B1:3217:C:C1' | 29:B1:3220:G:O2' | 2.51 | 0.58 |
| 29:B1:3279:A:C8 | 29:B1:3280:U:C5 | 2.92 | 0.58 |
| 29:B1:3305:A:C5 | 29:B1:3306:U:N3 | 2.71 | 0.58 |
| 29:B1:3323:A:C5' | 56:Ba:13:THR:O | 2.51 | 0.58 |
| 29:B1:3333:G:N1 | 29:B1:3370:A:C4' | 2.67 | 0.58 |
| 30:B2:2:G:H2' | 30:B2:2:G:N3 | 2.19 | 0.58 |
| 31:B3:79:A:H2' | 31:B3:80:A:C8 | 2.38 | 0.58 |
| 36:BE:194:LEU:C | 36:BE:196:ARG:N | 2.61 | 0.58 |
| 37:BF:40:LEU:HA | 37:BF:85:ILE:HA | 1.84 | 0.58 |
| 38:BG:222:HIS:CB | 38:BG:228:SER:H | 2.16 | 0.58 |
| 39:BH:248:LYS:O | 39:BH:250:ALA:N | 2.36 | 0.58 |
| 42:BK:91:LEU:O | 42:BK:92:ARG:C | 2.46 | 0.58 |
| 57:Bb:61:LYS:C | 57:Bb:63:THR:H | 2.12 | 0.58 |
| 1:C1:246:G:C5 | 1:C1:247:A:C2 | 2.92 | 0.58 |
| 1:C1:545:A:H61 | 1:C1:593:U:C2' | 2.17 | 0.58 |
| 1:C1:638:U:H3' | 1:C1:639:U:C5' | 2.29 | 0.58 |
| 1:C1:825:U:C5 | 1:C1:847:A:N6 | 2.72 | 0.58 |
| 1:C1:829:A:O2' | 1:C1:830:U:P | 2.62 | 0.58 |
| 1:C1:1044:U:O2 | 1:C1:1044:U:C2' | 2.52 | 0.58 |
| 1:C1:1162:C:O2' | 1:C1:1163:A:H5' | 2.02 | 0.58 |
| 1:C1:1209:C:H2' | 1:C1:1210:C:C6 | 2.38 | 0.58 |
| 1:C1:1249:U:H2' | 1:C1:1250:U:H5' | 1.85 | 0.58 |
| 1:C1:1294:G:H4' | 2:CA:109:ASN:CB | 2.34 | 0.58 |
| 1:C1:1375:A:C2' | 1:C1:1376:C:C6 | 2.84 | 0.58 |
| 1:C1:1419:G:H2' | 1:C1:1420:C:O4' | 2.03 | 0.58 |
| 10:CI:20:VAL:O | 10:CI:24:LYS:C | 2.46 | 0.58 |
| 13:CL:98:TYR:O | 13:CL:99:HIS:CB | 2.52 | 0.58 |
| 23:Cb:82:UNK:CB | 23:Cb:86:UNK:CB | 2.82 | 0.58 |
| 29:D1:10:C:C5 | 31:D3:149:A:C2 | 2.92 | 0.58 |
| 29:D1:65:A:C8 | 29:D1:110:G:O6 | 2.57 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:149:U:C2 | 44:DO:55:ALA:HA | 2.39 | 0.58 |
| 29:D1:157:A:H2' | 29:D1:158:G:N7 | 2.18 | 0.58 |
| 29:D1:163:C:H5' | 29:D1:164:A:OP2 | 2.04 | 0.58 |
| 29:D1:317:A:C2 | 29:D1:318:A:C5 | 2.92 | 0.58 |
| 29:D1:331:G:O2' | 29:D1:332:C:H5" | 2.03 | 0.58 |
| 29:D1:370:U:C5 | 29:D1:371:G:C4 | 2.92 | 0.58 |
| 29:D1:595:G:O6 | 29:D1:609:G:N3 | 2.36 | 0.58 |
| 29:D1:694:C:O2 | 29:D1:694:C:C2' | 2.51 | 0.58 |
| 29:D1:719:U:O4' | 29:D1:719:U:O2 | 2.22 | 0.58 |
| 29:D1:769:G:C4 | 29:D1:770:G:C8 | 2.91 | 0.58 |
| 29:D1:797:U:O2' | 29:D1:798:G:H5' | 2.02 | 0.58 |
| 29:D1:1099:A:N6 | 29:D1:1100:U:C4 | 2.72 | 0.58 |
| 29:D1:1394:A:H3' | 29:D1:1394:A:H8 | 1.69 | 0.58 |
| 29:D1:2102:U:H2' | 29:D1:2103:U:H6 | 1.66 | 0.58 |
| 29:D1:2199:G:C6 | 29:D1:2200:U:C4 | 2.91 | 0.58 |
| 29:D1:2435:G:O2' | 29:D1:2436:U:P | 2.62 | 0.58 |
| 29:D1:2503:G:C5 | 29:D1:2504:U:C4 | 2.90 | 0.58 |
| 29:D1:2704:A:C4 | 29:D1:2706:G:N7 | 2.72 | 0.58 |
| 29:D1:2732:G:C6 | 29:D1:2733:A:C5 | 2.92 | 0.58 |
| 29:D1:2762:A:C4 | 29:D1:2763:U:C6 | 2.92 | 0.58 |
| 29:D1:2949:U:C5 | 29:D1:2950:G:O6 | 2.57 | 0.58 |
| 29:D1:3318:G:N3 | 29:D1:3318:G:C2' | 2.65 | 0.58 |
| 30:D2:64:A:C6 | 30:D2:111:U:C4 | 2.91 | 0.58 |
| 31:D3:65:A:N6 | 31:D3:66:A:C6 | 2.72 | 0.58 |
| 31:D3:69:U:H2' | 31:D3:70:G:C2' | 2.33 | 0.58 |
| 31:D3:69:U:H3' | 31:D3:70:G:H4' | 1.80 | 0.58 |
| 31:D3:80:A:H2' | 31:D3:81:U:N1 | 2.19 | 0.58 |
| 38:DG:85:PHE:O | 38:DG:86:VAL:C | 2.46 | 0.58 |
| 41:DJ:37:GLY:HA3 | 41:DJ:86:HIS:N | 2.18 | 0.58 |
| 72:DL:76:SER:O | 72:DL:77:ALA:O | 2.22 | 0.58 |
| 44:DO:36:ILE:HA | 44:DO:64:VAL:HA | 1.86 | 0.58 |
| 1:A1:83:G:O2' | 1:A1:84:A:H5' | 2.04 | 0.58 |
| 1:A1:112:A:N6 | 1:A1:303:U:O2 | 2.36 | 0.58 |
| 1:A1:269:G:C4 | 1:A1:270:C:C5 | 2.91 | 0.58 |
| 1:A1:690:G:H2' | 1:A1:691:C:C5' | 2.33 | 0.58 |
| 1:A1:1026:A:C2 | 1:A1:1792:G:C4 | 2.92 | 0.58 |
| 1:A1:1112:G:OP2 | 1:A1:1113:A:H2' | 2.04 | 0.58 |
| 1:A1:1115:U:H2' | 1:A1:1115:U:O2 | 2.03 | 0.58 |
| 1:A1:1199:G:N1 | 1:A1:1201:G:OP1 | 2.37 | 0.58 |
| 1:A1:1263:G:C4 | 1:A1:1264:G:C8 | 2.91 | 0.58 |
| 1:A1:1604:U:H5" | 1:A1:1605:G:OP2 | 2.04 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1642:G:H2' | 1:A1:1781:A:O2' | 2.04 | 0.58 |
| 1:A1:1780:G:C6 | 1:A1:1781:A:C6 | 2.92 | 0.58 |
| 1:A1:1791:A:H5' | 1:A1:1791:A:C8 | 2.38 | 0.58 |
| 29:B1:66:A:C2 | 29:B1:77:A:O3' | 2.57 | 0.58 |
| 29:B1:72:C:C5 | 29:B1:73:C:C2 | 2.92 | 0.58 |
| 29:B1:80:G:C2 | 29:B1:81:C:C6 | 2.92 | 0.58 |
| 29:B1:312:C:O2' | 29:B1:313:A:H5' | 2.03 | 0.58 |
| 29:B1:593:C:O2 | 29:B1:594:U:H4' | 2.02 | 0.58 |
| 29:B1:625:G:C8 | 29:B1:625:G:H5' | 2.36 | 0.58 |
| 29:B1:659:G:N1 | 29:B1:1432:C:C2 | 2.70 | 0.58 |
| 29:B1:1063:G:C4 | 29:B1:1064:A:H4' | 2.39 | 0.58 |
| 29:B1:1528:G:C6 | 29:B1:1833:G:O6 | 2.57 | 0.58 |
| 29:B1:1753:G:C2 | 29:B1:1754:G:C8 | 2.92 | 0.58 |
| 29:B1:2226:U:O2' | 29:B1:2227:C:H6 | 1.86 | 0.58 |
| 29:B1:2269:U:O2 | 29:B1:2269:U:C2' | 2.51 | 0.58 |
| 29:B1:2677:G:H3' | 29:B1:2677:G:N3 | 2.19 | 0.58 |
| 29:B1:2728:G:N2 | 29:B1:2729:U:C5 | 2.72 | 0.58 |
| 29:B1:2856:G:H2' | 29:B1:2857:C:C6 | 2.39 | 0.58 |
| 29:B1:3149:G:C5 | 29:B1:3150:A:C8 | 2.92 | 0.58 |
| 29:B1:3149:G:N3 | 29:B1:3150:A:C1' | 2.66 | 0.58 |
| 29:B1:3308:C:N4 | 29:B1:3309:G:C5 | 2.72 | 0.58 |
| 30:B2:57:G:C8 | 30:B2:58:C:C5 | 2.91 | 0.58 |
| 30:B2:59:U:C2 | 30:B2:60:G:C8 | 2.92 | 0.58 |
| 33:BB:236:GLY:O | 33:BB:237:LEU:C | 2.47 | 0.58 |
| 38:BG:159:GLN:O | 38:BG:160:ARG:O | 2.22 | 0.58 |
| 41:BJ:7:ARG:C | 41:BJ:9:TYR:N | 2.61 | 0.58 |
| 41:BJ:53:VAL:H | 41:BJ:164:LYS:CB | 2.17 | 0.58 |
| 45:BP:94:ARG:O | 45:BP:95:GLY:C | 2.46 | 0.58 |
| 46:BQ:33:ALA:C | 46:BQ:35:ALA:N | 2.62 | 0.58 |
| 50:BU:94:TYR:O | 50:BU:95:PHE:CB | 2.52 | 0.58 |
| 53:BX:34:PRO:HA | 53:BX:47:ALA:HB2 | 1.85 | 0.58 |
| 57:Bb:22:SER:C | 57:Bb:24:ARG:N | 2.61 | 0.58 |
| 1:C1:53:G:C5 | 1:C1:54:C:C5 | 2.92 | 0.58 |
| 1:C1:243:G:H5" | 1:C1:243:G:C8 | 2.38 | 0.58 |
| 1:C1:310:C:C6 | 1:C1:310:C:H3' | 2.39 | 0.58 |
| 1:C1:478:A:C2 | 1:C1:479:C:C4 | 2.92 | 0.58 |
| 1:C1:524:U:C2' | 1:C1:527:A:C2 | 2.83 | 0.58 |
| 1:C1:744:U:C4 | 1:C1:745:U:C5 | 2.92 | 0.58 |
| 1:C1:830:U:C2 | 1:C1:831:U:C5 | 2.92 | 0.58 |
| 1:C1:972:G:N2 | 29:D1:846:A:N6 | 2.48 | 0.58 |
| 1:C1:1146:G:C6 | 1:C1:1147:A:C5 | 2.91 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1348:A:H3' | 1:C1:1349:G:C5' | 2.33 | 0.58 |
| 1:C1:1522:U:C2' | 1:C1:1523:G:O5' | 2.52 | 0.58 |
| 3:CB:165:VAL:HA | 3:CB:202:GLY:HA3 | 1.86 | 0.58 |
| 29:D1:46:U:O5' | 29:D1:46:U:H6 | 1.87 | 0.58 |
| 29:D1:60:A:N7 | 29:D1:327:A:C2 | 2.71 | 0.58 |
| 29:D1:83:U:H2' | 29:D1:84:U:H5' | 1.85 | 0.58 |
| 29:D1:88:A:C2 | 29:D1:89:A:H1' | 2.38 | 0.58 |
| 29:D1:282:G:C2 | 29:D1:286:U:H4' | 2.38 | 0.58 |
| 29:D1:428:A:H2' | 29:D1:429:U:O5' | 2.04 | 0.58 |
| 29:D1:547:G:C3' | 29:D1:548:G:H5' | 2.34 | 0.58 |
| 29:D1:550:A:C2 | 29:D1:551:A:C4 | 2.92 | 0.58 |
| 29:D1:598:A:C2 | 29:D1:599:C:C2 | 2.92 | 0.58 |
| 29:D1:733:G:H21 | 29:D1:734:C:H2' | 1.69 | 0.58 |
| 29:D1:747:A:H8 | 29:D1:747:A:O5' | 1.86 | 0.58 |
| 29:D1:908:G:C8 | 29:D1:925:A:C2 | 2.92 | 0.58 |
| 29:D1:1021:G:H2' | 29:D1:1022:U:C6 | 2.39 | 0.58 |
| 29:D1:1196:C:C2 | 30:D2:86:U:C6 | 2.92 | 0.58 |
| 29:D1:1220:U:OP1 | 29:D1:1222:G:O2' | 2.20 | 0.58 |
| 29:D1:1252:A:H2' | 29:D1:1253:U:C5' | 2.33 | 0.58 |
| 29:D1:1390:A:N7 | 29:D1:1418:A:C5 | 2.72 | 0.58 |
| 29:D1:1445:U:C6 | 29:D1:1446:A:N7 | 2.72 | 0.58 |
| 29:D1:1655:G:H5" | 29:D1:1656:A:H2' | 1.86 | 0.58 |
| 29:D1:2376:G:O2' | 29:D1:2377:G:C5' | 2.52 | 0.58 |
| 29:D1:2482:U:H2' | 29:D1:2483:G:O4' | 2.04 | 0.58 |
| 29:D1:2582:C:H6 | 29:D1:2582:C:OP2 | 1.87 | 0.58 |
| 29:D1:2723:U:H2' | 29:D1:2724:U:C6 | 2.38 | 0.58 |
| 29:D1:2792:A:O2' | 29:D1:2793:G:H5' | 2.03 | 0.58 |
| 29:D1:2880:U:H2' | 29:D1:2881:C:C6 | 2.38 | 0.58 |
| 29:D1:3211:C:C2' | 29:D1:3211:C:O2 | 2.46 | 0.58 |
| 29:D1:3217:C:H4' | 29:D1:3218:A:OP2 | 2.03 | 0.58 |
| 29:D1:3221:C:C2 | 29:D1:3222:U:C6 | 2.92 | 0.58 |
| 29:D1:3274:A:C8 | 29:D1:3275:U:C2' | 2.81 | 0.58 |
| 29:D1:3392:U:C2 | 29:D1:3393:U:C5 | 2.92 | 0.58 |
| 30:D2:74:C:C6 | 30:D2:75:G:C8 | 2.92 | 0.58 |
| 31:D3:2:A:N6 | 31:D3:3:A:C2 | 2.71 | 0.58 |
| 31:D3:80:A:H2' | 31:D3:81:U:C6 | 2.39 | 0.58 |
| 34:DC:165:GLN:O | 34:DC:166:ILE:C | 2.46 | 0.58 |
| 35:DD:193:LYS:C | 35:DD:195:ARG:H | 2.12 | 0.58 |
| 36:DE:30:TYR:C | 36:DE:32:GLN:N | 2.61 | 0.58 |
| 36:DE:49:TYR:CA | 36:DE:50:ARG:CB | 2.81 | 0.58 |
| 36:DE:113:LEU:N | 36:DE:114:GLY:HA3 | 2.17 | 0.58 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 36:DE:188:GLU:CB | 36:DE:189:GLU:HA | 2.34 | 0.58 |
| 40:DI:137:SER:O | 40:DI:138:THR:CB | 2.52 | 0.58 |
| 73:DM:37:GLN:HA | 73:DM:40:GLU:CB | 2.33 | 0.58 |
| 45:DP:47:PHE:O | 45:DP:48:PHE:C | 2.47 | 0.58 |
| 45:DP:63:ALA:HB2 | 45:DP:69:GLY:HA3 | 1.85 | 0.58 |
| 56:Da:19:ARG:O | 56:Da:21:HIS:N | 2.37 | 0.58 |
| 56:Da:60:TRP:O | 56:Da:62:ARG:N | 2.37 | 0.58 |
| 1:A1:243:G:H5" | 1:A1:243:G:C8 | 2.39 | 0.57 |
| 1:A1:294:C:H2' | 1:A1:294:C:O2 | 2.04 | 0.57 |
| 1:A1:365:G:C2' | 1:A1:366:A:O5' | 2.51 | 0.57 |
| 1:A1:417:A:O5' | 1:A1:417:A:C8 | 2.55 | 0.57 |
| 1:A1:624:G:H8 | 1:A1:624:G:OP1 | 1.87 | 0.57 |
| 1:A1:629:U:O2 | 1:A1:971:A:C2 | 2.57 | 0.57 |
| 1:A1:640:U:H3' | 1:A1:641:G:C8 | 2.39 | 0.57 |
| 1:A1:690:G:C2' | 1:A1:691:C:H5' | 2.33 | 0.57 |
| 1:A1:971:A:C8 | 1:A1:972:G:N7 | 2.72 | 0.57 |
| 1:A1:1028:C:O2' | 1:A1:1029:U:OP2 | 2.19 | 0.57 |
| 1:A1:1138:A:H2' | 1:A1:1139:A:C8 | 2.39 | 0.57 |
| 1:A1:1150:G:O2' | 1:A1:1766:A:N1 | 2.37 | 0.57 |
| 1:A1:1170:G:N2 | 1:A1:1571:C:H4' | 2.19 | 0.57 |
| 1:A1:1177:C:H2' | 1:A1:1178:G:O4' | 2.04 | 0.57 |
| 1:A1:1235:C:H2' | 1:A1:1236:A:C8 | 2.37 | 0.57 |
| 1:A1:1367:G:H2' | 1:A1:1367:G:N3 | 2.18 | 0.57 |
| 1:A1:1413:U:H4' | 1:A1:1414:U:H5" | 1.86 | 0.57 |
| 1:A1:1472:C:H5' | 1:A1:1474:G:H1' | 1.86 | 0.57 |
| 1:A1:1632:C:O2' | 1:A1:1633:A:O4' | 2.21 | 0.57 |
| 1:A1:1636:C:C4' | 1:A1:1637:C:OP2 | 2.51 | 0.57 |
| 1:A1:1645:G:C2' | 1:A1:1646:C:O5' | 2.51 | 0.57 |
| 1:A1:1734:U:H2' | 1:A1:1735:U:H6 | 1.69 | 0.57 |
| 2:AA:130:ALA:O | 2:AA:132:ALA:N | 2.37 | 0.57 |
| 3:AB:237:VAL:O | 3:AB:238:SER:C | 2.46 | 0.57 |
| 5:AD:93:LEU:C | 5:AD:95:ASN:H | 2.12 | 0.57 |
| 22:Aa:13:UNK:O | 22:Aa:14:UNK:C | 2.51 | 0.57 |
| 29:B1:22:G:C5 | 29:B1:23:A:N7 | 2.72 | 0.57 |
| 29:B1:570:A:C6 | 29:B1:571:U:C4 | 2.92 | 0.57 |
| 29:B1:624:G:H2' | 29:B1:625:G:C5' | 2.34 | 0.57 |
| 29:B1:624:G:N2 | 29:B1:625:G:C8 | 2.72 | 0.57 |
| 29:B1:659:G:C6 | 29:B1:1432:C:C2 | 2.91 | 0.57 |
| 29:B1:789:A:C6 | 29:B1:790:U:O4 | 2.57 | 0.57 |
| 29:B1:869:G:H3' | 29:B1:870:G:C8 | 2.39 | 0.57 |
| 29:B1:947:G:C4 | 29:B1:1373:A:C2 | 2.92 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1001:G:C8 | 29:B1:1041:U:H5' | 2.39 | 0.57 |
| 29:B1:1276:U:O4 | 74:B1:3563:OHX:N1 | 2.36 | 0.57 |
| 29:B1:1455:U:H3' | 29:B1:1456:A:C8 | 2.36 | 0.57 |
| 29:B1:1468:A:O2' | 29:B1:1469:C:O5' | 2.21 | 0.57 |
| 29:B1:1601:U:H5 | 29:B1:1604:G:O6 | 1.87 | 0.57 |
| 29:B1:1607:U:C1' | 29:B1:1608:C:OP1 | 2.47 | 0.57 |
| 29:B1:1786:G:H2' | 29:B1:1787:A:H8 | 1.67 | 0.57 |
| 29:B1:1907:C:H2' | 29:B1:1908:A:C5' | 2.34 | 0.57 |
| 29:B1:1940:G:H2' | 29:B1:1941:C:C1' | 2.33 | 0.57 |
| 29:B1:2196:C:O2' | 29:B1:2271:A:O4' | 2.22 | 0.57 |
| 29:B1:2202:C:H5" | 29:B1:2203:U:OP2 | 2.04 | 0.57 |
| 29:B1:2299:A:C5 | 29:B1:2300:G:N7 | 2.72 | 0.57 |
| 29:B1:2308:C:C6 | 29:B1:2309:A:C8 | 2.92 | 0.57 |
| 29:B1:2704:A:C2 | 29:B1:2706:G:C8 | 2.92 | 0.57 |
| 29:B1:2808:A:H4' | 29:B1:2809:C:C5' | 2.34 | 0.57 |
| 29:B1:3165:A:C2 | 29:B1:3286:G:C4 | 2.91 | 0.57 |
| 29:B1:3376:A:OP2 | 29:B1:3376:A:H4' | 2.03 | 0.57 |
| 30:B2:27:A:C2 | 30:B2:54:U:H5 | 2.22 | 0.57 |
| 31:B3:37:A:N6 | 31:B3:104:A:C4 | 2.72 | 0.57 |
| 31:B3:127:U:O2 | 31:B3:127:U:H2' | 2.02 | 0.57 |
| 33:BB:216:HIS:O | 33:BB:217:GLN:CB | 2.52 | 0.57 |
| 34:BC:43:LEU:O | 34:BC:44:THR:CB | 2.52 | 0.57 |
| 43:BN:89:ALA:O | 43:BN:92:GLU:N | 2.38 | 0.57 |
| 43:BN:95:ALA:O | 43:BN:97:SER:N | 2.37 | 0.57 |
| 47:BR:145:ASN:CB | 47:BR:147:ARG:H | 2.16 | 0.57 |
| 54:BY:72:VAL:H | 54:BY:114:GLY:HA3 | 1.69 | 0.57 |
| 54:BY:97:GLU:O | 54:BY:98:THR:CB | 2.52 | 0.57 |
| 54:BY:139:ARG:HA | 54:BY:143:GLY:H | 1.67 | 0.57 |
| 57:Bb:66:LEU:CB | 57:Bb:72:LYS:H | 2.17 | 0.57 |
| 26:Bj:12:UNK:C | 26:Bj:14:UNK:N | 2.62 | 0.57 |
| 1:C1:13:C:H5" | 3:CB:162:CYS:HA | 1.85 | 0.57 |
| 1:C1:41:A:H2' | 1:C1:438:A:H62 | 1.68 | 0.57 |
| 1:C1:204:G:N3 | 1:C1:204:G:H2' | 2.18 | 0.57 |
| 1:C1:262:U:C4 | 1:C1:263:C:C4 | 2.91 | 0.57 |
| 1:C1:379:U:C2 | 1:C1:380:U:H5 | 2.22 | 0.57 |
| 1:C1:434:G:N2 | 1:C1:437:A:H2 | 2.02 | 0.57 |
| 1:C1:761:G:O5' | 1:C1:761:G:H8 | 1.87 | 0.57 |
| 1:C1:802:G:C5 | 1:C1:803:A:N1 | 2.72 | 0.57 |
| 1:C1:1364:G:H2' | 1:C1:1365:C:C5' | 2.34 | 0.57 |
| 1:C1:1394:G:OP1 | 21:CT:282:SER:N | 2.20 | 0.57 |
| 1:C1:1432:U:OP2 | 1:C1:1432:U:H4' | 2.04 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1497:U:C5 | 1:C1:1498:G:N7 | 2.72 | 0.57 |
| 1:C1:1608:U:H2' | 1:C1:1609:U:C6 | 2.39 | 0.57 |
| 1:C1:1685:G:N3 | 1:C1:1719:A:C2 | 2.72 | 0.57 |
| 10:CI:67:ALA:HA | 10:CI:68:PRO:O | 2.03 | 0.57 |
| 29:D1:28:C:O2 | 29:D1:28:C:H2' | 2.04 | 0.57 |
| 29:D1:286:U:C2 | 29:D1:287:G:N7 | 2.72 | 0.57 |
| 29:D1:306:A:H2' | 29:D1:306:A:N3 | 2.19 | 0.57 |
| 29:D1:352:A:C1' | 29:D1:354:U:C6 | 2.87 | 0.57 |
| 29:D1:397:A:C4 | 29:D1:399:A:N7 | 2.72 | 0.57 |
| 29:D1:509:U:H2' | 29:D1:510:G:C5' | 2.33 | 0.57 |
| 29:D1:510:G:H2' | 29:D1:511:G:O5' | 2.03 | 0.57 |
| 29:D1:1057:A:C6 | 29:D1:1058:U:C5 | 2.92 | 0.57 |
| 29:D1:1150:A:C8 | 29:D1:1310:G:H5" | 2.39 | 0.57 |
| 29:D1:1248:C:C5 | 29:D1:1249:G:H8 | 2.22 | 0.57 |
| 29:D1:1691:U:O2' | 29:D1:1692:U:O5' | 2.15 | 0.57 |
| 29:D1:2211:U:H2' | 29:D1:2212:C:O4' | 2.05 | 0.57 |
| 29:D1:2665:U:C2 | 29:D1:2706:G:C2 | 2.91 | 0.57 |
| 29:D1:2839:G:C6 | 29:D1:2850:G:C2 | 2.91 | 0.57 |
| 29:D1:2847:A:C5' | 29:D1:2848:G:OP2 | 2.47 | 0.57 |
| 29:D1:3058:U:O2' | 29:D1:3059:G:P | 2.60 | 0.57 |
| 29:D1:3141:A:H5' | 29:D1:3143:C:C2' | 2.34 | 0.57 |
| 29:D1:3210:A:C8 | 29:D1:3211:C:C5 | 2.92 | 0.57 |
| 29:D1:3216:G:O2' | 29:D1:3217:C:OP2 | 2.18 | 0.57 |
| 29:D1:3301:U:P | 29:D1:3301:U:O4' | 2.62 | 0.57 |
| 30:D2:75:G:H21 | 30:D2:105:C:N4 | 2.02 | 0.57 |
| 30:D2:82:G:C4 | 30:D2:99:G:C2 | 2.92 | 0.57 |
| 31:D3:103:G:H5" | 31:D3:104:A:OP2 | 2.03 | 0.57 |
| 34:DC:294:GLY:CA | 34:DC:295:ALA:C | 2.75 | 0.57 |
| 37:DF:121:LEU:O | 37:DF:123:PRO:N | 2.37 | 0.57 |
| 41:DJ:184:LYS:O | 41:DJ:186:GLU:N | 2.37 | 0.57 |
| 43:DN:49:PRO:N | 43:DN:50:LYS:CA | 2.64 | 0.57 |
| 43:DN:95:ALA:C | 43:DN:97:SER:H | 2.12 | 0.57 |
| 45:DP:77:SER:C | 45:DP:79:ILE:N | 2.61 | 0.57 |
| 55:DZ:85:PHE:O | 55:DZ:87:VAL:N | 2.37 | 0.57 |
| 1:A1:108:A:H3' | 1:A1:109:G:H8 | 1.67 | 0.57 |
| 1:A1:184:C:C5 | 1:A1:202:A:C2 | 2.92 | 0.57 |
| 1:A1:337:G:H4' | 1:A1:338:C:H5" | 1.84 | 0.57 |
| 1:A1:877:G:H5' | 1:A1:936:G:N2 | 2.19 | 0.57 |
| 1:A1:943:C:H5" | 1:A1:944:A:OP2 | 2.03 | 0.57 |
| 1:A1:1105:C:H2' | 1:A1:1106:U:C6 | 2.40 | 0.57 |
| 1:A1:1199:G:N2 | 1:A1:1201:G:OP2 | 2.36 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1376:C:O5' | 1:A1:1376:C:H6 | 1.86 | 0.57 |
| 1:A1:1636:C:N4 | 1:A1:1638:G:C2 | 2.72 | 0.57 |
| 1:A1:1667:A:H2' | 1:A1:1668:G:H8 | 1.63 | 0.57 |
| 1:A1:1767:G:O2' | 1:A1:1768:G:OP2 | 2.20 | 0.57 |
| 1:A1:1780:G:H2' | 1:A1:1781:A:C8 | 2.40 | 0.57 |
| 5:AD:58:LEU:O | 5:AD:61:TYR:N | 2.36 | 0.57 |
| 9:AH:57:PRO:O | 9:AH:60:ALA:N | 2.37 | 0.57 |
| 14:AM:57:ARG:O | 14:AM:58:ALA:CB | 2.51 | 0.57 |
| 29:B1:279:U:HO2' | 29:B1:280:U:H5' | 1.69 | 0.57 |
| 29:B1:509:U:H2' | 29:B1:510:G:C5' | 2.33 | 0.57 |
| 29:B1:533:A:H2' | 29:B1:534:U:C5 | 2.38 | 0.57 |
| 29:B1:563:U:O4 | 29:B1:564:G:C8 | 2.57 | 0.57 |
| 29:B1:566:G:C2' | 29:B1:567:G:H5' | 2.33 | 0.57 |
| 29:B1:611:A:OP1 | 29:B1:611:A:C4' | 2.47 | 0.57 |
| 29:B1:702:C:H2' | 29:B1:703:G:O4' | 2.04 | 0.57 |
| 29:B1:718:G:H4' | 29:B1:719:U:H5" | 1.85 | 0.57 |
| 29:B1:725:G:N1 | 29:B1:744:A:N6 | 2.52 | 0.57 |
| 29:B1:743:C:C6 | 29:B1:743:C:C3' | 2.87 | 0.57 |
| 29:B1:747:A:C2' | 29:B1:748:U:OP1 | 2.52 | 0.57 |
| 29:B1:944:C:H2' | 29:B1:945:C:H6 | 1.69 | 0.57 |
| 29:B1:1158:A:C3' | 29:B1:1159:A:H5" | 2.34 | 0.57 |
| 29:B1:1209:G:C8 | 29:B1:1210:U:C5 | 2.92 | 0.57 |
| 29:B1:1393:A:H2 | 29:B1:1394:A:N9 | 2.03 | 0.57 |
| 29:B1:1454:A:H5" | 29:B1:1878:G:N1 | 2.18 | 0.57 |
| 29:B1:1492:G:H3' | 29:B1:1493:G:H21 | 1.68 | 0.57 |
| 29:B1:1514:G:O6 | 29:B1:1841:A:C8 | 2.57 | 0.57 |
| 29:B1:1656:A:C4 | 29:B1:1657:C:N4 | 2.71 | 0.57 |
| 29:B1:1740:U:C3' | 29:B1:1741:A:H5' | 2.33 | 0.57 |
| 29:B1:1879:A:H3' | 29:B1:1879:A:P | 2.44 | 0.57 |
| 29:B1:1884:A:C6 | 29:B1:1885:U:N3 | 2.62 | 0.57 |
| 29:B1:2122:G:O2' | 29:B1:2123:G:H5' | 2.04 | 0.57 |
| 29:B1:2285:C:C5 | 29:B1:2286:U:C4 | 2.91 | 0.57 |
| 29:B1:2288:G:N3 | 29:B1:2289:U:C5 | 2.72 | 0.57 |
| 29:B1:2374:C:N4 | 29:B1:2941:A:C4 | 2.71 | 0.57 |
| 29:B1:2687:G:OP2 | 74:B1:3429:OHX:N4 | 2.38 | 0.57 |
| 29:B1:2762:A:C4 | 29:B1:2763:U:C6 | 2.91 | 0.57 |
| 29:B1:2816:G:H4' | 29:B1:2817:A:H5" | 1.85 | 0.57 |
| 29:B1:2836:C:O2 | 29:B1:2837:A:C8 | 2.57 | 0.57 |
| 29:B1:2933:A:OP1 | 29:B1:3015:G:H4' | 2.03 | 0.57 |
| 29:B1:3006:A:H8 | 29:B1:3007:U:C6 | 2.22 | 0.57 |
| 29:B1:3204:C:H5' | 43:BN:88:ALA:CB | 2.33 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3228:C:N1 | 29:B1:3229:G:N7 | 2.51 | 0.57 |
| 29:B1:3299:A:C2 | 29:B1:3300:U:C4 | 2.91 | 0.57 |
| 29:B1:3315:G:O2' | 29:B1:3316:A:H8 | 1.85 | 0.57 |
| 29:B1:3341:U:N3 | 29:B1:3362:A:C2 | 2.72 | 0.57 |
| 29:B1:3367:C:HO2' | 29:B1:3368:U:H5" | 1.68 | 0.57 |
| 30:B2:9:C:OP2 | 30:B2:9:C:H6 | 1.87 | 0.57 |
| 30:B2:14:U:O2' | 30:B2:15:C:C4' | 2.52 | 0.57 |
| 30:B2:30:G:H2' | 30:B2:31:U:C5' | 2.35 | 0.57 |
| 36:BE:110:LEU:HA | 36:BE:111:GLN:CB | 2.34 | 0.57 |
| 37:BF:162:SER:C | 37:BF:165:LEU:H | 2.12 | 0.57 |
| 41:BJ:207:GLU:O | 41:BJ:208:ASN:C | 2.46 | 0.57 |
| 42:BK:79:ILE:C | 42:BK:81:GLU:H | 2.12 | 0.57 |
| 54:BY:42:ARG:O | 54:BY:43:ILE:O | 2.22 | 0.57 |
| 54:BY:74:ASN:C | 54:BY:76:ASP:H | 2.12 | 0.57 |
| 70:Bq:13:UNK:O | 70:Bq:17:UNK:N | 2.34 | 0.57 |
| 1:C1:26:A:H3' | 1:C1:26:A:P | 2.43 | 0.57 |
| 1:C1:50:C:C2 | 1:C1:424:C:C5 | 2.91 | 0.57 |
| 1:C1:61:A:OP1 | 1:C1:452:A:O2' | 2.22 | 0.57 |
| 1:C1:180:A:C5 | 1:C1:181:A:C2 | 2.92 | 0.57 |
| 1:C1:333:A:C2 | 1:C1:334:G:C2 | 2.93 | 0.57 |
| 1:C1:446:A:C5 | 1:C1:447:U:H5 | 2.21 | 0.57 |
| 1:C1:463:U:H2' | 1:C1:464:A:O4' | 2.04 | 0.57 |
| 1:C1:717:C:H1' | 1:C1:718:U:O5' | 2.04 | 0.57 |
| 1:C1:818:C:H2' | 1:C1:819:G:C8 | 2.39 | 0.57 |
| 1:C1:1025:A:H2' | 1:C1:1027:A:C5' | 2.33 | 0.57 |
| 1:C1:1050:G:C6 | 1:C1:1051:G:C4 | 2.92 | 0.57 |
| 1:C1:1334:U:H2' | 1:C1:1335:U:C1' | 2.34 | 0.57 |
| 1:C1:1348:A:OP1 | 15:CN:12:GLN:O | 2.21 | 0.57 |
| 1:C1:1351:G:C5 | 1:C1:1352:G:C8 | 2.91 | 0.57 |
| 1:C1:1370:U:N3 | 1:C1:1371:A:C8 | 2.72 | 0.57 |
| 1:C1:1422:A:O2' | 1:C1:1423:U:H5' | 2.03 | 0.57 |
| 1:C1:1515:A:C3' | 1:C1:1516:A:H5" | 2.34 | 0.57 |
| 1:C1:1583:A:H1' | 1:C1:1585:U:N1 | 2.20 | 0.57 |
| 1:C1:1616:G:H21 | 1:C1:1618:C:N4 | 1.92 | 0.57 |
| 1:C1:1712:A:H2' | 1:C1:1713:G:H8 | 1.67 | 0.57 |
| 1:C1:1713:G:N2 | 1:C1:1714:A:C8 | 2.71 | 0.57 |
| 1:C1:1781:A:C2 | 1:C1:1782:A:C2 | 2.92 | 0.57 |
| 2:CA:25:GLY:O | 2:CA:26:ALA:HB3 | 2.04 | 0.57 |
| 2:CA:54:TRP:O | 2:CA:55:GLU:C | 2.47 | 0.57 |
| 4:CC:93:ASP:O | 4:CC:94:ARG:C | 2.46 | 0.57 |
| 5:CD:153:GLY:HA3 | 5:CD:154:ALA:CB | 2.23 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:CE:96:VAL:O | 6:CE:99:LEU:C | 2.47 | 0.57 |
| 29:D1:121:A:H5' | 29:D1:150:A:C2 | 2.39 | 0.57 |
| 29:D1:287:G:C2' | 29:D1:288:C:O5' | 2.52 | 0.57 |
| 29:D1:379:C:H6 | 29:D1:379:C:C5' | 2.13 | 0.57 |
| 29:D1:536:U:C1' | 29:D1:537:A:OP2 | 2.51 | 0.57 |
| 29:D1:649:A:C2 | 29:D1:650:C:C4 | 2.92 | 0.57 |
| 29:D1:964:G:C5 | 29:D1:965:A:N7 | 2.71 | 0.57 |
| 29:D1:1046:A:C8 | 29:D1:1049:C:N4 | 2.72 | 0.57 |
| 29:D1:1066:G:H2' | 29:D1:1067:U:C6 | 2.39 | 0.57 |
| 29:D1:1131:G:C2 | 29:D1:2373:A:C4 | 2.92 | 0.57 |
| 29:D1:1148:G:C2 | 29:D1:1156:C:C2 | 2.93 | 0.57 |
| 29:D1:1174:G:N1 | 29:D1:1318:A:C2 | 2.72 | 0.57 |
| 29:D1:1235:U:C4 | 29:D1:1237:G:H4' | 2.39 | 0.57 |
| 29:D1:1366:A:N3 | 29:D1:1367:G:C8 | 2.71 | 0.57 |
| 29:D1:1448:U:H5 | 29:D1:2355:G:N3 | 2.02 | 0.57 |
| 29:D1:1461:A:C4 | 29:D1:1462:A:N7 | 2.70 | 0.57 |
| 29:D1:1710:C:H6 | 29:D1:1710:C:H5" | 1.69 | 0.57 |
| 29:D1:1744:G:O2' | 29:D1:1745:C:H5' | 2.04 | 0.57 |
| 29:D1:1779:C:OP2 | 29:D1:1780:G:H8 | 1.87 | 0.57 |
| 29:D1:1845:G:H1 | 29:D1:1849:C:C2' | 2.16 | 0.57 |
| 29:D1:2128:C:N4 | 29:D1:2129:U:C4 | 2.72 | 0.57 |
| 29:D1:2128:C:O5' | 29:D1:2128:C:H6 | 1.88 | 0.57 |
| 29:D1:2290:C:C4 | 29:D1:2303:A:N1 | 2.72 | 0.57 |
| 29:D1:2383:C:H2' | 29:D1:2384:A:C8 | 2.36 | 0.57 |
| 29:D1:2546:C:N4 | 29:D1:2547:A:N6 | 2.52 | 0.57 |
| 29:D1:2618:G:C4' | 29:D1:2619:G:OP2 | 2.51 | 0.57 |
| 29:D1:2727:A:H2 | 29:D1:2729:U:H5 | 1.50 | 0.57 |
| 29:D1:2830:G:C4 | 29:D1:2831:G:C8 | 2.91 | 0.57 |
| 29:D1:2854:U:H4' | 41:DJ:160:PRO:N | 2.20 | 0.57 |
| 29:D1:2984:C:O2' | 29:D1:2985:C:H5' | 2.04 | 0.57 |
| 29:D1:3296:A:C2 | 29:D1:3297:U:C1' | 2.87 | 0.57 |
| 29:D1:3315:G:O2' | 29:D1:3316:A:H8 | 1.82 | 0.57 |
| 29:D1:3315:G:O5' | 29:D1:3316:A:OP1 | 2.21 | 0.57 |
| 29:D1:3387:U:N3 | 29:D1:3388:C:N4 | 2.52 | 0.57 |
| 30:D2:13:A:C5' | 30:D2:112:G:H1' | 2.24 | 0.57 |
| 31:D3:34:U:C2 | 31:D3:34:U:C3' | 2.83 | 0.57 |
| 35:DD:153:SER:O | 35:DD:155:ASP:N | 2.37 | 0.57 |
| 35:DD:234:ASN:C | 35:DD:236:LEU:H | 2.11 | 0.57 |
| 37:DF:149:ILE:H | 37:DF:151:LYS:H | 1.50 | 0.57 |
| 40:DI:63:LYS:HA | 40:DI:66:ALA:CB | 2.27 | 0.57 |
| 41:DJ:17:TYR:O | 41:DJ:19:LYS:N | 2.37 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 43:DN:21:VAL:O | 43:DN:34:ALA:HB2 | 2.05 | 0.57 |
| 47:DR:116:LYS:O | 47:DR:117:ALA:C | 2.47 | 0.57 |
| 51:DV:43:ARG:O | 51:DV:44:LYS:C | 2.46 | 0.57 |
| 54:DY:73:LEU:HA | 54:DY:116:GLY:CA | 2.34 | 0.57 |
| 56:Da:16:LEU:O | 56:Da:19:ARG:N | 2.37 | 0.57 |
| 1:A1:48:G:C5 | 1:A1:432:G:N2 | 2.73 | 0.57 |
| 1:A1:58:U:O2' | 1:A1:451:A:N3 | 2.37 | 0.57 |
| 1:A1:73:U:H2' | 1:A1:74:U:O4' | 2.03 | 0.57 |
| 1:A1:225:A:O2' | 1:A1:226:A:H8 | 1.85 | 0.57 |
| 1:A1:653:C:C5 | 1:A1:654:C:C5 | 2.91 | 0.57 |
| 1:A1:774:A:C5 | 1:A1:787:G:N2 | 2.73 | 0.57 |
| 1:A1:929:A:H1' | 9:AH:123:SER:HA | 1.87 | 0.57 |
| 1:A1:1121:C:C2 | 1:A1:1127:G:N1 | 2.72 | 0.57 |
| 1:A1:1146:G:H8 | 1:A1:1635:A:H2 | 1.52 | 0.57 |
| 1:A1:1364:G:H2' | 1:A1:1365:C:C5' | 2.34 | 0.57 |
| 3:AB:215:PHE:C | 3:AB:217:ALA:N | 2.57 | 0.57 |
| 16:AO:111:MET:CB | 16:AO:116:ALA:HB2 | 2.34 | 0.57 |
| 29:B1:339:C:C2' | 29:B1:340:C:H5" | 2.34 | 0.57 |
| 29:B1:360:G:C5 | 29:B1:361:A:N6 | 2.72 | 0.57 |
| 29:B1:365:A:C2 | 29:B1:366:A:N3 | 2.73 | 0.57 |
| 29:B1:373:A:C6 | 29:B1:375:A:C6 | 2.91 | 0.57 |
| 29:B1:595:G:O6 | 29:B1:609:G:N3 | 2.37 | 0.57 |
| 29:B1:645:A:C5 | 29:B1:649:A:C5 | 2.93 | 0.57 |
| 29:B1:773:G:H21 | 29:B1:774:G:H1' | 1.70 | 0.57 |
| 29:B1:947:G:H2' | 29:B1:948:C:C6 | 2.34 | 0.57 |
| 29:B1:965:A:C5 | 29:B1:966:U:C4 | 2.93 | 0.57 |
| 29:B1:1394:A:H2' | 29:B1:1395:G:O4' | 2.03 | 0.57 |
| 29:B1:1621:A:H2' | 29:B1:1622:U:H6 | 1.63 | 0.57 |
| 29:B1:1779:C:C4' | 29:B1:1780:G:OP1 | 2.52 | 0.57 |
| 29:B1:2119:A:C5 | 29:B1:2120:A:N1 | 2.73 | 0.57 |
| 29:B1:2435:G:O2' | 29:B1:2436:U:OP2 | 2.22 | 0.57 |
| 29:B1:2677:G:H2' | 29:B1:2678:A:O5' | 2.05 | 0.57 |
| 29:B1:2715:A:OP1 | 29:B1:2715:A:H2' | 2.04 | 0.57 |
| 29:B1:2999:U:H2' | 29:B1:3000:A:H8 | 1.70 | 0.57 |
| 29:B1:3194:C:H3' | 29:B1:3194:C:C6 | 2.39 | 0.57 |
| 29:B1:3238:G:O2' | 29:B1:3239:G:H5' | 2.05 | 0.57 |
| 29:B1:3320:A:C2' | 29:B1:3321:C:C6 | 2.74 | 0.57 |
| 29:B1:3327:G:N3 | 29:B1:3328:G:N7 | 2.50 | 0.57 |
| 29:B1:3376:A:C5' | 29:B1:3377:G:H5" | 2.34 | 0.57 |
| 30:B2:12:U:N3 | 30:B2:70:U:OP1 | 2.37 | 0.57 |
| 30:B2:69:C:OP2 | 74:B2:209:OHX:N5 | 2.37 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:B3:76:C:C2' | 53:BX:76:LEU:CB | 2.80 | 0.57 |
| 34:BC:51:ALA:HB2 | 34:BC:79:VAL:HA | 1.85 | 0.57 |
| 35:BD:63:GLU:O | 35:BD:76:ARG:N | 2.37 | 0.57 |
| 35:BD:162:THR:HA | 35:BD:218:ALA:HB1 | 1.85 | 0.57 |
| 41:BJ:135:ILE:O | 41:BJ:137:SER:N | 2.38 | 0.57 |
| 43:BN:124:ARG:O | 43:BN:126:GLN:N | 2.37 | 0.57 |
| 53:BX:69:LYS:O | 53:BX:83:ASP:N | 2.35 | 0.57 |
| 63:Bh:40:UNK:O | 63:Bh:43:UNK:CB | 2.51 | 0.57 |
| 1:C1:61:A:C4' | 1:C1:62:A:OP2 | 2.52 | 0.57 |
| 1:C1:104:A:C6 | 1:C1:106:U:C2 | 2.92 | 0.57 |
| 1:C1:142:G:N2 | 1:C1:174:U:H1' | 2.18 | 0.57 |
| 1:C1:269:G:C6 | 1:C1:270:C:C4 | 2.92 | 0.57 |
| 1:C1:295:A:C4' | 1:C1:296:U:OP1 | 2.52 | 0.57 |
| 1:C1:387:A:H2' | 1:C1:402:C:C6 | 2.39 | 0.57 |
| 1:C1:404:G:C4 | 1:C1:405:C:C5 | 2.91 | 0.57 |
| 1:C1:406:U:OP2 | 1:C1:406:U:H6 | 1.87 | 0.57 |
| 1:C1:478:A:C2 | 1:C1:479:C:N3 | 2.72 | 0.57 |
| 1:C1:660:G:H22 | 1:C1:683:C:H41 | 1.51 | 0.57 |
| 1:C1:696:C:H5' | 1:C1:697:C:OP1 | 2.04 | 0.57 |
| 1:C1:768:C:H2' | 1:C1:769:A:O4' | 2.05 | 0.57 |
| 1:C1:848:C:H2' | 1:C1:849:C:C6 | 2.39 | 0.57 |
| 1:C1:887:A:C1' | 9:CH:122:PRO:CB | 2.72 | 0.57 |
| 1:C1:1538:U:H5 | 1:C1:1540:G:C8 | 2.22 | 0.57 |
| 1:C1:1671:A:C4 | 1:C1:1731:A:C2 | 2.92 | 0.57 |
| 1:C1:1754:A:O2' | 1:C1:1755:A:P | 2.62 | 0.57 |
| 4:CC:23:GLU:O | 4:CC:26:THR:N | 2.30 | 0.57 |
| 8:CG:145:THR:N | 8:CG:146:ALA:HA | 2.17 | 0.57 |
| 29:D1:67:A:C2 | 29:D1:317:A:N7 | 2.72 | 0.57 |
| 29:D1:339:C:C2' | 29:D1:340:C:H5" | 2.34 | 0.57 |
| 29:D1:436:A:C2 | 29:D1:624:G:C2 | 2.91 | 0.57 |
| 29:D1:749:C:C2 | 29:D1:750:G:N7 | 2.72 | 0.57 |
| 29:D1:807:A:H3' | 29:D1:807:A:C8 | 2.39 | 0.57 |
| 29:D1:844:G:C6 | 29:D1:845:G:C6 | 2.92 | 0.57 |
| 29:D1:891:G:C5 | 29:D1:892:U:C5 | 2.93 | 0.57 |
| 29:D1:989:A:O2' | 29:D1:990:U:H5' | 2.04 | 0.57 |
| 29:D1:1153:A:N7 | 29:D1:1154:A:C2 | 2.72 | 0.57 |
| 29:D1:1245:A:H2' | 29:D1:1272:C:OP1 | 2.03 | 0.57 |
| 29:D1:1447:G:O2' | 29:D1:1448:U:OP2 | 2.22 | 0.57 |
| 29:D1:1540:U:O2 | 29:D1:1540:U:C2' | 2.52 | 0.57 |
| 29:D1:1552:G:H5" | 29:D1:1553:U:OP2 | 2.04 | 0.57 |
| 29:D1:1625:A:N7 | 29:D1:1626:U:N1 | 2.52 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1680:G:C2 | 29:D1:1681:U:C6 | 2.92 | 0.57 |
| 29:D1:2210:G:C6 | 29:D1:2211:U:C4 | 2.92 | 0.57 |
| 29:D1:2394:G:H21 | 34:DC:258:ALA:HA | 1.69 | 0.57 |
| 29:D1:2523:A:H1' | 29:D1:2524:A:O5' | 2.02 | 0.57 |
| 29:D1:2651:G:C2 | 29:D1:2796:G:C2 | 2.92 | 0.57 |
| 29:D1:2934:A:C5' | 29:D1:2935:U:OP2 | 2.52 | 0.57 |
| 29:D1:3105:U:C5 | 29:D1:3106:A:N7 | 2.72 | 0.57 |
| 29:D1:3172:A:O4' | 29:D1:3172:A:OP1 | 2.20 | 0.57 |
| 29:D1:3225:C:H2' | 29:D1:3226:A:C8 | 2.39 | 0.57 |
| 29:D1:3364:C:C2' | 29:D1:3365:U:H5' | 2.33 | 0.57 |
| 31:D3:78:G:C6 | 31:D3:79:A:C6 | 2.91 | 0.57 |
| 31:D3:115:C:H2' | 31:D3:116:G:O5' | 2.04 | 0.57 |
| 37:DF:136:GLU:O | 37:DF:138:GLN:N | 2.37 | 0.57 |
| 37:DF:149:ILE:CB | 37:DF:150:LYS:CB | 2.82 | 0.57 |
| 45:DP:93:ALA:O | 45:DP:94:ARG:C | 2.48 | 0.57 |
| 45:DP:187:GLU:O | 45:DP:188:SER:C | 2.47 | 0.57 |
| 56:Da:15:ASN:O | 56:Da:17:HIS:N | 2.37 | 0.57 |
| 58:Dc:14:LYS:O | 58:Dc:18:ALA:HB2 | 2.04 | 0.57 |
| 1:A1:87:C:H2' | 1:A1:87:C:O2 | 2.04 | 0.57 |
| 1:A1:121:U:H5' | 1:A1:121:U:H6 | 1.69 | 0.57 |
| 1:A1:273:G:OP1 | 1:A1:273:G:H8 | 1.87 | 0.57 |
| 1:A1:282:C:H2' | 1:A1:282:C:O2 | 2.03 | 0.57 |
| 1:A1:823:G:N2 | 1:A1:824:G:H2' | 2.19 | 0.57 |
| 1:A1:1150:G:N2 | 1:A1:1795:U:OP1 | 2.37 | 0.57 |
| 1:A1:1369:U:H2' | 1:A1:1370:U:C6 | 2.39 | 0.57 |
| 1:A1:1484:G:H21 | 1:A1:1606:C:C1' | 2.12 | 0.57 |
| 1:A1:1677:C:H2' | 1:A1:1677:C:O2 | 2.03 | 0.57 |
| 17:AP:69:ARG:O | 17:AP:70:LYS:C | 2.47 | 0.57 |
| 18:AQ:66:VAL:C | 18:AQ:68:ARG:H | 2.12 | 0.57 |
| 23:Ab:25:UNK:C | 23:Ab:27:UNK:H | 2.17 | 0.57 |
| 29:B1:111:C:O2 | 29:B1:111:C:H2' | 2.04 | 0.57 |
| 29:B1:191:U:O2' | 29:B1:192:C:C5' | 2.49 | 0.57 |
| 29:B1:199:A:C4 | 29:B1:201:A:C8 | 2.92 | 0.57 |
| 29:B1:372:A:N3 | 29:B1:372:A:H2' | 2.18 | 0.57 |
| 29:B1:423:A:N1 | 29:B1:637:C:OP1 | 2.38 | 0.57 |
| 29:B1:563:U:C3' | 29:B1:564:G:H4' | 2.33 | 0.57 |
| 29:B1:581:U:H2' | 29:B1:581:U:O2 | 2.04 | 0.57 |
| 29:B1:591:G:N3 | 29:B1:592:A:C8 | 2.72 | 0.57 |
| 29:B1:624:G:H2' | 29:B1:625:G:H5' | 1.87 | 0.57 |
| 29:B1:648:C:C5 | 29:B1:2374:C:O2' | 2.51 | 0.57 |
| 29:B1:661:G:N1 | 29:B1:802:C:C5 | 2.72 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:729:C:H2' | 29:B1:730:C:O4' | 2.03 | 0.57 |
| 29:B1:946:U:C2' | 29:B1:947:G:H5' | 2.33 | 0.57 |
| 29:B1:1150:A:C8 | 29:B1:1310:G:H5" | 2.39 | 0.57 |
| 29:B1:1517:G:C6 | 29:B1:1518:U:O4 | 2.58 | 0.57 |
| 29:B1:1602:A:C6 | 29:B1:1603:A:C6 | 2.92 | 0.57 |
| 29:B1:1626:U:C4 | 29:B1:1627:U:C4 | 2.92 | 0.57 |
| 29:B1:1658:G:C5 | 29:B1:1659:U:C5 | 2.92 | 0.57 |
| 29:B1:1753:G:C4 | 29:B1:1754:G:C8 | 2.93 | 0.57 |
| 29:B1:2181:C:C2 | 29:B1:2182:A:C8 | 2.92 | 0.57 |
| 29:B1:2210:G:C6 | 29:B1:2211:U:C4 | 2.92 | 0.57 |
| 29:B1:2233:A:OP2 | 74:B1:3599:OHX:N5 | 2.37 | 0.57 |
| 29:B1:2290:C:H2' | 29:B1:2291:A:H8 | 1.70 | 0.57 |
| 29:B1:2299:A:C6 | 29:B1:2300:G:C8 | 2.93 | 0.57 |
| 29:B1:2328:U:H2' | 29:B1:2329:C:C5' | 2.19 | 0.57 |
| 29:B1:2593:A:C4' | 29:B1:2594:C:OP2 | 2.53 | 0.57 |
| 29:B1:2675:C:H5 | 29:B1:2676:A:N6 | 2.02 | 0.57 |
| 29:B1:2677:G:N2 | 29:B1:2678:A:H5' | 2.18 | 0.57 |
| 29:B1:3057:U:O2' | 29:B1:3059:G:P | 2.62 | 0.57 |
| 29:B1:3315:G:O5' | 29:B1:3316:A:OP1 | 2.22 | 0.57 |
| 29:B1:3344:A:C4 | 29:B1:3361:G:O6 | 2.57 | 0.57 |
| 30:B2:69:C:OP2 | 74:B2:209:OHX:N6 | 2.37 | 0.57 |
| 31:B3:97:A:O2' | 31:B3:98:U:H5' | 2.04 | 0.57 |
| 39:BH:230:LYS:N | 39:BH:231:LYS:C | 2.63 | 0.57 |
| 40:BI:121:LYS:O | 40:BI:122:LYS:O | 2.23 | 0.57 |
| 43:BN:73:PRO:O | 43:BN:76:ALA:N | 2.37 | 0.57 |
| 50:BU:105:PRO:C | 50:BU:107:GLY:N | 2.59 | 0.57 |
| 63:Bh:7:UNK:O | 63:Bh:8:UNK:C | 2.52 | 0.57 |
| 70:Bq:8:UNK:C | 70:Bq:10:UNK:N | 2.68 | 0.57 |
| 1:C1:96:G:N2 | 1:C1:387:A:N1 | 2.51 | 0.57 |
| 1:C1:290:G:O2' | 1:C1:291:G:C8 | 2.56 | 0.57 |
| 1:C1:312:A:N1 | 1:C1:315:A:N7 | 2.52 | 0.57 |
| 1:C1:514:G:C2 | 1:C1:515:A:C8 | 2.92 | 0.57 |
| 1:C1:986:G:C4 | 1:C1:987:G:C8 | 2.93 | 0.57 |
| 1:C1:1051:G:C2 | 1:C1:1052:U:N3 | 2.73 | 0.57 |
| 1:C1:1084:A:C2' | 1:C1:1085:G:H5' | 2.33 | 0.57 |
| 1:C1:1109:G:C2 | 1:C1:1110:G:C5 | 2.92 | 0.57 |
| 1:C1:1111:G:C2' | 1:C1:1112:G:H5' | 2.35 | 0.57 |
| 1:C1:1153:G:H2' | 1:C1:1154:G:O4' | 2.05 | 0.57 |
| 1:C1:1202:A:OP1 | 1:C1:1203:A:OP2 | 2.22 | 0.57 |
| 1:C1:1203:A:C4' | 1:C1:1204:A:OP2 | 2.52 | 0.57 |
| 1:C1:1232:U:H3' | 1:C1:1232:U:O2 | 2.04 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1402:G:C5 | 1:C1:1403:C:C4 | 2.92 | 0.57 |
| 1:C1:1455:G:C6 | 1:C1:1456:C:N3 | 2.72 | 0.57 |
| 1:C1:1575:G:OP1 | 1:C1:1575:G:C4' | 2.53 | 0.57 |
| 1:C1:1578:U:HO2' | 1:C1:1579:U:H5' | 1.66 | 0.57 |
| 1:C1:1597:A:N7 | 1:C1:1598:U:C4 | 2.73 | 0.57 |
| 1:C1:1720:G:H2' | 1:C1:1721:A:H5' | 1.86 | 0.57 |
| 4:CC:52:ALA:HB3 | 4:CC:55:THR:CB | 2.35 | 0.57 |
| 8:CG:127:ARG:O | 8:CG:131:THR:N | 2.37 | 0.57 |
| 13:CL:124:GLY:C | 13:CL:126:ARG:N | 2.58 | 0.57 |
| 23:Cb:62:UNK:O | 23:Cb:64:UNK:N | 2.38 | 0.57 |
| 24:Cc:4:UNK:O | 24:Cc:98:UNK:HA | 2.03 | 0.57 |
| 29:D1:115:A:H2' | 29:D1:116:A:C2 | 2.38 | 0.57 |
| 29:D1:609:G:P | 29:D1:609:G:C3' | 2.91 | 0.57 |
| 29:D1:1196:C:N3 | 30:D2:86:U:C6 | 2.72 | 0.57 |
| 29:D1:1226:G:C2 | 29:D1:1227:C:C5 | 2.92 | 0.57 |
| 29:D1:1393:A:N3 | 29:D1:1393:A:H2' | 2.17 | 0.57 |
| 29:D1:1445:U:H5" | 29:D1:1446:A:OP2 | 2.03 | 0.57 |
| 29:D1:1587:A:C2 | 29:D1:1590:G:C4 | 2.92 | 0.57 |
| 29:D1:1795:U:O4' | 29:D1:1796:G:N3 | 2.37 | 0.57 |
| 29:D1:1921:A:O2' | 29:D1:1922:A:H5' | 2.04 | 0.57 |
| 29:D1:2143:A:H3' | 29:D1:2143:A:C8 | 2.39 | 0.57 |
| 29:D1:2297:U:C2 | 29:D1:2299:A:C6 | 2.93 | 0.57 |
| 29:D1:2390:A:C4' | 29:D1:3307:A:H2 | 2.09 | 0.57 |
| 29:D1:2554:A:C2 | 33:DB:86:GLN:HA | 2.39 | 0.57 |
| 29:D1:2578:U:H2' | 29:D1:2579:G:O4' | 2.03 | 0.57 |
| 29:D1:2836:C:O2 | 29:D1:2836:C:H2' | 2.05 | 0.57 |
| 29:D1:3005:A:N3 | 29:D1:3140:G:C2 | 2.72 | 0.57 |
| 29:D1:3039:C:C2 | 29:D1:3040:A:C8 | 2.91 | 0.57 |
| 29:D1:3072:C:C5 | 29:D1:3073:A:N7 | 2.69 | 0.57 |
| 29:D1:3163:A:H8 | 29:D1:3163:A:OP2 | 1.87 | 0.57 |
| 29:D1:3223:A:N3 | 29:D1:3223:A:H2' | 2.18 | 0.57 |
| 29:D1:3226:A:O2' | 29:D1:3227:A:H5' | 2.03 | 0.57 |
| 29:D1:3228:C:O2 | 29:D1:3228:C:O4' | 2.17 | 0.57 |
| 29:D1:3257:C:O2' | 29:D1:3258:U:H5 | 1.87 | 0.57 |
| 29:D1:3377:G:H1' | 29:D1:3378:C:P | 2.45 | 0.57 |
| 30:D2:55:A:H3' | 30:D2:55:A:P | 2.44 | 0.57 |
| 30:D2:67:G:N2 | 30:D2:68:C:C1' | 2.67 | 0.57 |
| 31:D3:107:G:C2 | 31:D3:116:G:C5 | 2.92 | 0.57 |
| 33:DB:172:GLY:O | 33:DB:173:GLY:C | 2.46 | 0.57 |
| 36:DE:125:VAL:HA | 36:DE:169:GLY:HA3 | 1.85 | 0.57 |
| 41:DJ:17:TYR:C | 41:DJ:19:LYS:N | 2.61 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 41:DJ:207:GLU:O | 41:DJ:208:ASN:C | 2.47 | 0.57 |
| 42:DK:73:GLY:O | 42:DK:76:ALA:HB2 | 2.04 | 0.57 |
| 42:DK:121:GLY:C | 42:DK:123:PHE:N | 2.61 | 0.57 |
| 44:DO:16:SER:O | 44:DO:18:VAL:N | 2.38 | 0.57 |
| 45:DP:57:PHE:N | 45:DP:60:LYS:CB | 2.68 | 0.57 |
| 49:DT:8:ARG:O | 49:DT:11:THR:CB | 2.51 | 0.57 |
| 1:A1:106:U:H3' | 1:A1:107:C:C6 | 2.40 | 0.57 |
| 1:A1:472:U:C5 | 1:A1:473:A:C8 | 2.93 | 0.57 |
| 1:A1:527:A:P | 1:A1:527:A:H3' | 2.44 | 0.57 |
| 1:A1:534:A:O3' | 1:A1:535:A:H8 | 1.88 | 0.57 |
| 1:A1:545:A:O2' | 1:A1:546:U:C6 | 2.58 | 0.57 |
| 1:A1:646:C:H2' | 1:A1:647:G:C5' | 2.34 | 0.57 |
| 1:A1:989:U:C4 | 1:A1:990:C:C4 | 2.93 | 0.57 |
| 1:A1:1044:U:O2 | 1:A1:1044:U:C2' | 2.50 | 0.57 |
| 1:A1:1050:G:C6 | 1:A1:1051:G:C4 | 2.92 | 0.57 |
| 1:A1:1322:A:C5 | 1:A1:1323:C:C5 | 2.93 | 0.57 |
| 1:A1:1323:C:H2' | 1:A1:1324:G:C1' | 2.35 | 0.57 |
| 1:A1:1425:A:C2' | 1:A1:1426:C:H5' | 2.35 | 0.57 |
| 4:AC:69:LEU:O | 4:AC:72:LEU:N | 2.38 | 0.57 |
| 21:AT:18:GLY:O | 21:AT:308:ASN:HA | 2.05 | 0.57 |
| 29:B1:9:U:O4 | 29:B1:10:C:H5 | 1.86 | 0.57 |
| 29:B1:9:U:N3 | 29:B1:10:C:C5 | 2.72 | 0.57 |
| 29:B1:137:G:C8 | 29:B1:137:G:C3' | 2.88 | 0.57 |
| 29:B1:185:C:H2' | 29:B1:186:U:C6 | 2.39 | 0.57 |
| 29:B1:349:A:C2 | 31:B3:24:G:C8 | 2.92 | 0.57 |
| 29:B1:423:A:OP1 | 29:B1:2363:A:H4' | 2.04 | 0.57 |
| 29:B1:536:U:H6 | 29:B1:536:U:O5' | 1.87 | 0.57 |
| 29:B1:703:G:N1 | 29:B1:704:U:N3 | 2.52 | 0.57 |
| 29:B1:722:G:N2 | 29:B1:748:U:C2 | 2.72 | 0.57 |
| 29:B1:759:U:C2' | 29:B1:760:G:H5" | 2.34 | 0.57 |
| 29:B1:888:A:N6 | 29:B1:889:U:N3 | 2.52 | 0.57 |
| 29:B1:993:G:C5 | 29:B1:2637:A:C2 | 2.93 | 0.57 |
| 29:B1:998:A:H2' | 29:B1:999:G:C5' | 2.35 | 0.57 |
| 29:B1:1296:C:C2' | 29:B1:1297:C:O5' | 2.51 | 0.57 |
| 29:B1:1311:G:O5' | 29:B1:1311:G:H8 | 1.87 | 0.57 |
| 29:B1:1334:U:H5" | 38:BG:206:LYS:C | 2.29 | 0.57 |
| 29:B1:1353:U:H5 | 29:B1:1355:A:H62 | 1.53 | 0.57 |
| 29:B1:1471:U:O4' | 48:BS:3:ASN:HA | 2.04 | 0.57 |
| 29:B1:2160:G:H2' | 29:B1:2161:G:C8 | 2.39 | 0.57 |
| 29:B1:2675:C:C5 | 29:B1:2676:A:N6 | 2.73 | 0.57 |
| 29:B1:2778:G:H2' | 29:B1:2778:G:N3 | 2.17 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2834:G:O2' | 29:B1:2835:U:C6 | 2.41 | 0.57 |
| 29:B1:2879:C:C5 | 29:B1:2880:U:C5 | 2.92 | 0.57 |
| 29:B1:2880:U:H1' | 34:BC:250:ALA:HB3 | 1.87 | 0.57 |
| 29:B1:3013:U:O2 | 29:B1:3013:U:H2' | 2.03 | 0.57 |
| 29:B1:3153:U:H1' | 29:B1:3395:G:H21 | 1.69 | 0.57 |
| 29:B1:3201:C:C6 | 29:B1:3201:C:OP2 | 2.56 | 0.57 |
| 29:B1:3219:G:C5 | 29:B1:3257:C:H3' | 2.38 | 0.57 |
| 29:B1:3279:A:C5 | 29:B1:3280:U:O4 | 2.58 | 0.57 |
| 30:B2:67:G:N3 | 30:B2:67:G:H2' | 2.19 | 0.57 |
| 30:B2:120:C:N3 | 30:B2:121:U:O4 | 2.36 | 0.57 |
| 37:BF:108:LYS:O | 37:BF:109:GLU:CB | 2.53 | 0.57 |
| 46:BQ:11:PRO:O | 46:BQ:12:ALA:HB2 | 2.03 | 0.57 |
| 51:BV:43:ARG:O | 51:BV:44:LYS:C | 2.47 | 0.57 |
| 56:Ba:15:ASN:O | 56:Ba:17:HIS:N | 2.37 | 0.57 |
| 57:Bb:42:VAL:O | 57:Bb:44:ARG:N | 2.37 | 0.57 |
| 1:C1:260:U:H3' | 1:C1:261:U:H5" | 1.86 | 0.57 |
| 1:C1:363:G:N2 | 1:C1:382:C:C2 | 2.72 | 0.57 |
| 1:C1:405:C:C2 | 1:C1:406:U:C5 | 2.93 | 0.57 |
| 1:C1:1381:U:C2' | 1:C1:1382:A:H5' | 2.35 | 0.57 |
| 1:C1:1558:U:OP2 | 1:C1:1559:A:H5' | 2.04 | 0.57 |
| 1:C1:1580:C:H2' | 1:C1:1581:C:H6 | 1.68 | 0.57 |
| 1:C1:1737:G:C6 | 1:C1:1738:U:C4 | 2.92 | 0.57 |
| 4:CC:191:ASP:C | 4:CC:193:ALA:H | 2.11 | 0.57 |
| 7:CF:125:VAL:HA | 7:CF:139:VAL:HA | 1.85 | 0.57 |
| 10:CI:37:ALA:HA | 10:CI:40:ARG:CB | 2.34 | 0.57 |
| 15:CN:31:VAL:O | 15:CN:35:GLU:N | 2.37 | 0.57 |
| 29:D1:10:C:H5 | 31:D3:149:A:C2 | 2.23 | 0.57 |
| 29:D1:26:A:C2' | 29:D1:27:C:C6 | 2.85 | 0.57 |
| 29:D1:30:G:C6 | 29:D1:55:G:O6 | 2.57 | 0.57 |
| 29:D1:180:C:H2' | 29:D1:181:U:C6 | 2.40 | 0.57 |
| 29:D1:190:U:C4 | 29:D1:224:C:H1' | 2.38 | 0.57 |
| 29:D1:221:A:C5 | 29:D1:224:C:C4 | 2.92 | 0.57 |
| 29:D1:264:G:C6 | 29:D1:265:A:N6 | 2.72 | 0.57 |
| 29:D1:594:U:C2 | 29:D1:595:G:C6 | 2.92 | 0.57 |
| 29:D1:606:C:N4 | 29:D1:607:A:C6 | 2.66 | 0.57 |
| 29:D1:606:C:C2' | 29:D1:607:A:N9 | 2.64 | 0.57 |
| 29:D1:716:A:H3' | 29:D1:716:A:C8 | 2.38 | 0.57 |
| 29:D1:1128:U:C5' | 29:D1:1129:A:OP2 | 2.52 | 0.57 |
| 29:D1:1140:G:C4 | 29:D1:1141:C:C5 | 2.91 | 0.57 |
| 29:D1:1246:G:C2 | 29:D1:1247:U:O2 | 2.56 | 0.57 |
| 29:D1:1313:G:C4 | 29:D1:1314:C:C5 | 2.92 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1741:A:H3' | 29:D1:1742:U:C5 | 2.39 | 0.57 |
| 29:D1:1779:C:OP1 | 29:D1:1779:C:O4' | 2.21 | 0.57 |
| 29:D1:1779:C:OP1 | 29:D1:1780:G:OP1 | 2.21 | 0.57 |
| 29:D1:1787:A:C5 | 29:D1:1788:C:C5 | 2.92 | 0.57 |
| 29:D1:2275:A:C2 | 29:D1:2312:A:C4 | 2.92 | 0.57 |
| 29:D1:2649:A:C1' | 29:D1:2696:A:H1' | 2.34 | 0.57 |
| 29:D1:2658:G:C5 | 29:D1:2659:G:N7 | 2.73 | 0.57 |
| 29:D1:2681:U:O2' | 29:D1:2682:C:P | 2.62 | 0.57 |
| 29:D1:2682:C:OP1 | 42:DK:50:ALA:N | 2.38 | 0.57 |
| 29:D1:2833:A:C2' | 29:D1:2834:G:H5' | 2.31 | 0.57 |
| 29:D1:2842:U:O2 | 29:D1:2842:U:C2' | 2.53 | 0.57 |
| 29:D1:2997:G:H1' | 29:D1:2998:U:OP2 | 2.03 | 0.57 |
| 29:D1:3268:A:H1' | 29:D1:3269:U:OP1 | 2.04 | 0.57 |
| 29:D1:3273:A:H2' | 29:D1:3273:A:N3 | 2.18 | 0.57 |
| 29:D1:3376:A:OP2 | 29:D1:3376:A:C4' | 2.51 | 0.57 |
| 30:D2:10:C:O2' | 30:D2:13:A:C8 | 2.55 | 0.57 |
| 30:D2:14:U:O2' | 30:D2:15:C:C4' | 2.53 | 0.57 |
| 37:DF:41:ILE:H | 37:DF:85:ILE:C | 2.11 | 0.57 |
| 38:DG:69:ALA:C | 38:DG:71:ALA:H | 2.12 | 0.57 |
| 38:DG:222:HIS:CB | 38:DG:228:SER:H | 2.18 | 0.57 |
| 40:DI:71:VAL:O | 40:DI:72:LYS:C | 2.45 | 0.57 |
| 43:DN:22:LEU:CB | 43:DN:65:LEU:CA | 2.82 | 0.57 |
| 52:DW:133:LEU:O | 52:DW:136:ALA:HB3 | 2.03 | 0.57 |
| 53:DX:64:LYS:O | 53:DX:66:GLN:N | 2.36 | 0.57 |
| 54:DY:33:GLY:O | 54:DY:34:MET:C | 2.47 | 0.57 |
| 59:Dd:41:ALA:O | 59:Dd:43:LYS:N | 2.37 | 0.57 |
| 1:A1:7:G:H4' | 1:A1:573:C:H4' | 1.87 | 0.57 |
| 1:A1:66:U:C4 | 1:A1:71:A:N6 | 2.72 | 0.57 |
| 1:A1:210:A:C6 | 1:A1:211:U:C4 | 2.93 | 0.57 |
| 1:A1:534:A:C3' | 1:A1:535:A:H8 | 2.18 | 0.57 |
| 1:A1:537:G:N2 | 1:A1:538:A:H1' | 2.19 | 0.57 |
| 1:A1:635:A:C5 | 1:A1:863:A:N7 | 2.72 | 0.57 |
| 1:A1:768:C:C2' | 1:A1:769:A:H5' | 2.35 | 0.57 |
| 1:A1:970:A:H2' | 1:A1:971:A:H5' | 1.87 | 0.57 |
| 1:A1:982:U:H2' | 1:A1:983:A:C8 | 2.39 | 0.57 |
| 1:A1:986:G:O2' | 1:A1:987:G:H2' | 2.04 | 0.57 |
| 1:A1:986:G:O2' | 1:A1:987:G:O5' | 2.20 | 0.57 |
| 1:A1:993:A:H2' | 1:A1:994:G:H5' | 1.86 | 0.57 |
| 5:AD:179:ALA:O | 5:AD:180:ARG:C | 2.47 | 0.57 |
| 8:AG:108:ASP:O | 8:AG:111:ALA:HB3 | 2.04 | 0.57 |
| 19:AR:7:VAL:HA | 19:AR:28:VAL:C | 2.30 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:66:A:H62 | 29:B1:76:G:H21 | 1.53 | 0.57 |
| 29:B1:184:U:C2 | 29:B1:185:C:C6 | 2.92 | 0.57 |
| 29:B1:221:A:C8 | 29:B1:224:C:N4 | 2.72 | 0.57 |
| 29:B1:271:C:C4 | 29:B1:295:A:N7 | 2.72 | 0.57 |
| 29:B1:601:U:N3 | 29:B1:602:A:C8 | 2.73 | 0.57 |
| 29:B1:815:G:C6 | 29:B1:906:A:N3 | 2.72 | 0.57 |
| 29:B1:1128:U:O2 | 29:B1:1129:A:H1' | 2.05 | 0.57 |
| 29:B1:1168:U:H2' | 29:B1:1169:A:H5' | 1.87 | 0.57 |
| 29:B1:1459:C:O5' | 29:B1:1459:C:H6 | 1.87 | 0.57 |
| 29:B1:1493:G:N3 | 29:B1:1493:G:O4' | 2.38 | 0.57 |
| 29:B1:1659:U:N3 | 29:B1:1660:C:N4 | 2.53 | 0.57 |
| 29:B1:1797:A:C6 | 29:B1:1798:A:C5 | 2.92 | 0.57 |
| 29:B1:1838:G:O4' | 29:B1:1839:A:C8 | 2.58 | 0.57 |
| 29:B1:2261:G:N2 | 29:B1:2263:C:C4 | 2.72 | 0.57 |
| 29:B1:2266:U:C4 | 29:B1:2267:C:N4 | 2.72 | 0.57 |
| 29:B1:2386:A:N9 | 29:B1:2994:A:C2 | 2.73 | 0.57 |
| 29:B1:2482:U:H2' | 29:B1:2483:G:O4' | 2.05 | 0.57 |
| 29:B1:2821:C:C2' | 29:B1:2822:U:H5' | 2.33 | 0.57 |
| 29:B1:2896:A:C2' | 29:B1:2897:A:H5" | 2.35 | 0.57 |
| 29:B1:2942:C:OP1 | 29:B1:2943:G:OP1 | 2.22 | 0.57 |
| 29:B1:3121:U:C2 | 29:B1:3122:A:C8 | 2.91 | 0.57 |
| 29:B1:3147:G:H4' | 34:BC:101:SER:H | 1.70 | 0.57 |
| 29:B1:3219:G:H4' | 29:B1:3220:G:C5' | 2.34 | 0.57 |
| 29:B1:3309:G:N3 | 29:B1:3310:A:C8 | 2.73 | 0.57 |
| 29:B1:3322:A:OP2 | 29:B1:3323:A:P | 2.62 | 0.57 |
| 74:B1:3537:OHX:N4 | 38:BG:217:PRO:HA | 2.20 | 0.57 |
| 30:B2:77:G:H22 | 30:B2:101:G:H3' | 1.70 | 0.57 |
| 30:B2:90:U:H5" | 30:B2:91:G:OP2 | 2.04 | 0.57 |
| 30:B2:102:A:H2' | 30:B2:103:A:O5' | 2.04 | 0.57 |
| 31:B3:25:G:C6 | 31:B3:26:U:C4 | 2.93 | 0.57 |
| 35:BD:191:LYS:O | 35:BD:192:GLY:C | 2.48 | 0.57 |
| 50:BU:111:GLY:O | 50:BU:112:SER:O | 2.23 | 0.57 |
| 1:C1:104:A:N6 | 1:C1:106:U:C2 | 2.72 | 0.57 |
| 1:C1:282:C:C2' | 1:C1:283:U:H5' | 2.33 | 0.57 |
| 1:C1:312:A:C2 | 1:C1:315:A:C8 | 2.91 | 0.57 |
| 1:C1:487:G:C2 | 1:C1:488:G:N7 | 2.73 | 0.57 |
| 1:C1:602:U:C2 | 1:C1:603:U:C5 | 2.92 | 0.57 |
| 1:C1:687:G:C2 | 1:C1:688:G:C8 | 2.92 | 0.57 |
| 1:C1:738:G:H2' | 1:C1:739:G:C8 | 2.39 | 0.57 |
| 1:C1:798:C:C2' | 1:C1:799:A:H5' | 2.35 | 0.57 |
| 1:C1:866:G:C2 | 1:C1:867:G:C8 | 2.92 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:982:U:O4 | 1:C1:983:A:N6 | 2.38 | 0.57 |
| 1:C1:1087:A:HO2' | 1:C1:1142:A:HO2' | 1.49 | 0.57 |
| 1:C1:1243:G:N2 | 1:C1:1452:U:H4' | 2.19 | 0.57 |
| 1:C1:1472:C:C1' | 1:C1:1473:U:OP2 | 2.52 | 0.57 |
| 1:C1:1474:G:N1 | 1:C1:1475:A:C6 | 2.72 | 0.57 |
| 1:C1:1552:U:O4 | 1:C1:1553:G:C6 | 2.58 | 0.57 |
| 1:C1:1590:G:H2' | 1:C1:1591:C:H5 | 1.66 | 0.57 |
| 1:C1:1671:A:C4 | 1:C1:1731:A:N1 | 2.73 | 0.57 |
| 1:C1:1751:C:H2' | 1:C1:1752:U:C6 | 2.40 | 0.57 |
| 3:CB:118:ALA:HB2 | 3:CB:124:ALA:N | 2.20 | 0.57 |
| 4:CC:47:GLU:HA | 4:CC:85:VAL:O | 2.05 | 0.57 |
| 6:CE:122:VAL:O | 6:CE:123:HIS:C | 2.46 | 0.57 |
| 29:D1:40:A:C3' | 29:D1:41:G:H5' | 2.34 | 0.57 |
| 29:D1:65:A:C3' | 29:D1:111:C:H41 | 2.17 | 0.57 |
| 29:D1:176:G:O2' | 29:D1:177:U:H6 | 1.88 | 0.57 |
| 29:D1:185:C:C2 | 29:D1:186:U:H5 | 2.21 | 0.57 |
| 29:D1:360:G:N1 | 29:D1:361:A:N6 | 2.52 | 0.57 |
| 29:D1:594:U:C2 | 29:D1:595:G:C4 | 2.93 | 0.57 |
| 29:D1:722:G:N2 | 29:D1:748:U:C2 | 2.71 | 0.57 |
| 29:D1:1065:A:N3 | 29:D1:1065:A:C3' | 2.58 | 0.57 |
| 29:D1:1239:C:H2' | 29:D1:1240:A:O4' | 2.04 | 0.57 |
| 29:D1:1306:G:C8 | 45:DP:62:THR:CB | 2.87 | 0.57 |
| 29:D1:1437:C:O2 | 29:D1:1437:C:C2' | 2.50 | 0.57 |
| 29:D1:1719:G:H4' | 29:D1:1732:U:H4' | 1.86 | 0.57 |
| 29:D1:2125:A:H5' | 29:D1:2126:A:OP2 | 2.05 | 0.57 |
| 29:D1:2178:A:H1' | 29:D1:2180:G:C5 | 2.40 | 0.57 |
| 29:D1:2226:U:O2' | 29:D1:2227:C:H6 | 1.87 | 0.57 |
| 29:D1:2246:G:C2 | 29:D1:2247:G:C8 | 2.93 | 0.57 |
| 29:D1:2420:C:N4 | 29:D1:2421:U:C4 | 2.73 | 0.57 |
| 29:D1:2646:C:O2' | 29:D1:2647:A:H5' | 2.03 | 0.57 |
| 29:D1:2651:G:C4 | 29:D1:2796:G:N2 | 2.73 | 0.57 |
| 29:D1:2775:U:O2' | 29:D1:2776:C:O5' | 2.23 | 0.57 |
| 29:D1:2853:A:N6 | 29:D1:2854:U:N3 | 2.51 | 0.57 |
| 29:D1:2931:C:H2' | 29:D1:2932:U:O4' | 2.05 | 0.57 |
| 29:D1:3088:G:C6 | 29:D1:3089:C:C4 | 2.92 | 0.57 |
| 29:D1:3101:G:C5 | 29:D1:3134:A:C2 | 2.93 | 0.57 |
| 29:D1:3196:U:C6 | 29:D1:3197:G:N2 | 2.73 | 0.57 |
| 29:D1:3219:G:H4' | 29:D1:3220:G:C5' | 2.34 | 0.57 |
| 29:D1:3219:G:N2 | 29:D1:3258:U:OP2 | 2.38 | 0.57 |
| 29:D1:3242:G:H5' | 29:D1:3243:A:OP1 | 2.05 | 0.57 |
| 29:D1:3317:U:OP1 | 29:D1:3318:G:O5' | 2.22 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3350:C:H2' | 29:D1:3351:U:H3 | 1.70 | 0.57 |
| 30:D2:41:G:C2 | 30:D2:43:U:C6 | 2.93 | 0.57 |
| 30:D2:63:A:C6 | 30:D2:65:G:O6 | 2.57 | 0.57 |
| 30:D2:69:C:O2 | 30:D2:110:G:C2 | 2.58 | 0.57 |
| 31:D3:151:C:O5' | 31:D3:151:C:H6 | 1.87 | 0.57 |
| 42:DK:101:ASN:C | 42:DK:103:GLY:N | 2.60 | 0.57 |
| 47:DR:96:PHE:CA | 47:DR:97:PRO:CB | 2.82 | 0.57 |
| 1:A1:17:C:C2 | 1:A1:18:C:C6 | 2.92 | 0.57 |
| 1:A1:196:G:H1' | 1:A1:197:A:H5' | 1.85 | 0.57 |
| 1:A1:335:U:C5' | 1:A1:336:G:OP2 | 2.52 | 0.57 |
| 1:A1:358:U:H5" | 1:A1:359:A:P | 2.44 | 0.57 |
| 1:A1:748:U:H4' | 16:AO:123:GLY:HA2 | 1.85 | 0.57 |
| 1:A1:894:U:H1' | 1:A1:919:A:C2 | 2.40 | 0.57 |
| 1:A1:1145:U:O2' | 3:AB:89:GLN:O | 2.17 | 0.57 |
| 1:A1:1526:A:OP2 | 1:A1:1527:C:C5 | 2.57 | 0.57 |
| 1:A1:1651:A:C2 | 1:A1:1652:C:C4 | 2.92 | 0.57 |
| 1:A1:1721:A:H8 | 1:A1:1721:A:O5' | 1.87 | 0.57 |
| 1:A1:1770:U:N3 | 1:A1:1793:G:N2 | 2.52 | 0.57 |
| 1:A1:1781:A:N1 | 1:A1:1782:A:C2 | 2.72 | 0.57 |
| 11:AJ:54:LEU:C | 11:AJ:56:GLY:N | 2.58 | 0.57 |
| 21:AT:243:LEU:O | 21:AT:244:ALA:HB2 | 2.04 | 0.57 |
| 24:Ac:27:UNK:O | 24:Ac:29:UNK:N | 2.37 | 0.57 |
| 29:B1:102:C:H1' | 29:B1:103:G:P | 2.45 | 0.57 |
| 29:B1:253:A:N6 | 29:B1:254:A:N6 | 2.52 | 0.57 |
| 29:B1:339:C:C2 | 29:B1:340:C:H5 | 2.23 | 0.57 |
| 29:B1:344:A:C2' | 29:B1:345:G:O5' | 2.51 | 0.57 |
| 29:B1:535:G:N1 | 29:B1:558:U:O2' | 2.38 | 0.57 |
| 29:B1:564:G:H3' | 29:B1:565:U:H6 | 1.70 | 0.57 |
| 29:B1:816:A:H5' | 29:B1:906:A:H61 | 1.69 | 0.57 |
| 29:B1:873:C:H4' | 29:B1:1907:C:O2' | 2.05 | 0.57 |
| 29:B1:898:U:C4 | 29:B1:899:U:C4 | 2.92 | 0.57 |
| 29:B1:957:C:H2' | 29:B1:958:C:H6 | 1.70 | 0.57 |
| 29:B1:1049:C:O2' | 29:B1:1050:U:H5' | 2.05 | 0.57 |
| 29:B1:1362:G:H2' | 29:B1:1363:A:H8 | 1.67 | 0.57 |
| 29:B1:1393:A:C2 | 29:B1:1394:A:C4 | 2.93 | 0.57 |
| 29:B1:1794:G:C4' | 29:B1:1795:U:OP2 | 2.51 | 0.57 |
| 29:B1:1922:A:C8 | 29:B1:1923:C:C5 | 2.92 | 0.57 |
| 29:B1:2185:G:C4 | 29:B1:2186:U:C5 | 2.92 | 0.57 |
| 29:B1:2287:C:O2 | 29:B1:2298:U:O2 | 2.22 | 0.57 |
| 29:B1:2641:U:H5" | 29:B1:2642:A:OP1 | 2.04 | 0.57 |
| 29:B1:2661:G:H5' | 29:B1:2749:G:N2 | 2.19 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2787:G:H2' | 29:B1:2788:C:C6 | 2.40 | 0.57 |
| 29:B1:3072:C:H5 | 29:B1:3073:A:N7 | 2.02 | 0.57 |
| 30:B2:73:C:N3 | 30:B2:74:C:C4 | 2.73 | 0.57 |
| 30:B2:90:U:O2 | 30:B2:90:U:H2' | 2.04 | 0.57 |
| 36:BE:111:GLN:N | 36:BE:114:GLY:C | 2.52 | 0.57 |
| 39:BH:187:GLY:HA3 | 39:BH:194:THR:C | 2.30 | 0.57 |
| 41:BJ:73:ASN:O | 41:BJ:74:LYS:C | 2.47 | 0.57 |
| 43:BN:24:LYS:HA | 43:BN:31:LYS:C | 2.28 | 0.57 |
| 1:C1:26:A:OP1 | 1:C1:26:A:H3' | 2.04 | 0.57 |
| 1:C1:97:C:O4' | 1:C1:426:G:H4' | 2.04 | 0.57 |
| 1:C1:285:G:C6 | 1:C1:286:C:C4 | 2.92 | 0.57 |
| 1:C1:385:A:OP2 | 1:C1:385:A:C8 | 2.56 | 0.57 |
| 1:C1:492:A:C5 | 1:C1:494:U:H5" | 2.39 | 0.57 |
| 1:C1:572:C:N4 | 1:C1:573:C:N4 | 2.52 | 0.57 |
| 1:C1:820:U:H2' | 1:C1:821:U:O5' | 2.04 | 0.57 |
| 1:C1:975:C:C4 | 1:C1:976:G:C5 | 2.92 | 0.57 |
| 1:C1:1046:G:H8 | 1:C1:1046:G:OP1 | 1.88 | 0.57 |
| 1:C1:1325:A:C2 | 1:C1:1326:A:C5 | 2.93 | 0.57 |
| 1:C1:1336:A:H5" | 1:C1:1337:A:OP2 | 2.04 | 0.57 |
| 1:C1:1354:G:H2' | 1:C1:1354:G:N3 | 2.19 | 0.57 |
| 1:C1:1397:U:H5" | 1:C1:1398:U:OP2 | 2.05 | 0.57 |
| 1:C1:1433:G:N2 | 1:C1:1434:U:C4 | 2.73 | 0.57 |
| 1:C1:1491:U:H3' | 1:C1:1492:A:C5' | 2.35 | 0.57 |
| 1:C1:1515:A:C2' | 1:C1:1516:A:H5" | 2.34 | 0.57 |
| 1:C1:1534:G:H4' | 1:C1:1536:G:N7 | 2.20 | 0.57 |
| 3:CB:213:ALA:O | 3:CB:215:PHE:N | 2.36 | 0.57 |
| 3:CB:215:PHE:HA | 3:CB:218:ILE:CB | 2.35 | 0.57 |
| 6:CE:131:GLN:O | 6:CE:133:HIS:N | 2.35 | 0.57 |
| 14:CM:7:ARG:O | 14:CM:8:ASP:CB | 2.53 | 0.57 |
| 21:CT:35:SER:CB | 21:CT:43:ILE:O | 2.53 | 0.57 |
| 24:Cc:11:UNK:HA | 24:Cc:92:UNK:CB | 2.35 | 0.57 |
| 29:D1:347:G:N2 | 29:D1:353:G:C8 | 2.73 | 0.57 |
| 29:D1:349:A:C2 | 31:D3:24:G:N9 | 2.73 | 0.57 |
| 29:D1:372:A:N7 | 29:D1:395:A:N7 | 2.52 | 0.57 |
| 29:D1:385:A:C2 | 29:D1:386:A:C4 | 2.93 | 0.57 |
| 29:D1:559:A:O2' | 29:D1:560:G:O5' | 2.21 | 0.57 |
| 29:D1:588:G:H4' | 29:D1:589:A:C5 | 2.38 | 0.57 |
| 29:D1:661:G:C2 | 29:D1:802:C:C6 | 2.92 | 0.57 |
| 29:D1:1289:G:H2' | 29:D1:1290:A:O4' | 2.04 | 0.57 |
| 29:D1:1542:G:C6 | 74:D1:3556:OHX:N3 | 2.73 | 0.57 |
| 29:D1:1558:A:H5" | 29:D1:1559:A:C4' | 2.35 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1584:U:O2' | 29:D1:1585:C:H5' | 2.04 | 0.57 |
| 29:D1:1647:A:C2 | 29:D1:1809:A:H1' | 2.39 | 0.57 |
| 29:D1:2582:C:H3' | 29:D1:2583:C:C6 | 2.40 | 0.57 |
| 29:D1:2582:C:O2 | 29:D1:2582:C:H2' | 2.04 | 0.57 |
| 29:D1:2689:A:C2 | 29:D1:2702:A:C2 | 2.86 | 0.57 |
| 29:D1:2768:U:H2' | 29:D1:2769:A:C8 | 2.39 | 0.57 |
| 29:D1:2881:C:C2 | 29:D1:2882:U:C5 | 2.92 | 0.57 |
| 29:D1:3209:A:H3' | 29:D1:3210:A:H8 | 1.67 | 0.57 |
| 29:D1:3276:G:H2' | 29:D1:3277:U:O4' | 2.05 | 0.57 |
| 29:D1:3299:A:C4 | 29:D1:3300:U:C5 | 2.92 | 0.57 |
| 29:D1:3321:C:C4 | 29:D1:3322:A:N7 | 2.73 | 0.57 |
| 29:D1:3373:U:O4 | 29:D1:3374:U:O4 | 2.23 | 0.57 |
| 31:D3:19:C:C2 | 31:D3:20:U:C5 | 2.93 | 0.57 |
| 31:D3:74:U:O4 | 31:D3:77:A:H5" | 2.04 | 0.57 |
| 34:DC:40:PRO:O | 34:DC:42:ALA:N | 2.38 | 0.57 |
| 35:DD:265:GLU:O | 35:DD:266:THR:CB | 2.52 | 0.57 |
| 39:DH:230:LYS:N | 39:DH:231:LYS:C | 2.63 | 0.57 |
| 42:DK:79:ILE:C | 42:DK:81:GLU:H | 2.12 | 0.57 |
| 43:DN:22:LEU:O | 43:DN:23:ILE:CB | 2.53 | 0.57 |
| 57:Db:42:VAL:C | 57:Db:44:ARG:H | 2.12 | 0.57 |
| 57:Db:123:LYS:CB | 57:Db:124:GLY:CA | 2.78 | 0.57 |
| 59:Dd:67:LEU:HA | 59:Dd:70:VAL:C | 2.29 | 0.57 |
| 1:A1:15:U:C2 | 1:A1:16:G:C8 | 2.92 | 0.57 |
| 1:A1:173:A:C6 | 1:A1:174:U:N1 | 2.73 | 0.57 |
| 1:A1:192:U:H6 | 1:A1:192:U:H3' | 1.70 | 0.57 |
| 1:A1:217:A:H1' | 1:A1:218:A:P | 2.45 | 0.57 |
| 1:A1:620:A:C5 | 1:A1:621:A:N1 | 2.73 | 0.57 |
| 1:A1:954:G:C5 | 1:A1:955:A:N7 | 2.72 | 0.57 |
| 1:A1:1169:G:C2 | 1:A1:1577:A:C6 | 2.92 | 0.57 |
| 1:A1:1200:G:H5" | 1:A1:1200:G:C8 | 2.39 | 0.57 |
| 1:A1:1449:U:C2' | 1:A1:1450:U:O5' | 2.53 | 0.57 |
| 1:A1:1557:U:OP2 | 1:A1:1560:U:O4 | 2.22 | 0.57 |
| 5:AD:65:ARG:O | 5:AD:87:CYS:C | 2.48 | 0.57 |
| 29:B1:5:G:H22 | 31:B3:155:A:C1' | 2.13 | 0.57 |
| 29:B1:49:A:O2' | 29:B1:50:U:OP1 | 2.21 | 0.57 |
| 29:B1:150:A:N7 | 29:B1:151:A:N7 | 2.53 | 0.57 |
| 29:B1:345:G:OP1 | 29:B1:1429:G:N2 | 2.37 | 0.57 |
| 29:B1:430:U:O2' | 29:B1:431:U:H5' | 2.05 | 0.57 |
| 29:B1:505:G:N7 | 29:B1:506:U:C5 | 2.73 | 0.57 |
| 29:B1:509:U:H2' | 29:B1:510:G:H5' | 1.86 | 0.57 |
| 29:B1:820:A:C2 | 29:B1:911:C:O2' | 2.58 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1099:A:C2' | 29:B1:1100:U:H5' | 2.34 | 0.57 |
| 29:B1:1138:U:H2' | 29:B1:1139:G:H5" | 1.87 | 0.57 |
| 29:B1:1140:G:C4 | 29:B1:1141:C:C5 | 2.92 | 0.57 |
| 29:B1:1157:G:C5' | 29:B1:1157:G:C8 | 2.85 | 0.57 |
| 29:B1:1257:C:H42 | 29:B1:1261:G:N2 | 2.01 | 0.57 |
| 29:B1:1330:A:O2' | 29:B1:1331:U:H2' | 2.04 | 0.57 |
| 29:B1:1337:A:C4 | 29:B1:1338:C:C5 | 2.92 | 0.57 |
| 29:B1:1366:A:N3 | 29:B1:1367:G:C8 | 2.72 | 0.57 |
| 29:B1:1641:U:H4' | 29:B1:1642:A:OP1 | 2.04 | 0.57 |
| 29:B1:1693:C:HO2' | 29:B1:1772:U:HO2' | 1.47 | 0.57 |
| 29:B1:1919:G:C2 | 29:B1:1920:U:C2 | 2.92 | 0.57 |
| 29:B1:2105:G:H5' | 29:B1:2105:G:H8 | 1.67 | 0.57 |
| 29:B1:2199:G:C6 | 29:B1:2200:U:C4 | 2.92 | 0.57 |
| 29:B1:2325:G:C2 | 29:B1:2326:A:C8 | 2.93 | 0.57 |
| 29:B1:3200:G:C8 | 29:B1:3200:G:OP2 | 2.58 | 0.57 |
| 29:B1:3323:A:C6 | 29:B1:3324:C:C5 | 2.93 | 0.57 |
| 30:B2:60:G:N3 | 30:B2:61:G:C8 | 2.72 | 0.57 |
| 30:B2:77:G:N2 | 30:B2:101:G:C4 | 2.73 | 0.57 |
| 31:B3:49:G:C6 | 31:B3:50:C:C4 | 2.93 | 0.57 |
| 31:B3:49:G:H2' | 31:B3:50:C:O5' | 2.04 | 0.57 |
| 31:B3:71:A:C6 | 31:B3:87:G:C5 | 2.91 | 0.57 |
| 31:B3:78:G:H2' | 31:B3:79:A:C8 | 2.39 | 0.57 |
| 31:B3:141:C:O2' | 44:BO:110:ALA:HB1 | 2.05 | 0.57 |
| 34:BC:87:VAL:C | 34:BC:88:GLY:O | 2.46 | 0.57 |
| 37:BF:120:ASN:O | 37:BF:121:LEU:CB | 2.52 | 0.57 |
| 42:BK:133:ARG:N | 42:BK:155:THR:N | 2.53 | 0.57 |
| 56:Ba:36:ILE:O | 56:Ba:37:LYS:C | 2.47 | 0.57 |
| 57:Bb:44:ARG:O | 57:Bb:45:ARG:CB | 2.52 | 0.57 |
| 1:C1:39:A:C5 | 1:C1:467:G:N2 | 2.73 | 0.57 |
| 1:C1:115:G:N2 | 1:C1:334:G:H21 | 2.02 | 0.57 |
| 1:C1:119:A:OP2 | 1:C1:120:U:C5 | 2.58 | 0.57 |
| 1:C1:310:C:C6 | 1:C1:310:C:C3' | 2.87 | 0.57 |
| 1:C1:327:U:H5" | 1:C1:328:A:OP2 | 2.05 | 0.57 |
| 1:C1:340:U:C2 | 1:C1:341:A:C8 | 2.93 | 0.57 |
| 1:C1:524:U:C4 | 1:C1:527:A:C5 | 2.93 | 0.57 |
| 1:C1:813:U:C6 | 48:DS:162:ARG:CB | 2.88 | 0.57 |
| 1:C1:921:U:C2 | 1:C1:922:G:N7 | 2.73 | 0.57 |
| 1:C1:1065:A:C5 | 1:C1:1066:C:C4 | 2.92 | 0.57 |
| 1:C1:1131:A:N3 | 1:C1:1131:A:H2' | 2.19 | 0.57 |
| 1:C1:1179:G:N2 | 1:C1:1461:C:C4 | 2.73 | 0.57 |
| 1:C1:1209:C:N3 | 1:C1:1455:G:N2 | 2.53 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1235:C:H2' | 1:C1:1236:A:O4' | 2.05 | 0.57 |
| 1:C1:1382:A:C4 | 1:C1:1383:G:N7 | 2.72 | 0.57 |
| 1:C1:1382:A:H5" | 15:CN:59:PRO:HA | 1.85 | 0.57 |
| 1:C1:1499:G:O6 | 1:C1:1508:U:C2 | 2.55 | 0.57 |
| 1:C1:1522:U:H2' | 1:C1:1523:G:O5' | 2.05 | 0.57 |
| 1:C1:1584:G:N3 | 1:C1:1584:G:H2' | 2.20 | 0.57 |
| 1:C1:1780:G:H2' | 1:C1:1781:A:C8 | 2.39 | 0.57 |
| 2:CA:130:ALA:O | 2:CA:132:ALA:N | 2.38 | 0.57 |
| 4:CC:21:LEU:O | 4:CC:22:ASN:C | 2.47 | 0.57 |
| 17:CP:79:ASN:C | 17:CP:81:LYS:H | 2.13 | 0.57 |
| 28:Ch:3:UNK:O | 28:Ch:6:UNK:C | 2.53 | 0.57 |
| 29:D1:152:U:H2' | 29:D1:153:U:C6 | 2.33 | 0.57 |
| 29:D1:270:U:O2' | 29:D1:271:C:H5' | 2.05 | 0.57 |
| 29:D1:342:A:C4' | 29:D1:344:A:N7 | 2.65 | 0.57 |
| 29:D1:547:G:C8 | 29:D1:548:G:C5 | 2.93 | 0.57 |
| 29:D1:572:A:C5 | 29:D1:573:C:C4 | 2.92 | 0.57 |
| 29:D1:649:A:N3 | 29:D1:650:C:C5 | 2.73 | 0.57 |
| 29:D1:1153:A:N7 | 29:D1:1154:A:N1 | 2.52 | 0.57 |
| 29:D1:1225:A:H2' | 29:D1:1226:G:OP1 | 2.04 | 0.57 |
| 29:D1:1238:C:H2' | 29:D1:1239:C:H6 | 1.67 | 0.57 |
| 29:D1:1351:U:O2 | 29:D1:1351:U:C2' | 2.53 | 0.57 |
| 29:D1:1422:G:C5 | 29:D1:1423:C:C5 | 2.92 | 0.57 |
| 29:D1:1424:C:N4 | 29:D1:1425:U:C4 | 2.72 | 0.57 |
| 29:D1:1943:C:H4' | 29:D1:3344:A:H5' | 1.86 | 0.57 |
| 29:D1:2131:A:C8 | 29:D1:2131:A:H3' | 2.40 | 0.57 |
| 29:D1:2285:C:C5 | 29:D1:2286:U:C4 | 2.93 | 0.57 |
| 29:D1:2407:C:H1' | 29:D1:2818:U:N3 | 2.20 | 0.57 |
| 29:D1:2423:U:H2' | 29:D1:2424:A:OP2 | 2.05 | 0.57 |
| 29:D1:2752:U:H3' | 29:D1:2752:U:O2 | 2.05 | 0.57 |
| 29:D1:2768:U:HO2' | 29:D1:2769:A:H5' | 1.69 | 0.57 |
| 29:D1:2896:A:C5' | 29:D1:2896:A:H8 | 2.18 | 0.57 |
| 29:D1:3069:G:N3 | 29:D1:3070:A:C8 | 2.73 | 0.57 |
| 29:D1:3204:C:C5' | 43:DN:88:ALA:HB3 | 2.32 | 0.57 |
| 30:D2:8:G:OP1 | 49:DT:28:SER:CB | 2.53 | 0.57 |
| 30:D2:38:U:C2' | 30:D2:40:C:C5' | 2.83 | 0.57 |
| 30:D2:46:A:H3' | 30:D2:46:A:C4 | 2.40 | 0.57 |
| 34:DC:195:ALA:O | 34:DC:196:ARG:C | 2.48 | 0.57 |
| 34:DC:261:MET:HA | 34:DC:263:SER:C | 2.30 | 0.57 |
| 35:DD:16:THR:CB | 35:DD:152:VAL:HA | 2.35 | 0.57 |
| 37:DF:142:ASP:O | 37:DF:144:ALA:N | 2.30 | 0.57 |
| 39:DH:208:GLU:O | 39:DH:209:ALA:C | 2.47 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 59:Dd:28:HIS:O | 59:Dd:29:VAL:C | 2.47 | 0.57 |
| 62:Dg:79:VAL:O | 62:Dg:80:ARG:C | 2.48 | 0.57 |
| 1:A1:18:C:H2' | 1:A1:19:A:C8 | 2.40 | 0.57 |
| 1:A1:89:G:N2 | 1:A1:90:C:C2 | 2.73 | 0.57 |
| 1:A1:151:G:N1 | 1:A1:163:G:N2 | 2.36 | 0.57 |
| 1:A1:295:A:N3 | 1:A1:296:U:O4' | 2.38 | 0.57 |
| 1:A1:328:A:C6 | 1:A1:341:A:C6 | 2.93 | 0.57 |
| 1:A1:527:A:H3' | 1:A1:527:A:OP2 | 2.03 | 0.57 |
| 1:A1:873:U:N3 | 1:A1:874:C:N4 | 2.52 | 0.57 |
| 1:A1:915:A:N7 | 1:A1:916:U:C4 | 2.72 | 0.57 |
| 1:A1:1002:G:N2 | 1:A1:1760:G:O3' | 2.38 | 0.57 |
| 1:A1:1141:G:N3 | 1:A1:1142:A:C8 | 2.73 | 0.57 |
| 1:A1:1272:U:O4 | 1:A1:1431:C:O2 | 2.23 | 0.57 |
| 1:A1:1325:A:H2' | 1:A1:1326:A:C8 | 2.40 | 0.57 |
| 1:A1:1335:U:O2 | 1:A1:1335:U:H2' | 2.03 | 0.57 |
| 1:A1:1348:A:C5 | 1:A1:1379:C:C4 | 2.93 | 0.57 |
| 1:A1:1497:U:C5 | 1:A1:1498:G:N7 | 2.72 | 0.57 |
| 3:AB:65:GLU:O | 3:AB:66:PHE:CB | 2.53 | 0.57 |
| 6:AE:68:LYS:C | 6:AE:70:LEU:N | 2.60 | 0.57 |
| 13:AL:33:THR:HA | 13:AL:38:VAL:O | 2.05 | 0.57 |
| 21:AT:84:SER:C | 21:AT:86:ASP:N | 2.61 | 0.57 |
| 29:B1:23:A:OP1 | 59:Bd:43:LYS:HA | 2.04 | 0.57 |
| 29:B1:279:U:OP2 | 74:B1:3536:OHX:N5 | 2.38 | 0.57 |
| 29:B1:519:A:N6 | 37:BF:30:LEU:C | 2.63 | 0.57 |
| 29:B1:600:G:C2 | 29:B1:604:G:C6 | 2.92 | 0.57 |
| 29:B1:717:C:C5' | 29:B1:719:U:O4' | 2.50 | 0.57 |
| 29:B1:744:A:C6 | 29:B1:745:C:C4 | 2.93 | 0.57 |
| 29:B1:746:A:O2' | 29:B1:747:A:OP1 | 2.23 | 0.57 |
| 29:B1:790:U:H4' | 35:BD:112:LYS:O | 2.04 | 0.57 |
| 29:B1:1454:A:O4' | 29:B1:1878:G:N2 | 2.37 | 0.57 |
| 29:B1:1590:G:C2 | 29:B1:1591:G:C8 | 2.93 | 0.57 |
| 29:B1:1597:C:H5' | 29:B1:1696:A:H1' | 1.87 | 0.57 |
| 29:B1:1720:U:H3' | 29:B1:1720:U:C6 | 2.39 | 0.57 |
| 29:B1:1875:G:C6 | 29:B1:1876:U:C5 | 2.92 | 0.57 |
| 29:B1:1907:C:H3' | 29:B1:1907:C:H6 | 1.69 | 0.57 |
| 29:B1:2167:A:H3' | 29:B1:2168:A:C8 | 2.38 | 0.57 |
| 29:B1:2194:G:H1' | 29:B1:2274:U:O2 | 2.04 | 0.57 |
| 29:B1:2248:C:C4' | 29:B1:2271:A:H2 | 2.17 | 0.57 |
| 29:B1:2285:C:H5 | 29:B1:2286:U:N1 | 2.03 | 0.57 |
| 29:B1:2371:G:H5" | 29:B1:2372:A:P | 2.45 | 0.57 |
| 29:B1:2990:G:H5' | 34:BC:20:LYS:CB | 2.34 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3102:G:C2 | 29:B1:3103:A:C4 | 2.93 | 0.57 |
| 29:B1:3182:G:N2 | 29:B1:3189:G:OP1 | 2.34 | 0.57 |
| 29:B1:3203:U:O3' | 29:B1:3204:C:O4' | 2.22 | 0.57 |
| 29:B1:3262:U:OP2 | 29:B1:3262:U:C3' | 2.52 | 0.57 |
| 29:B1:3264:G:H2' | 29:B1:3265:C:C5' | 2.31 | 0.57 |
| 35:BD:97:GLY:O | 35:BD:98:ARG:C | 2.47 | 0.57 |
| 47:BR:57:ILE:C | 47:BR:59:ARG:N | 2.60 | 0.57 |
| 57:Bb:34:LYS:O | 57:Bb:36:LYS:N | 2.37 | 0.57 |
| 1:C1:71:A:H2 | 1:C1:72:A:H62 | 1.45 | 0.57 |
| 1:C1:298:C:C6 | 1:C1:298:C:C3' | 2.86 | 0.57 |
| 1:C1:379:U:N3 | 1:C1:380:U:H5 | 2.03 | 0.57 |
| 1:C1:401:A:C2 | 1:C1:404:G:C8 | 2.92 | 0.57 |
| 1:C1:550:A:H4' | 1:C1:556:A:C6 | 2.40 | 0.57 |
| 1:C1:789:A:C2 | 1:C1:790:U:H1' | 2.40 | 0.57 |
| 1:C1:823:G:N2 | 1:C1:824:G:H2' | 2.19 | 0.57 |
| 1:C1:862:A:C8 | 1:C1:963:A:N6 | 2.73 | 0.57 |
| 1:C1:1056:U:H1' | 1:C1:1064:G:H21 | 1.68 | 0.57 |
| 1:C1:1075:C:N4 | 1:C1:1076:A:N6 | 2.53 | 0.57 |
| 1:C1:1239:U:O2' | 1:C1:1240:U:C6 | 2.57 | 0.57 |
| 1:C1:1285:U:O2 | 1:C1:1286:U:C5 | 2.58 | 0.57 |
| 1:C1:1410:A:N7 | 1:C1:1411:A:C5 | 2.73 | 0.57 |
| 1:C1:1497:U:C4 | 1:C1:1511:U:C2 | 2.93 | 0.57 |
| 1:C1:1556:A:H2' | 1:C1:1560:U:C5 | 2.39 | 0.57 |
| 1:C1:1783:C:H2' | 1:C1:1784:C:C6 | 2.39 | 0.57 |
| 2:CA:17:LEU:C | 2:CA:19:ALA:H | 2.12 | 0.57 |
| 5:CD:57:SER:O | 5:CD:59:VAL:O | 2.23 | 0.57 |
| 5:CD:166:ARG:O | 5:CD:169:ASN:N | 2.38 | 0.57 |
| 8:CG:119:GLU:C | 8:CG:121:ARG:N | 2.60 | 0.57 |
| 17:CP:132:LEU:H | 17:CP:133:LEU:C | 2.12 | 0.57 |
| 23:Cb:114:UNK:C | 23:Cb:116:UNK:N | 2.68 | 0.57 |
| 24:Cc:33:UNK:HA | 24:Cc:36:UNK:CB | 2.35 | 0.57 |
| 29:D1:80:G:O2' | 29:D1:81:C:H5' | 2.04 | 0.57 |
| 29:D1:81:C:O2' | 29:D1:82:C:C5' | 2.45 | 0.57 |
| 29:D1:156:G:C1' | 29:D1:157:A:OP1 | 2.53 | 0.57 |
| 29:D1:176:G:O2' | 29:D1:177:U:C6 | 2.57 | 0.57 |
| 29:D1:333:G:H2' | 29:D1:334:A:C8 | 2.39 | 0.57 |
| 29:D1:380:U:H2' | 29:D1:381:U:C5 | 2.39 | 0.57 |
| 29:D1:413:U:O5' | 29:D1:413:U:H6 | 1.86 | 0.57 |
| 29:D1:420:G:H21 | 29:D1:2384:A:C2' | 2.17 | 0.57 |
| 29:D1:421:G:C2 | 29:D1:2365:C:C2 | 2.92 | 0.57 |
| 29:D1:572:A:C8 | 29:D1:573:C:C5 | 2.93 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:770:G:H3' | 29:D1:771:A:H5" | 1.87 | 0.57 |
| 29:D1:1021:G:C6 | 29:D1:1022:U:C4 | 2.93 | 0.57 |
| 29:D1:1250:G:N2 | 29:D1:1251:A:C2 | 2.73 | 0.57 |
| 29:D1:1258:U:C2' | 29:D1:1259:A:O5' | 2.50 | 0.57 |
| 29:D1:1317:A:C4 | 29:D1:1319:G:C8 | 2.92 | 0.57 |
| 29:D1:1359:C:H2' | 29:D1:1359:C:O2 | 2.05 | 0.57 |
| 29:D1:1446:A:N1 | 29:D1:2356:A:H5" | 2.20 | 0.57 |
| 29:D1:1480:G:C2 | 29:D1:1871:U:OP2 | 2.57 | 0.57 |
| 29:D1:1489:A:OP2 | 29:D1:1838:G:N1 | 2.38 | 0.57 |
| 29:D1:1528:G:C4 | 29:D1:1529:A:C8 | 2.92 | 0.57 |
| 29:D1:1915:A:H5" | 48:DS:84:THR:N | 2.19 | 0.57 |
| 29:D1:2225:U:O2' | 29:D1:2226:U:H5' | 2.03 | 0.57 |
| 29:D1:2280:A:O2' | 29:D1:2281:A:O5' | 2.20 | 0.57 |
| 29:D1:2648:G:C6 | 29:D1:2649:A:N7 | 2.72 | 0.57 |
| 29:D1:2761:G:N2 | 29:D1:2795:U:N1 | 2.53 | 0.57 |
| 29:D1:2933:A:C6 | 29:D1:2934:A:C2 | 2.93 | 0.57 |
| 29:D1:3234:A:O2' | 29:D1:3235:C:H5' | 2.04 | 0.57 |
| 29:D1:3245:A:C2 | 29:D1:3246:G:H1' | 2.40 | 0.57 |
| 29:D1:3268:A:C1' | 29:D1:3269:U:P | 2.92 | 0.57 |
| 74:D1:3502:OHX:N6 | 54:DY:20:GLY:CA | 2.68 | 0.57 |
| 30:D2:74:C:C5 | 30:D2:75:G:C5 | 2.93 | 0.57 |
| 31:D3:71:A:C6 | 31:D3:87:G:C5 | 2.93 | 0.57 |
| 32:DA:155:ILE:N | 32:DA:156:LYS:HA | 2.19 | 0.57 |
| 37:DF:40:LEU:CA | 37:DF:85:ILE:HA | 2.35 | 0.57 |
| 37:DF:108:LYS:O | 37:DF:109:GLU:CB | 2.53 | 0.57 |
| 40:DI:168:ARG:O | 40:DI:169:ASN:CB | 2.52 | 0.57 |
| 72:DL:16:ARG:O | 72:DL:17:ALA:HB3 | 2.05 | 0.57 |
| 43:DN:101:LYS:C | 43:DN:103:ILE:H | 2.13 | 0.57 |
| 50:DU:127:PRO:O | 50:DU:130:ALA:HB3 | 2.05 | 0.57 |
| 1:A1:80:A:H2' | 1:A1:80:A:N3 | 2.19 | 0.57 |
| 1:A1:88:U:C5 | 1:A1:89:G:N7 | 2.72 | 0.57 |
| 1:A1:168:A:H3' | 1:A1:169:A:H8 | 1.70 | 0.57 |
| 1:A1:260:U:H3' | 1:A1:261:U:C5' | 2.35 | 0.57 |
| 1:A1:289:U:O2 | 1:A1:290:G:H8 | 1.88 | 0.57 |
| 1:A1:521:A:H2' | 1:A1:521:A:N3 | 2.20 | 0.57 |
| 1:A1:607:G:H5' | 1:A1:613:G:N2 | 2.20 | 0.57 |
| 1:A1:809:A:C6 | 1:A1:810:G:O6 | 2.58 | 0.57 |
| 1:A1:830:U:O2' | 1:A1:831:U:H6 | 1.86 | 0.57 |
| 1:A1:887:A:C1' | 9:AH:122:PRO:CB | 2.75 | 0.57 |
| 1:A1:908:U:O5' | 1:A1:908:U:H6 | 1.88 | 0.57 |
| 1:A1:1047:G:H2' | 1:A1:1048:G:H8 | 1.69 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1377:U:O2 | 1:A1:1378:U:C4' | 2.52 | 0.57 |
| 1:A1:1419:G:H2' | 1:A1:1420:C:O4' | 2.05 | 0.57 |
| 1:A1:1467:C:H5' | 1:A1:1602:C:P | 2.44 | 0.57 |
| 15:AN:58:LEU:O | 15:AN:59:PRO:CB | 2.53 | 0.57 |
| 21:AT:264:SER:O | 21:AT:268:GLN:HA | 2.05 | 0.57 |
| 29:B1:65:A:C8 | 29:B1:110:G:O6 | 2.57 | 0.57 |
| 29:B1:73:C:O5' | 29:B1:74:G:OP2 | 2.23 | 0.57 |
| 29:B1:124:U:C2' | 29:B1:125:C:O4' | 2.45 | 0.57 |
| 29:B1:157:A:C2' | 29:B1:158:G:C5 | 2.87 | 0.57 |
| 29:B1:244:G:C5 | 29:B1:245:U:O2 | 2.57 | 0.57 |
| 29:B1:359:U:C2' | 29:B1:360:G:H5' | 2.35 | 0.57 |
| 29:B1:716:A:H2' | 29:B1:717:C:H1' | 1.86 | 0.57 |
| 29:B1:739:G:C3' | 29:B1:740:G:H8 | 2.18 | 0.57 |
| 29:B1:901:G:C4 | 29:B1:902:G:C8 | 2.93 | 0.57 |
| 29:B1:945:C:H2' | 29:B1:946:U:H6 | 1.70 | 0.57 |
| 29:B1:1075:A:N1 | 69:Bp:246:UNK:N | 2.53 | 0.57 |
| 29:B1:1174:G:O2' | 29:B1:1175:C:H5' | 2.05 | 0.57 |
| 29:B1:1272:C:H2' | 29:B1:1273:A:O5' | 2.05 | 0.57 |
| 29:B1:1304:A:H2 | 29:B1:2938:G:N3 | 2.03 | 0.57 |
| 29:B1:1388:U:N3 | 29:B1:1389:G:N7 | 2.53 | 0.57 |
| 29:B1:1875:G:C6 | 29:B1:1876:U:C4 | 2.92 | 0.57 |
| 29:B1:2161:G:C5' | 29:B1:2162:U:OP2 | 2.41 | 0.57 |
| 29:B1:2210:G:C6 | 29:B1:2236:G:N2 | 2.73 | 0.57 |
| 29:B1:2244:A:O2' | 29:B1:2245:C:H5' | 2.04 | 0.57 |
| 29:B1:2283:G:H1' | 29:B1:2284:C:H5 | 1.70 | 0.57 |
| 29:B1:2503:G:C5 | 29:B1:2504:U:C4 | 2.92 | 0.57 |
| 29:B1:2546:C:N4 | 29:B1:2547:A:N6 | 2.52 | 0.57 |
| 29:B1:2663:G:H2' | 29:B1:2663:G:N3 | 2.18 | 0.57 |
| 29:B1:2673:A:OP1 | 42:BK:105:GLY:HA2 | 2.04 | 0.57 |
| 29:B1:3109:G:C2 | 29:B1:3110:C:C6 | 2.93 | 0.57 |
| 29:B1:3273:A:C8 | 29:B1:3275:U:C5 | 2.92 | 0.57 |
| 29:B1:3393:U:C2 | 29:B1:3394:U:C6 | 2.93 | 0.57 |
| 31:B3:67:U:C2' | 31:B3:68:G:C8 | 2.88 | 0.57 |
| 31:B3:68:G:C5 | 31:B3:69:U:C5 | 2.93 | 0.57 |
| 34:BC:49:TYR:O | 34:BC:51:ALA:N | 2.37 | 0.57 |
| 35:BD:192:GLY:O | 35:BD:193:LYS:C | 2.48 | 0.57 |
| 42:BK:93:ASP:HA | 42:BK:170:ASP:O | 2.05 | 0.57 |
| 44:BO:99:ARG:O | 44:BO:102:ALA:HB3 | 2.05 | 0.57 |
| 46:BQ:44:ALA:C | 46:BQ:46:LYS:N | 2.59 | 0.57 |
| 47:BR:25:TYR:O | 47:BR:26:LEU:C | 2.47 | 0.57 |
| 1:C1:63:G:O4' | 1:C1:170:U:C2 | 2.58 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:103:A:C6 | 1:C1:360:A:C2 | 2.93 | 0.57 |
| 1:C1:222:A:N7 | 1:C1:223:U:C5 | 2.73 | 0.57 |
| 1:C1:295:A:N3 | 1:C1:296:U:O4' | 2.38 | 0.57 |
| 1:C1:407:A:C5 | 1:C1:408:C:C5 | 2.93 | 0.57 |
| 1:C1:778:G:H2' | 1:C1:779:U:H2' | 1.87 | 0.57 |
| 1:C1:959:U:H4' | 1:C1:960:U:OP2 | 2.03 | 0.57 |
| 1:C1:1585:U:N3 | 1:C1:1611:A:H2 | 2.03 | 0.57 |
| 3:CB:42:GLY:O | 3:CB:43:ARG:C | 2.47 | 0.57 |
| 3:CB:89:GLN:HA | 3:CB:94:GLN:HA | 1.87 | 0.57 |
| 5:CD:195:ALA:O | 5:CD:198:LEU:N | 2.23 | 0.57 |
| 6:CE:26:ALA:C | 6:CE:28:LEU:H | 2.13 | 0.57 |
| 10:CI:21:ASP:HA | 10:CI:25:LEU:CB | 2.35 | 0.57 |
| 29:D1:35:A:C6 | 29:D1:36:C:C5 | 2.93 | 0.57 |
| 29:D1:153:U:C3' | 29:D1:158:G:H21 | 2.18 | 0.57 |
| 29:D1:185:C:H2' | 29:D1:186:U:H6 | 1.69 | 0.57 |
| 29:D1:198:A:N1 | 29:D1:219:A:C5 | 2.73 | 0.57 |
| 29:D1:521:A:C8 | 29:D1:571:U:O4 | 2.58 | 0.57 |
| 29:D1:746:A:C8 | 29:D1:746:A:C5' | 2.88 | 0.57 |
| 29:D1:877:C:C6 | 29:D1:877:C:C3' | 2.88 | 0.57 |
| 29:D1:1225:A:H2' | 29:D1:1226:G:C8 | 2.39 | 0.57 |
| 29:D1:1237:G:C2 | 29:D1:1252:A:H2 | 2.23 | 0.57 |
| 29:D1:1508:C:O2' | 29:D1:2353:G:H1' | 2.04 | 0.57 |
| 29:D1:1514:G:N7 | 29:D1:1841:A:C2 | 2.73 | 0.57 |
| 29:D1:1518:U:C2 | 29:D1:1519:G:C8 | 2.93 | 0.57 |
| 29:D1:1895:A:C2 | 29:D1:2341:A:C2 | 2.92 | 0.57 |
| 29:D1:2127:U:O4' | 29:D1:2301:U:H5" | 2.05 | 0.57 |
| 29:D1:2352:A:H2' | 29:D1:2353:G:H8 | 1.70 | 0.57 |
| 29:D1:2352:A:O2' | 29:D1:2353:G:H5' | 2.05 | 0.57 |
| 29:D1:2433:U:H1' | 44:DO:125:SER:CB | 2.35 | 0.57 |
| 29:D1:2522:G:H1' | 29:D1:2523:A:OP1 | 2.04 | 0.57 |
| 29:D1:2834:G:C4 | 29:D1:2835:U:H5 | 2.19 | 0.57 |
| 29:D1:3025:C:O2' | 29:D1:3026:G:H5' | 2.04 | 0.57 |
| 29:D1:3064:U:O2 | 29:D1:3065:G:C8 | 2.57 | 0.57 |
| 29:D1:3200:G:C6 | 29:D1:3201:C:N4 | 2.72 | 0.57 |
| 29:D1:3280:U:O2 | 29:D1:3281:U:C5 | 2.57 | 0.57 |
| 29:D1:3341:U:N3 | 29:D1:3362:A:C2 | 2.73 | 0.57 |
| 31:D3:24:G:H21 | 31:D3:25:G:H1' | 1.70 | 0.57 |
| 31:D3:69:U:C4 | 31:D3:70:G:C8 | 2.93 | 0.57 |
| 34:DC:317:ILE:O | 34:DC:318:LYS:CB | 2.53 | 0.57 |
| 38:DG:41:ARG:C | 38:DG:43:ILE:N | 2.60 | 0.57 |
| 42:DK:133:ARG:CA | 42:DK:155:THR:H | 2.18 | 0.57 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 73:DM:50:VAL:CB | 73:DM:88:PHE:O | 2.53 | 0.57 |
| 46:DQ:25:SER:O | 46:DQ:27:LYS:N | 2.37 | 0.57 |
| 46:DQ:83:TRP:O | 46:DQ:85:ALA:N | 2.37 | 0.57 |
| 1:A1:26:A:H8 | 1:A1:26:A:OP2 | 1.88 | 0.56 |
| 1:A1:160:C:O2' | 1:A1:161:U:O5' | 2.23 | 0.56 |
| 1:A1:545:A:H2 | 1:A1:546:U:C2 | 2.23 | 0.56 |
| 1:A1:660:G:H22 | 1:A1:683:C:H41 | 1.52 | 0.56 |
| 1:A1:772:G:N7 | 1:A1:773:C:N4 | 2.53 | 0.56 |
| 1:A1:940:A:C2 | 1:A1:941:A:C4 | 2.93 | 0.56 |
| 1:A1:993:A:H2' | 1:A1:994:G:C5' | 2.35 | 0.56 |
| 1:A1:1000:C:C5 | 1:A1:1003:A:OP2 | 2.56 | 0.56 |
| 1:A1:1231:U:H1' | 1:A1:1258:U:C4' | 2.20 | 0.56 |
| 1:A1:1727:G:N1 | 1:A1:1728:A:C6 | 2.72 | 0.56 |
| 1:A1:1794:A:C6 | 1:A1:1796:C:N4 | 2.73 | 0.56 |
| 2:AA:88:LYS:C | 2:AA:90:ALA:H | 2.13 | 0.56 |
| 3:AB:106:ASP:C | 3:AB:108:ASN:H | 2.12 | 0.56 |
| 6:AE:82:ARG:O | 6:AE:148:VAL:O | 2.23 | 0.56 |
| 13:AL:80:LYS:C | 13:AL:82:PRO:N | 2.57 | 0.56 |
| 29:B1:53:G:H2' | 29:B1:54:C:C6 | 2.37 | 0.56 |
| 29:B1:421:G:N2 | 29:B1:2365:C:O2 | 2.38 | 0.56 |
| 29:B1:574:U:H2' | 29:B1:575:G:H5" | 0.78 | 0.56 |
| 29:B1:637:C:C2 | 29:B1:638:C:C5 | 2.93 | 0.56 |
| 29:B1:649:A:C4 | 29:B1:650:C:C5 | 2.93 | 0.56 |
| 29:B1:809:G:C2 | 29:B1:810:A:C8 | 2.93 | 0.56 |
| 29:B1:841:A:C6 | 29:B1:853:G:C6 | 2.93 | 0.56 |
| 29:B1:849:C:C2' | 29:B1:850:U:H5' | 2.35 | 0.56 |
| 29:B1:1047:A:C2' | 29:B1:1048:A:H5' | 2.35 | 0.56 |
| 29:B1:1104:G:H2' | 29:B1:1105:A:O5' | 2.05 | 0.56 |
| 29:B1:1202:A:H2' | 29:B1:1203:A:OP2 | 2.05 | 0.56 |
| 29:B1:1206:G:H2' | 29:B1:1206:G:N3 | 2.19 | 0.56 |
| 29:B1:1440:G:N3 | 29:B1:1441:G:C8 | 2.73 | 0.56 |
| 29:B1:1558:A:H5" | 29:B1:1559:A:C4' | 2.35 | 0.56 |
| 29:B1:1568:U:H2' | 29:B1:1570:U:OP2 | 2.05 | 0.56 |
| 29:B1:1604:G:H2' | 29:B1:1605:A:C5' | 2.35 | 0.56 |
| 29:B1:1675:G:N2 | 29:B1:1773:C:C4 | 2.73 | 0.56 |
| 29:B1:1797:A:H2' | 29:B1:1798:A:C8 | 2.41 | 0.56 |
| 29:B1:1886:A:C5 | 29:B1:1887:A:C8 | 2.93 | 0.56 |
| 29:B1:2191:U:C4 | 29:B1:2192:C:C5 | 2.93 | 0.56 |
| 29:B1:2288:G:C2 | 29:B1:2289:U:C4 | 2.93 | 0.56 |
| 29:B1:2414:G:HO2' | 29:B1:2415:C:P | 2.28 | 0.56 |
| 29:B1:2661:G:H2' | 29:B1:2662:G:H8 | 1.69 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2686:A:O5' | 29:B1:2686:A:H8 | 1.88 | 0.56 |
| 29:B1:2725:U:N3 | 29:B1:2727:A:C2 | 2.73 | 0.56 |
| 29:B1:3144:G:C6 | 74:B1:3428:OHX:N5 | 2.73 | 0.56 |
| 29:B1:3254:G:N3 | 29:B1:3254:G:C2' | 2.66 | 0.56 |
| 29:B1:3335:A:N6 | 29:B1:3336:A:C2 | 2.72 | 0.56 |
| 31:B3:113:U:H1' | 31:B3:114:G:P | 2.42 | 0.56 |
| 34:BC:166:ILE:O | 34:BC:167:ARG:C | 2.48 | 0.56 |
| 36:BE:227:LEU:HA | 36:BE:228:ALA:C | 2.29 | 0.56 |
| 37:BF:166:LYS:O | 37:BF:170:LYS:N | 2.37 | 0.56 |
| 37:BF:166:LYS:O | 37:BF:167:ASN:C | 2.48 | 0.56 |
| 62:Bg:15:GLY:O | 62:Bg:17:ARG:N | 2.37 | 0.56 |
| 63:Bh:37:UNK:C | 63:Bh:39:UNK:N | 2.63 | 0.56 |
| 71:Br:18:UNK:O | 71:Br:19:UNK:C | 2.51 | 0.56 |
| 1:C1:18:C:H2' | 1:C1:19:A:O4' | 2.04 | 0.56 |
| 1:C1:114:C:C4 | 1:C1:248:U:O4 | 2.58 | 0.56 |
| 1:C1:154:G:H5" | 1:C1:155:U:OP2 | 2.05 | 0.56 |
| 1:C1:322:G:O4' | 1:C1:323:A:C8 | 2.58 | 0.56 |
| 1:C1:492:A:N1 | 1:C1:495:C:OP2 | 2.38 | 0.56 |
| 1:C1:524:U:O2 | 1:C1:524:U:C3' | 2.53 | 0.56 |
| 1:C1:605:A:C5 | 1:C1:606:A:N1 | 2.73 | 0.56 |
| 1:C1:1031:U:H4' | 1:C1:1032:G:OP2 | 2.04 | 0.56 |
| 1:C1:1204:A:H5' | 1:C1:1205:C:H5" | 1.87 | 0.56 |
| 1:C1:1373:C:H5' | 1:C1:1374:C:OP2 | 2.05 | 0.56 |
| 1:C1:1398:U:C2' | 1:C1:1399:C:O5' | 2.53 | 0.56 |
| 1:C1:1449:U:H2' | 1:C1:1450:U:O5' | 2.05 | 0.56 |
| 1:C1:1477:G:O2' | 1:C1:1478:G:H5" | 2.04 | 0.56 |
| 1:C1:1513:G:H2' | 1:C1:1514:U:OP1 | 2.04 | 0.56 |
| 2:CA:13:ASP:O | 2:CA:14:ALA:HB2 | 2.04 | 0.56 |
| 2:CA:219:THR:O | 2:CA:220:THR:O | 2.23 | 0.56 |
| 24:Cc:53:UNK:HA | 24:Cc:63:UNK:O | 2.05 | 0.56 |
| 29:D1:21:G:N2 | 31:D3:37:A:C8 | 2.73 | 0.56 |
| 29:D1:191:U:O2' | 29:D1:192:C:C5' | 2.52 | 0.56 |
| 29:D1:420:G:C8 | 29:D1:2385:G:C6 | 2.92 | 0.56 |
| 29:D1:422:A:H1' | 29:D1:423:A:O5' | 2.04 | 0.56 |
| 29:D1:437:G:C6 | 29:D1:438:A:C6 | 2.93 | 0.56 |
| 29:D1:514:G:H2' | 29:D1:515:C:C6 | 2.40 | 0.56 |
| 29:D1:533:A:C6 | 29:D1:555:U:C6 | 2.93 | 0.56 |
| 29:D1:560:G:C2 | 29:D1:561:C:N3 | 2.73 | 0.56 |
| 29:D1:827:A:N3 | 29:D1:827:A:H2' | 2.19 | 0.56 |
| 29:D1:963:G:C8 | 29:D1:963:G:H3' | 2.40 | 0.56 |
| 29:D1:1062:A:C3' | 29:D1:1063:G:C5 | 2.78 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1129:A:H2' | 29:D1:1130:A:C5' | 2.30 | 0.56 |
| 29:D1:1265:U:O4 | 29:D1:1277:C:C4 | 2.58 | 0.56 |
| 29:D1:1269:U:C4 | 29:D1:1271:A:C5 | 2.92 | 0.56 |
| 29:D1:1448:U:C5 | 29:D1:2355:G:N3 | 2.72 | 0.56 |
| 29:D1:1604:G:H2' | 29:D1:1605:A:C5' | 2.35 | 0.56 |
| 29:D1:1850:A:O2' | 29:D1:1851:G:H5' | 2.04 | 0.56 |
| 29:D1:1898:G:O2' | 50:DU:21:ALA:HB2 | 2.05 | 0.56 |
| 29:D1:2204:C:O5' | 29:D1:2204:C:H6 | 1.88 | 0.56 |
| 29:D1:2413:A:O2' | 29:D1:2414:G:H5' | 2.05 | 0.56 |
| 29:D1:2471:U:H5' | 32:DA:22:GLU:CB | 2.35 | 0.56 |
| 29:D1:2673:A:C2 | 29:D1:2674:A:C6 | 2.93 | 0.56 |
| 29:D1:2876:C:C2 | 29:D1:2952:G:C2 | 2.94 | 0.56 |
| 29:D1:3064:U:H2' | 29:D1:3065:G:H8 | 1.71 | 0.56 |
| 30:D2:9:C:H5 | 30:D2:10:C:O2 | 1.88 | 0.56 |
| 30:D2:111:U:H4' | 30:D2:112:G:O3' | 2.05 | 0.56 |
| 30:D2:112:G:O5' | 30:D2:113:C:OP2 | 2.22 | 0.56 |
| 30:D2:112:G:P | 30:D2:113:C:P | 3.03 | 0.56 |
| 31:D3:127:U:O2 | 31:D3:127:U:H2' | 2.04 | 0.56 |
| 31:D3:130:C:H2' | 31:D3:131:A:H8 | 1.69 | 0.56 |
| 34:DC:4:ARG:HA | 34:DC:6:TYR:O | 2.05 | 0.56 |
| 34:DC:229:VAL:HA | 34:DC:232:ARG:CB | 2.36 | 0.56 |
| 44:DO:84:PRO:HA | 74:DO:301:OHX:N3 | 2.20 | 0.56 |
| 1:A1:129:U:H5 | 1:A1:264:G:C6 | 2.14 | 0.56 |
| 1:A1:289:U:H2' | 1:A1:290:G:H5" | 1.87 | 0.56 |
| 1:A1:900:A:H4' | 1:A1:916:U:H1' | 1.88 | 0.56 |
| 1:A1:1153:G:H2' | 1:A1:1154:G:O4' | 2.06 | 0.56 |
| 1:A1:1218:G:O6 | 1:A1:1444:A:H8 | 1.88 | 0.56 |
| 1:A1:1346:A:H3' | 1:A1:1347:U:C6 | 2.37 | 0.56 |
| 1:A1:1475:A:C6 | 1:A1:1476:C:C4 | 2.94 | 0.56 |
| 1:A1:1522:U:C2' | 1:A1:1523:G:O5' | 2.53 | 0.56 |
| 1:A1:1570:A:H2' | 1:A1:1570:A:N3 | 2.20 | 0.56 |
| 1:A1:1662:G:O2' | 1:A1:1663:G:H5' | 2.04 | 0.56 |
| 2:AA:19:ALA:O | 2:AA:20:ALA:C | 2.48 | 0.56 |
| 4:AC:98:ALA:O | 4:AC:100:ALA:N | 2.38 | 0.56 |
| 13:AL:76:PRO:CA | 13:AL:81:ILE:H | 2.18 | 0.56 |
| 26:Ae:12:UNK:O | 26:Ae:13:UNK:C | 2.51 | 0.56 |
| 28:Ah:59:UNK:CB | 29:B1:3352:U:C4 | 2.88 | 0.56 |
| 29:B1:67:A:N3 | 29:B1:317:A:C8 | 2.73 | 0.56 |
| 29:B1:210:U:OP2 | 29:B1:210:U:C5 | 2.57 | 0.56 |
| 29:B1:425:G:O6 | 29:B1:635:G:C6 | 2.57 | 0.56 |
| 29:B1:518:G:H1 | 29:B1:572:A:N6 | 2.02 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:547:G:C3' | 29:B1:548:G:H5' | 2.36 | 0.56 |
| 29:B1:571:U:O2' | 29:B1:572:A:H5' | 2.05 | 0.56 |
| 29:B1:629:U:H2' | 29:B1:630:A:C8 | 2.40 | 0.56 |
| 29:B1:810:A:N3 | 29:B1:810:A:H2' | 2.20 | 0.56 |
| 29:B1:832:G:C2 | 29:B1:863:C:C2 | 2.94 | 0.56 |
| 29:B1:866:A:H5' | 29:B1:867:G:OP2 | 2.05 | 0.56 |
| 29:B1:1004:U:N3 | 29:B1:1005:G:N7 | 2.53 | 0.56 |
| 29:B1:1026:A:H4' | 29:B1:1027:A:OP2 | 2.01 | 0.56 |
| 29:B1:1197:A:C8 | 29:B1:1197:A:C5' | 2.88 | 0.56 |
| 29:B1:1463:U:C5 | 29:B1:1464:G:N7 | 2.72 | 0.56 |
| 29:B1:1465:A:N6 | 29:B1:1466:G:C2 | 2.74 | 0.56 |
| 29:B1:1489:A:H2' | 29:B1:1489:A:N3 | 2.20 | 0.56 |
| 29:B1:1503:A:C3' | 29:B1:1504:A:C5' | 2.68 | 0.56 |
| 29:B1:1595:U:O2' | 29:B1:1596:C:H6 | 1.88 | 0.56 |
| 29:B1:1607:U:HO2' | 29:B1:1608:C:P | 2.28 | 0.56 |
| 29:B1:1851:G:O5' | 29:B1:1851:G:H8 | 1.88 | 0.56 |
| 29:B1:1908:A:N7 | 29:B1:1909:A:N7 | 2.54 | 0.56 |
| 29:B1:2221:G:C8 | 29:B1:2221:G:C3' | 2.88 | 0.56 |
| 29:B1:2246:G:N3 | 29:B1:2247:G:C8 | 2.73 | 0.56 |
| 29:B1:2260:U:H3' | 29:B1:2261:G:C8 | 2.39 | 0.56 |
| 29:B1:2520:A:N3 | 29:B1:2521:U:O2 | 2.38 | 0.56 |
| 29:B1:2689:A:O2' | 29:B1:2702:A:N6 | 2.38 | 0.56 |
| 29:B1:2931:C:O2 | 29:B1:2935:U:C4 | 2.58 | 0.56 |
| 29:B1:2950:G:H22 | 29:B1:2979:U:H2' | 1.69 | 0.56 |
| 29:B1:3139:A:H2' | 29:B1:3140:G:C8 | 2.41 | 0.56 |
| 29:B1:3172:A:O4' | 29:B1:3172:A:OP1 | 2.22 | 0.56 |
| 29:B1:3296:A:C2 | 29:B1:3297:U:C6 | 2.92 | 0.56 |
| 29:B1:3296:A:C4 | 29:B1:3297:U:C6 | 2.93 | 0.56 |
| 30:B2:5:G:C3' | 30:B2:6:C:H5" | 2.34 | 0.56 |
| 31:B3:3:A:H3' | 31:B3:3:A:C8 | 2.40 | 0.56 |
| 31:B3:69:U:H2' | 31:B3:70:G:H1' | 1.86 | 0.56 |
| 31:B3:80:A:H2' | 31:B3:81:U:C6 | 2.40 | 0.56 |
| 33:BB:102:LEU:C | 33:BB:104:LEU:H | 2.13 | 0.56 |
| 33:BB:186:PHE:O | 33:BB:187:HIS:C | 2.48 | 0.56 |
| 36:BE:43:LYS:HA | 49:BT:70:SER:N | 2.20 | 0.56 |
| 38:BG:224:ILE:C | 38:BG:226:GLY:N | 2.62 | 0.56 |
| 41:BJ:184:LYS:C | 41:BJ:186:GLU:N | 2.62 | 0.56 |
| 43:BN:23:ILE:O | 43:BN:32:LEU:CA | 2.53 | 0.56 |
| 43:BN:101:LYS:C | 43:BN:103:ILE:H | 2.11 | 0.56 |
| 44:BO:85:THR:CA | 44:BO:87:GLN:N | 2.67 | 0.56 |
| 44:BO:183:THR:CB | 44:BO:185:ALA:HB3 | 2.35 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 51:BV:7:SER:O | 51:BV:9:SER:N | 2.38 | 0.56 |
| 55:BZ:75:ASN:HA | 55:BZ:86:ARG:CB | 2.34 | 0.56 |
| 58:Bc:62:GLN:O | 58:Bc:65:ALA:HB3 | 2.05 | 0.56 |
| 67:Bm:11:UNK:O | 67:Bm:14:UNK:N | 2.39 | 0.56 |
| 1:C1:17:C:C2 | 1:C1:18:C:C6 | 2.93 | 0.56 |
| 1:C1:126:A:N6 | 1:C1:292:U:C2 | 2.73 | 0.56 |
| 1:C1:166:C:C3' | 1:C1:167:U:H5" | 2.34 | 0.56 |
| 1:C1:527:A:P | 1:C1:528:U:H5' | 2.44 | 0.56 |
| 1:C1:639:U:OP1 | 23:Cb:72:UNK:HA | 2.05 | 0.56 |
| 1:C1:720:G:C2' | 1:C1:721:U:H5" | 2.34 | 0.56 |
| 1:C1:816:G:N7 | 1:C1:817:A:C4 | 2.71 | 0.56 |
| 1:C1:872:G:C2 | 1:C1:873:U:H1' | 2.40 | 0.56 |
| 1:C1:1028:C:C4 | 1:C1:1030:A:H1' | 2.41 | 0.56 |
| 1:C1:1100:G:N3 | 1:C1:1100:G:O4' | 2.36 | 0.56 |
| 1:C1:1120:U:C2 | 1:C1:1121:C:C5 | 2.93 | 0.56 |
| 1:C1:1186:U:OP1 | 1:C1:1456:C:H1' | 2.05 | 0.56 |
| 1:C1:1218:G:O6 | 1:C1:1444:A:H8 | 1.88 | 0.56 |
| 1:C1:1466:G:H2' | 1:C1:1467:C:C6 | 2.40 | 0.56 |
| 1:C1:1483:A:C8 | 1:C1:1524:A:N7 | 2.73 | 0.56 |
| 1:C1:1591:C:O2' | 1:C1:1592:A:P | 2.63 | 0.56 |
| 1:C1:1644:C:C2' | 1:C1:1645:G:O5' | 2.53 | 0.56 |
| 1:C1:1662:G:O2' | 1:C1:1663:G:H5' | 2.05 | 0.56 |
| 1:C1:1683:C:C6 | 1:C1:1719:A:N6 | 2.73 | 0.56 |
| 1:C1:1714:A:C6 | 1:C1:1715:G:C2 | 2.94 | 0.56 |
| 74:C1:1924:OHX:N6 | 74:C1:1964:OHX:N5 | 2.53 | 0.56 |
| 4:CC:11:LEU:O | 4:CC:14:ASP:N | 2.36 | 0.56 |
| 8:CG:83:GLU:O | 8:CG:84:ILE:CB | 2.52 | 0.56 |
| 20:CS:47:ALA:O | 20:CS:48:ASN:CB | 2.53 | 0.56 |
| 24:Cc:1:UNK:N | 24:Cc:74:UNK:CA | 2.60 | 0.56 |
| 25:Cd:92:UNK:C | 25:Cd:94:UNK:N | 2.68 | 0.56 |
| 29:D1:197:G:H2' | 29:D1:198:A:H8 | 1.69 | 0.56 |
| 29:D1:219:A:H2 | 29:D1:1390:A:C2' | 2.18 | 0.56 |
| 29:D1:246:U:P | 29:D1:247:C:H5" | 2.45 | 0.56 |
| 29:D1:337:G:N2 | 31:D3:27:U:C2 | 2.73 | 0.56 |
| 29:D1:514:G:H3' | 29:D1:515:C:C5 | 2.40 | 0.56 |
| 29:D1:683:U:C2' | 29:D1:684:G:H5' | 2.35 | 0.56 |
| 29:D1:707:U:H4' | 29:D1:782:U:O2 | 2.05 | 0.56 |
| 29:D1:716:A:H2' | 29:D1:717:C:H1' | 1.86 | 0.56 |
| 29:D1:716:A:H3' | 29:D1:716:A:H8 | 1.70 | 0.56 |
| 29:D1:783:A:N6 | 74:D1:3537:OHX:N4 | 2.53 | 0.56 |
| 29:D1:877:C:H3' | 29:D1:877:C:C6 | 2.38 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1004:U:C4 | 29:D1:1005:G:N7 | 2.74 | 0.56 |
| 29:D1:1130:A:C8 | 29:D1:1132:C:C5 | 2.94 | 0.56 |
| 29:D1:1212:A:N1 | 29:D1:1294:A:C2 | 2.73 | 0.56 |
| 29:D1:1221:A:H4' | 29:D1:1222:G:OP1 | 2.05 | 0.56 |
| 29:D1:1286:A:H8 | 29:D1:1286:A:O5' | 1.87 | 0.56 |
| 29:D1:1444:G:H8 | 29:D1:1444:G:O5' | 1.88 | 0.56 |
| 29:D1:1730:G:O6 | 55:DZ:27:TYR:N | 2.38 | 0.56 |
| 29:D1:1780:G:C2 | 29:D1:1781:C:C5 | 2.92 | 0.56 |
| 29:D1:2124:G:N2 | 29:D1:2330:C:C2 | 2.73 | 0.56 |
| 29:D1:2128:C:C5 | 29:D1:2129:U:C5 | 2.93 | 0.56 |
| 29:D1:2288:G:N3 | 29:D1:2289:U:C5 | 2.73 | 0.56 |
| 29:D1:2326:A:C5 | 29:D1:2327:U:C5 | 2.93 | 0.56 |
| 29:D1:2378:C:C2 | 29:D1:2379:U:C5 | 2.93 | 0.56 |
| 29:D1:2422:C:C2' | 29:D1:2423:U:O5' | 2.54 | 0.56 |
| 29:D1:2651:G:O2' | 29:D1:2796:G:N1 | 2.32 | 0.56 |
| 29:D1:2684:C:C2 | 29:D1:2685:C:C5 | 2.93 | 0.56 |
| 29:D1:3107:U:H2' | 29:D1:3108:G:C8 | 2.39 | 0.56 |
| 29:D1:3161:C:C6 | 29:D1:3161:C:OP2 | 2.58 | 0.56 |
| 30:D2:38:U:C2' | 30:D2:40:C:H5" | 2.35 | 0.56 |
| 30:D2:48:U:C5 | 30:D2:49:G:O6 | 2.58 | 0.56 |
| 30:D2:120:C:N3 | 30:D2:121:U:O4 | 2.37 | 0.56 |
| 31:D3:75:G:P | 31:D3:90:U:H5' | 2.45 | 0.56 |
| 34:DC:91:GLY:HA3 | 34:DC:158:VAL:CB | 2.35 | 0.56 |
| 36:DE:264:GLN:HA | 36:DE:266:ALA:N | 2.20 | 0.56 |
| 37:DF:166:LYS:O | 37:DF:167:ASN:C | 2.49 | 0.56 |
| 47:DR:60:PRO:O | 47:DR:61:PRO:CB | 2.52 | 0.56 |
| 54:DY:35:ALA:O | 54:DY:36:GLY:C | 2.47 | 0.56 |
| 54:DY:35:ALA:O | 54:DY:37:GLY:N | 2.39 | 0.56 |
| 1:A1:15:U:O4' | 1:A1:619:A:N1 | 2.38 | 0.56 |
| 1:A1:63:G:H2' | 1:A1:64:U:O4' | 2.04 | 0.56 |
| 1:A1:97:C:O4' | 1:A1:426:G:H4' | 2.06 | 0.56 |
| 1:A1:284:G:H8 | 25:Ad:114:UNK:C | 2.16 | 0.56 |
| 1:A1:445:A:N6 | 1:A1:461:G:N2 | 2.53 | 0.56 |
| 1:A1:448:C:C2 | 1:A1:449:C:C5 | 2.93 | 0.56 |
| 1:A1:521:A:C2 | 1:A1:523:G:C6 | 2.94 | 0.56 |
| 1:A1:553:G:C5 | 1:A1:554:C:C4 | 2.93 | 0.56 |
| 1:A1:587:C:H2' | 1:A1:588:U:C6 | 2.40 | 0.56 |
| 1:A1:618:U:C2' | 1:A1:619:A:C5' | 2.83 | 0.56 |
| 1:A1:635:A:OP1 | 1:A1:636:A:OP2 | 2.23 | 0.56 |
| 1:A1:747:C:H2' | 1:A1:748:U:C6 | 2.40 | 0.56 |
| 1:A1:757:A:C5 | 1:A1:758:U:C6 | 2.94 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:829:A:O2' | 1:A1:830:U:P | 2.63 | 0.56 |
| 1:A1:908:U:C5 | 1:A1:909:U:C6 | 2.94 | 0.56 |
| 1:A1:940:A:H2' | 1:A1:941:A:H8 | 1.70 | 0.56 |
| 1:A1:1054:U:H2' | 1:A1:1055:U:H6 | 1.70 | 0.56 |
| 1:A1:1085:G:N2 | 1:A1:1089:U:C2 | 2.73 | 0.56 |
| 1:A1:1116:A:H1' | 1:A1:1131:A:N6 | 2.21 | 0.56 |
| 1:A1:1168:U:H2' | 1:A1:1169:G:H5' | 1.88 | 0.56 |
| 1:A1:1245:G:C5 | 1:A1:1246:C:C5 | 2.93 | 0.56 |
| 1:A1:1338:C:H1' | 1:A1:1410:A:C4 | 2.40 | 0.56 |
| 1:A1:1354:G:N3 | 1:A1:1354:G:H2' | 2.20 | 0.56 |
| 1:A1:1371:A:N1 | 1:A1:1372:U:C4 | 2.74 | 0.56 |
| 1:A1:1431:C:H3' | 1:A1:1432:U:C5' | 2.34 | 0.56 |
| 1:A1:1756:A:N6 | 74:A1:1901:OHX:N6 | 2.53 | 0.56 |
| 2:AA:52:LYS:C | 2:AA:54:TRP:N | 2.62 | 0.56 |
| 4:AC:15:GLY:HA2 | 20:AS:49:ASP:O | 2.06 | 0.56 |
| 8:AG:81:ALA:O | 8:AG:82:PRO:CB | 2.54 | 0.56 |
| 11:AJ:35:PRO:C | 11:AJ:37:THR:N | 2.64 | 0.56 |
| 13:AL:78:HIS:O | 13:AL:79:TYR:C | 2.49 | 0.56 |
| 15:AN:12:GLN:C | 15:AN:14:GLN:H | 2.10 | 0.56 |
| 18:AQ:36:ALA:HB3 | 18:AQ:37:GLN:HA | 1.86 | 0.56 |
| 20:AS:41:GLN:CB | 74:AS:101:OHX:N3 | 2.68 | 0.56 |
| 25:Ad:105:UNK:C | 25:Ad:107:UNK:N | 2.66 | 0.56 |
| 29:B1:116:A:H4' | 29:B1:117:U:OP1 | 2.05 | 0.56 |
| 29:B1:206:G:C6 | 29:B1:207:U:C4 | 2.93 | 0.56 |
| 29:B1:360:G:O2' | 29:B1:361:A:H5' | 2.04 | 0.56 |
| 29:B1:385:A:H2' | 29:B1:386:A:H8 | 1.70 | 0.56 |
| 29:B1:748:U:O2 | 29:B1:748:U:C2' | 2.53 | 0.56 |
| 29:B1:911:C:O2 | 29:B1:911:C:C2' | 2.53 | 0.56 |
| 29:B1:1035:G:C2' | 29:B1:1036:A:H5' | 2.35 | 0.56 |
| 29:B1:1198:C:C6 | 29:B1:1200:A:H8 | 2.21 | 0.56 |
| 29:B1:1384:U:OP1 | 35:BD:205:PRO:N | 2.38 | 0.56 |
| 29:B1:1455:U:O4 | 29:B1:3077:A:OP2 | 2.23 | 0.56 |
| 29:B1:1488:G:H5' | 29:B1:1838:G:O6 | 2.05 | 0.56 |
| 29:B1:1489:A:H3' | 29:B1:1490:A:H8 | 1.69 | 0.56 |
| 29:B1:1596:C:H2' | 29:B1:1597:C:H6 | 1.68 | 0.56 |
| 29:B1:1662:G:H2' | 29:B1:1663:C:C6 | 2.41 | 0.56 |
| 29:B1:1715:A:N6 | 29:B1:1716:U:C5 | 2.66 | 0.56 |
| 29:B1:1838:G:C5' | 29:B1:1839:A:OP1 | 2.49 | 0.56 |
| 29:B1:1857:C:OP2 | 29:B1:1857:C:C6 | 2.58 | 0.56 |
| 29:B1:1860:G:H2' | 29:B1:1861:G:H8 | 1.71 | 0.56 |
| 29:B1:1946:A:H5" | 29:B1:1947:G:OP2 | 2.06 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2114:C:H5” | 29:B1:2116:G:C8 | 2.40 | 0.56 |
| 29:B1:2174:G:C8 | 29:B1:2174:G:OP1 | 2.59 | 0.56 |
| 29:B1:2265:C:N4 | 29:B1:2266:U:N3 | 2.53 | 0.56 |
| 29:B1:2269:U:N3 | 29:B1:2272:G:N1 | 2.45 | 0.56 |
| 29:B1:2327:U:H5” | 29:B1:2328:U:OP2 | 2.05 | 0.56 |
| 29:B1:2403:G:C4’ | 29:B1:2404:A:OP1 | 2.53 | 0.56 |
| 29:B1:2430:A:O2’ | 29:B1:2431:C:H5’ | 2.05 | 0.56 |
| 29:B1:2513:U:H5 | 29:B1:2591:A:C6 | 2.24 | 0.56 |
| 29:B1:2568:C:C2’ | 29:B1:2569:A:H4’ | 2.34 | 0.56 |
| 29:B1:2609:A:H2’ | 29:B1:2610:G:C8 | 2.40 | 0.56 |
| 29:B1:2678:A:OP2 | 29:B1:2678:A:H4’ | 2.05 | 0.56 |
| 29:B1:2931:C:H2’ | 29:B1:2932:U:H6 | 1.71 | 0.56 |
| 29:B1:2980:U:H2’ | 29:B1:2981:U:H5’ | 1.87 | 0.56 |
| 29:B1:3066:U:H2’ | 29:B1:3067:C:C6 | 2.40 | 0.56 |
| 29:B1:3097:C:H2’ | 29:B1:3098:G:C8 | 2.36 | 0.56 |
| 29:B1:3135:U:C4 | 29:B1:3136:G:C6 | 2.93 | 0.56 |
| 29:B1:3183:A:H2 | 29:B1:3188:G:O3’ | 1.88 | 0.56 |
| 29:B1:3214:U:O3’ | 29:B1:3218:A:H5” | 2.06 | 0.56 |
| 29:B1:3218:A:O2’ | 29:B1:3219:G:C3’ | 2.46 | 0.56 |
| 29:B1:3264:G:H3’ | 29:B1:3265:C:H5” | 1.87 | 0.56 |
| 29:B1:3309:G:N7 | 29:B1:3310:A:H1’ | 2.20 | 0.56 |
| 30:B2:62:U:H2’ | 30:B2:62:U:O2 | 2.05 | 0.56 |
| 30:B2:66:A:H8 | 30:B2:66:A:O5’ | 1.87 | 0.56 |
| 31:B3:4:C:C2’ | 31:B3:5:U:H5’ | 2.35 | 0.56 |
| 31:B3:29:U:C2 | 31:B3:30:C:C5 | 2.93 | 0.56 |
| 31:B3:124:G:H4’ | 31:B3:124:G:OP1 | 2.04 | 0.56 |
| 31:B3:131:A:HO2’ | 31:B3:132:G:P | 2.29 | 0.56 |
| 31:B3:150:G:H2’ | 31:B3:152:G:OP2 | 2.04 | 0.56 |
| 34:BC:58:ARG:O | 34:BC:71:GLU:O | 2.23 | 0.56 |
| 34:BC:68:HIS:O | 34:BC:70:ARG:N | 2.38 | 0.56 |
| 35:BD:181:VAL:O | 35:BD:182:LEU:CB | 2.53 | 0.56 |
| 41:BJ:66:GLU:O | 41:BJ:67:ALA:C | 2.49 | 0.56 |
| 44:BO:49:ARG:O | 44:BO:50:ARG:C | 2.47 | 0.56 |
| 44:BO:83:LYS:CB | 44:BO:84:PRO:CB | 2.84 | 0.56 |
| 45:BP:25:LYS:O | 45:BP:27:LEU:N | 2.37 | 0.56 |
| 47:BR:116:LYS:O | 47:BR:117:ALA:C | 2.48 | 0.56 |
| 54:BY:131:SER:CB | 54:BY:134:ALA:HB2 | 2.35 | 0.56 |
| 56:Ba:63:GLY:O | 56:Ba:65:LYS:N | 2.39 | 0.56 |
| 58:Bc:52:ALA:O | 58:Bc:53:CYS:C | 2.48 | 0.56 |
| 59:Bd:68:LYS:O | 59:Bd:72:ARG:CB | 2.54 | 0.56 |
| 1:C1:66:U:C4 | 1:C1:71:A:N6 | 2.73 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:112:A:O2' | 1:C1:113:U:H6 | 1.89 | 0.56 |
| 1:C1:129:U:C6 | 1:C1:264:G:O6 | 2.59 | 0.56 |
| 1:C1:208:U:H2' | 1:C1:209:U:C6 | 2.39 | 0.56 |
| 1:C1:248:U:H1' | 1:C1:249:U:H5" | 1.87 | 0.56 |
| 1:C1:295:A:C2 | 1:C1:296:U:O2 | 2.58 | 0.56 |
| 1:C1:363:G:C2 | 1:C1:364:G:H1' | 2.40 | 0.56 |
| 1:C1:511:A:C4' | 1:C1:512:A:OP2 | 2.52 | 0.56 |
| 1:C1:567:A:OP2 | 17:CP:67:ALA:HB1 | 2.05 | 0.56 |
| 1:C1:570:A:H61 | 17:CP:116:ASP:CB | 2.19 | 0.56 |
| 1:C1:648:G:O2' | 1:C1:649:U:O5' | 2.24 | 0.56 |
| 1:C1:725:U:O2' | 1:C1:726:C:O4' | 2.24 | 0.56 |
| 1:C1:733:A:C2 | 1:C1:734:A:C6 | 2.93 | 0.56 |
| 1:C1:812:A:N6 | 1:C1:859:A:C8 | 2.72 | 0.56 |
| 1:C1:824:G:C6 | 1:C1:850:A:N3 | 2.74 | 0.56 |
| 1:C1:827:C:H4' | 1:C1:828:U:OP1 | 2.05 | 0.56 |
| 1:C1:841:U:H2' | 1:C1:842:C:O4' | 2.06 | 0.56 |
| 1:C1:845:G:O6 | 74:C1:1917:OHX:N1 | 2.38 | 0.56 |
| 1:C1:930:A:H3' | 1:C1:931:C:H6 | 1.70 | 0.56 |
| 1:C1:989:U:C2' | 1:C1:990:C:H6 | 2.16 | 0.56 |
| 1:C1:1032:G:C4 | 1:C1:1033:C:C5 | 2.93 | 0.56 |
| 1:C1:1201:G:C5 | 1:C1:1202:A:O4' | 2.58 | 0.56 |
| 1:C1:1202:A:N6 | 1:C1:1457:C:OP1 | 2.39 | 0.56 |
| 1:C1:1204:A:C5 | 1:C1:1205:C:N3 | 2.74 | 0.56 |
| 1:C1:1237:G:C4 | 1:C1:1238:A:C8 | 2.92 | 0.56 |
| 1:C1:1348:A:C2 | 1:C1:1378:U:H6 | 2.24 | 0.56 |
| 1:C1:1391:A:H2' | 1:C1:1392:U:H6 | 1.67 | 0.56 |
| 1:C1:1478:G:H2' | 1:C1:1479:A:O4' | 2.05 | 0.56 |
| 1:C1:1575:G:N3 | 1:C1:1575:G:C2' | 2.65 | 0.56 |
| 1:C1:1584:G:C4 | 1:C1:1584:G:H3' | 2.40 | 0.56 |
| 1:C1:1608:U:H2' | 1:C1:1609:U:H5" | 1.87 | 0.56 |
| 1:C1:1652:C:O2 | 1:C1:1652:C:H2' | 2.04 | 0.56 |
| 1:C1:1682:U:C2 | 1:C1:1683:C:C4 | 2.93 | 0.56 |
| 1:C1:1707:A:H2' | 1:C1:1708:U:C2 | 2.40 | 0.56 |
| 3:CB:163:GLY:HA3 | 3:CB:203:LYS:N | 2.20 | 0.56 |
| 4:CC:69:LEU:O | 4:CC:72:LEU:N | 2.38 | 0.56 |
| 5:CD:132:VAL:O | 5:CD:136:ALA:HB2 | 2.05 | 0.56 |
| 5:CD:215:ASP:O | 5:CD:218:GLU:N | 2.34 | 0.56 |
| 6:CE:100:LYS:O | 6:CE:104:PHE:N | 2.37 | 0.56 |
| 10:CI:124:THR:O | 10:CI:125:PRO:CB | 2.54 | 0.56 |
| 11:CJ:127:LYS:HA | 11:CJ:134:ALA:H | 1.71 | 0.56 |
| 16:CO:39:GLN:O | 16:CO:40:VAL:C | 2.49 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 17:CP:58:GLY:HA2 | 17:CP:71:CYS:H | 1.70 | 0.56 |
| 28:Ch:1:UNK:O | 28:Ch:3:UNK:N | 2.38 | 0.56 |
| 28:Ch:8:UNK:O | 28:Ch:9:UNK:O | 2.22 | 0.56 |
| 28:Ch:18:UNK:O | 28:Ch:19:UNK:C | 2.52 | 0.56 |
| 29:D1:64:G:HO2' | 29:D1:77:A:H1' | 1.68 | 0.56 |
| 29:D1:80:G:C2 | 29:D1:81:C:C6 | 2.93 | 0.56 |
| 29:D1:111:C:H2' | 29:D1:111:C:O2 | 2.05 | 0.56 |
| 29:D1:121:A:H4' | 29:D1:150:A:C2 | 2.39 | 0.56 |
| 29:D1:206:G:C6 | 29:D1:207:U:C4 | 2.94 | 0.56 |
| 29:D1:284:A:C2 | 29:D1:306:A:N9 | 2.73 | 0.56 |
| 29:D1:398:A:H2 | 29:D1:1415:U:H5" | 1.70 | 0.56 |
| 29:D1:424:G:N1 | 29:D1:635:G:N2 | 2.53 | 0.56 |
| 29:D1:504:A:H8 | 29:D1:504:A:C3' | 2.05 | 0.56 |
| 29:D1:519:A:H62 | 37:DF:30:LEU:CA | 2.18 | 0.56 |
| 29:D1:577:C:H6 | 29:D1:577:C:C3' | 2.18 | 0.56 |
| 29:D1:583:G:C2 | 29:D1:584:G:C8 | 2.93 | 0.56 |
| 29:D1:606:C:N3 | 29:D1:607:A:C6 | 2.74 | 0.56 |
| 29:D1:717:C:C5' | 29:D1:719:U:O4' | 2.53 | 0.56 |
| 29:D1:776:U:O5' | 29:D1:777:U:OP2 | 2.23 | 0.56 |
| 29:D1:965:A:OP1 | 74:D1:3568:OHX:N4 | 2.38 | 0.56 |
| 29:D1:998:A:C2' | 29:D1:999:G:H5' | 2.35 | 0.56 |
| 29:D1:1049:C:O2' | 29:D1:1050:U:H5' | 2.04 | 0.56 |
| 29:D1:1113:G:C6 | 29:D1:1114:U:N3 | 2.73 | 0.56 |
| 29:D1:1131:G:N3 | 29:D1:2373:A:C2 | 2.73 | 0.56 |
| 29:D1:1143:A:H1' | 29:D1:1368:U:C5 | 2.40 | 0.56 |
| 29:D1:1289:G:C4 | 29:D1:1290:A:C8 | 2.93 | 0.56 |
| 29:D1:1345:G:N7 | 74:D1:3480:OHX:N2 | 2.53 | 0.56 |
| 29:D1:1427:U:O2' | 29:D1:1428:A:H5' | 2.05 | 0.56 |
| 29:D1:1517:G:C4 | 29:D1:1518:U:C5 | 2.94 | 0.56 |
| 29:D1:1593:A:C2' | 29:D1:1594:A:H8 | 2.15 | 0.56 |
| 29:D1:1595:U:O2' | 29:D1:1596:C:H6 | 1.89 | 0.56 |
| 29:D1:1610:G:C6 | 29:D1:1611:G:C6 | 2.93 | 0.56 |
| 29:D1:1654:A:H2' | 29:D1:1655:G:O4' | 2.05 | 0.56 |
| 29:D1:1695:U:C2 | 29:D1:1749:A:C2 | 2.93 | 0.56 |
| 29:D1:1704:A:N6 | 29:D1:1739:U:C4 | 2.73 | 0.56 |
| 29:D1:1806:A:C2 | 29:D1:1807:G:H1' | 2.40 | 0.56 |
| 29:D1:1841:A:C2 | 29:D1:1848:G:N7 | 2.73 | 0.56 |
| 29:D1:1852:G:C4 | 29:D1:1853:U:C5 | 2.92 | 0.56 |
| 29:D1:2120:A:O2' | 29:D1:2121:G:P | 2.59 | 0.56 |
| 29:D1:2130:G:H5" | 29:D1:2131:A:OP2 | 2.04 | 0.56 |
| 29:D1:2149:A:C8 | 29:D1:2149:A:C3' | 2.87 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2160:G:H2' | 29:D1:2161:G:C8 | 2.40 | 0.56 |
| 29:D1:2269:U:O2 | 29:D1:2269:U:C2' | 2.52 | 0.56 |
| 29:D1:2284:C:N3 | 29:D1:2308:C:O4' | 2.38 | 0.56 |
| 29:D1:2296:A:C2 | 29:D1:2919:A:H1' | 2.41 | 0.56 |
| 29:D1:2419:A:C4 | 29:D1:2804:A:C8 | 2.94 | 0.56 |
| 29:D1:2580:A:C1' | 29:D1:2581:U:OP2 | 2.53 | 0.56 |
| 29:D1:2602:G:C4 | 29:D1:2603:G:C8 | 2.93 | 0.56 |
| 29:D1:2640:A:C8 | 29:D1:2641:U:C5 | 2.92 | 0.56 |
| 29:D1:2696:A:N7 | 29:D1:2697:A:N7 | 2.53 | 0.56 |
| 29:D1:3026:G:C2 | 29:D1:3030:G:C6 | 2.93 | 0.56 |
| 29:D1:3136:G:C4 | 29:D1:3137:C:C5 | 2.93 | 0.56 |
| 29:D1:3210:A:C2' | 29:D1:3211:C:C6 | 2.88 | 0.56 |
| 29:D1:3331:U:C6 | 29:D1:3331:U:C5' | 2.87 | 0.56 |
| 30:D2:14:U:H2' | 30:D2:15:C:O4' | 2.06 | 0.56 |
| 30:D2:68:C:O2' | 30:D2:69:C:C4' | 2.53 | 0.56 |
| 30:D2:79:A:H1' | 30:D2:102:A:N6 | 2.20 | 0.56 |
| 30:D2:100:C:H5' | 30:D2:101:G:OP2 | 2.04 | 0.56 |
| 31:D3:3:A:H2' | 31:D3:4:C:H5' | 1.87 | 0.56 |
| 31:D3:11:C:H2' | 31:D3:12:A:O4' | 2.06 | 0.56 |
| 31:D3:69:U:H2' | 31:D3:70:G:H1' | 1.85 | 0.56 |
| 31:D3:97:A:C2' | 31:D3:98:U:H5' | 2.36 | 0.56 |
| 31:D3:107:G:C2' | 31:D3:108:C:H5' | 2.35 | 0.56 |
| 35:DD:66:GLY:O | 35:DD:67:THR:C | 2.48 | 0.56 |
| 35:DD:180:LYS:O | 35:DD:182:LEU:N | 2.38 | 0.56 |
| 36:DE:118:THR:C | 36:DE:120:LYS:H | 2.14 | 0.56 |
| 36:DE:141:PRO:CA | 36:DE:143:LYS:H | 2.18 | 0.56 |
| 36:DE:271:LYS:C | 36:DE:275:THR:HA | 2.31 | 0.56 |
| 41:DJ:170:LYS:H | 41:DJ:177:ASP:C | 2.13 | 0.56 |
| 43:DN:63:VAL:O | 43:DN:64:VAL:CB | 2.52 | 0.56 |
| 47:DR:19:PRO:O | 47:DR:20:LYS:CB | 2.52 | 0.56 |
| 47:DR:43:PRO:C | 47:DR:45:ASN:H | 2.14 | 0.56 |
| 49:DT:28:SER:O | 49:DT:30:TYR:N | 2.39 | 0.56 |
| 55:DZ:75:ASN:HA | 55:DZ:86:ARG:CB | 2.36 | 0.56 |
| 56:Da:63:GLY:O | 56:Da:65:LYS:N | 2.39 | 0.56 |
| 65:Dk:6:UNK:O | 65:Dk:8:UNK:N | 2.37 | 0.56 |
| 1:A1:243:G:N3 | 1:A1:251:A:C2 | 2.72 | 0.56 |
| 1:A1:265:A:N7 | 1:A1:290:G:N2 | 2.53 | 0.56 |
| 1:A1:380:U:H2' | 1:A1:381:C:C5 | 2.40 | 0.56 |
| 1:A1:518:A:N6 | 1:A1:535:A:C4 | 2.73 | 0.56 |
| 1:A1:524:U:C4 | 1:A1:527:A:C5 | 2.93 | 0.56 |
| 1:A1:541:A:C8 | 1:A1:541:A:OP2 | 2.59 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:581:U:H2' | 1:A1:581:U:O2 | 2.05 | 0.56 |
| 1:A1:703:G:H1' | 1:A1:736:C:N4 | 2.19 | 0.56 |
| 1:A1:728:U:H2' | 1:A1:729:G:H8 | 1.70 | 0.56 |
| 1:A1:1133:A:C2 | 1:A1:1134:C:H1' | 2.39 | 0.56 |
| 1:A1:1263:G:C6 | 1:A1:1264:G:C4 | 2.92 | 0.56 |
| 1:A1:1295:G:H1' | 1:A1:1321:A:C2 | 2.40 | 0.56 |
| 1:A1:1483:A:H61 | 1:A1:1591:C:H1' | 1.71 | 0.56 |
| 1:A1:1553:G:H5" | 1:A1:1554:U:OP2 | 2.05 | 0.56 |
| 1:A1:1608:U:H2' | 1:A1:1609:U:H5" | 1.88 | 0.56 |
| 1:A1:1622:G:C6 | 1:A1:1623:C:C4 | 2.93 | 0.56 |
| 1:A1:1714:A:C6 | 1:A1:1715:G:C2 | 2.93 | 0.56 |
| 1:A1:1750:A:C6 | 1:A1:1751:C:C4 | 2.93 | 0.56 |
| 1:A1:1779:U:O2' | 1:A1:1780:G:P | 2.63 | 0.56 |
| 1:A1:1788:G:OP2 | 1:A1:1788:G:C8 | 2.57 | 0.56 |
| 3:AB:213:ALA:O | 3:AB:215:PHE:N | 2.37 | 0.56 |
| 8:AG:46:THR:O | 8:AG:47:PRO:CB | 2.53 | 0.56 |
| 8:AG:88:LEU:O | 8:AG:90:TYR:N | 2.39 | 0.56 |
| 29:B1:49:A:C6 | 29:B1:279:U:H4' | 2.40 | 0.56 |
| 29:B1:116:A:N1 | 29:B1:265:A:OP2 | 2.37 | 0.56 |
| 29:B1:287:G:O2' | 29:B1:288:C:C5' | 2.53 | 0.56 |
| 29:B1:405:U:H5 | 29:B1:406:G:C8 | 2.24 | 0.56 |
| 29:B1:564:G:C2' | 29:B1:565:U:C6 | 2.89 | 0.56 |
| 29:B1:575:G:C5' | 29:B1:575:G:C8 | 2.74 | 0.56 |
| 29:B1:593:C:N4 | 29:B1:594:U:O2' | 2.38 | 0.56 |
| 29:B1:712:G:H2' | 29:B1:713:U:C6 | 2.41 | 0.56 |
| 29:B1:777:U:O2' | 29:B1:778:U:O5' | 2.21 | 0.56 |
| 29:B1:910:G:H3' | 29:B1:911:C:H6 | 1.69 | 0.56 |
| 29:B1:959:C:N4 | 29:B1:2801:A:C8 | 2.73 | 0.56 |
| 29:B1:1081:U:H2' | 29:B1:1082:U:OP1 | 2.06 | 0.56 |
| 29:B1:1528:G:N1 | 29:B1:1833:G:C6 | 2.73 | 0.56 |
| 29:B1:1628:C:HO2' | 29:B1:1630:U:H5' | 1.70 | 0.56 |
| 29:B1:1654:A:H2' | 29:B1:1655:G:O4' | 2.05 | 0.56 |
| 29:B1:1907:C:H2' | 29:B1:1908:A:H5' | 1.86 | 0.56 |
| 29:B1:2144:A:C6 | 29:B1:2281:A:C2 | 2.94 | 0.56 |
| 29:B1:2186:U:C2' | 29:B1:2187:G:O5' | 2.53 | 0.56 |
| 29:B1:2260:U:C2' | 29:B1:2261:G:C8 | 2.89 | 0.56 |
| 29:B1:2349:U:C4 | 29:B1:2350:C:N4 | 2.73 | 0.56 |
| 29:B1:2465:G:C2' | 29:B1:2466:G:H8 | 2.16 | 0.56 |
| 29:B1:2572:C:OP2 | 74:B1:3558:OHX:N6 | 2.38 | 0.56 |
| 29:B1:2607:G:C4 | 29:B1:2608:G:C8 | 2.93 | 0.56 |
| 29:B1:2714:G:N2 | 29:B1:2751:G:C4 | 2.74 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3096:C:O2' | 29:B1:3097:C:H5' | 2.06 | 0.56 |
| 29:B1:3180:A:OP1 | 29:B1:3180:A:C4' | 2.52 | 0.56 |
| 29:B1:3187:A:N1 | 29:B1:3188:G:C5 | 2.74 | 0.56 |
| 29:B1:3226:A:O2' | 29:B1:3227:A:H5' | 2.06 | 0.56 |
| 29:B1:3308:C:C6 | 29:B1:3308:C:C3' | 2.89 | 0.56 |
| 30:B2:2:G:C4 | 30:B2:3:U:C5 | 2.92 | 0.56 |
| 31:B3:69:U:H2' | 31:B3:70:G:O2' | 2.06 | 0.56 |
| 32:BA:4:ILE:O | 32:BA:5:THR:C | 2.48 | 0.56 |
| 34:BC:76:VAL:HA | 34:BC:325:LYS:HA | 1.88 | 0.56 |
| 41:BJ:17:TYR:C | 41:BJ:19:LYS:H | 2.12 | 0.56 |
| 42:BK:50:ALA:C | 42:BK:62:ASN:HA | 2.31 | 0.56 |
| 49:BT:100:LYS:C | 49:BT:102:ARG:N | 2.62 | 0.56 |
| 54:BY:35:ALA:O | 54:BY:37:GLY:N | 2.38 | 0.56 |
| 62:Bg:79:VAL:O | 62:Bg:80:ARG:C | 2.47 | 0.56 |
| 1:C1:137:U:H4' | 1:C1:138:A:OP2 | 2.04 | 0.56 |
| 1:C1:218:A:C6 | 1:C1:844:A:H1' | 2.40 | 0.56 |
| 1:C1:342:C:H2' | 1:C1:342:C:O2 | 2.05 | 0.56 |
| 1:C1:492:A:N3 | 1:C1:494:U:H6 | 2.03 | 0.56 |
| 1:C1:641:G:C2 | 1:C1:642:G:C5 | 2.94 | 0.56 |
| 1:C1:756:A:C4 | 1:C1:757:A:C8 | 2.94 | 0.56 |
| 1:C1:866:G:N2 | 1:C1:965:U:C5 | 2.73 | 0.56 |
| 1:C1:1116:A:C6 | 1:C1:1131:A:C8 | 2.94 | 0.56 |
| 1:C1:1184:A:H1' | 1:C1:1210:C:H1' | 1.87 | 0.56 |
| 1:C1:1358:G:N1 | 1:C1:1359:C:N4 | 2.53 | 0.56 |
| 1:C1:1538:U:H3' | 1:C1:1538:U:C6 | 2.40 | 0.56 |
| 1:C1:1590:G:C6 | 1:C1:1591:C:N4 | 2.74 | 0.56 |
| 1:C1:1600:A:C2' | 1:C1:1602:C:H41 | 2.18 | 0.56 |
| 1:C1:1633:A:C4' | 1:C1:1634:C:OP2 | 2.53 | 0.56 |
| 1:C1:1728:A:C4 | 1:C1:1729:C:C5 | 2.94 | 0.56 |
| 2:CA:176:LEU:O | 2:CA:177:LEU:C | 2.47 | 0.56 |
| 4:CC:14:ASP:O | 4:CC:16:VAL:N | 2.39 | 0.56 |
| 9:CH:60:ALA:O | 9:CH:63:ALA:CB | 2.53 | 0.56 |
| 14:CM:67:MET:HA | 14:CM:70:GLN:O | 2.05 | 0.56 |
| 20:CS:38:ILE:O | 20:CS:40:ARG:N | 2.39 | 0.56 |
| 21:CT:244:ALA:O | 21:CT:253:ALA:O | 2.23 | 0.56 |
| 29:D1:97:U:H2' | 29:D1:97:U:O2 | 2.05 | 0.56 |
| 29:D1:137:G:C8 | 29:D1:137:G:C3' | 2.89 | 0.56 |
| 29:D1:522:A:N7 | 29:D1:523:A:H8 | 2.02 | 0.56 |
| 29:D1:606:C:C4 | 29:D1:607:A:C5 | 2.94 | 0.56 |
| 29:D1:706:A:C2' | 29:D1:707:U:H5' | 2.35 | 0.56 |
| 29:D1:938:C:C2' | 29:D1:939:U:H5" | 2.35 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:947:G:C4 | 29:D1:948:C:C5 | 2.94 | 0.56 |
| 29:D1:1329:U:O5' | 29:D1:1329:U:H6 | 1.87 | 0.56 |
| 29:D1:1376:C:H5' | 29:D1:1407:A:N1 | 2.21 | 0.56 |
| 29:D1:1522:U:C5 | 29:D1:1835:A:C1' | 2.88 | 0.56 |
| 29:D1:1693:C:H5" | 29:D1:1694:U:H5' | 1.88 | 0.56 |
| 29:D1:1781:C:H2' | 29:D1:1782:U:H5' | 1.86 | 0.56 |
| 29:D1:2295:A:C6 | 29:D1:2296:A:C6 | 2.92 | 0.56 |
| 29:D1:2370:G:N7 | 29:D1:2371:G:N7 | 2.53 | 0.56 |
| 29:D1:2423:U:H2' | 29:D1:2424:A:H8 | 1.65 | 0.56 |
| 29:D1:2682:C:OP1 | 42:DK:50:ALA:CA | 2.53 | 0.56 |
| 29:D1:2844:C:H42 | 29:D1:2898:G:H22 | 1.53 | 0.56 |
| 29:D1:2868:U:C4 | 29:D1:2869:U:H5 | 2.23 | 0.56 |
| 29:D1:2889:C:C2' | 29:D1:2890:A:H5' | 2.35 | 0.56 |
| 29:D1:2986:U:N3 | 29:D1:2987:A:N7 | 2.53 | 0.56 |
| 29:D1:3020:U:H2' | 29:D1:3021:A:C8 | 2.41 | 0.56 |
| 29:D1:3107:U:C2' | 29:D1:3108:G:H5' | 2.35 | 0.56 |
| 29:D1:3197:G:C2' | 29:D1:3198:U:OP1 | 2.54 | 0.56 |
| 29:D1:3201:C:H6 | 29:D1:3201:C:OP2 | 1.88 | 0.56 |
| 29:D1:3213:A:C8 | 29:D1:3213:A:H3' | 2.40 | 0.56 |
| 29:D1:3309:G:H2' | 29:D1:3310:A:O4' | 2.05 | 0.56 |
| 31:D3:4:C:O2' | 31:D3:5:U:H5' | 2.05 | 0.56 |
| 31:D3:35:C:O2' | 31:D3:36:G:H5' | 2.05 | 0.56 |
| 31:D3:55:U:O2 | 31:D3:62:C:H5 | 1.89 | 0.56 |
| 35:DD:159:ILE:O | 35:DD:161:LYS:N | 2.38 | 0.56 |
| 36:DE:42:ALA:HB3 | 49:DT:69:LYS:O | 2.04 | 0.56 |
| 42:DK:93:ASP:HA | 42:DK:170:ASP:O | 2.05 | 0.56 |
| 48:DS:83:GLY:O | 48:DS:84:THR:C | 2.48 | 0.56 |
| 48:DS:95:TRP:O | 48:DS:96:ILE:C | 2.47 | 0.56 |
| 57:Db:97:ALA:HB3 | 57:Db:100:ILE:H | 1.70 | 0.56 |
| 57:Db:107:VAL:O | 57:Db:108:ILE:C | 2.47 | 0.56 |
| 62:Dg:14:TYR:O | 62:Dg:15:GLY:O | 2.23 | 0.56 |
| 1:A1:173:A:N7 | 1:A1:174:U:C6 | 2.72 | 0.56 |
| 1:A1:508:U:H3' | 1:A1:509:G:C8 | 2.41 | 0.56 |
| 1:A1:520:A:C4 | 1:A1:521:A:N7 | 2.74 | 0.56 |
| 1:A1:524:U:N3 | 1:A1:527:A:C6 | 2.73 | 0.56 |
| 1:A1:545:A:H61 | 1:A1:593:U:C2' | 2.18 | 0.56 |
| 1:A1:752:A:H2' | 1:A1:753:A:C8 | 2.41 | 0.56 |
| 1:A1:773:C:H4' | 1:A1:774:A:OP1 | 2.05 | 0.56 |
| 1:A1:878:G:C6 | 1:A1:951:A:N1 | 2.74 | 0.56 |
| 1:A1:991:G:N2 | 1:A1:1014:G:C6 | 2.73 | 0.56 |
| 1:A1:1006:C:C5 | 1:A1:1007:C:C5 | 2.93 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1065:A:H2' | 1:A1:1066:C:C1' | 2.35 | 0.56 |
| 1:A1:1260:U:OP1 | 1:A1:1444:A:N1 | 2.39 | 0.56 |
| 1:A1:1351:G:C5 | 1:A1:1352:G:C8 | 2.94 | 0.56 |
| 1:A1:1365:C:C4 | 1:A1:1366:U:C5 | 2.93 | 0.56 |
| 1:A1:1438:G:H2' | 1:A1:1439:C:O4' | 2.05 | 0.56 |
| 1:A1:1522:U:H2' | 1:A1:1523:G:O5' | 2.05 | 0.56 |
| 1:A1:1636:C:C4 | 1:A1:1638:G:C2 | 2.93 | 0.56 |
| 4:AC:128:GLU:C | 4:AC:130:GLY:H | 2.13 | 0.56 |
| 6:AE:175:ARG:C | 6:AE:177:ALA:H | 2.13 | 0.56 |
| 8:AG:145:THR:N | 8:AG:146:ALA:HA | 2.21 | 0.56 |
| 15:AN:14:GLN:O | 15:AN:15:GLN:CB | 2.53 | 0.56 |
| 29:B1:23:A:H5" | 29:B1:24:G:OP2 | 2.05 | 0.56 |
| 29:B1:26:A:C2' | 29:B1:27:C:C6 | 2.84 | 0.56 |
| 29:B1:60:A:C2' | 29:B1:61:A:H5' | 2.36 | 0.56 |
| 29:B1:431:U:O2' | 29:B1:432:G:OP1 | 2.23 | 0.56 |
| 29:B1:593:C:H2' | 29:B1:594:U:H4' | 1.88 | 0.56 |
| 29:B1:767:U:OP2 | 29:B1:767:U:H6 | 1.89 | 0.56 |
| 29:B1:888:A:C6 | 29:B1:889:U:C2 | 2.93 | 0.56 |
| 29:B1:915:A:C8 | 29:B1:915:A:C3' | 2.86 | 0.56 |
| 29:B1:1056:U:C4 | 29:B1:1057:A:N7 | 2.73 | 0.56 |
| 29:B1:1156:C:C3' | 29:B1:1157:G:C5' | 2.73 | 0.56 |
| 29:B1:1277:C:C4 | 29:B1:1278:A:C6 | 2.93 | 0.56 |
| 29:B1:1313:G:N2 | 29:B1:1314:C:H1' | 2.20 | 0.56 |
| 29:B1:1449:A:N3 | 29:B1:2356:A:C5 | 2.74 | 0.56 |
| 29:B1:1496:C:P | 29:B1:1514:G:H5' | 2.44 | 0.56 |
| 29:B1:2192:C:H2' | 29:B1:2193:U:H5' | 1.87 | 0.56 |
| 29:B1:2288:G:H2' | 29:B1:2289:U:C6 | 2.40 | 0.56 |
| 29:B1:2394:G:N2 | 34:BC:258:ALA:HA | 2.20 | 0.56 |
| 29:B1:2584:G:OP1 | 29:B1:2584:G:C4' | 2.53 | 0.56 |
| 29:B1:2629:U:N3 | 29:B1:2630:C:C5 | 2.73 | 0.56 |
| 29:B1:2833:A:C6 | 29:B1:2834:G:N7 | 2.74 | 0.56 |
| 29:B1:3058:U:O2 | 29:B1:3058:U:O4' | 2.16 | 0.56 |
| 29:B1:3092:C:H5' | 29:B1:3093:C:OP2 | 2.05 | 0.56 |
| 29:B1:3147:G:H2' | 29:B1:3148:U:O5' | 2.06 | 0.56 |
| 29:B1:3210:A:H3' | 29:B1:3211:C:C5 | 2.35 | 0.56 |
| 29:B1:3228:C:O4' | 29:B1:3228:C:O2 | 2.23 | 0.56 |
| 29:B1:3279:A:C8 | 29:B1:3280:U:H5 | 2.24 | 0.56 |
| 29:B1:3316:A:N6 | 29:B1:3387:U:N3 | 2.53 | 0.56 |
| 29:B1:3334:U:H5' | 29:B1:3371:G:H22 | 1.68 | 0.56 |
| 29:B1:3377:G:H1' | 29:B1:3378:C:H5' | 1.86 | 0.56 |
| 29:B1:3377:G:H5' | 74:B1:3450:OHX:N2 | 2.21 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:B2:69:C:H5' | 30:B2:70:U:OP2 | 2.06 | 0.56 |
| 30:B2:79:A:C2' | 30:B2:80:G:H5' | 2.36 | 0.56 |
| 31:B3:89:A:N3 | 31:B3:89:A:H3' | 2.21 | 0.56 |
| 31:B3:90:U:H3' | 31:B3:90:U:P | 2.46 | 0.56 |
| 32:BA:95:LYS:HA | 32:BA:100:ILE:H | 1.68 | 0.56 |
| 33:BB:82:VAL:O | 33:BB:83:HIS:C | 2.48 | 0.56 |
| 37:BF:23:LYS:HA | 37:BF:114:LYS:CB | 2.36 | 0.56 |
| 40:BI:168:ARG:O | 40:BI:169:ASN:CB | 2.53 | 0.56 |
| 42:BK:22:SER:O | 42:BK:23:VAL:O | 2.24 | 0.56 |
| 43:BN:93:LYS:O | 43:BN:96:ALA:N | 2.39 | 0.56 |
| 53:BX:59:VAL:H | 53:BX:104:LEU:HA | 1.70 | 0.56 |
| 1:C1:10:G:H2' | 1:C1:11:A:C8 | 2.41 | 0.56 |
| 1:C1:72:A:H2' | 1:C1:72:A:N3 | 2.20 | 0.56 |
| 1:C1:89:G:C4 | 1:C1:90:C:C6 | 2.93 | 0.56 |
| 1:C1:273:G:OP1 | 1:C1:273:G:H8 | 1.86 | 0.56 |
| 1:C1:276:C:O2' | 1:C1:277:U:P | 2.63 | 0.56 |
| 1:C1:508:U:H3' | 1:C1:509:G:C8 | 2.41 | 0.56 |
| 1:C1:620:A:C5 | 1:C1:621:A:C2 | 2.94 | 0.56 |
| 1:C1:722:G:C4' | 1:C1:723:G:OP1 | 2.53 | 0.56 |
| 1:C1:871:G:C6 | 1:C1:957:G:N1 | 2.73 | 0.56 |
| 1:C1:923:A:H2' | 1:C1:924:A:H8 | 1.70 | 0.56 |
| 1:C1:1138:A:H2' | 1:C1:1139:A:H8 | 1.70 | 0.56 |
| 1:C1:1139:A:C2 | 1:C1:1140:G:H1' | 2.40 | 0.56 |
| 1:C1:1251:U:C2' | 1:C1:1252:C:O4' | 2.53 | 0.56 |
| 1:C1:1263:G:C6 | 1:C1:1264:G:C4 | 2.93 | 0.56 |
| 1:C1:1413:U:H4' | 1:C1:1414:U:H5" | 1.86 | 0.56 |
| 2:CA:144:ILE:O | 2:CA:145:ALA:HB2 | 2.04 | 0.56 |
| 4:CC:11:LEU:O | 4:CC:12:VAL:C | 2.48 | 0.56 |
| 20:CS:23:VAL:O | 74:CS:101:OHX:N2 | 2.39 | 0.56 |
| 23:Cb:12:UNK:O | 23:Cb:13:UNK:CB | 2.54 | 0.56 |
| 28:Ch:4:UNK:O | 28:Ch:5:UNK:C | 2.52 | 0.56 |
| 29:D1:40:A:H3' | 29:D1:41:G:H5' | 1.88 | 0.56 |
| 29:D1:73:C:C5 | 29:D1:74:G:C8 | 2.93 | 0.56 |
| 29:D1:253:A:N6 | 29:D1:254:A:C6 | 2.74 | 0.56 |
| 29:D1:295:A:N7 | 29:D1:296:A:C2 | 2.73 | 0.56 |
| 29:D1:317:A:H2' | 29:D1:317:A:N3 | 2.21 | 0.56 |
| 29:D1:431:U:C6 | 29:D1:431:U:C3' | 2.88 | 0.56 |
| 29:D1:577:C:C6 | 29:D1:577:C:C3' | 2.89 | 0.56 |
| 29:D1:691:A:H4' | 29:D1:692:A:OP2 | 2.06 | 0.56 |
| 29:D1:733:G:N3 | 29:D1:733:G:H2' | 2.20 | 0.56 |
| 29:D1:749:C:C2 | 29:D1:750:G:C8 | 2.94 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:882:A:C2 | 29:D1:885:U:N1 | 2.73 | 0.56 |
| 29:D1:1236:G:C1' | 29:D1:1245:A:H1' | 2.35 | 0.56 |
| 29:D1:1311:G:C1' | 29:D1:2381:G:H5' | 2.36 | 0.56 |
| 29:D1:1658:G:N9 | 29:D1:1796:G:N7 | 2.53 | 0.56 |
| 29:D1:1841:A:N1 | 29:D1:1848:G:C5 | 2.73 | 0.56 |
| 29:D1:1898:G:OP2 | 74:D1:3470:OHX:N2 | 2.39 | 0.56 |
| 29:D1:2092:A:H5" | 29:D1:2093:A:OP2 | 2.05 | 0.56 |
| 29:D1:2143:A:C8 | 29:D1:2145:A:N7 | 2.74 | 0.56 |
| 29:D1:2290:C:N3 | 29:D1:2303:A:N1 | 2.53 | 0.56 |
| 29:D1:2343:C:H2' | 29:D1:2344:U:H6 | 1.71 | 0.56 |
| 29:D1:2389:C:O2' | 29:D1:2390:A:C5' | 2.54 | 0.56 |
| 29:D1:2607:G:C4 | 29:D1:2608:G:C8 | 2.94 | 0.56 |
| 29:D1:2931:C:C2 | 29:D1:2932:U:C6 | 2.94 | 0.56 |
| 29:D1:3023:U:C2' | 29:D1:3024:A:C8 | 2.83 | 0.56 |
| 29:D1:3037:U:HO2' | 29:D1:3038:U:H5' | 1.69 | 0.56 |
| 29:D1:3235:C:C4 | 29:D1:3236:U:C4 | 2.94 | 0.56 |
| 29:D1:3365:U:C2 | 29:D1:3366:G:N7 | 2.73 | 0.56 |
| 31:D3:13:A:H2' | 31:D3:14:C:H6 | 1.69 | 0.56 |
| 31:D3:56:G:C6 | 31:D3:62:C:C4 | 2.93 | 0.56 |
| 36:DE:103:LEU:O | 36:DE:106:ALA:O | 2.23 | 0.56 |
| 38:DG:126:LEU:O | 38:DG:127:LEU:C | 2.48 | 0.56 |
| 72:DL:82:ILE:C | 72:DL:84:ALA:N | 2.62 | 0.56 |
| 44:DO:97:SER:O | 44:DO:99:ARG:N | 2.39 | 0.56 |
| 45:DP:81:TYR:O | 45:DP:82:LYS:C | 2.46 | 0.56 |
| 56:Da:54:GLU:HA | 56:Da:57:GLN:CB | 2.35 | 0.56 |
| 57:Db:54:LYS:O | 57:Db:55:ILE:C | 2.46 | 0.56 |
| 1:A1:25:C:C6 | 1:A1:25:C:C3' | 2.88 | 0.56 |
| 1:A1:204:G:H2' | 1:A1:204:G:N3 | 2.21 | 0.56 |
| 1:A1:252:U:O2' | 1:A1:253:A:P | 2.63 | 0.56 |
| 1:A1:270:C:H3' | 1:A1:271:A:C5' | 2.36 | 0.56 |
| 1:A1:382:C:H2' | 1:A1:382:C:O2 | 2.06 | 0.56 |
| 1:A1:568:G:O2' | 1:A1:569:C:H5' | 2.06 | 0.56 |
| 1:A1:825:U:C5 | 1:A1:847:A:N6 | 2.73 | 0.56 |
| 1:A1:874:C:O5' | 1:A1:874:C:H6 | 1.89 | 0.56 |
| 1:A1:1491:U:H3' | 1:A1:1492:A:C5' | 2.35 | 0.56 |
| 1:A1:1512:G:H2' | 1:A1:1513:G:C8 | 2.40 | 0.56 |
| 1:A1:1559:A:C1' | 13:AL:135:GLY:HA2 | 2.36 | 0.56 |
| 1:A1:1597:A:C5 | 1:A1:1598:U:C4 | 2.93 | 0.56 |
| 1:A1:1786:G:C6 | 1:A1:1787:C:N4 | 2.73 | 0.56 |
| 3:AB:235:LEU:O | 3:AB:236:PRO:C | 2.49 | 0.56 |
| 6:AE:73:GLY:C | 6:AE:75:ALA:N | 2.62 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 16:AO:96:ALA:O | 16:AO:98:GLN:N | 2.37 | 0.56 |
| 17:AP:109:ARG:N | 17:AP:110:LYS:CA | 2.52 | 0.56 |
| 20:AS:38:ILE:O | 20:AS:40:ARG:N | 2.39 | 0.56 |
| 24:Ac:54:UNK:HA | 24:Ac:62:UNK:C | 2.36 | 0.56 |
| 29:B1:37:U:C2 | 29:B1:38:U:C5 | 2.94 | 0.56 |
| 29:B1:199:A:N3 | 29:B1:201:A:C8 | 2.74 | 0.56 |
| 29:B1:281:G:N3 | 29:B1:282:G:N7 | 2.53 | 0.56 |
| 29:B1:518:G:P | 29:B1:520:U:C5 | 2.99 | 0.56 |
| 29:B1:726:G:C6 | 29:B1:727:G:C2 | 2.93 | 0.56 |
| 29:B1:762:U:C4 | 74:B1:3479:OHX:N3 | 2.74 | 0.56 |
| 29:B1:835:G:N2 | 29:B1:857:G:H1' | 2.20 | 0.56 |
| 29:B1:891:G:C5 | 29:B1:892:U:C5 | 2.93 | 0.56 |
| 29:B1:914:A:H4' | 29:B1:915:A:H5' | 1.87 | 0.56 |
| 29:B1:1003:A:C2 | 29:B1:1004:U:H1' | 2.41 | 0.56 |
| 29:B1:1119:C:H1' | 29:B1:1154:A:N3 | 2.21 | 0.56 |
| 29:B1:1197:A:C8 | 29:B1:1197:A:H5' | 2.40 | 0.56 |
| 29:B1:1217:A:H5' | 29:B1:1218:U:OP2 | 2.05 | 0.56 |
| 29:B1:1247:U:H5' | 29:B1:1248:C:C5 | 2.41 | 0.56 |
| 29:B1:1491:A:H62 | 60:Be:3:ALA:HB2 | 1.70 | 0.56 |
| 29:B1:1723:A:C5' | 29:B1:1724:U:OP2 | 2.54 | 0.56 |
| 29:B1:2284:C:N3 | 29:B1:2308:C:O4' | 2.38 | 0.56 |
| 29:B1:2325:G:C6 | 29:B1:2326:A:N7 | 2.74 | 0.56 |
| 29:B1:2522:G:H1' | 29:B1:2523:A:OP1 | 2.06 | 0.56 |
| 29:B1:2737:C:OP1 | 49:BT:70:SER:O | 2.23 | 0.56 |
| 29:B1:2738:A:H2' | 29:B1:2738:A:N3 | 2.21 | 0.56 |
| 29:B1:2833:A:N1 | 29:B1:2834:G:C8 | 2.74 | 0.56 |
| 29:B1:2896:A:H8 | 29:B1:2896:A:C5' | 2.18 | 0.56 |
| 29:B1:3153:U:H1' | 29:B1:3395:G:N2 | 2.20 | 0.56 |
| 29:B1:3180:A:OP1 | 29:B1:3180:A:H4' | 2.06 | 0.56 |
| 31:B3:43:A:H2' | 31:B3:44:A:H8 | 1.71 | 0.56 |
| 31:B3:65:A:C4 | 31:B3:66:A:C8 | 2.93 | 0.56 |
| 31:B3:74:U:OP2 | 31:B3:76:C:N3 | 2.37 | 0.56 |
| 34:BC:169:THR:O | 34:BC:171:LEU:N | 2.38 | 0.56 |
| 34:BC:281:LYS:O | 34:BC:324:VAL:HA | 2.05 | 0.56 |
| 43:BN:21:VAL:O | 43:BN:34:ALA:CB | 2.54 | 0.56 |
| 43:BN:63:VAL:O | 43:BN:64:VAL:CB | 2.52 | 0.56 |
| 44:BO:143:ARG:C | 44:BO:146:ALA:HB2 | 2.31 | 0.56 |
| 51:BV:4:GLU:O | 51:BV:5:ILE:CB | 2.52 | 0.56 |
| 57:Bb:65:PHE:O | 57:Bb:67:SER:CB | 2.53 | 0.56 |
| 68:Bn:12:UNK:C | 68:Bn:14:UNK:H | 2.18 | 0.56 |
| 1:C1:183:U:H1' | 1:C1:184:C:O5' | 2.06 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:213:A:H2' | 1:C1:214:G:C5' | 2.33 | 0.56 |
| 1:C1:620:A:C4 | 1:C1:621:A:C2 | 2.93 | 0.56 |
| 1:C1:721:U:H2' | 1:C1:721:U:O2 | 2.06 | 0.56 |
| 1:C1:766:U:C4 | 1:C1:769:A:N7 | 2.74 | 0.56 |
| 1:C1:1165:G:O6 | 1:C1:1166:A:N6 | 2.39 | 0.56 |
| 1:C1:1199:G:N2 | 1:C1:1201:G:OP2 | 2.38 | 0.56 |
| 1:C1:1501:C:O2' | 1:C1:1502:G:H5' | 2.05 | 0.56 |
| 1:C1:1521:G:O6 | 74:C1:1930:OHX:N5 | 2.39 | 0.56 |
| 1:C1:1569:A:C4 | 1:C1:1570:A:C8 | 2.93 | 0.56 |
| 1:C1:1665:U:H3 | 1:C1:1736:G:H1 | 1.52 | 0.56 |
| 10:CI:19:GLY:C | 10:CI:21:ASP:N | 2.61 | 0.56 |
| 15:CN:14:GLN:O | 15:CN:15:GLN:CB | 2.54 | 0.56 |
| 23:Cb:60:UNK:O | 23:Cb:61:UNK:C | 2.54 | 0.56 |
| 29:D1:209:A:O3' | 29:D1:210:U:C6 | 2.59 | 0.56 |
| 29:D1:279:U:O2 | 29:D1:286:U:N3 | 2.38 | 0.56 |
| 29:D1:305:U:O2' | 29:D1:306:A:OP2 | 2.23 | 0.56 |
| 29:D1:307:A:C8 | 29:D1:307:A:H3' | 2.41 | 0.56 |
| 29:D1:425:G:C5 | 29:D1:635:G:C2 | 2.94 | 0.56 |
| 29:D1:564:G:H2' | 29:D1:565:U:C6 | 2.40 | 0.56 |
| 29:D1:835:G:N2 | 29:D1:857:G:N3 | 2.53 | 0.56 |
| 29:D1:837:A:N3 | 29:D1:837:A:H2' | 2.20 | 0.56 |
| 29:D1:888:A:N6 | 29:D1:889:U:N3 | 2.53 | 0.56 |
| 29:D1:1390:A:H5" | 29:D1:1390:A:N3 | 2.21 | 0.56 |
| 29:D1:1441:G:C2' | 29:D1:1442:U:C5' | 2.64 | 0.56 |
| 29:D1:1550:C:H1' | 29:D1:2166:A:H61 | 1.69 | 0.56 |
| 29:D1:1626:U:H2' | 29:D1:1627:U:C1' | 2.36 | 0.56 |
| 29:D1:1666:G:O2' | 29:D1:1667:A:H5' | 2.05 | 0.56 |
| 29:D1:1780:G:O2' | 29:D1:1781:C:O5' | 2.24 | 0.56 |
| 29:D1:2266:U:C4 | 29:D1:2267:C:N4 | 2.73 | 0.56 |
| 29:D1:2301:U:H2' | 29:D1:2302:G:H8 | 1.70 | 0.56 |
| 29:D1:2378:C:O2 | 29:D1:2378:C:C2' | 2.53 | 0.56 |
| 29:D1:2629:U:N3 | 29:D1:2630:C:C5 | 2.74 | 0.56 |
| 29:D1:2762:A:H2' | 29:D1:2763:U:H6 | 1.70 | 0.56 |
| 29:D1:2892:A:H2' | 29:D1:2893:C:H6 | 1.71 | 0.56 |
| 29:D1:3009:G:H2' | 29:D1:3010:U:H5' | 1.88 | 0.56 |
| 29:D1:3393:U:N3 | 29:D1:3394:U:C5 | 2.74 | 0.56 |
| 31:D3:104:A:C5' | 31:D3:105:A:H8 | 2.15 | 0.56 |
| 33:DB:229:ALA:O | 33:DB:232:GLY:N | 2.37 | 0.56 |
| 38:DG:180:SER:O | 38:DG:183:ASP:N | 2.38 | 0.56 |
| 40:DI:159:ALA:O | 40:DI:160:ASP:C | 2.49 | 0.56 |
| 42:DK:76:ALA:O | 42:DK:78:GLU:N | 2.38 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 44:DO:83:LYS:C | 44:DO:85:THR:H | 2.11 | 0.56 |
| 58:Dc:41:LEU:H | 58:Dc:42:PRO:HA | 1.59 | 0.56 |
| 60:De:10:LYS:O | 60:De:13:MET:N | 2.39 | 0.56 |
| 63:Dh:46:UNK:O | 63:Dh:50:UNK:CB | 2.53 | 0.56 |
| 1:A1:77:U:H3' | 1:A1:78:A:H5" | 1.87 | 0.56 |
| 1:A1:298:C:C6 | 1:A1:298:C:C3' | 2.89 | 0.56 |
| 1:A1:387:A:N3 | 1:A1:402:C:H5 | 2.03 | 0.56 |
| 1:A1:389:G:C5 | 1:A1:390:G:C5 | 2.94 | 0.56 |
| 1:A1:452:A:N1 | 1:A1:454:U:C6 | 2.74 | 0.56 |
| 1:A1:527:A:H3' | 1:A1:528:U:C5' | 2.33 | 0.56 |
| 1:A1:697:C:C3' | 1:A1:698:U:H5" | 2.36 | 0.56 |
| 1:A1:755:A:H4' | 1:A1:756:A:OP1 | 2.04 | 0.56 |
| 1:A1:837:G:C2 | 1:A1:838:G:C4 | 2.94 | 0.56 |
| 1:A1:940:A:C2 | 1:A1:941:A:C8 | 2.93 | 0.56 |
| 1:A1:977:A:C5 | 1:A1:1025:A:C2 | 2.93 | 0.56 |
| 1:A1:1005:A:C5 | 1:A1:1006:C:C4 | 2.93 | 0.56 |
| 1:A1:1296:A:H2' | 1:A1:1297:G:C5' | 2.35 | 0.56 |
| 1:A1:1331:A:C2' | 1:A1:1332:C:O5' | 2.53 | 0.56 |
| 1:A1:1368:G:C6 | 1:A1:1369:U:C4 | 2.94 | 0.56 |
| 1:A1:1369:U:O4 | 74:A1:1959:OHX:N5 | 2.39 | 0.56 |
| 1:A1:1588:G:C6 | 1:A1:1589:C:C4 | 2.94 | 0.56 |
| 1:A1:1591:C:H2' | 1:A1:1591:C:O2 | 2.05 | 0.56 |
| 1:A1:1657:U:C2 | 74:A1:1949:OHX:N5 | 2.74 | 0.56 |
| 1:A1:1683:C:H4' | 1:A1:1684:U:C5 | 2.41 | 0.56 |
| 1:A1:1683:C:O3' | 1:A1:1684:U:C2 | 2.59 | 0.56 |
| 1:A1:1690:G:H1' | 1:A1:1714:A:H2 | 1.71 | 0.56 |
| 1:A1:1690:G:C2' | 1:A1:1691:A:H5" | 2.36 | 0.56 |
| 1:A1:1778:G:C6 | 1:A1:1779:U:C5 | 2.94 | 0.56 |
| 4:AC:52:ALA:HB3 | 4:AC:55:THR:CB | 2.36 | 0.56 |
| 11:AJ:46:PHE:O | 11:AJ:48:VAL:N | 2.37 | 0.56 |
| 11:AJ:96:TYR:O | 11:AJ:97:VAL:CB | 2.53 | 0.56 |
| 18:AQ:41:ILE:C | 18:AQ:43:ASP:N | 2.64 | 0.56 |
| 29:B1:77:A:C2 | 29:B1:78:U:C1' | 2.88 | 0.56 |
| 29:B1:344:A:C2 | 29:B1:345:G:C1' | 2.88 | 0.56 |
| 29:B1:362:U:C2 | 29:B1:363:G:C8 | 2.94 | 0.56 |
| 29:B1:378:A:H3' | 29:B1:378:A:C4 | 2.37 | 0.56 |
| 29:B1:404:G:N1 | 29:B1:405:U:O2 | 2.38 | 0.56 |
| 29:B1:509:U:H2' | 29:B1:509:U:O2 | 2.04 | 0.56 |
| 29:B1:534:U:H6 | 29:B1:534:U:P | 2.28 | 0.56 |
| 29:B1:573:C:H2' | 29:B1:574:U:H6 | 1.69 | 0.56 |
| 29:B1:585:A:C5 | 29:B1:586:C:N4 | 2.74 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:716:A:C3’ | 29:B1:716:A:C8 | 2.89 | 0.56 |
| 29:B1:1029:G:H2’ | 29:B1:1030:A:C5’ | 2.36 | 0.56 |
| 29:B1:1207:G:C8 | 29:B1:1207:G:H5’ | 2.41 | 0.56 |
| 29:B1:1262:G:C8 | 29:B1:1262:G:OP2 | 2.58 | 0.56 |
| 29:B1:1289:G:C4 | 29:B1:1290:A:C8 | 2.94 | 0.56 |
| 29:B1:1303:A:C8 | 29:B1:1304:A:C4 | 2.90 | 0.56 |
| 29:B1:1605:A:C2 | 29:B1:1608:C:C6 | 2.94 | 0.56 |
| 29:B1:1627:U:C5’ | 29:B1:1628:C:OP2 | 2.53 | 0.56 |
| 29:B1:1660:C:O2’ | 29:B1:1661:G:C5’ | 2.49 | 0.56 |
| 29:B1:2110:G:O6 | 29:B1:2113:A:N6 | 2.38 | 0.56 |
| 29:B1:2193:U:C5’ | 29:B1:2312:A:C2 | 2.88 | 0.56 |
| 29:B1:2260:U:C3’ | 29:B1:2261:G:C8 | 2.88 | 0.56 |
| 29:B1:2520:A:H5” | 29:B1:2521:U:OP1 | 2.05 | 0.56 |
| 29:B1:2609:A:H5” | 29:B1:2610:G:OP2 | 2.06 | 0.56 |
| 29:B1:2827:U:O4 | 74:B1:3417:OHX:N3 | 2.38 | 0.56 |
| 29:B1:3000:A:C4 | 29:B1:3001:C:C5 | 2.93 | 0.56 |
| 29:B1:3095:U:H2’ | 29:B1:3096:C:O5’ | 2.06 | 0.56 |
| 30:B2:66:A:H2’ | 30:B2:67:G:O4’ | 2.06 | 0.56 |
| 30:B2:69:C:OP2 | 74:B2:209:OHX:N3 | 2.38 | 0.56 |
| 31:B3:97:A:C6 | 31:B3:98:U:N3 | 2.74 | 0.56 |
| 33:BB:229:ALA:O | 33:BB:232:GLY:N | 2.38 | 0.56 |
| 38:BG:33:ARG:O | 38:BG:36:ALA:HB3 | 2.05 | 0.56 |
| 42:BK:30:LEU:O | 42:BK:32:ARG:N | 2.38 | 0.56 |
| 44:BO:163:GLY:O | 44:BO:165:THR:N | 2.39 | 0.56 |
| 52:BW:133:LEU:HA | 52:BW:136:ALA:HB3 | 1.86 | 0.56 |
| 54:BY:69:TRP:N | 54:BY:110:GLY:HA2 | 2.21 | 0.56 |
| 56:Ba:80:ASN:C | 56:Ba:82:GLU:H | 2.13 | 0.56 |
| 26:Bj:12:UNK:O | 26:Bj:13:UNK:C | 2.53 | 0.56 |
| 71:Br:-1:UNK:C | 71:Br:1:UNK:N | 2.67 | 0.56 |
| 1:C1:14:C:OP1 | 3:CB:164:SER:N | 2.39 | 0.56 |
| 1:C1:98:U:H2’ | 1:C1:98:U:O2 | 2.06 | 0.56 |
| 1:C1:328:A:C4 | 1:C1:329:G:C8 | 2.94 | 0.56 |
| 1:C1:329:G:C2 | 1:C1:330:G:C5 | 2.94 | 0.56 |
| 1:C1:363:G:N1 | 1:C1:382:C:C4 | 2.73 | 0.56 |
| 1:C1:425:A:H5’ | 1:C1:425:A:C8 | 2.40 | 0.56 |
| 1:C1:520:A:C5 | 1:C1:521:A:N7 | 2.74 | 0.56 |
| 1:C1:698:U:H3 | 1:C1:740:A:H61 | 1.52 | 0.56 |
| 1:C1:743:U:OP2 | 1:C1:743:U:H3’ | 2.05 | 0.56 |
| 1:C1:755:A:C4’ | 1:C1:756:A:OP1 | 2.53 | 0.56 |
| 1:C1:908:U:O5’ | 1:C1:908:U:H6 | 1.89 | 0.56 |
| 1:C1:1043:A:C4 | 1:C1:1044:U:H5 | 2.24 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1196:A:C8 | 1:C1:1602:C:H4' | 2.41 | 0.56 |
| 1:C1:1306:C:O2 | 1:C1:1306:C:O4' | 2.18 | 0.56 |
| 1:C1:1525:A:C6 | 1:C1:1526:A:C6 | 2.93 | 0.56 |
| 1:C1:1584:G:N3 | 1:C1:1584:G:C2' | 2.68 | 0.56 |
| 1:C1:1591:C:H2' | 1:C1:1591:C:O2 | 2.05 | 0.56 |
| 1:C1:1609:U:C5' | 1:C1:1609:U:C6 | 2.88 | 0.56 |
| 1:C1:1725:U:O5' | 1:C1:1725:U:C6 | 2.58 | 0.56 |
| 1:C1:1727:G:N1 | 1:C1:1728:A:C6 | 2.74 | 0.56 |
| 3:CB:211:LEU:O | 3:CB:213:ALA:O | 2.24 | 0.56 |
| 5:CD:134:VAL:C | 5:CD:136:ALA:H | 2.14 | 0.56 |
| 9:CH:61:MET:C | 9:CH:63:ALA:H | 2.13 | 0.56 |
| 14:CM:24:ARG:O | 14:CM:25:GLN:CB | 2.54 | 0.56 |
| 16:CO:17:ALA:O | 16:CO:20:THR:N | 2.36 | 0.56 |
| 21:CT:297:ASP:O | 21:CT:298:GLY:C | 2.49 | 0.56 |
| 29:D1:35:A:C2 | 29:D1:36:C:C6 | 2.93 | 0.56 |
| 29:D1:198:A:N3 | 29:D1:218:G:O2' | 2.37 | 0.56 |
| 29:D1:264:G:N3 | 29:D1:264:G:H2' | 2.20 | 0.56 |
| 29:D1:521:A:N7 | 29:D1:571:U:O4 | 2.39 | 0.56 |
| 29:D1:717:C:C5 | 29:D1:721:G:OP1 | 2.58 | 0.56 |
| 29:D1:896:A:N6 | 29:D1:2133:U:H3 | 2.00 | 0.56 |
| 29:D1:939:U:O2' | 29:D1:940:G:H5' | 2.06 | 0.56 |
| 29:D1:996:A:O2' | 29:D1:997:A:H5' | 2.06 | 0.56 |
| 29:D1:1306:G:C4 | 45:DP:62:THR:CB | 2.89 | 0.56 |
| 29:D1:1330:A:C8 | 29:D1:1330:A:H3' | 2.41 | 0.56 |
| 29:D1:1550:C:C1' | 29:D1:2166:A:H61 | 2.18 | 0.56 |
| 29:D1:1640:G:O5' | 29:D1:1640:G:H8 | 1.88 | 0.56 |
| 29:D1:1779:C:H4' | 29:D1:1780:G:OP1 | 2.00 | 0.56 |
| 29:D1:1875:G:C6 | 29:D1:1876:U:C4 | 2.93 | 0.56 |
| 29:D1:1946:A:H2' | 29:D1:1947:G:C8 | 2.41 | 0.56 |
| 29:D1:2327:U:O2 | 29:D1:2327:U:C2' | 2.50 | 0.56 |
| 29:D1:2394:G:N2 | 34:DC:258:ALA:HA | 2.20 | 0.56 |
| 29:D1:2406:C:H2' | 29:D1:2407:C:H6 | 1.70 | 0.56 |
| 29:D1:2423:U:O2' | 29:D1:2424:A:O4' | 2.22 | 0.56 |
| 29:D1:2687:G:OP1 | 74:D1:3430:OHX:N2 | 2.38 | 0.56 |
| 29:D1:2836:C:O2 | 29:D1:2836:C:C3' | 2.54 | 0.56 |
| 29:D1:2860:U:C4 | 29:D1:2938:G:H5" | 2.40 | 0.56 |
| 29:D1:3096:C:H2' | 29:D1:3097:C:H6 | 1.69 | 0.56 |
| 29:D1:3182:G:O2' | 29:D1:3183:A:H5' | 2.05 | 0.56 |
| 29:D1:3183:A:H2 | 29:D1:3188:G:O3' | 1.87 | 0.56 |
| 29:D1:3219:G:N9 | 29:D1:3257:C:H5" | 2.17 | 0.56 |
| 29:D1:3299:A:H1' | 29:D1:3300:U:OP2 | 2.06 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3325:G:H2' | 29:D1:3326:G:C8 | 2.41 | 0.56 |
| 30:D2:37:G:N2 | 30:D2:45:A:N6 | 2.53 | 0.56 |
| 38:DG:36:ALA:O | 38:DG:37:ASN:C | 2.48 | 0.56 |
| 39:DH:205:ALA:HB3 | 39:DH:206:GLU:CB | 2.35 | 0.56 |
| 45:DP:58:LEU:CA | 45:DP:61:ALA:H | 2.18 | 0.56 |
| 47:DR:57:ILE:C | 47:DR:59:ARG:N | 2.62 | 0.56 |
| 47:DR:142:GLY:O | 47:DR:143:PRO:CB | 2.54 | 0.56 |
| 49:DT:23:GLY:O | 49:DT:24:ALA:HB3 | 2.04 | 0.56 |
| 55:DZ:45:ALA:HA | 55:DZ:70:PHE:CB | 2.36 | 0.56 |
| 1:A1:38:C:H3' | 1:A1:39:A:H5" | 1.88 | 0.56 |
| 1:A1:85:A:O2' | 1:A1:86:A:P | 2.64 | 0.56 |
| 1:A1:116:U:H2' | 1:A1:117:U:C6 | 2.40 | 0.56 |
| 1:A1:173:A:C3' | 1:A1:174:U:H5" | 2.29 | 0.56 |
| 1:A1:316:A:C6 | 1:A1:317:C:C5 | 2.93 | 0.56 |
| 1:A1:328:A:C4 | 1:A1:329:G:C8 | 2.94 | 0.56 |
| 1:A1:480:G:H2' | 1:A1:481:A:O4' | 2.05 | 0.56 |
| 1:A1:480:G:H1 | 1:A1:508:U:H3 | 1.53 | 0.56 |
| 1:A1:623:A:C2 | 1:A1:1105:C:O2' | 2.59 | 0.56 |
| 1:A1:901:G:H5' | 1:A1:902:G:N7 | 2.20 | 0.56 |
| 1:A1:1113:A:C2 | 1:A1:1115:U:O4 | 2.59 | 0.56 |
| 1:A1:1165:G:C6 | 1:A1:1166:A:C6 | 2.94 | 0.56 |
| 1:A1:1205:C:C6 | 1:A1:1206:U:O2 | 2.59 | 0.56 |
| 1:A1:1392:U:H5" | 1:A1:1392:U:C6 | 2.41 | 0.56 |
| 1:A1:1477:G:C2' | 1:A1:1478:G:H5" | 2.36 | 0.56 |
| 1:A1:1765:A:P | 74:A1:1931:OHX:N3 | 2.78 | 0.56 |
| 4:AC:76:ARG:O | 4:AC:78:LYS:N | 2.39 | 0.56 |
| 4:AC:114:ALA:C | 4:AC:116:ARG:H | 2.14 | 0.56 |
| 10:AI:98:ASN:H | 10:AI:101:ALA:HB3 | 1.69 | 0.56 |
| 11:AJ:110:THR:HA | 11:AJ:113:ASP:CB | 2.36 | 0.56 |
| 29:B1:424:G:C6 | 29:B1:635:G:N2 | 2.74 | 0.56 |
| 29:B1:556:U:C5 | 29:B1:557:A:C2 | 2.93 | 0.56 |
| 29:B1:637:C:N1 | 29:B1:638:C:C5 | 2.74 | 0.56 |
| 29:B1:763:G:H21 | 29:B1:767:U:C2' | 2.18 | 0.56 |
| 29:B1:914:A:H8 | 29:B1:914:A:O5' | 1.89 | 0.56 |
| 29:B1:920:A:H5" | 29:B1:922:U:C4 | 2.40 | 0.56 |
| 29:B1:958:C:OP1 | 29:B1:2799:A:H3' | 2.06 | 0.56 |
| 29:B1:1077:U:O2' | 29:B1:1078:U:H6 | 1.86 | 0.56 |
| 29:B1:1129:A:H62 | 29:B1:1130:A:N6 | 2.01 | 0.56 |
| 29:B1:1378:U:H2' | 29:B1:1378:U:O2 | 2.04 | 0.56 |
| 29:B1:1517:G:C4 | 29:B1:1518:U:C5 | 2.94 | 0.56 |
| 29:B1:1741:A:H3' | 29:B1:1742:U:C5 | 2.40 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2178:A:H1' | 29:B1:2180:G:C5 | 2.40 | 0.56 |
| 29:B1:2215:A:C4 | 29:B1:2216:G:C8 | 2.94 | 0.56 |
| 29:B1:2348:A:OP2 | 29:B1:2349:U:H5 | 1.89 | 0.56 |
| 29:B1:2607:G:C6 | 29:B1:2608:G:C5 | 2.94 | 0.56 |
| 29:B1:2621:G:H2' | 29:B1:2622:C:H6 | 1.69 | 0.56 |
| 29:B1:2689:A:C4 | 29:B1:2702:A:C2 | 2.94 | 0.56 |
| 29:B1:2705:A:OP2 | 74:B1:3405:OHX:N1 | 2.38 | 0.56 |
| 29:B1:3020:U:H2' | 29:B1:3021:A:H8 | 1.69 | 0.56 |
| 29:B1:3066:U:C2 | 29:B1:3067:C:C5 | 2.94 | 0.56 |
| 29:B1:3098:G:C5' | 29:B1:3099:C:OP1 | 2.53 | 0.56 |
| 29:B1:3174:A:O2' | 29:B1:3175:U:C5' | 2.53 | 0.56 |
| 29:B1:3209:A:C6 | 29:B1:3210:A:N1 | 2.74 | 0.56 |
| 29:B1:3328:G:N2 | 29:B1:3329:U:C4 | 2.74 | 0.56 |
| 30:B2:14:U:OP2 | 30:B2:14:U:C1' | 2.54 | 0.56 |
| 31:B3:19:C:C2 | 31:B3:20:U:C5 | 2.94 | 0.56 |
| 31:B3:81:U:O5' | 31:B3:81:U:H6 | 1.88 | 0.56 |
| 34:BC:51:ALA:HB3 | 34:BC:79:VAL:HA | 1.85 | 0.56 |
| 36:BE:159:VAL:O | 36:BE:162:ALA:N | 2.38 | 0.56 |
| 40:BI:85:GLY:HA3 | 40:BI:187:ILE:O | 2.06 | 0.56 |
| 54:BY:118:ILE:O | 54:BY:119:PRO:CB | 2.53 | 0.56 |
| 63:Bh:49:UNK:O | 63:Bh:50:UNK:C | 2.53 | 0.56 |
| 1:C1:55:A:C5 | 1:C1:403:G:C2 | 2.93 | 0.56 |
| 1:C1:283:U:C2' | 1:C1:284:G:O4' | 2.51 | 0.56 |
| 1:C1:341:A:H2' | 1:C1:341:A:N3 | 2.20 | 0.56 |
| 1:C1:697:C:C6 | 74:C1:1918:OHX:N5 | 2.74 | 0.56 |
| 1:C1:729:G:C8 | 1:C1:729:G:OP2 | 2.59 | 0.56 |
| 1:C1:832:U:H3' | 1:C1:833:U:H5" | 1.88 | 0.56 |
| 1:C1:846:G:O2' | 1:C1:847:A:O5' | 2.23 | 0.56 |
| 1:C1:891:A:C6 | 1:C1:922:G:C6 | 2.93 | 0.56 |
| 1:C1:973:A:H4' | 29:D1:847:A:H2 | 1.70 | 0.56 |
| 1:C1:973:A:C2 | 1:C1:974:A:N7 | 2.73 | 0.56 |
| 1:C1:1043:A:H2' | 1:C1:1044:U:C6 | 2.41 | 0.56 |
| 1:C1:1169:G:C2 | 1:C1:1577:A:C6 | 2.93 | 0.56 |
| 1:C1:1225:U:H2' | 1:C1:1226:A:O4' | 2.05 | 0.56 |
| 1:C1:1349:G:H4' | 1:C1:1350:U:C5' | 2.36 | 0.56 |
| 1:C1:1388:A:C6 | 1:C1:1412:G:C6 | 2.93 | 0.56 |
| 1:C1:1422:A:H2' | 1:C1:1423:U:O4' | 2.06 | 0.56 |
| 1:C1:1483:A:H1' | 1:C1:1524:A:N6 | 2.20 | 0.56 |
| 2:CA:6:THR:C | 2:CA:8:ASP:H | 2.13 | 0.56 |
| 11:CJ:35:PRO:C | 11:CJ:37:THR:N | 2.64 | 0.56 |
| 17:CP:44:GLY:C | 17:CP:46:SER:N | 2.60 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:60:A:H2' | 29:D1:61:A:C5' | 2.36 | 0.56 |
| 29:D1:306:A:H2 | 29:D1:307:A:N9 | 2.03 | 0.56 |
| 29:D1:349:A:C2 | 31:D3:24:G:C4 | 2.94 | 0.56 |
| 29:D1:572:A:C4 | 29:D1:573:C:C6 | 2.94 | 0.56 |
| 29:D1:747:A:C5 | 29:D1:748:U:H5 | 2.24 | 0.56 |
| 29:D1:1097:G:O3' | 29:D1:1098:A:H4' | 2.06 | 0.56 |
| 29:D1:1205:A:C5 | 29:D1:1206:G:N7 | 2.73 | 0.56 |
| 29:D1:1213:G:C8 | 29:D1:1213:G:C5' | 2.84 | 0.56 |
| 29:D1:1455:U:H3 | 29:D1:3077:A:P | 2.29 | 0.56 |
| 29:D1:1616:U:H2' | 29:D1:1617:G:H8 | 1.70 | 0.56 |
| 29:D1:2225:U:C2 | 29:D1:2226:U:C5 | 2.94 | 0.56 |
| 29:D1:2299:A:C6 | 29:D1:2300:G:C8 | 2.93 | 0.56 |
| 29:D1:2311:G:O2' | 29:D1:2312:A:O4' | 2.22 | 0.56 |
| 29:D1:2317:A:C2 | 29:D1:2318:U:C2 | 2.94 | 0.56 |
| 29:D1:2677:G:N2 | 29:D1:2678:A:H5' | 2.20 | 0.56 |
| 29:D1:2727:A:N1 | 29:D1:2728:G:O6 | 2.38 | 0.56 |
| 29:D1:2918:G:N3 | 29:D1:2919:A:C8 | 2.74 | 0.56 |
| 29:D1:3014:U:O2' | 29:D1:3015:G:H5' | 2.05 | 0.56 |
| 29:D1:3117:C:H2' | 29:D1:3118:C:C5' | 2.18 | 0.56 |
| 29:D1:3160:U:O4 | 29:D1:3290:G:O6 | 2.23 | 0.56 |
| 29:D1:3310:A:N3 | 29:D1:3310:A:H2' | 2.21 | 0.56 |
| 31:D3:2:A:N6 | 31:D3:3:A:N1 | 2.54 | 0.56 |
| 31:D3:91:C:H2' | 31:D3:92:A:H8 | 1.70 | 0.56 |
| 35:DD:253:ALA:O | 35:DD:254:ALA:O | 2.24 | 0.56 |
| 35:DD:254:ALA:O | 35:DD:255:PHE:C | 2.48 | 0.56 |
| 40:DI:92:TYR:HA | 40:DI:179:ILE:HA | 1.87 | 0.56 |
| 72:DL:109:ILE:O | 72:DL:113:ALA:N | 2.39 | 0.56 |
| 1:A1:26:A:P | 1:A1:26:A:H3' | 2.46 | 0.56 |
| 1:A1:380:U:C2' | 1:A1:381:C:C6 | 2.82 | 0.56 |
| 1:A1:428:A:H2 | 1:A1:440:U:O2 | 1.88 | 0.56 |
| 1:A1:618:U:H2' | 1:A1:619:A:C5' | 2.34 | 0.56 |
| 1:A1:1149:G:N2 | 1:A1:1150:G:O6 | 2.39 | 0.56 |
| 1:A1:1517:U:O2 | 15:AN:17:GLN:N | 2.39 | 0.56 |
| 74:A1:1916:OHX:N3 | 74:A1:1975:OHX:N4 | 2.54 | 0.56 |
| 3:AB:131:ILE:C | 3:AB:133:LYS:N | 2.61 | 0.56 |
| 3:AB:188:LEU:O | 3:AB:189:GLN:C | 2.48 | 0.56 |
| 8:AG:126:ALA:O | 8:AG:129:TYR:N | 2.38 | 0.56 |
| 16:AO:116:ALA:C | 16:AO:118:ARG:N | 2.55 | 0.56 |
| 19:AR:7:VAL:O | 19:AR:8:THR:C | 2.49 | 0.56 |
| 25:Ad:97:UNK:O | 25:Ad:99:UNK:N | 2.38 | 0.56 |
| 29:B1:30:G:C6 | 29:B1:55:G:C6 | 2.93 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:89:A:N6 | 29:B1:98:G:C2 | 2.73 | 0.56 |
| 29:B1:208:C:H2' | 29:B1:209:A:O5' | 2.06 | 0.56 |
| 29:B1:396:A:H2 | 29:B1:399:A:C4 | 2.24 | 0.56 |
| 29:B1:397:A:H4' | 29:B1:398:A:H5' | 1.87 | 0.56 |
| 29:B1:648:C:H5 | 29:B1:2375:G:P | 2.29 | 0.56 |
| 29:B1:680:G:O6 | 29:B1:701:G:O6 | 2.24 | 0.56 |
| 29:B1:835:G:N2 | 29:B1:857:G:N3 | 2.53 | 0.56 |
| 29:B1:891:G:H5' | 29:B1:2324:A:N3 | 2.21 | 0.56 |
| 29:B1:961:C:O2' | 29:B1:962:A:OP2 | 2.22 | 0.56 |
| 29:B1:965:A:N6 | 29:B1:966:U:H3 | 2.04 | 0.56 |
| 29:B1:1105:A:C6 | 29:B1:1106:G:C5 | 2.94 | 0.56 |
| 29:B1:1156:C:H2' | 29:B1:1156:C:O2 | 2.06 | 0.56 |
| 29:B1:1212:A:C2 | 29:B1:1213:G:C8 | 2.94 | 0.56 |
| 29:B1:1310:G:C2' | 29:B1:1311:G:O5' | 2.53 | 0.56 |
| 29:B1:1311:G:H2' | 29:B1:1312:C:O5' | 2.05 | 0.56 |
| 29:B1:1394:A:C2' | 29:B1:1395:G:O5' | 2.54 | 0.56 |
| 29:B1:1498:A:H5' | 29:B1:1602:A:H1' | 1.88 | 0.56 |
| 29:B1:1528:G:H2' | 29:B1:1529:A:C8 | 2.34 | 0.56 |
| 29:B1:1662:G:H1 | 29:B1:1787:A:N6 | 2.04 | 0.56 |
| 29:B1:2117:A:H2' | 29:B1:2118:C:C6 | 2.41 | 0.56 |
| 29:B1:2341:A:H2' | 29:B1:2342:U:H6 | 1.71 | 0.56 |
| 29:B1:2513:U:H5" | 29:B1:2592:G:H22 | 1.69 | 0.56 |
| 29:B1:2750:U:H2' | 29:B1:2751:G:H8 | 1.71 | 0.56 |
| 29:B1:2903:A:C5 | 29:B1:2904:U:H6 | 2.24 | 0.56 |
| 29:B1:3011:A:H1' | 29:B1:3012:A:O4' | 2.06 | 0.56 |
| 29:B1:3178:A:O2' | 29:B1:3179:U:P | 2.63 | 0.56 |
| 29:B1:3240:C:C5 | 74:B1:3469:OHX:N6 | 2.74 | 0.56 |
| 31:B3:140:G:C5 | 31:B3:141:C:C4 | 2.94 | 0.56 |
| 44:BO:141:ALA:HA | 44:BO:144:ARG:CB | 2.36 | 0.56 |
| 45:BP:9:ILE:HA | 45:BP:117:ARG:O | 2.05 | 0.56 |
| 45:BP:187:GLU:O | 45:BP:189:ASP:N | 2.38 | 0.56 |
| 49:BT:9:SER:C | 49:BT:11:THR:H | 2.14 | 0.56 |
| 55:BZ:76:GLU:C | 55:BZ:78:GLY:H | 2.14 | 0.56 |
| 61:Bf:77:CYS:C | 61:Bf:79:THR:H | 2.14 | 0.56 |
| 62:Bg:22:LEU:O | 62:Bg:23:ARG:C | 2.48 | 0.56 |
| 1:C1:40:A:H2' | 1:C1:41:A:O4' | 2.06 | 0.56 |
| 1:C1:243:G:N3 | 1:C1:251:A:C2 | 2.73 | 0.56 |
| 1:C1:594:A:H4' | 1:C1:595:G:C5' | 2.33 | 0.56 |
| 1:C1:607:G:H4' | 1:C1:608:U:OP2 | 2.06 | 0.56 |
| 1:C1:693:U:C2' | 1:C1:694:U:OP1 | 2.52 | 0.56 |
| 1:C1:756:A:C4 | 1:C1:757:A:N7 | 2.74 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:935:U:H2' | 1:C1:936:G:H8 | 1.71 | 0.56 |
| 1:C1:940:A:C4 | 1:C1:941:A:C8 | 2.94 | 0.56 |
| 1:C1:986:G:O2' | 1:C1:987:G:C5' | 2.54 | 0.56 |
| 1:C1:1150:G:C2 | 1:C1:1766:A:OP1 | 2.58 | 0.56 |
| 1:C1:1369:U:H2' | 1:C1:1370:U:C6 | 2.41 | 0.56 |
| 1:C1:1575:G:H5' | 1:C1:1576:A:OP2 | 2.06 | 0.56 |
| 1:C1:1584:G:H8 | 11:CJ:123:ARG:H | 1.49 | 0.56 |
| 1:C1:1665:U:O4 | 74:C1:1993:OHX:N6 | 2.39 | 0.56 |
| 74:C1:1924:OHX:N2 | 74:C1:1964:OHX:N2 | 2.54 | 0.56 |
| 16:CO:13:ALA:O | 16:CO:17:ALA:HB2 | 2.05 | 0.56 |
| 22:Ca:6:UNK:O | 22:Ca:7:UNK:O | 2.24 | 0.56 |
| 29:D1:10:C:H42 | 31:D3:148:G:H1 | 1.51 | 0.56 |
| 29:D1:52:A:C2' | 29:D1:53:G:O5' | 2.54 | 0.56 |
| 29:D1:197:G:N2 | 29:D1:372:A:C8 | 2.74 | 0.56 |
| 29:D1:282:G:H3' | 29:D1:282:G:OP2 | 2.06 | 0.56 |
| 29:D1:293:C:N3 | 29:D1:294:U:C2 | 2.74 | 0.56 |
| 29:D1:351:A:C8 | 31:D3:53:A:H1' | 2.41 | 0.56 |
| 29:D1:396:A:H8 | 29:D1:396:A:H5' | 1.71 | 0.56 |
| 29:D1:501:A:C2 | 29:D1:613:G:C2 | 2.94 | 0.56 |
| 29:D1:566:G:C2' | 29:D1:567:G:H5' | 2.35 | 0.56 |
| 29:D1:606:C:H6 | 29:D1:606:C:C5' | 2.18 | 0.56 |
| 29:D1:682:U:C4 | 29:D1:699:A:C2 | 2.94 | 0.56 |
| 29:D1:703:G:N3 | 29:D1:703:G:C2' | 2.62 | 0.56 |
| 29:D1:703:G:N1 | 29:D1:704:U:C2 | 2.74 | 0.56 |
| 29:D1:716:A:C6 | 29:D1:721:G:N2 | 2.73 | 0.56 |
| 29:D1:729:C:H6 | 29:D1:729:C:O5' | 1.89 | 0.56 |
| 29:D1:771:A:N1 | 29:D1:772:U:N3 | 2.54 | 0.56 |
| 29:D1:869:G:H3' | 29:D1:870:G:C8 | 2.41 | 0.56 |
| 29:D1:1029:G:H2' | 29:D1:1030:A:C5' | 2.36 | 0.56 |
| 29:D1:1033:U:H2' | 29:D1:1034:U:O2 | 2.05 | 0.56 |
| 29:D1:1035:G:C2' | 29:D1:1036:A:H5' | 2.36 | 0.56 |
| 29:D1:1311:G:C2' | 29:D1:1312:C:O5' | 2.54 | 0.56 |
| 29:D1:1496:C:C2 | 29:D1:1521:G:N2 | 2.74 | 0.56 |
| 29:D1:1887:A:N7 | 29:D1:2348:A:H2 | 2.03 | 0.56 |
| 29:D1:2280:A:H4' | 29:D1:2281:A:OP1 | 2.06 | 0.56 |
| 29:D1:2295:A:H62 | 29:D1:2296:A:N6 | 2.00 | 0.56 |
| 29:D1:2308:C:H2' | 29:D1:2309:A:C8 | 2.40 | 0.56 |
| 29:D1:2308:C:H2' | 29:D1:2309:A:H8 | 1.70 | 0.56 |
| 29:D1:2642:A:C2 | 29:D1:2643:A:C6 | 2.93 | 0.56 |
| 29:D1:2642:A:H2 | 29:D1:2643:A:C5 | 2.23 | 0.56 |
| 29:D1:2700:G:H5" | 29:D1:2701:U:OP2 | 2.05 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2836:C:O2 | 29:D1:2837:A:C8 | 2.59 | 0.56 |
| 29:D1:2892:A:H2' | 29:D1:2893:C:C6 | 2.41 | 0.56 |
| 29:D1:2914:G:C5 | 29:D1:2915:U:C5 | 2.93 | 0.56 |
| 29:D1:3020:U:H2' | 29:D1:3021:A:H8 | 1.70 | 0.56 |
| 29:D1:3101:G:O2' | 29:D1:3102:G:H5" | 2.05 | 0.56 |
| 29:D1:3110:C:C2 | 29:D1:3111:U:C5 | 2.94 | 0.56 |
| 29:D1:3322:A:C5 | 29:D1:3323:A:N7 | 2.74 | 0.56 |
| 29:D1:3371:G:O6 | 29:D1:3372:A:N1 | 2.39 | 0.56 |
| 30:D2:86:U:H4' | 30:D2:87:G:O5' | 2.05 | 0.56 |
| 34:DC:330:GLY:O | 34:DC:331:ASN:O | 2.24 | 0.56 |
| 37:DF:43:LEU:N | 37:DF:84:VAL:CB | 2.69 | 0.56 |
| 38:DG:148:VAL:O | 38:DG:152:GLY:CA | 2.54 | 0.56 |
| 49:DT:84:TYR:O | 49:DT:85:LEU:O | 2.24 | 0.56 |
| 54:DY:131:SER:C | 54:DY:133:LEU:N | 2.54 | 0.56 |
| 1:A1:210:A:C4 | 1:A1:211:U:C5 | 2.94 | 0.56 |
| 1:A1:440:U:O2' | 1:A1:441:A:OP1 | 2.22 | 0.56 |
| 1:A1:841:U:H2' | 1:A1:842:C:O4' | 2.06 | 0.56 |
| 1:A1:1063:U:C2 | 1:A1:1064:G:C8 | 2.94 | 0.56 |
| 1:A1:1100:G:N3 | 1:A1:1100:G:O4' | 2.39 | 0.56 |
| 1:A1:1123:C:C2' | 1:A1:1124:A:O5' | 2.53 | 0.56 |
| 1:A1:1141:G:C3' | 1:A1:1142:A:C5' | 2.70 | 0.56 |
| 1:A1:1294:G:O2' | 1:A1:1321:A:N1 | 2.33 | 0.56 |
| 1:A1:1332:C:O2' | 1:A1:1333:C:C6 | 2.59 | 0.56 |
| 1:A1:1418:G:H2' | 1:A1:1419:G:H5' | 1.87 | 0.56 |
| 1:A1:1723:U:C4 | 1:A1:1724:U:C4 | 2.94 | 0.56 |
| 1:A1:1725:U:O5' | 1:A1:1725:U:C6 | 2.59 | 0.56 |
| 1:A1:1778:G:C2 | 1:A1:1779:U:C6 | 2.93 | 0.56 |
| 3:AB:99:LYS:CB | 3:AB:117:THR:HA | 2.36 | 0.56 |
| 3:AB:165:VAL:HA | 3:AB:202:GLY:HA3 | 1.88 | 0.56 |
| 13:AL:16:ARG:HA | 13:AL:22:VAL:HA | 1.88 | 0.56 |
| 16:AO:54:ASP:CA | 16:AO:59:GLY:HA2 | 2.27 | 0.56 |
| 17:AP:126:LYS:O | 17:AP:127:VAL:CB | 2.54 | 0.56 |
| 29:B1:341:G:N2 | 31:B3:24:G:O6 | 2.39 | 0.56 |
| 29:B1:585:A:C4 | 29:B1:586:C:C5 | 2.94 | 0.56 |
| 29:B1:609:G:O2' | 29:B1:610:G:C5' | 2.46 | 0.56 |
| 29:B1:699:A:H3' | 29:B1:699:A:C8 | 2.41 | 0.56 |
| 29:B1:747:A:P | 29:B1:747:A:H8 | 2.29 | 0.56 |
| 29:B1:776:U:C3' | 29:B1:777:U:H5" | 2.36 | 0.56 |
| 29:B1:779:G:C8 | 29:B1:779:G:C3' | 2.87 | 0.56 |
| 29:B1:915:A:H8 | 29:B1:916:G:H4' | 1.70 | 0.56 |
| 29:B1:958:C:H4' | 29:B1:2799:A:O2' | 2.06 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1186:G:H2' | 29:B1:1187:C:O5' | 2.05 | 0.56 |
| 29:B1:1205:A:C5 | 29:B1:1206:G:N7 | 2.74 | 0.56 |
| 29:B1:1358:C:C2 | 29:B1:1359:C:C5 | 2.94 | 0.56 |
| 29:B1:1444:G:H2' | 29:B1:1445:U:O5' | 2.06 | 0.56 |
| 29:B1:1447:G:C8 | 29:B1:2355:G:O6 | 2.58 | 0.56 |
| 29:B1:1685:C:H5 | 29:B1:3069:G:N2 | 2.01 | 0.56 |
| 29:B1:1743:G:C2' | 29:B1:1744:G:H5' | 2.36 | 0.56 |
| 29:B1:1830:G:C8 | 29:B1:1830:G:OP2 | 2.59 | 0.56 |
| 29:B1:2215:A:N3 | 29:B1:2215:A:C2' | 2.65 | 0.56 |
| 29:B1:2254:U:C6 | 29:B1:2254:U:OP2 | 2.58 | 0.56 |
| 29:B1:2341:A:H2' | 29:B1:2342:U:C6 | 2.40 | 0.56 |
| 29:B1:2555:G:H1' | 29:B1:2556:C:P | 2.45 | 0.56 |
| 29:B1:2580:A:O2' | 29:B1:2581:U:OP1 | 2.21 | 0.56 |
| 29:B1:2666:C:H2' | 29:B1:2666:C:O2 | 2.05 | 0.56 |
| 29:B1:2806:U:HO2' | 29:B1:2807:U:H5' | 1.69 | 0.56 |
| 29:B1:3021:A:C4 | 29:B1:3023:U:C4 | 2.94 | 0.56 |
| 29:B1:3102:G:H2' | 29:B1:3103:A:O5' | 2.06 | 0.56 |
| 29:B1:3171:U:O2' | 29:B1:3172:A:OP2 | 2.23 | 0.56 |
| 29:B1:3213:A:H3' | 29:B1:3213:A:H8 | 1.70 | 0.56 |
| 29:B1:3283:U:H2' | 29:B1:3284:G:C8 | 2.41 | 0.56 |
| 29:B1:3298:C:N3 | 29:B1:3391:A:C2 | 2.75 | 0.56 |
| 36:BE:185:PHE:CB | 36:BE:186:GLU:CB | 2.84 | 0.56 |
| 37:BF:7:PRO:N | 38:BG:74:SER:H | 2.03 | 0.56 |
| 38:BG:203:TRP:O | 38:BG:204:PRO:CB | 2.53 | 0.56 |
| 45:BP:99:LEU:C | 45:BP:101:ARG:H | 2.10 | 0.56 |
| 46:BQ:105:LYS:O | 46:BQ:107:LEU:N | 2.39 | 0.56 |
| 47:BR:75:GLY:O | 47:BR:76:ALA:HB2 | 2.06 | 0.56 |
| 55:BZ:35:ARG:O | 55:BZ:36:GLN:C | 2.48 | 0.56 |
| 1:C1:89:G:H2' | 1:C1:90:C:C6 | 2.39 | 0.56 |
| 1:C1:97:C:H2' | 1:C1:98:U:O4' | 2.06 | 0.56 |
| 1:C1:120:U:O4 | 1:C1:297:U:O4 | 2.23 | 0.56 |
| 1:C1:173:A:N6 | 1:C1:174:U:C6 | 2.73 | 0.56 |
| 1:C1:217:A:H1' | 1:C1:218:A:P | 2.46 | 0.56 |
| 1:C1:521:A:C2 | 1:C1:523:G:C6 | 2.94 | 0.56 |
| 1:C1:576:G:O2' | 1:C1:580:A:C6 | 2.59 | 0.56 |
| 1:C1:723:G:C6 | 1:C1:724:C:N3 | 2.74 | 0.56 |
| 1:C1:932:U:O4' | 1:C1:933:A:N3 | 2.39 | 0.56 |
| 1:C1:1056:U:H5" | 1:C1:1057:U:H5 | 1.71 | 0.56 |
| 1:C1:1407:U:C5 | 1:C1:1408:G:C8 | 2.94 | 0.56 |
| 1:C1:1603:U:H2' | 1:C1:1604:U:C6 | 2.41 | 0.56 |
| 1:C1:1734:U:N3 | 1:C1:1735:U:C5 | 2.74 | 0.56 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:CA:38:PHE:CB | 2:CA:39:ASN:HA | 2.35 | 0.56 |
| 5:CD:99:MET:C | 5:CD:101:GLY:N | 2.63 | 0.56 |
| 14:CM:134:ARG:O | 14:CM:137:ALA:N | 2.39 | 0.56 |
| 17:CP:44:GLY:O | 17:CP:45:GLY:C | 2.49 | 0.56 |
| 17:CP:104:LEU:O | 17:CP:105:ALA:CB | 2.53 | 0.56 |
| 21:CT:37:SER:C | 21:CT:39:ASP:H | 2.13 | 0.56 |
| 28:Ch:56:UNK:C | 28:Ch:58:UNK:N | 2.68 | 0.56 |
| 29:D1:34:A:N3 | 29:D1:810:A:O2' | 2.37 | 0.56 |
| 29:D1:46:U:H3' | 29:D1:46:U:C6 | 2.40 | 0.56 |
| 29:D1:264:G:C4 | 29:D1:265:A:N7 | 2.74 | 0.56 |
| 29:D1:311:C:N4 | 29:D1:312:C:N4 | 2.53 | 0.56 |
| 29:D1:563:U:C3' | 29:D1:564:G:C5' | 2.67 | 0.56 |
| 29:D1:835:G:N2 | 29:D1:857:G:H1' | 2.21 | 0.56 |
| 29:D1:943:U:O2 | 29:D1:1431:G:H2' | 2.06 | 0.56 |
| 29:D1:1065:A:O3' | 29:D1:1066:G:H8 | 1.89 | 0.56 |
| 29:D1:1140:G:H2' | 29:D1:1140:G:N3 | 2.21 | 0.56 |
| 29:D1:1313:G:N3 | 29:D1:1314:C:C6 | 2.74 | 0.56 |
| 29:D1:1679:A:C2 | 29:D1:1680:G:C8 | 2.93 | 0.56 |
| 29:D1:1894:U:C2 | 29:D1:1895:A:C8 | 2.94 | 0.56 |
| 29:D1:2213:A:C6 | 29:D1:2214:A:C6 | 2.94 | 0.56 |
| 29:D1:2341:A:OP2 | 29:D1:2341:A:H8 | 1.89 | 0.56 |
| 29:D1:2584:G:OP1 | 29:D1:2584:G:C4' | 2.54 | 0.56 |
| 29:D1:2601:A:O2' | 29:D1:2602:G:C5' | 2.51 | 0.56 |
| 29:D1:2615:G:C6 | 29:D1:2616:C:N4 | 2.74 | 0.56 |
| 29:D1:2699:G:H8 | 29:D1:2699:G:C5' | 2.17 | 0.56 |
| 29:D1:2703:A:H5" | 29:D1:2704:A:H5" | 1.81 | 0.56 |
| 29:D1:2947:G:H2' | 29:D1:2948:C:C6 | 2.41 | 0.56 |
| 29:D1:3038:U:C2' | 29:D1:3039:C:O5' | 2.52 | 0.56 |
| 29:D1:3217:C:C1' | 29:D1:3220:G:O2' | 2.54 | 0.56 |
| 37:DF:21:THR:CA | 37:DF:112:THR:HA | 2.35 | 0.56 |
| 45:DP:99:LEU:C | 45:DP:101:ARG:H | 2.10 | 0.56 |
| 45:DP:139:GLY:O | 45:DP:143:THR:N | 2.39 | 0.56 |
| 47:DR:37:ALA:C | 47:DR:39:ARG:N | 2.64 | 0.56 |
| 57:Db:19:ARG:O | 57:Db:20:HIS:O | 2.24 | 0.56 |
| 57:Db:107:VAL:O | 57:Db:109:LEU:C | 2.49 | 0.56 |
| 58:Dc:63:ARG:C | 58:Dc:65:ALA:N | 2.62 | 0.56 |
| 59:Dd:5:THR:O | 59:Dd:6:PRO:C | 2.49 | 0.56 |
| 61:Df:11:TYR:HA | 61:Df:20:HIS:HA | 1.87 | 0.56 |
| 1:A1:364:G:C2 | 1:A1:381:C:C4 | 2.94 | 0.55 |
| 1:A1:402:C:O2 | 1:A1:403:G:C4' | 2.50 | 0.55 |
| 1:A1:427:C:C6 | 1:A1:427:C:H5' | 2.37 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:432:G:O2' | 1:A1:433:C:H5' | 2.06 | 0.55 |
| 1:A1:438:A:H8 | 1:A1:438:A:O5' | 1.88 | 0.55 |
| 1:A1:492:A:C4 | 1:A1:494:U:H5" | 2.41 | 0.55 |
| 1:A1:544:A:H8 | 1:A1:544:A:OP2 | 1.88 | 0.55 |
| 1:A1:604:A:C6 | 1:A1:605:A:C6 | 2.94 | 0.55 |
| 1:A1:606:A:C4 | 1:A1:608:U:C5 | 2.95 | 0.55 |
| 1:A1:693:U:C2' | 1:A1:694:U:OP1 | 2.54 | 0.55 |
| 1:A1:755:A:C4' | 1:A1:756:A:OP1 | 2.53 | 0.55 |
| 1:A1:778:G:H2' | 1:A1:779:U:H2' | 1.87 | 0.55 |
| 1:A1:1051:G:C2 | 1:A1:1052:U:N3 | 2.73 | 0.55 |
| 1:A1:1147:A:C6 | 1:A1:1148:C:C4 | 2.93 | 0.55 |
| 1:A1:1149:G:N3 | 1:A1:1150:G:N7 | 2.53 | 0.55 |
| 1:A1:1172:G:C6 | 1:A1:1173:C:C4 | 2.95 | 0.55 |
| 1:A1:1287:A:C2 | 1:A1:1288:G:H1' | 2.41 | 0.55 |
| 1:A1:1501:C:H2' | 1:A1:1502:G:C5' | 2.36 | 0.55 |
| 1:A1:1631:A:H5" | 74:A1:1990:OHX:N3 | 2.20 | 0.55 |
| 1:A1:1689:A:H5' | 1:A1:1690:G:OP2 | 2.07 | 0.55 |
| 1:A1:1729:C:H3' | 1:A1:1730:A:H8 | 1.71 | 0.55 |
| 5:AD:164:PRO:O | 5:AD:167:ARG:N | 2.38 | 0.55 |
| 13:AL:76:PRO:O | 13:AL:81:ILE:N | 2.39 | 0.55 |
| 16:AO:37:PHE:O | 16:AO:39:GLN:N | 2.39 | 0.55 |
| 29:B1:53:G:C4 | 29:B1:54:C:C5 | 2.94 | 0.55 |
| 29:B1:398:A:H4' | 29:B1:399:A:H5' | 1.87 | 0.55 |
| 29:B1:547:G:C8 | 29:B1:548:G:C5 | 2.95 | 0.55 |
| 29:B1:572:A:C5 | 29:B1:573:C:C5 | 2.94 | 0.55 |
| 29:B1:594:U:C2 | 29:B1:595:G:C5 | 2.93 | 0.55 |
| 29:B1:643:U:O5' | 29:B1:643:U:H6 | 1.89 | 0.55 |
| 29:B1:927:C:O2' | 29:B1:928:C:H5' | 2.05 | 0.55 |
| 29:B1:1018:G:C4 | 29:B1:1019:G:N7 | 2.74 | 0.55 |
| 29:B1:1311:G:O2' | 29:B1:2381:G:H4' | 2.06 | 0.55 |
| 29:B1:1325:U:OP1 | 29:B1:1325:U:H4' | 2.06 | 0.55 |
| 29:B1:1437:C:O2 | 29:B1:1437:C:C2' | 2.48 | 0.55 |
| 29:B1:1556:C:N3 | 29:B1:2169:G:N7 | 2.54 | 0.55 |
| 29:B1:1909:A:C6 | 29:B1:1910:A:C2 | 2.94 | 0.55 |
| 29:B1:2157:G:N7 | 33:BB:151:PRO:CB | 2.68 | 0.55 |
| 29:B1:2278:C:C4 | 29:B1:2307:G:C2 | 2.93 | 0.55 |
| 29:B1:2280:A:C4 | 29:B1:2282:U:H5 | 2.25 | 0.55 |
| 29:B1:2444:C:H3' | 29:B1:2445:A:C5' | 2.36 | 0.55 |
| 29:B1:2626:A:H3' | 29:B1:2626:A:N3 | 2.21 | 0.55 |
| 29:B1:2665:U:O4 | 29:B1:2703:A:H4' | 2.06 | 0.55 |
| 29:B1:2676:A:C2 | 29:B1:2680:A:C2 | 2.92 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2820:A:C5’ | 29:B1:2821:C:OP2 | 2.54 | 0.55 |
| 29:B1:2821:C:H6 | 29:B1:2821:C:H3’ | 1.70 | 0.55 |
| 29:B1:2842:U:C6 | 29:B1:2842:U:O5’ | 2.58 | 0.55 |
| 29:B1:2860:U:H1’ | 29:B1:2939:G:OP1 | 2.06 | 0.55 |
| 29:B1:2929:C:N4 | 29:B1:2930:A:N7 | 2.54 | 0.55 |
| 29:B1:2985:C:H2’ | 29:B1:2986:U:O5’ | 2.06 | 0.55 |
| 29:B1:2985:C:C2’ | 29:B1:2986:U:O5’ | 2.54 | 0.55 |
| 29:B1:2994:A:H2’ | 29:B1:2995:A:C8 | 2.42 | 0.55 |
| 29:B1:3078:U:C4’ | 29:B1:3079:U:O5’ | 2.51 | 0.55 |
| 29:B1:3101:G:C2’ | 29:B1:3102:G:C5’ | 2.73 | 0.55 |
| 29:B1:3102:G:C2’ | 29:B1:3103:A:O5’ | 2.53 | 0.55 |
| 29:B1:3197:G:C2’ | 29:B1:3198:U:OP1 | 2.55 | 0.55 |
| 29:B1:3265:C:H6 | 29:B1:3265:C:H5’ | 1.71 | 0.55 |
| 29:B1:3317:U:OP1 | 29:B1:3318:G:O5’ | 2.23 | 0.55 |
| 30:B2:14:U:H2’ | 30:B2:15:C:O4’ | 2.06 | 0.55 |
| 30:B2:48:U:H2’ | 30:B2:49:G:N7 | 2.21 | 0.55 |
| 30:B2:73:C:N4 | 30:B2:74:C:H41 | 2.03 | 0.55 |
| 31:B3:79:A:C5 | 31:B3:80:A:C5 | 2.94 | 0.55 |
| 31:B3:114:G:OP2 | 31:B3:114:G:C8 | 2.59 | 0.55 |
| 36:BE:272:TYR:CB | 36:BE:275:THR:HA | 2.36 | 0.55 |
| 38:BG:37:ASN:O | 38:BG:38:LYS:C | 2.48 | 0.55 |
| 38:BG:205:PHE:O | 38:BG:206:LYS:CB | 2.53 | 0.55 |
| 40:BI:72:LYS:O | 40:BI:73:SER:C | 2.48 | 0.55 |
| 42:BK:80:LEU:C | 42:BK:82:ARG:H | 2.14 | 0.55 |
| 49:BT:75:ILE:O | 49:BT:76:ILE:CB | 2.54 | 0.55 |
| 1:C1:235:G:H2’ | 1:C1:236:A:H8 | 1.71 | 0.55 |
| 1:C1:245:U:N3 | 1:C1:247:A:OP2 | 2.38 | 0.55 |
| 1:C1:294:C:O2 | 1:C1:294:C:H2’ | 2.05 | 0.55 |
| 1:C1:365:G:C6 | 1:C1:377:G:O6 | 2.59 | 0.55 |
| 1:C1:526:A:N3 | 1:C1:526:A:C2’ | 2.64 | 0.55 |
| 1:C1:773:C:O2 | 1:C1:774:A:H8 | 1.89 | 0.55 |
| 1:C1:850:A:N1 | 1:C1:851:U:C4 | 2.74 | 0.55 |
| 1:C1:1072:C:H3’ | 1:C1:1073:G:H5” | 1.87 | 0.55 |
| 1:C1:1110:G:O2’ | 1:C1:1111:G:O5’ | 2.17 | 0.55 |
| 1:C1:1176:G:C6 | 1:C1:1177:C:N4 | 2.73 | 0.55 |
| 1:C1:1196:A:O2’ | 1:C1:1197:C:OP2 | 2.18 | 0.55 |
| 1:C1:1398:U:H4’ | 1:C1:1399:C:C5 | 2.40 | 0.55 |
| 2:CA:65:ALA:C | 2:CA:67:ILE:N | 2.64 | 0.55 |
| 6:CE:26:ALA:C | 6:CE:28:LEU:N | 2.61 | 0.55 |
| 29:D1:34:A:H2’ | 29:D1:35:A:C1’ | 2.36 | 0.55 |
| 29:D1:79:U:C2 | 29:D1:80:G:C8 | 2.93 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:156:G:N7 | 29:D1:157:A:H1' | 2.21 | 0.55 |
| 29:D1:184:U:C2 | 29:D1:185:C:C6 | 2.94 | 0.55 |
| 29:D1:547:G:H5" | 29:D1:548:G:N7 | 2.21 | 0.55 |
| 29:D1:593:C:H2' | 29:D1:594:U:C5' | 2.35 | 0.55 |
| 29:D1:684:G:C6 | 29:D1:685:G:N7 | 2.74 | 0.55 |
| 29:D1:687:U:O2' | 29:D1:688:G:H5' | 2.06 | 0.55 |
| 29:D1:804:C:C4 | 29:D1:940:G:N1 | 2.74 | 0.55 |
| 29:D1:861:C:OP2 | 29:D1:862:U:OP2 | 2.24 | 0.55 |
| 29:D1:915:A:C8 | 29:D1:915:A:C3' | 2.86 | 0.55 |
| 29:D1:987:U:C2 | 29:D1:1098:A:C2 | 2.94 | 0.55 |
| 29:D1:993:G:H21 | 29:D1:2637:A:C3' | 2.02 | 0.55 |
| 29:D1:1138:U:C2' | 29:D1:1139:G:H5" | 2.34 | 0.55 |
| 29:D1:1232:C:C4 | 29:D1:1261:G:N3 | 2.75 | 0.55 |
| 29:D1:1356:U:OP2 | 29:D1:1357:G:C8 | 2.59 | 0.55 |
| 29:D1:1455:U:O4 | 29:D1:3077:A:OP2 | 2.23 | 0.55 |
| 29:D1:1488:G:N7 | 74:D1:3588:OHX:N4 | 2.54 | 0.55 |
| 29:D1:1540:U:H2' | 29:D1:1541:G:C5' | 2.36 | 0.55 |
| 29:D1:1916:U:O2' | 29:D1:1917:C:H5' | 2.06 | 0.55 |
| 29:D1:2221:G:H3' | 29:D1:2221:G:C8 | 2.41 | 0.55 |
| 29:D1:2254:U:C3' | 74:D1:3415:OHX:N5 | 2.69 | 0.55 |
| 29:D1:2290:C:N3 | 29:D1:2303:A:C2 | 2.74 | 0.55 |
| 29:D1:2444:C:H3' | 29:D1:2445:A:C5' | 2.36 | 0.55 |
| 29:D1:2465:G:C2' | 29:D1:2466:G:H8 | 2.16 | 0.55 |
| 29:D1:2802:A:H8 | 61:Df:57:VAL:H | 1.53 | 0.55 |
| 29:D1:2847:A:N3 | 29:D1:2848:G:C8 | 2.74 | 0.55 |
| 29:D1:3044:G:O2' | 29:D1:3045:G:H5' | 2.06 | 0.55 |
| 29:D1:3057:U:O3' | 29:D1:3058:U:H4' | 2.06 | 0.55 |
| 29:D1:3120:C:HO2' | 29:D1:3121:U:H6 | 1.55 | 0.55 |
| 30:D2:12:U:P | 30:D2:68:C:H4' | 2.45 | 0.55 |
| 30:D2:48:U:C2' | 30:D2:49:G:OP2 | 2.54 | 0.55 |
| 30:D2:56:A:H5" | 30:D2:56:A:H8 | 1.71 | 0.55 |
| 36:DE:141:PRO:C | 36:DE:143:LYS:N | 2.58 | 0.55 |
| 36:DE:179:ARG:O | 36:DE:180:PHE:C | 2.49 | 0.55 |
| 40:DI:2:LYS:HA | 40:DI:60:GLY:O | 2.06 | 0.55 |
| 42:DK:34:SER:O | 42:DK:35:LYS:C | 2.49 | 0.55 |
| 42:DK:80:LEU:C | 42:DK:82:ARG:H | 2.14 | 0.55 |
| 42:DK:107:ASP:O | 42:DK:108:GLU:O | 2.24 | 0.55 |
| 73:DM:197:PHE:O | 73:DM:198:PRO:C | 2.49 | 0.55 |
| 43:DN:24:LYS:CB | 43:DN:31:LYS:HA | 2.36 | 0.55 |
| 45:DP:15:LEU:HA | 45:DP:42:ASN:O | 2.06 | 0.55 |
| 45:DP:97:ALA:O | 45:DP:100:GLU:N | 2.39 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 46:DQ:109:ALA:O | 46:DQ:111:LYS:N | 2.39 | 0.55 |
| 48:DS:25:ASP:C | 48:DS:27:ASN:N | 2.63 | 0.55 |
| 1:A1:12:U:H5" | 1:A1:13:C:OP2 | 2.05 | 0.55 |
| 1:A1:183:U:H1' | 1:A1:184:C:O5' | 2.06 | 0.55 |
| 1:A1:276:C:O2' | 1:A1:277:U:P | 2.63 | 0.55 |
| 1:A1:515:A:OP2 | 74:A1:1936:OHX:N3 | 2.39 | 0.55 |
| 1:A1:905:A:C2 | 1:A1:906:A:H1' | 2.41 | 0.55 |
| 1:A1:1058:U:O2 | 1:A1:1060:U:H5' | 2.06 | 0.55 |
| 1:A1:1165:G:C6 | 1:A1:1166:A:C5 | 2.95 | 0.55 |
| 1:A1:1233:G:H2' | 1:A1:1234:A:O4' | 2.05 | 0.55 |
| 1:A1:1322:A:H2' | 1:A1:1323:C:C6 | 2.41 | 0.55 |
| 1:A1:1373:C:H5' | 1:A1:1374:C:OP2 | 2.06 | 0.55 |
| 1:A1:1391:A:C4 | 1:A1:1392:U:C5 | 2.93 | 0.55 |
| 1:A1:1611:A:H2' | 1:A1:1612:U:O4' | 2.07 | 0.55 |
| 1:A1:1720:G:H2' | 1:A1:1721:A:C8 | 2.42 | 0.55 |
| 2:AA:28:ASN:HA | 2:AA:45:VAL:HA | 1.88 | 0.55 |
| 3:AB:118:ALA:CB | 3:AB:124:ALA:HB2 | 2.36 | 0.55 |
| 4:AC:39:VAL:HA | 4:AC:47:GLU:O | 2.06 | 0.55 |
| 4:AC:108:LYS:O | 4:AC:109:LEU:C | 2.49 | 0.55 |
| 7:AF:85:VAL:O | 7:AF:86:ILE:O | 2.24 | 0.55 |
| 10:AI:124:THR:O | 10:AI:125:PRO:CB | 2.55 | 0.55 |
| 29:B1:40:A:C5 | 29:B1:937:G:C6 | 2.94 | 0.55 |
| 29:B1:199:A:C6 | 29:B1:219:A:C6 | 2.94 | 0.55 |
| 29:B1:282:G:H4' | 29:B1:283:G:H8 | 1.71 | 0.55 |
| 29:B1:416:A:N1 | 29:B1:417:A:C5 | 2.74 | 0.55 |
| 29:B1:423:A:O2' | 29:B1:424:G:O5' | 2.24 | 0.55 |
| 29:B1:546:C:N4 | 29:B1:547:G:N3 | 2.54 | 0.55 |
| 29:B1:900:G:N3 | 29:B1:1589:A:C6 | 2.74 | 0.55 |
| 29:B1:1180:A:C6 | 29:B1:1182:A:N7 | 2.74 | 0.55 |
| 29:B1:1193:A:C8 | 29:B1:1194:G:N2 | 2.75 | 0.55 |
| 29:B1:1268:G:N2 | 29:B1:1271:A:H61 | 2.03 | 0.55 |
| 29:B1:1356:U:OP2 | 29:B1:1357:G:C8 | 2.59 | 0.55 |
| 29:B1:1500:G:H2' | 29:B1:1501:U:C6 | 2.41 | 0.55 |
| 29:B1:1631:C:O5' | 29:B1:1813:A:N1 | 2.39 | 0.55 |
| 29:B1:1835:A:H2' | 29:B1:1836:C:C6 | 2.41 | 0.55 |
| 29:B1:2196:C:C4 | 29:B1:2242:A:N7 | 2.75 | 0.55 |
| 29:B1:2523:A:H1' | 29:B1:2524:A:O5' | 2.06 | 0.55 |
| 29:B1:2675:C:N4 | 29:B1:2676:A:N6 | 2.51 | 0.55 |
| 29:B1:2689:A:H4' | 29:B1:2690:G:C5' | 2.33 | 0.55 |
| 29:B1:2847:A:C2 | 29:B1:2848:G:H1' | 2.42 | 0.55 |
| 29:B1:3019:U:C4 | 29:B1:3020:U:C4 | 2.94 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3107:U:H6 | 29:B1:3107:U:O5' | 1.89 | 0.55 |
| 29:B1:3305:A:C4 | 29:B1:3306:U:C2 | 2.94 | 0.55 |
| 30:B2:47:C:H2' | 30:B2:47:C:O2 | 2.05 | 0.55 |
| 31:B3:81:U:C6 | 31:B3:82:U:H5" | 2.41 | 0.55 |
| 31:B3:131:A:O2' | 31:B3:132:G:P | 2.64 | 0.55 |
| 34:BC:195:ALA:O | 34:BC:196:ARG:C | 2.47 | 0.55 |
| 36:BE:255:PRO:O | 36:BE:257:GLU:N | 2.40 | 0.55 |
| 36:BE:273:ARG:C | 36:BE:275:THR:N | 2.60 | 0.55 |
| 38:BG:202:LEU:C | 38:BG:204:PRO:N | 2.60 | 0.55 |
| 38:BG:222:HIS:CB | 38:BG:227:GLY:HA3 | 2.36 | 0.55 |
| 40:BI:85:GLY:O | 40:BI:186:PHE:HA | 2.05 | 0.55 |
| 44:BO:78:GLY:N | 44:BO:79:ALA:CB | 2.69 | 0.55 |
| 1:C1:213:A:N6 | 1:C1:214:G:C2 | 2.74 | 0.55 |
| 1:C1:452:A:C2 | 1:C1:454:U:O5' | 2.59 | 0.55 |
| 1:C1:520:A:C4 | 1:C1:521:A:C8 | 2.94 | 0.55 |
| 1:C1:524:U:C2 | 1:C1:527:A:N1 | 2.74 | 0.55 |
| 1:C1:772:G:N7 | 1:C1:773:C:N4 | 2.54 | 0.55 |
| 1:C1:902:G:H8 | 1:C1:902:G:O5' | 1.89 | 0.55 |
| 1:C1:914:G:H3' | 74:C1:1927:OHX:N3 | 2.22 | 0.55 |
| 1:C1:1030:A:H3' | 1:C1:1031:U:C5' | 2.33 | 0.55 |
| 1:C1:1063:U:C2 | 1:C1:1064:G:C8 | 2.95 | 0.55 |
| 1:C1:1074:G:H2' | 1:C1:1075:C:H5" | 1.87 | 0.55 |
| 1:C1:1267:G:O2' | 1:C1:1268:G:H5' | 2.06 | 0.55 |
| 1:C1:1294:G:H2' | 1:C1:1295:G:O4' | 2.06 | 0.55 |
| 1:C1:1335:U:C2 | 1:C1:1336:A:N7 | 2.74 | 0.55 |
| 1:C1:1388:A:C5 | 1:C1:1411:A:N6 | 2.75 | 0.55 |
| 1:C1:1512:G:H2' | 1:C1:1513:G:C8 | 2.41 | 0.55 |
| 1:C1:1557:U:H3' | 1:C1:1557:U:O2 | 2.05 | 0.55 |
| 1:C1:1667:A:H2' | 1:C1:1668:G:C8 | 2.41 | 0.55 |
| 11:CJ:110:THR:HA | 11:CJ:113:ASP:CB | 2.37 | 0.55 |
| 15:CN:102:ARG:C | 15:CN:104:THR:N | 2.61 | 0.55 |
| 17:CP:95:PHE:O | 17:CP:97:ASP:N | 2.39 | 0.55 |
| 29:D1:66:A:H2 | 29:D1:77:A:O3' | 1.90 | 0.55 |
| 29:D1:187:A:C4 | 29:D1:211:A:C6 | 2.94 | 0.55 |
| 29:D1:306:A:N6 | 29:D1:2783:U:H3 | 2.04 | 0.55 |
| 29:D1:512:U:N3 | 29:D1:579:G:C6 | 2.74 | 0.55 |
| 29:D1:535:G:C8 | 29:D1:536:U:O4 | 2.60 | 0.55 |
| 29:D1:931:C:H3' | 29:D1:932:U:H2' | 1.88 | 0.55 |
| 29:D1:1063:G:C1' | 29:D1:1064:A:O5' | 2.51 | 0.55 |
| 29:D1:1175:C:C2' | 29:D1:1176:C:O5' | 2.54 | 0.55 |
| 29:D1:1429:G:H8 | 29:D1:1429:G:O5' | 1.88 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1675:G:N2 | 29:D1:1773:C:C4 | 2.75 | 0.55 |
| 29:D1:1733:G:H2' | 29:D1:1734:G:C8 | 2.41 | 0.55 |
| 29:D1:1933:A:N7 | 29:D1:1934:G:C8 | 2.74 | 0.55 |
| 29:D1:2733:A:H2' | 29:D1:2734:A:C8 | 2.41 | 0.55 |
| 29:D1:2842:U:O5' | 29:D1:2842:U:C6 | 2.59 | 0.55 |
| 29:D1:2888:U:N3 | 29:D1:2910:A:C2 | 2.75 | 0.55 |
| 29:D1:2896:A:O2' | 29:D1:2897:A:C5' | 2.54 | 0.55 |
| 29:D1:2963:C:O2' | 29:D1:2964:G:H5' | 2.06 | 0.55 |
| 29:D1:3009:G:C2' | 29:D1:3010:U:H5' | 2.36 | 0.55 |
| 29:D1:3021:A:C5 | 29:D1:3023:U:O4 | 2.59 | 0.55 |
| 29:D1:3194:C:H3' | 29:D1:3194:C:H6 | 1.72 | 0.55 |
| 29:D1:3326:G:C6 | 29:D1:3327:G:N7 | 2.74 | 0.55 |
| 29:D1:3377:G:H1' | 29:D1:3378:C:H5' | 1.86 | 0.55 |
| 30:D2:67:G:C2 | 30:D2:68:C:C6 | 2.94 | 0.55 |
| 30:D2:71:G:C2 | 30:D2:108:A:C2 | 2.94 | 0.55 |
| 31:D3:42:G:O6 | 31:D3:103:G:C2 | 2.59 | 0.55 |
| 31:D3:125:U:C4 | 74:D3:205:OHX:N3 | 2.73 | 0.55 |
| 34:DC:197:GLU:O | 34:DC:198:HIS:C | 2.49 | 0.55 |
| 36:DE:134:ALA:H | 36:DE:135:VAL:HA | 1.69 | 0.55 |
| 38:DG:159:GLN:O | 38:DG:162:PRO:CB | 2.54 | 0.55 |
| 41:DJ:164:LYS:O | 41:DJ:165:ILE:C | 2.48 | 0.55 |
| 43:DN:21:VAL:O | 43:DN:34:ALA:CB | 2.54 | 0.55 |
| 45:DP:37:ARG:HA | 45:DP:108:ILE:HA | 1.87 | 0.55 |
| 59:Dd:37:CYS:C | 74:Dd:101:OHX:N5 | 2.64 | 0.55 |
| 1:A1:13:C:C5' | 3:AB:161:LYS:O | 2.55 | 0.55 |
| 1:A1:32:U:O2' | 1:A1:33:U:H5' | 2.06 | 0.55 |
| 1:A1:450:U:H2' | 1:A1:450:U:O2 | 2.05 | 0.55 |
| 1:A1:709:C:H42 | 1:A1:730:G:C1' | 2.19 | 0.55 |
| 1:A1:1039:A:O2' | 1:A1:1040:G:P | 2.64 | 0.55 |
| 1:A1:1145:U:C3' | 1:A1:1146:G:H5" | 2.35 | 0.55 |
| 1:A1:1416:G:C4 | 1:A1:1417:A:C8 | 2.94 | 0.55 |
| 1:A1:1571:C:H5" | 1:A1:1572:G:OP2 | 2.05 | 0.55 |
| 1:A1:1607:G:OP2 | 11:AJ:125:GLU:HA | 2.06 | 0.55 |
| 1:A1:1631:A:H5' | 1:A1:1764:C:H1' | 1.88 | 0.55 |
| 1:A1:1661:U:H2' | 1:A1:1662:G:H8 | 1.68 | 0.55 |
| 1:A1:1713:G:N2 | 1:A1:1714:A:C8 | 2.74 | 0.55 |
| 2:AA:172:LEU:O | 2:AA:176:LEU:CB | 2.54 | 0.55 |
| 7:AF:97:TYR:O | 7:AF:98:ASN:CB | 2.54 | 0.55 |
| 11:AJ:25:GLY:H | 11:AJ:64:ASP:HA | 1.70 | 0.55 |
| 12:AK:46:LEU:C | 12:AK:48:ASN:N | 2.63 | 0.55 |
| 16:AO:119:LYS:O | 16:AO:121:VAL:N | 2.39 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AT:227:ALA:O | 21:AT:228:LYS:C | 2.50 | 0.55 |
| 29:B1:64:G:H1' | 29:B1:77:A:C2 | 2.42 | 0.55 |
| 29:B1:125:C:C2' | 29:B1:126:U:H5' | 2.34 | 0.55 |
| 29:B1:264:G:C6 | 29:B1:265:A:C5 | 2.94 | 0.55 |
| 29:B1:323:A:N7 | 29:B1:324:A:N7 | 2.54 | 0.55 |
| 29:B1:341:G:N2 | 31:B3:24:G:C6 | 2.74 | 0.55 |
| 29:B1:347:G:N1 | 29:B1:348:A:C6 | 2.75 | 0.55 |
| 29:B1:361:A:C2 | 29:B1:928:C:O4' | 2.59 | 0.55 |
| 29:B1:395:A:H2' | 29:B1:395:A:N3 | 2.21 | 0.55 |
| 29:B1:606:C:O3' | 29:B1:607:A:O4' | 2.24 | 0.55 |
| 29:B1:618:C:N3 | 29:B1:619:A:N7 | 2.53 | 0.55 |
| 29:B1:747:A:OP1 | 29:B1:747:A:H8 | 1.89 | 0.55 |
| 29:B1:952:A:H8 | 29:B1:952:A:H3' | 1.71 | 0.55 |
| 29:B1:977:C:H42 | 29:B1:1105:A:N6 | 2.04 | 0.55 |
| 29:B1:1115:G:C8 | 29:B1:1115:G:C3' | 2.88 | 0.55 |
| 29:B1:1128:U:O2 | 29:B1:1128:U:C2' | 2.53 | 0.55 |
| 29:B1:1150:A:C2 | 29:B1:1151:U:H1' | 2.42 | 0.55 |
| 29:B1:1164:G:C4 | 29:B1:1165:A:C8 | 2.94 | 0.55 |
| 29:B1:1188:U:H3 | 29:B1:1317:A:H62 | 1.54 | 0.55 |
| 29:B1:1449:A:H4' | 29:B1:2983:C:C2 | 2.41 | 0.55 |
| 29:B1:1455:U:C2 | 29:B1:3078:U:C5 | 2.94 | 0.55 |
| 29:B1:1498:A:C6 | 29:B1:1519:G:C6 | 2.95 | 0.55 |
| 29:B1:1654:A:N3 | 29:B1:1655:G:H1' | 2.21 | 0.55 |
| 29:B1:1689:U:O2' | 29:B1:1690:C:H5' | 2.06 | 0.55 |
| 29:B1:1919:G:C2 | 29:B1:1920:U:N3 | 2.74 | 0.55 |
| 29:B1:1942:U:H1' | 29:B1:3342:A:C2 | 2.41 | 0.55 |
| 29:B1:2169:G:O6 | 74:B1:3447:OHX:N4 | 2.39 | 0.55 |
| 29:B1:2214:A:H2' | 29:B1:2215:A:C8 | 2.41 | 0.55 |
| 29:B1:2223:A:C2' | 29:B1:2224:A:H8 | 2.20 | 0.55 |
| 29:B1:2296:A:C2 | 29:B1:2919:A:C1' | 2.89 | 0.55 |
| 29:B1:2581:U:P | 29:B1:2581:U:H6 | 2.30 | 0.55 |
| 29:B1:2603:G:C2 | 29:B1:2604:U:H1' | 2.41 | 0.55 |
| 29:B1:2681:U:O2' | 29:B1:2682:C:C5' | 2.54 | 0.55 |
| 29:B1:2896:A:H5' | 29:B1:2896:A:H8 | 1.70 | 0.55 |
| 29:B1:2994:A:O2' | 29:B1:2995:A:H5' | 2.06 | 0.55 |
| 29:B1:3196:U:H1' | 29:B1:3197:G:C6 | 2.41 | 0.55 |
| 30:B2:43:U:H2' | 30:B2:44:C:H5' | 1.87 | 0.55 |
| 30:B2:49:G:OP2 | 30:B2:49:G:C4 | 2.59 | 0.55 |
| 30:B2:64:A:C1' | 30:B2:65:G:C5' | 2.84 | 0.55 |
| 31:B3:48:A:N1 | 31:B3:51:G:C6 | 2.73 | 0.55 |
| 31:B3:56:G:N3 | 31:B3:57:C:C6 | 2.74 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 36:BE:241:THR:O | 36:BE:243:ALA:N | 2.40 | 0.55 |
| 37:BF:3:ALA:O | 37:BF:4:GLN:O | 2.22 | 0.55 |
| 37:BF:149:ILE:CB | 37:BF:150:LYS:CB | 2.85 | 0.55 |
| 38:BG:69:ALA:C | 38:BG:71:ALA:H | 2.14 | 0.55 |
| 40:BI:111:PHE:HA | 40:BI:112:ILE:O | 2.06 | 0.55 |
| 41:BJ:34:TYR:O | 41:BJ:35:ASP:CB | 2.54 | 0.55 |
| 42:BK:87:LYS:O | 42:BK:89:TYR:N | 2.39 | 0.55 |
| 45:BP:185:ALA:O | 45:BP:186:ALA:HB3 | 2.07 | 0.55 |
| 53:BX:24:SER:C | 53:BX:26:GLN:H | 2.14 | 0.55 |
| 61:Bf:40:LYS:O | 61:Bf:42:ARG:N | 2.40 | 0.55 |
| 1:C1:37:U:P | 1:C1:531:C:HO2' | 2.30 | 0.55 |
| 1:C1:47:A:C2 | 1:C1:100:A:C4 | 2.95 | 0.55 |
| 1:C1:472:U:H2' | 1:C1:473:A:O4' | 2.05 | 0.55 |
| 1:C1:500:C:H2' | 1:C1:501:U:H6 | 1.71 | 0.55 |
| 1:C1:756:A:H2' | 1:C1:757:A:H8 | 1.72 | 0.55 |
| 1:C1:1138:A:H2' | 1:C1:1139:A:C8 | 2.41 | 0.55 |
| 1:C1:1631:A:C6 | 1:C1:1632:C:O2 | 2.59 | 0.55 |
| 1:C1:1750:A:C6 | 1:C1:1751:C:C4 | 2.94 | 0.55 |
| 1:C1:1757:G:C4 | 1:C1:1758:U:C5 | 2.95 | 0.55 |
| 14:CM:67:MET:O | 14:CM:69:LYS:N | 2.40 | 0.55 |
| 28:Ch:62:UNK:C | 28:Ch:64:UNK:N | 2.69 | 0.55 |
| 29:D1:151:A:H2' | 29:D1:152:U:C5 | 2.42 | 0.55 |
| 29:D1:199:A:C4 | 29:D1:201:A:C8 | 2.94 | 0.55 |
| 29:D1:287:G:O2' | 29:D1:288:C:C5' | 2.54 | 0.55 |
| 29:D1:326:U:H4' | 29:D1:327:A:OP2 | 2.06 | 0.55 |
| 29:D1:398:A:H4' | 29:D1:399:A:H5' | 1.86 | 0.55 |
| 29:D1:500:C:C2' | 29:D1:501:A:H5' | 2.36 | 0.55 |
| 29:D1:514:G:C2' | 29:D1:515:C:N1 | 2.68 | 0.55 |
| 29:D1:692:A:C2 | 29:D1:693:A:C4 | 2.95 | 0.55 |
| 29:D1:733:G:O6 | 29:D1:737:G:N1 | 2.40 | 0.55 |
| 29:D1:761:A:N1 | 29:D1:762:U:H1' | 2.21 | 0.55 |
| 29:D1:881:C:C2 | 29:D1:1850:A:C8 | 2.94 | 0.55 |
| 29:D1:913:A:C2 | 29:D1:2134:G:N3 | 2.75 | 0.55 |
| 29:D1:1062:A:O2' | 29:D1:1063:G:P | 2.65 | 0.55 |
| 29:D1:1294:A:O2' | 29:D1:1295:G:OP1 | 2.25 | 0.55 |
| 29:D1:1349:G:OP2 | 29:D1:1349:G:C8 | 2.52 | 0.55 |
| 29:D1:1440:G:C4 | 29:D1:1441:G:C8 | 2.94 | 0.55 |
| 29:D1:1659:U:N3 | 29:D1:1660:C:N4 | 2.54 | 0.55 |
| 29:D1:1684:U:H6 | 29:D1:1684:U:H3' | 1.71 | 0.55 |
| 29:D1:1736:G:C6 | 29:D1:1737:U:C4 | 2.94 | 0.55 |
| 29:D1:1890:U:C2 | 29:D1:1891:A:C8 | 2.94 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1909:A:N1 | 29:D1:1910:A:N3 | 2.54 | 0.55 |
| 29:D1:2119:A:C8 | 29:D1:2120:A:C2 | 2.94 | 0.55 |
| 29:D1:2122:G:O2' | 29:D1:2123:G:H5' | 2.07 | 0.55 |
| 29:D1:2343:C:H2' | 29:D1:2344:U:C6 | 2.42 | 0.55 |
| 29:D1:2515:A:H2' | 29:D1:2516:U:C6 | 2.41 | 0.55 |
| 29:D1:2561:A:N6 | 29:D1:2579:G:C5 | 2.74 | 0.55 |
| 29:D1:2969:A:C6 | 29:D1:2970:C:N4 | 2.74 | 0.55 |
| 29:D1:3026:G:N7 | 74:D1:3413:OHX:N5 | 2.54 | 0.55 |
| 29:D1:3045:G:C2' | 29:D1:3046:A:O5' | 2.54 | 0.55 |
| 29:D1:3097:C:H2' | 29:D1:3098:G:C8 | 2.41 | 0.55 |
| 29:D1:3107:U:H6 | 29:D1:3107:U:O5' | 1.89 | 0.55 |
| 29:D1:3126:C:H2' | 29:D1:3127:A:O4' | 2.07 | 0.55 |
| 29:D1:3142:A:H5' | 29:D1:3143:C:C6 | 2.41 | 0.55 |
| 30:D2:27:A:C2 | 30:D2:54:U:C5 | 2.95 | 0.55 |
| 31:D3:53:A:H2' | 31:D3:54:A:H8 | 1.71 | 0.55 |
| 34:DC:142:ALA:C | 34:DC:144:ILE:H | 2.12 | 0.55 |
| 34:DC:154:TYR:CB | 34:DC:155:ALA:HA | 2.37 | 0.55 |
| 38:DG:51:TYR:C | 38:DG:53:LYS:H | 2.14 | 0.55 |
| 38:DG:233:GLU:N | 38:DG:234:GLU:O | 2.40 | 0.55 |
| 42:DK:121:GLY:O | 42:DK:123:PHE:N | 2.37 | 0.55 |
| 44:DO:186:GLY:N | 44:DO:187:ARG:CA | 2.68 | 0.55 |
| 46:DQ:70:THR:O | 46:DQ:71:ALA:C | 2.49 | 0.55 |
| 46:DQ:117:ILE:O | 46:DQ:147:GLU:O | 2.24 | 0.55 |
| 48:DS:25:ASP:C | 48:DS:27:ASN:H | 2.13 | 0.55 |
| 48:DS:39:ASN:O | 48:DS:40:ALA:C | 2.49 | 0.55 |
| 48:DS:151:ARG:CA | 48:DS:154:ALA:HB3 | 2.35 | 0.55 |
| 62:Dg:59:CYS:N | 74:Dg:101:OHX:N1 | 2.53 | 0.55 |
| 1:A1:475:A:N1 | 1:A1:476:U:O2 | 2.40 | 0.55 |
| 1:A1:648:G:C2 | 1:A1:649:U:C5 | 2.95 | 0.55 |
| 1:A1:860:U:O4 | 1:A1:861:U:N3 | 2.40 | 0.55 |
| 1:A1:985:G:H2' | 1:A1:986:G:H8 | 1.71 | 0.55 |
| 1:A1:1005:A:N7 | 1:A1:1006:C:C4 | 2.74 | 0.55 |
| 1:A1:1254:U:O2' | 1:A1:1255:G:O5' | 2.25 | 0.55 |
| 1:A1:1377:U:O2 | 1:A1:1378:U:H4' | 2.06 | 0.55 |
| 1:A1:1381:U:H2' | 1:A1:1382:A:H5' | 1.88 | 0.55 |
| 1:A1:1619:C:C2 | 1:A1:1620:C:C5 | 2.88 | 0.55 |
| 3:AB:215:PHE:O | 3:AB:217:ALA:N | 2.40 | 0.55 |
| 24:Ac:6:UNK:HA | 24:Ac:96:UNK:HA | 1.89 | 0.55 |
| 29:B1:609:G:C5 | 29:B1:610:G:O6 | 2.58 | 0.55 |
| 29:B1:649:A:N3 | 29:B1:650:C:C6 | 2.75 | 0.55 |
| 29:B1:722:G:N1 | 29:B1:749:C:C5 | 2.74 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:747:A:H8 | 29:B1:747:A:O5' | 1.90 | 0.55 |
| 29:B1:755:A:C2 | 29:B1:778:U:C2 | 2.95 | 0.55 |
| 29:B1:771:A:N1 | 29:B1:772:U:N3 | 2.54 | 0.55 |
| 29:B1:943:U:H1' | 29:B1:944:C:OP1 | 2.05 | 0.55 |
| 29:B1:953:G:O2' | 29:B1:954:U:O5' | 2.22 | 0.55 |
| 29:B1:998:A:H4' | 30:B2:103:A:C2 | 2.42 | 0.55 |
| 29:B1:1035:G:C4 | 29:B1:1036:A:H8 | 2.24 | 0.55 |
| 29:B1:1292:C:H2' | 29:B1:1292:C:O2 | 2.06 | 0.55 |
| 29:B1:1414:G:H2' | 29:B1:1415:U:H6 | 1.71 | 0.55 |
| 29:B1:1520:G:C2 | 29:B1:1521:G:C4 | 2.94 | 0.55 |
| 29:B1:1616:U:H2' | 29:B1:1617:G:H8 | 1.70 | 0.55 |
| 29:B1:2223:A:C2' | 29:B1:2224:A:C8 | 2.89 | 0.55 |
| 29:B1:2286:U:C4 | 29:B1:2288:G:C1' | 2.88 | 0.55 |
| 29:B1:2355:G:O2' | 29:B1:2356:A:O4' | 2.24 | 0.55 |
| 29:B1:2667:A:C3' | 29:B1:2667:A:C4 | 2.83 | 0.55 |
| 29:B1:2922:G:H1' | 29:B1:2951:G:H21 | 1.71 | 0.55 |
| 29:B1:3012:A:H2' | 29:B1:3013:U:C5' | 2.15 | 0.55 |
| 29:B1:3323:A:C2' | 29:B1:3324:C:O5' | 2.55 | 0.55 |
| 29:B1:3336:A:N6 | 29:B1:3337:G:C6 | 2.75 | 0.55 |
| 30:B2:70:U:C2 | 30:B2:71:G:C8 | 2.94 | 0.55 |
| 31:B3:5:U:C5 | 31:B3:6:U:C4 | 2.95 | 0.55 |
| 31:B3:72:A:C4 | 31:B3:88:A:N1 | 2.74 | 0.55 |
| 31:B3:106:C:C2 | 31:B3:138:A:N7 | 2.75 | 0.55 |
| 31:B3:109:A:C2 | 31:B3:114:G:C5 | 2.94 | 0.55 |
| 40:BI:65:VAL:O | 40:BI:68:LEU:N | 2.39 | 0.55 |
| 48:BS:24:LEU:O | 48:BS:26:PRO:N | 2.39 | 0.55 |
| 1:C1:88:U:C5 | 1:C1:89:G:N7 | 2.75 | 0.55 |
| 1:C1:97:C:C4 | 1:C1:98:U:C5 | 2.95 | 0.55 |
| 1:C1:162:A:C2 | 1:C1:163:G:C4 | 2.95 | 0.55 |
| 1:C1:184:C:N4 | 1:C1:202:A:N1 | 2.55 | 0.55 |
| 1:C1:289:U:O2 | 1:C1:290:G:H5" | 2.05 | 0.55 |
| 1:C1:290:G:N2 | 1:C1:291:G:C2 | 2.75 | 0.55 |
| 1:C1:375:U:O2 | 1:C1:375:U:C2' | 2.52 | 0.55 |
| 1:C1:774:A:C2 | 1:C1:775:G:C1' | 2.89 | 0.55 |
| 1:C1:964:U:OP2 | 1:C1:964:U:H2' | 2.07 | 0.55 |
| 1:C1:1087:A:H5" | 1:C1:1088:A:OP2 | 2.07 | 0.55 |
| 1:C1:1181:U:H2' | 1:C1:1182:U:O5' | 2.05 | 0.55 |
| 1:C1:1231:U:H1' | 1:C1:1258:U:C4' | 2.22 | 0.55 |
| 1:C1:1285:U:O2 | 1:C1:1286:U:H5 | 1.89 | 0.55 |
| 1:C1:1325:A:H2' | 1:C1:1326:A:C8 | 2.41 | 0.55 |
| 1:C1:1400:A:N1 | 1:C1:1401:A:C2 | 2.75 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1428:G:N3 | 1:C1:1428:G:H2' | 2.22 | 0.55 |
| 1:C1:1472:C:H3' | 1:C1:1472:C:P | 2.46 | 0.55 |
| 1:C1:1598:U:C4 | 1:C1:1599:C:C5 | 2.95 | 0.55 |
| 1:C1:1622:G:C6 | 1:C1:1623:C:C4 | 2.94 | 0.55 |
| 1:C1:1627:U:O2' | 1:C1:1628:U:O5' | 2.23 | 0.55 |
| 1:C1:1645:G:H2' | 1:C1:1646:C:H6 | 1.71 | 0.55 |
| 1:C1:1778:G:H2' | 1:C1:1779:U:H5' | 1.88 | 0.55 |
| 5:CD:197:GLU:O | 5:CD:201:ALA:HB2 | 2.06 | 0.55 |
| 6:CE:68:LYS:O | 6:CE:69:ARG:C | 2.47 | 0.55 |
| 6:CE:72:GLU:C | 6:CE:75:ALA:HB3 | 2.31 | 0.55 |
| 29:D1:109:A:C6 | 29:D1:323:A:C4 | 2.93 | 0.55 |
| 29:D1:117:U:C4 | 29:D1:118:U:H5 | 2.24 | 0.55 |
| 29:D1:150:A:N7 | 29:D1:151:A:N7 | 2.53 | 0.55 |
| 29:D1:307:A:H1' | 29:D1:2223:A:N3 | 2.22 | 0.55 |
| 29:D1:347:G:C6 | 29:D1:348:A:C6 | 2.94 | 0.55 |
| 29:D1:425:G:C6 | 29:D1:635:G:N1 | 2.75 | 0.55 |
| 29:D1:518:G:P | 29:D1:520:U:H5 | 2.29 | 0.55 |
| 29:D1:534:U:H6 | 29:D1:534:U:P | 2.26 | 0.55 |
| 29:D1:584:G:C4 | 29:D1:585:A:C8 | 2.93 | 0.55 |
| 29:D1:625:G:O2' | 29:D1:626:U:O5' | 2.25 | 0.55 |
| 29:D1:636:C:O2' | 29:D1:637:C:H5' | 2.07 | 0.55 |
| 29:D1:715:A:O5' | 29:D1:715:A:H8 | 1.89 | 0.55 |
| 29:D1:726:G:C6 | 29:D1:727:G:C2 | 2.95 | 0.55 |
| 29:D1:733:G:N3 | 29:D1:733:G:C2' | 2.70 | 0.55 |
| 29:D1:1077:U:O2' | 29:D1:1078:U:C6 | 2.59 | 0.55 |
| 29:D1:1393:A:H8 | 29:D1:1418:A:C5 | 2.25 | 0.55 |
| 29:D1:1466:G:O6 | 29:D1:1511:U:C6 | 2.60 | 0.55 |
| 29:D1:1626:U:C3' | 29:D1:1627:U:O4' | 2.55 | 0.55 |
| 29:D1:1783:U:C2 | 29:D1:1784:G:C8 | 2.94 | 0.55 |
| 29:D1:2148:U:O3' | 29:D1:2149:A:C8 | 2.60 | 0.55 |
| 29:D1:2204:C:H2' | 29:D1:2205:U:H5" | 1.88 | 0.55 |
| 29:D1:2215:A:C2 | 29:D1:2216:G:C8 | 2.94 | 0.55 |
| 29:D1:2253:G:C5 | 29:D1:2254:U:C4 | 2.95 | 0.55 |
| 29:D1:2295:A:N6 | 29:D1:2296:A:H61 | 2.03 | 0.55 |
| 29:D1:2383:C:H2' | 29:D1:2384:A:O5' | 2.06 | 0.55 |
| 29:D1:2642:A:N3 | 29:D1:2642:A:H2' | 2.20 | 0.55 |
| 29:D1:2678:A:OP2 | 29:D1:2678:A:H4' | 2.05 | 0.55 |
| 29:D1:2720:G:H2' | 29:D1:2721:A:H8 | 1.72 | 0.55 |
| 29:D1:2762:A:H3' | 29:D1:2763:U:H5 | 1.71 | 0.55 |
| 29:D1:2880:U:H2' | 29:D1:2881:C:H6 | 1.69 | 0.55 |
| 29:D1:2888:U:C5 | 29:D1:2910:A:N1 | 2.74 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3088:G:C5 | 29:D1:3089:C:C4 | 2.94 | 0.55 |
| 29:D1:3221:C:C2' | 29:D1:3222:U:H5' | 2.36 | 0.55 |
| 29:D1:3249:C:O2 | 29:D1:3249:C:C2' | 2.51 | 0.55 |
| 29:D1:3260:G:C6 | 29:D1:3261:C:H1' | 2.41 | 0.55 |
| 30:D2:30:G:C5 | 30:D2:31:U:C2 | 2.95 | 0.55 |
| 30:D2:55:A:C2 | 30:D2:56:A:C4 | 2.91 | 0.55 |
| 31:D3:49:G:H2' | 31:D3:50:C:O5' | 2.07 | 0.55 |
| 31:D3:66:A:C6 | 31:D3:67:U:O4 | 2.60 | 0.55 |
| 33:DB:102:LEU:C | 33:DB:104:LEU:N | 2.64 | 0.55 |
| 33:DB:200:ARG:O | 33:DB:202:VAL:N | 2.36 | 0.55 |
| 37:DF:52:VAL:O | 37:DF:66:SER:CB | 2.54 | 0.55 |
| 37:DF:171:PRO:O | 37:DF:172:HIS:CB | 2.54 | 0.55 |
| 38:DG:224:ILE:C | 38:DG:226:GLY:N | 2.64 | 0.55 |
| 73:DM:79:PHE:O | 73:DM:80:VAL:C | 2.48 | 0.55 |
| 43:DN:95:ALA:O | 43:DN:97:SER:N | 2.39 | 0.55 |
| 45:DP:172:ARG:O | 45:DP:173:ALA:C | 2.49 | 0.55 |
| 46:DQ:116:HIS:O | 46:DQ:148:LEU:HA | 2.05 | 0.55 |
| 47:DR:23:ASN:O | 47:DR:24:VAL:C | 2.49 | 0.55 |
| 56:Da:29:ALA:O | 56:Da:32:ALA:HB3 | 2.06 | 0.55 |
| 56:Da:43:HIS:O | 56:Da:44:MET:C | 2.50 | 0.55 |
| 58:Dc:32:LYS:C | 58:Dc:34:GLN:N | 2.63 | 0.55 |
| 1:A1:5:U:O2' | 1:A1:553:G:O3' | 2.25 | 0.55 |
| 1:A1:45:U:C3' | 1:A1:45:U:H6 | 2.20 | 0.55 |
| 1:A1:57:G:C6 | 1:A1:91:G:N1 | 2.74 | 0.55 |
| 1:A1:93:A:H8 | 1:A1:398:G:H2' | 1.64 | 0.55 |
| 1:A1:112:A:O2' | 1:A1:113:U:O5' | 2.24 | 0.55 |
| 1:A1:139:C:C5 | 1:A1:176:C:N3 | 2.74 | 0.55 |
| 1:A1:168:A:C3' | 1:A1:169:A:H8 | 2.20 | 0.55 |
| 1:A1:196:G:O2' | 1:A1:197:A:O5' | 2.24 | 0.55 |
| 1:A1:201:G:N1 | 1:A1:202:A:C2 | 2.75 | 0.55 |
| 1:A1:260:U:H3' | 1:A1:261:U:H5" | 1.89 | 0.55 |
| 1:A1:317:C:N4 | 1:A1:318:U:O4 | 2.39 | 0.55 |
| 1:A1:612:U:H4' | 1:A1:1099:U:C6 | 2.42 | 0.55 |
| 1:A1:778:G:N2 | 1:A1:783:G:C6 | 2.75 | 0.55 |
| 1:A1:923:A:H2' | 1:A1:924:A:H8 | 1.71 | 0.55 |
| 1:A1:1024:U:O2' | 1:A1:1025:A:H5' | 2.07 | 0.55 |
| 1:A1:1142:A:H2' | 1:A1:1143:A:C8 | 2.42 | 0.55 |
| 1:A1:1183:A:N6 | 1:A1:1184:A:N1 | 2.55 | 0.55 |
| 1:A1:1583:A:N3 | 1:A1:1585:U:C4 | 2.74 | 0.55 |
| 1:A1:1585:U:N3 | 1:A1:1611:A:C2 | 2.74 | 0.55 |
| 1:A1:1631:A:H1' | 1:A1:1764:C:O2 | 2.04 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1665:U:H3 | 1:A1:1736:G:H1 | 1.53 | 0.55 |
| 1:A1:1720:G:O2' | 1:A1:1721:A:H5' | 2.06 | 0.55 |
| 1:A1:1753:A:C2 | 1:A1:1754:A:N1 | 2.74 | 0.55 |
| 2:AA:130:ALA:C | 2:AA:132:ALA:N | 2.57 | 0.55 |
| 2:AA:178:ALA:HA | 2:AA:182:LEU:H | 1.71 | 0.55 |
| 3:AB:155:ALA:O | 3:AB:168:ARG:HA | 2.07 | 0.55 |
| 5:AD:196:GLU:O | 5:AD:197:GLU:CB | 2.54 | 0.55 |
| 8:AG:80:LEU:O | 8:AG:81:ALA:HB2 | 2.06 | 0.55 |
| 14:AM:20:SER:C | 14:AM:22:LEU:H | 2.14 | 0.55 |
| 21:AT:42:LEU:O | 21:AT:60:SER:HA | 2.06 | 0.55 |
| 23:Ab:107:UNK:HA | 23:Ab:110:UNK:CB | 2.37 | 0.55 |
| 29:B1:22:G:C4 | 29:B1:23:A:H8 | 2.21 | 0.55 |
| 29:B1:40:A:C6 | 54:BY:30:GLY:HA2 | 2.41 | 0.55 |
| 29:B1:557:A:H3' | 29:B1:557:A:H8 | 1.69 | 0.55 |
| 29:B1:664:U:O2' | 29:B1:665:A:H5' | 2.06 | 0.55 |
| 29:B1:804:C:C4 | 29:B1:940:G:N1 | 2.75 | 0.55 |
| 29:B1:1094:U:H4' | 29:B1:1095:U:H4' | 1.88 | 0.55 |
| 29:B1:1358:C:H5" | 29:B1:1359:C:OP2 | 2.06 | 0.55 |
| 29:B1:1681:U:O2 | 29:B1:1681:U:C2' | 2.55 | 0.55 |
| 29:B1:1691:U:C2 | 29:B1:1692:U:C5 | 2.94 | 0.55 |
| 29:B1:2102:U:H2' | 29:B1:2103:U:H6 | 1.71 | 0.55 |
| 29:B1:2223:A:O2' | 29:B1:2224:A:O5' | 2.25 | 0.55 |
| 29:B1:2255:A:N6 | 74:B1:3438:OHX:N2 | 2.54 | 0.55 |
| 29:B1:2282:U:O2' | 29:B1:2283:G:C5' | 2.54 | 0.55 |
| 29:B1:2443:A:C5 | 29:B1:2444:C:C4 | 2.95 | 0.55 |
| 29:B1:2468:A:H4' | 29:B1:2469:G:O5' | 2.06 | 0.55 |
| 29:B1:2530:G:C8 | 29:B1:2530:G:OP2 | 2.59 | 0.55 |
| 29:B1:2530:G:OP2 | 29:B1:2530:G:H8 | 1.89 | 0.55 |
| 29:B1:2631:U:N3 | 29:B1:2648:G:C2 | 2.75 | 0.55 |
| 29:B1:2888:U:C6 | 29:B1:2910:A:N1 | 2.75 | 0.55 |
| 29:B1:2897:A:N1 | 29:B1:2904:U:O4 | 2.40 | 0.55 |
| 29:B1:2923:U:H2' | 29:B1:2924:U:H6 | 1.71 | 0.55 |
| 29:B1:3029:A:H3' | 29:B1:3030:G:C5' | 2.33 | 0.55 |
| 29:B1:3079:U:H3' | 29:B1:3080:G:H5" | 1.88 | 0.55 |
| 29:B1:3200:G:H2' | 29:B1:3201:C:C5 | 2.41 | 0.55 |
| 29:B1:3201:C:C2' | 29:B1:3202:G:C8 | 2.84 | 0.55 |
| 29:B1:3298:C:H2' | 29:B1:3299:A:H8 | 1.70 | 0.55 |
| 29:B1:3316:A:H1' | 29:B1:3317:U:OP2 | 2.06 | 0.55 |
| 30:B2:23:A:C3' | 30:B2:24:A:C8 | 2.87 | 0.55 |
| 30:B2:28:C:H2' | 30:B2:28:C:O2 | 2.05 | 0.55 |
| 30:B2:55:A:H3' | 30:B2:55:A:P | 2.46 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:B3:24:G:H21 | 31:B3:25:G:H1' | 1.70 | 0.55 |
| 31:B3:54:A:H2' | 31:B3:55:U:H5' | 1.89 | 0.55 |
| 31:B3:68:G:C6 | 31:B3:69:U:C4 | 2.94 | 0.55 |
| 31:B3:114:G:H2' | 31:B3:115:C:H5' | 1.89 | 0.55 |
| 31:B3:120:C:H2' | 31:B3:121:U:O4' | 2.06 | 0.55 |
| 34:BC:83:PRO:CB | 34:BC:204:ALA:HB1 | 2.36 | 0.55 |
| 36:BE:19:PRO:O | 36:BE:20:PHE:CB | 2.53 | 0.55 |
| 39:BH:205:ALA:HB3 | 39:BH:206:GLU:CB | 2.37 | 0.55 |
| 41:BJ:170:LYS:CB | 41:BJ:171:TRP:C | 2.80 | 0.55 |
| 45:BP:187:GLU:O | 45:BP:188:SER:C | 2.49 | 0.55 |
| 47:BR:33:TYR:O | 47:BR:36:LEU:O | 2.25 | 0.55 |
| 1:C1:44:U:OP1 | 1:C1:47:A:OP2 | 2.24 | 0.55 |
| 1:C1:87:C:H2' | 1:C1:87:C:O2 | 2.07 | 0.55 |
| 1:C1:104:A:C2' | 1:C1:106:U:OP1 | 2.54 | 0.55 |
| 1:C1:218:A:H61 | 1:C1:844:A:C1' | 2.15 | 0.55 |
| 1:C1:337:G:H8 | 1:C1:337:G:O5' | 1.89 | 0.55 |
| 1:C1:350:U:C4' | 1:C1:352:A:C8 | 2.89 | 0.55 |
| 1:C1:492:A:N3 | 1:C1:494:U:C6 | 2.75 | 0.55 |
| 1:C1:518:A:N6 | 1:C1:535:A:C4 | 2.75 | 0.55 |
| 1:C1:571:G:H3' | 1:C1:572:C:H6 | 1.71 | 0.55 |
| 1:C1:973:A:O2' | 29:D1:847:A:C2 | 2.60 | 0.55 |
| 1:C1:974:A:H5' | 29:D1:848:A:O4' | 2.07 | 0.55 |
| 1:C1:1113:A:C2 | 1:C1:1115:U:O4 | 2.59 | 0.55 |
| 1:C1:1292:G:H2' | 1:C1:1293:U:C6 | 2.41 | 0.55 |
| 1:C1:1358:G:N1 | 1:C1:1359:C:C4 | 2.75 | 0.55 |
| 1:C1:1525:A:H1' | 1:C1:1590:G:H4' | 1.89 | 0.55 |
| 1:C1:1605:G:C5 | 1:C1:1606:C:C5 | 2.95 | 0.55 |
| 1:C1:1683:C:O2' | 1:C1:1684:U:N3 | 2.37 | 0.55 |
| 6:CE:54:ARG:O | 6:CE:55:ALA:O | 2.24 | 0.55 |
| 8:CG:46:THR:O | 8:CG:47:PRO:CB | 2.54 | 0.55 |
| 17:CP:76:LEU:O | 17:CP:80:GLY:N | 2.39 | 0.55 |
| 18:CQ:87:GLY:O | 18:CQ:88:ILE:CB | 2.54 | 0.55 |
| 29:D1:96:G:H21 | 29:D1:97:U:H1' | 1.69 | 0.55 |
| 29:D1:116:A:H4' | 29:D1:117:U:OP1 | 2.06 | 0.55 |
| 29:D1:198:A:C2 | 29:D1:219:A:C8 | 2.95 | 0.55 |
| 29:D1:256:G:N3 | 29:D1:256:G:H2' | 2.20 | 0.55 |
| 29:D1:287:G:C4 | 29:D1:288:C:C5 | 2.94 | 0.55 |
| 29:D1:312:C:H1' | 29:D1:2778:G:N2 | 2.20 | 0.55 |
| 29:D1:420:G:C4 | 29:D1:2384:A:C2 | 2.95 | 0.55 |
| 29:D1:624:G:H2' | 29:D1:625:G:C5' | 2.36 | 0.55 |
| 29:D1:648:C:C5 | 29:D1:2375:G:P | 2.99 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:926:A:H2' | 29:D1:927:C:H6 | 1.70 | 0.55 |
| 29:D1:957:C:C2 | 29:D1:958:C:C5 | 2.94 | 0.55 |
| 29:D1:996:A:C2' | 29:D1:997:A:H5' | 2.36 | 0.55 |
| 29:D1:1094:U:H4' | 29:D1:1095:U:H4' | 1.89 | 0.55 |
| 29:D1:1189:C:C4' | 29:D1:1192:C:C5 | 2.85 | 0.55 |
| 29:D1:1336:U:H2' | 29:D1:1337:A:H8 | 1.71 | 0.55 |
| 29:D1:1337:A:C6 | 29:D1:1338:C:C4 | 2.94 | 0.55 |
| 29:D1:1405:U:C6 | 29:D1:1406:A:N7 | 2.74 | 0.55 |
| 29:D1:1414:G:C2 | 29:D1:1415:U:H1' | 2.42 | 0.55 |
| 29:D1:1459:C:O2' | 29:D1:1460:A:H5' | 2.06 | 0.55 |
| 29:D1:1601:U:C5 | 29:D1:1604:G:O6 | 2.60 | 0.55 |
| 29:D1:1624:G:N2 | 29:D1:1822:C:N3 | 2.54 | 0.55 |
| 29:D1:1704:A:C2 | 29:D1:1741:A:C5 | 2.95 | 0.55 |
| 29:D1:1858:A:C2' | 29:D1:1859:A:OP1 | 2.54 | 0.55 |
| 29:D1:1947:G:N3 | 29:D1:1947:G:H2' | 2.21 | 0.55 |
| 29:D1:2105:G:H2' | 29:D1:2106:A:H8 | 1.70 | 0.55 |
| 29:D1:2152:A:H1' | 29:D1:2243:A:N3 | 2.22 | 0.55 |
| 29:D1:2314:U:O2 | 29:D1:2314:U:H5" | 2.07 | 0.55 |
| 29:D1:2406:C:H1' | 29:D1:2819:A:C6 | 2.42 | 0.55 |
| 29:D1:2629:U:C2 | 29:D1:2630:C:C5 | 2.94 | 0.55 |
| 29:D1:2671:A:C6 | 29:D1:2672:G:N7 | 2.74 | 0.55 |
| 29:D1:2841:G:H3' | 29:D1:2842:U:H5' | 1.88 | 0.55 |
| 29:D1:2850:G:H5" | 29:D1:2850:G:H8 | 1.70 | 0.55 |
| 29:D1:2914:G:H2' | 29:D1:2915:U:C6 | 2.41 | 0.55 |
| 29:D1:3209:A:C2' | 29:D1:3210:A:C8 | 2.89 | 0.55 |
| 31:D3:3:A:H3' | 31:D3:3:A:C8 | 2.42 | 0.55 |
| 31:D3:109:A:C2 | 31:D3:114:G:C5 | 2.94 | 0.55 |
| 31:D3:114:G:OP2 | 31:D3:114:G:C8 | 2.57 | 0.55 |
| 31:D3:120:C:H2' | 31:D3:121:U:O4' | 2.06 | 0.55 |
| 36:DE:43:LYS:N | 49:DT:69:LYS:C | 2.64 | 0.55 |
| 36:DE:243:ALA:HB1 | 36:DE:247:ILE:CB | 2.37 | 0.55 |
| 36:DE:281:GLU:O | 36:DE:282:ARG:C | 2.49 | 0.55 |
| 37:DF:5:LYS:CB | 38:DG:77:VAL:H | 2.19 | 0.55 |
| 44:DO:78:GLY:CA | 44:DO:79:ALA:CB | 2.85 | 0.55 |
| 45:DP:156:LEU:O | 45:DP:157:GLU:C | 2.49 | 0.55 |
| 1:A1:50:C:N3 | 1:A1:424:C:C5 | 2.75 | 0.55 |
| 1:A1:52:U:H6 | 1:A1:52:U:O5' | 1.89 | 0.55 |
| 1:A1:62:A:H2 | 1:A1:63:G:N7 | 2.03 | 0.55 |
| 1:A1:147:A:H2' | 1:A1:148:A:C1' | 2.37 | 0.55 |
| 1:A1:162:A:C2 | 1:A1:163:G:C4 | 2.95 | 0.55 |
| 1:A1:511:A:H4' | 1:A1:512:A:OP2 | 2.06 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:524:U:C2' | 1:A1:527:A:C2 | 2.86 | 0.55 |
| 1:A1:557:G:OP2 | 1:A1:589:C:H1' | 2.07 | 0.55 |
| 1:A1:635:A:H2' | 1:A1:636:A:H8 | 1.70 | 0.55 |
| 1:A1:789:A:C2 | 1:A1:790:U:H1' | 2.41 | 0.55 |
| 1:A1:986:G:H2' | 1:A1:987:G:H8 | 1.72 | 0.55 |
| 1:A1:1074:G:O6 | 1:A1:1075:C:C4 | 2.60 | 0.55 |
| 1:A1:1374:C:C4 | 1:A1:1375:A:C6 | 2.94 | 0.55 |
| 1:A1:1381:U:C2' | 1:A1:1382:A:H5' | 2.37 | 0.55 |
| 1:A1:1466:G:H2' | 1:A1:1467:C:C6 | 2.41 | 0.55 |
| 1:A1:1663:G:H2' | 1:A1:1664:C:C6 | 2.36 | 0.55 |
| 1:A1:1707:A:H2' | 1:A1:1708:U:C2 | 2.40 | 0.55 |
| 1:A1:1720:G:O4' | 1:A1:1720:G:P | 2.65 | 0.55 |
| 1:A1:1790:A:H2' | 1:A1:1791:A:H5" | 1.87 | 0.55 |
| 3:AB:122:ALA:O | 3:AB:123:GLY:C | 2.49 | 0.55 |
| 16:AO:112:ASP:O | 16:AO:114:GLU:N | 2.40 | 0.55 |
| 29:B1:142:C:H2' | 29:B1:143:G:H8 | 1.72 | 0.55 |
| 29:B1:532:A:C2 | 29:B1:533:A:C4 | 2.95 | 0.55 |
| 29:B1:565:U:C6 | 29:B1:565:U:OP2 | 2.60 | 0.55 |
| 29:B1:592:A:C4 | 29:B1:593:C:C6 | 2.95 | 0.55 |
| 29:B1:618:C:O2 | 29:B1:619:A:C8 | 2.59 | 0.55 |
| 29:B1:726:G:C2 | 29:B1:727:G:O6 | 2.58 | 0.55 |
| 29:B1:856:G:C6 | 29:B1:857:G:N1 | 2.74 | 0.55 |
| 29:B1:971:G:HO2' | 29:B1:972:A:H5' | 1.71 | 0.55 |
| 29:B1:1412:G:H2' | 29:B1:1413:G:C8 | 2.41 | 0.55 |
| 29:B1:1448:U:C2' | 29:B1:1449:A:H5' | 2.36 | 0.55 |
| 29:B1:1456:A:N6 | 29:B1:1477:A:H4' | 2.22 | 0.55 |
| 29:B1:1468:A:HO2' | 29:B1:1469:C:P | 2.29 | 0.55 |
| 29:B1:1697:A:C3' | 29:B1:1698:C:H5' | 2.37 | 0.55 |
| 29:B1:1797:A:C4 | 29:B1:1798:A:C8 | 2.94 | 0.55 |
| 29:B1:2240:G:H2' | 29:B1:2241:U:O5' | 2.07 | 0.55 |
| 29:B1:2379:U:C2 | 29:B1:2380:U:C5 | 2.94 | 0.55 |
| 29:B1:2700:G:H5" | 29:B1:2701:U:OP2 | 2.07 | 0.55 |
| 29:B1:2732:G:C5 | 29:B1:2733:A:N7 | 2.74 | 0.55 |
| 29:B1:2900:A:C2 | 29:B1:2901:G:C4 | 2.95 | 0.55 |
| 29:B1:2909:U:C5 | 29:B1:2910:A:C8 | 2.95 | 0.55 |
| 29:B1:3045:G:C2' | 29:B1:3046:A:O5' | 2.54 | 0.55 |
| 29:B1:3105:U:C6 | 29:B1:3106:A:N7 | 2.75 | 0.55 |
| 29:B1:3151:U:OP2 | 29:B1:3151:U:H3' | 2.06 | 0.55 |
| 29:B1:3170:A:C2' | 29:B1:3171:U:O5' | 2.55 | 0.55 |
| 29:B1:3180:A:H8 | 45:BP:114:LYS:HA | 1.72 | 0.55 |
| 29:B1:3200:G:C6 | 29:B1:3201:C:N4 | 2.75 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3260:G:OP2 | 29:B1:3261:C:H5” | 2.07 | 0.55 |
| 29:B1:3262:U:H2’ | 29:B1:3263:G:C8 | 2.41 | 0.55 |
| 29:B1:3321:C:OP2 | 29:B1:3321:C:H6 | 1.90 | 0.55 |
| 31:B3:5:U:C4 | 31:B3:6:U:C4 | 2.95 | 0.55 |
| 31:B3:77:A:H62 | 53:BX:72:SER:CB | 2.20 | 0.55 |
| 34:BC:85:VAL:CB | 34:BC:202:THR:HA | 2.36 | 0.55 |
| 34:BC:165:GLN:O | 34:BC:166:ILE:O | 2.23 | 0.55 |
| 34:BC:189:SER:O | 34:BC:192:VAL:N | 2.39 | 0.55 |
| 37:BF:164:SER:HA | 38:BG:182:ASP:CB | 2.36 | 0.55 |
| 39:BH:100:GLU:C | 39:BH:102:ALA:N | 2.62 | 0.55 |
| 44:BO:160:GLU:O | 44:BO:161:ALA:CB | 2.54 | 0.55 |
| 47:BR:43:PRO:C | 47:BR:45:ASN:H | 2.14 | 0.55 |
| 54:BY:83:PRO:CB | 54:BY:84:GLU:HA | 2.36 | 0.55 |
| 57:Bb:33:ARG:O | 57:Bb:34:LYS:C | 2.48 | 0.55 |
| 1:C1:143:G:C3’ | 1:C1:144:U:H4’ | 2.36 | 0.55 |
| 1:C1:250:C:C2’ | 1:C1:251:A:C5’ | 2.80 | 0.55 |
| 1:C1:270:C:H3’ | 1:C1:271:A:C5’ | 2.36 | 0.55 |
| 1:C1:444:C:N4 | 1:C1:460:A:H62 | 1.96 | 0.55 |
| 1:C1:518:A:C2’ | 1:C1:519:C:H5” | 2.30 | 0.55 |
| 1:C1:624:G:H8 | 1:C1:624:G:OP1 | 1.89 | 0.55 |
| 1:C1:721:U:H1’ | 1:C1:722:G:O5’ | 2.06 | 0.55 |
| 1:C1:746:A:C6 | 1:C1:806:A:N1 | 2.75 | 0.55 |
| 1:C1:790:U:C2 | 1:C1:791:A:C8 | 2.95 | 0.55 |
| 1:C1:1042:G:C2 | 1:C1:1043:A:C4 | 2.94 | 0.55 |
| 1:C1:1391:A:N7 | 1:C1:1412:G:C6 | 2.75 | 0.55 |
| 1:C1:1559:A:O2’ | 1:C1:1560:U:H6 | 1.90 | 0.55 |
| 1:C1:1636:C:N4 | 1:C1:1638:G:C2 | 2.74 | 0.55 |
| 20:CS:23:VAL:O | 20:CS:24:CYS:O | 2.24 | 0.55 |
| 29:D1:53:G:C4 | 29:D1:54:C:C5 | 2.94 | 0.55 |
| 29:D1:208:C:C4 | 29:D1:209:A:N7 | 2.74 | 0.55 |
| 29:D1:509:U:C2 | 29:D1:510:G:C8 | 2.94 | 0.55 |
| 29:D1:515:C:H5’ | 37:DF:143:LYS:CB | 2.36 | 0.55 |
| 29:D1:592:A:N1 | 29:D1:593:C:C6 | 2.74 | 0.55 |
| 29:D1:664:U:O2’ | 29:D1:665:A:H5’ | 2.07 | 0.55 |
| 29:D1:758:C:C1’ | 29:D1:759:U:OP2 | 2.55 | 0.55 |
| 29:D1:917:A:C6 | 29:D1:918:C:C4 | 2.94 | 0.55 |
| 29:D1:1037:C:O2’ | 29:D1:1038:C:O4’ | 2.22 | 0.55 |
| 29:D1:1206:G:H2’ | 29:D1:1206:G:N3 | 2.21 | 0.55 |
| 29:D1:1393:A:N6 | 29:D1:1418:A:H5’ | 2.22 | 0.55 |
| 29:D1:1455:U:C2 | 29:D1:3078:U:C5 | 2.95 | 0.55 |
| 29:D1:1564:U:H2’ | 29:D1:1565:G:C8 | 2.42 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1940:G:H2' | 29:D1:1941:C:C1' | 2.36 | 0.55 |
| 29:D1:1943:C:C5' | 29:D1:3344:A:H5' | 2.37 | 0.55 |
| 29:D1:2298:U:O4' | 29:D1:2298:U:O2 | 2.23 | 0.55 |
| 29:D1:2348:A:H5' | 29:D1:2349:U:OP2 | 2.06 | 0.55 |
| 29:D1:2555:G:H1' | 29:D1:2556:C:P | 2.46 | 0.55 |
| 29:D1:2656:A:C8 | 29:D1:2658:G:C8 | 2.95 | 0.55 |
| 29:D1:2677:G:C2 | 29:D1:2679:A:C4 | 2.94 | 0.55 |
| 29:D1:2680:A:N1 | 42:DK:56:THR:N | 2.55 | 0.55 |
| 29:D1:2947:G:H2' | 29:D1:2948:C:H5 | 1.72 | 0.55 |
| 29:D1:3056:U:C2 | 29:D1:3079:U:N3 | 2.75 | 0.55 |
| 29:D1:3219:G:H4' | 29:D1:3220:G:O5' | 2.07 | 0.55 |
| 29:D1:3225:C:N4 | 29:D1:3261:C:H42 | 2.04 | 0.55 |
| 29:D1:3234:A:H2 | 29:D1:3253:G:N2 | 2.03 | 0.55 |
| 29:D1:3281:U:C2 | 29:D1:3282:U:C4 | 2.95 | 0.55 |
| 30:D2:62:U:C5' | 30:D2:63:A:OP2 | 2.55 | 0.55 |
| 30:D2:71:G:C6 | 30:D2:108:A:N1 | 2.75 | 0.55 |
| 31:D3:18:U:N3 | 31:D3:19:C:C4 | 2.75 | 0.55 |
| 31:D3:25:G:C6 | 31:D3:26:U:N3 | 2.74 | 0.55 |
| 34:DC:76:VAL:HA | 34:DC:325:LYS:HA | 1.88 | 0.55 |
| 35:DD:273:GLY:O | 35:DD:275:THR:N | 2.39 | 0.55 |
| 38:DG:221:LYS:O | 38:DG:222:HIS:CB | 2.54 | 0.55 |
| 42:DK:46:VAL:O | 42:DK:68:HIS:N | 2.29 | 0.55 |
| 72:DL:26:ALA:C | 72:DL:28:LEU:H | 2.14 | 0.55 |
| 73:DM:102:SER:C | 73:DM:104:ARG:N | 2.61 | 0.55 |
| 73:DM:196:VAL:O | 73:DM:197:PHE:C | 2.49 | 0.55 |
| 43:DN:38:ILE:HA | 43:DN:44:VAL:HA | 1.88 | 0.55 |
| 45:DP:56:ASP:C | 45:DP:60:LYS:N | 2.65 | 0.55 |
| 53:DX:91:ASN:O | 53:DX:92:GLY:C | 2.50 | 0.55 |
| 57:Db:22:SER:C | 57:Db:24:ARG:N | 2.63 | 0.55 |
| 63:Dh:17:UNK:O | 63:Dh:21:UNK:N | 2.39 | 0.55 |
| 65:Dk:11:UNK:C | 65:Dk:13:UNK:N | 2.67 | 0.55 |
| 1:A1:112:A:O2' | 1:A1:113:U:H6 | 1.89 | 0.55 |
| 1:A1:245:U:N3 | 1:A1:247:A:OP2 | 2.40 | 0.55 |
| 1:A1:328:A:C2 | 1:A1:329:G:C4 | 2.95 | 0.55 |
| 1:A1:342:C:O2 | 1:A1:342:C:H2' | 2.06 | 0.55 |
| 1:A1:539:G:C2 | 1:A1:543:C:N3 | 2.75 | 0.55 |
| 1:A1:594:A:H4' | 1:A1:595:G:C5' | 2.33 | 0.55 |
| 1:A1:620:A:OP2 | 1:A1:621:A:OP2 | 2.25 | 0.55 |
| 1:A1:1056:U:H3' | 1:A1:1057:U:C5 | 2.42 | 0.55 |
| 1:A1:1235:C:H2' | 1:A1:1236:A:O4' | 2.05 | 0.55 |
| 1:A1:1251:U:C2' | 1:A1:1252:C:O4' | 2.55 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1283:U:H2' | 1:A1:1283:U:O2 | 2.06 | 0.55 |
| 1:A1:1334:U:N3 | 1:A1:1335:U:C5 | 2.75 | 0.55 |
| 1:A1:1539:G:O2' | 1:A1:1540:G:H5" | 2.06 | 0.55 |
| 1:A1:1656:U:OP2 | 1:A1:1656:U:H6 | 1.90 | 0.55 |
| 1:A1:1731:A:H5" | 1:A1:1732:A:OP2 | 2.06 | 0.55 |
| 2:AA:109:ASN:O | 2:AA:111:ILE:O | 2.25 | 0.55 |
| 3:AB:87:GLN:HA | 3:AB:96:THR:HA | 1.88 | 0.55 |
| 3:AB:138:PRO:O | 3:AB:140:ARG:N | 2.29 | 0.55 |
| 8:AG:70:LYS:O | 8:AG:71:ILE:C | 2.49 | 0.55 |
| 17:AP:58:GLY:O | 17:AP:59:ILE:O | 2.25 | 0.55 |
| 21:AT:9:LEU:HA | 21:AT:313:TRP:CA | 2.23 | 0.55 |
| 29:B1:71:A:H5" | 29:B1:73:C:N3 | 2.22 | 0.55 |
| 29:B1:196:G:C6 | 29:B1:199:A:OP2 | 2.60 | 0.55 |
| 29:B1:286:U:C2 | 29:B1:287:G:C5 | 2.95 | 0.55 |
| 29:B1:826:G:C5 | 29:B1:827:A:N7 | 2.74 | 0.55 |
| 29:B1:943:U:C1' | 29:B1:944:C:OP1 | 2.54 | 0.55 |
| 29:B1:953:G:C8 | 29:B1:1117:G:C8 | 2.94 | 0.55 |
| 29:B1:992:A:C6 | 29:B1:993:G:N7 | 2.74 | 0.55 |
| 29:B1:1021:G:C6 | 29:B1:1022:U:C4 | 2.95 | 0.55 |
| 29:B1:1230:G:H3' | 29:B1:1231:A:H8 | 1.69 | 0.55 |
| 29:B1:1564:U:H2' | 29:B1:1565:G:C8 | 2.42 | 0.55 |
| 29:B1:1639:C:C2' | 29:B1:1640:G:O5' | 2.54 | 0.55 |
| 29:B1:1696:A:C2 | 29:B1:1697:A:C5 | 2.95 | 0.55 |
| 29:B1:1780:G:N3 | 29:B1:1781:C:C5 | 2.75 | 0.55 |
| 29:B1:1851:G:C4 | 29:B1:1852:G:C8 | 2.94 | 0.55 |
| 29:B1:2363:A:C2 | 29:B1:2376:G:C6 | 2.95 | 0.55 |
| 29:B1:2419:A:C4 | 29:B1:2804:A:C8 | 2.95 | 0.55 |
| 29:B1:2699:G:H2' | 29:B1:2700:G:C8 | 2.42 | 0.55 |
| 29:B1:3002:C:O2' | 29:B1:3003:G:OP1 | 2.25 | 0.55 |
| 29:B1:3064:U:H2' | 29:B1:3065:G:H8 | 1.70 | 0.55 |
| 30:B2:26:C:H2' | 30:B2:27:A:C8 | 2.41 | 0.55 |
| 30:B2:67:G:N2 | 30:B2:68:C:O4' | 2.40 | 0.55 |
| 30:B2:95:A:C2' | 30:B2:96:U:O5' | 2.55 | 0.55 |
| 31:B3:70:G:O5' | 31:B3:71:A:OP2 | 2.24 | 0.55 |
| 31:B3:132:G:C2 | 31:B3:133:G:C5 | 2.95 | 0.55 |
| 33:BB:47:GLN:HA | 33:BB:58:LEU:CB | 2.37 | 0.55 |
| 33:BB:144:ASN:HA | 33:BB:159:SER:H | 1.71 | 0.55 |
| 37:BF:144:ALA:HB3 | 37:BF:146:ILE:CB | 2.37 | 0.55 |
| 37:BF:145:LEU:O | 37:BF:146:ILE:O | 2.25 | 0.55 |
| 1:C1:26:A:OP2 | 1:C1:26:A:H8 | 1.90 | 0.55 |
| 1:C1:55:A:H3' | 1:C1:56:U:H5" | 1.89 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:71:A:C2 | 1:C1:72:A:N7 | 2.75 | 0.55 |
| 1:C1:192:U:H6 | 1:C1:192:U:H3' | 1.72 | 0.55 |
| 1:C1:313:U:C5 | 1:C1:1118:G:C4 | 2.95 | 0.55 |
| 1:C1:313:U:H5 | 1:C1:1118:G:C6 | 2.22 | 0.55 |
| 1:C1:331:A:H5" | 1:C1:332:U:OP2 | 2.06 | 0.55 |
| 1:C1:444:C:H42 | 1:C1:460:A:N6 | 1.97 | 0.55 |
| 1:C1:620:A:OP2 | 1:C1:621:A:OP2 | 2.25 | 0.55 |
| 1:C1:733:A:C6 | 1:C1:734:A:C4 | 2.94 | 0.55 |
| 1:C1:742:U:H3' | 1:C1:743:U:H3' | 1.89 | 0.55 |
| 1:C1:993:A:C4 | 1:C1:1012:U:O2 | 2.60 | 0.55 |
| 1:C1:993:A:C6 | 1:C1:1012:U:C2 | 2.95 | 0.55 |
| 1:C1:1146:G:C6 | 1:C1:1147:A:C6 | 2.94 | 0.55 |
| 1:C1:1338:C:H1' | 1:C1:1410:A:C4 | 2.42 | 0.55 |
| 1:C1:1494:C:H2' | 1:C1:1495:C:C6 | 2.42 | 0.55 |
| 1:C1:1603:U:H5" | 1:C1:1604:U:OP2 | 2.06 | 0.55 |
| 1:C1:1749:A:H2' | 1:C1:1750:A:O5' | 2.07 | 0.55 |
| 3:CB:195:ASP:O | 3:CB:196:VAL:O | 2.24 | 0.55 |
| 9:CH:3:ASN:O | 9:CH:4:VAL:CB | 2.54 | 0.55 |
| 10:CI:11:VAL:C | 10:CI:13:LYS:H | 2.14 | 0.55 |
| 14:CM:20:SER:C | 14:CM:22:LEU:H | 2.15 | 0.55 |
| 17:CP:114:LYS:CB | 17:CP:115:GLY:HA2 | 2.37 | 0.55 |
| 20:CS:23:VAL:CB | 74:CS:101:OHX:N2 | 2.70 | 0.55 |
| 29:D1:22:G:C5 | 29:D1:23:A:N7 | 2.74 | 0.55 |
| 29:D1:255:A:H2' | 29:D1:256:G:H8 | 1.72 | 0.55 |
| 29:D1:344:A:C2' | 29:D1:345:G:O5' | 2.55 | 0.55 |
| 29:D1:378:A:H3' | 29:D1:378:A:C4 | 2.36 | 0.55 |
| 29:D1:535:G:N1 | 29:D1:558:U:O2' | 2.39 | 0.55 |
| 29:D1:557:A:O5' | 29:D1:557:A:H8 | 1.89 | 0.55 |
| 29:D1:636:C:C6 | 29:D1:2378:C:O4' | 2.59 | 0.55 |
| 29:D1:747:A:C6 | 29:D1:748:U:C5 | 2.94 | 0.55 |
| 29:D1:926:A:O2' | 29:D1:927:C:H5' | 2.05 | 0.55 |
| 29:D1:980:A:O2' | 29:D1:981:U:H4' | 2.05 | 0.55 |
| 29:D1:1348:U:O2' | 29:D1:1349:G:C8 | 2.60 | 0.55 |
| 29:D1:1463:U:C4 | 29:D1:1464:G:N7 | 2.75 | 0.55 |
| 29:D1:1568:U:H2' | 29:D1:1570:U:OP2 | 2.07 | 0.55 |
| 29:D1:1779:C:C4' | 29:D1:1780:G:OP1 | 2.54 | 0.55 |
| 29:D1:1908:A:N7 | 29:D1:1909:A:N7 | 2.55 | 0.55 |
| 29:D1:1941:C:O2' | 29:D1:3363:U:H1' | 2.07 | 0.55 |
| 29:D1:2136:C:H3' | 29:D1:2142:A:H61 | 1.72 | 0.55 |
| 29:D1:2209:U:OP2 | 29:D1:2209:U:N1 | 2.40 | 0.55 |
| 29:D1:2279:A:H2 | 29:D1:2285:C:H41 | 1.54 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2594:C:H2' | 29:D1:2595:A:O4' | 2.06 | 0.55 |
| 29:D1:2882:U:C2' | 29:D1:2883:U:O5' | 2.55 | 0.55 |
| 29:D1:3034:C:H2' | 29:D1:3035:A:H5' | 1.89 | 0.55 |
| 29:D1:3064:U:C2 | 29:D1:3065:G:N7 | 2.74 | 0.55 |
| 29:D1:3273:A:C2 | 29:D1:3274:A:C4 | 2.95 | 0.55 |
| 29:D1:3394:U:HO2' | 29:D1:3395:G:H8 | 1.51 | 0.55 |
| 74:D1:3408:OHX:N2 | 74:D1:3582:OHX:N1 | 2.55 | 0.55 |
| 30:D2:43:U:N3 | 30:D2:44:C:C6 | 2.75 | 0.55 |
| 30:D2:62:U:H2' | 30:D2:62:U:O2 | 2.05 | 0.55 |
| 31:D3:81:U:O5' | 31:D3:81:U:H6 | 1.90 | 0.55 |
| 34:DC:272:TYR:O | 34:DC:273:HIS:C | 2.49 | 0.55 |
| 35:DD:39:PHE:O | 35:DD:40:THR:C | 2.49 | 0.55 |
| 40:DI:21:LYS:O | 40:DI:22:SER:O | 2.24 | 0.55 |
| 42:DK:139:THR:C | 42:DK:141:ARG:N | 2.63 | 0.55 |
| 43:DN:23:ILE:O | 43:DN:32:LEU:CA | 2.54 | 0.55 |
| 43:DN:59:ASN:O | 43:DN:60:LEU:CB | 2.55 | 0.55 |
| 44:DO:148:TYR:C | 44:DO:150:TRP:H | 2.14 | 0.55 |
| 45:DP:140:LYS:C | 45:DP:142:SER:N | 2.62 | 0.55 |
| 46:DQ:115:SER:H | 46:DQ:150:VAL:HA | 1.72 | 0.55 |
| 57:Db:66:LEU:CB | 57:Db:72:LYS:H | 2.20 | 0.55 |
| 62:Dg:30:GLU:O | 62:Dg:33:GLN:N | 2.33 | 0.55 |
| 1:A1:44:U:OP2 | 1:A1:45:U:O4 | 2.25 | 0.55 |
| 1:A1:162:A:C2' | 1:A1:163:G:C8 | 2.89 | 0.55 |
| 1:A1:264:G:H3' | 1:A1:265:A:C4' | 2.36 | 0.55 |
| 1:A1:326:G:H2' | 1:A1:327:U:C6 | 2.42 | 0.55 |
| 1:A1:395:U:N3 | 1:A1:396:G:C4 | 2.74 | 0.55 |
| 1:A1:524:U:O2 | 1:A1:524:U:C3' | 2.54 | 0.55 |
| 1:A1:623:A:C2 | 1:A1:1105:C:H4' | 2.42 | 0.55 |
| 1:A1:687:G:C2 | 1:A1:688:G:C8 | 2.95 | 0.55 |
| 1:A1:763:G:C6 | 1:A1:764:U:O4 | 2.60 | 0.55 |
| 1:A1:1032:G:C6 | 1:A1:1104:U:C4 | 2.95 | 0.55 |
| 1:A1:1158:C:H42 | 1:A1:1163:A:N6 | 2.02 | 0.55 |
| 1:A1:1206:U:H5' | 1:A1:1207:C:OP2 | 2.07 | 0.55 |
| 1:A1:1277:G:O6 | 1:A1:1278:G:C2 | 2.59 | 0.55 |
| 1:A1:1409:G:C8 | 1:A1:1411:A:OP2 | 2.59 | 0.55 |
| 1:A1:1672:G:N1 | 1:A1:1673:G:C6 | 2.75 | 0.55 |
| 1:A1:1750:A:C4 | 1:A1:1751:C:C6 | 2.95 | 0.55 |
| 1:A1:1754:A:O2' | 1:A1:1755:A:OP2 | 2.20 | 0.55 |
| 11:AJ:83:GLN:O | 11:AJ:84:ALA:C | 2.49 | 0.55 |
| 29:B1:6:A:C6 | 29:B1:7:C:C5 | 2.95 | 0.55 |
| 29:B1:26:A:H2 | 29:B1:330:G:H21 | 1.54 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:90:C:O4' | 29:B1:281:G:O2' | 2.22 | 0.55 |
| 29:B1:106:A:O2' | 29:B1:107:A:H5' | 2.06 | 0.55 |
| 29:B1:396:A:C2 | 29:B1:399:A:C4 | 2.94 | 0.55 |
| 29:B1:428:A:C2' | 29:B1:429:U:O5' | 2.55 | 0.55 |
| 29:B1:523:A:H2' | 29:B1:524:U:C5' | 2.31 | 0.55 |
| 29:B1:759:U:O4 | 29:B1:773:G:N7 | 2.40 | 0.55 |
| 29:B1:780:A:N1 | 29:B1:781:G:C4 | 2.75 | 0.55 |
| 29:B1:1107:C:H2' | 29:B1:1108:U:H6 | 1.72 | 0.55 |
| 29:B1:1158:A:HO2' | 29:B1:1330:A:H2 | 1.45 | 0.55 |
| 29:B1:1174:G:C6 | 29:B1:1318:A:N3 | 2.75 | 0.55 |
| 29:B1:1447:G:O2' | 29:B1:1448:U:OP2 | 2.25 | 0.55 |
| 29:B1:1468:A:C2 | 29:B1:1469:C:N3 | 2.75 | 0.55 |
| 29:B1:1546:A:N6 | 29:B1:1547:G:C2 | 2.75 | 0.55 |
| 29:B1:1678:G:OP2 | 29:B1:1678:G:H8 | 1.88 | 0.55 |
| 29:B1:1953:G:C6 | 29:B1:2093:A:C8 | 2.94 | 0.55 |
| 29:B1:2140:U:H2' | 29:B1:2141:U:H5' | 1.89 | 0.55 |
| 29:B1:2677:G:N2 | 29:B1:2679:A:N3 | 2.54 | 0.55 |
| 29:B1:2924:U:H2' | 29:B1:2925:C:O4' | 2.07 | 0.55 |
| 29:B1:2997:G:C1' | 29:B1:2998:U:O5' | 2.52 | 0.55 |
| 29:B1:3109:G:O2' | 29:B1:3110:C:H5' | 2.07 | 0.55 |
| 29:B1:3301:U:P | 29:B1:3301:U:O4' | 2.65 | 0.55 |
| 30:B2:12:U:P | 30:B2:68:C:H4' | 2.46 | 0.55 |
| 30:B2:28:C:C4 | 30:B2:29:C:C2 | 2.95 | 0.55 |
| 30:B2:70:U:O2' | 30:B2:71:G:H5' | 2.07 | 0.55 |
| 31:B3:130:C:H2' | 31:B3:131:A:H8 | 1.72 | 0.55 |
| 34:BC:121:ASN:O | 34:BC:122:TRP:CB | 2.55 | 0.55 |
| 34:BC:330:GLY:O | 34:BC:331:ASN:O | 2.25 | 0.55 |
| 35:BD:175:HIS:O | 35:BD:176:SER:C | 2.49 | 0.55 |
| 36:BE:82:GLU:C | 36:BE:84:PRO:N | 2.65 | 0.55 |
| 37:BF:151:LYS:O | 37:BF:152:THR:C | 2.48 | 0.55 |
| 40:BI:117:PHE:O | 40:BI:120:ASP:N | 2.40 | 0.55 |
| 48:BS:95:TRP:O | 48:BS:96:ILE:C | 2.49 | 0.55 |
| 54:BY:28:HIS:C | 54:BY:30:GLY:N | 2.65 | 0.55 |
| 1:C1:108:A:C3' | 1:C1:109:G:H8 | 2.18 | 0.55 |
| 1:C1:478:A:C2 | 1:C1:510:G:N2 | 2.75 | 0.55 |
| 1:C1:595:G:H2' | 1:C1:596:C:H6 | 1.67 | 0.55 |
| 1:C1:696:C:OP2 | 1:C1:696:C:O4' | 2.25 | 0.55 |
| 1:C1:863:A:H2' | 1:C1:865:A:C8 | 2.42 | 0.55 |
| 1:C1:985:G:H2' | 1:C1:986:G:C8 | 2.41 | 0.55 |
| 1:C1:1065:A:O2' | 24:Cc:39:UNK:O | 2.23 | 0.55 |
| 1:C1:1121:C:H1' | 1:C1:1127:G:H22 | 1.72 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1197:C:O2 | 1:C1:1197:C:C2' | 2.54 | 0.55 |
| 1:C1:1516:A:H3' | 1:C1:1517:U:H5' | 1.87 | 0.55 |
| 1:C1:1649:G:H2' | 1:C1:1650:U:C5 | 2.38 | 0.55 |
| 1:C1:1720:G:N7 | 1:C1:1721:A:C5 | 2.75 | 0.55 |
| 1:C1:1720:G:C2' | 1:C1:1721:A:H8 | 2.19 | 0.55 |
| 3:CB:210:THR:O | 3:CB:211:LEU:C | 2.49 | 0.55 |
| 4:CC:21:LEU:O | 4:CC:23:GLU:N | 2.39 | 0.55 |
| 4:CC:162:GLN:O | 4:CC:165:ASN:C | 2.50 | 0.55 |
| 6:CE:130:THR:O | 6:CE:131:GLN:C | 2.50 | 0.55 |
| 23:Cb:58:UNK:O | 23:Cb:59:UNK:C | 2.55 | 0.55 |
| 29:D1:171:G:C2 | 29:D1:172:G:C8 | 2.95 | 0.55 |
| 29:D1:247:C:C2' | 29:D1:248:U:H4' | 2.37 | 0.55 |
| 29:D1:363:G:H3' | 29:D1:364:G:H5" | 1.88 | 0.55 |
| 29:D1:365:A:N1 | 29:D1:366:A:C4 | 2.75 | 0.55 |
| 29:D1:374:A:C2 | 29:D1:375:A:C6 | 2.95 | 0.55 |
| 29:D1:514:G:C2' | 29:D1:515:C:C6 | 2.89 | 0.55 |
| 29:D1:516:A:N3 | 29:D1:516:A:H2' | 2.22 | 0.55 |
| 29:D1:565:U:H2' | 29:D1:566:G:H5' | 1.89 | 0.55 |
| 29:D1:622:A:H2' | 29:D1:623:U:C6 | 2.40 | 0.55 |
| 29:D1:645:A:C5 | 29:D1:649:A:C5 | 2.94 | 0.55 |
| 29:D1:672:A:N6 | 29:D1:791:A:N6 | 2.54 | 0.55 |
| 29:D1:861:C:C2 | 29:D1:862:U:C6 | 2.95 | 0.55 |
| 29:D1:945:C:C3' | 29:D1:946:U:H6 | 2.20 | 0.55 |
| 29:D1:980:A:N6 | 29:D1:1104:G:C8 | 2.63 | 0.55 |
| 29:D1:1178:G:N7 | 29:D1:1179:A:C5 | 2.74 | 0.55 |
| 29:D1:1212:A:N6 | 29:D1:1294:A:N1 | 2.54 | 0.55 |
| 29:D1:1495:U:O2' | 29:D1:1514:G:C4' | 2.55 | 0.55 |
| 29:D1:1500:G:H2' | 29:D1:1501:U:C6 | 2.42 | 0.55 |
| 29:D1:1536:G:H2' | 29:D1:1536:G:N3 | 2.20 | 0.55 |
| 29:D1:1747:G:C2' | 29:D1:1748:G:H5' | 2.37 | 0.55 |
| 29:D1:2222:A:O5' | 29:D1:2222:A:H8 | 1.90 | 0.55 |
| 29:D1:2244:A:HO2' | 33:DB:222:ALA:HB3 | 1.69 | 0.55 |
| 29:D1:2299:A:C6 | 29:D1:2300:G:N7 | 2.75 | 0.55 |
| 29:D1:2514:U:HO2' | 29:D1:2515:A:H8 | 1.55 | 0.55 |
| 29:D1:2596:U:H2' | 29:D1:2597:U:H6 | 1.70 | 0.55 |
| 29:D1:2682:C:N4 | 29:D1:2683:U:O4 | 2.39 | 0.55 |
| 29:D1:2743:A:H5" | 29:D1:2744:U:OP2 | 2.07 | 0.55 |
| 29:D1:2932:U:N1 | 29:D1:2935:U:H5 | 2.04 | 0.55 |
| 29:D1:3005:A:C4 | 29:D1:3140:G:C2 | 2.95 | 0.55 |
| 29:D1:3135:U:C6 | 29:D1:3136:G:C8 | 2.94 | 0.55 |
| 29:D1:3168:A:O2' | 29:D1:3169:U:O4' | 2.24 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3308:C:N4 | 29:D1:3309:G:C5 | 2.75 | 0.55 |
| 29:D1:3329:U:O3' | 34:DC:366:GLY:HA3 | 2.07 | 0.55 |
| 30:D2:9:C:N4 | 30:D2:10:C:O2 | 2.39 | 0.55 |
| 34:DC:87:VAL:C | 34:DC:88:GLY:O | 2.46 | 0.55 |
| 36:DE:82:GLU:C | 36:DE:84:PRO:N | 2.64 | 0.55 |
| 37:DF:151:LYS:O | 37:DF:152:THR:C | 2.49 | 0.55 |
| 38:DG:138:TYR:CB | 38:DG:233:GLU:O | 2.55 | 0.55 |
| 49:DT:115:LYS:C | 49:DT:117:ALA:H | 2.13 | 0.55 |
| 54:DY:74:ASN:C | 54:DY:76:ASP:H | 2.15 | 0.55 |
| 54:DY:118:ILE:O | 54:DY:119:PRO:CB | 2.55 | 0.55 |
| 59:Dd:68:LYS:O | 59:Dd:72:ARG:CB | 2.55 | 0.55 |
| 65:Dk:10:UNK:O | 65:Dk:13:UNK:CB | 2.55 | 0.55 |
| 1:A1:195:G:C1' | 1:A1:196:G:OP1 | 2.55 | 0.55 |
| 1:A1:295:A:C4' | 1:A1:296:U:OP1 | 2.55 | 0.55 |
| 1:A1:314:C:O2 | 1:A1:354:C:N3 | 2.40 | 0.55 |
| 1:A1:556:A:O3' | 1:A1:558:U:OP2 | 2.23 | 0.55 |
| 1:A1:729:G:C5 | 1:A1:730:G:H8 | 2.24 | 0.55 |
| 1:A1:732:G:H1' | 1:A1:734:A:N6 | 2.21 | 0.55 |
| 1:A1:807:A:C2 | 1:A1:808:U:C2 | 2.94 | 0.55 |
| 1:A1:940:A:C4 | 1:A1:941:A:C8 | 2.95 | 0.55 |
| 1:A1:1006:C:C5 | 1:A1:1007:C:H5 | 2.25 | 0.55 |
| 1:A1:1056:U:H5" | 1:A1:1057:U:H5 | 1.72 | 0.55 |
| 1:A1:1072:C:H3' | 1:A1:1073:G:H5" | 1.88 | 0.55 |
| 1:A1:1112:G:C5 | 1:A1:1113:A:N7 | 2.75 | 0.55 |
| 1:A1:1160:A:C2' | 1:A1:1161:C:H6 | 2.12 | 0.55 |
| 1:A1:1348:A:C5' | 15:AN:11:GLU:HA | 2.37 | 0.55 |
| 1:A1:1402:G:C5 | 1:A1:1403:C:C5 | 2.95 | 0.55 |
| 1:A1:1407:U:C6 | 1:A1:1408:G:H8 | 2.25 | 0.55 |
| 1:A1:1498:G:C2 | 1:A1:1499:G:C8 | 2.95 | 0.55 |
| 2:AA:88:LYS:O | 2:AA:90:ALA:N | 2.40 | 0.55 |
| 20:AS:40:ARG:CB | 74:AS:101:OHX:N6 | 2.70 | 0.55 |
| 29:B1:49:A:N1 | 29:B1:279:U:H4' | 2.22 | 0.55 |
| 29:B1:154:U:C4' | 29:B1:155:G:OP2 | 2.49 | 0.55 |
| 29:B1:257:U:O2' | 29:B1:258:G:O5' | 2.16 | 0.55 |
| 29:B1:334:A:C2' | 29:B1:335:G:O5' | 2.55 | 0.55 |
| 29:B1:342:A:N1 | 29:B1:349:A:H8 | 2.02 | 0.55 |
| 29:B1:347:G:N2 | 29:B1:353:G:C8 | 2.75 | 0.55 |
| 29:B1:371:G:N7 | 29:B1:373:A:OP2 | 2.40 | 0.55 |
| 29:B1:384:A:C5 | 29:B1:1465:A:C2 | 2.95 | 0.55 |
| 29:B1:402:A:N6 | 46:BQ:21:TYR:CB | 2.70 | 0.55 |
| 29:B1:405:U:C5 | 29:B1:406:G:C8 | 2.95 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:562:C:C2’ | 29:B1:563:U:C5 | 2.70 | 0.55 |
| 29:B1:625:G:C2’ | 29:B1:626:U:O5’ | 2.55 | 0.55 |
| 29:B1:664:U:H2’ | 29:B1:665:A:C8 | 2.42 | 0.55 |
| 29:B1:670:C:O2’ | 29:B1:671:U:H5’ | 2.06 | 0.55 |
| 29:B1:749:C:N3 | 29:B1:750:G:N7 | 2.55 | 0.55 |
| 29:B1:760:G:N3 | 29:B1:760:G:C2’ | 2.70 | 0.55 |
| 29:B1:896:A:H62 | 29:B1:2133:U:H3 | 1.54 | 0.55 |
| 29:B1:1453:A:C8 | 29:B1:1850:A:C2 | 2.95 | 0.55 |
| 29:B1:1528:G:C4 | 29:B1:1529:A:C8 | 2.94 | 0.55 |
| 29:B1:1868:G:H8 | 29:B1:1868:G:O5’ | 1.90 | 0.55 |
| 29:B1:2361:A:H2’ | 29:B1:2362:C:C6 | 2.41 | 0.55 |
| 29:B1:2562:A:H2’ | 29:B1:2563:G:C8 | 2.40 | 0.55 |
| 29:B1:2651:G:HO2’ | 29:B1:2796:G:H1 | 1.50 | 0.55 |
| 29:B1:2779:A:C8 | 29:B1:2779:A:C5’ | 2.82 | 0.55 |
| 29:B1:2797:C:C3’ | 29:B1:2798:C:C5’ | 2.83 | 0.55 |
| 29:B1:2868:U:C5 | 29:B1:2869:U:H5 | 2.24 | 0.55 |
| 29:B1:2908:G:C6 | 29:B1:2909:U:C4 | 2.95 | 0.55 |
| 29:B1:3000:A:C2’ | 29:B1:3001:C:C6 | 2.86 | 0.55 |
| 29:B1:3341:U:C3’ | 29:B1:3343:G:H22 | 2.20 | 0.55 |
| 30:B2:24:A:C2’ | 30:B2:25:G:H8 | 2.19 | 0.55 |
| 30:B2:33:U:O2’ | 30:B2:34:C:C2 | 2.59 | 0.55 |
| 30:B2:65:G:N2 | 30:B2:66:A:C4 | 2.74 | 0.55 |
| 30:B2:70:U:O2’ | 30:B2:71:G:C5’ | 2.55 | 0.55 |
| 31:B3:74:U:O4 | 31:B3:77:A:H5” | 2.06 | 0.55 |
| 31:B3:80:A:N3 | 31:B3:81:U:N3 | 2.55 | 0.55 |
| 31:B3:109:A:H2’ | 31:B3:110:C:H5’ | 1.88 | 0.55 |
| 34:BC:62:ARG:C | 34:BC:64:GLY:N | 2.64 | 0.55 |
| 35:BD:5:GLN:N | 35:BD:21:PRO:HA | 2.21 | 0.55 |
| 35:BD:134:LEU:O | 35:BD:137:ALA:N | 2.39 | 0.55 |
| 39:BH:100:GLU:O | 39:BH:103:ALA:N | 2.40 | 0.55 |
| 43:BN:18:GLY:O | 43:BN:19:ARG:CB | 2.53 | 0.55 |
| 45:BP:93:ALA:O | 45:BP:94:ARG:C | 2.48 | 0.55 |
| 46:BQ:128:ARG:CA | 46:BQ:138:LYS:HA | 2.36 | 0.55 |
| 53:BX:64:LYS:O | 53:BX:66:GLN:N | 2.39 | 0.55 |
| 57:Bb:20:HIS:O | 57:Bb:22:SER:N | 2.40 | 0.55 |
| 58:Bc:48:ARG:O | 58:Bc:51:ILE:N | 2.40 | 0.55 |
| 59:Bd:4:GLY:O | 59:Bd:7:SER:N | 2.38 | 0.55 |
| 1:C1:18:C:H2’ | 1:C1:19:A:C8 | 2.41 | 0.55 |
| 1:C1:93:A:N3 | 1:C1:399:A:C2 | 2.75 | 0.55 |
| 1:C1:130:C:C2 | 1:C1:177:U:OP1 | 2.60 | 0.55 |
| 1:C1:196:G:O2’ | 1:C1:197:A:O5’ | 2.25 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:295:A:H4' | 1:C1:296:U:OP1 | 2.06 | 0.55 |
| 1:C1:320:U:OP2 | 1:C1:322:G:H5" | 2.07 | 0.55 |
| 1:C1:438:A:O2' | 1:C1:439:U:H5" | 2.06 | 0.55 |
| 1:C1:446:A:C2' | 1:C1:447:U:H5' | 2.37 | 0.55 |
| 1:C1:475:A:H8 | 1:C1:475:A:OP2 | 1.89 | 0.55 |
| 1:C1:887:A:N3 | 1:C1:888:U:C6 | 2.75 | 0.55 |
| 1:C1:1046:G:C5 | 1:C1:1073:G:C2 | 2.94 | 0.55 |
| 1:C1:1348:A:P | 15:CN:12:GLN:O | 2.65 | 0.55 |
| 1:C1:1353:U:H3' | 1:C1:1354:G:H8 | 1.72 | 0.55 |
| 1:C1:1377:U:H2' | 1:C1:1378:U:C3' | 2.37 | 0.55 |
| 1:C1:1543:A:C2 | 1:C1:1544:U:C1' | 2.90 | 0.55 |
| 1:C1:1587:A:C6 | 1:C1:1588:G:N7 | 2.74 | 0.55 |
| 1:C1:1672:G:N1 | 1:C1:1673:G:C6 | 2.75 | 0.55 |
| 1:C1:1690:G:C2' | 1:C1:1691:A:H5" | 2.37 | 0.55 |
| 4:CC:192:PRO:O | 4:CC:193:ALA:HB3 | 2.07 | 0.55 |
| 5:CD:112:ARG:O | 5:CD:115:LYS:N | 2.40 | 0.55 |
| 7:CF:129:ARG:O | 7:CF:130:PRO:C | 2.49 | 0.55 |
| 13:CL:101:LEU:O | 13:CL:102:ALA:CB | 2.55 | 0.55 |
| 14:CM:58:ALA:C | 14:CM:60:SER:N | 2.65 | 0.55 |
| 21:CT:212:ALA:HA | 21:CT:222:LEU:HA | 1.88 | 0.55 |
| 29:D1:107:A:H8 | 29:D1:107:A:O5' | 1.90 | 0.55 |
| 29:D1:517:G:OP2 | 29:D1:518:G:OP2 | 2.24 | 0.55 |
| 29:D1:706:A:C6 | 29:D1:714:G:C2 | 2.94 | 0.55 |
| 29:D1:1081:U:H2' | 29:D1:1081:U:O2 | 2.06 | 0.55 |
| 29:D1:1105:A:C6 | 29:D1:1106:G:C5 | 2.95 | 0.55 |
| 29:D1:1202:A:H2' | 29:D1:1203:A:OP2 | 2.07 | 0.55 |
| 29:D1:1269:U:H3 | 29:D1:1271:A:H62 | 1.53 | 0.55 |
| 29:D1:1377:G:C2 | 29:D1:1378:U:C6 | 2.95 | 0.55 |
| 29:D1:1447:G:HO2' | 29:D1:2355:G:H1 | 1.54 | 0.55 |
| 29:D1:1627:U:C5' | 29:D1:1628:C:OP2 | 2.55 | 0.55 |
| 29:D1:1711:C:H2' | 29:D1:1712:G:O4' | 2.07 | 0.55 |
| 29:D1:1760:A:C6 | 29:D1:1766:G:C6 | 2.94 | 0.55 |
| 29:D1:2361:A:C8 | 29:D1:2362:C:C5 | 2.94 | 0.55 |
| 29:D1:2496:C:H2' | 29:D1:2497:U:C6 | 2.42 | 0.55 |
| 29:D1:2593:A:C4' | 29:D1:2594:C:OP2 | 2.54 | 0.55 |
| 29:D1:2640:A:C2' | 29:D1:2641:U:H6 | 2.16 | 0.55 |
| 29:D1:2667:A:N7 | 29:D1:2690:G:N2 | 2.55 | 0.55 |
| 29:D1:2680:A:C8 | 42:DK:53:THR:O | 2.59 | 0.55 |
| 29:D1:2882:U:H2' | 29:D1:2883:U:C5' | 2.37 | 0.55 |
| 29:D1:2897:A:H2' | 29:D1:2899:C:C5' | 2.31 | 0.55 |
| 29:D1:2997:G:C1' | 29:D1:2998:U:O5' | 2.50 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3030:G:H2' | 29:D1:3031:G:C8 | 2.42 | 0.55 |
| 29:D1:3095:U:H2' | 29:D1:3096:C:O5' | 2.06 | 0.55 |
| 29:D1:3218:A:C3' | 29:D1:3220:G:OP2 | 2.55 | 0.55 |
| 29:D1:3228:C:N1 | 29:D1:3229:G:N7 | 2.54 | 0.55 |
| 29:D1:3237:U:O4 | 29:D1:3250:U:O4 | 2.25 | 0.55 |
| 29:D1:3238:G:C6 | 29:D1:3250:U:C4 | 2.95 | 0.55 |
| 29:D1:3308:C:C6 | 29:D1:3308:C:C3' | 2.90 | 0.55 |
| 29:D1:3315:G:O4' | 29:D1:3320:A:O5' | 2.25 | 0.55 |
| 29:D1:3320:A:O2' | 29:D1:3321:C:O4' | 2.19 | 0.55 |
| 30:D2:90:U:C4 | 30:D2:91:G:C4 | 2.95 | 0.55 |
| 31:D3:106:C:C6 | 31:D3:138:A:N7 | 2.75 | 0.55 |
| 34:DC:327:CYS:O | 34:DC:328:ILE:C | 2.50 | 0.55 |
| 36:DE:43:LYS:N | 49:DT:69:LYS:CB | 2.61 | 0.55 |
| 38:DG:145:ARG:O | 38:DG:146:GLN:C | 2.50 | 0.55 |
| 44:DO:83:LYS:CB | 44:DO:84:PRO:CB | 2.84 | 0.55 |
| 44:DO:143:ARG:HA | 44:DO:146:ALA:HB2 | 1.88 | 0.55 |
| 51:DV:7:SER:O | 51:DV:9:SER:N | 2.39 | 0.55 |
| 59:Dd:67:LEU:HA | 59:Dd:70:VAL:O | 2.07 | 0.55 |
| 1:A1:57:G:C4 | 1:A1:91:G:N2 | 2.75 | 0.55 |
| 1:A1:60:U:C2' | 1:A1:61:A:H5' | 2.36 | 0.55 |
| 1:A1:180:A:C5 | 1:A1:181:A:C2 | 2.95 | 0.55 |
| 1:A1:210:A:C5 | 1:A1:211:U:C5 | 2.95 | 0.55 |
| 1:A1:551:G:C2 | 1:A1:552:G:N7 | 2.75 | 0.55 |
| 1:A1:551:G:N1 | 1:A1:552:G:C5 | 2.75 | 0.55 |
| 1:A1:749:U:C4 | 1:A1:750:U:O4 | 2.60 | 0.55 |
| 1:A1:837:G:H2' | 1:A1:838:G:H8 | 1.72 | 0.55 |
| 1:A1:871:G:C6 | 1:A1:957:G:C6 | 2.95 | 0.55 |
| 1:A1:877:G:C2 | 1:A1:878:G:C8 | 2.94 | 0.55 |
| 1:A1:964:U:O4' | 1:A1:965:U:C2 | 2.59 | 0.55 |
| 1:A1:1012:U:O5' | 1:A1:1012:U:H6 | 1.89 | 0.55 |
| 1:A1:1325:A:C2 | 1:A1:1326:A:C5 | 2.95 | 0.55 |
| 1:A1:1349:G:H4' | 1:A1:1350:U:C5' | 2.36 | 0.55 |
| 1:A1:1380:U:O2' | 1:A1:1381:U:H5' | 2.07 | 0.55 |
| 1:A1:1416:G:H2' | 1:A1:1417:A:O4' | 2.07 | 0.55 |
| 1:A1:1537:C:C5' | 1:A1:1538:U:OP1 | 2.54 | 0.55 |
| 1:A1:1569:A:C4 | 1:A1:1570:A:C8 | 2.95 | 0.55 |
| 1:A1:1584:G:C4 | 11:AJ:124:PRO:HA | 2.42 | 0.55 |
| 5:AD:169:ASN:O | 5:AD:172:ILE:N | 2.36 | 0.55 |
| 12:AK:27:ASP:O | 12:AK:29:GLN:N | 2.39 | 0.55 |
| 13:AL:101:LEU:O | 13:AL:102:ALA:CB | 2.55 | 0.55 |
| 28:Ah:4:UNK:O | 28:Ah:5:UNK:C | 2.55 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:85:A:C8 | 29:B1:87:U:N3 | 2.75 | 0.55 |
| 29:B1:96:G:H5" | 29:B1:96:G:C8 | 2.42 | 0.55 |
| 29:B1:96:G:H5" | 29:B1:96:G:H8 | 1.72 | 0.55 |
| 29:B1:224:C:C2' | 29:B1:225:C:O5' | 2.55 | 0.55 |
| 29:B1:232:G:C4 | 29:B1:233:C:C6 | 2.94 | 0.55 |
| 29:B1:340:C:C5 | 31:B3:25:G:N2 | 2.75 | 0.55 |
| 29:B1:349:A:H2 | 31:B3:24:G:C4 | 2.24 | 0.55 |
| 29:B1:524:U:C2 | 29:B1:525:C:C6 | 2.95 | 0.55 |
| 29:B1:641:C:HO2' | 29:B1:642:U:P | 2.29 | 0.55 |
| 29:B1:733:G:N3 | 29:B1:733:G:C2' | 2.70 | 0.55 |
| 29:B1:1205:A:C4 | 29:B1:1206:G:C8 | 2.95 | 0.55 |
| 29:B1:1300:G:C6 | 29:B1:1301:A:N6 | 2.75 | 0.55 |
| 29:B1:1388:U:H2' | 29:B1:1389:G:C8 | 2.42 | 0.55 |
| 29:B1:1446:A:OP1 | 29:B1:2984:C:H5" | 2.07 | 0.55 |
| 29:B1:1731:A:C5 | 29:B1:1732:U:C5 | 2.95 | 0.55 |
| 29:B1:1879:A:HO2' | 29:B1:1880:U:H4' | 1.68 | 0.55 |
| 29:B1:1953:G:C5 | 29:B1:2093:A:C5 | 2.95 | 0.55 |
| 29:B1:2120:A:O2' | 29:B1:2121:G:P | 2.63 | 0.55 |
| 29:B1:2140:U:H2' | 29:B1:2977:G:O2' | 2.07 | 0.55 |
| 29:B1:2270:A:N1 | 29:B1:2271:A:C2 | 2.75 | 0.55 |
| 29:B1:2658:G:H1 | 29:B1:2712:U:H3 | 1.54 | 0.55 |
| 29:B1:2761:G:N2 | 29:B1:2795:U:C6 | 2.75 | 0.55 |
| 29:B1:3005:A:C2 | 29:B1:3140:G:C2 | 2.95 | 0.55 |
| 29:B1:3079:U:H3' | 29:B1:3080:G:C5' | 2.37 | 0.55 |
| 29:B1:3105:U:C6 | 29:B1:3128:G:N2 | 2.75 | 0.55 |
| 29:B1:3149:G:C2 | 29:B1:3150:A:N9 | 2.75 | 0.55 |
| 29:B1:3205:G:H22 | 43:BN:89:ALA:HB1 | 1.71 | 0.55 |
| 30:B2:27:A:C2 | 30:B2:54:U:C5 | 2.95 | 0.55 |
| 30:B2:56:A:O3' | 42:BK:149:GLY:CA | 2.54 | 0.55 |
| 30:B2:72:A:O2' | 30:B2:73:C:H5' | 2.05 | 0.55 |
| 31:B3:104:A:H5' | 31:B3:105:A:H5" | 1.89 | 0.55 |
| 32:BA:192:SER:HA | 32:BA:197:ASN:O | 2.06 | 0.55 |
| 33:BB:200:ARG:C | 33:BB:202:VAL:H | 2.14 | 0.55 |
| 36:BE:281:GLU:O | 36:BE:282:ARG:C | 2.49 | 0.55 |
| 37:BF:20:LYS:CB | 37:BF:113:LYS:H | 2.20 | 0.55 |
| 40:BI:166:ARG:O | 40:BI:167:VAL:CB | 2.55 | 0.55 |
| 41:BJ:61:SER:HA | 41:BJ:126:ALA:HB1 | 1.87 | 0.55 |
| 43:BN:24:LYS:CB | 43:BN:31:LYS:HA | 2.37 | 0.55 |
| 43:BN:95:ALA:C | 43:BN:97:SER:H | 2.15 | 0.55 |
| 46:BQ:52:LEU:H | 46:BQ:54:HIS:H | 1.54 | 0.55 |
| 53:BX:49:PRO:O | 53:BX:50:ILE:C | 2.50 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 53:BX:89:LYS:C | 53:BX:91:ASN:H | 2.14 | 0.55 |
| 54:BY:29:PRO:O | 54:BY:31:GLY:N | 2.40 | 0.55 |
| 1:C1:147:A:H3' | 1:C1:148:A:C8 | 2.42 | 0.55 |
| 1:C1:264:G:C3' | 1:C1:265:A:C5' | 2.77 | 0.55 |
| 1:C1:327:U:C2 | 1:C1:328:A:C8 | 2.95 | 0.55 |
| 1:C1:377:G:O2' | 1:C1:378:A:OP2 | 2.22 | 0.55 |
| 1:C1:527:A:H3' | 1:C1:528:U:C5' | 2.34 | 0.55 |
| 1:C1:533:U:C3' | 1:C1:534:A:H8 | 2.17 | 0.55 |
| 1:C1:537:G:N2 | 1:C1:538:A:H1' | 2.22 | 0.55 |
| 1:C1:755:A:H4' | 1:C1:756:A:OP1 | 2.06 | 0.55 |
| 1:C1:795:U:C5 | 1:C1:796:A:C5 | 2.95 | 0.55 |
| 1:C1:873:U:N3 | 1:C1:874:C:C4 | 2.75 | 0.55 |
| 1:C1:989:U:H2' | 1:C1:990:C:O4' | 2.08 | 0.55 |
| 1:C1:1006:C:C5 | 1:C1:1007:C:H5 | 2.24 | 0.55 |
| 8:CG:80:LEU:O | 8:CG:81:ALA:HB2 | 2.07 | 0.55 |
| 10:CI:21:ASP:O | 10:CI:23:GLU:N | 2.39 | 0.55 |
| 15:CN:32:LYS:C | 15:CN:34:LEU:H | 2.13 | 0.55 |
| 21:CT:135:THR:C | 21:CT:137:LYS:N | 2.64 | 0.55 |
| 29:D1:92:G:C6 | 29:D1:94:G:N2 | 2.75 | 0.55 |
| 29:D1:127:G:H2' | 29:D1:128:G:C8 | 2.42 | 0.55 |
| 29:D1:244:G:H3' | 29:D1:245:U:H5' | 1.87 | 0.55 |
| 29:D1:381:U:H3 | 29:D1:387:A:H61 | 1.55 | 0.55 |
| 29:D1:506:U:O2' | 29:D1:1166:G:H4' | 2.06 | 0.55 |
| 29:D1:650:C:H5' | 29:D1:2872:A:OP2 | 2.07 | 0.55 |
| 29:D1:704:U:C6 | 29:D1:704:U:C3' | 2.89 | 0.55 |
| 29:D1:722:G:C2 | 29:D1:748:U:O2 | 2.60 | 0.55 |
| 29:D1:763:G:H21 | 29:D1:767:U:C2' | 2.19 | 0.55 |
| 29:D1:797:U:H2' | 29:D1:798:G:C8 | 2.42 | 0.55 |
| 29:D1:863:C:H2' | 29:D1:864:G:H5' | 1.89 | 0.55 |
| 29:D1:1034:U:O2 | 29:D1:1034:U:O4' | 2.25 | 0.55 |
| 29:D1:1257:C:N3 | 29:D1:1258:U:C4 | 2.74 | 0.55 |
| 29:D1:1274:A:C2' | 29:D1:1275:C:H5" | 2.29 | 0.55 |
| 29:D1:1417:G:C8 | 29:D1:1417:G:O5' | 2.59 | 0.55 |
| 29:D1:1780:G:C2 | 29:D1:1781:C:C4 | 2.95 | 0.55 |
| 29:D1:1843:C:C2' | 29:D1:1844:C:H5' | 2.36 | 0.55 |
| 29:D1:2252:A:C4 | 29:D1:2253:G:C8 | 2.94 | 0.55 |
| 29:D1:2435:G:O2' | 29:D1:2436:U:OP2 | 2.24 | 0.55 |
| 29:D1:2896:A:H5' | 29:D1:2896:A:C8 | 2.42 | 0.55 |
| 29:D1:2961:G:C5 | 29:D1:2962:U:C5 | 2.94 | 0.55 |
| 29:D1:3104:U:C2 | 29:D1:3129:A:N7 | 2.75 | 0.55 |
| 29:D1:3121:U:O4' | 29:D1:3122:A:H5' | 2.06 | 0.55 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3166:C:OP2 | 29:D1:3166:C:H3' | 2.07 | 0.55 |
| 29:D1:3273:A:C6 | 29:D1:3274:A:C8 | 2.95 | 0.55 |
| 29:D1:3314:A:H5" | 34:DC:118:PHE:C | 2.32 | 0.55 |
| 29:D1:3381:U:C4 | 29:D1:3383:G:O6 | 2.60 | 0.55 |
| 30:D2:11:A:O4' | 30:D2:13:A:C2' | 2.53 | 0.55 |
| 30:D2:25:G:C2 | 30:D2:26:C:N4 | 2.74 | 0.55 |
| 30:D2:30:G:C6 | 30:D2:49:G:N1 | 2.75 | 0.55 |
| 30:D2:85:G:O6 | 30:D2:95:A:N1 | 2.40 | 0.55 |
| 43:DN:97:SER:O | 43:DN:100:ALA:N | 2.39 | 0.55 |
| 48:DS:5:ARG:O | 48:DS:8:LYS:N | 2.40 | 0.55 |
| 54:DY:137:LYS:O | 54:DY:140:ALA:CB | 2.55 | 0.55 |
| 55:DZ:32:LYS:O | 55:DZ:33:SER:C | 2.48 | 0.55 |
| 57:Db:78:ASN:O | 57:Db:80:LYS:N | 2.40 | 0.55 |
| 59:Dd:52:LYS:CA | 59:Dd:53:ALA:HB3 | 2.36 | 0.55 |
| 1:A1:26:A:OP1 | 1:A1:26:A:H3' | 2.07 | 0.54 |
| 1:A1:298:C:C5 | 1:A1:299:A:C8 | 2.95 | 0.54 |
| 1:A1:406:U:OP2 | 1:A1:406:U:H6 | 1.90 | 0.54 |
| 1:A1:472:U:H2' | 1:A1:473:A:O4' | 2.07 | 0.54 |
| 1:A1:623:A:H3' | 1:A1:623:A:OP2 | 2.07 | 0.54 |
| 1:A1:842:C:O2' | 1:A1:843:U:H5' | 2.07 | 0.54 |
| 1:A1:906:A:OP2 | 9:AH:50:ALA:C | 2.50 | 0.54 |
| 1:A1:1039:A:N7 | 1:A1:1091:A:C2 | 2.75 | 0.54 |
| 1:A1:1065:A:C2' | 1:A1:1066:C:C6 | 2.90 | 0.54 |
| 1:A1:1164:G:H2' | 1:A1:1165:G:C8 | 2.41 | 0.54 |
| 1:A1:1390:U:H2' | 1:A1:1391:A:OP2 | 2.06 | 0.54 |
| 1:A1:1398:U:C2' | 1:A1:1399:C:O5' | 2.55 | 0.54 |
| 1:A1:1583:A:C2 | 1:A1:1585:U:C4 | 2.95 | 0.54 |
| 2:AA:50:VAL:O | 2:AA:53:THR:N | 2.40 | 0.54 |
| 6:AE:82:ARG:C | 6:AE:84:GLY:N | 2.54 | 0.54 |
| 12:AK:27:ASP:C | 12:AK:29:GLN:H | 2.15 | 0.54 |
| 13:AL:76:PRO:C | 13:AL:78:HIS:H | 2.14 | 0.54 |
| 15:AN:75:GLY:O | 15:AN:76:SER:CB | 2.54 | 0.54 |
| 20:AS:46:LYS:O | 20:AS:48:ASN:N | 2.40 | 0.54 |
| 21:AT:138:GLY:O | 21:AT:139:GLN:C | 2.50 | 0.54 |
| 28:Ah:56:UNK:O | 29:B1:3352:U:C6 | 2.60 | 0.54 |
| 29:B1:41:G:N7 | 29:B1:42:C:C4 | 2.76 | 0.54 |
| 29:B1:71:A:N7 | 29:B1:72:C:C5 | 2.75 | 0.54 |
| 29:B1:73:C:OP2 | 29:B1:73:C:H3' | 2.07 | 0.54 |
| 29:B1:334:A:O2' | 29:B1:335:G:O5' | 2.22 | 0.54 |
| 29:B1:885:U:C2 | 29:B1:886:C:C5 | 2.96 | 0.54 |
| 29:B1:1011:A:H2' | 29:B1:1011:A:N3 | 2.21 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1061:A:C6 | 29:B1:1062:A:C6 | 2.95 | 0.54 |
| 29:B1:1075:A:H2 | 69:Bp:245:UNK:O | 1.89 | 0.54 |
| 29:B1:1135:A:C2' | 29:B1:1136:A:H5' | 2.37 | 0.54 |
| 29:B1:1180:A:N1 | 29:B1:1182:A:C5 | 2.75 | 0.54 |
| 29:B1:1390:A:N7 | 29:B1:1418:A:N7 | 2.55 | 0.54 |
| 29:B1:1461:A:H2' | 29:B1:1462:A:O4' | 2.07 | 0.54 |
| 29:B1:1464:G:H22 | 29:B1:1466:G:H3' | 1.69 | 0.54 |
| 29:B1:1713:G:C8 | 29:B1:1714:A:H2 | 2.25 | 0.54 |
| 29:B1:1757:A:C6 | 29:B1:1769:G:C6 | 2.95 | 0.54 |
| 29:B1:2257:C:H5' | 29:B1:2258:U:H5 | 1.72 | 0.54 |
| 29:B1:2370:G:N7 | 29:B1:2371:G:N7 | 2.55 | 0.54 |
| 29:B1:2576:G:C5 | 29:B1:2577:C:C5 | 2.95 | 0.54 |
| 29:B1:2588:U:C5' | 29:B1:2589:G:OP2 | 2.53 | 0.54 |
| 29:B1:2615:G:C6 | 29:B1:2616:C:N4 | 2.75 | 0.54 |
| 29:B1:2665:U:C2 | 29:B1:2706:G:C2 | 2.95 | 0.54 |
| 29:B1:2716:U:C5' | 29:B1:2717:U:OP2 | 2.55 | 0.54 |
| 29:B1:2749:G:N7 | 29:B1:2750:U:C5 | 2.75 | 0.54 |
| 29:B1:3074:G:C2' | 29:B1:3075:G:H5' | 2.38 | 0.54 |
| 29:B1:3121:U:C4' | 29:B1:3122:A:H5' | 2.37 | 0.54 |
| 29:B1:3310:A:C6 | 29:B1:3311:C:C6 | 2.95 | 0.54 |
| 29:B1:3317:U:H5 | 74:B1:3574:OHX:N3 | 2.03 | 0.54 |
| 29:B1:3368:U:H6 | 29:B1:3368:U:C5' | 2.19 | 0.54 |
| 30:B2:26:C:O2' | 30:B2:27:A:O5' | 2.25 | 0.54 |
| 30:B2:56:A:O2' | 42:BK:136:ALA:HB2 | 2.07 | 0.54 |
| 31:B3:2:A:N6 | 31:B3:3:A:N1 | 2.54 | 0.54 |
| 31:B3:37:A:H2 | 31:B3:106:C:H42 | 1.52 | 0.54 |
| 31:B3:70:G:H5' | 31:B3:71:A:N7 | 2.22 | 0.54 |
| 31:B3:81:U:C3' | 31:B3:82:U:C5' | 2.84 | 0.54 |
| 34:BC:132:LYS:C | 34:BC:134:SER:N | 2.65 | 0.54 |
| 35:BD:97:GLY:O | 35:BD:98:ARG:O | 2.26 | 0.54 |
| 46:BQ:98:ALA:O | 46:BQ:101:ASN:N | 2.40 | 0.54 |
| 46:BQ:120:ASN:O | 46:BQ:144:SER:O | 2.26 | 0.54 |
| 46:BQ:128:ARG:HA | 46:BQ:138:LYS:CA | 2.37 | 0.54 |
| 47:BR:36:LEU:O | 47:BR:37:ALA:HB3 | 2.07 | 0.54 |
| 56:Ba:14:ILE:H | 56:Ba:72:ARG:N | 1.97 | 0.54 |
| 62:Bg:60:CYS:CB | 74:Bg:101:OHX:N6 | 2.71 | 0.54 |
| 1:C1:89:G:C4 | 1:C1:90:C:C5 | 2.95 | 0.54 |
| 1:C1:264:G:H3' | 1:C1:265:A:C4' | 2.36 | 0.54 |
| 1:C1:452:A:N1 | 1:C1:454:U:C6 | 2.75 | 0.54 |
| 1:C1:601:A:H3' | 1:C1:602:U:H6 | 1.71 | 0.54 |
| 1:C1:691:C:O2' | 1:C1:692:C:P | 2.65 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:791:A:C4 | 1:C1:792:U:H5 | 2.25 | 0.54 |
| 1:C1:833:U:O2 | 1:C1:833:U:C2' | 2.55 | 0.54 |
| 1:C1:886:U:H3' | 1:C1:887:A:H8 | 1.71 | 0.54 |
| 1:C1:973:A:C2' | 29:D1:847:A:H2 | 2.19 | 0.54 |
| 1:C1:991:G:N2 | 1:C1:1014:G:C6 | 2.74 | 0.54 |
| 1:C1:1094:G:O2' | 1:C1:1095:U:C6 | 2.57 | 0.54 |
| 1:C1:1138:A:C2 | 1:C1:1139:A:C8 | 2.95 | 0.54 |
| 1:C1:1283:U:O2 | 1:C1:1283:U:H2' | 2.07 | 0.54 |
| 1:C1:1418:G:N7 | 74:C1:1902:OHX:N4 | 2.55 | 0.54 |
| 1:C1:1515:A:H2' | 1:C1:1516:A:H4' | 1.89 | 0.54 |
| 1:C1:1631:A:C5 | 1:C1:1632:C:C2 | 2.96 | 0.54 |
| 1:C1:1770:U:N3 | 1:C1:1793:G:N2 | 2.55 | 0.54 |
| 2:CA:91:ALA:C | 2:CA:93:THR:H | 2.15 | 0.54 |
| 14:CM:17:ALA:C | 14:CM:19:ALA:H | 2.15 | 0.54 |
| 21:CT:138:GLY:O | 21:CT:139:GLN:C | 2.50 | 0.54 |
| 29:D1:25:U:H2' | 29:D1:26:A:C8 | 2.42 | 0.54 |
| 29:D1:172:G:N2 | 29:D1:173:G:C5 | 2.75 | 0.54 |
| 29:D1:253:A:N6 | 29:D1:254:A:N6 | 2.55 | 0.54 |
| 29:D1:519:A:H62 | 37:DF:30:LEU:HA | 1.72 | 0.54 |
| 29:D1:576:C:O2' | 29:D1:577:C:OP1 | 2.25 | 0.54 |
| 29:D1:578:A:HO2' | 29:D1:579:G:P | 2.28 | 0.54 |
| 29:D1:743:C:H6 | 29:D1:743:C:H3' | 1.72 | 0.54 |
| 29:D1:1065:A:O3' | 29:D1:1066:G:C8 | 2.61 | 0.54 |
| 29:D1:1183:C:C2' | 29:D1:1184:A:H5" | 2.37 | 0.54 |
| 29:D1:1198:C:C2' | 29:D1:1200:A:H8 | 2.20 | 0.54 |
| 29:D1:1276:U:N3 | 29:D1:1277:C:C5 | 2.75 | 0.54 |
| 29:D1:1291:A:C2' | 29:D1:1292:C:O5' | 2.55 | 0.54 |
| 29:D1:1332:A:O5' | 29:D1:1332:A:C8 | 2.60 | 0.54 |
| 29:D1:1376:C:N3 | 29:D1:1377:G:N7 | 2.54 | 0.54 |
| 29:D1:1444:G:H2' | 29:D1:1445:U:C5' | 2.37 | 0.54 |
| 29:D1:1838:G:O4' | 29:D1:1839:A:C8 | 2.60 | 0.54 |
| 29:D1:1878:G:H3' | 29:D1:1879:A:C5' | 2.37 | 0.54 |
| 29:D1:2221:G:N2 | 29:D1:2225:U:N3 | 2.55 | 0.54 |
| 29:D1:2253:G:H3' | 29:D1:2254:U:H5 | 1.71 | 0.54 |
| 29:D1:2520:A:C2 | 29:D1:2521:U:C2 | 2.94 | 0.54 |
| 29:D1:2544:U:H2' | 29:D1:2545:C:H6 | 1.73 | 0.54 |
| 29:D1:2607:G:N1 | 29:D1:2608:G:C5 | 2.74 | 0.54 |
| 29:D1:2950:G:H22 | 29:D1:2979:U:H2' | 1.71 | 0.54 |
| 29:D1:3025:C:H2' | 29:D1:3026:G:H5' | 1.89 | 0.54 |
| 29:D1:3200:G:H2' | 29:D1:3201:C:C6 | 2.42 | 0.54 |
| 29:D1:3323:A:C2' | 29:D1:3324:C:O5' | 2.55 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3377:G:H2' | 74:D1:3452:OHX:N5 | 2.22 | 0.54 |
| 29:D1:3386:G:H8 | 29:D1:3386:G:H3' | 1.72 | 0.54 |
| 30:D2:94:C:O2' | 30:D2:95:A:H5' | 2.07 | 0.54 |
| 32:DA:157:PHE:CB | 32:DA:166:ALA:H | 2.20 | 0.54 |
| 34:DC:132:LYS:C | 34:DC:134:SER:N | 2.65 | 0.54 |
| 34:DC:153:LYS:CB | 34:DC:155:ALA:CB | 2.83 | 0.54 |
| 36:DE:77:ALA:O | 36:DE:78:ALA:HB2 | 2.07 | 0.54 |
| 36:DE:289:LYS:C | 36:DE:291:ALA:N | 2.63 | 0.54 |
| 37:DF:91:VAL:O | 37:DF:92:SER:O | 2.25 | 0.54 |
| 40:DI:20:ILE:HA | 40:DI:25:VAL:HA | 1.88 | 0.54 |
| 41:DJ:121:LYS:O | 41:DJ:122:PRO:C | 2.50 | 0.54 |
| 43:DN:86:ALA:HA | 43:DN:90:VAL:CB | 2.36 | 0.54 |
| 44:DO:49:ARG:HA | 44:DO:53:TYR:H | 1.73 | 0.54 |
| 45:DP:130:LYS:CA | 45:DP:131:PRO:CB | 2.85 | 0.54 |
| 46:DQ:5:GLY:N | 46:DQ:6:ALA:HA | 2.18 | 0.54 |
| 50:DU:17:LEU:CB | 50:DU:52:ALA:HB3 | 2.36 | 0.54 |
| 59:Dd:52:LYS:HA | 59:Dd:53:ALA:HB3 | 1.88 | 0.54 |
| 62:Dg:60:CYS:N | 74:Dg:101:OHX:N5 | 2.55 | 0.54 |
| 63:Dh:12:UNK:HA | 63:Dh:15:UNK:CB | 2.37 | 0.54 |
| 1:A1:15:U:C1' | 1:A1:619:A:C2 | 2.90 | 0.54 |
| 1:A1:47:A:C8 | 1:A1:425:A:C5 | 2.96 | 0.54 |
| 1:A1:98:U:H2' | 1:A1:99:C:C6 | 2.42 | 0.54 |
| 1:A1:181:A:C6 | 1:A1:182:A:N1 | 2.75 | 0.54 |
| 1:A1:287:G:C6 | 1:A1:288:A:C6 | 2.95 | 0.54 |
| 1:A1:331:A:H4' | 1:A1:1676:U:H6 | 1.71 | 0.54 |
| 1:A1:539:G:HO2' | 1:A1:542:A:H8 | 1.50 | 0.54 |
| 1:A1:567:A:N6 | 1:A1:568:G:C4 | 2.75 | 0.54 |
| 1:A1:815:G:H4' | 1:A1:816:G:OP2 | 2.08 | 0.54 |
| 1:A1:888:U:H3' | 1:A1:889:U:H6 | 1.72 | 0.54 |
| 1:A1:1259:U:C2' | 1:A1:1260:U:O5' | 2.55 | 0.54 |
| 1:A1:1310:U:C2' | 1:A1:1311:U:O5' | 2.55 | 0.54 |
| 1:A1:1318:G:O2' | 1:A1:1319:A:H5' | 2.06 | 0.54 |
| 1:A1:1336:A:H5" | 1:A1:1337:A:OP2 | 2.07 | 0.54 |
| 1:A1:1491:U:H3' | 1:A1:1492:A:C2' | 2.35 | 0.54 |
| 1:A1:1534:G:H4' | 1:A1:1536:G:O6 | 2.06 | 0.54 |
| 1:A1:1599:C:O2 | 1:A1:1600:A:C2 | 2.60 | 0.54 |
| 1:A1:1640:C:H6 | 1:A1:1640:C:O5' | 1.89 | 0.54 |
| 1:A1:1655:A:H2 | 29:B1:2291:A:N3 | 2.04 | 0.54 |
| 4:AC:66:ILE:O | 4:AC:67:ASN:C | 2.48 | 0.54 |
| 4:AC:117:ARG:O | 4:AC:118:ALA:C | 2.51 | 0.54 |
| 14:AM:63:ARG:C | 14:AM:65:ILE:H | 2.15 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 18:AQ:87:GLY:O | 18:AQ:88:ILE:CB | 2.55 | 0.54 |
| 24:Ac:33:UNK:C | 24:Ac:35:UNK:N | 2.67 | 0.54 |
| 29:B1:65:A:C3' | 29:B1:111:C:H41 | 2.18 | 0.54 |
| 29:B1:109:A:N6 | 29:B1:323:A:H1' | 2.22 | 0.54 |
| 29:B1:294:U:O2' | 29:B1:295:A:H5" | 2.06 | 0.54 |
| 29:B1:308:A:H2 | 29:B1:2782:U:N3 | 2.02 | 0.54 |
| 29:B1:531:G:N2 | 29:B1:561:C:C2 | 2.49 | 0.54 |
| 29:B1:549:U:O4 | 74:B1:3513:OHX:N5 | 2.40 | 0.54 |
| 29:B1:573:C:C2' | 29:B1:574:U:H5' | 2.37 | 0.54 |
| 29:B1:581:U:O2 | 29:B1:581:U:C2' | 2.55 | 0.54 |
| 29:B1:643:U:H3' | 29:B1:643:U:C6 | 2.42 | 0.54 |
| 29:B1:722:G:HO2' | 29:B1:723:U:P | 2.28 | 0.54 |
| 29:B1:736:A:C8 | 29:B1:737:G:C8 | 2.95 | 0.54 |
| 29:B1:882:A:C2' | 29:B1:883:A:H5" | 2.37 | 0.54 |
| 29:B1:992:A:N1 | 29:B1:993:G:C8 | 2.74 | 0.54 |
| 29:B1:1063:G:O2' | 29:B1:1064:A:C5' | 2.55 | 0.54 |
| 29:B1:1193:A:H8 | 29:B1:1194:G:C2 | 2.23 | 0.54 |
| 29:B1:1196:C:O2 | 30:B2:86:U:N1 | 2.41 | 0.54 |
| 29:B1:1324:U:C6 | 29:B1:1324:U:C4' | 2.90 | 0.54 |
| 29:B1:1595:U:O2' | 29:B1:1596:C:H5" | 2.07 | 0.54 |
| 29:B1:1912:U:N3 | 29:B1:1913:A:C2 | 2.76 | 0.54 |
| 29:B1:2157:G:N1 | 29:B1:2178:A:OP2 | 2.40 | 0.54 |
| 29:B1:2193:U:H5' | 29:B1:2312:A:H2 | 1.68 | 0.54 |
| 29:B1:2357:A:H2' | 29:B1:2358:A:C8 | 2.41 | 0.54 |
| 29:B1:2389:C:C2' | 29:B1:2390:A:O5' | 2.55 | 0.54 |
| 29:B1:2407:C:H1' | 29:B1:2818:U:C2 | 2.41 | 0.54 |
| 29:B1:2671:A:N6 | 29:B1:2672:G:O6 | 2.40 | 0.54 |
| 29:B1:2727:A:N1 | 29:B1:2728:G:O6 | 2.41 | 0.54 |
| 29:B1:3025:C:O2' | 29:B1:3026:G:H5' | 2.08 | 0.54 |
| 29:B1:3234:A:C2 | 29:B1:3235:C:C5 | 2.94 | 0.54 |
| 29:B1:3236:U:C4 | 29:B1:3237:U:O4 | 2.61 | 0.54 |
| 29:B1:3282:U:C2 | 29:B1:3283:U:C5 | 2.95 | 0.54 |
| 29:B1:3361:G:H2' | 29:B1:3362:A:C5' | 2.35 | 0.54 |
| 33:BB:182:ALA:C | 33:BB:185:ALA:H | 2.15 | 0.54 |
| 1:C1:22:A:N6 | 1:C1:604:A:N6 | 2.54 | 0.54 |
| 1:C1:71:A:H4' | 1:C1:72:A:OP2 | 2.06 | 0.54 |
| 1:C1:174:U:N3 | 1:C1:175:G:C5 | 2.76 | 0.54 |
| 1:C1:236:A:C2 | 1:C1:237:C:N3 | 2.74 | 0.54 |
| 1:C1:401:A:O2' | 1:C1:402:C:O2' | 2.24 | 0.54 |
| 1:C1:763:G:C6 | 1:C1:764:U:O4 | 2.60 | 0.54 |
| 1:C1:873:U:C4 | 1:C1:874:C:N4 | 2.75 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:977:A:C6 | 1:C1:1025:A:N3 | 2.76 | 0.54 |
| 1:C1:1025:A:N7 | 1:C1:1027:A:C4 | 2.75 | 0.54 |
| 1:C1:1608:U:C2 | 1:C1:1609:U:C5 | 2.95 | 0.54 |
| 6:CE:175:ARG:C | 6:CE:177:ALA:H | 2.15 | 0.54 |
| 8:CG:88:LEU:O | 8:CG:90:TYR:N | 2.40 | 0.54 |
| 13:CL:71:GLN:O | 13:CL:74:GLN:N | 2.36 | 0.54 |
| 20:CS:46:LYS:O | 20:CS:48:ASN:N | 2.40 | 0.54 |
| 21:CT:135:THR:O | 21:CT:137:LYS:N | 2.40 | 0.54 |
| 24:Cc:15:UNK:C | 24:Cc:17:UNK:N | 2.67 | 0.54 |
| 25:Cd:114:UNK:O | 25:Cd:117:UNK:N | 2.40 | 0.54 |
| 29:D1:35:A:C5 | 29:D1:36:C:C5 | 2.95 | 0.54 |
| 29:D1:106:A:H5” | 29:D1:684:G:O3’ | 2.05 | 0.54 |
| 29:D1:125:C:C2’ | 29:D1:126:U:H5’ | 2.37 | 0.54 |
| 29:D1:371:G:N7 | 29:D1:373:A:OP2 | 2.40 | 0.54 |
| 29:D1:755:A:C2 | 29:D1:778:U:C2 | 2.95 | 0.54 |
| 29:D1:907:G:C5 | 29:D1:926:A:C8 | 2.96 | 0.54 |
| 29:D1:1029:G:H8 | 29:D1:1029:G:O5’ | 1.90 | 0.54 |
| 29:D1:1049:C:C2 | 29:D1:1050:U:C5 | 2.94 | 0.54 |
| 29:D1:1083:G:H2’ | 29:D1:1084:A:O4’ | 2.08 | 0.54 |
| 29:D1:1194:G:C8 | 29:D1:1319:G:C5’ | 2.90 | 0.54 |
| 29:D1:1500:G:H2’ | 29:D1:1501:U:H6 | 1.71 | 0.54 |
| 29:D1:1501:U:O2’ | 29:D1:1502:C:C5’ | 2.54 | 0.54 |
| 29:D1:1524:A:C1’ | 29:D1:1525:G:OP1 | 2.55 | 0.54 |
| 29:D1:1838:G:C4’ | 29:D1:1839:A:C8 | 2.90 | 0.54 |
| 29:D1:2167:A:C2’ | 29:D1:2168:A:C8 | 2.87 | 0.54 |
| 29:D1:2240:G:H2’ | 29:D1:2241:U:O5’ | 2.06 | 0.54 |
| 29:D1:2337:C:H2’ | 29:D1:2338:C:H6 | 1.72 | 0.54 |
| 29:D1:2357:A:H2’ | 29:D1:2358:A:H8 | 1.73 | 0.54 |
| 29:D1:2619:G:P | 29:D1:2619:G:H8 | 2.30 | 0.54 |
| 29:D1:2690:G:O2’ | 29:D1:2691:A:P | 2.64 | 0.54 |
| 29:D1:3005:A:C2 | 29:D1:3140:G:N3 | 2.75 | 0.54 |
| 29:D1:3069:G:N1 | 29:D1:3070:A:N7 | 2.54 | 0.54 |
| 29:D1:3376:A:H3’ | 29:D1:3377:G:C5’ | 2.38 | 0.54 |
| 29:D1:3394:U:O2’ | 29:D1:3395:G:H8 | 1.90 | 0.54 |
| 30:D2:69:C:C2 | 30:D2:110:G:C2 | 2.96 | 0.54 |
| 31:D3:69:U:P | 31:D3:70:G:OP2 | 2.65 | 0.54 |
| 31:D3:89:A:N3 | 31:D3:89:A:H3’ | 2.22 | 0.54 |
| 31:D3:132:G:C2 | 31:D3:133:G:C5 | 2.95 | 0.54 |
| 32:DA:6:SER:C | 32:DA:8:GLN:H | 2.15 | 0.54 |
| 34:DC:193:ASP:O | 34:DC:195:ALA:N | 2.39 | 0.54 |
| 39:DH:108:ARG:O | 39:DH:110:THR:N | 2.40 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 42:DK:84:LEU:O | 42:DK:85:LYS:O | 2.25 | 0.54 |
| 47:DR:158:HIS:O | 47:DR:159:LYS:CB | 2.55 | 0.54 |
| 51:DV:41:LYS:C | 51:DV:43:ARG:N | 2.59 | 0.54 |
| 54:DY:138:ILE:C | 54:DY:143:GLY:HA3 | 2.32 | 0.54 |
| 55:DZ:24:THR:O | 55:DZ:25:LEU:O | 2.25 | 0.54 |
| 1:A1:10:G:C2 | 1:A1:11:A:C4 | 2.95 | 0.54 |
| 1:A1:63:G:C5 | 1:A1:64:U:C6 | 2.95 | 0.54 |
| 1:A1:118:U:O2 | 1:A1:299:A:C2 | 2.61 | 0.54 |
| 1:A1:224:C:N4 | 1:A1:838:G:N1 | 2.55 | 0.54 |
| 1:A1:236:A:C2 | 1:A1:237:C:N3 | 2.76 | 0.54 |
| 1:A1:313:U:H5 | 1:A1:1118:G:N1 | 2.04 | 0.54 |
| 1:A1:407:A:C4' | 1:A1:1672:G:H4' | 2.38 | 0.54 |
| 1:A1:434:G:N2 | 1:A1:437:A:H2 | 2.05 | 0.54 |
| 1:A1:615:A:C6 | 1:A1:1107:G:C6 | 2.95 | 0.54 |
| 1:A1:765:G:H4' | 1:A1:766:U:OP1 | 2.02 | 0.54 |
| 1:A1:906:A:OP2 | 9:AH:49:LYS:O | 2.26 | 0.54 |
| 1:A1:1002:G:C2 | 1:A1:1003:A:N1 | 2.75 | 0.54 |
| 1:A1:1110:G:O2' | 1:A1:1111:G:C5' | 2.56 | 0.54 |
| 1:A1:1345:A:C8 | 1:A1:1346:A:N7 | 2.76 | 0.54 |
| 1:A1:1421:A:H5" | 4:AC:159:HIS:O | 2.08 | 0.54 |
| 1:A1:1516:A:H8 | 15:AN:16:GLN:CB | 2.20 | 0.54 |
| 1:A1:1783:C:C2 | 1:A1:1784:C:C5 | 2.95 | 0.54 |
| 2:AA:67:ILE:C | 2:AA:69:ASN:H | 2.15 | 0.54 |
| 4:AC:162:GLN:O | 4:AC:165:ASN:C | 2.50 | 0.54 |
| 5:AD:112:ARG:O | 5:AD:113:ILE:C | 2.50 | 0.54 |
| 29:B1:342:A:C5 | 29:B1:349:A:N7 | 2.76 | 0.54 |
| 29:B1:397:A:C6 | 29:B1:400:G:C6 | 2.95 | 0.54 |
| 29:B1:415:G:H2' | 29:B1:416:A:C8 | 2.33 | 0.54 |
| 29:B1:503:C:O2' | 29:B1:504:A:H5' | 2.08 | 0.54 |
| 29:B1:549:U:O4 | 74:B1:3513:OHX:N2 | 2.40 | 0.54 |
| 29:B1:571:U:H2' | 29:B1:571:U:O2 | 2.06 | 0.54 |
| 29:B1:681:U:O2' | 29:B1:682:U:P | 2.65 | 0.54 |
| 29:B1:712:G:H2' | 29:B1:713:U:O4' | 2.06 | 0.54 |
| 29:B1:943:U:O4' | 29:B1:1432:C:C6 | 2.61 | 0.54 |
| 29:B1:994:G:C2' | 29:B1:1053:A:H61 | 2.20 | 0.54 |
| 29:B1:994:G:HO2' | 29:B1:1053:A:H61 | 1.55 | 0.54 |
| 29:B1:1317:A:C5 | 29:B1:1319:G:C5 | 2.95 | 0.54 |
| 29:B1:1337:A:C6 | 29:B1:1338:C:C5 | 2.95 | 0.54 |
| 29:B1:1357:G:C2' | 29:B1:1358:C:H6 | 2.20 | 0.54 |
| 29:B1:1448:U:O4 | 29:B1:2355:G:C4 | 2.60 | 0.54 |
| 29:B1:1523:U:H5' | 52:BW:113:LEU:CB | 2.37 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1550:C:H2' | 29:B1:1551:C:H5' | 1.90 | 0.54 |
| 29:B1:1902:G:N3 | 29:B1:1903:U:H1' | 2.22 | 0.54 |
| 29:B1:2269:U:C5 | 29:B1:2272:G:O6 | 2.60 | 0.54 |
| 29:B1:2829:U:C2' | 29:B1:2830:G:H5' | 2.36 | 0.54 |
| 29:B1:2838:A:N1 | 29:B1:2851:A:C8 | 2.75 | 0.54 |
| 29:B1:2872:A:H1' | 29:B1:2873:U:H5' | 1.90 | 0.54 |
| 29:B1:2997:G:N2 | 29:B1:2998:U:H4' | 2.22 | 0.54 |
| 29:B1:3049:A:N3 | 34:BC:75:ALA:CB | 2.69 | 0.54 |
| 29:B1:3184:A:H2' | 29:B1:3187:A:O2' | 2.07 | 0.54 |
| 29:B1:3283:U:C2' | 29:B1:3284:G:O4' | 2.54 | 0.54 |
| 29:B1:3350:C:H2' | 29:B1:3351:U:H3 | 1.71 | 0.54 |
| 29:B1:3377:G:O5' | 74:B1:3450:OHX:N6 | 2.40 | 0.54 |
| 30:B2:46:A:H3' | 30:B2:46:A:C4 | 2.40 | 0.54 |
| 30:B2:56:A:H5" | 30:B2:56:A:C8 | 2.39 | 0.54 |
| 30:B2:69:C:O2 | 30:B2:110:G:C2 | 2.60 | 0.54 |
| 31:B3:106:C:O4' | 31:B3:138:A:H8 | 1.89 | 0.54 |
| 34:BC:105:VAL:C | 34:BC:107:ALA:N | 2.62 | 0.54 |
| 36:BE:179:ARG:O | 36:BE:180:PHE:C | 2.47 | 0.54 |
| 40:BI:2:LYS:HA | 40:BI:60:GLY:O | 2.08 | 0.54 |
| 42:BK:27:GLY:HA2 | 42:BK:29:ARG:N | 2.15 | 0.54 |
| 55:BZ:32:LYS:O | 55:BZ:33:SER:C | 2.50 | 0.54 |
| 1:C1:23:G:H2' | 1:C1:24:U:C6 | 2.42 | 0.54 |
| 1:C1:103:A:H4' | 1:C1:104:A:O5' | 2.08 | 0.54 |
| 1:C1:365:G:C5 | 1:C1:377:G:N1 | 2.75 | 0.54 |
| 1:C1:722:G:C4 | 1:C1:723:G:N7 | 2.76 | 0.54 |
| 1:C1:901:G:H5' | 1:C1:902:G:N7 | 2.22 | 0.54 |
| 1:C1:977:A:C2' | 1:C1:978:A:H5' | 2.35 | 0.54 |
| 1:C1:1431:C:H5' | 1:C1:1432:U:H5' | 1.90 | 0.54 |
| 1:C1:1535:U:O2' | 1:C1:1536:G:N2 | 2.39 | 0.54 |
| 1:C1:1540:G:OP2 | 1:C1:1541:G:OP2 | 2.24 | 0.54 |
| 1:C1:1559:A:O2' | 1:C1:1560:U:C6 | 2.60 | 0.54 |
| 1:C1:1600:A:H2' | 1:C1:1602:C:H41 | 1.72 | 0.54 |
| 1:C1:1644:C:C6 | 1:C1:1644:C:OP2 | 2.60 | 0.54 |
| 4:CC:94:ARG:O | 4:CC:95:GLY:C | 2.50 | 0.54 |
| 6:CE:42:ILE:O | 6:CE:45:ILE:CB | 2.54 | 0.54 |
| 9:CH:64:ALA:HA | 9:CH:68:ALA:HB3 | 1.89 | 0.54 |
| 28:Ch:13:UNK:C | 28:Ch:15:UNK:N | 2.66 | 0.54 |
| 29:D1:350:C:N3 | 29:D1:367:A:H2' | 2.23 | 0.54 |
| 29:D1:359:U:O2 | 29:D1:920:A:N6 | 2.40 | 0.54 |
| 29:D1:382:U:H3' | 29:D1:383:G:H4' | 1.89 | 0.54 |
| 29:D1:779:G:C8 | 29:D1:779:G:C3' | 2.90 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1018:G:C4 | 29:D1:1019:G:N7 | 2.75 | 0.54 |
| 29:D1:1224:C:O5' | 29:D1:1224:C:C6 | 2.58 | 0.54 |
| 29:D1:1352:A:C8 | 29:D1:1353:U:O4' | 2.61 | 0.54 |
| 29:D1:1360:C:O2 | 29:D1:1360:C:C2' | 2.54 | 0.54 |
| 29:D1:1513:G:N1 | 29:D1:1515:A:H1' | 2.22 | 0.54 |
| 29:D1:1604:G:C6 | 29:D1:1605:A:C5 | 2.95 | 0.54 |
| 29:D1:1723:A:C5' | 29:D1:1724:U:OP2 | 2.55 | 0.54 |
| 29:D1:2119:A:C5 | 29:D1:2120:A:H2 | 2.26 | 0.54 |
| 29:D1:2233:A:OP2 | 74:D1:3473:OHX:N1 | 2.41 | 0.54 |
| 29:D1:2235:C:C4 | 29:D1:2236:G:C6 | 2.95 | 0.54 |
| 29:D1:2686:A:O5' | 29:D1:2686:A:H8 | 1.90 | 0.54 |
| 29:D1:2773:C:O2' | 29:D1:2774:C:H5' | 2.06 | 0.54 |
| 29:D1:2876:C:C2' | 29:D1:2877:G:H5' | 2.37 | 0.54 |
| 29:D1:2980:U:H2' | 29:D1:2981:U:H5' | 1.89 | 0.54 |
| 29:D1:3049:A:N3 | 34:DC:75:ALA:CB | 2.70 | 0.54 |
| 29:D1:3102:G:HO2' | 29:D1:3103:A:P | 2.30 | 0.54 |
| 29:D1:3172:A:C1' | 29:D1:3173:G:C8 | 2.83 | 0.54 |
| 29:D1:3299:A:O5' | 29:D1:3299:A:H2' | 2.07 | 0.54 |
| 29:D1:3333:G:N2 | 29:D1:3371:G:H8 | 2.02 | 0.54 |
| 29:D1:3333:G:H22 | 29:D1:3370:A:C3' | 2.20 | 0.54 |
| 30:D2:14:U:C2' | 30:D2:15:C:O4' | 2.56 | 0.54 |
| 30:D2:46:A:H2' | 30:D2:47:C:C6 | 2.42 | 0.54 |
| 30:D2:64:A:C1' | 30:D2:65:G:C5' | 2.84 | 0.54 |
| 36:DE:118:THR:C | 36:DE:120:LYS:N | 2.65 | 0.54 |
| 45:DP:58:LEU:O | 45:DP:59:ARG:CB | 2.56 | 0.54 |
| 53:DX:59:VAL:H | 53:DX:104:LEU:HA | 1.71 | 0.54 |
| 58:Dc:52:ALA:O | 58:Dc:53:CYS:C | 2.51 | 0.54 |
| 1:A1:39:A:C4 | 1:A1:467:G:N2 | 2.75 | 0.54 |
| 1:A1:40:A:H2' | 1:A1:41:A:O4' | 2.06 | 0.54 |
| 1:A1:47:A:O5' | 1:A1:48:G:H5" | 2.07 | 0.54 |
| 1:A1:201:G:O2' | 1:A1:202:A:H5' | 2.07 | 0.54 |
| 1:A1:239:C:H1' | 1:A1:240:U:C5 | 2.42 | 0.54 |
| 1:A1:256:A:H5" | 1:A1:257:A:OP2 | 2.07 | 0.54 |
| 1:A1:374:U:N3 | 1:A1:375:U:C5 | 2.75 | 0.54 |
| 1:A1:477:A:C5 | 1:A1:539:G:O6 | 2.60 | 0.54 |
| 1:A1:575:C:N4 | 1:A1:576:G:C6 | 2.76 | 0.54 |
| 1:A1:790:U:O2 | 1:A1:790:U:H2' | 2.08 | 0.54 |
| 1:A1:1005:A:N7 | 1:A1:1006:C:C5 | 2.75 | 0.54 |
| 1:A1:1359:C:H3' | 1:A1:1360:A:C8 | 2.43 | 0.54 |
| 1:A1:1456:C:C5' | 1:A1:1457:C:H5" | 2.36 | 0.54 |
| 1:A1:1497:U:O4 | 1:A1:1511:U:C2 | 2.60 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1571:C:H3' | 1:A1:1572:G:C5' | 2.38 | 0.54 |
| 1:A1:1583:A:HO2' | 1:A1:1584:G:H5' | 1.71 | 0.54 |
| 1:A1:1653:C:C4 | 1:A1:1654:G:C6 | 2.95 | 0.54 |
| 1:A1:1722:A:H5' | 1:A1:1723:U:H5 | 1.71 | 0.54 |
| 1:A1:1760:G:C5 | 1:A1:1761:U:C5 | 2.91 | 0.54 |
| 1:A1:1760:G:C6 | 1:A1:1761:U:C5 | 2.96 | 0.54 |
| 3:AB:89:GLN:HA | 3:AB:94:GLN:HA | 1.88 | 0.54 |
| 3:AB:152:HIS:C | 3:AB:154:LEU:H | 2.15 | 0.54 |
| 11:AJ:14:LYS:O | 11:AJ:15:SER:CB | 2.55 | 0.54 |
| 13:AL:46:VAL:C | 13:AL:48:LYS:H | 2.14 | 0.54 |
| 29:B1:197:G:H2' | 29:B1:198:A:H8 | 1.72 | 0.54 |
| 29:B1:288:C:H2' | 29:B1:289:A:H8 | 1.68 | 0.54 |
| 29:B1:342:A:C4' | 29:B1:344:A:N7 | 2.64 | 0.54 |
| 29:B1:400:G:H5" | 29:B1:403:C:H1' | 1.90 | 0.54 |
| 29:B1:412:G:C4 | 31:B3:12:A:C2 | 2.95 | 0.54 |
| 29:B1:583:G:C6 | 29:B1:584:G:C5 | 2.94 | 0.54 |
| 29:B1:592:A:C2' | 29:B1:593:C:C1' | 2.80 | 0.54 |
| 29:B1:641:C:H5" | 74:B1:3492:OHX:N1 | 2.22 | 0.54 |
| 29:B1:945:C:C1' | 29:B1:1407:A:H1' | 2.36 | 0.54 |
| 29:B1:1008:U:C2 | 29:B1:1043:C:C2 | 2.94 | 0.54 |
| 29:B1:1033:U:H2' | 29:B1:1034:U:O2 | 2.07 | 0.54 |
| 29:B1:1036:A:H2' | 29:B1:1037:C:C6 | 2.42 | 0.54 |
| 29:B1:1051:U:C5' | 29:B1:1052:U:OP2 | 2.55 | 0.54 |
| 29:B1:1158:A:H3' | 29:B1:1159:A:H5" | 1.89 | 0.54 |
| 29:B1:1207:G:H5' | 29:B1:1207:G:H8 | 1.72 | 0.54 |
| 29:B1:1231:A:N6 | 29:B1:1276:U:H5 | 1.99 | 0.54 |
| 29:B1:1393:A:N3 | 29:B1:1393:A:H2' | 2.22 | 0.54 |
| 29:B1:1445:U:C4 | 29:B1:1446:A:C5 | 2.96 | 0.54 |
| 29:B1:1448:U:C5 | 29:B1:2355:G:N3 | 2.75 | 0.54 |
| 29:B1:1456:A:C2 | 29:B1:1476:G:N3 | 2.74 | 0.54 |
| 29:B1:1658:G:C6 | 29:B1:1659:U:C4 | 2.95 | 0.54 |
| 29:B1:1689:U:C2 | 29:B1:1690:C:C6 | 2.96 | 0.54 |
| 29:B1:1845:G:C2' | 29:B1:1846:C:OP1 | 2.56 | 0.54 |
| 29:B1:1909:A:O2' | 29:B1:1910:A:H5' | 2.07 | 0.54 |
| 29:B1:2255:A:N1 | 74:B1:3438:OHX:N2 | 2.56 | 0.54 |
| 29:B1:2275:A:H3' | 29:B1:2276:G:O4' | 2.06 | 0.54 |
| 29:B1:2290:C:C2 | 29:B1:2291:A:C8 | 2.95 | 0.54 |
| 29:B1:2422:C:C2' | 29:B1:2423:U:O5' | 2.54 | 0.54 |
| 29:B1:2622:C:H2' | 29:B1:2623:G:O4' | 2.07 | 0.54 |
| 29:B1:2727:A:P | 49:BT:81:GLY:O | 2.66 | 0.54 |
| 29:B1:2762:A:H3' | 29:B1:2763:U:H5 | 1.72 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2861:U:C2 | 29:B1:2862:U:C6 | 2.96 | 0.54 |
| 29:B1:2904:U:H3' | 29:B1:2904:U:C2 | 2.41 | 0.54 |
| 29:B1:3074:G:H2' | 29:B1:3075:G:H8 | 1.72 | 0.54 |
| 29:B1:3168:A:O2' | 29:B1:3169:U:O4' | 2.24 | 0.54 |
| 29:B1:3170:A:N6 | 29:B1:3279:A:N6 | 2.56 | 0.54 |
| 29:B1:3342:A:H2' | 29:B1:3343:G:N3 | 2.22 | 0.54 |
| 30:B2:104:A:C5 | 30:B2:105:C:C5 | 2.96 | 0.54 |
| 32:BA:155:ILE:HA | 32:BA:156:LYS:C | 2.32 | 0.54 |
| 36:BE:125:VAL:O | 36:BE:246:ALA:HB2 | 2.06 | 0.54 |
| 39:BH:178:ALA:O | 39:BH:180:VAL:N | 2.40 | 0.54 |
| 41:BJ:35:ASP:O | 41:BJ:36:LEU:C | 2.50 | 0.54 |
| 44:BO:20:ARG:O | 44:BO:22:LEU:N | 2.40 | 0.54 |
| 49:BT:35:LYS:C | 49:BT:37:GLY:H | 2.14 | 0.54 |
| 54:BY:68:PHE:O | 54:BY:69:TRP:CB | 2.55 | 0.54 |
| 55:BZ:10:ILE:C | 55:BZ:12:GLN:H | 2.15 | 0.54 |
| 56:Ba:16:LEU:O | 56:Ba:18:LYS:N | 2.41 | 0.54 |
| 1:C1:10:G:C6 | 1:C1:11:A:C5 | 2.95 | 0.54 |
| 1:C1:61:A:C4' | 1:C1:62:A:H3' | 2.38 | 0.54 |
| 1:C1:148:A:C8 | 1:C1:149:C:C5 | 2.95 | 0.54 |
| 1:C1:177:U:H3' | 1:C1:178:U:C5' | 2.34 | 0.54 |
| 1:C1:280:U:H5' | 1:C1:281:G:OP2 | 2.08 | 0.54 |
| 1:C1:427:C:C6 | 1:C1:427:C:H5' | 2.39 | 0.54 |
| 1:C1:445:A:N3 | 1:C1:446:A:C8 | 2.76 | 0.54 |
| 1:C1:521:A:H3' | 1:C1:523:G:C8 | 2.42 | 0.54 |
| 1:C1:559:C:H2' | 1:C1:560:U:C6 | 2.43 | 0.54 |
| 1:C1:607:G:N7 | 1:C1:613:G:C5 | 2.76 | 0.54 |
| 1:C1:659:C:H4' | 1:C1:660:G:O5' | 2.08 | 0.54 |
| 1:C1:737:A:H2' | 1:C1:738:G:C8 | 2.42 | 0.54 |
| 1:C1:774:A:C2 | 1:C1:775:G:N9 | 2.76 | 0.54 |
| 1:C1:814:A:C5 | 1:C1:816:G:C2 | 2.96 | 0.54 |
| 1:C1:863:A:H2' | 1:C1:865:A:H8 | 1.72 | 0.54 |
| 1:C1:986:G:O2' | 1:C1:987:G:H2' | 2.07 | 0.54 |
| 1:C1:989:U:C4 | 1:C1:990:C:C4 | 2.95 | 0.54 |
| 1:C1:1124:A:C6 | 1:C1:1125:A:N1 | 2.76 | 0.54 |
| 1:C1:1124:A:C2' | 1:C1:1125:A:H5' | 2.37 | 0.54 |
| 1:C1:1138:A:N1 | 1:C1:1139:A:C5 | 2.75 | 0.54 |
| 1:C1:1365:C:C4 | 1:C1:1366:U:C6 | 2.96 | 0.54 |
| 1:C1:1383:G:H2' | 1:C1:1384:A:O5' | 2.07 | 0.54 |
| 1:C1:1458:G:H3' | 1:C1:1459:C:C5 | 2.42 | 0.54 |
| 1:C1:1517:U:O2 | 15:CN:16:GLN:C | 2.51 | 0.54 |
| 1:C1:1569:A:N3 | 1:C1:1570:A:C8 | 2.75 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1575:G:C2 | 1:C1:1576:A:C4 | 2.95 | 0.54 |
| 1:C1:1682:U:C2 | 1:C1:1683:C:N4 | 2.76 | 0.54 |
| 1:C1:1760:G:C2 | 1:C1:1761:U:C5 | 2.95 | 0.54 |
| 8:CG:137:PRO:O | 8:CG:141:TYR:N | 2.40 | 0.54 |
| 21:CT:84:SER:C | 21:CT:86:ASP:H | 2.14 | 0.54 |
| 23:Cb:5:UNK:O | 23:Cb:6:UNK:CB | 2.55 | 0.54 |
| 29:D1:9:U:C4 | 29:D1:10:C:H5 | 2.26 | 0.54 |
| 29:D1:22:G:H2' | 29:D1:23:A:H8 | 1.72 | 0.54 |
| 29:D1:198:A:O4' | 29:D1:218:G:C2 | 2.61 | 0.54 |
| 29:D1:339:C:H2' | 29:D1:340:C:C5' | 2.37 | 0.54 |
| 29:D1:349:A:C2 | 31:D3:24:G:C8 | 2.95 | 0.54 |
| 29:D1:562:C:C2' | 29:D1:563:U:H6 | 2.09 | 0.54 |
| 29:D1:569:A:C6 | 29:D1:570:A:N7 | 2.76 | 0.54 |
| 29:D1:726:G:H2' | 29:D1:727:G:O4' | 2.08 | 0.54 |
| 29:D1:880:G:H2' | 29:D1:882:A:OP2 | 2.07 | 0.54 |
| 29:D1:954:U:H4' | 29:D1:954:U:OP1 | 2.06 | 0.54 |
| 29:D1:1139:G:C6 | 29:D1:1140:G:N7 | 2.76 | 0.54 |
| 29:D1:1224:C:OP1 | 29:D1:1224:C:O4' | 2.26 | 0.54 |
| 29:D1:1697:A:H2' | 29:D1:1698:C:C5' | 2.28 | 0.54 |
| 29:D1:1783:U:H2' | 29:D1:1784:G:C8 | 2.43 | 0.54 |
| 29:D1:2133:U:H2' | 29:D1:2134:G:O4' | 2.07 | 0.54 |
| 29:D1:2140:U:O2' | 29:D1:2978:U:H5' | 2.07 | 0.54 |
| 29:D1:2299:A:H8 | 29:D1:2299:A:C5' | 2.20 | 0.54 |
| 29:D1:2376:G:O6 | 29:D1:2377:G:O6 | 2.25 | 0.54 |
| 29:D1:2520:A:H5" | 29:D1:2521:U:OP1 | 2.07 | 0.54 |
| 29:D1:2576:G:C6 | 29:D1:2577:C:C4 | 2.95 | 0.54 |
| 29:D1:2617:U:C5 | 29:D1:2620:G:OP1 | 2.61 | 0.54 |
| 29:D1:2639:G:C6 | 29:D1:2640:A:C5 | 2.96 | 0.54 |
| 29:D1:2797:C:C3' | 29:D1:2798:C:H5' | 2.30 | 0.54 |
| 29:D1:2861:U:C2 | 29:D1:2862:U:C6 | 2.96 | 0.54 |
| 29:D1:3006:A:C8 | 29:D1:3007:U:C2 | 2.95 | 0.54 |
| 29:D1:3184:A:H5" | 29:D1:3184:A:C8 | 2.33 | 0.54 |
| 29:D1:3235:C:N4 | 29:D1:3236:U:C4 | 2.76 | 0.54 |
| 29:D1:3277:U:C6 | 29:D1:3277:U:C3' | 2.90 | 0.54 |
| 29:D1:3330:A:C2' | 29:D1:3331:U:O5' | 2.56 | 0.54 |
| 29:D1:3373:U:N3 | 29:D1:3374:U:C5 | 2.75 | 0.54 |
| 31:D3:81:U:C6 | 31:D3:82:U:H5" | 2.43 | 0.54 |
| 31:D3:138:A:H2' | 31:D3:138:A:N3 | 2.21 | 0.54 |
| 31:D3:141:C:H2' | 31:D3:142:C:C6 | 2.37 | 0.54 |
| 34:DC:128:LYS:CB | 34:DC:129:ALA:HA | 2.38 | 0.54 |
| 50:DU:121:GLU:C | 50:DU:123:ALA:N | 2.59 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 53:DX:78:PHE:O | 53:DX:79:ALA:HB2 | 2.06 | 0.54 |
| 59:Dd:19:CYS:CB | 74:Dd:101:OHX:N1 | 2.71 | 0.54 |
| 1:A1:47:A:N1 | 1:A1:100:A:C5 | 2.76 | 0.54 |
| 1:A1:295:A:H4' | 1:A1:296:U:OP1 | 2.06 | 0.54 |
| 1:A1:379:U:N3 | 1:A1:380:U:H5 | 2.06 | 0.54 |
| 1:A1:545:A:C5 | 1:A1:594:A:N7 | 2.75 | 0.54 |
| 1:A1:551:G:N3 | 1:A1:552:G:C8 | 2.75 | 0.54 |
| 1:A1:571:G:H2' | 1:A1:571:G:N3 | 2.21 | 0.54 |
| 1:A1:588:U:H2' | 1:A1:589:C:C6 | 2.41 | 0.54 |
| 1:A1:636:A:N1 | 1:A1:860:U:O4 | 2.40 | 0.54 |
| 1:A1:653:C:C2 | 1:A1:662:U:H1' | 2.43 | 0.54 |
| 1:A1:700:C:H2' | 1:A1:700:C:O2 | 2.08 | 0.54 |
| 1:A1:871:G:O6 | 1:A1:957:G:O6 | 2.26 | 0.54 |
| 1:A1:891:A:C6 | 1:A1:922:G:C6 | 2.95 | 0.54 |
| 1:A1:959:U:H4' | 1:A1:960:U:OP2 | 2.05 | 0.54 |
| 1:A1:1138:A:C2 | 1:A1:1139:A:C8 | 2.95 | 0.54 |
| 1:A1:1250:U:C2 | 1:A1:1251:U:N3 | 2.76 | 0.54 |
| 1:A1:1283:U:H5" | 1:A1:1284:C:H2' | 1.89 | 0.54 |
| 1:A1:1327:C:O3' | 4:AC:158:ILE:CB | 2.56 | 0.54 |
| 1:A1:1355:C:O2' | 1:A1:1356:U:H5' | 2.07 | 0.54 |
| 1:A1:1383:G:C2' | 1:A1:1384:A:O5' | 2.56 | 0.54 |
| 1:A1:1419:G:H2' | 1:A1:1420:C:O5' | 2.07 | 0.54 |
| 1:A1:1566:U:H2' | 1:A1:1567:U:C5' | 2.38 | 0.54 |
| 1:A1:1613:U:N3 | 1:A1:1614:A:H8 | 2.02 | 0.54 |
| 2:AA:67:ILE:O | 2:AA:69:ASN:N | 2.40 | 0.54 |
| 13:AL:96:LYS:CB | 13:AL:97:ASP:CA | 2.84 | 0.54 |
| 20:AS:47:ALA:O | 20:AS:48:ASN:CB | 2.55 | 0.54 |
| 23:Ab:25:UNK:O | 23:Ab:27:UNK:N | 2.40 | 0.54 |
| 23:Ab:107:UNK:O | 23:Ab:108:UNK:C | 2.55 | 0.54 |
| 29:B1:339:C:N4 | 29:B1:340:C:H41 | 2.06 | 0.54 |
| 29:B1:523:A:C4 | 29:B1:524:U:C6 | 2.95 | 0.54 |
| 29:B1:642:U:C5 | 29:B1:644:G:P | 3.01 | 0.54 |
| 29:B1:848:A:C2 | 29:B1:849:C:H1' | 2.43 | 0.54 |
| 29:B1:951:A:N3 | 29:B1:1369:A:C2 | 2.76 | 0.54 |
| 29:B1:992:A:C3' | 29:B1:993:G:H5" | 2.38 | 0.54 |
| 29:B1:1062:A:O2' | 29:B1:1063:G:P | 2.65 | 0.54 |
| 29:B1:1291:A:H2' | 29:B1:1292:C:O5' | 2.06 | 0.54 |
| 29:B1:1440:G:C4 | 29:B1:1441:G:C8 | 2.96 | 0.54 |
| 29:B1:1557:A:C4 | 29:B1:1558:A:H1' | 2.43 | 0.54 |
| 29:B1:1716:U:O2 | 29:B1:1716:U:C2' | 2.54 | 0.54 |
| 29:B1:1724:U:HO2' | 29:B1:1725:C:C4' | 2.20 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1760:A:C6 | 29:B1:1766:G:C6 | 2.96 | 0.54 |
| 29:B1:1852:G:H5" | 29:B1:1853:U:OP2 | 2.08 | 0.54 |
| 29:B1:1943:C:H4' | 29:B1:3344:A:H5' | 1.89 | 0.54 |
| 29:B1:2173:U:C2' | 29:B1:2174:G:C8 | 2.86 | 0.54 |
| 29:B1:2261:G:N2 | 29:B1:2263:C:N3 | 2.56 | 0.54 |
| 29:B1:2295:A:H62 | 29:B1:2296:A:N6 | 2.05 | 0.54 |
| 29:B1:2370:G:C4 | 29:B1:2371:G:N7 | 2.75 | 0.54 |
| 29:B1:2656:A:C8 | 29:B1:2658:G:C8 | 2.96 | 0.54 |
| 29:B1:2862:U:C2' | 29:B1:2863:G:H5' | 2.36 | 0.54 |
| 29:B1:3172:A:C1' | 29:B1:3173:G:N7 | 2.64 | 0.54 |
| 29:B1:3210:A:C2' | 29:B1:3211:C:C6 | 2.90 | 0.54 |
| 29:B1:3277:U:H3' | 29:B1:3277:U:H6 | 1.73 | 0.54 |
| 29:B1:3351:U:OP2 | 29:B1:3351:U:C2 | 2.61 | 0.54 |
| 31:B3:12:A:C5 | 31:B3:13:A:C8 | 2.96 | 0.54 |
| 31:B3:17:A:C4 | 31:B3:18:U:C6 | 2.95 | 0.54 |
| 31:B3:70:G:H5' | 31:B3:71:A:H8 | 1.69 | 0.54 |
| 34:BC:272:TYR:O | 34:BC:273:HIS:C | 2.50 | 0.54 |
| 36:BE:184:ASP:O | 36:BE:185:PHE:CB | 2.55 | 0.54 |
| 46:BQ:52:LEU:O | 46:BQ:53:ASP:C | 2.51 | 0.54 |
| 57:Bb:34:LYS:O | 57:Bb:35:GLN:C | 2.51 | 0.54 |
| 63:Bh:8:UNK:O | 63:Bh:12:UNK:N | 2.40 | 0.54 |
| 67:Bm:8:UNK:C | 67:Bm:10:UNK:N | 2.69 | 0.54 |
| 1:C1:10:G:H5' | 1:C1:1633:A:C3' | 2.34 | 0.54 |
| 1:C1:43:A:H4' | 1:C1:99:C:OP1 | 2.08 | 0.54 |
| 1:C1:50:C:C4 | 1:C1:424:C:C6 | 2.96 | 0.54 |
| 1:C1:57:G:C4 | 1:C1:91:G:N2 | 2.76 | 0.54 |
| 1:C1:90:C:O2' | 1:C1:451:A:H5' | 2.08 | 0.54 |
| 1:C1:328:A:C6 | 1:C1:341:A:C6 | 2.96 | 0.54 |
| 1:C1:354:C:C2' | 1:C1:355:G:H5' | 2.38 | 0.54 |
| 1:C1:551:G:H2' | 1:C1:551:G:N3 | 2.22 | 0.54 |
| 1:C1:555:A:OP2 | 1:C1:555:A:C3' | 2.52 | 0.54 |
| 1:C1:757:A:C2 | 1:C1:758:U:C6 | 2.96 | 0.54 |
| 1:C1:838:G:C6 | 1:C1:839:U:C4 | 2.96 | 0.54 |
| 1:C1:1149:G:N2 | 1:C1:1151:A:C6 | 2.76 | 0.54 |
| 1:C1:1199:G:N1 | 1:C1:1201:G:OP1 | 2.40 | 0.54 |
| 1:C1:1260:U:OP1 | 1:C1:1444:A:N1 | 2.40 | 0.54 |
| 1:C1:1348:A:O5' | 1:C1:1348:A:C8 | 2.47 | 0.54 |
| 1:C1:1543:A:C2 | 1:C1:1544:U:H1' | 2.43 | 0.54 |
| 1:C1:1761:U:C2' | 1:C1:1762:A:OP2 | 2.56 | 0.54 |
| 1:C1:1786:G:H2' | 1:C1:1787:C:C5 | 2.43 | 0.54 |
| 6:CE:82:ARG:C | 6:CE:84:GLY:N | 2.53 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 15:CN:101:LYS:O | 15:CN:103:ILE:N | 2.40 | 0.54 |
| 28:Ch:23:UNK:O | 28:Ch:25:UNK:N | 2.41 | 0.54 |
| 29:D1:37:U:C2 | 29:D1:38:U:C5 | 2.96 | 0.54 |
| 29:D1:60:A:N7 | 29:D1:61:A:C8 | 2.75 | 0.54 |
| 29:D1:206:G:C5 | 29:D1:207:U:C5 | 2.94 | 0.54 |
| 29:D1:323:A:N7 | 29:D1:324:A:N7 | 2.55 | 0.54 |
| 29:D1:325:A:C3' | 29:D1:327:A:OP1 | 2.51 | 0.54 |
| 29:D1:360:G:C5 | 29:D1:361:A:N6 | 2.71 | 0.54 |
| 29:D1:421:G:N2 | 29:D1:2365:C:C2 | 2.75 | 0.54 |
| 29:D1:543:C:H2' | 29:D1:544:C:H5' | 1.89 | 0.54 |
| 29:D1:543:C:H3' | 29:D1:544:C:H5' | 1.90 | 0.54 |
| 29:D1:743:C:C5 | 29:D1:744:A:C8 | 2.96 | 0.54 |
| 29:D1:776:U:H3' | 29:D1:777:U:H5" | 1.88 | 0.54 |
| 29:D1:808:A:C5 | 29:D1:809:G:N7 | 2.76 | 0.54 |
| 29:D1:958:C:H4' | 29:D1:2799:A:O2' | 2.06 | 0.54 |
| 29:D1:1211:U:N3 | 29:D1:1295:G:C6 | 2.76 | 0.54 |
| 29:D1:1302:A:C4 | 29:D1:2887:A:C6 | 2.95 | 0.54 |
| 29:D1:1379:G:H5" | 29:D1:1380:G:OP2 | 2.07 | 0.54 |
| 29:D1:1412:G:H2' | 29:D1:1413:G:H8 | 1.72 | 0.54 |
| 29:D1:1627:U:C5 | 29:D1:1628:C:C4 | 2.91 | 0.54 |
| 29:D1:1638:A:N1 | 29:D1:1736:G:H2' | 2.23 | 0.54 |
| 29:D1:1728:G:O2' | 55:DZ:86:ARG:C | 2.50 | 0.54 |
| 29:D1:1747:G:C5 | 29:D1:1748:G:C8 | 2.96 | 0.54 |
| 29:D1:1908:A:H2' | 29:D1:1909:A:O4' | 2.08 | 0.54 |
| 29:D1:1946:A:H3' | 29:D1:1947:G:H8 | 1.71 | 0.54 |
| 29:D1:2341:A:H2' | 29:D1:2342:U:H6 | 1.72 | 0.54 |
| 29:D1:2430:A:O2' | 29:D1:2431:C:H5' | 2.07 | 0.54 |
| 29:D1:2556:C:C4 | 29:D1:2557:A:C2 | 2.95 | 0.54 |
| 29:D1:2595:A:C8 | 29:D1:2596:U:C5 | 2.95 | 0.54 |
| 29:D1:2988:C:O2 | 29:D1:2988:C:H2' | 2.06 | 0.54 |
| 29:D1:3086:A:C5 | 29:D1:3087:A:C5 | 2.95 | 0.54 |
| 29:D1:3099:C:N4 | 29:D1:3135:U:H3 | 2.06 | 0.54 |
| 29:D1:3133:C:H2' | 29:D1:3134:A:O5' | 2.08 | 0.54 |
| 29:D1:3153:U:O5' | 29:D1:3153:U:H6 | 1.90 | 0.54 |
| 29:D1:3175:U:OP1 | 29:D1:3278:C:H1' | 2.07 | 0.54 |
| 29:D1:3189:G:C2 | 29:D1:3190:C:C6 | 2.95 | 0.54 |
| 29:D1:3197:G:OP2 | 29:D1:3198:U:C5 | 2.61 | 0.54 |
| 29:D1:3238:G:O6 | 29:D1:3250:U:C4 | 2.60 | 0.54 |
| 31:D3:61:A:H2' | 31:D3:62:C:OP2 | 2.07 | 0.54 |
| 31:D3:65:A:O2' | 31:D3:66:A:H5' | 2.07 | 0.54 |
| 34:DC:106:TRP:O | 34:DC:107:ALA:C | 2.50 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:DC:191:LYS:O | 34:DC:192:VAL:C | 2.48 | 0.54 |
| 38:DG:148:VAL:O | 38:DG:152:GLY:HA3 | 2.07 | 0.54 |
| 73:DM:33:VAL:O | 73:DM:34:SER:C | 2.50 | 0.54 |
| 45:DP:139:GLY:O | 45:DP:142:SER:N | 2.39 | 0.54 |
| 55:DZ:76:GLU:C | 55:DZ:78:GLY:H | 2.14 | 0.54 |
| 57:Db:44:ARG:O | 57:Db:45:ARG:CB | 2.56 | 0.54 |
| 57:Db:49:ASN:O | 57:Db:50:ILE:O | 2.25 | 0.54 |
| 1:A1:361:C:N4 | 1:A1:384:G:C6 | 2.72 | 0.54 |
| 1:A1:451:A:C2 | 1:A1:454:U:O4 | 2.60 | 0.54 |
| 1:A1:478:A:N1 | 1:A1:479:C:C4 | 2.75 | 0.54 |
| 1:A1:827:C:C2' | 1:A1:828:U:C2 | 2.79 | 0.54 |
| 1:A1:1249:U:H2' | 1:A1:1250:U:H5' | 1.89 | 0.54 |
| 1:A1:1429:G:C5 | 1:A1:1430:U:C5 | 2.95 | 0.54 |
| 1:A1:1485:C:H42 | 1:A1:1592:A:H4' | 1.73 | 0.54 |
| 1:A1:1631:A:C5' | 1:A1:1764:C:H1' | 2.38 | 0.54 |
| 4:AC:47:GLU:HA | 4:AC:85:VAL:O | 2.08 | 0.54 |
| 8:AG:129:TYR:C | 8:AG:132:VAL:H | 2.13 | 0.54 |
| 16:AO:37:PHE:C | 16:AO:39:GLN:N | 2.62 | 0.54 |
| 29:B1:29:C:C6 | 29:B1:29:C:C3' | 2.90 | 0.54 |
| 29:B1:185:C:H2' | 29:B1:186:U:H6 | 1.72 | 0.54 |
| 29:B1:337:G:C6 | 29:B1:339:C:N4 | 2.76 | 0.54 |
| 29:B1:521:A:C8 | 29:B1:571:U:O4 | 2.61 | 0.54 |
| 29:B1:595:G:C2 | 29:B1:596:C:C5 | 2.95 | 0.54 |
| 29:B1:656:A:H3' | 29:B1:657:A:H8 | 1.73 | 0.54 |
| 29:B1:813:G:N7 | 74:B1:3506:OHX:N5 | 2.55 | 0.54 |
| 29:B1:889:U:H2' | 29:B1:890:C:O4' | 2.07 | 0.54 |
| 29:B1:987:U:H2' | 29:B1:988:U:C5 | 2.42 | 0.54 |
| 29:B1:1113:G:C6 | 29:B1:1114:U:N3 | 2.75 | 0.54 |
| 29:B1:1117:G:H2' | 29:B1:1118:C:C6 | 2.43 | 0.54 |
| 29:B1:1182:A:N3 | 29:B1:1182:A:H2' | 2.22 | 0.54 |
| 29:B1:1209:G:N7 | 29:B1:1210:U:C4 | 2.75 | 0.54 |
| 29:B1:1731:A:C6 | 29:B1:1732:U:N3 | 2.76 | 0.54 |
| 29:B1:1798:A:C2 | 29:B1:1799:A:C5 | 2.96 | 0.54 |
| 29:B1:2221:G:N2 | 29:B1:2225:U:C2 | 2.75 | 0.54 |
| 29:B1:2265:C:N4 | 29:B1:2266:U:C4 | 2.75 | 0.54 |
| 29:B1:2375:G:C5 | 29:B1:2378:C:C5 | 2.96 | 0.54 |
| 29:B1:2522:G:H1' | 29:B1:2523:A:OP2 | 2.07 | 0.54 |
| 29:B1:2609:A:C4 | 29:B1:2610:G:N7 | 2.76 | 0.54 |
| 29:B1:2682:C:N4 | 29:B1:2683:U:O4 | 2.40 | 0.54 |
| 29:B1:2921:U:H3' | 29:B1:2923:U:OP2 | 2.08 | 0.54 |
| 29:B1:2937:G:C2' | 29:B1:2938:G:H5' | 2.38 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3037:U:O2' | 29:B1:3038:U:C5' | 2.53 | 0.54 |
| 29:B1:3082:C:O2' | 29:B1:3083:G:H5' | 2.08 | 0.54 |
| 29:B1:3144:G:N7 | 74:B1:3428:OHX:N2 | 2.55 | 0.54 |
| 29:B1:3197:G:OP2 | 29:B1:3198:U:C5 | 2.60 | 0.54 |
| 29:B1:3262:U:H6 | 29:B1:3262:U:P | 2.31 | 0.54 |
| 29:B1:3334:U:O2 | 29:B1:3335:A:C4 | 2.61 | 0.54 |
| 30:B2:13:A:N3 | 30:B2:13:A:O4' | 2.35 | 0.54 |
| 31:B3:29:U:C2 | 31:B3:30:C:H5 | 2.25 | 0.54 |
| 35:BD:84:ARG:C | 35:BD:86:GLY:H | 2.14 | 0.54 |
| 36:BE:227:LEU:HA | 36:BE:229:ASP:N | 2.22 | 0.54 |
| 40:BI:73:SER:O | 40:BI:74:LEU:C | 2.50 | 0.54 |
| 46:BQ:104:ALA:O | 46:BQ:106:GLY:N | 2.40 | 0.54 |
| 48:BS:66:HIS:C | 48:BS:68:GLN:N | 2.66 | 0.54 |
| 55:BZ:83:LYS:O | 55:BZ:84:LEU:CB | 2.55 | 0.54 |
| 59:Bd:65:ARG:C | 59:Bd:67:LEU:N | 2.66 | 0.54 |
| 1:C1:169:A:N7 | 1:C1:171:A:C6 | 2.74 | 0.54 |
| 1:C1:198:A:C2 | 1:C1:199:G:N3 | 2.76 | 0.54 |
| 1:C1:218:A:N1 | 1:C1:843:U:O2' | 2.41 | 0.54 |
| 1:C1:449:C:H2' | 1:C1:449:C:O2 | 2.08 | 0.54 |
| 1:C1:640:U:H3' | 1:C1:641:G:C8 | 2.42 | 0.54 |
| 1:C1:1105:C:H2' | 1:C1:1106:U:C6 | 2.43 | 0.54 |
| 1:C1:1119:G:C4 | 1:C1:1120:U:C5 | 2.96 | 0.54 |
| 1:C1:1149:G:N2 | 1:C1:1150:G:N7 | 2.56 | 0.54 |
| 1:C1:1172:G:C5 | 1:C1:1173:C:C4 | 2.96 | 0.54 |
| 1:C1:1232:U:O2 | 1:C1:1233:G:C8 | 2.60 | 0.54 |
| 1:C1:1323:C:H2' | 1:C1:1324:G:H1' | 1.88 | 0.54 |
| 1:C1:1348:A:C2 | 1:C1:1379:C:C6 | 2.95 | 0.54 |
| 1:C1:1374:C:C3' | 1:C1:1375:A:C8 | 2.89 | 0.54 |
| 1:C1:1377:U:O2 | 1:C1:1378:U:C1' | 2.56 | 0.54 |
| 1:C1:1404:C:H2' | 1:C1:1405:G:H8 | 1.71 | 0.54 |
| 1:C1:1489:U:C5 | 1:C1:1513:G:N1 | 2.72 | 0.54 |
| 1:C1:1550:A:H2' | 1:C1:1551:U:H6 | 1.73 | 0.54 |
| 1:C1:1576:A:H2' | 1:C1:1577:A:O4' | 2.08 | 0.54 |
| 1:C1:1654:G:C6 | 1:C1:1745:G:C6 | 2.96 | 0.54 |
| 1:C1:1671:A:N9 | 1:C1:1731:A:N1 | 2.55 | 0.54 |
| 1:C1:1758:U:C4 | 1:C1:1759:C:N4 | 2.76 | 0.54 |
| 1:C1:1772:C:H2' | 1:C1:1772:C:O2 | 2.07 | 0.54 |
| 3:CB:118:ALA:CB | 3:CB:124:ALA:HB2 | 2.37 | 0.54 |
| 4:CC:74:GLN:O | 4:CC:75:LYS:C | 2.50 | 0.54 |
| 5:CD:117:THR:HA | 5:CD:191:ALA:HB1 | 1.90 | 0.54 |
| 11:CJ:108:ALA:C | 11:CJ:110:THR:H | 2.16 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:CL:16:ARG:HA | 13:CL:22:VAL:HA | 1.89 | 0.54 |
| 17:CP:95:PHE:O | 17:CP:96:VAL:C | 2.51 | 0.54 |
| 18:CQ:80:LEU:C | 18:CQ:82:HIS:H | 2.16 | 0.54 |
| 28:Ch:13:UNK:O | 28:Ch:16:UNK:N | 2.40 | 0.54 |
| 29:D1:62:A:C6 | 29:D1:63:A:C5 | 2.96 | 0.54 |
| 29:D1:76:G:H8 | 29:D1:76:G:OP2 | 1.90 | 0.54 |
| 29:D1:77:A:C2 | 29:D1:78:U:C1' | 2.91 | 0.54 |
| 29:D1:186:U:O2 | 29:D1:186:U:C2' | 2.55 | 0.54 |
| 29:D1:258:G:C8 | 29:D1:258:G:OP2 | 2.60 | 0.54 |
| 29:D1:282:G:P | 29:D1:282:G:C3' | 2.95 | 0.54 |
| 29:D1:311:C:O2 | 29:D1:2779:A:C2 | 2.60 | 0.54 |
| 29:D1:362:U:C2 | 29:D1:363:G:C8 | 2.96 | 0.54 |
| 29:D1:381:U:H1' | 29:D1:388:G:N2 | 2.23 | 0.54 |
| 29:D1:722:G:O2' | 29:D1:723:U:OP2 | 2.23 | 0.54 |
| 29:D1:776:U:C3' | 29:D1:777:U:H5" | 2.37 | 0.54 |
| 29:D1:858:A:H4' | 29:D1:858:A:OP2 | 2.07 | 0.54 |
| 29:D1:882:A:C2' | 29:D1:883:A:H5" | 2.36 | 0.54 |
| 29:D1:883:A:C5 | 29:D1:921:A:C6 | 2.95 | 0.54 |
| 29:D1:889:U:H2' | 29:D1:890:C:O4' | 2.07 | 0.54 |
| 29:D1:952:A:H1' | 29:D1:1114:U:H1' | 1.90 | 0.54 |
| 29:D1:1001:G:H8 | 29:D1:1041:U:O3' | 1.90 | 0.54 |
| 29:D1:1159:A:O2' | 29:D1:1160:C:OP2 | 2.19 | 0.54 |
| 29:D1:1440:G:N3 | 29:D1:1441:G:C8 | 2.75 | 0.54 |
| 29:D1:1455:U:OP1 | 29:D1:3078:U:N3 | 2.40 | 0.54 |
| 29:D1:1697:A:C8 | 29:D1:1698:C:C5 | 2.96 | 0.54 |
| 29:D1:1844:C:N3 | 29:D1:1845:G:C8 | 2.76 | 0.54 |
| 29:D1:1875:G:C6 | 29:D1:1876:U:C5 | 2.96 | 0.54 |
| 29:D1:2439:A:N6 | 29:D1:2440:G:C6 | 2.75 | 0.54 |
| 29:D1:2896:A:H8 | 29:D1:2896:A:H5' | 1.73 | 0.54 |
| 29:D1:2968:G:C2' | 29:D1:2969:A:O5' | 2.56 | 0.54 |
| 29:D1:3010:U:O2' | 29:D1:3011:A:C5' | 2.55 | 0.54 |
| 29:D1:3214:U:O2' | 29:D1:3218:A:OP2 | 2.26 | 0.54 |
| 30:D2:75:G:OP2 | 30:D2:76:A:H3' | 2.07 | 0.54 |
| 30:D2:79:A:O2' | 30:D2:80:G:H5' | 2.08 | 0.54 |
| 44:DO:143:ARG:C | 44:DO:146:ALA:HB2 | 2.33 | 0.54 |
| 47:DR:99:THR:O | 47:DR:119:GLY:HA3 | 2.08 | 0.54 |
| 47:DR:150:VAL:CB | 47:DR:151:ARG:CA | 2.86 | 0.54 |
| 1:A1:11:A:N1 | 1:A1:1143:A:N1 | 2.55 | 0.54 |
| 1:A1:22:A:N6 | 1:A1:604:A:N6 | 2.55 | 0.54 |
| 1:A1:157:A:C2' | 1:A1:158:U:H5' | 2.38 | 0.54 |
| 1:A1:173:A:H3' | 1:A1:174:U:C5' | 2.29 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:417:A:H4' | 1:A1:418:G:O4' | 2.08 | 0.54 |
| 1:A1:483:A:P | 1:A1:483:A:H8 | 2.30 | 0.54 |
| 1:A1:1164:G:C2 | 1:A1:1165:G:C4 | 2.95 | 0.54 |
| 1:A1:1283:U:H5" | 1:A1:1284:C:O5' | 2.06 | 0.54 |
| 1:A1:1335:U:C2 | 1:A1:1336:A:N7 | 2.76 | 0.54 |
| 1:A1:1348:A:H5" | 15:AN:11:GLU:CA | 2.37 | 0.54 |
| 1:A1:1631:A:H5" | 74:A1:1990:OHX:N6 | 2.22 | 0.54 |
| 1:A1:1632:C:C2 | 1:A1:1633:A:C8 | 2.96 | 0.54 |
| 5:AD:136:ALA:C | 5:AD:138:THR:H | 2.15 | 0.54 |
| 29:B1:25:U:C2 | 29:B1:26:A:C8 | 2.95 | 0.54 |
| 29:B1:80:G:O2' | 29:B1:81:C:H5' | 2.07 | 0.54 |
| 29:B1:107:A:N1 | 29:B1:108:A:C2 | 2.76 | 0.54 |
| 29:B1:148:G:H2' | 29:B1:148:G:N3 | 2.22 | 0.54 |
| 29:B1:258:G:N3 | 29:B1:259:C:C6 | 2.75 | 0.54 |
| 29:B1:305:U:O2 | 29:B1:305:U:C2' | 2.55 | 0.54 |
| 29:B1:534:U:O2 | 29:B1:559:A:H2 | 1.90 | 0.54 |
| 29:B1:577:C:O2 | 37:BF:149:ILE:O | 2.26 | 0.54 |
| 29:B1:597:G:H2' | 29:B1:598:A:O4' | 2.07 | 0.54 |
| 29:B1:799:G:O6 | 74:B1:3496:OHX:N5 | 2.40 | 0.54 |
| 29:B1:865:U:C5 | 29:B1:866:A:N7 | 2.76 | 0.54 |
| 29:B1:869:G:H2' | 29:B1:870:G:C8 | 2.42 | 0.54 |
| 29:B1:943:U:N1 | 29:B1:1432:C:H5 | 2.05 | 0.54 |
| 29:B1:974:G:C6 | 29:B1:975:C:N4 | 2.75 | 0.54 |
| 29:B1:998:A:O2' | 29:B1:999:G:H5' | 2.07 | 0.54 |
| 29:B1:1035:G:C5 | 29:B1:1036:A:N7 | 2.76 | 0.54 |
| 29:B1:1037:C:O2' | 29:B1:1038:C:O4' | 2.25 | 0.54 |
| 29:B1:1247:U:H5' | 29:B1:1248:C:H5 | 1.73 | 0.54 |
| 29:B1:1393:A:N7 | 29:B1:1418:A:N7 | 2.54 | 0.54 |
| 29:B1:1501:U:O2' | 29:B1:1502:C:C5' | 2.55 | 0.54 |
| 29:B1:1596:C:H2' | 29:B1:1597:C:C5 | 2.42 | 0.54 |
| 29:B1:1626:U:C3' | 29:B1:1627:U:O4' | 2.54 | 0.54 |
| 29:B1:1791:C:N3 | 29:B1:1792:C:N4 | 2.55 | 0.54 |
| 29:B1:1921:A:O2' | 29:B1:1922:A:H5' | 2.06 | 0.54 |
| 29:B1:2193:U:C5' | 29:B1:2312:A:N1 | 2.71 | 0.54 |
| 29:B1:2247:G:C6 | 29:B1:2248:C:C4 | 2.95 | 0.54 |
| 29:B1:2313:A:C4 | 29:B1:2315:G:N7 | 2.76 | 0.54 |
| 29:B1:2326:A:C2 | 29:B1:2327:U:C6 | 2.96 | 0.54 |
| 29:B1:2617:U:C5 | 29:B1:2620:G:OP1 | 2.61 | 0.54 |
| 29:B1:2634:U:O2 | 29:B1:2645:G:C6 | 2.60 | 0.54 |
| 29:B1:2649:A:C2 | 29:B1:2650:U:C6 | 2.96 | 0.54 |
| 29:B1:2931:C:O2 | 29:B1:2935:U:C5 | 2.61 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3009:G:H2' | 29:B1:3010:U:H5' | 1.90 | 0.54 |
| 30:B2:13:A:C2 | 30:B2:13:A:OP2 | 2.59 | 0.54 |
| 30:B2:68:C:O2' | 30:B2:69:C:C4' | 2.55 | 0.54 |
| 35:BD:103:THR:O | 35:BD:104:LYS:CB | 2.56 | 0.54 |
| 38:BG:47:ARG:O | 38:BG:49:ALA:C | 2.51 | 0.54 |
| 41:BJ:99:ILE:O | 41:BJ:120:GLY:HA2 | 2.08 | 0.54 |
| 52:BW:94:GLN:O | 52:BW:97:LYS:N | 2.40 | 0.54 |
| 1:C1:61:A:H4' | 1:C1:62:A:C3' | 2.38 | 0.54 |
| 1:C1:321:C:H2' | 1:C1:322:G:H8 | 1.72 | 0.54 |
| 1:C1:388:G:C2 | 1:C1:389:G:C8 | 2.96 | 0.54 |
| 1:C1:604:A:N1 | 1:C1:605:A:C2 | 2.76 | 0.54 |
| 1:C1:752:A:H2' | 1:C1:753:A:C8 | 2.43 | 0.54 |
| 1:C1:863:A:C8 | 1:C1:865:A:C8 | 2.95 | 0.54 |
| 1:C1:1056:U:H3' | 1:C1:1057:U:C5 | 2.42 | 0.54 |
| 1:C1:1118:G:N1 | 1:C1:1119:G:C5 | 2.76 | 0.54 |
| 1:C1:1274:C:P | 1:C1:1428:G:OP1 | 2.66 | 0.54 |
| 1:C1:1458:G:C2 | 1:C1:1459:C:N4 | 2.76 | 0.54 |
| 1:C1:1467:C:H5' | 1:C1:1602:C:P | 2.48 | 0.54 |
| 1:C1:1477:G:C2' | 1:C1:1478:G:C5' | 2.85 | 0.54 |
| 1:C1:1784:C:C2 | 1:C1:1785:U:C6 | 2.96 | 0.54 |
| 1:C1:1794:A:C6 | 1:C1:1796:C:N4 | 2.75 | 0.54 |
| 2:CA:42:PRO:O | 2:CA:44:GLY:N | 2.40 | 0.54 |
| 3:CB:126:ARG:C | 3:CB:128:GLY:N | 2.65 | 0.54 |
| 8:CG:81:ALA:O | 8:CG:82:PRO:CB | 2.56 | 0.54 |
| 11:CJ:89:LEU:O | 11:CJ:91:ALA:N | 2.40 | 0.54 |
| 16:CO:78:ARG:O | 16:CO:79:PHE:CB | 2.56 | 0.54 |
| 29:D1:23:A:OP1 | 59:Dd:43:LYS:HA | 2.08 | 0.54 |
| 29:D1:107:A:N1 | 29:D1:108:A:C2 | 2.75 | 0.54 |
| 29:D1:200:C:H41 | 29:D1:217:U:H2' | 1.73 | 0.54 |
| 29:D1:258:G:HO2' | 29:D1:259:C:C5' | 2.21 | 0.54 |
| 29:D1:510:G:C2' | 29:D1:511:G:O5' | 2.56 | 0.54 |
| 29:D1:548:G:H8 | 29:D1:548:G:OP2 | 1.91 | 0.54 |
| 29:D1:584:G:C2 | 29:D1:585:A:C8 | 2.95 | 0.54 |
| 29:D1:668:G:H2' | 29:D1:669:U:H6 | 1.72 | 0.54 |
| 29:D1:726:G:C2 | 29:D1:727:G:O6 | 2.61 | 0.54 |
| 29:D1:760:G:N2 | 29:D1:761:A:C8 | 2.76 | 0.54 |
| 29:D1:825:U:H2' | 29:D1:826:G:H5" | 1.89 | 0.54 |
| 29:D1:829:U:H3 | 29:D1:895:A:H62 | 1.50 | 0.54 |
| 29:D1:907:G:OP1 | 29:D1:909:G:H1' | 2.08 | 0.54 |
| 29:D1:1196:C:O2 | 30:D2:86:U:C6 | 2.60 | 0.54 |
| 29:D1:1269:U:C4 | 29:D1:1271:A:N7 | 2.75 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1514:G:O6 | 29:D1:1841:A:C8 | 2.60 | 0.54 |
| 29:D1:1528:G:C5 | 29:D1:1529:A:N7 | 2.76 | 0.54 |
| 29:D1:1651:U:C2' | 29:D1:1652:G:H5' | 2.37 | 0.54 |
| 29:D1:2280:A:HO2' | 29:D1:2281:A:H3' | 1.73 | 0.54 |
| 29:D1:2285:C:H5 | 29:D1:2286:U:C4 | 2.25 | 0.54 |
| 29:D1:2286:U:C4 | 29:D1:2288:G:C1' | 2.89 | 0.54 |
| 29:D1:2326:A:C2 | 29:D1:2327:U:C6 | 2.96 | 0.54 |
| 29:D1:2386:A:C8 | 29:D1:2387:A:C8 | 2.95 | 0.54 |
| 29:D1:2424:A:OP2 | 29:D1:2424:A:H8 | 1.91 | 0.54 |
| 29:D1:2643:A:N6 | 29:D1:2645:G:H1' | 2.22 | 0.54 |
| 29:D1:2674:A:N3 | 29:D1:2674:A:H2' | 2.22 | 0.54 |
| 29:D1:2677:G:C2' | 29:D1:2678:A:O5' | 2.56 | 0.54 |
| 29:D1:2908:G:H2' | 29:D1:2909:U:O5' | 2.08 | 0.54 |
| 29:D1:3261:C:C5' | 29:D1:3262:U:OP1 | 2.55 | 0.54 |
| 29:D1:3322:A:O2' | 29:D1:3323:A:H5' | 2.08 | 0.54 |
| 30:D2:7:G:O6 | 30:D2:114:U:O4 | 2.24 | 0.54 |
| 30:D2:51:A:H2' | 30:D2:51:A:N3 | 2.22 | 0.54 |
| 30:D2:95:A:C4 | 30:D2:96:U:C5 | 2.96 | 0.54 |
| 31:D3:67:U:C2' | 31:D3:68:G:C8 | 2.90 | 0.54 |
| 31:D3:131:A:C2 | 31:D3:132:G:C8 | 2.96 | 0.54 |
| 34:DC:133:TYR:O | 34:DC:135:ALA:N | 2.41 | 0.54 |
| 34:DC:174:LYS:O | 34:DC:175:LYS:CB | 2.56 | 0.54 |
| 34:DC:208:VAL:O | 34:DC:209:PHE:CB | 2.56 | 0.54 |
| 37:DF:9:TRP:O | 37:DF:10:TYR:CB | 2.55 | 0.54 |
| 38:DG:49:ALA:O | 38:DG:50:ALA:C | 2.51 | 0.54 |
| 38:DG:203:TRP:O | 38:DG:204:PRO:CB | 2.56 | 0.54 |
| 40:DI:69:ARG:O | 40:DI:70:THR:C | 2.50 | 0.54 |
| 72:DL:46:ILE:HA | 72:DL:49:ALA:CB | 2.38 | 0.54 |
| 43:DN:82:SER:O | 43:DN:83:LYS:C | 2.49 | 0.54 |
| 46:DQ:11:PRO:O | 46:DQ:12:ALA:CB | 2.55 | 0.54 |
| 46:DQ:141:SER:O | 46:DQ:143:PRO:N | 2.41 | 0.54 |
| 61:Df:38:GLN:O | 61:Df:39:GLY:C | 2.51 | 0.54 |
| 1:A1:129:U:C5 | 74:A1:1915:OHX:N3 | 2.76 | 0.54 |
| 1:A1:166:C:C3' | 1:A1:167:U:H5" | 2.38 | 0.54 |
| 1:A1:542:A:C2 | 1:A1:544:A:H3' | 2.42 | 0.54 |
| 1:A1:720:G:P | 1:A1:720:G:H8 | 2.31 | 0.54 |
| 1:A1:1035:G:N2 | 1:A1:1101:G:C4 | 2.76 | 0.54 |
| 1:A1:1046:G:C4 | 1:A1:1073:G:N2 | 2.75 | 0.54 |
| 1:A1:1225:U:H2' | 1:A1:1226:A:O4' | 2.08 | 0.54 |
| 1:A1:1333:C:H2' | 1:A1:1334:U:H6 | 1.70 | 0.54 |
| 1:A1:1564:U:H2' | 1:A1:1565:C:H6 | 1.67 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1623:C:N3 | 1:A1:1624:C:C5 | 2.75 | 0.54 |
| 1:A1:1734:U:C4 | 1:A1:1735:U:O4 | 2.61 | 0.54 |
| 2:AA:48:ILE:O | 2:AA:50:VAL:N | 2.40 | 0.54 |
| 3:AB:132:ALA:O | 3:AB:133:LYS:O | 2.25 | 0.54 |
| 4:AC:11:LEU:O | 4:AC:14:ASP:N | 2.40 | 0.54 |
| 8:AG:129:TYR:C | 8:AG:131:THR:N | 2.61 | 0.54 |
| 11:AJ:40:GLU:O | 11:AJ:42:GLU:N | 2.39 | 0.54 |
| 26:Ae:10:UNK:O | 26:Ae:11:UNK:C | 2.54 | 0.54 |
| 29:B1:385:A:N3 | 29:B1:386:A:C8 | 2.76 | 0.54 |
| 29:B1:524:U:O4 | 29:B1:569:A:N1 | 2.41 | 0.54 |
| 29:B1:535:G:C8 | 29:B1:536:U:O4 | 2.61 | 0.54 |
| 29:B1:592:A:C8 | 29:B1:593:C:O4' | 2.61 | 0.54 |
| 29:B1:762:U:H5 | 74:B1:3479:OHX:N5 | 2.06 | 0.54 |
| 29:B1:949:C:O2' | 29:B1:950:G:H5' | 2.08 | 0.54 |
| 29:B1:1272:C:H2' | 29:B1:1273:A:O4' | 2.07 | 0.54 |
| 29:B1:1326:A:C6 | 29:B1:1327:C:C4 | 2.96 | 0.54 |
| 29:B1:1394:A:H2' | 29:B1:1395:G:C5' | 2.37 | 0.54 |
| 29:B1:1480:G:O2' | 29:B1:1871:U:O4 | 2.21 | 0.54 |
| 29:B1:1496:C:O2 | 29:B1:1521:G:N2 | 2.41 | 0.54 |
| 29:B1:1502:C:OP1 | 74:B1:3413:OHX:N6 | 2.41 | 0.54 |
| 29:B1:1578:C:N3 | 29:B1:1579:C:O2 | 2.41 | 0.54 |
| 29:B1:1780:G:HO2' | 29:B1:1781:C:H6 | 1.55 | 0.54 |
| 29:B1:1787:A:H3' | 29:B1:1788:C:H5" | 1.88 | 0.54 |
| 29:B1:1795:U:O2' | 29:B1:1796:G:OP2 | 2.26 | 0.54 |
| 29:B1:1853:U:H2' | 29:B1:1853:U:O2 | 2.07 | 0.54 |
| 29:B1:2154:U:O2' | 29:B1:2155:G:H5' | 2.07 | 0.54 |
| 29:B1:2259:A:H3' | 29:B1:2260:U:C5 | 2.42 | 0.54 |
| 29:B1:2260:U:H4' | 29:B1:2261:G:OP2 | 2.06 | 0.54 |
| 29:B1:2577:C:O2' | 29:B1:2578:U:H5' | 2.08 | 0.54 |
| 29:B1:2594:C:H2' | 29:B1:2595:A:O4' | 2.08 | 0.54 |
| 29:B1:2673:A:C2 | 29:B1:2674:A:N6 | 2.76 | 0.54 |
| 29:B1:2704:A:C4 | 29:B1:2706:G:N7 | 2.76 | 0.54 |
| 29:B1:2853:A:N6 | 29:B1:2854:U:N3 | 2.56 | 0.54 |
| 29:B1:2883:U:O5' | 29:B1:2883:U:H6 | 1.90 | 0.54 |
| 29:B1:3012:A:C5 | 29:B1:3013:U:C5 | 2.96 | 0.54 |
| 29:B1:3203:U:H2' | 29:B1:3204:C:N1 | 2.23 | 0.54 |
| 29:B1:3238:G:C6 | 29:B1:3250:U:C4 | 2.95 | 0.54 |
| 29:B1:3325:G:C4 | 29:B1:3326:G:C8 | 2.96 | 0.54 |
| 29:B1:3386:G:O2' | 29:B1:3387:U:O5' | 2.26 | 0.54 |
| 30:B2:35:C:H2' | 30:B2:36:C:O4' | 2.08 | 0.54 |
| 30:B2:85:G:N7 | 74:B2:204:OHX:N4 | 2.56 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:B2:105:C:H2' | 30:B2:106:U:C5' | 2.37 | 0.54 |
| 31:B3:71:A:N6 | 31:B3:87:G:C5 | 2.76 | 0.54 |
| 31:B3:142:C:O2 | 31:B3:142:C:C2' | 2.56 | 0.54 |
| 34:BC:62:ARG:C | 34:BC:64:GLY:H | 2.15 | 0.54 |
| 36:BE:236:LEU:O | 36:BE:237:GLU:C | 2.51 | 0.54 |
| 41:BJ:17:TYR:C | 41:BJ:19:LYS:N | 2.63 | 0.54 |
| 43:BN:73:PRO:O | 43:BN:74:ARG:C | 2.51 | 0.54 |
| 45:BP:106:GLU:C | 45:BP:107:GLY:O | 2.48 | 0.54 |
| 49:BT:28:SER:C | 49:BT:30:TYR:H | 2.13 | 0.54 |
| 57:Bb:8:LYS:C | 57:Bb:10:VAL:H | 2.16 | 0.54 |
| 1:C1:26:A:C2 | 1:C1:600:U:N3 | 2.72 | 0.54 |
| 1:C1:127:G:O6 | 1:C1:179:A:C5 | 2.57 | 0.54 |
| 1:C1:248:U:O2' | 1:C1:249:U:H5' | 2.07 | 0.54 |
| 1:C1:313:U:C4 | 1:C1:1118:G:C5 | 2.96 | 0.54 |
| 1:C1:693:U:H3' | 1:C1:694:U:H5' | 1.90 | 0.54 |
| 1:C1:717:C:O2' | 1:C1:718:U:O5' | 2.22 | 0.54 |
| 1:C1:772:G:C5 | 1:C1:773:C:C4 | 2.96 | 0.54 |
| 1:C1:788:A:H5" | 1:C1:789:A:O5' | 2.08 | 0.54 |
| 1:C1:837:G:C2 | 1:C1:838:G:C4 | 2.95 | 0.54 |
| 1:C1:898:A:N6 | 1:C1:914:G:N2 | 2.55 | 0.54 |
| 1:C1:1158:C:H42 | 1:C1:1163:A:N6 | 2.05 | 0.54 |
| 1:C1:1255:G:O3' | 1:C1:1257:U:OP1 | 2.26 | 0.54 |
| 1:C1:1294:G:O2' | 1:C1:1321:A:N1 | 2.32 | 0.54 |
| 1:C1:1431:C:H3' | 1:C1:1432:U:C5' | 2.37 | 0.54 |
| 1:C1:1491:U:H3' | 1:C1:1492:A:C2' | 2.34 | 0.54 |
| 1:C1:1565:C:H2' | 1:C1:1565:C:O2 | 2.08 | 0.54 |
| 1:C1:1611:A:H2' | 1:C1:1612:U:O4' | 2.08 | 0.54 |
| 1:C1:1662:G:C2 | 1:C1:1663:G:C5 | 2.96 | 0.54 |
| 2:CA:79:ARG:O | 2:CA:83:GLN:N | 2.40 | 0.54 |
| 3:CB:118:ALA:HB2 | 3:CB:124:ALA:H | 1.73 | 0.54 |
| 3:CB:165:VAL:CB | 3:CB:166:THR:CB | 2.86 | 0.54 |
| 4:CC:98:ALA:O | 4:CC:100:ALA:N | 2.40 | 0.54 |
| 7:CF:95:PRO:O | 7:CF:97:TYR:N | 2.41 | 0.54 |
| 8:CG:77:SER:C | 8:CG:79:GLY:N | 2.66 | 0.54 |
| 11:CJ:48:VAL:C | 11:CJ:50:GLU:H | 2.15 | 0.54 |
| 13:CL:114:GLU:C | 13:CL:116:LEU:N | 2.65 | 0.54 |
| 17:CP:61:SER:CB | 17:CP:66:SER:HA | 2.38 | 0.54 |
| 21:CT:92:TRP:HA | 21:CT:100:TYR:H | 1.72 | 0.54 |
| 23:Cb:82:UNK:HA | 23:Cb:85:UNK:C | 2.38 | 0.54 |
| 29:D1:31:C:O2' | 29:D1:32:U:H5' | 2.08 | 0.54 |
| 29:D1:44:U:OP2 | 44:DO:83:LYS:CB | 2.56 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:117:U:C5 | 29:D1:118:U:H5 | 2.26 | 0.54 |
| 29:D1:250:U:O2 | 29:D1:250:U:C2' | 2.55 | 0.54 |
| 29:D1:355:A:C2 | 29:D1:365:A:C5 | 2.96 | 0.54 |
| 29:D1:382:U:C5 | 29:D1:383:G:C8 | 2.96 | 0.54 |
| 29:D1:422:A:H3' | 29:D1:2364:G:C5' | 2.37 | 0.54 |
| 29:D1:532:A:C2 | 29:D1:560:G:C2 | 2.95 | 0.54 |
| 29:D1:576:C:O2' | 29:D1:577:C:H5" | 2.07 | 0.54 |
| 29:D1:637:C:C6 | 29:D1:638:C:C5 | 2.96 | 0.54 |
| 29:D1:666:A:C6 | 29:D1:667:C:C5 | 2.96 | 0.54 |
| 29:D1:819:U:H4' | 29:D1:2138:A:N1 | 2.23 | 0.54 |
| 29:D1:933:A:H3' | 29:D1:934:G:C5' | 2.38 | 0.54 |
| 29:D1:958:C:OP1 | 29:D1:2799:A:H3' | 2.08 | 0.54 |
| 29:D1:963:G:C8 | 29:D1:963:G:C4' | 2.91 | 0.54 |
| 29:D1:986:U:H2' | 29:D1:987:U:O5' | 2.07 | 0.54 |
| 29:D1:1036:A:H2' | 29:D1:1037:C:C6 | 2.42 | 0.54 |
| 29:D1:1063:G:C5' | 29:D1:1098:A:P | 2.93 | 0.54 |
| 29:D1:1194:G:O6 | 29:D1:1314:C:N3 | 2.40 | 0.54 |
| 29:D1:1199:C:H4' | 29:D1:1200:A:OP2 | 2.08 | 0.54 |
| 29:D1:1244:A:C6 | 29:D1:1248:C:N3 | 2.76 | 0.54 |
| 29:D1:1292:C:O2' | 29:D1:1293:U:H5' | 2.08 | 0.54 |
| 29:D1:1334:U:H5' | 38:DG:207:LEU:O | 2.07 | 0.54 |
| 29:D1:1358:C:O2 | 29:D1:1358:C:C2' | 2.56 | 0.54 |
| 29:D1:1658:G:C5 | 29:D1:1659:U:C5 | 2.96 | 0.54 |
| 29:D1:1660:C:O2' | 29:D1:1661:G:C5' | 2.49 | 0.54 |
| 29:D1:1715:A:N7 | 29:D1:1716:U:C6 | 2.76 | 0.54 |
| 29:D1:1728:G:N2 | 29:D1:1730:G:H21 | 2.04 | 0.54 |
| 29:D1:1753:G:C2 | 29:D1:1754:G:C8 | 2.95 | 0.54 |
| 29:D1:2403:G:C4' | 29:D1:2404:A:OP1 | 2.55 | 0.54 |
| 29:D1:2468:A:H4' | 29:D1:2469:G:O5' | 2.07 | 0.54 |
| 29:D1:2554:A:H2 | 33:DB:85:GLY:C | 2.15 | 0.54 |
| 29:D1:2582:C:H3' | 29:D1:2583:C:H6 | 1.73 | 0.54 |
| 29:D1:2612:U:H2' | 29:D1:2613:U:O2 | 2.08 | 0.54 |
| 29:D1:2639:G:H5" | 29:D1:2640:A:OP2 | 2.08 | 0.54 |
| 29:D1:2762:A:C4 | 29:D1:2763:U:C5 | 2.95 | 0.54 |
| 29:D1:2904:U:H3' | 29:D1:2904:U:C2 | 2.43 | 0.54 |
| 29:D1:3055:U:O2 | 29:D1:3085:G:C2 | 2.61 | 0.54 |
| 29:D1:3263:G:N2 | 29:D1:3264:G:C4 | 2.76 | 0.54 |
| 29:D1:3343:G:H2' | 29:D1:3344:A:C8 | 2.42 | 0.54 |
| 29:D1:3390:G:C6 | 29:D1:3391:A:C6 | 2.96 | 0.54 |
| 30:D2:67:G:N3 | 30:D2:67:G:H2' | 2.23 | 0.54 |
| 30:D2:113:C:H2' | 30:D2:114:U:H6 | 1.73 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:D3:19:C:C4 | 31:D3:20:U:C4 | 2.96 | 0.54 |
| 34:DC:298:PHE:HA | 34:DC:299:ASP:CB | 2.37 | 0.54 |
| 38:DG:22:THR:C | 38:DG:24:GLU:H | 2.15 | 0.54 |
| 38:DG:193:PRO:C | 38:DG:195:PHE:N | 2.63 | 0.54 |
| 40:DI:69:ARG:C | 40:DI:71:VAL:H | 2.15 | 0.54 |
| 41:DJ:56:GLU:O | 41:DJ:57:LEU:C | 2.50 | 0.54 |
| 73:DM:190:VAL:O | 73:DM:191:TYR:CB | 2.55 | 0.54 |
| 44:DO:146:ALA:C | 44:DO:148:TYR:N | 2.65 | 0.54 |
| 49:DT:14:MET:C | 49:DT:16:GLN:N | 2.64 | 0.54 |
| 52:DW:61:LYS:CB | 52:DW:62:VAL:HA | 2.38 | 0.54 |
| 52:DW:129:ASP:O | 52:DW:130:TYR:C | 2.51 | 0.54 |
| 54:DY:97:GLU:O | 54:DY:98:THR:CB | 2.55 | 0.54 |
| 56:Da:80:ASN:C | 56:Da:82:GLU:H | 2.16 | 0.54 |
| 65:Dk:6:UNK:O | 65:Dk:7:UNK:C | 2.55 | 0.54 |
| 1:A1:32:U:N3 | 1:A1:468:A:N6 | 2.55 | 0.54 |
| 1:A1:47:A:H4' | 1:A1:48:G:H5' | 1.89 | 0.54 |
| 1:A1:250:C:O2' | 1:A1:251:A:H5' | 2.08 | 0.54 |
| 1:A1:336:G:H4' | 7:AF:132:SER:HA | 1.88 | 0.54 |
| 1:A1:446:A:C2' | 1:A1:447:U:H5' | 2.37 | 0.54 |
| 1:A1:500:C:H2' | 1:A1:501:U:H6 | 1.73 | 0.54 |
| 1:A1:521:A:C4' | 1:A1:522:U:OP1 | 2.54 | 0.54 |
| 1:A1:617:U:O4' | 1:A1:1031:U:C2 | 2.61 | 0.54 |
| 1:A1:820:U:H2' | 1:A1:821:U:O5' | 2.08 | 0.54 |
| 1:A1:863:A:H2' | 1:A1:865:A:H8 | 1.72 | 0.54 |
| 1:A1:1277:G:O2' | 1:A1:1278:G:H5' | 2.08 | 0.54 |
| 1:A1:1478:G:C2' | 1:A1:1479:A:O4' | 2.55 | 0.54 |
| 1:A1:1505:A:N7 | 1:A1:1506:G:H1' | 2.22 | 0.54 |
| 1:A1:1534:G:C4' | 1:A1:1536:G:O6 | 2.56 | 0.54 |
| 1:A1:1554:U:C5 | 1:A1:1555:A:C8 | 2.96 | 0.54 |
| 1:A1:1650:U:H2' | 1:A1:1651:A:C8 | 2.43 | 0.54 |
| 1:A1:1723:U:H2' | 1:A1:1724:U:O4' | 2.08 | 0.54 |
| 1:A1:1790:A:C3' | 1:A1:1791:A:H5" | 2.38 | 0.54 |
| 3:AB:239:PRO:C | 3:AB:241:ASP:N | 2.53 | 0.54 |
| 6:AE:130:THR:O | 6:AE:131:GLN:C | 2.50 | 0.54 |
| 10:AI:81:ARG:HA | 10:AI:117:GLY:H | 1.73 | 0.54 |
| 12:AK:64:GLY:HA2 | 12:AK:65:PRO:CB | 2.38 | 0.54 |
| 14:AM:17:ALA:C | 14:AM:19:ALA:N | 2.63 | 0.54 |
| 20:AS:41:GLN:CB | 74:AS:101:OHX:N4 | 2.71 | 0.54 |
| 21:AT:212:ALA:HA | 21:AT:222:LEU:HA | 1.88 | 0.54 |
| 29:B1:104:G:C6 | 29:B1:105:C:C5 | 2.95 | 0.54 |
| 29:B1:284:A:N3 | 29:B1:306:A:H1' | 2.19 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:329:U:O2 | 29:B1:329:U:O4' | 2.24 | 0.54 |
| 29:B1:340:C:N4 | 31:B3:25:G:N1 | 2.56 | 0.54 |
| 29:B1:359:U:H1' | 29:B1:817:A:N1 | 2.23 | 0.54 |
| 29:B1:762:U:O2 | 29:B1:770:G:N2 | 2.41 | 0.54 |
| 29:B1:1130:A:C8 | 29:B1:1132:C:C5 | 2.96 | 0.54 |
| 29:B1:1139:G:C4 | 29:B1:1140:G:C8 | 2.96 | 0.54 |
| 29:B1:1175:C:C2' | 29:B1:1176:C:O5' | 2.56 | 0.54 |
| 29:B1:1217:A:C2 | 29:B1:1289:G:C5 | 2.96 | 0.54 |
| 29:B1:1377:G:N2 | 29:B1:1430:U:O2 | 2.32 | 0.54 |
| 29:B1:1378:U:C2' | 29:B1:1378:U:O2 | 2.56 | 0.54 |
| 29:B1:1414:G:N2 | 29:B1:1415:U:H1' | 2.22 | 0.54 |
| 29:B1:2194:G:C1' | 29:B1:2274:U:O2 | 2.54 | 0.54 |
| 29:B1:2217:U:O2' | 29:B1:2218:G:H5' | 2.07 | 0.54 |
| 29:B1:2496:C:H2' | 29:B1:2497:U:C6 | 2.43 | 0.54 |
| 29:B1:2515:A:H2' | 29:B1:2516:U:C6 | 2.43 | 0.54 |
| 29:B1:2815:G:H5" | 29:B1:2816:G:OP1 | 2.08 | 0.54 |
| 29:B1:2837:A:C8 | 29:B1:2845:A:N1 | 2.75 | 0.54 |
| 29:B1:2904:U:O2 | 29:B1:2904:U:H2' | 2.08 | 0.54 |
| 29:B1:3047:U:N3 | 29:B1:3048:A:C2 | 2.76 | 0.54 |
| 29:B1:3069:G:C2 | 29:B1:3070:A:C5 | 2.96 | 0.54 |
| 29:B1:3281:U:O2 | 29:B1:3282:U:C2 | 2.60 | 0.54 |
| 29:B1:3333:G:H22 | 29:B1:3370:A:H4' | 1.69 | 0.54 |
| 30:B2:25:G:C2 | 30:B2:26:C:N4 | 2.75 | 0.54 |
| 31:B3:48:A:N1 | 31:B3:51:G:C5 | 2.76 | 0.54 |
| 31:B3:119:C:O2' | 31:B3:120:C:H5' | 2.08 | 0.54 |
| 33:BB:183:GLY:N | 33:BB:185:ALA:H | 2.04 | 0.54 |
| 36:BE:216:GLU:C | 36:BE:219:PHE:H | 2.15 | 0.54 |
| 37:BF:146:ILE:O | 37:BF:150:LYS:CB | 2.56 | 0.54 |
| 37:BF:162:SER:O | 37:BF:165:LEU:N | 2.41 | 0.54 |
| 38:BG:199:ASN:C | 38:BG:201:PHE:N | 2.65 | 0.54 |
| 39:BH:231:LYS:CB | 39:BH:233:TRP:H | 2.21 | 0.54 |
| 52:BW:50:ALA:O | 52:BW:51:VAL:CB | 2.54 | 0.54 |
| 53:BX:89:LYS:C | 53:BX:91:ASN:N | 2.66 | 0.54 |
| 65:Bk:16:UNK:O | 65:Bk:17:UNK:C | 2.54 | 0.54 |
| 1:C1:83:G:O2' | 1:C1:84:A:H5' | 2.07 | 0.54 |
| 1:C1:340:U:O3' | 1:C1:341:A:O4' | 2.25 | 0.54 |
| 1:C1:480:G:H2' | 1:C1:481:A:O4' | 2.08 | 0.54 |
| 1:C1:575:C:H5' | 1:C1:576:G:OP2 | 2.08 | 0.54 |
| 1:C1:945:U:O2' | 1:C1:946:U:H5' | 2.07 | 0.54 |
| 1:C1:1728:A:H2' | 1:C1:1729:C:C6 | 2.35 | 0.54 |
| 1:C1:1781:A:N1 | 1:C1:1782:A:C2 | 2.76 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:CA:8:ASP:C | 2:CA:10:THR:H | 2.16 | 0.54 |
| 2:CA:162:CYS:O | 2:CA:163:ASN:CB | 2.56 | 0.54 |
| 3:CB:59:HIS:C | 3:CB:61:LEU:N | 2.61 | 0.54 |
| 10:CI:92:SER:O | 10:CI:106:GLU:HA | 2.07 | 0.54 |
| 15:CN:71:PRO:O | 15:CN:72:ASN:CB | 2.56 | 0.54 |
| 16:CO:96:ALA:O | 16:CO:98:GLN:N | 2.40 | 0.54 |
| 22:Ca:6:UNK:O | 22:Ca:7:UNK:C | 2.54 | 0.54 |
| 23:Cb:124:UNK:O | 23:Cb:125:UNK:CB | 2.56 | 0.54 |
| 29:D1:9:U:N3 | 29:D1:10:C:C6 | 2.76 | 0.54 |
| 29:D1:29:C:O5' | 29:D1:29:C:H6 | 1.91 | 0.54 |
| 29:D1:510:G:C2 | 29:D1:511:G:H1' | 2.43 | 0.54 |
| 29:D1:580:C:N4 | 29:D1:581:U:O4 | 2.41 | 0.54 |
| 29:D1:718:G:H1' | 29:D1:719:U:OP2 | 2.07 | 0.54 |
| 29:D1:790:U:O5' | 29:D1:790:U:H6 | 1.91 | 0.54 |
| 29:D1:888:A:C5 | 29:D1:889:U:C4 | 2.96 | 0.54 |
| 29:D1:933:A:H3' | 29:D1:934:G:H5' | 1.89 | 0.54 |
| 29:D1:992:A:O2' | 49:DT:59:GLY:HA3 | 2.08 | 0.54 |
| 29:D1:998:A:H2' | 29:D1:999:G:C5' | 2.38 | 0.54 |
| 29:D1:998:A:H4' | 30:D2:103:A:C2 | 2.43 | 0.54 |
| 29:D1:1129:A:C2' | 29:D1:1130:A:C5' | 2.86 | 0.54 |
| 29:D1:1302:A:N3 | 29:D1:2887:A:N3 | 2.56 | 0.54 |
| 29:D1:1459:C:H2' | 29:D1:1460:A:H5' | 1.89 | 0.54 |
| 29:D1:1560:G:H22 | 29:D1:1579:C:H1' | 1.72 | 0.54 |
| 29:D1:1628:C:HO2' | 29:D1:1630:U:H5' | 1.71 | 0.54 |
| 29:D1:1799:A:H2 | 29:D1:1800:A:C2 | 2.26 | 0.54 |
| 29:D1:1864:A:H3' | 29:D1:1865:A:H8 | 1.71 | 0.54 |
| 29:D1:1945:A:H2' | 29:D1:1946:A:C8 | 2.43 | 0.54 |
| 29:D1:2414:G:C2 | 29:D1:2415:C:C2 | 2.96 | 0.54 |
| 29:D1:2581:U:OP2 | 29:D1:2581:U:C6 | 2.61 | 0.54 |
| 29:D1:2594:C:OP2 | 29:D1:2594:C:C6 | 2.56 | 0.54 |
| 29:D1:2749:G:C5 | 29:D1:2750:U:C4 | 2.95 | 0.54 |
| 29:D1:2797:C:C3' | 29:D1:2798:C:C5' | 2.86 | 0.54 |
| 29:D1:2847:A:C2 | 29:D1:2848:G:C1' | 2.90 | 0.54 |
| 29:D1:2900:A:N1 | 29:D1:2901:G:C5 | 2.76 | 0.54 |
| 29:D1:3149:G:C2 | 29:D1:3150:A:N9 | 2.76 | 0.54 |
| 29:D1:3153:U:H5" | 29:D1:3293:U:H6 | 1.72 | 0.54 |
| 29:D1:3180:A:C2 | 45:DP:166:GLU:CB | 2.90 | 0.54 |
| 29:D1:3209:A:C6 | 29:D1:3210:A:N6 | 2.76 | 0.54 |
| 29:D1:3210:A:H2' | 29:D1:3211:C:C6 | 2.43 | 0.54 |
| 29:D1:3294:A:H2' | 29:D1:3295:A:H5' | 1.90 | 0.54 |
| 29:D1:3310:A:C6 | 29:D1:3311:C:C5 | 2.96 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3321:C:OP2 | 29:D1:3321:C:H6 | 1.91 | 0.54 |
| 29:D1:3331:U:C6 | 29:D1:3331:U:H5" | 2.42 | 0.54 |
| 29:D1:3348:G:C6 | 29:D1:3349:C:O2 | 2.61 | 0.54 |
| 30:D2:2:G:N3 | 30:D2:3:U:C6 | 2.76 | 0.54 |
| 30:D2:13:A:N3 | 30:D2:13:A:C2' | 2.62 | 0.54 |
| 30:D2:25:G:C4 | 30:D2:26:C:N4 | 2.76 | 0.54 |
| 31:D3:16:G:O6 | 74:D3:212:OHX:N6 | 2.41 | 0.54 |
| 31:D3:61:A:C2' | 31:D3:62:C:OP2 | 2.56 | 0.54 |
| 31:D3:72:A:HO2' | 31:D3:73:U:P | 2.30 | 0.54 |
| 37:DF:124:GLU:O | 37:DF:126:GLN:N | 2.34 | 0.54 |
| 41:DJ:42:THR:C | 41:DJ:44:ASP:H | 2.16 | 0.54 |
| 43:DN:11:ASN:CB | 43:DN:64:VAL:CB | 2.86 | 0.54 |
| 49:DT:50:LYS:C | 49:DT:52:MET:N | 2.61 | 0.54 |
| 51:DV:5:ILE:O | 51:DV:6:ASP:CB | 2.56 | 0.54 |
| 53:DX:69:LYS:O | 53:DX:83:ASP:N | 2.37 | 0.54 |
| 1:A1:26:A:C2 | 1:A1:600:U:O2 | 2.61 | 0.54 |
| 1:A1:149:C:C2 | 1:A1:150:U:C5 | 2.96 | 0.54 |
| 1:A1:243:G:OP1 | 1:A1:243:G:H4' | 2.08 | 0.54 |
| 1:A1:325:G:O2' | 1:A1:326:G:H5' | 2.07 | 0.54 |
| 1:A1:432:G:H2' | 1:A1:433:C:O4' | 2.07 | 0.54 |
| 1:A1:487:G:HO2' | 1:A1:488:G:H8 | 1.54 | 0.54 |
| 1:A1:528:U:H3 | 1:A1:530:C:N4 | 2.05 | 0.54 |
| 1:A1:789:A:H3' | 1:A1:790:U:C6 | 2.42 | 0.54 |
| 1:A1:824:G:H5" | 1:A1:825:U:C5' | 2.38 | 0.54 |
| 1:A1:847:A:C2' | 1:A1:848:C:C5' | 2.82 | 0.54 |
| 1:A1:898:A:N6 | 1:A1:914:G:N2 | 2.56 | 0.54 |
| 1:A1:1000:C:C6 | 1:A1:1002:G:OP2 | 2.61 | 0.54 |
| 1:A1:1377:U:C2 | 1:A1:1378:U:H4' | 2.43 | 0.54 |
| 1:A1:1378:U:O4' | 1:A1:1379:C:H6 | 1.91 | 0.54 |
| 1:A1:1382:A:N3 | 1:A1:1383:G:C8 | 2.76 | 0.54 |
| 3:AB:206:THR:O | 3:AB:209:ASN:N | 2.41 | 0.54 |
| 5:AD:99:MET:C | 5:AD:101:GLY:N | 2.63 | 0.54 |
| 5:AD:131:GLN:O | 5:AD:135:ASP:CB | 2.56 | 0.54 |
| 6:AE:100:LYS:HA | 6:AE:104:PHE:H | 1.72 | 0.54 |
| 29:B1:31:C:O2' | 29:B1:32:U:H5' | 2.07 | 0.54 |
| 29:B1:62:A:H2' | 29:B1:63:A:H8 | 1.72 | 0.54 |
| 29:B1:134:U:N3 | 58:Bc:67:ARG:HA | 2.23 | 0.54 |
| 29:B1:302:U:O2' | 29:B1:303:G:H5' | 2.07 | 0.54 |
| 29:B1:370:U:C5 | 29:B1:371:G:C5 | 2.96 | 0.54 |
| 29:B1:509:U:H2' | 29:B1:510:G:O5' | 2.08 | 0.54 |
| 29:B1:515:C:C2' | 29:B1:516:A:H5" | 2.37 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:589:A:H5" | 29:B1:611:A:H2 | 1.73 | 0.54 |
| 29:B1:709:A:N6 | 29:B1:710:A:N1 | 2.56 | 0.54 |
| 29:B1:888:A:C6 | 29:B1:889:U:C4 | 2.96 | 0.54 |
| 29:B1:943:U:O2' | 29:B1:944:C:H5" | 2.07 | 0.54 |
| 29:B1:986:U:C2 | 29:B1:987:U:C6 | 2.96 | 0.54 |
| 29:B1:997:A:N3 | 30:B2:102:A:H2 | 2.06 | 0.54 |
| 29:B1:1004:U:C4 | 29:B1:1005:G:N7 | 2.76 | 0.54 |
| 29:B1:1018:G:N1 | 74:B1:3529:OHX:N5 | 2.55 | 0.54 |
| 29:B1:1626:U:H2' | 29:B1:1627:U:O4' | 2.08 | 0.54 |
| 29:B1:1795:U:O4' | 29:B1:1796:G:N3 | 2.40 | 0.54 |
| 29:B1:2304:C:O2' | 29:B1:2305:G:C5' | 2.48 | 0.54 |
| 29:B1:2326:A:C6 | 29:B1:2327:U:C4 | 2.96 | 0.54 |
| 29:B1:2328:U:C2 | 29:B1:2329:C:C6 | 2.95 | 0.54 |
| 29:B1:2399:A:N1 | 29:B1:2981:U:C4 | 2.76 | 0.54 |
| 29:B1:2692:A:C6 | 29:B1:2693:C:C4 | 2.96 | 0.54 |
| 29:B1:2814:G:N2 | 29:B1:2815:G:C4 | 2.75 | 0.54 |
| 29:B1:2833:A:C6 | 29:B1:2834:G:C8 | 2.95 | 0.54 |
| 29:B1:2836:C:O2 | 29:B1:2836:C:H3' | 2.08 | 0.54 |
| 29:B1:2917:G:C2 | 29:B1:2918:G:C8 | 2.96 | 0.54 |
| 29:B1:3045:G:H2' | 29:B1:3046:A:O4' | 2.08 | 0.54 |
| 29:B1:3045:G:H3' | 29:B1:3045:G:C8 | 2.43 | 0.54 |
| 29:B1:3073:A:C6 | 29:B1:3074:G:C5 | 2.96 | 0.54 |
| 29:B1:3126:C:C2 | 29:B1:3127:A:C8 | 2.96 | 0.54 |
| 29:B1:3186:A:H4' | 29:B1:3187:A:O5' | 2.08 | 0.54 |
| 29:B1:3274:A:H1' | 29:B1:3275:U:OP2 | 2.05 | 0.54 |
| 29:B1:3281:U:N3 | 29:B1:3282:U:O4 | 2.41 | 0.54 |
| 29:B1:3294:A:N1 | 29:B1:3295:A:C4 | 2.76 | 0.54 |
| 29:B1:3377:G:C4 | 74:B1:3450:OHX:N1 | 2.76 | 0.54 |
| 30:B2:24:A:N3 | 30:B2:25:G:C8 | 2.76 | 0.54 |
| 31:B3:29:U:H2' | 31:B3:30:C:C6 | 2.41 | 0.54 |
| 34:BC:310:GLY:O | 34:BC:311:PHE:C | 2.50 | 0.54 |
| 34:BC:317:ILE:O | 34:BC:318:LYS:CB | 2.55 | 0.54 |
| 39:BH:99:PRO:CB | 39:BH:237:ILE:N | 2.62 | 0.54 |
| 45:BP:36:VAL:CB | 45:BP:105:PHE:H | 2.21 | 0.54 |
| 45:BP:99:LEU:C | 45:BP:101:ARG:N | 2.64 | 0.54 |
| 54:BY:5:PHE:O | 54:BY:8:THR:N | 2.31 | 0.54 |
| 57:Bb:112:ALA:O | 57:Bb:113:LYS:C | 2.51 | 0.54 |
| 1:C1:142:G:C5 | 1:C1:266:A:C5 | 2.95 | 0.54 |
| 1:C1:321:C:C2' | 1:C1:322:G:H8 | 2.21 | 0.54 |
| 1:C1:333:A:C2 | 1:C1:334:G:C4 | 2.95 | 0.54 |
| 1:C1:541:A:C8 | 1:C1:541:A:OP2 | 2.61 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:710:U:N3 | 1:C1:729:G:N1 | 2.56 | 0.54 |
| 1:C1:717:C:N4 | 1:C1:722:G:H22 | 2.05 | 0.54 |
| 1:C1:1045:C:C2' | 1:C1:1046:G:OP1 | 2.56 | 0.54 |
| 1:C1:1420:C:H3' | 1:C1:1420:C:C6 | 2.43 | 0.54 |
| 1:C1:1570:A:N3 | 1:C1:1570:A:H2' | 2.22 | 0.54 |
| 1:C1:1579:U:N3 | 1:C1:1580:C:C4 | 2.75 | 0.54 |
| 1:C1:1588:G:N3 | 1:C1:1588:G:H2' | 2.23 | 0.54 |
| 1:C1:1626:U:O2' | 1:C1:1627:U:H5' | 2.07 | 0.54 |
| 1:C1:1689:A:H5' | 1:C1:1690:G:OP2 | 2.07 | 0.54 |
| 1:C1:1783:C:C2 | 1:C1:1784:C:C5 | 2.96 | 0.54 |
| 3:CB:62:PRO:CA | 3:CB:63:VAL:CB | 2.86 | 0.54 |
| 6:CE:117:GLY:O | 6:CE:118:LEU:C | 2.51 | 0.54 |
| 13:CL:48:LYS:C | 13:CL:50:ALA:N | 2.66 | 0.54 |
| 29:D1:235:A:H2' | 29:D1:236:G:H8 | 1.71 | 0.54 |
| 29:D1:395:A:C6 | 29:D1:396:A:N6 | 2.76 | 0.54 |
| 29:D1:407:A:C2' | 29:D1:408:A:H5' | 2.37 | 0.54 |
| 29:D1:495:G:O2' | 29:D1:496:C:H5' | 2.08 | 0.54 |
| 29:D1:547:G:H8 | 29:D1:548:G:C5 | 2.25 | 0.54 |
| 29:D1:571:U:C2' | 29:D1:572:A:H5' | 2.37 | 0.54 |
| 29:D1:602:A:N1 | 29:D1:603:A:N6 | 2.56 | 0.54 |
| 29:D1:802:C:H2' | 29:D1:803:C:H6 | 1.73 | 0.54 |
| 29:D1:818:C:H2' | 29:D1:819:U:H5' | 1.90 | 0.54 |
| 29:D1:888:A:C6 | 29:D1:889:U:C2 | 2.96 | 0.54 |
| 29:D1:977:C:O2' | 29:D1:978:G:OP2 | 2.25 | 0.54 |
| 29:D1:1144:U:HO2' | 29:D1:1145:G:P | 2.31 | 0.54 |
| 29:D1:1212:A:C2 | 29:D1:1294:A:C2 | 2.96 | 0.54 |
| 29:D1:1288:U:C2' | 29:D1:1289:G:C5' | 2.85 | 0.54 |
| 29:D1:1328:C:H2' | 29:D1:1329:U:C6 | 2.43 | 0.54 |
| 29:D1:1354:G:C8 | 29:D1:1355:A:C6 | 2.91 | 0.54 |
| 29:D1:1771:C:C4 | 29:D1:1772:U:C5 | 2.96 | 0.54 |
| 29:D1:1851:G:C5 | 29:D1:1852:G:N7 | 2.76 | 0.54 |
| 29:D1:2429:G:O2' | 29:D1:2430:A:H5' | 2.08 | 0.54 |
| 29:D1:2520:A:C5 | 29:D1:2521:U:C4 | 2.96 | 0.54 |
| 29:D1:2631:U:C2 | 29:D1:2632:G:C8 | 2.96 | 0.54 |
| 29:D1:2896:A:C2' | 29:D1:2897:A:C5' | 2.85 | 0.54 |
| 29:D1:2984:C:C2 | 29:D1:2985:C:C5 | 2.96 | 0.54 |
| 29:D1:3091:A:C4 | 29:D1:3094:A:C8 | 2.96 | 0.54 |
| 29:D1:3135:U:C4 | 29:D1:3136:G:C4 | 2.95 | 0.54 |
| 29:D1:3303:G:C2' | 29:D1:3304:U:H5' | 2.38 | 0.54 |
| 30:D2:26:C:H6 | 30:D2:26:C:O5' | 1.90 | 0.54 |
| 30:D2:69:C:C2 | 30:D2:70:U:C5 | 2.96 | 0.54 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:D3:69:U:H2' | 31:D3:70:G:O2' | 2.08 | 0.54 |
| 31:D3:70:G:H5' | 31:D3:71:A:H8 | 1.64 | 0.54 |
| 31:D3:108:C:H2' | 31:D3:109:A:O5' | 2.07 | 0.54 |
| 39:DH:103:ALA:C | 39:DH:105:LYS:H | 2.16 | 0.54 |
| 43:DN:73:PRO:O | 43:DN:76:ALA:N | 2.41 | 0.54 |
| 46:DQ:25:SER:O | 46:DQ:26:PHE:C | 2.50 | 0.54 |
| 57:Db:68:PRO:O | 57:Db:69:SER:CB | 2.56 | 0.54 |
| 61:Df:80:ARG:O | 61:Df:81:ALA:C | 2.51 | 0.54 |
| 1:A1:42:G:O4' | 1:A1:437:A:C8 | 2.61 | 0.53 |
| 1:A1:156:A:H2' | 1:A1:157:A:O4' | 2.08 | 0.53 |
| 1:A1:160:C:O2' | 1:A1:161:U:P | 2.66 | 0.53 |
| 1:A1:553:G:C6 | 1:A1:554:C:C4 | 2.96 | 0.53 |
| 1:A1:749:U:O2 | 1:A1:801:G:C4 | 2.61 | 0.53 |
| 1:A1:862:A:H4' | 1:A1:863:A:O5' | 2.07 | 0.53 |
| 1:A1:1192:C:C6 | 1:A1:1193:A:C8 | 2.97 | 0.53 |
| 1:A1:1227:A:H8 | 1:A1:1229:G:OP2 | 1.91 | 0.53 |
| 1:A1:1244:A:N1 | 1:A1:1245:G:C4 | 2.76 | 0.53 |
| 4:AC:56:GLN:O | 4:AC:59:LEU:N | 2.38 | 0.53 |
| 8:AG:51:GLY:O | 8:AG:55:ARG:HA | 2.08 | 0.53 |
| 9:AH:3:ASN:O | 9:AH:4:VAL:CB | 2.56 | 0.53 |
| 15:AN:71:PRO:O | 15:AN:72:ASN:CB | 2.56 | 0.53 |
| 17:AP:76:LEU:O | 17:AP:77:ILE:C | 2.51 | 0.53 |
| 20:AS:38:ILE:CB | 74:AS:101:OHX:N6 | 2.71 | 0.53 |
| 29:B1:87:U:H2' | 29:B1:87:U:O2 | 2.09 | 0.53 |
| 29:B1:140:C:O2' | 29:B1:141:C:H5' | 2.08 | 0.53 |
| 29:B1:244:G:H3' | 29:B1:245:U:H5' | 1.89 | 0.53 |
| 29:B1:584:G:N3 | 29:B1:585:A:C8 | 2.76 | 0.53 |
| 29:B1:595:G:O6 | 29:B1:609:G:O4' | 2.26 | 0.53 |
| 29:B1:636:C:H5 | 29:B1:2378:C:H1' | 1.74 | 0.53 |
| 29:B1:943:U:C1' | 29:B1:1432:C:H6 | 2.21 | 0.53 |
| 29:B1:954:U:H5 | 29:B1:1115:G:HO2' | 1.53 | 0.53 |
| 29:B1:1097:G:O3' | 29:B1:1098:A:H4' | 2.08 | 0.53 |
| 29:B1:1271:A:H3' | 29:B1:1271:A:N3 | 2.23 | 0.53 |
| 29:B1:1288:U:C2 | 29:B1:1289:G:C8 | 2.95 | 0.53 |
| 29:B1:1352:A:H3' | 29:B1:1353:U:C4' | 2.38 | 0.53 |
| 29:B1:1422:G:C6 | 29:B1:1423:C:C4 | 2.96 | 0.53 |
| 29:B1:1514:G:C8 | 29:B1:1841:A:C2 | 2.96 | 0.53 |
| 29:B1:2151:C:H6 | 29:B1:2151:C:C5' | 2.13 | 0.53 |
| 29:B1:2254:U:C5 | 29:B1:2254:U:OP2 | 2.61 | 0.53 |
| 29:B1:2326:A:C5 | 29:B1:2327:U:C5 | 2.96 | 0.53 |
| 29:B1:2364:G:H8 | 29:B1:2364:G:OP2 | 1.91 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2405:C:O2 | 29:B1:2406:C:C6 | 2.61 | 0.53 |
| 29:B1:2626:A:N7 | 29:B1:2644:C:H5' | 2.23 | 0.53 |
| 29:B1:2677:G:H21 | 29:B1:2678:A:H5' | 1.72 | 0.53 |
| 29:B1:2689:A:C2 | 29:B1:2702:A:C2 | 2.93 | 0.53 |
| 29:B1:3011:A:N1 | 34:BC:13:HIS:HA | 2.23 | 0.53 |
| 29:B1:3175:U:O2 | 29:B1:3175:U:O4' | 2.26 | 0.53 |
| 29:B1:3175:U:OP1 | 29:B1:3278:C:H1' | 2.08 | 0.53 |
| 29:B1:3381:U:C4 | 29:B1:3383:G:C6 | 2.97 | 0.53 |
| 30:B2:41:G:N3 | 30:B2:41:G:C2' | 2.67 | 0.53 |
| 30:B2:74:C:C5 | 30:B2:75:G:C5 | 2.96 | 0.53 |
| 31:B3:1:A:C2' | 31:B3:2:A:O5' | 2.56 | 0.53 |
| 32:BA:155:ILE:HA | 32:BA:156:LYS:CB | 2.37 | 0.53 |
| 34:BC:50:LYS:O | 34:BC:332:ARG:HA | 2.08 | 0.53 |
| 38:BG:41:ARG:C | 38:BG:43:ILE:N | 2.63 | 0.53 |
| 38:BG:221:LYS:O | 38:BG:222:HIS:CB | 2.53 | 0.53 |
| 44:BO:20:ARG:C | 44:BO:22:LEU:H | 2.16 | 0.53 |
| 46:BQ:85:ALA:O | 46:BQ:88:VAL:N | 2.41 | 0.53 |
| 48:BS:23:TRP:N | 48:BS:51:VAL:O | 2.41 | 0.53 |
| 58:Bc:14:LYS:O | 58:Bc:18:ALA:HB2 | 2.08 | 0.53 |
| 70:Bq:16:UNK:O | 70:Bq:18:UNK:N | 2.41 | 0.53 |
| 1:C1:601:A:H5' | 1:C1:602:U:OP2 | 2.08 | 0.53 |
| 1:C1:639:U:OP1 | 23:Cb:72:UNK:CA | 2.56 | 0.53 |
| 1:C1:973:A:O4' | 29:D1:847:A:N1 | 2.41 | 0.53 |
| 1:C1:1203:A:C2 | 1:C1:1556:A:N3 | 2.75 | 0.53 |
| 1:C1:1209:C:C4 | 1:C1:1455:G:N2 | 2.76 | 0.53 |
| 1:C1:1412:G:H4' | 1:C1:1413:U:OP1 | 2.07 | 0.53 |
| 1:C1:1654:G:C2 | 1:C1:1745:G:C4 | 2.96 | 0.53 |
| 1:C1:1684:U:O4 | 1:C1:1721:A:H2 | 1.85 | 0.53 |
| 1:C1:1763:A:H2' | 1:C1:1764:C:H5" | 1.91 | 0.53 |
| 2:CA:52:LYS:C | 2:CA:54:TRP:N | 2.60 | 0.53 |
| 5:CD:199:ILE:C | 5:CD:201:ALA:N | 2.63 | 0.53 |
| 29:D1:91:G:C8 | 29:D1:93:C:C6 | 2.96 | 0.53 |
| 29:D1:160:G:N2 | 29:D1:263:C:HO2' | 2.06 | 0.53 |
| 29:D1:259:C:H2' | 29:D1:260:C:H6 | 1.71 | 0.53 |
| 29:D1:382:U:C3' | 29:D1:383:G:C4' | 2.85 | 0.53 |
| 29:D1:435:C:H2' | 29:D1:436:A:C8 | 2.44 | 0.53 |
| 29:D1:705:A:N6 | 29:D1:715:A:C8 | 2.77 | 0.53 |
| 29:D1:757:C:N4 | 29:D1:758:C:C4 | 2.76 | 0.53 |
| 29:D1:882:A:H2 | 29:D1:885:U:C6 | 2.23 | 0.53 |
| 29:D1:913:A:H1' | 29:D1:2147:A:O4' | 2.07 | 0.53 |
| 29:D1:995:U:O2' | 29:D1:996:A:OP2 | 2.23 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1077:U:O2' | 29:D1:1078:U:O4' | 2.26 | 0.53 |
| 29:D1:1119:C:H1' | 29:D1:1154:A:C4 | 2.44 | 0.53 |
| 29:D1:1140:G:C2 | 29:D1:1141:C:C6 | 2.96 | 0.53 |
| 29:D1:1167:U:C6 | 29:D1:1167:U:C5' | 2.87 | 0.53 |
| 29:D1:1230:G:H4' | 73:DM:33:VAL:H | 1.73 | 0.53 |
| 29:D1:1444:G:C2' | 29:D1:1445:U:O5' | 2.56 | 0.53 |
| 29:D1:1625:A:N6 | 29:D1:1626:U:C2 | 2.76 | 0.53 |
| 29:D1:1835:A:H2' | 29:D1:1836:C:C6 | 2.43 | 0.53 |
| 29:D1:2131:A:C3' | 29:D1:2132:C:H5" | 2.38 | 0.53 |
| 29:D1:2317:A:H2' | 29:D1:2318:U:O4' | 2.08 | 0.53 |
| 29:D1:2422:C:H2' | 29:D1:2423:U:O5' | 2.09 | 0.53 |
| 29:D1:2544:U:H2' | 29:D1:2545:C:C6 | 2.43 | 0.53 |
| 29:D1:2545:C:C2 | 29:D1:2546:C:C6 | 2.96 | 0.53 |
| 29:D1:2727:A:H2 | 29:D1:2729:U:C5 | 2.25 | 0.53 |
| 29:D1:2804:A:O2' | 29:D1:2805:G:C5' | 2.56 | 0.53 |
| 29:D1:2810:C:H4' | 29:D1:2810:C:OP1 | 2.09 | 0.53 |
| 29:D1:2856:G:N2 | 29:D1:2857:C:C2 | 2.76 | 0.53 |
| 29:D1:2899:C:O2 | 40:DI:171:ASP:CB | 2.57 | 0.53 |
| 29:D1:2932:U:C2 | 29:D1:2934:A:OP2 | 2.61 | 0.53 |
| 29:D1:3147:G:H4' | 34:DC:100:ARG:HA | 1.90 | 0.53 |
| 29:D1:3209:A:C3' | 29:D1:3210:A:C8 | 2.91 | 0.53 |
| 29:D1:3278:C:O3' | 29:D1:3279:A:O4' | 2.26 | 0.53 |
| 31:D3:65:A:C5 | 31:D3:66:A:N7 | 2.75 | 0.53 |
| 31:D3:93:U:O3' | 31:D3:94:C:O4' | 2.27 | 0.53 |
| 34:DC:103:THR:O | 34:DC:104:THR:C | 2.52 | 0.53 |
| 36:DE:184:ASP:O | 36:DE:185:PHE:CB | 2.56 | 0.53 |
| 37:DF:152:THR:O | 37:DF:155:LEU:N | 2.31 | 0.53 |
| 42:DK:27:GLY:HA2 | 42:DK:29:ARG:N | 2.16 | 0.53 |
| 45:DP:92:THR:O | 45:DP:93:ALA:C | 2.49 | 0.53 |
| 47:DR:59:ARG:O | 47:DR:60:PRO:O | 2.26 | 0.53 |
| 1:A1:304:U:O2 | 1:A1:304:U:C2' | 2.56 | 0.53 |
| 1:A1:396:G:C2' | 1:A1:397:A:O5' | 2.57 | 0.53 |
| 1:A1:550:A:H4' | 1:A1:556:A:C6 | 2.44 | 0.53 |
| 1:A1:576:G:H5" | 1:A1:577:G:OP2 | 2.08 | 0.53 |
| 1:A1:627:C:H5" | 1:A1:628:G:OP2 | 2.07 | 0.53 |
| 1:A1:720:G:C4' | 1:A1:721:U:OP1 | 2.52 | 0.53 |
| 1:A1:743:U:O2' | 1:A1:744:U:P | 2.66 | 0.53 |
| 1:A1:802:G:H5" | 1:A1:803:A:OP2 | 2.08 | 0.53 |
| 1:A1:902:G:H8 | 1:A1:902:G:O5' | 1.91 | 0.53 |
| 1:A1:980:G:H4' | 1:A1:1776:A:H4' | 1.89 | 0.53 |
| 1:A1:1005:A:C8 | 1:A1:1006:C:C5 | 2.96 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1006:C:C6 | 1:A1:1007:C:C5 | 2.92 | 0.53 |
| 1:A1:1053:G:N2 | 1:A1:1067:C:H1' | 2.23 | 0.53 |
| 1:A1:1107:G:H2' | 1:A1:1108:G:N3 | 2.23 | 0.53 |
| 1:A1:1334:U:H2' | 1:A1:1335:U:C1' | 2.37 | 0.53 |
| 1:A1:1379:C:H2' | 1:A1:1380:U:H5' | 1.90 | 0.53 |
| 1:A1:1422:A:H2' | 1:A1:1423:U:O4' | 2.08 | 0.53 |
| 1:A1:1431:C:H5' | 1:A1:1432:U:H5' | 1.90 | 0.53 |
| 1:A1:1515:A:C3' | 1:A1:1516:A:H5" | 2.38 | 0.53 |
| 1:A1:1534:G:H4' | 1:A1:1536:G:N7 | 2.22 | 0.53 |
| 1:A1:1588:G:H2' | 1:A1:1588:G:N3 | 2.22 | 0.53 |
| 1:A1:1592:A:O2' | 1:A1:1593:A:H5' | 2.07 | 0.53 |
| 1:A1:1682:U:C2 | 1:A1:1683:C:C4 | 2.96 | 0.53 |
| 1:A1:1764:C:C5' | 1:A1:1764:C:C6 | 2.88 | 0.53 |
| 4:AC:14:ASP:C | 4:AC:16:VAL:N | 2.61 | 0.53 |
| 10:AI:76:VAL:O | 10:AI:94:VAL:HA | 2.08 | 0.53 |
| 10:AI:80:MET:C | 10:AI:82:ASN:N | 2.64 | 0.53 |
| 12:AK:66:VAL:O | 12:AK:67:ARG:C | 2.50 | 0.53 |
| 14:AM:24:ARG:O | 14:AM:25:GLN:CB | 2.56 | 0.53 |
| 15:AN:97:VAL:C | 15:AN:99:ILE:N | 2.65 | 0.53 |
| 29:B1:39:A:C5' | 29:B1:40:A:OP2 | 2.53 | 0.53 |
| 29:B1:127:G:H2' | 29:B1:128:G:C8 | 2.43 | 0.53 |
| 29:B1:283:G:H2' | 29:B1:285:A:N7 | 2.22 | 0.53 |
| 29:B1:392:G:N1 | 29:B1:393:U:C5 | 2.75 | 0.53 |
| 29:B1:557:A:N7 | 29:B1:559:A:N6 | 2.56 | 0.53 |
| 29:B1:564:G:C5 | 29:B1:565:U:C4 | 2.96 | 0.53 |
| 29:B1:594:U:C2 | 29:B1:595:G:C4 | 2.97 | 0.53 |
| 29:B1:632:G:H2' | 29:B1:633:C:O5' | 2.08 | 0.53 |
| 29:B1:642:U:H4' | 29:B1:1116:G:C6 | 2.42 | 0.53 |
| 29:B1:665:A:C5 | 29:B1:666:A:N7 | 2.76 | 0.53 |
| 29:B1:761:A:C2 | 29:B1:762:U:C1' | 2.90 | 0.53 |
| 29:B1:965:A:N6 | 29:B1:966:U:N3 | 2.56 | 0.53 |
| 29:B1:1064:A:O2' | 29:B1:1065:A:OP1 | 2.24 | 0.53 |
| 29:B1:1076:C:H2' | 29:B1:1076:C:O2 | 2.08 | 0.53 |
| 29:B1:1174:G:C5 | 29:B1:1318:A:C4 | 2.96 | 0.53 |
| 29:B1:1179:A:O4' | 29:B1:1328:C:O4' | 2.26 | 0.53 |
| 29:B1:1338:C:C2 | 29:B1:1339:C:C5 | 2.97 | 0.53 |
| 29:B1:1388:U:C4 | 29:B1:1389:G:N7 | 2.76 | 0.53 |
| 29:B1:1390:A:N3 | 29:B1:1390:A:H5" | 2.22 | 0.53 |
| 29:B1:1704:A:N6 | 29:B1:1739:U:N3 | 2.56 | 0.53 |
| 29:B1:1782:U:C2' | 29:B1:1783:U:O4' | 2.52 | 0.53 |
| 29:B1:2133:U:H2' | 29:B1:2134:G:C5' | 2.38 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2355:G:OP1 | 46:BQ:141:SER:CB | 2.56 | 0.53 |
| 29:B1:2513:U:C4 | 29:B1:2592:G:N3 | 2.76 | 0.53 |
| 29:B1:2639:G:C4 | 29:B1:2640:A:C8 | 2.97 | 0.53 |
| 29:B1:2658:G:C5 | 29:B1:2659:G:N7 | 2.77 | 0.53 |
| 29:B1:2678:A:C8 | 29:B1:2679:A:N3 | 2.66 | 0.53 |
| 29:B1:2739:A:N3 | 29:B1:2739:A:H2' | 2.23 | 0.53 |
| 29:B1:2838:A:C2 | 29:B1:2851:A:N9 | 2.76 | 0.53 |
| 29:B1:2882:U:C2' | 29:B1:2883:U:O5' | 2.53 | 0.53 |
| 29:B1:2914:G:C5 | 29:B1:2915:U:C5 | 2.96 | 0.53 |
| 29:B1:2950:G:N3 | 29:B1:2950:G:H2' | 2.21 | 0.53 |
| 29:B1:2997:G:H1' | 29:B1:2998:U:OP2 | 2.07 | 0.53 |
| 29:B1:3209:A:N1 | 29:B1:3210:A:C2 | 2.76 | 0.53 |
| 29:B1:3303:G:C2 | 29:B1:3305:A:C4 | 2.95 | 0.53 |
| 31:B3:2:A:C2' | 31:B3:3:A:H5' | 2.39 | 0.53 |
| 31:B3:3:A:H2' | 31:B3:4:C:H5' | 1.89 | 0.53 |
| 31:B3:127:U:O2 | 31:B3:127:U:C2' | 2.56 | 0.53 |
| 34:BC:137:TYR:O | 34:BC:138:ALA:HB3 | 2.08 | 0.53 |
| 37:BF:40:LEU:C | 37:BF:85:ILE:HA | 2.31 | 0.53 |
| 38:BG:199:ASN:C | 38:BG:201:PHE:H | 2.15 | 0.53 |
| 42:BK:133:ARG:CB | 42:BK:155:THR:H | 2.21 | 0.53 |
| 45:BP:109:PRO:O | 45:BP:110:PRO:CB | 2.56 | 0.53 |
| 47:BR:19:PRO:O | 47:BR:20:LYS:CB | 2.56 | 0.53 |
| 52:BW:60:TYR:O | 52:BW:61:LYS:CB | 2.55 | 0.53 |
| 56:Ba:14:ILE:O | 56:Ba:15:ASN:CB | 2.56 | 0.53 |
| 56:Ba:38:LYS:C | 56:Ba:40:ALA:N | 2.66 | 0.53 |
| 1:C1:15:U:C2' | 1:C1:16:G:H5' | 2.38 | 0.53 |
| 1:C1:251:A:H2' | 1:C1:252:U:C5' | 2.38 | 0.53 |
| 1:C1:454:U:O2' | 1:C1:455:C:P | 2.66 | 0.53 |
| 1:C1:521:A:O3' | 1:C1:523:G:C8 | 2.61 | 0.53 |
| 1:C1:635:A:H2' | 1:C1:636:A:H8 | 1.73 | 0.53 |
| 1:C1:993:A:C5 | 1:C1:1012:U:O2 | 2.61 | 0.53 |
| 1:C1:1074:G:O6 | 1:C1:1075:C:C4 | 2.61 | 0.53 |
| 1:C1:1138:A:N1 | 1:C1:1139:A:C6 | 2.76 | 0.53 |
| 1:C1:1150:G:C6 | 1:C1:1151:A:C4 | 2.96 | 0.53 |
| 1:C1:1258:U:C2' | 1:C1:1259:U:O4' | 2.53 | 0.53 |
| 1:C1:1310:U:C2' | 1:C1:1311:U:O5' | 2.57 | 0.53 |
| 1:C1:1429:G:C6 | 1:C1:1430:U:C4 | 2.96 | 0.53 |
| 1:C1:1616:G:N2 | 1:C1:1618:C:H41 | 1.93 | 0.53 |
| 4:CC:80:ALA:C | 4:CC:82:GLY:N | 2.63 | 0.53 |
| 6:CE:77:ILE:C | 6:CE:79:ARG:N | 2.66 | 0.53 |
| 7:CF:80:MET:O | 7:CF:81:HIS:C | 2.50 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:CG:119:GLU:O | 8:CG:122:ILE:N | 2.41 | 0.53 |
| 15:CN:52:LYS:HA | 15:CN:92:ASP:O | 2.08 | 0.53 |
| 16:CO:75:ILE:O | 16:CO:76:SER:O | 2.25 | 0.53 |
| 23:Cb:25:UNK:O | 23:Cb:26:UNK:CB | 2.55 | 0.53 |
| 29:D1:14:U:C4' | 29:D1:15:C:OP2 | 2.43 | 0.53 |
| 29:D1:25:U:C2 | 29:D1:26:A:C8 | 2.96 | 0.53 |
| 29:D1:282:G:C4' | 29:D1:283:G:H8 | 2.20 | 0.53 |
| 29:D1:374:A:C2 | 29:D1:375:A:C4 | 2.96 | 0.53 |
| 29:D1:383:G:H2' | 29:D1:385:A:P | 2.48 | 0.53 |
| 29:D1:429:U:O2' | 29:D1:430:U:H5' | 2.08 | 0.53 |
| 29:D1:504:A:H2' | 29:D1:505:G:C5' | 2.37 | 0.53 |
| 29:D1:593:C:C3' | 29:D1:594:U:O4' | 2.56 | 0.53 |
| 29:D1:648:C:H5 | 29:D1:2375:G:P | 2.31 | 0.53 |
| 29:D1:665:A:N6 | 29:D1:666:A:N6 | 2.56 | 0.53 |
| 29:D1:712:G:H2' | 29:D1:713:U:C6 | 2.43 | 0.53 |
| 29:D1:832:G:N2 | 29:D1:863:C:N1 | 2.55 | 0.53 |
| 29:D1:938:C:H2' | 29:D1:939:U:H5" | 1.90 | 0.53 |
| 29:D1:1544:G:O2' | 29:D1:2167:A:O2' | 2.10 | 0.53 |
| 29:D1:1549:U:H2' | 29:D1:1550:C:H6 | 1.73 | 0.53 |
| 29:D1:1565:G:N1 | 29:D1:1566:A:H1' | 2.23 | 0.53 |
| 29:D1:1702:U:O4 | 29:D1:1703:U:H6 | 1.90 | 0.53 |
| 29:D1:2260:U:C2' | 29:D1:2261:G:N7 | 2.71 | 0.53 |
| 29:D1:2609:A:C4 | 29:D1:2610:G:N7 | 2.76 | 0.53 |
| 29:D1:2649:A:C2 | 29:D1:2650:U:C6 | 2.96 | 0.53 |
| 29:D1:2822:U:H2' | 29:D1:2823:G:O5' | 2.07 | 0.53 |
| 29:D1:3060:C:OP1 | 29:D1:3374:U:H5' | 2.08 | 0.53 |
| 29:D1:3235:C:C4 | 29:D1:3236:U:C5 | 2.97 | 0.53 |
| 29:D1:3352:U:H2' | 29:D1:3352:U:O2 | 2.08 | 0.53 |
| 29:D1:3387:U:C2 | 29:D1:3388:C:N4 | 2.76 | 0.53 |
| 31:D3:90:U:OP2 | 31:D3:90:U:H3' | 2.08 | 0.53 |
| 42:DK:49:LYS:O | 42:DK:50:ALA:HB2 | 2.08 | 0.53 |
| 46:DQ:6:ALA:O | 46:DQ:8:SER:N | 2.41 | 0.53 |
| 47:DR:75:GLY:O | 47:DR:76:ALA:HB2 | 2.08 | 0.53 |
| 57:Db:73:THR:HA | 57:Db:93:ALA:O | 2.09 | 0.53 |
| 57:Db:114:ALA:C | 57:Db:116:GLY:N | 2.65 | 0.53 |
| 59:Dd:68:LYS:C | 59:Dd:70:VAL:N | 2.65 | 0.53 |
| 63:Dh:18:UNK:O | 63:Dh:22:UNK:N | 2.41 | 0.53 |
| 1:A1:55:A:H3' | 1:A1:56:U:C5' | 2.39 | 0.53 |
| 1:A1:125:U:HO2' | 1:A1:126:A:H5' | 1.70 | 0.53 |
| 1:A1:167:U:H6 | 1:A1:167:U:H5" | 1.72 | 0.53 |
| 1:A1:173:A:N6 | 1:A1:174:U:C6 | 2.76 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:284:G:H8 | 25:Ad:114:UNK:O | 1.89 | 0.53 |
| 1:A1:454:U:O2' | 1:A1:455:C:P | 2.66 | 0.53 |
| 1:A1:617:U:H5' | 1:A1:1031:U:O4' | 2.09 | 0.53 |
| 1:A1:832:U:C3' | 1:A1:833:U:H5" | 2.38 | 0.53 |
| 1:A1:1146:G:C6 | 1:A1:1633:A:N6 | 2.76 | 0.53 |
| 1:A1:1194:A:H2' | 1:A1:1195:C:H5' | 1.89 | 0.53 |
| 1:A1:1243:G:N7 | 1:A1:1244:A:N6 | 2.54 | 0.53 |
| 1:A1:1347:U:H3 | 1:A1:1376:C:H41 | 1.55 | 0.53 |
| 1:A1:1503:A:C2' | 1:A1:1504:G:H5' | 2.37 | 0.53 |
| 1:A1:1786:G:H2' | 1:A1:1787:C:C5 | 2.43 | 0.53 |
| 8:AG:69:ASN:O | 8:AG:70:LYS:C | 2.51 | 0.53 |
| 17:AP:129:GLY:O | 17:AP:130:VAL:CB | 2.56 | 0.53 |
| 25:Ad:114:UNK:O | 25:Ad:115:UNK:CB | 2.56 | 0.53 |
| 29:B1:126:U:C2 | 29:B1:127:G:C8 | 2.96 | 0.53 |
| 29:B1:171:G:N3 | 29:B1:172:G:C8 | 2.77 | 0.53 |
| 29:B1:219:A:H2 | 29:B1:1390:A:C2' | 2.19 | 0.53 |
| 29:B1:244:G:H2' | 29:B1:245:U:C5' | 2.38 | 0.53 |
| 29:B1:278:U:OP1 | 61:Bf:49:GLY:N | 2.41 | 0.53 |
| 29:B1:422:A:H3' | 29:B1:2364:G:C5' | 2.38 | 0.53 |
| 29:B1:427:C:H2' | 29:B1:428:A:H5' | 1.90 | 0.53 |
| 29:B1:637:C:O2' | 29:B1:638:C:C6 | 2.55 | 0.53 |
| 29:B1:759:U:C2 | 29:B1:773:G:N1 | 2.76 | 0.53 |
| 29:B1:776:U:H3' | 29:B1:777:U:H5" | 1.87 | 0.53 |
| 29:B1:1097:G:H1' | 29:B1:1098:A:O2' | 2.07 | 0.53 |
| 29:B1:1198:C:H2' | 29:B1:1200:A:C8 | 2.43 | 0.53 |
| 29:B1:1338:C:H2' | 29:B1:1338:C:O2 | 2.07 | 0.53 |
| 29:B1:1390:A:C6 | 29:B1:1418:A:C4 | 2.97 | 0.53 |
| 29:B1:1399:A:C2 | 31:B3:8:C:H1' | 2.44 | 0.53 |
| 29:B1:1856:C:O2' | 29:B1:1857:C:H5' | 2.08 | 0.53 |
| 29:B1:2145:A:O4' | 29:B1:2958:A:H4' | 2.08 | 0.53 |
| 29:B1:2163:C:H2' | 29:B1:2163:C:O2 | 2.08 | 0.53 |
| 29:B1:2190:U:C4 | 29:B1:2191:U:C4 | 2.97 | 0.53 |
| 29:B1:2290:C:N3 | 29:B1:2303:A:N1 | 2.56 | 0.53 |
| 29:B1:2407:C:C2 | 29:B1:2815:G:N2 | 2.76 | 0.53 |
| 29:B1:2435:G:C6 | 29:B1:2593:A:C5 | 2.97 | 0.53 |
| 29:B1:2561:A:H2' | 29:B1:2562:A:C8 | 2.39 | 0.53 |
| 29:B1:2639:G:C2 | 29:B1:2640:A:N9 | 2.76 | 0.53 |
| 29:B1:2727:A:OP1 | 49:BT:81:GLY:O | 2.26 | 0.53 |
| 29:B1:2868:U:H5" | 29:B1:2869:U:OP2 | 2.08 | 0.53 |
| 29:B1:3013:U:H5" | 29:B1:3013:U:H6 | 1.73 | 0.53 |
| 29:B1:3294:A:C2' | 29:B1:3295:A:H5' | 2.39 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:B2:74:C:C6 | 30:B2:75:G:C8 | 2.96 | 0.53 |
| 31:B3:53:A:C5 | 31:B3:54:A:N7 | 2.76 | 0.53 |
| 33:BB:172:GLY:O | 33:BB:173:GLY:C | 2.50 | 0.53 |
| 35:BD:82:THR:O | 35:BD:84:ARG:O | 2.26 | 0.53 |
| 36:BE:217:GLU:O | 36:BE:221:GLU:N | 2.35 | 0.53 |
| 37:BF:30:LEU:CB | 37:BF:31:ARG:CA | 2.86 | 0.53 |
| 37:BF:171:PRO:O | 37:BF:172:HIS:CB | 2.57 | 0.53 |
| 41:BJ:17:TYR:O | 41:BJ:19:LYS:N | 2.42 | 0.53 |
| 42:BK:34:SER:O | 42:BK:35:LYS:C | 2.51 | 0.53 |
| 42:BK:50:ALA:CB | 42:BK:63:GLU:H | 2.16 | 0.53 |
| 43:BN:28:SER:O | 43:BN:29:ALA:CB | 2.55 | 0.53 |
| 43:BN:76:ALA:C | 43:BN:78:THR:H | 2.17 | 0.53 |
| 45:BP:139:GLY:O | 45:BP:143:THR:N | 2.40 | 0.53 |
| 46:BQ:70:THR:O | 46:BQ:71:ALA:C | 2.51 | 0.53 |
| 54:BY:21:ARG:O | 54:BY:22:ILE:CB | 2.56 | 0.53 |
| 56:Ba:84:ASP:O | 56:Ba:85:ALA:HB3 | 2.08 | 0.53 |
| 61:Bf:80:ARG:O | 61:Bf:81:ALA:C | 2.51 | 0.53 |
| 70:Bq:14:UNK:O | 70:Bq:17:UNK:N | 2.42 | 0.53 |
| 1:C1:116:U:H2' | 1:C1:117:U:C6 | 2.42 | 0.53 |
| 1:C1:168:A:C6 | 1:C1:169:A:C6 | 2.96 | 0.53 |
| 1:C1:244:A:H2' | 1:C1:245:U:H6 | 1.74 | 0.53 |
| 1:C1:378:A:H2' | 1:C1:379:U:O5' | 2.08 | 0.53 |
| 1:C1:400:A:H5' | 1:C1:401:A:H5' | 1.89 | 0.53 |
| 1:C1:734:A:N7 | 1:C1:735:C:C4 | 2.75 | 0.53 |
| 1:C1:800:U:H2' | 1:C1:801:G:C8 | 2.43 | 0.53 |
| 1:C1:1378:U:O4' | 1:C1:1379:C:H6 | 1.92 | 0.53 |
| 1:C1:1438:G:H2' | 1:C1:1439:C:O4' | 2.08 | 0.53 |
| 1:C1:1458:G:H5" | 1:C1:1458:G:C4 | 2.43 | 0.53 |
| 1:C1:1471:A:H2' | 1:C1:1471:A:N3 | 2.23 | 0.53 |
| 1:C1:1538:U:C6 | 1:C1:1538:U:C3' | 2.91 | 0.53 |
| 1:C1:1745:G:H8 | 1:C1:1745:G:O5' | 1.90 | 0.53 |
| 6:CE:66:ASP:C | 6:CE:68:LYS:N | 2.50 | 0.53 |
| 6:CE:135:ALA:CB | 6:CE:140:ILE:HA | 2.39 | 0.53 |
| 24:Cc:22:UNK:C | 24:Cc:24:UNK:N | 2.69 | 0.53 |
| 28:Ch:51:UNK:C | 28:Ch:53:UNK:N | 2.66 | 0.53 |
| 29:D1:64:G:H8 | 29:D1:64:G:O5' | 1.91 | 0.53 |
| 29:D1:80:G:O6 | 29:D1:106:A:N6 | 2.41 | 0.53 |
| 29:D1:208:C:C2' | 29:D1:209:A:H5' | 2.23 | 0.53 |
| 29:D1:208:C:C2 | 29:D1:209:A:C8 | 2.97 | 0.53 |
| 29:D1:670:C:O2' | 29:D1:671:U:H5' | 2.07 | 0.53 |
| 29:D1:845:G:H2' | 29:D1:846:A:O5' | 2.09 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:876:A:C2' | 29:D1:877:C:H5' | 2.39 | 0.53 |
| 29:D1:945:C:C2 | 29:D1:946:U:C6 | 2.96 | 0.53 |
| 29:D1:949:C:C2' | 29:D1:950:G:H5' | 2.38 | 0.53 |
| 29:D1:993:G:C6 | 29:D1:2637:A:C6 | 2.97 | 0.53 |
| 29:D1:1209:G:H2' | 29:D1:1210:U:O4' | 2.08 | 0.53 |
| 29:D1:1220:U:P | 29:D1:1222:G:HO2' | 2.30 | 0.53 |
| 29:D1:1283:C:OP1 | 73:DM:81:LYS:O | 2.27 | 0.53 |
| 29:D1:1289:G:C4' | 29:D1:1290:A:OP1 | 2.52 | 0.53 |
| 29:D1:1340:G:C4 | 29:D1:1341:U:C5 | 2.96 | 0.53 |
| 29:D1:1608:C:C2 | 29:D1:1609:C:C5 | 2.96 | 0.53 |
| 29:D1:1720:U:H3' | 29:D1:1720:U:C6 | 2.43 | 0.53 |
| 29:D1:1907:C:C5 | 29:D1:1908:A:C4 | 2.96 | 0.53 |
| 29:D1:1939:G:H2' | 29:D1:1940:G:C5' | 2.38 | 0.53 |
| 29:D1:2157:G:N2 | 33:DB:125:ALA:HA | 2.23 | 0.53 |
| 29:D1:2676:A:C2 | 29:D1:2680:A:C2 | 2.94 | 0.53 |
| 29:D1:2848:G:C6 | 29:D1:2849:C:C5 | 2.96 | 0.53 |
| 29:D1:2895:G:H5' | 29:D1:3107:U:O2' | 2.09 | 0.53 |
| 29:D1:2912:G:C6 | 29:D1:3130:A:C4 | 2.96 | 0.53 |
| 29:D1:3296:A:C4 | 29:D1:3297:U:C6 | 2.97 | 0.53 |
| 31:D3:40:A:C4 | 31:D3:41:A:N7 | 2.77 | 0.53 |
| 31:D3:67:U:C3' | 31:D3:68:G:H8 | 2.14 | 0.53 |
| 31:D3:81:U:C3' | 31:D3:82:U:C5' | 2.85 | 0.53 |
| 31:D3:101:U:H2' | 31:D3:102:U:O5' | 2.07 | 0.53 |
| 33:DB:172:GLY:N | 62:Dg:68:ALA:CB | 2.72 | 0.53 |
| 35:DD:168:ALA:C | 35:DD:170:LYS:H | 2.16 | 0.53 |
| 36:DE:50:ARG:HA | 36:DE:145:PHE:H | 1.73 | 0.53 |
| 37:DF:131:LYS:O | 38:DG:70:LYS:O | 2.26 | 0.53 |
| 40:DI:87:LYS:HA | 40:DI:147:SER:CB | 2.38 | 0.53 |
| 59:Dd:43:LYS:C | 59:Dd:45:ARG:H | 2.16 | 0.53 |
| 1:A1:15:U:O2' | 1:A1:16:G:H5' | 2.08 | 0.53 |
| 1:A1:126:A:C6 | 1:A1:292:U:C2 | 2.96 | 0.53 |
| 1:A1:156:A:H8 | 1:A1:156:A:O5' | 1.91 | 0.53 |
| 1:A1:166:C:N4 | 1:A1:167:U:O4 | 2.42 | 0.53 |
| 1:A1:195:G:H1' | 1:A1:196:G:OP1 | 2.08 | 0.53 |
| 1:A1:272:U:H1' | 1:A1:273:G:OP1 | 2.09 | 0.53 |
| 1:A1:286:C:H2' | 1:A1:287:G:H8 | 1.73 | 0.53 |
| 1:A1:351:C:H4' | 1:A1:352:A:OP2 | 2.08 | 0.53 |
| 1:A1:605:A:N6 | 1:A1:606:A:H61 | 2.05 | 0.53 |
| 1:A1:642:G:C6 | 1:A1:643:G:C5 | 2.97 | 0.53 |
| 1:A1:772:G:C5 | 1:A1:773:C:C4 | 2.96 | 0.53 |
| 1:A1:791:A:C4 | 1:A1:792:U:H5 | 2.27 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1032:G:C6 | 1:A1:1104:U:O4 | 2.62 | 0.53 |
| 1:A1:1161:C:H1' | 1:A1:1620:C:H42 | 1.69 | 0.53 |
| 1:A1:1375:A:H2' | 1:A1:1376:C:C2 | 2.43 | 0.53 |
| 1:A1:1379:C:H5' | 1:A1:1380:U:OP2 | 2.08 | 0.53 |
| 1:A1:1435:G:H4' | 1:A1:1436:A:H5' | 1.90 | 0.53 |
| 1:A1:1512:G:H2' | 1:A1:1513:G:H8 | 1.72 | 0.53 |
| 1:A1:1540:G:O2' | 1:A1:1541:G:H5' | 2.09 | 0.53 |
| 1:A1:1634:C:OP1 | 1:A1:1634:C:C5 | 2.62 | 0.53 |
| 1:A1:1656:U:OP2 | 1:A1:1656:U:C6 | 2.61 | 0.53 |
| 1:A1:1682:U:C2 | 1:A1:1683:C:N4 | 2.77 | 0.53 |
| 13:AL:33:THR:C | 13:AL:35:ILE:N | 2.64 | 0.53 |
| 15:AN:24:ILE:HA | 15:AN:115:GLU:O | 2.08 | 0.53 |
| 21:AT:173:GLY:C | 21:AT:175:ASP:H | 2.16 | 0.53 |
| 28:Ah:56:UNK:C | 28:Ah:58:UNK:N | 2.69 | 0.53 |
| 29:B1:111:C:O2 | 29:B1:111:C:C2' | 2.55 | 0.53 |
| 29:B1:176:G:O2' | 29:B1:177:U:C6 | 2.60 | 0.53 |
| 29:B1:543:C:H2' | 29:B1:544:C:H5' | 1.90 | 0.53 |
| 29:B1:594:U:N3 | 29:B1:595:G:C2 | 2.76 | 0.53 |
| 29:B1:597:G:H2' | 29:B1:598:A:C8 | 2.41 | 0.53 |
| 29:B1:659:G:O2' | 29:B1:660:A:C8 | 2.61 | 0.53 |
| 29:B1:661:G:C2 | 29:B1:802:C:H6 | 2.26 | 0.53 |
| 29:B1:705:A:C8 | 29:B1:715:A:N6 | 2.77 | 0.53 |
| 29:B1:716:A:P | 29:B1:716:A:O4' | 2.66 | 0.53 |
| 29:B1:718:G:H1' | 29:B1:719:U:OP2 | 2.07 | 0.53 |
| 29:B1:750:G:H1 | 29:B1:784:A:C1' | 2.21 | 0.53 |
| 29:B1:859:G:N2 | 29:B1:861:C:C1' | 2.69 | 0.53 |
| 29:B1:945:C:C2 | 29:B1:1375:G:N2 | 2.77 | 0.53 |
| 29:B1:953:G:H8 | 29:B1:953:G:C3' | 2.14 | 0.53 |
| 29:B1:1035:G:C5 | 29:B1:1036:A:C8 | 2.96 | 0.53 |
| 29:B1:1099:A:H2' | 29:B1:1100:U:H5' | 1.91 | 0.53 |
| 29:B1:1128:U:C5' | 29:B1:1129:A:OP2 | 2.57 | 0.53 |
| 29:B1:1178:G:N7 | 29:B1:1179:A:C2 | 2.77 | 0.53 |
| 29:B1:1229:G:C2 | 29:B1:1230:G:C5 | 2.95 | 0.53 |
| 29:B1:1838:G:H4' | 29:B1:1839:A:N9 | 2.23 | 0.53 |
| 29:B1:2116:G:C2 | 29:B1:3064:U:H5" | 2.44 | 0.53 |
| 29:B1:2173:U:C4 | 29:B1:2174:G:C5 | 2.96 | 0.53 |
| 29:B1:2181:C:H2' | 29:B1:2182:A:O5' | 2.09 | 0.53 |
| 29:B1:2331:C:H2' | 29:B1:2332:A:O4' | 2.09 | 0.53 |
| 29:B1:2333:C:H2' | 29:B1:2334:U:O4' | 2.09 | 0.53 |
| 29:B1:2354:C:O2 | 29:B1:2354:C:C2' | 2.56 | 0.53 |
| 29:B1:2368:A:H2' | 29:B1:2369:G:H5' | 1.91 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2646:C:C2' | 29:B1:2647:A:H5' | 2.38 | 0.53 |
| 29:B1:2841:G:H3' | 29:B1:2842:U:H5' | 1.91 | 0.53 |
| 29:B1:3057:U:O2' | 29:B1:3059:G:H8 | 1.92 | 0.53 |
| 29:B1:3057:U:HO2' | 29:B1:3059:G:H8 | 1.56 | 0.53 |
| 29:B1:3133:C:C2' | 29:B1:3134:A:O5' | 2.57 | 0.53 |
| 29:B1:3219:G:H1' | 29:B1:3257:C:H5' | 1.90 | 0.53 |
| 29:B1:3372:A:C5 | 29:B1:3373:U:C4 | 2.96 | 0.53 |
| 31:B3:13:A:H2' | 31:B3:14:C:H6 | 1.73 | 0.53 |
| 31:B3:34:U:C2 | 31:B3:34:U:C3' | 2.84 | 0.53 |
| 46:BQ:85:ALA:O | 46:BQ:86:LYS:C | 2.49 | 0.53 |
| 53:BX:24:SER:C | 53:BX:26:GLN:N | 2.67 | 0.53 |
| 61:Bf:3:ASN:HA | 61:Bf:93:LEU:O | 2.09 | 0.53 |
| 1:C1:26:A:C2 | 1:C1:600:U:O2 | 2.59 | 0.53 |
| 1:C1:115:G:H21 | 1:C1:334:G:N2 | 2.02 | 0.53 |
| 1:C1:129:U:C6 | 1:C1:264:G:C6 | 2.95 | 0.53 |
| 1:C1:138:A:C6 | 1:C1:142:G:C1' | 2.92 | 0.53 |
| 1:C1:406:U:OP2 | 1:C1:406:U:C6 | 2.62 | 0.53 |
| 1:C1:488:G:C2 | 1:C1:489:C:O2 | 2.61 | 0.53 |
| 1:C1:868:G:H2' | 1:C1:869:A:H5' | 1.91 | 0.53 |
| 1:C1:1058:U:O2 | 1:C1:1060:U:H5' | 2.08 | 0.53 |
| 1:C1:1137:A:H2 | 1:C1:1138:A:C5 | 2.26 | 0.53 |
| 1:C1:1142:A:H5' | 1:C1:1142:A:C8 | 2.43 | 0.53 |
| 1:C1:1183:A:N6 | 1:C1:1184:A:N1 | 2.56 | 0.53 |
| 1:C1:1295:G:C1' | 1:C1:1321:A:C2 | 2.91 | 0.53 |
| 1:C1:1332:C:O2' | 1:C1:1333:C:O5' | 2.25 | 0.53 |
| 1:C1:1348:A:C5 | 1:C1:1379:C:C4 | 2.96 | 0.53 |
| 1:C1:1374:C:C4 | 1:C1:1375:A:N1 | 2.77 | 0.53 |
| 1:C1:1391:A:C8 | 1:C1:1412:G:C6 | 2.96 | 0.53 |
| 1:C1:1419:G:C2' | 1:C1:1420:C:O5' | 2.57 | 0.53 |
| 1:C1:1534:G:H4' | 1:C1:1536:G:O6 | 2.07 | 0.53 |
| 1:C1:1584:G:N3 | 1:C1:1585:U:OP1 | 2.41 | 0.53 |
| 2:CA:201:LEU:O | 2:CA:202:TYR:CB | 2.56 | 0.53 |
| 3:CB:147:ASN:C | 3:CB:149:GLY:H | 2.15 | 0.53 |
| 5:CD:163:SER:O | 5:CD:165:LEU:N | 2.41 | 0.53 |
| 14:CM:26:GLY:C | 14:CM:28:LEU:H | 2.15 | 0.53 |
| 14:CM:57:ARG:O | 14:CM:58:ALA:CB | 2.56 | 0.53 |
| 21:CT:42:LEU:O | 21:CT:60:SER:HA | 2.09 | 0.53 |
| 29:D1:9:U:O4 | 29:D1:10:C:C5 | 2.61 | 0.53 |
| 29:D1:22:G:O6 | 31:D3:36:G:C6 | 2.61 | 0.53 |
| 29:D1:48:A:C2 | 29:D1:50:U:O4 | 2.62 | 0.53 |
| 29:D1:342:A:C6 | 29:D1:368:G:C4 | 2.97 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:398:A:C2 | 29:D1:1415:U:H5” | 2.43 | 0.53 |
| 29:D1:423:A:O2’ | 29:D1:424:G:O5’ | 2.26 | 0.53 |
| 29:D1:518:G:H1 | 29:D1:572:A:H61 | 1.55 | 0.53 |
| 29:D1:632:G:H2’ | 29:D1:633:C:O5’ | 2.08 | 0.53 |
| 29:D1:733:G:N2 | 29:D1:734:C:H2’ | 2.22 | 0.53 |
| 29:D1:767:U:OP2 | 29:D1:767:U:H6 | 1.91 | 0.53 |
| 29:D1:776:U:P | 29:D1:777:U:OP2 | 2.66 | 0.53 |
| 29:D1:944:C:C5 | 29:D1:1431:G:C6 | 2.97 | 0.53 |
| 29:D1:966:U:H2’ | 29:D1:967:A:H8 | 1.70 | 0.53 |
| 29:D1:967:A:H5’ | 29:D1:968:G:OP2 | 2.08 | 0.53 |
| 29:D1:991:G:C4 | 29:D1:992:A:C8 | 2.97 | 0.53 |
| 29:D1:1130:A:H5’ | 29:D1:1130:A:C8 | 2.44 | 0.53 |
| 29:D1:1342:C:H3’ | 29:D1:1343:A:H8 | 1.73 | 0.53 |
| 29:D1:1399:A:N3 | 29:D1:1399:A:C2’ | 2.70 | 0.53 |
| 29:D1:1559:A:N6 | 29:D1:1579:C:H2’ | 2.22 | 0.53 |
| 29:D1:1561:G:O2’ | 29:D1:1562:C:H5’ | 2.09 | 0.53 |
| 29:D1:1659:U:C2 | 29:D1:1660:C:C5 | 2.97 | 0.53 |
| 29:D1:1845:G:C2’ | 29:D1:1846:C:OP1 | 2.55 | 0.53 |
| 29:D1:1912:U:N3 | 29:D1:1913:A:C2 | 2.76 | 0.53 |
| 29:D1:2144:A:C6 | 29:D1:2281:A:C2 | 2.97 | 0.53 |
| 29:D1:2198:A:O2’ | 29:D1:2199:G:H5’ | 2.08 | 0.53 |
| 29:D1:2218:G:C6 | 29:D1:2228:A:C6 | 2.96 | 0.53 |
| 29:D1:2270:A:C2 | 29:D1:2271:A:N3 | 2.77 | 0.53 |
| 29:D1:2929:C:C6 | 29:D1:2929:C:H3’ | 2.44 | 0.53 |
| 29:D1:3035:A:C6 | 29:D1:3036:G:C5 | 2.96 | 0.53 |
| 29:D1:3282:U:O2’ | 29:D1:3283:U:C5 | 2.62 | 0.53 |
| 30:D2:12:U:C4 | 30:D2:70:U:OP1 | 2.62 | 0.53 |
| 30:D2:14:U:OP2 | 30:D2:14:U:C1’ | 2.57 | 0.53 |
| 30:D2:33:U:O2 | 30:D2:33:U:C2’ | 2.55 | 0.53 |
| 30:D2:95:A:N3 | 30:D2:96:U:C6 | 2.77 | 0.53 |
| 31:D3:90:U:H3’ | 31:D3:90:U:P | 2.49 | 0.53 |
| 33:DB:183:GLY:N | 33:DB:185:ALA:H | 2.06 | 0.53 |
| 36:DE:138:GLY:O | 36:DE:139:PRO:CB | 2.55 | 0.53 |
| 37:DF:120:ASN:O | 37:DF:121:LEU:CB | 2.57 | 0.53 |
| 38:DG:69:ALA:C | 38:DG:71:ALA:N | 2.66 | 0.53 |
| 38:DG:242:SER:O | 38:DG:243:MET:CB | 2.57 | 0.53 |
| 42:DK:156:LYS:C | 42:DK:158:ASP:H | 2.16 | 0.53 |
| 47:DR:125:ASP:O | 47:DR:126:GLN:C | 2.52 | 0.53 |
| 55:DZ:51:LEU:O | 55:DZ:53:LYS:N | 2.37 | 0.53 |
| 57:Db:121:ASN:O | 57:Db:122:PRO:C | 2.52 | 0.53 |
| 1:A1:15:U:O4’ | 1:A1:619:A:C2 | 2.61 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:72:A:C2 | 1:A1:73:U:C6 | 2.96 | 0.53 |
| 1:A1:222:A:N7 | 1:A1:223:U:C5 | 2.77 | 0.53 |
| 1:A1:475:A:H8 | 1:A1:475:A:OP2 | 1.92 | 0.53 |
| 1:A1:488:G:C2 | 1:A1:489:C:O2 | 2.61 | 0.53 |
| 1:A1:773:C:O2 | 1:A1:774:A:H8 | 1.91 | 0.53 |
| 1:A1:788:A:H5" | 1:A1:789:A:O5' | 2.08 | 0.53 |
| 1:A1:872:G:C2 | 1:A1:873:U:H1' | 2.43 | 0.53 |
| 1:A1:966:A:O2' | 1:A1:967:A:O5' | 2.23 | 0.53 |
| 1:A1:1107:G:O2' | 1:A1:1108:G:OP1 | 2.27 | 0.53 |
| 1:A1:1183:A:C6 | 1:A1:1184:A:N1 | 2.77 | 0.53 |
| 1:A1:1196:A:C4' | 1:A1:1197:C:C5' | 2.86 | 0.53 |
| 1:A1:1197:C:O2 | 1:A1:1197:C:C2' | 2.56 | 0.53 |
| 1:A1:1370:U:N3 | 1:A1:1371:A:C8 | 2.77 | 0.53 |
| 1:A1:1491:U:H2' | 1:A1:1492:A:H2' | 1.91 | 0.53 |
| 1:A1:1561:U:H2' | 1:A1:1562:G:H8 | 1.73 | 0.53 |
| 1:A1:1754:A:H2' | 74:A1:1941:OHX:N1 | 2.22 | 0.53 |
| 2:AA:6:THR:C | 2:AA:8:ASP:H | 2.16 | 0.53 |
| 5:AD:59:VAL:HA | 5:AD:62:VAL:CB | 2.38 | 0.53 |
| 6:AE:73:GLY:C | 6:AE:75:ALA:H | 2.14 | 0.53 |
| 6:AE:100:LYS:O | 6:AE:104:PHE:N | 2.41 | 0.53 |
| 10:AI:11:VAL:C | 10:AI:13:LYS:H | 2.16 | 0.53 |
| 10:AI:68:PRO:HA | 10:AI:69:GLU:C | 2.32 | 0.53 |
| 13:AL:68:ARG:HA | 13:AL:71:GLN:CB | 2.38 | 0.53 |
| 17:AP:44:GLY:O | 17:AP:45:GLY:C | 2.52 | 0.53 |
| 17:AP:127:VAL:CA | 17:AP:128:SER:C | 2.81 | 0.53 |
| 29:B1:197:G:C4 | 29:B1:395:A:C8 | 2.97 | 0.53 |
| 29:B1:258:G:N2 | 29:B1:259:C:N1 | 2.57 | 0.53 |
| 29:B1:396:A:H8 | 29:B1:396:A:H5' | 1.74 | 0.53 |
| 29:B1:739:G:C2' | 29:B1:740:G:H8 | 2.20 | 0.53 |
| 29:B1:761:A:H61 | 29:B1:770:G:H22 | 1.56 | 0.53 |
| 29:B1:877:C:H6 | 29:B1:877:C:H3' | 1.74 | 0.53 |
| 29:B1:980:A:N6 | 29:B1:1104:G:C8 | 2.64 | 0.53 |
| 29:B1:1024:G:C5 | 29:B1:1025:A:N7 | 2.77 | 0.53 |
| 29:B1:1199:C:N3 | 74:B1:3587:OHX:N6 | 2.57 | 0.53 |
| 29:B1:1202:A:C6 | 29:B1:1301:A:C4 | 2.96 | 0.53 |
| 29:B1:1289:G:H2' | 29:B1:1290:A:O4' | 2.09 | 0.53 |
| 29:B1:1289:G:N3 | 29:B1:1290:A:C8 | 2.77 | 0.53 |
| 29:B1:1744:G:O2' | 29:B1:1745:C:H5' | 2.08 | 0.53 |
| 29:B1:1780:G:C2 | 29:B1:1781:C:C4 | 2.96 | 0.53 |
| 29:B1:2252:A:C2 | 29:B1:2253:G:C4 | 2.97 | 0.53 |
| 29:B1:2423:U:H2' | 29:B1:2424:A:H8 | 1.71 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2607:G:N1 | 29:B1:2608:G:C5 | 2.76 | 0.53 |
| 29:B1:2618:G:N2 | 29:B1:2644:C:O2' | 2.41 | 0.53 |
| 29:B1:2730:G:C5 | 29:B1:2731:U:C5 | 2.96 | 0.53 |
| 29:B1:2735:U:O3' | 49:BT:50:LYS:CB | 2.56 | 0.53 |
| 29:B1:2833:A:C2 | 29:B1:2834:G:C8 | 2.97 | 0.53 |
| 29:B1:2850:G:H5" | 29:B1:2850:G:C8 | 2.44 | 0.53 |
| 29:B1:2933:A:N6 | 29:B1:2934:A:C2 | 2.77 | 0.53 |
| 29:B1:2945:G:C8 | 29:B1:2979:U:O2 | 2.62 | 0.53 |
| 29:B1:2959:C:C5' | 29:B1:2960:C:OP2 | 2.57 | 0.53 |
| 29:B1:2980:U:O2' | 29:B1:2981:U:H5' | 2.09 | 0.53 |
| 29:B1:2998:U:OP1 | 29:B1:3396:U:O4' | 2.27 | 0.53 |
| 29:B1:3064:U:O2 | 29:B1:3065:G:C8 | 2.62 | 0.53 |
| 29:B1:3086:A:H2' | 29:B1:3087:A:H8 | 1.73 | 0.53 |
| 29:B1:3141:A:C2 | 29:B1:3143:C:O3' | 2.61 | 0.53 |
| 29:B1:3280:U:C2 | 29:B1:3281:U:C5 | 2.96 | 0.53 |
| 29:B1:3356:G:C2' | 29:B1:3357:U:O5' | 2.55 | 0.53 |
| 29:B1:3391:A:N1 | 29:B1:3392:U:C5 | 2.76 | 0.53 |
| 29:B1:3391:A:N3 | 29:B1:3392:U:C6 | 2.76 | 0.53 |
| 29:B1:3394:U:HO2' | 29:B1:3395:G:H8 | 1.56 | 0.53 |
| 30:B2:14:U:HO2' | 30:B2:15:C:C4' | 2.22 | 0.53 |
| 30:B2:69:C:C2 | 30:B2:70:U:C5 | 2.96 | 0.53 |
| 30:B2:89:G:N2 | 30:B2:91:G:O5' | 2.42 | 0.53 |
| 30:B2:113:C:H2' | 30:B2:114:U:H6 | 1.74 | 0.53 |
| 31:B3:90:U:H3' | 31:B3:90:U:OP2 | 2.09 | 0.53 |
| 31:B3:151:C:O5' | 31:B3:151:C:H6 | 1.92 | 0.53 |
| 34:BC:111:SER:HA | 34:BC:112:ASP:C | 2.34 | 0.53 |
| 34:BC:192:VAL:O | 34:BC:195:ALA:N | 2.40 | 0.53 |
| 36:BE:138:GLY:O | 36:BE:139:PRO:CB | 2.56 | 0.53 |
| 37:BF:152:THR:HA | 37:BF:156:LYS:CB | 2.39 | 0.53 |
| 42:BK:84:LEU:O | 42:BK:85:LYS:O | 2.26 | 0.53 |
| 43:BN:48:GLY:C | 43:BN:50:LYS:CA | 2.80 | 0.53 |
| 44:BO:83:LYS:H | 44:BO:84:PRO:C | 2.15 | 0.53 |
| 44:BO:157:LYS:C | 44:BO:159:ARG:N | 2.66 | 0.53 |
| 48:BS:66:HIS:O | 48:BS:68:GLN:N | 2.41 | 0.53 |
| 58:Bc:4:VAL:HA | 58:Bc:5:LYS:CB | 2.39 | 0.53 |
| 1:C1:7:G:H4' | 1:C1:573:C:H4' | 1.90 | 0.53 |
| 1:C1:62:A:H1' | 1:C1:63:G:P | 2.48 | 0.53 |
| 1:C1:185:U:H2' | 1:C1:186:C:O4' | 2.09 | 0.53 |
| 1:C1:246:G:C6 | 1:C1:247:A:N3 | 2.75 | 0.53 |
| 1:C1:268:C:N3 | 1:C1:288:A:C2 | 2.76 | 0.53 |
| 1:C1:324:U:H5' | 1:C1:324:U:H6 | 1.73 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:515:A:P | 74:C1:1933:OHX:N4 | 2.82 | 0.53 |
| 1:C1:515:A:C2' | 1:C1:516:G:OP1 | 2.55 | 0.53 |
| 1:C1:604:A:C6 | 1:C1:605:A:N1 | 2.76 | 0.53 |
| 1:C1:829:A:H1' | 1:C1:830:U:C5' | 2.39 | 0.53 |
| 1:C1:829:A:HO2' | 1:C1:830:U:P | 2.28 | 0.53 |
| 1:C1:1001:A:C8 | 1:C1:1002:G:N7 | 2.76 | 0.53 |
| 1:C1:1310:U:H2' | 1:C1:1311:U:H6 | 1.73 | 0.53 |
| 1:C1:1379:C:H3' | 1:C1:1380:U:H5' | 1.89 | 0.53 |
| 1:C1:1400:A:C2 | 1:C1:1401:A:C4 | 2.97 | 0.53 |
| 1:C1:1473:U:O4' | 1:C1:1473:U:O2 | 2.26 | 0.53 |
| 1:C1:1690:G:H1' | 1:C1:1714:A:H2 | 1.74 | 0.53 |
| 8:CG:119:GLU:O | 8:CG:121:ARG:N | 2.42 | 0.53 |
| 9:CH:17:ALA:HB2 | 9:CH:30:VAL:CB | 2.39 | 0.53 |
| 14:CM:62:ALA:C | 14:CM:64:HIS:N | 2.64 | 0.53 |
| 16:CO:112:ASP:O | 16:CO:114:GLU:N | 2.41 | 0.53 |
| 21:CT:173:GLY:C | 21:CT:175:ASP:H | 2.15 | 0.53 |
| 29:D1:26:A:C2' | 29:D1:27:C:H6 | 2.20 | 0.53 |
| 29:D1:519:A:N6 | 37:DF:30:LEU:C | 2.67 | 0.53 |
| 29:D1:556:U:C2' | 29:D1:557:A:C1' | 2.81 | 0.53 |
| 29:D1:869:G:H3' | 29:D1:870:G:H8 | 1.73 | 0.53 |
| 29:D1:924:G:C8 | 29:D1:2809:C:O2 | 2.62 | 0.53 |
| 29:D1:964:G:C6 | 29:D1:965:A:C5 | 2.96 | 0.53 |
| 29:D1:1054:A:N3 | 29:D1:1054:A:C2' | 2.69 | 0.53 |
| 29:D1:1077:U:C2 | 29:D1:1083:G:N2 | 2.76 | 0.53 |
| 29:D1:1126:G:C2 | 29:D1:1133:A:C2 | 2.97 | 0.53 |
| 29:D1:1339:C:C2 | 29:D1:1340:G:C8 | 2.97 | 0.53 |
| 29:D1:1394:A:C8 | 29:D1:1394:A:H3' | 2.43 | 0.53 |
| 29:D1:1461:A:C2' | 29:D1:1462:A:H8 | 2.20 | 0.53 |
| 29:D1:1845:G:H2' | 29:D1:1846:C:OP1 | 2.08 | 0.53 |
| 29:D1:1879:A:H3' | 29:D1:1879:A:P | 2.49 | 0.53 |
| 29:D1:1884:A:C4 | 29:D1:1885:U:C2 | 2.97 | 0.53 |
| 29:D1:2160:G:O6 | 29:D1:2174:G:O6 | 2.27 | 0.53 |
| 29:D1:2196:C:C4 | 29:D1:2242:A:N7 | 2.76 | 0.53 |
| 29:D1:2353:G:N3 | 29:D1:2354:C:H6 | 2.06 | 0.53 |
| 29:D1:2356:A:N1 | 29:D1:2357:A:C4 | 2.76 | 0.53 |
| 29:D1:2694:A:H2' | 29:D1:2695:A:C1' | 2.38 | 0.53 |
| 29:D1:2925:C:C6 | 29:D1:2926:A:C8 | 2.97 | 0.53 |
| 29:D1:2990:G:H5' | 34:DC:20:LYS:CB | 2.38 | 0.53 |
| 29:D1:3003:G:N1 | 29:D1:3004:C:C4 | 2.76 | 0.53 |
| 29:D1:3012:A:C5 | 29:D1:3013:U:H5 | 2.26 | 0.53 |
| 29:D1:3101:G:C6 | 29:D1:3134:A:C2 | 2.97 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3225:C:C4 | 29:D1:3226:A:N6 | 2.76 | 0.53 |
| 29:D1:3330:A:H2' | 29:D1:3331:U:O5' | 2.09 | 0.53 |
| 30:D2:5:G:H3' | 30:D2:6:C:H5" | 1.90 | 0.53 |
| 30:D2:88:G:O6 | 30:D2:89:G:O6 | 2.25 | 0.53 |
| 30:D2:95:A:C2 | 30:D2:96:U:N3 | 2.77 | 0.53 |
| 31:D3:30:C:O2 | 31:D3:31:G:C8 | 2.62 | 0.53 |
| 31:D3:53:A:C5 | 31:D3:54:A:N7 | 2.77 | 0.53 |
| 33:DB:184:ARG:C | 33:DB:186:PHE:N | 2.65 | 0.53 |
| 35:DD:192:GLY:O | 35:DD:193:LYS:C | 2.51 | 0.53 |
| 38:DG:179:LEU:O | 38:DG:180:SER:CB | 2.57 | 0.53 |
| 41:DJ:53:VAL:H | 41:DJ:164:LYS:CB | 2.21 | 0.53 |
| 72:DL:131:GLU:O | 72:DL:132:ILE:C | 2.52 | 0.53 |
| 43:DN:34:ALA:O | 43:DN:47:ASP:N | 2.42 | 0.53 |
| 45:DP:112:TYR:O | 45:DP:113:ASP:CB | 2.56 | 0.53 |
| 46:DQ:85:ALA:O | 46:DQ:88:VAL:N | 2.41 | 0.53 |
| 55:DZ:68:TYR:O | 55:DZ:69:TYR:C | 2.51 | 0.53 |
| 1:A1:22:A:C2 | 1:A1:604:A:C2 | 2.96 | 0.53 |
| 1:A1:44:U:O5' | 1:A1:45:U:C5 | 2.54 | 0.53 |
| 1:A1:85:A:H2 | 1:A1:148:A:N3 | 2.06 | 0.53 |
| 1:A1:129:U:C4 | 1:A1:264:G:C5 | 2.96 | 0.53 |
| 1:A1:282:C:C2' | 1:A1:283:U:H5' | 2.36 | 0.53 |
| 1:A1:387:A:H2' | 1:A1:402:C:C6 | 2.43 | 0.53 |
| 1:A1:473:A:N6 | 1:A1:474:A:C2 | 2.77 | 0.53 |
| 1:A1:607:G:N7 | 1:A1:613:G:C5 | 2.76 | 0.53 |
| 1:A1:737:A:O2' | 1:A1:738:G:OP2 | 2.27 | 0.53 |
| 1:A1:789:A:C4 | 1:A1:790:U:C5 | 2.96 | 0.53 |
| 1:A1:816:G:N7 | 1:A1:817:A:C4 | 2.77 | 0.53 |
| 1:A1:967:A:O2' | 1:A1:968:U:H5' | 2.09 | 0.53 |
| 1:A1:1056:U:C4 | 1:A1:1057:U:C2 | 2.96 | 0.53 |
| 1:A1:1110:G:O2' | 1:A1:1111:G:O4' | 2.24 | 0.53 |
| 1:A1:1149:G:N2 | 1:A1:1150:G:N7 | 2.56 | 0.53 |
| 1:A1:1155:G:C6 | 1:A1:1156:C:N4 | 2.77 | 0.53 |
| 1:A1:1198:G:H5" | 1:A1:1199:G:H8 | 1.74 | 0.53 |
| 1:A1:1325:A:C2 | 1:A1:1326:A:N7 | 2.77 | 0.53 |
| 1:A1:1377:U:H2' | 1:A1:1378:U:C3' | 2.39 | 0.53 |
| 1:A1:1392:U:O2' | 1:A1:1393:C:H5' | 2.08 | 0.53 |
| 1:A1:1448:G:C2' | 1:A1:1449:U:H5' | 2.39 | 0.53 |
| 1:A1:1481:C:H1' | 1:A1:1482:C:C5' | 2.38 | 0.53 |
| 10:AI:92:SER:O | 10:AI:106:GLU:HA | 2.08 | 0.53 |
| 10:AI:116:LEU:C | 10:AI:118:GLU:H | 2.16 | 0.53 |
| 11:AJ:133:GLY:O | 11:AJ:134:ALA:HB3 | 2.09 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 16:AO:39:GLN:O | 16:AO:40:VAL:C | 2.50 | 0.53 |
| 23:Ab:107:UNK:O | 23:Ab:109:UNK:N | 2.41 | 0.53 |
| 29:B1:14:U:O5' | 29:B1:14:U:O2 | 2.27 | 0.53 |
| 29:B1:252:U:H3' | 29:B1:253:A:H5' | 1.90 | 0.53 |
| 29:B1:295:A:N7 | 29:B1:296:A:C2 | 2.77 | 0.53 |
| 29:B1:397:A:N6 | 29:B1:400:G:N1 | 2.57 | 0.53 |
| 29:B1:543:C:H3' | 29:B1:544:C:H5' | 1.91 | 0.53 |
| 29:B1:596:C:C5 | 29:B1:609:G:H5' | 2.43 | 0.53 |
| 29:B1:1075:A:C8 | 29:B1:1076:C:H6 | 2.23 | 0.53 |
| 29:B1:1170:A:OP2 | 74:B1:3537:OHX:N6 | 2.41 | 0.53 |
| 29:B1:1253:U:C2 | 29:B1:1264:G:H5" | 2.43 | 0.53 |
| 29:B1:1287:A:H2' | 29:B1:1288:U:H5' | 1.86 | 0.53 |
| 29:B1:1294:A:C2' | 29:B1:1295:G:O5' | 2.55 | 0.53 |
| 29:B1:1330:A:N1 | 29:B1:1332:A:H1' | 2.23 | 0.53 |
| 29:B1:1455:U:H3 | 29:B1:3077:A:P | 2.30 | 0.53 |
| 29:B1:1528:G:C5 | 29:B1:1529:A:N7 | 2.77 | 0.53 |
| 29:B1:1548:C:H3' | 29:B1:1549:U:O4' | 2.09 | 0.53 |
| 29:B1:1559:A:N6 | 29:B1:1579:C:H2' | 2.23 | 0.53 |
| 29:B1:2299:A:C6 | 29:B1:2300:G:N7 | 2.77 | 0.53 |
| 29:B1:2357:A:H8 | 29:B1:2357:A:O5' | 1.92 | 0.53 |
| 29:B1:2407:C:H1' | 29:B1:2818:U:O2 | 2.08 | 0.53 |
| 29:B1:2590:A:C5 | 29:B1:2591:A:C8 | 2.96 | 0.53 |
| 29:B1:2601:A:O2' | 29:B1:2602:G:C5' | 2.56 | 0.53 |
| 29:B1:2611:U:C2' | 29:B1:2612:U:H6 | 2.17 | 0.53 |
| 29:B1:2727:A:H2 | 29:B1:2729:U:C5 | 2.25 | 0.53 |
| 29:B1:2833:A:H2' | 29:B1:2833:A:N3 | 2.23 | 0.53 |
| 29:B1:2876:C:C2 | 29:B1:2952:G:C2 | 2.96 | 0.53 |
| 29:B1:3228:C:H3' | 29:B1:3229:G:C8 | 2.43 | 0.53 |
| 29:B1:3325:G:H2' | 29:B1:3326:G:C8 | 2.43 | 0.53 |
| 35:BD:101:ALA:C | 35:BD:102:PRO:O | 2.51 | 0.53 |
| 35:BD:238:LEU:O | 35:BD:239:ALA:HB2 | 2.08 | 0.53 |
| 36:BE:111:GLN:H | 36:BE:114:GLY:CA | 2.22 | 0.53 |
| 36:BE:134:ALA:H | 36:BE:135:VAL:HA | 1.73 | 0.53 |
| 37:BF:40:LEU:CA | 37:BF:85:ILE:HA | 2.37 | 0.53 |
| 37:BF:115:GLU:O | 37:BF:116:LYS:C | 2.52 | 0.53 |
| 39:BH:158:ASP:CA | 39:BH:159:PRO:C | 2.80 | 0.53 |
| 50:BU:134:GLY:O | 50:BU:135:VAL:O | 2.27 | 0.53 |
| 62:Bg:23:ARG:O | 62:Bg:24:ARG:C | 2.52 | 0.53 |
| 1:C1:38:C:H3' | 1:C1:39:A:H5" | 1.89 | 0.53 |
| 1:C1:59:C:N4 | 1:C1:89:G:N3 | 2.57 | 0.53 |
| 1:C1:123:G:N1 | 1:C1:295:A:N6 | 2.56 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:195:G:C1’ | 1:C1:196:G:OP1 | 2.57 | 0.53 |
| 1:C1:452:A:N1 | 1:C1:454:U:OP2 | 2.42 | 0.53 |
| 1:C1:516:G:N3 | 1:C1:516:G:H2’ | 2.23 | 0.53 |
| 1:C1:549:G:N1 | 1:C1:550:A:C5 | 2.77 | 0.53 |
| 1:C1:758:U:H3’ | 1:C1:759:U:H6 | 1.74 | 0.53 |
| 1:C1:766:U:H5 | 1:C1:769:A:OP2 | 1.92 | 0.53 |
| 1:C1:1047:G:H2’ | 1:C1:1048:G:H8 | 1.73 | 0.53 |
| 1:C1:1124:A:N1 | 1:C1:1125:A:C2 | 2.77 | 0.53 |
| 1:C1:1150:G:C5 | 1:C1:1766:A:OP1 | 2.62 | 0.53 |
| 1:C1:1150:G:H5’ | 1:C1:1765:A:N3 | 2.23 | 0.53 |
| 1:C1:1268:G:O2’ | 1:C1:1269:U:H3’ | 2.08 | 0.53 |
| 1:C1:1390:U:O4’ | 1:C1:1413:U:C2 | 2.61 | 0.53 |
| 1:C1:1466:G:C5 | 1:C1:1467:C:C4 | 2.96 | 0.53 |
| 4:CC:64:ARG:O | 4:CC:68:GLU:CB | 2.56 | 0.53 |
| 7:CF:93:TYR:O | 7:CF:94:ILE:CB | 2.56 | 0.53 |
| 25:Cd:106:UNK:O | 25:Cd:109:UNK:CB | 2.56 | 0.53 |
| 29:D1:29:C:C6 | 29:D1:29:C:C3’ | 2.91 | 0.53 |
| 29:D1:55:G:O2’ | 29:D1:56:G:P | 2.66 | 0.53 |
| 29:D1:245:U:O2 | 29:D1:245:U:O4’ | 2.27 | 0.53 |
| 29:D1:269:G:N1 | 29:D1:294:U:H5 | 2.05 | 0.53 |
| 29:D1:282:G:N3 | 29:D1:286:U:H5’ | 2.24 | 0.53 |
| 29:D1:414:U:H2’ | 29:D1:415:G:C8 | 2.33 | 0.53 |
| 29:D1:420:G:N2 | 29:D1:2384:A:C4 | 2.76 | 0.53 |
| 29:D1:516:A:C6 | 29:D1:517:G:C6 | 2.97 | 0.53 |
| 29:D1:547:G:C8 | 29:D1:548:G:C8 | 2.96 | 0.53 |
| 29:D1:549:U:O2’ | 29:D1:550:A:O5’ | 2.21 | 0.53 |
| 29:D1:645:A:C6 | 29:D1:649:A:N7 | 2.76 | 0.53 |
| 29:D1:839:C:H2’ | 29:D1:840:C:C6 | 2.43 | 0.53 |
| 29:D1:1007:U:O2 | 29:D1:1007:U:H2’ | 2.07 | 0.53 |
| 29:D1:1250:G:C2 | 29:D1:1251:A:C2 | 2.96 | 0.53 |
| 29:D1:1394:A:C2’ | 29:D1:1395:G:O5’ | 2.56 | 0.53 |
| 29:D1:1468:A:HO2’ | 29:D1:1469:C:P | 2.31 | 0.53 |
| 29:D1:1493:G:N3 | 29:D1:1493:G:O4’ | 2.41 | 0.53 |
| 29:D1:1495:U:O3’ | 29:D1:1514:G:H5’ | 2.09 | 0.53 |
| 29:D1:1716:U:O2 | 29:D1:1716:U:C2’ | 2.57 | 0.53 |
| 29:D1:1779:C:OP2 | 29:D1:1780:G:C8 | 2.61 | 0.53 |
| 29:D1:1902:G:P | 29:D1:2918:G:H5’ | 2.48 | 0.53 |
| 29:D1:2282:U:O2’ | 29:D1:2283:G:C5’ | 2.56 | 0.53 |
| 29:D1:2288:G:C6 | 29:D1:2289:U:O4 | 2.62 | 0.53 |
| 29:D1:2290:C:C2 | 29:D1:2291:A:C8 | 2.95 | 0.53 |
| 29:D1:2420:C:C4 | 29:D1:2421:U:C4 | 2.96 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2530:G:O2' | 29:D1:2531:C:P | 2.67 | 0.53 |
| 29:D1:2599:U:C2 | 29:D1:2600:C:C5 | 2.97 | 0.53 |
| 29:D1:2607:G:C6 | 29:D1:2608:G:C5 | 2.96 | 0.53 |
| 29:D1:2883:U:O5' | 29:D1:2883:U:H6 | 1.90 | 0.53 |
| 29:D1:2968:G:O2' | 29:D1:2969:A:H5' | 2.09 | 0.53 |
| 29:D1:3175:U:O2 | 29:D1:3175:U:O4' | 2.26 | 0.53 |
| 29:D1:3184:A:H2' | 29:D1:3187:A:O2' | 2.08 | 0.53 |
| 29:D1:3228:C:C2' | 29:D1:3229:G:C8 | 2.92 | 0.53 |
| 29:D1:3242:G:C2' | 29:D1:3246:G:H22 | 2.22 | 0.53 |
| 29:D1:3296:A:C2 | 29:D1:3297:U:C6 | 2.96 | 0.53 |
| 30:D2:5:G:C3' | 30:D2:6:C:H5" | 2.39 | 0.53 |
| 30:D2:28:C:O2 | 30:D2:28:C:C2' | 2.56 | 0.53 |
| 30:D2:48:U:H2' | 30:D2:49:G:N7 | 2.23 | 0.53 |
| 31:D3:3:A:H2' | 31:D3:4:C:C5' | 2.39 | 0.53 |
| 34:DC:51:ALA:HB3 | 34:DC:79:VAL:HA | 1.88 | 0.53 |
| 41:DJ:170:LYS:CB | 41:DJ:171:TRP:C | 2.82 | 0.53 |
| 44:DO:83:LYS:N | 44:DO:85:THR:N | 2.55 | 0.53 |
| 44:DO:108:ARG:C | 44:DO:110:ALA:N | 2.66 | 0.53 |
| 47:DR:103:ALA:O | 47:DR:104:LEU:C | 2.50 | 0.53 |
| 49:DT:100:LYS:C | 49:DT:102:ARG:N | 2.67 | 0.53 |
| 57:Db:120:THR:C | 57:Db:122:PRO:N | 2.64 | 0.53 |
| 59:Dd:59:THR:O | 59:Dd:61:THR:N | 2.40 | 0.53 |
| 61:Df:77:CYS:C | 61:Df:79:THR:H | 2.17 | 0.53 |
| 1:A1:8:U:O2' | 74:A1:1976:OHX:N5 | 2.41 | 0.53 |
| 1:A1:89:G:C4 | 1:A1:90:C:C6 | 2.96 | 0.53 |
| 1:A1:195:G:O2' | 1:A1:196:G:C5' | 2.57 | 0.53 |
| 1:A1:606:A:N7 | 1:A1:608:U:C5 | 2.63 | 0.53 |
| 1:A1:659:C:H4' | 1:A1:660:G:O5' | 2.08 | 0.53 |
| 1:A1:800:U:H2' | 1:A1:801:G:C8 | 2.43 | 0.53 |
| 1:A1:824:G:C6 | 1:A1:850:A:N3 | 2.77 | 0.53 |
| 1:A1:887:A:H5" | 1:A1:888:U:OP2 | 2.08 | 0.53 |
| 1:A1:1075:C:N4 | 1:A1:1076:A:C6 | 2.77 | 0.53 |
| 1:A1:1204:A:H5' | 1:A1:1205:C:H5" | 1.90 | 0.53 |
| 1:A1:1209:C:C2 | 1:A1:1210:C:C5 | 2.96 | 0.53 |
| 1:A1:1294:G:H2' | 1:A1:1295:G:O4' | 2.09 | 0.53 |
| 1:A1:1489:U:C5 | 1:A1:1513:G:C2 | 2.96 | 0.53 |
| 1:A1:1684:U:H3' | 1:A1:1685:G:C5' | 2.38 | 0.53 |
| 1:A1:1750:A:C5 | 1:A1:1751:C:C4 | 2.96 | 0.53 |
| 3:AB:83:ILE:HA | 3:AB:100:ALA:CB | 2.38 | 0.53 |
| 5:AD:128:ASN:O | 5:AD:130:ILE:N | 2.42 | 0.53 |
| 16:AO:88:LYS:C | 16:AO:90:THR:H | 2.16 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:279:U:O2 | 29:B1:280:U:C2 | 2.62 | 0.53 |
| 29:B1:287:G:C4 | 29:B1:288:C:C6 | 2.97 | 0.53 |
| 29:B1:385:A:C2 | 29:B1:386:A:C4 | 2.97 | 0.53 |
| 29:B1:517:G:OP2 | 29:B1:518:G:OP2 | 2.27 | 0.53 |
| 29:B1:597:G:C6 | 29:B1:607:A:N1 | 2.77 | 0.53 |
| 29:B1:637:C:C2 | 29:B1:638:C:C4 | 2.97 | 0.53 |
| 29:B1:719:U:O4' | 29:B1:719:U:O2 | 2.25 | 0.53 |
| 29:B1:773:G:O2' | 29:B1:774:G:H5' | 2.08 | 0.53 |
| 29:B1:806:A:C2 | 29:B1:807:A:C2 | 2.97 | 0.53 |
| 29:B1:815:G:N1 | 29:B1:906:A:C2 | 2.77 | 0.53 |
| 29:B1:1145:G:N7 | 29:B1:1146:C:C5 | 2.76 | 0.53 |
| 29:B1:1199:C:H4' | 29:B1:1200:A:OP2 | 2.08 | 0.53 |
| 29:B1:1260:A:C4 | 29:B1:1279:C:H1' | 2.44 | 0.53 |
| 29:B1:1399:A:N6 | 31:B3:7:U:O2' | 2.41 | 0.53 |
| 29:B1:1422:G:C4 | 29:B1:1423:C:C6 | 2.97 | 0.53 |
| 29:B1:1683:A:N7 | 29:B1:1684:U:C4 | 2.77 | 0.53 |
| 29:B1:1724:U:H2' | 29:B1:1725:C:H6 | 1.73 | 0.53 |
| 29:B1:1748:G:N1 | 29:B1:1749:A:N6 | 2.57 | 0.53 |
| 29:B1:1933:A:C8 | 29:B1:1934:G:C8 | 2.96 | 0.53 |
| 29:B1:2141:U:O2 | 29:B1:2956:A:C6 | 2.61 | 0.53 |
| 29:B1:2255:A:C4' | 29:B1:2256:A:OP1 | 2.56 | 0.53 |
| 29:B1:2271:A:C3' | 29:B1:2272:G:C5' | 2.86 | 0.53 |
| 29:B1:2561:A:C8 | 29:B1:2561:A:P | 3.02 | 0.53 |
| 29:B1:2701:U:H1' | 29:B1:2705:A:C4 | 2.44 | 0.53 |
| 29:B1:2778:G:O6 | 29:B1:2779:A:N6 | 2.41 | 0.53 |
| 29:B1:2912:G:C1' | 29:B1:3131:U:H5' | 2.39 | 0.53 |
| 29:B1:3014:U:O2' | 29:B1:3015:G:H5' | 2.09 | 0.53 |
| 29:B1:3083:G:H2' | 29:B1:3084:C:O4' | 2.08 | 0.53 |
| 29:B1:3104:U:C2 | 29:B1:3129:A:N7 | 2.77 | 0.53 |
| 29:B1:3153:U:H5" | 29:B1:3293:U:H6 | 1.73 | 0.53 |
| 31:B3:35:C:O2' | 31:B3:36:G:H5' | 2.08 | 0.53 |
| 31:B3:43:A:H4' | 59:Bd:22:CYS:HA | 1.91 | 0.53 |
| 31:B3:125:U:C2 | 74:B3:206:OHX:N2 | 2.76 | 0.53 |
| 33:BB:18:SER:O | 33:BB:20:THR:N | 2.41 | 0.53 |
| 33:BB:172:GLY:O | 33:BB:174:ARG:N | 2.42 | 0.53 |
| 35:BD:273:GLY:C | 35:BD:275:THR:H | 2.17 | 0.53 |
| 41:BJ:94:PHE:O | 41:BJ:126:ALA:O | 2.27 | 0.53 |
| 44:BO:26:ARG:O | 44:BO:29:GLU:N | 2.41 | 0.53 |
| 52:BW:61:LYS:CB | 52:BW:62:VAL:HA | 2.38 | 0.53 |
| 54:BY:27:LYS:O | 54:BY:29:PRO:N | 2.42 | 0.53 |
| 54:BY:111:LYS:CA | 54:BY:128:ARG:CB | 2.80 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:15:U:O2' | 1:C1:16:G:H5' | 2.08 | 0.53 |
| 1:C1:62:A:C2 | 1:C1:63:G:C5 | 2.97 | 0.53 |
| 1:C1:178:U:O4' | 1:C1:178:U:OP1 | 2.26 | 0.53 |
| 1:C1:184:C:C5 | 1:C1:202:A:H2 | 2.26 | 0.53 |
| 1:C1:239:C:H1' | 1:C1:240:U:C5 | 2.43 | 0.53 |
| 1:C1:243:G:H4' | 1:C1:243:G:OP1 | 2.09 | 0.53 |
| 1:C1:339:C:H2' | 1:C1:340:U:C6 | 2.41 | 0.53 |
| 1:C1:607:G:C5' | 1:C1:613:G:N2 | 2.71 | 0.53 |
| 1:C1:652:G:O6 | 1:C1:683:C:N3 | 2.42 | 0.53 |
| 1:C1:869:A:C5 | 1:C1:870:C:C5 | 2.96 | 0.53 |
| 1:C1:1207:C:N3 | 1:C1:1208:A:N6 | 2.56 | 0.53 |
| 1:C1:1334:U:C2 | 1:C1:1335:U:C5 | 2.97 | 0.53 |
| 1:C1:1404:C:H2' | 1:C1:1405:G:C8 | 2.44 | 0.53 |
| 1:C1:1559:A:H1' | 13:CL:135:GLY:HA2 | 1.90 | 0.53 |
| 1:C1:1612:U:C4 | 1:C1:1613:U:H6 | 2.27 | 0.53 |
| 1:C1:1682:U:C2 | 1:C1:1683:C:C5 | 2.96 | 0.53 |
| 1:C1:1720:G:C4 | 1:C1:1721:A:C8 | 2.97 | 0.53 |
| 1:C1:1784:C:C2 | 1:C1:1785:U:C5 | 2.96 | 0.53 |
| 3:CB:62:PRO:HA | 3:CB:63:VAL:CB | 2.39 | 0.53 |
| 17:CP:127:VAL:CB | 17:CP:129:GLY:N | 2.71 | 0.53 |
| 21:CT:33:LEU:O | 21:CT:44:SER:HA | 2.08 | 0.53 |
| 23:Cb:75:UNK:O | 23:Cb:76:UNK:C | 2.56 | 0.53 |
| 29:D1:48:A:C4 | 29:D1:50:U:C4 | 2.97 | 0.53 |
| 29:D1:252:U:H3' | 29:D1:253:A:H5' | 1.90 | 0.53 |
| 29:D1:331:G:N1 | 29:D1:332:C:C4 | 2.77 | 0.53 |
| 29:D1:354:U:O2 | 29:D1:354:U:C2' | 2.54 | 0.53 |
| 29:D1:423:A:H61 | 29:D1:637:C:P | 2.31 | 0.53 |
| 29:D1:510:G:C2 | 29:D1:511:G:C4 | 2.97 | 0.53 |
| 29:D1:534:U:OP2 | 29:D1:555:U:N3 | 2.41 | 0.53 |
| 29:D1:563:U:C6 | 29:D1:564:G:H5" | 2.43 | 0.53 |
| 29:D1:692:A:H2' | 29:D1:693:A:H8 | 1.74 | 0.53 |
| 29:D1:715:A:H3' | 54:DY:115:LYS:CB | 2.39 | 0.53 |
| 29:D1:934:G:C5 | 29:D1:935:U:C5 | 2.96 | 0.53 |
| 29:D1:945:C:H2' | 29:D1:946:U:C6 | 2.44 | 0.53 |
| 29:D1:1080:A:C5 | 29:D1:1082:U:H5" | 2.43 | 0.53 |
| 29:D1:1168:U:H2' | 29:D1:1169:A:H5' | 1.90 | 0.53 |
| 29:D1:1168:U:C2 | 29:D1:1332:A:C2 | 2.97 | 0.53 |
| 29:D1:1180:A:C6 | 29:D1:1182:A:N7 | 2.77 | 0.53 |
| 29:D1:1262:G:N7 | 29:D1:1264:G:C4 | 2.76 | 0.53 |
| 29:D1:1327:C:O2' | 29:D1:1328:C:H5' | 2.09 | 0.53 |
| 29:D1:1337:A:C4 | 29:D1:1338:C:C6 | 2.96 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1342:C:O2 | 29:D1:1342:C:C2' | 2.53 | 0.53 |
| 29:D1:1412:G:H2' | 29:D1:1413:G:C8 | 2.44 | 0.53 |
| 29:D1:1491:A:H2' | 29:D1:1492:G:O4' | 2.08 | 0.53 |
| 29:D1:1695:U:O2' | 29:D1:1749:A:N1 | 2.28 | 0.53 |
| 29:D1:1864:A:OP1 | 48:DS:83:GLY:N | 2.42 | 0.53 |
| 29:D1:1868:G:C6 | 29:D1:1869:C:C4 | 2.97 | 0.53 |
| 29:D1:2260:U:H4' | 29:D1:2261:G:OP2 | 2.07 | 0.53 |
| 29:D1:2374:C:C4 | 29:D1:2941:A:N3 | 2.77 | 0.53 |
| 29:D1:2405:C:O2 | 29:D1:2406:C:C6 | 2.62 | 0.53 |
| 29:D1:2614:G:N3 | 29:D1:2797:C:C6 | 2.76 | 0.53 |
| 29:D1:2672:G:O2' | 42:DK:106:ILE:CB | 2.57 | 0.53 |
| 29:D1:2836:C:C5 | 29:D1:2853:A:C2 | 2.97 | 0.53 |
| 29:D1:2881:C:H2' | 29:D1:2882:U:H6 | 1.74 | 0.53 |
| 29:D1:2892:A:O4' | 29:D1:3130:A:C8 | 2.61 | 0.53 |
| 29:D1:2992:U:H6 | 29:D1:2992:U:H5" | 1.73 | 0.53 |
| 29:D1:3024:A:H3' | 29:D1:3025:C:C6 | 2.43 | 0.53 |
| 29:D1:3113:A:H2 | 29:D1:3122:A:C4 | 2.25 | 0.53 |
| 29:D1:3121:U:C4' | 29:D1:3122:A:H5' | 2.39 | 0.53 |
| 29:D1:3137:C:H3' | 29:D1:3138:U:H6 | 1.74 | 0.53 |
| 29:D1:3196:U:C5 | 29:D1:3198:U:C6 | 2.93 | 0.53 |
| 29:D1:3288:G:N7 | 74:D1:3524:OHX:N2 | 2.57 | 0.53 |
| 29:D1:3314:A:H2' | 34:DC:119:TYR:H | 1.68 | 0.53 |
| 29:D1:3321:C:N3 | 29:D1:3322:A:N7 | 2.57 | 0.53 |
| 30:D2:11:A:C5' | 30:D2:13:A:H2' | 2.39 | 0.53 |
| 30:D2:117:A:H2' | 30:D2:118:A:H5' | 1.91 | 0.53 |
| 31:D3:4:C:H2' | 31:D3:5:U:C5' | 2.39 | 0.53 |
| 31:D3:17:A:C4 | 31:D3:18:U:C6 | 2.97 | 0.53 |
| 31:D3:67:U:OP2 | 31:D3:67:U:H6 | 1.91 | 0.53 |
| 31:D3:80:A:N3 | 31:D3:81:U:N3 | 2.56 | 0.53 |
| 31:D3:144:G:H2' | 31:D3:145:U:H5' | 1.88 | 0.53 |
| 35:DD:84:ARG:CB | 35:DD:85:SER:HA | 2.38 | 0.53 |
| 37:DF:60:ASP:O | 37:DF:61:ASN:CB | 2.56 | 0.53 |
| 41:DJ:151:GLY:O | 41:DJ:152:LEU:C | 2.51 | 0.53 |
| 72:DL:123:ARG:O | 72:DL:124:THR:O | 2.27 | 0.53 |
| 45:DP:124:LEU:CB | 45:DP:128:ARG:H | 2.20 | 0.53 |
| 56:Da:58:ALA:O | 56:Da:59:ILE:C | 2.52 | 0.53 |
| 60:De:7:PHE:HA | 60:De:10:LYS:CB | 2.38 | 0.53 |
| 1:A1:143:G:C3' | 1:A1:144:U:H4' | 2.38 | 0.53 |
| 1:A1:215:A:N7 | 1:A1:216:U:C4 | 2.77 | 0.53 |
| 1:A1:559:C:H2' | 1:A1:560:U:C6 | 2.44 | 0.53 |
| 1:A1:595:G:H2' | 1:A1:596:C:H6 | 1.72 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:620:A:C4 | 1:A1:621:A:C2 | 2.97 | 0.53 |
| 1:A1:652:G:H5' | 1:A1:653:C:OP2 | 2.09 | 0.53 |
| 1:A1:703:G:H1' | 1:A1:736:C:H42 | 1.74 | 0.53 |
| 1:A1:988:A:C2 | 1:A1:989:U:C1' | 2.92 | 0.53 |
| 1:A1:1066:C:H2' | 1:A1:1067:C:H5' | 1.90 | 0.53 |
| 1:A1:1107:G:O2' | 1:A1:1108:G:O5' | 2.27 | 0.53 |
| 1:A1:1128:C:H2' | 1:A1:1129:U:O4' | 2.09 | 0.53 |
| 1:A1:1336:A:C5' | 1:A1:1337:A:OP2 | 2.56 | 0.53 |
| 1:A1:1348:A:C3' | 1:A1:1349:G:H5" | 2.37 | 0.53 |
| 1:A1:1379:C:C2' | 1:A1:1380:U:H5' | 2.38 | 0.53 |
| 1:A1:1398:U:H4' | 1:A1:1399:C:C5 | 2.44 | 0.53 |
| 2:AA:203:PHE:O | 2:AA:205:ARG:N | 2.42 | 0.53 |
| 4:AC:151:LYS:O | 4:AC:152:PHE:CB | 2.56 | 0.53 |
| 5:AD:212:LYS:C | 5:AD:214:LYS:N | 2.63 | 0.53 |
| 5:AD:220:VAL:C | 5:AD:222:LYS:H | 2.16 | 0.53 |
| 7:AF:129:ARG:O | 7:AF:130:PRO:C | 2.51 | 0.53 |
| 22:Aa:12:UNK:O | 22:Aa:13:UNK:C | 2.56 | 0.53 |
| 24:Ac:54:UNK:HA | 24:Ac:63:UNK:H2 | 1.68 | 0.53 |
| 29:B1:197:G:H8 | 29:B1:197:G:OP1 | 1.91 | 0.53 |
| 29:B1:547:G:H8 | 29:B1:548:G:C5 | 2.26 | 0.53 |
| 29:B1:588:G:H4' | 29:B1:589:A:H62 | 1.74 | 0.53 |
| 29:B1:607:A:C2 | 29:B1:608:A:N9 | 2.77 | 0.53 |
| 29:B1:734:C:H5" | 29:B1:735:A:C2 | 2.44 | 0.53 |
| 29:B1:762:U:O4 | 74:B1:3479:OHX:N3 | 2.42 | 0.53 |
| 29:B1:802:C:H2' | 29:B1:803:C:C6 | 2.44 | 0.53 |
| 29:B1:815:G:C2 | 29:B1:906:A:C2 | 2.96 | 0.53 |
| 29:B1:943:U:O2' | 29:B1:944:C:OP1 | 2.25 | 0.53 |
| 29:B1:1080:A:C2 | 29:B1:1082:U:O5' | 2.62 | 0.53 |
| 29:B1:1156:C:H2' | 29:B1:1157:G:H5" | 1.90 | 0.53 |
| 29:B1:1237:G:H5" | 29:B1:1238:C:O4' | 2.09 | 0.53 |
| 29:B1:1280:C:C2' | 29:B1:1281:G:H8 | 2.19 | 0.53 |
| 29:B1:1295:G:C2' | 29:B1:1296:C:H5' | 2.38 | 0.53 |
| 29:B1:1507:G:OP2 | 29:B1:1507:G:O4' | 2.27 | 0.53 |
| 29:B1:1685:C:C5 | 29:B1:1687:U:C4 | 2.97 | 0.53 |
| 29:B1:1843:C:C2' | 29:B1:1844:C:H5' | 2.38 | 0.53 |
| 29:B1:1890:U:C2 | 29:B1:1891:A:C8 | 2.97 | 0.53 |
| 29:B1:2131:A:C3' | 29:B1:2132:C:H5" | 2.38 | 0.53 |
| 29:B1:2135:U:N3 | 29:B1:2136:C:C5 | 2.77 | 0.53 |
| 29:B1:2269:U:H2' | 29:B1:2270:A:H5' | 1.90 | 0.53 |
| 29:B1:2270:A:O2' | 29:B1:2271:A:H5' | 2.08 | 0.53 |
| 29:B1:2420:C:N4 | 29:B1:2421:U:C4 | 2.77 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2544:U:H2' | 29:B1:2545:C:H6 | 1.74 | 0.53 |
| 29:B1:2852:C:H5 | 29:B1:2853:A:C5 | 2.27 | 0.53 |
| 29:B1:3034:C:H6 | 29:B1:3034:C:H3' | 1.73 | 0.53 |
| 29:B1:3039:C:H2' | 29:B1:3040:A:H8 | 1.74 | 0.53 |
| 29:B1:3110:C:C2 | 29:B1:3111:U:C5 | 2.96 | 0.53 |
| 29:B1:3202:G:N2 | 29:B1:3203:U:O2 | 2.41 | 0.53 |
| 29:B1:3242:G:H2' | 29:B1:3242:G:N3 | 2.22 | 0.53 |
| 29:B1:3260:G:O6 | 29:B1:3261:C:H1' | 2.08 | 0.53 |
| 29:B1:3393:U:H2' | 29:B1:3394:U:O4' | 2.09 | 0.53 |
| 30:B2:11:A:O4' | 30:B2:13:A:C2' | 2.53 | 0.53 |
| 30:B2:47:C:O2 | 30:B2:48:U:C4 | 2.62 | 0.53 |
| 31:B3:11:C:H2' | 31:B3:12:A:O4' | 2.08 | 0.53 |
| 31:B3:56:G:C2 | 31:B3:57:C:C6 | 2.97 | 0.53 |
| 35:BD:234:ASN:C | 35:BD:236:LEU:N | 2.66 | 0.53 |
| 38:BG:144:ILE:O | 38:BG:145:ARG:C | 2.49 | 0.53 |
| 41:BJ:219:ALA:C | 41:BJ:221:ALA:H | 2.17 | 0.53 |
| 44:BO:109:ARG:O | 44:BO:110:ALA:HB2 | 2.09 | 0.53 |
| 61:Bf:76:LYS:C | 61:Bf:78:LYS:N | 2.66 | 0.53 |
| 1:C1:15:U:C1' | 1:C1:619:A:C2 | 2.92 | 0.53 |
| 1:C1:100:A:H2' | 1:C1:101:U:O4' | 2.09 | 0.53 |
| 1:C1:387:A:N3 | 1:C1:402:C:H5 | 2.07 | 0.53 |
| 1:C1:690:G:C2' | 1:C1:691:C:H5' | 2.35 | 0.53 |
| 1:C1:716:C:N4 | 1:C1:723:G:C6 | 2.77 | 0.53 |
| 1:C1:895:G:O2' | 9:CH:38:THR:CB | 2.56 | 0.53 |
| 1:C1:932:U:H4' | 1:C1:933:A:O4' | 2.09 | 0.53 |
| 1:C1:965:U:O2' | 1:C1:966:A:OP1 | 2.24 | 0.53 |
| 1:C1:1142:A:C2 | 1:C1:1143:A:N3 | 2.77 | 0.53 |
| 1:C1:1203:A:C2 | 1:C1:1555:A:C2 | 2.97 | 0.53 |
| 1:C1:1295:G:O4' | 1:C1:1321:A:C2 | 2.62 | 0.53 |
| 1:C1:1331:A:H2' | 1:C1:1332:C:C5' | 2.38 | 0.53 |
| 1:C1:1342:C:O2' | 1:C1:1343:U:H5' | 2.08 | 0.53 |
| 1:C1:1537:C:C5' | 1:C1:1538:U:OP1 | 2.57 | 0.53 |
| 1:C1:1553:G:H5" | 1:C1:1554:U:OP2 | 2.08 | 0.53 |
| 1:C1:1598:U:C4 | 1:C1:1599:C:H5 | 2.27 | 0.53 |
| 1:C1:1650:U:C2' | 1:C1:1651:A:H8 | 2.21 | 0.53 |
| 15:CN:119:ALA:HB1 | 15:CN:120:SER:HA | 1.91 | 0.53 |
| 17:CP:129:GLY:O | 17:CP:130:VAL:CB | 2.56 | 0.53 |
| 29:D1:226:C:H4' | 53:DX:29:VAL:O | 2.09 | 0.53 |
| 29:D1:258:G:H1' | 29:D1:259:C:H5' | 1.91 | 0.53 |
| 29:D1:386:A:H2' | 29:D1:387:A:O5' | 2.09 | 0.53 |
| 29:D1:422:A:H3' | 29:D1:2364:G:H5" | 1.90 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:515:C:C2’ | 29:D1:516:A:H5” | 2.39 | 0.53 |
| 29:D1:547:G:H8 | 29:D1:548:G:N7 | 2.07 | 0.53 |
| 29:D1:556:U:C5 | 29:D1:557:A:C2 | 2.97 | 0.53 |
| 29:D1:595:G:H8 | 29:D1:595:G:H3’ | 1.74 | 0.53 |
| 29:D1:749:C:N3 | 29:D1:750:G:N7 | 2.57 | 0.53 |
| 29:D1:887:G:C6 | 29:D1:888:A:C5 | 2.97 | 0.53 |
| 29:D1:960:U:C2’ | 29:D1:961:C:O4’ | 2.56 | 0.53 |
| 29:D1:1129:A:N6 | 29:D1:1130:A:C6 | 2.76 | 0.53 |
| 29:D1:1146:C:H4’ | 29:D1:1331:U:C5 | 2.43 | 0.53 |
| 29:D1:1313:G:H2’ | 29:D1:1314:C:C6 | 2.35 | 0.53 |
| 29:D1:1371:G:H8 | 29:D1:1371:G:H5” | 1.74 | 0.53 |
| 29:D1:1388:U:H2’ | 29:D1:1389:G:H8 | 1.73 | 0.53 |
| 29:D1:1725:C:H2’ | 29:D1:1726:C:H6 | 1.70 | 0.53 |
| 29:D1:1798:A:C2 | 29:D1:1799:A:C5 | 2.96 | 0.53 |
| 29:D1:2137:U:N3 | 29:D1:2141:U:C5 | 2.76 | 0.53 |
| 29:D1:2259:A:H5” | 29:D1:2260:U:C5 | 2.43 | 0.53 |
| 29:D1:2414:G:H2’ | 29:D1:2415:C:H6 | 1.74 | 0.53 |
| 29:D1:2515:A:H3’ | 29:D1:2516:U:H5 | 1.74 | 0.53 |
| 29:D1:2713:U:H3’ | 61:Df:9:LYS:O | 2.09 | 0.53 |
| 29:D1:3000:A:C2 | 29:D1:3149:G:C6 | 2.97 | 0.53 |
| 29:D1:3271:G:C4 | 29:D1:3271:G:C3’ | 2.88 | 0.53 |
| 30:D2:26:C:O2’ | 30:D2:27:A:P | 2.66 | 0.53 |
| 34:DC:222:LYS:O | 34:DC:271:GLY:C | 2.52 | 0.53 |
| 35:DD:215:ILE:C | 35:DD:217:LYS:N | 2.63 | 0.53 |
| 38:DG:148:VAL:O | 38:DG:150:LYS:N | 2.41 | 0.53 |
| 41:DJ:69:ARG:O | 41:DJ:70:ILE:O | 2.27 | 0.53 |
| 42:DK:10:ARG:O | 42:DK:11:ASP:CB | 2.56 | 0.53 |
| 42:DK:143:ARG:O | 42:DK:144:CYS:C | 2.51 | 0.53 |
| 43:DN:70:PHE:O | 43:DN:72:LEU:N | 2.42 | 0.53 |
| 44:DO:108:ARG:O | 44:DO:110:ALA:N | 2.42 | 0.53 |
| 45:DP:185:ALA:O | 45:DP:186:ALA:HB3 | 2.07 | 0.53 |
| 51:DV:41:LYS:O | 51:DV:43:ARG:N | 2.42 | 0.53 |
| 56:Da:19:ARG:C | 56:Da:21:HIS:H | 2.16 | 0.53 |
| 62:Dg:15:GLY:O | 62:Dg:17:ARG:N | 2.38 | 0.53 |
| 1:A1:23:G:C5 | 1:A1:24:U:C4 | 2.97 | 0.53 |
| 1:A1:50:C:C4 | 1:A1:424:C:C6 | 2.97 | 0.53 |
| 1:A1:59:C:C4 | 1:A1:62:A:N6 | 2.75 | 0.53 |
| 1:A1:207:U:H3 | 1:A1:258:C:H42 | 1.57 | 0.53 |
| 1:A1:302:U:N3 | 1:A1:303:U:O2 | 2.42 | 0.53 |
| 1:A1:430:G:H2’ | 1:A1:431:C:H6 | 1.74 | 0.53 |
| 1:A1:544:A:C8 | 1:A1:544:A:OP1 | 2.62 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:613:G:H4' | 1:A1:614:C:O5' | 2.09 | 0.53 |
| 1:A1:624:G:C8 | 1:A1:1027:A:C6 | 2.97 | 0.53 |
| 1:A1:652:G:O6 | 1:A1:683:C:N3 | 2.41 | 0.53 |
| 1:A1:760:A:N6 | 1:A1:761:G:C2 | 2.76 | 0.53 |
| 1:A1:866:G:N2 | 1:A1:965:U:C5 | 2.76 | 0.53 |
| 1:A1:1124:A:N6 | 1:A1:1125:A:C6 | 2.77 | 0.53 |
| 1:A1:1292:G:H2' | 1:A1:1293:U:H6 | 1.73 | 0.53 |
| 1:A1:1469:A:C6 | 1:A1:1470:C:N4 | 2.77 | 0.53 |
| 1:A1:1503:A:N1 | 10:AI:13:LYS:HA | 2.23 | 0.53 |
| 1:A1:1689:A:N3 | 1:A1:1689:A:C2' | 2.72 | 0.53 |
| 1:A1:1720:G:H2' | 1:A1:1721:A:H8 | 1.72 | 0.53 |
| 2:AA:17:LEU:O | 2:AA:20:ALA:N | 2.29 | 0.53 |
| 6:AE:131:GLN:O | 6:AE:133:HIS:N | 2.38 | 0.53 |
| 21:AT:92:TRP:HA | 21:AT:100:TYR:H | 1.73 | 0.53 |
| 23:Ab:59:UNK:C | 23:Ab:61:UNK:N | 2.72 | 0.53 |
| 29:B1:9:U:O4 | 29:B1:10:C:C5 | 2.62 | 0.53 |
| 29:B1:11:A:C2 | 31:B3:148:G:N1 | 2.77 | 0.53 |
| 29:B1:42:C:C2' | 29:B1:43:A:C5' | 2.69 | 0.53 |
| 29:B1:97:U:C6 | 29:B1:97:U:C5' | 2.92 | 0.53 |
| 29:B1:206:G:C5 | 29:B1:207:U:C5 | 2.97 | 0.53 |
| 29:B1:232:G:C6 | 29:B1:233:C:C4 | 2.96 | 0.53 |
| 29:B1:303:G:C2 | 29:B1:313:A:C2 | 2.97 | 0.53 |
| 29:B1:363:G:C3' | 29:B1:364:G:C5' | 2.85 | 0.53 |
| 29:B1:607:A:H8 | 29:B1:607:A:P | 2.31 | 0.53 |
| 29:B1:729:C:H6 | 29:B1:729:C:O5' | 1.92 | 0.53 |
| 29:B1:845:G:H2' | 29:B1:846:A:O5' | 2.09 | 0.53 |
| 29:B1:862:U:O2' | 29:B1:863:C:H5' | 2.09 | 0.53 |
| 29:B1:869:G:H3' | 29:B1:870:G:H8 | 1.74 | 0.53 |
| 29:B1:914:A:H8 | 29:B1:914:A:P | 2.32 | 0.53 |
| 29:B1:1040:A:N6 | 29:B1:1041:U:C5 | 2.77 | 0.53 |
| 29:B1:1150:A:C2' | 29:B1:1151:U:O5' | 2.57 | 0.53 |
| 29:B1:1218:U:C2' | 29:B1:1219:C:C5' | 2.86 | 0.53 |
| 29:B1:1289:G:C4' | 29:B1:1290:A:OP1 | 2.48 | 0.53 |
| 29:B1:1348:U:O2' | 29:B1:1349:G:OP2 | 2.27 | 0.53 |
| 29:B1:2270:A:C2' | 29:B1:2271:A:C8 | 2.89 | 0.53 |
| 29:B1:2291:A:C2 | 29:B1:2292:U:C2 | 2.97 | 0.53 |
| 29:B1:2308:C:OP1 | 29:B1:2309:A:C2' | 2.57 | 0.53 |
| 29:B1:2572:C:C6 | 74:B1:3558:OHX:N5 | 2.77 | 0.53 |
| 29:B1:2629:U:C2 | 29:B1:2630:C:C5 | 2.97 | 0.53 |
| 29:B1:2655:U:H2' | 61:Bf:3:ASN:O | 2.09 | 0.53 |
| 29:B1:2780:A:C2 | 29:B1:2781:U:N3 | 2.76 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2834:G:N3 | 29:B1:2835:U:C5 | 2.76 | 0.53 |
| 29:B1:2904:U:O2 | 29:B1:2905:U:C6 | 2.62 | 0.53 |
| 29:B1:3025:C:C2' | 29:B1:3026:G:H5' | 2.39 | 0.53 |
| 29:B1:3088:G:H3' | 29:B1:3089:C:C6 | 2.44 | 0.53 |
| 29:B1:3091:A:O2' | 29:B1:3092:C:P | 2.66 | 0.53 |
| 29:B1:3207:U:C3' | 29:B1:3208:G:H5' | 2.39 | 0.53 |
| 29:B1:3213:A:O2' | 29:B1:3214:U:C5 | 2.62 | 0.53 |
| 29:B1:3282:U:HO2' | 29:B1:3283:U:H5 | 1.49 | 0.53 |
| 30:B2:5:G:H3' | 30:B2:6:C:H5" | 1.91 | 0.53 |
| 31:B3:93:U:O3' | 31:B3:94:C:O4' | 2.27 | 0.53 |
| 35:BD:8:VAL:N | 35:BD:18:ASN:O | 2.42 | 0.53 |
| 36:BE:188:GLU:CB | 36:BE:189:GLU:CA | 2.87 | 0.53 |
| 38:BG:85:PHE:O | 38:BG:86:VAL:C | 2.50 | 0.53 |
| 42:BK:84:LEU:HA | 42:BK:89:TYR:N | 2.23 | 0.53 |
| 42:BK:156:LYS:C | 42:BK:158:ASP:H | 2.16 | 0.53 |
| 43:BN:62:GLN:O | 43:BN:63:VAL:O | 2.27 | 0.53 |
| 45:BP:95:GLY:O | 45:BP:97:ALA:C | 2.52 | 0.53 |
| 49:BT:80:VAL:O | 49:BT:81:GLY:O | 2.27 | 0.53 |
| 54:BY:72:VAL:C | 54:BY:74:ASN:N | 2.67 | 0.53 |
| 1:C1:77:U:H3' | 1:C1:78:A:H5" | 1.90 | 0.53 |
| 1:C1:103:A:C5 | 1:C1:360:A:C2 | 2.97 | 0.53 |
| 1:C1:130:C:C5 | 1:C1:131:C:H1' | 2.44 | 0.53 |
| 1:C1:546:U:H6 | 1:C1:546:U:O5' | 1.92 | 0.53 |
| 1:C1:557:G:OP1 | 1:C1:558:U:O4' | 2.27 | 0.53 |
| 1:C1:647:G:N2 | 1:C1:687:G:C2 | 2.77 | 0.53 |
| 1:C1:651:G:N7 | 74:C1:1970:OHX:N3 | 2.57 | 0.53 |
| 1:C1:702:G:H5' | 1:C1:703:G:OP2 | 2.08 | 0.53 |
| 1:C1:819:G:N1 | 1:C1:853:G:N2 | 2.56 | 0.53 |
| 1:C1:899:G:N2 | 1:C1:915:A:C2 | 2.76 | 0.53 |
| 1:C1:1046:G:C2 | 1:C1:1047:G:C8 | 2.97 | 0.53 |
| 1:C1:1056:U:C4 | 1:C1:1057:U:C2 | 2.97 | 0.53 |
| 1:C1:1259:U:C2' | 1:C1:1260:U:O5' | 2.57 | 0.53 |
| 1:C1:1263:G:C4 | 1:C1:1264:G:C8 | 2.97 | 0.53 |
| 1:C1:1416:G:H2' | 1:C1:1417:A:O4' | 2.09 | 0.53 |
| 1:C1:1469:A:C6 | 1:C1:1470:C:N4 | 2.77 | 0.53 |
| 1:C1:1538:U:H2' | 1:C1:1539:G:H3' | 1.91 | 0.53 |
| 1:C1:1543:A:C8 | 1:C1:1569:A:N6 | 2.76 | 0.53 |
| 1:C1:1720:G:O4' | 1:C1:1720:G:P | 2.67 | 0.53 |
| 1:C1:1777:G:C4 | 1:C1:1778:G:C8 | 2.97 | 0.53 |
| 3:CB:65:GLU:O | 3:CB:66:PHE:CB | 2.55 | 0.53 |
| 4:CC:69:LEU:O | 4:CC:70:THR:C | 2.52 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:CE:179:ARG:C | 6:CE:181:ALA:H | 2.17 | 0.53 |
| 14:CM:63:ARG:C | 14:CM:65:ILE:H | 2.17 | 0.53 |
| 15:CN:58:LEU:O | 15:CN:59:PRO:CB | 2.55 | 0.53 |
| 17:CP:109:ARG:H | 17:CP:110:LYS:CA | 2.12 | 0.53 |
| 29:D1:13:A:H2 | 29:D1:15:C:H2' | 1.74 | 0.53 |
| 29:D1:69:C:O2 | 29:D1:69:C:C2' | 2.57 | 0.53 |
| 29:D1:115:A:C4 | 29:D1:116:A:N1 | 2.77 | 0.53 |
| 29:D1:151:A:H2' | 29:D1:152:U:H5 | 1.73 | 0.53 |
| 29:D1:154:U:OP1 | 29:D1:156:G:O6 | 2.27 | 0.53 |
| 29:D1:389:A:H2' | 29:D1:390:G:O4' | 2.08 | 0.53 |
| 29:D1:398:A:N3 | 29:D1:1416:C:OP1 | 2.42 | 0.53 |
| 29:D1:550:A:C6 | 29:D1:551:A:C6 | 2.97 | 0.53 |
| 29:D1:569:A:C2 | 29:D1:570:A:H1' | 2.43 | 0.53 |
| 29:D1:581:U:O2 | 29:D1:581:U:C2' | 2.57 | 0.53 |
| 29:D1:609:G:O2' | 29:D1:610:G:C5' | 2.52 | 0.53 |
| 29:D1:717:C:N4 | 29:D1:721:G:OP1 | 2.42 | 0.53 |
| 29:D1:806:A:C2 | 29:D1:807:A:C2 | 2.97 | 0.53 |
| 29:D1:880:G:O2' | 29:D1:881:C:C5 | 2.62 | 0.53 |
| 29:D1:943:U:N1 | 29:D1:1432:C:C5 | 2.77 | 0.53 |
| 29:D1:1168:U:O2' | 29:D1:1169:A:H5" | 2.09 | 0.53 |
| 29:D1:1224:C:N4 | 29:D1:1286:A:C2 | 2.76 | 0.53 |
| 29:D1:1461:A:N6 | 29:D1:1462:A:N6 | 2.57 | 0.53 |
| 29:D1:1468:A:C2 | 29:D1:1469:C:N3 | 2.76 | 0.53 |
| 29:D1:1480:G:N2 | 29:D1:1871:U:OP2 | 2.42 | 0.53 |
| 29:D1:1594:A:H1' | 29:D1:1615:C:C1' | 2.38 | 0.53 |
| 29:D1:1638:A:H2 | 29:D1:1736:G:N3 | 2.06 | 0.53 |
| 29:D1:1857:C:OP2 | 29:D1:1857:C:C6 | 2.61 | 0.53 |
| 29:D1:1921:A:C5 | 29:D1:1929:G:N2 | 2.77 | 0.53 |
| 29:D1:1953:G:C8 | 29:D1:2093:A:C6 | 2.97 | 0.53 |
| 29:D1:2116:G:C2 | 29:D1:3064:U:H5" | 2.44 | 0.53 |
| 29:D1:2173:U:C4 | 29:D1:2174:G:C6 | 2.96 | 0.53 |
| 29:D1:2254:U:N3 | 74:D1:3583:OHX:N5 | 2.56 | 0.53 |
| 29:D1:2271:A:C3' | 29:D1:2272:G:C5' | 2.87 | 0.53 |
| 29:D1:3327:G:N7 | 29:D1:3328:G:O6 | 2.42 | 0.53 |
| 29:D1:3333:G:N2 | 29:D1:3371:G:O4' | 2.37 | 0.53 |
| 30:D2:13:A:H2' | 30:D2:13:A:N3 | 2.24 | 0.53 |
| 31:D3:48:A:C6 | 31:D3:51:G:C5 | 2.97 | 0.53 |
| 31:D3:78:G:H8 | 31:D3:78:G:O5' | 1.92 | 0.53 |
| 33:DB:186:PHE:O | 33:DB:187:HIS:C | 2.52 | 0.53 |
| 34:DC:93:VAL:O | 34:DC:94:GLU:O | 2.27 | 0.53 |
| 35:DD:134:LEU:C | 35:DD:136:LEU:N | 2.64 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 42:DK:101:ASN:C | 42:DK:103:GLY:H | 2.17 | 0.53 |
| 44:DO:158:HIS:C | 44:DO:160:GLU:H | 2.16 | 0.53 |
| 46:DQ:31:GLU:O | 46:DQ:35:ALA:HB2 | 2.09 | 0.53 |
| 46:DQ:111:LYS:O | 46:DQ:112:LEU:C | 2.51 | 0.53 |
| 54:DY:84:GLU:CA | 54:DY:85:ASP:CB | 2.87 | 0.53 |
| 56:Da:30:PRO:C | 56:Da:32:ALA:N | 2.67 | 0.53 |
| 1:A1:219:A:HO2' | 1:A1:220:A:P | 2.32 | 0.53 |
| 1:A1:297:U:C2' | 1:A1:298:C:O5' | 2.55 | 0.53 |
| 1:A1:647:G:N2 | 1:A1:687:G:C2 | 2.76 | 0.53 |
| 1:A1:848:C:H2' | 1:A1:849:C:H6 | 1.73 | 0.53 |
| 1:A1:1101:G:O2' | 1:A1:1102:G:H5' | 2.09 | 0.53 |
| 1:A1:1667:A:C2 | 1:A1:1668:G:C5 | 2.96 | 0.53 |
| 2:AA:86:VAL:O | 2:AA:88:LYS:N | 2.42 | 0.53 |
| 2:AA:116:LYS:O | 2:AA:117:GLU:CB | 2.56 | 0.53 |
| 9:AH:21:ALA:HB2 | 9:AH:26:THR:HA | 1.90 | 0.53 |
| 17:AP:58:GLY:HA2 | 17:AP:71:CYS:H | 1.73 | 0.53 |
| 21:AT:297:ASP:O | 21:AT:298:GLY:C | 2.52 | 0.53 |
| 29:B1:6:A:N1 | 31:B3:154:C:C2 | 2.77 | 0.53 |
| 29:B1:176:G:O2' | 29:B1:177:U:H6 | 1.92 | 0.53 |
| 29:B1:352:A:C1' | 29:B1:354:U:C6 | 2.92 | 0.53 |
| 29:B1:717:C:C4 | 29:B1:721:G:OP1 | 2.61 | 0.53 |
| 29:B1:889:U:H2' | 29:B1:890:C:C6 | 2.43 | 0.53 |
| 29:B1:957:C:C2 | 29:B1:958:C:C5 | 2.97 | 0.53 |
| 29:B1:980:A:H2' | 29:B1:981:U:O4' | 2.09 | 0.53 |
| 29:B1:993:G:N2 | 29:B1:2638:C:OP2 | 2.41 | 0.53 |
| 29:B1:1097:G:O3' | 29:B1:1098:A:C4' | 2.57 | 0.53 |
| 29:B1:1145:G:C4 | 29:B1:1160:C:C4 | 2.97 | 0.53 |
| 29:B1:1319:G:O2' | 29:B1:1320:C:H5" | 2.09 | 0.53 |
| 29:B1:1341:U:H2' | 29:B1:1342:C:C6 | 2.43 | 0.53 |
| 29:B1:1439:U:C2 | 29:B1:1440:G:C8 | 2.97 | 0.53 |
| 29:B1:1506:A:C6 | 29:B1:1513:G:N1 | 2.77 | 0.53 |
| 29:B1:1537:A:C4 | 29:B1:1538:G:C8 | 2.97 | 0.53 |
| 29:B1:1724:U:O2' | 29:B1:1725:C:O5' | 2.27 | 0.53 |
| 29:B1:1841:A:N1 | 29:B1:1848:G:C5 | 2.77 | 0.53 |
| 29:B1:1900:A:C2 | 29:B1:1906:G:N9 | 2.77 | 0.53 |
| 29:B1:1928:G:C5 | 29:B1:1929:G:C8 | 2.96 | 0.53 |
| 29:B1:2105:G:H2' | 29:B1:2106:A:O4' | 2.09 | 0.53 |
| 29:B1:2233:A:C8 | 29:B1:2234:G:C8 | 2.97 | 0.53 |
| 29:B1:2275:A:C2 | 29:B1:2312:A:C4 | 2.97 | 0.53 |
| 29:B1:2324:A:H5" | 29:B1:2325:G:P | 2.49 | 0.53 |
| 29:B1:2762:A:C4 | 29:B1:2763:U:C5 | 2.97 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2783:U:H2' | 29:B1:2784:G:O5' | 2.08 | 0.53 |
| 29:B1:2802:A:N7 | 61:Bf:54:THR:O | 2.42 | 0.53 |
| 29:B1:2841:G:C4 | 29:B1:2844:C:N4 | 2.77 | 0.53 |
| 29:B1:2868:U:C4 | 29:B1:2869:U:H5 | 2.27 | 0.53 |
| 29:B1:2882:U:H2' | 29:B1:2883:U:C5' | 2.37 | 0.53 |
| 29:B1:2967:A:O2' | 29:B1:2968:G:OP1 | 2.24 | 0.53 |
| 29:B1:2980:U:C2 | 29:B1:2981:U:C6 | 2.97 | 0.53 |
| 29:B1:3009:G:C2' | 29:B1:3010:U:H5' | 2.39 | 0.53 |
| 29:B1:3209:A:C2' | 29:B1:3210:A:C8 | 2.92 | 0.53 |
| 29:B1:3316:A:N6 | 29:B1:3387:U:H3 | 2.06 | 0.53 |
| 29:B1:3320:A:C5 | 29:B1:3321:C:C4 | 2.97 | 0.53 |
| 29:B1:3366:G:H2' | 29:B1:3367:C:C6 | 2.44 | 0.53 |
| 29:B1:3376:A:OP2 | 29:B1:3376:A:C4' | 2.56 | 0.53 |
| 30:B2:2:G:C2 | 30:B2:3:U:C5 | 2.96 | 0.53 |
| 30:B2:12:U:C4 | 30:B2:70:U:OP1 | 2.62 | 0.53 |
| 30:B2:26:C:O2' | 30:B2:27:A:P | 2.67 | 0.53 |
| 30:B2:38:U:C2' | 30:B2:40:C:C5' | 2.86 | 0.53 |
| 30:B2:105:C:O2 | 30:B2:105:C:C2' | 2.48 | 0.53 |
| 31:B3:9:A:H3' | 31:B3:10:A:H8 | 1.74 | 0.53 |
| 34:BC:41:VAL:O | 34:BC:42:ALA:O | 2.26 | 0.53 |
| 35:BD:134:LEU:O | 35:BD:136:LEU:N | 2.42 | 0.53 |
| 38:BG:51:TYR:C | 38:BG:53:LYS:N | 2.64 | 0.53 |
| 38:BG:55:TYR:O | 38:BG:56:GLU:C | 2.52 | 0.53 |
| 39:BH:99:PRO:CA | 39:BH:237:ILE:H | 2.22 | 0.53 |
| 39:BH:157:VAL:CB | 39:BH:160:ILE:HA | 2.39 | 0.53 |
| 43:BN:76:ALA:O | 43:BN:78:THR:N | 2.42 | 0.53 |
| 44:BO:20:ARG:C | 44:BO:22:LEU:N | 2.66 | 0.53 |
| 44:BO:136:ASP:O | 44:BO:139:HIS:CB | 2.57 | 0.53 |
| 45:BP:15:LEU:HA | 45:BP:42:ASN:O | 2.09 | 0.53 |
| 45:BP:38:ALA:O | 45:BP:39:GLU:C | 2.52 | 0.53 |
| 47:BR:62:VAL:O | 47:BR:87:VAL:HA | 2.09 | 0.53 |
| 48:BS:144:GLN:O | 48:BS:145:ALA:C | 2.52 | 0.53 |
| 51:BV:33:ASN:O | 51:BV:35:LYS:N | 2.42 | 0.53 |
| 54:BY:84:GLU:CA | 54:BY:85:ASP:CB | 2.87 | 0.53 |
| 1:C1:114:C:H42 | 1:C1:250:C:C1' | 2.22 | 0.53 |
| 1:C1:130:C:C6 | 1:C1:131:C:H4' | 2.44 | 0.53 |
| 1:C1:380:U:O2' | 1:C1:381:C:H6 | 1.91 | 0.53 |
| 1:C1:413:U:N3 | 1:C1:421:A:C2 | 2.76 | 0.53 |
| 1:C1:502:U:H2' | 1:C1:503:G:C8 | 2.44 | 0.53 |
| 1:C1:553:G:N2 | 1:C1:572:C:N3 | 2.56 | 0.53 |
| 1:C1:734:A:C5 | 1:C1:735:C:C2 | 2.96 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1012:U:O5' | 1:C1:1012:U:H6 | 1.92 | 0.53 |
| 1:C1:1138:A:N3 | 1:C1:1139:A:N7 | 2.56 | 0.53 |
| 1:C1:1225:U:C5 | 1:C1:1226:A:C5 | 2.97 | 0.53 |
| 1:C1:1336:A:C6 | 1:C1:1416:G:O6 | 2.62 | 0.53 |
| 1:C1:1485:C:H42 | 1:C1:1592:A:H4' | 1.74 | 0.53 |
| 1:C1:1504:G:C6 | 1:C1:1505:A:N1 | 2.77 | 0.53 |
| 1:C1:1631:A:C2' | 1:C1:1632:C:O4' | 2.38 | 0.53 |
| 1:C1:1697:G:O6 | 1:C1:1709:C:N3 | 2.42 | 0.53 |
| 1:C1:1793:G:H4' | 1:C1:1793:G:OP1 | 2.09 | 0.53 |
| 2:CA:17:LEU:O | 2:CA:20:ALA:N | 2.29 | 0.53 |
| 5:CD:63:GLN:O | 5:CD:64:VAL:CB | 2.57 | 0.53 |
| 5:CD:162:VAL:O | 5:CD:164:PRO:N | 2.41 | 0.53 |
| 5:CD:212:LYS:C | 5:CD:214:LYS:N | 2.64 | 0.53 |
| 11:CJ:54:LEU:C | 11:CJ:56:GLY:H | 2.16 | 0.53 |
| 13:CL:29:VAL:O | 13:CL:43:SER:CB | 2.57 | 0.53 |
| 13:CL:112:ASP:C | 13:CL:114:GLU:H | 2.16 | 0.53 |
| 14:CM:103:LYS:C | 14:CM:105:LEU:N | 2.66 | 0.53 |
| 28:Ch:19:UNK:O | 28:Ch:20:UNK:C | 2.57 | 0.53 |
| 29:D1:11:A:C2 | 31:D3:148:G:N1 | 2.77 | 0.53 |
| 29:D1:49:A:O2' | 29:D1:50:U:P | 2.67 | 0.53 |
| 29:D1:62:A:C5 | 29:D1:63:A:N7 | 2.78 | 0.53 |
| 29:D1:157:A:C2' | 29:D1:158:G:C5 | 2.91 | 0.53 |
| 29:D1:218:G:H8 | 29:D1:218:G:OP1 | 1.92 | 0.53 |
| 29:D1:284:A:H2 | 29:D1:306:A:N9 | 2.07 | 0.53 |
| 29:D1:404:G:C2' | 29:D1:405:U:H5' | 2.38 | 0.53 |
| 29:D1:424:G:C6 | 29:D1:635:G:N2 | 2.77 | 0.53 |
| 29:D1:552:G:C6 | 29:D1:553:U:C4 | 2.97 | 0.53 |
| 29:D1:624:G:H2' | 29:D1:625:G:H5' | 1.91 | 0.53 |
| 29:D1:721:G:N3 | 29:D1:721:G:C3' | 2.71 | 0.53 |
| 29:D1:756:U:C5' | 29:D1:757:C:OP2 | 2.57 | 0.53 |
| 29:D1:815:G:C2 | 29:D1:906:A:C2 | 2.97 | 0.53 |
| 29:D1:836:A:C5 | 29:D1:837:A:N7 | 2.77 | 0.53 |
| 29:D1:1029:G:H2' | 29:D1:1030:A:H5' | 1.91 | 0.53 |
| 29:D1:1079:A:N6 | 29:D1:1080:A:N6 | 2.56 | 0.53 |
| 29:D1:1192:C:O2' | 29:D1:1193:A:H1' | 2.08 | 0.53 |
| 29:D1:1352:A:H3' | 29:D1:1353:U:C4' | 2.38 | 0.53 |
| 29:D1:1367:G:HO2' | 29:D1:1368:U:P | 2.32 | 0.53 |
| 29:D1:1453:A:C8 | 29:D1:1850:A:C2 | 2.97 | 0.53 |
| 29:D1:1461:A:C6 | 29:D1:1462:A:C6 | 2.97 | 0.53 |
| 29:D1:1700:G:H2' | 29:D1:1701:C:C6 | 2.43 | 0.53 |
| 29:D1:1704:A:N6 | 29:D1:1739:U:N3 | 2.57 | 0.53 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1787:A:H3' | 29:D1:1788:C:H5" | 1.91 | 0.53 |
| 29:D1:2443:A:C5 | 29:D1:2444:C:C4 | 2.96 | 0.53 |
| 29:D1:2618:G:N2 | 29:D1:2644:C:O2' | 2.42 | 0.53 |
| 29:D1:2654:C:C5' | 29:D1:2657:A:C6 | 2.92 | 0.53 |
| 29:D1:2778:G:N3 | 29:D1:2778:G:H2' | 2.24 | 0.53 |
| 29:D1:2883:U:C2' | 29:D1:2884:C:H6 | 2.18 | 0.53 |
| 29:D1:2922:G:H2' | 29:D1:2923:U:O4' | 2.09 | 0.53 |
| 29:D1:3009:G:C6 | 29:D1:3010:U:C4 | 2.97 | 0.53 |
| 29:D1:3026:G:N2 | 29:D1:3030:G:C6 | 2.77 | 0.53 |
| 29:D1:3187:A:N1 | 29:D1:3188:G:C5 | 2.77 | 0.53 |
| 29:D1:3217:C:H6 | 29:D1:3220:G:O2' | 1.91 | 0.53 |
| 29:D1:3344:A:H2 | 29:D1:3360:C:N4 | 2.07 | 0.53 |
| 29:D1:3349:C:C4 | 29:D1:3350:C:N4 | 2.77 | 0.53 |
| 30:D2:60:G:C4 | 30:D2:61:G:N7 | 2.77 | 0.53 |
| 31:D3:113:U:O2' | 31:D3:114:G:P | 2.66 | 0.53 |
| 33:DB:183:GLY:C | 33:DB:185:ALA:N | 2.61 | 0.53 |
| 34:DC:166:ILE:O | 34:DC:167:ARG:C | 2.52 | 0.53 |
| 34:DC:220:VAL:O | 34:DC:221:THR:CB | 2.56 | 0.53 |
| 42:DK:114:ILE:O | 42:DK:115:LYS:O | 2.27 | 0.53 |
| 43:DN:48:GLY:C | 43:DN:50:LYS:CA | 2.80 | 0.53 |
| 46:DQ:28:ASN:C | 46:DQ:30:ARG:H | 2.15 | 0.53 |
| 52:DW:75:LYS:C | 52:DW:77:GLU:H | 2.16 | 0.53 |
| 1:A1:93:A:OP2 | 1:A1:403:G:OP1 | 2.27 | 0.52 |
| 1:A1:108:A:C2' | 1:A1:109:G:C8 | 2.89 | 0.52 |
| 1:A1:130:C:C4 | 1:A1:131:C:O2' | 2.60 | 0.52 |
| 1:A1:169:A:C6 | 1:A1:171:A:C6 | 2.97 | 0.52 |
| 1:A1:290:G:N2 | 1:A1:291:G:C2 | 2.77 | 0.52 |
| 1:A1:340:U:N3 | 1:A1:341:A:N7 | 2.57 | 0.52 |
| 1:A1:373:G:H2' | 1:A1:374:U:C6 | 2.44 | 0.52 |
| 1:A1:381:C:H5" | 1:A1:382:C:OP2 | 2.08 | 0.52 |
| 1:A1:445:A:C2 | 1:A1:446:A:C5 | 2.97 | 0.52 |
| 1:A1:511:A:C4' | 1:A1:512:A:OP2 | 2.56 | 0.52 |
| 1:A1:605:A:H62 | 1:A1:606:A:N6 | 2.05 | 0.52 |
| 1:A1:833:U:O2 | 1:A1:833:U:C2' | 2.57 | 0.52 |
| 1:A1:961:U:H4' | 8:AG:36:GLN:O | 2.09 | 0.52 |
| 1:A1:989:U:C2' | 1:A1:990:C:H6 | 2.15 | 0.52 |
| 1:A1:1002:G:N1 | 1:A1:1003:A:N1 | 2.56 | 0.52 |
| 1:A1:1147:A:C4 | 1:A1:1148:C:C6 | 2.97 | 0.52 |
| 1:A1:1508:U:O2 | 1:A1:1508:U:H2' | 2.09 | 0.52 |
| 1:A1:1539:G:O2' | 1:A1:1540:G:C5' | 2.57 | 0.52 |
| 1:A1:1542:G:N2 | 1:A1:1568:C:C6 | 2.78 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1569:A:H2' | 1:A1:1570:A:H8 | 1.73 | 0.52 |
| 2:AA:144:ILE:O | 2:AA:145:ALA:HB2 | 2.08 | 0.52 |
| 16:AO:103:ILE:HA | 16:AO:112:ASP:HA | 1.90 | 0.52 |
| 17:AP:101:GLU:O | 17:AP:127:VAL:CB | 2.57 | 0.52 |
| 29:B1:63:A:C6 | 29:B1:64:G:C6 | 2.98 | 0.52 |
| 29:B1:232:G:H2' | 29:B1:233:C:H6 | 1.75 | 0.52 |
| 29:B1:258:G:O2' | 29:B1:259:C:P | 2.67 | 0.52 |
| 29:B1:270:U:O2' | 29:B1:271:C:H5' | 2.09 | 0.52 |
| 29:B1:387:A:H2' | 29:B1:388:G:O4' | 2.09 | 0.52 |
| 29:B1:423:A:C8 | 29:B1:423:A:O5' | 2.62 | 0.52 |
| 29:B1:548:G:H2' | 29:B1:549:U:C4' | 2.38 | 0.52 |
| 29:B1:548:G:C6 | 29:B1:549:U:C2 | 2.97 | 0.52 |
| 29:B1:606:C:C5' | 29:B1:606:C:H6 | 2.22 | 0.52 |
| 29:B1:707:U:H4' | 29:B1:782:U:O2 | 2.08 | 0.52 |
| 29:B1:764:U:OP2 | 29:B1:764:U:H6 | 1.92 | 0.52 |
| 29:B1:809:G:C4 | 29:B1:810:A:C8 | 2.97 | 0.52 |
| 29:B1:900:G:H2' | 29:B1:901:G:H8 | 1.74 | 0.52 |
| 29:B1:979:U:H2' | 29:B1:979:U:O2 | 2.08 | 0.52 |
| 29:B1:1083:G:H2' | 29:B1:1084:A:O4' | 2.09 | 0.52 |
| 29:B1:1174:G:C2 | 29:B1:1175:C:C4 | 2.96 | 0.52 |
| 29:B1:1354:G:C8 | 29:B1:1355:A:C6 | 2.93 | 0.52 |
| 29:B1:1414:G:C2 | 29:B1:1415:U:H1' | 2.45 | 0.52 |
| 29:B1:1501:U:OP2 | 29:B1:1501:U:H6 | 1.91 | 0.52 |
| 29:B1:1878:G:H3' | 29:B1:1879:A:H5' | 1.91 | 0.52 |
| 29:B1:2130:G:H5" | 29:B1:2131:A:OP2 | 2.08 | 0.52 |
| 29:B1:2149:A:C8 | 29:B1:2149:A:C3' | 2.93 | 0.52 |
| 29:B1:2300:G:C6 | 29:B1:2301:U:C4 | 2.97 | 0.52 |
| 29:B1:2346:C:O2' | 29:B1:2347:U:H5' | 2.09 | 0.52 |
| 29:B1:2391:G:C6 | 29:B1:2392:C:N3 | 2.77 | 0.52 |
| 29:B1:2727:A:C6 | 29:B1:2728:G:C6 | 2.97 | 0.52 |
| 29:B1:2986:U:H2' | 29:B1:2987:A:C8 | 2.37 | 0.52 |
| 29:B1:2987:A:C2' | 29:B1:2988:C:H6 | 2.05 | 0.52 |
| 29:B1:3004:C:C2' | 29:B1:3005:A:O5' | 2.57 | 0.52 |
| 29:B1:3006:A:H2 | 29:B1:3141:A:C2 | 2.27 | 0.52 |
| 29:B1:3160:U:N3 | 29:B1:3161:C:C5 | 2.77 | 0.52 |
| 29:B1:3323:A:C2 | 29:B1:3324:C:N1 | 2.77 | 0.52 |
| 29:B1:3392:U:N3 | 29:B1:3393:U:N3 | 2.55 | 0.52 |
| 30:B2:90:U:C4 | 30:B2:91:G:C4 | 2.97 | 0.52 |
| 31:B3:61:A:H2' | 31:B3:62:C:OP2 | 2.10 | 0.52 |
| 31:B3:64:U:C2 | 31:B3:97:A:C2 | 2.97 | 0.52 |
| 35:BD:215:ILE:C | 35:BD:217:LYS:N | 2.62 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BG:105:LEU:C | 38:BG:107:ARG:N | 2.65 | 0.52 |
| 40:BI:61:GLY:O | 40:BI:62:ARG:C | 2.51 | 0.52 |
| 40:BI:117:PHE:O | 40:BI:118:LEU:C | 2.52 | 0.52 |
| 41:BJ:66:GLU:O | 41:BJ:69:ARG:N | 2.42 | 0.52 |
| 42:BK:76:ALA:O | 42:BK:78:GLU:N | 2.42 | 0.52 |
| 45:BP:58:LEU:CB | 45:BP:72:HIS:CB | 2.87 | 0.52 |
| 48:BS:83:GLY:O | 48:BS:84:THR:C | 2.51 | 0.52 |
| 51:BV:4:GLU:HA | 51:BV:13:ILE:C | 2.33 | 0.52 |
| 58:Bc:1:MET:H3 | 58:Bc:5:LYS:H | 1.57 | 0.52 |
| 59:Bd:36:SER:C | 74:Bd:101:OHX:N6 | 2.67 | 0.52 |
| 61:Bf:4:VAL:O | 61:Bf:5:PRO:CB | 2.56 | 0.52 |
| 1:C1:82:U:H5' | 1:C1:83:G:OP2 | 2.08 | 0.52 |
| 1:C1:257:A:C2' | 1:C1:258:C:H5' | 2.24 | 0.52 |
| 1:C1:265:A:N7 | 1:C1:290:G:N2 | 2.57 | 0.52 |
| 1:C1:280:U:H3' | 1:C1:281:G:C8 | 2.35 | 0.52 |
| 1:C1:653:C:C5 | 1:C1:654:C:C5 | 2.97 | 0.52 |
| 1:C1:712:G:H2' | 1:C1:713:A:C8 | 2.44 | 0.52 |
| 1:C1:814:A:C4 | 1:C1:816:G:N2 | 2.77 | 0.52 |
| 1:C1:1051:G:N2 | 1:C1:1052:U:H3 | 2.07 | 0.52 |
| 1:C1:1121:C:C2 | 1:C1:1127:G:N1 | 2.77 | 0.52 |
| 1:C1:1379:C:H2' | 1:C1:1380:U:H5' | 1.91 | 0.52 |
| 1:C1:1382:A:C4 | 1:C1:1383:G:C8 | 2.97 | 0.52 |
| 1:C1:1435:G:C4' | 1:C1:1436:A:OP2 | 2.53 | 0.52 |
| 1:C1:1437:U:O2 | 1:C1:1437:U:C2' | 2.46 | 0.52 |
| 1:C1:1685:G:N2 | 1:C1:1686:C:N3 | 2.56 | 0.52 |
| 1:C1:1738:U:O4 | 74:C1:1929:OHX:N5 | 2.42 | 0.52 |
| 2:CA:8:ASP:O | 2:CA:11:PRO:N | 2.42 | 0.52 |
| 2:CA:28:ASN:HA | 2:CA:45:VAL:HA | 1.90 | 0.52 |
| 10:CI:19:GLY:C | 10:CI:21:ASP:H | 2.17 | 0.52 |
| 29:D1:117:U:C4 | 29:D1:118:U:C5 | 2.97 | 0.52 |
| 29:D1:156:G:C4 | 29:D1:158:G:OP2 | 2.62 | 0.52 |
| 29:D1:265:A:C8 | 29:D1:265:A:OP1 | 2.62 | 0.52 |
| 29:D1:279:U:O2' | 29:D1:280:U:H5' | 2.09 | 0.52 |
| 29:D1:283:G:OP2 | 29:D1:285:A:H2' | 2.09 | 0.52 |
| 29:D1:323:A:H2' | 29:D1:324:A:C8 | 2.44 | 0.52 |
| 29:D1:405:U:H5 | 29:D1:406:G:C8 | 2.27 | 0.52 |
| 29:D1:440:A:H2' | 29:D1:440:A:N3 | 2.22 | 0.52 |
| 29:D1:532:A:H3' | 29:D1:533:A:H8 | 1.72 | 0.52 |
| 29:D1:571:U:O2' | 29:D1:572:A:H5' | 2.09 | 0.52 |
| 29:D1:577:C:H6 | 29:D1:577:C:H3' | 1.74 | 0.52 |
| 29:D1:588:G:H4' | 29:D1:589:A:H62 | 1.73 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:602:A:H2' | 29:D1:602:A:N3 | 2.24 | 0.52 |
| 29:D1:719:U:OP1 | 47:DR:69:ARG:CB | 2.57 | 0.52 |
| 29:D1:739:G:H5" | 29:D1:740:G:OP2 | 2.09 | 0.52 |
| 29:D1:743:C:H3' | 29:D1:743:C:C6 | 2.44 | 0.52 |
| 29:D1:746:A:O5' | 29:D1:746:A:C8 | 2.61 | 0.52 |
| 29:D1:760:G:H2' | 29:D1:761:A:C8 | 2.41 | 0.52 |
| 29:D1:812:G:C2 | 29:D1:813:G:C8 | 2.97 | 0.52 |
| 29:D1:841:A:C6 | 29:D1:853:G:C6 | 2.97 | 0.52 |
| 29:D1:885:U:O2 | 29:D1:885:U:C2' | 2.56 | 0.52 |
| 29:D1:930:U:O2' | 29:D1:931:C:H5' | 2.10 | 0.52 |
| 29:D1:993:G:C4 | 29:D1:2637:A:C4 | 2.97 | 0.52 |
| 29:D1:1104:G:H2' | 29:D1:1105:A:O4' | 2.09 | 0.52 |
| 29:D1:1131:G:C5 | 29:D1:2373:A:C2 | 2.98 | 0.52 |
| 29:D1:1235:U:N1 | 29:D1:1237:G:H5' | 2.23 | 0.52 |
| 29:D1:1489:A:N3 | 29:D1:1489:A:H2' | 2.24 | 0.52 |
| 29:D1:1542:G:C5 | 74:D1:3556:OHX:N3 | 2.77 | 0.52 |
| 29:D1:1900:A:N1 | 29:D1:1908:A:N1 | 2.57 | 0.52 |
| 29:D1:1907:C:H5 | 29:D1:1908:A:C5 | 2.28 | 0.52 |
| 29:D1:2309:A:H8 | 29:D1:2309:A:OP1 | 1.92 | 0.52 |
| 29:D1:2407:C:H1' | 29:D1:2818:U:C2 | 2.44 | 0.52 |
| 29:D1:2659:G:H4' | 29:D1:2751:G:O2' | 2.09 | 0.52 |
| 29:D1:2716:U:C5' | 29:D1:2717:U:OP2 | 2.57 | 0.52 |
| 29:D1:2725:U:H5 | 29:D1:2727:A:HO2' | 1.38 | 0.52 |
| 29:D1:2808:A:C8 | 29:D1:2955:U:H4' | 2.43 | 0.52 |
| 29:D1:3019:U:C5 | 29:D1:3020:U:C4 | 2.97 | 0.52 |
| 29:D1:3214:U:O3' | 29:D1:3218:A:H5" | 2.06 | 0.52 |
| 29:D1:3254:G:N3 | 29:D1:3254:G:C2' | 2.71 | 0.52 |
| 29:D1:3265:C:C5 | 29:D1:3266:G:N7 | 2.78 | 0.52 |
| 29:D1:3306:U:O2' | 29:D1:3309:G:N1 | 2.38 | 0.52 |
| 29:D1:3328:G:H22 | 29:D1:3375:A:H62 | 1.55 | 0.52 |
| 29:D1:3336:A:N6 | 29:D1:3337:G:C6 | 2.77 | 0.52 |
| 30:D2:14:U:O2' | 30:D2:15:C:P | 2.66 | 0.52 |
| 30:D2:65:G:H2' | 30:D2:66:A:O5' | 2.08 | 0.52 |
| 30:D2:91:G:O2' | 30:D2:92:A:H5' | 2.09 | 0.52 |
| 31:D3:79:A:C5 | 31:D3:80:A:C5 | 2.96 | 0.52 |
| 34:DC:193:ASP:O | 34:DC:196:ARG:N | 2.42 | 0.52 |
| 35:DD:7:THR:O | 35:DD:9:HIS:N | 2.42 | 0.52 |
| 35:DD:16:THR:CB | 35:DD:17:ALA:CA | 2.87 | 0.52 |
| 36:DE:234:ASP:C | 36:DE:236:LEU:N | 2.68 | 0.52 |
| 43:DN:24:LYS:CA | 43:DN:31:LYS:C | 2.82 | 0.52 |
| 43:DN:111:ALA:O | 43:DN:113:THR:N | 2.42 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 50:DU:121:GLU:C | 50:DU:123:ALA:H | 2.14 | 0.52 |
| 1:A1:27:U:O2' | 1:A1:28:A:H5' | 2.10 | 0.52 |
| 1:A1:37:U:OP1 | 1:A1:531:C:O2' | 2.19 | 0.52 |
| 1:A1:59:C:N4 | 1:A1:89:G:N3 | 2.57 | 0.52 |
| 1:A1:407:A:H1' | 1:A1:1671:A:C2 | 2.43 | 0.52 |
| 1:A1:417:A:H4' | 1:A1:418:G:O5' | 2.08 | 0.52 |
| 1:A1:704:C:H4' | 1:A1:705:U:OP1 | 2.09 | 0.52 |
| 1:A1:741:C:O2 | 1:A1:741:C:C2' | 2.54 | 0.52 |
| 1:A1:863:A:H2' | 1:A1:865:A:C8 | 2.44 | 0.52 |
| 1:A1:871:G:O6 | 1:A1:957:G:C6 | 2.62 | 0.52 |
| 1:A1:873:U:C4 | 1:A1:874:C:N4 | 2.77 | 0.52 |
| 1:A1:1150:G:O2' | 1:A1:1151:A:OP1 | 2.27 | 0.52 |
| 1:A1:1203:A:C5 | 1:A1:1555:A:N1 | 2.77 | 0.52 |
| 1:A1:1268:G:O2' | 1:A1:1269:U:H3' | 2.09 | 0.52 |
| 1:A1:1354:G:C6 | 1:A1:1355:C:C4 | 2.97 | 0.52 |
| 1:A1:1393:C:H2' | 1:A1:1394:G:C8 | 2.45 | 0.52 |
| 1:A1:1480:G:H2' | 1:A1:1481:C:H5" | 1.91 | 0.52 |
| 1:A1:1720:G:C6 | 1:A1:1721:A:C4 | 2.97 | 0.52 |
| 1:A1:1771:U:C2 | 1:A1:1772:C:C5 | 2.97 | 0.52 |
| 1:A1:1774:G:H5" | 1:A1:1775:U:OP2 | 2.09 | 0.52 |
| 3:AB:42:GLY:O | 3:AB:43:ARG:C | 2.52 | 0.52 |
| 4:AC:125:TYR:HA | 4:AC:128:GLU:CB | 2.39 | 0.52 |
| 8:AG:101:HIS:O | 8:AG:105:ASN:N | 2.40 | 0.52 |
| 9:AH:97:GLY:HA2 | 9:AH:100:ALA:HB3 | 1.91 | 0.52 |
| 16:AO:24:GLN:CB | 16:AO:63:VAL:O | 2.57 | 0.52 |
| 29:B1:304:G:H3' | 29:B1:304:G:P | 2.48 | 0.52 |
| 29:B1:648:C:H5 | 29:B1:2375:G:O5' | 1.90 | 0.52 |
| 29:B1:930:U:O2' | 29:B1:931:C:H5' | 2.09 | 0.52 |
| 29:B1:1051:U:H5' | 29:B1:1052:U:OP2 | 2.10 | 0.52 |
| 29:B1:1247:U:OP1 | 29:B1:1248:C:C5 | 2.62 | 0.52 |
| 29:B1:1625:A:C8 | 29:B1:1626:U:O4' | 2.62 | 0.52 |
| 29:B1:1655:G:C8 | 29:B1:1656:A:C8 | 2.97 | 0.52 |
| 29:B1:1662:G:C5 | 29:B1:1663:C:C5 | 2.98 | 0.52 |
| 29:B1:2142:A:H4' | 29:B1:2143:A:O5' | 2.09 | 0.52 |
| 29:B1:2302:G:C6 | 29:B1:2303:A:C5 | 2.98 | 0.52 |
| 29:B1:2565:U:C2 | 29:B1:2566:C:C5 | 2.96 | 0.52 |
| 29:B1:2599:U:C2 | 29:B1:2600:C:C5 | 2.97 | 0.52 |
| 29:B1:2676:A:H2' | 29:B1:2677:G:OP1 | 2.09 | 0.52 |
| 29:B1:2712:U:C2' | 29:B1:2713:U:O5' | 2.57 | 0.52 |
| 29:B1:2836:C:O2 | 29:B1:2836:C:H2' | 2.09 | 0.52 |
| 29:B1:3011:A:H5" | 29:B1:3011:A:N3 | 2.24 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3069:G:N1 | 29:B1:3070:A:N7 | 2.58 | 0.52 |
| 29:B1:3096:C:C4 | 29:B1:3097:C:N4 | 2.77 | 0.52 |
| 29:B1:3123:A:C8 | 29:B1:3124:G:C8 | 2.96 | 0.52 |
| 29:B1:3202:G:O2' | 29:B1:3203:U:O4' | 2.22 | 0.52 |
| 29:B1:3315:G:C4' | 29:B1:3319:U:O3' | 2.57 | 0.52 |
| 29:B1:3333:G:H1 | 29:B1:3370:A:C2' | 2.23 | 0.52 |
| 29:B1:3352:U:C2' | 29:B1:3354:U:H4' | 2.35 | 0.52 |
| 31:B3:56:G:C6 | 31:B3:62:C:C4 | 2.96 | 0.52 |
| 33:BB:18:SER:C | 33:BB:20:THR:H | 2.17 | 0.52 |
| 33:BB:148:VAL:O | 33:BB:149:ARG:CB | 2.58 | 0.52 |
| 39:BH:133:LYS:CB | 39:BH:199:ALA:H | 2.23 | 0.52 |
| 40:BI:55:VAL:O | 40:BI:56:ALA:HB3 | 2.07 | 0.52 |
| 40:BI:86:TYR:CB | 40:BI:148:GLY:O | 2.57 | 0.52 |
| 41:BJ:47:PRO:O | 41:BJ:140:THR:O | 2.28 | 0.52 |
| 41:BJ:121:LYS:O | 41:BJ:122:PRO:O | 2.26 | 0.52 |
| 46:BQ:28:ASN:C | 46:BQ:30:ARG:H | 2.17 | 0.52 |
| 51:BV:49:ILE:C | 51:BV:51:TRP:H | 2.17 | 0.52 |
| 53:BX:52:ARG:C | 53:BX:54:ASP:H | 2.17 | 0.52 |
| 55:BZ:76:GLU:C | 55:BZ:78:GLY:N | 2.66 | 0.52 |
| 61:Bf:57:VAL:HA | 61:Bf:58:PHE:CB | 2.39 | 0.52 |
| 62:Bg:78:THR:O | 62:Bg:82:THR:N | 2.42 | 0.52 |
| 63:Bh:15:UNK:C | 63:Bh:17:UNK:N | 2.70 | 0.52 |
| 1:C1:13:C:O3' | 3:CB:161:LYS:O | 2.28 | 0.52 |
| 1:C1:45:U:H5' | 1:C1:45:U:C6 | 2.43 | 0.52 |
| 1:C1:147:A:H2' | 1:C1:148:A:C1' | 2.39 | 0.52 |
| 1:C1:228:G:O2' | 1:C1:229:U:C6 | 2.49 | 0.52 |
| 1:C1:445:A:H2' | 1:C1:446:A:C8 | 2.43 | 0.52 |
| 1:C1:646:C:H2' | 1:C1:647:G:C5' | 2.38 | 0.52 |
| 1:C1:775:G:N2 | 1:C1:786:C:C2 | 2.77 | 0.52 |
| 1:C1:1006:C:C5 | 1:C1:1007:C:C5 | 2.96 | 0.52 |
| 1:C1:1240:U:C3' | 1:C1:1241:G:C5' | 2.86 | 0.52 |
| 1:C1:1329:A:C8 | 1:C1:1330:G:C8 | 2.97 | 0.52 |
| 1:C1:1392:U:C6 | 1:C1:1392:U:H5" | 2.44 | 0.52 |
| 1:C1:1526:A:OP2 | 1:C1:1527:C:H5 | 1.91 | 0.52 |
| 1:C1:1595:U:H2' | 1:C1:1596:C:O2 | 2.09 | 0.52 |
| 1:C1:1664:C:O2 | 1:C1:1664:C:H2' | 2.09 | 0.52 |
| 1:C1:1781:A:C6 | 1:C1:1782:A:C6 | 2.98 | 0.52 |
| 1:C1:1791:A:C5' | 1:C1:1791:A:H8 | 2.23 | 0.52 |
| 5:CD:220:VAL:C | 5:CD:222:LYS:H | 2.16 | 0.52 |
| 6:CE:49:LEU:O | 6:CE:50:SER:C | 2.50 | 0.52 |
| 8:CG:51:GLY:O | 8:CG:55:ARG:HA | 2.09 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:CG:109:LYS:C | 8:CG:111:ALA:N | 2.67 | 0.52 |
| 11:CJ:35:PRO:O | 11:CJ:38:LEU:N | 2.42 | 0.52 |
| 12:CK:58:MET:O | 12:CK:62:GLN:HA | 2.10 | 0.52 |
| 21:CT:282:SER:O | 21:CT:284:ALA:N | 2.36 | 0.52 |
| 24:Cc:12:UNK:HA | 24:Cc:13:UNK:C | 2.36 | 0.52 |
| 29:D1:9:U:C2' | 29:D1:10:C:H5' | 2.36 | 0.52 |
| 29:D1:42:C:C2' | 29:D1:43:A:C5' | 2.73 | 0.52 |
| 29:D1:221:A:N9 | 29:D1:224:C:N4 | 2.57 | 0.52 |
| 29:D1:282:G:N3 | 29:D1:286:U:C4' | 2.72 | 0.52 |
| 29:D1:303:G:C2 | 29:D1:2778:G:N7 | 2.77 | 0.52 |
| 29:D1:546:C:N4 | 29:D1:547:G:N3 | 2.56 | 0.52 |
| 29:D1:548:G:C6 | 29:D1:549:U:C2 | 2.97 | 0.52 |
| 29:D1:614:C:O2' | 29:D1:615:U:H5' | 2.09 | 0.52 |
| 29:D1:659:G:N1 | 29:D1:1432:C:C2 | 2.77 | 0.52 |
| 29:D1:731:U:H5" | 47:DR:136:ASN:H | 1.75 | 0.52 |
| 29:D1:941:G:H1' | 29:D1:1435:A:N3 | 2.24 | 0.52 |
| 29:D1:943:U:H1' | 29:D1:944:C:OP1 | 2.10 | 0.52 |
| 29:D1:1014:U:H4' | 29:D1:1014:U:OP1 | 2.08 | 0.52 |
| 29:D1:1180:A:N3 | 29:D1:1182:A:H1' | 2.23 | 0.52 |
| 29:D1:1199:C:N3 | 74:D1:3574:OHX:N5 | 2.56 | 0.52 |
| 29:D1:1224:C:C5 | 29:D1:1285:G:N1 | 2.78 | 0.52 |
| 29:D1:1422:G:H2' | 29:D1:1423:C:C6 | 2.43 | 0.52 |
| 29:D1:1700:G:H2' | 29:D1:1701:C:H6 | 1.74 | 0.52 |
| 29:D1:2244:A:O2' | 29:D1:2245:C:H5' | 2.09 | 0.52 |
| 29:D1:2593:A:C4' | 29:D1:2594:C:H5' | 2.31 | 0.52 |
| 29:D1:2609:A:C2 | 29:D1:2610:G:N7 | 2.77 | 0.52 |
| 29:D1:2668:U:H5 | 74:D1:3599:OHX:N2 | 2.07 | 0.52 |
| 29:D1:2681:U:HO2' | 29:D1:2682:C:H5" | 1.72 | 0.52 |
| 29:D1:2814:G:H2' | 29:D1:2815:G:H8 | 1.74 | 0.52 |
| 29:D1:3003:G:C2 | 29:D1:3004:C:C6 | 2.97 | 0.52 |
| 29:D1:3352:U:H2' | 29:D1:3354:U:C4' | 2.36 | 0.52 |
| 29:D1:3394:U:O2' | 29:D1:3395:G:C8 | 2.62 | 0.52 |
| 30:D2:64:A:C1' | 30:D2:65:G:H5" | 2.37 | 0.52 |
| 31:D3:94:C:H41 | 59:Dd:63:ARG:CB | 2.23 | 0.52 |
| 31:D3:145:U:C4 | 31:D3:146:U:C4 | 2.97 | 0.52 |
| 35:DD:101:ALA:O | 35:DD:102:PRO:O | 2.28 | 0.52 |
| 35:DD:261:VAL:O | 35:DD:262:TRP:C | 2.52 | 0.52 |
| 37:DF:22:ARG:O | 37:DF:113:LYS:O | 2.28 | 0.52 |
| 37:DF:151:LYS:O | 37:DF:154:LEU:N | 2.42 | 0.52 |
| 39:DH:152:LEU:HA | 39:DH:178:ALA:HB3 | 1.91 | 0.52 |
| 40:DI:43:VAL:O | 40:DI:56:ALA:O | 2.27 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:DI:117:PHE:O | 40:DI:120:ASP:N | 2.42 | 0.52 |
| 41:DJ:68:ALA:O | 41:DJ:72:ALA:HB2 | 2.08 | 0.52 |
| 41:DJ:174:THR:O | 41:DJ:176:LEU:N | 2.41 | 0.52 |
| 45:DP:36:VAL:O | 45:DP:37:ARG:CB | 2.57 | 0.52 |
| 47:DR:23:ASN:O | 47:DR:26:LEU:N | 2.43 | 0.52 |
| 49:DT:76:ILE:O | 49:DT:77:ASN:CB | 2.57 | 0.52 |
| 49:DT:115:LYS:C | 49:DT:117:ALA:N | 2.61 | 0.52 |
| 55:DZ:83:LYS:O | 55:DZ:84:LEU:CB | 2.56 | 0.52 |
| 57:Db:4:LEU:C | 57:Db:6:HIS:H | 2.16 | 0.52 |
| 59:Dd:67:LEU:O | 59:Dd:68:LYS:O | 2.27 | 0.52 |
| 1:A1:71:A:H4' | 1:A1:72:A:OP2 | 2.08 | 0.52 |
| 1:A1:129:U:H5 | 74:A1:1915:OHX:N3 | 2.08 | 0.52 |
| 1:A1:250:C:OP2 | 1:A1:251:A:OP2 | 2.27 | 0.52 |
| 1:A1:323:A:O2' | 1:A1:324:U:H5' | 2.09 | 0.52 |
| 1:A1:366:A:C2 | 1:A1:376:C:C2 | 2.98 | 0.52 |
| 1:A1:391:A:O2' | 1:A1:392:G:H5' | 2.09 | 0.52 |
| 1:A1:449:C:H2' | 1:A1:449:C:O2 | 2.08 | 0.52 |
| 1:A1:492:A:N1 | 1:A1:495:C:OP2 | 2.42 | 0.52 |
| 1:A1:888:U:H3' | 1:A1:889:U:C6 | 2.44 | 0.52 |
| 1:A1:1003:A:C8 | 1:A1:1005:A:C4 | 2.98 | 0.52 |
| 1:A1:1118:G:N1 | 1:A1:1119:G:C5 | 2.77 | 0.52 |
| 1:A1:1180:C:C4 | 1:A1:1181:U:C5 | 2.97 | 0.52 |
| 1:A1:1263:G:C5 | 1:A1:1264:G:C8 | 2.96 | 0.52 |
| 1:A1:1382:A:C4 | 1:A1:1383:G:N7 | 2.78 | 0.52 |
| 1:A1:1417:A:OP1 | 74:A1:1989:OHX:N5 | 2.42 | 0.52 |
| 1:A1:1575:G:N2 | 1:A1:1576:A:C1' | 2.72 | 0.52 |
| 1:A1:1600:A:OP1 | 1:A1:1600:A:C4' | 2.48 | 0.52 |
| 1:A1:1764:C:OP1 | 1:A1:1771:U:C4' | 2.47 | 0.52 |
| 1:A1:1784:C:C2 | 1:A1:1785:U:C6 | 2.97 | 0.52 |
| 2:AA:91:ALA:C | 2:AA:93:THR:H | 2.17 | 0.52 |
| 2:AA:169:SER:O | 2:AA:170:ILE:C | 2.52 | 0.52 |
| 5:AD:66:GLN:HA | 5:AD:87:CYS:O | 2.09 | 0.52 |
| 11:AJ:18:ALA:CB | 11:AJ:84:ALA:HB2 | 2.39 | 0.52 |
| 12:AK:42:GLN:CB | 12:AK:47:ARG:HA | 2.40 | 0.52 |
| 18:AQ:41:ILE:C | 18:AQ:43:ASP:H | 2.18 | 0.52 |
| 29:B1:70:A:H2' | 29:B1:71:A:H5' | 1.90 | 0.52 |
| 29:B1:198:A:C2 | 29:B1:219:A:C5 | 2.97 | 0.52 |
| 29:B1:360:G:N1 | 29:B1:361:A:N6 | 2.57 | 0.52 |
| 29:B1:381:U:H1' | 29:B1:388:G:N2 | 2.24 | 0.52 |
| 29:B1:431:U:HO2' | 29:B1:432:G:P | 2.31 | 0.52 |
| 29:B1:519:A:H62 | 37:BF:30:LEU:C | 2.16 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:650:C:H5' | 29:B1:2872:A:OP2 | 2.09 | 0.52 |
| 29:B1:739:G:H5" | 29:B1:740:G:OP2 | 2.09 | 0.52 |
| 29:B1:745:C:N3 | 29:B1:746:A:N6 | 2.57 | 0.52 |
| 29:B1:778:U:H2' | 29:B1:779:G:H5' | 1.91 | 0.52 |
| 29:B1:808:A:C5 | 29:B1:809:G:N7 | 2.78 | 0.52 |
| 29:B1:934:G:H5" | 29:B1:935:U:OP2 | 2.09 | 0.52 |
| 29:B1:959:C:N4 | 29:B1:2801:A:H5" | 2.23 | 0.52 |
| 29:B1:1075:A:C2 | 69:Bp:246:UNK:CA | 2.93 | 0.52 |
| 29:B1:1125:U:H6 | 29:B1:1125:U:O5' | 1.92 | 0.52 |
| 29:B1:1194:G:O2' | 29:B1:1309:U:O2 | 2.27 | 0.52 |
| 29:B1:1199:C:O2 | 29:B1:1199:C:C2' | 2.56 | 0.52 |
| 29:B1:1358:C:H3' | 29:B1:1359:C:H6 | 1.74 | 0.52 |
| 29:B1:1428:A:C5 | 29:B1:1430:U:C4 | 2.98 | 0.52 |
| 29:B1:1525:G:H1' | 29:B1:1829:G:C2 | 2.44 | 0.52 |
| 29:B1:1625:A:N7 | 29:B1:1626:U:N1 | 2.57 | 0.52 |
| 29:B1:1628:C:O2' | 29:B1:1630:U:C5' | 2.46 | 0.52 |
| 29:B1:1640:G:O2' | 29:B1:1641:U:O5' | 2.26 | 0.52 |
| 29:B1:1804:A:C2 | 29:B1:1805:C:C2 | 2.98 | 0.52 |
| 29:B1:2092:A:OP2 | 29:B1:2093:A:H8 | 1.93 | 0.52 |
| 29:B1:2424:A:C5' | 29:B1:2425:G:OP2 | 2.55 | 0.52 |
| 29:B1:2513:U:HO2' | 29:B1:2514:U:P | 2.32 | 0.52 |
| 29:B1:2520:A:C2 | 29:B1:2521:U:C2 | 2.97 | 0.52 |
| 29:B1:2573:G:O6 | 74:B1:3558:OHX:N3 | 2.42 | 0.52 |
| 29:B1:2610:G:H2' | 29:B1:2611:U:C6 | 2.44 | 0.52 |
| 29:B1:2743:A:C6 | 29:B1:2744:U:C4 | 2.97 | 0.52 |
| 29:B1:2914:G:H2' | 29:B1:2915:U:H6 | 1.74 | 0.52 |
| 29:B1:2967:A:C2' | 29:B1:2968:G:OP1 | 2.57 | 0.52 |
| 29:B1:3059:G:C2' | 29:B1:3060:C:H5' | 2.39 | 0.52 |
| 29:B1:3064:U:C2 | 29:B1:3065:G:N7 | 2.77 | 0.52 |
| 29:B1:3130:A:H5' | 29:B1:3131:U:H5 | 1.74 | 0.52 |
| 29:B1:3205:G:OP2 | 29:B1:3206:C:OP2 | 2.26 | 0.52 |
| 29:B1:3234:A:C2 | 29:B1:3235:C:C6 | 2.97 | 0.52 |
| 29:B1:3341:U:C4 | 29:B1:3362:A:N1 | 2.78 | 0.52 |
| 29:B1:3341:U:O3' | 29:B1:3343:G:N2 | 2.40 | 0.52 |
| 30:B2:14:U:O2' | 30:B2:15:C:P | 2.67 | 0.52 |
| 35:BD:153:SER:O | 35:BD:155:ASP:N | 2.42 | 0.52 |
| 40:BI:21:LYS:O | 40:BI:22:SER:O | 2.26 | 0.52 |
| 45:BP:77:SER:C | 45:BP:79:ILE:N | 2.67 | 0.52 |
| 45:BP:77:SER:O | 45:BP:79:ILE:N | 2.43 | 0.52 |
| 52:BW:69:SER:O | 52:BW:72:ALA:N | 2.42 | 0.52 |
| 54:BY:135:GLU:C | 54:BY:137:LYS:H | 2.17 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:12:U:H5” | 1:C1:13:C:OP2 | 2.08 | 0.52 |
| 1:C1:23:G:C5 | 1:C1:24:U:C4 | 2.97 | 0.52 |
| 1:C1:42:G:O4’ | 1:C1:437:A:C8 | 2.63 | 0.52 |
| 1:C1:71:A:C2 | 1:C1:72:A:N6 | 2.69 | 0.52 |
| 1:C1:167:U:H5’ | 1:C1:167:U:C6 | 2.42 | 0.52 |
| 1:C1:185:U:C2 | 1:C1:201:G:N2 | 2.77 | 0.52 |
| 1:C1:198:A:O2’ | 1:C1:199:G:O5’ | 2.27 | 0.52 |
| 1:C1:229:U:H2’ | 1:C1:230:C:C6 | 2.45 | 0.52 |
| 1:C1:283:U:O3’ | 1:C1:284:G:C4’ | 2.56 | 0.52 |
| 1:C1:326:G:H2’ | 1:C1:327:U:C6 | 2.44 | 0.52 |
| 1:C1:327:U:N3 | 1:C1:328:A:N7 | 2.57 | 0.52 |
| 1:C1:413:U:C2 | 1:C1:421:A:C2 | 2.98 | 0.52 |
| 1:C1:479:C:O3’ | 1:C1:480:G:O4’ | 2.26 | 0.52 |
| 1:C1:617:U:H5’ | 1:C1:1031:U:O4’ | 2.10 | 0.52 |
| 1:C1:813:U:C5 | 48:DS:162:ARG:CB | 2.92 | 0.52 |
| 1:C1:848:C:H2’ | 1:C1:849:C:H6 | 1.75 | 0.52 |
| 1:C1:885:G:H5” | 1:C1:886:U:OP2 | 2.09 | 0.52 |
| 1:C1:891:A:C6 | 1:C1:922:G:O6 | 2.62 | 0.52 |
| 1:C1:956:C:N4 | 1:C1:957:G:O6 | 2.42 | 0.52 |
| 1:C1:960:U:H2’ | 1:C1:961:U:C6 | 2.44 | 0.52 |
| 1:C1:973:A:N3 | 1:C1:974:A:N7 | 2.57 | 0.52 |
| 1:C1:1291:G:N2 | 1:C1:1324:G:H22 | 2.07 | 0.52 |
| 1:C1:1330:G:C2’ | 1:C1:1331:A:H8 | 2.20 | 0.52 |
| 1:C1:1379:C:C2’ | 1:C1:1380:U:H5’ | 2.38 | 0.52 |
| 1:C1:1469:A:H2’ | 1:C1:1470:C:C6 | 2.44 | 0.52 |
| 1:C1:1682:U:O2 | 1:C1:1683:C:C4 | 2.62 | 0.52 |
| 1:C1:1684:U:H3’ | 1:C1:1685:G:C5’ | 2.39 | 0.52 |
| 1:C1:1766:A:O2’ | 1:C1:1767:G:O5’ | 2.23 | 0.52 |
| 2:CA:13:ASP:H | 2:CA:17:LEU:H | 1.57 | 0.52 |
| 6:CE:23:ARG:O | 6:CE:26:ALA:HB3 | 2.10 | 0.52 |
| 6:CE:100:LYS:O | 6:CE:101:VAL:C | 2.53 | 0.52 |
| 12:CK:54:THR:O | 12:CK:55:THR:C | 2.50 | 0.52 |
| 13:CL:76:PRO:C | 13:CL:81:ILE:H | 2.17 | 0.52 |
| 13:CL:112:ASP:C | 13:CL:114:GLU:N | 2.68 | 0.52 |
| 16:CO:111:MET:CB | 16:CO:116:ALA:HB2 | 2.38 | 0.52 |
| 20:CS:40:ARG:CB | 74:CS:101:OHX:N3 | 2.72 | 0.52 |
| 23:Cb:72:UNK:C | 23:Cb:74:UNK:N | 2.70 | 0.52 |
| 29:D1:8:C:C2’ | 29:D1:9:U:C6 | 2.89 | 0.52 |
| 29:D1:70:A:H2’ | 29:D1:71:A:H5’ | 1.91 | 0.52 |
| 29:D1:85:A:C8 | 29:D1:87:U:N3 | 2.78 | 0.52 |
| 29:D1:287:G:C4 | 29:D1:288:C:C6 | 2.98 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:353:G:O2' | 29:D1:354:U:OP2 | 2.27 | 0.52 |
| 29:D1:427:C:H2' | 29:D1:428:A:H5' | 1.91 | 0.52 |
| 29:D1:548:G:H2' | 29:D1:549:U:C4' | 2.39 | 0.52 |
| 29:D1:591:G:C2 | 29:D1:592:A:C8 | 2.96 | 0.52 |
| 29:D1:716:A:C3' | 29:D1:716:A:C8 | 2.93 | 0.52 |
| 29:D1:773:G:O2' | 29:D1:774:G:H5' | 2.09 | 0.52 |
| 29:D1:877:C:H6 | 29:D1:877:C:C3' | 2.23 | 0.52 |
| 29:D1:971:G:HO2' | 29:D1:972:A:H5' | 1.73 | 0.52 |
| 29:D1:993:G:N3 | 29:D1:2637:A:C2' | 2.69 | 0.52 |
| 29:D1:1180:A:C6 | 29:D1:1182:A:C5 | 2.98 | 0.52 |
| 29:D1:1390:A:C6 | 29:D1:1418:A:C4 | 2.97 | 0.52 |
| 29:D1:1448:U:C2' | 29:D1:1449:A:H5' | 2.38 | 0.52 |
| 29:D1:1503:A:C3' | 29:D1:1504:A:C5' | 2.75 | 0.52 |
| 29:D1:1532:C:C2 | 29:D1:1591:G:C2 | 2.98 | 0.52 |
| 29:D1:2140:U:C5 | 29:D1:2956:A:C2 | 2.97 | 0.52 |
| 29:D1:2222:A:H61 | 29:D1:2783:U:H5' | 1.71 | 0.52 |
| 29:D1:2294:U:C6 | 29:D1:2297:U:C5 | 2.98 | 0.52 |
| 29:D1:2364:G:H8 | 29:D1:2364:G:OP2 | 1.92 | 0.52 |
| 29:D1:2630:C:O3' | 49:DT:6:GLY:HA3 | 2.09 | 0.52 |
| 29:D1:2702:A:H8 | 29:D1:2704:A:C5 | 2.28 | 0.52 |
| 29:D1:2717:U:H2' | 29:D1:2718:U:C6 | 2.44 | 0.52 |
| 29:D1:2869:U:O2 | 29:D1:2869:U:C2' | 2.57 | 0.52 |
| 29:D1:3011:A:C2 | 34:DC:13:HIS:HA | 2.44 | 0.52 |
| 29:D1:3105:U:H5 | 29:D1:3128:G:H21 | 1.57 | 0.52 |
| 29:D1:3111:U:O2' | 29:D1:3112:G:H5' | 2.09 | 0.52 |
| 29:D1:3256:G:C6 | 29:D1:3257:C:C4 | 2.97 | 0.52 |
| 29:D1:3331:U:H6 | 29:D1:3331:U:O5' | 1.92 | 0.52 |
| 30:D2:24:A:N3 | 30:D2:25:G:C8 | 2.77 | 0.52 |
| 30:D2:24:A:C2' | 30:D2:25:G:H8 | 2.19 | 0.52 |
| 30:D2:38:U:O2' | 30:D2:40:C:C5' | 2.55 | 0.52 |
| 30:D2:54:U:O2 | 30:D2:54:U:C2' | 2.57 | 0.52 |
| 30:D2:60:G:C4 | 30:D2:61:G:C8 | 2.98 | 0.52 |
| 30:D2:90:U:O2 | 30:D2:90:U:H2' | 2.09 | 0.52 |
| 35:DD:5:GLN:N | 35:DD:21:PRO:HA | 2.24 | 0.52 |
| 36:DE:139:PRO:HA | 36:DE:140:ARG:CB | 2.38 | 0.52 |
| 38:DG:104:GLN:O | 38:DG:107:ARG:HA | 2.08 | 0.52 |
| 45:DP:139:GLY:O | 45:DP:142:SER:CB | 2.57 | 0.52 |
| 46:DQ:9:THR:N | 46:DQ:10:ASN:CA | 2.73 | 0.52 |
| 50:DU:18:PRO:HA | 50:DU:51:ALA:CB | 2.40 | 0.52 |
| 1:A1:145:A:C2 | 1:A1:146:U:H1' | 2.44 | 0.52 |
| 1:A1:313:U:C6 | 1:A1:1118:G:C2 | 2.98 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:343:C:H2' | 1:A1:344:A:H8 | 1.74 | 0.52 |
| 1:A1:524:U:C2 | 1:A1:527:A:N1 | 2.77 | 0.52 |
| 1:A1:565:C:C2 | 1:A1:576:G:C6 | 2.97 | 0.52 |
| 1:A1:599:A:H5" | 1:A1:600:U:OP2 | 2.09 | 0.52 |
| 1:A1:874:C:H2' | 1:A1:875:G:C8 | 2.45 | 0.52 |
| 1:A1:1205:C:C5 | 1:A1:1206:U:O2 | 2.63 | 0.52 |
| 1:A1:1348:A:O5' | 1:A1:1348:A:C8 | 2.48 | 0.52 |
| 1:A1:1573:A:H4' | 1:A1:1574:G:OP2 | 2.09 | 0.52 |
| 1:A1:1654:G:N2 | 1:A1:1745:G:H2' | 2.24 | 0.52 |
| 1:A1:1722:A:OP1 | 1:A1:1722:A:O3' | 2.27 | 0.52 |
| 9:AH:30:VAL:H | 9:AH:40:ALA:HB3 | 1.73 | 0.52 |
| 12:AK:46:LEU:C | 12:AK:48:ASN:H | 2.16 | 0.52 |
| 13:AL:48:LYS:C | 13:AL:50:ALA:N | 2.65 | 0.52 |
| 15:AN:102:ARG:C | 15:AN:104:THR:N | 2.60 | 0.52 |
| 17:AP:27:ASN:O | 17:AP:28:ASN:CB | 2.56 | 0.52 |
| 22:Aa:5:UNK:O | 22:Aa:6:UNK:C | 2.57 | 0.52 |
| 23:Ab:59:UNK:O | 23:Ab:61:UNK:N | 2.43 | 0.52 |
| 29:B1:48:A:C2 | 29:B1:50:U:O4 | 2.62 | 0.52 |
| 29:B1:83:U:H2' | 29:B1:84:U:O4' | 2.10 | 0.52 |
| 29:B1:122:A:C4' | 29:B1:150:A:HO2' | 2.22 | 0.52 |
| 29:B1:157:A:O2' | 29:B1:158:G:N9 | 2.39 | 0.52 |
| 29:B1:246:U:OP2 | 29:B1:247:C:H5" | 2.10 | 0.52 |
| 29:B1:247:C:C2' | 29:B1:248:U:H4' | 2.38 | 0.52 |
| 29:B1:283:G:C2 | 29:B1:285:A:C6 | 2.98 | 0.52 |
| 29:B1:374:A:C2 | 29:B1:375:A:C4 | 2.97 | 0.52 |
| 29:B1:380:U:C2 | 29:B1:381:U:H5 | 2.27 | 0.52 |
| 29:B1:383:G:H2' | 29:B1:385:A:P | 2.48 | 0.52 |
| 29:B1:528:U:O2 | 29:B1:529:A:C8 | 2.62 | 0.52 |
| 29:B1:584:G:C4 | 29:B1:585:A:C8 | 2.97 | 0.52 |
| 29:B1:585:A:C6 | 29:B1:586:C:N4 | 2.77 | 0.52 |
| 29:B1:588:G:C5 | 29:B1:612:U:C5 | 2.88 | 0.52 |
| 29:B1:637:C:O2' | 29:B1:638:C:H5" | 2.09 | 0.52 |
| 29:B1:638:C:H2' | 29:B1:639:G:H8 | 1.72 | 0.52 |
| 29:B1:726:G:H2' | 29:B1:727:G:O4' | 2.09 | 0.52 |
| 29:B1:880:G:OP2 | 46:BQ:131:ARG:HA | 2.09 | 0.52 |
| 29:B1:943:U:C2' | 29:B1:944:C:OP1 | 2.57 | 0.52 |
| 29:B1:956:U:H2' | 29:B1:957:C:C6 | 2.43 | 0.52 |
| 29:B1:1029:G:H2' | 29:B1:1030:A:H5' | 1.90 | 0.52 |
| 29:B1:1129:A:H62 | 29:B1:1130:A:H61 | 1.56 | 0.52 |
| 29:B1:1211:U:N3 | 29:B1:1295:G:C6 | 2.77 | 0.52 |
| 29:B1:1466:G:O6 | 29:B1:1511:U:C6 | 2.61 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1546:A:N6 | 29:B1:1547:G:N1 | 2.57 | 0.52 |
| 29:B1:1601:U:C5 | 29:B1:1604:G:O6 | 2.62 | 0.52 |
| 29:B1:1841:A:C2 | 29:B1:1848:G:N7 | 2.77 | 0.52 |
| 29:B1:2117:A:H3' | 29:B1:2118:C:C5 | 2.44 | 0.52 |
| 29:B1:2257:C:H3' | 29:B1:2258:U:C6 | 2.40 | 0.52 |
| 29:B1:2658:G:C6 | 29:B1:2659:G:N7 | 2.78 | 0.52 |
| 29:B1:2717:U:C4 | 29:B1:2740:A:N1 | 2.78 | 0.52 |
| 29:B1:2728:G:N2 | 29:B1:2729:U:C6 | 2.77 | 0.52 |
| 29:B1:2743:A:C3' | 29:B1:2744:U:H6 | 2.20 | 0.52 |
| 29:B1:2745:G:N2 | 29:B1:2748:A:OP2 | 2.42 | 0.52 |
| 29:B1:2974:U:H2' | 29:B1:2975:U:C6 | 2.45 | 0.52 |
| 29:B1:2983:C:O2 | 29:B1:2983:C:O4' | 2.27 | 0.52 |
| 29:B1:3019:U:C5 | 29:B1:3020:U:C4 | 2.98 | 0.52 |
| 29:B1:3102:G:HO2' | 29:B1:3103:A:P | 2.32 | 0.52 |
| 29:B1:3141:A:N3 | 29:B1:3143:C:O2' | 2.43 | 0.52 |
| 29:B1:3322:A:C5 | 29:B1:3323:A:N7 | 2.76 | 0.52 |
| 29:B1:3381:U:C2' | 29:B1:3383:G:C4 | 2.92 | 0.52 |
| 29:B1:3392:U:O2 | 29:B1:3393:U:C2 | 2.62 | 0.52 |
| 30:B2:26:C:H6 | 30:B2:26:C:O5' | 1.92 | 0.52 |
| 30:B2:82:G:C6 | 30:B2:99:G:C6 | 2.97 | 0.52 |
| 30:B2:87:G:N2 | 30:B2:95:A:C5 | 2.78 | 0.52 |
| 31:B3:101:U:H2' | 31:B3:102:U:O5' | 2.09 | 0.52 |
| 33:BB:183:GLY:C | 33:BB:185:ALA:N | 2.63 | 0.52 |
| 36:BE:77:ALA:O | 36:BE:78:ALA:CB | 2.58 | 0.52 |
| 36:BE:234:ASP:O | 36:BE:236:LEU:N | 2.43 | 0.52 |
| 38:BG:153:PHE:O | 38:BG:154:GLY:O | 2.28 | 0.52 |
| 41:BJ:206:LEU:O | 41:BJ:207:GLU:C | 2.53 | 0.52 |
| 42:BK:68:HIS:O | 42:BK:69:VAL:C | 2.52 | 0.52 |
| 44:BO:52:GLY:O | 44:BO:53:TYR:O | 2.28 | 0.52 |
| 44:BO:75:VAL:O | 44:BO:76:PRO:CB | 2.58 | 0.52 |
| 50:BU:18:PRO:HA | 50:BU:51:ALA:CB | 2.39 | 0.52 |
| 59:Bd:52:LYS:CA | 59:Bd:53:ALA:HB3 | 2.39 | 0.52 |
| 63:Bh:48:UNK:O | 63:Bh:49:UNK:C | 2.56 | 0.52 |
| 64:Bi:5:UNK:HA | 64:Bi:8:UNK:CB | 2.39 | 0.52 |
| 26:Bj:3:UNK:C | 26:Bj:5:UNK:N | 2.69 | 0.52 |
| 1:C1:89:G:N3 | 1:C1:90:C:C6 | 2.77 | 0.52 |
| 1:C1:150:U:H5' | 1:C1:151:G:OP2 | 2.10 | 0.52 |
| 1:C1:206:A:N3 | 1:C1:262:U:C4 | 2.77 | 0.52 |
| 1:C1:283:U:C3' | 1:C1:284:G:C4' | 2.87 | 0.52 |
| 1:C1:407:A:H1' | 1:C1:1671:A:H2 | 1.75 | 0.52 |
| 1:C1:607:G:C6 | 1:C1:613:G:H5' | 2.44 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:653:C:C5 | 1:C1:654:C:H5 | 2.28 | 0.52 |
| 1:C1:840:U:O2' | 1:C1:841:U:P | 2.68 | 0.52 |
| 1:C1:995:A:H3' | 1:C1:996:U:H6 | 1.74 | 0.52 |
| 1:C1:1054:U:H2' | 1:C1:1055:U:C6 | 2.44 | 0.52 |
| 1:C1:1146:G:N1 | 1:C1:1147:A:C6 | 2.78 | 0.52 |
| 1:C1:1150:G:H2' | 1:C1:1151:A:O5' | 2.09 | 0.52 |
| 1:C1:1199:G:C4 | 1:C1:1200:G:O4' | 2.61 | 0.52 |
| 1:C1:1204:A:N3 | 1:C1:1204:A:C2' | 2.71 | 0.52 |
| 1:C1:1232:U:H2' | 1:C1:1233:G:O4' | 2.10 | 0.52 |
| 1:C1:1567:U:H5' | 1:C1:1567:U:C6 | 2.44 | 0.52 |
| 1:C1:1575:G:N1 | 1:C1:1576:A:C4 | 2.77 | 0.52 |
| 1:C1:1619:C:C2 | 1:C1:1620:C:C5 | 2.94 | 0.52 |
| 1:C1:1761:U:H1' | 1:C1:1762:A:OP2 | 2.09 | 0.52 |
| 2:CA:169:SER:O | 2:CA:170:ILE:C | 2.52 | 0.52 |
| 4:CC:121:GLY:O | 4:CC:122:VAL:C | 2.52 | 0.52 |
| 5:CD:57:SER:C | 5:CD:59:VAL:N | 2.66 | 0.52 |
| 5:CD:212:LYS:O | 5:CD:214:LYS:N | 2.42 | 0.52 |
| 6:CE:72:GLU:O | 6:CE:75:ALA:HB3 | 2.09 | 0.52 |
| 11:CJ:77:GLN:O | 11:CJ:78:VAL:C | 2.53 | 0.52 |
| 14:CM:101:ASN:C | 14:CM:103:LYS:H | 2.17 | 0.52 |
| 20:CS:41:GLN:CB | 74:CS:101:OHX:N2 | 2.73 | 0.52 |
| 29:D1:25:U:H2' | 29:D1:26:A:O4' | 2.09 | 0.52 |
| 29:D1:72:C:C5 | 29:D1:73:C:C2 | 2.98 | 0.52 |
| 29:D1:80:G:N1 | 29:D1:81:C:C4 | 2.77 | 0.52 |
| 29:D1:85:A:H61 | 29:D1:99:A:H3' | 1.75 | 0.52 |
| 29:D1:795:G:H1' | 29:D1:1111:U:H5" | 1.91 | 0.52 |
| 29:D1:809:G:H2' | 29:D1:810:A:H8 | 1.74 | 0.52 |
| 29:D1:961:C:O2' | 29:D1:962:A:OP2 | 2.27 | 0.52 |
| 29:D1:1059:G:O2' | 49:DT:60:LYS:HA | 2.09 | 0.52 |
| 29:D1:1110:U:H2' | 29:D1:1110:U:O2 | 2.10 | 0.52 |
| 29:D1:1194:G:C2' | 29:D1:1309:U:O2 | 2.57 | 0.52 |
| 29:D1:1224:C:P | 29:D1:1224:C:O4' | 2.68 | 0.52 |
| 29:D1:1278:A:H1' | 29:D1:1279:C:H5' | 1.90 | 0.52 |
| 29:D1:1302:A:C2 | 29:D1:2887:A:C5 | 2.98 | 0.52 |
| 29:D1:1517:G:O2' | 29:D1:1518:U:H5' | 2.10 | 0.52 |
| 29:D1:1697:A:C3' | 29:D1:1698:C:H5' | 2.39 | 0.52 |
| 29:D1:1913:A:H2' | 29:D1:2115:G:O6 | 2.09 | 0.52 |
| 29:D1:2154:U:O2' | 29:D1:2155:G:H5' | 2.10 | 0.52 |
| 29:D1:2260:U:O2' | 29:D1:2261:G:C8 | 2.62 | 0.52 |
| 29:D1:2300:G:C2 | 29:D1:2301:U:C6 | 2.97 | 0.52 |
| 29:D1:2316:G:H2' | 29:D1:2317:A:H8 | 1.74 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2328:U:H2' | 29:D1:2329:C:H6 | 1.75 | 0.52 |
| 29:D1:2357:A:H8 | 29:D1:2357:A:O5' | 1.93 | 0.52 |
| 29:D1:2406:C:H2' | 29:D1:2407:C:C6 | 2.45 | 0.52 |
| 29:D1:2576:G:H2' | 29:D1:2577:C:C6 | 2.43 | 0.52 |
| 29:D1:2617:U:C6 | 29:D1:2620:G:OP1 | 2.63 | 0.52 |
| 29:D1:2677:G:H21 | 29:D1:2678:A:H5' | 1.73 | 0.52 |
| 29:D1:2689:A:C4 | 29:D1:2702:A:H2 | 2.27 | 0.52 |
| 29:D1:2779:A:C8 | 29:D1:2779:A:C5' | 2.83 | 0.52 |
| 29:D1:2872:A:H1' | 29:D1:2873:U:H5' | 1.92 | 0.52 |
| 29:D1:2880:U:C4 | 29:D1:2881:C:N4 | 2.78 | 0.52 |
| 29:D1:2897:A:C6 | 29:D1:2904:U:O4 | 2.62 | 0.52 |
| 29:D1:3160:U:C4 | 29:D1:3161:C:N4 | 2.78 | 0.52 |
| 29:D1:3203:U:P | 29:D1:3204:C:OP2 | 2.67 | 0.52 |
| 29:D1:3356:G:C2' | 29:D1:3357:U:O5' | 2.57 | 0.52 |
| 29:D1:3392:U:O2 | 29:D1:3393:U:C2 | 2.63 | 0.52 |
| 30:D2:78:U:C2 | 30:D2:79:A:H8 | 2.26 | 0.52 |
| 31:D3:2:A:OP1 | 74:D3:201:OHX:N4 | 2.43 | 0.52 |
| 31:D3:74:U:OP2 | 31:D3:76:C:N3 | 2.42 | 0.52 |
| 33:DB:236:GLY:O | 33:DB:237:LEU:C | 2.53 | 0.52 |
| 35:DD:209:TYR:HA | 35:DD:249:ILE:O | 2.09 | 0.52 |
| 36:DE:47:PRO:O | 36:DE:48:LYS:CB | 2.58 | 0.52 |
| 42:DK:90:GLN:HA | 42:DK:169:ALA:O | 2.09 | 0.52 |
| 45:DP:69:GLY:O | 45:DP:70:PRO:C | 2.52 | 0.52 |
| 45:DP:124:LEU:HA | 45:DP:126:VAL:CA | 2.35 | 0.52 |
| 46:DQ:25:SER:O | 46:DQ:28:ASN:N | 2.20 | 0.52 |
| 55:DZ:76:GLU:C | 55:DZ:78:GLY:N | 2.64 | 0.52 |
| 59:Dd:18:LEU:HA | 59:Dd:25:ARG:HA | 1.91 | 0.52 |
| 59:Dd:38:GLY:O | 59:Dd:40:PRO:O | 2.28 | 0.52 |
| 1:A1:3:U:O4' | 3:AB:180:ALA:HA | 2.09 | 0.52 |
| 1:A1:96:G:N2 | 1:A1:387:A:N1 | 2.53 | 0.52 |
| 1:A1:178:U:O4' | 1:A1:178:U:OP1 | 2.28 | 0.52 |
| 1:A1:271:A:C2 | 1:A1:285:G:C6 | 2.98 | 0.52 |
| 1:A1:401:A:H4' | 1:A1:402:C:OP2 | 2.09 | 0.52 |
| 1:A1:439:U:C1' | 1:A1:440:U:OP1 | 2.57 | 0.52 |
| 1:A1:515:A:C2' | 1:A1:516:G:OP1 | 2.57 | 0.52 |
| 1:A1:607:G:N7 | 1:A1:613:G:C8 | 2.78 | 0.52 |
| 1:A1:915:A:OP2 | 1:A1:915:A:C8 | 2.62 | 0.52 |
| 1:A1:920:U:OP2 | 1:A1:920:U:C6 | 2.63 | 0.52 |
| 1:A1:989:U:N3 | 1:A1:990:C:C4 | 2.77 | 0.52 |
| 1:A1:1045:C:C2' | 1:A1:1046:G:OP1 | 2.57 | 0.52 |
| 1:A1:1239:U:O2' | 1:A1:1240:U:C6 | 2.62 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1322:A:H2' | 1:A1:1323:C:H6 | 1.74 | 0.52 |
| 1:A1:1325:A:H2' | 1:A1:1326:A:H8 | 1.75 | 0.52 |
| 1:A1:1385:G:C4 | 1:A1:1386:G:C8 | 2.97 | 0.52 |
| 1:A1:1501:C:O2' | 1:A1:1502:G:H5' | 2.10 | 0.52 |
| 1:A1:1566:U:C2' | 1:A1:1567:U:C5' | 2.88 | 0.52 |
| 1:A1:1591:C:O2' | 1:A1:1592:A:C5' | 2.58 | 0.52 |
| 1:A1:1619:C:H2' | 1:A1:1620:C:C6 | 2.45 | 0.52 |
| 1:A1:1682:U:OP2 | 1:A1:1682:U:C6 | 2.62 | 0.52 |
| 2:AA:38:PHE:CB | 2:AA:39:ASN:HA | 2.39 | 0.52 |
| 5:AD:45:LYS:O | 5:AD:46:TRP:CB | 2.58 | 0.52 |
| 20:AS:23:VAL:O | 74:AS:101:OHX:N1 | 2.43 | 0.52 |
| 24:Ac:41:UNK:C | 24:Ac:43:UNK:N | 2.72 | 0.52 |
| 29:B1:46:U:H6 | 29:B1:46:U:O5' | 1.93 | 0.52 |
| 29:B1:81:C:O2' | 29:B1:82:C:C5' | 2.45 | 0.52 |
| 29:B1:112:U:O2' | 29:B1:113:C:P | 2.67 | 0.52 |
| 29:B1:114:A:C2 | 29:B1:267:G:C4 | 2.98 | 0.52 |
| 29:B1:366:A:C6 | 29:B1:367:A:C4 | 2.97 | 0.52 |
| 29:B1:401:U:H5" | 29:B1:403:C:O2 | 2.10 | 0.52 |
| 29:B1:520:U:H3 | 37:BF:138:GLN:CB | 2.22 | 0.52 |
| 29:B1:532:A:C5 | 29:B1:533:A:C5 | 2.98 | 0.52 |
| 29:B1:627:U:O2' | 29:B1:628:A:H5' | 2.09 | 0.52 |
| 29:B1:661:G:C2 | 29:B1:802:C:C6 | 2.97 | 0.52 |
| 29:B1:705:A:H2 | 29:B1:714:G:N3 | 2.07 | 0.52 |
| 29:B1:733:G:N2 | 29:B1:734:C:H2' | 2.25 | 0.52 |
| 29:B1:746:A:O5' | 29:B1:746:A:C8 | 2.62 | 0.52 |
| 29:B1:799:G:N7 | 74:B1:3496:OHX:N6 | 2.57 | 0.52 |
| 29:B1:858:A:H3' | 29:B1:859:G:C8 | 2.44 | 0.52 |
| 29:B1:1063:G:C1' | 29:B1:1064:A:O5' | 2.51 | 0.52 |
| 29:B1:1112:A:N6 | 29:B1:1113:G:N1 | 2.57 | 0.52 |
| 29:B1:1319:G:O2' | 29:B1:1320:C:H6 | 1.92 | 0.52 |
| 29:B1:1459:C:O2' | 29:B1:1460:A:H5' | 2.09 | 0.52 |
| 29:B1:1658:G:C4 | 29:B1:1659:U:C6 | 2.97 | 0.52 |
| 29:B1:1752:A:OP2 | 74:B1:3568:OHX:N5 | 2.42 | 0.52 |
| 29:B1:1868:G:N7 | 29:B1:1869:C:C5 | 2.78 | 0.52 |
| 29:B1:1889:G:H2' | 29:B1:1889:G:N3 | 2.23 | 0.52 |
| 29:B1:1901:A:HO2' | 29:B1:2918:G:C5' | 2.22 | 0.52 |
| 29:B1:2284:C:H1' | 29:B1:2308:C:O2 | 2.09 | 0.52 |
| 29:B1:2285:C:H5 | 29:B1:2286:U:C4 | 2.27 | 0.52 |
| 29:B1:2397:A:H61 | 29:B1:2869:U:H1' | 1.75 | 0.52 |
| 29:B1:2574:G:O2' | 29:B1:2575:G:H5' | 2.10 | 0.52 |
| 29:B1:2582:C:H3' | 29:B1:2583:C:C6 | 2.44 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2639:G:H5” | 29:B1:2640:A:OP2 | 2.10 | 0.52 |
| 29:B1:2762:A:H3’ | 29:B1:2763:U:C5 | 2.44 | 0.52 |
| 29:B1:2815:G:H8 | 29:B1:2815:G:O5’ | 1.92 | 0.52 |
| 29:B1:3234:A:O2’ | 29:B1:3235:C:H5’ | 2.10 | 0.52 |
| 29:B1:3260:G:C6 | 29:B1:3261:C:H1’ | 2.44 | 0.52 |
| 29:B1:3314:A:H5” | 34:BC:118:PHE:C | 2.35 | 0.52 |
| 31:B3:87:G:O2’ | 31:B3:88:A:P | 2.68 | 0.52 |
| 33:BB:6:ARG:O | 33:BB:7:ASN:C | 2.51 | 0.52 |
| 33:BB:206:PRO:C | 33:BB:207:VAL:O | 2.49 | 0.52 |
| 35:BD:8:VAL:C | 35:BD:18:ASN:O | 2.53 | 0.52 |
| 38:BG:22:THR:C | 38:BG:24:GLU:H | 2.16 | 0.52 |
| 39:BH:100:GLU:C | 39:BH:103:ALA:H | 2.17 | 0.52 |
| 40:BI:104:VAL:CB | 40:BI:105:GLU:CA | 2.88 | 0.52 |
| 41:BJ:155:ALA:O | 41:BJ:158:LYS:O | 2.27 | 0.52 |
| 43:BN:23:ILE:O | 43:BN:24:LYS:CB | 2.57 | 0.52 |
| 44:BO:85:THR:CA | 44:BO:86:ASN:CB | 2.87 | 0.52 |
| 44:BO:148:TYR:C | 44:BO:150:TRP:H | 2.18 | 0.52 |
| 54:BY:93:SER:O | 54:BY:94:ALA:O | 2.27 | 0.52 |
| 1:C1:4:C:H2’ | 1:C1:4:C:O2 | 2.09 | 0.52 |
| 1:C1:22:A:C2 | 1:C1:604:A:C2 | 2.98 | 0.52 |
| 1:C1:62:A:C4’ | 1:C1:63:G:OP2 | 2.57 | 0.52 |
| 1:C1:188:A:N6 | 1:C1:189:C:O2 | 2.43 | 0.52 |
| 1:C1:454:U:O2’ | 1:C1:455:C:O5’ | 2.27 | 0.52 |
| 1:C1:813:U:O2 | 1:C1:813:U:C2’ | 2.58 | 0.52 |
| 1:C1:929:A:H1’ | 9:CH:123:SER:HA | 1.91 | 0.52 |
| 1:C1:966:A:O2’ | 1:C1:967:A:O5’ | 2.22 | 0.52 |
| 1:C1:1097:U:C2’ | 1:C1:1097:U:O2 | 2.57 | 0.52 |
| 1:C1:1241:G:N2 | 1:C1:1243:G:H3’ | 2.24 | 0.52 |
| 1:C1:1381:U:H2’ | 1:C1:1382:A:H5’ | 1.90 | 0.52 |
| 1:C1:1472:C:C5 | 1:C1:1474:G:C2 | 2.96 | 0.52 |
| 1:C1:1474:G:C6 | 1:C1:1475:A:N6 | 2.77 | 0.52 |
| 1:C1:1550:A:H2’ | 1:C1:1551:U:C6 | 2.44 | 0.52 |
| 1:C1:1786:G:C4 | 1:C1:1787:C:C5 | 2.98 | 0.52 |
| 3:CB:133:LYS:O | 3:CB:135:SER:N | 2.42 | 0.52 |
| 4:CC:46:THR:O | 4:CC:85:VAL:N | 2.42 | 0.52 |
| 17:CP:101:GLU:O | 17:CP:127:VAL:CB | 2.58 | 0.52 |
| 20:CS:24:CYS:O | 74:CS:101:OHX:N4 | 2.42 | 0.52 |
| 20:CS:49:ASP:N | 20:CS:50:ILE:CA | 2.45 | 0.52 |
| 21:CT:194:GLY:O | 21:CT:195:HIS:O | 2.27 | 0.52 |
| 29:D1:25:U:C4 | 29:D1:331:G:C8 | 2.98 | 0.52 |
| 29:D1:365:A:N1 | 29:D1:366:A:C2 | 2.77 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:372:A:C5 | 29:D1:373:A:C5 | 2.98 | 0.52 |
| 29:D1:641:C:H6 | 29:D1:641:C:H3' | 1.75 | 0.52 |
| 29:D1:734:C:H5" | 29:D1:735:A:C2 | 2.45 | 0.52 |
| 29:D1:953:G:O4' | 29:D1:1115:G:H4' | 2.10 | 0.52 |
| 29:D1:1157:G:N1 | 29:D1:1158:A:N3 | 2.58 | 0.52 |
| 29:D1:1180:A:C5 | 29:D1:1182:A:N7 | 2.77 | 0.52 |
| 29:D1:1259:A:H2' | 29:D1:1280:C:O2' | 2.09 | 0.52 |
| 29:D1:1260:A:H2' | 29:D1:1261:G:O4' | 2.10 | 0.52 |
| 29:D1:1265:U:O4 | 29:D1:1277:C:C5 | 2.63 | 0.52 |
| 29:D1:1282:G:H4' | 73:DM:82:GLY:CA | 2.40 | 0.52 |
| 29:D1:1357:G:H2' | 29:D1:1358:C:H6 | 1.68 | 0.52 |
| 29:D1:1360:C:O2 | 29:D1:1360:C:H2' | 2.08 | 0.52 |
| 29:D1:1393:A:H2 | 29:D1:1394:A:C4 | 2.27 | 0.52 |
| 29:D1:2261:G:N2 | 29:D1:2263:C:C4 | 2.78 | 0.52 |
| 29:D1:2725:U:H3' | 29:D1:2725:U:C6 | 2.43 | 0.52 |
| 29:D1:2755:C:H2' | 29:D1:2755:C:O2 | 2.08 | 0.52 |
| 29:D1:2945:G:N3 | 29:D1:2945:G:H5' | 2.24 | 0.52 |
| 29:D1:3030:G:H2' | 29:D1:3031:G:O4' | 2.10 | 0.52 |
| 29:D1:3125:U:H2' | 29:D1:3126:C:H5' | 1.92 | 0.52 |
| 29:D1:3257:C:HO2' | 29:D1:3258:U:H5 | 1.53 | 0.52 |
| 29:D1:3326:G:C2 | 29:D1:3327:G:N9 | 2.77 | 0.52 |
| 29:D1:3344:A:C4 | 29:D1:3361:G:O6 | 2.62 | 0.52 |
| 29:D1:3377:G:C4 | 74:D1:3452:OHX:N6 | 2.78 | 0.52 |
| 30:D2:47:C:O2 | 30:D2:48:U:C4 | 2.63 | 0.52 |
| 33:DB:214:GLY:O | 33:DB:216:HIS:N | 2.42 | 0.52 |
| 36:DE:227:LEU:HA | 36:DE:228:ALA:HB3 | 1.91 | 0.52 |
| 42:DK:84:LEU:HA | 42:DK:89:TYR:CB | 2.39 | 0.52 |
| 42:DK:131:MET:O | 42:DK:132:ASN:CB | 2.57 | 0.52 |
| 43:DN:95:ALA:C | 43:DN:97:SER:N | 2.68 | 0.52 |
| 44:DO:134:LEU:O | 44:DO:135:VAL:CB | 2.57 | 0.52 |
| 54:DY:68:PHE:O | 54:DY:69:TRP:CB | 2.58 | 0.52 |
| 54:DY:129:PHE:CB | 54:DY:130:VAL:CB | 2.87 | 0.52 |
| 61:Df:76:LYS:C | 61:Df:78:LYS:N | 2.64 | 0.52 |
| 62:Dg:68:ALA:C | 62:Dg:70:THR:H | 2.17 | 0.52 |
| 1:A1:151:G:C2 | 1:A1:164:A:C2 | 2.98 | 0.52 |
| 1:A1:217:A:N3 | 1:A1:218:A:H5' | 2.24 | 0.52 |
| 1:A1:561:G:C6 | 1:A1:585:A:N1 | 2.78 | 0.52 |
| 1:A1:1001:A:C8 | 1:A1:1002:G:N7 | 2.78 | 0.52 |
| 1:A1:1145:U:H3' | 1:A1:1146:G:H5" | 1.91 | 0.52 |
| 1:A1:1176:G:C6 | 1:A1:1177:C:C4 | 2.98 | 0.52 |
| 1:A1:1179:G:H3' | 1:A1:1180:C:H6 | 1.75 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1188:G:O2' | 1:A1:1430:U:OP1 | 2.27 | 0.52 |
| 1:A1:1282:U:C2 | 1:A1:1283:U:C5 | 2.98 | 0.52 |
| 1:A1:1589:C:H2' | 1:A1:1590:G:O4' | 2.09 | 0.52 |
| 1:A1:1590:G:C6 | 1:A1:1591:C:N4 | 2.78 | 0.52 |
| 1:A1:1609:U:C5' | 1:A1:1609:U:C6 | 2.92 | 0.52 |
| 1:A1:1753:A:N6 | 1:A1:1754:A:H62 | 2.06 | 0.52 |
| 1:A1:1753:A:C2 | 1:A1:1754:A:C2 | 2.97 | 0.52 |
| 1:A1:1759:C:H3' | 1:A1:1760:G:H8 | 1.74 | 0.52 |
| 2:AA:201:LEU:O | 2:AA:202:TYR:CB | 2.58 | 0.52 |
| 4:AC:144:ALA:O | 4:AC:145:ALA:CB | 2.56 | 0.52 |
| 6:AE:54:ARG:O | 6:AE:58:ASP:CB | 2.58 | 0.52 |
| 7:AF:132:SER:O | 7:AF:133:LYS:C | 2.52 | 0.52 |
| 9:AH:49:LYS:O | 9:AH:51:ASP:N | 2.43 | 0.52 |
| 29:B1:107:A:O4' | 29:B1:325:A:H1' | 2.09 | 0.52 |
| 29:B1:124:U:C4 | 29:B1:125:C:C5 | 2.97 | 0.52 |
| 29:B1:264:G:N3 | 29:B1:264:G:H2' | 2.23 | 0.52 |
| 29:B1:397:A:C6 | 29:B1:400:G:N1 | 2.77 | 0.52 |
| 29:B1:412:G:H2' | 29:B1:413:U:H6 | 1.73 | 0.52 |
| 29:B1:520:U:H4' | 29:B1:521:A:O5' | 2.10 | 0.52 |
| 29:B1:550:A:C2 | 29:B1:551:A:C4 | 2.97 | 0.52 |
| 29:B1:572:A:N7 | 29:B1:573:C:C5 | 2.77 | 0.52 |
| 29:B1:733:G:N3 | 29:B1:733:G:H2' | 2.24 | 0.52 |
| 29:B1:762:U:C2 | 29:B1:770:G:N2 | 2.77 | 0.52 |
| 29:B1:847:A:C6 | 29:B1:848:A:C6 | 2.97 | 0.52 |
| 29:B1:861:C:P | 29:B1:862:U:OP2 | 2.68 | 0.52 |
| 29:B1:891:G:O2' | 29:B1:892:U:C5' | 2.58 | 0.52 |
| 29:B1:1174:G:H1' | 29:B1:1181:U:C4 | 2.43 | 0.52 |
| 29:B1:1178:G:C2' | 29:B1:1179:A:C5' | 2.88 | 0.52 |
| 29:B1:1203:A:C2 | 29:B1:2855:U:O2 | 2.63 | 0.52 |
| 29:B1:1337:A:C4 | 29:B1:1338:C:C6 | 2.97 | 0.52 |
| 29:B1:1357:G:C2' | 29:B1:1358:C:C6 | 2.89 | 0.52 |
| 29:B1:1393:A:H2' | 29:B1:1394:A:H5" | 1.91 | 0.52 |
| 29:B1:1394:A:C8 | 29:B1:1394:A:H3' | 2.45 | 0.52 |
| 29:B1:1415:U:H5" | 29:B1:1416:C:OP2 | 2.10 | 0.52 |
| 29:B1:1518:U:C2 | 29:B1:1519:G:C8 | 2.98 | 0.52 |
| 29:B1:1564:U:H2' | 29:B1:1565:G:H8 | 1.75 | 0.52 |
| 29:B1:1607:U:OP2 | 29:B1:1607:U:C6 | 2.63 | 0.52 |
| 29:B1:1711:C:H2' | 29:B1:1712:G:O4' | 2.10 | 0.52 |
| 29:B1:1715:A:N6 | 29:B1:1716:U:C4 | 2.76 | 0.52 |
| 29:B1:1740:U:O2 | 29:B1:1741:A:N3 | 2.42 | 0.52 |
| 29:B1:1781:C:H2' | 29:B1:1782:U:H5' | 1.87 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1833:G:C2 | 29:B1:1834:U:O2 | 2.63 | 0.52 |
| 29:B1:2370:G:H8 | 29:B1:2370:G:O5' | 1.93 | 0.52 |
| 29:B1:2544:U:H2' | 29:B1:2545:C:C6 | 2.44 | 0.52 |
| 29:B1:2774:C:O2' | 29:B1:2775:U:H5' | 2.10 | 0.52 |
| 29:B1:2866:U:H1' | 29:B1:2867:C:H5 | 1.74 | 0.52 |
| 29:B1:3000:A:H2' | 29:B1:3001:C:C5 | 2.45 | 0.52 |
| 29:B1:3060:C:O2 | 29:B1:3331:U:O2' | 2.26 | 0.52 |
| 29:B1:3086:A:C5 | 29:B1:3087:A:C5 | 2.98 | 0.52 |
| 29:B1:3215:A:C5' | 29:B1:3218:A:C5' | 2.84 | 0.52 |
| 31:B3:9:A:C5' | 31:B3:10:A:OP2 | 2.57 | 0.52 |
| 31:B3:56:G:N2 | 31:B3:57:C:H1' | 2.24 | 0.52 |
| 33:BB:231:SER:H | 33:BB:233:GLN:H | 1.57 | 0.52 |
| 36:BE:118:THR:C | 36:BE:120:LYS:H | 2.16 | 0.52 |
| 36:BE:158:ARG:O | 36:BE:159:VAL:C | 2.53 | 0.52 |
| 36:BE:253:PHE:N | 36:BE:254:LYS:HA | 2.25 | 0.52 |
| 36:BE:271:LYS:C | 36:BE:275:THR:HA | 2.35 | 0.52 |
| 39:BH:103:ALA:C | 39:BH:105:LYS:H | 2.17 | 0.52 |
| 42:BK:10:ARG:O | 42:BK:11:ASP:CB | 2.57 | 0.52 |
| 43:BN:24:LYS:HA | 43:BN:31:LYS:N | 2.24 | 0.52 |
| 45:BP:22:VAL:O | 45:BP:23:VAL:O | 2.26 | 0.52 |
| 45:BP:80:PHE:O | 45:BP:83:ALA:HB3 | 2.09 | 0.52 |
| 47:BR:131:ALA:O | 47:BR:133:LYS:N | 2.43 | 0.52 |
| 47:BR:158:HIS:O | 47:BR:159:LYS:CB | 2.57 | 0.52 |
| 48:BS:127:SER:C | 48:BS:129:GLY:N | 2.64 | 0.52 |
| 57:Bb:31:ASN:O | 57:Bb:33:ARG:N | 2.40 | 0.52 |
| 1:C1:44:U:C3' | 1:C1:45:U:H5' | 2.39 | 0.52 |
| 1:C1:112:A:N6 | 1:C1:303:U:O2 | 2.43 | 0.52 |
| 1:C1:405:C:H2' | 1:C1:405:C:O2 | 2.09 | 0.52 |
| 1:C1:432:G:H2' | 1:C1:433:C:O4' | 2.09 | 0.52 |
| 1:C1:439:U:O2' | 1:C1:440:U:H4' | 2.10 | 0.52 |
| 1:C1:486:G:H2' | 1:C1:487:G:C4' | 2.40 | 0.52 |
| 1:C1:528:U:O2 | 1:C1:528:U:O4' | 2.28 | 0.52 |
| 1:C1:636:A:N1 | 1:C1:860:U:O4 | 2.42 | 0.52 |
| 1:C1:719:U:O2' | 1:C1:720:G:C4 | 2.61 | 0.52 |
| 1:C1:860:U:O4 | 1:C1:861:U:N3 | 2.43 | 0.52 |
| 1:C1:940:A:H2' | 1:C1:941:A:C8 | 2.44 | 0.52 |
| 1:C1:1030:A:H4' | 1:C1:1031:U:OP2 | 2.10 | 0.52 |
| 1:C1:1244:A:N1 | 1:C1:1245:G:C4 | 2.76 | 0.52 |
| 1:C1:1379:C:H5' | 1:C1:1380:U:OP2 | 2.09 | 0.52 |
| 1:C1:1418:G:H2' | 1:C1:1419:G:H5' | 1.92 | 0.52 |
| 1:C1:1433:G:N2 | 1:C1:1434:U:C5 | 2.77 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1575:G:C6 | 1:C1:1576:A:C6 | 2.97 | 0.52 |
| 1:C1:1583:A:C2 | 1:C1:1585:U:N3 | 2.78 | 0.52 |
| 1:C1:1679:G:N1 | 1:C1:1680:G:H1' | 2.25 | 0.52 |
| 1:C1:1764:C:C6 | 1:C1:1767:G:N7 | 2.77 | 0.52 |
| 2:CA:63:ILE:C | 2:CA:65:ALA:H | 2.17 | 0.52 |
| 5:CD:55:ASP:O | 5:CD:56:ALA:O | 2.28 | 0.52 |
| 12:CK:64:GLY:HA2 | 12:CK:65:PRO:CB | 2.39 | 0.52 |
| 17:CP:89:ASN:O | 17:CP:90:ASP:CB | 2.57 | 0.52 |
| 21:CT:48:THR:O | 21:CT:49:GLY:C | 2.52 | 0.52 |
| 29:D1:124:U:C2' | 29:D1:125:C:O4' | 2.46 | 0.52 |
| 29:D1:183:G:C6 | 29:D1:234:G:C6 | 2.98 | 0.52 |
| 29:D1:257:U:C2 | 29:D1:258:G:N7 | 2.78 | 0.52 |
| 29:D1:286:U:C2 | 29:D1:287:G:C5 | 2.98 | 0.52 |
| 29:D1:340:C:N4 | 31:D3:25:G:N1 | 2.58 | 0.52 |
| 29:D1:569:A:C2 | 29:D1:570:A:N9 | 2.78 | 0.52 |
| 29:D1:570:A:C6 | 29:D1:571:U:C4 | 2.98 | 0.52 |
| 29:D1:784:A:N3 | 29:D1:785:G:N7 | 2.58 | 0.52 |
| 29:D1:945:C:H3' | 29:D1:946:U:H6 | 1.75 | 0.52 |
| 29:D1:980:A:H2' | 29:D1:981:U:O4' | 2.10 | 0.52 |
| 29:D1:1011:A:H2' | 29:D1:1011:A:N3 | 2.24 | 0.52 |
| 29:D1:1013:G:O3' | 29:D1:1014:U:H4' | 2.08 | 0.52 |
| 29:D1:1063:G:C4 | 29:D1:1064:A:H4' | 2.45 | 0.52 |
| 29:D1:1119:C:H2' | 29:D1:1119:C:O2 | 2.10 | 0.52 |
| 29:D1:1198:C:H2' | 29:D1:1200:A:H8 | 1.73 | 0.52 |
| 29:D1:1348:U:O2' | 29:D1:1349:G:OP2 | 2.28 | 0.52 |
| 29:D1:1453:A:N9 | 29:D1:1850:A:C2 | 2.71 | 0.52 |
| 29:D1:1519:G:C2 | 29:D1:1520:G:C8 | 2.97 | 0.52 |
| 29:D1:1626:U:C4 | 29:D1:1627:U:C4 | 2.98 | 0.52 |
| 29:D1:1628:C:O2' | 29:D1:1630:U:C5' | 2.48 | 0.52 |
| 29:D1:1765:U:O5' | 29:D1:1765:U:H6 | 1.92 | 0.52 |
| 29:D1:1860:G:H2' | 29:D1:1861:G:H8 | 1.75 | 0.52 |
| 29:D1:1898:G:N7 | 29:D1:1899:G:C5 | 2.78 | 0.52 |
| 29:D1:1940:G:OP1 | 48:DS:75:HIS:HA | 2.09 | 0.52 |
| 29:D1:2311:G:OP2 | 74:D1:3582:OHX:N5 | 2.43 | 0.52 |
| 29:D1:2513:U:H5 | 29:D1:2591:A:C6 | 2.27 | 0.52 |
| 29:D1:2773:C:H2' | 29:D1:2774:C:H6 | 1.74 | 0.52 |
| 29:D1:3028:G:N2 | 29:D1:3029:A:C2 | 2.78 | 0.52 |
| 29:D1:3038:U:C2 | 29:D1:3039:C:C6 | 2.97 | 0.52 |
| 29:D1:3194:C:C6 | 29:D1:3194:C:C3' | 2.93 | 0.52 |
| 29:D1:3206:C:O2' | 74:D1:3597:OHX:N4 | 2.43 | 0.52 |
| 29:D1:3242:G:H2' | 29:D1:3242:G:N3 | 2.25 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3394:U:C2' | 29:D1:3395:G:C8 | 2.93 | 0.52 |
| 30:D2:15:C:C4 | 30:D2:16:U:C4 | 2.98 | 0.52 |
| 30:D2:57:G:C8 | 30:D2:58:C:C5 | 2.97 | 0.52 |
| 31:D3:26:U:N3 | 31:D3:27:U:C4 | 2.77 | 0.52 |
| 31:D3:26:U:C4 | 31:D3:27:U:O4 | 2.63 | 0.52 |
| 31:D3:65:A:C6 | 31:D3:66:A:C5 | 2.97 | 0.52 |
| 31:D3:87:G:O2' | 31:D3:88:A:P | 2.67 | 0.52 |
| 31:D3:114:G:H2' | 31:D3:115:C:H5' | 1.90 | 0.52 |
| 31:D3:127:U:O2 | 31:D3:127:U:C2' | 2.57 | 0.52 |
| 34:DC:29:VAL:O | 34:DC:31:ALA:N | 2.42 | 0.52 |
| 34:DC:198:HIS:O | 34:DC:200:GLU:N | 2.42 | 0.52 |
| 35:DD:42:VAL:C | 35:DD:44:LYS:H | 2.17 | 0.52 |
| 42:DK:22:SER:O | 42:DK:23:VAL:O | 2.26 | 0.52 |
| 44:DO:46:ASP:C | 44:DO:48:ALA:H | 2.17 | 0.52 |
| 48:DS:64:ARG:HA | 48:DS:67:ALA:HB3 | 1.91 | 0.52 |
| 54:DY:130:VAL:O | 54:DY:132:LYS:N | 2.38 | 0.52 |
| 61:Df:3:ASN:HA | 61:Df:93:LEU:O | 2.09 | 0.52 |
| 62:Dg:60:CYS:N | 74:Dg:101:OHX:N1 | 2.57 | 0.52 |
| 1:A1:4:C:H2' | 1:A1:4:C:O2 | 2.08 | 0.52 |
| 1:A1:214:G:O2' | 1:A1:215:A:OP1 | 2.24 | 0.52 |
| 1:A1:250:C:OP2 | 1:A1:250:C:C3' | 2.44 | 0.52 |
| 1:A1:492:A:C5 | 1:A1:494:U:H5" | 2.44 | 0.52 |
| 1:A1:556:A:O4' | 1:A1:556:A:OP1 | 2.26 | 0.52 |
| 1:A1:601:A:C6 | 1:A1:602:U:C4 | 2.97 | 0.52 |
| 1:A1:604:A:H5" | 1:A1:605:A:OP2 | 2.09 | 0.52 |
| 1:A1:629:U:O2 | 1:A1:971:A:C4 | 2.63 | 0.52 |
| 1:A1:738:G:O2' | 1:A1:739:G:O4' | 2.26 | 0.52 |
| 1:A1:819:G:N1 | 1:A1:853:G:N2 | 2.58 | 0.52 |
| 1:A1:828:U:C5 | 1:A1:829:A:C6 | 2.98 | 0.52 |
| 1:A1:850:A:N1 | 1:A1:851:U:C4 | 2.78 | 0.52 |
| 1:A1:860:U:H2' | 1:A1:860:U:O2 | 2.09 | 0.52 |
| 1:A1:967:A:H2' | 1:A1:968:U:C6 | 2.45 | 0.52 |
| 1:A1:1030:A:N7 | 1:A1:1792:G:C6 | 2.78 | 0.52 |
| 1:A1:1131:A:H3' | 1:A1:1132:A:H8 | 1.75 | 0.52 |
| 1:A1:1165:G:C5 | 1:A1:1166:A:N7 | 2.77 | 0.52 |
| 1:A1:1332:C:O2 | 1:A1:1333:C:C6 | 2.62 | 0.52 |
| 1:A1:1348:A:C2 | 1:A1:1379:C:C6 | 2.98 | 0.52 |
| 1:A1:1499:G:O6 | 1:A1:1508:U:C2 | 2.59 | 0.52 |
| 1:A1:1685:G:N2 | 1:A1:1686:C:N3 | 2.58 | 0.52 |
| 74:A1:1916:OHX:N3 | 74:A1:1975:OHX:N3 | 2.58 | 0.52 |
| 2:AA:48:ILE:O | 2:AA:49:ASN:C | 2.52 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:AA:176:LEU:O | 2:AA:177:LEU:C | 2.52 | 0.52 |
| 3:AB:80:VAL:HA | 3:AB:102:VAL:CB | 2.39 | 0.52 |
| 6:AE:81:VAL:O | 6:AE:82:ARG:O | 2.28 | 0.52 |
| 13:AL:70:VAL:O | 13:AL:74:GLN:C | 2.52 | 0.52 |
| 20:AS:26:SER:C | 20:AS:28:THR:H | 2.17 | 0.52 |
| 24:Ac:53:UNK:C | 24:Ac:63:UNK:CB | 2.88 | 0.52 |
| 29:B1:9:U:C4 | 29:B1:10:C:C5 | 2.97 | 0.52 |
| 29:B1:121:A:H5' | 29:B1:150:A:H2 | 1.75 | 0.52 |
| 29:B1:180:C:H2' | 29:B1:181:U:C6 | 2.45 | 0.52 |
| 29:B1:198:A:H1' | 29:B1:218:G:C4 | 2.45 | 0.52 |
| 29:B1:198:A:C2 | 29:B1:219:A:C8 | 2.97 | 0.52 |
| 29:B1:253:A:N6 | 29:B1:254:A:C6 | 2.77 | 0.52 |
| 29:B1:278:U:N3 | 29:B1:279:U:C5 | 2.78 | 0.52 |
| 29:B1:347:G:N2 | 29:B1:353:G:C4 | 2.77 | 0.52 |
| 29:B1:416:A:C2 | 29:B1:417:A:N9 | 2.78 | 0.52 |
| 29:B1:532:A:C2' | 29:B1:533:A:C8 | 2.93 | 0.52 |
| 29:B1:666:A:C5 | 29:B1:667:C:C5 | 2.98 | 0.52 |
| 29:B1:874:U:H2' | 29:B1:875:G:OP2 | 2.09 | 0.52 |
| 29:B1:969:C:H2' | 29:B1:969:C:O2 | 2.08 | 0.52 |
| 29:B1:992:A:C2 | 29:B1:993:G:C8 | 2.97 | 0.52 |
| 29:B1:1140:G:N3 | 29:B1:1141:C:C5 | 2.78 | 0.52 |
| 29:B1:1260:A:H3' | 29:B1:1261:G:H21 | 1.75 | 0.52 |
| 29:B1:1302:A:N3 | 29:B1:2887:A:N3 | 2.58 | 0.52 |
| 29:B1:1413:G:N3 | 29:B1:1414:G:C8 | 2.77 | 0.52 |
| 29:B1:1442:U:C5' | 29:B1:1442:U:H6 | 2.21 | 0.52 |
| 29:B1:1448:U:H5 | 29:B1:2355:G:N3 | 2.08 | 0.52 |
| 29:B1:1455:U:C2' | 29:B1:1456:A:C8 | 2.93 | 0.52 |
| 29:B1:1623:G:N3 | 29:B1:1624:G:H1' | 2.24 | 0.52 |
| 29:B1:1695:U:C2 | 29:B1:1749:A:C2 | 2.96 | 0.52 |
| 29:B1:1700:G:H2' | 29:B1:1701:C:H6 | 1.75 | 0.52 |
| 29:B1:2147:A:O2' | 29:B1:2148:U:O4' | 2.20 | 0.52 |
| 29:B1:2193:U:H5" | 29:B1:2312:A:N1 | 2.24 | 0.52 |
| 29:B1:2252:A:C4 | 29:B1:2253:G:C8 | 2.98 | 0.52 |
| 29:B1:2280:A:O2' | 29:B1:2281:A:P | 2.68 | 0.52 |
| 29:B1:2419:A:N6 | 29:B1:2804:A:N6 | 2.58 | 0.52 |
| 29:B1:2422:C:H2' | 29:B1:2423:U:O5' | 2.09 | 0.52 |
| 29:B1:2522:G:O2' | 29:B1:2523:A:OP1 | 2.16 | 0.52 |
| 29:B1:2650:U:O2 | 29:B1:2650:U:C2' | 2.58 | 0.52 |
| 29:B1:2847:A:N3 | 29:B1:2847:A:H2' | 2.25 | 0.52 |
| 29:B1:2880:U:O2 | 34:BC:250:ALA:HB3 | 2.10 | 0.52 |
| 29:B1:2900:A:C2 | 29:B1:2901:G:N7 | 2.78 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3048:A:C8 | 29:B1:3090:U:C4 | 2.98 | 0.52 |
| 29:B1:3058:U:OP1 | 29:B1:3058:U:H3' | 2.09 | 0.52 |
| 29:B1:3088:G:H3' | 29:B1:3089:C:H6 | 1.74 | 0.52 |
| 29:B1:3141:A:H5' | 29:B1:3143:C:H2' | 1.90 | 0.52 |
| 29:B1:3182:G:O2' | 29:B1:3183:A:C5' | 2.58 | 0.52 |
| 29:B1:3237:U:O4 | 29:B1:3250:U:O4 | 2.28 | 0.52 |
| 29:B1:3250:U:O2' | 29:B1:3251:U:H5' | 2.10 | 0.52 |
| 29:B1:3252:G:H2' | 29:B1:3253:G:H8 | 1.73 | 0.52 |
| 29:B1:3344:A:N6 | 29:B1:3362:A:C2 | 2.77 | 0.52 |
| 30:B2:14:U:C2' | 30:B2:15:C:O4' | 2.57 | 0.52 |
| 30:B2:42:A:C2 | 30:B2:47:C:C5 | 2.98 | 0.52 |
| 30:B2:48:U:C2' | 30:B2:49:G:OP2 | 2.58 | 0.52 |
| 34:BC:165:GLN:O | 34:BC:166:ILE:C | 2.52 | 0.52 |
| 34:BC:257:PRO:CB | 34:BC:259:HIS:N | 2.73 | 0.52 |
| 36:BE:264:GLN:O | 36:BE:283:ALA:C | 2.53 | 0.52 |
| 38:BG:243:MET:O | 38:BG:244:ASN:CB | 2.58 | 0.52 |
| 42:BK:50:ALA:O | 42:BK:52:TYR:N | 2.43 | 0.52 |
| 47:BR:145:ASN:HA | 47:BR:146:SER:CB | 2.40 | 0.52 |
| 50:BU:81:GLN:O | 50:BU:82:ALA:HB2 | 2.09 | 0.52 |
| 57:Bb:114:ALA:O | 57:Bb:116:GLY:N | 2.42 | 0.52 |
| 65:Bk:16:UNK:C | 65:Bk:18:UNK:N | 2.70 | 0.52 |
| 1:C1:303:U:H2' | 1:C1:304:U:H6 | 1.75 | 0.52 |
| 1:C1:328:A:C2 | 1:C1:329:G:C4 | 2.98 | 0.52 |
| 1:C1:468:A:N6 | 1:C1:595:G:C6 | 2.73 | 0.52 |
| 1:C1:718:U:H3' | 1:C1:720:G:N1 | 2.25 | 0.52 |
| 1:C1:719:U:O2' | 1:C1:720:G:N9 | 2.42 | 0.52 |
| 1:C1:900:A:H4' | 1:C1:916:U:H1' | 1.92 | 0.52 |
| 1:C1:1116:A:H1' | 1:C1:1131:A:N6 | 2.25 | 0.52 |
| 1:C1:1282:U:C2 | 1:C1:1283:U:C6 | 2.97 | 0.52 |
| 1:C1:1403:C:C2' | 1:C1:1404:C:H5' | 2.40 | 0.52 |
| 1:C1:1491:U:C2' | 1:C1:1492:A:H2' | 2.40 | 0.52 |
| 1:C1:1516:A:C8 | 15:CN:16:GLN:CB | 2.89 | 0.52 |
| 1:C1:1683:C:H4' | 1:C1:1684:U:C4 | 2.43 | 0.52 |
| 3:CB:188:LEU:O | 3:CB:190:LEU:N | 2.42 | 0.52 |
| 5:CD:93:LEU:C | 5:CD:95:ASN:H | 2.17 | 0.52 |
| 5:CD:176:THR:O | 5:CD:179:ALA:HB3 | 2.09 | 0.52 |
| 9:CH:43:THR:O | 9:CH:44:GLY:C | 2.52 | 0.52 |
| 10:CI:80:MET:C | 10:CI:82:ASN:N | 2.64 | 0.52 |
| 29:D1:60:A:C4 | 29:D1:328:U:N3 | 2.75 | 0.52 |
| 29:D1:190:U:H3 | 29:D1:221:A:H61 | 1.58 | 0.52 |
| 29:D1:412:G:H2' | 29:D1:413:U:C6 | 2.45 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:516:A:C3' | 29:D1:517:G:H8 | 2.14 | 0.52 |
| 29:D1:547:G:H2' | 29:D1:548:G:H5' | 1.92 | 0.52 |
| 29:D1:574:U:H2' | 29:D1:575:G:H5" | 0.76 | 0.52 |
| 29:D1:606:C:C2 | 29:D1:607:A:C4 | 2.98 | 0.52 |
| 29:D1:865:U:O4 | 29:D1:866:A:C6 | 2.63 | 0.52 |
| 29:D1:1464:G:N3 | 29:D1:1464:G:H2' | 2.23 | 0.52 |
| 29:D1:1468:A:O2' | 29:D1:1469:C:C5' | 2.58 | 0.52 |
| 29:D1:1470:U:C2 | 29:D1:1471:U:C5 | 2.98 | 0.52 |
| 29:D1:1609:C:O2' | 29:D1:1610:G:P | 2.68 | 0.52 |
| 29:D1:1639:C:C2' | 29:D1:1640:G:O5' | 2.58 | 0.52 |
| 29:D1:1678:G:C8 | 29:D1:1678:G:OP2 | 2.62 | 0.52 |
| 29:D1:1706:C:H3' | 29:D1:1707:A:H8 | 1.75 | 0.52 |
| 29:D1:2148:U:H3' | 29:D1:2187:G:H22 | 1.72 | 0.52 |
| 29:D1:2166:A:H2' | 29:D1:2167:A:C8 | 2.45 | 0.52 |
| 29:D1:2206:G:H2' | 29:D1:2207:A:H5' | 1.92 | 0.52 |
| 29:D1:2515:A:C6 | 29:D1:2593:A:C5 | 2.97 | 0.52 |
| 29:D1:2530:G:C8 | 29:D1:2530:G:OP2 | 2.62 | 0.52 |
| 29:D1:2628:A:C4 | 29:D1:2798:C:N4 | 2.78 | 0.52 |
| 29:D1:2658:G:C6 | 29:D1:2659:G:N7 | 2.77 | 0.52 |
| 29:D1:2717:U:C5' | 29:D1:2717:U:H6 | 2.22 | 0.52 |
| 29:D1:2773:C:C2 | 29:D1:2774:C:C5 | 2.97 | 0.52 |
| 29:D1:2829:U:C2' | 29:D1:2830:G:H5' | 2.39 | 0.52 |
| 29:D1:2834:G:O2' | 29:D1:2835:U:C6 | 2.53 | 0.52 |
| 29:D1:3221:C:O5' | 29:D1:3221:C:H6 | 1.93 | 0.52 |
| 29:D1:3238:G:O2' | 29:D1:3239:G:H5' | 2.10 | 0.52 |
| 30:D2:30:G:C6 | 30:D2:49:G:C6 | 2.97 | 0.52 |
| 30:D2:94:C:O2 | 30:D2:95:A:C8 | 2.63 | 0.52 |
| 31:D3:71:A:N6 | 31:D3:87:G:C5 | 2.77 | 0.52 |
| 31:D3:94:C:C4' | 31:D3:95:G:OP2 | 2.51 | 0.52 |
| 34:DC:81:THR:O | 34:DC:83:PRO:N | 2.42 | 0.52 |
| 35:DD:164:GLU:O | 35:DD:168:ALA:HB2 | 2.09 | 0.52 |
| 42:DK:139:THR:CB | 42:DK:146:GLY:O | 2.58 | 0.52 |
| 53:DX:56:VAL:HA | 53:DX:107:THR:H | 1.75 | 0.52 |
| 58:Dc:5:LYS:C | 58:Dc:7:TYR:N | 2.66 | 0.52 |
| 59:Dd:59:THR:C | 59:Dd:61:THR:N | 2.58 | 0.52 |
| 1:A1:62:A:C2 | 1:A1:63:G:C5 | 2.98 | 0.52 |
| 1:A1:247:A:H3' | 1:A1:247:A:C8 | 2.44 | 0.52 |
| 1:A1:283:U:C2' | 1:A1:284:G:O4' | 2.56 | 0.52 |
| 1:A1:452:A:N1 | 1:A1:454:U:OP2 | 2.43 | 0.52 |
| 1:A1:609:U:H5" | 1:A1:610:G:C8 | 2.45 | 0.52 |
| 1:A1:743:U:C4 | 1:A1:809:A:N3 | 2.78 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:932:U:O4' | 1:A1:933:A:C2 | 2.62 | 0.52 |
| 1:A1:932:U:O4' | 1:A1:933:A:N3 | 2.43 | 0.52 |
| 1:A1:989:U:H2' | 1:A1:990:C:O4' | 2.10 | 0.52 |
| 1:A1:1006:C:OP1 | 74:A1:1903:OHX:N5 | 2.43 | 0.52 |
| 1:A1:1051:G:N2 | 1:A1:1052:U:H3 | 2.07 | 0.52 |
| 1:A1:1388:A:C5 | 1:A1:1411:A:N6 | 2.78 | 0.52 |
| 1:A1:1429:G:C6 | 1:A1:1430:U:C4 | 2.98 | 0.52 |
| 1:A1:1458:G:H3' | 1:A1:1459:C:C5 | 2.45 | 0.52 |
| 1:A1:1670:G:H21 | 1:A1:1732:A:N6 | 2.06 | 0.52 |
| 1:A1:1744:A:N6 | 1:A1:1745:G:C6 | 2.77 | 0.52 |
| 2:AA:63:ILE:C | 2:AA:65:ALA:H | 2.16 | 0.52 |
| 5:AD:59:VAL:O | 5:AD:61:TYR:N | 2.36 | 0.52 |
| 5:AD:132:VAL:O | 5:AD:136:ALA:HB2 | 2.09 | 0.52 |
| 6:AE:179:ARG:C | 6:AE:181:ALA:H | 2.16 | 0.52 |
| 10:AI:75:PRO:O | 10:AI:93:VAL:O | 2.28 | 0.52 |
| 14:AM:26:GLY:C | 14:AM:28:LEU:H | 2.16 | 0.52 |
| 14:AM:103:LYS:C | 14:AM:105:LEU:N | 2.68 | 0.52 |
| 24:Ac:49:UNK:O | 24:Ac:50:UNK:CB | 2.58 | 0.52 |
| 29:B1:109:A:C6 | 29:B1:323:A:C4 | 2.97 | 0.52 |
| 29:B1:156:G:C1' | 29:B1:157:A:OP1 | 2.57 | 0.52 |
| 29:B1:173:G:O6 | 29:B1:245:U:O2 | 2.27 | 0.52 |
| 29:B1:192:C:C2 | 29:B1:193:C:C6 | 2.98 | 0.52 |
| 29:B1:346:C:C4 | 29:B1:348:A:C8 | 2.98 | 0.52 |
| 29:B1:425:G:C6 | 29:B1:635:G:C2 | 2.98 | 0.52 |
| 29:B1:440:A:H2' | 29:B1:440:A:N3 | 2.25 | 0.52 |
| 29:B1:750:G:H1 | 29:B1:784:A:H1' | 1.73 | 0.52 |
| 29:B1:1018:G:C6 | 74:B1:3529:OHX:N1 | 2.78 | 0.52 |
| 29:B1:1140:G:N3 | 29:B1:1141:C:C6 | 2.78 | 0.52 |
| 29:B1:1179:A:H3' | 29:B1:1179:A:H8 | 1.73 | 0.52 |
| 29:B1:1183:C:H2' | 29:B1:1184:A:C5' | 2.39 | 0.52 |
| 29:B1:1565:G:N1 | 29:B1:1566:A:H1' | 2.24 | 0.52 |
| 29:B1:1751:G:C6 | 29:B1:1752:A:C5 | 2.98 | 0.52 |
| 29:B1:2178:A:P | 33:BB:126:LEU:HA | 2.50 | 0.52 |
| 29:B1:2259:A:C5 | 29:B1:2260:U:C2 | 2.98 | 0.52 |
| 29:B1:2262:A:C5' | 29:B1:2263:C:OP2 | 2.58 | 0.52 |
| 29:B1:2296:A:N3 | 29:B1:2919:A:H1' | 2.24 | 0.52 |
| 29:B1:2476:C:H2' | 29:B1:2477:G:H4' | 1.92 | 0.52 |
| 29:B1:2618:G:H4' | 29:B1:2619:G:OP2 | 2.09 | 0.52 |
| 29:B1:2639:G:C2 | 29:B1:2640:A:C4 | 2.97 | 0.52 |
| 29:B1:2702:A:N7 | 29:B1:2704:A:N6 | 2.57 | 0.52 |
| 29:B1:2713:U:H4' | 29:B1:2714:G:OP1 | 2.10 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2929:C:H3' | 29:B1:2929:C:C6 | 2.45 | 0.52 |
| 29:B1:3273:A:C4 | 29:B1:3274:A:C8 | 2.98 | 0.52 |
| 29:B1:3349:C:C4 | 29:B1:3350:C:N4 | 2.78 | 0.52 |
| 29:B1:3365:U:C2 | 29:B1:3366:G:N7 | 2.78 | 0.52 |
| 30:B2:54:U:O2 | 30:B2:54:U:C2' | 2.56 | 0.52 |
| 30:B2:69:C:C2 | 30:B2:110:G:C2 | 2.98 | 0.52 |
| 30:B2:77:G:N3 | 30:B2:101:G:C6 | 2.78 | 0.52 |
| 30:B2:78:U:C2 | 30:B2:79:A:C8 | 2.98 | 0.52 |
| 33:BB:11:GLY:O | 33:BB:12:ALA:C | 2.52 | 0.52 |
| 33:BB:207:VAL:O | 33:BB:208:ASP:O | 2.27 | 0.52 |
| 34:BC:268:GLY:O | 34:BC:269:GLN:CB | 2.58 | 0.52 |
| 35:BD:162:THR:O | 35:BD:165:ALA:HB3 | 2.10 | 0.52 |
| 45:BP:174:PHE:O | 45:BP:175:THR:C | 2.53 | 0.52 |
| 46:BQ:28:ASN:O | 46:BQ:30:ARG:N | 2.43 | 0.52 |
| 57:Bb:110:ALA:O | 57:Bb:113:LYS:CB | 2.57 | 0.52 |
| 58:Bc:32:LYS:C | 58:Bc:34:GLN:N | 2.66 | 0.52 |
| 1:C1:361:C:N4 | 1:C1:384:G:C6 | 2.69 | 0.52 |
| 1:C1:446:A:C6 | 1:C1:447:U:C4 | 2.98 | 0.52 |
| 1:C1:472:U:C5 | 1:C1:473:A:C8 | 2.98 | 0.52 |
| 1:C1:684:A:H5' | 1:C1:685:A:OP2 | 2.10 | 0.52 |
| 1:C1:887:A:C6 | 1:C1:888:U:C4 | 2.97 | 0.52 |
| 1:C1:931:C:C2' | 1:C1:932:U:OP1 | 2.57 | 0.52 |
| 1:C1:966:A:C2' | 1:C1:967:A:O5' | 2.58 | 0.52 |
| 1:C1:1026:A:C2 | 1:C1:1792:G:C4 | 2.98 | 0.52 |
| 1:C1:1463:C:O2' | 1:C1:1464:G:H5' | 2.10 | 0.52 |
| 1:C1:1475:A:C5 | 1:C1:1476:C:C5 | 2.97 | 0.52 |
| 1:C1:1586:A:OP1 | 11:CJ:134:ALA:HB3 | 2.10 | 0.52 |
| 1:C1:1689:A:N3 | 1:C1:1689:A:C2' | 2.72 | 0.52 |
| 1:C1:1689:A:N6 | 1:C1:1716:C:C2 | 2.78 | 0.52 |
| 1:C1:1713:G:N2 | 1:C1:1714:A:N9 | 2.57 | 0.52 |
| 1:C1:1720:G:C2 | 1:C1:1721:A:H1' | 2.45 | 0.52 |
| 1:C1:1756:A:H2' | 1:C1:1757:G:H5' | 1.91 | 0.52 |
| 5:CD:47:SER:O | 5:CD:48:PHE:CB | 2.58 | 0.52 |
| 5:CD:198:LEU:O | 5:CD:201:ALA:HB3 | 2.10 | 0.52 |
| 9:CH:39:ILE:O | 9:CH:40:ALA:CB | 2.57 | 0.52 |
| 15:CN:23:ARG:O | 15:CN:24:ILE:C | 2.53 | 0.52 |
| 25:Cd:101:UNK:C | 25:Cd:103:UNK:N | 2.72 | 0.52 |
| 29:D1:15:C:O2 | 29:D1:15:C:O4' | 2.28 | 0.52 |
| 29:D1:25:U:N3 | 29:D1:26:A:C5 | 2.77 | 0.52 |
| 29:D1:47:C:OP2 | 29:D1:48:A:O2' | 2.28 | 0.52 |
| 29:D1:71:A:H5" | 29:D1:73:C:N3 | 2.25 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:334:A:N3 | 29:D1:335:G:C8 | 2.77 | 0.52 |
| 29:D1:359:U:O4 | 29:D1:360:G:C6 | 2.63 | 0.52 |
| 29:D1:432:G:N3 | 29:D1:433:A:C8 | 2.77 | 0.52 |
| 29:D1:513:G:C2 | 29:D1:577:C:N3 | 2.69 | 0.52 |
| 29:D1:536:U:O2' | 29:D1:538:G:N7 | 2.42 | 0.52 |
| 29:D1:608:A:C2' | 29:D1:609:G:O5' | 2.58 | 0.52 |
| 29:D1:642:U:C6 | 29:D1:644:G:OP2 | 2.62 | 0.52 |
| 29:D1:661:G:C2 | 29:D1:802:C:H6 | 2.26 | 0.52 |
| 29:D1:735:A:C4 | 29:D1:735:A:OP2 | 2.62 | 0.52 |
| 29:D1:759:U:O4 | 29:D1:760:G:N1 | 2.43 | 0.52 |
| 29:D1:822:G:C4 | 29:D1:823:C:C6 | 2.98 | 0.52 |
| 29:D1:1066:G:O5' | 29:D1:1067:U:OP2 | 2.27 | 0.52 |
| 29:D1:1203:A:H2 | 29:D1:2855:U:O2 | 1.93 | 0.52 |
| 29:D1:1209:G:C8 | 29:D1:1210:U:C5 | 2.98 | 0.52 |
| 29:D1:1212:A:C2 | 29:D1:1213:G:C8 | 2.98 | 0.52 |
| 29:D1:1240:A:H3' | 29:D1:1241:U:H5" | 1.91 | 0.52 |
| 29:D1:1386:A:O2' | 29:D1:1387:G:OP2 | 2.22 | 0.52 |
| 29:D1:1421:G:N2 | 29:D1:1422:G:C4 | 2.78 | 0.52 |
| 29:D1:1610:G:H2' | 29:D1:1611:G:C8 | 2.45 | 0.52 |
| 29:D1:1678:G:C2 | 29:D1:1679:A:C5 | 2.97 | 0.52 |
| 29:D1:1743:G:C2' | 29:D1:1744:G:H5' | 2.40 | 0.52 |
| 29:D1:1797:A:H2' | 29:D1:1798:A:H8 | 1.75 | 0.52 |
| 29:D1:1867:A:H2' | 29:D1:1868:G:H8 | 1.75 | 0.52 |
| 29:D1:2114:C:H5" | 29:D1:2116:G:C8 | 2.45 | 0.52 |
| 29:D1:2180:G:H2' | 29:D1:2181:C:C6 | 2.45 | 0.52 |
| 29:D1:2247:G:H2' | 29:D1:2247:G:N3 | 2.23 | 0.52 |
| 29:D1:2372:A:O2' | 29:D1:2373:A:P | 2.66 | 0.52 |
| 29:D1:2572:C:N4 | 29:D1:2573:G:C6 | 2.78 | 0.52 |
| 29:D1:2653:C:OP2 | 61:Df:89:LYS:O | 2.28 | 0.52 |
| 29:D1:2658:G:C4 | 29:D1:2659:G:C8 | 2.97 | 0.52 |
| 29:D1:2660:G:H4' | 29:D1:2750:U:O2 | 2.09 | 0.52 |
| 29:D1:2880:U:H1' | 34:DC:250:ALA:CB | 2.39 | 0.52 |
| 29:D1:2998:U:OP1 | 29:D1:3396:U:O4' | 2.27 | 0.52 |
| 29:D1:3049:A:C6 | 29:D1:3050:U:C2 | 2.98 | 0.52 |
| 29:D1:3066:U:H2' | 29:D1:3067:C:C6 | 2.44 | 0.52 |
| 29:D1:3069:G:C2 | 29:D1:3070:A:C5 | 2.97 | 0.52 |
| 29:D1:3069:G:N1 | 29:D1:3070:A:C5 | 2.77 | 0.52 |
| 29:D1:3069:G:C6 | 29:D1:3070:A:N7 | 2.78 | 0.52 |
| 29:D1:3298:C:N4 | 29:D1:3299:A:H62 | 2.07 | 0.52 |
| 30:D2:46:A:O2' | 30:D2:47:C:H5' | 2.09 | 0.52 |
| 30:D2:70:U:C2 | 30:D2:71:G:C8 | 2.97 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:D3:56:G:N2 | 31:D3:57:C:H1' | 2.25 | 0.52 |
| 31:D3:95:G:OP1 | 31:D3:96:A:OP2 | 2.28 | 0.52 |
| 31:D3:119:C:O2' | 31:D3:120:C:H5' | 2.09 | 0.52 |
| 31:D3:140:G:C5 | 31:D3:141:C:C4 | 2.98 | 0.52 |
| 33:DB:113:VAL:O | 33:DB:114:SER:C | 2.53 | 0.52 |
| 37:DF:152:THR:HA | 37:DF:156:LYS:CB | 2.39 | 0.52 |
| 37:DF:162:SER:C | 37:DF:165:LEU:H | 2.17 | 0.52 |
| 40:DI:170:LYS:O | 40:DI:172:ILE:N | 2.42 | 0.52 |
| 41:DJ:170:LYS:O | 41:DJ:178:ARG:N | 2.43 | 0.52 |
| 44:DO:157:LYS:C | 44:DO:159:ARG:N | 2.68 | 0.52 |
| 44:DO:175:ASN:O | 44:DO:176:LYS:CB | 2.57 | 0.52 |
| 56:Da:58:ALA:O | 56:Da:60:TRP:N | 2.43 | 0.52 |
| 56:Da:60:TRP:C | 56:Da:62:ARG:H | 2.17 | 0.52 |
| 1:A1:15:U:H1' | 1:A1:619:A:C2 | 2.45 | 0.52 |
| 1:A1:23:G:H2' | 1:A1:24:U:C6 | 2.45 | 0.52 |
| 1:A1:136:C:O2' | 1:A1:137:U:OP1 | 2.26 | 0.52 |
| 1:A1:173:A:N1 | 1:A1:174:U:C1' | 2.68 | 0.52 |
| 1:A1:418:G:N2 | 1:A1:419:G:C4 | 2.78 | 0.52 |
| 1:A1:537:G:N2 | 1:A1:538:A:C1' | 2.73 | 0.52 |
| 1:A1:563:U:C5' | 1:A1:564:G:OP2 | 2.58 | 0.52 |
| 1:A1:633:U:H2' | 1:A1:633:U:O2 | 2.09 | 0.52 |
| 1:A1:789:A:H2' | 1:A1:789:A:N3 | 2.24 | 0.52 |
| 1:A1:867:G:C2 | 1:A1:868:G:C4 | 2.98 | 0.52 |
| 1:A1:1042:G:C6 | 1:A1:1043:A:C6 | 2.97 | 0.52 |
| 1:A1:1073:G:C6 | 1:A1:1074:G:C5 | 2.98 | 0.52 |
| 1:A1:1125:A:N7 | 1:A1:1126:G:H1' | 2.25 | 0.52 |
| 1:A1:1232:U:P | 1:A1:1258:U:O2' | 2.68 | 0.52 |
| 1:A1:1267:G:H21 | 1:A1:1448:G:C4' | 2.22 | 0.52 |
| 1:A1:1377:U:O2 | 1:A1:1378:U:C1' | 2.57 | 0.52 |
| 1:A1:1408:G:H1' | 1:A1:1409:G:C2 | 2.45 | 0.52 |
| 1:A1:1454:G:C3' | 1:A1:1455:G:H5' | 2.40 | 0.52 |
| 1:A1:1570:A:N3 | 1:A1:1571:C:H1' | 2.24 | 0.52 |
| 1:A1:1619:C:N3 | 1:A1:1620:C:H5 | 2.08 | 0.52 |
| 4:AC:66:ILE:O | 4:AC:68:GLU:N | 2.42 | 0.52 |
| 4:AC:80:ALA:C | 4:AC:82:GLY:N | 2.68 | 0.52 |
| 17:AP:87:VAL:O | 17:AP:88:PRO:C | 2.53 | 0.52 |
| 21:AT:39:ASP:O | 21:AT:40:LYS:CB | 2.58 | 0.52 |
| 25:Ad:97:UNK:C | 25:Ad:99:UNK:N | 2.69 | 0.52 |
| 28:Ah:19:UNK:O | 28:Ah:23:UNK:N | 2.43 | 0.52 |
| 29:B1:92:G:C6 | 29:B1:94:G:N2 | 2.78 | 0.52 |
| 29:B1:282:G:N3 | 29:B1:286:U:C4' | 2.73 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:307:A:C8 | 29:B1:307:A:C3' | 2.93 | 0.52 |
| 29:B1:311:C:N4 | 29:B1:312:C:C4 | 2.78 | 0.52 |
| 29:B1:516:A:N3 | 29:B1:516:A:H2' | 2.25 | 0.52 |
| 29:B1:592:A:N1 | 29:B1:593:C:C6 | 2.77 | 0.52 |
| 29:B1:606:C:C4 | 29:B1:607:A:N6 | 2.77 | 0.52 |
| 29:B1:639:G:C2' | 29:B1:640:U:H5' | 2.40 | 0.52 |
| 29:B1:651:G:O2' | 29:B1:652:G:H5' | 2.09 | 0.52 |
| 29:B1:759:U:C5 | 29:B1:773:G:O6 | 2.63 | 0.52 |
| 29:B1:964:G:H4' | 54:BY:28:HIS:O | 2.09 | 0.52 |
| 29:B1:980:A:O4' | 29:B1:980:A:OP2 | 2.27 | 0.52 |
| 29:B1:1034:U:O2 | 29:B1:1034:U:O4' | 2.25 | 0.52 |
| 29:B1:1077:U:O2' | 29:B1:1078:U:O4' | 2.27 | 0.52 |
| 29:B1:1176:C:H3' | 29:B1:1177:G:C5' | 2.39 | 0.52 |
| 29:B1:1560:G:H22 | 29:B1:1579:C:H1' | 1.73 | 0.52 |
| 29:B1:1626:U:N3 | 29:B1:1627:U:C4 | 2.78 | 0.52 |
| 29:B1:1666:G:C2' | 29:B1:1667:A:H5' | 2.40 | 0.52 |
| 29:B1:1852:G:C4 | 29:B1:1853:U:C5 | 2.97 | 0.52 |
| 29:B1:1939:G:H2' | 29:B1:1940:G:C5' | 2.39 | 0.52 |
| 29:B1:2113:A:H62 | 29:B1:2114:C:N4 | 2.08 | 0.52 |
| 29:B1:2137:U:C2 | 29:B1:2141:U:H5 | 2.28 | 0.52 |
| 29:B1:2530:G:O2' | 29:B1:2531:C:P | 2.68 | 0.52 |
| 29:B1:2582:C:O2 | 29:B1:2582:C:H2' | 2.08 | 0.52 |
| 29:B1:2595:A:C8 | 29:B1:2596:U:C5 | 2.98 | 0.52 |
| 29:B1:2822:U:H2' | 29:B1:2823:G:O5' | 2.10 | 0.52 |
| 29:B1:3011:A:H1' | 29:B1:3012:A:C1' | 2.39 | 0.52 |
| 29:B1:3214:U:HO2' | 29:B1:3218:A:P | 2.31 | 0.52 |
| 29:B1:3215:A:P | 29:B1:3218:A:C5' | 2.98 | 0.52 |
| 29:B1:3234:A:N1 | 29:B1:3235:C:C4 | 2.78 | 0.52 |
| 29:B1:3245:A:C2 | 29:B1:3246:G:H1' | 2.45 | 0.52 |
| 29:B1:3273:A:O4' | 29:B1:3273:A:P | 2.67 | 0.52 |
| 29:B1:3281:U:C2 | 29:B1:3282:U:N3 | 2.78 | 0.52 |
| 29:B1:3350:C:O3' | 29:B1:3354:U:C5 | 2.63 | 0.52 |
| 30:B2:15:C:C4 | 30:B2:16:U:C4 | 2.97 | 0.52 |
| 30:B2:112:G:O5' | 30:B2:113:C:OP2 | 2.27 | 0.52 |
| 30:B2:112:G:P | 30:B2:113:C:P | 3.08 | 0.52 |
| 31:B3:64:U:N3 | 31:B3:97:A:C2 | 2.77 | 0.52 |
| 31:B3:101:U:C2' | 31:B3:102:U:O5' | 2.58 | 0.52 |
| 42:BK:32:ARG:O | 42:BK:33:ALA:C | 2.53 | 0.52 |
| 42:BK:131:MET:O | 42:BK:132:ASN:CB | 2.58 | 0.52 |
| 42:BK:139:THR:CB | 42:BK:146:GLY:O | 2.58 | 0.52 |
| 48:BS:143:ILE:O | 48:BS:144:GLN:C | 2.52 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 50:BU:127:PRO:O | 50:BU:130:ALA:CB | 2.58 | 0.52 |
| 52:BW:132:ALA:O | 52:BW:133:LEU:C | 2.53 | 0.52 |
| 54:BY:35:ALA:O | 54:BY:36:GLY:C | 2.52 | 0.52 |
| 55:BZ:51:LEU:O | 55:BZ:53:LYS:N | 2.37 | 0.52 |
| 57:Bb:61:LYS:O | 57:Bb:63:THR:N | 2.42 | 0.52 |
| 60:Be:7:PHE:O | 60:Be:8:ARG:C | 2.52 | 0.52 |
| 61:Bf:11:TYR:HA | 61:Bf:20:HIS:HA | 1.90 | 0.52 |
| 61:Bf:38:GLN:C | 61:Bf:40:LYS:N | 2.68 | 0.52 |
| 1:C1:34:G:H2' | 1:C1:35:U:C6 | 2.45 | 0.52 |
| 1:C1:93:A:N7 | 1:C1:398:G:H2' | 2.23 | 0.52 |
| 1:C1:195:G:O2' | 1:C1:196:G:C5' | 2.58 | 0.52 |
| 1:C1:353:A:OP2 | 74:C1:1908:OHX:N6 | 2.42 | 0.52 |
| 1:C1:617:U:H2' | 1:C1:618:U:C5 | 2.45 | 0.52 |
| 1:C1:642:G:C6 | 1:C1:643:G:C5 | 2.98 | 0.52 |
| 1:C1:824:G:H5" | 1:C1:825:U:C5' | 2.40 | 0.52 |
| 1:C1:844:A:N6 | 74:C1:1917:OHX:N1 | 2.56 | 0.52 |
| 1:C1:847:A:C2' | 1:C1:848:C:H5" | 2.38 | 0.52 |
| 1:C1:880:C:H2' | 1:C1:881:A:C8 | 2.45 | 0.52 |
| 1:C1:940:A:C2 | 1:C1:941:A:C4 | 2.98 | 0.52 |
| 1:C1:947:U:H2' | 1:C1:948:G:O4' | 2.10 | 0.52 |
| 1:C1:956:C:H5" | 1:C1:1073:G:O2' | 2.10 | 0.52 |
| 1:C1:1203:A:C2 | 1:C1:1556:A:C4 | 2.98 | 0.52 |
| 1:C1:1230:A:H2' | 1:C1:1230:A:N3 | 2.25 | 0.52 |
| 1:C1:1355:C:O2' | 1:C1:1356:U:H5' | 2.09 | 0.52 |
| 1:C1:1504:G:C6 | 1:C1:1505:A:C6 | 2.97 | 0.52 |
| 1:C1:1512:G:H2' | 1:C1:1513:G:H8 | 1.75 | 0.52 |
| 1:C1:1540:G:C5 | 1:C1:1541:G:C5 | 2.97 | 0.52 |
| 1:C1:1600:A:OP1 | 1:C1:1600:A:C4' | 2.51 | 0.52 |
| 1:C1:1662:G:H2' | 1:C1:1663:G:H8 | 1.75 | 0.52 |
| 3:CB:152:HIS:C | 3:CB:154:LEU:N | 2.68 | 0.52 |
| 3:CB:170:ILE:O | 3:CB:196:VAL:HA | 2.10 | 0.52 |
| 15:CN:28:SER:O | 15:CN:87:HIS:O | 2.28 | 0.52 |
| 29:D1:96:G:C2 | 29:D1:97:U:C6 | 2.98 | 0.52 |
| 29:D1:224:C:C2' | 29:D1:225:C:O5' | 2.58 | 0.52 |
| 29:D1:397:A:C6 | 29:D1:400:G:C6 | 2.98 | 0.52 |
| 29:D1:431:U:H5' | 29:D1:431:U:H6 | 1.75 | 0.52 |
| 29:D1:563:U:O4 | 29:D1:564:G:C8 | 2.63 | 0.52 |
| 29:D1:583:G:N1 | 29:D1:584:G:C5 | 2.78 | 0.52 |
| 29:D1:639:G:O2' | 29:D1:640:U:H5' | 2.10 | 0.52 |
| 29:D1:779:G:C4 | 29:D1:780:A:N7 | 2.77 | 0.52 |
| 29:D1:889:U:H2' | 29:D1:890:C:C6 | 2.42 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:951:A:N3 | 29:D1:1369:A:N1 | 2.58 | 0.52 |
| 29:D1:960:U:O2 | 29:D1:960:U:O4' | 2.28 | 0.52 |
| 29:D1:986:U:O2 | 29:D1:987:U:C6 | 2.62 | 0.52 |
| 29:D1:1056:U:O5' | 29:D1:1056:U:C6 | 2.60 | 0.52 |
| 29:D1:1223:A:O2' | 29:D1:1284:C:N4 | 2.43 | 0.52 |
| 29:D1:1270:A:H3' | 29:D1:1271:A:H8 | 1.75 | 0.52 |
| 29:D1:1345:G:N7 | 74:D1:3480:OHX:N6 | 2.57 | 0.52 |
| 29:D1:1414:G:C4 | 29:D1:1415:U:C6 | 2.98 | 0.52 |
| 29:D1:1500:G:C6 | 29:D1:1517:G:C6 | 2.98 | 0.52 |
| 29:D1:1517:G:C6 | 29:D1:1518:U:O4 | 2.63 | 0.52 |
| 29:D1:1556:C:H2' | 29:D1:1556:C:O2 | 2.09 | 0.52 |
| 29:D1:1638:A:C2 | 29:D1:1736:G:N3 | 2.78 | 0.52 |
| 29:D1:1662:G:H1 | 29:D1:1787:A:N6 | 2.06 | 0.52 |
| 29:D1:1673:G:C4 | 29:D1:1775:G:C2 | 2.98 | 0.52 |
| 29:D1:1931:U:C2 | 29:D1:2121:G:N3 | 2.78 | 0.52 |
| 29:D1:1941:C:OP2 | 48:DS:75:HIS:HA | 2.09 | 0.52 |
| 29:D1:2137:U:OP1 | 29:D1:2137:U:C4' | 2.54 | 0.52 |
| 29:D1:2252:A:N3 | 29:D1:2253:G:C8 | 2.78 | 0.52 |
| 29:D1:2374:C:H2' | 29:D1:2374:C:O2 | 2.10 | 0.52 |
| 29:D1:2717:U:O4 | 29:D1:2740:A:C6 | 2.63 | 0.52 |
| 29:D1:2888:U:C6 | 29:D1:2910:A:N1 | 2.78 | 0.52 |
| 29:D1:3260:G:C6 | 29:D1:3261:C:C1' | 2.93 | 0.52 |
| 29:D1:3326:G:N1 | 29:D1:3327:G:C5 | 2.77 | 0.52 |
| 29:D1:3332:U:H2' | 29:D1:3333:G:OP2 | 2.10 | 0.52 |
| 29:D1:3351:U:OP2 | 29:D1:3351:U:C2 | 2.63 | 0.52 |
| 30:D2:12:U:C3' | 30:D2:13:A:N1 | 2.71 | 0.52 |
| 30:D2:12:U:OP2 | 30:D2:68:C:O3' | 2.28 | 0.52 |
| 30:D2:65:G:C2' | 30:D2:66:A:O5' | 2.58 | 0.52 |
| 31:D3:9:A:C5' | 31:D3:10:A:OP2 | 2.57 | 0.52 |
| 31:D3:58:G:C2' | 31:D3:99:C:O2' | 2.58 | 0.52 |
| 31:D3:113:U:O2 | 31:D3:114:G:C8 | 2.63 | 0.52 |
| 33:DB:18:SER:C | 33:DB:20:THR:H | 2.18 | 0.52 |
| 34:DC:278:ILE:O | 34:DC:280:HIS:N | 2.41 | 0.52 |
| 35:DD:54:GLU:C | 35:DD:56:ALA:H | 2.18 | 0.52 |
| 39:DH:123:GLN:HA | 39:DH:126:SER:CB | 2.40 | 0.52 |
| 40:DI:40:HIS:O | 40:DI:42:ASP:N | 2.43 | 0.52 |
| 40:DI:134:ILE:HA | 40:DI:146:LEU:CB | 2.40 | 0.52 |
| 41:DJ:69:ARG:O | 41:DJ:70:ILE:C | 2.51 | 0.52 |
| 73:DM:14:LYS:O | 73:DM:18:TYR:N | 2.41 | 0.52 |
| 44:DO:85:THR:CA | 44:DO:87:GLN:N | 2.73 | 0.52 |
| 48:DS:12:ALA:O | 48:DS:14:VAL:N | 2.43 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 50:DU:94:TYR:O | 50:DU:95:PHE:CB | 2.58 | 0.52 |
| 56:Da:30:PRO:O | 56:Da:32:ALA:N | 2.43 | 0.52 |
| 1:A1:37:U:P | 1:A1:531:C:HO2' | 2.33 | 0.52 |
| 1:A1:104:A:C5' | 1:A1:105:A:OP2 | 2.58 | 0.52 |
| 1:A1:177:U:H3' | 1:A1:178:U:C5' | 2.35 | 0.52 |
| 1:A1:290:G:H2' | 1:A1:291:G:N7 | 2.24 | 0.52 |
| 1:A1:381:C:O2' | 1:A1:755:A:N1 | 2.42 | 0.52 |
| 1:A1:409:C:O4' | 1:A1:1732:A:H4' | 2.10 | 0.52 |
| 1:A1:446:A:H2' | 1:A1:447:U:H6 | 1.75 | 0.52 |
| 1:A1:518:A:C6 | 1:A1:535:A:N3 | 2.77 | 0.52 |
| 1:A1:602:U:C2 | 1:A1:603:U:C5 | 2.98 | 0.52 |
| 1:A1:620:A:H2' | 1:A1:621:A:C4 | 2.45 | 0.52 |
| 1:A1:809:A:O2' | 1:A1:810:G:H5' | 2.10 | 0.52 |
| 1:A1:1043:A:C4 | 1:A1:1044:U:H5 | 2.28 | 0.52 |
| 1:A1:1053:G:C2 | 1:A1:1067:C:H1' | 2.45 | 0.52 |
| 1:A1:1116:A:C5 | 1:A1:1117:U:C4 | 2.98 | 0.52 |
| 1:A1:1181:U:H2' | 1:A1:1182:U:O5' | 2.10 | 0.52 |
| 1:A1:1353:U:H3' | 1:A1:1354:G:H8 | 1.73 | 0.52 |
| 1:A1:1478:G:O2' | 1:A1:1479:A:O4' | 2.28 | 0.52 |
| 1:A1:1545:A:OP1 | 13:AL:132:ARG:HA | 2.09 | 0.52 |
| 1:A1:1560:U:O5' | 1:A1:1560:U:C6 | 2.63 | 0.52 |
| 1:A1:1595:U:H6 | 1:A1:1596:C:C2 | 2.27 | 0.52 |
| 1:A1:1778:G:C6 | 1:A1:1779:U:O4 | 2.63 | 0.52 |
| 8:AG:114:ARG:O | 8:AG:117:LEU:N | 2.43 | 0.52 |
| 14:AM:130:ARG:O | 14:AM:131:ASP:C | 2.53 | 0.52 |
| 16:AO:88:LYS:C | 16:AO:90:THR:N | 2.67 | 0.52 |
| 18:AQ:41:ILE:HA | 18:AQ:44:GLN:N | 2.20 | 0.52 |
| 29:B1:6:A:C2 | 31:B3:154:C:C2 | 2.98 | 0.52 |
| 29:B1:64:G:C6 | 29:B1:322:U:C5 | 2.98 | 0.52 |
| 29:B1:190:U:H3 | 29:B1:221:A:H61 | 1.58 | 0.52 |
| 29:B1:221:A:C4 | 29:B1:224:C:C5 | 2.98 | 0.52 |
| 29:B1:508:U:O4 | 74:B1:3544:OHX:N6 | 2.43 | 0.52 |
| 29:B1:680:G:C6 | 29:B1:701:G:C6 | 2.98 | 0.52 |
| 29:B1:949:C:C2' | 29:B1:950:G:H5' | 2.39 | 0.52 |
| 29:B1:957:C:O3' | 29:B1:2799:A:H8 | 1.93 | 0.52 |
| 29:B1:1062:A:C3' | 29:B1:1063:G:C5 | 2.82 | 0.52 |
| 29:B1:1139:G:H2' | 29:B1:1140:G:O4' | 2.10 | 0.52 |
| 29:B1:1202:A:C2' | 29:B1:1203:A:OP2 | 2.58 | 0.52 |
| 29:B1:1224:C:N3 | 29:B1:1286:A:C2 | 2.78 | 0.52 |
| 29:B1:1226:G:C2 | 29:B1:1227:C:C6 | 2.98 | 0.52 |
| 29:B1:1260:A:H8 | 29:B1:1260:A:O5' | 1.93 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1348:U:O2' | 29:B1:1349:G:C8 | 2.63 | 0.52 |
| 29:B1:1357:G:H2' | 29:B1:1357:G:N3 | 2.24 | 0.52 |
| 29:B1:1414:G:C4 | 29:B1:1415:U:C6 | 2.97 | 0.52 |
| 29:B1:1587:A:C4 | 29:B1:1590:G:C5 | 2.97 | 0.52 |
| 29:B1:1779:C:OP2 | 29:B1:1780:G:H8 | 1.92 | 0.52 |
| 29:B1:1791:C:H2' | 29:B1:1792:C:C5 | 2.45 | 0.52 |
| 29:B1:1906:G:N3 | 29:B1:1908:A:N6 | 2.58 | 0.52 |
| 29:B1:2130:G:C6 | 29:B1:2323:G:C6 | 2.98 | 0.52 |
| 29:B1:2572:C:N4 | 29:B1:2573:G:C6 | 2.77 | 0.52 |
| 29:B1:2590:A:C4 | 29:B1:2591:A:C8 | 2.98 | 0.52 |
| 29:B1:2619:G:OP1 | 29:B1:2619:G:C8 | 2.60 | 0.52 |
| 29:B1:2773:C:H2' | 29:B1:2774:C:H6 | 1.74 | 0.52 |
| 29:B1:2775:U:O2' | 29:B1:2776:C:H6 | 1.93 | 0.52 |
| 29:B1:2857:C:H2' | 29:B1:2858:U:C6 | 2.45 | 0.52 |
| 29:B1:3097:C:O2' | 29:B1:3098:G:O5' | 2.27 | 0.52 |
| 29:B1:3182:G:O5' | 29:B1:3182:G:H8 | 1.93 | 0.52 |
| 29:B1:3279:A:C5 | 29:B1:3280:U:C4 | 2.98 | 0.52 |
| 30:B2:33:U:O2 | 30:B2:33:U:C2' | 2.57 | 0.52 |
| 31:B3:4:C:H2' | 31:B3:5:U:C5' | 2.39 | 0.52 |
| 31:B3:8:C:C2' | 31:B3:9:A:H8 | 2.15 | 0.52 |
| 33:BB:102:LEU:C | 33:BB:104:LEU:N | 2.68 | 0.52 |
| 35:BD:162:THR:O | 35:BD:166:VAL:N | 2.43 | 0.52 |
| 35:BD:168:ALA:C | 35:BD:170:LYS:N | 2.66 | 0.52 |
| 35:BD:241:GLY:O | 35:BD:242:ALA:C | 2.52 | 0.52 |
| 37:BF:93:VAL:O | 37:BF:97:ASN:N | 2.39 | 0.52 |
| 41:BJ:24:ARG:O | 41:BJ:25:ALA:HB2 | 2.10 | 0.52 |
| 42:BK:46:VAL:O | 42:BK:68:HIS:N | 2.35 | 0.52 |
| 42:BK:49:LYS:O | 42:BK:50:ALA:HB2 | 2.10 | 0.52 |
| 44:BO:83:LYS:C | 44:BO:85:THR:N | 2.67 | 0.52 |
| 44:BO:120:TRP:O | 44:BO:121:VAL:CB | 2.57 | 0.52 |
| 44:BO:136:ASP:O | 44:BO:137:PRO:C | 2.52 | 0.52 |
| 53:BX:91:ASN:O | 53:BX:92:GLY:C | 2.53 | 0.52 |
| 55:BZ:10:ILE:C | 55:BZ:12:GLN:N | 2.68 | 0.52 |
| 56:Ba:12:TYR:O | 56:Ba:72:ARG:HA | 2.09 | 0.52 |
| 63:Bh:38:UNK:C | 63:Bh:39:UNK:O | 2.58 | 0.52 |
| 1:C1:15:U:O4' | 1:C1:619:A:N1 | 2.43 | 0.52 |
| 1:C1:269:G:C6 | 1:C1:287:G:C2 | 2.98 | 0.52 |
| 1:C1:308:C:H4' | 1:C1:309:C:OP1 | 2.10 | 0.52 |
| 1:C1:313:U:C5 | 1:C1:1118:G:C5 | 2.98 | 0.52 |
| 1:C1:341:A:H5' | 1:C1:342:C:OP2 | 2.10 | 0.52 |
| 1:C1:521:A:C3' | 1:C1:523:G:C8 | 2.93 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:606:A:C4 | 1:C1:608:U:C5 | 2.98 | 0.52 |
| 1:C1:701:U:H2' | 1:C1:702:G:O4' | 2.10 | 0.52 |
| 1:C1:820:U:C2' | 1:C1:821:U:O5' | 2.58 | 0.52 |
| 1:C1:1022:C:H5 | 1:C1:1023:A:C6 | 2.28 | 0.52 |
| 1:C1:1042:G:C6 | 1:C1:1043:A:C6 | 2.98 | 0.52 |
| 1:C1:1046:G:N3 | 1:C1:1047:G:C8 | 2.78 | 0.52 |
| 1:C1:1109:G:C4 | 1:C1:1137:A:N1 | 2.78 | 0.52 |
| 1:C1:1138:A:C6 | 1:C1:1139:A:C6 | 2.98 | 0.52 |
| 1:C1:1186:U:C2' | 1:C1:1187:U:H5' | 2.39 | 0.52 |
| 1:C1:1196:A:C4' | 1:C1:1197:C:C5' | 2.83 | 0.52 |
| 1:C1:1203:A:C2 | 1:C1:1556:A:C1' | 2.89 | 0.52 |
| 1:C1:1403:C:O2' | 1:C1:1404:C:H5' | 2.09 | 0.52 |
| 1:C1:1441:C:H2' | 1:C1:1442:U:C6 | 2.45 | 0.52 |
| 1:C1:1483:A:H5" | 1:C1:1521:G:O2' | 2.09 | 0.52 |
| 1:C1:1566:U:C2' | 1:C1:1567:U:C5' | 2.88 | 0.52 |
| 1:C1:1566:U:H2' | 1:C1:1567:U:H5' | 1.91 | 0.52 |
| 1:C1:1591:C:O2' | 1:C1:1592:A:C5' | 2.58 | 0.52 |
| 1:C1:1651:A:C2 | 1:C1:1652:C:C4 | 2.98 | 0.52 |
| 1:C1:1750:A:C5 | 1:C1:1751:C:C4 | 2.98 | 0.52 |
| 3:CB:87:GLN:HA | 3:CB:96:THR:HA | 1.90 | 0.52 |
| 8:CG:107:LYS:O | 8:CG:109:LYS:N | 2.42 | 0.52 |
| 8:CG:108:ASP:O | 8:CG:111:ALA:N | 2.43 | 0.52 |
| 21:CT:219:GLU:CB | 21:CT:235:SER:HA | 2.40 | 0.52 |
| 29:D1:20:A:O2' | 29:D1:21:G:H2' | 2.10 | 0.52 |
| 29:D1:382:U:O3' | 29:D1:384:A:OP2 | 2.27 | 0.52 |
| 29:D1:511:G:C2 | 29:D1:579:G:C2 | 2.97 | 0.52 |
| 29:D1:740:G:C5 | 29:D1:741:U:C5 | 2.98 | 0.52 |
| 29:D1:743:C:H4' | 47:DR:142:GLY:CA | 2.32 | 0.52 |
| 29:D1:759:U:N3 | 29:D1:773:G:C6 | 2.78 | 0.52 |
| 29:D1:781:G:C6 | 29:D1:782:U:C5 | 2.98 | 0.52 |
| 29:D1:959:C:N4 | 29:D1:2801:A:C8 | 2.78 | 0.52 |
| 29:D1:1139:G:C5 | 29:D1:1140:G:C8 | 2.98 | 0.52 |
| 29:D1:1156:C:H2' | 29:D1:1156:C:O2 | 2.10 | 0.52 |
| 29:D1:1213:G:C2' | 29:D1:1214:U:O5' | 2.58 | 0.52 |
| 29:D1:1296:C:H2' | 29:D1:1297:C:O5' | 2.10 | 0.52 |
| 29:D1:1325:U:N3 | 29:D1:1326:A:N7 | 2.57 | 0.52 |
| 29:D1:1479:U:H5' | 29:D1:1480:G:OP2 | 2.10 | 0.52 |
| 29:D1:1735:G:H2' | 29:D1:1735:G:N3 | 2.25 | 0.52 |
| 29:D1:1794:G:C2 | 33:DB:185:ALA:HB1 | 2.45 | 0.52 |
| 29:D1:2124:G:C2 | 29:D1:2330:C:C2 | 2.97 | 0.52 |
| 29:D1:2213:A:C6 | 29:D1:2214:A:N6 | 2.78 | 0.52 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2252:A:C2 | 29:D1:2253:G:C4 | 2.99 | 0.52 |
| 29:D1:2300:G:H2' | 29:D1:2300:G:N3 | 2.25 | 0.52 |
| 29:D1:2325:G:C6 | 29:D1:2326:A:N7 | 2.78 | 0.52 |
| 29:D1:2947:G:C2 | 29:D1:2948:C:C5 | 2.98 | 0.52 |
| 29:D1:3065:G:H2' | 29:D1:3066:U:H6 | 1.74 | 0.52 |
| 29:D1:3292:A:O2' | 29:D1:3293:U:H4' | 2.09 | 0.52 |
| 29:D1:3315:G:C4' | 29:D1:3319:U:O3' | 2.58 | 0.52 |
| 29:D1:3317:U:H5 | 74:D1:3578:OHX:N6 | 2.08 | 0.52 |
| 30:D2:30:G:C6 | 30:D2:31:U:N3 | 2.78 | 0.52 |
| 31:D3:68:G:O2' | 31:D3:69:U:H5' | 2.09 | 0.52 |
| 31:D3:91:C:H2' | 31:D3:92:A:O4' | 2.10 | 0.52 |
| 33:DB:83:HIS:CB | 62:Dg:63:THR:H | 2.23 | 0.52 |
| 38:DG:25:GLN:HA | 38:DG:28:ALA:HB2 | 1.92 | 0.52 |
| 38:DG:237:ASN:O | 38:DG:238:LYS:C | 2.53 | 0.52 |
| 42:DK:133:ARG:N | 42:DK:155:THR:N | 2.55 | 0.52 |
| 45:DP:109:PRO:O | 45:DP:110:PRO:CB | 2.58 | 0.52 |
| 54:DY:27:LYS:O | 54:DY:29:PRO:N | 2.43 | 0.52 |
| 54:DY:90:TYR:C | 54:DY:92:LYS:HA | 2.35 | 0.52 |
| 1:A1:32:U:O2 | 1:A1:595:G:C2 | 2.63 | 0.51 |
| 1:A1:34:G:H2' | 1:A1:35:U:C6 | 2.45 | 0.51 |
| 1:A1:98:U:H2' | 1:A1:98:U:O2 | 2.10 | 0.51 |
| 1:A1:167:U:C5' | 1:A1:167:U:C6 | 2.88 | 0.51 |
| 1:A1:188:A:N6 | 1:A1:189:C:O2 | 2.43 | 0.51 |
| 1:A1:244:A:H2' | 1:A1:245:U:H6 | 1.75 | 0.51 |
| 1:A1:269:G:C2 | 1:A1:287:G:C2 | 2.98 | 0.51 |
| 1:A1:471:A:O2' | 1:A1:472:U:H5' | 2.09 | 0.51 |
| 1:A1:569:C:H1' | 1:A1:583:C:C5' | 2.37 | 0.51 |
| 1:A1:623:A:N1 | 1:A1:1105:C:H4' | 2.24 | 0.51 |
| 1:A1:755:A:H1' | 1:A1:756:A:C8 | 2.45 | 0.51 |
| 1:A1:832:U:O2 | 1:A1:832:U:H2' | 2.10 | 0.51 |
| 1:A1:923:A:O2' | 1:A1:924:A:H5' | 2.10 | 0.51 |
| 1:A1:932:U:H4' | 1:A1:933:A:O4' | 2.10 | 0.51 |
| 1:A1:989:U:C2 | 1:A1:990:C:C5 | 2.99 | 0.51 |
| 1:A1:1201:G:C5 | 1:A1:1202:A:O4' | 2.63 | 0.51 |
| 1:A1:1676:U:H2' | 1:A1:1677:C:C6 | 2.44 | 0.51 |
| 3:AB:131:ILE:C | 3:AB:133:LYS:H | 2.18 | 0.51 |
| 10:AI:115:TYR:O | 10:AI:118:GLU:CB | 2.59 | 0.51 |
| 14:AM:62:ALA:C | 14:AM:64:HIS:H | 2.18 | 0.51 |
| 20:AS:25:SER:O | 20:AS:26:SER:C | 2.53 | 0.51 |
| 20:AS:41:GLN:CB | 74:AS:101:OHX:N1 | 2.73 | 0.51 |
| 29:B1:35:A:C6 | 29:B1:36:C:C4 | 2.99 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:60:A:C5 | 29:B1:328:U:N3 | 2.77 | 0.51 |
| 29:B1:141:C:H2' | 29:B1:142:C:O4' | 2.10 | 0.51 |
| 29:B1:154:U:P | 29:B1:156:G:O6 | 2.68 | 0.51 |
| 29:B1:191:U:C6 | 29:B1:191:U:H5" | 2.45 | 0.51 |
| 29:B1:264:G:C5 | 29:B1:265:A:C5 | 2.98 | 0.51 |
| 29:B1:279:U:OP1 | 74:B1:3536:OHX:N3 | 2.43 | 0.51 |
| 29:B1:345:G:N2 | 29:B1:349:A:OP2 | 2.36 | 0.51 |
| 29:B1:365:A:N1 | 29:B1:366:A:N3 | 2.59 | 0.51 |
| 29:B1:430:U:H2' | 29:B1:431:U:H6 | 1.73 | 0.51 |
| 29:B1:569:A:C5 | 29:B1:570:A:C8 | 2.98 | 0.51 |
| 29:B1:665:A:C6 | 29:B1:666:A:C5 | 2.98 | 0.51 |
| 29:B1:665:A:H2' | 29:B1:666:A:H5' | 1.90 | 0.51 |
| 29:B1:735:A:C4 | 29:B1:735:A:OP2 | 2.63 | 0.51 |
| 29:B1:955:U:C4 | 29:B1:956:U:O4 | 2.63 | 0.51 |
| 29:B1:1262:G:O6 | 74:B1:3563:OHX:N2 | 2.44 | 0.51 |
| 29:B1:1281:G:C6 | 29:B1:1282:G:N7 | 2.78 | 0.51 |
| 29:B1:1320:C:H5' | 29:B1:1321:G:OP2 | 2.09 | 0.51 |
| 29:B1:1453:A:C8 | 29:B1:1850:A:H2 | 2.28 | 0.51 |
| 29:B1:1454:A:C8 | 29:B1:1454:A:H3' | 2.44 | 0.51 |
| 29:B1:1481:A:H1' | 29:B1:1858:A:C2 | 2.45 | 0.51 |
| 29:B1:1658:G:C4 | 29:B1:1659:U:C5 | 2.98 | 0.51 |
| 29:B1:1916:U:O2' | 29:B1:1917:C:H5' | 2.10 | 0.51 |
| 29:B1:1933:A:C2' | 29:B1:1934:G:H5' | 2.40 | 0.51 |
| 29:B1:2311:G:C2' | 29:B1:2312:A:O5' | 2.59 | 0.51 |
| 29:B1:2340:U:O2' | 29:B1:2341:A:H5' | 2.11 | 0.51 |
| 29:B1:2576:G:H2' | 29:B1:2577:C:C6 | 2.45 | 0.51 |
| 29:B1:2608:G:N3 | 29:B1:2609:A:C8 | 2.79 | 0.51 |
| 29:B1:2673:A:C2 | 29:B1:2674:A:N7 | 2.78 | 0.51 |
| 29:B1:3011:A:C2 | 34:BC:13:HIS:HA | 2.44 | 0.51 |
| 29:B1:3030:G:H2' | 29:B1:3031:G:O4' | 2.11 | 0.51 |
| 29:B1:3034:C:H3' | 29:B1:3034:C:C6 | 2.45 | 0.51 |
| 29:B1:3222:U:O2 | 29:B1:3223:A:H1' | 2.11 | 0.51 |
| 29:B1:3273:A:O2' | 29:B1:3274:A:H4' | 2.10 | 0.51 |
| 29:B1:3351:U:O2 | 29:B1:3351:U:O4' | 2.27 | 0.51 |
| 30:B2:72:A:C4 | 30:B2:73:C:C5 | 2.98 | 0.51 |
| 31:B3:66:A:C6 | 31:B3:67:U:C4 | 2.98 | 0.51 |
| 34:BC:299:ASP:H | 34:BC:303:LYS:CB | 2.23 | 0.51 |
| 34:BC:337:THR:O | 34:BC:338:LEU:C | 2.54 | 0.51 |
| 38:BG:180:SER:C | 38:BG:183:ASP:H | 2.18 | 0.51 |
| 41:BJ:153:ARG:O | 41:BJ:154:ARG:C | 2.52 | 0.51 |
| 42:BK:101:ASN:C | 42:BK:103:GLY:N | 2.68 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 46:BQ:25:SER:O | 46:BQ:26:PHE:C | 2.53 | 0.51 |
| 57:Bb:74:PHE:O | 57:Bb:76:VAL:N | 2.42 | 0.51 |
| 1:C1:59:C:C4 | 1:C1:62:A:N6 | 2.77 | 0.51 |
| 1:C1:168:A:H3' | 1:C1:169:A:C8 | 2.45 | 0.51 |
| 1:C1:312:A:C2 | 1:C1:314:C:H2' | 2.45 | 0.51 |
| 1:C1:351:C:H4' | 1:C1:352:A:OP2 | 2.10 | 0.51 |
| 1:C1:547:U:H1' | 1:C1:596:C:H1' | 1.92 | 0.51 |
| 1:C1:600:U:P | 17:CP:108:GLY:H | 2.32 | 0.51 |
| 1:C1:648:G:N1 | 1:C1:649:U:C4 | 2.78 | 0.51 |
| 1:C1:660:G:H22 | 1:C1:683:C:N4 | 2.08 | 0.51 |
| 1:C1:923:A:O2' | 1:C1:924:A:H5' | 2.09 | 0.51 |
| 1:C1:964:U:H4' | 1:C1:965:U:O5' | 2.10 | 0.51 |
| 1:C1:975:C:C4 | 1:C1:976:G:N7 | 2.78 | 0.51 |
| 1:C1:993:A:H2' | 1:C1:994:G:H5' | 1.92 | 0.51 |
| 1:C1:1039:A:N7 | 1:C1:1091:A:C2 | 2.78 | 0.51 |
| 1:C1:1115:U:H2' | 1:C1:1115:U:O2 | 2.08 | 0.51 |
| 1:C1:1254:U:O2' | 1:C1:1255:G:O5' | 2.26 | 0.51 |
| 1:C1:1569:A:H2' | 1:C1:1570:A:H8 | 1.75 | 0.51 |
| 1:C1:1777:G:C6 | 1:C1:1778:G:C5 | 2.98 | 0.51 |
| 3:CB:215:PHE:C | 3:CB:217:ALA:H | 2.17 | 0.51 |
| 5:CD:135:ASP:HA | 5:CD:138:THR:CB | 2.40 | 0.51 |
| 29:D1:41:G:N7 | 29:D1:42:C:C4 | 2.77 | 0.51 |
| 29:D1:63:A:H2' | 29:D1:64:G:C8 | 2.45 | 0.51 |
| 29:D1:126:U:H5 | 74:D1:3447:OHX:N1 | 2.07 | 0.51 |
| 29:D1:282:G:H4' | 29:D1:283:G:H8 | 1.75 | 0.51 |
| 29:D1:310:U:N3 | 29:D1:2780:A:C6 | 2.71 | 0.51 |
| 29:D1:313:A:C5 | 29:D1:314:U:C4 | 2.97 | 0.51 |
| 29:D1:412:G:N2 | 29:D1:413:U:H1' | 2.26 | 0.51 |
| 29:D1:416:A:C2 | 29:D1:417:A:C8 | 2.98 | 0.51 |
| 29:D1:420:G:C5 | 29:D1:2384:A:C2 | 2.97 | 0.51 |
| 29:D1:593:C:C2' | 29:D1:594:U:H4' | 2.12 | 0.51 |
| 29:D1:866:A:H5' | 29:D1:867:G:OP2 | 2.10 | 0.51 |
| 29:D1:947:G:C4 | 29:D1:1373:A:C2 | 2.98 | 0.51 |
| 29:D1:974:G:N1 | 29:D1:975:C:C4 | 2.77 | 0.51 |
| 29:D1:986:U:C2 | 29:D1:987:U:C5 | 2.97 | 0.51 |
| 29:D1:1038:C:OP1 | 29:D1:1038:C:C4' | 2.57 | 0.51 |
| 29:D1:1131:G:H4' | 29:D1:1132:C:OP2 | 2.10 | 0.51 |
| 29:D1:1135:A:O2' | 29:D1:1136:A:H5' | 2.10 | 0.51 |
| 29:D1:1448:U:O4 | 29:D1:2355:G:C4 | 2.63 | 0.51 |
| 29:D1:1465:A:N6 | 29:D1:1466:G:N1 | 2.58 | 0.51 |
| 29:D1:1493:G:N3 | 29:D1:1493:G:O5' | 2.43 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1685:C:H2' | 29:D1:1687:U:C5 | 2.45 | 0.51 |
| 29:D1:1902:G:OP2 | 29:D1:2919:A:P | 2.67 | 0.51 |
| 29:D1:2113:A:H62 | 29:D1:2114:C:N4 | 2.08 | 0.51 |
| 29:D1:2290:C:C2' | 29:D1:2291:A:O5' | 2.58 | 0.51 |
| 29:D1:2419:A:C4 | 29:D1:2804:A:N7 | 2.78 | 0.51 |
| 29:D1:2420:C:N4 | 29:D1:2421:U:O4 | 2.43 | 0.51 |
| 29:D1:2608:G:N3 | 29:D1:2609:A:C8 | 2.78 | 0.51 |
| 29:D1:2626:A:H3' | 29:D1:2626:A:N3 | 2.25 | 0.51 |
| 29:D1:2631:U:C4 | 29:D1:2648:G:N1 | 2.78 | 0.51 |
| 29:D1:2856:G:H2' | 29:D1:2857:C:C6 | 2.45 | 0.51 |
| 29:D1:2912:G:O6 | 29:D1:3130:A:C6 | 2.63 | 0.51 |
| 29:D1:2990:G:H2' | 29:D1:2991:A:H5' | 1.92 | 0.51 |
| 29:D1:2994:A:O2' | 29:D1:2995:A:H5' | 2.10 | 0.51 |
| 29:D1:3006:A:C8 | 29:D1:3007:U:N1 | 2.79 | 0.51 |
| 29:D1:3228:C:C3' | 29:D1:3229:G:C8 | 2.92 | 0.51 |
| 29:D1:3262:U:C2 | 29:D1:3263:G:C8 | 2.98 | 0.51 |
| 30:D2:63:A:C2 | 30:D2:65:G:C6 | 2.97 | 0.51 |
| 30:D2:105:C:O2 | 30:D2:105:C:C2' | 2.57 | 0.51 |
| 31:D3:43:A:H2' | 31:D3:44:A:O4' | 2.10 | 0.51 |
| 31:D3:140:G:N1 | 31:D3:141:C:C2 | 2.78 | 0.51 |
| 34:DC:76:VAL:HA | 34:DC:325:LYS:CA | 2.41 | 0.51 |
| 34:DC:215:ILE:O | 34:DC:216:ASP:CB | 2.58 | 0.51 |
| 44:DO:34:ASN:O | 44:DO:35:VAL:C | 2.53 | 0.51 |
| 44:DO:82:GLY:HA2 | 44:DO:87:GLN:H | 1.74 | 0.51 |
| 44:DO:100:ALA:O | 44:DO:101:THR:C | 2.53 | 0.51 |
| 46:DQ:122:ALA:CB | 46:DQ:143:PRO:C | 2.84 | 0.51 |
| 48:DS:24:LEU:O | 48:DS:26:PRO:N | 2.43 | 0.51 |
| 54:DY:11:HIS:O | 54:DY:12:ARG:O | 2.27 | 0.51 |
| 54:DY:67:HIS:CB | 54:DY:107:ALA:O | 2.58 | 0.51 |
| 62:Dg:27:LYS:HA | 62:Dg:30:GLU:CB | 2.40 | 0.51 |
| 1:A1:213:A:H2' | 1:A1:214:G:C5' | 2.40 | 0.51 |
| 1:A1:223:U:O2 | 1:A1:838:G:N2 | 2.31 | 0.51 |
| 1:A1:248:U:C4' | 1:A1:249:U:OP1 | 2.58 | 0.51 |
| 1:A1:288:A:C2 | 1:A1:289:U:H5 | 2.27 | 0.51 |
| 1:A1:640:U:C4 | 1:A1:641:G:C6 | 2.98 | 0.51 |
| 1:A1:775:G:N2 | 1:A1:786:C:C2 | 2.78 | 0.51 |
| 1:A1:826:U:O2 | 1:A1:847:A:N1 | 2.44 | 0.51 |
| 1:A1:840:U:O2' | 1:A1:841:U:P | 2.68 | 0.51 |
| 1:A1:850:A:C2 | 1:A1:851:U:C2 | 2.98 | 0.51 |
| 1:A1:1106:U:C2' | 1:A1:1107:G:H5' | 2.40 | 0.51 |
| 1:A1:1109:G:N1 | 1:A1:1110:G:C5 | 2.78 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1124:A:O2' | 1:A1:1125:A:H5' | 2.10 | 0.51 |
| 1:A1:1150:G:C6 | 1:A1:1151:A:C4 | 2.98 | 0.51 |
| 1:A1:1285:U:O2 | 1:A1:1286:U:C5 | 2.64 | 0.51 |
| 1:A1:1494:C:H2' | 1:A1:1495:C:C6 | 2.44 | 0.51 |
| 1:A1:1584:G:N3 | 1:A1:1584:G:C2' | 2.73 | 0.51 |
| 1:A1:1694:A:C4' | 1:A1:1695:G:OP1 | 2.58 | 0.51 |
| 1:A1:1728:A:C4 | 1:A1:1729:C:C6 | 2.97 | 0.51 |
| 1:A1:1777:G:C4 | 1:A1:1778:G:C8 | 2.99 | 0.51 |
| 3:AB:118:ALA:CB | 3:AB:124:ALA:H | 2.24 | 0.51 |
| 14:AM:15:ILE:O | 14:AM:19:ALA:N | 2.43 | 0.51 |
| 17:AP:92:CYS:C | 17:AP:94:ASN:N | 2.68 | 0.51 |
| 24:Ac:79:UNK:C | 24:Ac:81:UNK:N | 2.72 | 0.51 |
| 29:B1:3:U:H2' | 29:B1:4:U:H6 | 1.75 | 0.51 |
| 29:B1:26:A:C8 | 29:B1:27:C:H5 | 2.28 | 0.51 |
| 29:B1:44:U:C5 | 29:B1:45:A:C8 | 2.98 | 0.51 |
| 29:B1:185:C:C2 | 29:B1:186:U:H5 | 2.28 | 0.51 |
| 29:B1:334:A:C2' | 29:B1:335:G:H8 | 2.05 | 0.51 |
| 29:B1:817:A:H4' | 29:B1:818:C:OP2 | 2.09 | 0.51 |
| 29:B1:898:U:H2' | 29:B1:899:U:O4' | 2.10 | 0.51 |
| 29:B1:960:U:O3' | 29:B1:961:C:H4' | 2.10 | 0.51 |
| 29:B1:977:C:O2' | 29:B1:978:G:P | 2.68 | 0.51 |
| 29:B1:1103:A:HO2' | 29:B1:1104:G:P | 2.27 | 0.51 |
| 29:B1:1180:A:C5 | 29:B1:1182:A:N7 | 2.78 | 0.51 |
| 29:B1:1209:G:H2' | 29:B1:1210:U:C6 | 2.45 | 0.51 |
| 29:B1:1262:G:OP2 | 29:B1:1262:G:H8 | 1.92 | 0.51 |
| 29:B1:1279:C:H2' | 29:B1:1280:C:O4' | 2.09 | 0.51 |
| 29:B1:1317:A:C4 | 29:B1:1319:G:N7 | 2.79 | 0.51 |
| 29:B1:1371:G:H5" | 29:B1:1371:G:C8 | 2.45 | 0.51 |
| 29:B1:1604:G:C5 | 29:B1:1605:A:C5 | 2.99 | 0.51 |
| 29:B1:1689:U:C2' | 29:B1:1690:C:H5' | 2.40 | 0.51 |
| 29:B1:1714:A:H1' | 29:B1:1731:A:C6 | 2.45 | 0.51 |
| 29:B1:2133:U:O5' | 29:B1:2133:U:H6 | 1.94 | 0.51 |
| 29:B1:2250:G:N2 | 29:B1:2267:C:C2 | 2.60 | 0.51 |
| 29:B1:2419:A:C4 | 29:B1:2804:A:N7 | 2.78 | 0.51 |
| 29:B1:2423:U:H2' | 29:B1:2424:A:OP2 | 2.09 | 0.51 |
| 29:B1:2698:G:H2' | 29:B1:2699:G:C5' | 2.27 | 0.51 |
| 29:B1:2895:G:H2' | 29:B1:2896:A:H8 | 1.74 | 0.51 |
| 29:B1:2948:C:C5' | 29:B1:2948:C:H6 | 2.23 | 0.51 |
| 29:B1:2998:U:C6 | 29:B1:2998:U:C5' | 2.89 | 0.51 |
| 29:B1:3060:C:H2' | 29:B1:3061:G:H8 | 1.75 | 0.51 |
| 29:B1:3198:U:O2 | 29:B1:3199:G:C5 | 2.62 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3344:A:H2 | 29:B1:3360:C:N4 | 2.07 | 0.51 |
| 29:B1:3349:C:H2' | 29:B1:3350:C:N1 | 2.24 | 0.51 |
| 29:B1:3361:G:N7 | 29:B1:3362:A:C8 | 2.77 | 0.51 |
| 30:B2:60:G:C2 | 30:B2:61:G:C5 | 2.98 | 0.51 |
| 30:B2:75:G:H21 | 30:B2:105:C:N4 | 2.07 | 0.51 |
| 31:B3:103:G:C5 | 31:B3:105:A:C6 | 2.98 | 0.51 |
| 31:B3:106:C:H1' | 31:B3:107:G:OP2 | 2.10 | 0.51 |
| 34:BC:118:PHE:CA | 34:BC:119:TYR:CB | 2.73 | 0.51 |
| 39:BH:116:VAL:O | 39:BH:119:GLY:N | 2.43 | 0.51 |
| 40:BI:48:VAL:C | 40:BI:50:ASN:H | 2.18 | 0.51 |
| 41:BJ:98:ARG:CB | 41:BJ:120:GLY:HA3 | 2.40 | 0.51 |
| 43:BN:73:PRO:C | 43:BN:75:GLY:N | 2.67 | 0.51 |
| 48:BS:120:TYR:O | 48:BS:121:HIS:C | 2.52 | 0.51 |
| 51:BV:4:GLU:HA | 51:BV:13:ILE:O | 2.09 | 0.51 |
| 1:C1:10:G:N1 | 1:C1:11:A:C4 | 2.79 | 0.51 |
| 1:C1:186:C:N4 | 1:C1:187:G:C5 | 2.78 | 0.51 |
| 1:C1:280:U:C3' | 1:C1:281:G:H8 | 2.19 | 0.51 |
| 1:C1:426:G:C6 | 1:C1:427:C:C4 | 2.98 | 0.51 |
| 1:C1:451:A:C2 | 1:C1:454:U:O4 | 2.64 | 0.51 |
| 1:C1:571:G:H3' | 1:C1:572:C:C6 | 2.45 | 0.51 |
| 1:C1:693:U:H2' | 1:C1:694:U:OP1 | 2.09 | 0.51 |
| 1:C1:736:C:O2' | 1:C1:737:A:H5' | 2.10 | 0.51 |
| 1:C1:743:U:H3' | 1:C1:743:U:P | 2.50 | 0.51 |
| 1:C1:757:A:C5 | 1:C1:758:U:C6 | 2.96 | 0.51 |
| 1:C1:933:A:H62 | 1:C1:935:U:H1' | 1.76 | 0.51 |
| 1:C1:994:G:H2' | 1:C1:995:A:C8 | 2.46 | 0.51 |
| 1:C1:1085:G:N2 | 1:C1:1089:U:C2 | 2.78 | 0.51 |
| 1:C1:1196:A:N7 | 1:C1:1602:C:H4' | 2.25 | 0.51 |
| 1:C1:1297:G:N2 | 1:C1:1301:U:N1 | 2.58 | 0.51 |
| 1:C1:1348:A:C3' | 1:C1:1349:G:H5" | 2.40 | 0.51 |
| 1:C1:1378:U:H3' | 1:C1:1379:C:C4' | 2.41 | 0.51 |
| 1:C1:1491:U:H5" | 1:C1:1492:A:H5" | 1.91 | 0.51 |
| 1:C1:1495:C:O5' | 1:C1:1495:C:H6 | 1.92 | 0.51 |
| 1:C1:1591:C:C2' | 1:C1:1592:A:H8 | 2.20 | 0.51 |
| 1:C1:1651:A:N3 | 1:C1:1651:A:H2' | 2.24 | 0.51 |
| 1:C1:1683:C:O3' | 1:C1:1684:U:C2 | 2.63 | 0.51 |
| 1:C1:1733:C:C4 | 1:C1:1734:U:C5 | 2.98 | 0.51 |
| 4:CC:41:VAL:HA | 4:CC:45:LYS:O | 2.10 | 0.51 |
| 4:CC:46:THR:CB | 4:CC:84:ILE:HA | 2.39 | 0.51 |
| 15:CN:83:GLU:H | 20:CS:53:ASN:CB | 2.22 | 0.51 |
| 17:CP:80:GLY:O | 17:CP:81:LYS:C | 2.52 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 17:CP:126:LYS:O | 17:CP:127:VAL:CB | 2.56 | 0.51 |
| 29:D1:141:C:H2' | 29:D1:142:C:O4' | 2.10 | 0.51 |
| 29:D1:317:A:O2' | 29:D1:318:A:O5' | 2.24 | 0.51 |
| 29:D1:332:C:H6 | 29:D1:332:C:C5' | 2.24 | 0.51 |
| 29:D1:413:U:O2' | 29:D1:414:U:H5' | 2.10 | 0.51 |
| 29:D1:421:G:O6 | 29:D1:2383:C:O2 | 2.29 | 0.51 |
| 29:D1:516:A:H2 | 29:D1:574:U:O2 | 1.93 | 0.51 |
| 29:D1:710:A:O2' | 29:D1:711:A:C5' | 2.58 | 0.51 |
| 29:D1:807:A:C8 | 29:D1:807:A:C3' | 2.94 | 0.51 |
| 29:D1:822:G:N2 | 29:D1:823:C:H1' | 2.25 | 0.51 |
| 29:D1:917:A:C2 | 29:D1:918:C:C2 | 2.99 | 0.51 |
| 29:D1:1078:U:H5' | 29:D1:1079:A:OP2 | 2.10 | 0.51 |
| 29:D1:1099:A:H2' | 29:D1:1100:U:H5' | 1.93 | 0.51 |
| 29:D1:1236:G:H3' | 29:D1:1237:G:H5" | 1.92 | 0.51 |
| 29:D1:1269:U:N3 | 29:D1:1272:C:N4 | 2.58 | 0.51 |
| 29:D1:1379:G:H1 | 29:D1:1427:U:H3 | 1.58 | 0.51 |
| 29:D1:1453:A:C8 | 29:D1:1850:A:H2 | 2.29 | 0.51 |
| 29:D1:1466:G:C6 | 29:D1:1511:U:C6 | 2.97 | 0.51 |
| 29:D1:1578:C:N3 | 29:D1:1579:C:O2 | 2.43 | 0.51 |
| 29:D1:1888:U:H2' | 29:D1:1889:G:O4' | 2.11 | 0.51 |
| 29:D1:1945:A:H2' | 29:D1:1946:A:H8 | 1.75 | 0.51 |
| 29:D1:2112:U:H1' | 29:D1:2113:A:P | 2.50 | 0.51 |
| 29:D1:2157:G:N2 | 29:D1:2178:A:OP2 | 2.42 | 0.51 |
| 29:D1:2167:A:C3' | 29:D1:2168:A:H8 | 2.23 | 0.51 |
| 29:D1:2173:U:H2' | 29:D1:2174:G:OP1 | 2.09 | 0.51 |
| 29:D1:2255:A:P | 74:D1:3415:OHX:N5 | 2.83 | 0.51 |
| 29:D1:2520:A:C5 | 29:D1:2521:U:N3 | 2.76 | 0.51 |
| 29:D1:2684:C:O2' | 29:D1:2685:C:O4' | 2.19 | 0.51 |
| 29:D1:2712:U:C2' | 29:D1:2713:U:O5' | 2.58 | 0.51 |
| 29:D1:2732:G:C4 | 29:D1:2733:A:C8 | 2.99 | 0.51 |
| 29:D1:2877:G:O6 | 74:D1:3530:OHX:N1 | 2.42 | 0.51 |
| 29:D1:2925:C:C5 | 29:D1:2926:A:C5 | 2.98 | 0.51 |
| 29:D1:2933:A:OP1 | 29:D1:3015:G:H4' | 2.10 | 0.51 |
| 29:D1:3024:A:H3' | 29:D1:3025:C:H6 | 1.73 | 0.51 |
| 29:D1:3109:G:C2 | 29:D1:3110:C:C6 | 2.97 | 0.51 |
| 31:D3:16:G:C6 | 74:D3:212:OHX:N6 | 2.78 | 0.51 |
| 31:D3:90:U:H2' | 31:D3:91:C:C6 | 2.45 | 0.51 |
| 31:D3:113:U:H1' | 31:D3:114:G:P | 2.45 | 0.51 |
| 31:D3:115:C:C2' | 31:D3:116:G:O5' | 2.59 | 0.51 |
| 31:D3:124:G:OP1 | 31:D3:124:G:H4' | 2.10 | 0.51 |
| 31:D3:131:A:O2' | 31:D3:132:G:P | 2.68 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 33:DB:82:VAL:O | 33:DB:84:THR:N | 2.43 | 0.51 |
| 38:DG:120:THR:O | 38:DG:123:THR:CB | 2.57 | 0.51 |
| 39:DH:225:LYS:C | 39:DH:227:ASP:N | 2.68 | 0.51 |
| 42:DK:134:PRO:CB | 42:DK:152:HIS:CB | 2.89 | 0.51 |
| 43:DN:26:GLY:O | 43:DN:27:GLN:C | 2.53 | 0.51 |
| 46:DQ:99:ALA:O | 46:DQ:102:ALA:HB3 | 2.10 | 0.51 |
| 48:DS:124:TYR:HA | 48:DS:127:SER:CB | 2.41 | 0.51 |
| 56:Da:9:THR:HA | 56:Da:76:SER:CA | 2.28 | 0.51 |
| 1:A1:18:C:H2' | 1:A1:19:A:H8 | 1.74 | 0.51 |
| 1:A1:426:G:C6 | 1:A1:427:C:C4 | 2.98 | 0.51 |
| 1:A1:439:U:C5 | 1:A1:465:G:N2 | 2.79 | 0.51 |
| 1:A1:546:U:H6 | 1:A1:546:U:O5' | 1.93 | 0.51 |
| 1:A1:649:U:C4 | 1:A1:685:A:N1 | 2.77 | 0.51 |
| 1:A1:739:G:N3 | 1:A1:740:A:N7 | 2.59 | 0.51 |
| 1:A1:827:C:H4' | 1:A1:828:U:OP1 | 2.08 | 0.51 |
| 1:A1:886:U:H3' | 1:A1:887:A:H8 | 1.75 | 0.51 |
| 1:A1:990:C:H2' | 1:A1:991:G:O4' | 2.10 | 0.51 |
| 1:A1:1075:C:N4 | 1:A1:1076:A:H61 | 2.07 | 0.51 |
| 1:A1:1156:C:O2' | 1:A1:1157:A:H5' | 2.09 | 0.51 |
| 1:A1:1210:C:H2' | 1:A1:1210:C:O2 | 2.08 | 0.51 |
| 1:A1:1230:A:OP1 | 1:A1:1256:A:H5' | 2.10 | 0.51 |
| 1:A1:1240:U:C3' | 1:A1:1241:G:C5' | 2.89 | 0.51 |
| 1:A1:1327:C:O2' | 4:AC:158:ILE:CB | 2.58 | 0.51 |
| 1:A1:1374:C:C3' | 1:A1:1375:A:C8 | 2.93 | 0.51 |
| 1:A1:1697:G:O6 | 1:A1:1709:C:N3 | 2.42 | 0.51 |
| 4:AC:41:VAL:HA | 4:AC:45:LYS:O | 2.11 | 0.51 |
| 6:AE:157:ASP:O | 6:AE:159:ALA:N | 2.40 | 0.51 |
| 8:AG:36:GLN:C | 8:AG:39:LYS:H | 2.18 | 0.51 |
| 9:AH:21:ALA:CB | 9:AH:26:THR:HA | 2.39 | 0.51 |
| 17:AP:89:ASN:O | 17:AP:90:ASP:CB | 2.58 | 0.51 |
| 17:AP:95:PHE:O | 17:AP:96:VAL:C | 2.52 | 0.51 |
| 29:B1:245:U:O2 | 29:B1:245:U:O4' | 2.26 | 0.51 |
| 29:B1:287:G:C2' | 29:B1:288:C:O5' | 2.59 | 0.51 |
| 29:B1:370:U:C5 | 29:B1:371:G:C4 | 2.99 | 0.51 |
| 29:B1:381:U:H3 | 29:B1:387:A:H61 | 1.56 | 0.51 |
| 29:B1:432:G:H1 | 29:B1:627:U:H3 | 1.57 | 0.51 |
| 29:B1:595:G:N2 | 29:B1:609:G:H4' | 2.26 | 0.51 |
| 29:B1:637:C:N3 | 29:B1:638:C:C4 | 2.78 | 0.51 |
| 29:B1:644:G:N1 | 29:B1:2868:U:OP1 | 2.41 | 0.51 |
| 29:B1:762:U:C5 | 74:B1:3479:OHX:N5 | 2.79 | 0.51 |
| 29:B1:908:G:N7 | 29:B1:925:A:C4 | 2.79 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:913:A:H2 | 29:B1:2134:G:N3 | 2.08 | 0.51 |
| 29:B1:953:G:O4' | 29:B1:1115:G:H4' | 2.10 | 0.51 |
| 29:B1:1065:A:O3' | 29:B1:1066:G:C8 | 2.64 | 0.51 |
| 29:B1:1148:G:N7 | 74:B1:3503:OHX:N4 | 2.58 | 0.51 |
| 29:B1:1220:U:P | 29:B1:1223:A:H4' | 2.50 | 0.51 |
| 29:B1:1255:C:C4 | 74:B1:3567:OHX:N5 | 2.77 | 0.51 |
| 29:B1:1284:C:H5 | 29:B1:1285:G:N2 | 2.06 | 0.51 |
| 29:B1:1583:A:H2' | 29:B1:1584:U:O5' | 2.10 | 0.51 |
| 29:B1:1729:A:P | 55:BZ:27:TYR:CB | 2.99 | 0.51 |
| 29:B1:1780:G:O2' | 29:B1:1781:C:O5' | 2.29 | 0.51 |
| 29:B1:1858:A:C2' | 29:B1:1859:A:OP1 | 2.57 | 0.51 |
| 29:B1:2253:G:C6 | 29:B1:2254:U:N3 | 2.78 | 0.51 |
| 29:B1:2406:C:C1' | 29:B1:2819:A:C6 | 2.93 | 0.51 |
| 29:B1:2561:A:N6 | 29:B1:2579:G:C4 | 2.78 | 0.51 |
| 29:B1:2573:G:N7 | 74:B1:3558:OHX:N3 | 2.58 | 0.51 |
| 29:B1:2573:G:C6 | 29:B1:2574:G:C5 | 2.98 | 0.51 |
| 29:B1:2730:G:C4 | 29:B1:2731:U:C6 | 2.99 | 0.51 |
| 29:B1:2922:G:O4' | 29:B1:2951:G:O2' | 2.26 | 0.51 |
| 29:B1:3055:U:O3' | 29:B1:3056:U:C6 | 2.63 | 0.51 |
| 29:B1:3143:C:OP2 | 29:B1:3144:G:H5" | 2.11 | 0.51 |
| 29:B1:3219:G:H4' | 29:B1:3220:G:O5' | 2.11 | 0.51 |
| 29:B1:3268:A:C1' | 29:B1:3269:U:P | 2.99 | 0.51 |
| 29:B1:3321:C:O2' | 29:B1:3322:A:C8 | 2.38 | 0.51 |
| 29:B1:3390:G:C6 | 29:B1:3391:A:C6 | 2.99 | 0.51 |
| 30:B2:68:C:O2' | 30:B2:69:C:O5' | 2.27 | 0.51 |
| 30:B2:75:G:OP1 | 74:B2:201:OHX:N6 | 2.43 | 0.51 |
| 31:B3:138:A:N3 | 31:B3:138:A:H2' | 2.25 | 0.51 |
| 35:BD:234:ASN:C | 35:BD:236:LEU:H | 2.17 | 0.51 |
| 37:BF:21:THR:N | 37:BF:112:THR:CA | 2.59 | 0.51 |
| 46:BQ:9:THR:N | 46:BQ:10:ASN:CA | 2.73 | 0.51 |
| 46:BQ:62:ARG:C | 46:BQ:64:ASN:H | 2.18 | 0.51 |
| 46:BQ:117:ILE:O | 46:BQ:147:GLU:O | 2.28 | 0.51 |
| 46:BQ:125:GLN:CB | 46:BQ:141:SER:H | 2.24 | 0.51 |
| 61:Bf:38:GLN:O | 61:Bf:40:LYS:N | 2.42 | 0.51 |
| 65:Bk:16:UNK:O | 65:Bk:18:UNK:N | 2.44 | 0.51 |
| 71:Br:11:UNK:O | 71:Br:12:UNK:C | 2.57 | 0.51 |
| 1:C1:612:U:H4' | 1:C1:1099:U:C6 | 2.45 | 0.51 |
| 1:C1:789:A:H3' | 1:C1:790:U:C6 | 2.44 | 0.51 |
| 1:C1:1190:C:N3 | 1:C1:1194:A:C2 | 2.79 | 0.51 |
| 1:C1:1368:G:C6 | 1:C1:1369:U:C4 | 2.99 | 0.51 |
| 1:C1:1409:G:C8 | 1:C1:1411:A:OP2 | 2.63 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1452:U:C4 | 1:C1:1453:G:N7 | 2.79 | 0.51 |
| 1:C1:1608:U:C2' | 1:C1:1609:U:H5" | 2.40 | 0.51 |
| 1:C1:1637:C:OP2 | 1:C1:1637:C:C4' | 2.58 | 0.51 |
| 1:C1:1683:C:OP2 | 1:C1:1684:U:P | 2.69 | 0.51 |
| 3:CB:148:LEU:O | 3:CB:195:ASP:CB | 2.57 | 0.51 |
| 4:CC:56:GLN:O | 4:CC:59:LEU:N | 2.34 | 0.51 |
| 6:CE:121:SER:O | 6:CE:122:VAL:C | 2.53 | 0.51 |
| 29:D1:36:C:H4' | 29:D1:808:A:C2 | 2.45 | 0.51 |
| 29:D1:79:U:N3 | 29:D1:80:G:N7 | 2.59 | 0.51 |
| 29:D1:126:U:C5 | 74:D1:3447:OHX:N1 | 2.79 | 0.51 |
| 29:D1:155:G:H4' | 29:D1:156:G:OP1 | 2.10 | 0.51 |
| 29:D1:282:G:H4' | 29:D1:283:G:OP2 | 2.05 | 0.51 |
| 29:D1:519:A:N6 | 37:DF:30:LEU:HA | 2.25 | 0.51 |
| 29:D1:593:C:C2 | 29:D1:594:U:H4' | 2.45 | 0.51 |
| 29:D1:593:C:C4 | 29:D1:594:U:O2' | 2.62 | 0.51 |
| 29:D1:774:G:H2' | 29:D1:775:A:C5' | 2.39 | 0.51 |
| 29:D1:807:A:H3' | 29:D1:808:A:C5' | 2.37 | 0.51 |
| 29:D1:941:G:H2' | 29:D1:942:U:O4' | 2.11 | 0.51 |
| 29:D1:943:U:O2' | 29:D1:944:C:H5" | 2.11 | 0.51 |
| 29:D1:1035:G:C4 | 29:D1:1036:A:H8 | 2.28 | 0.51 |
| 29:D1:1230:G:C5 | 29:D1:1231:A:N7 | 2.78 | 0.51 |
| 29:D1:1335:C:C4 | 29:D1:1336:U:C5 | 2.98 | 0.51 |
| 29:D1:1607:U:OP2 | 29:D1:1607:U:C6 | 2.63 | 0.51 |
| 29:D1:1625:A:C8 | 29:D1:1626:U:O4' | 2.63 | 0.51 |
| 29:D1:1654:A:C2 | 29:D1:1655:G:H1' | 2.45 | 0.51 |
| 29:D1:1883:A:C2 | 29:D1:1884:A:C4 | 2.98 | 0.51 |
| 29:D1:2128:C:C4 | 29:D1:2129:U:C4 | 2.98 | 0.51 |
| 29:D1:2186:U:C2' | 29:D1:2187:G:O5' | 2.58 | 0.51 |
| 29:D1:2276:G:C6 | 29:D1:2277:C:C4 | 2.99 | 0.51 |
| 29:D1:2279:A:C8 | 29:D1:2288:G:O6 | 2.62 | 0.51 |
| 29:D1:2714:G:O6 | 29:D1:2741:C:N3 | 2.44 | 0.51 |
| 29:D1:2753:G:C2 | 29:D1:2754:G:C8 | 2.98 | 0.51 |
| 29:D1:2945:G:N3 | 29:D1:2945:G:C5' | 2.73 | 0.51 |
| 29:D1:3088:G:H5" | 29:D1:3089:C:OP2 | 2.10 | 0.51 |
| 29:D1:3112:G:N2 | 29:D1:3121:U:C2 | 2.79 | 0.51 |
| 29:D1:3283:U:H2' | 29:D1:3284:G:C8 | 2.46 | 0.51 |
| 29:D1:3303:G:C5 | 29:D1:3305:A:C6 | 2.98 | 0.51 |
| 29:D1:3341:U:C3' | 29:D1:3343:G:H22 | 2.23 | 0.51 |
| 30:D2:27:A:H3' | 30:D2:28:C:H6 | 1.74 | 0.51 |
| 30:D2:70:U:O2' | 30:D2:71:G:C5' | 2.58 | 0.51 |
| 30:D2:79:A:C2 | 30:D2:80:G:C1' | 2.93 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:D2:113:C:C2 | 30:D2:114:U:C5 | 2.98 | 0.51 |
| 31:D3:58:G:OP1 | 31:D3:98:U:N3 | 2.43 | 0.51 |
| 31:D3:95:G:C4' | 59:Dd:72:ARG:HA | 2.40 | 0.51 |
| 33:DB:112:ILE:HA | 33:DB:165:VAL:H | 1.76 | 0.51 |
| 33:DB:144:ASN:HA | 33:DB:159:SER:H | 1.76 | 0.51 |
| 33:DB:198:LYS:O | 33:DB:199:THR:C | 2.53 | 0.51 |
| 36:DE:20:PHE:O | 36:DE:21:ARG:CB | 2.56 | 0.51 |
| 36:DE:227:LEU:HA | 36:DE:228:ALA:C | 2.33 | 0.51 |
| 41:DJ:61:SER:HA | 41:DJ:126:ALA:HB1 | 1.93 | 0.51 |
| 73:DM:60:ARG:C | 73:DM:62:ALA:N | 2.67 | 0.51 |
| 44:DO:83:LYS:C | 44:DO:85:THR:N | 2.68 | 0.51 |
| 45:DP:154:ALA:O | 45:DP:157:GLU:CB | 2.58 | 0.51 |
| 49:DT:14:MET:O | 49:DT:16:GLN:N | 2.34 | 0.51 |
| 49:DT:98:HIS:O | 49:DT:99:SER:CB | 2.58 | 0.51 |
| 26:Dj:17:UNK:C | 26:Dj:19:UNK:H | 2.23 | 0.51 |
| 1:A1:44:U:OP1 | 1:A1:47:A:OP2 | 2.29 | 0.51 |
| 1:A1:52:U:O2' | 1:A1:53:G:H5' | 2.09 | 0.51 |
| 1:A1:148:A:C8 | 1:A1:149:C:C5 | 2.99 | 0.51 |
| 1:A1:167:U:H6 | 1:A1:167:U:H5' | 1.73 | 0.51 |
| 1:A1:333:A:C2 | 1:A1:334:G:C2 | 2.99 | 0.51 |
| 1:A1:380:U:O2 | 1:A1:380:U:C2' | 2.57 | 0.51 |
| 1:A1:555:A:H2' | 1:A1:555:A:P | 2.50 | 0.51 |
| 1:A1:647:G:C2 | 1:A1:687:G:N1 | 2.78 | 0.51 |
| 1:A1:660:G:H22 | 1:A1:683:C:N4 | 2.09 | 0.51 |
| 1:A1:693:U:H2' | 1:A1:694:U:OP1 | 2.09 | 0.51 |
| 1:A1:837:G:C5 | 74:A1:1917:OHX:N6 | 2.78 | 0.51 |
| 1:A1:876:G:C8 | 1:A1:944:A:C2 | 2.98 | 0.51 |
| 1:A1:930:A:H3' | 1:A1:931:C:H6 | 1.76 | 0.51 |
| 1:A1:1158:C:N4 | 1:A1:1163:A:H61 | 2.05 | 0.51 |
| 1:A1:1184:A:H1' | 1:A1:1210:C:H1' | 1.91 | 0.51 |
| 1:A1:1204:A:N3 | 1:A1:1204:A:C2' | 2.73 | 0.51 |
| 1:A1:1431:C:C3' | 1:A1:1432:U:C5' | 2.89 | 0.51 |
| 1:A1:1591:C:O2' | 1:A1:1592:A:P | 2.68 | 0.51 |
| 1:A1:1650:U:C2' | 1:A1:1651:A:H8 | 2.22 | 0.51 |
| 3:AB:126:ARG:C | 3:AB:128:GLY:N | 2.68 | 0.51 |
| 5:AD:65:ARG:O | 5:AD:88:PRO:N | 2.43 | 0.51 |
| 5:AD:93:LEU:C | 5:AD:95:ASN:N | 2.68 | 0.51 |
| 5:AD:149:VAL:C | 5:AD:151:GLY:H | 2.18 | 0.51 |
| 16:AO:117:ARG:O | 16:AO:118:ARG:O | 2.28 | 0.51 |
| 21:AT:48:THR:O | 21:AT:49:GLY:C | 2.54 | 0.51 |
| 29:B1:60:A:N7 | 29:B1:327:A:C2 | 2.78 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:158:G:O6 | 29:B1:159:A:N3 | 2.43 | 0.51 |
| 29:B1:333:G:O2' | 29:B1:334:A:H5' | 2.10 | 0.51 |
| 29:B1:351:A:H8 | 31:B3:53:A:O2' | 1.93 | 0.51 |
| 29:B1:373:A:N1 | 29:B1:375:A:C6 | 2.78 | 0.51 |
| 29:B1:536:U:C6 | 29:B1:536:U:O5' | 2.64 | 0.51 |
| 29:B1:592:A:C2' | 29:B1:593:C:C2' | 2.81 | 0.51 |
| 29:B1:725:G:H1 | 29:B1:744:A:N6 | 2.08 | 0.51 |
| 29:B1:895:A:C2 | 29:B1:897:U:C5 | 2.98 | 0.51 |
| 29:B1:968:G:H2' | 29:B1:969:C:C6 | 2.46 | 0.51 |
| 29:B1:974:G:N1 | 29:B1:975:C:C4 | 2.79 | 0.51 |
| 29:B1:1063:G:H5' | 29:B1:1098:A:OP2 | 2.10 | 0.51 |
| 29:B1:1168:U:H2' | 29:B1:1169:A:C5' | 2.41 | 0.51 |
| 29:B1:1204:A:H1' | 29:B1:2855:U:H1' | 1.92 | 0.51 |
| 29:B1:1638:A:C2 | 29:B1:1736:G:N3 | 2.78 | 0.51 |
| 29:B1:1908:A:H2' | 29:B1:1909:A:O4' | 2.11 | 0.51 |
| 29:B1:2155:G:H2' | 29:B1:2156:C:H6 | 1.73 | 0.51 |
| 29:B1:2200:U:C2 | 29:B1:2201:G:C8 | 2.98 | 0.51 |
| 29:B1:2207:A:H8 | 29:B1:2237:C:C2 | 2.28 | 0.51 |
| 29:B1:2232:A:OP2 | 74:B1:3599:OHX:N5 | 2.44 | 0.51 |
| 29:B1:2253:G:C5 | 29:B1:2254:U:C2 | 2.97 | 0.51 |
| 29:B1:2352:A:O3' | 46:BQ:85:ALA:HB3 | 2.09 | 0.51 |
| 29:B1:2592:G:C5 | 74:B1:3449:OHX:N3 | 2.79 | 0.51 |
| 29:B1:2648:G:C6 | 29:B1:2649:A:N7 | 2.79 | 0.51 |
| 29:B1:3063:C:C2 | 29:B1:3064:U:H5 | 2.28 | 0.51 |
| 29:B1:3100:U:O2' | 29:B1:3101:G:H8 | 1.93 | 0.51 |
| 29:B1:3121:U:H4' | 29:B1:3122:A:C5' | 2.40 | 0.51 |
| 29:B1:3144:G:C5 | 74:B1:3428:OHX:N1 | 2.78 | 0.51 |
| 29:B1:3262:U:H3' | 29:B1:3262:U:P | 2.49 | 0.51 |
| 29:B1:3321:C:N3 | 29:B1:3322:A:N7 | 2.58 | 0.51 |
| 30:B2:62:U:H3' | 30:B2:63:A:H8 | 1.75 | 0.51 |
| 31:B3:40:A:H8 | 31:B3:40:A:C5' | 2.15 | 0.51 |
| 31:B3:79:A:H3' | 31:B3:80:A:H8 | 1.74 | 0.51 |
| 33:BB:90:ALA:O | 33:BB:91:GLY:C | 2.52 | 0.51 |
| 33:BB:219:ILE:O | 33:BB:220:GLY:O | 2.28 | 0.51 |
| 36:BE:100:ALA:O | 36:BE:104:LEU:N | 2.43 | 0.51 |
| 36:BE:118:THR:C | 36:BE:120:LYS:N | 2.68 | 0.51 |
| 37:BF:162:SER:O | 37:BF:163:PHE:C | 2.53 | 0.51 |
| 38:BG:237:ASN:O | 38:BG:238:LYS:C | 2.53 | 0.51 |
| 39:BH:153:ILE:O | 39:BH:180:VAL:N | 2.43 | 0.51 |
| 39:BH:208:GLU:O | 39:BH:210:ALA:N | 2.43 | 0.51 |
| 40:BI:141:LYS:O | 40:BI:142:ASP:CB | 2.58 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 44:BO:143:ARG:HA | 44:BO:146:ALA:HB2 | 1.91 | 0.51 |
| 47:BR:130:ARG:C | 47:BR:132:PRO:N | 2.69 | 0.51 |
| 49:BT:35:LYS:O | 49:BT:37:GLY:N | 2.44 | 0.51 |
| 54:BY:14:HIS:O | 54:BY:15:VAL:CB | 2.57 | 0.51 |
| 54:BY:33:GLY:O | 54:BY:34:MET:C | 2.53 | 0.51 |
| 57:Bb:107:VAL:O | 57:Bb:108:ILE:C | 2.53 | 0.51 |
| 1:C1:130:C:O2 | 1:C1:136:C:N3 | 2.43 | 0.51 |
| 1:C1:269:G:C5 | 1:C1:270:C:C5 | 2.99 | 0.51 |
| 1:C1:335:U:C5 | 1:C1:336:G:C5 | 2.99 | 0.51 |
| 1:C1:454:U:O4 | 1:C1:456:A:C4 | 2.62 | 0.51 |
| 1:C1:951:A:H2' | 1:C1:952:A:O4' | 2.10 | 0.51 |
| 1:C1:1142:A:C5' | 1:C1:1142:A:C8 | 2.93 | 0.51 |
| 1:C1:1293:U:H2' | 1:C1:1294:G:H5' | 1.92 | 0.51 |
| 1:C1:1293:U:C2' | 1:C1:1294:G:H5' | 2.39 | 0.51 |
| 1:C1:1311:U:O2 | 1:C1:1313:A:C8 | 2.63 | 0.51 |
| 1:C1:1388:A:C6 | 1:C1:1411:A:C6 | 2.99 | 0.51 |
| 1:C1:1448:G:C2' | 1:C1:1449:U:H5' | 2.40 | 0.51 |
| 1:C1:1466:G:C5 | 1:C1:1467:C:N4 | 2.78 | 0.51 |
| 1:C1:1534:G:C4' | 1:C1:1536:G:O6 | 2.59 | 0.51 |
| 1:C1:1542:G:N2 | 1:C1:1568:C:C6 | 2.79 | 0.51 |
| 1:C1:1586:A:H2' | 1:C1:1587:A:O4' | 2.10 | 0.51 |
| 1:C1:1591:C:O2' | 1:C1:1592:A:O5' | 2.26 | 0.51 |
| 1:C1:1623:C:N3 | 1:C1:1624:C:C5 | 2.78 | 0.51 |
| 1:C1:1675:C:O2' | 1:C1:1678:A:C8 | 2.60 | 0.51 |
| 1:C1:1723:U:H2' | 1:C1:1724:U:O4' | 2.10 | 0.51 |
| 2:CA:57:LEU:O | 2:CA:60:ALA:HB3 | 2.11 | 0.51 |
| 2:CA:146:LEU:HA | 2:CA:160:ILE:CA | 2.40 | 0.51 |
| 13:CL:105:VAL:O | 13:CL:106:GLU:C | 2.53 | 0.51 |
| 29:D1:88:A:H8 | 29:D1:88:A:O5' | 1.93 | 0.51 |
| 29:D1:200:C:N4 | 29:D1:217:U:C6 | 2.78 | 0.51 |
| 29:D1:286:U:C2' | 29:D1:287:G:C8 | 2.73 | 0.51 |
| 29:D1:585:A:C5 | 29:D1:586:C:N4 | 2.78 | 0.51 |
| 29:D1:595:G:H22 | 29:D1:610:G:P | 2.33 | 0.51 |
| 29:D1:609:G:C8 | 29:D1:610:G:N1 | 2.78 | 0.51 |
| 29:D1:659:G:C6 | 29:D1:1432:C:N3 | 2.78 | 0.51 |
| 29:D1:680:G:O6 | 29:D1:701:G:O6 | 2.28 | 0.51 |
| 29:D1:876:A:H2' | 29:D1:877:C:H5' | 1.92 | 0.51 |
| 29:D1:917:A:H2' | 29:D1:917:A:N3 | 2.25 | 0.51 |
| 29:D1:946:U:H2' | 29:D1:946:U:O2 | 2.09 | 0.51 |
| 29:D1:980:A:O4' | 29:D1:980:A:OP2 | 2.27 | 0.51 |
| 29:D1:993:G:C5 | 29:D1:2637:A:C2 | 2.99 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1063:G:O2' | 29:D1:1064:A:C5' | 2.58 | 0.51 |
| 29:D1:1139:G:N2 | 29:D1:1140:G:H1' | 2.25 | 0.51 |
| 29:D1:1180:A:N1 | 29:D1:1182:A:C5 | 2.78 | 0.51 |
| 29:D1:1193:A:H8 | 29:D1:1194:G:N2 | 2.08 | 0.51 |
| 29:D1:1303:A:N7 | 29:D1:1304:A:C6 | 2.78 | 0.51 |
| 29:D1:1319:G:O2' | 29:D1:1320:C:H6 | 1.93 | 0.51 |
| 29:D1:1428:A:OP2 | 54:DY:1:MET:CB | 2.57 | 0.51 |
| 29:D1:1700:G:C6 | 29:D1:1701:C:C4 | 2.98 | 0.51 |
| 29:D1:1818:U:H2' | 29:D1:1819:U:N3 | 2.25 | 0.51 |
| 29:D1:1891:A:N6 | 29:D1:2345:A:N6 | 2.58 | 0.51 |
| 29:D1:2253:G:C5 | 29:D1:2254:U:N3 | 2.78 | 0.51 |
| 29:D1:2254:U:O4 | 74:D1:3583:OHX:N6 | 2.43 | 0.51 |
| 29:D1:2297:U:N3 | 29:D1:2299:A:C6 | 2.78 | 0.51 |
| 29:D1:2300:G:N2 | 29:D1:2301:U:H1' | 2.25 | 0.51 |
| 29:D1:2393:G:O2' | 29:D1:2394:G:OP2 | 2.22 | 0.51 |
| 29:D1:2573:G:C6 | 29:D1:2574:G:C5 | 2.97 | 0.51 |
| 29:D1:2583:C:C2' | 29:D1:2584:G:C8 | 2.88 | 0.51 |
| 29:D1:2653:C:OP2 | 61:Df:89:LYS:C | 2.53 | 0.51 |
| 29:D1:2683:U:O2 | 29:D1:2683:U:H2' | 2.10 | 0.51 |
| 29:D1:2827:U:H1' | 29:D1:2828:G:N7 | 2.26 | 0.51 |
| 29:D1:2837:A:H2' | 29:D1:2845:A:C2 | 2.46 | 0.51 |
| 29:D1:2841:G:C4 | 29:D1:2844:C:N4 | 2.79 | 0.51 |
| 29:D1:3086:A:H2' | 29:D1:3087:A:H8 | 1.75 | 0.51 |
| 29:D1:3141:A:C2 | 29:D1:3143:C:O3' | 2.64 | 0.51 |
| 29:D1:3149:G:C2' | 29:D1:3150:A:H5' | 2.40 | 0.51 |
| 29:D1:3201:C:C2' | 29:D1:3202:G:C8 | 2.85 | 0.51 |
| 29:D1:3278:C:O2 | 29:D1:3279:A:N7 | 2.43 | 0.51 |
| 29:D1:3298:C:H2' | 29:D1:3299:A:H8 | 1.76 | 0.51 |
| 35:DD:42:VAL:O | 35:DD:45:ASN:N | 2.31 | 0.51 |
| 37:DF:145:LEU:O | 37:DF:149:ILE:CB | 2.58 | 0.51 |
| 43:DN:18:GLY:O | 43:DN:19:ARG:CB | 2.58 | 0.51 |
| 47:DR:49:LEU:C | 47:DR:51:ALA:N | 2.68 | 0.51 |
| 56:Da:84:ASP:O | 56:Da:85:ALA:HB3 | 2.09 | 0.51 |
| 58:Dc:4:VAL:CA | 58:Dc:5:LYS:CB | 2.88 | 0.51 |
| 1:A1:130:C:H3' | 1:A1:131:C:H4' | 1.93 | 0.51 |
| 1:A1:130:C:O2 | 1:A1:136:C:N3 | 2.44 | 0.51 |
| 1:A1:130:C:C6 | 1:A1:131:C:H4' | 2.46 | 0.51 |
| 1:A1:353:A:C6 | 1:A1:354:C:C2 | 2.99 | 0.51 |
| 1:A1:743:U:O2' | 1:A1:744:U:O5' | 2.29 | 0.51 |
| 1:A1:856:A:H2' | 1:A1:856:A:N3 | 2.26 | 0.51 |
| 1:A1:921:U:C2 | 1:A1:922:G:N7 | 2.79 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:986:G:HO2' | 1:A1:987:G:P | 2.34 | 0.51 |
| 1:A1:991:G:N2 | 1:A1:1014:G:O6 | 2.43 | 0.51 |
| 1:A1:1092:A:C2 | 1:A1:1094:G:N7 | 2.79 | 0.51 |
| 1:A1:1138:A:H2' | 1:A1:1139:A:H8 | 1.74 | 0.51 |
| 1:A1:1140:G:C2 | 1:A1:1141:G:N7 | 2.78 | 0.51 |
| 1:A1:1141:G:C2' | 1:A1:1142:A:H5" | 2.40 | 0.51 |
| 1:A1:1200:G:H5' | 1:A1:1201:G:H8 | 1.73 | 0.51 |
| 1:A1:1203:A:C4' | 1:A1:1204:A:OP2 | 2.57 | 0.51 |
| 1:A1:1274:C:OP2 | 1:A1:1427:A:H3' | 2.11 | 0.51 |
| 1:A1:1389:C:N4 | 1:A1:1391:A:H1' | 2.25 | 0.51 |
| 1:A1:1458:G:C2 | 1:A1:1459:C:N4 | 2.79 | 0.51 |
| 1:A1:1491:U:C2' | 1:A1:1492:A:H2' | 2.40 | 0.51 |
| 1:A1:1498:G:C2 | 1:A1:1510:U:O2 | 2.63 | 0.51 |
| 1:A1:1579:U:N3 | 1:A1:1580:C:C4 | 2.79 | 0.51 |
| 1:A1:1631:A:C4' | 1:A1:1764:C:H1' | 2.41 | 0.51 |
| 1:A1:1673:G:H2' | 1:A1:1674:C:H5' | 1.90 | 0.51 |
| 1:A1:1678:A:H2 | 1:A1:1725:U:C2 | 2.27 | 0.51 |
| 1:A1:1721:A:H3' | 1:A1:1722:A:C4' | 2.41 | 0.51 |
| 1:A1:1721:A:O5' | 1:A1:1722:A:O5' | 2.28 | 0.51 |
| 2:AA:20:ALA:O | 2:AA:22:THR:N | 2.42 | 0.51 |
| 3:AB:201:ASN:O | 3:AB:202:GLY:C | 2.52 | 0.51 |
| 13:AL:76:PRO:C | 13:AL:78:HIS:N | 2.68 | 0.51 |
| 16:AO:85:ASP:O | 16:AO:86:ILE:C | 2.53 | 0.51 |
| 23:Ab:133:UNK:O | 23:Ab:134:UNK:CB | 2.59 | 0.51 |
| 26:Ae:8:UNK:O | 26:Ae:9:UNK:C | 2.57 | 0.51 |
| 29:B1:165:A:N1 | 29:B1:257:U:O4 | 2.44 | 0.51 |
| 29:B1:208:C:C4 | 29:B1:209:A:N7 | 2.78 | 0.51 |
| 29:B1:363:G:H3' | 29:B1:364:G:H5" | 1.90 | 0.51 |
| 29:B1:557:A:C8 | 29:B1:557:A:O5' | 2.64 | 0.51 |
| 29:B1:733:G:N2 | 29:B1:736:A:N1 | 2.58 | 0.51 |
| 29:B1:751:A:N6 | 29:B1:783:A:C6 | 2.79 | 0.51 |
| 29:B1:907:G:OP1 | 29:B1:909:G:H1' | 2.11 | 0.51 |
| 29:B1:932:U:C4' | 29:B1:933:A:H5" | 2.40 | 0.51 |
| 29:B1:1013:G:N2 | 29:B1:1038:C:C2 | 2.78 | 0.51 |
| 29:B1:1029:G:H8 | 29:B1:1029:G:O5' | 1.92 | 0.51 |
| 29:B1:1108:U:C2 | 29:B1:1109:U:C5 | 2.99 | 0.51 |
| 29:B1:1131:G:H4' | 29:B1:1132:C:OP2 | 2.09 | 0.51 |
| 29:B1:1196:C:N3 | 30:B2:86:U:C4 | 2.78 | 0.51 |
| 29:B1:1237:G:H5" | 29:B1:1238:C:C6 | 2.45 | 0.51 |
| 29:B1:1399:A:N3 | 29:B1:1399:A:C2' | 2.73 | 0.51 |
| 29:B1:1461:A:H2' | 29:B1:1462:A:H8 | 1.74 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1504:A:C8 | 29:B1:1505:C:H5 | 2.29 | 0.51 |
| 29:B1:1811:G:N1 | 29:B1:1812:G:C8 | 2.78 | 0.51 |
| 29:B1:1843:C:N3 | 29:B1:1844:C:C5 | 2.79 | 0.51 |
| 29:B1:1868:G:C5 | 29:B1:1869:C:C6 | 2.98 | 0.51 |
| 29:B1:1878:G:H3' | 29:B1:1879:A:C5' | 2.39 | 0.51 |
| 29:B1:1908:A:N6 | 29:B1:1909:A:N1 | 2.58 | 0.51 |
| 29:B1:2143:A:C8 | 29:B1:2143:A:C3' | 2.93 | 0.51 |
| 29:B1:2204:C:C2' | 29:B1:2205:U:H5" | 2.41 | 0.51 |
| 29:B1:2221:G:H5" | 29:B1:2221:G:H8 | 1.76 | 0.51 |
| 29:B1:2253:G:H3' | 29:B1:2254:U:H5 | 1.69 | 0.51 |
| 29:B1:2279:A:C2 | 29:B1:2283:G:C2 | 2.99 | 0.51 |
| 29:B1:2279:A:N7 | 29:B1:2288:G:C6 | 2.79 | 0.51 |
| 29:B1:2290:C:C2' | 29:B1:2291:A:O5' | 2.58 | 0.51 |
| 29:B1:2433:U:H5" | 29:B1:2434:U:OP2 | 2.10 | 0.51 |
| 29:B1:2511:A:H2' | 29:B1:2512:C:C5' | 2.41 | 0.51 |
| 29:B1:2896:A:C8 | 29:B1:2896:A:C5' | 2.93 | 0.51 |
| 29:B1:2963:C:O2' | 29:B1:2964:G:H5' | 2.11 | 0.51 |
| 29:B1:2993:G:N3 | 29:B1:2993:G:C2' | 2.72 | 0.51 |
| 29:B1:3035:A:C6 | 29:B1:3036:G:N7 | 2.79 | 0.51 |
| 29:B1:3042:U:C5 | 29:B1:3043:C:C5 | 2.98 | 0.51 |
| 29:B1:3117:C:C4 | 29:B1:3118:C:C6 | 2.99 | 0.51 |
| 29:B1:3199:G:C3' | 29:B1:3200:G:C8 | 2.89 | 0.51 |
| 29:B1:3280:U:O2 | 29:B1:3281:U:C6 | 2.63 | 0.51 |
| 30:B2:98:C:O2 | 30:B2:98:C:C2' | 2.54 | 0.51 |
| 31:B3:56:G:C2 | 31:B3:57:C:N1 | 2.78 | 0.51 |
| 31:B3:61:A:C2' | 31:B3:62:C:OP2 | 2.58 | 0.51 |
| 31:B3:76:C:O2' | 53:BX:76:LEU:CB | 2.59 | 0.51 |
| 36:BE:199:ILE:O | 36:BE:201:GLY:N | 2.44 | 0.51 |
| 36:BE:233:ALA:O | 36:BE:234:ASP:O | 2.27 | 0.51 |
| 37:BF:115:GLU:O | 37:BF:117:LYS:N | 2.42 | 0.51 |
| 37:BF:156:LYS:O | 37:BF:157:GLN:C | 2.53 | 0.51 |
| 38:BG:105:LEU:C | 38:BG:107:ARG:H | 2.19 | 0.51 |
| 39:BH:122:LYS:C | 39:BH:124:ASP:H | 2.18 | 0.51 |
| 40:BI:28:VAL:HA | 40:BI:32:GLY:O | 2.10 | 0.51 |
| 44:BO:100:ALA:O | 44:BO:101:THR:C | 2.52 | 0.51 |
| 44:BO:148:TYR:C | 44:BO:150:TRP:N | 2.69 | 0.51 |
| 45:BP:25:LYS:C | 45:BP:27:LEU:N | 2.67 | 0.51 |
| 62:Bg:70:THR:O | 62:Bg:72:SER:N | 2.38 | 0.51 |
| 1:C1:157:A:HO2' | 1:C1:158:U:H5' | 1.75 | 0.51 |
| 1:C1:267:U:O4 | 1:C1:268:C:C4 | 2.63 | 0.51 |
| 1:C1:379:U:P | 1:C1:379:U:O3' | 2.69 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:539:G:C2 | 1:C1:543:C:N3 | 2.79 | 0.51 |
| 1:C1:545:A:N7 | 1:C1:594:A:N7 | 2.58 | 0.51 |
| 1:C1:563:U:O4 | 1:C1:564:G:O6 | 2.28 | 0.51 |
| 1:C1:571:G:N3 | 1:C1:571:G:C2' | 2.74 | 0.51 |
| 1:C1:624:G:H1' | 1:C1:1027:A:N3 | 2.25 | 0.51 |
| 1:C1:729:G:OP2 | 1:C1:729:G:H8 | 1.91 | 0.51 |
| 1:C1:865:A:H2' | 1:C1:866:G:H8 | 1.76 | 0.51 |
| 1:C1:1160:A:H2' | 1:C1:1161:C:C5 | 2.43 | 0.51 |
| 1:C1:1354:G:C6 | 1:C1:1355:C:C4 | 2.99 | 0.51 |
| 1:C1:1474:G:C4 | 1:C1:1475:A:N7 | 2.79 | 0.51 |
| 1:C1:1485:C:H3' | 1:C1:1486:G:C5' | 2.37 | 0.51 |
| 1:C1:1493:A:OP2 | 1:C1:1494:C:P | 2.69 | 0.51 |
| 1:C1:1498:G:C2 | 1:C1:1499:G:C8 | 2.98 | 0.51 |
| 1:C1:1537:C:H5' | 1:C1:1538:U:OP1 | 2.10 | 0.51 |
| 1:C1:1558:U:N1 | 1:C1:1559:A:H2 | 2.08 | 0.51 |
| 1:C1:1571:C:H5" | 1:C1:1572:G:OP2 | 2.11 | 0.51 |
| 1:C1:1640:C:H6 | 1:C1:1640:C:O5' | 1.93 | 0.51 |
| 1:C1:1657:U:N3 | 74:C1:1955:OHX:N1 | 2.59 | 0.51 |
| 1:C1:1678:A:H2 | 1:C1:1725:U:C2 | 2.28 | 0.51 |
| 74:C1:1924:OHX:N4 | 74:C1:1964:OHX:N5 | 2.59 | 0.51 |
| 3:CB:80:VAL:HA | 3:CB:102:VAL:CB | 2.40 | 0.51 |
| 10:CI:81:ARG:HA | 10:CI:117:GLY:H | 1.74 | 0.51 |
| 11:CJ:83:GLN:O | 11:CJ:84:ALA:C | 2.53 | 0.51 |
| 12:CK:23:LYS:CB | 12:CK:64:GLY:O | 2.59 | 0.51 |
| 23:Cb:4:UNK:O | 23:Cb:5:UNK:CB | 2.58 | 0.51 |
| 29:D1:92:G:O6 | 29:D1:94:G:N2 | 2.44 | 0.51 |
| 29:D1:102:C:C4' | 29:D1:103:G:OP1 | 2.58 | 0.51 |
| 29:D1:242:C:H2' | 29:D1:243:G:O5' | 2.10 | 0.51 |
| 29:D1:382:U:H3' | 29:D1:383:G:C4' | 2.40 | 0.51 |
| 29:D1:510:G:N1 | 29:D1:511:G:C4 | 2.78 | 0.51 |
| 29:D1:514:G:O2' | 37:DF:145:LEU:C | 2.53 | 0.51 |
| 29:D1:556:U:C3' | 29:D1:557:A:O4' | 2.58 | 0.51 |
| 29:D1:595:G:C5 | 29:D1:596:C:C5 | 2.98 | 0.51 |
| 29:D1:595:G:H3' | 29:D1:595:G:C8 | 2.46 | 0.51 |
| 29:D1:692:A:H2' | 29:D1:693:A:O4' | 2.11 | 0.51 |
| 29:D1:712:G:H2' | 29:D1:713:U:O4' | 2.10 | 0.51 |
| 29:D1:883:A:C6 | 29:D1:921:A:C6 | 2.98 | 0.51 |
| 29:D1:920:A:H5" | 29:D1:922:U:C5 | 2.46 | 0.51 |
| 29:D1:1101:G:N3 | 29:D1:1101:G:H2' | 2.25 | 0.51 |
| 29:D1:1199:C:O2 | 29:D1:1199:C:C2' | 2.58 | 0.51 |
| 29:D1:1229:G:C4 | 29:D1:1230:G:C8 | 2.98 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1372:C:C2' | 29:D1:1373:A:H5' | 2.40 | 0.51 |
| 29:D1:1556:C:O2 | 29:D1:1556:C:C2' | 2.58 | 0.51 |
| 29:D1:1631:C:O5' | 29:D1:1813:A:N1 | 2.43 | 0.51 |
| 29:D1:1891:A:C6 | 29:D1:2345:A:N6 | 2.79 | 0.51 |
| 29:D1:2156:C:O2' | 29:D1:2157:G:H5' | 2.11 | 0.51 |
| 29:D1:2299:A:C5 | 29:D1:2300:G:N7 | 2.78 | 0.51 |
| 29:D1:2396:G:O2' | 29:D1:2398:A:C4' | 2.55 | 0.51 |
| 29:D1:2487:U:H4' | 29:D1:2488:A:OP2 | 2.08 | 0.51 |
| 29:D1:2574:G:O2' | 29:D1:2575:G:H5' | 2.11 | 0.51 |
| 29:D1:2792:A:C2' | 29:D1:2793:G:H5' | 2.41 | 0.51 |
| 29:D1:2992:U:O4 | 29:D1:2993:G:H8 | 1.93 | 0.51 |
| 29:D1:3012:A:C5 | 29:D1:3013:U:C5 | 2.99 | 0.51 |
| 29:D1:3070:A:C6 | 29:D1:3071:U:C4 | 2.98 | 0.51 |
| 29:D1:3091:A:N3 | 29:D1:3094:A:C8 | 2.78 | 0.51 |
| 29:D1:3141:A:H2 | 29:D1:3144:G:P | 2.34 | 0.51 |
| 29:D1:3203:U:OP2 | 29:D1:3203:U:H3' | 2.10 | 0.51 |
| 29:D1:3215:A:C5' | 29:D1:3218:A:C5' | 2.84 | 0.51 |
| 29:D1:3368:U:H6 | 29:D1:3368:U:H5' | 1.75 | 0.51 |
| 30:D2:12:U:N1 | 30:D2:70:U:OP1 | 2.43 | 0.51 |
| 30:D2:48:U:C6 | 30:D2:49:G:O6 | 2.64 | 0.51 |
| 31:D3:43:A:H4' | 59:Dd:22:CYS:HA | 1.93 | 0.51 |
| 34:DC:111:SER:HA | 34:DC:112:ASP:C | 2.35 | 0.51 |
| 34:DC:116:ARG:O | 34:DC:117:ARG:CB | 2.57 | 0.51 |
| 34:DC:145:GLU:O | 34:DC:149:ALA:N | 2.43 | 0.51 |
| 36:DE:87:GLY:O | 36:DE:241:THR:CB | 2.58 | 0.51 |
| 36:DE:288:ALA:HB1 | 36:DE:292:ALA:C | 2.35 | 0.51 |
| 72:DL:54:LYS:O | 72:DL:55:GLY:O | 2.27 | 0.51 |
| 73:DM:32:ASN:O | 73:DM:33:VAL:CB | 2.58 | 0.51 |
| 50:DU:13:ILE:O | 50:DU:14:SER:C | 2.52 | 0.51 |
| 57:Db:6:HIS:HA | 57:Db:9:ILE:CB | 2.40 | 0.51 |
| 61:Df:47:GLN:H | 61:Df:48:SER:HA | 1.76 | 0.51 |
| 1:A1:23:G:C6 | 1:A1:24:U:C4 | 2.98 | 0.51 |
| 1:A1:395:U:O4 | 1:A1:396:G:N1 | 2.43 | 0.51 |
| 1:A1:400:A:C5' | 1:A1:401:A:H5' | 2.41 | 0.51 |
| 1:A1:447:U:O2' | 1:A1:448:C:O4' | 2.22 | 0.51 |
| 1:A1:1086:A:H2 | 1:A1:1141:G:N3 | 2.07 | 0.51 |
| 1:A1:1170:G:H2' | 1:A1:1170:G:N3 | 2.26 | 0.51 |
| 1:A1:1237:G:C5 | 1:A1:1238:A:N7 | 2.79 | 0.51 |
| 1:A1:1349:G:H3' | 1:A1:1349:G:P | 2.51 | 0.51 |
| 1:A1:1391:A:H2' | 1:A1:1392:U:H6 | 1.75 | 0.51 |
| 2:AA:17:LEU:C | 2:AA:19:ALA:H | 2.16 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AD:182:ALA:O | 5:AD:184:PHE:N | 2.43 | 0.51 |
| 9:AH:60:ALA:O | 9:AH:63:ALA:CB | 2.54 | 0.51 |
| 12:AK:12:ALA:HA | 12:AK:15:ALA:HB3 | 1.91 | 0.51 |
| 13:AL:98:TYR:O | 13:AL:99:HIS:CB | 2.59 | 0.51 |
| 15:AN:101:LYS:O | 15:AN:103:ILE:N | 2.43 | 0.51 |
| 29:B1:389:A:H5' | 46:BQ:17:ALA:HA | 1.91 | 0.51 |
| 29:B1:396:A:O2' | 29:B1:397:A:C5' | 2.59 | 0.51 |
| 29:B1:527:A:C6 | 29:B1:566:G:C6 | 2.99 | 0.51 |
| 29:B1:672:A:N6 | 29:B1:791:A:N6 | 2.58 | 0.51 |
| 29:B1:692:A:C2 | 29:B1:693:A:C4 | 2.99 | 0.51 |
| 29:B1:774:G:H2' | 29:B1:775:A:C5' | 2.40 | 0.51 |
| 29:B1:820:A:N3 | 29:B1:911:C:O2' | 2.35 | 0.51 |
| 29:B1:1011:A:N6 | 29:B1:1039:U:H3 | 1.88 | 0.51 |
| 29:B1:1065:A:O3' | 29:B1:1066:G:H8 | 1.94 | 0.51 |
| 29:B1:1139:G:C5 | 29:B1:1140:G:C8 | 2.99 | 0.51 |
| 29:B1:1311:G:C2' | 29:B1:1312:C:O5' | 2.58 | 0.51 |
| 29:B1:1464:G:N3 | 29:B1:1464:G:H2' | 2.25 | 0.51 |
| 29:B1:1491:A:H2' | 29:B1:1492:G:O4' | 2.10 | 0.51 |
| 29:B1:1611:G:H2' | 29:B1:1612:A:C8 | 2.46 | 0.51 |
| 29:B1:1687:U:C2' | 29:B1:1688:U:H4' | 2.41 | 0.51 |
| 29:B1:1720:U:H3' | 29:B1:1720:U:H6 | 1.75 | 0.51 |
| 29:B1:1731:A:C8 | 29:B1:1732:U:C5 | 2.99 | 0.51 |
| 29:B1:1747:G:C5 | 29:B1:1748:G:C8 | 2.98 | 0.51 |
| 29:B1:1797:A:H2' | 29:B1:1798:A:H8 | 1.76 | 0.51 |
| 29:B1:1845:G:H2' | 29:B1:1846:C:OP1 | 2.11 | 0.51 |
| 29:B1:1920:U:H1' | 29:B1:1933:A:C6 | 2.46 | 0.51 |
| 29:B1:1945:A:H2' | 29:B1:1946:A:C8 | 2.46 | 0.51 |
| 29:B1:2140:U:OP1 | 29:B1:2141:U:OP2 | 2.29 | 0.51 |
| 29:B1:2198:A:C4 | 29:B1:2199:G:C8 | 2.99 | 0.51 |
| 29:B1:2251:G:C2 | 29:B1:2252:A:C8 | 2.98 | 0.51 |
| 29:B1:2376:G:O6 | 29:B1:2377:G:O6 | 2.28 | 0.51 |
| 29:B1:2649:A:C6 | 29:B1:2650:U:C5 | 2.99 | 0.51 |
| 29:B1:2696:A:N7 | 29:B1:2697:A:C6 | 2.79 | 0.51 |
| 29:B1:2710:C:H3' | 29:B1:2710:C:C6 | 2.46 | 0.51 |
| 29:B1:2957:G:H8 | 29:B1:2957:G:H5' | 1.76 | 0.51 |
| 29:B1:3203:U:H2' | 29:B1:3204:C:C2 | 2.46 | 0.51 |
| 29:B1:3234:A:C2 | 29:B1:3253:G:N2 | 2.72 | 0.51 |
| 29:B1:3270:U:H4' | 29:B1:3271:G:O5' | 2.11 | 0.51 |
| 29:B1:3282:U:O2' | 29:B1:3283:U:C5 | 2.63 | 0.51 |
| 29:B1:3390:G:N3 | 29:B1:3391:A:H1' | 2.25 | 0.51 |
| 29:B1:3390:G:N1 | 29:B1:3391:A:C4 | 2.78 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:B2:82:G:C5 | 30:B2:99:G:C2 | 2.98 | 0.51 |
| 31:B3:18:U:N3 | 31:B3:19:C:C4 | 2.77 | 0.51 |
| 35:BD:115:HIS:O | 35:BD:116:ASN:C | 2.53 | 0.51 |
| 38:BG:233:GLU:CB | 38:BG:234:GLU:CB | 2.89 | 0.51 |
| 57:Bb:78:ASN:O | 57:Bb:80:LYS:N | 2.43 | 0.51 |
| 57:Bb:110:ALA:O | 57:Bb:111:ARG:C | 2.53 | 0.51 |
| 1:C1:38:C:H2' | 1:C1:39:A:H5" | 1.92 | 0.51 |
| 1:C1:55:A:C3' | 1:C1:56:U:C5' | 2.89 | 0.51 |
| 1:C1:63:G:H2' | 1:C1:64:U:O4' | 2.11 | 0.51 |
| 1:C1:142:G:N7 | 1:C1:266:A:C5 | 2.73 | 0.51 |
| 1:C1:214:G:O2' | 1:C1:215:A:OP1 | 2.28 | 0.51 |
| 1:C1:486:G:O6 | 1:C1:487:G:C5 | 2.64 | 0.51 |
| 1:C1:487:G:HO2' | 1:C1:488:G:H8 | 1.59 | 0.51 |
| 1:C1:528:U:H3 | 1:C1:530:C:N4 | 2.08 | 0.51 |
| 1:C1:568:G:C2 | 1:C1:569:C:C6 | 2.99 | 0.51 |
| 1:C1:692:C:N3 | 1:C1:693:U:N3 | 2.58 | 0.51 |
| 1:C1:757:A:N3 | 1:C1:758:U:C6 | 2.78 | 0.51 |
| 1:C1:863:A:C2' | 1:C1:865:A:H8 | 2.24 | 0.51 |
| 1:C1:908:U:C5 | 1:C1:909:U:C5 | 2.99 | 0.51 |
| 1:C1:973:A:H5' | 29:D1:848:A:C2 | 2.46 | 0.51 |
| 1:C1:1101:G:O2' | 1:C1:1102:G:H5' | 2.11 | 0.51 |
| 1:C1:1149:G:N2 | 1:C1:1150:G:O6 | 2.44 | 0.51 |
| 1:C1:1181:U:H4' | 10:CI:127:ARG:CB | 2.41 | 0.51 |
| 1:C1:1305:U:OP2 | 1:C1:1306:C:N4 | 2.40 | 0.51 |
| 1:C1:1351:G:C6 | 1:C1:1352:G:N7 | 2.79 | 0.51 |
| 1:C1:1389:C:C4 | 1:C1:1391:A:O4' | 2.64 | 0.51 |
| 1:C1:1631:A:H2' | 1:C1:1632:C:C4' | 2.39 | 0.51 |
| 1:C1:1636:C:C4 | 1:C1:1638:G:C2 | 2.99 | 0.51 |
| 20:CS:38:ILE:O | 20:CS:41:GLN:N | 2.42 | 0.51 |
| 29:D1:46:U:C6 | 29:D1:46:U:C3' | 2.94 | 0.51 |
| 29:D1:233:C:H2' | 29:D1:234:G:O4' | 2.10 | 0.51 |
| 29:D1:280:U:C2 | 29:D1:282:G:O2' | 2.57 | 0.51 |
| 29:D1:378:A:C3' | 29:D1:378:A:C4 | 2.92 | 0.51 |
| 29:D1:384:A:C4 | 29:D1:1465:A:N1 | 2.78 | 0.51 |
| 29:D1:387:A:H2' | 29:D1:388:G:O4' | 2.11 | 0.51 |
| 29:D1:407:A:N1 | 31:D3:17:A:C1' | 2.73 | 0.51 |
| 29:D1:518:G:C8 | 29:D1:518:G:H5" | 2.46 | 0.51 |
| 29:D1:559:A:C4 | 29:D1:560:G:C8 | 2.98 | 0.51 |
| 29:D1:611:A:OP1 | 29:D1:611:A:C4' | 2.53 | 0.51 |
| 29:D1:611:A:C3' | 29:D1:612:U:H5" | 2.19 | 0.51 |
| 29:D1:715:A:H5" | 54:DY:114:GLY:O | 2.10 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1084:A:C6 | 29:D1:1085:A:C6 | 2.99 | 0.51 |
| 29:D1:1273:A:H3' | 29:D1:1274:A:H8 | 1.75 | 0.51 |
| 29:D1:1393:A:N7 | 29:D1:1418:A:N7 | 2.59 | 0.51 |
| 29:D1:1406:A:H2' | 29:D1:1407:A:C8 | 2.45 | 0.51 |
| 29:D1:1455:U:C2' | 29:D1:1456:A:C8 | 2.93 | 0.51 |
| 29:D1:1489:A:C4 | 29:D1:1490:A:C8 | 2.99 | 0.51 |
| 29:D1:1908:A:C5 | 29:D1:1909:A:C5 | 2.99 | 0.51 |
| 29:D1:2277:C:O2' | 29:D1:2278:C:O5' | 2.23 | 0.51 |
| 29:D1:2476:C:H2' | 29:D1:2477:G:H4' | 1.91 | 0.51 |
| 29:D1:2762:A:H2' | 29:D1:2763:U:C6 | 2.45 | 0.51 |
| 29:D1:2861:U:C2' | 29:D1:2862:U:H6 | 2.21 | 0.51 |
| 29:D1:2959:C:C5' | 29:D1:2960:C:OP2 | 2.59 | 0.51 |
| 29:D1:2974:U:H2' | 29:D1:2975:U:H6 | 1.74 | 0.51 |
| 29:D1:3099:C:OP2 | 29:D1:3099:C:H3' | 2.10 | 0.51 |
| 29:D1:3147:G:H2' | 29:D1:3148:U:O5' | 2.09 | 0.51 |
| 29:D1:3301:U:C2' | 29:D1:3302:U:C5 | 2.93 | 0.51 |
| 29:D1:3314:A:C2' | 34:DC:119:TYR:H | 2.21 | 0.51 |
| 29:D1:3322:A:OP2 | 29:D1:3323:A:P | 2.69 | 0.51 |
| 29:D1:3377:G:O4' | 29:D1:3378:C:H5' | 2.11 | 0.51 |
| 30:D2:43:U:C4 | 30:D2:44:C:C5 | 2.99 | 0.51 |
| 32:DA:56:PRO:O | 32:DA:57:ASN:CB | 2.58 | 0.51 |
| 34:DC:261:MET:HA | 34:DC:263:SER:O | 2.09 | 0.51 |
| 37:DF:21:THR:O | 37:DF:111:LEU:N | 2.43 | 0.51 |
| 38:DG:219:LYS:O | 38:DG:221:LYS:N | 2.43 | 0.51 |
| 41:DJ:20:SER:O | 41:DJ:22:TYR:N | 2.44 | 0.51 |
| 43:DN:76:ALA:O | 43:DN:79:ALA:N | 2.43 | 0.51 |
| 45:DP:10:ASP:O | 45:DP:11:GLY:C | 2.53 | 0.51 |
| 46:DQ:25:SER:CB | 46:DQ:29:THR:H | 2.24 | 0.51 |
| 46:DQ:77:GLY:O | 46:DQ:79:THR:N | 2.43 | 0.51 |
| 46:DQ:111:LYS:O | 46:DQ:113:TYR:N | 2.44 | 0.51 |
| 50:DU:46:LEU:O | 50:DU:47:ASN:CB | 2.59 | 0.51 |
| 57:Db:74:PHE:O | 57:Db:76:VAL:N | 2.41 | 0.51 |
| 59:Dd:65:ARG:C | 59:Dd:67:LEU:N | 2.69 | 0.51 |
| 63:Dh:15:UNK:C | 63:Dh:17:UNK:N | 2.70 | 0.51 |
| 1:A1:10:G:N2 | 1:A1:11:A:H1' | 2.26 | 0.51 |
| 1:A1:18:C:H5' | 1:A1:1137:A:N6 | 2.26 | 0.51 |
| 1:A1:41:A:C2 | 1:A1:438:A:C5 | 2.99 | 0.51 |
| 1:A1:44:U:C3' | 1:A1:45:U:H5' | 2.38 | 0.51 |
| 1:A1:158:U:O2' | 1:A1:159:U:P | 2.69 | 0.51 |
| 1:A1:168:A:C6 | 1:A1:169:A:C6 | 2.99 | 0.51 |
| 1:A1:207:U:N3 | 1:A1:208:U:C4 | 2.79 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:310:C:H5' | 1:A1:310:C:H6 | 1.74 | 0.51 |
| 1:A1:329:G:C2' | 1:A1:330:G:H8 | 1.94 | 0.51 |
| 1:A1:392:G:H2' | 1:A1:393:C:O4' | 2.11 | 0.51 |
| 1:A1:738:G:C2' | 1:A1:739:G:C8 | 2.91 | 0.51 |
| 1:A1:795:U:O2 | 1:A1:795:U:O4' | 2.27 | 0.51 |
| 1:A1:1109:G:N1 | 1:A1:1110:G:N7 | 2.59 | 0.51 |
| 1:A1:1122:G:N2 | 1:A1:1126:G:C5 | 2.78 | 0.51 |
| 1:A1:1221:A:C4 | 1:A1:1222:C:C5 | 2.98 | 0.51 |
| 1:A1:1348:A:O5' | 15:AN:10:GLU:O | 2.28 | 0.51 |
| 1:A1:1383:G:H2' | 1:A1:1384:A:O5' | 2.11 | 0.51 |
| 1:A1:1513:G:C2' | 1:A1:1514:U:OP1 | 2.59 | 0.51 |
| 1:A1:1579:U:H2' | 1:A1:1580:C:H6 | 1.76 | 0.51 |
| 1:A1:1604:U:H3' | 1:A1:1605:G:C5' | 2.28 | 0.51 |
| 74:A1:1916:OHX:N3 | 74:A1:1975:OHX:N1 | 2.59 | 0.51 |
| 2:AA:173:ILE:C | 2:AA:175:TYR:N | 2.67 | 0.51 |
| 4:AC:69:LEU:O | 4:AC:70:THR:C | 2.53 | 0.51 |
| 5:AD:39:GLU:HA | 5:AD:40:ILE:CB | 2.41 | 0.51 |
| 15:AN:32:LYS:C | 15:AN:34:LEU:H | 2.18 | 0.51 |
| 23:Ab:82:UNK:C | 23:Ab:86:UNK:O | 2.58 | 0.51 |
| 29:B1:30:G:C2 | 29:B1:55:G:C6 | 2.99 | 0.51 |
| 29:B1:431:U:C2 | 29:B1:432:G:C8 | 2.99 | 0.51 |
| 29:B1:518:G:H1 | 29:B1:572:A:H61 | 1.58 | 0.51 |
| 29:B1:547:G:C8 | 29:B1:548:G:C8 | 2.99 | 0.51 |
| 29:B1:578:A:HO2' | 29:B1:579:G:P | 2.30 | 0.51 |
| 29:B1:712:G:C6 | 29:B1:713:U:C4 | 2.99 | 0.51 |
| 29:B1:746:A:C2' | 29:B1:747:A:OP1 | 2.59 | 0.51 |
| 29:B1:939:U:O2' | 29:B1:940:G:H5' | 2.10 | 0.51 |
| 29:B1:961:C:HO2' | 29:B1:962:A:P | 2.34 | 0.51 |
| 29:B1:991:G:C4 | 29:B1:992:A:C8 | 2.99 | 0.51 |
| 29:B1:1025:A:C5' | 29:B1:1028:U:H3 | 2.24 | 0.51 |
| 29:B1:1101:G:N3 | 29:B1:1101:G:H2' | 2.26 | 0.51 |
| 29:B1:1152:G:O2' | 29:B1:1153:A:P | 2.69 | 0.51 |
| 29:B1:1203:A:H2' | 29:B1:2855:U:O2' | 2.11 | 0.51 |
| 29:B1:1217:A:C5' | 29:B1:1218:U:OP2 | 2.57 | 0.51 |
| 29:B1:1460:A:OP1 | 56:Ba:50:ARG:HA | 2.10 | 0.51 |
| 29:B1:1513:G:N1 | 29:B1:1515:A:H1' | 2.26 | 0.51 |
| 29:B1:1602:A:C6 | 29:B1:1603:A:N1 | 2.79 | 0.51 |
| 29:B1:1695:U:O2' | 29:B1:1749:A:N6 | 2.44 | 0.51 |
| 29:B1:1700:G:H2' | 29:B1:1701:C:C6 | 2.45 | 0.51 |
| 29:B1:1706:C:C6 | 29:B1:1707:A:C8 | 2.99 | 0.51 |
| 29:B1:1706:C:H3' | 29:B1:1707:A:H8 | 1.75 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1896:A:C2 | 29:B1:3093:C:C5 | 2.99 | 0.51 |
| 29:B1:2152:A:O2' | 29:B1:2153:U:H5' | 2.10 | 0.51 |
| 29:B1:2289:U:H2' | 29:B1:2290:C:H5' | 1.93 | 0.51 |
| 29:B1:2297:U:C2 | 29:B1:2299:A:C6 | 2.99 | 0.51 |
| 29:B1:2515:A:N6 | 29:B1:2593:A:N7 | 2.59 | 0.51 |
| 29:B1:2617:U:C6 | 29:B1:2620:G:OP1 | 2.63 | 0.51 |
| 29:B1:2655:U:O4' | 29:B1:2656:A:C4 | 2.64 | 0.51 |
| 29:B1:2667:A:N6 | 29:B1:2690:G:H1 | 1.98 | 0.51 |
| 29:B1:2841:G:C5 | 29:B1:2844:C:C4 | 2.99 | 0.51 |
| 29:B1:2855:U:OP2 | 41:BJ:6:ALA:HB3 | 2.10 | 0.51 |
| 29:B1:3113:A:N6 | 29:B1:3114:A:N1 | 2.59 | 0.51 |
| 29:B1:3154:C:O2 | 29:B1:3154:C:H3' | 2.11 | 0.51 |
| 29:B1:3330:A:C4 | 29:B1:3331:U:C5 | 2.99 | 0.51 |
| 30:B2:13:A:H5' | 30:B2:112:G:C1' | 2.31 | 0.51 |
| 30:B2:30:G:C2' | 30:B2:31:U:O5' | 2.58 | 0.51 |
| 30:B2:91:G:N1 | 30:B2:92:A:C5 | 2.78 | 0.51 |
| 30:B2:104:A:C4 | 30:B2:105:C:C6 | 2.98 | 0.51 |
| 30:B2:114:U:H2' | 30:B2:115:G:C1' | 2.41 | 0.51 |
| 31:B3:28:C:C5' | 31:B3:29:U:OP2 | 2.55 | 0.51 |
| 31:B3:39:G:H4' | 31:B3:40:A:H5" | 1.91 | 0.51 |
| 31:B3:94:C:C4' | 31:B3:95:G:OP2 | 2.53 | 0.51 |
| 32:BA:59:PRO:O | 32:BA:60:ARG:CB | 2.59 | 0.51 |
| 34:BC:208:VAL:O | 34:BC:209:PHE:CB | 2.57 | 0.51 |
| 35:BD:117:GLU:C | 35:BD:119:ARG:N | 2.69 | 0.51 |
| 39:BH:239:GLY:C | 39:BH:241:LYS:N | 2.68 | 0.51 |
| 44:BO:137:PRO:C | 44:BO:139:HIS:H | 2.19 | 0.51 |
| 48:BS:59:SER:C | 48:BS:61:SER:N | 2.69 | 0.51 |
| 49:BT:14:MET:C | 49:BT:16:GLN:N | 2.68 | 0.51 |
| 50:BU:17:LEU:O | 50:BU:52:ALA:N | 2.44 | 0.51 |
| 60:Be:26:TRP:C | 60:Be:28:ARG:N | 2.67 | 0.51 |
| 63:Bh:41:UNK:O | 63:Bh:42:UNK:C | 2.55 | 0.51 |
| 1:C1:42:G:C8 | 1:C1:437:A:H3' | 2.46 | 0.51 |
| 1:C1:44:U:C5' | 1:C1:45:U:O4 | 2.58 | 0.51 |
| 1:C1:184:C:C4 | 1:C1:202:A:C2 | 2.98 | 0.51 |
| 1:C1:195:G:H1' | 1:C1:196:G:OP1 | 2.10 | 0.51 |
| 1:C1:430:G:H2' | 1:C1:431:C:H6 | 1.76 | 0.51 |
| 1:C1:553:G:C6 | 1:C1:554:C:C4 | 2.98 | 0.51 |
| 1:C1:877:G:H5' | 1:C1:936:G:H21 | 1.75 | 0.51 |
| 1:C1:1039:A:O4' | 1:C1:1081:A:N6 | 2.44 | 0.51 |
| 1:C1:1052:U:N3 | 1:C1:1053:G:N7 | 2.58 | 0.51 |
| 1:C1:1065:A:H2' | 1:C1:1066:C:C1' | 2.41 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1096:C:C2 | 1:C1:1098:U:OP2 | 2.64 | 0.51 |
| 1:C1:1242:A:C2 | 1:C1:1243:G:C2 | 2.98 | 0.51 |
| 1:C1:1269:U:O2 | 1:C1:1269:U:O4' | 2.26 | 0.51 |
| 1:C1:1355:C:H2' | 1:C1:1356:U:C6 | 2.45 | 0.51 |
| 1:C1:1431:C:C2 | 1:C1:1437:U:O4 | 2.64 | 0.51 |
| 1:C1:1491:U:H2' | 1:C1:1492:A:H2' | 1.91 | 0.51 |
| 1:C1:1596:C:O2 | 1:C1:1596:C:O4' | 2.27 | 0.51 |
| 1:C1:1599:C:O2 | 1:C1:1600:A:C2 | 2.64 | 0.51 |
| 1:C1:1739:C:H2' | 1:C1:1740:A:C8 | 2.46 | 0.51 |
| 2:CA:178:ALA:HB1 | 2:CA:182:LEU:CB | 2.40 | 0.51 |
| 3:CB:122:ALA:O | 3:CB:123:GLY:C | 2.53 | 0.51 |
| 5:CD:134:VAL:C | 5:CD:136:ALA:N | 2.68 | 0.51 |
| 10:CI:97:TYR:HA | 10:CI:102:PHE:N | 2.23 | 0.51 |
| 13:CL:62:THR:O | 13:CL:65:GLU:CB | 2.59 | 0.51 |
| 18:CQ:80:LEU:C | 18:CQ:82:HIS:N | 2.69 | 0.51 |
| 21:CT:216:LYS:C | 21:CT:218:GLY:N | 2.68 | 0.51 |
| 22:Ca:10:UNK:O | 22:Ca:13:UNK:N | 2.44 | 0.51 |
| 29:D1:26:A:H2 | 29:D1:330:G:H21 | 1.57 | 0.51 |
| 29:D1:92:G:N7 | 29:D1:94:G:C2 | 2.79 | 0.51 |
| 29:D1:331:G:O2' | 29:D1:332:C:P | 2.69 | 0.51 |
| 29:D1:331:G:C2 | 29:D1:332:C:C4 | 2.98 | 0.51 |
| 29:D1:334:A:C2' | 29:D1:335:G:O5' | 2.59 | 0.51 |
| 29:D1:370:U:OP1 | 74:D1:3625:OHX:N1 | 2.43 | 0.51 |
| 29:D1:395:A:C5 | 29:D1:396:A:N6 | 2.78 | 0.51 |
| 29:D1:431:U:C2 | 29:D1:432:G:N7 | 2.78 | 0.51 |
| 29:D1:595:G:H1 | 29:D1:609:G:C4' | 2.24 | 0.51 |
| 29:D1:596:C:O2 | 29:D1:597:G:H5' | 2.10 | 0.51 |
| 29:D1:698:U:O4' | 29:D1:699:A:OP1 | 2.27 | 0.51 |
| 29:D1:717:C:H5 | 29:D1:721:G:OP2 | 1.92 | 0.51 |
| 29:D1:863:C:H2' | 29:D1:864:G:C5' | 2.41 | 0.51 |
| 29:D1:943:U:C2 | 29:D1:1432:C:H5 | 2.29 | 0.51 |
| 29:D1:943:U:C1' | 29:D1:944:C:OP1 | 2.59 | 0.51 |
| 29:D1:945:C:N3 | 29:D1:946:U:C5 | 2.79 | 0.51 |
| 29:D1:959:C:N4 | 29:D1:2801:A:H5" | 2.24 | 0.51 |
| 29:D1:1144:U:O2' | 29:D1:1145:G:P | 2.69 | 0.51 |
| 29:D1:1184:A:C2' | 29:D1:1185:C:O5' | 2.59 | 0.51 |
| 29:D1:1225:A:O2' | 29:D1:1226:G:OP1 | 2.29 | 0.51 |
| 29:D1:1319:G:O2' | 29:D1:1320:C:H5" | 2.11 | 0.51 |
| 29:D1:1358:C:H5" | 29:D1:1359:C:OP2 | 2.11 | 0.51 |
| 29:D1:1390:A:C5 | 29:D1:1418:A:C6 | 2.98 | 0.51 |
| 29:D1:1414:G:N2 | 29:D1:1415:U:H1' | 2.25 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1621:A:H2' | 29:D1:1622:U:C5 | 2.45 | 0.51 |
| 29:D1:1644:C:OP1 | 29:D1:1821:U:N3 | 2.44 | 0.51 |
| 29:D1:1678:G:N3 | 29:D1:1679:A:C8 | 2.78 | 0.51 |
| 29:D1:2254:U:H2' | 29:D1:2261:G:H1 | 1.74 | 0.51 |
| 29:D1:2423:U:C2' | 29:D1:2424:A:OP2 | 2.58 | 0.51 |
| 29:D1:2435:G:C6 | 29:D1:2593:A:C5 | 2.98 | 0.51 |
| 29:D1:2641:U:H5" | 29:D1:2642:A:OP1 | 2.10 | 0.51 |
| 29:D1:2725:U:O4 | 29:D1:2727:A:N3 | 2.44 | 0.51 |
| 29:D1:2808:A:C8 | 29:D1:2955:U:O3' | 2.63 | 0.51 |
| 29:D1:3316:A:N6 | 29:D1:3388:C:N4 | 2.49 | 0.51 |
| 29:D1:3321:C:O2' | 29:D1:3322:A:H5' | 2.11 | 0.51 |
| 29:D1:3333:G:N1 | 29:D1:3370:A:O2' | 2.43 | 0.51 |
| 29:D1:3390:G:C5 | 29:D1:3391:A:C8 | 2.98 | 0.51 |
| 30:D2:12:U:C6 | 30:D2:70:U:OP1 | 2.64 | 0.51 |
| 30:D2:60:G:H2' | 30:D2:61:G:C8 | 2.36 | 0.51 |
| 31:D3:53:A:C6 | 31:D3:54:A:C6 | 2.98 | 0.51 |
| 31:D3:75:G:P | 31:D3:90:U:C5' | 2.98 | 0.51 |
| 34:DC:261:MET:CA | 34:DC:263:SER:O | 2.58 | 0.51 |
| 36:DE:109:THR:C | 36:DE:252:ALA:HB2 | 2.35 | 0.51 |
| 36:DE:192:PRO:O | 36:DE:193:GLU:C | 2.54 | 0.51 |
| 38:DG:111:ILE:O | 38:DG:113:SER:N | 2.44 | 0.51 |
| 39:DH:100:GLU:C | 39:DH:102:ALA:N | 2.64 | 0.51 |
| 72:DL:23:GLY:C | 72:DL:25:SER:H | 2.19 | 0.51 |
| 43:DN:24:LYS:HA | 43:DN:31:LYS:CA | 2.40 | 0.51 |
| 54:DY:5:PHE:O | 54:DY:8:THR:N | 2.31 | 0.51 |
| 57:Db:103:LYS:O | 57:Db:105:ARG:N | 2.44 | 0.51 |
| 1:A1:62:A:OP2 | 1:A1:62:A:C3' | 2.59 | 0.51 |
| 1:A1:78:A:OP1 | 1:A1:78:A:H2 | 1.94 | 0.51 |
| 1:A1:112:A:C4' | 1:A1:113:U:OP1 | 2.55 | 0.51 |
| 1:A1:185:U:H2' | 1:A1:186:C:O4' | 2.10 | 0.51 |
| 1:A1:210:A:C3' | 1:A1:211:U:H5" | 2.41 | 0.51 |
| 1:A1:362:G:O6 | 1:A1:382:C:N4 | 2.23 | 0.51 |
| 1:A1:408:C:H1' | 1:A1:1731:A:N3 | 2.25 | 0.51 |
| 1:A1:463:U:C2 | 1:A1:464:A:C8 | 2.99 | 0.51 |
| 1:A1:478:A:C2 | 1:A1:510:G:N2 | 2.79 | 0.51 |
| 1:A1:520:A:C4 | 1:A1:521:A:C8 | 2.99 | 0.51 |
| 1:A1:714:G:H2' | 1:A1:715:U:O4' | 2.11 | 0.51 |
| 1:A1:948:G:C6 | 1:A1:949:C:N4 | 2.79 | 0.51 |
| 1:A1:1087:A:N6 | 1:A1:1088:A:N6 | 2.59 | 0.51 |
| 1:A1:1137:A:H2 | 1:A1:1138:A:C6 | 2.27 | 0.51 |
| 1:A1:1139:A:OP2 | 74:A1:1976:OHX:N6 | 2.43 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1164:G:H2' | 1:A1:1165:G:H8 | 1.76 | 0.51 |
| 1:A1:1483:A:C5' | 1:A1:1521:G:O2' | 2.59 | 0.51 |
| 1:A1:1550:A:H2' | 1:A1:1551:U:H6 | 1.75 | 0.51 |
| 1:A1:1584:G:C8 | 11:AJ:123:ARG:O | 2.63 | 0.51 |
| 1:A1:1588:G:H1 | 1:A1:1608:U:H3 | 1.58 | 0.51 |
| 1:A1:1645:G:H2' | 1:A1:1646:C:H6 | 1.76 | 0.51 |
| 1:A1:1645:G:C2 | 1:A1:1757:G:C4 | 2.98 | 0.51 |
| 1:A1:1733:C:C4 | 1:A1:1734:U:C5 | 2.99 | 0.51 |
| 3:AB:149:GLY:C | 3:AB:151:PRO:N | 2.67 | 0.51 |
| 4:AC:61:GLU:C | 4:AC:63:GLY:N | 2.69 | 0.51 |
| 6:AE:68:LYS:O | 6:AE:69:ARG:C | 2.54 | 0.51 |
| 23:Ab:79:UNK:C | 23:Ab:81:UNK:N | 2.74 | 0.51 |
| 23:Ab:110:UNK:O | 23:Ab:113:UNK:N | 2.44 | 0.51 |
| 29:B1:96:G:H2' | 29:B1:97:U:O5' | 2.10 | 0.51 |
| 29:B1:189:G:C5 | 29:B1:206:G:C6 | 2.99 | 0.51 |
| 29:B1:246:U:H3' | 29:B1:246:U:P | 2.50 | 0.51 |
| 29:B1:268:A:N9 | 29:B1:270:U:O2 | 2.43 | 0.51 |
| 29:B1:278:U:C6 | 29:B1:279:U:H5 | 2.29 | 0.51 |
| 29:B1:346:C:C5 | 29:B1:348:A:H5" | 2.46 | 0.51 |
| 29:B1:382:U:C5 | 29:B1:383:G:C8 | 2.99 | 0.51 |
| 29:B1:510:G:C2 | 29:B1:511:G:C4 | 2.99 | 0.51 |
| 29:B1:521:A:N7 | 29:B1:571:U:O4 | 2.44 | 0.51 |
| 29:B1:525:C:H2' | 29:B1:526:C:C6 | 2.46 | 0.51 |
| 29:B1:592:A:OP2 | 29:B1:592:A:H3' | 2.11 | 0.51 |
| 29:B1:650:C:H5' | 29:B1:2872:A:P | 2.51 | 0.51 |
| 29:B1:744:A:H2' | 29:B1:745:C:C6 | 2.45 | 0.51 |
| 29:B1:760:G:O2' | 29:B1:761:A:H8 | 1.94 | 0.51 |
| 29:B1:891:G:C5 | 29:B1:892:U:C4 | 2.99 | 0.51 |
| 29:B1:896:A:N7 | 29:B1:2134:G:H1' | 2.26 | 0.51 |
| 29:B1:952:A:H1' | 29:B1:1114:U:H1' | 1.93 | 0.51 |
| 29:B1:955:U:C4 | 29:B1:956:U:C4 | 2.99 | 0.51 |
| 29:B1:963:G:C8 | 29:B1:963:G:C3' | 2.94 | 0.51 |
| 29:B1:1047:A:N3 | 29:B1:2633:U:O2' | 2.44 | 0.51 |
| 29:B1:1302:A:H1' | 29:B1:2887:A:H2 | 1.72 | 0.51 |
| 29:B1:1365:G:H8 | 29:B1:1365:G:OP2 | 1.94 | 0.51 |
| 29:B1:1409:G:O2' | 29:B1:1410:U:H5' | 2.11 | 0.51 |
| 29:B1:1506:A:C1' | 29:B1:1848:G:O6 | 2.59 | 0.51 |
| 29:B1:1797:A:C6 | 29:B1:1798:A:C6 | 2.99 | 0.51 |
| 29:B1:1888:U:H2' | 29:B1:1889:G:O4' | 2.10 | 0.51 |
| 29:B1:2112:U:H1' | 29:B1:2113:A:P | 2.50 | 0.51 |
| 29:B1:2206:G:H2' | 29:B1:2207:A:H5' | 1.92 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2279:A:H4' | 29:B1:2280:A:C5' | 2.40 | 0.51 |
| 29:B1:2561:A:N6 | 29:B1:2579:G:C5 | 2.77 | 0.51 |
| 29:B1:2602:G:C2 | 29:B1:2603:G:C8 | 2.98 | 0.51 |
| 29:B1:2661:G:C4 | 29:B1:2662:G:C8 | 2.99 | 0.51 |
| 29:B1:2678:A:O4' | 29:B1:2679:A:C2 | 2.59 | 0.51 |
| 29:B1:2732:G:C6 | 29:B1:2733:A:C6 | 2.99 | 0.51 |
| 29:B1:2798:C:O5' | 29:B1:2799:A:OP1 | 2.29 | 0.51 |
| 29:B1:2992:U:H6 | 29:B1:2992:U:H5" | 1.76 | 0.51 |
| 29:B1:3048:A:N6 | 29:B1:3090:U:C3' | 2.72 | 0.51 |
| 29:B1:3135:U:H3' | 29:B1:3136:G:C8 | 2.45 | 0.51 |
| 29:B1:3165:A:O2' | 29:B1:3166:C:H5' | 2.11 | 0.51 |
| 29:B1:3276:G:C2' | 29:B1:3277:U:O4' | 2.57 | 0.51 |
| 29:B1:3310:A:H2' | 29:B1:3311:C:H5' | 1.93 | 0.51 |
| 29:B1:3334:U:C5' | 29:B1:3371:G:N2 | 2.62 | 0.51 |
| 29:B1:3381:U:N3 | 29:B1:3383:G:C6 | 2.78 | 0.51 |
| 30:B2:48:U:C6 | 30:B2:49:G:O6 | 2.64 | 0.51 |
| 30:B2:62:U:H5' | 30:B2:63:A:OP2 | 2.11 | 0.51 |
| 40:BI:43:VAL:O | 40:BI:56:ALA:O | 2.28 | 0.51 |
| 41:BJ:37:GLY:HA3 | 41:BJ:86:HIS:N | 2.25 | 0.51 |
| 41:BJ:152:LEU:O | 41:BJ:153:ARG:C | 2.54 | 0.51 |
| 41:BJ:205:SER:N | 41:BJ:206:LEU:HA | 2.26 | 0.51 |
| 46:BQ:74:LYS:O | 46:BQ:75:GLU:CB | 2.59 | 0.51 |
| 59:Bd:43:LYS:O | 59:Bd:45:ARG:N | 2.39 | 0.51 |
| 1:C1:10:G:C2 | 1:C1:11:A:N9 | 2.79 | 0.51 |
| 1:C1:13:C:H5' | 3:CB:161:LYS:O | 2.11 | 0.51 |
| 1:C1:57:G:C6 | 1:C1:91:G:N1 | 2.79 | 0.51 |
| 1:C1:95:G:H5" | 1:C1:96:G:OP2 | 2.11 | 0.51 |
| 1:C1:173:A:N3 | 1:C1:174:U:O4' | 2.43 | 0.51 |
| 1:C1:244:A:H2' | 1:C1:245:U:C6 | 2.46 | 0.51 |
| 1:C1:249:U:C3' | 1:C1:250:C:C5' | 2.80 | 0.51 |
| 1:C1:408:C:H1' | 1:C1:1731:A:N3 | 2.26 | 0.51 |
| 1:C1:418:G:N2 | 1:C1:419:G:C5 | 2.79 | 0.51 |
| 1:C1:735:C:H2' | 1:C1:736:C:C5 | 2.45 | 0.51 |
| 1:C1:856:A:H3' | 1:C1:857:U:C5' | 2.41 | 0.51 |
| 1:C1:1066:C:C2' | 1:C1:1067:C:H5' | 2.41 | 0.51 |
| 1:C1:1075:C:O2' | 1:C1:1076:A:H5' | 2.11 | 0.51 |
| 1:C1:1198:G:N3 | 1:C1:1198:G:H2' | 2.26 | 0.51 |
| 1:C1:1213:G:N2 | 1:C1:1214:U:H1' | 2.26 | 0.51 |
| 1:C1:1325:A:H2' | 1:C1:1326:A:H8 | 1.76 | 0.51 |
| 1:C1:1722:A:H5' | 1:C1:1723:U:C5 | 2.46 | 0.51 |
| 8:CG:108:ASP:O | 8:CG:111:ALA:CB | 2.59 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:CG:129:TYR:C | 8:CG:131:THR:H | 2.19 | 0.51 |
| 12:CK:53:TYR:O | 12:CK:56:HIS:CB | 2.59 | 0.51 |
| 13:CL:42:TYR:O | 13:CL:43:SER:C | 2.54 | 0.51 |
| 14:CM:17:ALA:HB2 | 14:CM:59:ALA:HB2 | 1.93 | 0.51 |
| 29:D1:70:A:H2 | 29:D1:71:A:O2' | 1.89 | 0.51 |
| 29:D1:87:U:H2' | 29:D1:87:U:O2 | 2.10 | 0.51 |
| 29:D1:373:A:C2 | 29:D1:375:A:C5 | 2.99 | 0.51 |
| 29:D1:424:G:O5' | 29:D1:424:G:H8 | 1.94 | 0.51 |
| 29:D1:431:U:O2' | 29:D1:432:G:P | 2.69 | 0.51 |
| 29:D1:575:G:H2' | 29:D1:576:C:C5 | 2.44 | 0.51 |
| 29:D1:651:G:O2' | 29:D1:652:G:H5' | 2.11 | 0.51 |
| 29:D1:856:G:C6 | 29:D1:857:G:N1 | 2.79 | 0.51 |
| 29:D1:890:C:O2 | 29:D1:2324:A:H2 | 1.94 | 0.51 |
| 29:D1:1494:U:O2' | 29:D1:1496:C:N4 | 2.42 | 0.51 |
| 29:D1:1564:U:H2' | 29:D1:1565:G:H8 | 1.75 | 0.51 |
| 29:D1:1779:C:O4' | 29:D1:1779:C:P | 2.69 | 0.51 |
| 29:D1:2117:A:H2' | 29:D1:2118:C:C6 | 2.45 | 0.51 |
| 29:D1:2246:G:N3 | 29:D1:2247:G:C8 | 2.78 | 0.51 |
| 29:D1:2254:U:C4 | 74:D1:3583:OHX:N5 | 2.79 | 0.51 |
| 29:D1:2274:U:OP1 | 74:D1:3539:OHX:N6 | 2.43 | 0.51 |
| 29:D1:2281:A:H1' | 29:D1:2282:U:OP1 | 2.11 | 0.51 |
| 29:D1:2308:C:OP1 | 29:D1:2309:A:C2' | 2.58 | 0.51 |
| 29:D1:2324:A:H5" | 29:D1:2325:G:P | 2.50 | 0.51 |
| 29:D1:2389:C:C2' | 29:D1:2390:A:O5' | 2.59 | 0.51 |
| 29:D1:2584:G:O2' | 29:D1:2585:G:H4' | 2.10 | 0.51 |
| 29:D1:2619:G:H8 | 29:D1:2619:G:OP1 | 1.93 | 0.51 |
| 29:D1:2655:U:C2 | 29:D1:2656:A:N1 | 2.78 | 0.51 |
| 29:D1:2847:A:H62 | 29:D1:2898:G:N2 | 2.08 | 0.51 |
| 29:D1:3006:A:N7 | 29:D1:3007:U:C2 | 2.79 | 0.51 |
| 29:D1:3011:A:N1 | 34:DC:13:HIS:HA | 2.26 | 0.51 |
| 29:D1:3072:C:H2' | 29:D1:3073:A:C5' | 2.41 | 0.51 |
| 29:D1:3078:U:H4' | 29:D1:3079:U:H5' | 1.90 | 0.51 |
| 29:D1:3274:A:N3 | 29:D1:3274:A:H2' | 2.24 | 0.51 |
| 29:D1:3361:G:N7 | 29:D1:3362:A:C8 | 2.79 | 0.51 |
| 31:D3:70:G:H5' | 31:D3:71:A:N7 | 2.23 | 0.51 |
| 31:D3:108:C:C2' | 31:D3:109:A:O5' | 2.59 | 0.51 |
| 34:DC:198:HIS:C | 34:DC:200:GLU:N | 2.69 | 0.51 |
| 35:DD:119:ARG:O | 35:DD:121:ALA:N | 2.44 | 0.51 |
| 36:DE:185:PHE:CB | 36:DE:186:GLU:CB | 2.88 | 0.51 |
| 40:DI:63:LYS:O | 40:DI:65:VAL:N | 2.44 | 0.51 |
| 45:DP:58:LEU:CB | 45:DP:72:HIS:CB | 2.88 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 45:DP:188:SER:C | 45:DP:190:VAL:H | 2.18 | 0.51 |
| 1:A1:40:A:C8 | 1:A1:41:A:N7 | 2.79 | 0.51 |
| 1:A1:60:U:H5" | 1:A1:454:U:H5' | 1.93 | 0.51 |
| 1:A1:310:C:H2' | 1:A1:311:U:C5' | 2.39 | 0.51 |
| 1:A1:389:G:C4 | 1:A1:390:G:N7 | 2.78 | 0.51 |
| 1:A1:402:C:C2 | 1:A1:403:G:C4' | 2.94 | 0.51 |
| 1:A1:611:U:H5 | 1:A1:612:U:C5 | 2.29 | 0.51 |
| 1:A1:646:C:H3' | 1:A1:647:G:C5' | 2.39 | 0.51 |
| 1:A1:901:G:H3' | 1:A1:902:G:N7 | 2.25 | 0.51 |
| 1:A1:1209:C:H2' | 1:A1:1210:C:C6 | 2.42 | 0.51 |
| 1:A1:1239:U:H2' | 1:A1:1240:U:C5 | 2.46 | 0.51 |
| 1:A1:1348:A:H5" | 15:AN:11:GLU:C | 2.36 | 0.51 |
| 1:A1:1395:G:H2' | 1:A1:1396:U:C5' | 2.37 | 0.51 |
| 1:A1:1400:A:N1 | 1:A1:1401:A:C2 | 2.79 | 0.51 |
| 1:A1:1485:C:H42 | 1:A1:1592:A:C4' | 2.23 | 0.51 |
| 1:A1:1569:A:N3 | 1:A1:1570:A:C8 | 2.79 | 0.51 |
| 1:A1:1662:G:C2 | 1:A1:1663:G:C5 | 2.98 | 0.51 |
| 3:AB:215:PHE:C | 3:AB:217:ALA:H | 2.19 | 0.51 |
| 4:AC:158:ILE:O | 4:AC:160:SER:N | 2.40 | 0.51 |
| 6:AE:96:VAL:O | 6:AE:99:LEU:C | 2.53 | 0.51 |
| 8:AG:82:PRO:O | 8:AG:83:GLU:C | 2.54 | 0.51 |
| 11:AJ:108:ALA:C | 11:AJ:110:THR:H | 2.19 | 0.51 |
| 16:AO:17:ALA:O | 16:AO:20:THR:N | 2.37 | 0.51 |
| 23:Ab:126:UNK:HA | 23:Ab:133:UNK:O | 2.10 | 0.51 |
| 29:B1:18:G:C6 | 29:B1:19:U:N3 | 2.79 | 0.51 |
| 29:B1:88:A:H2 | 29:B1:281:G:C2 | 2.28 | 0.51 |
| 29:B1:102:C:C4' | 29:B1:103:G:OP1 | 2.58 | 0.51 |
| 29:B1:192:C:H2' | 29:B1:193:C:H6 | 1.75 | 0.51 |
| 29:B1:198:A:N3 | 29:B1:218:G:O2' | 2.44 | 0.51 |
| 29:B1:251:G:H4' | 29:B1:252:U:OP1 | 2.10 | 0.51 |
| 29:B1:269:G:N1 | 29:B1:294:U:H5 | 2.06 | 0.51 |
| 29:B1:271:C:O2' | 29:B1:272:G:C8 | 2.56 | 0.51 |
| 29:B1:282:G:H4' | 29:B1:283:G:O5' | 2.09 | 0.51 |
| 29:B1:292:U:H5" | 29:B1:293:C:OP2 | 2.11 | 0.51 |
| 29:B1:331:G:C6 | 29:B1:332:C:N4 | 2.78 | 0.51 |
| 29:B1:371:G:H3' | 29:B1:371:G:C8 | 2.46 | 0.51 |
| 29:B1:423:A:C2 | 29:B1:424:G:N3 | 2.79 | 0.51 |
| 29:B1:523:A:C2 | 29:B1:524:U:C6 | 2.98 | 0.51 |
| 29:B1:538:G:C2 | 29:B1:556:U:H5 | 2.29 | 0.51 |
| 29:B1:594:U:O4 | 29:B1:595:G:C2 | 2.63 | 0.51 |
| 29:B1:817:A:H2' | 29:B1:920:A:C2 | 2.46 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:886:C:H2' | 29:B1:887:G:H5' | 1.91 | 0.51 |
| 29:B1:928:C:H2' | 29:B1:929:A:C8 | 2.46 | 0.51 |
| 29:B1:944:C:O2 | 29:B1:945:C:C6 | 2.64 | 0.51 |
| 29:B1:1087:G:C2 | 29:B1:1088:U:C5 | 2.99 | 0.51 |
| 29:B1:1167:U:C2' | 29:B1:1168:U:O5' | 2.59 | 0.51 |
| 29:B1:1284:C:H5 | 29:B1:1285:G:H21 | 1.54 | 0.51 |
| 29:B1:1284:C:N4 | 29:B1:1285:G:H21 | 2.09 | 0.51 |
| 29:B1:1350:A:OP2 | 29:B1:1350:A:O3' | 2.29 | 0.51 |
| 29:B1:1463:U:C2 | 29:B1:1464:G:C8 | 2.99 | 0.51 |
| 29:B1:1466:G:C6 | 29:B1:1511:U:C6 | 2.99 | 0.51 |
| 29:B1:1638:A:H2 | 29:B1:1736:G:N3 | 2.08 | 0.51 |
| 29:B1:1729:A:N6 | 62:Bg:42:CYS:CB | 2.73 | 0.51 |
| 29:B1:1922:A:N7 | 29:B1:1923:C:C5 | 2.78 | 0.51 |
| 29:B1:2299:A:H2' | 29:B1:2300:G:O5' | 2.11 | 0.51 |
| 29:B1:2407:C:C1' | 29:B1:2818:U:H3 | 2.22 | 0.51 |
| 29:B1:2425:G:H2' | 29:B1:2426:U:C6 | 2.46 | 0.51 |
| 29:B1:2520:A:C2 | 29:B1:2521:U:O2 | 2.64 | 0.51 |
| 29:B1:2583:C:C2' | 29:B1:2584:G:C8 | 2.85 | 0.51 |
| 29:B1:2610:G:H2' | 29:B1:2611:U:H6 | 1.76 | 0.51 |
| 29:B1:2640:A:H5" | 29:B1:2641:U:OP2 | 2.11 | 0.51 |
| 29:B1:2662:G:H3' | 29:B1:2663:G:H8 | 1.76 | 0.51 |
| 29:B1:2994:A:H2' | 29:B1:2995:A:O4' | 2.10 | 0.51 |
| 29:B1:3012:A:C4 | 29:B1:3013:U:C5 | 2.98 | 0.51 |
| 29:B1:3047:U:C2' | 29:B1:3048:A:H5" | 2.38 | 0.51 |
| 29:B1:3110:C:H2' | 29:B1:3111:U:O4' | 2.11 | 0.51 |
| 29:B1:3135:U:C6 | 29:B1:3136:G:C8 | 2.98 | 0.51 |
| 29:B1:3210:A:H2' | 29:B1:3211:C:C6 | 2.45 | 0.51 |
| 29:B1:3357:U:H5' | 29:B1:3358:U:OP2 | 2.10 | 0.51 |
| 29:B1:3379:C:O2' | 29:B1:3380:U:H5' | 2.11 | 0.51 |
| 30:B2:13:A:C5' | 30:B2:112:G:H1' | 2.30 | 0.51 |
| 34:BC:216:ASP:HA | 34:BC:277:SER:O | 2.10 | 0.51 |
| 35:BD:115:HIS:C | 35:BD:117:GLU:N | 2.68 | 0.51 |
| 36:BE:102:GLY:O | 36:BE:105:ILE:O | 2.28 | 0.51 |
| 37:BF:134:ARG:O | 37:BF:138:GLN:N | 2.44 | 0.51 |
| 42:BK:83:GLY:O | 42:BK:84:LEU:C | 2.53 | 0.51 |
| 46:BQ:11:PRO:O | 46:BQ:12:ALA:CB | 2.59 | 0.51 |
| 47:BR:18:ALA:O | 47:BR:19:PRO:O | 2.29 | 0.51 |
| 49:BT:58:GLN:O | 49:BT:60:LYS:N | 2.44 | 0.51 |
| 56:Ba:9:THR:CA | 56:Ba:76:SER:HA | 2.27 | 0.51 |
| 63:Bh:7:UNK:O | 63:Bh:11:UNK:N | 2.44 | 0.51 |
| 71:Br:12:UNK:C | 71:Br:14:UNK:N | 2.73 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:23:G:C5 | 1:C1:24:U:C5 | 2.99 | 0.51 |
| 1:C1:339:C:C2 | 1:C1:340:U:C6 | 2.99 | 0.51 |
| 1:C1:402:C:C2 | 1:C1:403:G:O4' | 2.64 | 0.51 |
| 1:C1:553:G:N2 | 1:C1:571:G:N2 | 2.59 | 0.51 |
| 1:C1:615:A:C6 | 1:C1:1107:G:C6 | 2.99 | 0.51 |
| 1:C1:778:G:N2 | 1:C1:783:G:C6 | 2.78 | 0.51 |
| 1:C1:791:A:C4 | 1:C1:792:U:C5 | 2.98 | 0.51 |
| 1:C1:886:U:H5" | 1:C1:887:A:OP2 | 2.11 | 0.51 |
| 1:C1:947:U:H2' | 1:C1:948:G:C8 | 2.46 | 0.51 |
| 1:C1:1156:C:O2' | 1:C1:1157:A:H5' | 2.11 | 0.51 |
| 1:C1:1233:G:H2' | 1:C1:1234:A:O4' | 2.10 | 0.51 |
| 1:C1:1416:G:C4 | 1:C1:1417:A:C8 | 2.99 | 0.51 |
| 1:C1:1477:G:C2' | 1:C1:1478:G:H5' | 2.40 | 0.51 |
| 1:C1:1632:C:O2' | 1:C1:1633:A:H5" | 2.11 | 0.51 |
| 1:C1:1663:G:C4 | 1:C1:1664:C:C6 | 2.99 | 0.51 |
| 3:CB:155:ALA:O | 3:CB:168:ARG:HA | 2.11 | 0.51 |
| 5:CD:182:ALA:O | 5:CD:184:PHE:N | 2.43 | 0.51 |
| 10:CI:116:LEU:O | 10:CI:118:GLU:N | 2.42 | 0.51 |
| 24:Cc:4:UNK:HA | 24:Cc:99:UNK:C | 2.40 | 0.51 |
| 29:D1:3:U:H2' | 29:D1:4:U:H6 | 1.75 | 0.51 |
| 29:D1:203:G:H2' | 29:D1:204:A:O4' | 2.09 | 0.51 |
| 29:D1:304:G:H3' | 29:D1:304:G:P | 2.50 | 0.51 |
| 29:D1:397:A:C6 | 29:D1:400:G:N1 | 2.78 | 0.51 |
| 29:D1:422:A:C1' | 29:D1:423:A:O5' | 2.59 | 0.51 |
| 29:D1:424:G:H2' | 29:D1:425:G:OP1 | 2.11 | 0.51 |
| 29:D1:560:G:C2 | 29:D1:561:C:C4 | 2.99 | 0.51 |
| 29:D1:573:C:H2' | 29:D1:574:U:H5 | 1.75 | 0.51 |
| 29:D1:595:G:N1 | 29:D1:609:G:O4' | 2.43 | 0.51 |
| 29:D1:717:C:H5 | 29:D1:721:G:P | 2.32 | 0.51 |
| 29:D1:736:A:C8 | 29:D1:737:G:C8 | 2.99 | 0.51 |
| 29:D1:943:U:H2' | 54:DY:9:ARG:O | 2.11 | 0.51 |
| 29:D1:1024:G:C5 | 29:D1:1025:A:N7 | 2.78 | 0.51 |
| 29:D1:1076:C:N3 | 29:D1:1077:U:O4 | 2.43 | 0.51 |
| 29:D1:1205:A:C4 | 29:D1:1206:G:C8 | 2.98 | 0.51 |
| 29:D1:1242:G:P | 29:D1:1242:G:H8 | 2.34 | 0.51 |
| 29:D1:1350:A:OP2 | 29:D1:1350:A:O3' | 2.28 | 0.51 |
| 29:D1:1390:A:C8 | 29:D1:1418:A:N7 | 2.79 | 0.51 |
| 29:D1:1420:C:H2' | 29:D1:1421:G:H8 | 1.76 | 0.51 |
| 29:D1:1459:C:O5' | 29:D1:1459:C:H6 | 1.94 | 0.51 |
| 29:D1:1599:G:N1 | 29:D1:1600:U:O2 | 2.44 | 0.51 |
| 29:D1:1623:G:N3 | 29:D1:1624:G:H1' | 2.25 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1662:G:C6 | 29:D1:1663:C:C4 | 2.99 | 0.51 |
| 29:D1:1686:U:H1' | 29:D1:1688:U:OP1 | 2.10 | 0.51 |
| 29:D1:1766:G:C2 | 29:D1:1767:C:C6 | 2.99 | 0.51 |
| 29:D1:1774:C:H2' | 29:D1:1774:C:O2 | 2.11 | 0.51 |
| 29:D1:1818:U:H2' | 29:D1:1819:U:N1 | 2.26 | 0.51 |
| 29:D1:1844:C:N3 | 29:D1:1845:G:N7 | 2.59 | 0.51 |
| 29:D1:2111:G:H21 | 51:DV:49:ILE:HA | 1.72 | 0.51 |
| 29:D1:2150:G:H2' | 29:D1:2151:C:C5' | 2.38 | 0.51 |
| 29:D1:2181:C:C2' | 29:D1:2182:A:O5' | 2.58 | 0.51 |
| 29:D1:2196:C:O2' | 29:D1:2271:A:O4' | 2.28 | 0.51 |
| 29:D1:2253:G:C5 | 29:D1:2254:U:C2 | 2.99 | 0.51 |
| 29:D1:2255:A:C4' | 29:D1:2256:A:OP1 | 2.58 | 0.51 |
| 29:D1:2328:U:H2' | 29:D1:2329:C:C5' | 2.28 | 0.51 |
| 29:D1:2759:U:H5" | 29:D1:2760:C:OP1 | 2.11 | 0.51 |
| 29:D1:2876:C:C1' | 29:D1:2952:G:N2 | 2.74 | 0.51 |
| 29:D1:2904:U:C3' | 29:D1:2904:U:C2 | 2.94 | 0.51 |
| 29:D1:3126:C:C2 | 29:D1:3127:A:C8 | 2.99 | 0.51 |
| 29:D1:3180:A:C8 | 45:DP:114:LYS:HA | 2.45 | 0.51 |
| 29:D1:3187:A:C2 | 29:D1:3188:G:N9 | 2.79 | 0.51 |
| 29:D1:3294:A:H2' | 29:D1:3295:A:C5' | 2.40 | 0.51 |
| 30:D2:95:A:C2' | 30:D2:96:U:O5' | 2.59 | 0.51 |
| 31:D3:48:A:C5 | 31:D3:51:G:C8 | 2.99 | 0.51 |
| 31:D3:97:A:O2' | 31:D3:98:U:H5' | 2.11 | 0.51 |
| 35:DD:115:HIS:C | 35:DD:117:GLU:N | 2.66 | 0.51 |
| 36:DE:167:SER:C | 36:DE:169:GLY:N | 2.69 | 0.51 |
| 37:DF:162:SER:O | 37:DF:163:PHE:C | 2.54 | 0.51 |
| 39:DH:243:GLN:O | 39:DH:244:ALA:C | 2.52 | 0.51 |
| 72:DL:97:ASN:O | 72:DL:98:VAL:C | 2.53 | 0.51 |
| 43:DN:34:ALA:O | 43:DN:46:ILE:C | 2.54 | 0.51 |
| 45:DP:54:TYR:C | 45:DP:56:ASP:N | 2.69 | 0.51 |
| 48:DS:127:SER:C | 48:DS:129:GLY:H | 2.18 | 0.51 |
| 48:DS:151:ARG:O | 48:DS:154:ALA:HB3 | 2.11 | 0.51 |
| 51:DV:34:SER:O | 51:DV:35:LYS:C | 2.54 | 0.51 |
| 58:Dc:37:SER:O | 58:Dc:38:ARG:CB | 2.58 | 0.51 |
| 1:A1:41:A:H2' | 1:A1:438:A:H62 | 1.75 | 0.51 |
| 1:A1:103:A:H4' | 1:A1:104:A:O5' | 2.11 | 0.51 |
| 1:A1:123:G:C5 | 1:A1:124:A:C8 | 2.99 | 0.51 |
| 1:A1:130:C:C2 | 1:A1:177:U:OP1 | 2.64 | 0.51 |
| 1:A1:178:U:O2 | 1:A1:178:U:H2' | 2.11 | 0.51 |
| 1:A1:339:C:H2' | 1:A1:340:U:C6 | 2.45 | 0.51 |
| 1:A1:353:A:C5 | 1:A1:354:C:C6 | 2.99 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:477:A:H2 | 1:A1:512:A:N1 | 2.08 | 0.51 |
| 1:A1:492:A:N3 | 1:A1:494:U:C6 | 2.79 | 0.51 |
| 1:A1:749:U:OP1 | 16:AO:82:LYS:CB | 2.58 | 0.51 |
| 1:A1:866:G:N3 | 1:A1:867:G:C8 | 2.79 | 0.51 |
| 1:A1:883:C:O2 | 1:A1:883:C:C2' | 2.59 | 0.51 |
| 1:A1:960:U:H2' | 1:A1:961:U:C6 | 2.46 | 0.51 |
| 1:A1:1111:G:C2' | 1:A1:1112:G:H5' | 2.41 | 0.51 |
| 1:A1:1172:G:C5 | 1:A1:1173:C:C4 | 2.99 | 0.51 |
| 1:A1:1365:C:C4 | 1:A1:1366:U:C6 | 2.98 | 0.51 |
| 1:A1:1373:C:H2' | 1:A1:1373:C:O2 | 2.10 | 0.51 |
| 1:A1:1410:A:N7 | 1:A1:1411:A:C5 | 2.79 | 0.51 |
| 1:A1:1453:G:H2' | 1:A1:1454:G:C8 | 2.46 | 0.51 |
| 1:A1:1584:G:N3 | 1:A1:1584:G:H2' | 2.26 | 0.51 |
| 1:A1:1650:U:C3' | 1:A1:1651:A:C8 | 2.84 | 0.51 |
| 1:A1:1721:A:O5' | 1:A1:1721:A:C8 | 2.64 | 0.51 |
| 2:AA:211:GLU:O | 2:AA:215:ALA:HB2 | 2.11 | 0.51 |
| 6:AE:122:VAL:O | 6:AE:123:HIS:C | 2.53 | 0.51 |
| 11:AJ:131:GLY:HA3 | 11:AJ:138:PHE:H | 1.76 | 0.51 |
| 16:AO:78:ARG:O | 16:AO:79:PHE:CB | 2.58 | 0.51 |
| 17:AP:86:PHE:O | 17:AP:88:PRO:N | 2.44 | 0.51 |
| 17:AP:114:LYS:CB | 17:AP:115:GLY:HA2 | 2.39 | 0.51 |
| 20:AS:19:ARG:O | 20:AS:20:GLN:O | 2.28 | 0.51 |
| 21:AT:33:LEU:O | 21:AT:44:SER:HA | 2.11 | 0.51 |
| 21:AT:194:GLY:O | 21:AT:195:HIS:O | 2.29 | 0.51 |
| 24:Ac:88:UNK:O | 24:Ac:90:UNK:N | 2.44 | 0.51 |
| 29:B1:378:A:C3' | 29:B1:378:A:C4 | 2.94 | 0.51 |
| 29:B1:525:C:H5" | 43:BN:71:ALA:HB2 | 1.91 | 0.51 |
| 29:B1:604:G:H2' | 29:B1:605:U:C6 | 2.45 | 0.51 |
| 29:B1:825:U:H2' | 29:B1:826:G:H5" | 1.92 | 0.51 |
| 29:B1:887:G:C6 | 29:B1:888:A:C5 | 2.99 | 0.51 |
| 29:B1:932:U:H4' | 29:B1:933:A:O5' | 2.10 | 0.51 |
| 29:B1:954:U:OP1 | 29:B1:954:U:C4' | 2.58 | 0.51 |
| 29:B1:957:C:C2 | 29:B1:958:C:C6 | 2.98 | 0.51 |
| 29:B1:1001:G:H8 | 29:B1:1041:U:O3' | 1.94 | 0.51 |
| 29:B1:1357:G:C3' | 29:B1:1358:C:H6 | 2.24 | 0.51 |
| 29:B1:1390:A:O4' | 29:B1:1418:A:N6 | 2.44 | 0.51 |
| 29:B1:1429:G:H8 | 29:B1:1429:G:O5' | 1.91 | 0.51 |
| 29:B1:1454:A:C5' | 29:B1:1878:G:C6 | 2.90 | 0.51 |
| 29:B1:1491:A:N6 | 60:Be:3:ALA:HB2 | 2.26 | 0.51 |
| 29:B1:1495:U:O2' | 29:B1:1514:G:C4' | 2.59 | 0.51 |
| 29:B1:1575:A:H2' | 29:B1:1576:G:O4' | 2.11 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1684:U:H3' | 29:B1:1684:U:C6 | 2.45 | 0.51 |
| 29:B1:1895:A:O2' | 29:B1:3053:G:H4' | 2.11 | 0.51 |
| 29:B1:1902:G:OP2 | 29:B1:2919:A:P | 2.68 | 0.51 |
| 29:B1:2417:U:O4 | 29:B1:2804:A:N1 | 2.44 | 0.51 |
| 29:B1:2435:G:O2' | 29:B1:2436:U:P | 2.69 | 0.51 |
| 29:B1:2639:G:C6 | 29:B1:2640:A:C5 | 2.99 | 0.51 |
| 29:B1:2722:U:H2' | 29:B1:2723:U:H6 | 1.75 | 0.51 |
| 29:B1:2771:U:C3' | 29:B1:2772:C:C5' | 2.85 | 0.51 |
| 29:B1:2861:U:H2' | 29:B1:2862:U:C6 | 2.41 | 0.51 |
| 29:B1:2881:C:C2' | 29:B1:2882:U:O5' | 2.59 | 0.51 |
| 29:B1:2901:G:O5' | 29:B1:2901:G:H8 | 1.94 | 0.51 |
| 29:B1:2963:C:H2' | 29:B1:2964:G:C5' | 2.40 | 0.51 |
| 29:B1:3082:C:C2' | 29:B1:3083:G:O5' | 2.59 | 0.51 |
| 29:B1:3088:G:H5" | 29:B1:3089:C:OP2 | 2.10 | 0.51 |
| 29:B1:3157:U:H4' | 29:B1:3158:G:O4' | 2.11 | 0.51 |
| 29:B1:3216:G:O2' | 29:B1:3217:C:OP2 | 2.18 | 0.51 |
| 29:B1:3221:C:C4 | 29:B1:3222:U:H5 | 2.30 | 0.51 |
| 29:B1:3328:G:O2' | 29:B1:3329:U:O4' | 2.29 | 0.51 |
| 29:B1:3377:G:N9 | 74:B1:3450:OHX:N2 | 2.58 | 0.51 |
| 30:B2:102:A:H2' | 30:B2:103:A:H8 | 1.76 | 0.51 |
| 31:B3:3:A:H3' | 31:B3:3:A:H8 | 1.75 | 0.51 |
| 31:B3:35:C:H2' | 31:B3:36:G:H8 | 1.77 | 0.51 |
| 31:B3:65:A:C6 | 31:B3:66:A:C5 | 3.00 | 0.51 |
| 31:B3:131:A:C2 | 31:B3:132:G:N7 | 2.79 | 0.51 |
| 31:B3:148:G:O2' | 31:B3:149:A:P | 2.68 | 0.51 |
| 36:BE:44:TYR:O | 49:BT:69:LYS:CB | 2.58 | 0.51 |
| 36:BE:225:GLY:N | 36:BE:233:ALA:HB3 | 2.25 | 0.51 |
| 36:BE:251:PRO:CB | 36:BE:254:LYS:HA | 2.41 | 0.51 |
| 36:BE:282:ARG:O | 36:BE:283:ALA:HB3 | 2.11 | 0.51 |
| 38:BG:223:PHE:O | 38:BG:224:ILE:O | 2.28 | 0.51 |
| 40:BI:62:ARG:O | 40:BI:63:LYS:C | 2.52 | 0.51 |
| 42:BK:36:VAL:O | 42:BK:37:LEU:C | 2.54 | 0.51 |
| 57:Bb:66:LEU:CA | 57:Bb:67:SER:CB | 2.89 | 0.51 |
| 62:Bg:54:ILE:O | 62:Bg:55:TRP:CB | 2.59 | 0.51 |
| 62:Bg:59:CYS:C | 74:Bg:101:OHX:N3 | 2.69 | 0.51 |
| 1:C1:15:U:H1' | 1:C1:619:A:C2 | 2.45 | 0.51 |
| 1:C1:60:U:H2' | 1:C1:61:A:H5' | 1.91 | 0.51 |
| 1:C1:269:G:N1 | 1:C1:270:C:C4 | 2.79 | 0.51 |
| 1:C1:438:A:O5' | 1:C1:438:A:C8 | 2.64 | 0.51 |
| 1:C1:483:A:C8 | 1:C1:483:A:OP2 | 2.64 | 0.51 |
| 1:C1:620:A:N7 | 1:C1:621:A:C6 | 2.78 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:649:U:C4 | 1:C1:685:A:N1 | 2.79 | 0.51 |
| 1:C1:718:U:H3' | 1:C1:720:G:C2 | 2.46 | 0.51 |
| 1:C1:842:C:O2' | 1:C1:843:U:H5' | 2.11 | 0.51 |
| 1:C1:1138:A:N6 | 1:C1:1139:A:N6 | 2.59 | 0.51 |
| 1:C1:1198:G:OP2 | 1:C1:1199:G:N7 | 2.44 | 0.51 |
| 1:C1:1242:A:H5" | 1:C1:1243:G:OP2 | 2.11 | 0.51 |
| 1:C1:1382:A:C2 | 1:C1:1383:G:C5 | 2.99 | 0.51 |
| 1:C1:1594:G:C6 | 1:C1:1595:U:C2 | 2.98 | 0.51 |
| 2:CA:203:PHE:O | 2:CA:205:ARG:N | 2.44 | 0.51 |
| 4:CC:144:ALA:O | 4:CC:145:ALA:CB | 2.59 | 0.51 |
| 10:CI:115:TYR:O | 10:CI:116:LEU:C | 2.54 | 0.51 |
| 29:D1:49:A:O2' | 29:D1:50:U:OP1 | 2.25 | 0.51 |
| 29:D1:171:G:N3 | 29:D1:172:G:C8 | 2.79 | 0.51 |
| 29:D1:407:A:O5' | 29:D1:407:A:H8 | 1.92 | 0.51 |
| 29:D1:583:G:C6 | 29:D1:584:G:C5 | 2.99 | 0.51 |
| 29:D1:618:C:O2 | 29:D1:619:A:C8 | 2.63 | 0.51 |
| 29:D1:666:A:O2' | 29:D1:667:C:OP1 | 2.24 | 0.51 |
| 29:D1:715:A:O2' | 29:D1:716:A:H5' | 2.11 | 0.51 |
| 29:D1:769:G:H1' | 29:D1:770:G:O5' | 2.10 | 0.51 |
| 29:D1:1001:G:C8 | 29:D1:1041:U:H5' | 2.46 | 0.51 |
| 29:D1:1072:G:C4 | 29:D1:1073:U:C5 | 2.99 | 0.51 |
| 29:D1:1079:A:N9 | 36:DE:141:PRO:CB | 2.74 | 0.51 |
| 29:D1:1084:A:H3' | 29:D1:1085:A:H8 | 1.76 | 0.51 |
| 29:D1:1220:U:C6 | 29:D1:1220:U:C3' | 2.92 | 0.51 |
| 29:D1:1480:G:N1 | 29:D1:1871:U:OP2 | 2.44 | 0.51 |
| 29:D1:1525:G:C8 | 29:D1:1829:G:C5 | 2.99 | 0.51 |
| 29:D1:1714:A:C6 | 29:D1:1728:G:N1 | 2.79 | 0.51 |
| 29:D1:1761:C:O2' | 29:D1:1762:C:H5" | 2.11 | 0.51 |
| 29:D1:1782:U:OP2 | 29:D1:1782:U:H3' | 2.11 | 0.51 |
| 29:D1:1799:A:C2 | 29:D1:1800:A:C4 | 2.99 | 0.51 |
| 29:D1:1863:G:N2 | 29:D1:1865:A:H2' | 2.26 | 0.51 |
| 29:D1:1868:G:H8 | 29:D1:1868:G:O5' | 1.94 | 0.51 |
| 29:D1:1948:G:C2 | 29:D1:1949:G:C8 | 2.99 | 0.51 |
| 29:D1:2130:G:C6 | 29:D1:2323:G:C6 | 2.98 | 0.51 |
| 29:D1:2294:U:H3' | 29:D1:2295:A:H5" | 1.93 | 0.51 |
| 29:D1:2501:U:H1' | 29:D1:2502:A:O5' | 2.11 | 0.51 |
| 29:D1:2692:A:C6 | 29:D1:2693:C:C4 | 2.99 | 0.51 |
| 29:D1:2717:U:C4 | 29:D1:2740:A:C6 | 2.99 | 0.51 |
| 29:D1:2897:A:C2 | 29:D1:2905:U:O2 | 2.63 | 0.51 |
| 29:D1:2994:A:H2' | 29:D1:2995:A:O4' | 2.11 | 0.51 |
| 29:D1:3060:C:H2' | 29:D1:3061:G:O5' | 2.11 | 0.51 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3198:U:O2 | 29:D1:3199:G:C5 | 2.63 | 0.51 |
| 29:D1:3361:G:H2' | 29:D1:3362:A:C5' | 2.38 | 0.51 |
| 30:D2:13:A:H5' | 30:D2:112:G:C1' | 2.25 | 0.51 |
| 30:D2:111:U:O3' | 30:D2:113:C:P | 2.69 | 0.51 |
| 33:DB:120:PRO:O | 33:DB:121:GLY:C | 2.54 | 0.51 |
| 35:DD:20:LEU:O | 35:DD:21:PRO:CB | 2.58 | 0.51 |
| 35:DD:241:GLY:O | 35:DD:242:ALA:C | 2.53 | 0.51 |
| 38:DG:224:ILE:O | 38:DG:226:GLY:N | 2.44 | 0.51 |
| 40:DI:72:LYS:O | 40:DI:73:SER:O | 2.29 | 0.51 |
| 41:DJ:33:ILE:O | 41:DJ:34:TYR:CB | 2.59 | 0.51 |
| 42:DK:48:SER:CB | 42:DK:66:ALA:HB3 | 2.41 | 0.51 |
| 1:A1:29:U:C2 | 1:A1:597:G:O6 | 2.63 | 0.50 |
| 1:A1:38:C:H2' | 1:A1:39:A:H5" | 1.92 | 0.50 |
| 1:A1:528:U:H4' | 1:A1:529:A:C5' | 2.41 | 0.50 |
| 1:A1:601:A:C5 | 1:A1:602:U:C4 | 3.00 | 0.50 |
| 1:A1:705:U:O4 | 1:A1:734:A:C2 | 2.64 | 0.50 |
| 1:A1:757:A:C4 | 1:A1:758:U:C5 | 2.98 | 0.50 |
| 1:A1:868:G:H2' | 1:A1:869:A:H5' | 1.91 | 0.50 |
| 1:A1:963:A:O2' | 1:A1:964:U:O5' | 2.29 | 0.50 |
| 1:A1:1026:A:C2 | 1:A1:1792:G:N3 | 2.79 | 0.50 |
| 1:A1:1203:A:C2 | 1:A1:1555:A:C2 | 2.99 | 0.50 |
| 1:A1:1281:G:C5 | 1:A1:1282:U:C5 | 2.99 | 0.50 |
| 1:A1:1332:C:O5' | 1:A1:1332:C:H6 | 1.93 | 0.50 |
| 1:A1:1392:U:C6 | 1:A1:1392:U:C5' | 2.94 | 0.50 |
| 1:A1:1542:G:OP2 | 1:A1:1542:G:C8 | 2.51 | 0.50 |
| 1:A1:1591:C:O2' | 1:A1:1592:A:O5' | 2.25 | 0.50 |
| 1:A1:1671:A:C4 | 1:A1:1731:A:C2 | 2.99 | 0.50 |
| 1:A1:1689:A:N6 | 1:A1:1716:C:C2 | 2.79 | 0.50 |
| 1:A1:1693:A:N6 | 1:A1:1708:U:H3 | 2.08 | 0.50 |
| 2:AA:65:ALA:C | 2:AA:67:ILE:N | 2.69 | 0.50 |
| 2:AA:181:VAL:O | 2:AA:182:LEU:C | 2.52 | 0.50 |
| 14:AM:112:GLY:O | 14:AM:113:ILE:CB | 2.59 | 0.50 |
| 15:AN:20:ILE:C | 15:AN:92:ASP:HA | 2.36 | 0.50 |
| 15:AN:45:ALA:HB1 | 15:AN:49:ASN:CB | 2.41 | 0.50 |
| 21:AT:37:SER:C | 21:AT:39:ASP:H | 2.18 | 0.50 |
| 29:B1:325:A:H3' | 29:B1:327:A:OP2 | 2.11 | 0.50 |
| 29:B1:405:U:C4 | 29:B1:406:G:C4 | 2.99 | 0.50 |
| 29:B1:501:A:C2 | 29:B1:613:G:N1 | 2.78 | 0.50 |
| 29:B1:510:G:H2' | 29:B1:511:G:O5' | 2.10 | 0.50 |
| 29:B1:610:G:C5' | 29:B1:611:A:OP2 | 2.59 | 0.50 |
| 29:B1:707:U:O2' | 29:B1:752:C:O2 | 2.26 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:729:C:C4 | 29:B1:730:C:C4 | 2.99 | 0.50 |
| 29:B1:733:G:H21 | 29:B1:734:C:H2' | 1.74 | 0.50 |
| 29:B1:856:G:C6 | 29:B1:857:G:N2 | 2.79 | 0.50 |
| 29:B1:861:C:OP2 | 29:B1:862:U:OP2 | 2.29 | 0.50 |
| 29:B1:863:C:C2' | 29:B1:864:G:H5' | 2.41 | 0.50 |
| 29:B1:900:G:H2' | 29:B1:901:G:C8 | 2.46 | 0.50 |
| 29:B1:941:G:H2' | 29:B1:942:U:O4' | 2.12 | 0.50 |
| 29:B1:945:C:C2 | 29:B1:946:U:C6 | 2.98 | 0.50 |
| 29:B1:963:G:C8 | 29:B1:963:G:C4' | 2.94 | 0.50 |
| 29:B1:1110:U:C2 | 29:B1:1111:U:C5 | 2.99 | 0.50 |
| 29:B1:1183:C:C3' | 29:B1:1184:A:H5" | 2.41 | 0.50 |
| 29:B1:1403:C:C5' | 29:B1:1404:G:OP2 | 2.59 | 0.50 |
| 29:B1:1449:A:H4' | 29:B1:2983:C:O2 | 2.11 | 0.50 |
| 29:B1:1511:U:H3' | 29:B1:1512:U:H6 | 1.76 | 0.50 |
| 29:B1:1514:G:N7 | 29:B1:1841:A:C4 | 2.79 | 0.50 |
| 29:B1:1560:G:C6 | 29:B1:1579:C:C2 | 3.00 | 0.50 |
| 29:B1:1899:G:O2' | 29:B1:2334:U:O4 | 2.24 | 0.50 |
| 29:B1:1909:A:N6 | 29:B1:1910:A:C2 | 2.79 | 0.50 |
| 29:B1:2114:C:H5" | 29:B1:2116:G:N7 | 2.26 | 0.50 |
| 29:B1:2147:A:H8 | 29:B1:2147:A:O5' | 1.94 | 0.50 |
| 29:B1:2654:C:H5' | 29:B1:2657:A:C6 | 2.46 | 0.50 |
| 29:B1:2722:U:H2' | 29:B1:2723:U:C6 | 2.47 | 0.50 |
| 29:B1:2800:G:H5" | 29:B1:2801:A:OP1 | 2.11 | 0.50 |
| 29:B1:3128:G:H5" | 29:B1:3129:A:OP2 | 2.10 | 0.50 |
| 29:B1:3149:G:C2' | 29:B1:3150:A:H5' | 2.40 | 0.50 |
| 29:B1:3170:A:H2' | 29:B1:3171:U:O5' | 2.10 | 0.50 |
| 29:B1:3202:G:N3 | 29:B1:3203:U:C2 | 2.79 | 0.50 |
| 29:B1:3322:A:C6 | 29:B1:3323:A:N6 | 2.79 | 0.50 |
| 30:B2:9:C:H3' | 30:B2:10:C:C4' | 2.41 | 0.50 |
| 30:B2:35:C:H5' | 30:B2:35:C:H6 | 1.76 | 0.50 |
| 30:B2:65:G:C2' | 30:B2:66:A:O5' | 2.59 | 0.50 |
| 30:B2:65:G:H2' | 30:B2:65:G:N3 | 2.26 | 0.50 |
| 31:B3:4:C:O2' | 31:B3:5:U:H5' | 2.11 | 0.50 |
| 31:B3:28:C:O2 | 31:B3:28:C:C2' | 2.59 | 0.50 |
| 31:B3:54:A:H2' | 31:B3:55:U:O5' | 2.11 | 0.50 |
| 32:BA:54:LYS:CA | 32:BA:55:LEU:CB | 2.89 | 0.50 |
| 35:BD:180:LYS:O | 35:BD:182:LEU:N | 2.44 | 0.50 |
| 36:BE:288:ALA:HB1 | 36:BE:292:ALA:C | 2.35 | 0.50 |
| 37:BF:92:SER:O | 37:BF:93:VAL:C | 2.53 | 0.50 |
| 40:BI:155:SER:O | 40:BI:158:ALA:HB3 | 2.11 | 0.50 |
| 43:BN:33:ALA:CB | 43:BN:48:GLY:N | 2.67 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:BR:71:LEU:O | 47:BR:72:LYS:C | 2.54 | 0.50 |
| 54:BY:148:ILE:O | 54:BY:149:ALA:C | 2.53 | 0.50 |
| 59:Bd:43:LYS:C | 59:Bd:45:ARG:N | 2.70 | 0.50 |
| 1:C1:70:C:H3' | 1:C1:71:A:C8 | 2.46 | 0.50 |
| 1:C1:325:G:O2' | 1:C1:326:G:H5' | 2.11 | 0.50 |
| 1:C1:374:U:C4 | 1:C1:375:U:C4 | 2.99 | 0.50 |
| 1:C1:394:C:C3' | 1:C1:395:U:H5' | 2.41 | 0.50 |
| 1:C1:468:A:H2' | 74:C1:1991:OHX:N6 | 2.26 | 0.50 |
| 1:C1:528:U:C5 | 74:C1:1939:OHX:N2 | 2.79 | 0.50 |
| 1:C1:719:U:H1' | 1:C1:720:G:P | 2.51 | 0.50 |
| 1:C1:736:C:H2' | 1:C1:737:A:C8 | 2.41 | 0.50 |
| 1:C1:739:G:OP2 | 1:C1:739:G:H8 | 1.94 | 0.50 |
| 1:C1:776:G:C6 | 1:C1:785:U:N3 | 2.78 | 0.50 |
| 1:C1:866:G:N3 | 1:C1:867:G:C8 | 2.79 | 0.50 |
| 1:C1:874:C:O5' | 1:C1:874:C:H6 | 1.94 | 0.50 |
| 1:C1:914:G:H3' | 74:C1:1927:OHX:N6 | 2.26 | 0.50 |
| 1:C1:994:G:H2' | 1:C1:995:A:H8 | 1.76 | 0.50 |
| 1:C1:1075:C:N3 | 1:C1:1076:A:N1 | 2.60 | 0.50 |
| 1:C1:1227:A:H8 | 1:C1:1229:G:OP2 | 1.94 | 0.50 |
| 1:C1:1484:G:H21 | 1:C1:1606:C:C1' | 2.13 | 0.50 |
| 1:C1:1508:U:O2 | 1:C1:1508:U:H2' | 2.11 | 0.50 |
| 1:C1:1632:C:C2' | 1:C1:1633:A:H5" | 2.40 | 0.50 |
| 1:C1:1693:A:N6 | 1:C1:1708:U:H3 | 2.09 | 0.50 |
| 74:C1:1924:OHX:N4 | 74:C1:1964:OHX:N2 | 2.59 | 0.50 |
| 2:CA:50:VAL:O | 2:CA:53:THR:CB | 2.59 | 0.50 |
| 2:CA:75:ALA:HB1 | 2:CA:122:ILE:O | 2.11 | 0.50 |
| 2:CA:172:LEU:O | 2:CA:176:LEU:CB | 2.58 | 0.50 |
| 6:CE:81:VAL:O | 6:CE:82:ARG:O | 2.29 | 0.50 |
| 7:CF:125:VAL:HA | 7:CF:138:ASN:O | 2.12 | 0.50 |
| 8:CG:91:LEU:O | 8:CG:95:ALA:CB | 2.59 | 0.50 |
| 8:CG:119:GLU:O | 8:CG:120:SER:C | 2.54 | 0.50 |
| 9:CH:118:VAL:O | 9:CH:119:THR:C | 2.54 | 0.50 |
| 14:CM:13:ASP:C | 14:CM:15:ILE:N | 2.69 | 0.50 |
| 15:CN:97:VAL:C | 15:CN:99:ILE:N | 2.69 | 0.50 |
| 20:CS:42:CYS:O | 20:CS:45:GLU:N | 2.42 | 0.50 |
| 23:Cb:73:UNK:O | 23:Cb:77:UNK:N | 2.44 | 0.50 |
| 29:D1:82:C:C2' | 29:D1:83:U:O5' | 2.56 | 0.50 |
| 29:D1:173:G:O6 | 29:D1:245:U:O2 | 2.29 | 0.50 |
| 29:D1:191:U:O2 | 29:D1:192:C:C6 | 2.64 | 0.50 |
| 29:D1:268:A:N9 | 29:D1:270:U:O2 | 2.44 | 0.50 |
| 29:D1:347:G:N1 | 29:D1:348:A:C6 | 2.79 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:512:U:C1' | 29:D1:579:G:N2 | 2.74 | 0.50 |
| 29:D1:572:A:C5 | 29:D1:573:C:C6 | 2.99 | 0.50 |
| 29:D1:771:A:N1 | 29:D1:772:U:C4 | 2.79 | 0.50 |
| 29:D1:1063:G:O2' | 29:D1:1064:A:OP2 | 2.28 | 0.50 |
| 29:D1:1144:U:C6 | 29:D1:1144:U:C5' | 2.94 | 0.50 |
| 29:D1:1156:C:H2' | 29:D1:1157:G:H5" | 1.93 | 0.50 |
| 29:D1:1217:A:C5' | 29:D1:1218:U:OP2 | 2.60 | 0.50 |
| 29:D1:1289:G:C2 | 29:D1:1290:A:C8 | 2.98 | 0.50 |
| 29:D1:1340:G:C2 | 29:D1:1341:U:C4 | 2.99 | 0.50 |
| 29:D1:1546:A:N6 | 29:D1:1547:G:N1 | 2.59 | 0.50 |
| 29:D1:1884:A:C5 | 29:D1:1885:U:C4 | 2.99 | 0.50 |
| 29:D1:2255:A:N1 | 29:D1:2258:U:H5" | 2.27 | 0.50 |
| 29:D1:2270:A:O2' | 29:D1:2271:A:H5' | 2.10 | 0.50 |
| 29:D1:2344:U:H2' | 29:D1:2344:U:O2 | 2.10 | 0.50 |
| 29:D1:2520:A:C2 | 29:D1:2521:U:O2 | 2.64 | 0.50 |
| 29:D1:2565:U:C2 | 29:D1:2566:C:C5 | 2.98 | 0.50 |
| 29:D1:2628:A:N9 | 29:D1:2798:C:N4 | 2.59 | 0.50 |
| 29:D1:2761:G:N1 | 29:D1:2795:U:H3' | 2.23 | 0.50 |
| 29:D1:2762:A:H3' | 29:D1:2763:U:C5 | 2.46 | 0.50 |
| 29:D1:2771:U:C3' | 29:D1:2772:C:C5' | 2.85 | 0.50 |
| 29:D1:2796:G:O6 | 61:Df:63:LYS:HA | 2.11 | 0.50 |
| 29:D1:3020:U:C2' | 29:D1:3021:A:OP1 | 2.58 | 0.50 |
| 29:D1:3102:G:C5' | 29:D1:3102:G:C8 | 2.88 | 0.50 |
| 29:D1:3118:C:C2 | 29:D1:3119:U:C6 | 2.99 | 0.50 |
| 29:D1:3197:G:H3' | 29:D1:3197:G:N3 | 2.26 | 0.50 |
| 29:D1:3260:G:C6 | 29:D1:3261:C:O4' | 2.64 | 0.50 |
| 29:D1:3323:A:C2 | 29:D1:3324:C:C6 | 2.99 | 0.50 |
| 29:D1:3357:U:H5' | 29:D1:3358:U:OP2 | 2.10 | 0.50 |
| 29:D1:3377:G:O4' | 74:D1:3452:OHX:N2 | 2.44 | 0.50 |
| 29:D1:3393:U:H2' | 29:D1:3394:U:O4' | 2.11 | 0.50 |
| 34:DC:7:GLU:O | 34:DC:8:ALA:HB3 | 2.11 | 0.50 |
| 34:DC:182:GLN:O | 34:DC:183:LEU:C | 2.54 | 0.50 |
| 38:DG:68:ASP:O | 38:DG:71:ALA:CB | 2.57 | 0.50 |
| 38:DG:222:HIS:CB | 38:DG:228:SER:N | 2.74 | 0.50 |
| 44:DO:148:TYR:C | 44:DO:150:TRP:N | 2.69 | 0.50 |
| 58:Dc:16:GLN:C | 58:Dc:18:ALA:H | 2.17 | 0.50 |
| 58:Dc:39:PRO:O | 58:Dc:40:SER:CB | 2.60 | 0.50 |
| 61:Df:76:LYS:C | 61:Df:78:LYS:H | 2.19 | 0.50 |
| 1:A1:28:A:C2 | 1:A1:29:U:C2 | 2.99 | 0.50 |
| 1:A1:200:A:C2 | 1:A1:201:G:C4 | 3.00 | 0.50 |
| 1:A1:365:G:C4 | 1:A1:377:G:N1 | 2.80 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:366:A:O5' | 1:A1:366:A:H8 | 1.95 | 0.50 |
| 1:A1:428:A:C2 | 1:A1:440:U:O2 | 2.64 | 0.50 |
| 1:A1:445:A:H61 | 1:A1:461:G:N2 | 2.09 | 0.50 |
| 1:A1:516:G:N3 | 1:A1:516:G:H2' | 2.25 | 0.50 |
| 1:A1:549:G:C2 | 1:A1:550:A:C8 | 2.99 | 0.50 |
| 1:A1:982:U:O4 | 1:A1:983:A:N6 | 2.44 | 0.50 |
| 1:A1:986:G:O2' | 1:A1:987:G:C8 | 2.63 | 0.50 |
| 1:A1:1025:A:O2' | 1:A1:1773:C:O2' | 2.13 | 0.50 |
| 1:A1:1166:A:C6 | 1:A1:1167:G:C8 | 3.00 | 0.50 |
| 1:A1:1179:G:N2 | 1:A1:1461:C:C4 | 2.80 | 0.50 |
| 1:A1:1225:U:C5 | 1:A1:1226:A:C5 | 3.00 | 0.50 |
| 1:A1:1512:G:C6 | 1:A1:1513:G:C6 | 2.99 | 0.50 |
| 1:A1:1521:G:O6 | 74:A1:1943:OHX:N2 | 2.44 | 0.50 |
| 1:A1:1719:A:C2' | 1:A1:1720:G:C5 | 2.92 | 0.50 |
| 3:AB:118:ALA:HB2 | 3:AB:124:ALA:CB | 2.40 | 0.50 |
| 14:AM:28:LEU:O | 14:AM:30:VAL:N | 2.45 | 0.50 |
| 17:AP:109:ARG:H | 17:AP:110:LYS:CA | 2.08 | 0.50 |
| 28:Ah:21:UNK:CB | 28:Ah:25:UNK:HA | 2.40 | 0.50 |
| 29:B1:114:A:N3 | 29:B1:267:G:C2 | 2.79 | 0.50 |
| 29:B1:199:A:C5 | 29:B1:219:A:N6 | 2.78 | 0.50 |
| 29:B1:220:G:C6 | 29:B1:1389:G:N2 | 2.80 | 0.50 |
| 29:B1:246:U:H3' | 29:B1:247:C:C5' | 2.41 | 0.50 |
| 29:B1:255:A:H2' | 29:B1:256:G:H8 | 1.73 | 0.50 |
| 29:B1:361:A:C2' | 29:B1:362:U:O4' | 2.59 | 0.50 |
| 29:B1:393:U:O2 | 29:B1:394:G:O4' | 2.30 | 0.50 |
| 29:B1:535:G:N1 | 29:B1:559:A:H5' | 2.26 | 0.50 |
| 29:B1:608:A:H3' | 29:B1:608:A:H8 | 1.71 | 0.50 |
| 29:B1:715:A:C3' | 54:BY:115:LYS:CB | 2.89 | 0.50 |
| 29:B1:929:A:C6 | 29:B1:930:U:C4 | 2.99 | 0.50 |
| 29:B1:1077:U:O2' | 29:B1:1078:U:C6 | 2.64 | 0.50 |
| 29:B1:1150:A:OP1 | 29:B1:1151:U:O4 | 2.29 | 0.50 |
| 29:B1:1164:G:C5 | 29:B1:1165:A:N7 | 2.79 | 0.50 |
| 29:B1:1214:U:C2' | 29:B1:1215:U:H5' | 2.41 | 0.50 |
| 29:B1:1246:G:C5 | 29:B1:1247:U:H1' | 2.45 | 0.50 |
| 29:B1:1406:A:C2 | 29:B1:1407:A:C4 | 2.99 | 0.50 |
| 29:B1:1420:C:OP1 | 31:B3:20:U:H5" | 2.11 | 0.50 |
| 29:B1:1445:U:C4 | 29:B1:1446:A:N7 | 2.79 | 0.50 |
| 29:B1:1455:U:OP1 | 29:B1:3078:U:N3 | 2.44 | 0.50 |
| 29:B1:1503:A:C8 | 29:B1:1503:A:C5' | 2.88 | 0.50 |
| 29:B1:1517:G:C6 | 29:B1:1518:U:C4 | 2.99 | 0.50 |
| 29:B1:1685:C:H5 | 29:B1:3069:G:H22 | 1.41 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1731:A:C5 | 29:B1:1732:U:C4 | 2.99 | 0.50 |
| 29:B1:1843:C:C2 | 29:B1:1844:C:C5 | 3.00 | 0.50 |
| 29:B1:1875:G:H2' | 29:B1:1876:U:C5' | 2.24 | 0.50 |
| 29:B1:2105:G:H8 | 29:B1:2105:G:C5' | 2.24 | 0.50 |
| 29:B1:2131:A:H3' | 29:B1:2131:A:C8 | 2.46 | 0.50 |
| 29:B1:2247:G:H2' | 29:B1:2247:G:N3 | 2.27 | 0.50 |
| 29:B1:2337:C:H2' | 29:B1:2338:C:H6 | 1.77 | 0.50 |
| 29:B1:2431:C:C2 | 29:B1:2432:A:C8 | 2.99 | 0.50 |
| 29:B1:2612:U:H2' | 29:B1:2613:U:O2 | 2.11 | 0.50 |
| 29:B1:2650:U:H1' | 29:B1:2758:A:C2 | 2.46 | 0.50 |
| 29:B1:2837:A:H2' | 29:B1:2845:A:C2 | 2.46 | 0.50 |
| 29:B1:2881:C:H2' | 29:B1:2882:U:H6 | 1.75 | 0.50 |
| 29:B1:2948:C:C2 | 29:B1:2949:U:C5 | 2.99 | 0.50 |
| 29:B1:3210:A:C8 | 29:B1:3211:C:C5 | 2.96 | 0.50 |
| 29:B1:3230:G:C6 | 29:B1:3231:U:C4 | 2.98 | 0.50 |
| 29:B1:3277:U:C6 | 29:B1:3277:U:C3' | 2.95 | 0.50 |
| 29:B1:3279:A:N7 | 29:B1:3280:U:O4 | 2.44 | 0.50 |
| 30:B2:117:A:C2' | 30:B2:118:A:H5' | 2.41 | 0.50 |
| 31:B3:75:G:P | 31:B3:90:U:H5' | 2.51 | 0.50 |
| 31:B3:113:U:O2' | 31:B3:114:G:P | 2.68 | 0.50 |
| 31:B3:142:C:N3 | 31:B3:143:U:C4 | 2.80 | 0.50 |
| 35:BD:54:GLU:C | 35:BD:56:ALA:N | 2.69 | 0.50 |
| 35:BD:190:GLY:C | 35:BD:192:GLY:H | 2.19 | 0.50 |
| 37:BF:114:LYS:O | 37:BF:115:GLU:C | 2.53 | 0.50 |
| 37:BF:139:LYS:O | 37:BF:140:VAL:C | 2.55 | 0.50 |
| 41:BJ:170:LYS:CB | 41:BJ:172:GLY:N | 2.74 | 0.50 |
| 42:BK:121:GLY:C | 42:BK:123:PHE:N | 2.69 | 0.50 |
| 44:BO:134:LEU:O | 44:BO:135:VAL:CB | 2.58 | 0.50 |
| 48:BS:86:GLU:O | 48:BS:89:LEU:O | 2.29 | 0.50 |
| 54:BY:127:ALA:C | 54:BY:129:PHE:N | 2.64 | 0.50 |
| 58:Bc:19:SER:O | 58:Bc:23:ASP:CB | 2.59 | 0.50 |
| 1:C1:110:U:O2' | 1:C1:797:G:H1' | 2.12 | 0.50 |
| 1:C1:217:A:N3 | 1:C1:218:A:H5' | 2.26 | 0.50 |
| 1:C1:219:A:C6 | 1:C1:843:U:H1' | 2.44 | 0.50 |
| 1:C1:321:C:N4 | 1:C1:341:A:OP2 | 2.45 | 0.50 |
| 1:C1:471:A:O2' | 1:C1:472:U:H5' | 2.11 | 0.50 |
| 1:C1:514:G:C4 | 1:C1:515:A:C8 | 3.00 | 0.50 |
| 1:C1:880:C:H2' | 1:C1:881:A:H8 | 1.76 | 0.50 |
| 1:C1:986:G:O2' | 1:C1:987:G:C8 | 2.62 | 0.50 |
| 1:C1:989:U:N3 | 1:C1:990:C:C4 | 2.79 | 0.50 |
| 1:C1:1001:A:N7 | 1:C1:1002:G:C5 | 2.79 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1232:U:C2' | 1:C1:1233:G:H5' | 2.41 | 0.50 |
| 1:C1:1275:A:C8 | 1:C1:1438:G:N2 | 2.79 | 0.50 |
| 1:C1:1330:G:C4 | 1:C1:1331:A:N7 | 2.79 | 0.50 |
| 1:C1:1338:C:H2' | 1:C1:1339:C:O4' | 2.12 | 0.50 |
| 1:C1:1358:G:HO2' | 14:CM:129:GLN:C | 2.13 | 0.50 |
| 1:C1:1407:U:C6 | 1:C1:1408:G:C8 | 2.99 | 0.50 |
| 1:C1:1472:C:H1' | 1:C1:1473:U:OP2 | 2.12 | 0.50 |
| 2:CA:54:TRP:O | 2:CA:57:LEU:N | 2.45 | 0.50 |
| 3:CB:206:THR:O | 3:CB:207:LEU:C | 2.53 | 0.50 |
| 12:CK:27:ASP:C | 12:CK:29:GLN:H | 2.20 | 0.50 |
| 13:CL:44:ASN:O | 13:CL:48:LYS:CB | 2.59 | 0.50 |
| 16:CO:94:LEU:O | 16:CO:95:PRO:CB | 2.59 | 0.50 |
| 17:CP:49:ALA:O | 17:CP:103:LEU:O | 2.29 | 0.50 |
| 17:CP:73:ARG:HA | 17:CP:84:THR:HA | 1.94 | 0.50 |
| 23:Cb:79:UNK:O | 23:Cb:80:UNK:C | 2.57 | 0.50 |
| 29:D1:25:U:H3 | 29:D1:331:G:H8 | 1.55 | 0.50 |
| 29:D1:39:A:C5' | 29:D1:40:A:OP2 | 2.57 | 0.50 |
| 29:D1:267:G:C8 | 29:D1:267:G:OP2 | 2.65 | 0.50 |
| 29:D1:295:A:H2' | 29:D1:296:A:O4' | 2.12 | 0.50 |
| 29:D1:575:G:C5' | 29:D1:575:G:C8 | 2.84 | 0.50 |
| 29:D1:596:C:H5' | 29:D1:597:G:OP1 | 2.11 | 0.50 |
| 29:D1:648:C:C5 | 29:D1:2374:C:O2' | 2.48 | 0.50 |
| 29:D1:733:G:N3 | 29:D1:733:G:H3' | 2.27 | 0.50 |
| 29:D1:811:U:C2 | 29:D1:812:G:C8 | 2.99 | 0.50 |
| 29:D1:844:G:C2 | 29:D1:850:U:C2 | 2.99 | 0.50 |
| 29:D1:1008:U:C6 | 29:D1:1008:U:H5" | 2.46 | 0.50 |
| 29:D1:1104:G:H2' | 29:D1:1105:A:O5' | 2.11 | 0.50 |
| 29:D1:1304:A:H2 | 29:D1:2938:G:N3 | 2.09 | 0.50 |
| 29:D1:1366:A:C2 | 29:D1:1367:G:C5 | 3.00 | 0.50 |
| 29:D1:1523:U:H5" | 29:D1:1834:U:H5 | 1.76 | 0.50 |
| 29:D1:1609:C:OP2 | 29:D1:1609:C:H6 | 1.94 | 0.50 |
| 29:D1:1627:U:H5' | 29:D1:1628:C:P | 2.52 | 0.50 |
| 29:D1:1757:A:C6 | 29:D1:1769:G:C6 | 2.99 | 0.50 |
| 29:D1:1847:A:C2 | 29:D1:1849:C:N1 | 2.79 | 0.50 |
| 29:D1:1878:G:C8 | 29:D1:1878:G:C3' | 2.94 | 0.50 |
| 29:D1:1900:A:O4' | 29:D1:1901:A:C2 | 2.64 | 0.50 |
| 29:D1:2129:U:C2' | 29:D1:2130:G:C8 | 2.88 | 0.50 |
| 29:D1:2132:C:H6 | 29:D1:2132:C:C5' | 2.18 | 0.50 |
| 29:D1:2137:U:C2 | 29:D1:2141:U:H5 | 2.29 | 0.50 |
| 29:D1:2278:C:N4 | 29:D1:2305:G:C8 | 2.79 | 0.50 |
| 29:D1:2308:C:H3' | 29:D1:2309:A:H5" | 1.93 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2395:G:C2' | 29:D1:2396:G:H5' | 2.37 | 0.50 |
| 29:D1:2696:A:N1 | 29:D1:2758:A:C5 | 2.79 | 0.50 |
| 29:D1:2749:G:C6 | 29:D1:2750:U:C4 | 3.00 | 0.50 |
| 29:D1:2821:C:H2' | 29:D1:2822:U:H5' | 1.93 | 0.50 |
| 29:D1:2834:G:C2 | 29:D1:2835:U:C5 | 2.99 | 0.50 |
| 29:D1:2837:A:C8 | 29:D1:2845:A:N1 | 2.79 | 0.50 |
| 29:D1:2839:G:O6 | 29:D1:2845:A:O2' | 2.29 | 0.50 |
| 29:D1:2895:G:H2' | 29:D1:2896:A:H8 | 1.76 | 0.50 |
| 29:D1:2912:G:O6 | 29:D1:3130:A:C5 | 2.64 | 0.50 |
| 29:D1:2980:U:N3 | 29:D1:2981:U:H5 | 2.09 | 0.50 |
| 29:D1:3215:A:N7 | 63:Dh:1:UNK:N | 2.58 | 0.50 |
| 29:D1:3273:A:C8 | 29:D1:3275:U:C5 | 2.99 | 0.50 |
| 29:D1:3366:G:H2' | 29:D1:3367:C:C6 | 2.47 | 0.50 |
| 30:D2:66:A:C8 | 30:D2:66:A:OP2 | 2.64 | 0.50 |
| 30:D2:78:U:C2 | 30:D2:79:A:C8 | 2.99 | 0.50 |
| 36:DE:188:GLU:CB | 36:DE:189:GLU:CA | 2.90 | 0.50 |
| 36:DE:253:PHE:N | 36:DE:254:LYS:HA | 2.25 | 0.50 |
| 37:DF:139:LYS:O | 37:DF:140:VAL:C | 2.54 | 0.50 |
| 39:DH:124:ASP:C | 39:DH:126:SER:H | 2.17 | 0.50 |
| 39:DH:126:SER:O | 39:DH:128:LYS:N | 2.35 | 0.50 |
| 42:DK:32:ARG:C | 42:DK:34:SER:N | 2.67 | 0.50 |
| 73:DM:3:GLY:O | 73:DM:5:ARG:N | 2.39 | 0.50 |
| 73:DM:95:GLU:O | 73:DM:96:ILE:C | 2.53 | 0.50 |
| 43:DN:23:ILE:O | 43:DN:24:LYS:CB | 2.60 | 0.50 |
| 44:DO:57:GLN:C | 44:DO:59:PHE:H | 2.18 | 0.50 |
| 46:DQ:70:THR:O | 46:DQ:71:ALA:O | 2.29 | 0.50 |
| 50:DU:27:ASP:O | 50:DU:29:SER:N | 2.42 | 0.50 |
| 57:Db:11:LYS:O | 57:Db:12:LYS:CB | 2.60 | 0.50 |
| 62:Dg:12:GLY:O | 62:Dg:15:GLY:HA2 | 2.11 | 0.50 |
| 26:Dj:16:UNK:O | 26:Dj:19:UNK:N | 2.44 | 0.50 |
| 1:A1:48:G:C6 | 1:A1:432:G:C2 | 2.99 | 0.50 |
| 1:A1:185:U:C2 | 1:A1:201:G:N2 | 2.79 | 0.50 |
| 1:A1:235:G:H2' | 1:A1:236:A:H8 | 1.75 | 0.50 |
| 1:A1:330:G:H2' | 1:A1:331:A:C8 | 2.45 | 0.50 |
| 1:A1:446:A:C5 | 1:A1:447:U:H5 | 2.28 | 0.50 |
| 1:A1:478:A:C2 | 1:A1:479:C:C2 | 2.99 | 0.50 |
| 1:A1:641:G:C2 | 1:A1:642:G:C5 | 2.99 | 0.50 |
| 1:A1:704:C:HO2' | 1:A1:705:U:H6 | 1.60 | 0.50 |
| 1:A1:1056:U:H2' | 1:A1:1056:U:O2 | 2.11 | 0.50 |
| 1:A1:1107:G:C6 | 1:A1:1108:G:O6 | 2.64 | 0.50 |
| 1:A1:1169:G:N2 | 1:A1:1577:A:C5 | 2.80 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1209:C:C4 | 1:A1:1455:G:N2 | 2.78 | 0.50 |
| 1:A1:1211:A:C5 | 1:A1:1212:G:N7 | 2.80 | 0.50 |
| 1:A1:1281:G:H4' | 15:AN:75:GLY:HA2 | 1.93 | 0.50 |
| 1:A1:1425:A:H2' | 1:A1:1426:C:H5' | 1.92 | 0.50 |
| 1:A1:1583:A:H1' | 1:A1:1585:U:N1 | 2.26 | 0.50 |
| 1:A1:1591:C:O2 | 1:A1:1591:C:C2' | 2.54 | 0.50 |
| 1:A1:1640:C:H1' | 1:A1:1763:A:N1 | 2.27 | 0.50 |
| 1:A1:1645:G:C2 | 1:A1:1757:G:C2 | 3.00 | 0.50 |
| 1:A1:1767:G:OP1 | 1:A1:1770:U:H4' | 2.10 | 0.50 |
| 3:AB:57:PHE:C | 3:AB:59:HIS:N | 2.67 | 0.50 |
| 4:AC:136:VAL:CB | 4:AC:186:VAL:HA | 2.41 | 0.50 |
| 13:AL:44:ASN:O | 13:AL:45:LEU:C | 2.55 | 0.50 |
| 17:AP:44:GLY:C | 17:AP:46:SER:N | 2.68 | 0.50 |
| 17:AP:95:PHE:O | 17:AP:97:ASP:N | 2.44 | 0.50 |
| 29:B1:15:C:O2 | 29:B1:15:C:O4' | 2.27 | 0.50 |
| 29:B1:25:U:N3 | 29:B1:26:A:C5 | 2.79 | 0.50 |
| 29:B1:40:A:C6 | 29:B1:937:G:C2 | 2.99 | 0.50 |
| 29:B1:92:G:OP2 | 29:B1:93:C:H5" | 2.11 | 0.50 |
| 29:B1:113:C:H2' | 29:B1:113:C:O2 | 2.12 | 0.50 |
| 29:B1:124:U:H6 | 29:B1:124:U:O5' | 1.95 | 0.50 |
| 29:B1:171:G:C2' | 29:B1:172:G:O5' | 2.59 | 0.50 |
| 29:B1:172:G:N2 | 29:B1:173:G:C4 | 2.80 | 0.50 |
| 29:B1:263:C:OP1 | 29:B1:264:G:OP1 | 2.30 | 0.50 |
| 29:B1:309:U:C5 | 29:B1:310:U:C5 | 3.00 | 0.50 |
| 29:B1:518:G:H3' | 29:B1:519:A:H3' | 1.94 | 0.50 |
| 29:B1:531:G:C2' | 29:B1:532:A:H8 | 2.16 | 0.50 |
| 29:B1:533:A:C2 | 29:B1:534:U:O4 | 2.64 | 0.50 |
| 29:B1:723:U:H6 | 29:B1:723:U:C5' | 2.25 | 0.50 |
| 29:B1:746:A:C8 | 29:B1:746:A:C5' | 2.95 | 0.50 |
| 29:B1:1081:U:H2' | 29:B1:1081:U:O2 | 2.10 | 0.50 |
| 29:B1:1131:G:C2 | 29:B1:2373:A:C5 | 3.00 | 0.50 |
| 29:B1:1201:C:H2' | 29:B1:1201:C:O2 | 2.12 | 0.50 |
| 29:B1:1213:G:C8 | 29:B1:1213:G:C5' | 2.86 | 0.50 |
| 29:B1:1352:A:C3' | 29:B1:1353:U:H4' | 2.41 | 0.50 |
| 29:B1:1445:U:C5 | 29:B1:1446:A:C5 | 2.99 | 0.50 |
| 29:B1:1542:G:N3 | 29:B1:1543:G:C8 | 2.80 | 0.50 |
| 29:B1:1702:U:O4 | 29:B1:1703:U:H6 | 1.95 | 0.50 |
| 29:B1:1799:A:H2 | 29:B1:1800:A:C2 | 2.29 | 0.50 |
| 29:B1:1887:A:N7 | 29:B1:2348:A:H2 | 2.08 | 0.50 |
| 29:B1:2146:C:C2' | 29:B1:2147:A:H5" | 2.40 | 0.50 |
| 29:B1:2369:G:C5 | 29:B1:2370:G:C6 | 2.99 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2576:G:C4 | 29:B1:2577:C:C5 | 3.00 | 0.50 |
| 29:B1:2591:A:C2 | 29:B1:2592:G:O4' | 2.64 | 0.50 |
| 29:B1:2609:A:C2 | 29:B1:2610:G:N7 | 2.79 | 0.50 |
| 29:B1:2725:U:O4 | 29:B1:2727:A:C2 | 2.64 | 0.50 |
| 29:B1:2919:A:C2' | 29:B1:2920:U:H5" | 2.42 | 0.50 |
| 29:B1:3298:C:H2' | 29:B1:3299:A:C8 | 2.46 | 0.50 |
| 29:B1:3390:G:C5 | 29:B1:3391:A:C8 | 2.99 | 0.50 |
| 30:B2:88:G:H2' | 30:B2:89:G:C8 | 2.44 | 0.50 |
| 31:B3:88:A:C8 | 31:B3:89:A:C6 | 2.99 | 0.50 |
| 31:B3:106:C:O5' | 31:B3:106:C:H6 | 1.93 | 0.50 |
| 32:BA:101:LYS:O | 32:BA:102:LYS:C | 2.53 | 0.50 |
| 35:BD:119:ARG:O | 35:BD:120:TYR:C | 2.54 | 0.50 |
| 35:BD:123:ALA:O | 35:BD:125:ALA:N | 2.44 | 0.50 |
| 37:BF:149:ILE:H | 37:BF:151:LYS:H | 1.59 | 0.50 |
| 44:BO:16:SER:O | 44:BO:18:VAL:N | 2.43 | 0.50 |
| 44:BO:86:ASN:O | 44:BO:87:GLN:C | 2.54 | 0.50 |
| 45:BP:128:ARG:O | 45:BP:129:LEU:O | 2.28 | 0.50 |
| 52:BW:133:LEU:O | 52:BW:136:ALA:HB3 | 2.12 | 0.50 |
| 57:Bb:60:ASN:O | 57:Bb:62:LYS:N | 2.44 | 0.50 |
| 1:C1:10:G:C8 | 1:C1:1633:A:C4 | 2.99 | 0.50 |
| 1:C1:22:A:N1 | 1:C1:604:A:C6 | 2.79 | 0.50 |
| 1:C1:96:G:C6 | 1:C1:97:C:C4 | 3.00 | 0.50 |
| 1:C1:139:C:O4' | 1:C1:141:U:H5" | 2.12 | 0.50 |
| 1:C1:386:G:C2' | 1:C1:387:A:O5' | 2.59 | 0.50 |
| 1:C1:406:U:OP2 | 1:C1:406:U:H3' | 2.11 | 0.50 |
| 1:C1:814:A:C2' | 1:C1:816:G:H21 | 2.24 | 0.50 |
| 1:C1:820:U:HO2' | 1:C1:821:U:P | 2.35 | 0.50 |
| 1:C1:971:A:C8 | 1:C1:972:G:C8 | 3.00 | 0.50 |
| 1:C1:1008:G:N1 | 1:C1:1009:U:C2 | 2.79 | 0.50 |
| 1:C1:1131:A:H3' | 1:C1:1132:A:C8 | 2.46 | 0.50 |
| 1:C1:1243:G:N7 | 1:C1:1244:A:N6 | 2.59 | 0.50 |
| 1:C1:1349:G:H3' | 1:C1:1349:G:P | 2.52 | 0.50 |
| 1:C1:1370:U:H2' | 1:C1:1371:A:O5' | 2.11 | 0.50 |
| 1:C1:1383:G:O6 | 1:C1:1384:A:N6 | 2.45 | 0.50 |
| 1:C1:1389:C:O4' | 22:Ca:17:UNK:CB | 2.59 | 0.50 |
| 1:C1:1403:C:OP1 | 1:C1:1414:U:OP1 | 2.29 | 0.50 |
| 1:C1:1581:C:H2' | 1:C1:1582:U:H5' | 1.94 | 0.50 |
| 1:C1:1693:A:H61 | 1:C1:1708:U:H3 | 1.60 | 0.50 |
| 1:C1:1720:G:N9 | 1:C1:1721:A:C8 | 2.80 | 0.50 |
| 1:C1:1778:G:N1 | 1:C1:1779:U:C5 | 2.79 | 0.50 |
| 2:CA:67:ILE:C | 2:CA:69:ASN:N | 2.69 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:CB:66:PHE:C | 3:CB:68:ILE:N | 2.68 | 0.50 |
| 3:CB:146:THR:O | 3:CB:147:ASN:C | 2.55 | 0.50 |
| 5:CD:134:VAL:O | 5:CD:136:ALA:N | 2.44 | 0.50 |
| 8:CG:49:GLN:CA | 8:CG:50:ILE:CB | 2.90 | 0.50 |
| 14:CM:130:ARG:O | 14:CM:131:ASP:C | 2.55 | 0.50 |
| 16:CO:74:VAL:CB | 16:CO:128:PHE:O | 2.59 | 0.50 |
| 16:CO:80:ASN:O | 16:CO:123:GLY:O | 2.30 | 0.50 |
| 16:CO:116:ALA:C | 16:CO:118:ARG:N | 2.64 | 0.50 |
| 29:D1:44:U:C5 | 29:D1:45:A:C8 | 2.99 | 0.50 |
| 29:D1:244:G:H2' | 29:D1:245:U:C5' | 2.40 | 0.50 |
| 29:D1:342:A:N6 | 29:D1:368:G:N3 | 2.59 | 0.50 |
| 29:D1:543:C:H2' | 29:D1:543:C:O2 | 2.11 | 0.50 |
| 29:D1:582:G:C6 | 29:D1:583:G:N7 | 2.79 | 0.50 |
| 29:D1:720:A:C8 | 29:D1:720:A:P | 3.03 | 0.50 |
| 29:D1:779:G:H2' | 29:D1:780:A:O4' | 2.12 | 0.50 |
| 29:D1:856:G:C6 | 29:D1:857:G:N2 | 2.80 | 0.50 |
| 29:D1:939:U:H5' | 29:D1:939:U:H6 | 1.75 | 0.50 |
| 29:D1:993:G:N2 | 29:D1:2638:C:OP2 | 2.43 | 0.50 |
| 29:D1:1084:A:C5 | 29:D1:1085:A:C6 | 2.99 | 0.50 |
| 29:D1:1129:A:N6 | 29:D1:1130:A:H61 | 2.10 | 0.50 |
| 29:D1:1140:G:OP1 | 38:DG:94:LYS:HA | 2.11 | 0.50 |
| 29:D1:1206:G:H2' | 29:D1:1207:G:H5' | 1.92 | 0.50 |
| 29:D1:1229:G:C2 | 29:D1:1230:G:C4 | 2.99 | 0.50 |
| 29:D1:1246:G:N3 | 29:D1:1264:G:O2' | 2.39 | 0.50 |
| 29:D1:1254:C:C2 | 29:D1:1263:A:N1 | 2.79 | 0.50 |
| 29:D1:1310:G:C2' | 29:D1:1311:G:O5' | 2.59 | 0.50 |
| 29:D1:1371:G:H5" | 29:D1:1371:G:C8 | 2.46 | 0.50 |
| 29:D1:1498:A:C6 | 29:D1:1499:C:C4 | 3.00 | 0.50 |
| 29:D1:1687:U:C2' | 29:D1:1688:U:H4' | 2.42 | 0.50 |
| 29:D1:1714:A:H2' | 29:D1:1715:A:OP1 | 2.11 | 0.50 |
| 29:D1:1780:G:O2' | 29:D1:1781:C:H6 | 1.93 | 0.50 |
| 29:D1:1919:G:C2' | 29:D1:1933:A:H61 | 2.24 | 0.50 |
| 29:D1:2105:G:H8 | 29:D1:2105:G:C5' | 2.24 | 0.50 |
| 29:D1:2247:G:H5" | 29:D1:2248:C:OP2 | 2.11 | 0.50 |
| 29:D1:2341:A:H2' | 29:D1:2342:U:C6 | 2.46 | 0.50 |
| 29:D1:2666:C:C6 | 29:D1:2666:C:O5' | 2.64 | 0.50 |
| 29:D1:2703:A:C4' | 29:D1:2704:A:H5' | 2.41 | 0.50 |
| 29:D1:2728:G:N2 | 29:D1:2729:U:C6 | 2.79 | 0.50 |
| 29:D1:2728:G:N2 | 29:D1:2729:U:C5 | 2.79 | 0.50 |
| 29:D1:2896:A:C5' | 29:D1:2896:A:C8 | 2.95 | 0.50 |
| 29:D1:2896:A:C3' | 29:D1:2897:A:H5" | 2.41 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3006:A:H8 | 29:D1:3007:U:N1 | 2.09 | 0.50 |
| 29:D1:3037:U:C2 | 29:D1:3038:U:C5 | 3.00 | 0.50 |
| 29:D1:3060:C:H2' | 29:D1:3061:G:H8 | 1.77 | 0.50 |
| 29:D1:3219:G:C8 | 29:D1:3257:C:C5' | 2.77 | 0.50 |
| 29:D1:3353:G:N3 | 29:D1:3353:G:C2' | 2.73 | 0.50 |
| 29:D1:3360:C:O2 | 29:D1:3360:C:C2' | 2.54 | 0.50 |
| 30:D2:65:G:N2 | 30:D2:66:A:C4 | 2.80 | 0.50 |
| 30:D2:112:G:P | 74:D2:207:OHX:N6 | 2.84 | 0.50 |
| 31:D3:106:C:H4' | 31:D3:107:G:C5' | 2.41 | 0.50 |
| 31:D3:140:G:H5" | 31:D3:141:C:OP2 | 2.11 | 0.50 |
| 34:DC:86:VAL:O | 34:DC:88:GLY:O | 2.29 | 0.50 |
| 34:DC:186:GLY:O | 34:DC:187:SER:O | 2.29 | 0.50 |
| 36:DE:97:ALA:O | 36:DE:101:THR:N | 2.45 | 0.50 |
| 36:DE:227:LEU:HA | 36:DE:229:ASP:N | 2.25 | 0.50 |
| 73:DM:9:ALA:HA | 73:DM:12:PHE:CB | 2.41 | 0.50 |
| 43:DN:28:SER:O | 43:DN:29:ALA:CB | 2.58 | 0.50 |
| 44:DO:30:TYR:O | 44:DO:31:ARG:C | 2.55 | 0.50 |
| 44:DO:79:ALA:HA | 44:DO:80:THR:O | 2.12 | 0.50 |
| 45:DP:165:ALA:O | 45:DP:166:GLU:C | 2.54 | 0.50 |
| 46:DQ:62:ARG:C | 46:DQ:64:ASN:H | 2.18 | 0.50 |
| 60:De:26:TRP:C | 60:De:28:ARG:N | 2.69 | 0.50 |
| 61:Df:47:GLN:N | 61:Df:48:SER:CA | 2.72 | 0.50 |
| 63:Dh:43:UNK:O | 63:Dh:46:UNK:N | 2.45 | 0.50 |
| 1:A1:14:C:C5' | 3:AB:163:GLY:HA2 | 2.42 | 0.50 |
| 1:A1:397:A:N6 | 1:A1:398:G:C2 | 2.79 | 0.50 |
| 1:A1:449:C:H2' | 1:A1:450:U:C6 | 2.46 | 0.50 |
| 1:A1:492:A:N3 | 1:A1:494:U:H6 | 2.08 | 0.50 |
| 1:A1:502:U:H2' | 1:A1:503:G:C8 | 2.46 | 0.50 |
| 1:A1:627:C:C2 | 1:A1:973:A:C2 | 2.99 | 0.50 |
| 1:A1:699:U:H2' | 1:A1:700:C:C6 | 2.46 | 0.50 |
| 1:A1:738:G:O2' | 1:A1:739:G:C8 | 2.63 | 0.50 |
| 1:A1:809:A:C2 | 1:A1:810:G:C2 | 2.99 | 0.50 |
| 1:A1:871:G:C2' | 1:A1:872:G:H8 | 2.25 | 0.50 |
| 1:A1:994:G:C6 | 1:A1:1011:G:N2 | 2.79 | 0.50 |
| 1:A1:1030:A:N6 | 1:A1:1792:G:N7 | 2.59 | 0.50 |
| 1:A1:1032:G:C2 | 1:A1:1033:C:C2 | 2.99 | 0.50 |
| 1:A1:1192:C:H3' | 1:A1:1193:A:H2' | 1.93 | 0.50 |
| 1:A1:1340:U:C2 | 1:A1:1342:C:C5 | 3.00 | 0.50 |
| 1:A1:1384:A:C4 | 1:A1:1385:G:C8 | 3.00 | 0.50 |
| 1:A1:1404:C:H2' | 1:A1:1405:G:H8 | 1.76 | 0.50 |
| 1:A1:1431:C:H3' | 1:A1:1432:U:H5' | 1.90 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1498:G:C2 | 1:A1:1499:G:N7 | 2.79 | 0.50 |
| 1:A1:1763:A:H2' | 1:A1:1764:C:H5" | 1.93 | 0.50 |
| 1:A1:1772:C:O2 | 1:A1:1772:C:C2' | 2.59 | 0.50 |
| 1:A1:1793:G:H4' | 1:A1:1793:G:OP1 | 2.12 | 0.50 |
| 5:AD:52:GLU:O | 5:AD:53:VAL:C | 2.54 | 0.50 |
| 8:AG:134:VAL:O | 8:AG:135:LEU:C | 2.54 | 0.50 |
| 8:AG:142:GLU:C | 8:AG:144:ALA:N | 2.70 | 0.50 |
| 14:AM:58:ALA:C | 14:AM:60:SER:H | 2.19 | 0.50 |
| 17:AP:80:GLY:O | 17:AP:81:LYS:C | 2.53 | 0.50 |
| 26:Ae:15:UNK:C | 26:Ae:17:UNK:N | 2.69 | 0.50 |
| 29:B1:43:A:C6 | 29:B1:2802:A:C2 | 2.97 | 0.50 |
| 29:B1:159:A:C2' | 29:B1:160:G:C8 | 2.93 | 0.50 |
| 29:B1:178:U:H1' | 29:B1:241:G:C6 | 2.46 | 0.50 |
| 29:B1:226:C:H4' | 53:BX:29:VAL:O | 2.11 | 0.50 |
| 29:B1:264:G:C2 | 29:B1:265:A:C5 | 2.99 | 0.50 |
| 29:B1:359:U:C2 | 29:B1:920:A:C6 | 2.98 | 0.50 |
| 29:B1:423:A:O5' | 29:B1:423:A:H8 | 1.94 | 0.50 |
| 29:B1:547:G:H8 | 29:B1:548:G:N7 | 2.10 | 0.50 |
| 29:B1:967:A:H3' | 29:B1:968:G:C8 | 2.47 | 0.50 |
| 29:B1:999:G:H5" | 30:B2:104:A:H1' | 1.93 | 0.50 |
| 29:B1:1066:G:H2' | 29:B1:1067:U:C1' | 2.41 | 0.50 |
| 29:B1:1143:A:C1' | 29:B1:1368:U:C5 | 2.94 | 0.50 |
| 29:B1:1189:C:C4' | 29:B1:1192:C:C5 | 2.91 | 0.50 |
| 29:B1:1199:C:N3 | 74:B1:3587:OHX:N5 | 2.60 | 0.50 |
| 29:B1:1358:C:H2' | 29:B1:1359:C:C6 | 2.45 | 0.50 |
| 29:B1:1393:A:N7 | 29:B1:1418:A:C5 | 2.80 | 0.50 |
| 29:B1:1653:G:H2' | 29:B1:1654:A:C5' | 2.28 | 0.50 |
| 29:B1:2209:U:H6 | 29:B1:2209:U:H3' | 1.76 | 0.50 |
| 29:B1:2280:A:HO2' | 29:B1:2281:A:P | 2.34 | 0.50 |
| 29:B1:2297:U:N3 | 29:B1:2299:A:C6 | 2.79 | 0.50 |
| 29:B1:2513:U:C6 | 29:B1:2592:G:N2 | 2.74 | 0.50 |
| 29:B1:2545:C:C2 | 29:B1:2546:C:C6 | 2.99 | 0.50 |
| 29:B1:2603:G:H2' | 29:B1:2604:U:O4' | 2.12 | 0.50 |
| 29:B1:2714:G:N9 | 29:B1:2716:U:C5 | 2.79 | 0.50 |
| 29:B1:2920:U:H5' | 29:B1:2920:U:H6 | 1.76 | 0.50 |
| 29:B1:2947:G:H2' | 29:B1:2948:C:H5 | 1.76 | 0.50 |
| 29:B1:3030:G:O2' | 29:B1:3031:G:O4' | 2.27 | 0.50 |
| 29:B1:3034:C:C2' | 29:B1:3035:A:H5' | 2.41 | 0.50 |
| 30:B2:119:U:H5' | 30:B2:120:C:OP2 | 2.12 | 0.50 |
| 31:B3:136:G:OP1 | 52:BW:52:PRO:CB | 2.59 | 0.50 |
| 33:BB:44:ILE:HA | 33:BB:60:LYS:HA | 1.93 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BF:31:ARG:O | 37:BF:32:ALA:O | 2.29 | 0.50 |
| 38:BG:148:VAL:O | 38:BG:150:LYS:N | 2.44 | 0.50 |
| 39:BH:188:THR:C | 39:BH:190:VAL:H | 2.19 | 0.50 |
| 43:BN:55:ARG:O | 43:BN:56:GLN:CB | 2.59 | 0.50 |
| 46:BQ:128:ARG:HA | 46:BQ:137:ASN:O | 2.12 | 0.50 |
| 49:BT:63:VAL:O | 49:BT:76:ILE:HA | 2.11 | 0.50 |
| 53:BX:112:ASP:O | 53:BX:114:ASP:N | 2.45 | 0.50 |
| 62:Bg:25:GLN:C | 62:Bg:27:LYS:N | 2.70 | 0.50 |
| 1:C1:200:A:C2 | 1:C1:201:G:C4 | 2.99 | 0.50 |
| 1:C1:271:A:C2 | 1:C1:285:G:C6 | 2.99 | 0.50 |
| 1:C1:302:U:C2' | 1:C1:303:U:H5' | 2.41 | 0.50 |
| 1:C1:452:A:H2' | 1:C1:453:U:O5' | 2.11 | 0.50 |
| 1:C1:463:U:H2' | 1:C1:464:A:H8 | 1.76 | 0.50 |
| 1:C1:542:A:H2 | 1:C1:544:A:H3' | 1.76 | 0.50 |
| 1:C1:601:A:C6 | 1:C1:602:U:C4 | 3.00 | 0.50 |
| 1:C1:734:A:C6 | 1:C1:735:C:N3 | 2.79 | 0.50 |
| 1:C1:809:A:C6 | 1:C1:810:G:O6 | 2.64 | 0.50 |
| 1:C1:960:U:H2' | 1:C1:961:U:H6 | 1.76 | 0.50 |
| 1:C1:1030:A:N6 | 1:C1:1792:G:N7 | 2.60 | 0.50 |
| 1:C1:1165:G:C6 | 1:C1:1166:A:C5 | 3.00 | 0.50 |
| 1:C1:1330:G:C5 | 1:C1:1331:A:N7 | 2.80 | 0.50 |
| 1:C1:1393:C:H2' | 1:C1:1394:G:H8 | 1.74 | 0.50 |
| 1:C1:1425:A:C2' | 1:C1:1426:C:H5' | 2.42 | 0.50 |
| 1:C1:1438:G:H5' | 1:C1:1438:G:H8 | 1.76 | 0.50 |
| 1:C1:1515:A:H3' | 1:C1:1516:A:H5" | 1.93 | 0.50 |
| 1:C1:1590:G:N3 | 1:C1:1591:C:C5 | 2.79 | 0.50 |
| 1:C1:1596:C:O2' | 1:C1:1597:A:H3' | 2.11 | 0.50 |
| 1:C1:1788:G:OP2 | 1:C1:1788:G:H8 | 1.93 | 0.50 |
| 2:CA:84:ARG:C | 2:CA:86:VAL:N | 2.69 | 0.50 |
| 4:CC:131:ALA:O | 4:CC:132:LYS:C | 2.54 | 0.50 |
| 5:CD:118:LEU:O | 5:CD:119:ASP:C | 2.53 | 0.50 |
| 9:CH:33:LEU:O | 9:CH:34:SER:C | 2.54 | 0.50 |
| 11:CJ:54:LEU:O | 11:CJ:56:GLY:N | 2.44 | 0.50 |
| 11:CJ:86:ALA:C | 11:CJ:88:GLY:N | 2.66 | 0.50 |
| 16:CO:33:VAL:O | 16:CO:34:ILE:C | 2.54 | 0.50 |
| 16:CO:114:GLU:HA | 16:CO:117:ARG:CB | 2.42 | 0.50 |
| 20:CS:38:ILE:N | 74:CS:101:OHX:N5 | 2.60 | 0.50 |
| 23:Cb:77:UNK:O | 23:Cb:78:UNK:C | 2.59 | 0.50 |
| 23:Cb:126:UNK:O | 23:Cb:127:UNK:O | 2.30 | 0.50 |
| 29:D1:15:C:OP1 | 29:D1:16:A:OP1 | 2.29 | 0.50 |
| 29:D1:47:C:N4 | 29:D1:48:A:C6 | 2.80 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:112:U:O2' | 29:D1:113:C:P | 2.70 | 0.50 |
| 29:D1:292:U:H2' | 29:D1:292:U:O2 | 2.10 | 0.50 |
| 29:D1:293:C:H2' | 29:D1:294:U:O4' | 2.12 | 0.50 |
| 29:D1:428:A:C2' | 29:D1:429:U:O5' | 2.59 | 0.50 |
| 29:D1:436:A:H8 | 29:D1:436:A:O5' | 1.94 | 0.50 |
| 29:D1:581:U:O2 | 29:D1:581:U:H2' | 2.10 | 0.50 |
| 29:D1:609:G:N7 | 29:D1:610:G:C6 | 2.80 | 0.50 |
| 29:D1:639:G:C2' | 29:D1:640:U:H5' | 2.42 | 0.50 |
| 29:D1:667:C:O2 | 29:D1:667:C:H2' | 2.12 | 0.50 |
| 29:D1:697:A:N6 | 29:D1:699:A:C2 | 2.79 | 0.50 |
| 29:D1:747:A:C2' | 29:D1:748:U:OP1 | 2.59 | 0.50 |
| 29:D1:790:U:N3 | 29:D1:791:A:N7 | 2.59 | 0.50 |
| 29:D1:958:C:P | 29:D1:2799:A:H2' | 2.52 | 0.50 |
| 29:D1:977:C:O2' | 29:D1:978:G:P | 2.70 | 0.50 |
| 29:D1:1011:A:N6 | 29:D1:1039:U:H3 | 1.85 | 0.50 |
| 29:D1:1174:G:C2' | 29:D1:1175:C:H5' | 2.42 | 0.50 |
| 29:D1:1212:A:H3' | 29:D1:1213:G:H5" | 1.93 | 0.50 |
| 29:D1:1324:U:C6 | 29:D1:1324:U:C4' | 2.94 | 0.50 |
| 29:D1:1351:U:H2' | 29:D1:1352:A:C4 | 2.46 | 0.50 |
| 29:D1:1695:U:O2' | 29:D1:1749:A:N6 | 2.43 | 0.50 |
| 29:D1:1910:A:N6 | 29:D1:1911:A:N1 | 2.60 | 0.50 |
| 29:D1:2112:U:O2 | 29:D1:2113:A:C2 | 2.64 | 0.50 |
| 29:D1:2301:U:H2' | 29:D1:2302:G:C8 | 2.46 | 0.50 |
| 29:D1:2376:G:C2 | 29:D1:2377:G:C2 | 2.99 | 0.50 |
| 29:D1:2741:C:C3' | 61:Df:19:LYS:HA | 2.41 | 0.50 |
| 29:D1:2760:C:OP1 | 29:D1:2760:C:C4' | 2.60 | 0.50 |
| 29:D1:2834:G:C2 | 29:D1:2835:U:C6 | 3.00 | 0.50 |
| 29:D1:2836:C:H5 | 29:D1:2853:A:C2 | 2.28 | 0.50 |
| 29:D1:2879:C:C5 | 29:D1:2880:U:C4 | 3.00 | 0.50 |
| 29:D1:2903:A:C5 | 29:D1:2904:U:C5 | 3.00 | 0.50 |
| 29:D1:3097:C:C6 | 29:D1:3097:C:H3' | 2.46 | 0.50 |
| 29:D1:3202:G:N3 | 29:D1:3203:U:C2 | 2.80 | 0.50 |
| 29:D1:3281:U:N3 | 29:D1:3282:U:O4 | 2.44 | 0.50 |
| 29:D1:3317:U:H3 | 34:DC:123:TYR:CA | 2.21 | 0.50 |
| 29:D1:3320:A:C4 | 29:D1:3321:C:C4 | 2.99 | 0.50 |
| 29:D1:3323:A:C5 | 29:D1:3324:C:C5 | 3.00 | 0.50 |
| 29:D1:3327:G:N1 | 29:D1:3379:C:C4 | 2.79 | 0.50 |
| 29:D1:3333:G:H22 | 29:D1:3370:A:C4' | 2.25 | 0.50 |
| 29:D1:3392:U:C2 | 29:D1:3393:U:N3 | 2.79 | 0.50 |
| 30:D2:34:C:O2' | 30:D2:35:C:H5" | 2.10 | 0.50 |
| 30:D2:48:U:H2' | 30:D2:49:G:OP2 | 2.11 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:D3:80:A:C8 | 31:D3:80:A:OP2 | 2.64 | 0.50 |
| 32:DA:67:ILE:HA | 32:DA:112:ALA:HB2 | 1.92 | 0.50 |
| 33:DB:18:SER:O | 33:DB:20:THR:N | 2.42 | 0.50 |
| 34:DC:257:PRO:CB | 34:DC:259:HIS:N | 2.75 | 0.50 |
| 37:DF:159:LEU:O | 37:DF:161:ALA:N | 2.43 | 0.50 |
| 42:DK:30:LEU:O | 42:DK:32:ARG:N | 2.44 | 0.50 |
| 44:DO:96:ARG:O | 44:DO:97:SER:CB | 2.58 | 0.50 |
| 45:DP:58:LEU:C | 45:DP:60:LYS:N | 2.70 | 0.50 |
| 45:DP:94:ARG:O | 45:DP:97:ALA:HB3 | 2.11 | 0.50 |
| 54:DY:20:GLY:O | 54:DY:22:ILE:N | 2.45 | 0.50 |
| 54:DY:42:ARG:O | 54:DY:43:ILE:O | 2.30 | 0.50 |
| 55:DZ:43:ILE:O | 55:DZ:89:VAL:HA | 2.11 | 0.50 |
| 1:A1:206:A:C4 | 1:A1:262:U:C4 | 2.99 | 0.50 |
| 1:A1:208:U:H2' | 1:A1:209:U:C6 | 2.46 | 0.50 |
| 1:A1:284:G:H2' | 25:Ad:114:UNK:CB | 2.41 | 0.50 |
| 1:A1:572:C:N4 | 1:A1:573:C:N4 | 2.58 | 0.50 |
| 1:A1:679:U:C4 | 1:A1:680:U:C4 | 2.99 | 0.50 |
| 1:A1:697:C:H3' | 1:A1:698:U:H5' | 1.93 | 0.50 |
| 1:A1:772:G:C5 | 1:A1:773:C:N4 | 2.79 | 0.50 |
| 1:A1:791:A:C4 | 1:A1:792:U:C5 | 2.99 | 0.50 |
| 1:A1:1131:A:H3' | 1:A1:1132:A:C8 | 2.46 | 0.50 |
| 1:A1:1242:A:C2 | 1:A1:1243:G:C2 | 2.99 | 0.50 |
| 1:A1:1308:G:C4 | 1:A1:1309:C:C5 | 3.00 | 0.50 |
| 1:A1:1557:U:H2' | 1:A1:1558:U:H5' | 1.92 | 0.50 |
| 1:A1:1622:G:C5 | 1:A1:1623:C:C5 | 3.00 | 0.50 |
| 1:A1:1664:C:H5" | 1:A1:1665:U:OP2 | 2.11 | 0.50 |
| 2:AA:11:PRO:O | 2:AA:13:ASP:N | 2.42 | 0.50 |
| 10:AI:86:VAL:CB | 10:AI:87:PRO:CA | 2.90 | 0.50 |
| 13:AL:65:GLU:O | 13:AL:66:LEU:C | 2.55 | 0.50 |
| 16:AO:75:ILE:O | 16:AO:76:SER:O | 2.30 | 0.50 |
| 17:AP:61:SER:CB | 17:AP:67:ALA:H | 2.24 | 0.50 |
| 17:AP:110:LYS:C | 17:AP:112:LYS:H | 2.20 | 0.50 |
| 18:AQ:94:LYS:C | 18:AQ:96:SER:N | 2.69 | 0.50 |
| 21:AT:95:ALA:C | 21:AT:97:GLY:H | 2.19 | 0.50 |
| 21:AT:135:THR:C | 21:AT:137:LYS:N | 2.69 | 0.50 |
| 21:AT:302:PHE:O | 21:AT:303:ALA:HB2 | 2.12 | 0.50 |
| 29:B1:5:G:N2 | 31:B3:155:A:C4 | 2.78 | 0.50 |
| 29:B1:55:G:O2' | 29:B1:56:G:P | 2.68 | 0.50 |
| 29:B1:186:U:C5' | 29:B1:187:A:OP2 | 2.53 | 0.50 |
| 29:B1:281:G:O6 | 29:B1:282:G:O6 | 2.29 | 0.50 |
| 29:B1:331:G:O2' | 29:B1:332:C:H5" | 2.10 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:380:U:H2' | 29:B1:381:U:H6 | 1.73 | 0.50 |
| 29:B1:384:A:C8 | 29:B1:385:A:C8 | 2.99 | 0.50 |
| 29:B1:385:A:C2' | 29:B1:386:A:O5' | 2.60 | 0.50 |
| 29:B1:416:A:N6 | 31:B3:7:U:H3 | 2.08 | 0.50 |
| 29:B1:513:G:C2 | 29:B1:577:C:N3 | 2.70 | 0.50 |
| 29:B1:518:G:C8 | 29:B1:518:G:H5" | 2.46 | 0.50 |
| 29:B1:655:C:H2' | 29:B1:656:A:C8 | 2.46 | 0.50 |
| 29:B1:759:U:C2 | 29:B1:773:G:C2 | 3.00 | 0.50 |
| 29:B1:781:G:C6 | 29:B1:782:U:C5 | 2.99 | 0.50 |
| 29:B1:822:G:N2 | 29:B1:823:C:H1' | 2.27 | 0.50 |
| 29:B1:1112:A:H3' | 29:B1:1113:G:H8 | 1.76 | 0.50 |
| 29:B1:1144:U:O2' | 29:B1:1145:G:P | 2.67 | 0.50 |
| 29:B1:1172:G:H2' | 29:B1:1173:U:O5' | 2.11 | 0.50 |
| 29:B1:1246:G:H1' | 29:B1:1264:G:N7 | 2.27 | 0.50 |
| 29:B1:1367:G:HO2' | 29:B1:1368:U:P | 2.35 | 0.50 |
| 29:B1:1658:G:C5 | 29:B1:1796:G:O6 | 2.64 | 0.50 |
| 29:B1:1715:A:N7 | 29:B1:1716:U:C6 | 2.79 | 0.50 |
| 29:B1:1886:A:O4' | 29:B1:3307:A:H5' | 2.11 | 0.50 |
| 29:B1:1915:A:O2' | 29:B1:1916:U:H5' | 2.11 | 0.50 |
| 29:B1:2119:A:C5 | 29:B1:2120:A:H2 | 2.29 | 0.50 |
| 29:B1:2618:G:P | 29:B1:2618:G:H21 | 2.35 | 0.50 |
| 29:B1:2627:C:H4' | 29:B1:2627:C:OP2 | 2.11 | 0.50 |
| 29:B1:2749:G:C5 | 29:B1:2750:U:C4 | 2.99 | 0.50 |
| 29:B1:2762:A:H2' | 29:B1:2763:U:C6 | 2.46 | 0.50 |
| 29:B1:2804:A:O2' | 29:B1:2805:G:O4' | 2.27 | 0.50 |
| 29:B1:2808:A:C8 | 29:B1:2955:U:H4' | 2.46 | 0.50 |
| 29:B1:2827:U:O2 | 29:B1:2827:U:C2' | 2.60 | 0.50 |
| 29:B1:2980:U:C2 | 29:B1:2981:U:C5 | 3.00 | 0.50 |
| 29:B1:3152:U:H5' | 29:B1:3294:A:H4' | 1.92 | 0.50 |
| 29:B1:3191:G:C6 | 29:B1:3192:U:N3 | 2.79 | 0.50 |
| 29:B1:3199:G:H3' | 29:B1:3200:G:C8 | 2.41 | 0.50 |
| 29:B1:3352:U:H2' | 29:B1:3354:U:C4' | 2.35 | 0.50 |
| 29:B1:3393:U:H2' | 29:B1:3394:U:C6 | 2.46 | 0.50 |
| 30:B2:65:G:H2' | 30:B2:66:A:O5' | 2.11 | 0.50 |
| 31:B3:3:A:H2' | 31:B3:4:C:C5' | 2.41 | 0.50 |
| 31:B3:50:C:O2' | 31:B3:51:G:O5' | 2.29 | 0.50 |
| 31:B3:113:U:O2 | 31:B3:114:G:C8 | 2.65 | 0.50 |
| 34:BC:81:THR:O | 34:BC:83:PRO:N | 2.44 | 0.50 |
| 34:BC:83:PRO:CB | 34:BC:204:ALA:CB | 2.88 | 0.50 |
| 35:BD:203:ARG:O | 35:BD:204:GLY:O | 2.29 | 0.50 |
| 44:BO:49:ARG:HA | 44:BO:53:TYR:H | 1.76 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 55:BZ:50:VAL:O | 55:BZ:53:LYS:CB | 2.60 | 0.50 |
| 56:Ba:56:ASN:O | 56:Ba:57:GLN:C | 2.53 | 0.50 |
| 56:Ba:60:TRP:O | 56:Ba:62:ARG:N | 2.44 | 0.50 |
| 63:Bh:36:UNK:O | 63:Bh:37:UNK:C | 2.59 | 0.50 |
| 1:C1:50:C:H2' | 1:C1:424:C:H41 | 1.77 | 0.50 |
| 1:C1:105:A:N1 | 74:C1:1916:OHX:N6 | 2.59 | 0.50 |
| 1:C1:237:C:HO2' | 1:C1:238:U:P | 2.35 | 0.50 |
| 1:C1:337:G:O5' | 1:C1:337:G:C8 | 2.64 | 0.50 |
| 1:C1:381:C:O2 | 1:C1:381:C:H2' | 2.12 | 0.50 |
| 1:C1:544:A:H8 | 1:C1:544:A:OP2 | 1.94 | 0.50 |
| 1:C1:635:A:C5 | 1:C1:863:A:C8 | 3.00 | 0.50 |
| 1:C1:698:U:O2' | 1:C1:699:U:C6 | 2.64 | 0.50 |
| 1:C1:748:U:H4' | 16:CO:123:GLY:HA2 | 1.94 | 0.50 |
| 1:C1:758:U:H3' | 1:C1:759:U:C6 | 2.46 | 0.50 |
| 1:C1:828:U:C4 | 1:C1:829:A:N6 | 2.80 | 0.50 |
| 1:C1:871:G:C2' | 1:C1:872:G:H8 | 2.25 | 0.50 |
| 1:C1:883:C:O2 | 1:C1:883:C:C2' | 2.59 | 0.50 |
| 1:C1:1056:U:O2 | 1:C1:1056:U:H2' | 2.10 | 0.50 |
| 1:C1:1139:A:OP2 | 74:C1:1953:OHX:N1 | 2.44 | 0.50 |
| 1:C1:1250:U:C2 | 1:C1:1251:U:N3 | 2.79 | 0.50 |
| 1:C1:1256:A:OP2 | 1:C1:1257:U:H5' | 2.11 | 0.50 |
| 1:C1:1282:U:N3 | 1:C1:1283:U:C5 | 2.79 | 0.50 |
| 1:C1:1466:G:H2' | 1:C1:1467:C:H6 | 1.75 | 0.50 |
| 1:C1:1480:G:C2 | 1:C1:1528:U:C2 | 2.99 | 0.50 |
| 1:C1:1558:U:C6 | 1:C1:1558:U:C3' | 2.95 | 0.50 |
| 1:C1:1571:C:H3' | 1:C1:1572:G:C5' | 2.41 | 0.50 |
| 1:C1:1757:G:C6 | 1:C1:1758:U:C5 | 2.99 | 0.50 |
| 4:CC:56:GLN:C | 4:CC:59:LEU:H | 2.17 | 0.50 |
| 5:CD:212:LYS:O | 5:CD:215:ASP:N | 2.44 | 0.50 |
| 9:CH:49:LYS:O | 9:CH:51:ASP:N | 2.45 | 0.50 |
| 17:CP:131:SER:CB | 17:CP:133:LEU:HA | 2.42 | 0.50 |
| 24:Cc:21:UNK:C | 24:Cc:22:UNK:O | 2.59 | 0.50 |
| 29:D1:40:A:N7 | 29:D1:937:G:C6 | 2.79 | 0.50 |
| 29:D1:221:A:C4 | 29:D1:224:C:C4 | 3.00 | 0.50 |
| 29:D1:232:G:C6 | 29:D1:233:C:C4 | 2.99 | 0.50 |
| 29:D1:559:A:H2' | 29:D1:560:G:H5" | 1.93 | 0.50 |
| 29:D1:573:C:H2' | 29:D1:574:U:H5' | 1.93 | 0.50 |
| 29:D1:601:U:H2' | 29:D1:601:U:O2 | 2.10 | 0.50 |
| 29:D1:624:G:N2 | 29:D1:625:G:C8 | 2.79 | 0.50 |
| 29:D1:722:G:O2' | 29:D1:723:U:P | 2.70 | 0.50 |
| 29:D1:747:A:C8 | 29:D1:747:A:O5' | 2.65 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:939:U:O4’ | 29:D1:2814:G:H5’ | 2.11 | 0.50 |
| 29:D1:1081:U:H2’ | 29:D1:1082:U:OP1 | 2.10 | 0.50 |
| 29:D1:1148:G:O2’ | 29:D1:1171:G:O4’ | 2.29 | 0.50 |
| 29:D1:1177:G:O5’ | 29:D1:1177:G:C8 | 2.65 | 0.50 |
| 29:D1:1232:C:C2 | 29:D1:1261:G:N1 | 2.79 | 0.50 |
| 29:D1:1357:G:C6 | 29:D1:1358:C:C4 | 3.00 | 0.50 |
| 29:D1:1379:G:N3 | 29:D1:1379:G:H2’ | 2.27 | 0.50 |
| 29:D1:1571:A:C5 | 29:D1:1572:U:H1’ | 2.45 | 0.50 |
| 29:D1:1847:A:C2 | 29:D1:1849:C:C6 | 2.99 | 0.50 |
| 29:D1:2143:A:N7 | 29:D1:2145:A:C6 | 2.80 | 0.50 |
| 29:D1:2278:C:N3 | 29:D1:2307:G:C2 | 2.79 | 0.50 |
| 29:D1:2352:A:C6 | 29:D1:2353:G:C6 | 3.00 | 0.50 |
| 29:D1:2356:A:C2 | 29:D1:2357:A:N9 | 2.79 | 0.50 |
| 29:D1:2425:G:H2’ | 29:D1:2426:U:C6 | 2.45 | 0.50 |
| 29:D1:2677:G:N2 | 29:D1:2679:A:O4’ | 2.44 | 0.50 |
| 29:D1:2696:A:N7 | 29:D1:2697:A:C6 | 2.80 | 0.50 |
| 29:D1:2722:U:H2’ | 29:D1:2723:U:C6 | 2.46 | 0.50 |
| 29:D1:2805:G:H2’ | 29:D1:2806:U:C6 | 2.47 | 0.50 |
| 29:D1:2864:A:C5 | 29:D1:2865:U:C5 | 2.99 | 0.50 |
| 29:D1:3007:U:H2’ | 29:D1:3008:A:O4’ | 2.12 | 0.50 |
| 29:D1:3060:C:O2 | 29:D1:3331:U:O2’ | 2.30 | 0.50 |
| 29:D1:3065:G:C2’ | 29:D1:3066:U:O5’ | 2.59 | 0.50 |
| 29:D1:3101:G:C3’ | 29:D1:3102:G:H5” | 2.42 | 0.50 |
| 29:D1:3175:U:O2 | 29:D1:3175:U:O5’ | 2.30 | 0.50 |
| 29:D1:3202:G:OP2 | 29:D1:3202:G:C3’ | 2.42 | 0.50 |
| 29:D1:3226:A:C2’ | 29:D1:3227:A:H5’ | 2.41 | 0.50 |
| 29:D1:3305:A:H1’ | 29:D1:3311:C:O2 | 2.11 | 0.50 |
| 29:D1:3328:G:N1 | 29:D1:3375:A:N7 | 2.60 | 0.50 |
| 29:D1:3333:G:N1 | 29:D1:3370:A:C4’ | 2.70 | 0.50 |
| 29:D1:3348:G:C6 | 29:D1:3349:C:C2 | 3.00 | 0.50 |
| 29:D1:3372:A:C5 | 29:D1:3373:U:C4 | 2.99 | 0.50 |
| 29:D1:3381:U:C4 | 29:D1:3383:G:C6 | 3.00 | 0.50 |
| 30:D2:35:C:H2’ | 30:D2:36:C:O4’ | 2.10 | 0.50 |
| 30:D2:104:A:C4 | 30:D2:105:C:C6 | 2.99 | 0.50 |
| 31:D3:28:C:C5’ | 31:D3:29:U:OP2 | 2.58 | 0.50 |
| 31:D3:79:A:H3’ | 31:D3:80:A:H8 | 1.75 | 0.50 |
| 34:DC:157:VAL:O | 34:DC:158:VAL:CB | 2.58 | 0.50 |
| 35:DD:42:VAL:C | 35:DD:44:LYS:N | 2.67 | 0.50 |
| 38:DG:51:TYR:C | 38:DG:53:LYS:N | 2.69 | 0.50 |
| 42:DK:97:SER:C | 42:DK:99:THR:H | 2.19 | 0.50 |
| 72:DL:41:LYS:CB | 72:DL:70:ALA:HA | 2.42 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 45:DP:79:ILE:O | 45:DP:80:PHE:C | 2.52 | 0.50 |
| 45:DP:133:ARG:O | 45:DP:134:LYS:CB | 2.59 | 0.50 |
| 52:DW:87:SER:O | 52:DW:89:LYS:N | 2.44 | 0.50 |
| 57:Db:40:SER:O | 57:Db:42:VAL:N | 2.45 | 0.50 |
| 62:Dg:34:HIS:O | 62:Dg:35:ALA:HB3 | 2.12 | 0.50 |
| 64:Di:8:UNK:C | 64:Di:10:UNK:N | 2.72 | 0.50 |
| 26:Dj:5:UNK:C | 26:Dj:7:UNK:N | 2.73 | 0.50 |
| 65:Dk:14:UNK:O | 65:Dk:17:UNK:N | 2.45 | 0.50 |
| 1:A1:89:G:N3 | 1:A1:90:C:C6 | 2.80 | 0.50 |
| 1:A1:93:A:N7 | 1:A1:398:G:H2' | 2.25 | 0.50 |
| 1:A1:150:U:H4' | 1:A1:151:G:OP2 | 2.11 | 0.50 |
| 1:A1:169:A:C4 | 1:A1:171:A:C5 | 3.00 | 0.50 |
| 1:A1:340:U:C3' | 1:A1:341:A:H8 | 2.22 | 0.50 |
| 1:A1:492:A:N1 | 1:A1:496:G:C2 | 2.79 | 0.50 |
| 1:A1:638:U:H3' | 1:A1:639:U:C5' | 2.34 | 0.50 |
| 1:A1:684:A:H5' | 1:A1:685:A:OP2 | 2.12 | 0.50 |
| 1:A1:891:A:C6 | 1:A1:922:G:O6 | 2.64 | 0.50 |
| 1:A1:1001:A:N7 | 1:A1:1002:G:C5 | 2.80 | 0.50 |
| 1:A1:1241:G:O3' | 1:A1:1242:A:C8 | 2.62 | 0.50 |
| 1:A1:1282:U:C2 | 1:A1:1283:U:C6 | 3.00 | 0.50 |
| 1:A1:1297:G:N2 | 1:A1:1301:U:N1 | 2.60 | 0.50 |
| 1:A1:1422:A:O2' | 1:A1:1423:U:H5' | 2.11 | 0.50 |
| 1:A1:1491:U:H5" | 1:A1:1492:A:H5" | 1.94 | 0.50 |
| 1:A1:1612:U:C3' | 1:A1:1613:U:H5" | 2.42 | 0.50 |
| 2:AA:8:ASP:C | 2:AA:10:THR:H | 2.19 | 0.50 |
| 2:AA:54:TRP:C | 2:AA:56:LYS:N | 2.68 | 0.50 |
| 4:AC:14:ASP:O | 4:AC:16:VAL:O | 2.30 | 0.50 |
| 5:AD:89:ILE:O | 5:AD:90:ILE:C | 2.54 | 0.50 |
| 7:AF:125:VAL:HA | 7:AF:138:ASN:O | 2.11 | 0.50 |
| 10:AI:17:TYR:CB | 10:AI:18:ARG:CA | 2.90 | 0.50 |
| 15:AN:119:ALA:HB1 | 15:AN:120:SER:HA | 1.94 | 0.50 |
| 21:AT:63:GLY:O | 21:AT:64:HIS:C | 2.54 | 0.50 |
| 25:Ad:112:UNK:C | 25:Ad:114:UNK:H | 2.25 | 0.50 |
| 29:B1:25:U:C4 | 29:B1:331:G:C8 | 3.00 | 0.50 |
| 29:B1:28:C:O2' | 29:B1:61:A:N3 | 2.44 | 0.50 |
| 29:B1:180:C:O2' | 29:B1:181:U:H5' | 2.11 | 0.50 |
| 29:B1:189:G:C6 | 29:B1:206:G:C5 | 2.99 | 0.50 |
| 29:B1:212:G:C6 | 29:B1:222:A:C5 | 2.99 | 0.50 |
| 29:B1:294:U:C2' | 29:B1:295:A:H5" | 2.42 | 0.50 |
| 29:B1:299:G:C6 | 29:B1:300:G:C5 | 2.99 | 0.50 |
| 29:B1:412:G:H2' | 29:B1:413:U:C6 | 2.47 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:413:U:N3 | 29:B1:414:U:C4 | 2.79 | 0.50 |
| 29:B1:437:G:C6 | 29:B1:438:A:N1 | 2.80 | 0.50 |
| 29:B1:532:A:C3' | 29:B1:533:A:C8 | 2.92 | 0.50 |
| 29:B1:588:G:H4' | 29:B1:589:A:C5 | 2.43 | 0.50 |
| 29:B1:588:G:N1 | 29:B1:612:U:C5 | 2.80 | 0.50 |
| 29:B1:666:A:C6 | 29:B1:667:C:C4 | 3.00 | 0.50 |
| 29:B1:673:U:C2' | 29:B1:674:G:C5' | 2.87 | 0.50 |
| 29:B1:687:U:H2' | 29:B1:688:G:O5' | 2.12 | 0.50 |
| 29:B1:877:C:C6 | 29:B1:877:C:C3' | 2.95 | 0.50 |
| 29:B1:993:G:C6 | 29:B1:2637:A:C6 | 3.00 | 0.50 |
| 29:B1:1097:G:OP1 | 29:B1:1098:A:OP1 | 2.30 | 0.50 |
| 29:B1:1174:G:N3 | 29:B1:1175:C:C5 | 2.78 | 0.50 |
| 29:B1:1198:C:OP2 | 29:B1:1198:C:H6 | 1.95 | 0.50 |
| 29:B1:1317:A:C8 | 29:B1:1317:A:H5' | 2.45 | 0.50 |
| 29:B1:1453:A:C1' | 29:B1:1850:A:N1 | 2.75 | 0.50 |
| 29:B1:1609:C:O2' | 29:B1:1610:G:P | 2.69 | 0.50 |
| 29:B1:1658:G:N9 | 29:B1:1796:G:N7 | 2.60 | 0.50 |
| 29:B1:1678:G:H4' | 29:B1:1756:C:H4' | 1.92 | 0.50 |
| 29:B1:1878:G:C8 | 29:B1:1878:G:C3' | 2.94 | 0.50 |
| 29:B1:1887:A:OP2 | 74:B1:3442:OHX:N1 | 2.45 | 0.50 |
| 29:B1:1933:A:N7 | 29:B1:1934:G:C8 | 2.79 | 0.50 |
| 29:B1:2128:C:N4 | 29:B1:2129:U:C4 | 2.80 | 0.50 |
| 29:B1:2133:U:H2' | 29:B1:2134:G:O4' | 2.11 | 0.50 |
| 29:B1:2213:A:C2' | 29:B1:2214:A:C8 | 2.81 | 0.50 |
| 29:B1:2311:G:O5' | 29:B1:2311:G:H8 | 1.94 | 0.50 |
| 29:B1:2520:A:C5 | 29:B1:2521:U:O4 | 2.64 | 0.50 |
| 29:B1:2522:G:C6 | 29:B1:2587:U:C5 | 2.99 | 0.50 |
| 29:B1:2674:A:OP1 | 42:BK:106:ILE:O | 2.29 | 0.50 |
| 29:B1:2754:G:C3' | 29:B1:2755:C:C5' | 2.73 | 0.50 |
| 29:B1:2841:G:N1 | 29:B1:2844:C:N3 | 2.59 | 0.50 |
| 29:B1:3057:U:C2' | 29:B1:3058:U:H4' | 2.42 | 0.50 |
| 29:B1:3072:C:C5 | 29:B1:3073:A:C4 | 3.00 | 0.50 |
| 29:B1:3077:A:N6 | 29:B1:3080:G:C4 | 2.80 | 0.50 |
| 29:B1:3150:A:C3' | 29:B1:3151:U:C5' | 2.83 | 0.50 |
| 29:B1:3184:A:H8 | 29:B1:3184:A:C5' | 2.16 | 0.50 |
| 29:B1:3284:G:H2' | 29:B1:3285:C:C6 | 2.47 | 0.50 |
| 29:B1:3328:G:HO2' | 29:B1:3329:U:C4' | 2.25 | 0.50 |
| 29:B1:3348:G:C6 | 29:B1:3349:C:O2 | 2.65 | 0.50 |
| 30:B2:2:G:C2 | 30:B2:3:U:C6 | 2.99 | 0.50 |
| 31:B3:24:G:H2' | 31:B3:25:G:O5' | 2.12 | 0.50 |
| 31:B3:40:A:O2' | 31:B3:41:A:OP1 | 2.29 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:B3:60:U:C4 | 31:B3:98:U:H4' | 2.46 | 0.50 |
| 33:BB:130:SER:O | 33:BB:131:GLY:C | 2.54 | 0.50 |
| 34:BC:62:ARG:O | 34:BC:63:PRO:C | 2.54 | 0.50 |
| 35:BD:6:VAL:CB | 35:BD:20:LEU:N | 2.75 | 0.50 |
| 35:BD:53:SER:O | 35:BD:55:LYS:N | 2.45 | 0.50 |
| 38:BG:45:LEU:C | 38:BG:47:ARG:N | 2.68 | 0.50 |
| 40:BI:20:ILE:HA | 40:BI:25:VAL:HA | 1.94 | 0.50 |
| 40:BI:85:GLY:O | 40:BI:187:ILE:N | 2.44 | 0.50 |
| 42:BK:139:THR:C | 42:BK:141:ARG:N | 2.63 | 0.50 |
| 44:BO:54:LYS:O | 44:BO:56:LYS:N | 2.45 | 0.50 |
| 45:BP:172:ARG:O | 45:BP:173:ALA:C | 2.54 | 0.50 |
| 47:BR:125:ASP:O | 47:BR:128:ALA:HB3 | 2.11 | 0.50 |
| 49:BT:108:ARG:O | 49:BT:109:VAL:C | 2.55 | 0.50 |
| 52:BW:75:LYS:C | 52:BW:77:GLU:H | 2.18 | 0.50 |
| 71:Br:12:UNK:O | 71:Br:15:UNK:N | 2.45 | 0.50 |
| 1:C1:20:G:C3' | 1:C1:21:U:H5' | 2.41 | 0.50 |
| 1:C1:104:A:C5' | 1:C1:105:A:OP2 | 2.57 | 0.50 |
| 1:C1:121:U:H5' | 1:C1:121:U:H6 | 1.77 | 0.50 |
| 1:C1:141:U:O2 | 1:C1:141:U:O4' | 2.30 | 0.50 |
| 1:C1:357:G:C6 | 1:C1:358:U:C4 | 2.99 | 0.50 |
| 1:C1:413:U:O2' | 1:C1:414:C:H5' | 2.11 | 0.50 |
| 1:C1:603:U:H2' | 1:C1:604:A:C8 | 2.46 | 0.50 |
| 1:C1:723:G:C5 | 1:C1:724:C:C4 | 2.99 | 0.50 |
| 1:C1:837:G:O6 | 74:C1:1928:OHX:N5 | 2.45 | 0.50 |
| 1:C1:838:G:C2 | 1:C1:839:U:C6 | 3.00 | 0.50 |
| 1:C1:1073:G:O6 | 1:C1:1074:G:O6 | 2.28 | 0.50 |
| 1:C1:1097:U:H2' | 1:C1:1098:U:H5' | 1.89 | 0.50 |
| 1:C1:1150:G:O4' | 1:C1:1765:A:O2' | 2.21 | 0.50 |
| 1:C1:1153:G:OP2 | 1:C1:1153:G:C8 | 2.60 | 0.50 |
| 1:C1:1284:C:O2 | 1:C1:1286:U:N3 | 2.45 | 0.50 |
| 1:C1:1483:A:C1' | 1:C1:1524:A:H62 | 2.22 | 0.50 |
| 1:C1:1499:G:H2' | 1:C1:1500:C:C6 | 2.44 | 0.50 |
| 1:C1:1686:C:C4 | 1:C1:1687:U:C4 | 3.00 | 0.50 |
| 3:CB:160:GLY:O | 3:CB:161:LYS:CB | 2.59 | 0.50 |
| 6:CE:54:ARG:O | 6:CE:58:ASP:CB | 2.59 | 0.50 |
| 9:CH:6:GLN:O | 9:CH:7:ALA:HB3 | 2.11 | 0.50 |
| 9:CH:17:ALA:N | 9:CH:80:HIS:O | 2.40 | 0.50 |
| 9:CH:71:CYS:C | 9:CH:73:GLU:N | 2.69 | 0.50 |
| 20:CS:25:SER:O | 20:CS:26:SER:C | 2.54 | 0.50 |
| 29:D1:171:G:C2' | 29:D1:172:G:O5' | 2.59 | 0.50 |
| 29:D1:359:U:H1' | 29:D1:817:A:N1 | 2.27 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:424:G:C8 | 29:D1:424:G:H3' | 2.46 | 0.50 |
| 29:D1:523:A:C5 | 29:D1:524:U:C6 | 3.00 | 0.50 |
| 29:D1:564:G:C2' | 29:D1:565:U:C6 | 2.94 | 0.50 |
| 29:D1:694:C:H5" | 29:D1:695:C:OP2 | 2.11 | 0.50 |
| 29:D1:817:A:H4' | 29:D1:818:C:OP2 | 2.11 | 0.50 |
| 29:D1:858:A:H3' | 29:D1:859:G:C8 | 2.46 | 0.50 |
| 29:D1:891:G:OP1 | 74:D1:3428:OHX:N2 | 2.45 | 0.50 |
| 29:D1:1312:C:H5' | 29:D1:1313:G:OP2 | 2.10 | 0.50 |
| 29:D1:1492:G:H3' | 29:D1:1493:G:C2 | 2.47 | 0.50 |
| 29:D1:1556:C:N3 | 29:D1:2169:G:N7 | 2.60 | 0.50 |
| 29:D1:1728:G:H5" | 29:D1:1729:A:H3' | 1.92 | 0.50 |
| 29:D1:1794:G:C6 | 33:DB:185:ALA:HB1 | 2.45 | 0.50 |
| 29:D1:2105:G:C4 | 29:D1:2106:A:C8 | 2.99 | 0.50 |
| 29:D1:2177:G:O2' | 29:D1:2178:A:P | 2.70 | 0.50 |
| 29:D1:2370:G:C5 | 29:D1:2371:G:C8 | 3.00 | 0.50 |
| 29:D1:2383:C:C4 | 29:D1:2384:A:C5 | 2.99 | 0.50 |
| 29:D1:2400:G:C1' | 29:D1:2401:A:OP1 | 2.60 | 0.50 |
| 29:D1:2513:U:HO2' | 29:D1:2514:U:P | 2.33 | 0.50 |
| 29:D1:2530:G:OP2 | 29:D1:2530:G:H8 | 1.94 | 0.50 |
| 29:D1:2614:G:C6 | 29:D1:2615:G:C5 | 2.99 | 0.50 |
| 29:D1:2833:A:C2 | 29:D1:2834:G:C8 | 3.00 | 0.50 |
| 29:D1:2847:A:H3' | 29:D1:2848:G:C8 | 2.33 | 0.50 |
| 29:D1:2931:C:C2' | 29:D1:2932:U:H5' | 2.42 | 0.50 |
| 29:D1:3078:U:C4' | 29:D1:3079:U:O5' | 2.50 | 0.50 |
| 29:D1:3133:C:C2' | 29:D1:3134:A:O5' | 2.60 | 0.50 |
| 29:D1:3203:U:H2' | 29:D1:3204:C:C5 | 2.46 | 0.50 |
| 29:D1:3209:A:C4 | 29:D1:3210:A:C5 | 2.99 | 0.50 |
| 30:D2:75:G:OP2 | 74:D2:201:OHX:N4 | 2.45 | 0.50 |
| 30:D2:111:U:O3' | 30:D2:112:G:H4' | 2.11 | 0.50 |
| 31:D3:25:G:C6 | 31:D3:26:U:C4 | 3.00 | 0.50 |
| 31:D3:149:A:H2' | 31:D3:150:G:C8 | 2.46 | 0.50 |
| 33:DB:200:ARG:C | 33:DB:202:VAL:N | 2.69 | 0.50 |
| 34:DC:2:SER:C | 34:DC:4:ARG:N | 2.69 | 0.50 |
| 34:DC:62:ARG:C | 34:DC:64:GLY:H | 2.20 | 0.50 |
| 34:DC:231:HIS:O | 34:DC:232:ARG:C | 2.55 | 0.50 |
| 34:DC:337:THR:O | 34:DC:338:LEU:C | 2.55 | 0.50 |
| 36:DE:141:PRO:HA | 36:DE:143:LYS:H | 1.76 | 0.50 |
| 37:DF:131:LYS:O | 37:DF:132:ALA:C | 2.54 | 0.50 |
| 38:DG:110:ARG:C | 38:DG:111:ILE:O | 2.55 | 0.50 |
| 41:DJ:59:GLN:HA | 41:DJ:127:ALA:O | 2.11 | 0.50 |
| 72:DL:123:ARG:O | 72:DL:124:THR:C | 2.55 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 45:DP:77:SER:O | 45:DP:78:ARG:C | 2.50 | 0.50 |
| 47:DR:24:VAL:O | 47:DR:25:TYR:C | 2.54 | 0.50 |
| 48:DS:12:ALA:O | 48:DS:13:SER:C | 2.55 | 0.50 |
| 50:DU:130:ALA:O | 50:DU:131:SER:C | 2.55 | 0.50 |
| 57:Db:110:ALA:O | 57:Db:111:ARG:C | 2.54 | 0.50 |
| 1:A1:209:U:N3 | 1:A1:210:A:N7 | 2.60 | 0.50 |
| 1:A1:213:A:N6 | 1:A1:214:G:C2 | 2.80 | 0.50 |
| 1:A1:329:G:C2 | 1:A1:330:G:C5 | 3.00 | 0.50 |
| 1:A1:331:A:H5" | 1:A1:332:U:OP2 | 2.11 | 0.50 |
| 1:A1:387:A:C2 | 1:A1:426:G:OP2 | 2.64 | 0.50 |
| 1:A1:575:C:C5' | 1:A1:576:G:OP2 | 2.59 | 0.50 |
| 1:A1:700:C:H42 | 1:A1:738:G:H1 | 1.60 | 0.50 |
| 1:A1:814:A:N1 | 1:A1:858:G:C2 | 2.80 | 0.50 |
| 1:A1:964:U:H4' | 1:A1:965:U:O5' | 2.12 | 0.50 |
| 1:A1:974:A:C2 | 1:A1:975:C:C2 | 3.00 | 0.50 |
| 1:A1:1075:C:N3 | 1:A1:1076:A:N1 | 2.60 | 0.50 |
| 1:A1:1250:U:C2 | 1:A1:1251:U:C4 | 2.99 | 0.50 |
| 1:A1:1565:C:H5" | 1:A1:1566:U:OP2 | 2.12 | 0.50 |
| 1:A1:1673:G:O2' | 1:A1:1674:C:H5' | 2.12 | 0.50 |
| 1:A1:1693:A:H61 | 1:A1:1708:U:H3 | 1.59 | 0.50 |
| 1:A1:1790:A:C2' | 1:A1:1791:A:H5" | 2.41 | 0.50 |
| 2:AA:63:ILE:C | 2:AA:65:ALA:N | 2.67 | 0.50 |
| 2:AA:210:VAL:O | 2:AA:212:GLN:N | 2.45 | 0.50 |
| 14:AM:13:ASP:C | 14:AM:15:ILE:N | 2.70 | 0.50 |
| 15:AN:31:VAL:O | 15:AN:35:GLU:N | 2.44 | 0.50 |
| 17:AP:107:PHE:O | 17:AP:108:GLY:C | 2.54 | 0.50 |
| 29:B1:34:A:H2' | 29:B1:35:A:C1' | 2.42 | 0.50 |
| 29:B1:196:G:N1 | 29:B1:199:A:OP2 | 2.45 | 0.50 |
| 29:B1:221:A:C4 | 29:B1:224:C:C4 | 2.99 | 0.50 |
| 29:B1:279:U:O2 | 29:B1:286:U:N3 | 2.44 | 0.50 |
| 29:B1:333:G:H2' | 29:B1:334:A:C8 | 2.46 | 0.50 |
| 29:B1:342:A:C2 | 29:B1:349:A:N7 | 2.80 | 0.50 |
| 29:B1:368:G:C6 | 29:B1:369:A:N7 | 2.79 | 0.50 |
| 29:B1:577:C:O2 | 37:BF:149:ILE:HA | 2.11 | 0.50 |
| 29:B1:727:G:C8 | 29:B1:743:C:N4 | 2.80 | 0.50 |
| 29:B1:926:A:H2' | 29:B1:927:C:C6 | 2.47 | 0.50 |
| 29:B1:1076:C:N3 | 29:B1:1077:U:O4 | 2.45 | 0.50 |
| 29:B1:1119:C:N3 | 29:B1:1120:A:N7 | 2.59 | 0.50 |
| 29:B1:1303:A:C8 | 29:B1:1304:A:N1 | 2.80 | 0.50 |
| 29:B1:1336:U:H2' | 29:B1:1337:A:H8 | 1.75 | 0.50 |
| 29:B1:1393:A:C2' | 29:B1:1394:A:H5" | 2.42 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1444:G:H8 | 29:B1:1444:G:O5' | 1.94 | 0.50 |
| 29:B1:1644:C:N4 | 74:B1:3505:OHX:N4 | 2.60 | 0.50 |
| 29:B1:1674:G:C6 | 29:B1:1675:G:C5 | 3.00 | 0.50 |
| 29:B1:1729:A:OP2 | 55:BZ:27:TYR:CB | 2.60 | 0.50 |
| 29:B1:1771:C:C4 | 29:B1:1772:U:C5 | 2.99 | 0.50 |
| 29:B1:1779:C:O4' | 29:B1:1779:C:P | 2.68 | 0.50 |
| 29:B1:1779:C:OP2 | 29:B1:1780:G:C8 | 2.65 | 0.50 |
| 29:B1:2149:A:H62 | 29:B1:2187:G:N2 | 2.09 | 0.50 |
| 29:B1:2308:C:OP1 | 29:B1:2309:A:H2' | 2.12 | 0.50 |
| 29:B1:2487:U:H4' | 29:B1:2488:A:OP2 | 2.08 | 0.50 |
| 29:B1:2717:U:C5' | 29:B1:2717:U:H6 | 2.25 | 0.50 |
| 29:B1:2768:U:H2' | 29:B1:2769:A:C8 | 2.44 | 0.50 |
| 29:B1:2833:A:C2' | 29:B1:2834:G:H5' | 2.34 | 0.50 |
| 29:B1:2836:C:C5 | 29:B1:2853:A:C2 | 2.99 | 0.50 |
| 29:B1:2876:C:C1' | 29:B1:2952:G:N2 | 2.75 | 0.50 |
| 29:B1:2922:G:H2' | 29:B1:2923:U:O4' | 2.12 | 0.50 |
| 29:B1:3019:U:O2 | 29:B1:3019:U:H2' | 2.12 | 0.50 |
| 29:B1:3217:C:C5' | 29:B1:3276:G:H22 | 2.24 | 0.50 |
| 29:B1:3271:G:C4 | 29:B1:3271:G:C3' | 2.93 | 0.50 |
| 29:B1:3317:U:N3 | 34:BC:123:TYR:HA | 2.23 | 0.50 |
| 29:B1:3327:G:C6 | 29:B1:3328:G:C5 | 3.00 | 0.50 |
| 29:B1:3333:G:H1 | 29:B1:3370:A:C1' | 2.25 | 0.50 |
| 30:B2:64:A:H1' | 30:B2:65:G:O5' | 2.10 | 0.50 |
| 30:B2:91:G:O6 | 30:B2:92:A:N6 | 2.44 | 0.50 |
| 31:B3:69:U:C4 | 31:B3:70:G:C8 | 3.00 | 0.50 |
| 34:BC:29:VAL:O | 34:BC:31:ALA:N | 2.45 | 0.50 |
| 34:BC:76:VAL:HA | 34:BC:325:LYS:CA | 2.41 | 0.50 |
| 34:BC:197:GLU:O | 34:BC:198:HIS:C | 2.52 | 0.50 |
| 37:BF:156:LYS:O | 37:BF:160:SER:N | 2.44 | 0.50 |
| 41:BJ:159:PHE:O | 41:BJ:160:PRO:C | 2.54 | 0.50 |
| 42:BK:32:ARG:C | 42:BK:34:SER:N | 2.67 | 0.50 |
| 46:BQ:10:ASN:N | 46:BQ:12:ALA:H | 2.10 | 0.50 |
| 46:BQ:108:ASP:O | 46:BQ:110:THR:N | 2.45 | 0.50 |
| 49:BT:98:HIS:O | 49:BT:99:SER:CB | 2.59 | 0.50 |
| 60:Be:26:TRP:O | 60:Be:27:ILE:C | 2.54 | 0.50 |
| 1:C1:23:G:C6 | 1:C1:24:U:C4 | 3.00 | 0.50 |
| 1:C1:78:A:OP1 | 1:C1:78:A:H2 | 1.95 | 0.50 |
| 1:C1:143:G:N2 | 1:C1:144:U:O2 | 2.45 | 0.50 |
| 1:C1:287:G:O6 | 1:C1:288:A:N6 | 2.44 | 0.50 |
| 1:C1:407:A:C6 | 1:C1:408:C:C4 | 2.99 | 0.50 |
| 1:C1:698:U:H3 | 1:C1:740:A:N6 | 2.09 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:789:A:C5 | 1:C1:790:U:C5 | 2.99 | 0.50 |
| 1:C1:991:G:N2 | 1:C1:1014:G:O6 | 2.45 | 0.50 |
| 1:C1:1192:C:H5" | 11:CJ:142:TYR:CB | 2.42 | 0.50 |
| 1:C1:1268:G:H1' | 1:C1:1448:G:H5" | 1.92 | 0.50 |
| 1:C1:1287:A:C2 | 1:C1:1288:G:H1' | 2.46 | 0.50 |
| 1:C1:1359:C:H3' | 1:C1:1360:A:C8 | 2.46 | 0.50 |
| 1:C1:1391:A:N3 | 1:C1:1392:U:C5 | 2.80 | 0.50 |
| 1:C1:1583:A:O2' | 1:C1:1584:G:C5' | 2.55 | 0.50 |
| 1:C1:1597:A:C5 | 1:C1:1598:U:C4 | 2.99 | 0.50 |
| 23:Cb:83:UNK:N | 23:Cb:86:UNK:N | 2.60 | 0.50 |
| 29:D1:43:A:C6 | 29:D1:2802:A:C2 | 2.97 | 0.50 |
| 29:D1:99:A:H1' | 29:D1:281:G:C6 | 2.47 | 0.50 |
| 29:D1:120:G:N2 | 29:D1:150:A:C8 | 2.79 | 0.50 |
| 29:D1:246:U:OP2 | 29:D1:247:C:H5" | 2.12 | 0.50 |
| 29:D1:324:A:H5" | 29:D1:325:A:OP2 | 2.11 | 0.50 |
| 29:D1:365:A:C2 | 29:D1:366:A:N3 | 2.79 | 0.50 |
| 29:D1:561:C:H2' | 29:D1:562:C:C6 | 2.47 | 0.50 |
| 29:D1:712:G:H2' | 29:D1:713:U:H6 | 1.77 | 0.50 |
| 29:D1:835:G:N3 | 29:D1:857:G:C2 | 2.80 | 0.50 |
| 29:D1:1105:A:C2 | 29:D1:1106:G:C4 | 3.00 | 0.50 |
| 29:D1:1153:A:C8 | 29:D1:1154:A:C5 | 3.00 | 0.50 |
| 29:D1:1188:U:H3 | 29:D1:1317:A:H62 | 1.60 | 0.50 |
| 29:D1:1202:A:C2' | 29:D1:1203:A:OP2 | 2.58 | 0.50 |
| 29:D1:1317:A:N7 | 29:D1:1319:G:C5 | 2.79 | 0.50 |
| 29:D1:1498:A:H5' | 29:D1:1602:A:H1' | 1.92 | 0.50 |
| 29:D1:1502:C:C4 | 29:D1:1515:A:C2 | 3.00 | 0.50 |
| 29:D1:1575:A:H2' | 29:D1:1576:G:O4' | 2.11 | 0.50 |
| 29:D1:1656:A:C2 | 29:D1:1798:A:OP2 | 2.64 | 0.50 |
| 29:D1:1700:G:O2' | 29:D1:1701:C:H5' | 2.12 | 0.50 |
| 29:D1:1730:G:O6 | 55:DZ:29:SER:N | 2.44 | 0.50 |
| 29:D1:2254:U:C5 | 29:D1:2254:U:OP2 | 2.64 | 0.50 |
| 29:D1:2279:A:C2 | 29:D1:2283:G:C2 | 2.99 | 0.50 |
| 29:D1:2333:C:H5" | 29:D1:2334:U:OP2 | 2.12 | 0.50 |
| 29:D1:2522:G:H1' | 29:D1:2523:A:OP2 | 2.11 | 0.50 |
| 29:D1:2572:C:C4 | 29:D1:2573:G:C6 | 2.99 | 0.50 |
| 29:D1:2582:C:C5' | 29:D1:2583:C:OP2 | 2.57 | 0.50 |
| 29:D1:2603:G:H2' | 29:D1:2604:U:O4' | 2.12 | 0.50 |
| 29:D1:2664:C:H2' | 29:D1:2664:C:O2 | 2.12 | 0.50 |
| 29:D1:2743:A:C3' | 29:D1:2744:U:C6 | 2.91 | 0.50 |
| 29:D1:2761:G:H4' | 29:D1:2762:A:OP1 | 2.12 | 0.50 |
| 29:D1:2804:A:C2 | 29:D1:2805:G:C8 | 3.00 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2814:G:H2' | 29:D1:2815:G:C8 | 2.47 | 0.50 |
| 29:D1:3102:G:O2' | 29:D1:3103:A:P | 2.69 | 0.50 |
| 29:D1:3203:U:H2' | 29:D1:3204:C:C2 | 2.47 | 0.50 |
| 29:D1:3225:C:C5 | 74:D1:3489:OHX:N6 | 2.80 | 0.50 |
| 29:D1:3322:A:C6 | 29:D1:3323:A:N6 | 2.80 | 0.50 |
| 29:D1:3328:G:O2' | 29:D1:3329:U:C4' | 2.59 | 0.50 |
| 31:D3:40:A:N6 | 31:D3:104:A:C4 | 2.80 | 0.50 |
| 32:DA:30:GLU:O | 32:DA:31:THR:C | 2.54 | 0.50 |
| 32:DA:53:LEU:CB | 32:DA:54:LYS:HA | 2.42 | 0.50 |
| 32:DA:62:ASN:HA | 32:DA:152:ARG:C | 2.37 | 0.50 |
| 35:DD:153:SER:C | 35:DD:155:ASP:N | 2.68 | 0.50 |
| 36:DE:96:ALA:C | 36:DE:98:ALA:N | 2.66 | 0.50 |
| 38:DG:43:ILE:C | 38:DG:45:LEU:N | 2.66 | 0.50 |
| 38:DG:148:VAL:O | 38:DG:152:GLY:N | 2.45 | 0.50 |
| 39:DH:223:ALA:C | 39:DH:225:LYS:N | 2.65 | 0.50 |
| 45:DP:128:ARG:O | 45:DP:129:LEU:C | 2.54 | 0.50 |
| 47:DR:71:LEU:O | 47:DR:72:LYS:C | 2.55 | 0.50 |
| 49:DT:35:LYS:C | 49:DT:37:GLY:N | 2.69 | 0.50 |
| 49:DT:103:GLN:O | 49:DT:106:LEU:N | 2.44 | 0.50 |
| 1:A1:20:G:H4' | 1:A1:571:G:N1 | 2.26 | 0.50 |
| 1:A1:106:U:C5 | 1:A1:107:C:C4 | 3.00 | 0.50 |
| 1:A1:269:G:C6 | 1:A1:270:C:N4 | 2.79 | 0.50 |
| 1:A1:335:U:H5' | 1:A1:336:G:OP2 | 2.11 | 0.50 |
| 1:A1:439:U:C4 | 1:A1:465:G:C2 | 3.00 | 0.50 |
| 1:A1:542:A:H2' | 1:A1:544:A:H5" | 1.93 | 0.50 |
| 1:A1:586:G:C5 | 1:A1:587:C:C4 | 2.99 | 0.50 |
| 1:A1:647:G:C6 | 1:A1:687:G:N1 | 2.80 | 0.50 |
| 1:A1:756:A:H2' | 1:A1:757:A:H8 | 1.76 | 0.50 |
| 1:A1:758:U:H3' | 1:A1:759:U:H6 | 1.76 | 0.50 |
| 1:A1:766:U:C5 | 1:A1:769:A:OP2 | 2.64 | 0.50 |
| 1:A1:993:A:C2' | 1:A1:994:G:H5' | 2.42 | 0.50 |
| 1:A1:1075:C:O2' | 1:A1:1076:A:H5' | 2.11 | 0.50 |
| 1:A1:1138:A:N1 | 1:A1:1139:A:C6 | 2.80 | 0.50 |
| 1:A1:1146:G:H2' | 1:A1:1147:A:O5' | 2.12 | 0.50 |
| 1:A1:1232:U:C2' | 1:A1:1233:G:H5' | 2.42 | 0.50 |
| 1:A1:1431:C:C5' | 1:A1:1432:U:H5' | 2.42 | 0.50 |
| 1:A1:1432:U:OP2 | 1:A1:1432:U:H4' | 2.12 | 0.50 |
| 1:A1:1517:U:O2 | 15:AN:16:GLN:C | 2.55 | 0.50 |
| 1:A1:1558:U:C6 | 1:A1:1558:U:C3' | 2.95 | 0.50 |
| 1:A1:1558:U:N1 | 1:A1:1559:A:H2 | 2.09 | 0.50 |
| 1:A1:1598:U:C4 | 1:A1:1599:C:H5 | 2.29 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1654:G:N2 | 1:A1:1745:G:C4 | 2.79 | 0.50 |
| 1:A1:1660:A:C5 | 1:A1:1661:U:C5 | 3.00 | 0.50 |
| 21:AT:181:TRP:CB | 21:AT:188:ILE:HA | 2.42 | 0.50 |
| 29:B1:63:A:H2' | 29:B1:64:G:H8 | 1.71 | 0.50 |
| 29:B1:121:A:H4' | 29:B1:150:A:N3 | 2.27 | 0.50 |
| 29:B1:212:G:C5 | 29:B1:222:A:N7 | 2.80 | 0.50 |
| 29:B1:282:G:N3 | 29:B1:286:U:H5' | 2.27 | 0.50 |
| 29:B1:333:G:H2' | 29:B1:334:A:H8 | 1.76 | 0.50 |
| 29:B1:359:U:H2' | 29:B1:360:G:O4' | 2.12 | 0.50 |
| 29:B1:396:A:O2' | 29:B1:397:A:P | 2.69 | 0.50 |
| 29:B1:398:A:N3 | 29:B1:1416:C:OP1 | 2.45 | 0.50 |
| 29:B1:596:C:H5 | 29:B1:609:G:H5' | 1.76 | 0.50 |
| 29:B1:597:G:N3 | 29:B1:598:A:H1' | 2.26 | 0.50 |
| 29:B1:606:C:C4 | 29:B1:607:A:C5 | 3.00 | 0.50 |
| 29:B1:636:C:C6 | 29:B1:2378:C:O4' | 2.65 | 0.50 |
| 29:B1:665:A:N6 | 29:B1:666:A:N6 | 2.60 | 0.50 |
| 29:B1:703:G:C6 | 29:B1:704:U:C4 | 2.99 | 0.50 |
| 29:B1:710:A:O2' | 29:B1:711:A:C5' | 2.60 | 0.50 |
| 29:B1:847:A:C2' | 29:B1:848:A:H8 | 2.22 | 0.50 |
| 29:B1:1161:G:C6 | 29:B1:1162:U:C4 | 3.00 | 0.50 |
| 29:B1:1196:C:C5 | 29:B1:1197:A:N6 | 2.43 | 0.50 |
| 29:B1:1209:G:H2' | 29:B1:1210:U:O4' | 2.12 | 0.50 |
| 29:B1:1237:G:C8 | 29:B1:1238:C:H1' | 2.47 | 0.50 |
| 29:B1:1317:A:N7 | 29:B1:1319:G:C5 | 2.80 | 0.50 |
| 29:B1:1386:A:C8 | 35:BD:180:LYS:HA | 2.46 | 0.50 |
| 29:B1:1441:G:C3' | 29:B1:1442:U:H5" | 2.36 | 0.50 |
| 29:B1:1571:A:C5 | 29:B1:1572:U:H1' | 2.46 | 0.50 |
| 29:B1:1699:A:H2' | 29:B1:1700:G:H8 | 1.75 | 0.50 |
| 29:B1:1725:C:C2 | 29:B1:1726:C:C5 | 3.00 | 0.50 |
| 29:B1:1903:U:C2 | 29:B1:1905:G:C5' | 2.93 | 0.50 |
| 29:B1:2514:U:HO2' | 29:B1:2515:A:H8 | 1.60 | 0.50 |
| 29:B1:2541:U:O2 | 29:B1:2541:U:C2' | 2.58 | 0.50 |
| 29:B1:2616:C:H2' | 29:B1:2617:U:C5' | 2.31 | 0.50 |
| 29:B1:2630:C:C2 | 29:B1:2631:U:C5 | 3.00 | 0.50 |
| 29:B1:2677:G:C2' | 29:B1:2678:A:O5' | 2.60 | 0.50 |
| 29:B1:2773:C:O2' | 29:B1:2774:C:H5' | 2.11 | 0.50 |
| 29:B1:3003:G:C2 | 29:B1:3004:C:C4 | 2.99 | 0.50 |
| 29:B1:3196:U:C6 | 29:B1:3197:G:N2 | 2.80 | 0.50 |
| 29:B1:3333:G:N2 | 29:B1:3370:A:O3' | 2.40 | 0.50 |
| 29:B1:3333:G:N3 | 29:B1:3371:G:N9 | 2.60 | 0.50 |
| 74:B1:3492:OHX:N1 | 54:BY:20:GLY:N | 2.60 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:B2:66:A:H3' | 30:B2:66:A:P | 2.51 | 0.50 |
| 30:B2:98:C:H3' | 30:B2:99:G:C5' | 2.38 | 0.50 |
| 31:B3:65:A:O2' | 31:B3:66:A:H5' | 2.12 | 0.50 |
| 31:B3:80:A:H2' | 31:B3:81:U:N3 | 2.27 | 0.50 |
| 31:B3:116:G:C2 | 31:B3:117:C:C6 | 3.00 | 0.50 |
| 35:BD:253:ALA:O | 35:BD:254:ALA:O | 2.29 | 0.50 |
| 35:BD:261:VAL:O | 35:BD:262:TRP:C | 2.54 | 0.50 |
| 36:BE:111:GLN:H | 36:BE:115:LEU:N | 2.06 | 0.50 |
| 38:BG:193:PRO:C | 38:BG:195:PHE:N | 2.67 | 0.50 |
| 39:BH:105:LYS:N | 39:BH:108:ARG:CB | 2.74 | 0.50 |
| 40:BI:150:SER:O | 40:BI:151:VAL:C | 2.53 | 0.50 |
| 42:BK:29:ARG:O | 42:BK:30:LEU:C | 2.55 | 0.50 |
| 44:BO:83:LYS:H | 44:BO:85:THR:CA | 2.24 | 0.50 |
| 44:BO:95:GLN:O | 44:BO:96:ARG:C | 2.55 | 0.50 |
| 45:BP:37:ARG:O | 45:BP:39:GLU:N | 2.45 | 0.50 |
| 45:BP:53:LYS:O | 45:BP:56:ASP:N | 2.30 | 0.50 |
| 59:Bd:60:GLY:C | 59:Bd:62:GLY:H | 2.18 | 0.50 |
| 1:C1:157:A:C2' | 1:C1:158:U:H5' | 2.40 | 0.50 |
| 1:C1:430:G:O2' | 1:C1:431:C:H5' | 2.12 | 0.50 |
| 1:C1:644:C:N4 | 1:C1:691:C:N4 | 2.58 | 0.50 |
| 1:C1:738:G:C2 | 1:C1:739:G:C5 | 3.00 | 0.50 |
| 1:C1:756:A:C6 | 1:C1:757:A:C5 | 3.00 | 0.50 |
| 1:C1:837:G:H2' | 1:C1:838:G:H8 | 1.75 | 0.50 |
| 1:C1:871:G:O2' | 1:C1:872:G:O4' | 2.30 | 0.50 |
| 1:C1:905:A:C2 | 1:C1:906:A:H1' | 2.47 | 0.50 |
| 1:C1:948:G:H2' | 1:C1:949:C:H6 | 1.76 | 0.50 |
| 1:C1:1039:A:O2' | 1:C1:1040:G:O5' | 2.29 | 0.50 |
| 1:C1:1164:G:H2' | 1:C1:1165:G:C8 | 2.47 | 0.50 |
| 1:C1:1267:G:H21 | 1:C1:1448:G:H5" | 1.74 | 0.50 |
| 1:C1:1389:C:N4 | 1:C1:1391:A:H1' | 2.27 | 0.50 |
| 1:C1:1392:U:O2' | 1:C1:1393:C:H5' | 2.12 | 0.50 |
| 1:C1:1431:C:C5' | 1:C1:1432:U:H5' | 2.42 | 0.50 |
| 1:C1:1591:C:O2 | 1:C1:1591:C:C2' | 2.56 | 0.50 |
| 5:CD:57:SER:O | 5:CD:58:LEU:C | 2.54 | 0.50 |
| 5:CD:164:PRO:O | 5:CD:165:LEU:C | 2.55 | 0.50 |
| 5:CD:196:GLU:O | 5:CD:197:GLU:CB | 2.59 | 0.50 |
| 10:CI:73:PRO:O | 10:CI:74:ALA:CB | 2.59 | 0.50 |
| 12:CK:42:GLN:CB | 12:CK:47:ARG:HA | 2.42 | 0.50 |
| 14:CM:15:ILE:C | 14:CM:17:ALA:N | 2.67 | 0.50 |
| 21:CT:9:LEU:HA | 21:CT:313:TRP:CA | 2.25 | 0.50 |
| 29:D1:121:A:H4' | 29:D1:150:A:N3 | 2.26 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:161:G:H2' | 29:D1:162:G:C8 | 2.45 | 0.50 |
| 29:D1:221:A:C4 | 29:D1:224:C:C5 | 3.00 | 0.50 |
| 29:D1:268:A:O2' | 29:D1:269:G:OP2 | 2.26 | 0.50 |
| 29:D1:536:U:P | 29:D1:536:U:C6 | 2.93 | 0.50 |
| 29:D1:633:C:H2' | 29:D1:634:C:O4' | 2.12 | 0.50 |
| 29:D1:638:C:H2' | 29:D1:639:G:C8 | 2.46 | 0.50 |
| 29:D1:1079:A:H8 | 29:D1:1079:A:OP1 | 1.94 | 0.50 |
| 29:D1:1127:G:H22 | 29:D1:1132:C:N4 | 2.10 | 0.50 |
| 29:D1:1145:G:N7 | 29:D1:1146:C:C5 | 2.80 | 0.50 |
| 29:D1:1198:C:OP2 | 29:D1:1200:A:N7 | 2.44 | 0.50 |
| 29:D1:1258:U:O2 | 29:D1:1258:U:C2' | 2.58 | 0.50 |
| 29:D1:1471:U:O4' | 48:DS:3:ASN:HA | 2.12 | 0.50 |
| 29:D1:1471:U:HO2' | 29:D1:1472:U:H5' | 1.76 | 0.50 |
| 29:D1:1583:A:H2' | 29:D1:1584:U:O4' | 2.12 | 0.50 |
| 29:D1:1662:G:C4 | 29:D1:1663:C:C5 | 2.99 | 0.50 |
| 29:D1:1678:G:C4 | 29:D1:1679:A:C8 | 3.00 | 0.50 |
| 29:D1:1878:G:H3' | 29:D1:1879:A:H5' | 1.93 | 0.50 |
| 29:D1:1936:A:C6 | 29:D1:1937:U:C4 | 3.00 | 0.50 |
| 29:D1:1942:U:H1' | 29:D1:3342:A:C2 | 2.47 | 0.50 |
| 29:D1:2092:A:OP2 | 29:D1:2093:A:H8 | 1.95 | 0.50 |
| 29:D1:2133:U:C2' | 29:D1:2134:G:H5' | 2.41 | 0.50 |
| 29:D1:2152:A:O4' | 29:D1:2243:A:C2 | 2.64 | 0.50 |
| 29:D1:2188:A:H2 | 62:Dg:19:GLY:HA2 | 1.77 | 0.50 |
| 29:D1:2369:G:C6 | 29:D1:2370:G:C6 | 3.00 | 0.50 |
| 29:D1:2414:G:HO2' | 29:D1:2415:C:P | 2.35 | 0.50 |
| 29:D1:2469:G:H2' | 29:D1:2470:C:C5 | 2.47 | 0.50 |
| 29:D1:2676:A:H2' | 29:D1:2677:G:OP1 | 2.11 | 0.50 |
| 29:D1:2719:U:C5 | 29:D1:2720:G:C5 | 3.00 | 0.50 |
| 29:D1:2736:A:O3' | 49:DT:72:VAL:CB | 2.60 | 0.50 |
| 29:D1:2787:G:C4 | 29:D1:2788:C:C5 | 3.00 | 0.50 |
| 29:D1:2804:A:O2' | 29:D1:2805:G:O4' | 2.26 | 0.50 |
| 29:D1:2812:C:C2 | 29:D1:2813:A:N7 | 2.80 | 0.50 |
| 29:D1:2841:G:C5 | 29:D1:2844:C:N4 | 2.80 | 0.50 |
| 29:D1:2890:A:C6 | 29:D1:2891:U:C4 | 3.00 | 0.50 |
| 29:D1:3034:C:H6 | 29:D1:3034:C:H3' | 1.75 | 0.50 |
| 29:D1:3057:U:O2' | 29:D1:3059:G:H8 | 1.95 | 0.50 |
| 29:D1:3121:U:H4' | 29:D1:3122:A:C5' | 2.41 | 0.50 |
| 30:D2:12:U:C2 | 30:D2:70:U:P | 3.05 | 0.50 |
| 30:D2:66:A:H3' | 30:D2:66:A:P | 2.52 | 0.50 |
| 30:D2:111:U:O2' | 30:D2:112:G:OP1 | 2.29 | 0.50 |
| 31:D3:148:G:O2' | 31:D3:149:A:P | 2.70 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 33:DB:90:ALA:O | 33:DB:91:GLY:C | 2.54 | 0.50 |
| 34:DC:95:THR:CB | 34:DC:97:ARG:H | 2.25 | 0.50 |
| 43:DN:73:PRO:O | 43:DN:74:ARG:C | 2.53 | 0.50 |
| 46:DQ:47:TYR:O | 46:DQ:50:GLN:N | 2.45 | 0.50 |
| 46:DQ:125:GLN:CB | 46:DQ:141:SER:H | 2.25 | 0.50 |
| 48:DS:37:SER:O | 48:DS:39:ASN:N | 2.45 | 0.50 |
| 52:DW:105:VAL:O | 52:DW:106:ASP:CB | 2.59 | 0.50 |
| 54:DY:127:ALA:C | 54:DY:129:PHE:N | 2.70 | 0.50 |
| 65:Dk:19:UNK:O | 65:Dk:20:UNK:O | 2.30 | 0.50 |
| 1:A1:11:A:H2' | 1:A1:12:U:O4' | 2.12 | 0.50 |
| 1:A1:172:C:C4 | 1:A1:173:A:C8 | 3.00 | 0.50 |
| 1:A1:190:C:H42 | 1:A1:192:U:H3 | 1.60 | 0.50 |
| 1:A1:287:G:H2' | 1:A1:288:A:H5' | 1.94 | 0.50 |
| 1:A1:310:C:N4 | 1:A1:357:G:C6 | 2.80 | 0.50 |
| 1:A1:583:C:C2 | 1:A1:584:C:C6 | 3.00 | 0.50 |
| 1:A1:619:A:P | 1:A1:620:A:OP2 | 2.70 | 0.50 |
| 1:A1:631:G:C2' | 1:A1:632:U:H5' | 2.41 | 0.50 |
| 1:A1:648:G:N1 | 1:A1:649:U:C4 | 2.79 | 0.50 |
| 1:A1:812:A:C5 | 1:A1:858:G:N7 | 2.80 | 0.50 |
| 1:A1:845:G:N7 | 74:A1:1932:OHX:N5 | 2.59 | 0.50 |
| 1:A1:933:A:N6 | 1:A1:935:U:O2 | 2.45 | 0.50 |
| 1:A1:1050:G:N3 | 1:A1:1051:G:H1' | 2.26 | 0.50 |
| 1:A1:1242:A:O4' | 10:AI:78:THR:HA | 2.12 | 0.50 |
| 1:A1:1280:C:O2' | 15:AN:70:THR:CB | 2.60 | 0.50 |
| 1:A1:1410:A:N7 | 1:A1:1411:A:C4 | 2.80 | 0.50 |
| 1:A1:1481:C:H6 | 1:A1:1482:C:C2 | 2.29 | 0.50 |
| 1:A1:1507:G:H2' | 1:A1:1508:U:O4' | 2.12 | 0.50 |
| 1:A1:1590:G:H2' | 1:A1:1591:C:H5 | 1.68 | 0.50 |
| 5:AD:212:LYS:O | 5:AD:214:LYS:N | 2.44 | 0.50 |
| 11:AJ:40:GLU:C | 11:AJ:42:GLU:H | 2.19 | 0.50 |
| 13:AL:68:ARG:C | 13:AL:71:GLN:H | 2.20 | 0.50 |
| 13:AL:121:ALA:HB3 | 13:AL:124:GLY:CA | 2.41 | 0.50 |
| 21:AT:216:LYS:C | 21:AT:218:GLY:N | 2.68 | 0.50 |
| 29:B1:60:A:H2' | 29:B1:61:A:C5' | 2.40 | 0.50 |
| 29:B1:90:C:OP1 | 29:B1:283:G:H1' | 2.11 | 0.50 |
| 29:B1:173:G:N7 | 74:B1:3489:OHX:N5 | 2.60 | 0.50 |
| 29:B1:220:G:H8 | 29:B1:220:G:H5" | 1.76 | 0.50 |
| 29:B1:366:A:H8 | 29:B1:366:A:O5' | 1.95 | 0.50 |
| 29:B1:565:U:C5 | 29:B1:565:U:OP2 | 2.65 | 0.50 |
| 29:B1:656:A:H5' | 29:B1:657:A:P | 2.52 | 0.50 |
| 29:B1:681:U:O2 | 29:B1:682:U:C6 | 2.65 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:784:A:H2' | 29:B1:785:G:N7 | 2.25 | 0.50 |
| 29:B1:1180:A:C6 | 29:B1:1182:A:C5 | 2.99 | 0.50 |
| 29:B1:1204:A:H5" | 29:B1:1205:A:OP2 | 2.11 | 0.50 |
| 29:B1:1205:A:C6 | 29:B1:1206:G:C5 | 2.99 | 0.50 |
| 29:B1:1384:U:O2' | 29:B1:1385:C:P | 2.70 | 0.50 |
| 29:B1:1472:U:H2' | 29:B1:1473:G:H8 | 1.77 | 0.50 |
| 29:B1:1593:A:C2' | 29:B1:1594:A:H8 | 2.18 | 0.50 |
| 29:B1:1609:C:OP2 | 29:B1:1609:C:H6 | 1.95 | 0.50 |
| 29:B1:1714:A:H2' | 29:B1:1715:A:OP1 | 2.12 | 0.50 |
| 29:B1:2469:G:H2' | 29:B1:2470:C:C5 | 2.47 | 0.50 |
| 29:B1:2555:G:C1' | 29:B1:2556:C:P | 3.00 | 0.50 |
| 29:B1:2561:A:OP1 | 29:B1:2561:A:H8 | 1.94 | 0.50 |
| 29:B1:2628:A:C4 | 29:B1:2798:C:N4 | 2.80 | 0.50 |
| 29:B1:2628:A:N9 | 29:B1:2798:C:N4 | 2.60 | 0.50 |
| 29:B1:2673:A:C2 | 29:B1:2676:A:C8 | 3.00 | 0.50 |
| 29:B1:2847:A:N3 | 29:B1:2848:G:C8 | 2.80 | 0.50 |
| 29:B1:2847:A:H62 | 29:B1:2898:G:N2 | 2.09 | 0.50 |
| 29:B1:2864:A:C6 | 29:B1:2865:U:C4 | 2.99 | 0.50 |
| 29:B1:2988:C:H2' | 29:B1:2988:C:O2 | 2.11 | 0.50 |
| 29:B1:3024:A:H3' | 29:B1:3025:C:H6 | 1.77 | 0.50 |
| 29:B1:3046:A:C2' | 29:B1:3047:U:H5' | 2.42 | 0.50 |
| 29:B1:3050:U:C4 | 29:B1:3051:U:C4 | 3.00 | 0.50 |
| 29:B1:3086:A:H2' | 29:B1:3087:A:C8 | 2.46 | 0.50 |
| 29:B1:3111:U:H2' | 29:B1:3112:G:C5' | 2.39 | 0.50 |
| 29:B1:3322:A:OP2 | 29:B1:3323:A:OP2 | 2.30 | 0.50 |
| 29:B1:3340:G:H2' | 29:B1:3341:U:O5' | 2.11 | 0.50 |
| 30:B2:33:U:H5 | 36:BE:206:GLN:O | 1.95 | 0.50 |
| 30:B2:52:G:C2 | 30:B2:53:U:C2 | 2.99 | 0.50 |
| 30:B2:82:G:C4 | 30:B2:99:G:C2 | 3.00 | 0.50 |
| 31:B3:4:C:H2' | 31:B3:5:U:H5' | 1.94 | 0.50 |
| 31:B3:49:G:C2' | 31:B3:50:C:O5' | 2.59 | 0.50 |
| 34:BC:24:SER:O | 34:BC:26:ARG:O | 2.29 | 0.50 |
| 34:BC:127:LYS:CB | 34:BC:128:LYS:HA | 2.42 | 0.50 |
| 34:BC:198:HIS:C | 34:BC:200:GLU:N | 2.69 | 0.50 |
| 35:BD:254:ALA:O | 35:BD:255:PHE:C | 2.55 | 0.50 |
| 36:BE:257:GLU:CA | 36:BE:258:LYS:CB | 2.90 | 0.50 |
| 37:BF:122:PHE:O | 37:BF:126:GLN:CB | 2.60 | 0.50 |
| 37:BF:150:LYS:C | 37:BF:152:THR:N | 2.70 | 0.50 |
| 38:BG:69:ALA:C | 38:BG:71:ALA:N | 2.68 | 0.50 |
| 38:BG:154:GLY:C | 38:BG:156:ILE:H | 2.20 | 0.50 |
| 45:BP:156:LEU:O | 45:BP:157:GLU:C | 2.55 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 46:BQ:52:LEU:H | 46:BQ:54:HIS:N | 2.10 | 0.50 |
| 47:BR:23:ASN:O | 47:BR:26:LEU:N | 2.44 | 0.50 |
| 52:BW:83:VAL:O | 52:BW:84:PHE:O | 2.29 | 0.50 |
| 58:Bc:63:ARG:O | 58:Bc:64:GLU:C | 2.54 | 0.50 |
| 62:Bg:57:CYS:CB | 74:Bg:101:OHX:N4 | 2.75 | 0.50 |
| 71:Br:8:UNK:O | 71:Br:11:UNK:N | 2.45 | 0.50 |
| 1:C1:47:A:N1 | 1:C1:100:A:C5 | 2.80 | 0.50 |
| 1:C1:87:C:O2 | 1:C1:87:C:C2' | 2.59 | 0.50 |
| 1:C1:89:G:C6 | 1:C1:90:C:C4 | 3.00 | 0.50 |
| 1:C1:100:A:N1 | 1:C1:101:U:C4 | 2.80 | 0.50 |
| 1:C1:108:A:C2' | 1:C1:109:G:C8 | 2.92 | 0.50 |
| 1:C1:224:C:N3 | 1:C1:838:G:N2 | 2.60 | 0.50 |
| 1:C1:289:U:C2 | 1:C1:290:G:C8 | 3.00 | 0.50 |
| 1:C1:357:G:C4 | 1:C1:358:U:C6 | 2.98 | 0.50 |
| 1:C1:361:C:C4 | 1:C1:384:G:C2 | 2.99 | 0.50 |
| 1:C1:417:A:H4' | 1:C1:418:G:O4' | 2.12 | 0.50 |
| 1:C1:439:U:C1' | 1:C1:440:U:OP1 | 2.58 | 0.50 |
| 1:C1:452:A:C2' | 1:C1:453:U:C5' | 2.81 | 0.50 |
| 1:C1:635:A:C4 | 1:C1:863:A:N7 | 2.80 | 0.50 |
| 1:C1:651:G:C5 | 74:C1:1970:OHX:N3 | 2.80 | 0.50 |
| 1:C1:665:U:H2' | 1:C1:666:U:C5' | 2.42 | 0.50 |
| 1:C1:726:C:O5' | 1:C1:726:C:H6 | 1.95 | 0.50 |
| 1:C1:734:A:C8 | 1:C1:735:C:C5 | 3.00 | 0.50 |
| 1:C1:826:U:O2 | 1:C1:847:A:N1 | 2.45 | 0.50 |
| 1:C1:838:G:C6 | 1:C1:839:U:N3 | 2.80 | 0.50 |
| 1:C1:863:A:C4 | 1:C1:865:A:C8 | 3.00 | 0.50 |
| 1:C1:931:C:H2' | 1:C1:932:U:OP1 | 2.12 | 0.50 |
| 1:C1:1109:G:N1 | 1:C1:1110:G:N7 | 2.59 | 0.50 |
| 1:C1:1137:A:C2 | 1:C1:1138:A:C5 | 2.99 | 0.50 |
| 1:C1:1348:A:H5" | 15:CN:11:GLU:HA | 1.94 | 0.50 |
| 1:C1:1494:C:H2' | 1:C1:1495:C:H6 | 1.77 | 0.50 |
| 1:C1:1564:U:H2' | 1:C1:1565:C:H6 | 1.69 | 0.50 |
| 1:C1:1722:A:OP1 | 1:C1:1722:A:C4' | 2.58 | 0.50 |
| 2:CA:58:VAL:O | 2:CA:61:ALA:HB3 | 2.12 | 0.50 |
| 2:CA:205:ARG:O | 2:CA:206:ASP:C | 2.55 | 0.50 |
| 5:CD:149:VAL:C | 5:CD:151:GLY:H | 2.20 | 0.50 |
| 13:CL:75:ASN:HA | 13:CL:78:HIS:CB | 2.42 | 0.50 |
| 24:Cc:36:UNK:O | 24:Cc:38:UNK:O | 2.30 | 0.50 |
| 29:D1:66:A:N6 | 29:D1:68:C:C2 | 2.80 | 0.50 |
| 29:D1:158:G:O6 | 29:D1:159:A:N3 | 2.44 | 0.50 |
| 29:D1:180:C:H2' | 29:D1:181:U:H6 | 1.75 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:294:U:O2' | 29:D1:295:A:H5" | 2.12 | 0.50 |
| 29:D1:380:U:H2' | 29:D1:381:U:H6 | 1.76 | 0.50 |
| 29:D1:423:A:C6 | 29:D1:637:C:OP1 | 2.64 | 0.50 |
| 29:D1:532:A:C2 | 29:D1:533:A:C4 | 3.00 | 0.50 |
| 29:D1:588:G:C4 | 29:D1:612:U:H5 | 2.29 | 0.50 |
| 29:D1:629:U:C3' | 29:D1:630:A:H8 | 2.25 | 0.50 |
| 29:D1:760:G:N3 | 29:D1:760:G:C2' | 2.73 | 0.50 |
| 29:D1:895:A:C2 | 29:D1:897:U:C5 | 3.00 | 0.50 |
| 29:D1:987:U:H2' | 29:D1:988:U:C5 | 2.46 | 0.50 |
| 29:D1:1156:C:C3' | 29:D1:1157:G:C5' | 2.80 | 0.50 |
| 29:D1:1294:A:H8 | 29:D1:1294:A:C5' | 2.17 | 0.50 |
| 29:D1:1313:G:C4 | 29:D1:1314:C:C6 | 3.00 | 0.50 |
| 29:D1:1413:G:C2 | 29:D1:1414:G:C8 | 2.99 | 0.50 |
| 29:D1:1587:A:C4 | 29:D1:1590:G:C5 | 3.00 | 0.50 |
| 29:D1:1803:C:C6 | 29:D1:1803:C:OP2 | 2.65 | 0.50 |
| 29:D1:2175:U:H3' | 29:D1:2176:U:H5' | 1.94 | 0.50 |
| 29:D1:2196:C:C2 | 29:D1:2242:A:N6 | 2.80 | 0.50 |
| 29:D1:2278:C:O2' | 29:D1:2279:A:H5" | 2.12 | 0.50 |
| 29:D1:2390:A:H2' | 29:D1:2391:G:O4' | 2.11 | 0.50 |
| 29:D1:2511:A:H2' | 29:D1:2512:C:C5' | 2.41 | 0.50 |
| 29:D1:2576:G:C5 | 29:D1:2577:C:C5 | 3.00 | 0.50 |
| 29:D1:2666:C:H2' | 29:D1:2666:C:O2 | 2.11 | 0.50 |
| 29:D1:2712:U:HO2' | 29:D1:2743:A:H4' | 1.71 | 0.50 |
| 29:D1:2766:U:OP1 | 61:Df:39:GLY:N | 2.26 | 0.50 |
| 29:D1:2806:U:HO2' | 29:D1:2807:U:H5' | 1.75 | 0.50 |
| 29:D1:2997:G:N3 | 29:D1:2997:G:O2' | 2.45 | 0.50 |
| 29:D1:3034:C:C5 | 29:D1:3035:A:N7 | 2.80 | 0.50 |
| 29:D1:3045:G:C8 | 29:D1:3045:G:C3' | 2.95 | 0.50 |
| 29:D1:3049:A:C2 | 34:DC:75:ALA:CB | 2.93 | 0.50 |
| 29:D1:3074:G:H2' | 29:D1:3075:G:H8 | 1.77 | 0.50 |
| 29:D1:3215:A:P | 29:D1:3218:A:C5' | 2.97 | 0.50 |
| 29:D1:3242:G:N2 | 29:D1:3244:A:C8 | 2.63 | 0.50 |
| 29:D1:3306:U:H2' | 29:D1:3308:C:OP2 | 2.12 | 0.50 |
| 29:D1:3337:G:C6 | 29:D1:3338:C:C4 | 3.00 | 0.50 |
| 29:D1:3349:C:H2' | 29:D1:3350:C:N1 | 2.27 | 0.50 |
| 31:D3:29:U:H2' | 31:D3:30:C:C6 | 2.40 | 0.50 |
| 31:D3:97:A:C6 | 31:D3:98:U:N3 | 2.80 | 0.50 |
| 43:DN:78:THR:C | 43:DN:80:THR:H | 2.20 | 0.50 |
| 45:DP:77:SER:C | 45:DP:79:ILE:H | 2.20 | 0.50 |
| 45:DP:95:GLY:C | 45:DP:97:ALA:N | 2.68 | 0.50 |
| 50:DU:53:SER:O | 50:DU:55:GLY:N | 2.39 | 0.50 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 52:DW:69:SER:O | 52:DW:72:ALA:N | 2.43 | 0.50 |
| 52:DW:88:MET:C | 52:DW:90:ALA:N | 2.70 | 0.50 |
| 53:DX:49:PRO:O | 53:DX:50:ILE:C | 2.55 | 0.50 |
| 55:DZ:10:ILE:C | 55:DZ:12:GLN:H | 2.20 | 0.50 |
| 1:A1:29:U:H2' | 1:A1:30:G:C8 | 2.44 | 0.49 |
| 1:A1:268:C:N4 | 1:A1:288:A:C2 | 2.79 | 0.49 |
| 1:A1:361:C:O2' | 1:A1:362:G:H5' | 2.12 | 0.49 |
| 1:A1:477:A:H2' | 1:A1:478:A:H8 | 1.76 | 0.49 |
| 1:A1:486:G:H2' | 1:A1:487:G:C4' | 2.42 | 0.49 |
| 1:A1:553:G:N2 | 1:A1:571:G:N2 | 2.60 | 0.49 |
| 1:A1:708:C:O4' | 1:A1:731:C:N3 | 2.45 | 0.49 |
| 1:A1:829:A:H1' | 1:A1:830:U:C5' | 2.41 | 0.49 |
| 1:A1:1119:G:O2' | 1:A1:1120:U:H5' | 2.12 | 0.49 |
| 1:A1:1174:C:H2' | 1:A1:1175:U:H6 | 1.66 | 0.49 |
| 1:A1:1199:G:C4 | 1:A1:1200:G:O4' | 2.65 | 0.49 |
| 1:A1:1203:A:N1 | 1:A1:1556:A:C4 | 2.80 | 0.49 |
| 1:A1:1267:G:O2' | 1:A1:1268:G:H5' | 2.12 | 0.49 |
| 1:A1:1285:U:O2 | 1:A1:1286:U:H5 | 1.94 | 0.49 |
| 1:A1:1346:A:C5 | 1:A1:1347:U:H1' | 2.46 | 0.49 |
| 1:A1:1476:C:H2' | 1:A1:1477:G:C8 | 2.47 | 0.49 |
| 1:A1:1521:G:C6 | 74:A1:1943:OHX:N2 | 2.80 | 0.49 |
| 1:A1:1580:C:C4' | 1:A1:1581:C:OP1 | 2.55 | 0.49 |
| 1:A1:1644:C:C6 | 1:A1:1644:C:OP2 | 2.64 | 0.49 |
| 1:A1:1727:G:C2 | 1:A1:1728:A:C5 | 3.00 | 0.49 |
| 3:AB:65:GLU:C | 3:AB:68:ILE:CB | 2.84 | 0.49 |
| 21:AT:53:LYS:C | 21:AT:55:GLY:N | 2.67 | 0.49 |
| 29:B1:161:G:H2' | 29:B1:162:G:C8 | 2.39 | 0.49 |
| 29:B1:324:A:H5" | 29:B1:325:A:OP2 | 2.11 | 0.49 |
| 29:B1:373:A:N1 | 29:B1:375:A:C5 | 2.80 | 0.49 |
| 29:B1:389:A:H2' | 29:B1:390:G:O4' | 2.12 | 0.49 |
| 29:B1:421:G:O2' | 29:B1:2365:C:OP2 | 2.20 | 0.49 |
| 29:B1:424:G:O2' | 29:B1:425:G:OP1 | 2.30 | 0.49 |
| 29:B1:715:A:O2' | 29:B1:716:A:C5' | 2.60 | 0.49 |
| 29:B1:952:A:C2' | 29:B1:953:G:C5' | 2.84 | 0.49 |
| 29:B1:1151:U:H5" | 29:B1:1152:G:OP2 | 2.12 | 0.49 |
| 29:B1:1213:G:C2' | 29:B1:1214:U:O5' | 2.59 | 0.49 |
| 29:B1:1302:A:O2' | 29:B1:2887:A:H2 | 1.94 | 0.49 |
| 29:B1:1397:C:N4 | 29:B1:1398:U:O4 | 2.45 | 0.49 |
| 29:B1:1536:G:C6 | 29:B1:1586:G:N2 | 2.80 | 0.49 |
| 29:B1:1537:A:C5 | 29:B1:1538:G:C8 | 3.00 | 0.49 |
| 29:B1:1604:G:H2' | 29:B1:1605:A:O4' | 2.12 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1627:U:H5' | 29:B1:1628:C:P | 2.51 | 0.49 |
| 29:B1:1634:G:N1 | 29:B1:1640:G:C6 | 2.80 | 0.49 |
| 29:B1:1691:U:O2' | 29:B1:1692:U:O5' | 2.19 | 0.49 |
| 29:B1:1700:G:O2' | 29:B1:1701:C:H5' | 2.11 | 0.49 |
| 29:B1:1794:G:O3' | 29:B1:1796:G:N2 | 2.43 | 0.49 |
| 29:B1:1895:A:C6 | 29:B1:2335:G:N7 | 2.80 | 0.49 |
| 29:B1:2207:A:C8 | 29:B1:2237:C:C2 | 3.00 | 0.49 |
| 29:B1:2249:G:N9 | 29:B1:2272:G:C8 | 2.79 | 0.49 |
| 29:B1:2356:A:H2' | 29:B1:2356:A:N3 | 2.27 | 0.49 |
| 29:B1:2380:U:C2 | 29:B1:2381:G:C8 | 3.00 | 0.49 |
| 29:B1:2572:C:C4 | 29:B1:2573:G:C6 | 2.99 | 0.49 |
| 29:B1:2581:U:OP2 | 29:B1:2581:U:H6 | 1.94 | 0.49 |
| 29:B1:2730:G:H2' | 29:B1:2731:U:O5' | 2.12 | 0.49 |
| 29:B1:3012:A:C2 | 29:B1:3043:C:C2 | 3.00 | 0.49 |
| 29:B1:3039:C:O2 | 29:B1:3040:A:C8 | 2.65 | 0.49 |
| 29:B1:3065:G:C2' | 29:B1:3066:U:O5' | 2.60 | 0.49 |
| 29:B1:3194:C:C6 | 29:B1:3194:C:C3' | 2.95 | 0.49 |
| 29:B1:3321:C:O2' | 29:B1:3322:A:H5' | 2.12 | 0.49 |
| 29:B1:3333:G:H22 | 29:B1:3370:A:C4' | 2.25 | 0.49 |
| 29:B1:3344:A:C5 | 29:B1:3361:G:O6 | 2.65 | 0.49 |
| 29:B1:3390:G:C2 | 29:B1:3391:A:N3 | 2.80 | 0.49 |
| 30:B2:19:C:H2' | 30:B2:20:A:C8 | 2.47 | 0.49 |
| 30:B2:38:U:C2' | 30:B2:40:C:H5" | 2.42 | 0.49 |
| 30:B2:88:G:C6 | 30:B2:89:G:N7 | 2.79 | 0.49 |
| 31:B3:30:C:O2 | 31:B3:31:G:C8 | 2.65 | 0.49 |
| 31:B3:70:G:N7 | 31:B3:71:A:N1 | 2.60 | 0.49 |
| 31:B3:75:G:OP2 | 31:B3:76:C:P | 2.70 | 0.49 |
| 31:B3:90:U:O2' | 31:B3:91:C:H5' | 2.12 | 0.49 |
| 35:BD:209:TYR:HA | 35:BD:249:ILE:O | 2.12 | 0.49 |
| 37:BF:30:LEU:CB | 37:BF:31:ARG:HA | 2.42 | 0.49 |
| 37:BF:43:LEU:H | 37:BF:84:VAL:CA | 2.25 | 0.49 |
| 41:BJ:142:ASP:C | 41:BJ:144:ASN:H | 2.20 | 0.49 |
| 42:BK:90:GLN:CB | 42:BK:169:ALA:HB3 | 2.42 | 0.49 |
| 44:BO:34:ASN:O | 44:BO:35:VAL:C | 2.54 | 0.49 |
| 45:BP:178:VAL:C | 45:BP:180:SER:H | 2.19 | 0.49 |
| 47:BR:110:ALA:O | 47:BR:111:ARG:C | 2.55 | 0.49 |
| 47:BR:150:VAL:CB | 47:BR:151:ARG:CA | 2.90 | 0.49 |
| 48:BS:120:TYR:O | 48:BS:123:LEU:CB | 2.60 | 0.49 |
| 57:Bb:107:VAL:O | 57:Bb:109:LEU:C | 2.54 | 0.49 |
| 62:Bg:86:LEU:O | 62:Bg:89:MET:O | 2.30 | 0.49 |
| 1:C1:32:U:O2' | 1:C1:33:U:H5' | 2.12 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:63:G:O2' | 1:C1:169:A:O3' | 2.30 | 0.49 |
| 1:C1:114:C:N4 | 1:C1:250:C:O4' | 2.34 | 0.49 |
| 1:C1:224:C:N4 | 1:C1:838:G:H1 | 2.08 | 0.49 |
| 1:C1:247:A:H3' | 1:C1:247:A:C8 | 2.47 | 0.49 |
| 1:C1:269:G:N1 | 1:C1:287:G:C2 | 2.79 | 0.49 |
| 1:C1:290:G:H2' | 1:C1:291:G:N7 | 2.27 | 0.49 |
| 1:C1:488:G:O2' | 1:C1:489:C:C6 | 2.64 | 0.49 |
| 1:C1:555:A:C1' | 1:C1:556:A:OP1 | 2.60 | 0.49 |
| 1:C1:564:G:N2 | 1:C1:577:G:OP1 | 2.45 | 0.49 |
| 1:C1:623:A:H3' | 1:C1:623:A:P | 2.52 | 0.49 |
| 1:C1:625:C:H2' | 1:C1:626:U:C6 | 2.47 | 0.49 |
| 1:C1:646:C:H3' | 1:C1:647:G:C5' | 2.38 | 0.49 |
| 1:C1:717:C:C1' | 1:C1:718:U:P | 3.00 | 0.49 |
| 1:C1:804:A:C4 | 1:C1:805:U:C5 | 3.00 | 0.49 |
| 1:C1:845:G:N7 | 74:C1:1917:OHX:N4 | 2.60 | 0.49 |
| 1:C1:876:G:H2' | 1:C1:936:G:N2 | 2.27 | 0.49 |
| 1:C1:939:A:H5" | 1:C1:940:A:OP2 | 2.12 | 0.49 |
| 1:C1:989:U:C2 | 1:C1:990:C:C5 | 3.00 | 0.49 |
| 1:C1:1122:G:N2 | 1:C1:1126:G:C5 | 2.80 | 0.49 |
| 1:C1:1371:A:N3 | 1:C1:1371:A:H2' | 2.26 | 0.49 |
| 1:C1:1402:G:N3 | 1:C1:1403:C:C6 | 2.80 | 0.49 |
| 1:C1:1694:A:C4' | 1:C1:1695:G:OP1 | 2.60 | 0.49 |
| 1:C1:1754:A:H1' | 1:C1:1755:A:N3 | 2.27 | 0.49 |
| 2:CA:48:ILE:O | 2:CA:50:VAL:N | 2.45 | 0.49 |
| 3:CB:154:LEU:CB | 3:CB:169:LEU:C | 2.85 | 0.49 |
| 3:CB:235:LEU:O | 3:CB:236:PRO:C | 2.54 | 0.49 |
| 9:CH:64:ALA:CA | 9:CH:68:ALA:H | 2.16 | 0.49 |
| 13:CL:65:GLU:O | 13:CL:66:LEU:C | 2.55 | 0.49 |
| 29:D1:60:A:N7 | 29:D1:61:A:N7 | 2.60 | 0.49 |
| 29:D1:195:U:O2 | 29:D1:196:G:H1' | 2.10 | 0.49 |
| 29:D1:197:G:H21 | 29:D1:218:G:H21 | 1.59 | 0.49 |
| 29:D1:216:G:C6 | 29:D1:217:U:N3 | 2.80 | 0.49 |
| 29:D1:499:G:C2' | 29:D1:500:C:O5' | 2.57 | 0.49 |
| 29:D1:516:A:O5' | 29:D1:517:G:OP1 | 2.30 | 0.49 |
| 29:D1:603:A:C8 | 29:D1:603:A:O5' | 2.65 | 0.49 |
| 29:D1:629:U:H2' | 29:D1:630:A:C8 | 2.47 | 0.49 |
| 29:D1:647:A:H4' | 29:D1:648:C:OP1 | 2.12 | 0.49 |
| 29:D1:784:A:H2' | 29:D1:785:G:N7 | 2.24 | 0.49 |
| 29:D1:802:C:H2' | 29:D1:803:C:C6 | 2.47 | 0.49 |
| 29:D1:847:A:H2' | 29:D1:848:A:H8 | 1.71 | 0.49 |
| 29:D1:992:A:N1 | 29:D1:993:G:C8 | 2.79 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1085:A:H2' | 29:D1:1086:C:C6 | 2.47 | 0.49 |
| 29:D1:1234:G:C5' | 29:D1:1235:U:OP2 | 2.60 | 0.49 |
| 29:D1:1337:A:C6 | 29:D1:1338:C:C5 | 2.99 | 0.49 |
| 29:D1:1530:U:O2 | 29:D1:1530:U:C2' | 2.60 | 0.49 |
| 29:D1:1672:U:O2 | 29:D1:1672:U:H2' | 2.12 | 0.49 |
| 29:D1:1724:U:O2' | 29:D1:1725:C:P | 2.69 | 0.49 |
| 29:D1:1909:A:N6 | 29:D1:1910:A:C2 | 2.80 | 0.49 |
| 29:D1:2107:A:C5 | 29:D1:2108:C:C5 | 3.00 | 0.49 |
| 29:D1:2136:C:O2 | 29:D1:2136:C:H2' | 2.11 | 0.49 |
| 29:D1:2144:A:N1 | 29:D1:2281:A:C4 | 2.80 | 0.49 |
| 29:D1:2157:G:N7 | 33:DB:151:PRO:CB | 2.74 | 0.49 |
| 29:D1:2215:A:C4 | 29:D1:2216:G:C8 | 2.99 | 0.49 |
| 29:D1:2276:G:C6 | 29:D1:2277:C:C5 | 3.00 | 0.49 |
| 29:D1:2276:G:H2' | 29:D1:2277:C:H5' | 1.92 | 0.49 |
| 29:D1:2279:A:N1 | 29:D1:2283:G:N2 | 2.60 | 0.49 |
| 29:D1:2419:A:C5 | 29:D1:2804:A:C5 | 2.99 | 0.49 |
| 29:D1:2820:A:C5' | 29:D1:2821:C:OP2 | 2.60 | 0.49 |
| 29:D1:2894:C:H2' | 29:D1:2895:G:H8 | 1.77 | 0.49 |
| 29:D1:3038:U:O2' | 29:D1:3039:C:O4' | 2.28 | 0.49 |
| 29:D1:3078:U:C1' | 29:D1:3079:U:OP2 | 2.58 | 0.49 |
| 29:D1:3141:A:N3 | 29:D1:3144:G:P | 2.85 | 0.49 |
| 29:D1:3151:U:OP2 | 29:D1:3151:U:H3' | 2.12 | 0.49 |
| 29:D1:3161:C:O2 | 29:D1:3161:C:C2' | 2.60 | 0.49 |
| 29:D1:3200:G:H8 | 29:D1:3200:G:OP2 | 1.93 | 0.49 |
| 29:D1:3260:G:N1 | 29:D1:3261:C:H4' | 2.25 | 0.49 |
| 29:D1:3303:G:C2 | 29:D1:3305:A:C4 | 3.00 | 0.49 |
| 29:D1:3323:A:O2' | 29:D1:3324:C:H5' | 2.11 | 0.49 |
| 29:D1:3348:G:H2' | 29:D1:3349:C:O4' | 2.12 | 0.49 |
| 30:D2:18:C:C4 | 30:D2:19:C:C5 | 3.00 | 0.49 |
| 30:D2:38:U:H2' | 30:D2:40:C:C5' | 2.41 | 0.49 |
| 31:D3:14:C:C6 | 31:D3:15:G:N7 | 2.80 | 0.49 |
| 31:D3:26:U:H6 | 31:D3:26:U:O5' | 1.95 | 0.49 |
| 31:D3:57:C:O2' | 31:D3:58:G:H5' | 2.12 | 0.49 |
| 33:DB:59:ALA:HA | 33:DB:74:GLU:HA | 1.94 | 0.49 |
| 34:DC:92:TYR:O | 34:DC:93:VAL:CB | 2.60 | 0.49 |
| 38:DG:43:ILE:C | 38:DG:45:LEU:H | 2.19 | 0.49 |
| 42:DK:27:GLY:CA | 42:DK:29:ARG:H | 2.19 | 0.49 |
| 42:DK:85:LYS:O | 42:DK:88:GLU:N | 2.45 | 0.49 |
| 43:DN:76:ALA:O | 43:DN:78:THR:N | 2.44 | 0.49 |
| 46:DQ:44:ALA:C | 46:DQ:46:LYS:N | 2.65 | 0.49 |
| 50:DU:127:PRO:O | 50:DU:128:ARG:C | 2.55 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 53:DX:116:LYS:O | 53:DX:117:ALA:C | 2.55 | 0.49 |
| 57:Db:42:VAL:O | 57:Db:43:ARG:C | 2.53 | 0.49 |
| 59:Dd:8:PHE:O | 59:Dd:10:LYS:N | 2.37 | 0.49 |
| 60:De:15:LYS:O | 60:De:16:ALA:C | 2.54 | 0.49 |
| 63:Dh:47:UNK:C | 63:Dh:49:UNK:N | 2.70 | 0.49 |
| 1:A1:8:U:O2' | 74:A1:1976:OHX:N1 | 2.45 | 0.49 |
| 1:A1:24:U:HO2' | 1:A1:25:C:H6 | 1.56 | 0.49 |
| 1:A1:71:A:H2 | 1:A1:72:A:H62 | 1.53 | 0.49 |
| 1:A1:96:G:N1 | 1:A1:97:C:C4 | 2.80 | 0.49 |
| 1:A1:151:G:H22 | 1:A1:163:G:N2 | 2.10 | 0.49 |
| 1:A1:198:A:O2' | 1:A1:199:G:O5' | 2.30 | 0.49 |
| 1:A1:357:G:C6 | 1:A1:358:U:C4 | 3.00 | 0.49 |
| 1:A1:379:U:P | 1:A1:379:U:O3' | 2.70 | 0.49 |
| 1:A1:568:G:C2 | 1:A1:569:C:C6 | 3.00 | 0.49 |
| 1:A1:575:C:H3' | 1:A1:576:G:H8 | 1.78 | 0.49 |
| 1:A1:647:G:N1 | 1:A1:687:G:C6 | 2.81 | 0.49 |
| 1:A1:706:A:C5 | 1:A1:707:A:C6 | 3.00 | 0.49 |
| 1:A1:745:U:H2' | 1:A1:745:U:O2 | 2.10 | 0.49 |
| 1:A1:1213:G:N2 | 1:A1:1214:U:H1' | 2.27 | 0.49 |
| 1:A1:1493:A:N3 | 1:A1:1493:A:C2' | 2.73 | 0.49 |
| 1:A1:1728:A:C6 | 1:A1:1729:C:C4 | 3.00 | 0.49 |
| 1:A1:1751:C:H2' | 1:A1:1752:U:C6 | 2.47 | 0.49 |
| 2:AA:79:ARG:O | 2:AA:82:GLY:N | 2.45 | 0.49 |
| 3:AB:62:PRO:CA | 3:AB:63:VAL:CB | 2.90 | 0.49 |
| 21:AT:169:ILE:O | 21:AT:180:ALA:HA | 2.12 | 0.49 |
| 29:B1:309:U:C4 | 29:B1:2780:A:N1 | 2.80 | 0.49 |
| 29:B1:375:A:C2' | 29:B1:376:G:OP1 | 2.60 | 0.49 |
| 29:B1:506:U:H2' | 29:B1:507:U:C6 | 2.46 | 0.49 |
| 29:B1:578:A:O2' | 29:B1:579:G:P | 2.70 | 0.49 |
| 29:B1:642:U:H5" | 29:B1:643:U:OP2 | 2.11 | 0.49 |
| 29:B1:658:G:C2 | 29:B1:1438:U:C2 | 3.00 | 0.49 |
| 29:B1:692:A:H2' | 29:B1:693:A:O4' | 2.12 | 0.49 |
| 29:B1:715:A:O2' | 29:B1:716:A:P | 2.70 | 0.49 |
| 29:B1:760:G:N2 | 29:B1:761:A:C8 | 2.77 | 0.49 |
| 29:B1:865:U:C5 | 29:B1:866:A:C8 | 3.01 | 0.49 |
| 29:B1:993:G:N7 | 29:B1:2637:A:C2 | 2.80 | 0.49 |
| 29:B1:1018:G:C2 | 74:B1:3529:OHX:N2 | 2.80 | 0.49 |
| 29:B1:1079:A:N1 | 29:B1:1080:A:C6 | 2.79 | 0.49 |
| 29:B1:1144:U:O5' | 29:B1:1144:U:C6 | 2.61 | 0.49 |
| 29:B1:1265:U:H2' | 29:B1:1266:G:O4' | 2.12 | 0.49 |
| 29:B1:1278:A:C8 | 29:B1:1279:C:C5 | 3.00 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1454:A:C2 | 29:B1:1484:U:O4 | 2.65 | 0.49 |
| 29:B1:1489:A:H5" | 29:B1:1490:A:OP2 | 2.12 | 0.49 |
| 29:B1:1500:G:C6 | 29:B1:1517:G:C6 | 3.00 | 0.49 |
| 29:B1:1731:A:N7 | 29:B1:1732:U:C4 | 2.80 | 0.49 |
| 29:B1:1860:G:N7 | 74:B1:3595:OHX:N1 | 2.60 | 0.49 |
| 29:B1:1932:A:H2' | 29:B1:1933:A:O4' | 2.12 | 0.49 |
| 29:B1:2252:A:N3 | 29:B1:2253:G:C8 | 2.80 | 0.49 |
| 29:B1:2259:A:H5" | 29:B1:2260:U:C5 | 2.47 | 0.49 |
| 29:B1:2504:U:C4 | 29:B1:2505:U:C4 | 3.00 | 0.49 |
| 29:B1:2603:G:H5" | 29:B1:2604:U:OP2 | 2.12 | 0.49 |
| 29:B1:2714:G:C2 | 29:B1:2751:G:N1 | 2.80 | 0.49 |
| 29:B1:2876:C:C2' | 29:B1:2877:G:H5' | 2.43 | 0.49 |
| 29:B1:2910:A:H2' | 29:B1:2911:A:OP2 | 2.12 | 0.49 |
| 29:B1:3284:G:C4 | 29:B1:3285:C:C5 | 3.00 | 0.49 |
| 29:B1:3343:G:H2' | 29:B1:3344:A:C8 | 2.47 | 0.49 |
| 30:B2:11:A:C5' | 30:B2:13:A:H2' | 2.42 | 0.49 |
| 30:B2:41:G:C5' | 30:B2:42:A:OP2 | 2.54 | 0.49 |
| 30:B2:80:G:H2' | 30:B2:81:U:H6 | 1.77 | 0.49 |
| 34:BC:2:SER:C | 34:BC:4:ARG:N | 2.69 | 0.49 |
| 35:BD:54:GLU:C | 35:BD:56:ALA:H | 2.19 | 0.49 |
| 36:BE:103:LEU:HA | 36:BE:107:ARG:CB | 2.41 | 0.49 |
| 43:BN:95:ALA:C | 43:BN:97:SER:N | 2.70 | 0.49 |
| 44:BO:46:ASP:C | 44:BO:48:ALA:H | 2.19 | 0.49 |
| 44:BO:108:ARG:C | 44:BO:110:ALA:N | 2.69 | 0.49 |
| 45:BP:69:GLY:O | 45:BP:70:PRO:C | 2.55 | 0.49 |
| 45:BP:128:ARG:O | 45:BP:129:LEU:C | 2.55 | 0.49 |
| 45:BP:188:SER:C | 45:BP:190:VAL:H | 2.20 | 0.49 |
| 49:BT:50:LYS:C | 49:BT:52:MET:N | 2.66 | 0.49 |
| 54:BY:130:VAL:O | 54:BY:134:ALA:HB3 | 2.12 | 0.49 |
| 55:BZ:17:VAL:O | 55:BZ:20:SER:O | 2.30 | 0.49 |
| 1:C1:62:A:H4' | 1:C1:63:G:OP2 | 2.11 | 0.49 |
| 1:C1:180:A:C4 | 1:C1:181:A:N3 | 2.81 | 0.49 |
| 1:C1:209:U:O2 | 1:C1:209:U:H2' | 2.13 | 0.49 |
| 1:C1:218:A:O2' | 1:C1:219:A:H8 | 1.96 | 0.49 |
| 1:C1:528:U:H4' | 1:C1:529:A:C5' | 2.42 | 0.49 |
| 1:C1:618:U:O5' | 1:C1:618:U:H6 | 1.96 | 0.49 |
| 1:C1:679:U:C4 | 1:C1:680:U:C4 | 3.00 | 0.49 |
| 1:C1:701:U:H2' | 1:C1:702:G:C1' | 2.41 | 0.49 |
| 1:C1:906:A:OP2 | 9:CH:51:ASP:HA | 2.12 | 0.49 |
| 1:C1:1347:U:O3' | 1:C1:1348:A:N7 | 2.45 | 0.49 |
| 1:C1:1536:G:C5 | 1:C1:1538:U:O2 | 2.65 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1546:G:N2 | 10:CI:16:SER:HA | 2.26 | 0.49 |
| 4:CC:14:ASP:O | 4:CC:15:GLY:C | 2.55 | 0.49 |
| 4:CC:168:ILE:HA | 4:CC:188:ILE:O | 2.12 | 0.49 |
| 6:CE:79:ARG:O | 6:CE:81:VAL:CB | 2.60 | 0.49 |
| 6:CE:96:VAL:O | 6:CE:97:LEU:C | 2.54 | 0.49 |
| 9:CH:21:ALA:H | 9:CH:85:ALA:CB | 2.21 | 0.49 |
| 9:CH:65:GLN:C | 9:CH:67:VAL:H | 2.20 | 0.49 |
| 9:CH:83:ILE:O | 9:CH:117:ASP:HA | 2.12 | 0.49 |
| 10:CI:33:PHE:O | 10:CI:35:LYS:N | 2.38 | 0.49 |
| 13:CL:79:TYR:O | 13:CL:80:LYS:CB | 2.59 | 0.49 |
| 17:CP:92:CYS:C | 17:CP:94:ASN:H | 2.20 | 0.49 |
| 29:D1:40:A:C8 | 54:DY:30:GLY:O | 2.65 | 0.49 |
| 29:D1:68:C:C4 | 29:D1:76:G:N2 | 2.80 | 0.49 |
| 29:D1:258:G:N3 | 29:D1:259:C:C6 | 2.80 | 0.49 |
| 29:D1:359:U:H4’ | 29:D1:817:A:N6 | 2.27 | 0.49 |
| 29:D1:376:G:C5 | 29:D1:401:U:N3 | 2.81 | 0.49 |
| 29:D1:396:A:C2 | 29:D1:399:A:C4 | 3.00 | 0.49 |
| 29:D1:405:U:H5 | 29:D1:406:G:N7 | 2.07 | 0.49 |
| 29:D1:412:G:H2’ | 29:D1:413:U:H6 | 1.77 | 0.49 |
| 29:D1:523:A:C6 | 29:D1:524:U:C5 | 3.00 | 0.49 |
| 29:D1:699:A:C8 | 29:D1:699:A:C3’ | 2.96 | 0.49 |
| 29:D1:776:U:C6 | 29:D1:777:U:C1’ | 2.94 | 0.49 |
| 29:D1:913:A:O2’ | 29:D1:2146:C:O2’ | 2.23 | 0.49 |
| 29:D1:952:A:C8 | 29:D1:952:A:H3’ | 2.46 | 0.49 |
| 29:D1:964:G:OP2 | 29:D1:1115:G:O6 | 2.31 | 0.49 |
| 29:D1:1009:A:O3’ | 29:D1:1010:G:O4’ | 2.30 | 0.49 |
| 29:D1:1078:U:C4 | 29:D1:1082:U:C4 | 3.00 | 0.49 |
| 29:D1:1148:G:N2 | 29:D1:1156:C:C2 | 2.81 | 0.49 |
| 29:D1:1153:A:C8 | 29:D1:1154:A:C4 | 3.00 | 0.49 |
| 29:D1:1187:C:O5’ | 29:D1:1187:C:H6 | 1.95 | 0.49 |
| 29:D1:1196:C:N3 | 30:D2:86:U:C4 | 2.79 | 0.49 |
| 29:D1:1289:G:C2 | 29:D1:1290:A:C5 | 3.00 | 0.49 |
| 29:D1:1303:A:C8 | 29:D1:1304:A:N1 | 2.80 | 0.49 |
| 29:D1:1390:A:O4’ | 29:D1:1418:A:N6 | 2.45 | 0.49 |
| 29:D1:1507:G:OP2 | 29:D1:1507:G:O4’ | 2.30 | 0.49 |
| 29:D1:1753:G:N3 | 29:D1:1754:G:C8 | 2.80 | 0.49 |
| 29:D1:1836:C:O2’ | 29:D1:1837:U:H5’ | 2.13 | 0.49 |
| 29:D1:1909:A:N6 | 29:D1:1910:A:C6 | 2.80 | 0.49 |
| 29:D1:1939:G:OP1 | 48:DS:78:TYR:N | 2.45 | 0.49 |
| 29:D1:2105:G:H2’ | 29:D1:2106:A:O4’ | 2.13 | 0.49 |
| 29:D1:2280:A:C6 | 29:D1:2282:U:C5 | 3.00 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2289:U:C2' | 29:D1:2290:C:C5' | 2.89 | 0.49 |
| 29:D1:2385:G:C4' | 29:D1:2386:A:OP1 | 2.37 | 0.49 |
| 29:D1:2468:A:H2 | 29:D1:2469:G:N3 | 2.10 | 0.49 |
| 29:D1:2515:A:H3' | 29:D1:2516:U:C5 | 2.45 | 0.49 |
| 29:D1:2581:U:O5' | 74:D1:3567:OHX:N5 | 2.45 | 0.49 |
| 29:D1:2631:U:H2' | 29:D1:2632:G:H8 | 1.77 | 0.49 |
| 29:D1:2717:U:O4 | 29:D1:2740:A:N6 | 2.45 | 0.49 |
| 29:D1:2966:G:C6 | 29:D1:2967:A:C6 | 3.00 | 0.49 |
| 29:D1:3207:U:H3' | 29:D1:3208:G:H5' | 1.93 | 0.49 |
| 74:D1:3543:OHX:N5 | 38:DG:217:PRO:CA | 2.74 | 0.49 |
| 30:D2:9:C:H3' | 30:D2:10:C:C4' | 2.42 | 0.49 |
| 30:D2:23:A:C2' | 30:D2:24:A:H8 | 2.23 | 0.49 |
| 30:D2:43:U:H2' | 30:D2:44:C:C5' | 2.41 | 0.49 |
| 30:D2:73:C:N4 | 30:D2:74:C:N4 | 2.54 | 0.49 |
| 31:D3:5:U:C4 | 31:D3:6:U:C4 | 3.00 | 0.49 |
| 33:DB:98:VAL:C | 33:DB:99:GLY:O | 2.55 | 0.49 |
| 34:DC:221:THR:O | 34:DC:272:TYR:HA | 2.12 | 0.49 |
| 34:DC:268:GLY:O | 34:DC:269:GLN:CB | 2.59 | 0.49 |
| 34:DC:269:GLN:O | 34:DC:270:ARG:O | 2.30 | 0.49 |
| 37:DF:143:LYS:O | 37:DF:146:ILE:CB | 2.60 | 0.49 |
| 42:DK:68:HIS:O | 42:DK:69:VAL:C | 2.55 | 0.49 |
| 45:DP:37:ARG:CA | 45:DP:107:GLY:HA2 | 2.42 | 0.49 |
| 49:DT:80:VAL:O | 49:DT:81:GLY:O | 2.30 | 0.49 |
| 50:DU:87:ARG:O | 50:DU:90:GLY:N | 2.44 | 0.49 |
| 53:DX:34:PRO:HA | 53:DX:47:ALA:CB | 2.42 | 0.49 |
| 54:DY:147:LEU:O | 54:DY:148:ILE:CB | 2.60 | 0.49 |
| 57:Db:121:ASN:C | 57:Db:122:PRO:O | 2.53 | 0.49 |
| 65:Dk:8:UNK:O | 65:Dk:12:UNK:N | 2.45 | 0.49 |
| 1:A1:269:G:N1 | 1:A1:287:G:C2 | 2.80 | 0.49 |
| 1:A1:555:A:H2 | 1:A1:556:A:N1 | 2.08 | 0.49 |
| 1:A1:559:C:H2' | 1:A1:560:U:H6 | 1.77 | 0.49 |
| 1:A1:605:A:C8 | 1:A1:606:A:C2 | 3.01 | 0.49 |
| 1:A1:607:G:H4' | 1:A1:608:U:C5' | 2.42 | 0.49 |
| 1:A1:701:U:O4 | 1:A1:702:G:C2 | 2.64 | 0.49 |
| 1:A1:887:A:C4 | 1:A1:888:U:C5 | 3.01 | 0.49 |
| 1:A1:954:G:N7 | 1:A1:955:A:N7 | 2.60 | 0.49 |
| 1:A1:1052:U:N3 | 1:A1:1053:G:N7 | 2.60 | 0.49 |
| 1:A1:1112:G:C8 | 1:A1:1113:A:C8 | 3.00 | 0.49 |
| 1:A1:1148:C:C2 | 1:A1:1149:G:O6 | 2.65 | 0.49 |
| 1:A1:1180:C:C2 | 1:A1:1181:U:C6 | 3.00 | 0.49 |
| 1:A1:1378:U:C2 | 1:A1:1379:C:O4' | 2.64 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1424:A:H2' | 1:A1:1425:A:O4' | 2.12 | 0.49 |
| 1:A1:1590:G:C2 | 1:A1:1591:C:C4 | 3.00 | 0.49 |
| 1:A1:1608:U:C2' | 1:A1:1609:U:H5" | 2.41 | 0.49 |
| 1:A1:1633:A:OP2 | 1:A1:1639:C:H5' | 2.12 | 0.49 |
| 1:A1:1637:C:OP2 | 1:A1:1637:C:C4' | 2.60 | 0.49 |
| 1:A1:1713:G:N2 | 1:A1:1714:A:N9 | 2.59 | 0.49 |
| 5:AD:163:SER:O | 5:AD:165:LEU:N | 2.44 | 0.49 |
| 6:AE:96:VAL:O | 6:AE:97:LEU:C | 2.54 | 0.49 |
| 23:Ab:49:UNK:O | 23:Ab:53:UNK:N | 2.45 | 0.49 |
| 29:B1:40:A:H3' | 29:B1:41:G:C5' | 2.43 | 0.49 |
| 29:B1:62:A:C4 | 29:B1:63:A:C8 | 3.00 | 0.49 |
| 29:B1:92:G:H1' | 61:Bf:55:LYS:CB | 2.42 | 0.49 |
| 29:B1:134:U:P | 29:B1:134:U:H6 | 2.35 | 0.49 |
| 29:B1:152:U:HO2' | 29:B1:153:U:H5' | 1.75 | 0.49 |
| 29:B1:160:G:H3' | 29:B1:160:G:OP2 | 2.12 | 0.49 |
| 29:B1:359:U:C4 | 29:B1:360:G:C6 | 3.00 | 0.49 |
| 29:B1:375:A:H2' | 29:B1:376:G:OP1 | 2.10 | 0.49 |
| 29:B1:382:U:O3' | 29:B1:384:A:OP2 | 2.31 | 0.49 |
| 29:B1:383:G:C2 | 29:B1:387:A:C6 | 3.00 | 0.49 |
| 29:B1:383:G:C5' | 29:B1:385:A:OP2 | 2.60 | 0.49 |
| 29:B1:383:G:N2 | 29:B1:386:A:OP2 | 2.46 | 0.49 |
| 29:B1:499:G:H2' | 29:B1:500:C:O5' | 2.12 | 0.49 |
| 29:B1:547:G:H2' | 29:B1:548:G:H5' | 1.93 | 0.49 |
| 29:B1:590:G:O2' | 29:B1:591:G:OP2 | 2.29 | 0.49 |
| 29:B1:595:G:N1 | 29:B1:609:G:H4' | 2.22 | 0.49 |
| 29:B1:624:G:N2 | 29:B1:625:G:N9 | 2.60 | 0.49 |
| 29:B1:740:G:H2' | 29:B1:740:G:N3 | 2.26 | 0.49 |
| 29:B1:752:C:O2' | 29:B1:753:C:H6 | 1.95 | 0.49 |
| 29:B1:780:A:N6 | 29:B1:781:G:C6 | 2.80 | 0.49 |
| 29:B1:808:A:N6 | 29:B1:934:G:C5 | 2.80 | 0.49 |
| 29:B1:885:U:O2 | 29:B1:885:U:C2' | 2.60 | 0.49 |
| 29:B1:902:G:O6 | 74:B1:3490:OHX:N5 | 2.45 | 0.49 |
| 29:B1:924:G:N7 | 29:B1:2809:C:H1' | 2.27 | 0.49 |
| 29:B1:949:C:HO2' | 29:B1:950:G:H5' | 1.77 | 0.49 |
| 29:B1:955:U:H2' | 29:B1:956:U:C5 | 2.45 | 0.49 |
| 29:B1:1065:A:H1' | 29:B1:1093:A:N6 | 2.17 | 0.49 |
| 29:B1:1296:C:O2' | 29:B1:1297:C:OP1 | 2.29 | 0.49 |
| 29:B1:1334:U:H5' | 38:BG:207:LEU:O | 2.12 | 0.49 |
| 29:B1:1393:A:H8 | 29:B1:1418:A:C5 | 2.30 | 0.49 |
| 29:B1:1489:A:OP2 | 29:B1:1838:G:N2 | 2.45 | 0.49 |
| 29:B1:1685:C:H2' | 29:B1:1687:U:C5 | 2.47 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1718:G:C2’ | 29:B1:1719:G:H5’ | 2.43 | 0.49 |
| 29:B1:2185:G:N3 | 29:B1:2185:G:H2’ | 2.27 | 0.49 |
| 29:B1:2344:U:O2 | 29:B1:2344:U:H2’ | 2.11 | 0.49 |
| 29:B1:2360:C:H5” | 29:B1:2361:A:OP2 | 2.12 | 0.49 |
| 29:B1:2393:G:H2’ | 29:B1:2947:G:H5” | 1.93 | 0.49 |
| 29:B1:2405:C:C2 | 29:B1:2820:A:N1 | 2.81 | 0.49 |
| 29:B1:2609:A:H2’ | 29:B1:2610:G:H8 | 1.78 | 0.49 |
| 29:B1:2673:A:N6 | 29:B1:2681:U:H3 | 2.07 | 0.49 |
| 29:B1:2771:U:O2’ | 29:B1:2772:C:OP1 | 2.29 | 0.49 |
| 29:B1:3078:U:C1’ | 29:B1:3079:U:OP2 | 2.57 | 0.49 |
| 29:B1:3301:U:C2’ | 29:B1:3302:U:C5 | 2.95 | 0.49 |
| 29:B1:3342:A:H3’ | 29:B1:3343:G:O4’ | 2.13 | 0.49 |
| 29:B1:3353:G:N3 | 29:B1:3353:G:C2’ | 2.75 | 0.49 |
| 30:B2:13:A:N3 | 30:B2:13:A:H2’ | 2.26 | 0.49 |
| 30:B2:34:C:O2’ | 30:B2:35:C:H5” | 2.11 | 0.49 |
| 31:B3:19:C:C4 | 31:B3:20:U:C4 | 2.99 | 0.49 |
| 31:B3:49:G:C2 | 31:B3:50:C:C6 | 3.00 | 0.49 |
| 31:B3:78:G:C6 | 31:B3:79:A:C6 | 3.00 | 0.49 |
| 31:B3:79:A:C3’ | 31:B3:80:A:H8 | 2.26 | 0.49 |
| 34:BC:44:THR:O | 34:BC:45:SER:CB | 2.59 | 0.49 |
| 34:BC:48:GLY:O | 34:BC:49:TYR:CB | 2.60 | 0.49 |
| 34:BC:93:VAL:O | 34:BC:94:GLU:O | 2.29 | 0.49 |
| 35:BD:153:SER:C | 35:BD:155:ASP:N | 2.67 | 0.49 |
| 37:BF:126:GLN:O | 37:BF:128:LYS:N | 2.41 | 0.49 |
| 38:BG:138:TYR:O | 38:BG:233:GLU:O | 2.31 | 0.49 |
| 38:BG:219:LYS:HA | 38:BG:227:GLY:C | 2.37 | 0.49 |
| 43:BN:76:ALA:O | 43:BN:79:ALA:N | 2.45 | 0.49 |
| 44:BO:85:THR:CB | 44:BO:87:GLN:N | 2.75 | 0.49 |
| 47:BR:23:ASN:O | 47:BR:24:VAL:C | 2.55 | 0.49 |
| 49:BT:68:THR:O | 49:BT:70:SER:N | 2.45 | 0.49 |
| 51:BV:47:ARG:C | 51:BV:49:ILE:H | 2.20 | 0.49 |
| 57:Bb:114:ALA:C | 57:Bb:116:GLY:H | 2.18 | 0.49 |
| 62:Bg:57:CYS:O | 62:Bg:61:LYS:N | 2.45 | 0.49 |
| 1:C1:14:C:C5’ | 3:CB:163:GLY:HA2 | 2.41 | 0.49 |
| 1:C1:18:C:H2’ | 1:C1:19:A:H8 | 1.75 | 0.49 |
| 1:C1:178:U:O2 | 1:C1:178:U:H2’ | 2.13 | 0.49 |
| 1:C1:203:U:C4’ | 1:C1:204:G:OP1 | 2.59 | 0.49 |
| 1:C1:332:U:O2 | 1:C1:332:U:H2’ | 2.12 | 0.49 |
| 1:C1:392:G:H2’ | 1:C1:393:C:O4’ | 2.12 | 0.49 |
| 1:C1:547:U:O2’ | 1:C1:596:C:O2 | 2.26 | 0.49 |
| 1:C1:553:G:C5 | 1:C1:554:C:N3 | 2.81 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:567:A:C6 | 1:C1:568:G:C4 | 3.00 | 0.49 |
| 1:C1:568:G:C4' | 17:CP:90:ASP:HA | 2.42 | 0.49 |
| 1:C1:574:G:C6 | 1:C1:575:C:C5 | 3.01 | 0.49 |
| 1:C1:719:U:C2' | 1:C1:719:U:O2 | 2.60 | 0.49 |
| 1:C1:723:G:C5 | 1:C1:724:C:N3 | 2.80 | 0.49 |
| 1:C1:1003:A:C8 | 1:C1:1005:A:C4 | 2.99 | 0.49 |
| 1:C1:1073:G:O6 | 1:C1:1074:G:N1 | 2.43 | 0.49 |
| 1:C1:1120:U:O2 | 1:C1:1121:C:C6 | 2.65 | 0.49 |
| 1:C1:1339:C:O2' | 1:C1:1340:U:C5' | 2.60 | 0.49 |
| 1:C1:1377:U:O2 | 1:C1:1378:U:C4' | 2.60 | 0.49 |
| 1:C1:1384:A:H2' | 1:C1:1385:G:H8 | 1.76 | 0.49 |
| 1:C1:1402:G:C4 | 1:C1:1403:C:C6 | 3.00 | 0.49 |
| 1:C1:1573:A:H4' | 1:C1:1574:G:OP2 | 2.12 | 0.49 |
| 1:C1:1683:C:OP2 | 1:C1:1684:U:OP2 | 2.31 | 0.49 |
| 1:C1:1797:A:C2 | 1:C1:1799:U:O4 | 2.64 | 0.49 |
| 3:CB:163:GLY:O | 3:CB:164:SER:C | 2.56 | 0.49 |
| 3:CB:230:TRP:C | 3:CB:232:GLU:H | 2.20 | 0.49 |
| 4:CC:66:ILE:O | 4:CC:67:ASN:C | 2.53 | 0.49 |
| 4:CC:117:ARG:O | 4:CC:118:ALA:C | 2.55 | 0.49 |
| 13:CL:17:LEU:O | 13:CL:21:ASN:O | 2.30 | 0.49 |
| 15:CN:12:GLN:CB | 15:CN:14:GLN:O | 2.60 | 0.49 |
| 21:CT:236:ALA:O | 21:CT:237:GLN:CB | 2.60 | 0.49 |
| 29:D1:13:A:C2 | 29:D1:15:C:H3' | 2.48 | 0.49 |
| 29:D1:23:A:N3 | 29:D1:23:A:C2' | 2.74 | 0.49 |
| 29:D1:49:A:N6 | 29:D1:279:U:O2' | 2.45 | 0.49 |
| 29:D1:99:A:H1' | 29:D1:281:G:O6 | 2.13 | 0.49 |
| 29:D1:103:G:O2' | 29:D1:104:G:H5' | 2.12 | 0.49 |
| 29:D1:140:C:C2 | 29:D1:141:C:C5 | 3.00 | 0.49 |
| 29:D1:258:G:O2' | 29:D1:259:C:P | 2.70 | 0.49 |
| 29:D1:361:A:C2' | 29:D1:362:U:O4' | 2.60 | 0.49 |
| 29:D1:533:A:N3 | 29:D1:534:U:C4 | 2.81 | 0.49 |
| 29:D1:797:U:H2' | 29:D1:798:G:H8 | 1.77 | 0.49 |
| 29:D1:1084:A:N7 | 29:D1:1085:A:N6 | 2.61 | 0.49 |
| 29:D1:1167:U:C2' | 29:D1:1168:U:O5' | 2.60 | 0.49 |
| 29:D1:1169:A:C2 | 29:D1:1330:A:C6 | 3.00 | 0.49 |
| 29:D1:1174:G:C2 | 29:D1:1175:C:C4 | 3.00 | 0.49 |
| 29:D1:1232:C:O2' | 73:DM:35:SER:C | 2.56 | 0.49 |
| 29:D1:1269:U:N3 | 29:D1:1271:A:N6 | 2.56 | 0.49 |
| 29:D1:1289:G:O2' | 29:D1:1290:A:P | 2.70 | 0.49 |
| 29:D1:1685:C:C5 | 29:D1:1687:U:C4 | 3.00 | 0.49 |
| 29:D1:1690:C:C4 | 29:D1:1691:U:C4 | 3.01 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2169:G:O6 | 74:D1:3492:OHX:N5 | 2.45 | 0.49 |
| 29:D1:2252:A:C4 | 29:D1:2253:G:N7 | 2.80 | 0.49 |
| 29:D1:2301:U:O2' | 29:D1:2302:G:H5' | 2.12 | 0.49 |
| 29:D1:2414:G:N2 | 29:D1:2415:C:H1' | 2.28 | 0.49 |
| 29:D1:2512:C:O2' | 29:D1:2592:G:N2 | 2.45 | 0.49 |
| 29:D1:2607:G:C6 | 29:D1:2608:G:N7 | 2.81 | 0.49 |
| 29:D1:2699:G:C8 | 29:D1:2699:G:C5' | 2.88 | 0.49 |
| 29:D1:2730:G:C4 | 29:D1:2731:U:C6 | 3.01 | 0.49 |
| 29:D1:2749:G:C5 | 29:D1:2750:U:C5 | 3.00 | 0.49 |
| 29:D1:2828:G:C2' | 29:D1:2829:U:O5' | 2.60 | 0.49 |
| 29:D1:2865:U:O2' | 29:D1:2866:U:H5' | 2.12 | 0.49 |
| 29:D1:3270:U:H4' | 29:D1:3271:G:O5' | 2.12 | 0.49 |
| 29:D1:3322:A:C6 | 29:D1:3323:A:C6 | 3.00 | 0.49 |
| 29:D1:3351:U:O2 | 29:D1:3351:U:O4' | 2.30 | 0.49 |
| 30:D2:27:A:C6 | 30:D2:54:U:O4 | 2.65 | 0.49 |
| 31:D3:5:U:C5 | 31:D3:6:U:C4 | 3.01 | 0.49 |
| 31:D3:48:A:C5 | 31:D3:51:G:N7 | 2.80 | 0.49 |
| 31:D3:53:A:C4 | 31:D3:54:A:N7 | 2.81 | 0.49 |
| 34:DC:50:LYS:O | 34:DC:332:ARG:HA | 2.12 | 0.49 |
| 35:DD:89:ALA:O | 35:DD:90:PHE:C | 2.54 | 0.49 |
| 35:DD:103:THR:O | 35:DD:104:LYS:CB | 2.60 | 0.49 |
| 35:DD:149:PRO:O | 35:DD:150:LEU:CB | 2.59 | 0.49 |
| 37:DF:20:LYS:C | 37:DF:112:THR:HA | 2.35 | 0.49 |
| 41:DJ:98:ARG:CB | 41:DJ:120:GLY:HA3 | 2.42 | 0.49 |
| 41:DJ:172:GLY:C | 41:DJ:174:THR:H | 2.20 | 0.49 |
| 45:DP:93:ALA:O | 45:DP:94:ARG:O | 2.30 | 0.49 |
| 47:DR:77:ALA:C | 47:DR:79:LYS:N | 2.70 | 0.49 |
| 52:DW:50:ALA:O | 52:DW:51:VAL:CB | 2.59 | 0.49 |
| 54:DY:111:LYS:CA | 54:DY:128:ARG:CB | 2.84 | 0.49 |
| 56:Da:41:LYS:O | 56:Da:45:GLY:HA2 | 2.13 | 0.49 |
| 1:A1:39:A:N7 | 1:A1:467:G:N1 | 2.57 | 0.49 |
| 1:A1:55:A:N7 | 1:A1:426:G:C6 | 2.80 | 0.49 |
| 1:A1:169:A:C5 | 1:A1:171:A:N6 | 2.81 | 0.49 |
| 1:A1:257:A:C2' | 1:A1:258:C:C5' | 2.87 | 0.49 |
| 1:A1:297:U:H2' | 1:A1:298:C:H5' | 1.94 | 0.49 |
| 1:A1:359:A:OP1 | 1:A1:359:A:N3 | 2.45 | 0.49 |
| 1:A1:402:C:N3 | 1:A1:403:G:O4' | 2.45 | 0.49 |
| 1:A1:618:U:O5' | 1:A1:618:U:H6 | 1.95 | 0.49 |
| 1:A1:737:A:N3 | 1:A1:738:G:C5 | 2.80 | 0.49 |
| 1:A1:746:A:C6 | 1:A1:806:A:N1 | 2.81 | 0.49 |
| 1:A1:753:A:C6 | 1:A1:754:A:N6 | 2.80 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1002:G:C6 | 1:A1:1003:A:N1 | 2.81 | 0.49 |
| 1:A1:1146:G:H8 | 1:A1:1635:A:N3 | 2.10 | 0.49 |
| 1:A1:1276:U:H5' | 4:AC:147:ALA:HB2 | 1.93 | 0.49 |
| 1:A1:1455:G:C6 | 1:A1:1456:C:N3 | 2.80 | 0.49 |
| 1:A1:1575:G:C6 | 1:A1:1576:A:C5 | 3.01 | 0.49 |
| 1:A1:1591:C:C2' | 1:A1:1592:A:H8 | 2.19 | 0.49 |
| 1:A1:1653:C:C4 | 1:A1:1654:G:C5 | 3.00 | 0.49 |
| 8:AG:77:SER:C | 8:AG:79:GLY:N | 2.67 | 0.49 |
| 9:AH:13:VAL:N | 9:AH:14:PHE:CB | 2.75 | 0.49 |
| 9:AH:39:ILE:O | 9:AH:40:ALA:CB | 2.59 | 0.49 |
| 11:AJ:91:ALA:H | 11:AJ:97:VAL:CB | 2.26 | 0.49 |
| 17:AP:118:PRO:O | 17:AP:120:VAL:N | 2.45 | 0.49 |
| 21:AT:118:LYS:O | 21:AT:119:ALA:HB2 | 2.13 | 0.49 |
| 24:Ac:15:UNK:HA | 24:Ac:18:UNK:CB | 2.42 | 0.49 |
| 29:B1:13:A:H2 | 29:B1:15:C:C2' | 2.25 | 0.49 |
| 29:B1:43:A:C4' | 29:B1:43:A:OP1 | 2.61 | 0.49 |
| 29:B1:61:A:C6 | 29:B1:62:A:C4 | 3.00 | 0.49 |
| 29:B1:88:A:C8 | 29:B1:88:A:H3' | 2.48 | 0.49 |
| 29:B1:257:U:C2 | 29:B1:258:G:N7 | 2.80 | 0.49 |
| 29:B1:385:A:N3 | 29:B1:386:A:N7 | 2.60 | 0.49 |
| 29:B1:421:G:O6 | 29:B1:2383:C:O2 | 2.29 | 0.49 |
| 29:B1:521:A:C8 | 29:B1:572:A:C6 | 3.00 | 0.49 |
| 29:B1:549:U:O4 | 74:B1:3513:OHX:N1 | 2.45 | 0.49 |
| 29:B1:552:G:C6 | 29:B1:553:U:C4 | 3.00 | 0.49 |
| 29:B1:676:G:H5' | 29:B1:679:U:OP1 | 2.12 | 0.49 |
| 29:B1:701:G:O2' | 29:B1:702:C:H5' | 2.11 | 0.49 |
| 29:B1:752:C:O2' | 29:B1:753:C:C6 | 2.66 | 0.49 |
| 29:B1:840:C:O2' | 29:B1:841:A:H5' | 2.12 | 0.49 |
| 29:B1:945:C:N3 | 29:B1:946:U:C5 | 2.80 | 0.49 |
| 29:B1:1023:C:H3' | 29:B1:1024:G:H5" | 1.95 | 0.49 |
| 29:B1:1119:C:H2' | 29:B1:1119:C:O2 | 2.11 | 0.49 |
| 29:B1:1264:G:N2 | 29:B1:1265:U:C5 | 2.80 | 0.49 |
| 29:B1:1302:A:C4 | 29:B1:2887:A:C6 | 3.00 | 0.49 |
| 29:B1:1340:G:C2 | 29:B1:1341:U:C4 | 3.01 | 0.49 |
| 29:B1:1435:A:C8 | 29:B1:1437:C:N1 | 2.81 | 0.49 |
| 29:B1:1526:U:O2' | 29:B1:1595:U:H5' | 2.13 | 0.49 |
| 29:B1:1535:A:H5" | 29:B1:1536:G:OP2 | 2.12 | 0.49 |
| 29:B1:1643:A:H5" | 29:B1:1822:C:H5" | 1.94 | 0.49 |
| 29:B1:1678:G:C2 | 29:B1:1679:A:C5 | 3.00 | 0.49 |
| 29:B1:1679:A:C2 | 29:B1:1680:G:C8 | 3.00 | 0.49 |
| 29:B1:1780:G:C2 | 29:B1:1781:C:C5 | 3.00 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1783:U:C2 | 29:B1:1784:G:C8 | 3.00 | 0.49 |
| 29:B1:1894:U:C2 | 29:B1:1895:A:C8 | 3.01 | 0.49 |
| 29:B1:1895:A:N1 | 29:B1:2341:A:C6 | 2.80 | 0.49 |
| 29:B1:1942:U:C1' | 29:B1:3342:A:C2 | 2.95 | 0.49 |
| 29:B1:2135:U:C2 | 29:B1:2136:C:C5 | 3.00 | 0.49 |
| 29:B1:2206:G:N2 | 29:B1:2207:A:C8 | 2.81 | 0.49 |
| 29:B1:2375:G:N2 | 29:B1:2377:G:C8 | 2.81 | 0.49 |
| 29:B1:2378:C:O2 | 29:B1:2378:C:C2' | 2.60 | 0.49 |
| 29:B1:2413:A:O2' | 29:B1:2414:G:H5' | 2.13 | 0.49 |
| 29:B1:2674:A:H1' | 42:BK:108:GLU:CB | 2.42 | 0.49 |
| 29:B1:2679:A:O4' | 29:B1:2679:A:OP2 | 2.30 | 0.49 |
| 29:B1:2904:U:C3' | 29:B1:2904:U:C2 | 2.95 | 0.49 |
| 29:B1:3087:A:H2' | 29:B1:3088:G:H8 | 1.73 | 0.49 |
| 29:B1:3189:G:C4 | 29:B1:3190:C:C6 | 3.00 | 0.49 |
| 29:B1:3228:C:C6 | 29:B1:3229:G:N7 | 2.79 | 0.49 |
| 29:B1:3364:C:C2' | 29:B1:3365:U:H5' | 2.42 | 0.49 |
| 31:B3:14:C:C5 | 31:B3:15:G:N7 | 2.80 | 0.49 |
| 31:B3:53:A:C6 | 31:B3:54:A:C6 | 3.00 | 0.49 |
| 31:B3:67:U:OP2 | 31:B3:67:U:H6 | 1.95 | 0.49 |
| 31:B3:70:G:N7 | 31:B3:71:A:C6 | 2.79 | 0.49 |
| 31:B3:77:A:H4' | 31:B3:78:G:OP1 | 2.11 | 0.49 |
| 34:BC:182:GLN:O | 34:BC:183:LEU:C | 2.55 | 0.49 |
| 40:BI:135:GLU:O | 40:BI:145:VAL:O | 2.30 | 0.49 |
| 44:BO:100:ALA:O | 44:BO:103:GLU:N | 2.46 | 0.49 |
| 45:BP:92:THR:O | 45:BP:95:GLY:N | 2.45 | 0.49 |
| 57:Bb:97:ALA:O | 57:Bb:98:HIS:C | 2.55 | 0.49 |
| 69:Bp:242:UNK:O | 69:Bp:243:UNK:CB | 2.59 | 0.49 |
| 1:C1:72:A:C2 | 1:C1:73:U:C6 | 3.00 | 0.49 |
| 1:C1:87:C:H3' | 1:C1:88:U:C5' | 2.31 | 0.49 |
| 1:C1:228:G:C6 | 1:C1:229:U:N3 | 2.79 | 0.49 |
| 1:C1:288:A:N3 | 1:C1:289:U:C5 | 2.72 | 0.49 |
| 1:C1:337:G:C5' | 1:C1:338:C:C5 | 2.95 | 0.49 |
| 1:C1:341:A:C5 | 1:C1:342:C:C5 | 3.00 | 0.49 |
| 1:C1:555:A:H2 | 1:C1:556:A:N1 | 2.10 | 0.49 |
| 1:C1:618:U:O2' | 1:C1:619:A:H5" | 2.12 | 0.49 |
| 1:C1:848:C:N3 | 1:C1:849:C:C4 | 2.80 | 0.49 |
| 1:C1:1000:C:C6 | 1:C1:1002:G:OP2 | 2.65 | 0.49 |
| 1:C1:1062:A:C2 | 1:C1:1063:U:H1' | 2.47 | 0.49 |
| 1:C1:1129:U:H3' | 1:C1:1130:G:H8 | 1.76 | 0.49 |
| 1:C1:1142:A:C5' | 1:C1:1142:A:H8 | 2.26 | 0.49 |
| 1:C1:1241:G:N3 | 1:C1:1243:G:H8 | 2.09 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1242:A:H4' | 10:CI:78:THR:CA | 2.40 | 0.49 |
| 1:C1:1586:A:C6 | 1:C1:1611:A:N3 | 2.81 | 0.49 |
| 4:CC:174:HIS:O | 4:CC:175:VAL:CB | 2.61 | 0.49 |
| 7:CF:85:VAL:O | 7:CF:86:ILE:O | 2.30 | 0.49 |
| 9:CH:97:GLY:HA2 | 9:CH:100:ALA:HB3 | 1.94 | 0.49 |
| 10:CI:86:VAL:CB | 10:CI:87:PRO:CA | 2.89 | 0.49 |
| 11:CJ:98:ASP:C | 11:CJ:100:GLN:H | 2.21 | 0.49 |
| 21:CT:53:LYS:C | 21:CT:55:GLY:N | 2.67 | 0.49 |
| 23:Cb:74:UNK:O | 23:Cb:75:UNK:C | 2.61 | 0.49 |
| 29:D1:13:A:H2' | 29:D1:13:A:N3 | 2.26 | 0.49 |
| 29:D1:69:C:C4 | 29:D1:70:A:H8 | 2.29 | 0.49 |
| 29:D1:213:A:N3 | 29:D1:214:G:H1' | 2.28 | 0.49 |
| 29:D1:263:C:OP1 | 29:D1:264:G:OP1 | 2.29 | 0.49 |
| 29:D1:331:G:C2' | 29:D1:332:C:H5" | 2.43 | 0.49 |
| 29:D1:334:A:O2' | 29:D1:335:G:O5' | 2.29 | 0.49 |
| 29:D1:380:U:C4 | 29:D1:381:U:O4 | 2.65 | 0.49 |
| 29:D1:392:G:N7 | 74:D1:3523:OHX:N1 | 2.60 | 0.49 |
| 29:D1:425:G:C6 | 29:D1:635:G:C6 | 3.00 | 0.49 |
| 29:D1:503:C:O2' | 29:D1:504:A:H5' | 2.12 | 0.49 |
| 29:D1:625:G:C2' | 29:D1:626:U:O5' | 2.59 | 0.49 |
| 29:D1:668:G:H2' | 29:D1:669:U:O4' | 2.12 | 0.49 |
| 29:D1:682:U:O5' | 29:D1:683:U:OP2 | 2.30 | 0.49 |
| 29:D1:716:A:C8 | 29:D1:717:C:O4' | 2.65 | 0.49 |
| 29:D1:774:G:C2' | 29:D1:775:A:C5' | 2.84 | 0.49 |
| 29:D1:848:A:C2 | 29:D1:849:C:H1' | 2.47 | 0.49 |
| 29:D1:877:C:H2' | 29:D1:878:G:C5' | 2.42 | 0.49 |
| 29:D1:912:G:H21 | 29:D1:915:A:H62 | 1.59 | 0.49 |
| 29:D1:934:G:C4 | 29:D1:935:U:C6 | 3.01 | 0.49 |
| 29:D1:998:A:O2' | 29:D1:999:G:H5' | 2.12 | 0.49 |
| 29:D1:1019:G:O6 | 29:D1:1033:U:O4 | 2.30 | 0.49 |
| 29:D1:1193:A:H8 | 29:D1:1194:G:C2 | 2.24 | 0.49 |
| 29:D1:1225:A:O2' | 29:D1:1226:G:P | 2.70 | 0.49 |
| 29:D1:1596:C:H2' | 29:D1:1597:C:H6 | 1.72 | 0.49 |
| 29:D1:1724:U:H2' | 29:D1:1725:C:H6 | 1.75 | 0.49 |
| 29:D1:1760:A:C6 | 29:D1:1766:G:C5 | 3.00 | 0.49 |
| 29:D1:1833:G:N3 | 29:D1:1834:U:O2 | 2.46 | 0.49 |
| 29:D1:1884:A:N3 | 29:D1:1885:U:O2 | 2.45 | 0.49 |
| 29:D1:1919:G:N2 | 29:D1:1920:U:O2 | 2.46 | 0.49 |
| 29:D1:1927:G:N3 | 29:D1:1927:G:C3' | 2.71 | 0.49 |
| 29:D1:2197:C:H4' | 29:D1:2198:A:C8 | 2.48 | 0.49 |
| 29:D1:2200:U:C2 | 29:D1:2201:G:C8 | 3.00 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2247:G:C6 | 29:D1:2248:C:C4 | 3.00 | 0.49 |
| 29:D1:2356:A:N3 | 29:D1:2356:A:H2' | 2.27 | 0.49 |
| 29:D1:2369:G:N2 | 29:D1:2379:U:C2 | 2.80 | 0.49 |
| 29:D1:2376:G:O2' | 29:D1:2377:G:H5' | 2.13 | 0.49 |
| 29:D1:2386:A:N7 | 29:D1:2994:A:C6 | 2.81 | 0.49 |
| 29:D1:2471:U:H4' | 32:DA:23:THR:N | 2.27 | 0.49 |
| 29:D1:2731:U:H2' | 29:D1:2731:U:O2 | 2.12 | 0.49 |
| 29:D1:2945:G:N3 | 29:D1:2945:G:O4' | 2.45 | 0.49 |
| 29:D1:2994:A:H2' | 29:D1:2995:A:C8 | 2.46 | 0.49 |
| 29:D1:3030:G:C2' | 29:D1:3031:G:O4' | 2.60 | 0.49 |
| 29:D1:3079:U:H3' | 29:D1:3080:G:H5" | 1.94 | 0.49 |
| 29:D1:3171:U:C1' | 29:D1:3172:A:OP2 | 2.55 | 0.49 |
| 29:D1:3341:U:O3' | 29:D1:3343:G:N2 | 2.44 | 0.49 |
| 29:D1:3377:G:O2' | 29:D1:3378:C:P | 2.68 | 0.49 |
| 29:D1:3388:C:O5' | 29:D1:3388:C:H6 | 1.95 | 0.49 |
| 30:D2:11:A:O3' | 30:D2:68:C:H4' | 2.11 | 0.49 |
| 30:D2:26:C:O2' | 30:D2:27:A:O4' | 2.30 | 0.49 |
| 30:D2:30:G:C2' | 30:D2:31:U:O5' | 2.60 | 0.49 |
| 30:D2:41:G:N3 | 30:D2:41:G:C2' | 2.72 | 0.49 |
| 31:D3:39:G:H4' | 31:D3:40:A:H5" | 1.94 | 0.49 |
| 31:D3:68:G:C5 | 31:D3:69:U:C5 | 3.00 | 0.49 |
| 33:DB:111:THR:HA | 33:DB:134:VAL:HA | 1.94 | 0.49 |
| 35:DD:117:GLU:C | 35:DD:119:ARG:N | 2.67 | 0.49 |
| 39:DH:232:HIS:O | 39:DH:233:TRP:CB | 2.60 | 0.49 |
| 41:DJ:155:ALA:O | 41:DJ:158:LYS:O | 2.29 | 0.49 |
| 43:DN:73:PRO:C | 43:DN:75:GLY:N | 2.70 | 0.49 |
| 45:DP:24:ALA:HA | 45:DP:27:LEU:CB | 2.43 | 0.49 |
| 46:DQ:105:LYS:O | 46:DQ:107:LEU:N | 2.45 | 0.49 |
| 55:DZ:76:GLU:O | 55:DZ:78:GLY:N | 2.45 | 0.49 |
| 62:Dg:57:CYS:O | 62:Dg:61:LYS:N | 2.45 | 0.49 |
| 1:A1:63:G:C8 | 1:A1:63:G:OP1 | 2.66 | 0.49 |
| 1:A1:100:A:N1 | 1:A1:101:U:C4 | 2.81 | 0.49 |
| 1:A1:100:A:H2' | 1:A1:101:U:O4' | 2.12 | 0.49 |
| 1:A1:203:U:C4' | 1:A1:204:G:OP1 | 2.60 | 0.49 |
| 1:A1:327:U:N3 | 1:A1:328:A:N7 | 2.61 | 0.49 |
| 1:A1:635:A:C4 | 1:A1:863:A:N7 | 2.81 | 0.49 |
| 1:A1:709:C:H2' | 1:A1:710:U:O4' | 2.11 | 0.49 |
| 1:A1:778:G:N2 | 1:A1:783:G:C4 | 2.80 | 0.49 |
| 1:A1:865:A:N1 | 1:A1:965:U:O4 | 2.46 | 0.49 |
| 1:A1:947:U:H2' | 1:A1:948:G:O4' | 2.12 | 0.49 |
| 1:A1:948:G:H2' | 1:A1:949:C:H6 | 1.75 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1043:A:H2' | 1:A1:1044:U:C6 | 2.47 | 0.49 |
| 1:A1:1092:A:N9 | 1:A1:1094:G:C8 | 2.79 | 0.49 |
| 1:A1:1204:A:C5 | 1:A1:1205:C:N3 | 2.80 | 0.49 |
| 1:A1:1227:A:C8 | 1:A1:1229:G:OP2 | 2.66 | 0.49 |
| 1:A1:1285:U:C2 | 1:A1:1286:U:H5 | 2.30 | 0.49 |
| 1:A1:1292:G:C4 | 1:A1:1293:U:C5 | 3.00 | 0.49 |
| 1:A1:1378:U:H3' | 1:A1:1379:C:C4' | 2.42 | 0.49 |
| 1:A1:1580:C:H2' | 1:A1:1581:C:H6 | 1.71 | 0.49 |
| 1:A1:1584:G:N3 | 1:A1:1584:G:H3' | 2.28 | 0.49 |
| 1:A1:1584:G:N1 | 11:AJ:125:GLU:N | 2.61 | 0.49 |
| 1:A1:1620:C:H2' | 1:A1:1620:C:O2 | 2.12 | 0.49 |
| 1:A1:1636:C:N4 | 1:A1:1638:G:N2 | 2.60 | 0.49 |
| 1:A1:1689:A:N6 | 1:A1:1715:G:C2 | 2.81 | 0.49 |
| 1:A1:1747:G:H2' | 1:A1:1748:G:H8 | 1.78 | 0.49 |
| 5:AD:64:VAL:CA | 5:AD:89:ILE:HA | 2.40 | 0.49 |
| 5:AD:133:VAL:O | 5:AD:136:ALA:HB3 | 2.13 | 0.49 |
| 5:AD:166:ARG:O | 5:AD:168:VAL:N | 2.45 | 0.49 |
| 6:AE:90:LYS:HA | 6:AE:91:LYS:CB | 2.42 | 0.49 |
| 20:AS:49:ASP:N | 20:AS:50:ILE:CA | 2.41 | 0.49 |
| 21:AT:84:SER:C | 21:AT:86:ASP:H | 2.20 | 0.49 |
| 29:B1:22:G:N3 | 29:B1:23:A:C8 | 2.79 | 0.49 |
| 29:B1:338:A:H3' | 29:B1:339:C:C5' | 2.43 | 0.49 |
| 29:B1:543:C:H2' | 29:B1:543:C:O2 | 2.12 | 0.49 |
| 29:B1:556:U:C5 | 29:B1:557:A:H2 | 2.30 | 0.49 |
| 29:B1:603:A:C8 | 29:B1:603:A:O5' | 2.66 | 0.49 |
| 29:B1:687:U:O2' | 29:B1:688:G:H5' | 2.12 | 0.49 |
| 29:B1:717:C:C5 | 29:B1:721:G:OP1 | 2.66 | 0.49 |
| 29:B1:721:G:N3 | 29:B1:721:G:C3' | 2.72 | 0.49 |
| 29:B1:865:U:O4 | 29:B1:866:A:C5 | 2.64 | 0.49 |
| 29:B1:1194:G:C4 | 29:B1:1309:U:C2 | 3.01 | 0.49 |
| 29:B1:1376:C:H5' | 29:B1:1407:A:C6 | 2.48 | 0.49 |
| 29:B1:1461:A:C6 | 29:B1:1462:A:C5 | 3.00 | 0.49 |
| 29:B1:1515:A:C4 | 29:B1:1516:C:C5 | 3.00 | 0.49 |
| 29:B1:1587:A:C2 | 29:B1:1590:G:N9 | 2.81 | 0.49 |
| 29:B1:1847:A:C2 | 29:B1:1849:C:C2 | 3.01 | 0.49 |
| 29:B1:1908:A:C6 | 29:B1:1909:A:C6 | 3.01 | 0.49 |
| 29:B1:2175:U:H4' | 29:B1:2176:U:OP2 | 2.12 | 0.49 |
| 29:B1:2374:C:C4 | 29:B1:2941:A:C4 | 3.00 | 0.49 |
| 29:B1:2976:A:O5' | 29:B1:2976:A:H8 | 1.96 | 0.49 |
| 29:B1:3137:C:H3' | 29:B1:3138:U:H6 | 1.77 | 0.49 |
| 29:B1:3262:U:C2 | 29:B1:3263:G:C8 | 3.01 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3268:A:H1' | 29:B1:3269:U:OP1 | 2.11 | 0.49 |
| 29:B1:3367:C:H2' | 29:B1:3368:U:H5" | 1.91 | 0.49 |
| 30:B2:26:C:HO2' | 30:B2:27:A:C4' | 2.25 | 0.49 |
| 30:B2:30:G:C5 | 30:B2:31:U:C2 | 3.00 | 0.49 |
| 30:B2:87:G:C2 | 30:B2:95:A:C6 | 3.00 | 0.49 |
| 33:BB:172:GLY:N | 62:Bg:68:ALA:HB2 | 2.27 | 0.49 |
| 34:BC:159:ARG:HA | 34:BC:181:ILE:O | 2.12 | 0.49 |
| 35:BD:207:VAL:O | 35:BD:225:VAL:HA | 2.13 | 0.49 |
| 38:BG:124:LEU:O | 38:BG:125:GLU:C | 2.54 | 0.49 |
| 38:BG:224:ILE:O | 38:BG:226:GLY:N | 2.46 | 0.49 |
| 39:BH:123:GLN:HA | 39:BH:126:SER:CB | 2.42 | 0.49 |
| 47:BR:142:GLY:O | 47:BR:143:PRO:CB | 2.60 | 0.49 |
| 56:Ba:55:LEU:O | 56:Ba:59:ILE:N | 2.46 | 0.49 |
| 1:C1:16:G:O2' | 1:C1:17:C:O4' | 2.30 | 0.49 |
| 1:C1:55:A:C5 | 1:C1:426:G:C6 | 3.00 | 0.49 |
| 1:C1:64:U:H5' | 1:C1:65:A:P | 2.52 | 0.49 |
| 1:C1:103:A:C5 | 1:C1:360:A:N1 | 2.80 | 0.49 |
| 1:C1:123:G:C6 | 1:C1:124:A:C5 | 3.01 | 0.49 |
| 1:C1:382:C:H2' | 1:C1:382:C:O2 | 2.12 | 0.49 |
| 1:C1:388:G:N3 | 1:C1:389:G:C8 | 2.80 | 0.49 |
| 1:C1:415:C:O2 | 1:C1:419:G:C2 | 2.65 | 0.49 |
| 1:C1:416:A:H5' | 1:C1:417:A:N7 | 2.28 | 0.49 |
| 1:C1:559:C:H2' | 1:C1:560:U:H6 | 1.78 | 0.49 |
| 1:C1:613:G:H4' | 1:C1:614:C:O5' | 2.13 | 0.49 |
| 1:C1:624:G:C4 | 1:C1:1027:A:C2 | 3.01 | 0.49 |
| 1:C1:629:U:O2 | 1:C1:971:A:C4 | 2.65 | 0.49 |
| 1:C1:839:U:O2 | 1:C1:839:U:O4' | 2.30 | 0.49 |
| 1:C1:975:C:H2' | 1:C1:976:G:C8 | 2.45 | 0.49 |
| 1:C1:1051:G:H2' | 1:C1:1052:U:C2 | 2.48 | 0.49 |
| 1:C1:1230:A:OP1 | 1:C1:1256:A:H5' | 2.13 | 0.49 |
| 1:C1:1328:G:OP2 | 1:C1:1330:G:O6 | 2.30 | 0.49 |
| 1:C1:1348:A:C8 | 1:C1:1349:G:H5' | 2.48 | 0.49 |
| 1:C1:1351:G:C6 | 1:C1:1352:G:C5 | 3.00 | 0.49 |
| 1:C1:1429:G:C5 | 1:C1:1430:U:C5 | 3.00 | 0.49 |
| 1:C1:1532:U:H2' | 1:C1:1533:C:H6 | 1.78 | 0.49 |
| 1:C1:1561:U:H2' | 1:C1:1562:G:H8 | 1.77 | 0.49 |
| 1:C1:1585:U:N3 | 1:C1:1611:A:C2 | 2.80 | 0.49 |
| 1:C1:1676:U:H2' | 1:C1:1677:C:C6 | 2.48 | 0.49 |
| 1:C1:1720:G:C4 | 1:C1:1721:A:N9 | 2.81 | 0.49 |
| 2:CA:173:ILE:C | 2:CA:175:TYR:N | 2.66 | 0.49 |
| 4:CC:121:GLY:O | 4:CC:124:ARG:N | 2.45 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:CE:103:ASP:C | 6:CE:105:LEU:N | 2.66 | 0.49 |
| 10:CI:69:GLU:C | 10:CI:71:GLU:H | 2.20 | 0.49 |
| 21:CT:169:ILE:O | 21:CT:180:ALA:HA | 2.12 | 0.49 |
| 29:D1:13:A:C2 | 29:D1:15:C:H2' | 2.47 | 0.49 |
| 29:D1:109:A:H1' | 29:D1:110:G:H1' | 1.94 | 0.49 |
| 29:D1:125:C:N4 | 74:D1:3447:OHX:N3 | 2.58 | 0.49 |
| 29:D1:187:A:C1' | 29:D1:211:A:N6 | 2.69 | 0.49 |
| 29:D1:384:A:O4' | 29:D1:1465:A:C8 | 2.65 | 0.49 |
| 29:D1:396:A:O2' | 29:D1:397:A:P | 2.71 | 0.49 |
| 29:D1:414:U:C2' | 29:D1:415:G:H5' | 2.43 | 0.49 |
| 29:D1:502:U:O2' | 29:D1:503:C:H5' | 2.12 | 0.49 |
| 29:D1:534:U:OP2 | 29:D1:534:U:H5 | 1.91 | 0.49 |
| 29:D1:543:C:C2' | 29:D1:544:C:H5' | 2.42 | 0.49 |
| 29:D1:580:C:H5" | 29:D1:581:U:OP2 | 2.12 | 0.49 |
| 29:D1:764:U:OP2 | 29:D1:764:U:H6 | 1.94 | 0.49 |
| 29:D1:776:U:O5' | 29:D1:777:U:H5" | 2.12 | 0.49 |
| 29:D1:818:C:C2' | 29:D1:819:U:H5' | 2.41 | 0.49 |
| 29:D1:836:A:C1' | 29:D1:858:A:C2 | 2.91 | 0.49 |
| 29:D1:910:G:H3' | 29:D1:911:C:H6 | 1.77 | 0.49 |
| 29:D1:965:A:OP1 | 74:D1:3568:OHX:N3 | 2.45 | 0.49 |
| 29:D1:1168:U:O4 | 29:D1:1330:A:N7 | 2.45 | 0.49 |
| 29:D1:1300:G:O6 | 29:D1:1301:A:N6 | 2.46 | 0.49 |
| 29:D1:1358:C:H2' | 29:D1:1359:C:H6 | 1.77 | 0.49 |
| 29:D1:1400:G:C2 | 29:D1:1401:A:C8 | 3.01 | 0.49 |
| 29:D1:1451:C:O2 | 29:D1:1451:C:H2' | 2.11 | 0.49 |
| 29:D1:1489:A:H3' | 29:D1:1490:A:H8 | 1.76 | 0.49 |
| 29:D1:1799:A:O2' | 29:D1:1800:A:H5' | 2.12 | 0.49 |
| 29:D1:1887:A:H4' | 34:DC:227:GLU:HA | 1.92 | 0.49 |
| 29:D1:2254:U:O2' | 29:D1:2255:A:P | 2.70 | 0.49 |
| 29:D1:2308:C:OP1 | 29:D1:2309:A:H2' | 2.13 | 0.49 |
| 29:D1:2325:G:N3 | 29:D1:2326:A:C8 | 2.80 | 0.49 |
| 29:D1:2400:G:O2' | 29:D1:2401:A:H5" | 2.13 | 0.49 |
| 29:D1:2554:A:C2 | 33:DB:85:GLY:O | 2.65 | 0.49 |
| 29:D1:2594:C:H2' | 29:D1:2595:A:H8 | 1.76 | 0.49 |
| 29:D1:2622:C:H2' | 29:D1:2623:G:O4' | 2.12 | 0.49 |
| 29:D1:2630:C:C4 | 29:D1:2649:A:N1 | 2.80 | 0.49 |
| 29:D1:2680:A:N6 | 42:DK:55:ARG:C | 2.71 | 0.49 |
| 29:D1:2727:A:N1 | 29:D1:2729:U:H5 | 2.10 | 0.49 |
| 29:D1:2916:U:C5 | 29:D1:2935:U:O2' | 2.60 | 0.49 |
| 29:D1:3011:A:H1' | 29:D1:3012:A:C4' | 2.42 | 0.49 |
| 29:D1:3129:A:H2' | 29:D1:3129:A:N3 | 2.26 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3150:A:C3' | 29:D1:3151:U:C5' | 2.84 | 0.49 |
| 29:D1:3259:U:O2' | 29:D1:3260:G:N7 | 2.45 | 0.49 |
| 30:D2:9:C:OP2 | 30:D2:9:C:H6 | 1.94 | 0.49 |
| 30:D2:11:A:H8 | 30:D2:13:A:C2' | 2.25 | 0.49 |
| 30:D2:48:U:C6 | 30:D2:49:G:C6 | 3.01 | 0.49 |
| 30:D2:79:A:C2 | 30:D2:80:G:N9 | 2.80 | 0.49 |
| 31:D3:14:C:C5 | 31:D3:15:G:N7 | 2.80 | 0.49 |
| 31:D3:16:G:O6 | 74:D3:202:OHX:N5 | 2.46 | 0.49 |
| 44:DO:136:ASP:O | 44:DO:137:PRO:C | 2.55 | 0.49 |
| 45:DP:128:ARG:O | 45:DP:129:LEU:O | 2.31 | 0.49 |
| 45:DP:166:GLU:C | 45:DP:168:TYR:N | 2.70 | 0.49 |
| 48:DS:59:SER:O | 48:DS:61:SER:N | 2.38 | 0.49 |
| 51:DV:33:ASN:O | 51:DV:34:SER:C | 2.54 | 0.49 |
| 51:DV:39:LEU:O | 51:DV:40:PHE:C | 2.54 | 0.49 |
| 62:Dg:52:ALA:O | 62:Dg:53:GLY:C | 2.55 | 0.49 |
| 63:Dh:43:UNK:O | 63:Dh:44:UNK:C | 2.60 | 0.49 |
| 63:Dh:49:UNK:O | 63:Dh:51:UNK:N | 2.43 | 0.49 |
| 1:A1:43:A:H4' | 1:A1:99:C:P | 2.53 | 0.49 |
| 1:A1:141:U:O2 | 1:A1:141:U:O4' | 2.30 | 0.49 |
| 1:A1:244:A:H2' | 1:A1:245:U:C6 | 2.47 | 0.49 |
| 1:A1:520:A:C5 | 1:A1:521:A:N7 | 2.80 | 0.49 |
| 1:A1:555:A:H4' | 1:A1:556:A:OP2 | 2.09 | 0.49 |
| 1:A1:651:G:C2 | 1:A1:684:A:N7 | 2.81 | 0.49 |
| 1:A1:773:C:O2 | 1:A1:774:A:C8 | 2.65 | 0.49 |
| 1:A1:783:G:C2' | 1:A1:784:C:O5' | 2.61 | 0.49 |
| 1:A1:796:A:C2' | 1:A1:797:G:H5' | 2.43 | 0.49 |
| 1:A1:837:G:H2' | 1:A1:838:G:C8 | 2.47 | 0.49 |
| 1:A1:838:G:C6 | 1:A1:839:U:C4 | 3.00 | 0.49 |
| 1:A1:1136:U:H2' | 1:A1:1137:A:H5' | 1.94 | 0.49 |
| 1:A1:1146:G:C6 | 1:A1:1147:A:C5 | 3.01 | 0.49 |
| 1:A1:1219:A:C5' | 1:A1:1220:C:C5 | 2.84 | 0.49 |
| 1:A1:1268:G:H1' | 1:A1:1448:G:H5" | 1.95 | 0.49 |
| 1:A1:1314:U:HO2' | 1:A1:1315:U:P | 2.33 | 0.49 |
| 1:A1:1419:G:C2' | 1:A1:1420:C:O5' | 2.61 | 0.49 |
| 1:A1:1420:C:C6 | 1:A1:1420:C:H3' | 2.47 | 0.49 |
| 1:A1:1648:A:H2' | 1:A1:1649:G:O4' | 2.12 | 0.49 |
| 1:A1:1737:G:C6 | 1:A1:1738:U:C4 | 3.01 | 0.49 |
| 6:AE:94:ASP:O | 6:AE:95:TYR:C | 2.55 | 0.49 |
| 11:AJ:10:PHE:N | 11:AJ:18:ALA:O | 2.46 | 0.49 |
| 11:AJ:54:LEU:C | 11:AJ:56:GLY:H | 2.21 | 0.49 |
| 13:AL:79:TYR:O | 13:AL:80:LYS:CB | 2.59 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 14:AM:118:PRO:O | 14:AM:119:LYS:O | 2.30 | 0.49 |
| 29:B1:40:A:C3' | 29:B1:41:G:C5' | 2.91 | 0.49 |
| 29:B1:88:A:H8 | 29:B1:88:A:O5' | 1.95 | 0.49 |
| 29:B1:167:U:H2' | 29:B1:168:U:H6 | 1.78 | 0.49 |
| 29:B1:242:C:H2' | 29:B1:243:G:O5' | 2.12 | 0.49 |
| 29:B1:311:C:C4 | 29:B1:312:C:C4 | 3.00 | 0.49 |
| 29:B1:326:U:O4 | 70:Bq:3:UNK:N | 2.45 | 0.49 |
| 29:B1:327:A:H5' | 29:B1:327:A:C8 | 2.48 | 0.49 |
| 29:B1:337:G:H21 | 35:BD:50:TYR:CB | 2.25 | 0.49 |
| 29:B1:346:C:H5 | 29:B1:348:A:H5" | 1.77 | 0.49 |
| 29:B1:656:A:C6 | 29:B1:1440:G:N1 | 2.80 | 0.49 |
| 29:B1:847:A:C4 | 29:B1:848:A:N7 | 2.81 | 0.49 |
| 29:B1:1066:G:H2' | 29:B1:1067:U:C6 | 2.48 | 0.49 |
| 29:B1:1084:A:C6 | 29:B1:1085:A:C6 | 3.01 | 0.49 |
| 29:B1:1109:U:H3' | 29:B1:1110:U:H6 | 1.78 | 0.49 |
| 29:B1:1110:U:H2' | 29:B1:1110:U:O2 | 2.12 | 0.49 |
| 29:B1:1117:G:H2' | 29:B1:1118:C:H6 | 1.76 | 0.49 |
| 29:B1:1130:A:HO2' | 29:B1:1131:G:H3' | 1.78 | 0.49 |
| 29:B1:1237:G:H5" | 29:B1:1238:C:H6 | 1.78 | 0.49 |
| 29:B1:1282:G:O2' | 29:B1:1283:C:H5' | 2.11 | 0.49 |
| 29:B1:1285:G:C2' | 29:B1:1286:A:O5' | 2.59 | 0.49 |
| 29:B1:1360:C:O2 | 29:B1:1360:C:H2' | 2.12 | 0.49 |
| 29:B1:1366:A:C2 | 29:B1:1367:G:C5 | 3.00 | 0.49 |
| 29:B1:1394:A:C8 | 29:B1:1394:A:C3' | 2.96 | 0.49 |
| 29:B1:1542:G:C2 | 29:B1:1543:G:C5 | 3.00 | 0.49 |
| 29:B1:1678:G:C4' | 29:B1:1756:C:H4' | 2.43 | 0.49 |
| 29:B1:1765:U:O5' | 29:B1:1765:U:H6 | 1.95 | 0.49 |
| 29:B1:1868:G:C6 | 29:B1:1869:C:C4 | 3.00 | 0.49 |
| 29:B1:1931:U:C2 | 29:B1:2121:G:N3 | 2.80 | 0.49 |
| 29:B1:2198:A:O2' | 29:B1:2199:G:H5' | 2.13 | 0.49 |
| 29:B1:2255:A:N1 | 29:B1:2258:U:H5" | 2.28 | 0.49 |
| 29:B1:2311:G:H2' | 29:B1:2312:A:O5' | 2.13 | 0.49 |
| 29:B1:2357:A:C2 | 29:B1:2983:C:H5 | 2.31 | 0.49 |
| 29:B1:2625:C:O2 | 29:B1:2627:C:C5 | 2.66 | 0.49 |
| 29:B1:2771:U:H2' | 29:B1:2772:C:O4' | 2.13 | 0.49 |
| 29:B1:2856:G:C2 | 29:B1:2857:C:C4 | 3.00 | 0.49 |
| 29:B1:3044:G:C6 | 29:B1:3098:G:C6 | 3.01 | 0.49 |
| 29:B1:3142:A:O2' | 29:B1:3143:C:OP1 | 2.21 | 0.49 |
| 29:B1:3218:A:C3' | 29:B1:3220:G:OP2 | 2.61 | 0.49 |
| 29:B1:3394:U:O2' | 29:B1:3395:G:H8 | 1.95 | 0.49 |
| 30:B2:55:A:O2' | 30:B2:56:A:O4' | 2.31 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:B3:9:A:H5' | 31:B3:10:A:OP2 | 2.13 | 0.49 |
| 31:B3:92:A:N3 | 31:B3:92:A:C2' | 2.73 | 0.49 |
| 36:BE:43:LYS:HA | 49:BT:70:SER:H | 1.77 | 0.49 |
| 36:BE:107:ARG:O | 36:BE:110:LEU:O | 2.30 | 0.49 |
| 36:BE:141:PRO:C | 36:BE:143:LYS:N | 2.69 | 0.49 |
| 39:BH:190:VAL:O | 39:BH:191:ASN:C | 2.55 | 0.49 |
| 40:BI:170:LYS:O | 40:BI:172:ILE:N | 2.45 | 0.49 |
| 42:BK:76:ALA:C | 42:BK:78:GLU:N | 2.71 | 0.49 |
| 42:BK:97:SER:C | 42:BK:99:THR:H | 2.20 | 0.49 |
| 53:BX:70:ILE:O | 53:BX:71:SER:C | 2.56 | 0.49 |
| 60:Be:33:ASN:O | 60:Be:34:THR:CB | 2.59 | 0.49 |
| 63:Bh:17:UNK:O | 63:Bh:18:UNK:C | 2.57 | 0.49 |
| 1:C1:102:U:O4 | 1:C1:360:A:C2' | 2.54 | 0.49 |
| 1:C1:160:C:HO2' | 1:C1:161:U:P | 2.36 | 0.49 |
| 1:C1:192:U:N3 | 1:C1:195:G:O6 | 2.44 | 0.49 |
| 1:C1:198:A:O2' | 1:C1:199:G:C8 | 2.53 | 0.49 |
| 1:C1:227:U:O2' | 1:C1:228:G:OP2 | 2.22 | 0.49 |
| 1:C1:272:U:H1' | 1:C1:273:G:OP1 | 2.11 | 0.49 |
| 1:C1:302:U:C4 | 1:C1:303:U:O2 | 2.64 | 0.49 |
| 1:C1:335:U:C5' | 1:C1:336:G:OP2 | 2.61 | 0.49 |
| 1:C1:563:U:C5' | 1:C1:564:G:OP2 | 2.60 | 0.49 |
| 1:C1:569:C:C2' | 1:C1:570:A:O5' | 2.61 | 0.49 |
| 1:C1:607:G:H4' | 1:C1:608:U:H5' | 1.94 | 0.49 |
| 1:C1:614:C:C4 | 1:C1:615:A:N7 | 2.81 | 0.49 |
| 1:C1:706:A:N6 | 1:C1:732:G:N3 | 2.60 | 0.49 |
| 1:C1:915:A:OP2 | 1:C1:915:A:C8 | 2.62 | 0.49 |
| 1:C1:919:A:H2' | 1:C1:920:U:C6 | 2.48 | 0.49 |
| 1:C1:1086:A:H5' | 3:CB:164:SER:CB | 2.42 | 0.49 |
| 1:C1:1091:A:H8 | 1:C1:1091:A:OP2 | 1.95 | 0.49 |
| 1:C1:1148:C:C2 | 1:C1:1149:G:O6 | 2.65 | 0.49 |
| 1:C1:1170:G:N3 | 1:C1:1170:G:H2' | 2.28 | 0.49 |
| 1:C1:1421:A:H2' | 1:C1:1421:A:N3 | 2.26 | 0.49 |
| 1:C1:1524:A:H2' | 1:C1:1525:A:H8 | 1.60 | 0.49 |
| 1:C1:1540:G:H2' | 1:C1:1541:G:H8 | 1.77 | 0.49 |
| 1:C1:1589:C:H2' | 1:C1:1590:G:O4' | 2.12 | 0.49 |
| 1:C1:1665:U:O2 | 1:C1:1665:U:H2' | 2.12 | 0.49 |
| 1:C1:1724:U:O4 | 74:C1:1944:OHX:N4 | 2.45 | 0.49 |
| 1:C1:1729:C:H3' | 1:C1:1730:A:H8 | 1.77 | 0.49 |
| 3:CB:215:PHE:O | 3:CB:216:VAL:C | 2.55 | 0.49 |
| 5:CD:117:THR:CB | 5:CD:191:ALA:HB1 | 2.43 | 0.49 |
| 5:CD:204:GLY:C | 5:CD:206:SER:N | 2.64 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 12:CK:7:LYS:C | 12:CK:9:VAL:N | 2.70 | 0.49 |
| 13:CL:75:ASN:C | 13:CL:78:HIS:H | 2.21 | 0.49 |
| 13:CL:134:ARG:O | 13:CL:135:GLY:C | 2.55 | 0.49 |
| 14:CM:58:ALA:H | 14:CM:60:SER:H | 1.61 | 0.49 |
| 17:CP:95:PHE:C | 17:CP:97:ASP:N | 2.71 | 0.49 |
| 29:D1:20:A:C4' | 29:D1:21:G:OP1 | 2.59 | 0.49 |
| 29:D1:64:G:H1' | 29:D1:77:A:C2 | 2.47 | 0.49 |
| 29:D1:89:A:N6 | 29:D1:98:G:C2 | 2.81 | 0.49 |
| 29:D1:114:A:C2 | 29:D1:267:G:C4 | 3.00 | 0.49 |
| 29:D1:159:A:C2' | 29:D1:160:G:H5' | 2.43 | 0.49 |
| 29:D1:304:G:O2' | 54:DY:61:PHE:CB | 2.61 | 0.49 |
| 29:D1:383:G:C2 | 29:D1:387:A:C6 | 3.00 | 0.49 |
| 29:D1:389:A:H5' | 46:DQ:17:ALA:HA | 1.95 | 0.49 |
| 29:D1:528:U:O2 | 29:D1:529:A:C8 | 2.66 | 0.49 |
| 29:D1:535:G:OP2 | 74:D1:3456:OHX:N6 | 2.46 | 0.49 |
| 29:D1:547:G:C2' | 29:D1:548:G:H5' | 2.43 | 0.49 |
| 29:D1:571:U:H2' | 29:D1:571:U:O2 | 2.11 | 0.49 |
| 29:D1:643:U:O5' | 29:D1:643:U:H6 | 1.96 | 0.49 |
| 29:D1:743:C:C6 | 29:D1:743:C:C3' | 2.96 | 0.49 |
| 29:D1:778:U:H2' | 29:D1:779:G:H5' | 1.95 | 0.49 |
| 29:D1:812:G:C4 | 29:D1:813:G:C8 | 3.00 | 0.49 |
| 29:D1:830:A:C4 | 29:D1:865:U:O2 | 2.66 | 0.49 |
| 29:D1:1013:G:H3' | 29:D1:1014:U:O3' | 2.11 | 0.49 |
| 29:D1:1047:A:C2' | 29:D1:1048:A:H5' | 2.43 | 0.49 |
| 29:D1:1198:C:H2' | 29:D1:1200:A:C8 | 2.48 | 0.49 |
| 29:D1:1235:U:H4' | 29:D1:1236:G:OP1 | 2.11 | 0.49 |
| 29:D1:1378:U:H2' | 29:D1:1378:U:O2 | 2.12 | 0.49 |
| 29:D1:1381:A:C2 | 29:D1:1426:C:C2 | 3.01 | 0.49 |
| 29:D1:1511:U:H3' | 29:D1:1512:U:H6 | 1.78 | 0.49 |
| 29:D1:1514:G:C8 | 29:D1:1841:A:C2 | 3.00 | 0.49 |
| 29:D1:1573:G:H3' | 29:D1:1574:C:H6 | 1.78 | 0.49 |
| 29:D1:1715:A:C8 | 29:D1:1716:U:H5" | 2.47 | 0.49 |
| 29:D1:1896:A:C2 | 29:D1:3093:C:C5 | 3.01 | 0.49 |
| 29:D1:1911:A:O4' | 29:D1:2333:C:O2' | 2.23 | 0.49 |
| 29:D1:1928:G:N7 | 29:D1:1929:G:N7 | 2.60 | 0.49 |
| 29:D1:2104:A:C2' | 29:D1:2105:G:H5" | 2.43 | 0.49 |
| 29:D1:2155:G:H2' | 29:D1:2156:C:H6 | 1.73 | 0.49 |
| 29:D1:2223:A:O2' | 29:D1:2224:A:O5' | 2.30 | 0.49 |
| 29:D1:2243:A:N1 | 29:D1:2313:A:C5 | 2.80 | 0.49 |
| 29:D1:2255:A:C2 | 29:D1:2260:U:O4 | 2.66 | 0.49 |
| 29:D1:2276:G:N7 | 29:D1:2277:C:C5 | 2.81 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2333:C:H2' | 29:D1:2334:U:O4' | 2.13 | 0.49 |
| 29:D1:2372:A:O2' | 29:D1:2373:A:OP1 | 2.31 | 0.49 |
| 29:D1:2555:G:C1' | 29:D1:2556:C:P | 3.00 | 0.49 |
| 29:D1:2626:A:N7 | 29:D1:2644:C:H5' | 2.28 | 0.49 |
| 29:D1:2722:U:H2' | 29:D1:2723:U:H6 | 1.77 | 0.49 |
| 29:D1:2735:U:O2' | 29:D1:2736:A:H5' | 2.11 | 0.49 |
| 29:D1:2876:C:H2' | 29:D1:2877:G:H5' | 1.95 | 0.49 |
| 29:D1:3012:A:C4 | 29:D1:3013:U:C5 | 3.01 | 0.49 |
| 29:D1:3019:U:O2 | 29:D1:3019:U:H2' | 2.11 | 0.49 |
| 29:D1:3046:A:C5 | 29:D1:3047:U:C4 | 3.01 | 0.49 |
| 29:D1:3047:U:C2' | 29:D1:3048:A:H5" | 2.42 | 0.49 |
| 29:D1:3056:U:OP1 | 29:D1:3056:U:N3 | 2.44 | 0.49 |
| 29:D1:3105:U:C6 | 29:D1:3106:A:N7 | 2.81 | 0.49 |
| 29:D1:3180:A:N1 | 45:DP:166:GLU:CB | 2.75 | 0.49 |
| 29:D1:3260:G:N3 | 29:D1:3260:G:C2' | 2.74 | 0.49 |
| 29:D1:3308:C:H5 | 29:D1:3309:G:C4 | 2.20 | 0.49 |
| 29:D1:3331:U:H2' | 29:D1:3332:U:H5' | 1.95 | 0.49 |
| 29:D1:3343:G:C5 | 29:D1:3344:A:N6 | 2.81 | 0.49 |
| 29:D1:3381:U:N3 | 29:D1:3383:G:C6 | 2.80 | 0.49 |
| 30:D2:23:A:N7 | 30:D2:24:A:N7 | 2.60 | 0.49 |
| 31:D3:10:A:C2 | 31:D3:11:C:C6 | 3.01 | 0.49 |
| 31:D3:53:A:N6 | 31:D3:54:A:C6 | 2.81 | 0.49 |
| 31:D3:106:C:H1' | 31:D3:107:G:OP2 | 2.13 | 0.49 |
| 33:DB:221:LYS:O | 33:DB:222:ALA:HB2 | 2.13 | 0.49 |
| 34:DC:319:ASN:O | 34:DC:320:ASP:CB | 2.60 | 0.49 |
| 35:DD:75:PRO:O | 35:DD:88:GLY:HA2 | 2.12 | 0.49 |
| 38:DG:33:ARG:O | 38:DG:34:LYS:C | 2.55 | 0.49 |
| 41:DJ:146:ASP:O | 41:DJ:147:VAL:C | 2.54 | 0.49 |
| 46:DQ:108:ASP:O | 46:DQ:110:THR:N | 2.46 | 0.49 |
| 48:DS:130:ASN:C | 48:DS:132:PHE:N | 2.64 | 0.49 |
| 53:DX:36:SER:O | 53:DX:37:LYS:C | 2.55 | 0.49 |
| 53:DX:52:ARG:C | 53:DX:54:ASP:H | 2.21 | 0.49 |
| 63:Dh:48:UNK:O | 63:Dh:51:UNK:O | 2.31 | 0.49 |
| 1:A1:22:A:N1 | 1:A1:604:A:C6 | 2.81 | 0.49 |
| 1:A1:133:U:H4' | 1:A1:134:U:OP2 | 2.13 | 0.49 |
| 1:A1:148:A:N6 | 1:A1:167:U:C2 | 2.80 | 0.49 |
| 1:A1:555:A:OP2 | 1:A1:555:A:C3' | 2.55 | 0.49 |
| 1:A1:659:C:OP2 | 1:A1:659:C:H3' | 2.13 | 0.49 |
| 1:A1:787:G:H3' | 1:A1:788:A:C8 | 2.48 | 0.49 |
| 1:A1:809:A:C6 | 1:A1:810:G:C6 | 3.01 | 0.49 |
| 1:A1:862:A:N9 | 1:A1:963:A:N6 | 2.59 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1035:G:C2' | 1:A1:1036:A:O4' | 2.59 | 0.49 |
| 1:A1:1211:A:C6 | 1:A1:1212:G:N7 | 2.81 | 0.49 |
| 1:A1:1305:U:H3' | 1:A1:1306:C:O2 | 2.12 | 0.49 |
| 1:A1:1418:G:N7 | 74:A1:1902:OHX:N5 | 2.61 | 0.49 |
| 1:A1:1428:G:O5' | 1:A1:1429:G:OP2 | 2.31 | 0.49 |
| 1:A1:1455:G:C2 | 1:A1:1456:C:O2 | 2.65 | 0.49 |
| 1:A1:1492:A:H1' | 1:A1:1493:A:O5' | 2.12 | 0.49 |
| 1:A1:1536:G:C4 | 1:A1:1538:U:O2 | 2.65 | 0.49 |
| 1:A1:1540:G:H2' | 1:A1:1541:G:H5' | 1.94 | 0.49 |
| 1:A1:1571:C:C3' | 1:A1:1572:G:H5" | 2.41 | 0.49 |
| 1:A1:1631:A:C6 | 1:A1:1632:C:C2 | 3.01 | 0.49 |
| 1:A1:1678:A:C2 | 1:A1:1725:U:N3 | 2.63 | 0.49 |
| 1:A1:1776:A:C6 | 1:A1:1786:G:O6 | 2.65 | 0.49 |
| 6:AE:106:GLU:O | 6:AE:108:ARG:N | 2.45 | 0.49 |
| 15:AN:23:ARG:O | 15:AN:24:ILE:C | 2.55 | 0.49 |
| 15:AN:28:SER:O | 15:AN:87:HIS:O | 2.30 | 0.49 |
| 29:B1:22:G:H2' | 29:B1:23:A:H8 | 1.77 | 0.49 |
| 29:B1:413:U:H6 | 29:B1:413:U:O5' | 1.96 | 0.49 |
| 29:B1:431:U:H5' | 29:B1:431:U:H6 | 1.77 | 0.49 |
| 29:B1:504:A:H2' | 29:B1:505:G:C5' | 2.42 | 0.49 |
| 29:B1:516:A:O5' | 29:B1:517:G:OP1 | 2.29 | 0.49 |
| 29:B1:592:A:C4 | 29:B1:593:C:N1 | 2.80 | 0.49 |
| 29:B1:617:G:H2' | 29:B1:618:C:O5' | 2.12 | 0.49 |
| 29:B1:637:C:C6 | 29:B1:638:C:C5 | 3.01 | 0.49 |
| 29:B1:661:G:C6 | 29:B1:802:C:C5 | 2.99 | 0.49 |
| 29:B1:727:G:H4' | 29:B1:727:G:OP1 | 2.13 | 0.49 |
| 29:B1:739:G:C4 | 29:B1:740:G:N7 | 2.81 | 0.49 |
| 29:B1:774:G:C2' | 29:B1:775:A:C5' | 2.85 | 0.49 |
| 29:B1:780:A:C2 | 29:B1:781:G:C4 | 3.00 | 0.49 |
| 29:B1:877:C:H3' | 29:B1:877:C:C6 | 2.47 | 0.49 |
| 29:B1:1056:U:C4 | 29:B1:1057:A:C5 | 3.00 | 0.49 |
| 29:B1:1119:C:C3' | 29:B1:1120:A:H8 | 2.26 | 0.49 |
| 29:B1:1421:G:N2 | 29:B1:1422:G:C4 | 2.80 | 0.49 |
| 29:B1:1480:G:N3 | 29:B1:1480:G:H2' | 2.28 | 0.49 |
| 29:B1:1523:U:H5" | 29:B1:1834:U:H5 | 1.77 | 0.49 |
| 29:B1:1561:G:O2' | 29:B1:1562:C:H5' | 2.13 | 0.49 |
| 29:B1:1658:G:N1 | 29:B1:1796:G:O6 | 2.45 | 0.49 |
| 29:B1:1851:G:C6 | 29:B1:1852:G:N7 | 2.81 | 0.49 |
| 29:B1:1895:A:C2 | 29:B1:2335:G:O6 | 2.66 | 0.49 |
| 29:B1:1943:C:C5' | 29:B1:3344:A:H5' | 2.42 | 0.49 |
| 29:B1:2105:G:C8 | 29:B1:2105:G:C5' | 2.96 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2173:U:C6 | 29:B1:2174:G:C8 | 3.00 | 0.49 |
| 29:B1:2340:U:C2' | 29:B1:2341:A:H5' | 2.43 | 0.49 |
| 29:B1:2403:G:O4' | 29:B1:2872:A:N7 | 2.46 | 0.49 |
| 29:B1:2426:U:H2' | 29:B1:2427:U:C6 | 2.48 | 0.49 |
| 29:B1:2561:A:OP1 | 29:B1:2561:A:C8 | 2.66 | 0.49 |
| 29:B1:2732:G:C5 | 29:B1:2733:A:C5 | 3.00 | 0.49 |
| 29:B1:2761:G:C2 | 29:B1:2795:U:C6 | 3.00 | 0.49 |
| 29:B1:2851:A:C8 | 29:B1:2851:A:H5" | 2.47 | 0.49 |
| 29:B1:3069:G:C6 | 29:B1:3070:A:N7 | 2.80 | 0.49 |
| 29:B1:3152:U:H4' | 29:B1:3294:A:O4' | 2.13 | 0.49 |
| 29:B1:3157:U:H3 | 29:B1:3293:U:C1' | 2.25 | 0.49 |
| 29:B1:3366:G:C2 | 29:B1:3367:C:C4 | 3.01 | 0.49 |
| 30:B2:11:A:H8 | 30:B2:13:A:C2' | 2.24 | 0.49 |
| 30:B2:27:A:C6 | 30:B2:54:U:O4 | 2.66 | 0.49 |
| 30:B2:37:G:C2 | 30:B2:45:A:N1 | 2.80 | 0.49 |
| 30:B2:38:U:O2' | 30:B2:40:C:C5' | 2.59 | 0.49 |
| 30:B2:71:G:C2 | 30:B2:108:A:C2 | 3.00 | 0.49 |
| 30:B2:75:G:P | 74:B2:201:OHX:N2 | 2.86 | 0.49 |
| 31:B3:1:A:N1 | 31:B3:2:A:C4 | 2.80 | 0.49 |
| 31:B3:53:A:N6 | 31:B3:54:A:C6 | 2.81 | 0.49 |
| 31:B3:79:A:H2' | 31:B3:80:A:O4' | 2.13 | 0.49 |
| 31:B3:115:C:H2' | 31:B3:116:G:O5' | 2.12 | 0.49 |
| 32:BA:154:THR:HA | 32:BA:155:ILE:C | 2.38 | 0.49 |
| 35:BD:8:VAL:O | 35:BD:17:ALA:HB3 | 2.13 | 0.49 |
| 35:BD:9:HIS:O | 35:BD:17:ALA:CB | 2.61 | 0.49 |
| 35:BD:10:SER:HA | 35:BD:17:ALA:N | 2.25 | 0.49 |
| 35:BD:117:GLU:C | 35:BD:119:ARG:H | 2.21 | 0.49 |
| 35:BD:237:GLN:C | 35:BD:239:ALA:N | 2.71 | 0.49 |
| 36:BE:196:ARG:O | 36:BE:197:SER:C | 2.55 | 0.49 |
| 37:BF:52:VAL:O | 37:BF:66:SER:CB | 2.60 | 0.49 |
| 39:BH:109:LEU:O | 39:BH:110:THR:CB | 2.60 | 0.49 |
| 40:BI:104:VAL:CB | 40:BI:105:GLU:HA | 2.42 | 0.49 |
| 56:Ba:9:THR:HA | 56:Ba:76:SER:CA | 2.28 | 0.49 |
| 1:C1:15:U:O4' | 1:C1:619:A:C2 | 2.66 | 0.49 |
| 1:C1:57:G:C5 | 1:C1:91:G:C2 | 3.01 | 0.49 |
| 1:C1:111:U:O2 | 1:C1:111:U:H2' | 2.12 | 0.49 |
| 1:C1:201:G:O2' | 1:C1:202:A:H5' | 2.13 | 0.49 |
| 1:C1:521:A:H5' | 1:C1:522:U:OP1 | 2.12 | 0.49 |
| 1:C1:719:U:H1' | 1:C1:720:G:O5' | 2.12 | 0.49 |
| 1:C1:747:C:H2' | 1:C1:748:U:H6 | 1.76 | 0.49 |
| 1:C1:832:U:C3' | 1:C1:833:U:H5" | 2.41 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:874:C:H2' | 1:C1:875:G:C8 | 2.48 | 0.49 |
| 1:C1:960:U:C2' | 1:C1:961:U:H5' | 2.42 | 0.49 |
| 1:C1:993:A:H2' | 1:C1:994:G:C5' | 2.42 | 0.49 |
| 1:C1:1008:G:H5' | 1:C1:1009:U:OP2 | 2.11 | 0.49 |
| 1:C1:1030:A:C3' | 1:C1:1031:U:H5' | 2.38 | 0.49 |
| 1:C1:1062:A:H2' | 1:C1:1063:U:O4' | 2.13 | 0.49 |
| 1:C1:1112:G:N2 | 1:C1:1134:C:N3 | 2.60 | 0.49 |
| 1:C1:1139:A:H2' | 1:C1:1140:G:O4' | 2.13 | 0.49 |
| 1:C1:1165:G:C6 | 1:C1:1166:A:C6 | 3.00 | 0.49 |
| 1:C1:1308:G:C4 | 1:C1:1309:C:C5 | 3.01 | 0.49 |
| 1:C1:1435:G:H4' | 1:C1:1436:A:H5' | 1.95 | 0.49 |
| 1:C1:1466:G:C5 | 1:C1:1467:C:C5 | 3.01 | 0.49 |
| 1:C1:1479:A:C3' | 1:C1:1480:G:H5" | 2.43 | 0.49 |
| 1:C1:1497:U:O4 | 1:C1:1511:U:C2 | 2.66 | 0.49 |
| 1:C1:1644:C:OP2 | 1:C1:1644:C:H3' | 2.13 | 0.49 |
| 1:C1:1691:A:N7 | 1:C1:1692:G:C4 | 2.80 | 0.49 |
| 1:C1:1750:A:C4 | 1:C1:1751:C:C6 | 3.00 | 0.49 |
| 6:CE:106:GLU:O | 6:CE:108:ARG:N | 2.45 | 0.49 |
| 8:CG:91:LEU:O | 8:CG:95:ALA:HB3 | 2.12 | 0.49 |
| 8:CG:142:GLU:C | 8:CG:144:ALA:N | 2.66 | 0.49 |
| 9:CH:52:ARG:CB | 9:CH:53:ASP:HA | 2.41 | 0.49 |
| 9:CH:61:MET:C | 9:CH:63:ALA:N | 2.70 | 0.49 |
| 21:CT:27:ALA:HB2 | 21:CT:296:ALA:CB | 2.43 | 0.49 |
| 21:CT:95:ALA:C | 21:CT:97:GLY:H | 2.21 | 0.49 |
| 23:Cb:23:UNK:O | 23:Cb:24:UNK:CB | 2.59 | 0.49 |
| 25:Cd:108:UNK:CB | 25:Cd:112:UNK:CB | 2.91 | 0.49 |
| 28:Ch:4:UNK:C | 28:Ch:6:UNK:N | 2.74 | 0.49 |
| 29:D1:5:G:O6 | 29:D1:6:A:C6 | 2.66 | 0.49 |
| 29:D1:8:C:C2 | 29:D1:9:U:C5 | 2.99 | 0.49 |
| 29:D1:20:A:O2' | 29:D1:21:G:C5' | 2.60 | 0.49 |
| 29:D1:189:G:N3 | 29:D1:191:U:O4 | 2.46 | 0.49 |
| 29:D1:271:C:C5 | 29:D1:295:A:N7 | 2.80 | 0.49 |
| 29:D1:382:U:C6 | 29:D1:383:G:O4' | 2.66 | 0.49 |
| 29:D1:384:A:N3 | 29:D1:1465:A:C6 | 2.81 | 0.49 |
| 29:D1:525:C:O2' | 29:D1:526:C:H5' | 2.13 | 0.49 |
| 29:D1:564:G:H3' | 29:D1:565:U:H6 | 1.67 | 0.49 |
| 29:D1:812:G:H2' | 29:D1:813:G:H8 | 1.78 | 0.49 |
| 29:D1:836:A:H2' | 29:D1:836:A:N3 | 2.26 | 0.49 |
| 29:D1:943:U:C1' | 29:D1:1432:C:C6 | 2.96 | 0.49 |
| 29:D1:953:G:N7 | 29:D1:1117:G:C8 | 2.80 | 0.49 |
| 29:D1:957:C:HO2' | 29:D1:2799:A:HO2' | 1.61 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1109:U:H3' | 29:D1:1110:U:H6 | 1.77 | 0.49 |
| 29:D1:1130:A:C5' | 29:D1:1130:A:C8 | 2.95 | 0.49 |
| 29:D1:1166:G:C3' | 29:D1:1167:U:H5" | 2.41 | 0.49 |
| 29:D1:1257:C:C4 | 29:D1:1258:U:C4 | 3.00 | 0.49 |
| 29:D1:1260:A:H1' | 29:D1:1280:C:C1' | 2.42 | 0.49 |
| 29:D1:1352:A:C3' | 29:D1:1353:U:H4' | 2.41 | 0.49 |
| 29:D1:1397:C:N4 | 29:D1:1398:U:O4 | 2.46 | 0.49 |
| 29:D1:1447:G:O2' | 29:D1:2355:G:N1 | 2.45 | 0.49 |
| 29:D1:1448:U:OP2 | 29:D1:2355:G:N2 | 2.44 | 0.49 |
| 29:D1:1509:A:C6 | 29:D1:1510:G:C2 | 3.00 | 0.49 |
| 29:D1:1595:U:OP1 | 29:D1:1595:U:H4' | 2.10 | 0.49 |
| 29:D1:1623:G:H3' | 29:D1:1624:G:C8 | 2.45 | 0.49 |
| 29:D1:1714:A:C6 | 29:D1:1728:G:C6 | 3.00 | 0.49 |
| 29:D1:1881:A:C6 | 29:D1:2352:A:N6 | 2.80 | 0.49 |
| 29:D1:2111:G:H22 | 51:DV:50:ALA:N | 2.10 | 0.49 |
| 29:D1:2131:A:C8 | 29:D1:2131:A:C3' | 2.96 | 0.49 |
| 29:D1:2185:G:C4 | 29:D1:2186:U:C5 | 3.00 | 0.49 |
| 29:D1:2204:C:C2' | 29:D1:2205:U:H5" | 2.42 | 0.49 |
| 29:D1:2210:G:C6 | 29:D1:2236:G:N2 | 2.81 | 0.49 |
| 29:D1:2279:A:C4' | 29:D1:2280:A:H5' | 2.40 | 0.49 |
| 29:D1:2299:A:H2' | 29:D1:2300:G:O5' | 2.13 | 0.49 |
| 29:D1:2609:A:C4 | 29:D1:2610:G:C8 | 3.01 | 0.49 |
| 29:D1:2821:C:H3' | 29:D1:2821:C:C6 | 2.48 | 0.49 |
| 29:D1:2890:A:C5 | 29:D1:2891:U:C4 | 3.00 | 0.49 |
| 29:D1:3032:A:N6 | 29:D1:3033:A:N1 | 2.60 | 0.49 |
| 29:D1:3086:A:H2' | 29:D1:3087:A:C8 | 2.47 | 0.49 |
| 29:D1:3144:G:OP1 | 29:D1:3145:C:OP2 | 2.31 | 0.49 |
| 29:D1:3198:U:O2 | 29:D1:3199:G:N7 | 2.46 | 0.49 |
| 74:D1:3597:OHX:N6 | 43:DN:92:GLU:O | 2.45 | 0.49 |
| 30:D2:43:U:C2 | 30:D2:44:C:C6 | 3.00 | 0.49 |
| 30:D2:54:U:H4' | 30:D2:55:A:O5' | 2.12 | 0.49 |
| 30:D2:62:U:H3' | 30:D2:63:A:H8 | 1.76 | 0.49 |
| 30:D2:68:C:O2' | 30:D2:69:C:H4' | 2.13 | 0.49 |
| 31:D3:14:C:H5" | 31:D3:15:G:OP2 | 2.12 | 0.49 |
| 31:D3:40:A:O2' | 31:D3:41:A:P | 2.70 | 0.49 |
| 33:DB:206:PRO:C | 33:DB:207:VAL:O | 2.54 | 0.49 |
| 35:DD:101:ALA:C | 35:DD:102:PRO:O | 2.55 | 0.49 |
| 36:DE:264:GLN:O | 36:DE:283:ALA:C | 2.56 | 0.49 |
| 39:DH:228:GLU:C | 39:DH:230:LYS:H | 2.19 | 0.49 |
| 72:DL:94:LYS:O | 72:DL:96:LYS:N | 2.41 | 0.49 |
| 43:DN:26:GLY:C | 43:DN:27:GLN:O | 2.55 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:DR:110:ALA:O | 47:DR:113:LYS:N | 2.45 | 0.49 |
| 51:DV:18:GLY:HA3 | 51:DV:32:GLN:HA | 1.92 | 0.49 |
| 57:Db:61:LYS:O | 57:Db:63:THR:N | 2.46 | 0.49 |
| 58:Dc:62:GLN:C | 58:Dc:65:ALA:HB3 | 2.38 | 0.49 |
| 26:Dj:11:UNK:C | 26:Dj:13:UNK:N | 2.75 | 0.49 |
| 1:A1:166:C:C4 | 1:A1:167:U:C4 | 3.01 | 0.49 |
| 1:A1:243:G:C6 | 1:A1:250:C:N3 | 2.81 | 0.49 |
| 1:A1:356:G:C2 | 1:A1:357:G:C8 | 3.00 | 0.49 |
| 1:A1:475:A:C2 | 1:A1:476:U:O2 | 2.66 | 0.49 |
| 1:A1:624:G:C5 | 1:A1:625:C:C5 | 3.00 | 0.49 |
| 1:A1:690:G:N1 | 1:A1:691:C:C4 | 2.81 | 0.49 |
| 1:A1:856:A:H3' | 1:A1:857:U:C5' | 2.41 | 0.49 |
| 1:A1:978:A:C8 | 1:A1:978:A:OP2 | 2.66 | 0.49 |
| 1:A1:1022:C:O2' | 1:A1:1125:A:N1 | 2.42 | 0.49 |
| 1:A1:1066:C:C2 | 1:A1:1067:C:C6 | 3.01 | 0.49 |
| 1:A1:1123:C:C5 | 1:A1:1124:A:C4 | 3.00 | 0.49 |
| 1:A1:1144:U:C1' | 1:A1:1300:A:C2 | 2.96 | 0.49 |
| 1:A1:1256:A:OP2 | 1:A1:1257:U:H5' | 2.13 | 0.49 |
| 1:A1:1353:U:H3 | 1:A1:1371:A:H61 | 1.60 | 0.49 |
| 1:A1:1633:A:C1' | 1:A1:1634:C:OP2 | 2.60 | 0.49 |
| 1:A1:1663:G:C4 | 1:A1:1664:C:C6 | 3.00 | 0.49 |
| 1:A1:1682:U:C2 | 1:A1:1683:C:C5 | 3.01 | 0.49 |
| 1:A1:1720:G:H2' | 1:A1:1721:A:H5' | 1.93 | 0.49 |
| 4:AC:97:SER:O | 4:AC:99:VAL:N | 2.45 | 0.49 |
| 6:AE:24:LEU:O | 6:AE:27:GLU:N | 2.46 | 0.49 |
| 20:AS:37:ASN:C | 74:AS:101:OHX:N3 | 2.70 | 0.49 |
| 23:Ab:75:UNK:O | 23:Ab:76:UNK:C | 2.60 | 0.49 |
| 29:B1:20:A:HO2' | 29:B1:21:G:P | 2.35 | 0.49 |
| 29:B1:21:G:N2 | 31:B3:37:A:C8 | 2.81 | 0.49 |
| 29:B1:60:A:N7 | 29:B1:61:A:C8 | 2.81 | 0.49 |
| 29:B1:159:A:C2' | 29:B1:160:G:H5' | 2.42 | 0.49 |
| 29:B1:293:C:H2' | 29:B1:294:U:O4' | 2.12 | 0.49 |
| 29:B1:296:A:C6 | 29:B1:297:G:N1 | 2.80 | 0.49 |
| 29:B1:349:A:N3 | 31:B3:24:G:C1' | 2.76 | 0.49 |
| 29:B1:363:G:H2' | 29:B1:364:G:C5' | 2.20 | 0.49 |
| 29:B1:382:U:C3' | 29:B1:383:G:C4' | 2.88 | 0.49 |
| 29:B1:543:C:C2' | 29:B1:544:C:H5' | 2.43 | 0.49 |
| 29:B1:560:G:C8 | 29:B1:560:G:H5" | 2.47 | 0.49 |
| 29:B1:561:C:H2' | 29:B1:562:C:C6 | 2.48 | 0.49 |
| 29:B1:824:C:H2' | 29:B1:825:U:H6 | 1.68 | 0.49 |
| 29:B1:934:G:C4 | 29:B1:935:U:C6 | 3.00 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1003:A:C2 | 29:B1:1004:U:C1' | 2.95 | 0.49 |
| 29:B1:1120:A:C5' | 29:B1:1121:U:OP2 | 2.51 | 0.49 |
| 29:B1:1133:A:O2' | 29:B1:1134:G:H5' | 2.13 | 0.49 |
| 29:B1:1178:G:N7 | 29:B1:1179:A:C4 | 2.81 | 0.49 |
| 29:B1:1198:C:OP2 | 29:B1:1198:C:H2' | 2.12 | 0.49 |
| 29:B1:1224:C:N4 | 29:B1:1286:A:C4 | 2.81 | 0.49 |
| 29:B1:1260:A:C6 | 29:B1:1279:C:O2 | 2.65 | 0.49 |
| 29:B1:1276:U:N3 | 74:B1:3563:OHX:N4 | 2.61 | 0.49 |
| 29:B1:1331:U:C4' | 29:B1:1332:A:OP2 | 2.50 | 0.49 |
| 29:B1:1366:A:C2' | 29:B1:1367:G:H5' | 2.43 | 0.49 |
| 29:B1:1379:G:H5" | 29:B1:1380:G:OP2 | 2.13 | 0.49 |
| 29:B1:1520:G:N2 | 29:B1:1521:G:C4 | 2.80 | 0.49 |
| 29:B1:1608:C:N3 | 29:B1:1609:C:C5 | 2.80 | 0.49 |
| 29:B1:1615:C:C2 | 29:B1:1616:U:C5 | 3.00 | 0.49 |
| 29:B1:2143:A:O2' | 29:B1:2144:A:H5' | 2.12 | 0.49 |
| 29:B1:2155:G:C6 | 29:B1:2156:C:N4 | 2.81 | 0.49 |
| 29:B1:2167:A:C3' | 29:B1:2168:A:C8 | 2.93 | 0.49 |
| 29:B1:2182:A:N3 | 29:B1:2183:A:C8 | 2.81 | 0.49 |
| 29:B1:2249:G:H2' | 29:B1:2250:G:H1' | 1.92 | 0.49 |
| 29:B1:2352:A:H2' | 29:B1:2353:G:H8 | 1.77 | 0.49 |
| 29:B1:2369:G:C6 | 29:B1:2370:G:N1 | 2.81 | 0.49 |
| 29:B1:2423:U:C2' | 29:B1:2424:A:OP2 | 2.61 | 0.49 |
| 29:B1:2501:U:H1' | 29:B1:2502:A:O5' | 2.12 | 0.49 |
| 29:B1:2642:A:C2 | 29:B1:2643:A:C6 | 3.01 | 0.49 |
| 29:B1:2881:C:O2 | 29:B1:2882:U:C5 | 2.65 | 0.49 |
| 29:B1:2948:C:O2' | 29:B1:2949:U:O4' | 2.25 | 0.49 |
| 29:B1:3010:U:O4' | 34:BC:15:GLY:CA | 2.61 | 0.49 |
| 29:B1:3012:A:C5 | 29:B1:3013:U:H5 | 2.30 | 0.49 |
| 29:B1:3030:G:C2' | 29:B1:3031:G:O5' | 2.61 | 0.49 |
| 29:B1:3054:U:OP2 | 29:B1:3054:U:H6 | 1.95 | 0.49 |
| 29:B1:3294:A:C5 | 29:B1:3295:A:C8 | 3.00 | 0.49 |
| 29:B1:3321:C:N1 | 29:B1:3322:A:C8 | 2.81 | 0.49 |
| 29:B1:3392:U:C2 | 29:B1:3393:U:N3 | 2.79 | 0.49 |
| 30:B2:79:A:C1' | 30:B2:102:A:N6 | 2.75 | 0.49 |
| 31:B3:53:A:C4 | 31:B3:54:A:N7 | 2.80 | 0.49 |
| 31:B3:57:C:O2' | 31:B3:58:G:H5' | 2.12 | 0.49 |
| 31:B3:104:A:C8 | 31:B3:105:A:C8 | 3.00 | 0.49 |
| 34:BC:237:LYS:O | 34:BC:239:PRO:N | 2.46 | 0.49 |
| 35:BD:16:THR:CB | 35:BD:17:ALA:CA | 2.87 | 0.49 |
| 38:BG:40:LYS:O | 38:BG:43:ILE:CB | 2.61 | 0.49 |
| 39:BH:228:GLU:C | 39:BH:230:LYS:H | 2.21 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BI:157:ASN:O | 40:BI:160:ASP:N | 2.46 | 0.49 |
| 47:BR:145:ASN:CA | 47:BR:146:SER:CB | 2.90 | 0.49 |
| 52:BW:88:MET:C | 52:BW:90:ALA:N | 2.67 | 0.49 |
| 56:Ba:56:ASN:O | 56:Ba:58:ALA:N | 2.46 | 0.49 |
| 57:Bb:114:ALA:C | 57:Bb:116:GLY:N | 2.69 | 0.49 |
| 60:Be:43:ASN:O | 60:Be:44:TRP:C | 2.56 | 0.49 |
| 62:Bg:56:THR:CA | 62:Bg:63:THR:HA | 2.39 | 0.49 |
| 22:Bo:8:UNK:C | 22:Bo:10:UNK:N | 2.76 | 0.49 |
| 1:C1:223:U:O2 | 1:C1:838:G:N2 | 2.24 | 0.49 |
| 1:C1:257:A:C6 | 1:C1:258:C:C5 | 3.00 | 0.49 |
| 1:C1:292:U:C6 | 1:C1:292:U:O5' | 2.60 | 0.49 |
| 1:C1:304:U:O2 | 1:C1:304:U:C2' | 2.57 | 0.49 |
| 1:C1:326:G:H2' | 1:C1:327:U:H6 | 1.78 | 0.49 |
| 1:C1:492:A:N1 | 1:C1:496:G:C2 | 2.81 | 0.49 |
| 1:C1:690:G:N1 | 1:C1:691:C:C4 | 2.81 | 0.49 |
| 1:C1:738:G:O6 | 74:C1:1918:OHX:N1 | 2.46 | 0.49 |
| 1:C1:789:A:H2' | 1:C1:789:A:N3 | 2.28 | 0.49 |
| 1:C1:1075:C:N4 | 1:C1:1076:A:H61 | 2.11 | 0.49 |
| 1:C1:1172:G:C5 | 1:C1:1173:C:C5 | 3.01 | 0.49 |
| 1:C1:1672:G:C2 | 1:C1:1673:G:C6 | 3.01 | 0.49 |
| 1:C1:1673:G:N7 | 1:C1:1674:C:C5 | 2.81 | 0.49 |
| 1:C1:1689:A:N6 | 1:C1:1715:G:C2 | 2.80 | 0.49 |
| 1:C1:1720:G:C2' | 1:C1:1721:A:C5' | 2.88 | 0.49 |
| 1:C1:1778:G:C6 | 1:C1:1779:U:C5 | 3.01 | 0.49 |
| 17:CP:76:LEU:O | 17:CP:77:ILE:C | 2.55 | 0.49 |
| 28:Ch:8:UNK:O | 28:Ch:9:UNK:C | 2.59 | 0.49 |
| 29:D1:38:U:H2' | 29:D1:39:A:O4' | 2.12 | 0.49 |
| 29:D1:60:A:C5 | 29:D1:61:A:C8 | 3.01 | 0.49 |
| 29:D1:198:A:H1' | 29:D1:218:G:C4 | 2.47 | 0.49 |
| 29:D1:251:G:H4' | 29:D1:252:U:OP1 | 2.09 | 0.49 |
| 29:D1:283:G:C4 | 29:D1:285:A:N7 | 2.80 | 0.49 |
| 29:D1:290:G:H2' | 29:D1:291:C:C6 | 2.48 | 0.49 |
| 29:D1:384:A:C8 | 29:D1:385:A:C8 | 3.01 | 0.49 |
| 29:D1:406:G:C1' | 31:D3:16:G:H22 | 2.15 | 0.49 |
| 29:D1:629:U:H3' | 29:D1:630:A:C8 | 2.42 | 0.49 |
| 29:D1:648:C:C6 | 29:D1:2374:C:O2' | 2.62 | 0.49 |
| 29:D1:738:A:C2 | 29:D1:739:G:C5 | 3.01 | 0.49 |
| 29:D1:752:C:HO2' | 29:D1:753:C:H6 | 1.58 | 0.49 |
| 29:D1:789:A:H2' | 29:D1:790:U:H6 | 1.76 | 0.49 |
| 29:D1:949:C:O2' | 29:D1:950:G:H5' | 2.13 | 0.49 |
| 29:D1:957:C:C2 | 29:D1:958:C:C6 | 3.01 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1035:G:C5 | 29:D1:1036:A:N7 | 2.80 | 0.49 |
| 29:D1:1080:A:H8 | 29:D1:1080:A:OP2 | 1.95 | 0.49 |
| 29:D1:1145:G:N2 | 29:D1:1160:C:O4' | 2.46 | 0.49 |
| 29:D1:1303:A:C8 | 29:D1:1304:A:C4 | 2.93 | 0.49 |
| 29:D1:1313:G:C5 | 29:D1:1314:C:C5 | 3.00 | 0.49 |
| 29:D1:1330:A:O2' | 29:D1:1331:U:H2' | 2.12 | 0.49 |
| 29:D1:1505:C:H4' | 29:D1:1505:C:OP1 | 2.13 | 0.49 |
| 29:D1:1626:U:H2' | 29:D1:1627:U:O4' | 2.12 | 0.49 |
| 29:D1:2188:A:OP1 | 29:D1:2189:U:OP2 | 2.30 | 0.49 |
| 29:D1:2199:G:C4 | 29:D1:2200:U:C5 | 3.00 | 0.49 |
| 29:D1:2260:U:C2' | 29:D1:2261:G:C8 | 2.95 | 0.49 |
| 29:D1:2963:C:H2' | 29:D1:2964:G:H5' | 1.93 | 0.49 |
| 29:D1:3097:C:O2' | 29:D1:3098:G:O5' | 2.31 | 0.49 |
| 29:D1:3121:U:C2 | 29:D1:3122:A:N7 | 2.81 | 0.49 |
| 29:D1:3142:A:H1' | 29:D1:3144:G:N7 | 2.28 | 0.49 |
| 29:D1:3277:U:C6 | 29:D1:3277:U:OP2 | 2.65 | 0.49 |
| 29:D1:3331:U:H6 | 29:D1:3331:U:C5' | 2.25 | 0.49 |
| 29:D1:3355:U:O2' | 29:D1:3356:G:O4' | 2.30 | 0.49 |
| 30:D2:5:G:H2' | 30:D2:6:C:H5" | 1.93 | 0.49 |
| 30:D2:56:A:O2' | 42:DK:136:ALA:HB2 | 2.13 | 0.49 |
| 31:D3:56:G:H2' | 31:D3:57:C:C6 | 2.47 | 0.49 |
| 33:DB:181:LYS:C | 33:DB:182:ALA:O | 2.54 | 0.49 |
| 38:DG:205:PHE:O | 38:DG:206:LYS:CB | 2.60 | 0.49 |
| 38:DG:219:LYS:HA | 38:DG:227:GLY:O | 2.12 | 0.49 |
| 39:DH:100:GLU:C | 39:DH:103:ALA:H | 2.21 | 0.49 |
| 43:DN:9:ALA:HB1 | 43:DN:21:VAL:CB | 2.43 | 0.49 |
| 54:DY:21:ARG:O | 54:DY:22:ILE:CB | 2.60 | 0.49 |
| 56:Da:55:LEU:O | 56:Da:59:ILE:N | 2.46 | 0.49 |
| 57:Db:20:HIS:O | 57:Db:22:SER:N | 2.46 | 0.49 |
| 59:Dd:42:ALA:O | 59:Dd:44:THR:N | 2.46 | 0.49 |
| 1:A1:23:G:O2' | 1:A1:368:U:OP1 | 2.29 | 0.49 |
| 1:A1:125:U:C4' | 1:A1:126:A:OP1 | 2.60 | 0.49 |
| 1:A1:170:U:H5' | 1:A1:267:U:H1' | 1.95 | 0.49 |
| 1:A1:175:G:N2 | 1:A1:266:A:OP1 | 2.45 | 0.49 |
| 1:A1:225:A:O2' | 1:A1:226:A:P | 2.71 | 0.49 |
| 1:A1:264:G:C3' | 1:A1:265:A:C5' | 2.80 | 0.49 |
| 1:A1:269:G:C6 | 1:A1:270:C:C4 | 3.01 | 0.49 |
| 1:A1:280:U:H3' | 1:A1:281:G:C8 | 2.37 | 0.49 |
| 1:A1:280:U:C3' | 1:A1:281:G:H8 | 2.21 | 0.49 |
| 1:A1:327:U:C2 | 1:A1:328:A:C8 | 3.01 | 0.49 |
| 1:A1:479:C:O3' | 1:A1:480:G:O4' | 2.31 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:555:A:C1' | 1:A1:556:A:OP1 | 2.61 | 0.49 |
| 1:A1:558:U:C4 | 1:A1:559:C:N4 | 2.80 | 0.49 |
| 1:A1:648:G:O2' | 1:A1:649:U:O5' | 2.30 | 0.49 |
| 1:A1:691:C:O2' | 1:A1:692:C:P | 2.70 | 0.49 |
| 1:A1:956:C:N4 | 1:A1:957:G:O6 | 2.46 | 0.49 |
| 1:A1:965:U:O2' | 1:A1:966:A:OP1 | 2.17 | 0.49 |
| 1:A1:982:U:H2' | 1:A1:983:A:H8 | 1.77 | 0.49 |
| 1:A1:1011:G:OP2 | 74:A1:1958:OHX:N6 | 2.46 | 0.49 |
| 1:A1:1051:G:H2' | 1:A1:1052:U:C2 | 2.48 | 0.49 |
| 1:A1:1065:A:H3' | 1:A1:1066:C:H6 | 1.77 | 0.49 |
| 1:A1:1150:G:H2' | 1:A1:1151:A:O5' | 2.13 | 0.49 |
| 1:A1:1211:A:C4 | 1:A1:1212:G:C8 | 3.01 | 0.49 |
| 1:A1:1355:C:H2' | 1:A1:1356:U:C6 | 2.48 | 0.49 |
| 1:A1:1388:A:N6 | 1:A1:1411:A:N7 | 2.61 | 0.49 |
| 1:A1:1389:C:O2 | 1:A1:1389:C:H3' | 2.13 | 0.49 |
| 1:A1:1407:U:C5 | 1:A1:1408:G:C8 | 3.01 | 0.49 |
| 1:A1:1472:C:O2' | 5:AD:188:LYS:HA | 2.13 | 0.49 |
| 1:A1:1530:C:C2 | 1:A1:1531:G:C8 | 3.01 | 0.49 |
| 1:A1:1631:A:C4 | 1:A1:1632:C:C1' | 2.96 | 0.49 |
| 1:A1:1733:C:N4 | 1:A1:1734:U:O4 | 2.46 | 0.49 |
| 3:AB:146:THR:O | 3:AB:147:ASN:C | 2.55 | 0.49 |
| 5:AD:55:ASP:O | 5:AD:56:ALA:C | 2.56 | 0.49 |
| 16:AO:57:ARG:C | 16:AO:59:GLY:H | 2.20 | 0.49 |
| 17:AP:136:TRP:HA | 17:AP:137:LYS:O | 2.13 | 0.49 |
| 18:AQ:41:ILE:HA | 18:AQ:44:GLN:CB | 2.43 | 0.49 |
| 18:AQ:43:ASP:HA | 18:AQ:46:LYS:CB | 2.42 | 0.49 |
| 29:B1:13:A:H2 | 29:B1:15:C:H2' | 1.78 | 0.49 |
| 29:B1:51:A:H2' | 29:B1:52:A:H5' | 1.94 | 0.49 |
| 29:B1:53:G:C5 | 29:B1:54:C:C5 | 3.00 | 0.49 |
| 29:B1:138:U:C2 | 29:B1:139:G:C8 | 3.01 | 0.49 |
| 29:B1:309:U:C5 | 29:B1:310:U:C4 | 3.01 | 0.49 |
| 29:B1:331:G:C2' | 29:B1:332:C:H5" | 2.43 | 0.49 |
| 29:B1:339:C:H2' | 29:B1:340:C:C5' | 2.42 | 0.49 |
| 29:B1:391:A:H5" | 29:B1:391:A:H8 | 1.78 | 0.49 |
| 29:B1:534:U:OP2 | 29:B1:534:U:H5 | 1.96 | 0.49 |
| 29:B1:583:G:N1 | 29:B1:584:G:C5 | 2.80 | 0.49 |
| 29:B1:594:U:N3 | 29:B1:595:G:C6 | 2.81 | 0.49 |
| 29:B1:642:U:H3' | 29:B1:644:G:OP2 | 2.12 | 0.49 |
| 29:B1:691:A:C3' | 29:B1:692:A:H5' | 2.42 | 0.49 |
| 29:B1:769:G:H1' | 29:B1:770:G:O5' | 2.13 | 0.49 |
| 29:B1:779:G:C5 | 29:B1:780:A:N7 | 2.81 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1013:G:H4' | 29:B1:1014:U:OP1 | 2.12 | 0.49 |
| 29:B1:1078:U:H5' | 29:B1:1079:A:OP2 | 2.13 | 0.49 |
| 29:B1:1131:G:N3 | 29:B1:2373:A:N1 | 2.59 | 0.49 |
| 29:B1:1536:G:H2' | 29:B1:1536:G:N3 | 2.27 | 0.49 |
| 29:B1:1623:G:H3' | 29:B1:1624:G:C8 | 2.46 | 0.49 |
| 29:B1:1720:U:C6 | 29:B1:1720:U:C3' | 2.95 | 0.49 |
| 29:B1:1819:U:C4 | 29:B1:1820:U:O4 | 2.66 | 0.49 |
| 29:B1:1919:G:C2' | 29:B1:1933:A:H61 | 2.25 | 0.49 |
| 29:B1:1928:G:N7 | 29:B1:1929:G:N7 | 2.60 | 0.49 |
| 29:B1:2177:G:O2' | 29:B1:2178:A:P | 2.71 | 0.49 |
| 29:B1:2188:A:OP1 | 29:B1:2189:U:OP2 | 2.31 | 0.49 |
| 29:B1:2205:U:C2' | 29:B1:2206:G:H5' | 2.37 | 0.49 |
| 29:B1:2253:G:C4 | 29:B1:2254:U:C6 | 3.01 | 0.49 |
| 29:B1:2294:U:H3' | 29:B1:2295:A:H5" | 1.94 | 0.49 |
| 29:B1:2317:A:C2 | 29:B1:2318:U:C2 | 3.01 | 0.49 |
| 29:B1:2383:C:C5 | 29:B1:2384:A:N7 | 2.81 | 0.49 |
| 29:B1:2883:U:O2' | 29:B1:2884:C:O5' | 2.28 | 0.49 |
| 29:B1:2917:G:N2 | 29:B1:2918:G:C4 | 2.81 | 0.49 |
| 29:B1:3024:A:H2' | 29:B1:3025:C:C6 | 2.48 | 0.49 |
| 29:B1:3147:G:C6 | 29:B1:3148:U:C4 | 3.00 | 0.49 |
| 29:B1:3172:A:C1' | 29:B1:3173:G:C8 | 2.83 | 0.49 |
| 29:B1:3238:G:O6 | 29:B1:3250:U:C4 | 2.65 | 0.49 |
| 30:B2:30:G:C6 | 30:B2:31:U:N3 | 2.80 | 0.49 |
| 31:B3:26:U:N3 | 31:B3:27:U:C4 | 2.81 | 0.49 |
| 31:B3:65:A:C4 | 31:B3:66:A:N7 | 2.81 | 0.49 |
| 31:B3:124:G:C5' | 31:B3:125:U:OP2 | 2.60 | 0.49 |
| 33:BB:95:SER:O | 33:BB:96:LEU:CB | 2.60 | 0.49 |
| 36:BE:48:LYS:O | 36:BE:49:TYR:CB | 2.59 | 0.49 |
| 36:BE:234:ASP:C | 36:BE:236:LEU:N | 2.71 | 0.49 |
| 38:BG:187:GLU:O | 38:BG:189:ILE:N | 2.46 | 0.49 |
| 40:BI:159:ALA:O | 40:BI:160:ASP:C | 2.55 | 0.49 |
| 48:BS:130:ASN:C | 48:BS:132:PHE:N | 2.70 | 0.49 |
| 49:BT:9:SER:O | 49:BT:11:THR:N | 2.45 | 0.49 |
| 52:BW:129:ASP:O | 52:BW:130:TYR:C | 2.56 | 0.49 |
| 53:BX:64:LYS:C | 53:BX:66:GLN:N | 2.70 | 0.49 |
| 1:C1:14:C:C5' | 3:CB:164:SER:H | 2.25 | 0.49 |
| 1:C1:51:A:C6 | 1:C1:52:U:C2 | 3.01 | 0.49 |
| 1:C1:63:G:C6 | 1:C1:88:U:C2 | 3.01 | 0.49 |
| 1:C1:110:U:H4' | 1:C1:797:G:H21 | 1.76 | 0.49 |
| 1:C1:248:U:O2 | 1:C1:248:U:O4' | 2.30 | 0.49 |
| 1:C1:384:G:O6 | 74:C1:1999:OHX:N5 | 2.45 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:389:G:C4 | 1:C1:390:G:C8 | 3.01 | 0.49 |
| 1:C1:469:C:H5" | 1:C1:470:A:OP2 | 2.13 | 0.49 |
| 1:C1:555:A:H2' | 1:C1:555:A:P | 2.53 | 0.49 |
| 1:C1:605:A:C8 | 1:C1:606:A:C2 | 3.01 | 0.49 |
| 1:C1:698:U:C5 | 1:C1:741:C:N4 | 2.81 | 0.49 |
| 1:C1:795:U:C6 | 1:C1:796:A:C8 | 3.01 | 0.49 |
| 1:C1:865:A:H2' | 1:C1:866:G:C8 | 2.48 | 0.49 |
| 1:C1:929:A:N6 | 1:C1:930:A:C2 | 2.81 | 0.49 |
| 1:C1:938:G:C8 | 1:C1:938:G:H3' | 2.48 | 0.49 |
| 1:C1:971:A:C8 | 1:C1:972:G:N7 | 2.81 | 0.49 |
| 1:C1:1130:G:OP2 | 74:C1:1994:OHX:N1 | 2.46 | 0.49 |
| 1:C1:1146:G:H2' | 1:C1:1147:A:O5' | 2.13 | 0.49 |
| 1:C1:1172:G:H2' | 1:C1:1173:C:C6 | 2.48 | 0.49 |
| 1:C1:1363:U:C2' | 1:C1:1364:G:C8 | 2.96 | 0.49 |
| 1:C1:1567:U:H5' | 1:C1:1567:U:H6 | 1.78 | 0.49 |
| 1:C1:1632:C:O2 | 1:C1:1633:A:C8 | 2.66 | 0.49 |
| 1:C1:1762:A:OP1 | 1:C1:1763:A:OP2 | 2.31 | 0.49 |
| 5:CD:108:LEU:O | 5:CD:109:LYS:CB | 2.59 | 0.49 |
| 6:CE:42:ILE:C | 6:CE:45:ILE:H | 2.21 | 0.49 |
| 15:CN:15:GLN:O | 15:CN:17:GLN:HA | 2.12 | 0.49 |
| 20:CS:26:SER:O | 20:CS:28:THR:N | 2.45 | 0.49 |
| 20:CS:38:ILE:CB | 74:CS:101:OHX:N3 | 2.76 | 0.49 |
| 29:D1:40:A:C3' | 29:D1:41:G:C5' | 2.90 | 0.49 |
| 29:D1:156:G:C8 | 29:D1:157:A:N3 | 2.81 | 0.49 |
| 29:D1:199:A:N1 | 29:D1:219:A:C6 | 2.81 | 0.49 |
| 29:D1:281:G:N3 | 29:D1:282:G:N7 | 2.61 | 0.49 |
| 29:D1:363:G:H2' | 29:D1:364:G:C5' | 2.27 | 0.49 |
| 29:D1:392:G:N1 | 29:D1:393:U:C5 | 2.81 | 0.49 |
| 29:D1:693:A:C2' | 29:D1:694:C:H6 | 2.24 | 0.49 |
| 29:D1:1047:A:N1 | 29:D1:1048:A:C2 | 2.81 | 0.49 |
| 29:D1:1169:A:C2 | 29:D1:1330:A:C5 | 3.00 | 0.49 |
| 29:D1:1257:C:C4 | 29:D1:1261:G:N2 | 2.81 | 0.49 |
| 29:D1:1304:A:N3 | 29:D1:2939:G:H1' | 2.27 | 0.49 |
| 29:D1:1353:U:H5 | 29:D1:1355:A:H62 | 1.59 | 0.49 |
| 29:D1:1388:U:H2' | 29:D1:1389:G:C8 | 2.48 | 0.49 |
| 29:D1:1625:A:C6 | 29:D1:1626:U:C2 | 3.01 | 0.49 |
| 29:D1:1669:C:C4 | 29:D1:1670:C:C5 | 3.00 | 0.49 |
| 29:D1:1724:U:C2' | 29:D1:1725:C:O4' | 2.61 | 0.49 |
| 29:D1:1787:A:C6 | 29:D1:1788:C:C5 | 3.01 | 0.49 |
| 29:D1:1936:A:C5 | 29:D1:1937:U:C5 | 3.00 | 0.49 |
| 29:D1:2105:G:H2' | 29:D1:2106:A:C8 | 2.47 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2271:A:C2' | 29:D1:2272:G:C5' | 2.71 | 0.49 |
| 29:D1:2296:A:C2 | 29:D1:2919:A:C1' | 2.96 | 0.49 |
| 29:D1:2320:A:H5" | 29:D1:2321:A:OP2 | 2.13 | 0.49 |
| 29:D1:2331:C:H2' | 29:D1:2332:A:O4' | 2.12 | 0.49 |
| 29:D1:2433:U:H5" | 29:D1:2434:U:OP2 | 2.13 | 0.49 |
| 29:D1:2559:U:H2' | 29:D1:2559:U:O2 | 2.12 | 0.49 |
| 29:D1:2866:U:H1' | 29:D1:2867:C:H5 | 1.78 | 0.49 |
| 29:D1:2924:U:C4 | 29:D1:2925:C:O2 | 2.66 | 0.49 |
| 29:D1:3154:C:H3' | 29:D1:3154:C:O2 | 2.13 | 0.49 |
| 29:D1:3157:U:H4' | 29:D1:3158:G:O4' | 2.12 | 0.49 |
| 29:D1:3190:C:O2 | 29:D1:3190:C:C2' | 2.61 | 0.49 |
| 30:D2:2:G:C4 | 30:D2:3:U:C5 | 3.01 | 0.49 |
| 30:D2:41:G:N1 | 30:D2:43:U:C5 | 2.81 | 0.49 |
| 30:D2:104:A:C5 | 30:D2:105:C:C5 | 3.01 | 0.49 |
| 31:D3:19:C:N4 | 31:D3:20:U:O4 | 2.46 | 0.49 |
| 33:DB:47:GLN:HA | 33:DB:58:LEU:CB | 2.42 | 0.49 |
| 34:DC:62:ARG:C | 34:DC:64:GLY:N | 2.68 | 0.49 |
| 34:DC:294:GLY:C | 34:DC:305:ILE:H | 2.21 | 0.49 |
| 35:DD:162:THR:O | 35:DD:166:VAL:N | 2.45 | 0.49 |
| 36:DE:272:TYR:CB | 36:DE:275:THR:HA | 2.42 | 0.49 |
| 37:DF:41:ILE:N | 37:DF:85:ILE:CA | 2.36 | 0.49 |
| 38:DG:137:GLY:C | 38:DG:236:ILE:CB | 2.86 | 0.49 |
| 38:DG:192:GLY:O | 38:DG:193:PRO:CB | 2.59 | 0.49 |
| 45:DP:9:ILE:HA | 45:DP:117:ARG:O | 2.12 | 0.49 |
| 46:DQ:103:GLU:O | 46:DQ:106:GLY:HA2 | 2.12 | 0.49 |
| 53:DX:91:ASN:O | 53:DX:93:ALA:N | 2.46 | 0.49 |
| 56:Da:19:ARG:C | 56:Da:21:HIS:N | 2.69 | 0.49 |
| 62:Dg:65:ALA:O | 62:Dg:66:GLY:O | 2.30 | 0.49 |
| 63:Dh:45:UNK:O | 63:Dh:48:UNK:N | 2.46 | 0.49 |
| 1:A1:27:U:H2' | 1:A1:28:A:H8 | 1.77 | 0.49 |
| 1:A1:55:A:HO2' | 1:A1:403:G:H1 | 1.59 | 0.49 |
| 1:A1:61:A:H4' | 1:A1:62:A:C3' | 2.42 | 0.49 |
| 1:A1:97:C:C4 | 1:A1:98:U:C5 | 3.00 | 0.49 |
| 1:A1:106:U:C4 | 1:A1:107:C:N3 | 2.80 | 0.49 |
| 1:A1:198:A:O2' | 1:A1:199:G:C8 | 2.52 | 0.49 |
| 1:A1:220:A:N6 | 1:A1:221:A:H62 | 2.11 | 0.49 |
| 1:A1:321:C:C2' | 1:A1:322:G:H8 | 2.26 | 0.49 |
| 1:A1:606:A:C6 | 1:A1:608:U:O4 | 2.66 | 0.49 |
| 1:A1:753:A:H2' | 1:A1:754:A:C8 | 2.48 | 0.49 |
| 1:A1:812:A:N6 | 1:A1:859:A:C8 | 2.81 | 0.49 |
| 1:A1:863:A:C8 | 1:A1:865:A:N7 | 2.81 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:863:A:C4 | 1:A1:865:A:C8 | 3.00 | 0.49 |
| 1:A1:996:U:O2 | 1:A1:996:U:C2' | 2.57 | 0.49 |
| 1:A1:1086:A:C8 | 1:A1:1087:A:N7 | 2.80 | 0.49 |
| 1:A1:1138:A:C4 | 1:A1:1139:A:N7 | 2.81 | 0.49 |
| 1:A1:1176:G:C6 | 1:A1:1177:C:N4 | 2.81 | 0.49 |
| 1:A1:1185:U:H1' | 1:A1:1186:U:OP2 | 2.13 | 0.49 |
| 1:A1:1186:U:O2' | 1:A1:1187:U:H5' | 2.12 | 0.49 |
| 1:A1:1227:A:H3' | 1:A1:1229:G:OP2 | 2.13 | 0.49 |
| 1:A1:1318:G:N2 | 1:A1:1319:A:N3 | 2.61 | 0.49 |
| 1:A1:1371:A:H2' | 1:A1:1371:A:N3 | 2.26 | 0.49 |
| 1:A1:1483:A:H5" | 1:A1:1521:G:O2' | 2.13 | 0.49 |
| 1:A1:1483:A:C1' | 1:A1:1524:A:H62 | 2.22 | 0.49 |
| 1:A1:1526:A:C8 | 1:A1:1526:A:O5' | 2.66 | 0.49 |
| 1:A1:1541:G:C6 | 1:A1:1542:G:O6 | 2.65 | 0.49 |
| 1:A1:1683:C:C6 | 1:A1:1719:A:N6 | 2.81 | 0.49 |
| 3:AB:208:GLU:O | 3:AB:212:LYS:CB | 2.61 | 0.49 |
| 16:AO:4:SER:O | 16:AO:5:SER:CB | 2.61 | 0.49 |
| 16:AO:39:GLN:O | 16:AO:41:MET:N | 2.46 | 0.49 |
| 16:AO:74:VAL:CB | 16:AO:128:PHE:O | 2.61 | 0.49 |
| 20:AS:21:CYS:O | 20:AS:22:ARG:C | 2.56 | 0.49 |
| 20:AS:38:ILE:O | 20:AS:41:GLN:N | 2.46 | 0.49 |
| 29:B1:25:U:H2' | 29:B1:26:A:H8 | 1.76 | 0.49 |
| 29:B1:39:A:C5' | 29:B1:40:A:H4' | 2.41 | 0.49 |
| 29:B1:142:C:H2' | 29:B1:143:G:C8 | 2.47 | 0.49 |
| 29:B1:212:G:C4 | 29:B1:222:A:C8 | 3.01 | 0.49 |
| 29:B1:246:U:OP1 | 29:B1:247:C:H5" | 2.13 | 0.49 |
| 29:B1:292:U:H2' | 29:B1:292:U:O2 | 2.11 | 0.49 |
| 29:B1:415:G:N3 | 29:B1:416:A:C8 | 2.81 | 0.49 |
| 29:B1:495:G:H2' | 29:B1:496:C:H5' | 1.95 | 0.49 |
| 29:B1:588:G:C4 | 29:B1:612:U:H5 | 2.30 | 0.49 |
| 29:B1:600:G:C6 | 74:B1:3620:OHX:N1 | 2.81 | 0.49 |
| 29:B1:611:A:C3' | 29:B1:612:U:C5' | 2.84 | 0.49 |
| 29:B1:645:A:N7 | 29:B1:649:A:C5 | 2.80 | 0.49 |
| 29:B1:890:C:O2 | 29:B1:2324:A:H2 | 1.95 | 0.49 |
| 29:B1:913:A:H1' | 29:B1:2147:A:O4' | 2.13 | 0.49 |
| 29:B1:977:C:O2' | 29:B1:978:G:OP2 | 2.30 | 0.49 |
| 29:B1:1110:U:H5" | 29:B1:1111:U:OP2 | 2.13 | 0.49 |
| 29:B1:1193:A:H5" | 29:B1:1194:G:OP2 | 2.13 | 0.49 |
| 29:B1:1292:C:O2 | 29:B1:1292:C:C2' | 2.59 | 0.49 |
| 29:B1:1352:A:C8 | 29:B1:1353:U:O4' | 2.66 | 0.49 |
| 29:B1:1428:A:C2 | 29:B1:1430:U:C6 | 3.01 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1525:G:C8 | 29:B1:1829:G:C4 | 3.01 | 0.49 |
| 29:B1:1543:G:OP1 | 44:BO:35:VAL:N | 2.43 | 0.49 |
| 29:B1:1561:G:C6 | 29:B1:1562:C:C4 | 3.01 | 0.49 |
| 29:B1:1651:U:H2' | 29:B1:1652:G:C8 | 2.48 | 0.49 |
| 29:B1:1700:G:C6 | 29:B1:1701:C:C4 | 3.01 | 0.49 |
| 29:B1:1731:A:N6 | 29:B1:1732:U:N3 | 2.61 | 0.49 |
| 29:B1:1945:A:H2' | 29:B1:1946:A:H8 | 1.78 | 0.49 |
| 29:B1:2276:G:N7 | 29:B1:2277:C:C5 | 2.80 | 0.49 |
| 29:B1:2522:G:O2' | 29:B1:2522:G:N3 | 2.45 | 0.49 |
| 29:B1:2522:G:O6 | 29:B1:2587:U:C4 | 2.66 | 0.49 |
| 29:B1:2582:C:H3' | 29:B1:2583:C:H6 | 1.76 | 0.49 |
| 29:B1:2607:G:C2 | 29:B1:2608:G:C4 | 3.00 | 0.49 |
| 29:B1:2615:G:C4 | 29:B1:2616:C:C5 | 3.01 | 0.49 |
| 29:B1:2728:G:C2 | 29:B1:2729:U:C5 | 3.01 | 0.49 |
| 29:B1:2980:U:O2 | 29:B1:2981:U:C6 | 2.65 | 0.49 |
| 29:B1:3180:A:C8 | 45:BP:114:LYS:HA | 2.47 | 0.49 |
| 29:B1:3226:A:H8 | 29:B1:3226:A:O5' | 1.96 | 0.49 |
| 29:B1:3280:U:O2 | 29:B1:3281:U:C5 | 2.66 | 0.49 |
| 29:B1:3337:G:C6 | 29:B1:3338:C:C4 | 3.01 | 0.49 |
| 30:B2:78:U:C2 | 30:B2:79:A:H8 | 2.31 | 0.49 |
| 30:B2:107:C:H2' | 30:B2:108:A:O4' | 2.13 | 0.49 |
| 31:B3:1:A:N1 | 31:B3:2:A:C5 | 2.81 | 0.49 |
| 32:BA:53:LEU:CB | 32:BA:54:LYS:CA | 2.91 | 0.49 |
| 33:BB:120:PRO:O | 33:BB:121:GLY:C | 2.55 | 0.49 |
| 36:BE:53:VAL:HA | 36:BE:62:CYS:HA | 1.95 | 0.49 |
| 42:BK:85:LYS:O | 42:BK:88:GLU:N | 2.45 | 0.49 |
| 44:BO:53:TYR:O | 44:BO:54:LYS:C | 2.56 | 0.49 |
| 50:BU:65:GLY:O | 50:BU:67:PRO:N | 2.46 | 0.49 |
| 54:BY:90:TYR:O | 54:BY:91:LEU:CB | 2.61 | 0.49 |
| 55:BZ:9:SER:O | 55:BZ:13:LYS:N | 2.46 | 0.49 |
| 55:BZ:68:TYR:O | 55:BZ:69:TYR:C | 2.56 | 0.49 |
| 57:Bb:40:SER:O | 57:Bb:42:VAL:N | 2.46 | 0.49 |
| 62:Bg:58:SER:C | 62:Bg:60:CYS:N | 2.68 | 0.49 |
| 62:Bg:65:ALA:O | 62:Bg:66:GLY:O | 2.31 | 0.49 |
| 64:Bi:3:UNK:O | 64:Bi:4:UNK:C | 2.61 | 0.49 |
| 65:Bk:9:UNK:O | 65:Bk:11:UNK:N | 2.46 | 0.49 |
| 1:C1:93:A:N6 | 1:C1:398:G:C6 | 2.80 | 0.49 |
| 1:C1:160:C:O2' | 1:C1:161:U:O5' | 2.22 | 0.49 |
| 1:C1:170:U:H3' | 1:C1:171:A:C5' | 2.43 | 0.49 |
| 1:C1:242:U:H3' | 1:C1:242:U:O2 | 2.13 | 0.49 |
| 1:C1:266:A:O3' | 1:C1:267:U:O4' | 2.30 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:316:A:C6 | 1:C1:317:C:C5 | 3.01 | 0.49 |
| 1:C1:610:G:N2 | 1:C1:614:C:C4 | 2.81 | 0.49 |
| 1:C1:647:G:C6 | 1:C1:687:G:N1 | 2.81 | 0.49 |
| 1:C1:653:C:C2 | 1:C1:662:U:H1' | 2.48 | 0.49 |
| 1:C1:1045:C:O2 | 1:C1:1045:C:C2' | 2.34 | 0.49 |
| 1:C1:1116:A:C5 | 1:C1:1131:A:N7 | 2.81 | 0.49 |
| 1:C1:1454:G:C3' | 1:C1:1455:G:H5' | 2.42 | 0.49 |
| 1:C1:1477:G:C2' | 1:C1:1478:G:H5" | 2.43 | 0.49 |
| 1:C1:1585:U:H5 | 1:C1:1610:G:N2 | 2.09 | 0.49 |
| 3:CB:45:VAL:O | 3:CB:46:LYS:CB | 2.61 | 0.49 |
| 4:CC:61:GLU:C | 4:CC:63:GLY:N | 2.71 | 0.49 |
| 4:CC:114:ALA:O | 4:CC:118:ALA:HB2 | 2.13 | 0.49 |
| 5:CD:57:SER:O | 5:CD:59:VAL:N | 2.45 | 0.49 |
| 5:CD:91:GLU:O | 5:CD:92:ARG:C | 2.55 | 0.49 |
| 10:CI:25:LEU:O | 10:CI:28:MET:CB | 2.61 | 0.49 |
| 11:CJ:131:GLY:HA3 | 11:CJ:138:PHE:H | 1.77 | 0.49 |
| 16:CO:23:ARG:O | 16:CO:24:GLN:O | 2.31 | 0.49 |
| 20:CS:38:ILE:O | 20:CS:39:CYS:C | 2.55 | 0.49 |
| 21:CT:227:ALA:O | 21:CT:228:LYS:C | 2.56 | 0.49 |
| 28:Ch:60:UNK:O | 28:Ch:63:UNK:N | 2.45 | 0.49 |
| 29:D1:6:A:C6 | 29:D1:7:C:C5 | 3.01 | 0.49 |
| 29:D1:53:G:N2 | 29:D1:1546:A:C2 | 2.81 | 0.49 |
| 29:D1:331:G:N1 | 31:D3:33:A:C2 | 2.81 | 0.49 |
| 29:D1:359:U:H2' | 29:D1:360:G:O4' | 2.13 | 0.49 |
| 29:D1:393:U:N3 | 29:D1:394:G:N7 | 2.61 | 0.49 |
| 29:D1:421:G:C2 | 29:D1:2365:C:N1 | 2.80 | 0.49 |
| 29:D1:691:A:C3' | 29:D1:692:A:H5' | 2.43 | 0.49 |
| 29:D1:1025:A:C5' | 29:D1:1028:U:H3 | 2.25 | 0.49 |
| 29:D1:1076:C:H3' | 29:D1:1077:U:C6 | 2.48 | 0.49 |
| 29:D1:1128:U:O2 | 29:D1:1129:A:H1' | 2.13 | 0.49 |
| 29:D1:1144:U:H6 | 29:D1:1144:U:C5' | 2.24 | 0.49 |
| 29:D1:1366:A:H2' | 29:D1:1367:G:H8 | 1.74 | 0.49 |
| 29:D1:1393:A:C2 | 29:D1:1394:A:N9 | 2.80 | 0.49 |
| 29:D1:1479:U:OP2 | 29:D1:1480:G:N2 | 2.45 | 0.49 |
| 29:D1:1638:A:C2 | 29:D1:1736:G:N2 | 2.80 | 0.49 |
| 29:D1:1678:G:H5" | 29:D1:1756:C:O3' | 2.12 | 0.49 |
| 29:D1:1948:G:H1' | 29:D1:2100:A:N6 | 2.28 | 0.49 |
| 29:D1:2111:G:N2 | 51:DV:49:ILE:CA | 2.65 | 0.49 |
| 29:D1:2270:A:H2' | 29:D1:2271:A:H8 | 1.74 | 0.49 |
| 29:D1:2316:G:N3 | 29:D1:2317:A:C8 | 2.81 | 0.49 |
| 29:D1:2987:A:C4 | 29:D1:2988:C:C6 | 3.00 | 0.49 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3073:A:C6 | 29:D1:3074:G:C5 | 3.01 | 0.49 |
| 29:D1:3141:A:N3 | 29:D1:3143:C:O3' | 2.46 | 0.49 |
| 29:D1:3160:U:N3 | 29:D1:3161:C:C5 | 2.80 | 0.49 |
| 29:D1:3174:A:H1' | 29:D1:3175:U:C5' | 2.36 | 0.49 |
| 29:D1:3203:U:C2' | 29:D1:3204:C:C6 | 2.92 | 0.49 |
| 29:D1:3344:A:N6 | 29:D1:3362:A:C2 | 2.81 | 0.49 |
| 29:D1:3366:G:C2 | 29:D1:3367:C:C4 | 3.01 | 0.49 |
| 29:D1:3384:U:C4 | 29:D1:3385:U:C4 | 3.01 | 0.49 |
| 30:D2:60:G:N1 | 30:D2:61:G:C5 | 2.81 | 0.49 |
| 30:D2:67:G:C2 | 30:D2:68:C:N1 | 2.80 | 0.49 |
| 30:D2:75:G:H21 | 30:D2:105:C:H41 | 1.59 | 0.49 |
| 30:D2:95:A:C2 | 30:D2:96:U:C4 | 3.01 | 0.49 |
| 31:D3:2:A:C2' | 31:D3:3:A:H5' | 2.42 | 0.49 |
| 34:DC:289:ASP:H | 34:DC:290:ASP:CB | 2.26 | 0.49 |
| 35:DD:10:SER:HA | 35:DD:17:ALA:N | 2.26 | 0.49 |
| 36:DE:159:VAL:C | 36:DE:161:GLY:N | 2.58 | 0.49 |
| 36:DE:204:VAL:O | 36:DE:207:TYR:N | 2.44 | 0.49 |
| 37:DF:117:LYS:O | 37:DF:118:GLU:O | 2.31 | 0.49 |
| 40:DI:166:ARG:O | 40:DI:167:VAL:CB | 2.60 | 0.49 |
| 73:DM:60:ARG:O | 73:DM:62:ALA:N | 2.45 | 0.49 |
| 48:DS:59:SER:C | 48:DS:61:SER:H | 2.19 | 0.49 |
| 50:DU:127:PRO:O | 50:DU:130:ALA:CB | 2.61 | 0.49 |
| 59:Dd:39:TYR:HA | 59:Dd:40:PRO:HA | 1.56 | 0.49 |
| 62:Dg:59:CYS:CB | 74:Dg:101:OHX:N2 | 2.76 | 0.49 |
| 1:A1:18:C:H2' | 1:A1:19:A:O4' | 2.13 | 0.48 |
| 1:A1:26:A:C2 | 1:A1:600:U:N3 | 2.70 | 0.48 |
| 1:A1:72:A:H2' | 1:A1:72:A:N3 | 2.28 | 0.48 |
| 1:A1:114:C:H42 | 1:A1:250:C:H4' | 1.77 | 0.48 |
| 1:A1:229:U:H2' | 1:A1:230:C:C6 | 2.48 | 0.48 |
| 1:A1:252:U:HO2' | 1:A1:253:A:C5' | 2.25 | 0.48 |
| 1:A1:283:U:C3' | 1:A1:284:G:C4' | 2.91 | 0.48 |
| 1:A1:377:G:O2' | 1:A1:378:A:P | 2.71 | 0.48 |
| 1:A1:611:U:C5 | 1:A1:612:U:C5 | 3.01 | 0.48 |
| 1:A1:732:G:H2' | 1:A1:732:G:N3 | 2.28 | 0.48 |
| 1:A1:847:A:C2' | 1:A1:848:C:H5" | 2.41 | 0.48 |
| 1:A1:931:C:C2' | 1:A1:932:U:OP1 | 2.61 | 0.48 |
| 1:A1:1054:U:H2' | 1:A1:1055:U:C6 | 2.48 | 0.48 |
| 1:A1:1183:A:C6 | 1:A1:1184:A:C6 | 3.01 | 0.48 |
| 1:A1:1363:U:C2' | 1:A1:1364:G:C8 | 2.96 | 0.48 |
| 1:A1:1363:U:H3' | 1:A1:1364:G:H8 | 1.78 | 0.48 |
| 1:A1:1649:G:N7 | 74:A1:1969:OHX:N3 | 2.61 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1720:G:C5 | 1:A1:1721:A:C5 | 3.00 | 0.48 |
| 3:AB:126:ARG:C | 3:AB:128:GLY:H | 2.21 | 0.48 |
| 4:AC:156:PHE:O | 4:AC:157:LEU:CB | 2.60 | 0.48 |
| 6:AE:79:ARG:O | 6:AE:81:VAL:CB | 2.60 | 0.48 |
| 28:Ah:56:UNK:HA | 29:B1:3352:U:C5 | 2.45 | 0.48 |
| 29:B1:9:U:C4 | 29:B1:10:C:H5 | 2.31 | 0.48 |
| 29:B1:177:U:C2 | 29:B1:178:U:C6 | 3.01 | 0.48 |
| 29:B1:224:C:H2' | 29:B1:225:C:O5' | 2.13 | 0.48 |
| 29:B1:314:U:C2 | 29:B1:315:C:C5 | 3.02 | 0.48 |
| 29:B1:373:A:C2 | 29:B1:375:A:N7 | 2.81 | 0.48 |
| 29:B1:397:A:C4 | 29:B1:399:A:N7 | 2.81 | 0.48 |
| 29:B1:407:A:N1 | 31:B3:17:A:C1' | 2.75 | 0.48 |
| 29:B1:420:G:C5 | 29:B1:2384:A:C2 | 3.01 | 0.48 |
| 29:B1:526:C:C2 | 29:B1:527:A:C8 | 3.01 | 0.48 |
| 29:B1:576:C:HO2' | 29:B1:577:C:P | 2.36 | 0.48 |
| 29:B1:601:U:H2' | 29:B1:601:U:O2 | 2.13 | 0.48 |
| 29:B1:643:U:H2' | 29:B1:644:G:O4' | 2.13 | 0.48 |
| 29:B1:771:A:H61 | 29:B1:772:U:H3 | 1.60 | 0.48 |
| 29:B1:789:A:C4 | 29:B1:790:U:C5 | 3.01 | 0.48 |
| 29:B1:829:U:C4' | 29:B1:866:A:C2 | 2.86 | 0.48 |
| 29:B1:874:U:C2' | 29:B1:875:G:OP2 | 2.60 | 0.48 |
| 29:B1:964:G:OP2 | 29:B1:1115:G:O6 | 2.30 | 0.48 |
| 29:B1:993:G:H21 | 29:B1:2637:A:C3' | 2.09 | 0.48 |
| 29:B1:1132:C:C2' | 29:B1:1133:A:O5' | 2.61 | 0.48 |
| 29:B1:1256:G:H2' | 29:B1:1256:G:N3 | 2.27 | 0.48 |
| 29:B1:1351:U:H2' | 29:B1:1352:A:C4 | 2.48 | 0.48 |
| 29:B1:1428:A:C4 | 29:B1:1430:U:C5 | 3.01 | 0.48 |
| 29:B1:1444:G:H2' | 29:B1:1445:U:C5' | 2.42 | 0.48 |
| 29:B1:1450:G:N3 | 29:B1:1451:C:C5 | 2.81 | 0.48 |
| 29:B1:1451:C:O2 | 29:B1:1451:C:C2' | 2.60 | 0.48 |
| 29:B1:1532:C:C2 | 29:B1:1591:G:C2 | 3.01 | 0.48 |
| 29:B1:1594:A:H1' | 29:B1:1615:C:C1' | 2.43 | 0.48 |
| 29:B1:1644:C:OP1 | 29:B1:1821:U:N3 | 2.45 | 0.48 |
| 29:B1:1710:C:H6 | 29:B1:1710:C:H5" | 1.78 | 0.48 |
| 29:B1:1735:G:H2' | 29:B1:1735:G:N3 | 2.28 | 0.48 |
| 29:B1:1757:A:O2' | 29:B1:1758:G:H5' | 2.13 | 0.48 |
| 29:B1:1766:G:C2 | 29:B1:1767:C:C6 | 3.01 | 0.48 |
| 29:B1:1787:A:C6 | 29:B1:1788:C:C5 | 3.01 | 0.48 |
| 29:B1:1912:U:C1' | 29:B1:1913:A:OP1 | 2.61 | 0.48 |
| 29:B1:1913:A:C2 | 29:B1:2120:A:C8 | 3.01 | 0.48 |
| 29:B1:2264:U:H6 | 29:B1:2264:U:O5' | 1.96 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2590:A:C6 | 29:B1:2591:A:C8 | 3.00 | 0.48 |
| 29:B1:2684:C:H4' | 29:B1:2684:C:OP1 | 2.12 | 0.48 |
| 29:B1:2687:G:H3' | 29:B1:2687:G:C4 | 2.43 | 0.48 |
| 29:B1:2689:A:C4 | 29:B1:2702:A:H2 | 2.29 | 0.48 |
| 29:B1:2892:A:O4' | 29:B1:3130:A:C8 | 2.66 | 0.48 |
| 29:B1:3072:C:O2' | 29:B1:3073:A:H5' | 2.12 | 0.48 |
| 29:B1:3090:U:HO2' | 29:B1:3091:A:P | 2.31 | 0.48 |
| 29:B1:3225:C:N3 | 29:B1:3261:C:N3 | 2.60 | 0.48 |
| 29:B1:3240:C:H5 | 74:B1:3469:OHX:N6 | 2.10 | 0.48 |
| 29:B1:3315:G:OP1 | 29:B1:3316:A:OP1 | 2.31 | 0.48 |
| 29:B1:3353:G:O6 | 29:B1:3356:G:C5 | 2.66 | 0.48 |
| 30:B2:13:A:N3 | 30:B2:13:A:C2' | 2.67 | 0.48 |
| 30:B2:98:C:C5' | 30:B2:99:G:OP2 | 2.59 | 0.48 |
| 31:B3:81:U:C4 | 31:B3:82:U:O4' | 2.66 | 0.48 |
| 33:BB:109:GLU:O | 33:BB:110:GLY:O | 2.31 | 0.48 |
| 36:BE:67:SER:O | 36:BE:68:THR:CB | 2.61 | 0.48 |
| 36:BE:123:GLU:O | 36:BE:124:GLU:C | 2.56 | 0.48 |
| 41:BJ:205:SER:CB | 41:BJ:206:LEU:HA | 2.43 | 0.48 |
| 43:BN:61:GLY:O | 43:BN:62:GLN:CB | 2.61 | 0.48 |
| 43:BN:93:LYS:O | 43:BN:94:TRP:C | 2.55 | 0.48 |
| 43:BN:107:GLU:O | 43:BN:109:ARG:N | 2.46 | 0.48 |
| 45:BP:63:ALA:HB2 | 45:BP:69:GLY:CA | 2.41 | 0.48 |
| 47:BR:36:LEU:O | 47:BR:37:ALA:O | 2.31 | 0.48 |
| 48:BS:141:HIS:O | 48:BS:142:ILE:C | 2.55 | 0.48 |
| 50:BU:30:GLY:O | 50:BU:32:ARG:N | 2.46 | 0.48 |
| 50:BU:130:ALA:O | 50:BU:131:SER:C | 2.55 | 0.48 |
| 70:Bq:8:UNK:O | 70:Bq:9:UNK:C | 2.61 | 0.48 |
| 1:C1:15:U:C2 | 1:C1:16:G:C8 | 3.01 | 0.48 |
| 1:C1:123:G:N1 | 1:C1:295:A:C6 | 2.81 | 0.48 |
| 1:C1:129:U:O2' | 1:C1:130:C:OP1 | 2.28 | 0.48 |
| 1:C1:130:C:H3' | 1:C1:131:C:H4' | 1.95 | 0.48 |
| 1:C1:523:G:H2' | 1:C1:524:U:N3 | 2.28 | 0.48 |
| 1:C1:583:C:C2 | 1:C1:584:C:C6 | 3.01 | 0.48 |
| 1:C1:623:A:N1 | 1:C1:1105:C:C4' | 2.76 | 0.48 |
| 1:C1:659:C:H3' | 1:C1:659:C:OP2 | 2.12 | 0.48 |
| 1:C1:745:U:H2' | 1:C1:745:U:O2 | 2.11 | 0.48 |
| 1:C1:804:A:C5 | 1:C1:805:U:C4 | 3.01 | 0.48 |
| 1:C1:929:A:N7 | 1:C1:930:A:N7 | 2.61 | 0.48 |
| 1:C1:974:A:C2 | 1:C1:975:C:C2 | 3.01 | 0.48 |
| 1:C1:1050:G:N3 | 1:C1:1051:G:H1' | 2.28 | 0.48 |
| 1:C1:1235:C:H2' | 1:C1:1236:A:C8 | 2.39 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1346:A:C5 | 1:C1:1347:U:H1' | 2.48 | 0.48 |
| 1:C1:1374:C:C5 | 1:C1:1375:A:N6 | 2.80 | 0.48 |
| 1:C1:1377:U:C3' | 1:C1:1378:U:H4' | 2.43 | 0.48 |
| 1:C1:1381:U:O2' | 15:CN:59:PRO:CA | 2.61 | 0.48 |
| 1:C1:1395:G:C2' | 1:C1:1396:U:H5' | 2.43 | 0.48 |
| 1:C1:1453:G:C4 | 1:C1:1454:G:C8 | 3.01 | 0.48 |
| 1:C1:1454:G:N2 | 1:C1:1455:G:C1' | 2.76 | 0.48 |
| 1:C1:1458:G:OP1 | 13:CL:138:THR:O | 2.31 | 0.48 |
| 1:C1:1486:G:C6 | 1:C1:1487:A:C6 | 3.01 | 0.48 |
| 1:C1:1498:G:C2 | 1:C1:1499:G:N7 | 2.81 | 0.48 |
| 1:C1:1554:U:C4 | 1:C1:1555:A:C8 | 3.01 | 0.48 |
| 1:C1:1583:A:H1' | 1:C1:1585:U:C2 | 2.47 | 0.48 |
| 1:C1:1588:G:H5" | 1:C1:1589:C:OP2 | 2.12 | 0.48 |
| 1:C1:1600:A:C8 | 1:C1:1602:C:C5 | 3.01 | 0.48 |
| 1:C1:1778:G:C6 | 1:C1:1779:U:O4 | 2.66 | 0.48 |
| 11:CJ:10:PHE:N | 11:CJ:19:VAL:HA | 2.28 | 0.48 |
| 14:CM:17:ALA:O | 14:CM:19:ALA:N | 2.45 | 0.48 |
| 14:CM:101:ASN:C | 14:CM:103:LYS:N | 2.70 | 0.48 |
| 15:CN:68:ARG:HA | 15:CN:79:TRP:CA | 2.09 | 0.48 |
| 17:CP:58:GLY:CA | 17:CP:70:LYS:HA | 2.43 | 0.48 |
| 29:D1:126:U:N3 | 29:D1:127:G:C5 | 2.81 | 0.48 |
| 29:D1:279:U:C2 | 29:D1:286:U:N3 | 2.76 | 0.48 |
| 29:D1:383:G:N2 | 29:D1:386:A:OP2 | 2.45 | 0.48 |
| 29:D1:396:A:O2' | 29:D1:397:A:C5' | 2.61 | 0.48 |
| 29:D1:401:U:H3' | 29:D1:402:A:C5' | 2.43 | 0.48 |
| 29:D1:573:C:H2' | 29:D1:574:U:H6 | 1.72 | 0.48 |
| 29:D1:722:G:N1 | 29:D1:749:C:C5 | 2.78 | 0.48 |
| 29:D1:725:G:N1 | 29:D1:744:A:N6 | 2.61 | 0.48 |
| 29:D1:759:U:OP1 | 74:D1:3514:OHX:N2 | 2.46 | 0.48 |
| 29:D1:777:U:O2' | 29:D1:778:U:O5' | 2.30 | 0.48 |
| 29:D1:783:A:N6 | 74:D1:3537:OHX:N3 | 2.54 | 0.48 |
| 29:D1:808:A:C5 | 29:D1:809:G:C8 | 3.01 | 0.48 |
| 29:D1:946:U:H2' | 29:D1:947:G:H5' | 1.94 | 0.48 |
| 29:D1:952:A:C8 | 29:D1:952:A:C3' | 2.95 | 0.48 |
| 29:D1:1197:A:O2' | 29:D1:1198:C:O5' | 2.31 | 0.48 |
| 29:D1:1274:A:C2 | 29:D1:1275:C:C6 | 3.01 | 0.48 |
| 29:D1:1303:A:C8 | 29:D1:1304:A:C2 | 3.00 | 0.48 |
| 29:D1:1367:G:H8 | 29:D1:1367:G:O5' | 1.96 | 0.48 |
| 29:D1:1481:A:H1' | 29:D1:1858:A:C2 | 2.48 | 0.48 |
| 29:D1:1677:G:C4 | 29:D1:1678:G:C8 | 3.01 | 0.48 |
| 29:D1:1795:U:O4' | 29:D1:1796:G:C2 | 2.66 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1858:A:H2' | 29:D1:1859:A:OP1 | 2.12 | 0.48 |
| 29:D1:2110:G:O6 | 29:D1:2113:A:N6 | 2.46 | 0.48 |
| 29:D1:2147:A:H8 | 29:D1:2147:A:O5' | 1.96 | 0.48 |
| 29:D1:2249:G:C1' | 29:D1:2272:G:C8 | 2.96 | 0.48 |
| 29:D1:2295:A:H62 | 29:D1:2296:A:H61 | 1.60 | 0.48 |
| 29:D1:2582:C:O2 | 29:D1:2582:C:C2' | 2.60 | 0.48 |
| 29:D1:2606:G:O2' | 29:D1:2607:G:OP2 | 2.27 | 0.48 |
| 29:D1:2771:U:H2' | 29:D1:2772:C:O4' | 2.13 | 0.48 |
| 29:D1:2841:G:C5 | 29:D1:2844:C:C4 | 3.01 | 0.48 |
| 29:D1:2858:U:C2' | 29:D1:2859:U:C5 | 2.96 | 0.48 |
| 29:D1:2876:C:H2' | 29:D1:2877:G:C5' | 2.43 | 0.48 |
| 29:D1:2965:U:O2' | 29:D1:2966:G:H5' | 2.13 | 0.48 |
| 29:D1:3013:U:C6 | 29:D1:3013:U:H5' | 2.46 | 0.48 |
| 29:D1:3072:C:C6 | 29:D1:3073:A:C8 | 3.00 | 0.48 |
| 29:D1:3103:A:C2 | 29:D1:3132:C:C2 | 3.01 | 0.48 |
| 29:D1:3298:C:C2 | 29:D1:3299:A:N7 | 2.81 | 0.48 |
| 30:D2:11:A:O5' | 30:D2:13:A:C4 | 2.66 | 0.48 |
| 30:D2:41:G:C5' | 30:D2:42:A:OP2 | 2.53 | 0.48 |
| 30:D2:55:A:O2' | 30:D2:56:A:O4' | 2.31 | 0.48 |
| 30:D2:66:A:C4 | 30:D2:67:G:H8 | 2.31 | 0.48 |
| 30:D2:98:C:H3' | 30:D2:99:G:C5' | 2.32 | 0.48 |
| 31:D3:50:C:O2' | 31:D3:51:G:O5' | 2.26 | 0.48 |
| 31:D3:101:U:C2' | 31:D3:102:U:O5' | 2.60 | 0.48 |
| 35:DD:39:PHE:O | 35:DD:41:SER:C | 2.56 | 0.48 |
| 35:DD:121:ALA:O | 35:DD:122:THR:C | 2.56 | 0.48 |
| 36:DE:40:HIS:N | 36:DE:41:LYS:CB | 2.76 | 0.48 |
| 36:DE:227:LEU:CA | 36:DE:228:ALA:HB3 | 2.42 | 0.48 |
| 39:DH:105:LYS:N | 39:DH:108:ARG:CB | 2.76 | 0.48 |
| 41:DJ:39:LYS:C | 41:DJ:41:ALA:N | 2.70 | 0.48 |
| 72:DL:31:LYS:O | 72:DL:32:ILE:C | 2.56 | 0.48 |
| 43:DN:10:SER:H | 43:DN:11:ASN:CA | 2.22 | 0.48 |
| 45:DP:58:LEU:HA | 45:DP:61:ALA:CB | 2.41 | 0.48 |
| 47:DR:25:TYR:O | 47:DR:26:LEU:C | 2.56 | 0.48 |
| 57:Db:110:ALA:O | 57:Db:113:LYS:N | 2.46 | 0.48 |
| 1:A1:71:A:C2 | 1:A1:72:A:N7 | 2.79 | 0.48 |
| 1:A1:145:A:N6 | 1:A1:146:U:C4 | 2.81 | 0.48 |
| 1:A1:168:A:C3' | 1:A1:169:A:C8 | 2.94 | 0.48 |
| 1:A1:401:A:C2 | 1:A1:404:G:N7 | 2.80 | 0.48 |
| 1:A1:404:G:C4 | 1:A1:405:C:C5 | 3.01 | 0.48 |
| 1:A1:649:U:O4 | 1:A1:685:A:C6 | 2.66 | 0.48 |
| 1:A1:734:A:H3' | 1:A1:735:C:H2' | 1.94 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:737:A:H1' | 1:A1:738:G:C8 | 2.49 | 0.48 |
| 1:A1:814:A:C8 | 1:A1:816:G:N3 | 2.81 | 0.48 |
| 1:A1:951:A:H2' | 1:A1:952:A:O4' | 2.13 | 0.48 |
| 1:A1:973:A:C2 | 1:A1:974:A:N7 | 2.82 | 0.48 |
| 1:A1:977:A:N6 | 1:A1:1025:A:C4 | 2.81 | 0.48 |
| 1:A1:1119:G:C4 | 1:A1:1120:U:C5 | 3.01 | 0.48 |
| 1:A1:1147:A:C5 | 1:A1:1148:C:C5 | 3.01 | 0.48 |
| 1:A1:1367:G:O6 | 74:A1:1935:OHX:N6 | 2.46 | 0.48 |
| 1:A1:1499:G:H2' | 1:A1:1500:C:C6 | 2.45 | 0.48 |
| 1:A1:1598:U:C4 | 1:A1:1599:C:C5 | 3.00 | 0.48 |
| 1:A1:1608:U:H2' | 1:A1:1609:U:C6 | 2.48 | 0.48 |
| 3:AB:188:LEU:O | 3:AB:191:ALA:N | 2.46 | 0.48 |
| 4:AC:119:ALA:C | 4:AC:121:GLY:N | 2.68 | 0.48 |
| 4:AC:192:PRO:O | 4:AC:193:ALA:HB3 | 2.13 | 0.48 |
| 8:AG:109:LYS:C | 8:AG:111:ALA:N | 2.71 | 0.48 |
| 9:AH:21:ALA:H | 9:AH:85:ALA:HB2 | 1.75 | 0.48 |
| 9:AH:33:LEU:O | 9:AH:34:SER:C | 2.56 | 0.48 |
| 16:AO:88:LYS:O | 16:AO:91:ALA:N | 2.45 | 0.48 |
| 20:AS:41:GLN:N | 74:AS:101:OHX:N3 | 2.58 | 0.48 |
| 21:AT:219:GLU:CB | 21:AT:235:SER:HA | 2.44 | 0.48 |
| 24:Ac:88:UNK:O | 24:Ac:89:UNK:C | 2.61 | 0.48 |
| 29:B1:40:A:C5 | 54:BY:30:GLY:HA2 | 2.48 | 0.48 |
| 29:B1:95:A:H5" | 54:BY:34:MET:O | 2.13 | 0.48 |
| 29:B1:198:A:C1' | 29:B1:218:G:N3 | 2.72 | 0.48 |
| 29:B1:214:G:H2' | 29:B1:215:G:C8 | 2.48 | 0.48 |
| 29:B1:533:A:C6 | 29:B1:555:U:C6 | 3.01 | 0.48 |
| 29:B1:552:G:C2 | 29:B1:553:U:C2 | 3.01 | 0.48 |
| 29:B1:776:U:C6 | 29:B1:777:U:O4' | 2.66 | 0.48 |
| 29:B1:952:A:C2 | 29:B1:1114:U:H4' | 2.49 | 0.48 |
| 29:B1:994:G:O2' | 29:B1:1053:A:N6 | 2.36 | 0.48 |
| 29:B1:1024:G:C2' | 29:B1:1025:A:H5' | 2.42 | 0.48 |
| 29:B1:1143:A:C8 | 29:B1:1368:U:N3 | 2.80 | 0.48 |
| 29:B1:1144:U:C6 | 29:B1:1144:U:C5' | 2.96 | 0.48 |
| 29:B1:1220:U:C5 | 29:B1:1286:A:N7 | 2.81 | 0.48 |
| 29:B1:1289:G:O2' | 29:B1:1290:A:P | 2.70 | 0.48 |
| 29:B1:1451:C:O2 | 29:B1:1451:C:H2' | 2.12 | 0.48 |
| 29:B1:1500:G:H2' | 29:B1:1501:U:H6 | 1.77 | 0.48 |
| 29:B1:1573:G:H3' | 29:B1:1574:C:C6 | 2.48 | 0.48 |
| 29:B1:1573:G:H3' | 29:B1:1574:C:H6 | 1.77 | 0.48 |
| 29:B1:1704:A:N6 | 29:B1:1739:U:O4 | 2.44 | 0.48 |
| 29:B1:1708:C:OP2 | 29:B1:1708:C:H6 | 1.96 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2128:C:C4 | 29:B1:2129:U:C4 | 3.01 | 0.48 |
| 29:B1:2148:U:H3' | 29:B1:2187:G:H22 | 1.78 | 0.48 |
| 29:B1:2280:A:O2' | 29:B1:2281:A:O5' | 2.26 | 0.48 |
| 29:B1:2390:A:H5' | 29:B1:3307:A:H2 | 1.78 | 0.48 |
| 29:B1:2416:U:N3 | 29:B1:2417:U:O4 | 2.46 | 0.48 |
| 29:B1:2476:C:H2' | 29:B1:2477:G:O4' | 2.13 | 0.48 |
| 29:B1:2513:U:H5 | 29:B1:2591:A:N6 | 2.11 | 0.48 |
| 29:B1:2585:G:C8 | 31:B3:151:C:C2 | 3.01 | 0.48 |
| 29:B1:2594:C:C6 | 29:B1:2595:A:N7 | 2.81 | 0.48 |
| 29:B1:2964:G:C5 | 29:B1:2966:G:OP2 | 2.66 | 0.48 |
| 29:B1:3000:A:N3 | 29:B1:3001:C:C5 | 2.81 | 0.48 |
| 29:B1:3027:A:C5 | 29:B1:3028:G:C5 | 3.01 | 0.48 |
| 29:B1:3111:U:OP2 | 74:B1:3434:OHX:N1 | 2.46 | 0.48 |
| 29:B1:3140:G:H8 | 29:B1:3140:G:C5' | 2.12 | 0.48 |
| 29:B1:3191:G:N1 | 29:B1:3202:G:C2 | 2.81 | 0.48 |
| 29:B1:3327:G:N2 | 29:B1:3379:C:N1 | 2.61 | 0.48 |
| 29:B1:3356:G:H2' | 29:B1:3357:U:O4' | 2.13 | 0.48 |
| 29:B1:3371:G:O6 | 29:B1:3372:A:N1 | 2.46 | 0.48 |
| 29:B1:3377:G:C1' | 74:B1:3450:OHX:N2 | 2.76 | 0.48 |
| 30:B2:88:G:N3 | 30:B2:89:G:C8 | 2.81 | 0.48 |
| 31:B3:8:C:C4 | 31:B3:9:A:N7 | 2.81 | 0.48 |
| 31:B3:74:U:H4' | 31:B3:89:A:C4 | 2.48 | 0.48 |
| 31:B3:78:G:H8 | 31:B3:78:G:O5' | 1.96 | 0.48 |
| 31:B3:105:A:C4' | 31:B3:106:C:C5 | 2.91 | 0.48 |
| 34:BC:145:GLU:O | 34:BC:149:ALA:N | 2.46 | 0.48 |
| 34:BC:319:ASN:O | 34:BC:320:ASP:CB | 2.61 | 0.48 |
| 38:BG:126:LEU:O | 38:BG:127:LEU:C | 2.54 | 0.48 |
| 38:BG:194:HIS:O | 38:BG:195:PHE:C | 2.57 | 0.48 |
| 44:BO:105:ARG:O | 44:BO:106:VAL:C | 2.55 | 0.48 |
| 46:BQ:83:TRP:O | 46:BQ:85:ALA:N | 2.46 | 0.48 |
| 50:BU:24:ASN:O | 50:BU:99:ALA:CB | 2.60 | 0.48 |
| 51:BV:39:LEU:O | 51:BV:40:PHE:C | 2.56 | 0.48 |
| 51:BV:41:LYS:C | 51:BV:43:ARG:N | 2.63 | 0.48 |
| 54:BY:147:LEU:O | 54:BY:148:ILE:CB | 2.61 | 0.48 |
| 61:Bf:52:GLY:O | 61:Bf:53:GLN:CB | 2.60 | 0.48 |
| 71:Br:2:UNK:O | 71:Br:6:UNK:CB | 2.61 | 0.48 |
| 1:C1:96:G:N1 | 1:C1:97:C:C4 | 2.81 | 0.48 |
| 1:C1:160:C:O2' | 1:C1:161:U:P | 2.70 | 0.48 |
| 1:C1:190:C:H42 | 1:C1:192:U:H3 | 1.60 | 0.48 |
| 1:C1:342:C:O2 | 1:C1:342:C:C2' | 2.60 | 0.48 |
| 1:C1:356:G:OP2 | 74:C1:1924:OHX:N3 | 2.46 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:556:A:C5' | 1:C1:558:U:OP2 | 2.53 | 0.48 |
| 1:C1:586:G:C5 | 1:C1:587:C:C4 | 3.01 | 0.48 |
| 1:C1:618:U:H5" | 1:C1:1030:A:N1 | 2.28 | 0.48 |
| 1:C1:631:G:C2' | 1:C1:632:U:H5' | 2.43 | 0.48 |
| 1:C1:752:A:H8 | 1:C1:752:A:O5' | 1.97 | 0.48 |
| 1:C1:814:A:C4 | 1:C1:816:G:C2 | 3.01 | 0.48 |
| 1:C1:830:U:OP1 | 1:C1:830:U:H3' | 2.12 | 0.48 |
| 1:C1:973:A:H4' | 29:D1:848:A:C4 | 2.47 | 0.48 |
| 1:C1:1030:A:N3 | 1:C1:1030:A:O2' | 2.46 | 0.48 |
| 1:C1:1046:G:C6 | 1:C1:1073:G:C2 | 3.01 | 0.48 |
| 1:C1:1263:G:C5 | 1:C1:1264:G:C8 | 3.01 | 0.48 |
| 1:C1:1378:U:P | 1:C1:1379:C:OP2 | 2.72 | 0.48 |
| 1:C1:1378:U:C2 | 1:C1:1379:C:O4' | 2.66 | 0.48 |
| 1:C1:1389:C:H3' | 1:C1:1389:C:O2 | 2.13 | 0.48 |
| 1:C1:1420:C:C6 | 1:C1:1420:C:C3' | 2.97 | 0.48 |
| 1:C1:1484:G:H22 | 1:C1:1605:G:N2 | 2.11 | 0.48 |
| 1:C1:1511:U:H2' | 1:C1:1512:G:H8 | 1.78 | 0.48 |
| 1:C1:1538:U:C5 | 1:C1:1540:G:C8 | 3.01 | 0.48 |
| 1:C1:1622:G:C5 | 1:C1:1623:C:C5 | 3.01 | 0.48 |
| 1:C1:1686:C:C4 | 1:C1:1687:U:O4 | 2.66 | 0.48 |
| 3:CB:118:ALA:HB2 | 3:CB:124:ALA:CB | 2.40 | 0.48 |
| 10:CI:84:ILE:O | 10:CI:85:ILE:C | 2.56 | 0.48 |
| 13:CL:121:ALA:C | 13:CL:123:ARG:N | 2.70 | 0.48 |
| 14:CM:15:ILE:O | 14:CM:19:ALA:N | 2.47 | 0.48 |
| 29:D1:22:G:C4 | 29:D1:23:A:H8 | 2.27 | 0.48 |
| 29:D1:26:A:H3' | 29:D1:27:C:H6 | 1.78 | 0.48 |
| 29:D1:40:A:H3' | 29:D1:41:G:C5' | 2.42 | 0.48 |
| 29:D1:104:G:C6 | 29:D1:105:C:C5 | 3.01 | 0.48 |
| 29:D1:160:G:C2' | 29:D1:161:G:O5' | 2.62 | 0.48 |
| 29:D1:160:G:H3' | 29:D1:160:G:OP2 | 2.13 | 0.48 |
| 29:D1:211:A:H5' | 29:D1:229:G:H1' | 1.94 | 0.48 |
| 29:D1:249:U:O2 | 29:D1:249:U:H5" | 2.13 | 0.48 |
| 29:D1:532:A:C3' | 29:D1:533:A:C8 | 2.95 | 0.48 |
| 29:D1:533:A:H2' | 29:D1:534:U:C6 | 2.48 | 0.48 |
| 29:D1:533:A:O2' | 29:D1:534:U:N1 | 2.44 | 0.48 |
| 29:D1:610:G:C5' | 29:D1:611:A:OP2 | 2.59 | 0.48 |
| 29:D1:681:U:O2' | 29:D1:682:U:P | 2.71 | 0.48 |
| 29:D1:867:G:H1 | 29:D1:892:U:H3 | 1.60 | 0.48 |
| 29:D1:895:A:C8 | 29:D1:897:U:H1' | 2.49 | 0.48 |
| 29:D1:957:C:O3' | 29:D1:2799:A:H8 | 1.96 | 0.48 |
| 29:D1:1077:U:HO2' | 29:D1:1078:U:H6 | 1.60 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1393:A:N7 | 29:D1:1418:A:C5 | 2.81 | 0.48 |
| 29:D1:1453:A:O4' | 29:D1:1850:A:N1 | 2.45 | 0.48 |
| 29:D1:1525:G:H1' | 29:D1:1829:G:C2 | 2.47 | 0.48 |
| 29:D1:1609:C:HO2' | 29:D1:1610:G:P | 2.36 | 0.48 |
| 29:D1:1682:U:H5' | 29:D1:1683:A:OP2 | 2.13 | 0.48 |
| 29:D1:1953:G:C5 | 29:D1:2093:A:C5 | 3.01 | 0.48 |
| 29:D1:2308:C:N4 | 29:D1:2309:A:C6 | 2.81 | 0.48 |
| 29:D1:2407:C:H1' | 29:D1:2818:U:O2 | 2.12 | 0.48 |
| 29:D1:2432:A:H2' | 29:D1:2432:A:N3 | 2.28 | 0.48 |
| 29:D1:2476:C:H2' | 29:D1:2477:G:O4' | 2.13 | 0.48 |
| 29:D1:2504:U:C4 | 29:D1:2505:U:C4 | 3.02 | 0.48 |
| 29:D1:2684:C:H4' | 29:D1:2684:C:OP1 | 2.13 | 0.48 |
| 29:D1:2732:G:C5 | 29:D1:2733:A:N7 | 2.81 | 0.48 |
| 29:D1:2743:A:C6 | 29:D1:2744:U:C4 | 3.00 | 0.48 |
| 29:D1:2824:G:H2' | 29:D1:2825:C:C6 | 2.48 | 0.48 |
| 29:D1:3009:G:O6 | 74:D1:3434:OHX:N4 | 2.46 | 0.48 |
| 29:D1:3055:U:O3' | 29:D1:3056:U:C5 | 2.66 | 0.48 |
| 29:D1:3176:G:O6 | 29:D1:3212:C:N3 | 2.46 | 0.48 |
| 29:D1:3202:G:C2 | 29:D1:3203:U:O2 | 2.66 | 0.48 |
| 29:D1:3314:A:H3' | 34:DC:118:PHE:C | 2.37 | 0.48 |
| 29:D1:3326:G:C4 | 29:D1:3327:G:C8 | 3.01 | 0.48 |
| 29:D1:3373:U:C4 | 29:D1:3374:U:H5 | 2.30 | 0.48 |
| 29:D1:3384:U:H2' | 29:D1:3385:U:H6 | 1.75 | 0.48 |
| 30:D2:77:G:N2 | 30:D2:101:G:H2' | 2.28 | 0.48 |
| 30:D2:82:G:C6 | 30:D2:99:G:C6 | 3.01 | 0.48 |
| 30:D2:116:C:H2' | 30:D2:117:A:C8 | 2.48 | 0.48 |
| 31:D3:8:C:C2' | 31:D3:9:A:H8 | 2.18 | 0.48 |
| 31:D3:56:G:N3 | 31:D3:57:C:C6 | 2.81 | 0.48 |
| 34:DC:305:ILE:C | 34:DC:307:PRO:N | 2.71 | 0.48 |
| 35:DD:85:SER:C | 35:DD:87:GLN:N | 2.71 | 0.48 |
| 35:DD:134:LEU:C | 35:DD:136:LEU:H | 2.20 | 0.48 |
| 40:DI:51:GLN:CB | 40:DI:52:LEU:HA | 2.43 | 0.48 |
| 41:DJ:206:LEU:O | 41:DJ:207:GLU:C | 2.56 | 0.48 |
| 44:DO:126:THR:O | 44:DO:127:TYR:CB | 2.61 | 0.48 |
| 45:DP:74:ARG:O | 45:DP:75:ALA:O | 2.31 | 0.48 |
| 46:DQ:128:ARG:HA | 46:DQ:137:ASN:O | 2.13 | 0.48 |
| 51:DV:14:TYR:O | 51:DV:15:PRO:C | 2.56 | 0.48 |
| 52:DW:87:SER:O | 52:DW:90:ALA:N | 2.45 | 0.48 |
| 59:Dd:42:ALA:C | 59:Dd:44:THR:N | 2.69 | 0.48 |
| 60:De:12:LYS:O | 60:De:13:MET:C | 2.54 | 0.48 |
| 60:De:26:TRP:O | 60:De:27:ILE:C | 2.56 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 62:Dg:12:GLY:O | 62:Dg:15:GLY:N | 2.46 | 0.48 |
| 1:A1:23:G:H2' | 1:A1:24:U:O4' | 2.13 | 0.48 |
| 1:A1:96:G:C6 | 1:A1:97:C:C4 | 3.01 | 0.48 |
| 1:A1:100:A:C6 | 1:A1:101:U:C4 | 3.02 | 0.48 |
| 1:A1:103:A:C5 | 1:A1:360:A:C2 | 3.02 | 0.48 |
| 1:A1:313:U:C5 | 1:A1:1118:G:C6 | 3.01 | 0.48 |
| 1:A1:426:G:H21 | 1:A1:459:G:H2' | 1.78 | 0.48 |
| 1:A1:454:U:O2' | 1:A1:455:C:O5' | 2.30 | 0.48 |
| 1:A1:610:G:N2 | 1:A1:614:C:C4 | 2.81 | 0.48 |
| 1:A1:931:C:H2' | 1:A1:932:U:OP1 | 2.12 | 0.48 |
| 1:A1:1112:G:C8 | 1:A1:1113:A:N7 | 2.81 | 0.48 |
| 1:A1:1270:G:H1' | 1:A1:1447:C:O2 | 2.13 | 0.48 |
| 1:A1:1348:A:OP1 | 15:AN:12:GLN:O | 2.30 | 0.48 |
| 1:A1:1388:A:C5 | 1:A1:1412:G:C6 | 3.01 | 0.48 |
| 1:A1:1560:U:C5 | 1:A1:1560:U:OP2 | 2.66 | 0.48 |
| 1:A1:1650:U:H2' | 1:A1:1650:U:O2 | 2.12 | 0.48 |
| 1:A1:1664:C:O2 | 1:A1:1664:C:H2' | 2.12 | 0.48 |
| 2:AA:3:LEU:C | 2:AA:5:ALA:H | 2.21 | 0.48 |
| 4:AC:121:GLY:O | 4:AC:122:VAL:C | 2.56 | 0.48 |
| 4:AC:121:GLY:O | 4:AC:124:ARG:N | 2.47 | 0.48 |
| 6:AE:117:GLY:O | 6:AE:118:LEU:C | 2.56 | 0.48 |
| 14:AM:17:ALA:HB2 | 14:AM:59:ALA:HB2 | 1.94 | 0.48 |
| 23:Ab:84:UNK:C | 23:Ab:86:UNK:N | 2.74 | 0.48 |
| 29:B1:31:C:H2' | 29:B1:32:U:O4' | 2.13 | 0.48 |
| 29:B1:80:G:C6 | 29:B1:106:A:C6 | 3.01 | 0.48 |
| 29:B1:269:G:C2 | 29:B1:294:U:C6 | 3.01 | 0.48 |
| 29:B1:340:C:C4 | 31:B3:25:G:C2 | 3.01 | 0.48 |
| 29:B1:347:G:N2 | 29:B1:353:G:N9 | 2.61 | 0.48 |
| 29:B1:529:A:H2' | 29:B1:530:G:C8 | 2.48 | 0.48 |
| 29:B1:545:U:O2' | 29:B1:546:C:C6 | 2.63 | 0.48 |
| 29:B1:568:G:H2' | 29:B1:569:A:O4' | 2.13 | 0.48 |
| 29:B1:593:C:H2' | 29:B1:594:U:C5' | 2.43 | 0.48 |
| 29:B1:717:C:H5 | 29:B1:721:G:OP2 | 1.96 | 0.48 |
| 29:B1:867:G:C6 | 29:B1:868:C:C4 | 3.01 | 0.48 |
| 29:B1:1109:U:C2 | 29:B1:1110:U:C6 | 3.02 | 0.48 |
| 29:B1:1131:G:C4 | 29:B1:2373:A:N1 | 2.80 | 0.48 |
| 29:B1:1204:A:N6 | 29:B1:1300:G:H21 | 2.09 | 0.48 |
| 29:B1:1205:A:C5 | 29:B1:1206:G:C8 | 3.01 | 0.48 |
| 29:B1:1389:G:N3 | 29:B1:1418:A:H2 | 2.11 | 0.48 |
| 29:B1:1507:G:N3 | 29:B1:1507:G:O2' | 2.43 | 0.48 |
| 29:B1:1633:C:N4 | 29:B1:1634:G:C6 | 2.81 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1644:C:N3 | 74:B1:3505:OHX:N4 | 2.61 | 0.48 |
| 29:B1:1656:A:C2 | 29:B1:1798:A:OP2 | 2.67 | 0.48 |
| 29:B1:2117:A:H2' | 29:B1:2117:A:N3 | 2.28 | 0.48 |
| 29:B1:2186:U:H2' | 29:B1:2187:G:C8 | 2.48 | 0.48 |
| 29:B1:2222:A:H8 | 29:B1:2222:A:O5' | 1.95 | 0.48 |
| 29:B1:2254:U:O2' | 29:B1:2255:A:P | 2.71 | 0.48 |
| 29:B1:2386:A:N6 | 29:B1:2993:G:O2' | 2.44 | 0.48 |
| 29:B1:2439:A:N6 | 29:B1:2440:G:C6 | 2.82 | 0.48 |
| 29:B1:2581:U:OP2 | 29:B1:2581:U:C6 | 2.66 | 0.48 |
| 29:B1:2582:C:OP2 | 29:B1:2582:C:C6 | 2.65 | 0.48 |
| 29:B1:2730:G:C2 | 29:B1:2731:U:C6 | 3.01 | 0.48 |
| 29:B1:2804:A:O2' | 29:B1:2805:G:C5' | 2.61 | 0.48 |
| 29:B1:2932:U:N1 | 29:B1:2935:U:H5 | 2.12 | 0.48 |
| 29:B1:3082:C:H2' | 29:B1:3083:G:O5' | 2.13 | 0.48 |
| 29:B1:3326:G:C6 | 29:B1:3327:G:N7 | 2.81 | 0.48 |
| 29:B1:3368:U:H3' | 29:B1:3369:G:C5' | 2.43 | 0.48 |
| 29:B1:3372:A:C6 | 29:B1:3373:U:C4 | 3.02 | 0.48 |
| 30:B2:84:A:C6 | 30:B2:97:A:C6 | 3.01 | 0.48 |
| 31:B3:72:A:O2' | 31:B3:73:U:P | 2.71 | 0.48 |
| 31:B3:74:U:C4 | 31:B3:77:A:OP1 | 2.66 | 0.48 |
| 34:BC:289:ASP:H | 34:BC:290:ASP:CB | 2.27 | 0.48 |
| 34:BC:299:ASP:C | 34:BC:301:THR:N | 2.72 | 0.48 |
| 35:BD:220:ARG:C | 35:BD:222:VAL:H | 2.21 | 0.48 |
| 38:BG:161:VAL:O | 38:BG:165:ASP:CB | 2.61 | 0.48 |
| 39:BH:102:ALA:O | 39:BH:105:LYS:N | 2.46 | 0.48 |
| 39:BH:108:ARG:O | 39:BH:110:THR:N | 2.46 | 0.48 |
| 39:BH:126:SER:O | 39:BH:128:LYS:N | 2.38 | 0.48 |
| 45:BP:137:THR:O | 45:BP:138:LEU:C | 2.55 | 0.48 |
| 48:BS:141:HIS:O | 48:BS:145:ALA:HB3 | 2.13 | 0.48 |
| 49:BT:28:SER:O | 49:BT:30:TYR:N | 2.46 | 0.48 |
| 52:BW:74:LYS:O | 52:BW:75:LYS:C | 2.55 | 0.48 |
| 54:BY:5:PHE:O | 54:BY:6:THR:C | 2.56 | 0.48 |
| 63:Bh:39:UNK:CA | 63:Bh:42:UNK:CB | 2.91 | 0.48 |
| 67:Bm:11:UNK:O | 67:Bm:12:UNK:C | 2.61 | 0.48 |
| 1:C1:34:G:C6 | 1:C1:475:A:C6 | 3.01 | 0.48 |
| 1:C1:55:A:N1 | 1:C1:403:G:C4 | 2.81 | 0.48 |
| 1:C1:105:A:C2 | 74:C1:1916:OHX:N6 | 2.81 | 0.48 |
| 1:C1:168:A:C3' | 1:C1:169:A:H8 | 2.27 | 0.48 |
| 1:C1:269:G:C2 | 1:C1:287:G:C2 | 3.01 | 0.48 |
| 1:C1:363:G:C6 | 1:C1:382:C:N4 | 2.82 | 0.48 |
| 1:C1:395:U:O4 | 1:C1:396:G:C6 | 2.67 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:417:A:H4' | 1:C1:418:G:O5' | 2.13 | 0.48 |
| 1:C1:690:G:C2' | 1:C1:691:C:C5' | 2.91 | 0.48 |
| 1:C1:749:U:N3 | 1:C1:801:G:C6 | 2.81 | 0.48 |
| 1:C1:753:A:C6 | 1:C1:754:A:N6 | 2.81 | 0.48 |
| 1:C1:933:A:N6 | 1:C1:935:U:O2 | 2.46 | 0.48 |
| 1:C1:973:A:O2' | 29:D1:847:A:H2 | 1.96 | 0.48 |
| 1:C1:1001:A:C5 | 1:C1:1002:G:C5 | 3.00 | 0.48 |
| 1:C1:1002:G:C4 | 1:C1:1003:A:C2 | 3.01 | 0.48 |
| 1:C1:1032:G:C6 | 1:C1:1104:U:C4 | 3.01 | 0.48 |
| 1:C1:1112:G:N7 | 1:C1:1113:A:N7 | 2.61 | 0.48 |
| 1:C1:1262:U:H2' | 1:C1:1263:G:H8 | 1.78 | 0.48 |
| 1:C1:1283:U:H5" | 1:C1:1284:C:O5' | 2.13 | 0.48 |
| 1:C1:1308:G:C6 | 1:C1:1309:C:C4 | 3.01 | 0.48 |
| 1:C1:1530:C:C2 | 1:C1:1531:G:C8 | 3.02 | 0.48 |
| 1:C1:1611:A:H2' | 1:C1:1612:U:C5' | 2.43 | 0.48 |
| 1:C1:1786:G:C5 | 1:C1:1787:C:N4 | 2.81 | 0.48 |
| 5:CD:59:VAL:O | 5:CD:60:ASP:CB | 2.62 | 0.48 |
| 11:CJ:131:GLY:HA3 | 11:CJ:138:PHE:N | 2.28 | 0.48 |
| 13:CL:96:LYS:CB | 13:CL:97:ASP:CA | 2.87 | 0.48 |
| 16:CO:14:ILE:O | 16:CO:15:ASN:C | 2.56 | 0.48 |
| 16:CO:39:GLN:O | 16:CO:41:MET:N | 2.46 | 0.48 |
| 24:Cc:22:UNK:O | 24:Cc:23:UNK:C | 2.62 | 0.48 |
| 29:D1:47:C:C4 | 29:D1:48:A:C5 | 3.01 | 0.48 |
| 29:D1:73:C:OP2 | 29:D1:73:C:H3' | 2.13 | 0.48 |
| 29:D1:175:C:H2' | 29:D1:175:C:O2 | 2.13 | 0.48 |
| 29:D1:313:A:H2' | 29:D1:314:U:H6 | 1.79 | 0.48 |
| 29:D1:382:U:C4 | 29:D1:383:G:C8 | 3.00 | 0.48 |
| 29:D1:420:G:C2 | 29:D1:2384:A:N3 | 2.80 | 0.48 |
| 29:D1:501:A:H2 | 29:D1:612:U:O2 | 1.96 | 0.48 |
| 29:D1:526:C:C2 | 29:D1:527:A:C8 | 3.01 | 0.48 |
| 29:D1:545:U:H2' | 29:D1:546:C:C4 | 2.48 | 0.48 |
| 29:D1:630:A:H5' | 29:D1:631:U:OP2 | 2.13 | 0.48 |
| 29:D1:657:A:O2' | 29:D1:658:G:H5' | 2.14 | 0.48 |
| 29:D1:695:C:H2' | 29:D1:695:C:O2 | 2.13 | 0.48 |
| 29:D1:809:G:N3 | 29:D1:810:A:C8 | 2.81 | 0.48 |
| 29:D1:1035:G:C5 | 29:D1:1036:A:C8 | 3.01 | 0.48 |
| 29:D1:1056:U:C6 | 29:D1:1056:U:C3' | 2.97 | 0.48 |
| 29:D1:1172:G:N3 | 29:D1:1179:A:C2 | 2.81 | 0.48 |
| 29:D1:1174:G:N3 | 29:D1:1175:C:C5 | 2.81 | 0.48 |
| 29:D1:1219:C:H2' | 29:D1:1219:C:O2 | 2.14 | 0.48 |
| 29:D1:1277:C:O2' | 29:D1:1278:A:OP2 | 2.30 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1323:G:C3’ | 29:D1:1324:U:C5’ | 2.83 | 0.48 |
| 29:D1:1604:G:H2’ | 29:D1:1605:A:H5” | 1.95 | 0.48 |
| 29:D1:1640:G:C4’ | 29:D1:1641:U:OP2 | 2.62 | 0.48 |
| 29:D1:1673:G:C6 | 29:D1:1775:G:C6 | 3.01 | 0.48 |
| 29:D1:1686:U:H1’ | 29:D1:1688:U:P | 2.53 | 0.48 |
| 29:D1:1907:C:C2’ | 29:D1:1908:A:H5’ | 2.41 | 0.48 |
| 29:D1:2157:G:N1 | 29:D1:2178:A:OP2 | 2.46 | 0.48 |
| 29:D1:2190:U:C4 | 29:D1:2191:U:C4 | 3.01 | 0.48 |
| 29:D1:2280:A:HO2’ | 29:D1:2281:A:P | 2.34 | 0.48 |
| 29:D1:2312:A:H1’ | 29:D1:2316:G:O4’ | 2.12 | 0.48 |
| 29:D1:2410:U:H2’ | 29:D1:2410:U:O2 | 2.12 | 0.48 |
| 29:D1:2649:A:C6 | 29:D1:2650:U:C5 | 3.02 | 0.48 |
| 29:D1:2654:C:H5’ | 29:D1:2657:A:N6 | 2.28 | 0.48 |
| 29:D1:2775:U:O2’ | 29:D1:2776:C:OP2 | 2.25 | 0.48 |
| 29:D1:2814:G:N2 | 29:D1:2815:G:C4 | 2.81 | 0.48 |
| 29:D1:2929:C:C6 | 29:D1:2929:C:C3’ | 2.97 | 0.48 |
| 29:D1:2993:G:N3 | 29:D1:2993:G:C2’ | 2.74 | 0.48 |
| 29:D1:3184:A:C5 | 29:D1:3185:U:N3 | 2.82 | 0.48 |
| 29:D1:3205:G:H22 | 43:DN:89:ALA:HB1 | 1.78 | 0.48 |
| 29:D1:3217:C:O2 | 29:D1:3217:C:C2’ | 2.62 | 0.48 |
| 29:D1:3298:C:C4 | 29:D1:3299:A:N7 | 2.81 | 0.48 |
| 29:D1:3390:G:N1 | 29:D1:3391:A:C4 | 2.81 | 0.48 |
| 30:D2:26:C:H2’ | 30:D2:27:A:H8 | 1.77 | 0.48 |
| 30:D2:59:U:C2 | 30:D2:60:G:C8 | 3.01 | 0.48 |
| 30:D2:63:A:C2 | 30:D2:65:G:C5 | 3.01 | 0.48 |
| 31:D3:29:U:N3 | 31:D3:30:C:H5 | 2.11 | 0.48 |
| 33:DB:200:ARG:O | 33:DB:203:ALA:N | 2.47 | 0.48 |
| 34:DC:118:PHE:CB | 34:DC:119:TYR:O | 2.61 | 0.48 |
| 38:DG:160:ARG:O | 38:DG:161:VAL:C | 2.55 | 0.48 |
| 41:DJ:148:VAL:O | 41:DJ:149:VAL:C | 2.54 | 0.48 |
| 42:DK:61:ARG:O | 42:DK:63:GLU:N | 2.46 | 0.48 |
| 42:DK:101:ASN:O | 42:DK:102:PHE:C | 2.55 | 0.48 |
| 42:DK:147:THR:C | 42:DK:148:VAL:O | 2.57 | 0.48 |
| 45:DP:23:VAL:O | 45:DP:27:LEU:N | 2.37 | 0.48 |
| 56:Da:16:LEU:O | 56:Da:18:LYS:N | 2.46 | 0.48 |
| 1:A1:174:U:O2 | 1:A1:175:G:H1’ | 2.14 | 0.48 |
| 1:A1:199:G:C5 | 1:A1:200:A:N7 | 2.81 | 0.48 |
| 1:A1:310:C:H6 | 1:A1:310:C:C5’ | 2.26 | 0.48 |
| 1:A1:544:A:C8 | 1:A1:544:A:P | 3.07 | 0.48 |
| 1:A1:968:U:H5” | 1:A1:1033:C:O2’ | 2.14 | 0.48 |
| 1:A1:991:G:O6 | 74:A1:1958:OHX:N2 | 2.46 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1101:G:H8 | 1:A1:1101:G:P | 2.37 | 0.48 |
| 1:A1:1160:A:H2' | 1:A1:1161:C:C5 | 2.47 | 0.48 |
| 1:A1:1192:C:C4 | 1:A1:1193:A:C5 | 3.02 | 0.48 |
| 1:A1:1348:A:C8 | 1:A1:1349:G:H5' | 2.49 | 0.48 |
| 1:A1:1504:G:H2' | 1:A1:1505:A:O4' | 2.12 | 0.48 |
| 1:A1:1600:A:H2' | 1:A1:1602:C:H41 | 1.78 | 0.48 |
| 1:A1:1684:U:H3' | 1:A1:1685:G:H5' | 1.95 | 0.48 |
| 1:A1:1777:G:C6 | 1:A1:1778:G:C5 | 3.02 | 0.48 |
| 1:A1:1784:C:C2 | 1:A1:1785:U:C5 | 3.01 | 0.48 |
| 2:AA:2:SER:C | 2:AA:4:PRO:N | 2.70 | 0.48 |
| 5:AD:63:GLN:CB | 5:AD:92:ARG:HA | 2.43 | 0.48 |
| 6:AE:49:LEU:O | 6:AE:50:SER:C | 2.55 | 0.48 |
| 12:AK:23:LYS:CB | 12:AK:64:GLY:O | 2.62 | 0.48 |
| 17:AP:79:ASN:C | 17:AP:81:LYS:N | 2.72 | 0.48 |
| 17:AP:131:SER:CB | 17:AP:133:LEU:HA | 2.44 | 0.48 |
| 29:B1:5:G:O6 | 31:B3:154:C:N3 | 2.46 | 0.48 |
| 29:B1:26:A:H2 | 29:B1:330:G:N2 | 2.11 | 0.48 |
| 29:B1:30:G:C5 | 29:B1:55:G:O6 | 2.66 | 0.48 |
| 29:B1:149:U:O2' | 29:B1:150:A:OP1 | 2.29 | 0.48 |
| 29:B1:159:A:C4 | 29:B1:160:G:N7 | 2.81 | 0.48 |
| 29:B1:199:A:C2 | 29:B1:201:A:C8 | 3.00 | 0.48 |
| 29:B1:245:U:C4 | 74:B1:3489:OHX:N4 | 2.81 | 0.48 |
| 29:B1:279:U:C2 | 29:B1:286:U:N3 | 2.81 | 0.48 |
| 29:B1:310:U:H5' | 29:B1:311:C:OP2 | 2.14 | 0.48 |
| 29:B1:313:A:H2' | 29:B1:314:U:H6 | 1.76 | 0.48 |
| 29:B1:318:A:OP2 | 29:B1:318:A:C8 | 2.64 | 0.48 |
| 29:B1:337:G:H1 | 31:B3:26:U:H3 | 1.61 | 0.48 |
| 29:B1:340:C:C5' | 29:B1:340:C:H6 | 2.26 | 0.48 |
| 29:B1:366:A:N6 | 29:B1:367:A:N3 | 2.62 | 0.48 |
| 29:B1:591:G:C2' | 29:B1:592:A:C5' | 2.70 | 0.48 |
| 29:B1:644:G:H5" | 29:B1:645:A:OP2 | 2.14 | 0.48 |
| 29:B1:967:A:H3' | 29:B1:968:G:H8 | 1.78 | 0.48 |
| 29:B1:980:A:C2' | 29:B1:981:U:O4' | 2.61 | 0.48 |
| 29:B1:1119:C:C2 | 29:B1:1120:A:N7 | 2.80 | 0.48 |
| 29:B1:1302:A:N3 | 29:B1:2887:A:C4 | 2.82 | 0.48 |
| 29:B1:1566:A:H2' | 29:B1:1567:U:C5 | 2.48 | 0.48 |
| 29:B1:1583:A:C2' | 29:B1:1584:U:O5' | 2.61 | 0.48 |
| 29:B1:1661:G:C6 | 29:B1:1662:G:C6 | 3.02 | 0.48 |
| 29:B1:1675:G:C2 | 29:B1:1773:C:C4 | 3.02 | 0.48 |
| 29:B1:1686:U:H1' | 29:B1:1688:U:P | 2.54 | 0.48 |
| 29:B1:1742:U:H2' | 29:B1:1743:G:C8 | 2.47 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1890:U:C4 | 29:B1:1891:A:N7 | 2.82 | 0.48 |
| 29:B1:1899:G:N3 | 29:B1:2334:U:C5 | 2.81 | 0.48 |
| 29:B1:1946:A:H2' | 29:B1:1947:G:C8 | 2.49 | 0.48 |
| 29:B1:2264:U:O2' | 29:B1:2265:C:H5' | 2.13 | 0.48 |
| 29:B1:2279:A:C8 | 29:B1:2288:G:C5 | 3.01 | 0.48 |
| 29:B1:2360:C:C6 | 29:B1:2360:C:OP2 | 2.67 | 0.48 |
| 29:B1:2390:A:C4 | 29:B1:2990:G:N2 | 2.82 | 0.48 |
| 29:B1:2672:G:C8 | 29:B1:2672:G:H3' | 2.47 | 0.48 |
| 29:B1:2702:A:O4' | 29:B1:2704:A:C5 | 2.67 | 0.48 |
| 29:B1:2929:C:C6 | 29:B1:2929:C:C3' | 2.97 | 0.48 |
| 29:B1:3036:G:C2' | 29:B1:3037:U:O5' | 2.61 | 0.48 |
| 29:B1:3069:G:N1 | 29:B1:3070:A:C5 | 2.82 | 0.48 |
| 29:B1:3075:G:O2' | 29:B1:3076:C:H5' | 2.13 | 0.48 |
| 29:B1:3222:U:H2' | 29:B1:3223:A:O4' | 2.14 | 0.48 |
| 29:B1:3315:G:H4' | 29:B1:3319:U:H4' | 1.96 | 0.48 |
| 29:B1:3352:U:H2' | 29:B1:3352:U:O2 | 2.11 | 0.48 |
| 30:B2:11:A:C2 | 36:BE:16:PHE:CA | 2.67 | 0.48 |
| 31:B3:25:G:N1 | 31:B3:26:U:C2 | 2.82 | 0.48 |
| 35:BD:149:PRO:O | 35:BD:150:LEU:CB | 2.61 | 0.48 |
| 36:BE:109:THR:C | 36:BE:252:ALA:HB2 | 2.37 | 0.48 |
| 38:BG:39:GLU:O | 38:BG:40:LYS:C | 2.55 | 0.48 |
| 38:BG:222:HIS:CB | 38:BG:228:SER:N | 2.76 | 0.48 |
| 40:BI:185:GLY:O | 40:BI:187:ILE:N | 2.46 | 0.48 |
| 42:BK:120:ILE:O | 42:BK:121:GLY:C | 2.56 | 0.48 |
| 44:BO:111:ALA:C | 44:BO:113:LEU:N | 2.70 | 0.48 |
| 44:BO:143:ARG:O | 44:BO:146:ALA:HB2 | 2.12 | 0.48 |
| 45:BP:11:GLY:O | 45:BP:13:GLY:O | 2.29 | 0.48 |
| 48:BS:39:ASN:O | 48:BS:40:ALA:C | 2.56 | 0.48 |
| 48:BS:145:ALA:O | 48:BS:146:LYS:C | 2.56 | 0.48 |
| 49:BT:110:LYS:O | 49:BT:111:ALA:C | 2.57 | 0.48 |
| 57:Bb:42:VAL:C | 57:Bb:44:ARG:H | 2.19 | 0.48 |
| 1:C1:27:U:O2 | 1:C1:28:A:C8 | 2.66 | 0.48 |
| 1:C1:71:A:H1' | 1:C1:72:A:OP1 | 2.13 | 0.48 |
| 1:C1:93:A:OP2 | 1:C1:403:G:OP1 | 2.31 | 0.48 |
| 1:C1:117:U:H2' | 1:C1:118:U:O4' | 2.14 | 0.48 |
| 1:C1:539:G:N3 | 1:C1:543:C:C4 | 2.81 | 0.48 |
| 1:C1:599:A:H5" | 1:C1:600:U:OP2 | 2.13 | 0.48 |
| 1:C1:717:C:H1' | 1:C1:718:U:OP1 | 2.13 | 0.48 |
| 1:C1:825:U:C5 | 1:C1:826:U:C2 | 3.02 | 0.48 |
| 1:C1:1032:G:C6 | 1:C1:1104:U:O4 | 2.66 | 0.48 |
| 1:C1:1140:G:N3 | 1:C1:1141:G:C8 | 2.81 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1151:A:OP1 | 1:C1:1766:A:H2 | 1.96 | 0.48 |
| 1:C1:1274:C:O2' | 1:C1:1275:A:P | 2.70 | 0.48 |
| 1:C1:1297:G:N2 | 1:C1:1300:A:OP2 | 2.46 | 0.48 |
| 1:C1:1364:G:C5 | 1:C1:1365:C:C6 | 3.02 | 0.48 |
| 1:C1:1437:U:H2' | 1:C1:1438:G:H5' | 1.95 | 0.48 |
| 1:C1:1587:A:H2' | 1:C1:1587:A:N3 | 2.27 | 0.48 |
| 1:C1:1607:G:C4 | 1:C1:1608:U:C5 | 3.01 | 0.48 |
| 1:C1:1664:C:O2 | 1:C1:1665:U:H1' | 2.13 | 0.48 |
| 1:C1:1783:C:N4 | 1:C1:1784:C:N4 | 2.61 | 0.48 |
| 3:CB:161:LYS:CB | 3:CB:209:ASN:HA | 2.43 | 0.48 |
| 3:CB:185:LYS:O | 3:CB:187:LEU:N | 2.46 | 0.48 |
| 21:CT:27:ALA:HB2 | 21:CT:296:ALA:HB1 | 1.95 | 0.48 |
| 24:Cc:35:UNK:O | 24:Cc:36:UNK:C | 2.60 | 0.48 |
| 29:D1:232:G:C4 | 29:D1:233:C:C6 | 3.01 | 0.48 |
| 29:D1:342:A:C2 | 29:D1:349:A:H8 | 2.29 | 0.48 |
| 29:D1:416:A:C2 | 29:D1:417:A:C4 | 3.02 | 0.48 |
| 29:D1:568:G:H2' | 29:D1:569:A:O4' | 2.13 | 0.48 |
| 29:D1:569:A:C6 | 29:D1:570:A:C5 | 3.01 | 0.48 |
| 29:D1:618:C:N3 | 29:D1:619:A:N7 | 2.62 | 0.48 |
| 29:D1:637:C:N3 | 29:D1:638:C:N4 | 2.61 | 0.48 |
| 29:D1:681:U:C1' | 29:D1:682:U:H5' | 2.38 | 0.48 |
| 29:D1:787:G:H2' | 29:D1:788:C:C6 | 2.48 | 0.48 |
| 29:D1:883:A:C6 | 29:D1:921:A:C5 | 3.02 | 0.48 |
| 29:D1:980:A:C2' | 29:D1:981:U:O4' | 2.62 | 0.48 |
| 29:D1:1004:U:N3 | 29:D1:1005:G:C5 | 2.81 | 0.48 |
| 29:D1:1210:U:O2' | 29:D1:1211:U:H5' | 2.14 | 0.48 |
| 29:D1:1313:G:C2 | 29:D1:1314:C:C6 | 3.02 | 0.48 |
| 29:D1:1357:G:C2' | 29:D1:1358:C:H6 | 2.27 | 0.48 |
| 29:D1:1367:G:O2' | 29:D1:1368:U:P | 2.71 | 0.48 |
| 29:D1:1480:G:O2' | 29:D1:1871:U:O4 | 2.22 | 0.48 |
| 29:D1:1506:A:H1' | 29:D1:1848:G:O6 | 2.13 | 0.48 |
| 29:D1:1587:A:C2 | 29:D1:1590:G:N9 | 2.82 | 0.48 |
| 29:D1:1615:C:C2 | 29:D1:1616:U:C5 | 3.02 | 0.48 |
| 29:D1:1643:A:C5' | 29:D1:1822:C:H5" | 2.43 | 0.48 |
| 29:D1:1907:C:H3' | 29:D1:1907:C:C6 | 2.46 | 0.48 |
| 29:D1:2114:C:C4' | 29:D1:2116:G:C4 | 2.95 | 0.48 |
| 29:D1:2328:U:C2 | 29:D1:2329:C:C6 | 3.01 | 0.48 |
| 29:D1:2348:A:OP2 | 29:D1:2349:U:H5 | 1.96 | 0.48 |
| 29:D1:2416:U:O4 | 74:D1:3608:OHX:N5 | 2.46 | 0.48 |
| 29:D1:2702:A:C4' | 29:D1:2704:A:C8 | 2.97 | 0.48 |
| 29:D1:2733:A:H2' | 29:D1:2734:A:H8 | 1.78 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2809:C:O2' | 29:D1:2810:C:OP1 | 2.27 | 0.48 |
| 29:D1:2881:C:O2 | 29:D1:2882:U:C5 | 2.66 | 0.48 |
| 29:D1:2922:G:O4' | 29:D1:2951:G:O2' | 2.27 | 0.48 |
| 29:D1:3010:U:O4' | 34:DC:15:GLY:CA | 2.60 | 0.48 |
| 29:D1:3010:U:C2' | 29:D1:3011:A:H5' | 2.43 | 0.48 |
| 29:D1:3055:U:C2 | 29:D1:3085:G:C2 | 3.01 | 0.48 |
| 29:D1:3073:A:C2' | 29:D1:3074:G:O5' | 2.61 | 0.48 |
| 29:D1:3123:A:C8 | 29:D1:3124:G:C8 | 3.02 | 0.48 |
| 29:D1:3152:U:H5' | 29:D1:3294:A:H4' | 1.96 | 0.48 |
| 29:D1:3217:C:C5' | 29:D1:3276:G:H22 | 2.24 | 0.48 |
| 29:D1:3237:U:H2' | 29:D1:3238:G:N7 | 2.29 | 0.48 |
| 29:D1:3262:U:H3' | 29:D1:3262:U:P | 2.52 | 0.48 |
| 29:D1:3390:G:C5 | 29:D1:3391:A:N7 | 2.81 | 0.48 |
| 30:D2:60:G:C2 | 30:D2:61:G:C8 | 3.01 | 0.48 |
| 30:D2:73:C:C4 | 30:D2:74:C:C5 | 3.01 | 0.48 |
| 31:D3:24:G:H2' | 31:D3:25:G:O4' | 2.13 | 0.48 |
| 31:D3:56:G:C2 | 31:D3:57:C:N1 | 2.81 | 0.48 |
| 33:DB:231:SER:H | 33:DB:233:GLN:H | 1.60 | 0.48 |
| 33:DB:231:SER:C | 33:DB:233:GLN:H | 2.21 | 0.48 |
| 34:DC:189:SER:C | 34:DC:191:LYS:N | 2.65 | 0.48 |
| 37:DF:86:ALA:CB | 37:DF:87:THR:HA | 2.26 | 0.48 |
| 73:DM:46:ARG:CA | 73:DM:49:ALA:HB2 | 2.39 | 0.48 |
| 46:DQ:52:LEU:N | 46:DQ:54:HIS:H | 2.11 | 0.48 |
| 48:DS:70:LYS:C | 48:DS:72:GLU:N | 2.71 | 0.48 |
| 48:DS:127:SER:C | 48:DS:129:GLY:N | 2.71 | 0.48 |
| 50:DU:133:SER:C | 50:DU:135:VAL:H | 2.13 | 0.48 |
| 52:DW:80:ASN:HA | 52:DW:132:ALA:HB2 | 1.95 | 0.48 |
| 60:De:33:ASN:O | 60:De:34:THR:CB | 2.61 | 0.48 |
| 1:A1:70:C:H3' | 1:A1:71:A:C8 | 2.48 | 0.48 |
| 1:A1:106:U:N3 | 1:A1:107:C:C2 | 2.81 | 0.48 |
| 1:A1:110:U:H4' | 1:A1:797:G:N2 | 2.23 | 0.48 |
| 1:A1:133:U:O2 | 1:A1:133:U:H2' | 2.14 | 0.48 |
| 1:A1:283:U:O3' | 1:A1:284:G:C4' | 2.60 | 0.48 |
| 1:A1:326:G:H2' | 1:A1:327:U:H6 | 1.78 | 0.48 |
| 1:A1:329:G:C2 | 1:A1:330:G:C8 | 3.01 | 0.48 |
| 1:A1:380:U:O2' | 1:A1:381:C:O5' | 2.30 | 0.48 |
| 1:A1:486:G:O6 | 1:A1:487:G:C5 | 2.66 | 0.48 |
| 1:A1:640:U:C5 | 1:A1:641:G:C6 | 3.02 | 0.48 |
| 1:A1:697:C:C2' | 1:A1:698:U:H5" | 2.44 | 0.48 |
| 1:A1:713:A:C6 | 1:A1:726:C:O2 | 2.66 | 0.48 |
| 1:A1:747:C:H2' | 1:A1:748:U:H6 | 1.78 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:778:G:C2 | 1:A1:783:G:C6 | 3.01 | 0.48 |
| 1:A1:824:G:C5' | 1:A1:825:U:OP1 | 2.61 | 0.48 |
| 1:A1:869:A:C5 | 1:A1:870:C:C5 | 3.01 | 0.48 |
| 1:A1:906:A:OP2 | 9:AH:50:ALA:O | 2.31 | 0.48 |
| 1:A1:1025:A:N7 | 1:A1:1027:A:C4 | 2.81 | 0.48 |
| 1:A1:1073:G:N1 | 1:A1:1074:G:C2 | 2.82 | 0.48 |
| 1:A1:1116:A:C6 | 1:A1:1117:U:N3 | 2.81 | 0.48 |
| 1:A1:1196:A:C4' | 1:A1:1197:C:O5' | 2.62 | 0.48 |
| 1:A1:1338:C:H2' | 1:A1:1339:C:O4' | 2.13 | 0.48 |
| 1:A1:1478:G:C4 | 1:A1:1479:A:C8 | 3.01 | 0.48 |
| 1:A1:1483:A:O2' | 11:AJ:72:GLY:HA2 | 2.14 | 0.48 |
| 1:A1:1550:A:H2' | 1:A1:1551:U:C6 | 2.48 | 0.48 |
| 1:A1:1566:U:H2' | 1:A1:1567:U:H5' | 1.96 | 0.48 |
| 2:AA:42:PRO:O | 2:AA:44:GLY:N | 2.46 | 0.48 |
| 9:AH:20:TYR:HA | 9:AH:85:ALA:H | 1.78 | 0.48 |
| 11:AJ:86:ALA:C | 11:AJ:88:GLY:H | 2.19 | 0.48 |
| 15:AN:61:LYS:CB | 15:AN:86:ILE:O | 2.62 | 0.48 |
| 23:Ab:64:UNK:HA | 23:Ab:67:UNK:C | 2.44 | 0.48 |
| 26:Ae:7:UNK:O | 26:Ae:8:UNK:C | 2.59 | 0.48 |
| 29:B1:11:A:HO2' | 29:B1:12:A:H5' | 1.78 | 0.48 |
| 29:B1:157:A:C2' | 29:B1:158:G:N7 | 2.76 | 0.48 |
| 29:B1:203:G:H2' | 29:B1:204:A:O4' | 2.13 | 0.48 |
| 29:B1:259:C:H2' | 29:B1:260:C:H6 | 1.79 | 0.48 |
| 29:B1:331:G:N1 | 31:B3:33:A:C2 | 2.82 | 0.48 |
| 29:B1:365:A:N1 | 29:B1:366:A:C4 | 2.82 | 0.48 |
| 29:B1:624:G:N3 | 29:B1:625:G:C8 | 2.81 | 0.48 |
| 29:B1:643:U:C6 | 29:B1:643:U:C3' | 2.97 | 0.48 |
| 29:B1:807:A:H3' | 29:B1:808:A:C5' | 2.39 | 0.48 |
| 29:B1:957:C:N3 | 29:B1:958:C:C5 | 2.82 | 0.48 |
| 29:B1:992:A:H3' | 29:B1:993:G:H5" | 1.96 | 0.48 |
| 29:B1:1306:G:C6 | 45:BP:63:ALA:CA | 2.97 | 0.48 |
| 29:B1:1459:C:H2' | 29:B1:1460:A:H5' | 1.95 | 0.48 |
| 29:B1:1556:C:N4 | 29:B1:2169:G:C8 | 2.75 | 0.48 |
| 29:B1:1685:C:O2' | 29:B1:1687:U:OP2 | 2.29 | 0.48 |
| 29:B1:1686:U:H1' | 29:B1:1688:U:OP1 | 2.13 | 0.48 |
| 29:B1:1835:A:C5 | 29:B1:1836:C:C4 | 3.02 | 0.48 |
| 29:B1:2128:C:C5 | 29:B1:2129:U:C5 | 3.01 | 0.48 |
| 29:B1:2192:C:HO2' | 29:B1:2312:A:H2 | 1.52 | 0.48 |
| 29:B1:2248:C:C4' | 29:B1:2271:A:C2 | 2.96 | 0.48 |
| 29:B1:2385:G:C6 | 29:B1:3142:A:C2 | 3.02 | 0.48 |
| 29:B1:2393:G:O2' | 29:B1:2394:G:OP2 | 2.28 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2423:U:O2' | 29:B1:2424:A:O4' | 2.24 | 0.48 |
| 29:B1:2468:A:H2 | 29:B1:2469:G:N3 | 2.12 | 0.48 |
| 29:B1:2587:U:C2 | 29:B1:2588:U:C6 | 3.01 | 0.48 |
| 29:B1:2761:G:N1 | 29:B1:2795:U:H3' | 2.24 | 0.48 |
| 29:B1:2782:U:H6 | 29:B1:2782:U:H5" | 1.79 | 0.48 |
| 29:B1:2792:A:O5' | 29:B1:2792:A:C8 | 2.59 | 0.48 |
| 29:B1:2826:U:N3 | 29:B1:2827:U:C5 | 2.81 | 0.48 |
| 29:B1:3091:A:O2' | 29:B1:3092:C:OP2 | 2.31 | 0.48 |
| 29:B1:3223:A:N3 | 29:B1:3223:A:H2' | 2.28 | 0.48 |
| 29:B1:3273:A:C2 | 29:B1:3274:A:C5 | 3.01 | 0.48 |
| 29:B1:3341:U:H3' | 29:B1:3343:G:H1 | 1.77 | 0.48 |
| 29:B1:3352:U:C2' | 29:B1:3352:U:O2 | 2.61 | 0.48 |
| 30:B2:12:U:C2 | 30:B2:70:U:P | 3.06 | 0.48 |
| 30:B2:37:G:N2 | 30:B2:38:U:O4 | 2.46 | 0.48 |
| 30:B2:75:G:OP2 | 30:B2:76:A:H3' | 2.14 | 0.48 |
| 31:B3:56:G:C2 | 31:B3:57:C:C2 | 3.01 | 0.48 |
| 31:B3:74:U:P | 31:B3:76:C:C4 | 3.06 | 0.48 |
| 34:BC:40:PRO:O | 34:BC:42:ALA:N | 2.46 | 0.48 |
| 37:BF:117:LYS:O | 37:BF:118:GLU:O | 2.31 | 0.48 |
| 38:BG:98:LYS:O | 38:BG:99:PRO:C | 2.55 | 0.48 |
| 39:BH:126:SER:O | 39:BH:130:TYR:N | 2.45 | 0.48 |
| 41:BJ:164:LYS:O | 41:BJ:165:ILE:C | 2.57 | 0.48 |
| 43:BN:104:ALA:H | 43:BN:106:ARG:H | 1.61 | 0.48 |
| 44:BO:49:ARG:CA | 44:BO:53:TYR:CB | 2.91 | 0.48 |
| 44:BO:175:ASN:O | 44:BO:176:LYS:CB | 2.61 | 0.48 |
| 45:BP:176:LYS:O | 45:BP:177:LYS:C | 2.57 | 0.48 |
| 58:Bc:62:GLN:C | 58:Bc:65:ALA:HB3 | 2.39 | 0.48 |
| 62:Bg:12:GLY:O | 62:Bg:15:GLY:HA2 | 2.14 | 0.48 |
| 62:Bg:30:GLU:O | 62:Bg:33:GLN:N | 2.38 | 0.48 |
| 63:Bh:12:UNK:O | 63:Bh:13:UNK:C | 2.57 | 0.48 |
| 22:Bo:12:UNK:C | 22:Bo:14:UNK:N | 2.76 | 0.48 |
| 1:C1:130:C:C4 | 1:C1:131:C:O2' | 2.58 | 0.48 |
| 1:C1:156:A:H8 | 1:C1:156:A:O5' | 1.96 | 0.48 |
| 1:C1:257:A:C2' | 1:C1:258:C:C5' | 2.89 | 0.48 |
| 1:C1:389:G:C5 | 1:C1:390:G:C6 | 3.00 | 0.48 |
| 1:C1:407:A:C6 | 1:C1:408:C:N4 | 2.82 | 0.48 |
| 1:C1:565:C:C2 | 1:C1:576:G:C6 | 3.01 | 0.48 |
| 1:C1:639:U:OP2 | 23:Cb:72:UNK:HA | 2.14 | 0.48 |
| 1:C1:773:C:O2 | 1:C1:774:A:C8 | 2.66 | 0.48 |
| 1:C1:988:A:C2 | 1:C1:989:U:C1' | 2.96 | 0.48 |
| 1:C1:1032:G:C2 | 1:C1:1033:C:C2 | 3.02 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1198:G:OP1 | 1:C1:1200:G:N2 | 2.47 | 0.48 |
| 1:C1:1199:G:C6 | 1:C1:1200:G:C1' | 2.96 | 0.48 |
| 1:C1:1239:U:H5 | 1:C1:1241:G:C6 | 2.31 | 0.48 |
| 1:C1:1363:U:H3' | 1:C1:1364:G:H8 | 1.77 | 0.48 |
| 1:C1:1395:G:H2' | 1:C1:1396:U:C5' | 2.44 | 0.48 |
| 1:C1:1426:C:C2 | 1:C1:1428:G:C8 | 3.01 | 0.48 |
| 1:C1:1481:C:H6 | 1:C1:1482:C:N1 | 2.11 | 0.48 |
| 1:C1:1584:G:N1 | 11:CJ:125:GLU:N | 2.61 | 0.48 |
| 1:C1:1590:G:C2 | 1:C1:1591:C:C4 | 3.02 | 0.48 |
| 1:C1:1727:G:C2 | 1:C1:1728:A:C5 | 3.02 | 0.48 |
| 1:C1:1758:U:C2 | 1:C1:1759:C:C5 | 3.01 | 0.48 |
| 1:C1:1793:G:C4 | 1:C1:1794:A:C8 | 3.02 | 0.48 |
| 7:CF:132:SER:O | 7:CF:134:THR:N | 2.47 | 0.48 |
| 9:CH:30:VAL:H | 9:CH:40:ALA:HB3 | 1.77 | 0.48 |
| 10:CI:78:THR:O | 10:CI:79:HIS:C | 2.57 | 0.48 |
| 29:D1:13:A:H2 | 29:D1:15:C:C2' | 2.26 | 0.48 |
| 29:D1:88:A:N3 | 29:D1:89:A:H1' | 2.28 | 0.48 |
| 29:D1:90:C:H1' | 29:D1:281:G:H4' | 1.95 | 0.48 |
| 29:D1:109:A:C2 | 29:D1:323:A:C5 | 3.01 | 0.48 |
| 29:D1:122:A:C4' | 29:D1:150:A:HO2' | 2.26 | 0.48 |
| 29:D1:159:A:C2' | 29:D1:160:G:C8 | 2.95 | 0.48 |
| 29:D1:264:G:N7 | 29:D1:265:A:N6 | 2.60 | 0.48 |
| 29:D1:518:G:P | 29:D1:520:U:C5 | 3.07 | 0.48 |
| 29:D1:655:C:H2' | 29:D1:656:A:C8 | 2.48 | 0.48 |
| 29:D1:666:A:C5 | 29:D1:667:C:C5 | 3.01 | 0.48 |
| 29:D1:762:U:O2 | 29:D1:770:G:N2 | 2.46 | 0.48 |
| 29:D1:771:A:C3' | 29:D1:772:U:C5' | 2.92 | 0.48 |
| 29:D1:992:A:H3' | 29:D1:993:G:H5" | 1.95 | 0.48 |
| 29:D1:1013:G:H4' | 29:D1:1014:U:OP1 | 2.13 | 0.48 |
| 29:D1:1054:A:H5" | 29:D1:2637:A:N6 | 2.28 | 0.48 |
| 29:D1:1110:U:C2 | 29:D1:1111:U:C5 | 3.02 | 0.48 |
| 29:D1:1131:G:N3 | 29:D1:2373:A:N1 | 2.60 | 0.48 |
| 29:D1:1224:C:N4 | 29:D1:1285:G:N1 | 2.62 | 0.48 |
| 29:D1:1254:C:C4 | 29:D1:1255:C:C5 | 3.02 | 0.48 |
| 29:D1:1358:C:C2 | 29:D1:1359:C:C6 | 3.01 | 0.48 |
| 29:D1:1407:A:H5' | 29:D1:1408:G:OP2 | 2.14 | 0.48 |
| 29:D1:1896:A:C4 | 29:D1:3093:C:C5 | 3.01 | 0.48 |
| 29:D1:1953:G:C6 | 29:D1:2093:A:C8 | 3.01 | 0.48 |
| 29:D1:2143:A:C8 | 29:D1:2143:A:C3' | 2.96 | 0.48 |
| 29:D1:2300:G:C2 | 29:D1:2301:U:N1 | 2.81 | 0.48 |
| 29:D1:2346:C:O2' | 29:D1:2347:U:H5' | 2.13 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2380:U:N3 | 29:D1:2381:G:N7 | 2.62 | 0.48 |
| 29:D1:2394:G:C2' | 29:D1:2395:G:H5' | 2.42 | 0.48 |
| 29:D1:2413:A:C2 | 29:D1:2414:G:C5 | 3.01 | 0.48 |
| 29:D1:2522:G:O2' | 29:D1:2522:G:N3 | 2.46 | 0.48 |
| 29:D1:2577:C:O2' | 29:D1:2578:U:H5' | 2.13 | 0.48 |
| 29:D1:2612:U:H2' | 29:D1:2612:U:O2 | 2.14 | 0.48 |
| 29:D1:2631:U:N3 | 29:D1:2648:G:C2 | 2.82 | 0.48 |
| 29:D1:2675:C:C5 | 29:D1:2676:A:C6 | 2.98 | 0.48 |
| 29:D1:2678:A:O4' | 29:D1:2679:A:C2 | 2.64 | 0.48 |
| 29:D1:2714:G:N9 | 29:D1:2716:U:C5 | 2.82 | 0.48 |
| 29:D1:2833:A:C2 | 29:D1:2834:G:O4' | 2.67 | 0.48 |
| 29:D1:2879:C:C5 | 29:D1:2880:U:C5 | 3.02 | 0.48 |
| 29:D1:2887:A:N3 | 29:D1:2887:A:H5' | 2.28 | 0.48 |
| 29:D1:2987:A:C6 | 29:D1:2988:C:C4 | 3.01 | 0.48 |
| 29:D1:3000:A:C2' | 29:D1:3001:C:H6 | 2.23 | 0.48 |
| 29:D1:3209:A:C5 | 29:D1:3210:A:N6 | 2.81 | 0.48 |
| 29:D1:3213:A:H3' | 29:D1:3213:A:H8 | 1.78 | 0.48 |
| 29:D1:3237:U:OP2 | 29:D1:3237:U:H6 | 1.96 | 0.48 |
| 29:D1:3283:U:C2' | 29:D1:3284:G:O4' | 2.56 | 0.48 |
| 29:D1:3294:A:N6 | 29:D1:3295:A:C6 | 2.81 | 0.48 |
| 29:D1:3302:U:O2' | 29:D1:3303:G:C4' | 2.61 | 0.48 |
| 29:D1:3313:U:O2' | 29:D1:3314:A:P | 2.72 | 0.48 |
| 30:D2:3:U:C2 | 30:D2:4:U:C6 | 3.01 | 0.48 |
| 35:DD:18:ASN:O | 35:DD:19:ALA:HB2 | 2.13 | 0.48 |
| 35:DD:23:PRO:O | 35:DD:24:ALA:HB2 | 2.13 | 0.48 |
| 35:DD:117:GLU:C | 35:DD:119:ARG:H | 2.20 | 0.48 |
| 42:DK:34:SER:O | 42:DK:37:LEU:N | 2.47 | 0.48 |
| 42:DK:82:ARG:HA | 42:DK:85:LYS:CB | 2.43 | 0.48 |
| 44:DO:49:ARG:CA | 44:DO:53:TYR:CB | 2.91 | 0.48 |
| 45:DP:196:ALA:C | 45:DP:198:GLY:H | 2.22 | 0.48 |
| 47:DR:149:ALA:HB3 | 47:DR:150:VAL:CA | 2.43 | 0.48 |
| 48:DS:135:LYS:C | 48:DS:137:ALA:N | 2.69 | 0.48 |
| 48:DS:141:HIS:O | 48:DS:145:ALA:HB3 | 2.13 | 0.48 |
| 50:DU:17:LEU:O | 50:DU:52:ALA:N | 2.47 | 0.48 |
| 57:Db:20:HIS:O | 57:Db:21:HIS:C | 2.54 | 0.48 |
| 57:Db:114:ALA:C | 57:Db:116:GLY:H | 2.21 | 0.48 |
| 1:A1:5:U:C2 | 1:A1:20:G:N2 | 2.81 | 0.48 |
| 1:A1:57:G:C5 | 1:A1:91:G:C2 | 3.01 | 0.48 |
| 1:A1:89:G:C6 | 1:A1:90:C:C4 | 3.01 | 0.48 |
| 1:A1:158:U:HO2' | 1:A1:159:U:P | 2.36 | 0.48 |
| 1:A1:218:A:O2' | 1:A1:219:A:H8 | 1.96 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:221:A:C6 | 1:A1:833:U:O4 | 2.66 | 0.48 |
| 1:A1:452:A:H2 | 1:A1:454:U:O5' | 1.94 | 0.48 |
| 1:A1:454:U:O4 | 1:A1:456:A:C4 | 2.67 | 0.48 |
| 1:A1:544:A:OP2 | 1:A1:544:A:C8 | 2.67 | 0.48 |
| 1:A1:600:U:P | 17:AP:108:GLY:H | 2.37 | 0.48 |
| 1:A1:741:C:O2' | 1:A1:742:U:H6 | 1.96 | 0.48 |
| 1:A1:743:U:HO2' | 1:A1:744:U:C5' | 2.26 | 0.48 |
| 1:A1:807:A:C8 | 1:A1:807:A:C5' | 2.97 | 0.48 |
| 1:A1:1032:G:C2' | 1:A1:1033:C:O5' | 2.62 | 0.48 |
| 1:A1:1120:U:C2 | 1:A1:1121:C:C6 | 3.02 | 0.48 |
| 1:A1:1206:U:C6 | 1:A1:1207:C:C6 | 3.01 | 0.48 |
| 1:A1:1219:A:C4' | 1:A1:1220:C:C5 | 2.97 | 0.48 |
| 1:A1:1334:U:C4 | 1:A1:1335:U:C5 | 3.01 | 0.48 |
| 1:A1:1466:G:C5 | 1:A1:1467:C:N4 | 2.82 | 0.48 |
| 1:A1:1535:U:O2' | 1:A1:1536:G:N2 | 2.47 | 0.48 |
| 1:A1:1696:G:N2 | 1:A1:1708:U:H1' | 2.29 | 0.48 |
| 1:A1:1790:A:O2' | 1:A1:1792:G:N2 | 2.46 | 0.48 |
| 4:AC:93:ASP:O | 4:AC:94:ARG:C | 2.56 | 0.48 |
| 5:AD:66:GLN:N | 5:AD:87:CYS:N | 2.61 | 0.48 |
| 6:AE:42:ILE:C | 6:AE:45:ILE:H | 2.22 | 0.48 |
| 11:AJ:28:LEU:H | 14:AM:1:MET:CB | 2.26 | 0.48 |
| 13:AL:17:LEU:O | 13:AL:21:ASN:O | 2.31 | 0.48 |
| 16:AO:114:GLU:HA | 16:AO:117:ARG:CB | 2.43 | 0.48 |
| 19:AR:26:THR:HA | 19:AR:38:ARG:HA | 1.96 | 0.48 |
| 21:AT:2:ALA:C | 21:AT:4:ASN:H | 2.21 | 0.48 |
| 21:AT:94:VAL:O | 21:AT:95:ALA:HB2 | 2.12 | 0.48 |
| 25:Ad:102:UNK:C | 25:Ad:104:UNK:N | 2.74 | 0.48 |
| 29:B1:30:G:C5 | 29:B1:55:G:C6 | 3.02 | 0.48 |
| 29:B1:175:C:H2' | 29:B1:175:C:O2 | 2.12 | 0.48 |
| 29:B1:197:G:C5 | 29:B1:198:A:N7 | 2.81 | 0.48 |
| 29:B1:209:A:OP1 | 29:B1:210:U:OP1 | 2.32 | 0.48 |
| 29:B1:221:A:N9 | 29:B1:224:C:N4 | 2.62 | 0.48 |
| 29:B1:265:A:H4' | 29:B1:266:A:OP1 | 2.14 | 0.48 |
| 29:B1:283:G:C4 | 29:B1:285:A:N7 | 2.82 | 0.48 |
| 29:B1:361:A:H2' | 29:B1:362:U:O4' | 2.13 | 0.48 |
| 29:B1:538:G:N3 | 29:B1:556:U:H5 | 2.11 | 0.48 |
| 29:B1:560:G:HO2' | 29:B1:561:C:H5' | 1.72 | 0.48 |
| 29:B1:641:C:H6 | 29:B1:641:C:H3' | 1.79 | 0.48 |
| 29:B1:692:A:C2' | 29:B1:693:A:H8 | 2.27 | 0.48 |
| 29:B1:860:G:C2 | 29:B1:2133:U:C2 | 3.02 | 0.48 |
| 29:B1:1005:G:H2' | 29:B1:1006:A:O5' | 2.13 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1080:A:H8 | 29:B1:1080:A:OP2 | 1.96 | 0.48 |
| 29:B1:1129:A:C5 | 29:B1:1130:A:C6 | 2.99 | 0.48 |
| 29:B1:1167:U:O2' | 29:B1:1168:U:O5' | 2.31 | 0.48 |
| 29:B1:1268:G:H1 | 29:B1:1272:C:N4 | 2.11 | 0.48 |
| 29:B1:1270:A:C8 | 29:B1:1271:A:C8 | 3.02 | 0.48 |
| 29:B1:1293:U:H2' | 29:B1:1294:A:O5' | 2.13 | 0.48 |
| 29:B1:1499:C:C2 | 29:B1:1500:G:C8 | 3.01 | 0.48 |
| 29:B1:1506:A:H1' | 29:B1:1848:G:O6 | 2.12 | 0.48 |
| 29:B1:1508:C:HO2' | 29:B1:2353:G:H1' | 1.77 | 0.48 |
| 29:B1:1640:G:P | 29:B1:1738:C:H5" | 2.54 | 0.48 |
| 29:B1:1651:U:C2' | 29:B1:1652:G:H5' | 2.44 | 0.48 |
| 29:B1:1655:G:H5" | 29:B1:1656:A:H2' | 1.96 | 0.48 |
| 29:B1:1761:C:O2' | 29:B1:1762:C:H5" | 2.13 | 0.48 |
| 29:B1:1787:A:C3' | 29:B1:1788:C:H5" | 2.44 | 0.48 |
| 29:B1:2299:A:C4 | 29:B1:2300:G:H8 | 2.30 | 0.48 |
| 29:B1:2342:U:O2' | 29:B1:2343:C:H5' | 2.13 | 0.48 |
| 29:B1:2773:C:C2 | 29:B1:2774:C:C5 | 3.02 | 0.48 |
| 29:B1:2785:A:C6 | 29:B1:2786:G:C5 | 3.02 | 0.48 |
| 29:B1:2809:C:C2' | 29:B1:2810:C:OP1 | 2.61 | 0.48 |
| 29:B1:3072:C:C5 | 29:B1:3073:A:C8 | 3.00 | 0.48 |
| 29:B1:3097:C:O2' | 29:B1:3098:G:OP1 | 2.30 | 0.48 |
| 29:B1:3330:A:C2' | 29:B1:3331:U:O5' | 2.61 | 0.48 |
| 30:B2:48:U:H2' | 30:B2:49:G:OP2 | 2.14 | 0.48 |
| 30:B2:63:A:N1 | 30:B2:65:G:O6 | 2.46 | 0.48 |
| 35:BD:99:MET:O | 35:BD:100:PHE:O | 2.31 | 0.48 |
| 35:BD:215:ILE:O | 35:BD:217:LYS:N | 2.46 | 0.48 |
| 36:BE:154:THR:O | 36:BE:155:THR:C | 2.56 | 0.48 |
| 41:BJ:184:LYS:O | 41:BJ:186:GLU:N | 2.47 | 0.48 |
| 42:BK:109:HIS:O | 42:BK:110:ILE:CB | 2.61 | 0.48 |
| 43:BN:50:LYS:N | 43:BN:53:VAL:CB | 2.73 | 0.48 |
| 45:BP:97:ALA:O | 45:BP:98:ALA:C | 2.56 | 0.48 |
| 45:BP:124:LEU:HA | 45:BP:126:VAL:CA | 2.38 | 0.48 |
| 48:BS:158:GLU:O | 48:BS:161:ALA:HB3 | 2.13 | 0.48 |
| 61:Bf:76:LYS:C | 61:Bf:78:LYS:H | 2.20 | 0.48 |
| 62:Bg:52:ALA:O | 62:Bg:53:GLY:C | 2.55 | 0.48 |
| 26:Bj:10:UNK:C | 26:Bj:12:UNK:N | 2.74 | 0.48 |
| 1:C1:89:G:C5 | 1:C1:90:C:C5 | 3.02 | 0.48 |
| 1:C1:133:U:H4' | 1:C1:134:U:OP2 | 2.13 | 0.48 |
| 1:C1:158:U:O2' | 1:C1:159:U:P | 2.71 | 0.48 |
| 1:C1:262:U:C5 | 1:C1:263:C:N4 | 2.82 | 0.48 |
| 1:C1:263:C:O3' | 1:C1:264:G:O4' | 2.30 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:266:A:H3' | 1:C1:267:U:O4' | 2.13 | 0.48 |
| 1:C1:340:U:N3 | 1:C1:341:A:N7 | 2.62 | 0.48 |
| 1:C1:350:U:OP1 | 1:C1:351:C:O2' | 2.19 | 0.48 |
| 1:C1:518:A:C6 | 1:C1:535:A:N3 | 2.81 | 0.48 |
| 1:C1:579:A:C2 | 4:CC:144:ALA:HB2 | 2.47 | 0.48 |
| 1:C1:873:U:N3 | 1:C1:874:C:N4 | 2.61 | 0.48 |
| 1:C1:1092:A:C2 | 1:C1:1094:G:C5 | 3.01 | 0.48 |
| 1:C1:1096:C:O2 | 1:C1:1096:C:C2' | 2.61 | 0.48 |
| 1:C1:1099:U:O2' | 1:C1:1100:G:C1' | 2.61 | 0.48 |
| 1:C1:1169:G:N2 | 1:C1:1577:A:C5 | 2.82 | 0.48 |
| 1:C1:1186:U:O2' | 1:C1:1187:U:H5' | 2.14 | 0.48 |
| 1:C1:1332:C:O2 | 1:C1:1333:C:C6 | 2.67 | 0.48 |
| 1:C1:1424:A:H2' | 1:C1:1425:A:O4' | 2.14 | 0.48 |
| 1:C1:1486:G:H1' | 1:C1:1592:A:O2' | 2.13 | 0.48 |
| 1:C1:1493:A:N3 | 1:C1:1493:A:C2' | 2.76 | 0.48 |
| 1:C1:1575:G:N2 | 1:C1:1576:A:C1' | 2.76 | 0.48 |
| 1:C1:1578:U:C2' | 1:C1:1579:U:H5' | 2.43 | 0.48 |
| 1:C1:1654:G:N2 | 1:C1:1745:G:C4 | 2.81 | 0.48 |
| 1:C1:1660:A:C5 | 1:C1:1661:U:C5 | 3.01 | 0.48 |
| 3:CB:181:SER:O | 3:CB:182:PRO:C | 2.56 | 0.48 |
| 4:CC:97:SER:O | 4:CC:99:VAL:N | 2.47 | 0.48 |
| 6:CE:38:ASN:O | 6:CE:39:LYS:O | 2.31 | 0.48 |
| 9:CH:98:GLY:O | 9:CH:101:ALA:HB3 | 2.14 | 0.48 |
| 11:CJ:96:TYR:O | 11:CJ:97:VAL:CB | 2.61 | 0.48 |
| 17:CP:27:ASN:O | 17:CP:28:ASN:CB | 2.61 | 0.48 |
| 20:CS:37:ASN:C | 74:CS:101:OHX:N5 | 2.71 | 0.48 |
| 21:CT:2:ALA:C | 21:CT:4:ASN:H | 2.22 | 0.48 |
| 29:D1:66:A:N6 | 29:D1:68:C:O2 | 2.47 | 0.48 |
| 29:D1:173:G:H2' | 29:D1:174:C:N1 | 2.29 | 0.48 |
| 29:D1:311:C:N4 | 29:D1:312:C:C4 | 2.81 | 0.48 |
| 29:D1:366:A:O5' | 29:D1:366:A:H8 | 1.96 | 0.48 |
| 29:D1:370:U:O2 | 29:D1:403:C:C4 | 2.64 | 0.48 |
| 29:D1:564:G:C5 | 29:D1:565:U:C4 | 3.02 | 0.48 |
| 29:D1:572:A:N6 | 29:D1:573:C:C4 | 2.81 | 0.48 |
| 29:D1:746:A:C2' | 29:D1:747:A:OP1 | 2.62 | 0.48 |
| 29:D1:812:G:N3 | 29:D1:813:G:C8 | 2.81 | 0.48 |
| 29:D1:992:A:C2 | 29:D1:993:G:C8 | 3.01 | 0.48 |
| 29:D1:1041:U:H2' | 29:D1:1041:U:O2 | 2.13 | 0.48 |
| 29:D1:1113:G:H4' | 54:DY:17:ALA:HB1 | 1.95 | 0.48 |
| 29:D1:1188:U:H3 | 29:D1:1317:A:N6 | 2.11 | 0.48 |
| 29:D1:1233:G:C2 | 29:D1:1234:G:C8 | 3.02 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1246:G:C5 | 29:D1:1264:G:C2 | 3.01 | 0.48 |
| 29:D1:1317:A:C5 | 29:D1:1319:G:C5 | 3.01 | 0.48 |
| 29:D1:1317:A:N7 | 29:D1:1319:G:N7 | 2.61 | 0.48 |
| 29:D1:1326:A:C6 | 29:D1:1327:C:C4 | 3.02 | 0.48 |
| 29:D1:1330:A:C8 | 29:D1:1330:A:C3' | 2.97 | 0.48 |
| 29:D1:1406:A:H2 | 29:D1:1407:A:C2 | 2.31 | 0.48 |
| 29:D1:1449:A:N3 | 29:D1:2356:A:C5 | 2.81 | 0.48 |
| 29:D1:1454:A:C8 | 29:D1:1454:A:H3' | 2.49 | 0.48 |
| 29:D1:1515:A:H2' | 29:D1:1516:C:C6 | 2.48 | 0.48 |
| 29:D1:1524:A:O4' | 29:D1:1607:U:O2 | 2.31 | 0.48 |
| 29:D1:1526:U:O4' | 29:D1:1594:A:N1 | 2.46 | 0.48 |
| 29:D1:1641:U:H4' | 29:D1:1642:A:OP1 | 2.13 | 0.48 |
| 29:D1:1645:U:H2' | 29:D1:1646:G:O5' | 2.14 | 0.48 |
| 29:D1:1695:U:O2 | 29:D1:1749:A:C2 | 2.67 | 0.48 |
| 29:D1:1783:U:C2 | 29:D1:1784:G:N7 | 2.82 | 0.48 |
| 29:D1:2102:U:H2' | 29:D1:2103:U:C5 | 2.49 | 0.48 |
| 29:D1:2182:A:C2' | 29:D1:2183:A:H5' | 2.44 | 0.48 |
| 29:D1:2254:U:C2' | 29:D1:2255:A:OP1 | 2.60 | 0.48 |
| 29:D1:2588:U:O2 | 29:D1:2588:U:H2' | 2.13 | 0.48 |
| 29:D1:2655:U:O4' | 29:D1:2656:A:C4 | 2.66 | 0.48 |
| 29:D1:2717:U:C6 | 29:D1:2717:U:H5' | 2.49 | 0.48 |
| 29:D1:2897:A:N7 | 29:D1:2899:C:O4' | 2.46 | 0.48 |
| 29:D1:2901:G:O5' | 29:D1:2901:G:H8 | 1.96 | 0.48 |
| 29:D1:2906:C:H2' | 29:D1:2907:G:O4' | 2.13 | 0.48 |
| 29:D1:3172:A:C1' | 29:D1:3173:G:N7 | 2.67 | 0.48 |
| 29:D1:3198:U:O2 | 29:D1:3199:G:C8 | 2.66 | 0.48 |
| 29:D1:3377:G:C5' | 74:D1:3452:OHX:N2 | 2.77 | 0.48 |
| 29:D1:3390:G:N3 | 29:D1:3391:A:H1' | 2.29 | 0.48 |
| 30:D2:30:G:N1 | 30:D2:49:G:C2 | 2.78 | 0.48 |
| 31:D3:40:A:N6 | 31:D3:104:A:N9 | 2.62 | 0.48 |
| 32:DA:150:ASP:C | 32:DA:152:ARG:H | 2.21 | 0.48 |
| 33:DB:4:VAL:C | 33:DB:5:ILE:O | 2.56 | 0.48 |
| 33:DB:6:ARG:O | 33:DB:7:ASN:C | 2.57 | 0.48 |
| 45:DP:62:THR:O | 45:DP:63:ALA:HB3 | 2.13 | 0.48 |
| 61:Df:57:VAL:HA | 61:Df:58:PHE:CB | 2.43 | 0.48 |
| 63:Dh:18:UNK:O | 63:Dh:19:UNK:C | 2.61 | 0.48 |
| 1:A1:61:A:C4' | 1:A1:62:A:H3' | 2.41 | 0.48 |
| 1:A1:130:C:C5 | 1:A1:131:C:H1' | 2.49 | 0.48 |
| 1:A1:228:G:C6 | 1:A1:229:U:N3 | 2.81 | 0.48 |
| 1:A1:330:G:C2 | 1:A1:331:A:C8 | 3.01 | 0.48 |
| 1:A1:353:A:N6 | 1:A1:354:C:N3 | 2.61 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:381:C:H1' | 1:A1:756:A:C2 | 2.49 | 0.48 |
| 1:A1:474:A:N1 | 1:A1:594:A:H5' | 2.29 | 0.48 |
| 1:A1:528:U:O2 | 1:A1:528:U:O4' | 2.32 | 0.48 |
| 1:A1:547:U:O2' | 1:A1:596:C:O2 | 2.27 | 0.48 |
| 1:A1:551:G:O4' | 1:A1:581:U:O2 | 2.32 | 0.48 |
| 1:A1:665:U:H2' | 1:A1:666:U:C5' | 2.43 | 0.48 |
| 1:A1:704:C:C1' | 1:A1:705:U:OP1 | 2.61 | 0.48 |
| 1:A1:819:G:HO2' | 1:A1:820:U:P | 2.37 | 0.48 |
| 1:A1:945:U:O2' | 1:A1:946:U:H5' | 2.14 | 0.48 |
| 1:A1:1188:G:H2' | 1:A1:1189:A:C8 | 2.42 | 0.48 |
| 1:A1:1230:A:H2' | 1:A1:1230:A:N3 | 2.28 | 0.48 |
| 1:A1:1262:U:H2' | 1:A1:1263:G:H8 | 1.78 | 0.48 |
| 1:A1:1346:A:P | 1:A1:1346:A:O4' | 2.72 | 0.48 |
| 1:A1:1404:C:H2' | 1:A1:1405:G:C8 | 2.47 | 0.48 |
| 1:A1:1438:G:H8 | 1:A1:1438:G:H5' | 1.78 | 0.48 |
| 1:A1:1452:U:C4 | 1:A1:1453:G:N7 | 2.82 | 0.48 |
| 1:A1:1602:C:C5' | 1:A1:1603:U:OP2 | 2.61 | 0.48 |
| 1:A1:1671:A:C2 | 1:A1:1672:G:H1' | 2.48 | 0.48 |
| 1:A1:1747:G:H2' | 1:A1:1748:G:C8 | 2.49 | 0.48 |
| 2:AA:13:ASP:C | 2:AA:17:LEU:O | 2.57 | 0.48 |
| 6:AE:123:HIS:C | 6:AE:125:ALA:N | 2.71 | 0.48 |
| 10:AI:73:PRO:O | 10:AI:74:ALA:CB | 2.62 | 0.48 |
| 25:Ad:86:UNK:C | 25:Ad:88:UNK:N | 2.74 | 0.48 |
| 29:B1:7:C:N3 | 29:B1:8:C:C4 | 2.82 | 0.48 |
| 29:B1:30:G:C2 | 29:B1:55:G:C5 | 3.02 | 0.48 |
| 29:B1:191:U:O2 | 29:B1:191:U:C2' | 2.60 | 0.48 |
| 29:B1:291:C:O2' | 29:B1:2599:U:H1' | 2.13 | 0.48 |
| 29:B1:422:A:H1' | 29:B1:423:A:O5' | 2.12 | 0.48 |
| 29:B1:514:G:H3' | 29:B1:515:C:C5 | 2.49 | 0.48 |
| 29:B1:548:G:C8 | 29:B1:548:G:OP2 | 2.65 | 0.48 |
| 29:B1:588:G:C4 | 29:B1:612:U:C5 | 3.02 | 0.48 |
| 29:B1:628:A:C5' | 29:B1:1399:A:N7 | 2.76 | 0.48 |
| 29:B1:637:C:N1 | 29:B1:2361:A:C2 | 2.81 | 0.48 |
| 29:B1:736:A:N7 | 29:B1:737:G:N7 | 2.61 | 0.48 |
| 29:B1:826:G:N3 | 29:B1:827:A:C8 | 2.81 | 0.48 |
| 29:B1:901:G:C6 | 29:B1:902:G:N7 | 2.81 | 0.48 |
| 29:B1:954:U:C5 | 29:B1:1115:G:O2' | 2.65 | 0.48 |
| 29:B1:955:U:C4 | 29:B1:967:A:C6 | 3.02 | 0.48 |
| 29:B1:993:G:N3 | 29:B1:2637:A:C2' | 2.70 | 0.48 |
| 29:B1:1156:C:C2' | 29:B1:1156:C:O2 | 2.60 | 0.48 |
| 29:B1:1260:A:C6 | 29:B1:1261:G:C8 | 3.01 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1296:C:O2' | 29:B1:1297:C:P | 2.71 | 0.48 |
| 29:B1:1380:G:C2 | 29:B1:1381:A:N7 | 2.82 | 0.48 |
| 29:B1:1522:U:C6 | 29:B1:1835:A:O4' | 2.66 | 0.48 |
| 29:B1:1601:U:O2 | 29:B1:1603:A:OP2 | 2.32 | 0.48 |
| 29:B1:1682:U:H5' | 29:B1:1683:A:OP2 | 2.14 | 0.48 |
| 29:B1:1807:G:H8 | 29:B1:1807:G:OP2 | 1.96 | 0.48 |
| 29:B1:1900:A:O4' | 29:B1:1901:A:N1 | 2.46 | 0.48 |
| 29:B1:1912:U:H1' | 29:B1:1913:A:OP1 | 2.14 | 0.48 |
| 29:B1:2137:U:OP1 | 29:B1:2137:U:C4' | 2.62 | 0.48 |
| 29:B1:2315:G:N2 | 29:B1:2316:G:C5 | 2.82 | 0.48 |
| 29:B1:2357:A:H2' | 29:B1:2358:A:O5' | 2.12 | 0.48 |
| 29:B1:2412:G:C4 | 29:B1:2811:A:C2 | 3.02 | 0.48 |
| 29:B1:2610:G:N3 | 29:B1:2611:U:C6 | 2.82 | 0.48 |
| 29:B1:2727:A:N1 | 29:B1:2729:U:H5 | 2.11 | 0.48 |
| 29:B1:2743:A:C5 | 29:B1:2744:U:C5 | 3.02 | 0.48 |
| 29:B1:2951:G:O2' | 29:B1:2952:G:H5' | 2.13 | 0.48 |
| 29:B1:2955:U:C2 | 29:B1:2956:A:C8 | 3.02 | 0.48 |
| 29:B1:3040:A:N3 | 29:B1:3040:A:H2' | 2.27 | 0.48 |
| 29:B1:3109:G:N3 | 29:B1:3110:C:C6 | 2.81 | 0.48 |
| 29:B1:3114:A:N7 | 29:B1:3115:C:C6 | 2.81 | 0.48 |
| 29:B1:3255:U:H2' | 29:B1:3256:G:C8 | 2.48 | 0.48 |
| 29:B1:3260:G:C6 | 29:B1:3261:C:C1' | 2.97 | 0.48 |
| 29:B1:3306:U:O2' | 29:B1:3309:G:N1 | 2.42 | 0.48 |
| 74:B1:3536:OHX:N5 | 61:Bf:47:GLN:O | 2.46 | 0.48 |
| 30:B2:9:C:C6 | 30:B2:9:C:OP2 | 2.67 | 0.48 |
| 30:B2:57:G:C8 | 30:B2:58:C:C6 | 3.02 | 0.48 |
| 30:B2:67:G:N2 | 30:B2:68:C:C1' | 2.77 | 0.48 |
| 31:B3:106:C:C6 | 31:B3:138:A:N7 | 2.81 | 0.48 |
| 35:BD:254:ALA:O | 35:BD:258:LEU:N | 2.46 | 0.48 |
| 36:BE:150:LEU:O | 36:BE:151:GLN:O | 2.32 | 0.48 |
| 37:BF:60:ASP:O | 37:BF:61:ASN:CB | 2.61 | 0.48 |
| 38:BG:187:GLU:O | 38:BG:188:ILE:C | 2.56 | 0.48 |
| 39:BH:99:PRO:HA | 39:BH:236:GLY:H | 1.78 | 0.48 |
| 41:BJ:170:LYS:O | 41:BJ:178:ARG:N | 2.47 | 0.48 |
| 53:BX:73:VAL:HA | 53:BX:80:VAL:HA | 1.96 | 0.48 |
| 62:Bg:58:SER:C | 62:Bg:60:CYS:H | 2.21 | 0.48 |
| 62:Bg:73:THR:CB | 62:Bg:76:ALA:HB3 | 2.44 | 0.48 |
| 63:Bh:38:UNK:O | 63:Bh:39:UNK:O | 2.31 | 0.48 |
| 71:Br:12:UNK:O | 71:Br:14:UNK:N | 2.47 | 0.48 |
| 1:C1:16:G:C2 | 1:C1:17:C:N3 | 2.82 | 0.48 |
| 1:C1:57:G:O6 | 74:C1:1995:OHX:N6 | 2.46 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:70:C:C4 | 1:C1:71:A:N6 | 2.82 | 0.48 |
| 1:C1:223:U:H2' | 1:C1:224:C:C6 | 2.48 | 0.48 |
| 1:C1:224:C:N3 | 1:C1:838:G:C2 | 2.81 | 0.48 |
| 1:C1:250:C:OP2 | 1:C1:251:A:OP2 | 2.32 | 0.48 |
| 1:C1:286:C:H2' | 1:C1:287:G:H8 | 1.76 | 0.48 |
| 1:C1:335:U:C4 | 1:C1:336:G:C6 | 3.02 | 0.48 |
| 1:C1:351:C:OP1 | 1:C1:630:A:O2' | 2.31 | 0.48 |
| 1:C1:356:G:C2 | 1:C1:357:G:C8 | 3.02 | 0.48 |
| 1:C1:464:A:H2' | 1:C1:464:A:N3 | 2.28 | 0.48 |
| 1:C1:647:G:C2 | 1:C1:687:G:N1 | 2.81 | 0.48 |
| 1:C1:876:G:C8 | 1:C1:944:A:C2 | 3.02 | 0.48 |
| 1:C1:986:G:H2' | 1:C1:987:G:C8 | 2.43 | 0.48 |
| 1:C1:990:C:H4' | 9:CH:128:LYS:O | 2.14 | 0.48 |
| 1:C1:993:A:C8 | 1:C1:994:G:C8 | 3.01 | 0.48 |
| 1:C1:1043:A:C4 | 1:C1:1044:U:C5 | 3.02 | 0.48 |
| 1:C1:1141:G:N3 | 1:C1:1142:A:C8 | 2.82 | 0.48 |
| 1:C1:1142:A:H2' | 1:C1:1143:A:C8 | 2.49 | 0.48 |
| 1:C1:1206:U:H5' | 1:C1:1207:C:OP2 | 2.14 | 0.48 |
| 1:C1:1224:A:C6 | 1:C1:1225:U:O4 | 2.66 | 0.48 |
| 1:C1:1258:U:H2' | 1:C1:1259:U:C1' | 2.42 | 0.48 |
| 1:C1:1344:A:O2' | 1:C1:1345:A:O5' | 2.31 | 0.48 |
| 1:C1:1542:G:H21 | 1:C1:1568:C:H2' | 1.73 | 0.48 |
| 1:C1:1619:C:N3 | 1:C1:1620:C:H5 | 2.12 | 0.48 |
| 1:C1:1673:G:C8 | 1:C1:1674:C:C5 | 3.01 | 0.48 |
| 5:CD:180:ARG:O | 5:CD:182:ALA:N | 2.46 | 0.48 |
| 10:CI:11:VAL:O | 10:CI:13:LYS:N | 2.42 | 0.48 |
| 10:CI:98:ASN:H | 10:CI:101:ALA:HB3 | 1.79 | 0.48 |
| 17:CP:114:LYS:CB | 17:CP:115:GLY:CA | 2.92 | 0.48 |
| 18:CQ:41:ILE:C | 18:CQ:43:ASP:H | 2.21 | 0.48 |
| 29:D1:34:A:C8 | 29:D1:51:A:C6 | 3.01 | 0.48 |
| 29:D1:65:A:H2' | 29:D1:111:C:H41 | 1.78 | 0.48 |
| 29:D1:140:C:O2' | 29:D1:141:C:H5' | 2.12 | 0.48 |
| 29:D1:246:U:H3' | 29:D1:246:U:P | 2.54 | 0.48 |
| 29:D1:405:U:C5 | 29:D1:406:G:C8 | 3.02 | 0.48 |
| 29:D1:495:G:H2' | 29:D1:496:C:H5' | 1.94 | 0.48 |
| 29:D1:509:U:N3 | 29:D1:510:G:C8 | 2.82 | 0.48 |
| 29:D1:559:A:H2' | 29:D1:560:G:C8 | 2.48 | 0.48 |
| 29:D1:576:C:C2' | 29:D1:577:C:O5' | 2.61 | 0.48 |
| 29:D1:596:C:N4 | 29:D1:608:A:N3 | 2.61 | 0.48 |
| 29:D1:623:U:C2' | 29:D1:624:G:H8 | 2.22 | 0.48 |
| 29:D1:733:G:HO2' | 29:D1:734:C:H5 | 1.61 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:738:A:N3 | 29:D1:739:G:C8 | 2.81 | 0.48 |
| 29:D1:832:G:N1 | 29:D1:863:C:C4 | 2.81 | 0.48 |
| 29:D1:1149:G:H3' | 29:D1:1150:A:C5' | 2.44 | 0.48 |
| 29:D1:1153:A:N6 | 29:D1:1154:A:N1 | 2.56 | 0.48 |
| 29:D1:1170:A:N7 | 29:D1:1171:G:C8 | 2.82 | 0.48 |
| 29:D1:1180:A:N3 | 29:D1:1182:A:N9 | 2.61 | 0.48 |
| 29:D1:1183:C:C3' | 29:D1:1184:A:H5" | 2.43 | 0.48 |
| 29:D1:1205:A:C5 | 29:D1:1206:G:C8 | 3.01 | 0.48 |
| 29:D1:1246:G:C6 | 29:D1:1264:G:C2 | 3.01 | 0.48 |
| 29:D1:1357:G:C2' | 29:D1:1358:C:C6 | 2.96 | 0.48 |
| 29:D1:1393:A:N7 | 29:D1:1418:A:N9 | 2.61 | 0.48 |
| 29:D1:1403:C:H5' | 29:D1:1404:G:OP2 | 2.14 | 0.48 |
| 29:D1:1883:A:H2' | 29:D1:1883:A:N3 | 2.28 | 0.48 |
| 29:D1:1895:A:C6 | 29:D1:2341:A:N1 | 2.82 | 0.48 |
| 29:D1:1903:U:C2 | 29:D1:1905:G:C5' | 2.94 | 0.48 |
| 29:D1:2297:U:OP2 | 29:D1:2297:U:H6 | 1.96 | 0.48 |
| 29:D1:2313:A:C1' | 29:D1:2315:G:C8 | 2.97 | 0.48 |
| 29:D1:2340:U:C2' | 29:D1:2341:A:H5' | 2.44 | 0.48 |
| 29:D1:2390:A:O4' | 29:D1:3307:A:N1 | 2.47 | 0.48 |
| 29:D1:2547:A:C6 | 29:D1:2548:C:N4 | 2.81 | 0.48 |
| 29:D1:2860:U:H1' | 29:D1:2939:G:OP1 | 2.13 | 0.48 |
| 29:D1:2964:G:C6 | 29:D1:2968:G:O6 | 2.66 | 0.48 |
| 29:D1:3047:U:N3 | 29:D1:3048:A:N1 | 2.62 | 0.48 |
| 29:D1:3055:U:O2' | 29:D1:3057:U:OP1 | 2.24 | 0.48 |
| 29:D1:3182:G:H2' | 29:D1:3183:A:O4' | 2.14 | 0.48 |
| 29:D1:3294:A:C2 | 29:D1:3395:G:N2 | 2.82 | 0.48 |
| 29:D1:3330:A:C4 | 29:D1:3331:U:C5 | 3.01 | 0.48 |
| 30:D2:2:G:C2 | 30:D2:3:U:C5 | 3.02 | 0.48 |
| 30:D2:88:G:N3 | 30:D2:89:G:C8 | 2.82 | 0.48 |
| 30:D2:102:A:H2' | 30:D2:103:A:O5' | 2.14 | 0.48 |
| 31:D3:4:C:H2' | 31:D3:5:U:H5' | 1.94 | 0.48 |
| 31:D3:74:U:H4' | 31:D3:89:A:C4 | 2.48 | 0.48 |
| 34:DC:24:SER:O | 34:DC:26:ARG:O | 2.32 | 0.48 |
| 34:DC:299:ASP:C | 34:DC:301:THR:N | 2.71 | 0.48 |
| 35:DD:181:VAL:O | 35:DD:182:LEU:CB | 2.62 | 0.48 |
| 36:DE:157:ALA:O | 36:DE:158:ARG:C | 2.57 | 0.48 |
| 44:DO:56:LYS:HA | 44:DO:57:GLN:HA | 1.58 | 0.48 |
| 46:DQ:16:SER:HA | 46:DQ:149:VAL:HA | 1.95 | 0.48 |
| 46:DQ:22:LEU:O | 46:DQ:144:SER:N | 2.40 | 0.48 |
| 48:DS:120:TYR:O | 48:DS:121:HIS:C | 2.57 | 0.48 |
| 55:DZ:82:GLY:O | 55:DZ:83:LYS:C | 2.56 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 61:Df:52:GLY:O | 61:Df:53:GLN:CB | 2.62 | 0.48 |
| 1:A1:23:G:H2' | 1:A1:24:U:H6 | 1.79 | 0.48 |
| 1:A1:62:A:H1' | 1:A1:63:G:P | 2.54 | 0.48 |
| 1:A1:71:A:C2 | 1:A1:72:A:N6 | 2.71 | 0.48 |
| 1:A1:93:A:C6 | 1:A1:398:G:C6 | 3.01 | 0.48 |
| 1:A1:227:U:O2' | 1:A1:228:G:OP2 | 2.23 | 0.48 |
| 1:A1:287:G:C2' | 1:A1:288:A:H5' | 2.44 | 0.48 |
| 1:A1:418:G:N2 | 1:A1:419:G:C5 | 2.82 | 0.48 |
| 1:A1:469:C:H5" | 1:A1:470:A:OP2 | 2.13 | 0.48 |
| 1:A1:551:G:N1 | 1:A1:552:G:C6 | 2.82 | 0.48 |
| 1:A1:619:A:O5' | 1:A1:620:A:OP2 | 2.31 | 0.48 |
| 1:A1:929:A:N6 | 1:A1:930:A:C2 | 2.82 | 0.48 |
| 1:A1:938:G:H5' | 1:A1:939:A:OP2 | 2.13 | 0.48 |
| 1:A1:986:G:C4' | 1:A1:987:G:OP1 | 2.62 | 0.48 |
| 1:A1:1275:A:C8 | 1:A1:1438:G:N2 | 2.81 | 0.48 |
| 1:A1:1331:A:H2' | 1:A1:1332:C:C5' | 2.44 | 0.48 |
| 1:A1:1359:C:C2 | 1:A1:1360:A:C8 | 3.02 | 0.48 |
| 1:A1:1536:G:N3 | 1:A1:1536:G:C2' | 2.75 | 0.48 |
| 1:A1:1584:G:N1 | 11:AJ:125:GLU:O | 2.39 | 0.48 |
| 1:A1:1631:A:H2' | 1:A1:1632:C:C4' | 2.43 | 0.48 |
| 1:A1:1664:C:O2 | 1:A1:1665:U:H1' | 2.14 | 0.48 |
| 1:A1:1691:A:N7 | 1:A1:1692:G:C4 | 2.82 | 0.48 |
| 1:A1:1746:A:O5' | 1:A1:1746:A:H8 | 1.97 | 0.48 |
| 4:AC:7:LYS:O | 4:AC:8:LYS:C | 2.56 | 0.48 |
| 4:AC:75:LYS:O | 4:AC:78:LYS:HA | 2.14 | 0.48 |
| 8:AG:108:ASP:O | 8:AG:111:ALA:CB | 2.61 | 0.48 |
| 20:AS:26:SER:O | 20:AS:28:THR:N | 2.42 | 0.48 |
| 28:Ah:13:UNK:C | 28:Ah:15:UNK:N | 2.74 | 0.48 |
| 29:B1:80:G:N1 | 29:B1:81:C:C5 | 2.82 | 0.48 |
| 29:B1:120:G:N2 | 29:B1:150:A:C8 | 2.81 | 0.48 |
| 29:B1:144:A:H2' | 29:B1:145:G:C1' | 2.43 | 0.48 |
| 29:B1:331:G:O2' | 29:B1:332:C:P | 2.72 | 0.48 |
| 29:B1:359:U:H4' | 29:B1:817:A:N6 | 2.29 | 0.48 |
| 29:B1:372:A:C6 | 29:B1:373:A:C6 | 3.01 | 0.48 |
| 29:B1:383:G:H5' | 29:B1:385:A:OP2 | 2.13 | 0.48 |
| 29:B1:411:U:C2 | 31:B3:13:A:C2 | 3.02 | 0.48 |
| 29:B1:532:A:N1 | 29:B1:533:A:N3 | 2.62 | 0.48 |
| 29:B1:580:C:H5" | 29:B1:581:U:OP2 | 2.14 | 0.48 |
| 29:B1:603:A:O5' | 29:B1:603:A:H8 | 1.97 | 0.48 |
| 29:B1:668:G:C2' | 29:B1:669:U:O5' | 2.61 | 0.48 |
| 29:B1:720:A:H8 | 29:B1:720:A:P | 2.36 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:771:A:C3' | 29:B1:772:U:C5' | 2.92 | 0.48 |
| 29:B1:839:C:H2' | 29:B1:840:C:C6 | 2.49 | 0.48 |
| 29:B1:1014:U:H4' | 29:B1:1014:U:OP1 | 2.08 | 0.48 |
| 29:B1:1079:A:O4' | 36:BE:141:PRO:CB | 2.62 | 0.48 |
| 29:B1:1135:A:O2' | 29:B1:1136:A:H5' | 2.14 | 0.48 |
| 29:B1:1192:C:OP1 | 29:B1:1192:C:O2 | 2.31 | 0.48 |
| 29:B1:1647:A:C2 | 29:B1:1809:A:H1' | 2.49 | 0.48 |
| 29:B1:1681:U:H5' | 29:B1:1682:U:OP2 | 2.13 | 0.48 |
| 29:B1:1760:A:C6 | 29:B1:1766:G:C5 | 3.02 | 0.48 |
| 29:B1:1907:C:H5 | 29:B1:1908:A:C5 | 2.31 | 0.48 |
| 29:B1:2188:A:C2 | 62:Bg:19:GLY:HA2 | 2.47 | 0.48 |
| 29:B1:2317:A:H2' | 29:B1:2318:U:O4' | 2.13 | 0.48 |
| 29:B1:2536:A:C2 | 29:B1:2537:U:C2 | 3.02 | 0.48 |
| 29:B1:2607:G:C5 | 29:B1:2608:G:N7 | 2.82 | 0.48 |
| 29:B1:2614:G:C6 | 29:B1:2615:G:C5 | 3.01 | 0.48 |
| 29:B1:2673:A:C2 | 29:B1:2676:A:H8 | 2.32 | 0.48 |
| 29:B1:2677:G:N1 | 29:B1:2679:A:C4 | 2.81 | 0.48 |
| 29:B1:2684:C:N3 | 29:B1:2685:C:C5 | 2.81 | 0.48 |
| 29:B1:2732:G:C5 | 29:B1:2733:A:C8 | 3.02 | 0.48 |
| 29:B1:2738:A:H3' | 29:B1:2739:A:H8 | 1.79 | 0.48 |
| 29:B1:2841:G:C5 | 29:B1:2844:C:N4 | 2.82 | 0.48 |
| 29:B1:3073:A:H2' | 29:B1:3074:G:O4' | 2.12 | 0.48 |
| 29:B1:3083:G:C2' | 29:B1:3084:C:O5' | 2.62 | 0.48 |
| 29:B1:3123:A:C2' | 29:B1:3124:G:H5' | 2.43 | 0.48 |
| 29:B1:3171:U:C2' | 29:B1:3172:A:OP2 | 2.62 | 0.48 |
| 29:B1:3205:G:H2' | 29:B1:3206:C:C5 | 2.49 | 0.48 |
| 29:B1:3314:A:H2' | 34:BC:119:TYR:H | 1.74 | 0.48 |
| 29:B1:3315:G:H4' | 29:B1:3319:U:O3' | 2.14 | 0.48 |
| 29:B1:3348:G:C2 | 29:B1:3349:C:H1' | 2.49 | 0.48 |
| 29:B1:3387:U:N3 | 29:B1:3388:C:N4 | 2.61 | 0.48 |
| 29:B1:3391:A:C2 | 29:B1:3392:U:N1 | 2.81 | 0.48 |
| 29:B1:3393:U:C2 | 29:B1:3394:U:C5 | 3.02 | 0.48 |
| 30:B2:37:G:H21 | 30:B2:44:C:N4 | 2.10 | 0.48 |
| 30:B2:41:G:C2 | 30:B2:43:U:C6 | 3.02 | 0.48 |
| 31:B3:8:C:C5 | 31:B3:9:A:N7 | 2.82 | 0.48 |
| 31:B3:48:A:C4 | 31:B3:51:G:N7 | 2.82 | 0.48 |
| 31:B3:65:A:C2' | 31:B3:66:A:H8 | 2.11 | 0.48 |
| 31:B3:65:A:C8 | 31:B3:66:A:N7 | 2.82 | 0.48 |
| 31:B3:79:A:H3' | 31:B3:80:A:C8 | 2.49 | 0.48 |
| 33:BB:200:ARG:O | 33:BB:203:ALA:N | 2.45 | 0.48 |
| 34:BC:39:LYS:O | 34:BC:40:PRO:C | 2.56 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 44:BO:108:ARG:O | 44:BO:110:ALA:N | 2.47 | 0.48 |
| 44:BO:146:ALA:C | 44:BO:148:TYR:N | 2.72 | 0.48 |
| 49:BT:76:ILE:O | 49:BT:77:ASN:CB | 2.61 | 0.48 |
| 53:BX:116:LYS:O | 53:BX:117:ALA:C | 2.57 | 0.48 |
| 63:Bh:43:UNK:O | 63:Bh:44:UNK:C | 2.60 | 0.48 |
| 65:Bk:6:UNK:O | 65:Bk:8:UNK:C | 2.61 | 0.48 |
| 65:Bk:6:UNK:HA | 65:Bk:9:UNK:CB | 2.42 | 0.48 |
| 1:C1:114:C:C5 | 1:C1:248:U:C4 | 3.01 | 0.48 |
| 1:C1:148:A:N6 | 1:C1:167:U:C2 | 2.82 | 0.48 |
| 1:C1:210:A:C3' | 1:C1:211:U:H5" | 2.44 | 0.48 |
| 1:C1:359:A:H2' | 1:C1:359:A:N3 | 2.28 | 0.48 |
| 1:C1:372:G:H1' | 1:C1:612:U:H3 | 1.78 | 0.48 |
| 1:C1:451:A:N6 | 1:C1:456:A:N6 | 2.60 | 0.48 |
| 1:C1:568:G:H2' | 1:C1:569:C:H5' | 1.96 | 0.48 |
| 1:C1:605:A:N6 | 1:C1:606:A:H61 | 2.11 | 0.48 |
| 1:C1:620:A:C6 | 1:C1:621:A:N1 | 2.81 | 0.48 |
| 1:C1:783:G:C2' | 1:C1:784:C:O5' | 2.62 | 0.48 |
| 1:C1:800:U:C2 | 1:C1:801:G:N7 | 2.82 | 0.48 |
| 1:C1:818:C:C2' | 1:C1:819:G:C8 | 2.97 | 0.48 |
| 1:C1:1086:A:C2 | 1:C1:1141:G:N3 | 2.81 | 0.48 |
| 1:C1:1096:C:C2' | 1:C1:1100:G:OP2 | 2.62 | 0.48 |
| 1:C1:1124:A:H2' | 1:C1:1125:A:O4' | 2.14 | 0.48 |
| 1:C1:1172:G:C5 | 1:C1:1173:C:N4 | 2.82 | 0.48 |
| 1:C1:1348:A:O3' | 15:CN:11:GLU:HA | 2.13 | 0.48 |
| 1:C1:1353:U:H3 | 1:C1:1371:A:H61 | 1.61 | 0.48 |
| 1:C1:1358:G:O2' | 14:CM:129:GLN:O | 2.20 | 0.48 |
| 1:C1:1569:A:C2 | 1:C1:1570:A:C8 | 3.01 | 0.48 |
| 1:C1:1602:C:C2 | 1:C1:1603:U:C6 | 3.01 | 0.48 |
| 1:C1:1620:C:O2 | 1:C1:1620:C:C2' | 2.60 | 0.48 |
| 1:C1:1684:U:H3' | 1:C1:1685:G:H5' | 1.96 | 0.48 |
| 1:C1:1696:G:N2 | 1:C1:1708:U:H1' | 2.29 | 0.48 |
| 1:C1:1771:U:C2 | 1:C1:1772:C:C6 | 3.02 | 0.48 |
| 6:CE:123:HIS:C | 6:CE:125:ALA:N | 2.72 | 0.48 |
| 8:CG:93:LYS:O | 8:CG:96:VAL:N | 2.41 | 0.48 |
| 17:CP:132:LEU:N | 17:CP:133:LEU:C | 2.71 | 0.48 |
| 21:CT:181:TRP:CB | 21:CT:188:ILE:HA | 2.44 | 0.48 |
| 29:D1:88:A:H3' | 29:D1:88:A:C8 | 2.48 | 0.48 |
| 29:D1:92:G:N7 | 29:D1:94:G:N2 | 2.62 | 0.48 |
| 29:D1:102:C:H1' | 29:D1:103:G:P | 2.54 | 0.48 |
| 29:D1:271:C:C4 | 29:D1:295:A:N7 | 2.81 | 0.48 |
| 29:D1:532:A:C2' | 29:D1:533:A:C8 | 2.96 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:641:C:O2' | 29:D1:642:U:P | 2.71 | 0.48 |
| 29:D1:665:A:C6 | 29:D1:666:A:C5 | 3.01 | 0.48 |
| 29:D1:716:A:P | 29:D1:716:A:O4' | 2.71 | 0.48 |
| 29:D1:737:G:C2 | 29:D1:738:A:C8 | 3.02 | 0.48 |
| 29:D1:774:G:C4 | 29:D1:775:A:C8 | 3.02 | 0.48 |
| 29:D1:945:C:H3' | 29:D1:946:U:C6 | 2.49 | 0.48 |
| 29:D1:1255:C:H2' | 29:D1:1255:C:O2 | 2.14 | 0.48 |
| 29:D1:1397:C:C4 | 29:D1:1398:U:C4 | 3.01 | 0.48 |
| 29:D1:1406:A:C2 | 29:D1:1407:A:C4 | 3.02 | 0.48 |
| 29:D1:1677:G:C5 | 29:D1:1678:G:N7 | 2.82 | 0.48 |
| 29:D1:1779:C:H4' | 29:D1:1779:C:OP1 | 2.13 | 0.48 |
| 29:D1:1794:G:C4' | 29:D1:1795:U:OP2 | 2.55 | 0.48 |
| 29:D1:2140:U:H2' | 29:D1:2977:G:O2' | 2.14 | 0.48 |
| 29:D1:2258:U:H3' | 29:D1:2259:A:C8 | 2.48 | 0.48 |
| 29:D1:2287:C:O2 | 29:D1:2298:U:C4' | 2.62 | 0.48 |
| 29:D1:2561:A:P | 29:D1:2561:A:C8 | 3.06 | 0.48 |
| 29:D1:2585:G:C8 | 31:D3:151:C:C2 | 3.01 | 0.48 |
| 29:D1:2699:G:H2' | 29:D1:2700:G:H8 | 1.77 | 0.48 |
| 29:D1:2739:A:N3 | 29:D1:2739:A:H2' | 2.28 | 0.48 |
| 29:D1:2908:G:C6 | 29:D1:2909:U:C4 | 3.02 | 0.48 |
| 29:D1:2992:U:O4 | 29:D1:2993:G:C8 | 2.67 | 0.48 |
| 29:D1:3100:U:O2' | 29:D1:3101:G:H8 | 1.92 | 0.48 |
| 29:D1:3113:A:N1 | 29:D1:3122:A:C8 | 2.82 | 0.48 |
| 29:D1:3113:A:O2' | 29:D1:3114:A:H5' | 2.14 | 0.48 |
| 29:D1:3215:A:H5" | 29:D1:3218:A:P | 2.54 | 0.48 |
| 29:D1:3271:G:N3 | 29:D1:3271:G:C3' | 2.77 | 0.48 |
| 29:D1:3300:U:OP2 | 29:D1:3300:U:O4' | 2.32 | 0.48 |
| 29:D1:3316:A:H4' | 29:D1:3317:U:OP2 | 2.11 | 0.48 |
| 29:D1:3353:G:O6 | 29:D1:3356:G:C5 | 2.67 | 0.48 |
| 30:D2:43:U:O2 | 30:D2:44:C:O4' | 2.31 | 0.48 |
| 31:D3:49:G:C2' | 31:D3:50:C:O5' | 2.62 | 0.48 |
| 31:D3:67:U:O3' | 31:D3:68:G:O4' | 2.32 | 0.48 |
| 31:D3:78:G:N1 | 31:D3:79:A:C6 | 2.82 | 0.48 |
| 34:DC:17:LEU:CB | 34:DC:18:PRO:HA | 2.44 | 0.48 |
| 39:DH:109:LEU:O | 39:DH:110:THR:CB | 2.61 | 0.48 |
| 39:DH:158:ASP:HA | 39:DH:159:PRO:C | 2.36 | 0.48 |
| 41:DJ:58:GLU:O | 41:DJ:128:ARG:HA | 2.14 | 0.48 |
| 73:DM:31:ASP:O | 73:DM:32:ASN:CB | 2.62 | 0.48 |
| 43:DN:93:LYS:O | 43:DN:96:ALA:N | 2.46 | 0.48 |
| 44:DO:144:ARG:C | 44:DO:146:ALA:H | 2.21 | 0.48 |
| 49:DT:75:ILE:HA | 49:DT:89:LEU:O | 2.14 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 51:DV:49:ILE:C | 51:DV:51:TRP:H | 2.21 | 0.48 |
| 54:DY:139:ARG:HA | 54:DY:143:GLY:H | 1.78 | 0.48 |
| 60:De:38:ASN:C | 60:De:40:LYS:H | 2.22 | 0.48 |
| 1:A1:107:C:O2' | 1:A1:362:G:N3 | 2.47 | 0.48 |
| 1:A1:156:A:H5' | 1:A1:416:A:H8 | 1.77 | 0.48 |
| 1:A1:184:C:C5 | 1:A1:202:A:H2 | 2.30 | 0.48 |
| 1:A1:250:C:H2' | 1:A1:251:A:O4' | 2.13 | 0.48 |
| 1:A1:526:A:OP1 | 1:A1:527:A:N6 | 2.47 | 0.48 |
| 1:A1:539:G:N3 | 1:A1:543:C:C4 | 2.82 | 0.48 |
| 1:A1:545:A:N7 | 1:A1:594:A:N7 | 2.61 | 0.48 |
| 1:A1:551:G:C2 | 1:A1:552:G:C8 | 3.01 | 0.48 |
| 1:A1:607:G:C8 | 1:A1:613:G:C4 | 3.02 | 0.48 |
| 1:A1:818:C:H2' | 1:A1:819:G:C8 | 2.48 | 0.48 |
| 1:A1:823:G:H21 | 1:A1:824:G:H2' | 1.78 | 0.48 |
| 1:A1:825:U:C5 | 1:A1:826:U:C2 | 3.02 | 0.48 |
| 1:A1:975:C:C4 | 1:A1:976:G:C5 | 3.01 | 0.48 |
| 1:A1:1121:C:H1' | 1:A1:1127:G:H22 | 1.77 | 0.48 |
| 1:A1:1122:G:C2 | 1:A1:1126:G:C6 | 3.02 | 0.48 |
| 1:A1:1162:C:O2' | 1:A1:1163:A:H5' | 2.14 | 0.48 |
| 1:A1:1183:A:C5 | 1:A1:1184:A:C6 | 3.02 | 0.48 |
| 1:A1:1332:C:O2' | 1:A1:1333:C:O5' | 2.27 | 0.48 |
| 1:A1:1439:C:O5' | 1:A1:1439:C:H6 | 1.97 | 0.48 |
| 1:A1:1472:C:O2 | 1:A1:1472:C:H2' | 2.12 | 0.48 |
| 1:A1:1540:G:OP2 | 1:A1:1541:G:OP2 | 2.31 | 0.48 |
| 1:A1:1552:U:N3 | 1:A1:1553:G:C5 | 2.80 | 0.48 |
| 1:A1:1584:G:N2 | 1:A1:1585:U:OP1 | 2.47 | 0.48 |
| 1:A1:1647:U:H3 | 1:A1:1754:A:H61 | 1.61 | 0.48 |
| 1:A1:1753:A:H3' | 1:A1:1754:A:C5' | 2.27 | 0.48 |
| 1:A1:1758:U:H2' | 1:A1:1759:C:C5 | 2.48 | 0.48 |
| 1:A1:1764:C:OP2 | 1:A1:1771:U:H5" | 2.14 | 0.48 |
| 1:A1:1781:A:C6 | 1:A1:1782:A:C6 | 3.01 | 0.48 |
| 2:AA:162:CYS:O | 2:AA:163:ASN:CB | 2.62 | 0.48 |
| 4:AC:19:ALA:HB2 | 20:AS:49:ASP:CB | 2.44 | 0.48 |
| 5:AD:91:GLU:O | 5:AD:92:ARG:C | 2.56 | 0.48 |
| 5:AD:197:GLU:O | 5:AD:201:ALA:HB2 | 2.14 | 0.48 |
| 6:AE:121:SER:O | 6:AE:122:VAL:C | 2.57 | 0.48 |
| 15:AN:52:LYS:HA | 15:AN:92:ASP:O | 2.14 | 0.48 |
| 16:AO:112:ASP:O | 16:AO:113:HIS:C | 2.55 | 0.48 |
| 21:AT:135:THR:C | 21:AT:137:LYS:H | 2.22 | 0.48 |
| 24:Ac:2:UNK:N | 24:Ac:74:UNK:HA | 2.28 | 0.48 |
| 24:Ac:47:UNK:O | 24:Ac:68:UNK:N | 2.47 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 25:Ad:85:UNK:C | 25:Ad:87:UNK:N | 2.75 | 0.48 |
| 27:Af:10:UNK:C | 27:Af:12:UNK:N | 2.74 | 0.48 |
| 29:B1:62:A:C6 | 29:B1:63:A:C5 | 3.02 | 0.48 |
| 29:B1:85:A:H61 | 29:B1:99:A:H3' | 1.78 | 0.48 |
| 29:B1:155:G:H4' | 29:B1:156:G:OP1 | 2.13 | 0.48 |
| 29:B1:249:U:H5" | 29:B1:249:U:O2 | 2.13 | 0.48 |
| 29:B1:268:A:O4' | 29:B1:270:U:H1' | 2.13 | 0.48 |
| 29:B1:282:G:C4' | 29:B1:283:G:C8 | 2.96 | 0.48 |
| 29:B1:341:G:C2 | 31:B3:24:G:O6 | 2.67 | 0.48 |
| 29:B1:371:G:H2' | 29:B1:373:A:N7 | 2.28 | 0.48 |
| 29:B1:382:U:C2 | 29:B1:383:G:H1' | 2.49 | 0.48 |
| 29:B1:413:U:O2' | 29:B1:414:U:H5' | 2.14 | 0.48 |
| 29:B1:505:G:C2' | 29:B1:506:U:O5' | 2.62 | 0.48 |
| 29:B1:512:U:N3 | 29:B1:579:G:C6 | 2.81 | 0.48 |
| 29:B1:525:C:H2' | 29:B1:526:C:H6 | 1.78 | 0.48 |
| 29:B1:681:U:C1' | 29:B1:682:U:H5' | 2.38 | 0.48 |
| 29:B1:716:A:OP2 | 29:B1:716:A:O4' | 2.31 | 0.48 |
| 29:B1:726:G:H8 | 29:B1:726:G:H5' | 1.79 | 0.48 |
| 29:B1:730:C:O3' | 47:BR:135:GLN:HA | 2.13 | 0.48 |
| 29:B1:799:G:O6 | 74:B1:3496:OHX:N6 | 2.47 | 0.48 |
| 29:B1:913:A:C2' | 29:B1:914:A:OP2 | 2.61 | 0.48 |
| 29:B1:945:C:C2' | 29:B1:946:U:H6 | 2.26 | 0.48 |
| 29:B1:995:U:HO2' | 29:B1:996:A:P | 2.37 | 0.48 |
| 29:B1:1019:G:O6 | 29:B1:1033:U:O4 | 2.32 | 0.48 |
| 29:B1:1061:A:N6 | 29:B1:1062:A:C6 | 2.82 | 0.48 |
| 29:B1:1062:A:HO2' | 29:B1:1063:G:P | 2.28 | 0.48 |
| 29:B1:1139:G:C6 | 29:B1:1140:G:N7 | 2.82 | 0.48 |
| 29:B1:1150:A:H2' | 29:B1:1151:U:O5' | 2.14 | 0.48 |
| 29:B1:1184:A:C2' | 29:B1:1185:C:O5' | 2.61 | 0.48 |
| 29:B1:1247:U:P | 29:B1:1248:C:H41 | 2.37 | 0.48 |
| 29:B1:1247:U:C5' | 29:B1:1248:C:OP1 | 2.62 | 0.48 |
| 29:B1:1304:A:N3 | 29:B1:2939:G:H1' | 2.28 | 0.48 |
| 29:B1:1421:G:N2 | 29:B1:1422:G:C5 | 2.81 | 0.48 |
| 29:B1:1629:U:H3' | 29:B1:1630:U:C5' | 2.43 | 0.48 |
| 29:B1:1680:G:N3 | 29:B1:1681:U:H6 | 2.08 | 0.48 |
| 29:B1:1814:A:H2' | 29:B1:1814:A:N3 | 2.29 | 0.48 |
| 29:B1:2361:A:C5 | 29:B1:2362:C:C4 | 3.02 | 0.48 |
| 29:B1:2406:C:C2 | 29:B1:2819:A:N6 | 2.82 | 0.48 |
| 29:B1:2520:A:C5 | 29:B1:2521:U:N3 | 2.82 | 0.48 |
| 29:B1:2722:U:C2 | 29:B1:2723:U:C5 | 3.02 | 0.48 |
| 29:B1:2748:A:C5 | 29:B1:2749:G:H1' | 2.49 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2749:G:C5 | 29:B1:2750:U:C5 | 3.01 | 0.48 |
| 29:B1:2847:A:C2 | 29:B1:2848:G:C1' | 2.97 | 0.48 |
| 29:B1:2869:U:O2 | 29:B1:2869:U:C2' | 2.62 | 0.48 |
| 29:B1:2937:G:H2' | 29:B1:2938:G:C5' | 2.44 | 0.48 |
| 29:B1:3024:A:H3' | 29:B1:3025:C:C6 | 2.48 | 0.48 |
| 29:B1:3034:C:C6 | 29:B1:3034:C:C3' | 2.96 | 0.48 |
| 29:B1:3059:G:C8 | 29:B1:3059:G:H5" | 2.49 | 0.48 |
| 29:B1:3068:U:OP1 | 48:BS:58:HIS:CA | 2.59 | 0.48 |
| 29:B1:3132:C:O2' | 29:B1:3133:C:H5' | 2.14 | 0.48 |
| 29:B1:3151:U:O2 | 29:B1:3152:U:O4 | 2.32 | 0.48 |
| 29:B1:3274:A:O4' | 29:B1:3275:U:OP2 | 2.31 | 0.48 |
| 29:B1:3276:G:C3' | 29:B1:3277:U:O4' | 2.61 | 0.48 |
| 29:B1:3281:U:C4 | 29:B1:3282:U:C4 | 3.01 | 0.48 |
| 29:B1:3303:G:C2' | 29:B1:3304:U:H5' | 2.44 | 0.48 |
| 29:B1:3310:A:H2' | 29:B1:3310:A:N3 | 2.28 | 0.48 |
| 29:B1:3373:U:C4 | 29:B1:3374:U:H5 | 2.31 | 0.48 |
| 30:B2:26:C:O2' | 30:B2:27:A:C4' | 2.62 | 0.48 |
| 30:B2:67:G:C6 | 30:B2:68:C:C2 | 3.01 | 0.48 |
| 31:B3:35:C:C5 | 31:B3:36:G:N7 | 2.82 | 0.48 |
| 34:BC:80:ASP:O | 34:BC:82:PRO:N | 2.47 | 0.48 |
| 34:BC:91:GLY:HA3 | 34:BC:158:VAL:CB | 2.44 | 0.48 |
| 34:BC:238:LEU:CB | 34:BC:246:LEU:O | 2.62 | 0.48 |
| 36:BE:156:GLY:O | 36:BE:157:ALA:HB2 | 2.13 | 0.48 |
| 38:BG:28:ALA:O | 38:BG:29:GLU:C | 2.56 | 0.48 |
| 42:BK:120:ILE:O | 42:BK:121:GLY:O | 2.31 | 0.48 |
| 43:BN:111:ALA:O | 43:BN:112:LEU:C | 2.55 | 0.48 |
| 45:BP:112:TYR:O | 45:BP:113:ASP:CB | 2.60 | 0.48 |
| 45:BP:133:ARG:O | 45:BP:134:LYS:CB | 2.62 | 0.48 |
| 1:C1:50:C:H2' | 1:C1:50:C:O2 | 2.13 | 0.48 |
| 1:C1:53:G:O6 | 1:C1:54:C:C4 | 2.66 | 0.48 |
| 1:C1:149:C:H2' | 1:C1:149:C:O2 | 2.14 | 0.48 |
| 1:C1:150:U:H4' | 1:C1:151:G:OP2 | 2.14 | 0.48 |
| 1:C1:171:A:C2' | 1:C1:172:C:H5" | 2.43 | 0.48 |
| 1:C1:429:G:H5" | 1:C1:439:U:C3' | 2.43 | 0.48 |
| 1:C1:537:G:N2 | 1:C1:538:A:C1' | 2.77 | 0.48 |
| 1:C1:552:G:N1 | 1:C1:553:G:C2 | 2.82 | 0.48 |
| 1:C1:587:C:C2' | 1:C1:588:U:O4' | 2.56 | 0.48 |
| 1:C1:632:U:H2' | 1:C1:633:U:O5' | 2.13 | 0.48 |
| 1:C1:641:G:C2 | 1:C1:642:G:N7 | 2.82 | 0.48 |
| 1:C1:666:U:C2' | 1:C1:666:U:O2 | 2.61 | 0.48 |
| 1:C1:862:A:H2' | 1:C1:862:A:N3 | 2.29 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1539:G:O2' | 1:C1:1540:G:H5" | 2.14 | 0.48 |
| 1:C1:1631:A:C4 | 1:C1:1632:C:C1' | 2.97 | 0.48 |
| 1:C1:1705:C:H3' | 1:C1:1706:C:H5' | 1.96 | 0.48 |
| 3:CB:128:GLY:O | 3:CB:129:ILE:C | 2.55 | 0.48 |
| 5:CD:169:ASN:O | 5:CD:171:ALA:N | 2.47 | 0.48 |
| 21:CT:99:THR:O | 21:CT:100:TYR:O | 2.32 | 0.48 |
| 24:Cc:77:UNK:H | 24:Cc:79:UNK:CB | 2.27 | 0.48 |
| 29:D1:5:G:N2 | 31:D3:155:A:N3 | 2.62 | 0.48 |
| 29:D1:161:G:O2' | 29:D1:162:G:H5' | 2.14 | 0.48 |
| 29:D1:191:U:C6 | 29:D1:191:U:H5" | 2.49 | 0.48 |
| 29:D1:191:U:H2' | 29:D1:192:C:C6 | 2.49 | 0.48 |
| 29:D1:311:C:C4 | 29:D1:312:C:C4 | 3.02 | 0.48 |
| 29:D1:412:G:C2 | 29:D1:413:U:N1 | 2.82 | 0.48 |
| 29:D1:439:C:H4' | 29:D1:440:A:O5' | 2.13 | 0.48 |
| 29:D1:531:G:N2 | 29:D1:560:G:N2 | 2.62 | 0.48 |
| 29:D1:589:A:C8 | 29:D1:589:A:O5' | 2.67 | 0.48 |
| 29:D1:591:G:N3 | 29:D1:592:A:C8 | 2.81 | 0.48 |
| 29:D1:642:U:H3' | 29:D1:644:G:OP2 | 2.14 | 0.48 |
| 29:D1:751:A:N6 | 29:D1:783:A:C6 | 2.82 | 0.48 |
| 29:D1:962:A:C2' | 29:D1:963:G:H5" | 2.44 | 0.48 |
| 29:D1:1064:A:O2' | 29:D1:1065:A:OP1 | 2.28 | 0.48 |
| 29:D1:1100:U:C4 | 29:D1:1101:G:N7 | 2.82 | 0.48 |
| 29:D1:1100:U:C2 | 29:D1:1101:G:C8 | 3.02 | 0.48 |
| 29:D1:1122:U:H2' | 29:D1:1122:U:O2 | 2.13 | 0.48 |
| 29:D1:1137:C:C5 | 29:D1:1138:U:C5 | 3.02 | 0.48 |
| 29:D1:1140:G:C2 | 29:D1:1141:C:C4 | 3.02 | 0.48 |
| 29:D1:1164:G:C5 | 29:D1:1165:A:N7 | 2.82 | 0.48 |
| 29:D1:1239:C:H2' | 29:D1:1240:A:H8 | 1.74 | 0.48 |
| 29:D1:1275:C:N4 | 29:D1:1276:U:C4 | 2.81 | 0.48 |
| 29:D1:1487:G:H1 | 29:D1:1855:U:H3 | 1.62 | 0.48 |
| 29:D1:1559:A:C2' | 29:D1:1560:G:H5' | 2.44 | 0.48 |
| 29:D1:1634:G:N1 | 29:D1:1640:G:C6 | 2.82 | 0.48 |
| 29:D1:1724:U:O2' | 29:D1:1725:C:O5' | 2.31 | 0.48 |
| 29:D1:1739:U:C6 | 29:D1:1739:U:H3' | 2.49 | 0.48 |
| 29:D1:1785:U:O2' | 29:D1:1786:G:P | 2.72 | 0.48 |
| 29:D1:2119:A:C4 | 29:D1:2120:A:H2 | 2.32 | 0.48 |
| 29:D1:2185:G:C6 | 29:D1:2186:U:C5 | 3.02 | 0.48 |
| 29:D1:2218:G:C4 | 29:D1:2228:A:C2 | 3.02 | 0.48 |
| 29:D1:2253:G:C4 | 29:D1:2254:U:C6 | 3.02 | 0.48 |
| 29:D1:2307:G:C6 | 29:D1:2310:U:O4 | 2.67 | 0.48 |
| 29:D1:2316:G:N1 | 29:D1:2317:A:C5 | 2.82 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2326:A:N3 | 29:D1:2326:A:C2' | 2.74 | 0.48 |
| 29:D1:2390:A:C6 | 29:D1:2391:G:C5 | 3.01 | 0.48 |
| 29:D1:2617:U:H4' | 29:D1:2644:C:H5 | 1.74 | 0.48 |
| 29:D1:2668:U:C5 | 74:D1:3599:OHX:N5 | 2.82 | 0.48 |
| 29:D1:2929:C:H3' | 29:D1:2929:C:H6 | 1.78 | 0.48 |
| 29:D1:3017:A:O2' | 29:D1:3018:C:H5' | 2.14 | 0.48 |
| 29:D1:3109:G:O2' | 29:D1:3110:C:H5' | 2.14 | 0.48 |
| 29:D1:3202:G:N2 | 29:D1:3203:U:O2 | 2.47 | 0.48 |
| 29:D1:3253:G:C4 | 29:D1:3254:G:C8 | 3.02 | 0.48 |
| 29:D1:3363:U:C5' | 29:D1:3364:C:OP2 | 2.62 | 0.48 |
| 30:D2:1:G:C2 | 30:D2:2:G:C5 | 3.02 | 0.48 |
| 30:D2:66:A:C5 | 30:D2:67:G:H8 | 2.32 | 0.48 |
| 31:D3:19:C:C4 | 31:D3:20:U:O4 | 2.67 | 0.48 |
| 33:DB:181:LYS:O | 33:DB:184:ARG:CB | 2.62 | 0.48 |
| 35:DD:82:THR:O | 35:DD:84:ARG:O | 2.31 | 0.48 |
| 36:DE:233:ALA:O | 36:DE:234:ASP:O | 2.32 | 0.48 |
| 36:DE:255:PRO:O | 36:DE:256:THR:C | 2.57 | 0.48 |
| 41:DJ:159:PHE:O | 41:DJ:161:GLY:N | 2.47 | 0.48 |
| 72:DL:38:SER:H | 72:DL:68:GLN:CA | 2.24 | 0.48 |
| 73:DM:55:LYS:O | 73:DM:59:VAL:CB | 2.62 | 0.48 |
| 45:DP:97:ALA:O | 45:DP:98:ALA:C | 2.55 | 0.48 |
| 52:DW:60:TYR:O | 52:DW:61:LYS:CB | 2.61 | 0.48 |
| 52:DW:69:SER:H | 52:DW:72:ALA:CB | 2.17 | 0.48 |
| 63:Dh:11:UNK:O | 63:Dh:13:UNK:N | 2.46 | 0.48 |
| 1:A1:477:A:C2 | 1:A1:512:A:N1 | 2.81 | 0.48 |
| 1:A1:526:A:N3 | 1:A1:526:A:C2' | 2.68 | 0.48 |
| 1:A1:568:G:H4' | 17:AP:90:ASP:HA | 1.96 | 0.48 |
| 1:A1:605:A:N7 | 1:A1:606:A:C5 | 2.82 | 0.48 |
| 1:A1:723:G:N1 | 1:A1:724:C:C4 | 2.82 | 0.48 |
| 1:A1:795:U:C5 | 1:A1:796:A:C4 | 3.02 | 0.48 |
| 1:A1:863:A:C2' | 1:A1:865:A:H8 | 2.27 | 0.48 |
| 1:A1:933:A:N6 | 1:A1:935:U:H1' | 2.29 | 0.48 |
| 1:A1:1036:A:H3' | 1:A1:1037:C:H6 | 1.79 | 0.48 |
| 1:A1:1185:U:C1' | 1:A1:1186:U:OP2 | 2.62 | 0.48 |
| 1:A1:1202:A:OP1 | 1:A1:1203:A:OP2 | 2.31 | 0.48 |
| 1:A1:1252:C:H2' | 1:A1:1253:U:O5' | 2.14 | 0.48 |
| 1:A1:1512:G:C4 | 1:A1:1513:G:C8 | 3.01 | 0.48 |
| 1:A1:1513:G:H1' | 1:A1:1518:C:O2 | 2.14 | 0.48 |
| 1:A1:1581:C:H2' | 1:A1:1582:U:H5' | 1.95 | 0.48 |
| 1:A1:1603:U:H2' | 1:A1:1604:U:C6 | 2.48 | 0.48 |
| 1:A1:1632:C:O2' | 1:A1:1633:A:C8 | 2.50 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1719:A:O2' | 1:A1:1720:G:C4 | 2.64 | 0.48 |
| 1:A1:1791:A:C5' | 1:A1:1791:A:C8 | 2.95 | 0.48 |
| 5:AD:212:LYS:O | 5:AD:215:ASP:N | 2.47 | 0.48 |
| 7:AF:93:TYR:O | 7:AF:94:ILE:CB | 2.61 | 0.48 |
| 9:AH:14:PHE:O | 9:AH:79:VAL:HA | 2.14 | 0.48 |
| 12:AK:7:LYS:C | 12:AK:9:VAL:N | 2.72 | 0.48 |
| 24:Ac:3:UNK:C | 24:Ac:99:UNK:N | 2.76 | 0.48 |
| 29:B1:14:U:H3' | 29:B1:15:C:H5" | 1.96 | 0.48 |
| 29:B1:34:A:C8 | 29:B1:51:A:N6 | 2.82 | 0.48 |
| 29:B1:38:U:H2' | 29:B1:39:A:O4' | 2.14 | 0.48 |
| 29:B1:63:A:C2 | 29:B1:64:G:C4 | 3.02 | 0.48 |
| 29:B1:211:A:H5' | 29:B1:229:G:H1' | 1.96 | 0.48 |
| 29:B1:401:U:H3' | 29:B1:402:A:C5' | 2.42 | 0.48 |
| 29:B1:420:G:H21 | 29:B1:2384:A:C2' | 2.27 | 0.48 |
| 29:B1:577:C:C3' | 29:B1:577:C:H6 | 2.26 | 0.48 |
| 29:B1:612:U:C2 | 29:B1:613:G:C5 | 3.02 | 0.48 |
| 29:B1:784:A:C2 | 29:B1:785:G:N7 | 2.82 | 0.48 |
| 29:B1:877:C:H2' | 29:B1:878:G:C5' | 2.44 | 0.48 |
| 29:B1:881:C:H2' | 29:B1:881:C:O2 | 2.13 | 0.48 |
| 29:B1:1035:G:H2' | 29:B1:1036:A:H5' | 1.95 | 0.48 |
| 29:B1:1040:A:H8 | 29:B1:1040:A:O5' | 1.97 | 0.48 |
| 29:B1:1140:G:C2 | 29:B1:1141:C:C6 | 3.02 | 0.48 |
| 29:B1:1148:G:C6 | 29:B1:1149:G:C5 | 3.02 | 0.48 |
| 29:B1:1228:C:C4 | 29:B1:1229:G:C5 | 3.02 | 0.48 |
| 29:B1:1449:A:C2 | 29:B1:2356:A:N3 | 2.82 | 0.48 |
| 29:B1:1659:U:N3 | 29:B1:1660:C:C4 | 2.82 | 0.48 |
| 29:B1:1672:U:O2 | 29:B1:1672:U:H2' | 2.14 | 0.48 |
| 29:B1:1900:A:N3 | 29:B1:1906:G:N7 | 2.62 | 0.48 |
| 29:B1:2312:A:H1' | 29:B1:2316:G:O4' | 2.14 | 0.48 |
| 29:B1:2356:A:N1 | 29:B1:2357:A:C4 | 2.81 | 0.48 |
| 29:B1:2367:A:C6 | 29:B1:2381:G:C6 | 3.02 | 0.48 |
| 29:B1:2681:U:OP1 | 42:BK:52:TYR:CB | 2.61 | 0.48 |
| 29:B1:2798:C:P | 29:B1:2799:A:OP1 | 2.72 | 0.48 |
| 29:B1:2834:G:C6 | 29:B1:2855:U:C4 | 3.01 | 0.48 |
| 29:B1:2852:C:H5 | 29:B1:2853:A:C4 | 2.29 | 0.48 |
| 29:B1:2933:A:C6 | 29:B1:2934:A:N1 | 2.82 | 0.48 |
| 29:B1:2957:G:C6 | 29:B1:2976:A:C2 | 3.02 | 0.48 |
| 29:B1:2998:U:OP1 | 29:B1:2998:U:H6 | 1.96 | 0.48 |
| 29:B1:3099:C:O2' | 29:B1:3100:U:O4' | 2.31 | 0.48 |
| 30:B2:12:U:OP2 | 30:B2:68:C:O3' | 2.32 | 0.48 |
| 30:B2:24:A:C4 | 30:B2:25:G:N7 | 2.82 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:B2:37:G:N3 | 30:B2:45:A:N1 | 2.62 | 0.48 |
| 30:B2:46:A:N3 | 30:B2:46:A:C3' | 2.61 | 0.48 |
| 30:B2:111:U:O2' | 30:B2:112:G:OP1 | 2.28 | 0.48 |
| 31:B3:42:G:N3 | 31:B3:42:G:H2' | 2.28 | 0.48 |
| 31:B3:106:C:C1' | 31:B3:107:G:OP2 | 2.62 | 0.48 |
| 31:B3:131:A:N3 | 31:B3:132:G:C8 | 2.82 | 0.48 |
| 33:BB:53:GLY:C | 33:BB:54:ARG:O | 2.57 | 0.48 |
| 36:BE:102:GLY:O | 36:BE:103:LEU:C | 2.57 | 0.48 |
| 39:BH:168:ALA:C | 39:BH:170:CYS:N | 2.72 | 0.48 |
| 41:BJ:174:THR:C | 41:BJ:176:LEU:CB | 2.87 | 0.48 |
| 43:BN:84:LYS:O | 43:BN:86:ALA:N | 2.46 | 0.48 |
| 43:BN:93:LYS:O | 43:BN:95:ALA:N | 2.47 | 0.48 |
| 49:BT:115:LYS:C | 49:BT:117:ALA:N | 2.70 | 0.48 |
| 55:BZ:56:LEU:O | 55:BZ:57:GLU:C | 2.57 | 0.48 |
| 58:Bc:37:SER:O | 58:Bc:38:ARG:CB | 2.62 | 0.48 |
| 1:C1:45:U:C3' | 1:C1:45:U:H6 | 2.26 | 0.48 |
| 1:C1:64:U:O2 | 1:C1:64:U:C2' | 2.62 | 0.48 |
| 1:C1:98:U:O2 | 1:C1:98:U:C2' | 2.59 | 0.48 |
| 1:C1:331:A:N3 | 1:C1:332:U:C6 | 2.81 | 0.48 |
| 1:C1:472:U:H4' | 1:C1:770:A:O4' | 2.13 | 0.48 |
| 1:C1:514:G:N7 | 1:C1:538:A:H2 | 2.12 | 0.48 |
| 1:C1:549:G:C2 | 1:C1:550:A:C8 | 3.02 | 0.48 |
| 1:C1:723:G:H2' | 1:C1:724:C:C6 | 2.49 | 0.48 |
| 1:C1:815:G:H4' | 1:C1:816:G:OP2 | 2.14 | 0.48 |
| 1:C1:824:G:C6 | 1:C1:850:A:C2 | 3.02 | 0.48 |
| 1:C1:824:G:O6 | 1:C1:850:A:N3 | 2.47 | 0.48 |
| 1:C1:1131:A:H3' | 1:C1:1132:A:H8 | 1.78 | 0.48 |
| 1:C1:1358:G:C2 | 1:C1:1359:C:C4 | 3.02 | 0.48 |
| 1:C1:1540:G:C6 | 1:C1:1541:G:C5 | 3.02 | 0.48 |
| 1:C1:1546:G:H21 | 10:CI:16:SER:HA | 1.79 | 0.48 |
| 1:C1:1583:A:C2 | 1:C1:1585:U:O4 | 2.67 | 0.48 |
| 1:C1:1603:U:O2 | 1:C1:1603:U:C2' | 2.60 | 0.48 |
| 1:C1:1670:G:H21 | 1:C1:1732:A:N6 | 2.11 | 0.48 |
| 1:C1:1671:A:N3 | 1:C1:1731:A:C2 | 2.81 | 0.48 |
| 3:CB:126:ARG:O | 3:CB:127:ALA:C | 2.57 | 0.48 |
| 10:CI:115:TYR:O | 10:CI:118:GLU:CB | 2.61 | 0.48 |
| 12:CK:27:ASP:O | 12:CK:29:GLN:N | 2.47 | 0.48 |
| 17:CP:136:TRP:HA | 17:CP:137:LYS:O | 2.14 | 0.48 |
| 18:CQ:94:LYS:C | 18:CQ:96:SER:N | 2.70 | 0.48 |
| 21:CT:135:THR:C | 21:CT:137:LYS:H | 2.21 | 0.48 |
| 28:Ch:21:UNK:HA | 28:Ch:24:UNK:CB | 2.43 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:89:A:C2 | 29:D1:90:C:C6 | 3.02 | 0.48 |
| 29:D1:212:G:C6 | 29:D1:222:A:C5 | 3.02 | 0.48 |
| 29:D1:323:A:H3' | 29:D1:324:A:H8 | 1.79 | 0.48 |
| 29:D1:340:C:C2' | 29:D1:341:G:C8 | 2.83 | 0.48 |
| 29:D1:511:G:H21 | 29:D1:579:G:N2 | 2.12 | 0.48 |
| 29:D1:533:A:O2' | 29:D1:534:U:C2 | 2.54 | 0.48 |
| 29:D1:543:C:N4 | 29:D1:544:C:C2 | 2.82 | 0.48 |
| 29:D1:582:G:N1 | 29:D1:583:G:C8 | 2.82 | 0.48 |
| 29:D1:606:C:C4' | 29:D1:606:C:C6 | 2.95 | 0.48 |
| 29:D1:760:G:N2 | 29:D1:761:A:C5 | 2.76 | 0.48 |
| 29:D1:901:G:C6 | 29:D1:902:G:N7 | 2.82 | 0.48 |
| 29:D1:944:C:H2' | 29:D1:945:C:H6 | 1.79 | 0.48 |
| 29:D1:966:U:C2' | 29:D1:967:A:C8 | 2.88 | 0.48 |
| 29:D1:1104:G:H2' | 29:D1:1105:A:C5' | 2.44 | 0.48 |
| 29:D1:1160:C:O2' | 29:D1:1161:G:H5" | 2.14 | 0.48 |
| 29:D1:1204:A:N6 | 29:D1:1300:G:H21 | 2.06 | 0.48 |
| 29:D1:1275:C:H2' | 29:D1:1276:U:O4' | 2.13 | 0.48 |
| 29:D1:1362:G:H2' | 29:D1:1363:A:H8 | 1.76 | 0.48 |
| 29:D1:1393:A:H2' | 29:D1:1394:A:H5" | 1.95 | 0.48 |
| 29:D1:1583:A:H2' | 29:D1:1584:U:O5' | 2.13 | 0.48 |
| 29:D1:1703:U:O2' | 29:D1:1743:G:C2 | 2.66 | 0.48 |
| 29:D1:1729:A:OP2 | 55:DZ:27:TYR:CB | 2.62 | 0.48 |
| 29:D1:1920:U:H1' | 29:D1:1933:A:C6 | 2.49 | 0.48 |
| 29:D1:2294:U:C2 | 29:D1:2296:A:OP2 | 2.67 | 0.48 |
| 29:D1:2316:G:C2 | 29:D1:2317:A:C5 | 3.02 | 0.48 |
| 29:D1:2373:A:N7 | 29:D1:2867:C:H1' | 2.29 | 0.48 |
| 29:D1:2522:G:C6 | 29:D1:2587:U:C4 | 3.02 | 0.48 |
| 29:D1:2553:U:O2' | 29:D1:2554:A:P | 2.71 | 0.48 |
| 29:D1:2560:C:O5' | 29:D1:2560:C:C6 | 2.59 | 0.48 |
| 29:D1:2813:A:C6 | 29:D1:2814:G:C5 | 3.02 | 0.48 |
| 29:D1:2850:G:OP1 | 29:D1:2850:G:C4' | 2.49 | 0.48 |
| 29:D1:2931:C:O2 | 29:D1:2935:U:C4 | 2.67 | 0.48 |
| 29:D1:3038:U:HO2' | 29:D1:3039:C:C4' | 2.27 | 0.48 |
| 29:D1:3048:A:N6 | 29:D1:3090:U:H3' | 2.26 | 0.48 |
| 29:D1:3122:A:C2' | 29:D1:3123:A:C5' | 2.77 | 0.48 |
| 29:D1:3135:U:O4 | 29:D1:3136:G:C6 | 2.67 | 0.48 |
| 29:D1:3170:A:N6 | 29:D1:3279:A:N6 | 2.62 | 0.48 |
| 29:D1:3219:G:H1' | 29:D1:3257:C:H5' | 1.96 | 0.48 |
| 29:D1:3274:A:C4' | 29:D1:3275:U:OP2 | 2.62 | 0.48 |
| 29:D1:3281:U:O2 | 29:D1:3282:U:C2 | 2.67 | 0.48 |
| 29:D1:3345:G:H8 | 29:D1:3345:G:O5' | 1.96 | 0.48 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:D2:112:G:P | 74:D2:207:OHX:N2 | 2.87 | 0.48 |
| 31:D3:25:G:N1 | 31:D3:26:U:C2 | 2.82 | 0.48 |
| 31:D3:53:A:C4 | 31:D3:54:A:C8 | 3.02 | 0.48 |
| 31:D3:64:U:C2 | 31:D3:97:A:C2 | 3.02 | 0.48 |
| 31:D3:71:A:H1' | 31:D3:72:A:H5' | 1.96 | 0.48 |
| 31:D3:145:U:C4 | 31:D3:146:U:N3 | 2.82 | 0.48 |
| 32:DA:65:ILE:HA | 32:DA:109:ALA:HB3 | 1.95 | 0.48 |
| 34:DC:62:ARG:O | 34:DC:63:PRO:C | 2.57 | 0.48 |
| 35:DD:251:THR:C | 35:DD:254:ALA:HB3 | 2.39 | 0.48 |
| 36:DE:102:GLY:CA | 36:DE:166:ALA:HB2 | 2.43 | 0.48 |
| 37:DF:149:ILE:CA | 37:DF:150:LYS:CB | 2.92 | 0.48 |
| 38:DG:228:SER:O | 38:DG:230:GLY:N | 2.47 | 0.48 |
| 39:DH:231:LYS:CB | 39:DH:233:TRP:H | 2.27 | 0.48 |
| 72:DL:46:ILE:C | 72:DL:48:LYS:H | 2.20 | 0.48 |
| 73:DM:47:GLY:C | 73:DM:49:ALA:H | 2.21 | 0.48 |
| 44:DO:86:ASN:O | 44:DO:88:GLY:N | 2.46 | 0.48 |
| 45:DP:194:LEU:O | 45:DP:195:ALA:C | 2.57 | 0.48 |
| 48:DS:127:SER:O | 48:DS:129:GLY:N | 2.46 | 0.48 |
| 48:DS:145:ALA:O | 48:DS:146:LYS:C | 2.57 | 0.48 |
| 57:Db:89:THR:CB | 57:Db:90:LYS:O | 2.62 | 0.48 |
| 1:A1:8:U:C4 | 1:A1:1140:G:O6 | 2.66 | 0.47 |
| 1:A1:65:A:H2 | 1:A1:84:A:N6 | 2.10 | 0.47 |
| 1:A1:68:A:H4' | 1:A1:69:G:OP1 | 2.14 | 0.47 |
| 1:A1:103:A:C6 | 1:A1:360:A:C2 | 3.02 | 0.47 |
| 1:A1:172:C:H2' | 1:A1:173:A:O4' | 2.13 | 0.47 |
| 1:A1:223:U:H2' | 1:A1:224:C:C6 | 2.49 | 0.47 |
| 1:A1:248:U:O2 | 1:A1:248:U:O4' | 2.30 | 0.47 |
| 1:A1:316:A:C2 | 1:A1:349:U:O2 | 2.67 | 0.47 |
| 1:A1:386:G:H2' | 1:A1:387:A:O5' | 2.14 | 0.47 |
| 1:A1:403:G:H8 | 1:A1:403:G:O5' | 1.96 | 0.47 |
| 1:A1:479:C:H2' | 1:A1:480:G:N9 | 2.29 | 0.47 |
| 1:A1:545:A:N6 | 1:A1:593:U:O2' | 2.39 | 0.47 |
| 1:A1:651:G:C4 | 1:A1:684:A:N6 | 2.81 | 0.47 |
| 1:A1:694:U:C5' | 1:A1:695:U:C5 | 2.79 | 0.47 |
| 1:A1:725:U:H3' | 1:A1:726:C:O4' | 2.13 | 0.47 |
| 1:A1:847:A:C2' | 1:A1:848:C:H5' | 2.41 | 0.47 |
| 1:A1:861:U:H2' | 1:A1:862:A:H5' | 1.95 | 0.47 |
| 1:A1:863:A:N9 | 1:A1:865:A:C8 | 2.82 | 0.47 |
| 1:A1:887:A:C2 | 1:A1:888:U:C2 | 3.02 | 0.47 |
| 1:A1:929:A:N7 | 1:A1:930:A:N7 | 2.62 | 0.47 |
| 1:A1:1241:G:N3 | 1:A1:1243:G:H8 | 2.11 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1246:C:C4 | 1:A1:1247:U:C4 | 3.01 | 0.47 |
| 1:A1:1291:G:H21 | 1:A1:1324:G:H22 | 1.62 | 0.47 |
| 1:A1:1402:G:N3 | 1:A1:1403:C:C6 | 2.82 | 0.47 |
| 1:A1:1479:A:C3' | 1:A1:1480:G:H5" | 2.44 | 0.47 |
| 1:A1:1594:G:H2' | 1:A1:1595:U:H5' | 1.96 | 0.47 |
| 1:A1:1622:G:C5 | 1:A1:1623:C:C4 | 3.02 | 0.47 |
| 1:A1:1631:A:H1' | 1:A1:1638:G:N2 | 2.29 | 0.47 |
| 5:AD:191:ALA:O | 5:AD:195:ALA:N | 2.38 | 0.47 |
| 16:AO:70:ASN:HA | 16:AO:71:LYS:HA | 1.45 | 0.47 |
| 29:B1:13:A:C2 | 29:B1:15:C:H2' | 2.49 | 0.47 |
| 29:B1:13:A:H2' | 29:B1:13:A:N3 | 2.28 | 0.47 |
| 29:B1:69:C:C4 | 29:B1:70:A:H8 | 2.31 | 0.47 |
| 29:B1:77:A:C2 | 29:B1:78:U:N1 | 2.81 | 0.47 |
| 29:B1:102:C:O4' | 29:B1:103:G:OP1 | 2.32 | 0.47 |
| 29:B1:109:A:H1' | 29:B1:110:G:H1' | 1.96 | 0.47 |
| 29:B1:174:C:O5' | 29:B1:174:C:H6 | 1.96 | 0.47 |
| 29:B1:317:A:C2' | 29:B1:318:A:O5' | 2.62 | 0.47 |
| 29:B1:381:U:H3 | 29:B1:387:A:N6 | 2.12 | 0.47 |
| 29:B1:421:G:N1 | 29:B1:2365:C:C2 | 2.82 | 0.47 |
| 29:B1:425:G:C5 | 29:B1:635:G:C2 | 3.01 | 0.47 |
| 29:B1:556:U:C3' | 29:B1:557:A:O4' | 2.63 | 0.47 |
| 29:B1:563:U:C3' | 29:B1:564:G:C5' | 2.72 | 0.47 |
| 29:B1:726:G:C2 | 29:B1:727:G:C5 | 3.02 | 0.47 |
| 29:B1:776:U:C4' | 29:B1:777:U:H5" | 2.44 | 0.47 |
| 29:B1:881:C:C2 | 29:B1:1850:A:C8 | 3.02 | 0.47 |
| 29:B1:941:G:O4' | 29:B1:1435:A:H1' | 2.14 | 0.47 |
| 29:B1:1063:G:O4' | 29:B1:1063:G:P | 2.72 | 0.47 |
| 29:B1:1075:A:H2 | 69:Bp:245:UNK:C | 2.23 | 0.47 |
| 29:B1:1105:A:C4 | 29:B1:1106:G:C8 | 3.02 | 0.47 |
| 29:B1:1228:C:N4 | 29:B1:1229:G:C6 | 2.82 | 0.47 |
| 29:B1:1253:U:H4' | 29:B1:1254:C:H5 | 1.79 | 0.47 |
| 29:B1:1380:G:N3 | 29:B1:1380:G:C2' | 2.74 | 0.47 |
| 29:B1:1395:G:C5 | 29:B1:1396:C:C5 | 3.01 | 0.47 |
| 29:B1:1470:U:H2' | 29:B1:1471:U:C6 | 2.49 | 0.47 |
| 29:B1:1504:A:C5 | 29:B1:1505:C:H5 | 2.29 | 0.47 |
| 29:B1:1595:U:C2 | 29:B1:1596:C:C5 | 3.01 | 0.47 |
| 29:B1:1634:G:N1 | 29:B1:1640:G:O6 | 2.47 | 0.47 |
| 29:B1:1689:U:C4 | 29:B1:1690:C:C4 | 3.02 | 0.47 |
| 29:B1:1845:G:N2 | 29:B1:1849:C:C2 | 2.82 | 0.47 |
| 29:B1:2191:U:O4 | 29:B1:2192:C:N4 | 2.46 | 0.47 |
| 29:B1:2421:U:H2' | 29:B1:2422:C:O5' | 2.14 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2592:G:H4' | 29:B1:2594:C:C2 | 2.49 | 0.47 |
| 29:B1:2787:G:H2' | 29:B1:2788:C:H6 | 1.79 | 0.47 |
| 29:B1:2880:U:O2' | 29:B1:2881:C:H5' | 2.14 | 0.47 |
| 29:B1:3111:U:O2' | 29:B1:3112:G:H5' | 2.14 | 0.47 |
| 29:B1:3115:C:O2 | 29:B1:3115:C:O4' | 2.32 | 0.47 |
| 29:B1:3213:A:O2' | 29:B1:3214:U:C6 | 2.67 | 0.47 |
| 29:B1:3296:A:C6 | 29:B1:3297:U:C5 | 3.02 | 0.47 |
| 29:B1:3299:A:O5' | 29:B1:3299:A:C2' | 2.61 | 0.47 |
| 29:B1:3327:G:N7 | 29:B1:3328:G:O6 | 2.47 | 0.47 |
| 29:B1:3348:G:C6 | 29:B1:3349:C:C2 | 3.02 | 0.47 |
| 29:B1:3359:A:H2' | 29:B1:3360:C:C4' | 2.44 | 0.47 |
| 29:B1:3387:U:C4 | 29:B1:3388:C:N4 | 2.82 | 0.47 |
| 30:B2:43:U:C4 | 30:B2:44:C:C5 | 3.02 | 0.47 |
| 30:B2:54:U:H4' | 30:B2:55:A:O5' | 2.14 | 0.47 |
| 30:B2:71:G:C6 | 30:B2:108:A:N1 | 2.82 | 0.47 |
| 31:B3:27:U:C2 | 31:B3:28:C:C6 | 3.02 | 0.47 |
| 31:B3:53:A:H2' | 31:B3:54:A:C8 | 2.48 | 0.47 |
| 31:B3:74:U:OP2 | 31:B3:76:C:C4 | 2.67 | 0.47 |
| 31:B3:88:A:C8 | 31:B3:89:A:N1 | 2.82 | 0.47 |
| 31:B3:125:U:C4 | 74:B3:206:OHX:N2 | 2.81 | 0.47 |
| 34:BC:95:THR:CB | 34:BC:97:ARG:H | 2.27 | 0.47 |
| 34:BC:327:CYS:O | 34:BC:328:ILE:C | 2.57 | 0.47 |
| 37:BF:145:LEU:O | 37:BF:149:ILE:CB | 2.62 | 0.47 |
| 38:BG:47:ARG:O | 38:BG:49:ALA:O | 2.31 | 0.47 |
| 41:BJ:33:ILE:O | 41:BJ:34:TYR:CB | 2.61 | 0.47 |
| 44:BO:82:GLY:HA2 | 44:BO:87:GLN:H | 1.78 | 0.47 |
| 44:BO:137:PRO:C | 44:BO:139:HIS:N | 2.72 | 0.47 |
| 46:BQ:47:TYR:O | 46:BQ:50:GLN:N | 2.47 | 0.47 |
| 47:BR:149:ALA:HB3 | 47:BR:150:VAL:CA | 2.44 | 0.47 |
| 53:BX:23:PRO:O | 53:BX:24:SER:C | 2.57 | 0.47 |
| 55:BZ:82:GLY:O | 55:BZ:84:LEU:N | 2.47 | 0.47 |
| 65:Bk:16:UNK:O | 65:Bk:19:UNK:N | 2.47 | 0.47 |
| 71:Br:-1:UNK:O | 71:Br:3:UNK:N | 2.47 | 0.47 |
| 1:C1:74:U:O2' | 1:C1:75:U:P | 2.72 | 0.47 |
| 1:C1:110:U:C3' | 1:C1:111:U:H5" | 2.41 | 0.47 |
| 1:C1:114:C:N4 | 1:C1:248:U:C4 | 2.81 | 0.47 |
| 1:C1:121:U:H2' | 1:C1:122:U:O5' | 2.14 | 0.47 |
| 1:C1:168:A:C5 | 1:C1:169:A:N6 | 2.81 | 0.47 |
| 1:C1:250:C:N4 | 1:C1:251:A:N6 | 2.62 | 0.47 |
| 1:C1:256:A:H5" | 1:C1:257:A:OP2 | 2.14 | 0.47 |
| 1:C1:355:G:N2 | 1:C1:356:G:H1' | 2.29 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:404:G:N3 | 1:C1:405:C:C6 | 2.82 | 0.47 |
| 1:C1:587:C:H2' | 1:C1:588:U:H6 | 1.78 | 0.47 |
| 1:C1:652:G:H5' | 1:C1:653:C:OP2 | 2.13 | 0.47 |
| 1:C1:776:G:N1 | 1:C1:785:U:N3 | 2.62 | 0.47 |
| 1:C1:1023:A:H8 | 74:C1:1961:OHX:N6 | 2.12 | 0.47 |
| 1:C1:1028:C:H1' | 1:C1:1029:U:H3' | 1.95 | 0.47 |
| 1:C1:1071:U:H5' | 1:C1:1072:C:OP2 | 2.14 | 0.47 |
| 1:C1:1096:C:O2 | 1:C1:1096:C:H2' | 2.12 | 0.47 |
| 1:C1:1097:U:O2' | 1:C1:1097:U:O2 | 2.23 | 0.47 |
| 1:C1:1227:A:H3' | 1:C1:1229:G:OP2 | 2.14 | 0.47 |
| 1:C1:1391:A:C3' | 1:C1:1392:U:H5" | 2.44 | 0.47 |
| 1:C1:1504:G:H2' | 1:C1:1505:A:O4' | 2.14 | 0.47 |
| 1:C1:1590:G:C4 | 1:C1:1591:C:C5 | 3.02 | 0.47 |
| 1:C1:1720:G:C2' | 1:C1:1721:A:C8 | 2.95 | 0.47 |
| 3:CB:145:GLY:O | 3:CB:147:ASN:N | 2.46 | 0.47 |
| 5:CD:88:PRO:O | 5:CD:89:ILE:CB | 2.62 | 0.47 |
| 5:CD:111:VAL:O | 5:CD:112:ARG:C | 2.56 | 0.47 |
| 6:CE:26:ALA:O | 6:CE:28:LEU:N | 2.47 | 0.47 |
| 9:CH:96:PRO:O | 9:CH:97:GLY:C | 2.55 | 0.47 |
| 17:CP:46:SER:C | 17:CP:48:HIS:N | 2.70 | 0.47 |
| 19:CR:38:ARG:O | 19:CR:39:THR:CB | 2.61 | 0.47 |
| 21:CT:39:ASP:O | 21:CT:40:LYS:CB | 2.61 | 0.47 |
| 21:CT:282:SER:C | 21:CT:284:ALA:H | 2.20 | 0.47 |
| 24:Cc:17:UNK:O | 24:Cc:18:UNK:C | 2.62 | 0.47 |
| 25:Cd:85:UNK:O | 25:Cd:86:UNK:C | 2.62 | 0.47 |
| 29:D1:33:G:N2 | 29:D1:50:U:C5 | 2.81 | 0.47 |
| 29:D1:61:A:C2 | 29:D1:62:A:H1' | 2.49 | 0.47 |
| 29:D1:77:A:H2' | 29:D1:78:U:O5' | 2.13 | 0.47 |
| 29:D1:108:A:O2' | 29:D1:109:A:H5" | 2.14 | 0.47 |
| 29:D1:114:A:C2 | 29:D1:267:G:C2 | 3.02 | 0.47 |
| 29:D1:280:U:C5 | 29:D1:282:G:OP2 | 2.67 | 0.47 |
| 29:D1:281:G:N1 | 29:D1:282:G:O6 | 2.46 | 0.47 |
| 29:D1:284:A:N3 | 29:D1:284:A:C2' | 2.77 | 0.47 |
| 29:D1:347:G:N2 | 29:D1:353:G:C4 | 2.81 | 0.47 |
| 29:D1:416:A:N3 | 29:D1:417:A:C8 | 2.82 | 0.47 |
| 29:D1:552:G:C2 | 29:D1:553:U:C2 | 3.02 | 0.47 |
| 29:D1:580:C:C4 | 29:D1:581:U:O4 | 2.67 | 0.47 |
| 29:D1:603:A:H2' | 29:D1:604:G:O4' | 2.14 | 0.47 |
| 29:D1:636:C:C5 | 29:D1:2378:C:C1' | 2.91 | 0.47 |
| 29:D1:636:C:H5 | 29:D1:2378:C:H1' | 1.77 | 0.47 |
| 29:D1:648:C:O2 | 29:D1:648:C:O4' | 2.31 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:955:U:O2' | 29:D1:2727:A:N6 | 2.46 | 0.47 |
| 29:D1:1067:U:H5" | 29:D1:1068:C:OP2 | 2.14 | 0.47 |
| 29:D1:1209:G:N7 | 29:D1:1210:U:C4 | 2.82 | 0.47 |
| 29:D1:1266:G:N1 | 29:D1:1276:U:C2 | 2.81 | 0.47 |
| 29:D1:1453:A:C1' | 29:D1:1850:A:N1 | 2.78 | 0.47 |
| 29:D1:1468:A:C6 | 29:D1:1469:C:N4 | 2.82 | 0.47 |
| 29:D1:1468:A:C2' | 29:D1:1469:C:O5' | 2.62 | 0.47 |
| 29:D1:1483:G:N7 | 29:D1:1485:G:C4 | 2.82 | 0.47 |
| 29:D1:1495:U:O3' | 29:D1:1514:G:C5' | 2.62 | 0.47 |
| 29:D1:1560:G:C6 | 29:D1:1561:G:C6 | 3.01 | 0.47 |
| 29:D1:1654:A:N3 | 29:D1:1655:G:H1' | 2.29 | 0.47 |
| 29:D1:2205:U:C2' | 29:D1:2206:G:H5' | 2.37 | 0.47 |
| 29:D1:2218:G:C5 | 29:D1:2228:A:C2 | 3.02 | 0.47 |
| 29:D1:2255:A:C2 | 29:D1:2258:U:OP2 | 2.67 | 0.47 |
| 29:D1:2308:C:C6 | 29:D1:2309:A:C8 | 3.02 | 0.47 |
| 29:D1:2317:A:C2 | 29:D1:2318:U:N1 | 2.82 | 0.47 |
| 29:D1:2514:U:O2' | 29:D1:2515:A:H8 | 1.97 | 0.47 |
| 29:D1:2700:G:C6 | 29:D1:2701:U:C4 | 3.02 | 0.47 |
| 29:D1:2856:G:C2 | 29:D1:2857:C:C4 | 3.01 | 0.47 |
| 29:D1:2857:C:H2' | 29:D1:2858:U:O4' | 2.14 | 0.47 |
| 29:D1:2960:C:H3' | 29:D1:2961:G:H8 | 1.78 | 0.47 |
| 29:D1:3034:C:C2' | 29:D1:3035:A:H5' | 2.43 | 0.47 |
| 29:D1:3102:G:C8 | 29:D1:3102:G:C4' | 2.96 | 0.47 |
| 29:D1:3213:A:C8 | 29:D1:3213:A:C3' | 2.97 | 0.47 |
| 29:D1:3228:C:N3 | 29:D1:3229:G:O6 | 2.47 | 0.47 |
| 29:D1:3348:G:C2 | 29:D1:3349:C:H1' | 2.49 | 0.47 |
| 30:D2:38:U:C6 | 30:D2:41:G:OP2 | 2.67 | 0.47 |
| 30:D2:52:G:C2 | 30:D2:53:U:C2 | 3.01 | 0.47 |
| 31:D3:8:C:H6 | 31:D3:8:C:H3' | 1.79 | 0.47 |
| 31:D3:48:A:C2 | 31:D3:51:G:O6 | 2.67 | 0.47 |
| 31:D3:111:A:H5" | 31:D3:111:A:C8 | 2.48 | 0.47 |
| 34:DC:49:TYR:O | 34:DC:51:ALA:N | 2.47 | 0.47 |
| 39:DH:228:GLU:C | 39:DH:230:LYS:N | 2.72 | 0.47 |
| 40:DI:48:VAL:C | 40:DI:50:ASN:H | 2.22 | 0.47 |
| 40:DI:171:ASP:O | 40:DI:172:ILE:O | 2.32 | 0.47 |
| 41:DJ:215:GLU:C | 41:DJ:217:PHE:N | 2.70 | 0.47 |
| 73:DM:67:LEU:O | 73:DM:68:SER:C | 2.56 | 0.47 |
| 57:Db:60:ASN:O | 57:Db:62:LYS:N | 2.47 | 0.47 |
| 58:Dc:63:ARG:O | 58:Dc:64:GLU:C | 2.55 | 0.47 |
| 60:De:6:SER:O | 60:De:9:ILE:N | 2.47 | 0.47 |
| 61:Df:11:TYR:O | 61:Df:20:HIS:HA | 2.14 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:32:U:C2 | 1:A1:468:A:N6 | 2.81 | 0.47 |
| 1:A1:110:U:O2' | 1:A1:797:G:H1' | 2.14 | 0.47 |
| 1:A1:116:U:C2 | 1:A1:117:U:C5 | 3.02 | 0.47 |
| 1:A1:133:U:H1' | 1:A1:134:U:P | 2.53 | 0.47 |
| 1:A1:152:U:C2 | 1:A1:163:G:N2 | 2.82 | 0.47 |
| 1:A1:380:U:O2' | 1:A1:381:C:H6 | 1.96 | 0.47 |
| 1:A1:410:A:C6 | 1:A1:411:C:C4 | 3.02 | 0.47 |
| 1:A1:436:A:H5" | 1:A1:437:A:P | 2.54 | 0.47 |
| 1:A1:446:A:N6 | 1:A1:461:G:H21 | 2.12 | 0.47 |
| 1:A1:450:U:O2 | 1:A1:450:U:C2' | 2.62 | 0.47 |
| 1:A1:450:U:N3 | 1:A1:451:A:N6 | 2.63 | 0.47 |
| 1:A1:478:A:N1 | 1:A1:510:G:C2 | 2.82 | 0.47 |
| 1:A1:549:G:N1 | 1:A1:550:A:C5 | 2.81 | 0.47 |
| 1:A1:603:U:H2' | 1:A1:604:A:C8 | 2.48 | 0.47 |
| 1:A1:612:U:H5' | 1:A1:613:G:C3' | 2.41 | 0.47 |
| 1:A1:666:U:C2' | 1:A1:666:U:O2 | 2.61 | 0.47 |
| 1:A1:708:C:C2 | 1:A1:731:C:C2 | 3.02 | 0.47 |
| 1:A1:783:G:H2' | 1:A1:784:C:H6 | 1.78 | 0.47 |
| 1:A1:893:U:H2' | 1:A1:893:U:O2 | 2.12 | 0.47 |
| 1:A1:1087:A:C6 | 1:A1:1088:A:C6 | 3.02 | 0.47 |
| 1:A1:1104:U:C5 | 1:A1:1105:C:C6 | 3.02 | 0.47 |
| 1:A1:1224:A:C6 | 1:A1:1225:U:O4 | 2.67 | 0.47 |
| 1:A1:1232:U:H2' | 1:A1:1233:G:O4' | 2.14 | 0.47 |
| 1:A1:1537:C:O2' | 1:A1:1540:G:O6 | 2.29 | 0.47 |
| 1:A1:1559:A:O2' | 1:A1:1560:U:C6 | 2.66 | 0.47 |
| 1:A1:1746:A:H3' | 1:A1:1747:G:C8 | 2.46 | 0.47 |
| 1:A1:1786:G:C4 | 1:A1:1787:C:C5 | 3.02 | 0.47 |
| 2:AA:51:GLY:O | 2:AA:54:TRP:CB | 2.62 | 0.47 |
| 3:AB:154:LEU:CB | 3:AB:169:LEU:C | 2.87 | 0.47 |
| 3:AB:165:VAL:CB | 3:AB:166:THR:CB | 2.92 | 0.47 |
| 4:AC:56:GLN:C | 4:AC:58:VAL:N | 2.69 | 0.47 |
| 5:AD:65:ARG:O | 5:AD:66:GLN:CB | 2.62 | 0.47 |
| 6:AE:117:GLY:HA3 | 6:AE:179:ARG:CB | 2.44 | 0.47 |
| 8:AG:93:LYS:O | 8:AG:94:LYS:C | 2.57 | 0.47 |
| 8:AG:126:ALA:O | 8:AG:127:ARG:C | 2.57 | 0.47 |
| 10:AI:19:GLY:C | 10:AI:21:ASP:N | 2.73 | 0.47 |
| 10:AI:78:THR:O | 10:AI:79:HIS:C | 2.57 | 0.47 |
| 13:AL:134:ARG:O | 13:AL:135:GLY:C | 2.58 | 0.47 |
| 21:AT:27:ALA:O | 21:AT:28:GLY:O | 2.32 | 0.47 |
| 21:AT:207:ASP:C | 21:AT:209:THR:H | 2.22 | 0.47 |
| 25:Ad:94:UNK:O | 25:Ad:96:UNK:N | 2.46 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:11:A:C2 | 31:B3:148:G:C2 | 3.02 | 0.47 |
| 29:B1:221:A:C5 | 29:B1:224:C:N4 | 2.82 | 0.47 |
| 29:B1:278:U:C4 | 29:B1:279:U:C5 | 3.03 | 0.47 |
| 29:B1:361:A:N1 | 29:B1:927:C:O2' | 2.38 | 0.47 |
| 29:B1:383:G:C2' | 29:B1:385:A:O5' | 2.40 | 0.47 |
| 29:B1:572:A:C8 | 29:B1:573:C:C5 | 3.02 | 0.47 |
| 29:B1:822:G:C5 | 29:B1:823:C:C5 | 3.02 | 0.47 |
| 29:B1:926:A:H2' | 29:B1:927:C:H6 | 1.79 | 0.47 |
| 29:B1:983:A:N1 | 29:B1:985:U:O4 | 2.46 | 0.47 |
| 29:B1:1054:A:H2 | 30:B2:80:G:H21 | 1.62 | 0.47 |
| 29:B1:1168:U:O4 | 29:B1:1330:A:N7 | 2.47 | 0.47 |
| 29:B1:1174:G:C4 | 29:B1:1175:C:C5 | 3.02 | 0.47 |
| 29:B1:1583:A:H2' | 29:B1:1584:U:O4' | 2.14 | 0.47 |
| 29:B1:1693:C:H5" | 29:B1:1694:U:H5' | 1.96 | 0.47 |
| 29:B1:1718:G:H2' | 29:B1:1719:G:H5' | 1.96 | 0.47 |
| 29:B1:1778:G:O3' | 29:B1:1779:C:O2 | 2.32 | 0.47 |
| 29:B1:1830:G:C4 | 29:B1:1831:U:C5 | 3.01 | 0.47 |
| 29:B1:1916:U:H2' | 29:B1:1917:C:H6 | 1.76 | 0.47 |
| 29:B1:2131:A:H2' | 29:B1:2132:C:C5' | 2.41 | 0.47 |
| 29:B1:2152:A:C1' | 29:B1:2243:A:C2 | 2.97 | 0.47 |
| 29:B1:2261:G:N2 | 29:B1:2263:C:C2 | 2.82 | 0.47 |
| 29:B1:2295:A:C6 | 29:B1:2296:A:C6 | 3.03 | 0.47 |
| 29:B1:2383:C:C2' | 29:B1:2384:A:H8 | 2.27 | 0.47 |
| 29:B1:2386:A:H2' | 29:B1:2387:A:C5' | 2.43 | 0.47 |
| 29:B1:2640:A:N9 | 29:B1:2641:U:C5 | 2.81 | 0.47 |
| 29:B1:2658:G:C4 | 29:B1:2659:G:C8 | 3.01 | 0.47 |
| 29:B1:2847:A:N6 | 29:B1:2898:G:C2 | 2.78 | 0.47 |
| 29:B1:2888:U:C4 | 29:B1:2910:A:C6 | 3.01 | 0.47 |
| 29:B1:2931:C:C2 | 29:B1:2932:U:H6 | 2.31 | 0.47 |
| 29:B1:2987:A:H2' | 29:B1:2988:C:O4' | 2.14 | 0.47 |
| 29:B1:3153:U:H5" | 29:B1:3293:U:C6 | 2.50 | 0.47 |
| 29:B1:3255:U:H2' | 29:B1:3256:G:H8 | 1.78 | 0.47 |
| 29:B1:3274:A:H2' | 29:B1:3274:A:N3 | 2.29 | 0.47 |
| 29:B1:3317:U:H3 | 34:BC:123:TYR:CA | 2.22 | 0.47 |
| 29:B1:3328:G:N2 | 29:B1:3375:A:H62 | 2.12 | 0.47 |
| 31:B3:53:A:C4 | 31:B3:54:A:C8 | 3.02 | 0.47 |
| 31:B3:74:U:OP1 | 31:B3:76:C:C4 | 2.67 | 0.47 |
| 31:B3:75:G:OP2 | 31:B3:76:C:OP1 | 2.32 | 0.47 |
| 31:B3:95:G:H5' | 59:Bd:72:ARG:HA | 1.96 | 0.47 |
| 31:B3:106:C:H4' | 31:B3:107:G:C5' | 2.44 | 0.47 |
| 31:B3:129:C:H2' | 31:B3:130:C:C5 | 2.48 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BC:92:TYR:O | 34:BC:93:VAL:CB | 2.62 | 0.47 |
| 34:BC:109:HIS:O | 34:BC:110:LEU:CB | 2.62 | 0.47 |
| 36:BE:243:ALA:HB1 | 36:BE:247:ILE:CB | 2.44 | 0.47 |
| 36:BE:246:ALA:O | 36:BE:249:ALA:HB2 | 2.14 | 0.47 |
| 37:BF:2:SER:C | 38:BG:79:ALA:HB3 | 2.39 | 0.47 |
| 38:BG:43:ILE:C | 38:BG:45:LEU:H | 2.22 | 0.47 |
| 40:BI:44:THR:C | 40:BI:45:PHE:O | 2.54 | 0.47 |
| 48:BS:37:SER:C | 48:BS:39:ASN:N | 2.69 | 0.47 |
| 48:BS:93:VAL:O | 48:BS:94:VAL:C | 2.57 | 0.47 |
| 54:BY:134:ALA:O | 54:BY:137:LYS:N | 2.38 | 0.47 |
| 57:Bb:19:ARG:O | 57:Bb:20:HIS:O | 2.33 | 0.47 |
| 57:Bb:97:ALA:HB3 | 57:Bb:100:ILE:H | 1.79 | 0.47 |
| 61:Bf:40:LYS:O | 61:Bf:41:ARG:C | 2.57 | 0.47 |
| 1:C1:8:U:H5 | 1:C1:1140:G:O6 | 1.94 | 0.47 |
| 1:C1:133:U:H1' | 1:C1:134:U:P | 2.53 | 0.47 |
| 1:C1:206:A:H2' | 1:C1:207:U:O4' | 2.13 | 0.47 |
| 1:C1:332:U:C5' | 1:C1:333:A:OP2 | 2.62 | 0.47 |
| 1:C1:374:U:C4' | 1:C1:374:U:OP1 | 2.63 | 0.47 |
| 1:C1:425:A:C2' | 1:C1:426:G:OP2 | 2.62 | 0.47 |
| 1:C1:426:G:C2 | 1:C1:427:C:C6 | 3.02 | 0.47 |
| 1:C1:446:A:C6 | 1:C1:447:U:C5 | 3.02 | 0.47 |
| 1:C1:651:G:C6 | 74:C1:1970:OHX:N6 | 2.82 | 0.47 |
| 1:C1:699:U:C4 | 1:C1:700:C:C5 | 3.02 | 0.47 |
| 1:C1:721:U:C4' | 1:C1:722:G:OP1 | 2.62 | 0.47 |
| 1:C1:814:A:C6 | 1:C1:858:G:N3 | 2.82 | 0.47 |
| 1:C1:825:U:C6 | 1:C1:826:U:C2 | 3.03 | 0.47 |
| 1:C1:832:U:H2' | 1:C1:832:U:O2 | 2.13 | 0.47 |
| 1:C1:837:G:C4 | 1:C1:838:G:C8 | 3.02 | 0.47 |
| 1:C1:850:A:C6 | 1:C1:851:U:C4 | 3.01 | 0.47 |
| 1:C1:898:A:C2 | 1:C1:915:A:N6 | 2.82 | 0.47 |
| 1:C1:1002:G:C6 | 1:C1:1003:A:N1 | 2.81 | 0.47 |
| 1:C1:1053:G:N2 | 1:C1:1067:C:H1' | 2.28 | 0.47 |
| 1:C1:1164:G:O2' | 1:C1:1165:G:H5' | 2.14 | 0.47 |
| 1:C1:1227:A:C8 | 1:C1:1229:G:OP2 | 2.68 | 0.47 |
| 1:C1:1251:U:C2 | 1:C1:1252:C:C6 | 3.03 | 0.47 |
| 1:C1:1355:C:H2' | 1:C1:1356:U:H6 | 1.79 | 0.47 |
| 1:C1:1417:A:H2' | 1:C1:1417:A:N3 | 2.28 | 0.47 |
| 1:C1:1448:G:O2' | 1:C1:1449:U:H5' | 2.14 | 0.47 |
| 1:C1:1513:G:C2' | 1:C1:1514:U:OP1 | 2.62 | 0.47 |
| 1:C1:1584:G:C2 | 11:CJ:125:GLU:N | 2.77 | 0.47 |
| 1:C1:1612:U:O4 | 1:C1:1613:U:H6 | 1.97 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1644:C:O2' | 29:D1:2262:A:N7 | 2.46 | 0.47 |
| 1:C1:1723:U:C2 | 1:C1:1724:U:C6 | 3.02 | 0.47 |
| 1:C1:1753:A:C6 | 1:C1:1754:A:N6 | 2.79 | 0.47 |
| 5:CD:131:GLN:O | 5:CD:135:ASP:CB | 2.62 | 0.47 |
| 15:CN:116:VAL:O | 15:CN:117:VAL:CB | 2.62 | 0.47 |
| 29:D1:131:C:C4 | 29:D1:132:C:C6 | 3.02 | 0.47 |
| 29:D1:178:U:H1' | 29:D1:241:G:C6 | 2.49 | 0.47 |
| 29:D1:185:C:C2 | 29:D1:232:G:N1 | 2.82 | 0.47 |
| 29:D1:361:A:H2' | 29:D1:362:U:O4' | 2.14 | 0.47 |
| 29:D1:382:U:C2' | 29:D1:383:G:C4' | 2.84 | 0.47 |
| 29:D1:393:U:N3 | 29:D1:394:G:C5 | 2.71 | 0.47 |
| 29:D1:423:A:C2 | 29:D1:424:G:N3 | 2.82 | 0.47 |
| 29:D1:617:G:H2' | 29:D1:618:C:O5' | 2.14 | 0.47 |
| 29:D1:642:U:H2' | 29:D1:644:G:N7 | 2.29 | 0.47 |
| 29:D1:750:G:C2' | 29:D1:751:A:H8 | 2.18 | 0.47 |
| 29:D1:847:A:C2 | 29:D1:848:A:C5 | 3.02 | 0.47 |
| 29:D1:849:C:C2' | 29:D1:850:U:H5' | 2.44 | 0.47 |
| 29:D1:898:U:H2' | 29:D1:899:U:O4' | 2.14 | 0.47 |
| 29:D1:1021:G:C5 | 29:D1:1022:U:C5 | 3.02 | 0.47 |
| 29:D1:1152:G:O2' | 29:D1:1153:A:P | 2.71 | 0.47 |
| 29:D1:1394:A:C8 | 29:D1:1394:A:C3' | 2.96 | 0.47 |
| 29:D1:1564:U:H2' | 29:D1:1565:G:O4' | 2.14 | 0.47 |
| 29:D1:1859:A:H2' | 29:D1:1859:A:N3 | 2.30 | 0.47 |
| 29:D1:1908:A:C8 | 29:D1:1909:A:C8 | 3.02 | 0.47 |
| 29:D1:2156:C:H2' | 29:D1:2178:A:H61 | 1.78 | 0.47 |
| 29:D1:2229:A:H2' | 29:D1:2230:C:N1 | 2.29 | 0.47 |
| 29:D1:2254:U:C6 | 29:D1:2254:U:OP2 | 2.67 | 0.47 |
| 29:D1:2285:C:H5 | 29:D1:2286:U:N1 | 2.09 | 0.47 |
| 29:D1:2397:A:H61 | 29:D1:2869:U:H1' | 1.79 | 0.47 |
| 29:D1:2419:A:N7 | 29:D1:2606:G:O6 | 2.47 | 0.47 |
| 29:D1:2536:A:C2 | 29:D1:2537:U:C2 | 3.02 | 0.47 |
| 29:D1:2838:A:C2 | 29:D1:2851:A:N9 | 2.82 | 0.47 |
| 29:D1:2883:U:O2' | 29:D1:2884:C:O5' | 2.27 | 0.47 |
| 29:D1:2897:A:H2 | 29:D1:2905:U:O2 | 1.97 | 0.47 |
| 29:D1:2900:A:O2' | 29:D1:2901:G:H5' | 2.14 | 0.47 |
| 29:D1:3262:U:H6 | 29:D1:3262:U:P | 2.34 | 0.47 |
| 29:D1:3278:C:C2 | 29:D1:3279:A:N7 | 2.82 | 0.47 |
| 29:D1:3315:G:H4' | 29:D1:3319:U:O3' | 2.14 | 0.47 |
| 29:D1:3327:G:N2 | 29:D1:3379:C:N1 | 2.61 | 0.47 |
| 29:D1:3359:A:H2' | 29:D1:3360:C:C4' | 2.45 | 0.47 |
| 30:D2:22:A:N1 | 36:DE:277:LEU:CB | 2.77 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:D2:84:A:C6 | 30:D2:97:A:C6 | 3.02 | 0.47 |
| 31:D3:70:G:P | 31:D3:71:A:OP2 | 2.72 | 0.47 |
| 31:D3:81:U:C4 | 31:D3:82:U:O4' | 2.67 | 0.47 |
| 34:DC:127:LYS:CB | 34:DC:128:LYS:HA | 2.44 | 0.47 |
| 34:DC:159:ARG:HA | 34:DC:181:ILE:O | 2.14 | 0.47 |
| 35:DD:203:ARG:O | 35:DD:204:GLY:O | 2.32 | 0.47 |
| 37:DF:20:LYS:CB | 37:DF:113:LYS:H | 2.27 | 0.47 |
| 38:DG:187:GLU:O | 38:DG:190:THR:N | 2.47 | 0.47 |
| 41:DJ:61:SER:HA | 41:DJ:126:ALA:CB | 2.44 | 0.47 |
| 41:DJ:184:LYS:C | 41:DJ:186:GLU:N | 2.58 | 0.47 |
| 44:DO:26:ARG:O | 44:DO:29:GLU:N | 2.48 | 0.47 |
| 45:DP:142:SER:O | 45:DP:143:THR:C | 2.55 | 0.47 |
| 49:DT:109:VAL:O | 49:DT:113:ALA:HB3 | 2.14 | 0.47 |
| 62:Dg:57:CYS:CB | 74:Dg:101:OHX:N4 | 2.76 | 0.47 |
| 65:Dk:9:UNK:O | 65:Dk:13:UNK:N | 2.47 | 0.47 |
| 1:A1:53:G:C6 | 1:A1:54:C:C5 | 3.02 | 0.47 |
| 1:A1:70:C:C4 | 1:A1:71:A:N6 | 2.82 | 0.47 |
| 1:A1:150:U:H5' | 1:A1:151:G:P | 2.54 | 0.47 |
| 1:A1:289:U:O2 | 1:A1:290:G:O4' | 2.31 | 0.47 |
| 1:A1:575:C:H5' | 1:A1:576:G:OP2 | 2.14 | 0.47 |
| 1:A1:632:U:H2' | 1:A1:633:U:O5' | 2.15 | 0.47 |
| 1:A1:964:U:OP2 | 1:A1:964:U:H2' | 2.15 | 0.47 |
| 1:A1:1065:A:C3' | 1:A1:1066:C:H6 | 2.27 | 0.47 |
| 1:A1:1099:U:H2' | 1:A1:1099:U:O2 | 2.13 | 0.47 |
| 1:A1:1360:A:N3 | 1:A1:1360:A:H2' | 2.30 | 0.47 |
| 1:A1:1499:G:C6 | 1:A1:1508:U:O2 | 2.62 | 0.47 |
| 1:A1:1612:U:C4 | 1:A1:1613:U:H6 | 2.32 | 0.47 |
| 2:AA:178:ALA:HB1 | 2:AA:182:LEU:CB | 2.44 | 0.47 |
| 4:AC:105:MET:O | 4:AC:108:LYS:N | 2.35 | 0.47 |
| 5:AD:164:PRO:C | 5:AD:166:ARG:N | 2.72 | 0.47 |
| 15:AN:36:ASN:C | 15:AN:38:SER:H | 2.21 | 0.47 |
| 23:Ab:77:UNK:C | 23:Ab:79:UNK:N | 2.76 | 0.47 |
| 24:Ac:79:UNK:O | 24:Ac:81:UNK:N | 2.47 | 0.47 |
| 29:B1:71:A:H5' | 29:B1:73:C:H42 | 1.78 | 0.47 |
| 29:B1:140:C:C2 | 29:B1:141:C:C5 | 3.02 | 0.47 |
| 29:B1:191:U:H2' | 29:B1:192:C:H6 | 1.79 | 0.47 |
| 29:B1:296:A:N7 | 29:B1:297:G:C6 | 2.83 | 0.47 |
| 29:B1:305:U:O2' | 29:B1:306:A:OP2 | 2.24 | 0.47 |
| 29:B1:366:A:N6 | 29:B1:367:A:C4 | 2.83 | 0.47 |
| 29:B1:379:C:H42 | 29:B1:390:G:H1 | 1.61 | 0.47 |
| 29:B1:420:G:N2 | 29:B1:2384:A:C4 | 2.81 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:439:C:H4' | 29:B1:440:A:O5' | 2.14 | 0.47 |
| 29:B1:544:C:OP2 | 29:B1:544:C:H3' | 2.14 | 0.47 |
| 29:B1:593:C:H2' | 29:B1:594:U:C4' | 2.43 | 0.47 |
| 29:B1:606:C:C2 | 29:B1:607:A:C4 | 3.03 | 0.47 |
| 29:B1:650:C:C5' | 29:B1:2872:A:OP2 | 2.62 | 0.47 |
| 29:B1:653:A:O4' | 29:B1:2360:C:H2' | 2.14 | 0.47 |
| 29:B1:722:G:C2 | 29:B1:748:U:O2 | 2.67 | 0.47 |
| 29:B1:761:A:N3 | 29:B1:761:A:H2' | 2.30 | 0.47 |
| 29:B1:762:U:OP1 | 29:B1:763:G:P | 2.72 | 0.47 |
| 29:B1:835:G:N3 | 29:B1:857:G:C2 | 2.82 | 0.47 |
| 29:B1:856:G:N1 | 29:B1:857:G:N2 | 2.62 | 0.47 |
| 29:B1:944:C:H2' | 29:B1:945:C:C6 | 2.49 | 0.47 |
| 29:B1:957:C:O5' | 29:B1:957:C:H6 | 1.97 | 0.47 |
| 29:B1:996:A:O2' | 29:B1:997:A:H5' | 2.14 | 0.47 |
| 29:B1:1063:G:O2' | 29:B1:1064:A:OP2 | 2.32 | 0.47 |
| 29:B1:1080:A:C5 | 29:B1:1082:U:H5" | 2.49 | 0.47 |
| 29:B1:1127:G:H22 | 29:B1:1132:C:N4 | 2.09 | 0.47 |
| 29:B1:1231:A:H4' | 29:B1:1232:C:OP2 | 2.14 | 0.47 |
| 29:B1:1363:A:H2' | 29:B1:1364:C:C6 | 2.49 | 0.47 |
| 29:B1:1466:G:C5 | 29:B1:1511:U:C4 | 3.02 | 0.47 |
| 29:B1:1661:G:OP1 | 29:B1:1661:G:C4' | 2.53 | 0.47 |
| 29:B1:2096:A:OP2 | 29:B1:2097:U:OP2 | 2.33 | 0.47 |
| 29:B1:2199:G:C4 | 29:B1:2200:U:C5 | 3.03 | 0.47 |
| 29:B1:2233:A:OP2 | 74:B1:3599:OHX:N2 | 2.47 | 0.47 |
| 29:B1:2248:C:H4' | 29:B1:2271:A:C2 | 2.49 | 0.47 |
| 29:B1:2400:G:O4' | 29:B1:2401:A:OP1 | 2.32 | 0.47 |
| 29:B1:2416:U:H4' | 29:B1:2967:A:O4' | 2.14 | 0.47 |
| 29:B1:2655:U:H1' | 29:B1:2656:A:C2 | 2.50 | 0.47 |
| 29:B1:2725:U:H3' | 29:B1:2725:U:C6 | 2.47 | 0.47 |
| 29:B1:2858:U:C2' | 29:B1:2859:U:C5 | 2.94 | 0.47 |
| 29:B1:2917:G:O2' | 29:B1:2918:G:O5' | 2.32 | 0.47 |
| 29:B1:3074:G:H2' | 29:B1:3075:G:C8 | 2.48 | 0.47 |
| 29:B1:3080:G:C6 | 29:B1:3081:C:C4 | 3.02 | 0.47 |
| 29:B1:3126:C:C4 | 29:B1:3127:A:C8 | 3.02 | 0.47 |
| 29:B1:3298:C:N3 | 29:B1:3391:A:N1 | 2.63 | 0.47 |
| 30:B2:9:C:C4 | 30:B2:10:C:O2 | 2.67 | 0.47 |
| 31:B3:4:C:N4 | 31:B3:5:U:N3 | 2.62 | 0.47 |
| 31:B3:65:A:N6 | 31:B3:66:A:C6 | 2.83 | 0.47 |
| 31:B3:111:A:C1' | 31:B3:112:U:OP1 | 2.62 | 0.47 |
| 34:BC:42:ALA:O | 34:BC:43:LEU:O | 2.32 | 0.47 |
| 36:BE:264:GLN:HA | 36:BE:266:ALA:N | 2.29 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 37:BF:51:ARG:O | 37:BF:52:VAL:CB | 2.62 | 0.47 |
| 37:BF:134:ARG:C | 37:BF:136:GLU:N | 2.68 | 0.47 |
| 40:BI:187:ILE:HA | 40:BI:188:THR:HA | 1.48 | 0.47 |
| 45:BP:22:VAL:O | 45:BP:23:VAL:C | 2.57 | 0.47 |
| 49:BT:13:TYR:O | 49:BT:16:GLN:CB | 2.62 | 0.47 |
| 49:BT:65:TYR:O | 49:BT:66:ASN:CB | 2.62 | 0.47 |
| 51:BV:7:SER:C | 51:BV:9:SER:N | 2.72 | 0.47 |
| 52:BW:54:TYR:C | 52:BW:56:ARG:H | 2.23 | 0.47 |
| 54:BY:11:HIS:O | 54:BY:12:ARG:O | 2.32 | 0.47 |
| 1:C1:126:A:C6 | 1:C1:292:U:C2 | 3.02 | 0.47 |
| 1:C1:188:A:N9 | 1:C1:198:A:N6 | 2.62 | 0.47 |
| 1:C1:283:U:C3' | 1:C1:284:G:C5' | 2.89 | 0.47 |
| 1:C1:364:G:N2 | 1:C1:381:C:C1' | 2.78 | 0.47 |
| 1:C1:378:A:C2' | 1:C1:379:U:O5' | 2.62 | 0.47 |
| 1:C1:386:G:H2' | 1:C1:387:A:O5' | 2.15 | 0.47 |
| 1:C1:394:C:C5 | 1:C1:395:U:C5 | 3.02 | 0.47 |
| 1:C1:514:G:N7 | 1:C1:538:A:C2 | 2.82 | 0.47 |
| 1:C1:555:A:H1' | 1:C1:556:A:OP1 | 2.14 | 0.47 |
| 1:C1:578:U:OP1 | 1:C1:578:U:H4' | 2.12 | 0.47 |
| 1:C1:611:U:C5 | 1:C1:612:U:C6 | 3.03 | 0.47 |
| 1:C1:621:A:H5" | 1:C1:622:A:OP2 | 2.14 | 0.47 |
| 1:C1:778:G:N2 | 1:C1:783:G:C4 | 2.82 | 0.47 |
| 1:C1:828:U:C5 | 1:C1:829:A:C6 | 3.02 | 0.47 |
| 1:C1:837:G:C6 | 74:C1:1928:OHX:N1 | 2.82 | 0.47 |
| 1:C1:870:C:C2 | 1:C1:871:G:N7 | 2.82 | 0.47 |
| 1:C1:1002:G:C5 | 1:C1:1003:A:H2 | 2.31 | 0.47 |
| 1:C1:1196:A:N3 | 1:C1:1196:A:O4' | 2.48 | 0.47 |
| 1:C1:1210:C:H2' | 1:C1:1210:C:O2 | 2.14 | 0.47 |
| 1:C1:1305:U:H3' | 1:C1:1306:C:O2 | 2.14 | 0.47 |
| 1:C1:1308:G:C5 | 1:C1:1309:C:C5 | 3.02 | 0.47 |
| 1:C1:1323:C:O3' | 1:C1:1324:G:O4' | 2.32 | 0.47 |
| 1:C1:1333:C:C2 | 1:C1:1419:G:C2 | 3.02 | 0.47 |
| 1:C1:1702:A:N6 | 1:C1:1703:C:H41 | 2.12 | 0.47 |
| 9:CH:20:TYR:HA | 9:CH:85:ALA:H | 1.80 | 0.47 |
| 15:CN:28:SER:CB | 15:CN:112:VAL:HA | 2.43 | 0.47 |
| 15:CN:32:LYS:O | 15:CN:34:LEU:N | 2.42 | 0.47 |
| 15:CN:36:ASN:C | 15:CN:38:SER:H | 2.22 | 0.47 |
| 18:CQ:91:PRO:O | 18:CQ:99:ALA:HA | 2.14 | 0.47 |
| 23:Cb:123:UNK:O | 23:Cb:136:UNK:C | 2.62 | 0.47 |
| 29:D1:99:A:O2' | 29:D1:100:A:H5' | 2.14 | 0.47 |
| 29:D1:157:A:O2' | 29:D1:158:G:C8 | 2.67 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:332:C:H5" | 29:D1:332:C:H6 | 1.78 | 0.47 |
| 29:D1:373:A:C6 | 29:D1:375:A:C6 | 3.01 | 0.47 |
| 29:D1:821:U:H2' | 29:D1:822:G:H5' | 1.95 | 0.47 |
| 29:D1:1032:C:H2' | 29:D1:1033:U:C6 | 2.49 | 0.47 |
| 29:D1:1145:G:O3' | 57:Db:46:PHE:HA | 2.14 | 0.47 |
| 29:D1:1185:C:O5' | 29:D1:1185:C:H6 | 1.96 | 0.47 |
| 29:D1:1232:C:C4 | 29:D1:1261:G:C4 | 3.01 | 0.47 |
| 29:D1:1265:U:C4 | 29:D1:1277:C:C2 | 3.02 | 0.47 |
| 29:D1:1284:C:N3 | 29:D1:1285:G:N7 | 2.63 | 0.47 |
| 29:D1:1335:C:N4 | 29:D1:1336:U:O4 | 2.47 | 0.47 |
| 29:D1:1502:C:N4 | 29:D1:1513:G:N7 | 2.61 | 0.47 |
| 29:D1:1658:G:C4 | 29:D1:1659:U:C5 | 3.02 | 0.47 |
| 29:D1:1661:G:C6 | 29:D1:1662:G:C6 | 3.02 | 0.47 |
| 29:D1:1678:G:C4 | 29:D1:1679:A:N7 | 2.83 | 0.47 |
| 29:D1:1691:U:C2 | 29:D1:1692:U:C5 | 3.03 | 0.47 |
| 29:D1:2165:G:N2 | 29:D1:2170:U:N3 | 2.61 | 0.47 |
| 29:D1:2224:A:H3' | 29:D1:2225:U:H6 | 1.79 | 0.47 |
| 29:D1:2361:A:N7 | 29:D1:2362:C:C5 | 2.81 | 0.47 |
| 29:D1:2373:A:N3 | 29:D1:2824:G:O2' | 2.47 | 0.47 |
| 29:D1:2423:U:C2 | 29:D1:2608:G:C2 | 3.02 | 0.47 |
| 29:D1:2514:U:O2' | 29:D1:2515:A:C8 | 2.66 | 0.47 |
| 29:D1:2607:G:C2 | 29:D1:2608:G:C4 | 3.03 | 0.47 |
| 29:D1:2684:C:O2' | 29:D1:2685:C:O5' | 2.32 | 0.47 |
| 29:D1:2909:U:C5 | 29:D1:2910:A:C8 | 3.02 | 0.47 |
| 29:D1:2951:G:O2' | 29:D1:2952:G:H5' | 2.15 | 0.47 |
| 29:D1:3044:G:H2' | 29:D1:3045:G:H5' | 1.96 | 0.47 |
| 29:D1:3106:A:H8 | 29:D1:3106:A:O5' | 1.96 | 0.47 |
| 29:D1:3202:G:H2' | 29:D1:3203:U:C6 | 2.49 | 0.47 |
| 29:D1:3300:U:O2 | 29:D1:3300:U:C2' | 2.63 | 0.47 |
| 29:D1:3371:G:C6 | 29:D1:3372:A:C4 | 3.02 | 0.47 |
| 30:D2:91:G:C2 | 30:D2:92:A:C4 | 3.01 | 0.47 |
| 30:D2:97:A:C2' | 30:D2:98:C:C6 | 2.92 | 0.47 |
| 30:D2:110:G:C6 | 30:D2:111:U:N3 | 2.82 | 0.47 |
| 33:DB:184:ARG:O | 33:DB:185:ALA:C | 2.58 | 0.47 |
| 38:DG:143:THR:O | 38:DG:147:LEU:CB | 2.62 | 0.47 |
| 38:DG:161:VAL:O | 38:DG:162:PRO:O | 2.30 | 0.47 |
| 38:DG:199:ASN:C | 38:DG:201:PHE:N | 2.69 | 0.47 |
| 42:DK:94:ARG:HA | 42:DK:95:ASN:HA | 1.72 | 0.47 |
| 42:DK:156:LYS:C | 42:DK:158:ASP:N | 2.72 | 0.47 |
| 73:DM:26:PHE:HA | 73:DM:190:VAL:HA | 1.96 | 0.47 |
| 46:DQ:52:LEU:O | 46:DQ:53:ASP:C | 2.57 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 56:Da:56:ASN:C | 56:Da:58:ALA:N | 2.71 | 0.47 |
| 57:Db:34:LYS:O | 57:Db:35:GLN:C | 2.56 | 0.47 |
| 59:Dd:36:SER:C | 74:Dd:101:OHX:N5 | 2.72 | 0.47 |
| 1:A1:109:G:H2' | 1:A1:109:G:N3 | 2.28 | 0.47 |
| 1:A1:198:A:H1' | 1:A1:199:G:P | 2.54 | 0.47 |
| 1:A1:243:G:C5 | 1:A1:251:A:N6 | 2.80 | 0.47 |
| 1:A1:356:G:C6 | 1:A1:357:G:C8 | 3.02 | 0.47 |
| 1:A1:646:C:H2' | 1:A1:647:G:C4' | 2.45 | 0.47 |
| 1:A1:814:A:H2' | 1:A1:816:G:H21 | 1.78 | 0.47 |
| 1:A1:826:U:H2' | 1:A1:827:C:H6 | 1.78 | 0.47 |
| 1:A1:1099:U:O2' | 1:A1:1100:G:H5' | 2.13 | 0.47 |
| 1:A1:1112:G:P | 1:A1:1113:A:H2' | 2.54 | 0.47 |
| 1:A1:1151:A:C2' | 1:A1:1152:A:H5' | 2.43 | 0.47 |
| 1:A1:1186:U:C2' | 1:A1:1187:U:H5' | 2.44 | 0.47 |
| 1:A1:1241:G:N2 | 1:A1:1243:G:H3' | 2.30 | 0.47 |
| 1:A1:1258:U:C2' | 1:A1:1259:U:O4' | 2.59 | 0.47 |
| 1:A1:1358:G:N1 | 1:A1:1359:C:N4 | 2.62 | 0.47 |
| 1:A1:1417:A:N3 | 1:A1:1417:A:H2' | 2.28 | 0.47 |
| 1:A1:1433:G:O2' | 1:A1:1434:U:H6 | 1.98 | 0.47 |
| 1:A1:1484:G:H5' | 1:A1:1485:C:OP2 | 2.13 | 0.47 |
| 1:A1:1498:G:C6 | 1:A1:1510:U:N3 | 2.83 | 0.47 |
| 1:A1:1660:A:O2' | 1:A1:1661:U:H5' | 2.14 | 0.47 |
| 1:A1:1683:C:H4' | 1:A1:1684:U:C4 | 2.49 | 0.47 |
| 3:AB:147:ASN:C | 3:AB:149:GLY:N | 2.72 | 0.47 |
| 3:AB:152:HIS:C | 3:AB:154:LEU:N | 2.71 | 0.47 |
| 4:AC:46:THR:CB | 4:AC:84:ILE:HA | 2.44 | 0.47 |
| 5:AD:117:THR:HA | 5:AD:191:ALA:HB1 | 1.94 | 0.47 |
| 8:AG:117:LEU:C | 8:AG:119:GLU:N | 2.70 | 0.47 |
| 8:AG:127:ARG:C | 8:AG:129:TYR:N | 2.63 | 0.47 |
| 8:AG:138:ASN:HA | 8:AG:142:GLU:H | 1.79 | 0.47 |
| 9:AH:61:MET:C | 9:AH:63:ALA:H | 2.21 | 0.47 |
| 14:AM:62:ALA:O | 14:AM:64:HIS:N | 2.47 | 0.47 |
| 21:AT:27:ALA:O | 21:AT:28:GLY:C | 2.57 | 0.47 |
| 25:Ad:95:UNK:O | 25:Ad:98:UNK:N | 2.46 | 0.47 |
| 26:Ae:14:UNK:O | 26:Ae:15:UNK:C | 2.61 | 0.47 |
| 29:B1:79:U:H2' | 29:B1:80:G:H8 | 1.79 | 0.47 |
| 29:B1:108:A:O2' | 29:B1:109:A:H5" | 2.15 | 0.47 |
| 29:B1:113:C:O2' | 29:B1:114:A:H5' | 2.13 | 0.47 |
| 29:B1:337:G:C2 | 31:B3:27:U:C2 | 3.02 | 0.47 |
| 29:B1:595:G:H2' | 29:B1:596:C:O4' | 2.14 | 0.47 |
| 29:B1:667:C:O2 | 29:B1:667:C:H2' | 2.13 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:960:U:O2 | 29:B1:960:U:O4' | 2.33 | 0.47 |
| 29:B1:1004:U:N3 | 29:B1:1005:G:C5 | 2.82 | 0.47 |
| 29:B1:1013:G:H3' | 29:B1:1014:U:O3' | 2.15 | 0.47 |
| 29:B1:1078:U:C4 | 29:B1:1082:U:C4 | 3.02 | 0.47 |
| 29:B1:1108:U:C2 | 29:B1:1109:U:C6 | 3.03 | 0.47 |
| 29:B1:1139:G:C8 | 29:B1:1139:G:H5" | 2.38 | 0.47 |
| 29:B1:1188:U:H3 | 29:B1:1317:A:N6 | 2.11 | 0.47 |
| 29:B1:1231:A:N6 | 29:B1:1276:U:C5 | 2.77 | 0.47 |
| 29:B1:1234:G:N1 | 29:B1:1255:C:C4 | 2.83 | 0.47 |
| 29:B1:1281:G:H8 | 29:B1:1281:G:OP2 | 1.95 | 0.47 |
| 29:B1:1334:U:OP1 | 38:BG:206:LYS:HA | 2.15 | 0.47 |
| 29:B1:1452:A:C1' | 29:B1:2347:U:H5" | 2.37 | 0.47 |
| 29:B1:1455:U:O4' | 29:B1:1455:U:P | 2.72 | 0.47 |
| 29:B1:1908:A:H62 | 29:B1:1909:A:N6 | 2.13 | 0.47 |
| 29:B1:2295:A:N3 | 29:B1:2929:C:O2' | 2.46 | 0.47 |
| 29:B1:2423:U:C2 | 29:B1:2608:G:C2 | 3.02 | 0.47 |
| 29:B1:2643:A:C6 | 29:B1:2645:G:H1' | 2.49 | 0.47 |
| 29:B1:2730:G:N2 | 29:B1:2731:U:H1' | 2.30 | 0.47 |
| 29:B1:2929:C:C4 | 29:B1:2930:A:C8 | 3.02 | 0.47 |
| 29:B1:2931:C:H2' | 29:B1:2932:U:O4' | 2.14 | 0.47 |
| 29:B1:2986:U:O2' | 29:B1:2987:A:H5' | 2.14 | 0.47 |
| 29:B1:3086:A:C8 | 29:B1:3087:A:N7 | 2.82 | 0.47 |
| 29:B1:3099:C:C2' | 29:B1:3100:U:C6 | 2.97 | 0.47 |
| 29:B1:3228:C:C2' | 29:B1:3229:G:C8 | 2.98 | 0.47 |
| 29:B1:3239:G:O2' | 29:B1:3240:C:H5' | 2.15 | 0.47 |
| 29:B1:3282:U:O2' | 29:B1:3283:U:H5 | 1.97 | 0.47 |
| 29:B1:3289:G:C5 | 74:B1:3581:OHX:N3 | 2.83 | 0.47 |
| 29:B1:3291:G:O2' | 29:B1:3292:A:O4' | 2.32 | 0.47 |
| 30:B2:23:A:H8 | 30:B2:23:A:O5' | 1.97 | 0.47 |
| 30:B2:75:G:H21 | 30:B2:105:C:H41 | 1.63 | 0.47 |
| 30:B2:91:G:C2 | 30:B2:92:A:C4 | 3.02 | 0.47 |
| 31:B3:7:U:C4 | 31:B3:8:C:N4 | 2.82 | 0.47 |
| 31:B3:40:A:O2' | 31:B3:41:A:P | 2.72 | 0.47 |
| 31:B3:145:U:O2' | 31:B3:146:U:H5' | 2.15 | 0.47 |
| 34:BC:257:PRO:CB | 34:BC:258:ALA:C | 2.87 | 0.47 |
| 40:BI:139:ASN:HA | 40:BI:140:VAL:CB | 2.44 | 0.47 |
| 41:BJ:57:LEU:HA | 41:BJ:129:VAL:O | 2.14 | 0.47 |
| 44:BO:85:THR:CB | 44:BO:88:GLY:N | 2.76 | 0.47 |
| 48:BS:119:LEU:O | 48:BS:123:LEU:CB | 2.62 | 0.47 |
| 60:Be:43:ASN:O | 60:Be:45:ARG:N | 2.47 | 0.47 |
| 1:C1:125:U:H6 | 1:C1:125:U:C5' | 2.27 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:145:A:N6 | 1:C1:146:U:C4 | 2.82 | 0.47 |
| 1:C1:172:C:O2' | 1:C1:173:A:C8 | 2.49 | 0.47 |
| 1:C1:224:C:O2' | 1:C1:225:A:C8 | 2.68 | 0.47 |
| 1:C1:225:A:O2' | 1:C1:226:A:P | 2.72 | 0.47 |
| 1:C1:330:G:H8 | 1:C1:330:G:OP2 | 1.95 | 0.47 |
| 1:C1:410:A:N1 | 1:C1:411:C:C2 | 2.83 | 0.47 |
| 1:C1:590:C:O2' | 1:C1:591:A:H5' | 2.14 | 0.47 |
| 1:C1:605:A:H62 | 1:C1:606:A:N6 | 2.10 | 0.47 |
| 1:C1:770:A:H2' | 1:C1:771:A:O4' | 2.14 | 0.47 |
| 1:C1:774:A:C6 | 1:C1:775:G:H1' | 2.49 | 0.47 |
| 1:C1:802:G:H5" | 1:C1:803:A:OP2 | 2.14 | 0.47 |
| 1:C1:1021:C:N3 | 1:C1:1022:C:C2 | 2.82 | 0.47 |
| 1:C1:1032:G:C2 | 1:C1:1033:C:C4 | 3.03 | 0.47 |
| 1:C1:1045:C:O2' | 1:C1:1046:G:P | 2.71 | 0.47 |
| 1:C1:1066:C:C2 | 1:C1:1067:C:C6 | 3.03 | 0.47 |
| 1:C1:1099:U:O2 | 1:C1:1099:U:H2' | 2.14 | 0.47 |
| 1:C1:1159:C:H5' | 1:C1:1159:C:H6 | 1.79 | 0.47 |
| 1:C1:1180:C:C2 | 1:C1:1181:U:C6 | 3.02 | 0.47 |
| 1:C1:1334:U:H2' | 1:C1:1335:U:C6 | 2.49 | 0.47 |
| 1:C1:1346:A:P | 1:C1:1346:A:O4' | 2.72 | 0.47 |
| 1:C1:1362:U:C3' | 1:C1:1363:U:O4' | 2.48 | 0.47 |
| 1:C1:1419:G:C6 | 1:C1:1420:C:O2 | 2.67 | 0.47 |
| 1:C1:1431:C:C3' | 1:C1:1432:U:C5' | 2.92 | 0.47 |
| 1:C1:1507:G:H2' | 1:C1:1508:U:O4' | 2.14 | 0.47 |
| 1:C1:1550:A:N1 | 1:C1:1562:G:C6 | 2.83 | 0.47 |
| 1:C1:1613:U:N3 | 1:C1:1614:A:H8 | 2.06 | 0.47 |
| 6:CE:103:ASP:O | 6:CE:104:PHE:C | 2.56 | 0.47 |
| 11:CJ:18:ALA:CB | 11:CJ:84:ALA:HB2 | 2.44 | 0.47 |
| 16:CO:30:SER:O | 16:CO:34:ILE:CB | 2.62 | 0.47 |
| 23:Cb:48:UNK:C | 23:Cb:50:UNK:N | 2.72 | 0.47 |
| 29:D1:30:G:C6 | 29:D1:55:G:C6 | 3.03 | 0.47 |
| 29:D1:65:A:H2' | 29:D1:111:C:C5 | 2.50 | 0.47 |
| 29:D1:73:C:P | 29:D1:74:G:O5' | 2.72 | 0.47 |
| 29:D1:136:G:OP2 | 29:D1:136:G:H8 | 1.97 | 0.47 |
| 29:D1:206:G:N2 | 29:D1:207:U:H1' | 2.30 | 0.47 |
| 29:D1:416:A:N6 | 31:D3:7:U:H3 | 2.10 | 0.47 |
| 29:D1:595:G:C6 | 29:D1:596:C:H5 | 2.33 | 0.47 |
| 29:D1:636:C:O2' | 29:D1:637:C:C5' | 2.63 | 0.47 |
| 29:D1:662:U:H3 | 29:D1:801:A:H2 | 1.63 | 0.47 |
| 29:D1:705:A:C8 | 29:D1:715:A:N6 | 2.81 | 0.47 |
| 29:D1:774:G:C2 | 29:D1:775:A:C8 | 3.01 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:840:C:O2' | 29:D1:841:A:H5' | 2.14 | 0.47 |
| 29:D1:947:G:H2' | 29:D1:948:C:C6 | 2.45 | 0.47 |
| 29:D1:1023:C:H3' | 29:D1:1024:G:H5" | 1.95 | 0.47 |
| 29:D1:1031:C:C4 | 29:D1:1032:C:C5 | 3.03 | 0.47 |
| 29:D1:1082:U:OP2 | 29:D1:1082:U:O3' | 2.33 | 0.47 |
| 29:D1:1089:G:C2 | 29:D1:1090:G:C8 | 3.02 | 0.47 |
| 29:D1:1220:U:O4' | 29:D1:1223:A:O4' | 2.33 | 0.47 |
| 29:D1:1302:A:N9 | 29:D1:2887:A:N1 | 2.63 | 0.47 |
| 29:D1:1315:U:O2' | 29:D1:1316:C:H5' | 2.15 | 0.47 |
| 29:D1:1334:U:H5" | 38:DG:206:LYS:C | 2.39 | 0.47 |
| 29:D1:1347:U:H6 | 29:D1:1347:U:P | 2.37 | 0.47 |
| 29:D1:1419:A:C6 | 29:D1:1420:C:C5 | 3.02 | 0.47 |
| 29:D1:1439:U:C2 | 29:D1:1440:G:N7 | 2.83 | 0.47 |
| 29:D1:1504:A:C5 | 29:D1:1505:C:H5 | 2.31 | 0.47 |
| 29:D1:1528:G:C4 | 29:D1:1529:A:N7 | 2.82 | 0.47 |
| 29:D1:1555:U:H5" | 29:D1:1580:A:C2 | 2.49 | 0.47 |
| 29:D1:1689:U:C2' | 29:D1:1690:C:H5' | 2.45 | 0.47 |
| 29:D1:1849:C:H4' | 29:D1:1850:A:OP2 | 2.14 | 0.47 |
| 29:D1:1881:A:C6 | 29:D1:1882:G:N7 | 2.82 | 0.47 |
| 29:D1:1909:A:N1 | 29:D1:1910:A:C2 | 2.82 | 0.47 |
| 29:D1:2152:A:O2' | 29:D1:2153:U:H5' | 2.14 | 0.47 |
| 29:D1:2198:A:C2 | 29:D1:2270:A:N7 | 2.83 | 0.47 |
| 29:D1:2240:G:C2' | 29:D1:2241:U:O5' | 2.62 | 0.47 |
| 29:D1:2257:C:O2 | 29:D1:2257:C:O4' | 2.31 | 0.47 |
| 29:D1:2672:G:C8 | 29:D1:2672:G:H3' | 2.49 | 0.47 |
| 29:D1:2805:G:O2' | 29:D1:2806:U:C5' | 2.62 | 0.47 |
| 29:D1:2876:C:N1 | 29:D1:2952:G:N2 | 2.63 | 0.47 |
| 29:D1:2984:C:N3 | 29:D1:2985:C:C5 | 2.82 | 0.47 |
| 29:D1:3057:U:C2' | 29:D1:3058:U:H4' | 2.44 | 0.47 |
| 29:D1:3201:C:N3 | 29:D1:3202:G:N7 | 2.62 | 0.47 |
| 29:D1:3282:U:O2' | 29:D1:3283:U:H5 | 1.96 | 0.47 |
| 29:D1:3318:G:O2' | 29:D1:3319:U:OP1 | 2.32 | 0.47 |
| 29:D1:3352:U:C2' | 29:D1:3354:U:H4' | 2.36 | 0.47 |
| 29:D1:3377:G:N9 | 74:D1:3452:OHX:N5 | 2.63 | 0.47 |
| 74:D1:3502:OHX:N6 | 54:DY:20:GLY:HA3 | 2.29 | 0.47 |
| 30:D2:64:A:N6 | 30:D2:111:U:C5 | 2.63 | 0.47 |
| 30:D2:91:G:N1 | 30:D2:92:A:C5 | 2.82 | 0.47 |
| 31:D3:3:A:H3' | 31:D3:3:A:H8 | 1.78 | 0.47 |
| 31:D3:49:G:C8 | 58:Dc:40:SER:O | 2.67 | 0.47 |
| 34:DC:192:VAL:O | 34:DC:195:ALA:CB | 2.61 | 0.47 |
| 36:DE:225:GLY:N | 36:DE:233:ALA:HB3 | 2.29 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 36:DE:241:THR:O | 36:DE:243:ALA:C | 2.57 | 0.47 |
| 37:DF:27:PRO:O | 37:DF:29:LYS:N | 2.48 | 0.47 |
| 38:DG:138:TYR:O | 38:DG:233:GLU:O | 2.33 | 0.47 |
| 40:DI:161:LEU:C | 40:DI:163:GLN:N | 2.67 | 0.47 |
| 73:DM:34:SER:O | 73:DM:35:SER:C | 2.56 | 0.47 |
| 43:DN:119:GLN:O | 43:DN:120:VAL:C | 2.57 | 0.47 |
| 44:DO:49:ARG:O | 44:DO:50:ARG:C | 2.56 | 0.47 |
| 44:DO:83:LYS:H | 44:DO:85:THR:CA | 2.26 | 0.47 |
| 50:DU:23:MET:O | 50:DU:24:ASN:C | 2.58 | 0.47 |
| 52:DW:54:TYR:C | 52:DW:56:ARG:H | 2.23 | 0.47 |
| 52:DW:132:ALA:O | 52:DW:133:LEU:C | 2.57 | 0.47 |
| 54:DY:111:LYS:O | 54:DY:112:ILE:C | 2.58 | 0.47 |
| 61:Df:23:HIS:HA | 61:Df:74:CYS:HA | 1.97 | 0.47 |
| 1:A1:50:C:H2' | 1:A1:424:C:H41 | 1.79 | 0.47 |
| 1:A1:74:U:O2' | 1:A1:75:U:P | 2.72 | 0.47 |
| 1:A1:75:U:O2' | 1:A1:76:A:H4' | 2.14 | 0.47 |
| 1:A1:125:U:H6 | 1:A1:125:U:C5' | 2.27 | 0.47 |
| 1:A1:268:C:C4 | 1:A1:288:A:H2 | 2.32 | 0.47 |
| 1:A1:317:C:O2 | 1:A1:317:C:H2' | 2.14 | 0.47 |
| 1:A1:342:C:O2 | 1:A1:342:C:C2' | 2.61 | 0.47 |
| 1:A1:377:G:HO2' | 1:A1:378:A:P | 2.34 | 0.47 |
| 1:A1:523:G:H2' | 1:A1:524:U:N3 | 2.29 | 0.47 |
| 1:A1:690:G:C2' | 1:A1:691:C:C5' | 2.92 | 0.47 |
| 1:A1:809:A:N1 | 1:A1:810:G:N1 | 2.62 | 0.47 |
| 1:A1:877:G:H5' | 1:A1:936:G:H21 | 1.79 | 0.47 |
| 1:A1:989:U:C2 | 1:A1:990:C:C6 | 3.03 | 0.47 |
| 1:A1:1096:C:H2' | 1:A1:1096:C:O2 | 2.13 | 0.47 |
| 1:A1:1198:G:C5' | 1:A1:1199:G:H8 | 2.27 | 0.47 |
| 1:A1:1299:G:C6 | 1:A1:1300:A:N6 | 2.83 | 0.47 |
| 1:A1:1391:A:C3' | 1:A1:1392:U:H5" | 2.44 | 0.47 |
| 1:A1:1471:A:H2' | 1:A1:1471:A:N3 | 2.29 | 0.47 |
| 1:A1:1586:A:H2' | 1:A1:1587:A:O4' | 2.13 | 0.47 |
| 1:A1:1600:A:C2' | 1:A1:1602:C:H41 | 2.28 | 0.47 |
| 1:A1:1722:A:OP1 | 1:A1:1722:A:C4' | 2.62 | 0.47 |
| 1:A1:1734:U:N3 | 1:A1:1735:U:C4 | 2.82 | 0.47 |
| 2:AA:50:VAL:O | 2:AA:53:THR:CB | 2.63 | 0.47 |
| 3:AB:138:PRO:C | 3:AB:140:ARG:H | 2.19 | 0.47 |
| 12:AK:48:ASN:O | 12:AK:52:GLY:N | 2.41 | 0.47 |
| 13:AL:76:PRO:C | 13:AL:81:ILE:H | 2.22 | 0.47 |
| 13:AL:114:GLU:C | 13:AL:116:LEU:N | 2.70 | 0.47 |
| 14:AM:1:MET:N | 14:AM:2:PRO:HA | 2.28 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 15:AN:12:GLN:CB | 15:AN:14:GLN:O | 2.63 | 0.47 |
| 20:AS:51:GLY:O | 20:AS:52:PHE:C | 2.58 | 0.47 |
| 24:Ac:4:UNK:HA | 24:Ac:99:UNK:N | 2.29 | 0.47 |
| 24:Ac:8:UNK:CB | 24:Ac:67:UNK:N | 2.77 | 0.47 |
| 24:Ac:8:UNK:O | 24:Ac:65:UNK:O | 2.33 | 0.47 |
| 29:B1:53:G:N2 | 29:B1:1546:A:C2 | 2.82 | 0.47 |
| 29:B1:109:A:H4' | 29:B1:110:G:OP1 | 2.13 | 0.47 |
| 29:B1:155:G:P | 29:B1:155:G:C8 | 2.98 | 0.47 |
| 29:B1:207:U:O2' | 29:B1:208:C:H5' | 2.15 | 0.47 |
| 29:B1:218:G:H8 | 29:B1:218:G:OP1 | 1.97 | 0.47 |
| 29:B1:264:G:C2 | 29:B1:265:A:C4 | 3.03 | 0.47 |
| 29:B1:278:U:C4 | 29:B1:279:U:C4 | 3.03 | 0.47 |
| 29:B1:283:G:H3' | 29:B1:285:A:C8 | 2.49 | 0.47 |
| 29:B1:437:G:C5 | 29:B1:438:A:C6 | 3.03 | 0.47 |
| 29:B1:506:U:C2 | 29:B1:585:A:N1 | 2.82 | 0.47 |
| 29:B1:532:A:H3' | 29:B1:533:A:H8 | 1.75 | 0.47 |
| 29:B1:593:C:H3' | 29:B1:609:G:H22 | 1.78 | 0.47 |
| 29:B1:762:U:OP1 | 29:B1:762:U:C4' | 2.60 | 0.47 |
| 29:B1:888:A:C5 | 29:B1:889:U:C4 | 3.03 | 0.47 |
| 29:B1:1056:U:H3' | 29:B1:1056:U:C6 | 2.50 | 0.47 |
| 29:B1:1084:A:H3' | 29:B1:1085:A:H8 | 1.80 | 0.47 |
| 29:B1:1157:G:C6 | 29:B1:1158:A:N3 | 2.82 | 0.47 |
| 29:B1:1168:U:O2' | 29:B1:1169:A:H5" | 2.15 | 0.47 |
| 29:B1:1220:U:C4 | 29:B1:1286:A:N7 | 2.82 | 0.47 |
| 29:B1:1272:C:H2' | 29:B1:1273:A:C4' | 2.44 | 0.47 |
| 29:B1:1390:A:N7 | 29:B1:1418:A:C5 | 2.83 | 0.47 |
| 29:B1:1455:U:C3' | 29:B1:1456:A:C8 | 2.97 | 0.47 |
| 29:B1:1455:U:C2 | 29:B1:3078:U:H5 | 2.32 | 0.47 |
| 29:B1:1489:A:C2 | 29:B1:1854:C:C2 | 3.02 | 0.47 |
| 29:B1:1650:G:H2' | 29:B1:1651:U:C6 | 2.49 | 0.47 |
| 29:B1:1715:A:C8 | 29:B1:1716:U:H5" | 2.50 | 0.47 |
| 29:B1:1743:G:H2' | 29:B1:1744:G:H5' | 1.96 | 0.47 |
| 29:B1:1860:G:H2' | 29:B1:1861:G:C8 | 2.48 | 0.47 |
| 29:B1:2285:C:H5 | 29:B1:2286:U:C6 | 2.33 | 0.47 |
| 29:B1:2290:C:C4 | 29:B1:2303:A:N1 | 2.82 | 0.47 |
| 29:B1:2373:A:N3 | 29:B1:2824:G:O2' | 2.47 | 0.47 |
| 29:B1:2414:G:N2 | 29:B1:2415:C:H1' | 2.30 | 0.47 |
| 29:B1:2419:A:N7 | 29:B1:2606:G:O6 | 2.47 | 0.47 |
| 29:B1:2506:U:O5' | 29:B1:2506:U:H6 | 1.98 | 0.47 |
| 29:B1:2640:A:C8 | 29:B1:2641:U:C5 | 3.02 | 0.47 |
| 29:B1:2895:G:C5 | 29:B1:2907:G:C2 | 3.02 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2932:U:C6 | 29:B1:2935:U:C5 | 2.86 | 0.47 |
| 29:B1:2987:A:C4 | 29:B1:2988:C:C6 | 3.03 | 0.47 |
| 29:B1:3211:C:C4' | 29:B1:3211:C:OP1 | 2.62 | 0.47 |
| 29:B1:3221:C:H2' | 29:B1:3222:U:H5' | 1.96 | 0.47 |
| 29:B1:3260:G:N3 | 29:B1:3260:G:C2' | 2.75 | 0.47 |
| 29:B1:3274:A:C4' | 29:B1:3275:U:OP2 | 2.61 | 0.47 |
| 29:B1:3359:A:N3 | 29:B1:3360:C:H1' | 2.30 | 0.47 |
| 30:B2:52:G:N2 | 30:B2:53:U:C2 | 2.83 | 0.47 |
| 30:B2:111:U:O3' | 30:B2:113:C:P | 2.72 | 0.47 |
| 31:B3:82:U:O3' | 31:B3:83:C:O4' | 2.32 | 0.47 |
| 31:B3:110:C:H4' | 31:B3:112:U:H5 | 1.78 | 0.47 |
| 35:BD:177:ASP:C | 35:BD:179:LEU:N | 2.70 | 0.47 |
| 37:BF:126:GLN:C | 37:BF:128:LYS:H | 2.21 | 0.47 |
| 40:BI:40:HIS:O | 40:BI:42:ASP:N | 2.48 | 0.47 |
| 41:BJ:45:GLU:O | 41:BJ:47:PRO:N | 2.47 | 0.47 |
| 44:BO:82:GLY:HA3 | 44:BO:87:GLN:CB | 2.44 | 0.47 |
| 46:BQ:111:LYS:O | 46:BQ:113:TYR:N | 2.48 | 0.47 |
| 49:BT:35:LYS:C | 49:BT:37:GLY:N | 2.73 | 0.47 |
| 49:BT:77:ASN:CB | 49:BT:87:LYS:O | 2.62 | 0.47 |
| 51:BV:5:ILE:H | 51:BV:13:ILE:H | 1.62 | 0.47 |
| 56:Ba:84:ASP:O | 56:Ba:85:ALA:CB | 2.63 | 0.47 |
| 1:C1:149:C:C2 | 1:C1:150:U:C6 | 3.02 | 0.47 |
| 1:C1:151:G:H22 | 1:C1:163:G:N2 | 2.12 | 0.47 |
| 1:C1:167:U:C5' | 1:C1:167:U:C6 | 2.87 | 0.47 |
| 1:C1:176:C:C5 | 1:C1:177:U:C4 | 3.03 | 0.47 |
| 1:C1:215:A:N7 | 1:C1:216:U:C5 | 2.82 | 0.47 |
| 1:C1:278:U:O2 | 1:C1:278:U:C3' | 2.62 | 0.47 |
| 1:C1:341:A:N3 | 1:C1:342:C:C6 | 2.83 | 0.47 |
| 1:C1:545:A:O2' | 1:C1:546:U:C6 | 2.68 | 0.47 |
| 1:C1:586:G:H2' | 1:C1:587:C:H6 | 1.80 | 0.47 |
| 1:C1:604:A:C2 | 1:C1:605:A:C2 | 3.03 | 0.47 |
| 1:C1:649:U:O4 | 1:C1:685:A:C6 | 2.68 | 0.47 |
| 1:C1:774:A:H2' | 1:C1:775:G:C5' | 2.44 | 0.47 |
| 1:C1:824:G:N1 | 1:C1:850:A:C2 | 2.82 | 0.47 |
| 1:C1:1028:C:C1' | 1:C1:1029:U:H5" | 2.40 | 0.47 |
| 1:C1:1053:G:C2 | 1:C1:1067:C:H1' | 2.50 | 0.47 |
| 1:C1:1073:G:C5 | 1:C1:1074:G:C5 | 3.02 | 0.47 |
| 1:C1:1120:U:C2 | 1:C1:1121:C:C6 | 3.01 | 0.47 |
| 1:C1:1122:G:N2 | 1:C1:1126:G:C6 | 2.82 | 0.47 |
| 1:C1:1122:G:C2 | 1:C1:1126:G:C6 | 3.03 | 0.47 |
| 1:C1:1142:A:C2' | 1:C1:1143:A:O4' | 2.61 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1146:G:N1 | 1:C1:1147:A:N6 | 2.62 | 0.47 |
| 1:C1:1162:C:OP2 | 1:C1:1162:C:H6 | 1.96 | 0.47 |
| 1:C1:1183:A:C6 | 1:C1:1184:A:N1 | 2.83 | 0.47 |
| 1:C1:1192:C:C6 | 1:C1:1193:A:C8 | 3.03 | 0.47 |
| 1:C1:1314:U:O2' | 1:C1:1315:U:OP2 | 2.32 | 0.47 |
| 1:C1:1332:C:O5' | 1:C1:1332:C:H6 | 1.97 | 0.47 |
| 1:C1:1470:C:C2' | 1:C1:1471:A:OP1 | 2.63 | 0.47 |
| 1:C1:1483:A:O2' | 11:CJ:72:GLY:HA2 | 2.14 | 0.47 |
| 1:C1:1650:U:C2' | 1:C1:1651:A:C8 | 2.97 | 0.47 |
| 1:C1:1764:C:C5' | 1:C1:1764:C:C6 | 2.87 | 0.47 |
| 1:C1:1783:C:N4 | 1:C1:1784:C:H41 | 2.12 | 0.47 |
| 2:CA:13:ASP:C | 2:CA:17:LEU:O | 2.57 | 0.47 |
| 2:CA:63:ILE:C | 2:CA:65:ALA:N | 2.71 | 0.47 |
| 2:CA:86:VAL:O | 2:CA:88:LYS:N | 2.48 | 0.47 |
| 3:CB:152:HIS:O | 3:CB:154:LEU:N | 2.48 | 0.47 |
| 3:CB:228:ASN:HA | 3:CB:229:LEU:HA | 1.62 | 0.47 |
| 4:CC:192:PRO:O | 4:CC:193:ALA:CB | 2.62 | 0.47 |
| 9:CH:64:ALA:HA | 9:CH:68:ALA:CB | 2.44 | 0.47 |
| 11:CJ:91:ALA:H | 11:CJ:97:VAL:CB | 2.26 | 0.47 |
| 13:CL:32:LEU:O | 13:CL:38:VAL:CB | 2.63 | 0.47 |
| 14:CM:27:LYS:O | 14:CM:29:GLU:N | 2.45 | 0.47 |
| 16:CO:7:LEU:C | 16:CO:9:ASP:N | 2.71 | 0.47 |
| 23:Cb:114:UNK:O | 23:Cb:116:UNK:N | 2.47 | 0.47 |
| 29:D1:54:C:H2' | 29:D1:55:G:O5' | 2.14 | 0.47 |
| 29:D1:96:G:C2 | 29:D1:97:U:N1 | 2.82 | 0.47 |
| 29:D1:121:A:H5' | 29:D1:150:A:H2 | 1.79 | 0.47 |
| 29:D1:141:C:H2' | 29:D1:142:C:H6 | 1.76 | 0.47 |
| 29:D1:214:G:H2' | 29:D1:215:G:C8 | 2.49 | 0.47 |
| 29:D1:283:G:C2 | 29:D1:285:A:C6 | 3.02 | 0.47 |
| 29:D1:375:A:H2' | 29:D1:376:G:OP1 | 2.13 | 0.47 |
| 29:D1:382:U:C2 | 29:D1:383:G:H1' | 2.49 | 0.47 |
| 29:D1:535:G:N2 | 29:D1:558:U:HO2' | 2.12 | 0.47 |
| 29:D1:538:G:C2 | 29:D1:556:U:H5 | 2.32 | 0.47 |
| 29:D1:577:C:O2 | 37:DF:149:ILE:HA | 2.14 | 0.47 |
| 29:D1:605:U:C5' | 29:D1:605:U:C6 | 2.88 | 0.47 |
| 29:D1:932:U:O4' | 29:D1:933:A:H5" | 2.14 | 0.47 |
| 29:D1:1292:C:O2 | 29:D1:1292:C:C2' | 2.57 | 0.47 |
| 29:D1:1325:U:OP1 | 29:D1:1325:U:H4' | 2.14 | 0.47 |
| 29:D1:1368:U:H2' | 29:D1:1369:A:C8 | 2.43 | 0.47 |
| 29:D1:1379:G:C6 | 29:D1:1428:A:N1 | 2.82 | 0.47 |
| 29:D1:1602:A:N6 | 29:D1:1603:A:N6 | 2.62 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1706:C:C6 | 29:D1:1707:A:C8 | 3.03 | 0.47 |
| 29:D1:1717:U:H5” | 29:D1:1717:U:H6 | 1.79 | 0.47 |
| 29:D1:1789:G:C2 | 29:D1:1790:G:N7 | 2.83 | 0.47 |
| 29:D1:1873:U:C2’ | 29:D1:1874:A:H5’ | 2.44 | 0.47 |
| 29:D1:1891:A:C6 | 29:D1:2345:A:C6 | 3.03 | 0.47 |
| 29:D1:2403:G:O4’ | 29:D1:2872:A:N7 | 2.47 | 0.47 |
| 29:D1:2673:A:N6 | 29:D1:2681:U:H3 | 2.06 | 0.47 |
| 29:D1:2725:U:C6 | 29:D1:2725:U:C3’ | 2.98 | 0.47 |
| 29:D1:2932:U:N1 | 29:D1:2935:U:C5 | 2.81 | 0.47 |
| 29:D1:2998:U:C6 | 29:D1:2998:U:C5’ | 2.94 | 0.47 |
| 29:D1:3119:U:O2 | 29:D1:3121:U:OP1 | 2.31 | 0.47 |
| 29:D1:3169:U:C4 | 29:D1:3170:A:C6 | 3.03 | 0.47 |
| 29:D1:3221:C:C4 | 29:D1:3222:U:H5 | 2.32 | 0.47 |
| 29:D1:3250:U:O2’ | 29:D1:3251:U:H5’ | 2.13 | 0.47 |
| 29:D1:3274:A:H1’ | 29:D1:3275:U:OP2 | 2.15 | 0.47 |
| 29:D1:3316:A:N6 | 29:D1:3320:A:C6 | 2.66 | 0.47 |
| 29:D1:3391:A:N3 | 29:D1:3392:U:C6 | 2.82 | 0.47 |
| 31:D3:28:C:O2 | 31:D3:28:C:C2’ | 2.62 | 0.47 |
| 31:D3:74:U:O2’ | 31:D3:89:A:C1’ | 2.63 | 0.47 |
| 32:DA:129:SER:O | 32:DA:131:ALA:N | 2.47 | 0.47 |
| 37:DF:100:LYS:C | 37:DF:102:ASN:H | 2.22 | 0.47 |
| 48:DS:5:ARG:O | 48:DS:6:THR:C | 2.57 | 0.47 |
| 49:DT:72:VAL:O | 49:DT:73:GLY:O | 2.32 | 0.47 |
| 50:DU:93:LEU:O | 50:DU:94:TYR:O | 2.32 | 0.47 |
| 57:Db:40:SER:C | 57:Db:42:VAL:H | 2.21 | 0.47 |
| 62:Dg:12:GLY:O | 62:Dg:13:LYS:C | 2.54 | 0.47 |
| 62:Dg:68:ALA:C | 62:Dg:70:THR:N | 2.72 | 0.47 |
| 1:A1:38:C:C2’ | 1:A1:39:A:H5” | 2.44 | 0.47 |
| 1:A1:139:C:H2’ | 1:A1:139:C:O2 | 2.13 | 0.47 |
| 1:A1:186:C:N4 | 1:A1:187:G:C5 | 2.82 | 0.47 |
| 1:A1:273:G:C4 | 1:A1:274:G:C8 | 3.02 | 0.47 |
| 1:A1:607:G:O6 | 1:A1:613:G:H5’ | 2.14 | 0.47 |
| 1:A1:743:U:C2 | 1:A1:744:U:C6 | 3.01 | 0.47 |
| 1:A1:767:U:OP1 | 1:A1:767:U:H3’ | 2.14 | 0.47 |
| 1:A1:826:U:H2’ | 1:A1:827:C:C5 | 2.49 | 0.47 |
| 1:A1:940:A:C2 | 1:A1:941:A:N9 | 2.82 | 0.47 |
| 1:A1:988:A:C2 | 1:A1:989:U:H1’ | 2.49 | 0.47 |
| 1:A1:1028:C:H1’ | 1:A1:1029:U:H3’ | 1.97 | 0.47 |
| 1:A1:1035:G:N1 | 1:A1:1101:G:C5 | 2.83 | 0.47 |
| 1:A1:1042:G:N1 | 1:A1:1043:A:C6 | 2.83 | 0.47 |
| 1:A1:1170:G:C6 | 1:A1:1574:G:C5 | 3.02 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1207:C:C2 | 1:A1:1455:G:N1 | 2.83 | 0.47 |
| 1:A1:1346:A:C2 | 15:AN:13:GLU:O | 2.63 | 0.47 |
| 1:A1:1379:C:O2 | 1:A1:1379:C:C2' | 2.63 | 0.47 |
| 1:A1:1437:U:H2' | 1:A1:1438:G:H5' | 1.95 | 0.47 |
| 1:A1:1456:C:H5" | 1:A1:1457:C:H5' | 1.92 | 0.47 |
| 1:A1:1543:A:C8 | 1:A1:1569:A:C6 | 3.03 | 0.47 |
| 1:A1:1629:G:H2' | 1:A1:1630:U:C1' | 2.43 | 0.47 |
| 1:A1:1637:C:O2' | 1:A1:1638:G:OP1 | 2.32 | 0.47 |
| 1:A1:1660:A:C4 | 1:A1:1661:U:C6 | 3.02 | 0.47 |
| 1:A1:1780:G:C1' | 29:B1:2262:A:O3' | 2.63 | 0.47 |
| 4:AC:46:THR:O | 4:AC:85:VAL:N | 2.47 | 0.47 |
| 5:AD:144:GLU:HA | 5:AD:160:VAL:C | 2.39 | 0.47 |
| 13:AL:32:LEU:O | 13:AL:38:VAL:CB | 2.63 | 0.47 |
| 13:AL:50:ALA:C | 13:AL:52:VAL:N | 2.71 | 0.47 |
| 23:Ab:77:UNK:O | 23:Ab:78:UNK:C | 2.62 | 0.47 |
| 29:B1:49:A:O2' | 29:B1:50:U:P | 2.73 | 0.47 |
| 29:B1:167:U:H2' | 29:B1:168:U:C6 | 2.49 | 0.47 |
| 29:B1:221:A:N3 | 29:B1:224:C:C5 | 2.82 | 0.47 |
| 29:B1:313:A:C5 | 29:B1:314:U:C4 | 3.02 | 0.47 |
| 29:B1:340:C:O2' | 29:B1:341:G:O4' | 2.32 | 0.47 |
| 29:B1:372:A:N6 | 29:B1:373:A:C6 | 2.83 | 0.47 |
| 29:B1:384:A:H8 | 29:B1:384:A:P | 2.36 | 0.47 |
| 29:B1:535:G:OP1 | 74:B1:3471:OHX:N1 | 2.48 | 0.47 |
| 29:B1:595:G:C6 | 29:B1:596:C:C5 | 3.02 | 0.47 |
| 29:B1:648:C:H4' | 29:B1:649:A:O5' | 2.13 | 0.47 |
| 29:B1:706:A:C2' | 29:B1:707:U:H5' | 2.44 | 0.47 |
| 29:B1:739:G:C4 | 29:B1:740:G:C8 | 3.03 | 0.47 |
| 29:B1:758:C:C1' | 29:B1:759:U:OP2 | 2.62 | 0.47 |
| 29:B1:809:G:N3 | 29:B1:809:G:H2' | 2.29 | 0.47 |
| 29:B1:843:A:C2' | 29:B1:844:G:H5' | 2.45 | 0.47 |
| 29:B1:903:U:H2' | 29:B1:903:U:O2 | 2.14 | 0.47 |
| 29:B1:913:A:C2 | 29:B1:2134:G:N3 | 2.82 | 0.47 |
| 29:B1:962:A:N6 | 29:B1:2408:U:O2 | 2.48 | 0.47 |
| 29:B1:1004:U:O5' | 29:B1:1004:U:H6 | 1.98 | 0.47 |
| 29:B1:1032:C:H2' | 29:B1:1033:U:C6 | 2.50 | 0.47 |
| 29:B1:1038:C:OP1 | 29:B1:1038:C:C4' | 2.62 | 0.47 |
| 29:B1:1056:U:C6 | 29:B1:1056:U:C3' | 2.98 | 0.47 |
| 29:B1:1082:U:OP2 | 29:B1:1082:U:O3' | 2.33 | 0.47 |
| 29:B1:1149:G:H3' | 29:B1:1150:A:H5" | 1.96 | 0.47 |
| 29:B1:1172:G:C2' | 29:B1:1173:U:O5' | 2.62 | 0.47 |
| 29:B1:1204:A:H62 | 29:B1:1300:G:N2 | 2.11 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1291:A:C2' | 29:B1:1292:C:O5' | 2.62 | 0.47 |
| 29:B1:1400:G:C2 | 29:B1:1401:A:C8 | 3.03 | 0.47 |
| 29:B1:1406:A:H2' | 29:B1:1407:A:C8 | 2.50 | 0.47 |
| 29:B1:1625:A:N6 | 29:B1:1626:U:C2 | 2.83 | 0.47 |
| 29:B1:1654:A:N1 | 29:B1:1655:G:N3 | 2.61 | 0.47 |
| 29:B1:1724:U:O2' | 29:B1:1725:C:P | 2.72 | 0.47 |
| 29:B1:1724:U:C2' | 29:B1:1725:C:O4' | 2.63 | 0.47 |
| 29:B1:1746:U:H2' | 29:B1:1747:G:O4' | 2.14 | 0.47 |
| 29:B1:1831:U:O2 | 29:B1:1831:U:H2' | 2.15 | 0.47 |
| 29:B1:1923:C:O2' | 29:B1:1924:U:H5' | 2.14 | 0.47 |
| 29:B1:1948:G:H1' | 29:B1:2100:A:N6 | 2.29 | 0.47 |
| 29:B1:2104:A:C2' | 29:B1:2105:G:H5" | 2.45 | 0.47 |
| 29:B1:2276:G:O6 | 29:B1:2277:C:C4 | 2.67 | 0.47 |
| 29:B1:2357:A:N1 | 29:B1:2983:C:C5 | 2.76 | 0.47 |
| 29:B1:2559:U:O2 | 29:B1:2559:U:H2' | 2.14 | 0.47 |
| 29:B1:2584:G:O2' | 29:B1:2585:G:H4' | 2.15 | 0.47 |
| 29:B1:2588:U:O2 | 29:B1:2588:U:H2' | 2.13 | 0.47 |
| 29:B1:2678:A:C5' | 29:B1:2679:A:C2 | 2.97 | 0.47 |
| 29:B1:2701:U:O4' | 29:B1:2705:A:C6 | 2.67 | 0.47 |
| 29:B1:2738:A:C2 | 29:B1:2739:A:C4 | 3.03 | 0.47 |
| 29:B1:2836:C:H5 | 29:B1:2853:A:C2 | 2.33 | 0.47 |
| 29:B1:2969:A:C6 | 29:B1:2970:C:N4 | 2.83 | 0.47 |
| 29:B1:2997:G:N3 | 29:B1:2997:G:O2' | 2.43 | 0.47 |
| 29:B1:3070:A:C6 | 29:B1:3071:U:C4 | 3.03 | 0.47 |
| 29:B1:3111:U:O4 | 29:B1:3121:U:H5 | 1.98 | 0.47 |
| 29:B1:3218:A:C3' | 29:B1:3220:G:C8 | 2.97 | 0.47 |
| 29:B1:3302:U:O5' | 29:B1:3302:U:H6 | 1.97 | 0.47 |
| 29:B1:3368:U:H3' | 29:B1:3369:G:H5" | 1.96 | 0.47 |
| 74:B1:3492:OHX:N1 | 54:BY:19:LYS:C | 2.73 | 0.47 |
| 30:B2:36:C:H42 | 30:B2:42:A:H61 | 1.63 | 0.47 |
| 35:BD:174:ALA:O | 35:BD:175:HIS:C | 2.57 | 0.47 |
| 36:BE:43:LYS:CA | 49:BT:70:SER:N | 2.77 | 0.47 |
| 36:BE:255:PRO:O | 36:BE:256:THR:C | 2.58 | 0.47 |
| 38:BG:161:VAL:O | 38:BG:162:PRO:O | 2.33 | 0.47 |
| 39:BH:86:THR:O | 39:BH:87:ALA:C | 2.57 | 0.47 |
| 44:BO:126:THR:O | 44:BO:127:TYR:CB | 2.62 | 0.47 |
| 47:BR:18:ALA:O | 47:BR:19:PRO:C | 2.58 | 0.47 |
| 50:BU:27:ASP:O | 50:BU:29:SER:N | 2.47 | 0.47 |
| 52:BW:74:LYS:O | 52:BW:77:GLU:N | 2.41 | 0.47 |
| 60:Be:34:THR:O | 60:Be:35:ILE:O | 2.33 | 0.47 |
| 63:Bh:40:UNK:O | 63:Bh:43:UNK:N | 2.47 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 26:Bj:5:UNK:HA | 26:Bj:8:UNK:CB | 2.44 | 0.47 |
| 1:C1:10:G:H2' | 1:C1:11:A:H8 | 1.79 | 0.47 |
| 1:C1:430:G:C5 | 1:C1:431:C:C5 | 3.02 | 0.47 |
| 1:C1:601:A:C5 | 1:C1:602:U:C4 | 3.03 | 0.47 |
| 1:C1:867:G:C5 | 1:C1:868:G:N7 | 2.83 | 0.47 |
| 1:C1:887:A:N3 | 1:C1:887:A:H2' | 2.29 | 0.47 |
| 1:C1:895:G:C6 | 1:C1:896:U:N3 | 2.83 | 0.47 |
| 1:C1:930:A:H3' | 1:C1:931:C:C5 | 2.50 | 0.47 |
| 1:C1:1147:A:C6 | 1:C1:1148:C:C4 | 3.03 | 0.47 |
| 1:C1:1160:A:C2' | 1:C1:1161:C:C6 | 2.86 | 0.47 |
| 1:C1:1188:G:H2' | 1:C1:1189:A:C8 | 2.45 | 0.47 |
| 1:C1:1201:G:N7 | 1:C1:1202:A:N3 | 2.62 | 0.47 |
| 1:C1:1318:G:O2' | 1:C1:1319:A:H5' | 2.14 | 0.47 |
| 1:C1:1331:A:H2' | 1:C1:1332:C:H5' | 1.97 | 0.47 |
| 1:C1:1365:C:OP1 | 11:CJ:28:LEU:O | 2.33 | 0.47 |
| 1:C1:1552:U:N3 | 1:C1:1553:G:C5 | 2.83 | 0.47 |
| 1:C1:1660:A:C4 | 1:C1:1661:U:C6 | 3.02 | 0.47 |
| 1:C1:1714:A:N1 | 1:C1:1715:G:C2 | 2.83 | 0.47 |
| 1:C1:1744:A:C2' | 1:C1:1745:G:H5' | 2.43 | 0.47 |
| 2:CA:3:LEU:C | 2:CA:5:ALA:H | 2.23 | 0.47 |
| 8:CG:36:GLN:HA | 8:CG:39:LYS:CB | 2.45 | 0.47 |
| 11:CJ:25:GLY:H | 11:CJ:64:ASP:HA | 1.80 | 0.47 |
| 11:CJ:88:GLY:O | 11:CJ:91:ALA:HB2 | 2.15 | 0.47 |
| 15:CN:20:ILE:C | 15:CN:92:ASP:HA | 2.38 | 0.47 |
| 21:CT:3:SER:O | 21:CT:4:ASN:C | 2.57 | 0.47 |
| 25:Cd:94:UNK:O | 25:Cd:96:UNK:N | 2.47 | 0.47 |
| 29:D1:9:U:O2 | 29:D1:9:U:C2' | 2.63 | 0.47 |
| 29:D1:75:G:C6 | 29:D1:76:G:N1 | 2.83 | 0.47 |
| 29:D1:224:C:H2' | 29:D1:225:C:O5' | 2.15 | 0.47 |
| 29:D1:532:A:C6 | 29:D1:533:A:C2 | 3.03 | 0.47 |
| 29:D1:544:C:OP2 | 29:D1:544:C:H3' | 2.15 | 0.47 |
| 29:D1:651:G:C6 | 29:D1:652:G:O6 | 2.67 | 0.47 |
| 29:D1:680:G:C6 | 29:D1:701:G:C6 | 3.02 | 0.47 |
| 29:D1:1076:C:O2 | 29:D1:1076:C:C2' | 2.62 | 0.47 |
| 29:D1:1107:C:O2 | 29:D1:1108:U:C5 | 2.68 | 0.47 |
| 29:D1:1120:A:C2 | 29:D1:1121:U:C5 | 3.02 | 0.47 |
| 29:D1:1165:A:C2 | 29:D1:1166:G:C8 | 3.02 | 0.47 |
| 29:D1:1173:U:O4' | 29:D1:1179:A:C4 | 2.68 | 0.47 |
| 29:D1:1291:A:O2' | 29:D1:1292:C:OP1 | 2.32 | 0.47 |
| 29:D1:1358:C:H3' | 29:D1:1359:C:H6 | 1.79 | 0.47 |
| 29:D1:1455:U:C2 | 29:D1:3078:U:C6 | 3.02 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1514:G:N7 | 29:D1:1841:A:C4 | 2.82 | 0.47 |
| 29:D1:1659:U:N3 | 29:D1:1660:C:C4 | 2.83 | 0.47 |
| 29:D1:1666:G:C2' | 29:D1:1667:A:H5' | 2.44 | 0.47 |
| 29:D1:1713:G:C4 | 29:D1:1730:G:N2 | 2.83 | 0.47 |
| 29:D1:1751:G:C5 | 29:D1:1752:A:N7 | 2.82 | 0.47 |
| 29:D1:1847:A:C2 | 29:D1:1849:C:C2 | 3.03 | 0.47 |
| 29:D1:2149:A:H2' | 29:D1:2150:G:O5' | 2.15 | 0.47 |
| 29:D1:2150:G:C5 | 29:D1:2151:C:C5 | 3.03 | 0.47 |
| 29:D1:2224:A:H2' | 29:D1:2225:U:C4' | 2.44 | 0.47 |
| 29:D1:2253:G:C8 | 29:D1:2254:U:C4 | 3.02 | 0.47 |
| 29:D1:2253:G:C6 | 29:D1:2254:U:N3 | 2.82 | 0.47 |
| 29:D1:2357:A:H2' | 29:D1:2358:A:C8 | 2.49 | 0.47 |
| 29:D1:2376:G:N2 | 29:D1:2377:G:C2 | 2.83 | 0.47 |
| 29:D1:2610:G:H2' | 29:D1:2610:G:N3 | 2.28 | 0.47 |
| 29:D1:2673:A:O2' | 42:DK:107:ASP:HA | 2.14 | 0.47 |
| 29:D1:2704:A:OP2 | 74:D1:3402:OHX:N2 | 2.47 | 0.47 |
| 29:D1:2830:G:H1 | 29:D1:2858:U:H3 | 1.63 | 0.47 |
| 29:D1:2876:C:O2' | 29:D1:2877:G:H5' | 2.15 | 0.47 |
| 29:D1:2879:C:C4 | 29:D1:2880:U:C4 | 3.03 | 0.47 |
| 29:D1:2997:G:C1' | 29:D1:2998:U:OP2 | 2.62 | 0.47 |
| 29:D1:3000:A:C2 | 29:D1:3001:C:C4 | 3.02 | 0.47 |
| 29:D1:3040:A:C2' | 29:D1:3041:U:H5' | 2.45 | 0.47 |
| 29:D1:3059:G:C2' | 29:D1:3060:C:H5' | 2.44 | 0.47 |
| 29:D1:3083:G:H2' | 29:D1:3084:C:O4' | 2.15 | 0.47 |
| 29:D1:3131:U:O2 | 29:D1:3131:U:C2' | 2.57 | 0.47 |
| 29:D1:3149:G:C5 | 29:D1:3150:A:C8 | 3.02 | 0.47 |
| 29:D1:3170:A:C2' | 29:D1:3171:U:O5' | 2.63 | 0.47 |
| 29:D1:3241:G:N1 | 29:D1:3246:G:N1 | 2.63 | 0.47 |
| 29:D1:3274:A:C1' | 29:D1:3275:U:OP2 | 2.63 | 0.47 |
| 31:D3:74:U:OP2 | 31:D3:76:C:C4 | 2.67 | 0.47 |
| 37:DF:115:GLU:O | 37:DF:116:LYS:C | 2.57 | 0.47 |
| 38:DG:152:GLY:O | 38:DG:153:PHE:CB | 2.62 | 0.47 |
| 39:DH:94:PHE:O | 39:DH:96:LYS:N | 2.42 | 0.47 |
| 39:DH:99:PRO:CA | 39:DH:237:ILE:H | 2.28 | 0.47 |
| 39:DH:100:GLU:O | 39:DH:103:ALA:N | 2.46 | 0.47 |
| 41:DJ:205:SER:CB | 41:DJ:206:LEU:HA | 2.44 | 0.47 |
| 41:DJ:205:SER:N | 41:DJ:206:LEU:HA | 2.29 | 0.47 |
| 72:DL:70:ALA:C | 72:DL:72:SER:H | 2.22 | 0.47 |
| 45:DP:94:ARG:O | 45:DP:97:ALA:N | 2.48 | 0.47 |
| 51:DV:18:GLY:CA | 51:DV:32:GLN:HA | 2.45 | 0.47 |
| 53:DX:70:ILE:O | 53:DX:71:SER:C | 2.58 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 55:DZ:10:ILE:C | 55:DZ:12:GLN:N | 2.71 | 0.47 |
| 56:Da:38:LYS:C | 56:Da:40:ALA:H | 2.23 | 0.47 |
| 62:Dg:42:CYS:N | 74:Dg:101:OHX:N6 | 2.57 | 0.47 |
| 1:A1:55:A:H3' | 1:A1:56:U:H5" | 1.96 | 0.47 |
| 1:A1:60:U:C5 | 1:A1:453:U:H2' | 2.49 | 0.47 |
| 1:A1:127:G:O6 | 1:A1:179:A:C5 | 2.59 | 0.47 |
| 1:A1:138:A:C6 | 1:A1:142:G:H1' | 2.50 | 0.47 |
| 1:A1:168:A:C2' | 1:A1:169:A:C8 | 2.98 | 0.47 |
| 1:A1:206:A:C2 | 1:A1:262:U:C4 | 3.02 | 0.47 |
| 1:A1:217:A:H8 | 1:A1:739:G:OP1 | 1.98 | 0.47 |
| 1:A1:225:A:C2 | 1:A1:226:A:C4 | 3.02 | 0.47 |
| 1:A1:242:U:O2 | 1:A1:242:U:H3' | 2.14 | 0.47 |
| 1:A1:552:G:N1 | 1:A1:553:G:C2 | 2.83 | 0.47 |
| 1:A1:555:A:H1' | 1:A1:556:A:OP1 | 2.15 | 0.47 |
| 1:A1:601:A:H3' | 1:A1:602:U:H6 | 1.79 | 0.47 |
| 1:A1:617:U:H2' | 1:A1:618:U:C5 | 2.50 | 0.47 |
| 1:A1:643:G:N2 | 1:A1:692:C:N3 | 2.62 | 0.47 |
| 1:A1:716:C:H2' | 1:A1:717:C:O4' | 2.14 | 0.47 |
| 1:A1:755:A:C6 | 1:A1:756:A:C6 | 3.02 | 0.47 |
| 1:A1:760:A:C4 | 1:A1:791:A:C2 | 3.03 | 0.47 |
| 1:A1:762:A:H2' | 1:A1:762:A:N3 | 2.29 | 0.47 |
| 1:A1:817:A:H2' | 1:A1:818:C:C6 | 2.50 | 0.47 |
| 1:A1:836:U:N3 | 1:A1:837:G:C5 | 2.83 | 0.47 |
| 1:A1:867:G:N3 | 1:A1:868:G:C8 | 2.82 | 0.47 |
| 1:A1:990:C:H4' | 9:AH:128:LYS:O | 2.15 | 0.47 |
| 1:A1:995:A:C5' | 1:A1:996:U:OP2 | 2.60 | 0.47 |
| 1:A1:1042:G:C2' | 1:A1:1043:A:O4' | 2.61 | 0.47 |
| 1:A1:1062:A:H2' | 1:A1:1063:U:O4' | 2.14 | 0.47 |
| 1:A1:1096:C:C2 | 1:A1:1098:U:OP2 | 2.68 | 0.47 |
| 1:A1:1103:U:C2' | 1:A1:1104:U:H5' | 2.44 | 0.47 |
| 1:A1:1239:U:C5 | 1:A1:1241:G:C5 | 3.02 | 0.47 |
| 1:A1:1262:U:H2' | 1:A1:1263:G:C8 | 2.50 | 0.47 |
| 1:A1:1295:G:C1' | 1:A1:1321:A:C2 | 2.98 | 0.47 |
| 1:A1:1349:G:C4' | 1:A1:1350:U:C5' | 2.92 | 0.47 |
| 1:A1:1402:G:C5 | 1:A1:1403:C:C4 | 3.02 | 0.47 |
| 1:A1:1403:C:C2' | 1:A1:1404:C:H5' | 2.45 | 0.47 |
| 1:A1:1450:U:OP2 | 74:A1:1970:OHX:N6 | 2.47 | 0.47 |
| 1:A1:1452:U:C2 | 1:A1:1453:G:C8 | 3.03 | 0.47 |
| 1:A1:1466:G:C5 | 1:A1:1467:C:C4 | 3.03 | 0.47 |
| 1:A1:1489:U:C5 | 1:A1:1513:G:N1 | 2.79 | 0.47 |
| 1:A1:1538:U:H6 | 1:A1:1538:U:H3' | 1.80 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1558:U:H2' | 1:A1:1559:A:H2 | 1.75 | 0.47 |
| 1:A1:1596:C:O2 | 1:A1:1596:C:O4' | 2.27 | 0.47 |
| 1:A1:1599:C:O2' | 1:A1:1600:A:C2 | 2.64 | 0.47 |
| 1:A1:1644:C:C2' | 1:A1:1645:G:O5' | 2.63 | 0.47 |
| 1:A1:1673:G:N7 | 1:A1:1674:C:C5 | 2.83 | 0.47 |
| 1:A1:1702:A:N6 | 1:A1:1703:C:H41 | 2.13 | 0.47 |
| 2:AA:58:VAL:O | 2:AA:61:ALA:HB3 | 2.14 | 0.47 |
| 2:AA:61:ALA:O | 2:AA:65:ALA:N | 2.47 | 0.47 |
| 3:AB:148:LEU:O | 3:AB:195:ASP:CB | 2.63 | 0.47 |
| 3:AB:230:TRP:C | 3:AB:232:GLU:H | 2.22 | 0.47 |
| 5:AD:66:GLN:HA | 5:AD:86:GLN:C | 2.40 | 0.47 |
| 5:AD:113:ILE:O | 5:AD:114:ILE:C | 2.56 | 0.47 |
| 6:AE:26:ALA:C | 6:AE:28:LEU:N | 2.72 | 0.47 |
| 6:AE:136:VAL:O | 6:AE:137:GLY:C | 2.58 | 0.47 |
| 8:AG:129:TYR:C | 8:AG:131:THR:H | 2.22 | 0.47 |
| 9:AH:30:VAL:N | 9:AH:40:ALA:HB3 | 2.30 | 0.47 |
| 10:AI:36:LEU:HA | 10:AI:37:ALA:O | 2.15 | 0.47 |
| 11:AJ:98:ASP:C | 11:AJ:100:GLN:H | 2.23 | 0.47 |
| 14:AM:132:LEU:O | 14:AM:133:ASP:C | 2.57 | 0.47 |
| 15:AN:31:VAL:O | 15:AN:32:LYS:C | 2.58 | 0.47 |
| 15:AN:116:VAL:O | 15:AN:117:VAL:CB | 2.62 | 0.47 |
| 17:AP:76:LEU:O | 17:AP:80:GLY:N | 2.45 | 0.47 |
| 20:AS:46:LYS:O | 20:AS:50:ILE:HA | 2.14 | 0.47 |
| 23:Ab:59:UNK:O | 23:Ab:60:UNK:C | 2.63 | 0.47 |
| 24:Ac:18:UNK:O | 24:Ac:19:UNK:C | 2.62 | 0.47 |
| 26:Ae:3:UNK:O | 26:Ae:4:UNK:C | 2.60 | 0.47 |
| 29:B1:10:C:C2' | 29:B1:11:A:O5' | 2.63 | 0.47 |
| 29:B1:23:A:OP1 | 59:Bd:43:LYS:CA | 2.62 | 0.47 |
| 29:B1:53:G:C6 | 29:B1:54:C:C4 | 3.03 | 0.47 |
| 29:B1:79:U:C2 | 29:B1:80:G:C8 | 3.02 | 0.47 |
| 29:B1:90:C:H1' | 29:B1:281:G:H4' | 1.96 | 0.47 |
| 29:B1:122:A:N3 | 29:B1:123:A:C8 | 2.83 | 0.47 |
| 29:B1:169:U:O5' | 29:B1:169:U:H6 | 1.97 | 0.47 |
| 29:B1:238:A:O2' | 29:B1:239:G:O5' | 2.31 | 0.47 |
| 29:B1:275:U:C2' | 29:B1:276:U:H5' | 2.45 | 0.47 |
| 29:B1:287:G:C6 | 29:B1:288:C:C4 | 3.02 | 0.47 |
| 29:B1:339:C:C2 | 29:B1:340:C:C5 | 3.03 | 0.47 |
| 29:B1:340:C:O2' | 29:B1:344:A:N3 | 2.45 | 0.47 |
| 29:B1:393:U:N3 | 29:B1:394:G:N7 | 2.62 | 0.47 |
| 29:B1:418:A:H2' | 29:B1:419:G:C8 | 2.50 | 0.47 |
| 29:B1:532:A:C2 | 29:B1:560:G:C2 | 3.02 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:665:A:H2' | 29:B1:666:A:O4' | 2.15 | 0.47 |
| 29:B1:733:G:HO2' | 29:B1:734:C:H5 | 1.61 | 0.47 |
| 29:B1:744:A:C2 | 29:B1:745:C:C2 | 3.03 | 0.47 |
| 29:B1:768:C:H2' | 29:B1:769:G:C4 | 2.49 | 0.47 |
| 29:B1:771:A:C6 | 29:B1:772:U:C2 | 3.03 | 0.47 |
| 29:B1:781:G:O6 | 29:B1:782:U:C4 | 2.67 | 0.47 |
| 29:B1:808:A:N6 | 29:B1:934:G:C8 | 2.82 | 0.47 |
| 29:B1:947:G:C5 | 29:B1:948:C:C5 | 3.03 | 0.47 |
| 29:B1:997:A:O2' | 30:B2:102:A:N1 | 2.40 | 0.47 |
| 29:B1:1047:A:N1 | 29:B1:1048:A:C2 | 2.82 | 0.47 |
| 29:B1:1100:U:C2 | 29:B1:1101:G:C8 | 3.02 | 0.47 |
| 29:B1:1145:G:C5 | 29:B1:1146:C:C6 | 3.02 | 0.47 |
| 29:B1:1148:G:C5 | 29:B1:1149:G:N7 | 2.82 | 0.47 |
| 29:B1:1179:A:H3' | 29:B1:1179:A:C8 | 2.50 | 0.47 |
| 29:B1:1207:G:H8 | 29:B1:1207:G:C5' | 2.27 | 0.47 |
| 29:B1:1251:A:N3 | 29:B1:1251:A:H2' | 2.30 | 0.47 |
| 29:B1:1368:U:C2 | 29:B1:1369:A:C8 | 3.03 | 0.47 |
| 29:B1:1407:A:H5' | 29:B1:1408:G:OP2 | 2.15 | 0.47 |
| 29:B1:1421:G:C2 | 29:B1:1422:G:N7 | 2.83 | 0.47 |
| 29:B1:1526:U:O4' | 29:B1:1594:A:N1 | 2.48 | 0.47 |
| 29:B1:1557:A:C2' | 29:B1:1558:A:O5' | 2.63 | 0.47 |
| 29:B1:1645:U:H2' | 29:B1:1646:G:O5' | 2.14 | 0.47 |
| 29:B1:1661:G:N2 | 29:B1:1789:G:H1' | 2.30 | 0.47 |
| 29:B1:1703:U:H3' | 29:B1:1703:U:O2 | 2.15 | 0.47 |
| 29:B1:1734:G:C6 | 29:B1:1735:G:C5 | 3.03 | 0.47 |
| 29:B1:1850:A:O2' | 29:B1:1851:G:H5' | 2.15 | 0.47 |
| 29:B1:1881:A:C6 | 29:B1:1882:G:N7 | 2.82 | 0.47 |
| 29:B1:1884:A:C4 | 29:B1:1885:U:C2 | 3.03 | 0.47 |
| 29:B1:2127:U:O4' | 29:B1:2301:U:H5" | 2.15 | 0.47 |
| 29:B1:2133:U:C2' | 29:B1:2134:G:H5' | 2.44 | 0.47 |
| 29:B1:2181:C:C2' | 29:B1:2182:A:O5' | 2.63 | 0.47 |
| 29:B1:2197:C:H4' | 29:B1:2198:A:H8 | 1.79 | 0.47 |
| 29:B1:2206:G:H2' | 29:B1:2206:G:N3 | 2.28 | 0.47 |
| 29:B1:2225:U:C2 | 29:B1:2226:U:C5 | 3.03 | 0.47 |
| 29:B1:2254:U:C2' | 29:B1:2255:A:OP1 | 2.62 | 0.47 |
| 29:B1:2314:U:O2 | 29:B1:2314:U:H5" | 2.14 | 0.47 |
| 29:B1:2352:A:O2' | 29:B1:2353:G:H5' | 2.14 | 0.47 |
| 29:B1:2373:A:N7 | 29:B1:2867:C:H1' | 2.29 | 0.47 |
| 29:B1:2397:A:H8 | 29:B1:2941:A:H61 | 1.62 | 0.47 |
| 29:B1:2400:G:O2' | 29:B1:2401:A:H5" | 2.15 | 0.47 |
| 29:B1:2420:C:C4 | 29:B1:2421:U:C4 | 3.03 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2527:G:H5” | 29:B1:2528:G:OP2 | 2.15 | 0.47 |
| 29:B1:2541:U:O2 | 29:B1:2542:U:H4’ | 2.15 | 0.47 |
| 29:B1:2639:G:C2 | 29:B1:2640:A:C8 | 3.02 | 0.47 |
| 29:B1:2640:A:N9 | 29:B1:2641:U:H5 | 2.13 | 0.47 |
| 29:B1:2665:U:N3 | 29:B1:2706:G:C6 | 2.78 | 0.47 |
| 29:B1:2683:U:O2 | 29:B1:2683:U:H2’ | 2.14 | 0.47 |
| 29:B1:2684:C:O2’ | 29:B1:2685:C:O5’ | 2.32 | 0.47 |
| 29:B1:2693:C:H5” | 29:B1:2694:A:H5’ | 1.95 | 0.47 |
| 29:B1:2808:A:C2’ | 29:B1:2808:A:N3 | 2.77 | 0.47 |
| 29:B1:2814:G:C2 | 29:B1:2815:G:C5 | 3.03 | 0.47 |
| 29:B1:2850:G:H5” | 29:B1:2850:G:H8 | 1.79 | 0.47 |
| 29:B1:2992:U:H5’ | 29:B1:3310:A:O2’ | 2.15 | 0.47 |
| 29:B1:3004:C:O2’ | 29:B1:3005:A:H5’ | 2.15 | 0.47 |
| 29:B1:3062:G:C5 | 29:B1:3063:C:C5 | 3.03 | 0.47 |
| 29:B1:3087:A:C6 | 29:B1:3088:G:C6 | 3.03 | 0.47 |
| 29:B1:3213:A:C8 | 29:B1:3213:A:C3’ | 2.94 | 0.47 |
| 29:B1:3328:G:H22 | 29:B1:3375:A:N6 | 2.13 | 0.47 |
| 29:B1:3351:U:H1’ | 29:B1:3352:U:OP1 | 2.15 | 0.47 |
| 29:B1:3376:A:H3’ | 29:B1:3377:G:C5’ | 2.45 | 0.47 |
| 30:B2:12:U:N1 | 30:B2:70:U:OP1 | 2.47 | 0.47 |
| 30:B2:38:U:H2’ | 30:B2:40:C:C5’ | 2.44 | 0.47 |
| 30:B2:47:C:O2 | 30:B2:48:U:N3 | 2.47 | 0.47 |
| 30:B2:63:A:O2’ | 30:B2:65:G:C8 | 2.63 | 0.47 |
| 30:B2:88:G:C4 | 30:B2:89:G:C8 | 3.02 | 0.47 |
| 31:B3:69:U:H3’ | 31:B3:70:G:C4’ | 2.44 | 0.47 |
| 31:B3:72:A:HO2’ | 31:B3:73:U:P | 2.37 | 0.47 |
| 31:B3:80:A:C8 | 31:B3:80:A:OP2 | 2.68 | 0.47 |
| 31:B3:109:A:C6 | 31:B3:110:C:O2 | 2.68 | 0.47 |
| 31:B3:123:G:C5’ | 74:B3:206:OHX:N1 | 2.71 | 0.47 |
| 33:BB:80:GLU:N | 62:Bg:65:ALA:HB3 | 2.30 | 0.47 |
| 33:BB:113:VAL:O | 33:BB:114:SER:C | 2.56 | 0.47 |
| 35:BD:134:LEU:C | 35:BD:136:LEU:N | 2.73 | 0.47 |
| 35:BD:163:LYS:C | 35:BD:165:ALA:N | 2.72 | 0.47 |
| 36:BE:36:LEU:C | 36:BE:38:THR:H | 2.22 | 0.47 |
| 37:BF:30:LEU:CB | 37:BF:31:ARG:CB | 2.93 | 0.47 |
| 37:BF:43:LEU:H | 37:BF:84:VAL:HA | 1.79 | 0.47 |
| 37:BF:149:ILE:CA | 37:BF:150:LYS:CB | 2.92 | 0.47 |
| 37:BF:150:LYS:C | 37:BF:152:THR:H | 2.21 | 0.47 |
| 37:BF:151:LYS:O | 37:BF:154:LEU:N | 2.48 | 0.47 |
| 37:BF:167:ASN:O | 37:BF:170:LYS:N | 2.33 | 0.47 |
| 38:BG:73:GLY:CA | 38:BG:74:SER:O | 2.48 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 39:BH:184:ALA:HA | 39:BH:194:THR:O | 2.14 | 0.47 |
| 40:BI:29:GLY:O | 40:BI:30:PRO:C | 2.58 | 0.47 |
| 40:BI:86:TYR:CB | 40:BI:148:GLY:N | 2.78 | 0.47 |
| 40:BI:171:ASP:O | 40:BI:172:ILE:O | 2.33 | 0.47 |
| 41:BJ:61:SER:HA | 41:BJ:126:ALA:HB2 | 1.96 | 0.47 |
| 42:BK:7:ASN:CA | 42:BK:8:PRO:CB | 2.89 | 0.47 |
| 42:BK:147:THR:O | 42:BK:148:VAL:O | 2.33 | 0.47 |
| 44:BO:78:GLY:H | 44:BO:79:ALA:CB | 2.27 | 0.47 |
| 44:BO:80:THR:C | 44:BO:81:TYR:O | 2.54 | 0.47 |
| 45:BP:23:VAL:O | 45:BP:25:LYS:N | 2.47 | 0.47 |
| 46:BQ:62:ARG:C | 46:BQ:64:ASN:N | 2.72 | 0.47 |
| 46:BQ:77:GLY:O | 46:BQ:79:THR:N | 2.47 | 0.47 |
| 46:BQ:122:ALA:CB | 46:BQ:143:PRO:C | 2.87 | 0.47 |
| 47:BR:45:ASN:O | 47:BR:47:VAL:N | 2.46 | 0.47 |
| 50:BU:105:PRO:O | 50:BU:106:LYS:C | 2.56 | 0.47 |
| 53:BX:75:ARG:C | 53:BX:77:LYS:N | 2.70 | 0.47 |
| 53:BX:118:LEU:O | 53:BX:120:GLN:N | 2.48 | 0.47 |
| 54:BY:13:GLY:O | 54:BY:14:HIS:CB | 2.59 | 0.47 |
| 54:BY:138:ILE:C | 54:BY:140:ALA:N | 2.73 | 0.47 |
| 55:BZ:28:LYS:C | 55:BZ:30:THR:N | 2.67 | 0.47 |
| 59:Bd:52:LYS:HA | 59:Bd:53:ALA:HB3 | 1.97 | 0.47 |
| 62:Bg:25:GLN:O | 62:Bg:27:LYS:N | 2.48 | 0.47 |
| 1:C1:96:G:C6 | 1:C1:97:C:N4 | 2.83 | 0.47 |
| 1:C1:103:A:N7 | 1:C1:360:A:C6 | 2.82 | 0.47 |
| 1:C1:143:G:O3' | 1:C1:144:U:H4' | 2.14 | 0.47 |
| 1:C1:169:A:C4 | 1:C1:171:A:C8 | 3.03 | 0.47 |
| 1:C1:202:A:C5 | 1:C1:203:U:O4 | 2.68 | 0.47 |
| 1:C1:209:U:N3 | 1:C1:210:A:N7 | 2.62 | 0.47 |
| 1:C1:224:C:O2' | 1:C1:225:A:H8 | 1.97 | 0.47 |
| 1:C1:439:U:C5 | 1:C1:465:G:N2 | 2.83 | 0.47 |
| 1:C1:451:A:H61 | 1:C1:456:A:N6 | 2.11 | 0.47 |
| 1:C1:469:C:C2 | 1:C1:469:C:P | 3.08 | 0.47 |
| 1:C1:474:A:N1 | 1:C1:594:A:H5' | 2.30 | 0.47 |
| 1:C1:477:A:H2' | 1:C1:478:A:H8 | 1.79 | 0.47 |
| 1:C1:551:G:N1 | 1:C1:552:G:C5 | 2.82 | 0.47 |
| 1:C1:585:A:H2' | 1:C1:586:G:C8 | 2.50 | 0.47 |
| 1:C1:812:A:C6 | 1:C1:859:A:C5 | 3.02 | 0.47 |
| 1:C1:841:U:O4 | 1:C1:842:C:C4 | 2.67 | 0.47 |
| 1:C1:868:G:H2' | 1:C1:868:G:N3 | 2.29 | 0.47 |
| 1:C1:869:A:C4 | 1:C1:870:C:C6 | 3.02 | 0.47 |
| 1:C1:1024:U:O2' | 1:C1:1025:A:H5' | 2.15 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1043:A:C6 | 1:C1:1044:U:O4 | 2.68 | 0.47 |
| 1:C1:1076:A:N7 | 1:C1:1077:C:C5 | 2.83 | 0.47 |
| 1:C1:1109:G:C6 | 1:C1:1137:A:N6 | 2.83 | 0.47 |
| 1:C1:1138:A:C2' | 1:C1:1139:A:O5' | 2.63 | 0.47 |
| 1:C1:1139:A:H2' | 1:C1:1140:G:C5' | 2.44 | 0.47 |
| 1:C1:1142:A:H2' | 1:C1:1143:A:O4' | 2.15 | 0.47 |
| 1:C1:1285:U:C2 | 1:C1:1286:U:H5 | 2.32 | 0.47 |
| 1:C1:1296:A:H2' | 1:C1:1297:G:C5' | 2.42 | 0.47 |
| 1:C1:1323:C:H2' | 1:C1:1323:C:O2 | 2.15 | 0.47 |
| 1:C1:1349:G:C4' | 1:C1:1350:U:C5' | 2.92 | 0.47 |
| 1:C1:1431:C:H3' | 1:C1:1432:U:H5' | 1.96 | 0.47 |
| 1:C1:1456:C:H5" | 1:C1:1457:C:H5' | 1.94 | 0.47 |
| 1:C1:1605:G:H2' | 1:C1:1606:C:C5' | 2.45 | 0.47 |
| 1:C1:1613:U:O2 | 1:C1:1614:A:H5" | 2.15 | 0.47 |
| 1:C1:1683:C:H3' | 1:C1:1683:C:P | 2.55 | 0.47 |
| 1:C1:1717:G:C6 | 1:C1:1718:G:C2 | 3.02 | 0.47 |
| 1:C1:1727:G:C2 | 1:C1:1728:A:C6 | 3.03 | 0.47 |
| 1:C1:1733:C:N4 | 1:C1:1734:U:O4 | 2.47 | 0.47 |
| 1:C1:1757:G:C4 | 1:C1:1758:U:C6 | 3.03 | 0.47 |
| 74:C1:1924:OHX:N6 | 74:C1:1964:OHX:N2 | 2.62 | 0.47 |
| 2:CA:175:TYR:C | 2:CA:177:LEU:N | 2.71 | 0.47 |
| 3:CB:91:ARG:O | 3:CB:92:ALA:HB3 | 2.13 | 0.47 |
| 4:CC:56:GLN:C | 4:CC:58:VAL:N | 2.65 | 0.47 |
| 4:CC:80:ALA:CB | 4:CC:84:ILE:H | 2.27 | 0.47 |
| 6:CE:114:TYR:C | 6:CE:116:LEU:H | 2.22 | 0.47 |
| 6:CE:136:VAL:O | 6:CE:137:GLY:C | 2.57 | 0.47 |
| 8:CG:36:GLN:C | 8:CG:39:LYS:H | 2.23 | 0.47 |
| 11:CJ:106:LYS:O | 11:CJ:108:ALA:N | 2.47 | 0.47 |
| 17:CP:127:VAL:CA | 17:CP:128:SER:C | 2.87 | 0.47 |
| 21:CT:42:LEU:O | 21:CT:60:SER:CA | 2.62 | 0.47 |
| 21:CT:118:LYS:O | 21:CT:119:ALA:HB2 | 2.14 | 0.47 |
| 23:Cb:118:UNK:O | 23:Cb:119:UNK:CB | 2.60 | 0.47 |
| 23:Cb:132:UNK:CA | 23:Cb:133:UNK:CB | 2.93 | 0.47 |
| 28:Ch:20:UNK:O | 28:Ch:24:UNK:N | 2.48 | 0.47 |
| 29:D1:26:A:C3' | 29:D1:27:C:H6 | 2.28 | 0.47 |
| 29:D1:43:A:C4' | 29:D1:43:A:OP1 | 2.63 | 0.47 |
| 29:D1:44:U:C6 | 29:D1:45:A:C8 | 3.02 | 0.47 |
| 29:D1:49:A:C2 | 29:D1:279:U:H4' | 2.49 | 0.47 |
| 29:D1:198:A:C2 | 29:D1:219:A:N7 | 2.83 | 0.47 |
| 29:D1:211:A:O4' | 29:D1:229:G:H1' | 2.15 | 0.47 |
| 29:D1:237:G:O2' | 29:D1:238:A:H5' | 2.14 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:264:G:C2 | 29:D1:265:A:C5 | 3.02 | 0.47 |
| 29:D1:393:U:O2 | 29:D1:393:U:C2' | 2.62 | 0.47 |
| 29:D1:420:G:N3 | 29:D1:2384:A:N3 | 2.62 | 0.47 |
| 29:D1:423:A:C6 | 29:D1:424:G:N1 | 2.82 | 0.47 |
| 29:D1:432:G:C4 | 29:D1:433:A:C8 | 3.03 | 0.47 |
| 29:D1:505:G:N7 | 29:D1:506:U:C5 | 2.83 | 0.47 |
| 29:D1:520:U:C1' | 29:D1:521:A:OP2 | 2.62 | 0.47 |
| 29:D1:545:U:O2' | 29:D1:546:C:C6 | 2.61 | 0.47 |
| 29:D1:563:U:H2' | 29:D1:564:G:C4' | 2.40 | 0.47 |
| 29:D1:563:U:C2 | 29:D1:564:G:C1' | 2.98 | 0.47 |
| 29:D1:606:C:C5 | 29:D1:607:A:C5 | 3.02 | 0.47 |
| 29:D1:651:G:N1 | 29:D1:652:G:C6 | 2.83 | 0.47 |
| 29:D1:665:A:H2' | 29:D1:666:A:O4' | 2.15 | 0.47 |
| 29:D1:743:C:H5 | 29:D1:744:A:C8 | 2.31 | 0.47 |
| 29:D1:759:U:H2' | 29:D1:760:G:C5' | 2.43 | 0.47 |
| 29:D1:787:G:H2' | 29:D1:788:C:H6 | 1.79 | 0.47 |
| 29:D1:824:C:H2' | 29:D1:825:U:H6 | 1.75 | 0.47 |
| 29:D1:826:G:N2 | 29:D1:1589:A:N6 | 2.59 | 0.47 |
| 29:D1:856:G:N1 | 29:D1:857:G:N2 | 2.63 | 0.47 |
| 29:D1:956:U:C2' | 29:D1:957:C:O5' | 2.62 | 0.47 |
| 29:D1:958:C:C2 | 29:D1:964:G:N2 | 2.82 | 0.47 |
| 29:D1:983:A:C2 | 29:D1:985:U:O4 | 2.67 | 0.47 |
| 29:D1:1002:A:N6 | 29:D1:1051:U:C5 | 2.83 | 0.47 |
| 29:D1:1035:G:H2' | 29:D1:1036:A:H5' | 1.97 | 0.47 |
| 29:D1:1046:A:H2' | 29:D1:1049:C:C5 | 2.49 | 0.47 |
| 29:D1:1056:U:C6 | 29:D1:1056:U:H3' | 2.49 | 0.47 |
| 29:D1:1080:A:O2' | 29:D1:1081:U:O5' | 2.32 | 0.47 |
| 29:D1:1107:C:H2' | 29:D1:1108:U:C6 | 2.48 | 0.47 |
| 29:D1:1150:A:C2' | 29:D1:1151:U:O5' | 2.63 | 0.47 |
| 29:D1:1202:A:C6 | 29:D1:1301:A:N3 | 2.82 | 0.47 |
| 29:D1:1232:C:C5 | 29:D1:1261:G:C4 | 3.02 | 0.47 |
| 29:D1:1278:A:C2' | 29:D1:1279:C:H5' | 2.45 | 0.47 |
| 29:D1:1295:G:C2' | 29:D1:1296:C:H5' | 2.44 | 0.47 |
| 29:D1:1337:A:N3 | 29:D1:1338:C:C6 | 2.83 | 0.47 |
| 29:D1:1377:G:N3 | 29:D1:1378:U:C6 | 2.82 | 0.47 |
| 29:D1:1379:G:C6 | 29:D1:1428:A:C2 | 3.03 | 0.47 |
| 29:D1:1395:G:C5 | 29:D1:1396:C:C5 | 3.03 | 0.47 |
| 29:D1:1440:G:C2' | 29:D1:1441:G:H5' | 2.44 | 0.47 |
| 29:D1:1528:G:C6 | 29:D1:1833:G:O6 | 2.68 | 0.47 |
| 29:D1:1562:C:H2' | 29:D1:1563:C:H6 | 1.80 | 0.47 |
| 29:D1:1583:A:C2' | 29:D1:1584:U:O5' | 2.63 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1604:G:C8 | 29:D1:1605:A:H5” | 2.42 | 0.47 |
| 29:D1:1622:U:H2’ | 29:D1:1623:G:H8 | 1.80 | 0.47 |
| 29:D1:1657:C:O2’ | 29:D1:1797:A:OP2 | 2.28 | 0.47 |
| 29:D1:1687:U:P | 29:D1:1687:U:C6 | 3.02 | 0.47 |
| 29:D1:1695:U:O2 | 29:D1:1749:A:N1 | 2.48 | 0.47 |
| 29:D1:1696:A:C2 | 29:D1:1697:A:C5 | 3.03 | 0.47 |
| 29:D1:1783:U:H2’ | 29:D1:1784:G:H8 | 1.80 | 0.47 |
| 29:D1:1791:C:N3 | 29:D1:1792:C:N4 | 2.62 | 0.47 |
| 29:D1:1900:A:N3 | 29:D1:1906:G:N7 | 2.63 | 0.47 |
| 29:D1:2180:G:C6 | 29:D1:2181:C:N4 | 2.83 | 0.47 |
| 29:D1:2198:A:C4 | 29:D1:2270:A:C8 | 3.02 | 0.47 |
| 29:D1:2285:C:H41 | 29:D1:2286:U:H3 | 1.61 | 0.47 |
| 29:D1:2308:C:C4 | 29:D1:2309:A:C6 | 3.03 | 0.47 |
| 29:D1:2362:C:C4 | 29:D1:2376:G:O6 | 2.60 | 0.47 |
| 29:D1:2407:C:C2 | 29:D1:2815:G:C2 | 3.02 | 0.47 |
| 29:D1:2520:A:C6 | 29:D1:2521:U:O4 | 2.67 | 0.47 |
| 29:D1:2592:G:C6 | 74:D1:3463:OHX:N4 | 2.82 | 0.47 |
| 29:D1:2667:A:N3 | 29:D1:2667:A:C2’ | 2.77 | 0.47 |
| 29:D1:2675:C:N4 | 29:D1:2676:A:N6 | 2.56 | 0.47 |
| 29:D1:2681:U:H6 | 29:D1:2681:U:H2’ | 1.07 | 0.47 |
| 29:D1:2696:A:H8 | 29:D1:2696:A:H3’ | 1.80 | 0.47 |
| 29:D1:2707:C:O2’ | 29:D1:2708:C:C5’ | 2.63 | 0.47 |
| 29:D1:2725:U:O4 | 29:D1:2727:A:C2 | 2.67 | 0.47 |
| 29:D1:2732:G:C6 | 29:D1:2733:A:C6 | 3.03 | 0.47 |
| 29:D1:2762:A:H1’ | 29:D1:2800:G:C6 | 2.49 | 0.47 |
| 29:D1:2788:C:H2’ | 29:D1:2789:U:H6 | 1.80 | 0.47 |
| 29:D1:2815:G:H8 | 29:D1:2815:G:O5’ | 1.97 | 0.47 |
| 29:D1:2964:G:C5 | 29:D1:2966:G:OP2 | 2.68 | 0.47 |
| 29:D1:3032:A:OP1 | 29:D1:3032:A:H4’ | 2.12 | 0.47 |
| 29:D1:3077:A:N6 | 29:D1:3080:G:C5 | 2.83 | 0.47 |
| 29:D1:3080:G:C6 | 29:D1:3081:C:N4 | 2.82 | 0.47 |
| 29:D1:3110:C:C4 | 29:D1:3111:U:C5 | 3.03 | 0.47 |
| 29:D1:3113:A:C2 | 29:D1:3122:A:C8 | 3.03 | 0.47 |
| 29:D1:3153:U:OP2 | 29:D1:3293:U:O2’ | 2.33 | 0.47 |
| 29:D1:3262:U:O2’ | 29:D1:3263:G:O4’ | 2.23 | 0.47 |
| 29:D1:3323:A:N6 | 29:D1:3324:C:N4 | 2.63 | 0.47 |
| 29:D1:3327:G:C6 | 29:D1:3328:G:C5 | 3.02 | 0.47 |
| 29:D1:3333:G:N3 | 29:D1:3371:G:N9 | 2.62 | 0.47 |
| 29:D1:3381:U:C2’ | 29:D1:3383:G:C4 | 2.94 | 0.47 |
| 30:D2:66:A:C5 | 30:D2:67:G:C8 | 3.02 | 0.47 |
| 30:D2:106:U:C2 | 30:D2:107:C:C6 | 3.03 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:D3:11:C:C2 | 31:D3:12:A:C8 | 3.03 | 0.47 |
| 31:D3:56:G:C2 | 31:D3:57:C:C6 | 3.03 | 0.47 |
| 31:D3:64:U:N3 | 31:D3:97:A:C2 | 2.83 | 0.47 |
| 31:D3:65:A:C4 | 31:D3:66:A:C8 | 3.03 | 0.47 |
| 31:D3:75:G:OP2 | 31:D3:76:C:OP1 | 2.33 | 0.47 |
| 31:D3:77:A:H4' | 31:D3:78:G:OP1 | 2.14 | 0.47 |
| 31:D3:78:G:C5 | 31:D3:79:A:N7 | 2.83 | 0.47 |
| 31:D3:107:G:C5 | 31:D3:116:G:O6 | 2.68 | 0.47 |
| 33:DB:56:ALA:H | 62:Dg:53:GLY:HA3 | 1.79 | 0.47 |
| 33:DB:109:GLU:O | 33:DB:110:GLY:O | 2.32 | 0.47 |
| 35:DD:54:GLU:C | 35:DD:56:ALA:N | 2.72 | 0.47 |
| 35:DD:215:ILE:O | 35:DD:217:LYS:N | 2.48 | 0.47 |
| 35:DD:237:GLN:O | 35:DD:239:ALA:N | 2.47 | 0.47 |
| 36:DE:43:LYS:H | 49:DT:69:LYS:C | 2.23 | 0.47 |
| 36:DE:107:ARG:O | 36:DE:110:LEU:O | 2.33 | 0.47 |
| 36:DE:257:GLU:CA | 36:DE:258:LYS:CB | 2.93 | 0.47 |
| 37:DF:115:GLU:O | 37:DF:117:LYS:N | 2.47 | 0.47 |
| 37:DF:131:LYS:C | 38:DG:70:LYS:O | 2.57 | 0.47 |
| 38:DG:62:ILE:O | 38:DG:65:ALA:HB3 | 2.14 | 0.47 |
| 38:DG:75:TYR:CB | 38:DG:76:TYR:CB | 2.93 | 0.47 |
| 38:DG:144:ILE:O | 38:DG:145:ARG:C | 2.58 | 0.47 |
| 39:DH:133:LYS:CB | 39:DH:199:ALA:H | 2.27 | 0.47 |
| 39:DH:157:VAL:CB | 39:DH:160:ILE:HA | 2.45 | 0.47 |
| 40:DI:29:GLY:O | 40:DI:30:PRO:C | 2.57 | 0.47 |
| 40:DI:117:PHE:O | 40:DI:119:GLY:N | 2.46 | 0.47 |
| 43:DN:107:GLU:C | 43:DN:109:ARG:N | 2.72 | 0.47 |
| 44:DO:109:ARG:O | 44:DO:110:ALA:HB2 | 2.15 | 0.47 |
| 45:DP:63:ALA:O | 45:DP:64:PHE:CB | 2.62 | 0.47 |
| 47:DR:149:ALA:HB3 | 47:DR:150:VAL:HA | 1.97 | 0.47 |
| 51:DV:3:VAL:O | 51:DV:4:GLU:CB | 2.63 | 0.47 |
| 55:DZ:17:VAL:O | 55:DZ:20:SER:O | 2.33 | 0.47 |
| 57:Db:65:PHE:C | 57:Db:67:SER:CB | 2.87 | 0.47 |
| 57:Db:89:THR:CB | 57:Db:90:LYS:CA | 2.93 | 0.47 |
| 60:De:49:MET:O | 60:De:50:ASN:C | 2.57 | 0.47 |
| 62:Dg:20:SER:O | 62:Dg:21:SER:C | 2.58 | 0.47 |
| 1:A1:89:G:C4 | 1:A1:90:C:C5 | 3.02 | 0.47 |
| 1:A1:98:U:O2 | 1:A1:98:U:C2' | 2.63 | 0.47 |
| 1:A1:129:U:O2' | 1:A1:130:C:OP1 | 2.29 | 0.47 |
| 1:A1:147:A:H2' | 1:A1:148:A:H1' | 1.97 | 0.47 |
| 1:A1:180:A:C4 | 1:A1:181:A:N3 | 2.83 | 0.47 |
| 1:A1:337:G:C5' | 1:A1:338:C:C5 | 2.98 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:350:U:O4' | 1:A1:352:A:C4 | 2.67 | 0.47 |
| 1:A1:427:C:C6 | 1:A1:427:C:H5" | 2.41 | 0.47 |
| 1:A1:571:G:N3 | 1:A1:571:G:C2' | 2.78 | 0.47 |
| 1:A1:618:U:H5" | 1:A1:1030:A:N1 | 2.30 | 0.47 |
| 1:A1:743:U:C5 | 1:A1:809:A:N3 | 2.82 | 0.47 |
| 1:A1:850:A:C6 | 1:A1:851:U:C4 | 3.03 | 0.47 |
| 1:A1:1124:A:C6 | 1:A1:1125:A:C6 | 3.03 | 0.47 |
| 1:A1:1235:C:C2 | 1:A1:1236:A:C8 | 3.02 | 0.47 |
| 1:A1:1323:C:H2' | 1:A1:1324:G:H1' | 1.96 | 0.47 |
| 1:A1:1334:U:H2' | 1:A1:1334:U:O2 | 2.14 | 0.47 |
| 1:A1:1355:C:H2' | 1:A1:1356:U:H6 | 1.79 | 0.47 |
| 1:A1:1377:U:O2 | 1:A1:1378:U:O4' | 2.33 | 0.47 |
| 1:A1:1378:U:P | 1:A1:1379:C:OP2 | 2.73 | 0.47 |
| 1:A1:1585:U:O2' | 1:A1:1586:A:H5' | 2.14 | 0.47 |
| 1:A1:1632:C:O2' | 1:A1:1633:A:P | 2.73 | 0.47 |
| 1:A1:1720:G:C2' | 1:A1:1721:A:C5' | 2.92 | 0.47 |
| 1:A1:1749:A:H2' | 1:A1:1750:A:O5' | 2.14 | 0.47 |
| 1:A1:1780:G:H1' | 29:B1:2262:A:O3' | 2.15 | 0.47 |
| 1:A1:1797:A:C2 | 1:A1:1799:U:O4 | 2.68 | 0.47 |
| 9:AH:64:ALA:HA | 9:AH:68:ALA:HB3 | 1.97 | 0.47 |
| 17:AP:48:HIS:O | 17:AP:49:ALA:HB2 | 2.15 | 0.47 |
| 29:B1:39:A:C8 | 29:B1:41:G:P | 3.07 | 0.47 |
| 29:B1:80:G:C2 | 29:B1:81:C:C4 | 3.03 | 0.47 |
| 29:B1:131:C:C4 | 29:B1:132:C:C6 | 3.03 | 0.47 |
| 29:B1:151:A:H2' | 29:B1:152:U:C5 | 2.50 | 0.47 |
| 29:B1:151:A:H2' | 29:B1:152:U:H5 | 1.79 | 0.47 |
| 29:B1:157:A:O2' | 29:B1:158:G:C5 | 2.66 | 0.47 |
| 29:B1:170:G:C4 | 29:B1:171:G:C8 | 3.03 | 0.47 |
| 29:B1:354:U:OP2 | 29:B1:364:G:C6 | 2.68 | 0.47 |
| 29:B1:504:A:C2' | 29:B1:505:G:H5' | 2.44 | 0.47 |
| 29:B1:577:C:C3' | 29:B1:577:C:C6 | 2.97 | 0.47 |
| 29:B1:606:C:C5 | 29:B1:607:A:C5 | 3.03 | 0.47 |
| 29:B1:608:A:H2' | 29:B1:609:G:C5' | 2.44 | 0.47 |
| 29:B1:846:A:C5 | 29:B1:847:A:C8 | 3.02 | 0.47 |
| 29:B1:943:U:H1' | 29:B1:1432:C:H6 | 1.80 | 0.47 |
| 29:B1:1077:U:H3 | 29:B1:1083:G:N2 | 2.12 | 0.47 |
| 29:B1:1213:G:C2 | 29:B1:1293:U:C2 | 3.03 | 0.47 |
| 29:B1:1224:C:O2' | 29:B1:1225:A:C5' | 2.63 | 0.47 |
| 29:B1:1349:G:OP2 | 29:B1:1349:G:C8 | 2.54 | 0.47 |
| 29:B1:1445:U:H3' | 29:B1:1446:A:H8 | 1.80 | 0.47 |
| 29:B1:1626:U:H3' | 29:B1:1627:U:O4' | 2.14 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1717:U:H5" | 29:B1:1717:U:H6 | 1.79 | 0.47 |
| 29:B1:1752:A:OP2 | 74:B1:3568:OHX:N6 | 2.48 | 0.47 |
| 29:B1:1880:U:H2' | 29:B1:1881:A:O5' | 2.15 | 0.47 |
| 29:B1:1945:A:C6 | 29:B1:2104:A:C6 | 3.02 | 0.47 |
| 29:B1:2097:U:H2' | 29:B1:2098:C:C6 | 2.50 | 0.47 |
| 29:B1:2403:G:H4' | 29:B1:2404:A:OP1 | 2.13 | 0.47 |
| 29:B1:2655:U:C1' | 29:B1:2656:A:C2 | 2.98 | 0.47 |
| 29:B1:2825:C:H42 | 29:B1:2864:A:N6 | 2.12 | 0.47 |
| 29:B1:2900:A:O2' | 29:B1:2901:G:C5' | 2.63 | 0.47 |
| 29:B1:2960:C:C3' | 29:B1:2961:G:H8 | 2.28 | 0.47 |
| 29:B1:3069:G:C4 | 29:B1:3070:A:C8 | 3.03 | 0.47 |
| 29:B1:3226:A:C2' | 29:B1:3227:A:H5' | 2.45 | 0.47 |
| 29:B1:3348:G:H2' | 29:B1:3349:C:O4' | 2.14 | 0.47 |
| 29:B1:3377:G:O4' | 29:B1:3378:C:H5' | 2.15 | 0.47 |
| 29:B1:3379:C:H2' | 29:B1:3380:U:O4' | 2.13 | 0.47 |
| 29:B1:3384:U:O4 | 29:B1:3385:U:O4 | 2.33 | 0.47 |
| 29:B1:3388:C:O5' | 29:B1:3388:C:H6 | 1.96 | 0.47 |
| 30:B2:113:C:C2 | 30:B2:114:U:C5 | 3.03 | 0.47 |
| 31:B3:3:A:C8 | 31:B3:3:A:C3' | 2.97 | 0.47 |
| 31:B3:58:G:OP1 | 31:B3:98:U:N3 | 2.48 | 0.47 |
| 31:B3:104:A:H8 | 31:B3:105:A:C8 | 2.32 | 0.47 |
| 31:B3:140:G:N1 | 31:B3:141:C:C2 | 2.83 | 0.47 |
| 31:B3:140:G:O6 | 31:B3:141:C:N4 | 2.48 | 0.47 |
| 33:BB:28:LYS:H | 33:BB:122:ASP:CB | 2.28 | 0.47 |
| 33:BB:195:SER:HA | 33:BB:196:TRP:C | 2.40 | 0.47 |
| 34:BC:305:ILE:C | 34:BC:307:PRO:N | 2.73 | 0.47 |
| 35:BD:6:VAL:CB | 35:BD:19:ALA:HA | 2.45 | 0.47 |
| 36:BE:101:THR:O | 36:BE:105:ILE:CB | 2.63 | 0.47 |
| 37:BF:43:LEU:O | 37:BF:44:ALA:C | 2.58 | 0.47 |
| 38:BG:159:GLN:O | 38:BG:162:PRO:CB | 2.62 | 0.47 |
| 45:BP:130:LYS:CA | 45:BP:131:PRO:CB | 2.92 | 0.47 |
| 49:BT:56:PHE:C | 49:BT:58:GLN:N | 2.73 | 0.47 |
| 53:BX:56:VAL:HA | 53:BX:107:THR:H | 1.79 | 0.47 |
| 56:Ba:13:THR:O | 56:Ba:14:ILE:C | 2.57 | 0.47 |
| 57:Bb:11:LYS:O | 57:Bb:12:LYS:CB | 2.63 | 0.47 |
| 63:Bh:39:UNK:O | 63:Bh:41:UNK:N | 2.48 | 0.47 |
| 65:Bk:14:UNK:C | 65:Bk:16:UNK:N | 2.77 | 0.47 |
| 1:C1:14:C:OP1 | 3:CB:163:GLY:C | 2.58 | 0.47 |
| 1:C1:85:A:C4 | 1:C1:86:A:C8 | 3.03 | 0.47 |
| 1:C1:169:A:C6 | 1:C1:171:A:C6 | 3.03 | 0.47 |
| 1:C1:201:G:N1 | 1:C1:202:A:C2 | 2.83 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:561:G:C6 | 1:C1:585:A:N1 | 2.82 | 0.47 |
| 1:C1:722:G:H4' | 1:C1:723:G:OP1 | 2.15 | 0.47 |
| 1:C1:727:U:C2 | 1:C1:728:U:C5 | 3.01 | 0.47 |
| 1:C1:838:G:C2 | 1:C1:839:U:N1 | 2.83 | 0.47 |
| 1:C1:982:U:H2' | 1:C1:983:A:C8 | 2.49 | 0.47 |
| 1:C1:1165:G:C5 | 1:C1:1166:A:N7 | 2.83 | 0.47 |
| 1:C1:1173:C:O2' | 1:C1:1174:C:H5' | 2.15 | 0.47 |
| 1:C1:1176:G:C4 | 1:C1:1464:G:C2 | 3.03 | 0.47 |
| 1:C1:1181:U:C2' | 1:C1:1182:U:O5' | 2.63 | 0.47 |
| 1:C1:1221:A:C4 | 1:C1:1222:C:C5 | 3.03 | 0.47 |
| 1:C1:1269:U:H4' | 1:C1:1270:G:C5' | 2.43 | 0.47 |
| 1:C1:1270:G:H1' | 1:C1:1447:C:O2 | 2.14 | 0.47 |
| 1:C1:1311:U:H2' | 1:C1:1313:A:OP2 | 2.14 | 0.47 |
| 1:C1:1324:G:N3 | 1:C1:1324:G:H2' | 2.30 | 0.47 |
| 1:C1:1398:U:O2' | 1:C1:1399:C:O5' | 2.31 | 0.47 |
| 1:C1:1408:G:C1' | 1:C1:1409:G:C2 | 2.98 | 0.47 |
| 1:C1:1486:G:C6 | 1:C1:1487:A:C5 | 3.03 | 0.47 |
| 1:C1:1492:A:H1' | 1:C1:1493:A:O5' | 2.14 | 0.47 |
| 1:C1:1539:G:O2' | 1:C1:1540:G:C5' | 2.63 | 0.47 |
| 1:C1:1786:G:H2' | 1:C1:1787:C:H6 | 1.73 | 0.47 |
| 5:CD:182:ALA:C | 5:CD:184:PHE:N | 2.73 | 0.47 |
| 5:CD:182:ALA:C | 5:CD:184:PHE:H | 2.23 | 0.47 |
| 8:CG:117:LEU:C | 8:CG:119:GLU:N | 2.65 | 0.47 |
| 9:CH:27:PHE:HA | 9:CH:43:THR:CB | 2.45 | 0.47 |
| 11:CJ:42:GLU:HA | 11:CJ:45:ARG:CB | 2.45 | 0.47 |
| 13:CL:76:PRO:C | 13:CL:78:HIS:N | 2.72 | 0.47 |
| 14:CM:129:GLN:O | 14:CM:133:ASP:CB | 2.62 | 0.47 |
| 15:CN:31:VAL:O | 15:CN:32:LYS:C | 2.58 | 0.47 |
| 17:CP:80:GLY:O | 17:CP:81:LYS:O | 2.32 | 0.47 |
| 21:CT:21:THR:CB | 21:CT:36:ALA:O | 2.63 | 0.47 |
| 29:D1:37:U:OP1 | 29:D1:934:G:N2 | 2.48 | 0.47 |
| 29:D1:48:A:O4' | 29:D1:50:U:C6 | 2.68 | 0.47 |
| 29:D1:195:U:O2 | 29:D1:196:G:C1' | 2.63 | 0.47 |
| 29:D1:268:A:O4' | 29:D1:270:U:H1' | 2.14 | 0.47 |
| 29:D1:307:A:C8 | 29:D1:307:A:C3' | 2.97 | 0.47 |
| 29:D1:407:A:C5 | 31:D3:17:A:C4 | 3.03 | 0.47 |
| 29:D1:415:G:H2' | 29:D1:416:A:C8 | 2.43 | 0.47 |
| 29:D1:501:A:C2 | 29:D1:613:G:N1 | 2.82 | 0.47 |
| 29:D1:597:G:N3 | 29:D1:598:A:C8 | 2.83 | 0.47 |
| 29:D1:943:U:O4' | 29:D1:1432:C:C6 | 2.67 | 0.47 |
| 29:D1:1158:A:N3 | 29:D1:1158:A:H2' | 2.27 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1232:C:N3 | 29:D1:1261:G:N1 | 2.63 | 0.47 |
| 29:D1:1286:A:O5' | 29:D1:1286:A:C8 | 2.67 | 0.47 |
| 29:D1:1465:A:N6 | 29:D1:1466:G:C2 | 2.83 | 0.47 |
| 29:D1:1503:A:H5" | 29:D1:1503:A:H8 | 1.77 | 0.47 |
| 29:D1:1622:U:H2' | 29:D1:1623:G:C8 | 2.49 | 0.47 |
| 29:D1:1626:U:H3' | 29:D1:1627:U:O4' | 2.15 | 0.47 |
| 29:D1:1634:G:C5 | 29:D1:1635:G:N7 | 2.83 | 0.47 |
| 29:D1:1658:G:C5 | 29:D1:1659:U:C4 | 3.02 | 0.47 |
| 29:D1:1890:U:N3 | 29:D1:1891:A:N7 | 2.63 | 0.47 |
| 29:D1:1895:A:N6 | 29:D1:2341:A:N6 | 2.62 | 0.47 |
| 29:D1:1909:A:C6 | 29:D1:1910:A:C2 | 3.03 | 0.47 |
| 29:D1:2117:A:H2' | 29:D1:2117:A:N3 | 2.29 | 0.47 |
| 29:D1:2144:A:N1 | 29:D1:2281:A:C5 | 2.83 | 0.47 |
| 29:D1:2211:U:H2' | 29:D1:2212:C:C6 | 2.49 | 0.47 |
| 29:D1:2296:A:N3 | 29:D1:2919:A:H1' | 2.30 | 0.47 |
| 29:D1:2393:G:C5 | 29:D1:2982:A:C2 | 3.01 | 0.47 |
| 29:D1:2414:G:O2' | 29:D1:2415:C:P | 2.73 | 0.47 |
| 29:D1:2444:C:H3' | 29:D1:2445:A:H5" | 1.97 | 0.47 |
| 29:D1:2610:G:H2' | 29:D1:2611:U:C6 | 2.50 | 0.47 |
| 29:D1:2661:G:H2' | 29:D1:2662:G:H8 | 1.80 | 0.47 |
| 29:D1:2675:C:OP2 | 29:D1:2676:A:H5" | 2.15 | 0.47 |
| 29:D1:2678:A:C8 | 29:D1:2679:A:N3 | 2.73 | 0.47 |
| 29:D1:2704:A:C2 | 29:D1:2706:G:C8 | 3.03 | 0.47 |
| 29:D1:2895:G:H2' | 29:D1:2896:A:H5" | 1.95 | 0.47 |
| 29:D1:3011:A:H1' | 29:D1:3012:A:C1' | 2.44 | 0.47 |
| 29:D1:3096:C:C2 | 29:D1:3097:C:C5 | 3.03 | 0.47 |
| 29:D1:3315:G:H4' | 29:D1:3319:U:H4' | 1.96 | 0.47 |
| 29:D1:3347:A:C5 | 29:D1:3348:G:N7 | 2.83 | 0.47 |
| 30:D2:67:G:C6 | 30:D2:68:C:C2 | 3.03 | 0.47 |
| 30:D2:112:G:OP2 | 74:D2:207:OHX:N6 | 2.48 | 0.47 |
| 31:D3:65:A:N6 | 31:D3:66:A:N6 | 2.62 | 0.47 |
| 31:D3:70:G:C5' | 31:D3:71:A:C8 | 2.91 | 0.47 |
| 31:D3:82:U:O3' | 31:D3:83:C:O4' | 2.32 | 0.47 |
| 33:DB:121:GLY:O | 33:DB:122:ASP:C | 2.58 | 0.47 |
| 36:DE:141:PRO:HA | 36:DE:143:LYS:N | 2.29 | 0.47 |
| 38:DG:33:ARG:O | 38:DG:36:ALA:HB3 | 2.15 | 0.47 |
| 38:DG:39:GLU:O | 38:DG:40:LYS:C | 2.57 | 0.47 |
| 39:DH:99:PRO:CB | 39:DH:237:ILE:N | 2.65 | 0.47 |
| 40:DI:19:SER:N | 40:DI:26:LYS:O | 2.35 | 0.47 |
| 41:DJ:215:GLU:C | 41:DJ:217:PHE:H | 2.21 | 0.47 |
| 42:DK:155:THR:O | 42:DK:156:LYS:C | 2.57 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 73:DM:5:ARG:C | 73:DM:7:LYS:N | 2.73 | 0.47 |
| 47:DR:145:ASN:CA | 47:DR:146:SER:CB | 2.92 | 0.47 |
| 47:DR:145:ASN:HA | 47:DR:146:SER:CB | 2.45 | 0.47 |
| 54:DY:37:GLY:C | 54:DY:39:HIS:H | 2.22 | 0.47 |
| 62:Dg:73:THR:CB | 62:Dg:76:ALA:HB3 | 2.45 | 0.47 |
| 65:Dk:19:UNK:O | 65:Dk:20:UNK:C | 2.63 | 0.47 |
| 1:A1:55:A:C2 | 1:A1:403:G:C5 | 3.03 | 0.47 |
| 1:A1:188:A:N9 | 1:A1:198:A:N6 | 2.63 | 0.47 |
| 1:A1:315:A:C5 | 1:A1:350:U:C5 | 2.97 | 0.47 |
| 1:A1:408:C:O2 | 1:A1:1731:A:O2' | 2.31 | 0.47 |
| 1:A1:563:U:C4 | 1:A1:564:G:C6 | 3.02 | 0.47 |
| 1:A1:648:G:N1 | 1:A1:649:U:C5 | 2.83 | 0.47 |
| 1:A1:714:G:N3 | 1:A1:715:U:H1' | 2.29 | 0.47 |
| 1:A1:789:A:C5 | 1:A1:790:U:C5 | 3.03 | 0.47 |
| 1:A1:813:U:O2' | 1:A1:814:A:P | 2.73 | 0.47 |
| 1:A1:885:G:H5" | 1:A1:886:U:OP2 | 2.14 | 0.47 |
| 1:A1:919:A:H2' | 1:A1:920:U:C6 | 2.50 | 0.47 |
| 1:A1:952:A:C2 | 1:A1:953:G:C8 | 3.03 | 0.47 |
| 1:A1:975:C:N4 | 1:A1:976:G:C6 | 2.83 | 0.47 |
| 1:A1:1062:A:C2 | 1:A1:1063:U:H1' | 2.50 | 0.47 |
| 1:A1:1122:G:N2 | 1:A1:1126:G:C6 | 2.83 | 0.47 |
| 1:A1:1200:G:O3' | 1:A1:1201:G:O4' | 2.33 | 0.47 |
| 1:A1:1250:U:O2 | 1:A1:1251:U:C2 | 2.68 | 0.47 |
| 1:A1:1370:U:H2' | 1:A1:1371:A:O5' | 2.14 | 0.47 |
| 1:A1:1374:C:C4 | 1:A1:1375:A:N1 | 2.82 | 0.47 |
| 1:A1:1469:A:H2' | 1:A1:1470:C:C6 | 2.50 | 0.47 |
| 1:A1:1528:U:H2' | 1:A1:1529:C:H6 | 1.78 | 0.47 |
| 1:A1:1575:G:C5' | 1:A1:1576:A:OP2 | 2.62 | 0.47 |
| 1:A1:1650:U:C2' | 1:A1:1651:A:C8 | 2.98 | 0.47 |
| 2:AA:8:ASP:O | 2:AA:11:PRO:N | 2.47 | 0.47 |
| 5:AD:44:ASN:C | 5:AD:46:TRP:H | 2.21 | 0.47 |
| 6:AE:114:TYR:C | 6:AE:116:LEU:H | 2.23 | 0.47 |
| 10:AI:109:PRO:O | 10:AI:110:GLU:C | 2.58 | 0.47 |
| 11:AJ:18:ALA:HB3 | 11:AJ:84:ALA:HB2 | 1.96 | 0.47 |
| 11:AJ:54:LEU:O | 11:AJ:56:GLY:N | 2.47 | 0.47 |
| 13:AL:105:VAL:O | 13:AL:106:GLU:C | 2.57 | 0.47 |
| 21:AT:74:THR:O | 21:AT:77:GLY:N | 2.47 | 0.47 |
| 21:AT:95:ALA:C | 21:AT:97:GLY:N | 2.73 | 0.47 |
| 29:B1:14:U:C4' | 29:B1:15:C:OP2 | 2.44 | 0.47 |
| 29:B1:130:A:C2 | 29:B1:139:G:C4 | 3.03 | 0.47 |
| 29:B1:195:U:O2 | 29:B1:196:G:H1' | 2.14 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:223:U:OP1 | 29:B1:225:C:N4 | 2.47 | 0.47 |
| 29:B1:420:G:C4 | 29:B1:2384:A:C2 | 3.02 | 0.47 |
| 29:B1:500:C:C2' | 29:B1:501:A:H5' | 2.44 | 0.47 |
| 29:B1:536:U:H4' | 29:B1:537:A:H5" | 1.97 | 0.47 |
| 29:B1:550:A:C6 | 29:B1:551:A:C6 | 3.03 | 0.47 |
| 29:B1:743:C:C5 | 29:B1:744:A:C8 | 3.03 | 0.47 |
| 29:B1:776:U:O5' | 29:B1:777:U:H5" | 2.15 | 0.47 |
| 29:B1:939:U:H5' | 29:B1:939:U:H6 | 1.80 | 0.47 |
| 29:B1:1000:C:H5' | 74:B1:3481:OHX:N6 | 2.30 | 0.47 |
| 29:B1:1148:G:C6 | 29:B1:1149:G:N7 | 2.83 | 0.47 |
| 29:B1:1220:U:OP1 | 29:B1:1223:A:O2' | 2.16 | 0.47 |
| 29:B1:1244:A:C6 | 29:B1:1248:C:H1' | 2.50 | 0.47 |
| 29:B1:1329:U:HO2' | 29:B1:1330:A:P | 2.38 | 0.47 |
| 29:B1:1406:A:H2 | 29:B1:1407:A:C2 | 2.33 | 0.47 |
| 29:B1:1416:C:O2 | 29:B1:1417:G:C4 | 2.68 | 0.47 |
| 29:B1:1428:A:C6 | 29:B1:1430:U:C4 | 3.02 | 0.47 |
| 29:B1:1555:U:H5" | 29:B1:1580:A:C2 | 2.50 | 0.47 |
| 29:B1:1564:U:H2' | 29:B1:1565:G:O4' | 2.14 | 0.47 |
| 29:B1:1687:U:H2' | 29:B1:1688:U:O2' | 2.14 | 0.47 |
| 29:B1:1693:C:O2 | 29:B1:1773:C:C5 | 2.68 | 0.47 |
| 29:B1:1884:A:N3 | 29:B1:1885:U:O2 | 2.48 | 0.47 |
| 29:B1:2149:A:C2' | 29:B1:2150:G:O5' | 2.63 | 0.47 |
| 29:B1:2249:G:C1' | 29:B1:2272:G:C8 | 2.97 | 0.47 |
| 29:B1:2316:G:N1 | 29:B1:2317:A:C5 | 2.83 | 0.47 |
| 29:B1:2628:A:O4' | 29:B1:2798:C:C5 | 2.67 | 0.47 |
| 29:B1:2642:A:N3 | 29:B1:2642:A:H2' | 2.30 | 0.47 |
| 29:B1:2923:U:H2' | 29:B1:2924:U:C6 | 2.49 | 0.47 |
| 29:B1:2966:G:C6 | 29:B1:2967:A:C6 | 3.03 | 0.47 |
| 29:B1:2986:U:C2 | 29:B1:2987:A:C8 | 3.03 | 0.47 |
| 29:B1:3000:A:C2 | 29:B1:3001:C:C5 | 3.03 | 0.47 |
| 29:B1:3026:G:C2 | 29:B1:3030:G:O6 | 2.67 | 0.47 |
| 29:B1:3086:A:C2' | 29:B1:3087:A:H8 | 2.27 | 0.47 |
| 29:B1:3211:C:O2' | 29:B1:3212:C:O5' | 2.33 | 0.47 |
| 29:B1:3327:G:N1 | 29:B1:3379:C:C4 | 2.82 | 0.47 |
| 30:B2:27:A:H3' | 30:B2:28:C:H6 | 1.80 | 0.47 |
| 30:B2:56:A:O2' | 42:BK:149:GLY:N | 2.48 | 0.47 |
| 30:B2:60:G:C2 | 30:B2:61:G:C8 | 3.03 | 0.47 |
| 30:B2:75:G:P | 74:B2:201:OHX:N6 | 2.88 | 0.47 |
| 31:B3:17:A:H2' | 31:B3:18:U:C6 | 2.41 | 0.47 |
| 31:B3:41:A:C5' | 31:B3:42:G:OP2 | 2.63 | 0.47 |
| 31:B3:56:G:C4 | 31:B3:57:C:C6 | 3.03 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:B3:78:G:H5' | 60:Be:31:THR:CB | 2.44 | 0.47 |
| 31:B3:95:G:C5' | 59:Bd:72:ARG:HA | 2.45 | 0.47 |
| 31:B3:138:A:C2 | 31:B3:139:U:N1 | 2.81 | 0.47 |
| 36:BE:80:SER:C | 36:BE:82:GLU:H | 2.22 | 0.47 |
| 36:BE:150:LEU:O | 36:BE:151:GLN:C | 2.57 | 0.47 |
| 37:BF:64:LEU:HA | 37:BF:78:ARG:HA | 1.97 | 0.47 |
| 40:BI:44:THR:O | 40:BI:45:PHE:C | 2.55 | 0.47 |
| 40:BI:174:LYS:O | 40:BI:176:LEU:N | 2.48 | 0.47 |
| 42:BK:55:ARG:O | 42:BK:56:THR:C | 2.58 | 0.47 |
| 43:BN:58:ILE:CB | 43:BN:59:ASN:CB | 2.92 | 0.47 |
| 45:BP:154:ALA:O | 45:BP:157:GLU:CB | 2.63 | 0.47 |
| 47:BR:77:ALA:C | 47:BR:79:LYS:N | 2.66 | 0.47 |
| 47:BR:108:ALA:O | 47:BR:110:ALA:N | 2.48 | 0.47 |
| 52:BW:132:ALA:C | 52:BW:134:ASP:N | 2.72 | 0.47 |
| 59:Bd:22:CYS:CB | 74:Bd:101:OHX:N1 | 2.77 | 0.47 |
| 59:Bd:68:LYS:C | 59:Bd:70:VAL:N | 2.71 | 0.47 |
| 67:Bm:8:UNK:O | 67:Bm:10:UNK:N | 2.48 | 0.47 |
| 1:C1:20:G:H4' | 1:C1:571:G:N1 | 2.30 | 0.47 |
| 1:C1:125:U:C4' | 1:C1:126:A:OP1 | 2.63 | 0.47 |
| 1:C1:217:A:C1' | 1:C1:218:A:P | 3.03 | 0.47 |
| 1:C1:333:A:C2 | 1:C1:334:G:N3 | 2.83 | 0.47 |
| 1:C1:387:A:C2 | 1:C1:426:G:OP2 | 2.68 | 0.47 |
| 1:C1:391:A:H4' | 1:C1:1730:A:H4' | 1.96 | 0.47 |
| 1:C1:492:A:C6 | 1:C1:494:U:H5" | 2.50 | 0.47 |
| 1:C1:747:C:C4 | 1:C1:748:U:C4 | 3.03 | 0.47 |
| 1:C1:865:A:N1 | 1:C1:965:U:O4 | 2.48 | 0.47 |
| 1:C1:1131:A:C2 | 1:C1:1132:A:C4 | 3.03 | 0.47 |
| 1:C1:1437:U:O2 | 1:C1:1437:U:H2' | 2.15 | 0.47 |
| 1:C1:1475:A:C4 | 1:C1:1476:C:C6 | 3.02 | 0.47 |
| 1:C1:1478:G:C2 | 1:C1:1479:A:C4 | 3.02 | 0.47 |
| 1:C1:1520:U:O4 | 74:C1:1930:OHX:N3 | 2.47 | 0.47 |
| 1:C1:1691:A:N6 | 1:C1:1713:G:C2 | 2.83 | 0.47 |
| 1:C1:1736:G:O2' | 1:C1:1737:G:H5' | 2.15 | 0.47 |
| 1:C1:1753:A:N6 | 1:C1:1754:A:C6 | 2.73 | 0.47 |
| 1:C1:1791:A:O2' | 1:C1:1793:G:C5' | 2.55 | 0.47 |
| 2:CA:42:PRO:O | 2:CA:43:ASP:C | 2.57 | 0.47 |
| 2:CA:65:ALA:O | 2:CA:67:ILE:N | 2.48 | 0.47 |
| 2:CA:90:ALA:HB1 | 2:CA:95:ALA:O | 2.15 | 0.47 |
| 3:CB:107:SER:CA | 3:CB:190:LEU:O | 2.63 | 0.47 |
| 4:CC:57:ASP:C | 4:CC:59:LEU:N | 2.73 | 0.47 |
| 4:CC:133:GLY:HA3 | 4:CC:155:GLY:HA3 | 1.97 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:CC:156:PHE:O | 4:CC:157:LEU:CB | 2.62 | 0.47 |
| 9:CH:21:ALA:CB | 9:CH:26:THR:HA | 2.44 | 0.47 |
| 10:CI:17:TYR:CB | 10:CI:18:ARG:CA | 2.92 | 0.47 |
| 13:CL:44:ASN:O | 13:CL:45:LEU:C | 2.58 | 0.47 |
| 14:CM:15:ILE:O | 14:CM:17:ALA:N | 2.48 | 0.47 |
| 15:CN:119:ALA:HB1 | 15:CN:120:SER:CA | 2.44 | 0.47 |
| 20:CS:21:CYS:O | 20:CS:22:ARG:C | 2.58 | 0.47 |
| 21:CT:95:ALA:C | 21:CT:97:GLY:N | 2.73 | 0.47 |
| 29:D1:72:C:C3' | 29:D1:73:C:C5' | 2.82 | 0.47 |
| 29:D1:83:U:H2' | 29:D1:84:U:C5' | 2.45 | 0.47 |
| 29:D1:208:C:H2' | 29:D1:209:A:O5' | 2.14 | 0.47 |
| 29:D1:319:A:H1' | 44:DO:50:ARG:O | 2.15 | 0.47 |
| 29:D1:559:A:HO2' | 29:D1:560:G:P | 2.38 | 0.47 |
| 29:D1:565:U:C6 | 29:D1:565:U:OP2 | 2.67 | 0.47 |
| 29:D1:761:A:N6 | 29:D1:770:G:H22 | 2.13 | 0.47 |
| 29:D1:876:A:O2' | 29:D1:877:C:H5' | 2.15 | 0.47 |
| 29:D1:878:G:H2' | 29:D1:2980:U:HO2' | 1.80 | 0.47 |
| 29:D1:944:C:OP1 | 29:D1:1432:C:H5' | 2.15 | 0.47 |
| 29:D1:974:G:C6 | 29:D1:975:C:C5 | 3.03 | 0.47 |
| 29:D1:1202:A:C6 | 29:D1:1301:A:C4 | 3.03 | 0.47 |
| 29:D1:1276:U:C2 | 29:D1:1277:C:C5 | 3.03 | 0.47 |
| 29:D1:1397:C:C4 | 29:D1:1398:U:O4 | 2.68 | 0.47 |
| 29:D1:1560:G:C6 | 29:D1:1579:C:C2 | 3.01 | 0.47 |
| 29:D1:1573:G:H3' | 29:D1:1574:C:C6 | 2.49 | 0.47 |
| 29:D1:1913:A:C2 | 29:D1:2120:A:C8 | 3.03 | 0.47 |
| 29:D1:1921:A:N7 | 29:D1:1932:A:C5 | 2.83 | 0.47 |
| 29:D1:2179:C:O2 | 33:DB:129:ALA:CB | 2.63 | 0.47 |
| 29:D1:2310:U:O2' | 29:D1:2311:G:H5' | 2.15 | 0.47 |
| 29:D1:2342:U:O2' | 29:D1:2343:C:C5' | 2.63 | 0.47 |
| 29:D1:2680:A:C6 | 42:DK:55:ARG:C | 2.93 | 0.47 |
| 29:D1:2680:A:H3' | 29:D1:2680:A:H8 | 1.78 | 0.47 |
| 29:D1:2720:G:C4 | 29:D1:2721:A:C8 | 3.03 | 0.47 |
| 29:D1:2773:C:N3 | 29:D1:2774:C:C5 | 2.83 | 0.47 |
| 29:D1:2837:A:H2' | 29:D1:2845:A:C6 | 2.48 | 0.47 |
| 30:D2:26:C:C6 | 30:D2:26:C:O5' | 2.67 | 0.47 |
| 30:D2:36:C:H42 | 30:D2:42:A:H61 | 1.63 | 0.47 |
| 30:D2:72:A:C4 | 30:D2:73:C:C5 | 3.03 | 0.47 |
| 30:D2:94:C:H2' | 30:D2:95:A:C8 | 2.45 | 0.47 |
| 31:D3:9:A:H3' | 31:D3:10:A:H8 | 1.79 | 0.47 |
| 31:D3:69:U:OP2 | 74:D3:209:OHX:N3 | 2.48 | 0.47 |
| 31:D3:74:U:H1' | 31:D3:89:A:C5 | 2.49 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:D3:77:A:H62 | 53:DX:72:SER:C | 2.23 | 0.47 |
| 31:D3:92:A:H2' | 31:D3:93:U:C5' | 2.42 | 0.47 |
| 33:DB:15:ILE:O | 33:DB:16:PHE:CB | 2.63 | 0.47 |
| 35:DD:98:ARG:C | 35:DD:99:MET:O | 2.57 | 0.47 |
| 35:DD:190:GLY:C | 35:DD:192:GLY:H | 2.23 | 0.47 |
| 40:DI:55:VAL:O | 40:DI:56:ALA:HB3 | 2.15 | 0.47 |
| 42:DK:39:GLN:C | 42:DK:41:SER:H | 2.21 | 0.47 |
| 72:DL:16:ARG:O | 72:DL:17:ALA:CB | 2.62 | 0.47 |
| 72:DL:63:LYS:H | 72:DL:70:ALA:HB3 | 1.79 | 0.47 |
| 45:DP:47:PHE:O | 45:DP:49:ARG:N | 2.48 | 0.47 |
| 45:DP:84:LEU:O | 45:DP:87:MET:N | 2.48 | 0.47 |
| 46:DQ:28:ASN:O | 46:DQ:29:THR:C | 2.54 | 0.47 |
| 46:DQ:128:ARG:CA | 46:DQ:138:LYS:HA | 2.43 | 0.47 |
| 48:DS:8:LYS:O | 48:DS:9:ARG:C | 2.58 | 0.47 |
| 54:DY:72:VAL:C | 54:DY:74:ASN:N | 2.69 | 0.47 |
| 1:A1:184:C:N4 | 1:A1:202:A:N1 | 2.62 | 0.47 |
| 1:A1:198:A:C2 | 1:A1:199:G:N3 | 2.83 | 0.47 |
| 1:A1:206:A:H2' | 1:A1:207:U:O4' | 2.15 | 0.47 |
| 1:A1:557:G:OP1 | 1:A1:558:U:O4' | 2.33 | 0.47 |
| 1:A1:635:A:C4 | 1:A1:863:A:C5 | 3.03 | 0.47 |
| 1:A1:863:A:O2' | 1:A1:865:A:H5" | 2.15 | 0.47 |
| 1:A1:1109:G:C5 | 1:A1:1137:A:N6 | 2.83 | 0.47 |
| 1:A1:1218:G:C6 | 1:A1:1444:A:H8 | 2.33 | 0.47 |
| 1:A1:1320:U:O2 | 1:A1:1322:A:H5' | 2.15 | 0.47 |
| 1:A1:1330:G:C5 | 1:A1:1331:A:N7 | 2.83 | 0.47 |
| 1:A1:1511:U:H2' | 1:A1:1512:G:H8 | 1.77 | 0.47 |
| 1:A1:1585:U:H5 | 1:A1:1610:G:N2 | 2.12 | 0.47 |
| 1:A1:1631:A:N3 | 1:A1:1632:C:H1' | 2.30 | 0.47 |
| 1:A1:1705:C:H3' | 1:A1:1706:C:H5' | 1.97 | 0.47 |
| 1:A1:1786:G:H2' | 1:A1:1787:C:H6 | 1.78 | 0.47 |
| 2:AA:13:ASP:C | 2:AA:17:LEU:C | 2.83 | 0.47 |
| 3:AB:82:ASN:O | 3:AB:100:ALA:HB1 | 2.15 | 0.47 |
| 3:AB:206:THR:O | 3:AB:207:LEU:C | 2.57 | 0.47 |
| 5:AD:166:ARG:O | 5:AD:169:ASN:N | 2.48 | 0.47 |
| 14:AM:29:GLU:O | 14:AM:30:VAL:C | 2.58 | 0.47 |
| 16:AO:23:ARG:O | 16:AO:24:GLN:O | 2.32 | 0.47 |
| 29:B1:9:U:N3 | 29:B1:10:C:C6 | 2.83 | 0.47 |
| 29:B1:92:G:N7 | 29:B1:94:G:C2 | 2.83 | 0.47 |
| 29:B1:184:U:H2' | 29:B1:185:C:H6 | 1.80 | 0.47 |
| 29:B1:264:G:H3' | 29:B1:265:A:N7 | 2.27 | 0.47 |
| 29:B1:350:C:N3 | 29:B1:367:A:H2' | 2.29 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:384:A:C4 | 29:B1:1465:A:C6 | 3.03 | 0.47 |
| 29:B1:407:A:C8 | 29:B1:407:A:O5' | 2.68 | 0.47 |
| 29:B1:428:A:H3' | 29:B1:428:A:C8 | 2.50 | 0.47 |
| 29:B1:560:G:H2' | 29:B1:561:C:C6 | 2.47 | 0.47 |
| 29:B1:561:C:H2' | 29:B1:562:C:C5 | 2.50 | 0.47 |
| 29:B1:617:G:C2' | 29:B1:618:C:O5' | 2.62 | 0.47 |
| 29:B1:652:G:C2 | 29:B1:2361:A:O4' | 2.68 | 0.47 |
| 29:B1:776:U:C5 | 29:B1:777:U:H1' | 2.50 | 0.47 |
| 29:B1:821:U:H2' | 29:B1:822:G:H5' | 1.96 | 0.47 |
| 29:B1:908:G:C8 | 29:B1:925:A:C4 | 3.03 | 0.47 |
| 29:B1:950:G:O5' | 29:B1:950:G:C8 | 2.66 | 0.47 |
| 29:B1:967:A:H2' | 29:B1:967:A:N3 | 2.30 | 0.47 |
| 29:B1:976:U:C4 | 29:B1:977:C:N4 | 2.82 | 0.47 |
| 29:B1:1106:G:C6 | 29:B1:1107:C:C4 | 3.03 | 0.47 |
| 29:B1:1230:G:OP1 | 29:B1:1275:C:H5' | 2.15 | 0.47 |
| 29:B1:1266:G:H2' | 29:B1:1267:U:H5' | 1.96 | 0.47 |
| 29:B1:1358:C:O2 | 29:B1:1358:C:C2' | 2.60 | 0.47 |
| 29:B1:1359:C:O2 | 29:B1:1359:C:C2' | 2.63 | 0.47 |
| 29:B1:1414:G:H2' | 29:B1:1415:U:C6 | 2.49 | 0.47 |
| 29:B1:1506:A:N6 | 29:B1:1513:G:C6 | 2.83 | 0.47 |
| 29:B1:1519:G:C2 | 29:B1:1520:G:C8 | 3.03 | 0.47 |
| 29:B1:1535:A:H3' | 29:B1:1536:G:O4' | 2.15 | 0.47 |
| 29:B1:1793:C:C2 | 33:BB:173:GLY:O | 2.68 | 0.47 |
| 29:B1:1953:G:N2 | 29:B1:2092:A:C5 | 2.83 | 0.47 |
| 29:B1:2141:U:H6 | 29:B1:2141:U:H2' | 1.45 | 0.47 |
| 29:B1:2253:G:H3' | 29:B1:2254:U:H6 | 1.74 | 0.47 |
| 29:B1:2282:U:H5' | 29:B1:2282:U:H6 | 1.80 | 0.47 |
| 29:B1:2357:A:O2' | 29:B1:2358:A:H5' | 2.15 | 0.47 |
| 29:B1:2361:A:N7 | 29:B1:2362:C:C5 | 2.83 | 0.47 |
| 29:B1:2362:C:H2' | 29:B1:2363:A:O4' | 2.14 | 0.47 |
| 29:B1:2367:A:C6 | 29:B1:2381:G:N1 | 2.83 | 0.47 |
| 29:B1:2594:C:H2' | 29:B1:2595:A:H8 | 1.72 | 0.47 |
| 29:B1:2631:U:C2 | 29:B1:2648:G:N2 | 2.83 | 0.47 |
| 29:B1:2639:G:N3 | 29:B1:2640:A:C8 | 2.83 | 0.47 |
| 29:B1:2707:C:O2' | 29:B1:2708:C:C5' | 2.63 | 0.47 |
| 29:B1:2750:U:H2' | 29:B1:2751:G:C8 | 2.49 | 0.47 |
| 29:B1:2788:C:H2' | 29:B1:2789:U:H6 | 1.79 | 0.47 |
| 29:B1:2896:A:H2' | 29:B1:2897:A:H5" | 1.96 | 0.47 |
| 29:B1:2898:G:OP2 | 29:B1:2899:C:H5' | 2.15 | 0.47 |
| 29:B1:3036:G:C2 | 29:B1:3037:U:C6 | 3.03 | 0.47 |
| 29:B1:3040:A:C2' | 29:B1:3041:U:H5' | 2.45 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3049:A:C5' | 29:B1:3050:U:OP2 | 2.63 | 0.47 |
| 29:B1:3214:U:O2' | 29:B1:3218:A:OP2 | 2.21 | 0.47 |
| 29:B1:3320:A:C4 | 29:B1:3321:C:C4 | 3.03 | 0.47 |
| 29:B1:3324:C:C2 | 29:B1:3325:G:C8 | 3.02 | 0.47 |
| 29:B1:3345:G:H8 | 29:B1:3345:G:O5' | 1.98 | 0.47 |
| 30:B2:22:A:C2' | 30:B2:23:A:O5' | 2.63 | 0.47 |
| 31:B3:8:C:C2 | 31:B3:9:A:C8 | 3.03 | 0.47 |
| 31:B3:91:C:O5' | 31:B3:91:C:H6 | 1.98 | 0.47 |
| 31:B3:108:C:H2' | 31:B3:109:A:O5' | 2.15 | 0.47 |
| 33:BB:78:ALA:HA | 33:BB:168:VAL:HA | 1.95 | 0.47 |
| 34:BC:261:MET:HA | 34:BC:263:SER:O | 2.15 | 0.47 |
| 34:BC:291:GLU:O | 34:BC:292:ALA:C | 2.58 | 0.47 |
| 35:BD:10:SER:CA | 35:BD:17:ALA:H | 2.26 | 0.47 |
| 35:BD:15:ALA:O | 35:BD:16:THR:O | 2.32 | 0.47 |
| 35:BD:190:GLY:C | 35:BD:192:GLY:N | 2.72 | 0.47 |
| 36:BE:289:LYS:C | 36:BE:291:ALA:N | 2.72 | 0.47 |
| 37:BF:157:GLN:C | 37:BF:159:LEU:N | 2.65 | 0.47 |
| 38:BG:84:VAL:O | 38:BG:86:VAL:N | 2.47 | 0.47 |
| 39:BH:185:ARG:O | 39:BH:188:THR:N | 2.47 | 0.47 |
| 41:BJ:151:GLY:O | 41:BJ:152:LEU:C | 2.58 | 0.47 |
| 43:BN:11:ASN:CB | 43:BN:64:VAL:HA | 2.44 | 0.47 |
| 47:BR:63:SER:O | 47:BR:66:ARG:N | 2.48 | 0.47 |
| 47:BR:99:THR:O | 47:BR:119:GLY:HA3 | 2.15 | 0.47 |
| 49:BT:77:ASN:CA | 49:BT:87:LYS:O | 2.61 | 0.47 |
| 55:BZ:76:GLU:O | 55:BZ:78:GLY:N | 2.47 | 0.47 |
| 56:Ba:14:ILE:CB | 56:Ba:71:LEU:N | 2.78 | 0.47 |
| 59:Bd:59:THR:C | 59:Bd:61:THR:N | 2.60 | 0.47 |
| 1:C1:133:U:H2' | 1:C1:133:U:O2 | 2.13 | 0.47 |
| 1:C1:225:A:C2 | 1:C1:226:A:C4 | 3.03 | 0.47 |
| 1:C1:403:G:H8 | 1:C1:403:G:O5' | 1.98 | 0.47 |
| 1:C1:578:U:H5" | 1:C1:578:U:H6 | 1.79 | 0.47 |
| 1:C1:647:G:H4' | 1:C1:647:G:OP1 | 2.15 | 0.47 |
| 1:C1:716:C:N4 | 1:C1:723:G:C5 | 2.84 | 0.47 |
| 1:C1:772:G:C5 | 1:C1:773:C:N4 | 2.83 | 0.47 |
| 1:C1:1015:U:H5" | 1:C1:1016:C:OP2 | 2.15 | 0.47 |
| 1:C1:1133:A:C2 | 1:C1:1134:C:H1' | 2.50 | 0.47 |
| 1:C1:1203:A:C5 | 1:C1:1555:A:N1 | 2.83 | 0.47 |
| 1:C1:1219:A:C5' | 1:C1:1220:C:C5 | 2.89 | 0.47 |
| 1:C1:1239:U:C5 | 1:C1:1241:G:C5 | 3.02 | 0.47 |
| 1:C1:1392:U:C6 | 1:C1:1392:U:C5' | 2.98 | 0.47 |
| 1:C1:1455:G:C2 | 1:C1:1456:C:O2 | 2.67 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1470:C:OP1 | 1:C1:1471:A:H1' | 2.15 | 0.47 |
| 1:C1:1520:U:C4 | 74:C1:1930:OHX:N4 | 2.83 | 0.47 |
| 1:C1:1612:U:C3' | 1:C1:1613:U:H5" | 2.45 | 0.47 |
| 1:C1:1684:U:C4 | 1:C1:1721:A:C2 | 2.97 | 0.47 |
| 1:C1:1778:G:C2 | 1:C1:1779:U:C6 | 3.03 | 0.47 |
| 3:CB:55:GLU:O | 3:CB:56:ILE:C | 2.57 | 0.47 |
| 8:CG:69:ASN:O | 8:CG:70:LYS:C | 2.58 | 0.47 |
| 21:CT:267:PRO:C | 21:CT:269:TYR:N | 2.73 | 0.47 |
| 23:Cb:47:UNK:O | 23:Cb:51:UNK:N | 2.48 | 0.47 |
| 23:Cb:75:UNK:O | 23:Cb:77:UNK:N | 2.48 | 0.47 |
| 25:Cd:103:UNK:O | 25:Cd:104:UNK:C | 2.63 | 0.47 |
| 29:D1:107:A:C2 | 29:D1:108:A:C4 | 3.02 | 0.47 |
| 29:D1:155:G:O4' | 29:D1:156:G:O5' | 2.33 | 0.47 |
| 29:D1:191:U:H2' | 29:D1:192:C:H6 | 1.80 | 0.47 |
| 29:D1:197:G:OP1 | 29:D1:197:G:H8 | 1.98 | 0.47 |
| 29:D1:222:A:C5 | 29:D1:223:U:C4 | 3.03 | 0.47 |
| 29:D1:266:A:O2' | 29:D1:267:G:OP2 | 2.28 | 0.47 |
| 29:D1:347:G:C2 | 29:D1:353:G:N7 | 2.82 | 0.47 |
| 29:D1:353:G:OP1 | 29:D1:353:G:H4' | 2.14 | 0.47 |
| 29:D1:397:A:N6 | 29:D1:400:G:N1 | 2.63 | 0.47 |
| 29:D1:520:U:H1' | 29:D1:521:A:OP2 | 2.15 | 0.47 |
| 29:D1:607:A:N6 | 29:D1:608:A:C6 | 2.83 | 0.47 |
| 29:D1:808:A:C6 | 29:D1:809:G:C5 | 3.03 | 0.47 |
| 29:D1:992:A:C6 | 29:D1:993:G:N7 | 2.82 | 0.47 |
| 29:D1:1119:C:H1' | 29:D1:1154:A:C2 | 2.50 | 0.47 |
| 29:D1:1172:G:H2' | 29:D1:1173:U:O5' | 2.15 | 0.47 |
| 29:D1:1225:A:C2' | 29:D1:1225:A:N3 | 2.78 | 0.47 |
| 29:D1:1347:U:C3' | 29:D1:1348:U:C5 | 2.98 | 0.47 |
| 29:D1:1468:A:O2' | 29:D1:1469:C:H5' | 2.15 | 0.47 |
| 29:D1:1654:A:HO2' | 29:D1:1655:G:P | 2.38 | 0.47 |
| 29:D1:1658:G:C2 | 29:D1:1796:G:O6 | 2.67 | 0.47 |
| 29:D1:1730:G:O6 | 55:DZ:26:GLY:HA2 | 2.15 | 0.47 |
| 29:D1:1768:U:C2 | 29:D1:1769:G:C8 | 3.03 | 0.47 |
| 29:D1:2112:U:C1' | 29:D1:2113:A:P | 3.03 | 0.47 |
| 29:D1:2299:A:C4 | 29:D1:2300:G:H8 | 2.33 | 0.47 |
| 29:D1:2386:A:C5 | 29:D1:2994:A:C2 | 3.02 | 0.47 |
| 29:D1:2419:A:C5 | 29:D1:2804:A:N7 | 2.82 | 0.47 |
| 29:D1:2628:A:C6 | 29:D1:2629:U:C6 | 3.03 | 0.47 |
| 29:D1:2730:G:C5 | 29:D1:2731:U:C5 | 3.02 | 0.47 |
| 29:D1:2882:U:H2' | 29:D1:2883:U:H5' | 1.96 | 0.47 |
| 29:D1:2902:A:H5" | 29:D1:3032:A:O2' | 2.15 | 0.47 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2992:U:C6 | 29:D1:2992:U:C3' | 2.98 | 0.47 |
| 29:D1:3050:U:H5" | 29:D1:3051:U:OP2 | 2.15 | 0.47 |
| 29:D1:3055:U:O3' | 29:D1:3056:U:C6 | 2.68 | 0.47 |
| 29:D1:3137:C:H3' | 29:D1:3138:U:C6 | 2.50 | 0.47 |
| 29:D1:3284:G:C4 | 29:D1:3285:C:C5 | 3.03 | 0.47 |
| 30:D2:22:A:H2' | 30:D2:23:A:O5' | 2.15 | 0.47 |
| 30:D2:77:G:C1' | 30:D2:78:U:OP2 | 2.61 | 0.47 |
| 31:D3:7:U:C4 | 31:D3:8:C:N4 | 2.83 | 0.47 |
| 35:DD:193:LYS:C | 35:DD:195:ARG:N | 2.72 | 0.47 |
| 38:DG:193:PRO:O | 38:DG:195:PHE:N | 2.48 | 0.47 |
| 43:DN:84:LYS:O | 43:DN:86:ALA:N | 2.46 | 0.47 |
| 45:DP:166:GLU:O | 45:DP:169:ALA:N | 2.47 | 0.47 |
| 48:DS:12:ALA:C | 48:DS:14:VAL:N | 2.71 | 0.47 |
| 51:DV:21:PHE:O | 51:DV:22:VAL:CB | 2.61 | 0.47 |
| 56:Da:14:ILE:H | 56:Da:72:ARG:N | 2.05 | 0.47 |
| 56:Da:84:ASP:O | 56:Da:85:ALA:CB | 2.62 | 0.47 |
| 57:Db:31:ASN:C | 57:Db:33:ARG:H | 2.22 | 0.47 |
| 58:Dc:32:LYS:C | 58:Dc:34:GLN:H | 2.23 | 0.47 |
| 58:Dc:52:ALA:O | 58:Dc:55:LEU:N | 2.48 | 0.47 |
| 1:A1:42:G:C8 | 1:A1:437:A:H3' | 2.51 | 0.46 |
| 1:A1:98:U:C2 | 1:A1:99:C:C5 | 3.03 | 0.46 |
| 1:A1:373:G:H2' | 1:A1:374:U:H6 | 1.80 | 0.46 |
| 1:A1:451:A:N3 | 1:A1:451:A:H2' | 2.29 | 0.46 |
| 1:A1:589:C:C2 | 1:A1:590:C:C5 | 3.03 | 0.46 |
| 1:A1:590:C:O2' | 1:A1:591:A:H5' | 2.15 | 0.46 |
| 1:A1:830:U:O2 | 1:A1:830:U:C2' | 2.62 | 0.46 |
| 1:A1:839:U:O2 | 1:A1:839:U:O4' | 2.34 | 0.46 |
| 1:A1:959:U:C1' | 1:A1:960:U:OP1 | 2.63 | 0.46 |
| 1:A1:1076:A:N7 | 1:A1:1077:C:C5 | 2.84 | 0.46 |
| 1:A1:1117:U:C2 | 1:A1:1118:G:C8 | 3.03 | 0.46 |
| 1:A1:1308:G:C6 | 1:A1:1309:C:C4 | 3.04 | 0.46 |
| 1:A1:1383:G:O6 | 1:A1:1384:A:N6 | 2.49 | 0.46 |
| 1:A1:1448:G:O2' | 1:A1:1449:U:H5' | 2.15 | 0.46 |
| 1:A1:1575:G:N3 | 1:A1:1575:G:C2' | 2.64 | 0.46 |
| 1:A1:1590:G:N3 | 1:A1:1591:C:C5 | 2.84 | 0.46 |
| 1:A1:1660:A:C6 | 1:A1:1661:U:C4 | 3.03 | 0.46 |
| 1:A1:1718:G:N1 | 1:A1:1719:A:N7 | 2.63 | 0.46 |
| 2:AA:175:TYR:C | 2:AA:177:LEU:N | 2.71 | 0.46 |
| 3:AB:62:PRO:HA | 3:AB:63:VAL:CB | 2.45 | 0.46 |
| 3:AB:134:LEU:O | 3:AB:136:VAL:N | 2.48 | 0.46 |
| 4:AC:166:ASP:O | 4:AC:167:PHE:CB | 2.63 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AD:117:THR:O | 5:AD:121:ILE:CB | 2.63 | 0.46 |
| 10:AI:115:TYR:O | 10:AI:116:LEU:C | 2.57 | 0.46 |
| 13:AL:35:ILE:O | 13:AL:36:LYS:C | 2.58 | 0.46 |
| 13:AL:121:ALA:C | 13:AL:123:ARG:N | 2.73 | 0.46 |
| 14:AM:27:LYS:O | 14:AM:29:GLU:N | 2.41 | 0.46 |
| 18:AQ:66:VAL:C | 18:AQ:68:ARG:N | 2.72 | 0.46 |
| 19:AR:33:LEU:O | 19:AR:34:GLU:CB | 2.62 | 0.46 |
| 21:AT:27:ALA:HB2 | 21:AT:296:ALA:CB | 2.44 | 0.46 |
| 21:AT:128:ASP:O | 21:AT:129:LYS:CB | 2.63 | 0.46 |
| 21:AT:282:SER:O | 21:AT:284:ALA:N | 2.38 | 0.46 |
| 29:B1:3:U:O2' | 29:B1:4:U:H5' | 2.16 | 0.46 |
| 29:B1:5:G:O6 | 29:B1:6:A:C6 | 2.68 | 0.46 |
| 29:B1:114:A:OP2 | 29:B1:154:U:O4 | 2.33 | 0.46 |
| 29:B1:179:C:H2' | 29:B1:179:C:O2 | 2.15 | 0.46 |
| 29:B1:183:G:C6 | 29:B1:234:G:C6 | 3.02 | 0.46 |
| 29:B1:304:G:O2' | 54:BY:61:PHE:CB | 2.63 | 0.46 |
| 29:B1:317:A:N3 | 29:B1:317:A:H2' | 2.29 | 0.46 |
| 29:B1:349:A:H2 | 31:B3:24:G:C5 | 2.33 | 0.46 |
| 29:B1:438:A:O2' | 29:B1:494:G:C1' | 2.63 | 0.46 |
| 29:B1:510:G:C2 | 29:B1:511:G:H1' | 2.50 | 0.46 |
| 29:B1:510:G:C2' | 29:B1:511:G:O5' | 2.63 | 0.46 |
| 29:B1:547:G:C2' | 29:B1:548:G:H5' | 2.45 | 0.46 |
| 29:B1:712:G:H2' | 29:B1:713:U:H6 | 1.79 | 0.46 |
| 29:B1:743:C:C2' | 29:B1:744:A:C5' | 2.79 | 0.46 |
| 29:B1:747:A:C5 | 29:B1:748:U:H5 | 2.32 | 0.46 |
| 29:B1:782:U:O4 | 74:B1:3483:OHX:N5 | 2.49 | 0.46 |
| 29:B1:917:A:H5' | 29:B1:918:C:OP2 | 2.15 | 0.46 |
| 29:B1:1076:C:H3' | 29:B1:1077:U:C5 | 2.50 | 0.46 |
| 29:B1:1084:A:C5 | 29:B1:1085:A:C6 | 3.03 | 0.46 |
| 29:B1:1106:G:C6 | 29:B1:1107:C:C5 | 3.04 | 0.46 |
| 29:B1:1202:A:C6 | 29:B1:1301:A:N3 | 2.83 | 0.46 |
| 29:B1:1310:G:H5' | 29:B1:1310:G:C8 | 2.44 | 0.46 |
| 29:B1:1326:A:C5 | 29:B1:1327:C:C5 | 3.03 | 0.46 |
| 29:B1:1417:G:C8 | 29:B1:1417:G:O5' | 2.68 | 0.46 |
| 29:B1:1427:U:O2' | 29:B1:1428:A:H5' | 2.14 | 0.46 |
| 29:B1:1477:A:H2' | 29:B1:1478:C:H5" | 1.96 | 0.46 |
| 29:B1:1489:A:OP2 | 29:B1:1838:G:N1 | 2.45 | 0.46 |
| 29:B1:1542:G:C2 | 29:B1:1543:G:C8 | 3.03 | 0.46 |
| 29:B1:1604:G:C6 | 29:B1:1605:A:C6 | 3.03 | 0.46 |
| 29:B1:1745:C:H2' | 29:B1:1746:U:H6 | 1.75 | 0.46 |
| 29:B1:1797:A:C5 | 29:B1:1798:A:N7 | 2.83 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1910:A:N6 | 29:B1:1911:A:N1 | 2.62 | 0.46 |
| 29:B1:1921:A:N7 | 29:B1:1932:A:C5 | 2.83 | 0.46 |
| 29:B1:2266:U:H5" | 29:B1:2267:C:OP2 | 2.14 | 0.46 |
| 29:B1:2289:U:O2' | 29:B1:2290:C:C5' | 2.62 | 0.46 |
| 29:B1:2706:G:C4 | 29:B1:2707:C:C5 | 3.03 | 0.46 |
| 29:B1:2860:U:O2 | 29:B1:2860:U:H2' | 2.13 | 0.46 |
| 29:B1:2908:G:H2' | 29:B1:2909:U:O5' | 2.15 | 0.46 |
| 29:B1:2931:C:C2 | 29:B1:2932:U:C5 | 3.03 | 0.46 |
| 29:B1:3018:C:N4 | 29:B1:3019:U:O4 | 2.48 | 0.46 |
| 29:B1:3044:G:C2' | 29:B1:3045:G:H5' | 2.45 | 0.46 |
| 29:B1:3142:A:N3 | 74:B1:3428:OHX:N5 | 2.63 | 0.46 |
| 29:B1:3201:C:N3 | 29:B1:3202:G:N7 | 2.62 | 0.46 |
| 29:B1:3221:C:N3 | 29:B1:3222:U:H5 | 2.11 | 0.46 |
| 29:B1:3262:U:C2' | 29:B1:3263:G:H8 | 2.26 | 0.46 |
| 29:B1:3304:U:O2' | 29:B1:3305:A:C5' | 2.61 | 0.46 |
| 29:B1:3318:G:O2' | 29:B1:3319:U:OP1 | 2.31 | 0.46 |
| 31:B3:92:A:H2' | 31:B3:93:U:C5' | 2.37 | 0.46 |
| 31:B3:107:G:C2 | 31:B3:116:G:N7 | 2.83 | 0.46 |
| 31:B3:114:G:H2' | 31:B3:115:C:C5' | 2.45 | 0.46 |
| 34:BC:17:LEU:CB | 34:BC:18:PRO:HA | 2.45 | 0.46 |
| 35:BD:220:ARG:C | 35:BD:222:VAL:N | 2.73 | 0.46 |
| 37:BF:115:GLU:C | 37:BF:117:LYS:N | 2.72 | 0.46 |
| 39:BH:81:THR:O | 39:BH:83:ASP:N | 2.48 | 0.46 |
| 41:BJ:69:ARG:O | 41:BJ:70:ILE:C | 2.56 | 0.46 |
| 41:BJ:144:ASN:O | 41:BJ:145:LYS:C | 2.58 | 0.46 |
| 43:BN:71:ALA:O | 43:BN:75:GLY:N | 2.38 | 0.46 |
| 62:Bg:34:HIS:O | 62:Bg:35:ALA:HB3 | 2.14 | 0.46 |
| 63:Bh:41:UNK:C | 63:Bh:43:UNK:N | 2.72 | 0.46 |
| 1:C1:21:U:H3 | 1:C1:605:A:H2 | 1.59 | 0.46 |
| 1:C1:27:U:N3 | 1:C1:28:A:N7 | 2.62 | 0.46 |
| 1:C1:55:A:N3 | 1:C1:403:G:C6 | 2.83 | 0.46 |
| 1:C1:170:U:OP1 | 1:C1:267:U:O2' | 2.33 | 0.46 |
| 1:C1:195:G:N2 | 1:C1:196:G:C4 | 2.83 | 0.46 |
| 1:C1:270:C:H4' | 1:C1:270:C:OP1 | 2.15 | 0.46 |
| 1:C1:287:G:N1 | 1:C1:288:A:C2 | 2.83 | 0.46 |
| 1:C1:329:G:C2 | 1:C1:330:G:C8 | 3.04 | 0.46 |
| 1:C1:374:U:OP1 | 1:C1:374:U:H4' | 2.15 | 0.46 |
| 1:C1:401:A:H4' | 1:C1:402:C:OP2 | 2.14 | 0.46 |
| 1:C1:539:G:HO2' | 1:C1:542:A:H8 | 1.54 | 0.46 |
| 1:C1:568:G:N1 | 1:C1:569:C:C4 | 2.83 | 0.46 |
| 1:C1:657:U:O2' | 1:C1:661:A:N6 | 2.48 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:856:A:H2' | 1:C1:856:A:N3 | 2.30 | 0.46 |
| 1:C1:877:G:O6 | 1:C1:952:A:C6 | 2.68 | 0.46 |
| 1:C1:990:C:H2' | 1:C1:991:G:O4' | 2.14 | 0.46 |
| 1:C1:1075:C:N4 | 1:C1:1076:A:C6 | 2.83 | 0.46 |
| 1:C1:1147:A:C4 | 1:C1:1148:C:C6 | 3.03 | 0.46 |
| 1:C1:1180:C:C4 | 1:C1:1181:U:C5 | 3.03 | 0.46 |
| 1:C1:1281:G:H4' | 15:CN:75:GLY:CA | 2.45 | 0.46 |
| 1:C1:1456:C:C5' | 1:C1:1457:C:H5" | 2.41 | 0.46 |
| 1:C1:1584:G:N7 | 11:CJ:123:ARG:O | 2.48 | 0.46 |
| 1:C1:1615:C:H3' | 1:C1:1616:G:H5" | 1.96 | 0.46 |
| 1:C1:1685:G:C4 | 1:C1:1719:A:N1 | 2.83 | 0.46 |
| 1:C1:1713:G:N3 | 1:C1:1713:G:C2' | 2.77 | 0.46 |
| 1:C1:1722:A:OP1 | 1:C1:1722:A:O3' | 2.33 | 0.46 |
| 1:C1:1765:A:H2 | 1:C1:1768:G:H22 | 1.60 | 0.46 |
| 1:C1:1779:U:H4' | 1:C1:1780:G:OP1 | 2.14 | 0.46 |
| 4:CC:108:LYS:O | 4:CC:109:LEU:C | 2.59 | 0.46 |
| 5:CD:192:GLU:O | 5:CD:193:THR:C | 2.58 | 0.46 |
| 23:Cb:58:UNK:C | 23:Cb:60:UNK:N | 2.76 | 0.46 |
| 29:D1:23:A:OP1 | 59:Dd:43:LYS:CA | 2.63 | 0.46 |
| 29:D1:157:A:C2' | 29:D1:158:G:N7 | 2.79 | 0.46 |
| 29:D1:401:U:H5" | 29:D1:403:C:O2 | 2.15 | 0.46 |
| 29:D1:518:G:H3' | 29:D1:519:A:H3' | 1.97 | 0.46 |
| 29:D1:649:A:C4 | 29:D1:650:C:C5 | 3.03 | 0.46 |
| 29:D1:665:A:H2' | 29:D1:666:A:H5' | 1.96 | 0.46 |
| 29:D1:951:A:C4 | 29:D1:1369:A:N1 | 2.83 | 0.46 |
| 29:D1:964:G:C4 | 29:D1:965:A:C8 | 3.03 | 0.46 |
| 29:D1:1079:A:O4' | 36:DE:141:PRO:CB | 2.63 | 0.46 |
| 29:D1:1145:G:C4 | 29:D1:1160:C:C4 | 3.03 | 0.46 |
| 29:D1:1186:G:H2' | 29:D1:1187:C:O5' | 2.14 | 0.46 |
| 29:D1:1199:C:C2 | 74:D1:3574:OHX:N5 | 2.83 | 0.46 |
| 29:D1:1212:A:H3' | 29:D1:1213:G:C5' | 2.46 | 0.46 |
| 29:D1:1377:G:C2 | 29:D1:1378:U:C5 | 3.03 | 0.46 |
| 29:D1:1740:U:O2 | 29:D1:1741:A:N3 | 2.48 | 0.46 |
| 29:D1:1882:G:C4 | 29:D1:1883:A:C8 | 3.03 | 0.46 |
| 29:D1:2280:A:O2' | 29:D1:2281:A:P | 2.73 | 0.46 |
| 29:D1:2288:G:C2 | 29:D1:2289:U:C4 | 3.03 | 0.46 |
| 29:D1:2554:A:C2 | 33:DB:85:GLY:C | 2.93 | 0.46 |
| 29:D1:2573:G:C5 | 29:D1:2574:G:C8 | 3.03 | 0.46 |
| 29:D1:2593:A:H4' | 29:D1:2594:C:OP2 | 2.15 | 0.46 |
| 29:D1:2642:A:H2 | 29:D1:2643:A:C6 | 2.32 | 0.46 |
| 29:D1:2679:A:O4' | 29:D1:2679:A:OP2 | 2.33 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2680:A:H3' | 29:D1:2680:A:C8 | 2.50 | 0.46 |
| 29:D1:2687:G:OP1 | 74:D1:3430:OHX:N5 | 2.48 | 0.46 |
| 29:D1:2704:A:P | 74:D1:3402:OHX:N2 | 2.87 | 0.46 |
| 29:D1:2771:U:O2' | 29:D1:2772:C:OP1 | 2.30 | 0.46 |
| 29:D1:2787:G:H2' | 29:D1:2788:C:C6 | 2.50 | 0.46 |
| 29:D1:2898:G:OP2 | 29:D1:2899:C:H5' | 2.14 | 0.46 |
| 29:D1:2963:C:H2' | 29:D1:2964:G:C5' | 2.45 | 0.46 |
| 29:D1:3010:U:H2' | 29:D1:3011:A:OP1 | 2.15 | 0.46 |
| 29:D1:3018:C:N4 | 29:D1:3019:U:O4 | 2.49 | 0.46 |
| 29:D1:3030:G:C2' | 29:D1:3031:G:O5' | 2.63 | 0.46 |
| 29:D1:3046:A:C2' | 29:D1:3047:U:H5' | 2.45 | 0.46 |
| 29:D1:3079:U:O2' | 29:D1:3080:G:OP1 | 2.32 | 0.46 |
| 29:D1:3212:C:C5 | 29:D1:3213:A:C2 | 3.02 | 0.46 |
| 29:D1:3298:C:C2 | 29:D1:3299:A:C8 | 3.02 | 0.46 |
| 29:D1:3352:U:O2 | 29:D1:3352:U:C2' | 2.61 | 0.46 |
| 29:D1:3386:G:O2' | 29:D1:3387:U:O5' | 2.28 | 0.46 |
| 29:D1:3388:C:O2' | 29:D1:3389:U:C6 | 2.64 | 0.46 |
| 31:D3:17:A:H2' | 31:D3:18:U:C6 | 2.42 | 0.46 |
| 31:D3:30:C:C2' | 31:D3:31:G:O5' | 2.63 | 0.46 |
| 31:D3:80:A:H2' | 31:D3:81:U:N3 | 2.30 | 0.46 |
| 34:DC:291:GLU:O | 34:DC:292:ALA:C | 2.58 | 0.46 |
| 40:DI:85:GLY:HA3 | 40:DI:187:ILE:O | 2.15 | 0.46 |
| 45:DP:161:LYS:O | 45:DP:164:SER:CB | 2.64 | 0.46 |
| 47:DR:93:ILE:O | 47:DR:94:PHE:CB | 2.62 | 0.46 |
| 49:DT:9:SER:C | 49:DT:11:THR:H | 2.24 | 0.46 |
| 61:Df:72:LEU:O | 61:Df:82:GLN:N | 2.48 | 0.46 |
| 1:A1:74:U:O2' | 1:A1:75:U:C5' | 2.62 | 0.46 |
| 1:A1:208:U:O3' | 1:A1:209:U:O4' | 2.34 | 0.46 |
| 1:A1:217:A:C1' | 1:A1:218:A:P | 3.03 | 0.46 |
| 1:A1:224:C:O2' | 1:A1:225:A:H8 | 1.98 | 0.46 |
| 1:A1:354:C:C2' | 1:A1:355:G:H5' | 2.44 | 0.46 |
| 1:A1:381:C:O2 | 1:A1:381:C:H2' | 2.13 | 0.46 |
| 1:A1:614:C:C4 | 1:A1:615:A:N7 | 2.84 | 0.46 |
| 1:A1:620:A:H2' | 1:A1:621:A:N9 | 2.30 | 0.46 |
| 1:A1:705:U:C5 | 1:A1:706:A:N6 | 2.83 | 0.46 |
| 1:A1:716:C:H2' | 1:A1:717:C:C1' | 2.45 | 0.46 |
| 1:A1:873:U:H3 | 1:A1:874:C:N4 | 2.13 | 0.46 |
| 1:A1:900:A:C4' | 1:A1:916:U:H1' | 2.44 | 0.46 |
| 1:A1:992:A:C2 | 1:A1:1012:U:O2 | 2.62 | 0.46 |
| 1:A1:998:A:C8 | 1:A1:999:U:C5 | 3.03 | 0.46 |
| 1:A1:1051:G:N3 | 1:A1:1052:U:N3 | 2.63 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1196:A:N3 | 1:A1:1196:A:O4' | 2.48 | 0.46 |
| 1:A1:1240:U:P | 1:A1:1241:G:OP2 | 2.73 | 0.46 |
| 1:A1:1242:A:H5" | 1:A1:1243:G:OP2 | 2.14 | 0.46 |
| 1:A1:1276:U:OP1 | 4:AC:147:ALA:HB2 | 2.16 | 0.46 |
| 1:A1:1330:G:C4 | 1:A1:1331:A:N7 | 2.83 | 0.46 |
| 1:A1:1497:U:C4 | 1:A1:1511:U:O2 | 2.69 | 0.46 |
| 1:A1:1671:A:C8 | 1:A1:1731:A:N6 | 2.83 | 0.46 |
| 1:A1:1745:G:O6 | 74:A1:1972:OHX:N6 | 2.48 | 0.46 |
| 2:AA:86:VAL:O | 2:AA:87:LEU:C | 2.58 | 0.46 |
| 3:AB:231:ALA:HB1 | 3:AB:234:PRO:CB | 2.45 | 0.46 |
| 4:AC:57:ASP:C | 4:AC:59:LEU:H | 2.22 | 0.46 |
| 8:AG:114:ARG:C | 8:AG:116:ILE:N | 2.72 | 0.46 |
| 11:AJ:131:GLY:O | 11:AJ:132:LYS:C | 2.59 | 0.46 |
| 14:AM:125:SER:O | 14:AM:128:GLY:HA2 | 2.15 | 0.46 |
| 16:AO:14:ILE:O | 16:AO:15:ASN:C | 2.58 | 0.46 |
| 24:Ac:9:UNK:O | 24:Ac:10:UNK:CB | 2.62 | 0.46 |
| 26:Ae:5:UNK:O | 26:Ae:7:UNK:O | 2.33 | 0.46 |
| 29:B1:136:G:H2' | 29:B1:136:G:N3 | 2.29 | 0.46 |
| 29:B1:173:G:H2' | 29:B1:174:C:N1 | 2.28 | 0.46 |
| 29:B1:281:G:C4 | 29:B1:282:G:N7 | 2.83 | 0.46 |
| 29:B1:517:G:P | 29:B1:517:G:C3' | 3.00 | 0.46 |
| 29:B1:574:U:H6 | 29:B1:574:U:C5' | 2.27 | 0.46 |
| 29:B1:657:A:H2' | 29:B1:658:G:O5' | 2.15 | 0.46 |
| 29:B1:698:U:O4' | 29:B1:699:A:OP1 | 2.32 | 0.46 |
| 29:B1:715:A:H5" | 54:BY:114:GLY:O | 2.15 | 0.46 |
| 29:B1:747:A:C6 | 29:B1:748:U:C5 | 3.02 | 0.46 |
| 29:B1:826:G:N2 | 29:B1:1589:A:N6 | 2.60 | 0.46 |
| 29:B1:944:C:C2 | 29:B1:945:C:C5 | 3.03 | 0.46 |
| 29:B1:963:G:C8 | 29:B1:963:G:H3' | 2.50 | 0.46 |
| 29:B1:1007:U:H4' | 29:B1:1007:U:OP1 | 2.15 | 0.46 |
| 29:B1:1165:A:C2 | 29:B1:1166:G:C8 | 3.02 | 0.46 |
| 29:B1:1205:A:N1 | 29:B1:1206:G:C5 | 2.83 | 0.46 |
| 29:B1:1216:C:H5' | 29:B1:1217:A:OP2 | 2.14 | 0.46 |
| 29:B1:1217:A:C6 | 29:B1:1218:U:C4 | 3.03 | 0.46 |
| 29:B1:1281:G:C6 | 29:B1:1282:G:C8 | 3.03 | 0.46 |
| 29:B1:1397:C:C4 | 29:B1:1398:U:C4 | 3.03 | 0.46 |
| 29:B1:1449:A:C2 | 29:B1:2356:A:C5 | 3.03 | 0.46 |
| 29:B1:1509:A:N6 | 29:B1:1510:G:C2 | 2.83 | 0.46 |
| 29:B1:1520:G:N2 | 29:B1:1521:G:N3 | 2.63 | 0.46 |
| 29:B1:1558:A:H5" | 29:B1:1559:A:O4' | 2.15 | 0.46 |
| 29:B1:1768:U:C2 | 29:B1:1769:G:C8 | 3.03 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1815:U:H3' | 29:B1:1816:A:C5' | 2.45 | 0.46 |
| 29:B1:1818:U:H2' | 29:B1:1819:U:N3 | 2.29 | 0.46 |
| 29:B1:1847:A:C2 | 29:B1:1849:C:C6 | 3.04 | 0.46 |
| 29:B1:1875:G:C4 | 29:B1:1876:U:C6 | 3.03 | 0.46 |
| 29:B1:1895:A:C6 | 29:B1:2341:A:N1 | 2.83 | 0.46 |
| 29:B1:2370:G:C6 | 29:B1:2371:G:C5 | 3.03 | 0.46 |
| 29:B1:2400:G:C1' | 29:B1:2401:A:OP1 | 2.63 | 0.46 |
| 29:B1:2419:A:C5 | 29:B1:2804:A:C5 | 3.03 | 0.46 |
| 29:B1:2614:G:N3 | 29:B1:2797:C:C6 | 2.82 | 0.46 |
| 29:B1:2749:G:C8 | 29:B1:2750:U:C5 | 3.04 | 0.46 |
| 29:B1:2834:G:O2' | 29:B1:2835:U:O4' | 2.34 | 0.46 |
| 29:B1:2897:A:C6 | 29:B1:2904:U:O4 | 2.68 | 0.46 |
| 29:B1:2919:A:H3' | 29:B1:2920:U:C5' | 2.40 | 0.46 |
| 29:B1:3049:A:H5' | 29:B1:3050:U:OP2 | 2.15 | 0.46 |
| 29:B1:3086:A:N9 | 29:B1:3087:A:C8 | 2.84 | 0.46 |
| 29:B1:3102:G:O2' | 29:B1:3103:A:P | 2.73 | 0.46 |
| 29:B1:3136:G:N3 | 29:B1:3137:C:C6 | 2.82 | 0.46 |
| 29:B1:3292:A:C2' | 29:B1:3293:U:H4' | 2.46 | 0.46 |
| 29:B1:3327:G:C5 | 29:B1:3328:G:C5 | 3.03 | 0.46 |
| 30:B2:92:A:O2' | 30:B2:93:C:C4' | 2.63 | 0.46 |
| 30:B2:106:U:O2' | 30:B2:107:C:P | 2.73 | 0.46 |
| 30:B2:114:U:H3' | 30:B2:115:G:H8 | 1.79 | 0.46 |
| 32:BA:128:LEU:O | 32:BA:131:ALA:HB3 | 2.15 | 0.46 |
| 36:BE:101:THR:C | 36:BE:105:ILE:H | 2.23 | 0.46 |
| 38:BG:104:GLN:O | 38:BG:107:ARG:HA | 2.15 | 0.46 |
| 39:BH:152:LEU:HA | 39:BH:178:ALA:HB3 | 1.97 | 0.46 |
| 41:BJ:69:ARG:O | 41:BJ:70:ILE:O | 2.33 | 0.46 |
| 42:BK:107:ASP:O | 42:BK:108:GLU:O | 2.33 | 0.46 |
| 49:BT:15:PHE:O | 49:BT:16:GLN:O | 2.34 | 0.46 |
| 53:BX:36:SER:O | 53:BX:37:LYS:C | 2.58 | 0.46 |
| 54:BY:25:HIS:C | 54:BY:27:LYS:N | 2.70 | 0.46 |
| 64:Bi:3:UNK:C | 64:Bi:5:UNK:N | 2.74 | 0.46 |
| 1:C1:13:C:C4' | 3:CB:161:LYS:O | 2.63 | 0.46 |
| 1:C1:26:A:P | 1:C1:26:A:H8 | 2.39 | 0.46 |
| 1:C1:74:U:O2' | 1:C1:75:U:C5' | 2.63 | 0.46 |
| 1:C1:131:C:O2 | 1:C1:131:C:C2' | 2.57 | 0.46 |
| 1:C1:150:U:O2 | 1:C1:150:U:C2' | 2.61 | 0.46 |
| 1:C1:200:A:O2' | 1:C1:201:G:P | 2.74 | 0.46 |
| 1:C1:432:G:O2' | 1:C1:433:C:H5' | 2.16 | 0.46 |
| 1:C1:446:A:N6 | 1:C1:461:G:H21 | 2.13 | 0.46 |
| 1:C1:615:A:H2' | 1:C1:615:A:N3 | 2.30 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:818:C:N4 | 1:C1:854:U:C4 | 2.83 | 0.46 |
| 1:C1:837:G:H2' | 1:C1:838:G:C8 | 2.50 | 0.46 |
| 1:C1:838:G:O6 | 74:C1:1928:OHX:N5 | 2.49 | 0.46 |
| 1:C1:860:U:O2 | 1:C1:860:U:C2' | 2.64 | 0.46 |
| 1:C1:896:U:C5 | 1:C1:897:C:C4 | 3.03 | 0.46 |
| 1:C1:959:U:C1' | 1:C1:960:U:OP1 | 2.63 | 0.46 |
| 1:C1:1042:G:N1 | 1:C1:1043:A:C6 | 2.83 | 0.46 |
| 1:C1:1202:A:H62 | 1:C1:1456:C:H2' | 1.80 | 0.46 |
| 1:C1:1216:C:O3' | 1:C1:1217:A:H3' | 2.15 | 0.46 |
| 1:C1:1246:C:C4 | 1:C1:1247:U:C4 | 3.03 | 0.46 |
| 1:C1:1365:C:N4 | 1:C1:1366:U:C5 | 2.83 | 0.46 |
| 1:C1:1377:U:O2 | 1:C1:1378:U:H4' | 2.15 | 0.46 |
| 1:C1:1407:U:H2' | 1:C1:1408:G:O4' | 2.15 | 0.46 |
| 1:C1:1543:A:H1' | 1:C1:1569:A:C6 | 2.49 | 0.46 |
| 1:C1:1588:G:H1 | 1:C1:1608:U:H3 | 1.62 | 0.46 |
| 1:C1:1627:U:O2' | 1:C1:1628:U:H6 | 1.98 | 0.46 |
| 1:C1:1650:U:H2' | 1:C1:1650:U:O2 | 2.15 | 0.46 |
| 1:C1:1660:A:H2' | 1:C1:1661:U:O4' | 2.16 | 0.46 |
| 1:C1:1746:A:H3' | 1:C1:1747:G:C8 | 2.46 | 0.46 |
| 1:C1:1749:A:C2' | 1:C1:1750:A:O5' | 2.64 | 0.46 |
| 2:CA:80:THR:C | 2:CA:82:GLY:N | 2.73 | 0.46 |
| 2:CA:84:ARG:O | 2:CA:86:VAL:N | 2.48 | 0.46 |
| 3:CB:99:LYS:CB | 3:CB:117:THR:HA | 2.44 | 0.46 |
| 3:CB:133:LYS:C | 3:CB:135:SER:N | 2.73 | 0.46 |
| 14:CM:125:SER:O | 14:CM:128:GLY:HA2 | 2.15 | 0.46 |
| 21:CT:19:TRP:O | 21:CT:38:ARG:N | 2.33 | 0.46 |
| 22:Ca:16:UNK:O | 22:Ca:19:UNK:N | 2.49 | 0.46 |
| 29:D1:3:U:O4 | 31:D3:157:U:O4 | 2.34 | 0.46 |
| 29:D1:10:C:C5 | 31:D3:149:A:H2 | 2.26 | 0.46 |
| 29:D1:144:A:N3 | 29:D1:145:G:H1' | 2.30 | 0.46 |
| 29:D1:180:C:O2' | 29:D1:181:U:H5' | 2.14 | 0.46 |
| 29:D1:279:U:OP2 | 74:DO:301:OHX:N1 | 2.48 | 0.46 |
| 29:D1:383:G:H5' | 29:D1:385:A:OP2 | 2.15 | 0.46 |
| 29:D1:396:A:H2 | 29:D1:399:A:C4 | 2.33 | 0.46 |
| 29:D1:574:U:HO2' | 29:D1:575:G:P | 2.32 | 0.46 |
| 29:D1:597:G:C6 | 29:D1:607:A:N1 | 2.83 | 0.46 |
| 29:D1:606:C:O3' | 29:D1:607:A:O4' | 2.32 | 0.46 |
| 29:D1:642:U:H2' | 29:D1:644:G:C8 | 2.50 | 0.46 |
| 29:D1:761:A:H2' | 29:D1:761:A:N3 | 2.30 | 0.46 |
| 29:D1:903:U:O2 | 29:D1:903:U:H2' | 2.15 | 0.46 |
| 29:D1:1050:U:O2 | 29:D1:1051:U:C5 | 2.68 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1245:A:OP2 | 29:D1:1247:U:OP1 | 2.33 | 0.46 |
| 29:D1:1256:G:C6 | 29:D1:1261:G:N2 | 2.83 | 0.46 |
| 29:D1:1286:A:O4' | 29:D1:1287:A:H5' | 2.15 | 0.46 |
| 29:D1:1399:A:N1 | 31:D3:8:C:O4' | 2.48 | 0.46 |
| 29:D1:1718:G:C2' | 29:D1:1719:G:H5' | 2.46 | 0.46 |
| 29:D1:1784:G:C2' | 29:D1:1785:U:H5' | 2.45 | 0.46 |
| 29:D1:1851:G:C4 | 29:D1:1852:G:C8 | 3.03 | 0.46 |
| 29:D1:1876:U:H6 | 29:D1:1876:U:H5' | 1.81 | 0.46 |
| 29:D1:1881:A:N1 | 29:D1:2352:A:C6 | 2.84 | 0.46 |
| 29:D1:2194:G:C6 | 29:D1:2195:C:C4 | 3.03 | 0.46 |
| 29:D1:2236:G:C5 | 29:D1:2237:C:C5 | 3.03 | 0.46 |
| 29:D1:2243:A:N1 | 29:D1:2313:A:C6 | 2.83 | 0.46 |
| 29:D1:2309:A:N3 | 29:D1:2962:U:H5' | 2.30 | 0.46 |
| 29:D1:2370:G:OP2 | 74:D1:3574:OHX:N2 | 2.49 | 0.46 |
| 29:D1:2414:G:H2' | 29:D1:2415:C:C6 | 2.49 | 0.46 |
| 29:D1:2827:U:O4 | 74:D1:3406:OHX:N6 | 2.47 | 0.46 |
| 29:D1:3110:C:H2' | 29:D1:3111:U:O4' | 2.15 | 0.46 |
| 29:D1:3136:G:N3 | 29:D1:3137:C:C6 | 2.83 | 0.46 |
| 29:D1:3284:G:H2' | 29:D1:3285:C:C6 | 2.50 | 0.46 |
| 29:D1:3326:G:N3 | 29:D1:3327:G:C8 | 2.82 | 0.46 |
| 29:D1:3335:A:N6 | 29:D1:3336:A:C2 | 2.84 | 0.46 |
| 30:D2:48:U:C2' | 30:D2:49:G:N7 | 2.78 | 0.46 |
| 31:D3:1:A:C2 | 31:D3:2:A:N3 | 2.83 | 0.46 |
| 31:D3:116:G:C2 | 31:D3:117:C:C6 | 3.03 | 0.46 |
| 33:DB:115:ASN:O | 33:DB:125:ALA:HB3 | 2.15 | 0.46 |
| 33:DB:225:ILE:O | 33:DB:226:SER:C | 2.55 | 0.46 |
| 34:DC:145:GLU:HA | 34:DC:149:ALA:H | 1.81 | 0.46 |
| 35:DD:190:GLY:C | 35:DD:192:GLY:N | 2.71 | 0.46 |
| 38:DG:69:ALA:O | 38:DG:72:ALA:N | 2.27 | 0.46 |
| 41:DJ:24:ARG:O | 41:DJ:25:ALA:HB2 | 2.16 | 0.46 |
| 44:DO:185:ALA:C | 44:DO:187:ARG:CA | 2.70 | 0.46 |
| 50:DU:121:GLU:O | 50:DU:123:ALA:N | 2.48 | 0.46 |
| 55:DZ:82:GLY:O | 55:DZ:84:LEU:N | 2.48 | 0.46 |
| 58:Dc:32:LYS:O | 58:Dc:34:GLN:N | 2.47 | 0.46 |
| 1:A1:104:A:C6 | 1:A1:106:U:C2 | 3.04 | 0.46 |
| 1:A1:192:U:N3 | 1:A1:195:G:O6 | 2.47 | 0.46 |
| 1:A1:235:G:OP2 | 1:A1:235:G:H8 | 1.98 | 0.46 |
| 1:A1:243:G:C4 | 1:A1:251:A:N1 | 2.83 | 0.46 |
| 1:A1:308:C:H4' | 1:A1:309:C:OP1 | 2.14 | 0.46 |
| 1:A1:365:G:O6 | 1:A1:377:G:O6 | 2.33 | 0.46 |
| 1:A1:429:G:H5" | 1:A1:439:U:C3' | 2.45 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:446:A:O2' | 1:A1:447:U:H5' | 2.15 | 0.46 |
| 1:A1:627:C:N4 | 1:A1:628:G:C6 | 2.83 | 0.46 |
| 1:A1:866:G:H2' | 1:A1:867:G:H8 | 1.81 | 0.46 |
| 1:A1:985:G:O6 | 1:A1:986:G:O6 | 2.33 | 0.46 |
| 1:A1:986:G:H8 | 1:A1:986:G:O5' | 1.98 | 0.46 |
| 1:A1:1096:C:O2 | 1:A1:1096:C:C2' | 2.63 | 0.46 |
| 1:A1:1201:G:OP2 | 1:A1:1201:G:C4 | 2.68 | 0.46 |
| 1:A1:1270:G:C6 | 1:A1:1271:G:N7 | 2.84 | 0.46 |
| 1:A1:1416:G:C6 | 1:A1:1417:A:C5 | 3.04 | 0.46 |
| 1:A1:1528:U:H2' | 1:A1:1529:C:C6 | 2.50 | 0.46 |
| 1:A1:1535:U:OP1 | 1:A1:1536:G:C5 | 2.68 | 0.46 |
| 1:A1:1654:G:C2 | 1:A1:1745:G:C4 | 3.02 | 0.46 |
| 1:A1:1673:G:C8 | 1:A1:1674:C:C5 | 3.04 | 0.46 |
| 1:A1:1682:U:O2 | 1:A1:1683:C:C4 | 2.69 | 0.46 |
| 1:A1:1691:A:N6 | 1:A1:1713:G:C2 | 2.84 | 0.46 |
| 3:AB:59:HIS:CB | 3:AB:61:LEU:H | 2.28 | 0.46 |
| 5:AD:65:ARG:CB | 5:AD:87:CYS:CB | 2.94 | 0.46 |
| 5:AD:166:ARG:O | 5:AD:167:ARG:C | 2.58 | 0.46 |
| 5:AD:185:ARG:C | 5:AD:187:ILE:H | 2.23 | 0.46 |
| 9:AH:57:PRO:CB | 9:AH:60:ALA:HB3 | 2.45 | 0.46 |
| 11:AJ:48:VAL:C | 11:AJ:50:GLU:H | 2.23 | 0.46 |
| 11:AJ:92:TYR:N | 11:AJ:93:HIS:HA | 2.29 | 0.46 |
| 20:AS:37:ASN:CB | 20:AS:38:ILE:CA | 2.90 | 0.46 |
| 24:Ac:36:UNK:O | 24:Ac:37:UNK:C | 2.63 | 0.46 |
| 28:Ah:11:UNK:O | 28:Ah:13:UNK:N | 2.47 | 0.46 |
| 28:Ah:15:UNK:O | 28:Ah:19:UNK:CB | 2.63 | 0.46 |
| 28:Ah:63:UNK:O | 28:Ah:64:UNK:C | 2.64 | 0.46 |
| 29:B1:9:U:O2 | 29:B1:9:U:C3' | 2.62 | 0.46 |
| 29:B1:44:U:H5 | 29:B1:45:A:C5 | 2.33 | 0.46 |
| 29:B1:47:C:C4 | 29:B1:48:A:C6 | 3.03 | 0.46 |
| 29:B1:77:A:H2' | 29:B1:78:U:O5' | 2.15 | 0.46 |
| 29:B1:136:G:OP2 | 29:B1:136:G:H8 | 1.98 | 0.46 |
| 29:B1:199:A:OP1 | 53:BX:60:ARG:O | 2.33 | 0.46 |
| 29:B1:286:U:O2' | 29:B1:287:G:O4' | 2.26 | 0.46 |
| 29:B1:339:C:O2' | 29:B1:340:C:H5" | 2.14 | 0.46 |
| 29:B1:347:G:C6 | 29:B1:348:A:N6 | 2.83 | 0.46 |
| 29:B1:532:A:N1 | 29:B1:533:A:C2 | 2.84 | 0.46 |
| 29:B1:687:U:C2' | 29:B1:688:G:O5' | 2.64 | 0.46 |
| 29:B1:757:C:N4 | 29:B1:758:C:C4 | 2.83 | 0.46 |
| 29:B1:1440:G:C2' | 29:B1:1441:G:H5' | 2.45 | 0.46 |
| 29:B1:1505:C:H6 | 29:B1:1505:C:H5" | 1.79 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1556:C:O2 | 29:B1:1556:C:H2' | 2.14 | 0.46 |
| 29:B1:1558:A:C8 | 29:B1:1558:A:OP2 | 2.68 | 0.46 |
| 29:B1:1562:C:H2' | 29:B1:1563:C:H6 | 1.80 | 0.46 |
| 29:B1:1688:U:H3' | 29:B1:1689:U:H5 | 1.81 | 0.46 |
| 29:B1:1730:G:C6 | 55:BZ:26:GLY:HA2 | 2.51 | 0.46 |
| 29:B1:1869:C:O2 | 29:B1:1869:C:H2' | 2.15 | 0.46 |
| 29:B1:1890:U:N3 | 29:B1:1891:A:N7 | 2.63 | 0.46 |
| 29:B1:1907:C:C3' | 29:B1:1907:C:C6 | 2.98 | 0.46 |
| 29:B1:2149:A:H62 | 29:B1:2187:G:H21 | 1.62 | 0.46 |
| 29:B1:2196:C:N4 | 29:B1:2242:A:C8 | 2.83 | 0.46 |
| 29:B1:2215:A:C2 | 29:B1:2216:G:C1' | 2.98 | 0.46 |
| 29:B1:2223:A:N3 | 29:B1:2224:A:C4 | 2.83 | 0.46 |
| 29:B1:2249:G:C2 | 29:B1:2272:G:O6 | 2.68 | 0.46 |
| 29:B1:2716:U:O2 | 29:B1:2716:U:C2' | 2.58 | 0.46 |
| 29:B1:2717:U:C4 | 29:B1:2740:A:C6 | 3.03 | 0.46 |
| 29:B1:2876:C:H2' | 29:B1:2877:G:C5' | 2.45 | 0.46 |
| 29:B1:3141:A:C5' | 29:B1:3143:C:H2' | 2.45 | 0.46 |
| 29:B1:3141:A:OP1 | 29:B1:3141:A:H2' | 2.15 | 0.46 |
| 29:B1:3142:A:H1' | 29:B1:3144:G:N7 | 2.30 | 0.46 |
| 29:B1:3330:A:C5 | 29:B1:3331:U:C4 | 3.04 | 0.46 |
| 30:B2:66:A:C5 | 30:B2:67:G:C8 | 3.03 | 0.46 |
| 30:B2:111:U:O3' | 30:B2:112:G:H4' | 2.16 | 0.46 |
| 31:B3:49:G:O6 | 31:B3:80:A:C2 | 2.68 | 0.46 |
| 31:B3:75:G:P | 31:B3:90:U:C5' | 3.03 | 0.46 |
| 32:BA:55:LEU:HA | 32:BA:167:VAL:HA | 1.96 | 0.46 |
| 34:BC:159:ARG:CA | 34:BC:181:ILE:O | 2.64 | 0.46 |
| 35:BD:8:VAL:O | 35:BD:9:HIS:C | 2.58 | 0.46 |
| 35:BD:89:ALA:O | 35:BD:90:PHE:C | 2.58 | 0.46 |
| 35:BD:177:ASP:C | 35:BD:179:LEU:H | 2.22 | 0.46 |
| 35:BD:179:LEU:O | 35:BD:180:LYS:C | 2.58 | 0.46 |
| 35:BD:193:LYS:C | 35:BD:195:ARG:N | 2.70 | 0.46 |
| 36:BE:33:ARG:C | 36:BE:35:ARG:H | 2.24 | 0.46 |
| 37:BF:143:LYS:O | 37:BF:146:ILE:CB | 2.64 | 0.46 |
| 37:BF:157:GLN:O | 37:BF:159:LEU:N | 2.46 | 0.46 |
| 38:BG:179:LEU:O | 38:BG:180:SER:CB | 2.63 | 0.46 |
| 45:BP:37:ARG:HA | 45:BP:107:GLY:HA2 | 1.97 | 0.46 |
| 46:BQ:103:GLU:O | 46:BQ:106:GLY:HA2 | 2.15 | 0.46 |
| 47:BR:34:THR:O | 47:BR:36:LEU:O | 2.33 | 0.46 |
| 48:BS:134:HIS:O | 48:BS:136:ARG:N | 2.49 | 0.46 |
| 51:BV:33:ASN:O | 51:BV:34:SER:C | 2.58 | 0.46 |
| 52:BW:105:VAL:O | 52:BW:106:ASP:CB | 2.63 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 57:Bb:49:ASN:O | 57:Bb:50:ILE:O | 2.33 | 0.46 |
| 58:Bc:50:SER:O | 58:Bc:51:ILE:C | 2.57 | 0.46 |
| 61:Bf:33:ALA:O | 61:Bf:34:SER:C | 2.58 | 0.46 |
| 1:C1:39:A:C4 | 1:C1:467:G:N2 | 2.84 | 0.46 |
| 1:C1:81:G:H2' | 1:C1:82:U:O5' | 2.16 | 0.46 |
| 1:C1:173:A:N3 | 1:C1:174:U:C1' | 2.78 | 0.46 |
| 1:C1:607:G:C8 | 1:C1:613:G:C4 | 3.03 | 0.46 |
| 1:C1:783:G:H2' | 1:C1:784:C:H6 | 1.80 | 0.46 |
| 1:C1:1012:U:H2' | 1:C1:1013:A:O4' | 2.15 | 0.46 |
| 1:C1:1016:C:C2' | 1:C1:1017:U:H5' | 2.46 | 0.46 |
| 1:C1:1051:G:N3 | 1:C1:1052:U:N3 | 2.63 | 0.46 |
| 1:C1:1073:G:C6 | 1:C1:1074:G:C2 | 3.03 | 0.46 |
| 1:C1:1086:A:C8 | 1:C1:1087:A:N7 | 2.84 | 0.46 |
| 1:C1:1201:G:OP2 | 1:C1:1201:G:C4 | 2.68 | 0.46 |
| 1:C1:1276:U:O2' | 1:C1:1277:G:H5' | 2.16 | 0.46 |
| 1:C1:1374:C:C5 | 1:C1:1375:A:C6 | 3.04 | 0.46 |
| 1:C1:1523:G:H3' | 1:C1:1524:A:H5" | 1.98 | 0.46 |
| 1:C1:1558:U:C6 | 1:C1:1559:A:N3 | 2.83 | 0.46 |
| 1:C1:1671:A:C2 | 1:C1:1672:G:H1' | 2.50 | 0.46 |
| 1:C1:1672:G:C6 | 1:C1:1673:G:O6 | 2.68 | 0.46 |
| 1:C1:1681:A:C8 | 1:C1:1682:U:C2 | 3.04 | 0.46 |
| 1:C1:1758:U:C5' | 1:C1:1759:C:OP2 | 2.63 | 0.46 |
| 2:CA:171:GLY:C | 2:CA:173:ILE:H | 2.23 | 0.46 |
| 5:CD:46:TRP:O | 5:CD:47:SER:O | 2.33 | 0.46 |
| 11:CJ:28:LEU:CA | 14:CM:1:MET:HA | 2.45 | 0.46 |
| 17:CP:123:LYS:O | 17:CP:124:VAL:O | 2.33 | 0.46 |
| 21:CT:240:VAL:O | 21:CT:241:PHE:O | 2.33 | 0.46 |
| 21:CT:296:ALA:C | 21:CT:298:GLY:H | 2.23 | 0.46 |
| 28:Ch:60:UNK:C | 28:Ch:62:UNK:N | 2.72 | 0.46 |
| 29:D1:34:A:H2' | 29:D1:35:A:O4' | 2.15 | 0.46 |
| 29:D1:55:G:HO2' | 29:D1:56:G:P | 2.38 | 0.46 |
| 29:D1:191:U:O2 | 29:D1:191:U:C2' | 2.62 | 0.46 |
| 29:D1:211:A:H5' | 29:D1:229:G:C1' | 2.45 | 0.46 |
| 29:D1:283:G:N7 | 29:D1:285:A:O2' | 2.48 | 0.46 |
| 29:D1:347:G:N2 | 29:D1:353:G:N9 | 2.63 | 0.46 |
| 29:D1:539:C:H2' | 29:D1:540:U:C6 | 2.50 | 0.46 |
| 29:D1:712:G:C5 | 29:D1:713:U:C5 | 3.04 | 0.46 |
| 29:D1:1020:G:C6 | 29:D1:1021:G:C5 | 3.04 | 0.46 |
| 29:D1:1119:C:C2 | 29:D1:1120:A:C8 | 3.03 | 0.46 |
| 29:D1:1180:A:C4 | 29:D1:1182:A:N9 | 2.83 | 0.46 |
| 29:D1:1183:C:C2' | 29:D1:1183:C:O2 | 2.63 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1196:C:O2 | 30:D2:86:U:C1' | 2.64 | 0.46 |
| 29:D1:1315:U:HO2' | 29:D1:1316:C:C5' | 2.27 | 0.46 |
| 29:D1:1357:G:C2 | 29:D1:1358:C:C2 | 3.03 | 0.46 |
| 29:D1:1464:G:N2 | 29:D1:1466:G:O5' | 2.47 | 0.46 |
| 29:D1:1565:G:H2' | 29:D1:1565:G:N3 | 2.30 | 0.46 |
| 29:D1:1605:A:C4 | 29:D1:1608:C:C5 | 3.04 | 0.46 |
| 29:D1:1779:C:P | 29:D1:1780:G:H8 | 2.38 | 0.46 |
| 29:D1:1811:G:N1 | 29:D1:1812:G:C8 | 2.83 | 0.46 |
| 29:D1:2150:G:C6 | 29:D1:2151:C:C4 | 3.03 | 0.46 |
| 29:D1:2206:G:N2 | 29:D1:2238:G:H1' | 2.30 | 0.46 |
| 29:D1:2215:A:N3 | 29:D1:2216:G:C8 | 2.83 | 0.46 |
| 29:D1:2221:G:C8 | 29:D1:2221:G:C3' | 2.98 | 0.46 |
| 29:D1:2262:A:C5' | 29:D1:2263:C:OP2 | 2.63 | 0.46 |
| 29:D1:2432:A:H2 | 44:DO:125:SER:CB | 2.27 | 0.46 |
| 29:D1:2513:U:O4 | 29:D1:2592:G:H1' | 2.15 | 0.46 |
| 29:D1:2513:U:C4 | 29:D1:2592:G:N3 | 2.84 | 0.46 |
| 29:D1:2530:G:O2' | 29:D1:2531:C:O5' | 2.33 | 0.46 |
| 29:D1:2580:A:O2' | 29:D1:2581:U:OP1 | 2.26 | 0.46 |
| 29:D1:2607:G:C5 | 29:D1:2608:G:N7 | 2.83 | 0.46 |
| 29:D1:2661:G:H5' | 29:D1:2749:G:H21 | 1.80 | 0.46 |
| 29:D1:2761:G:C2 | 29:D1:2795:U:C6 | 3.03 | 0.46 |
| 29:D1:2830:G:H2' | 29:D1:2831:G:O5' | 2.15 | 0.46 |
| 29:D1:2830:G:H2' | 29:D1:2831:G:H8 | 1.80 | 0.46 |
| 29:D1:2841:G:N2 | 29:D1:2898:G:N1 | 2.64 | 0.46 |
| 29:D1:2948:C:C6 | 29:D1:2948:C:H5" | 2.51 | 0.46 |
| 29:D1:3055:U:H5" | 29:D1:3056:U:C5 | 2.51 | 0.46 |
| 29:D1:3217:C:C6 | 29:D1:3220:G:O2' | 2.67 | 0.46 |
| 29:D1:3241:G:N2 | 29:D1:3246:G:N1 | 2.62 | 0.46 |
| 29:D1:3253:G:H5" | 29:D1:3254:G:OP2 | 2.15 | 0.46 |
| 29:D1:3377:G:C2 | 74:D1:3452:OHX:N6 | 2.83 | 0.46 |
| 30:D2:2:G:C2 | 30:D2:3:U:C6 | 3.03 | 0.46 |
| 30:D2:88:G:C6 | 30:D2:89:G:N7 | 2.82 | 0.46 |
| 31:D3:54:A:H2' | 31:D3:55:U:C5' | 2.45 | 0.46 |
| 31:D3:56:G:C2 | 31:D3:57:C:C2 | 3.03 | 0.46 |
| 34:DC:41:VAL:C | 34:DC:42:ALA:O | 2.58 | 0.46 |
| 34:DC:159:ARG:CB | 34:DC:181:ILE:O | 2.63 | 0.46 |
| 42:DK:14:ILE:O | 42:DK:15:GLU:C | 2.58 | 0.46 |
| 43:DN:104:ALA:H | 43:DN:106:ARG:H | 1.63 | 0.46 |
| 44:DO:86:ASN:O | 44:DO:87:GLN:C | 2.56 | 0.46 |
| 44:DO:136:ASP:O | 44:DO:139:HIS:CB | 2.63 | 0.46 |
| 47:DR:35:PHE:C | 47:DR:36:LEU:O | 2.57 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 49:DT:28:SER:O | 49:DT:31:LEU:N | 2.47 | 0.46 |
| 52:DW:127:THR:O | 52:DW:129:ASP:N | 2.48 | 0.46 |
| 53:DX:24:SER:O | 53:DX:26:GLN:N | 2.48 | 0.46 |
| 1:A1:44:U:C3' | 1:A1:45:U:C5' | 2.93 | 0.46 |
| 1:A1:72:A:N1 | 1:A1:81:G:O6 | 2.49 | 0.46 |
| 1:A1:111:U:C6 | 1:A1:304:U:O4 | 2.69 | 0.46 |
| 1:A1:151:G:N2 | 1:A1:163:G:N2 | 2.64 | 0.46 |
| 1:A1:175:G:H8 | 1:A1:175:G:O5' | 1.98 | 0.46 |
| 1:A1:243:G:N3 | 1:A1:244:A:C8 | 2.83 | 0.46 |
| 1:A1:265:A:N7 | 1:A1:290:G:C2 | 2.83 | 0.46 |
| 1:A1:390:G:N2 | 1:A1:407:A:N6 | 2.63 | 0.46 |
| 1:A1:397:A:N6 | 1:A1:398:G:N1 | 2.64 | 0.46 |
| 1:A1:461:G:O2' | 1:A1:462:G:O5' | 2.32 | 0.46 |
| 1:A1:748:U:C4' | 16:AO:123:GLY:HA2 | 2.46 | 0.46 |
| 1:A1:752:A:N6 | 1:A1:753:A:N6 | 2.63 | 0.46 |
| 1:A1:807:A:C8 | 1:A1:807:A:H5' | 2.50 | 0.46 |
| 1:A1:820:U:C2' | 1:A1:821:U:O5' | 2.62 | 0.46 |
| 1:A1:824:G:C6 | 1:A1:850:A:C2 | 3.03 | 0.46 |
| 1:A1:828:U:C4 | 1:A1:829:A:N6 | 2.84 | 0.46 |
| 1:A1:896:U:H2' | 1:A1:897:C:O4' | 2.15 | 0.46 |
| 1:A1:947:U:H2' | 1:A1:948:G:C8 | 2.50 | 0.46 |
| 1:A1:1045:C:O2' | 1:A1:1046:G:P | 2.73 | 0.46 |
| 1:A1:1120:U:O2 | 1:A1:1121:C:C6 | 2.68 | 0.46 |
| 1:A1:1155:G:C4 | 1:A1:1156:C:C5 | 3.03 | 0.46 |
| 1:A1:1181:U:C2 | 1:A1:1182:U:C6 | 3.03 | 0.46 |
| 1:A1:1240:U:H2' | 1:A1:1241:G:C5' | 2.17 | 0.46 |
| 1:A1:1244:A:C2 | 1:A1:1245:G:C1' | 2.87 | 0.46 |
| 1:A1:1358:G:N1 | 1:A1:1359:C:C4 | 2.83 | 0.46 |
| 1:A1:1470:C:H3' | 1:A1:1573:A:H62 | 1.80 | 0.46 |
| 1:A1:1493:A:OP2 | 1:A1:1494:C:P | 2.74 | 0.46 |
| 1:A1:1538:U:H2' | 1:A1:1539:G:H3' | 1.96 | 0.46 |
| 1:A1:1607:G:C4 | 1:A1:1608:U:C5 | 3.03 | 0.46 |
| 1:A1:1683:C:OP2 | 1:A1:1684:U:P | 2.74 | 0.46 |
| 1:A1:1722:A:H3' | 1:A1:1723:U:H6 | 1.80 | 0.46 |
| 1:A1:1751:C:O2 | 1:A1:1751:C:C2' | 2.62 | 0.46 |
| 1:A1:1776:A:C6 | 1:A1:1786:G:C6 | 3.04 | 0.46 |
| 3:AB:243:TYR:O | 3:AB:245:ASP:N | 2.48 | 0.46 |
| 5:AD:143:ARG:O | 5:AD:144:GLU:CB | 2.62 | 0.46 |
| 16:AO:29:PRO:O | 16:AO:30:SER:CB | 2.63 | 0.46 |
| 21:AT:99:THR:O | 21:AT:100:TYR:O | 2.33 | 0.46 |
| 21:AT:175:ASP:O | 21:AT:176:LYS:CB | 2.64 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 28:Ah:1:UNK:O | 28:Ah:2:UNK:C | 2.64 | 0.46 |
| 29:B1:88:A:C5 | 29:B1:99:A:C6 | 3.04 | 0.46 |
| 29:B1:114:A:H2' | 29:B1:115:A:O4' | 2.15 | 0.46 |
| 29:B1:264:G:C4 | 29:B1:265:A:C5 | 3.04 | 0.46 |
| 29:B1:271:C:N4 | 29:B1:295:A:C8 | 2.83 | 0.46 |
| 29:B1:279:U:P | 74:B1:3536:OHX:N1 | 2.89 | 0.46 |
| 29:B1:366:A:N6 | 29:B1:367:A:N1 | 2.61 | 0.46 |
| 29:B1:543:C:N4 | 29:B1:544:C:C2 | 2.84 | 0.46 |
| 29:B1:643:U:O4 | 29:B1:644:G:C6 | 2.69 | 0.46 |
| 29:B1:644:G:O6 | 29:B1:2817:A:OP1 | 2.34 | 0.46 |
| 29:B1:688:G:C5 | 29:B1:690:A:N7 | 2.84 | 0.46 |
| 29:B1:759:U:C2 | 29:B1:773:G:C6 | 3.03 | 0.46 |
| 29:B1:835:G:O2' | 29:B1:836:A:OP2 | 2.34 | 0.46 |
| 29:B1:878:G:H2' | 29:B1:2980:U:HO2' | 1.80 | 0.46 |
| 29:B1:918:C:H2' | 29:B1:919:U:O4' | 2.16 | 0.46 |
| 29:B1:952:A:H1' | 29:B1:1114:U:HO2' | 1.80 | 0.46 |
| 29:B1:1179:A:C8 | 29:B1:1179:A:C3' | 2.99 | 0.46 |
| 29:B1:1236:G:H3' | 29:B1:1237:G:C4' | 2.37 | 0.46 |
| 29:B1:1292:C:C2' | 29:B1:1293:U:H5' | 2.46 | 0.46 |
| 29:B1:1305:U:O2' | 29:B1:1306:G:C8 | 2.69 | 0.46 |
| 29:B1:1596:C:C2 | 29:B1:1597:C:C5 | 3.03 | 0.46 |
| 29:B1:1668:G:C2' | 29:B1:1669:C:H5' | 2.45 | 0.46 |
| 29:B1:1690:C:C4 | 29:B1:1691:U:C4 | 3.03 | 0.46 |
| 29:B1:1870:C:H2' | 29:B1:1871:U:O4' | 2.15 | 0.46 |
| 29:B1:1942:U:C1' | 29:B1:3342:A:H2 | 2.29 | 0.46 |
| 29:B1:2290:C:N3 | 29:B1:2303:A:C2 | 2.83 | 0.46 |
| 29:B1:2386:A:N7 | 29:B1:2387:A:C8 | 2.83 | 0.46 |
| 29:B1:2761:G:O6 | 29:B1:2796:G:H5" | 2.15 | 0.46 |
| 29:B1:2794:G:C2 | 29:B1:2795:U:C2 | 3.03 | 0.46 |
| 29:B1:2802:A:C8 | 61:Bf:57:VAL:N | 2.76 | 0.46 |
| 29:B1:2895:G:H2' | 29:B1:2896:A:H5" | 1.97 | 0.46 |
| 29:B1:2899:C:H42 | 40:BI:173:ARG:CB | 2.27 | 0.46 |
| 29:B1:3022:G:HO2' | 29:B1:3023:U:P | 2.27 | 0.46 |
| 29:B1:3032:A:OP1 | 29:B1:3032:A:H4' | 2.14 | 0.46 |
| 29:B1:3104:U:O4 | 29:B1:3128:G:H2' | 2.16 | 0.46 |
| 29:B1:3367:C:H2' | 29:B1:3368:U:C6 | 2.51 | 0.46 |
| 29:B1:3376:A:N3 | 29:B1:3376:A:C5' | 2.71 | 0.46 |
| 29:B1:3377:G:O2' | 29:B1:3378:C:P | 2.73 | 0.46 |
| 29:B1:3394:U:O2' | 29:B1:3395:G:C8 | 2.66 | 0.46 |
| 30:B2:66:A:H8 | 30:B2:66:A:P | 2.37 | 0.46 |
| 31:B3:69:U:P | 31:B3:70:G:OP2 | 2.73 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:B3:97:A:H2' | 31:B3:98:U:H5' | 1.98 | 0.46 |
| 31:B3:125:U:C4 | 74:B3:206:OHX:N6 | 2.84 | 0.46 |
| 33:BB:4:VAL:C | 33:BB:5:ILE:O | 2.59 | 0.46 |
| 36:BE:247:ILE:C | 36:BE:249:ALA:H | 2.22 | 0.46 |
| 38:BG:240:VAL:O | 38:BG:241:LYS:C | 2.58 | 0.46 |
| 39:BH:232:HIS:O | 39:BH:233:TRP:CB | 2.62 | 0.46 |
| 47:BR:29:LEU:O | 47:BR:30:VAL:C | 2.58 | 0.46 |
| 52:BW:56:ARG:HA | 52:BW:57:LEU:HA | 1.58 | 0.46 |
| 54:BY:70:LYS:O | 54:BY:112:ILE:HA | 2.15 | 0.46 |
| 1:C1:166:C:C4 | 1:C1:167:U:C4 | 3.04 | 0.46 |
| 1:C1:169:A:N9 | 1:C1:171:A:N7 | 2.63 | 0.46 |
| 1:C1:379:U:C2 | 1:C1:380:U:C5 | 3.03 | 0.46 |
| 1:C1:461:G:C4 | 1:C1:462:G:C8 | 3.04 | 0.46 |
| 1:C1:607:G:H4' | 1:C1:608:U:C5' | 2.46 | 0.46 |
| 1:C1:648:G:C2 | 1:C1:649:U:C5 | 3.03 | 0.46 |
| 1:C1:651:G:N2 | 1:C1:652:G:C6 | 2.83 | 0.46 |
| 1:C1:710:U:C4 | 1:C1:729:G:C6 | 3.04 | 0.46 |
| 1:C1:809:A:C2 | 1:C1:810:G:C2 | 3.03 | 0.46 |
| 1:C1:817:A:H2' | 1:C1:818:C:C6 | 2.50 | 0.46 |
| 1:C1:986:G:HO2' | 1:C1:987:G:P | 2.38 | 0.46 |
| 1:C1:1002:G:C5 | 1:C1:1003:A:C2 | 3.03 | 0.46 |
| 1:C1:1021:C:O2 | 1:C1:1021:C:C2' | 2.62 | 0.46 |
| 1:C1:1075:C:N3 | 1:C1:1076:A:C2 | 2.83 | 0.46 |
| 1:C1:1092:A:N9 | 1:C1:1094:G:C8 | 2.84 | 0.46 |
| 1:C1:1125:A:N7 | 1:C1:1126:G:H1' | 2.31 | 0.46 |
| 1:C1:1267:G:C2' | 1:C1:1268:G:H5' | 2.45 | 0.46 |
| 1:C1:1294:G:N2 | 1:C1:1295:G:C4 | 2.84 | 0.46 |
| 1:C1:1297:G:N2 | 1:C1:1301:U:C6 | 2.84 | 0.46 |
| 1:C1:1486:G:H2' | 1:C1:1487:A:O4' | 2.15 | 0.46 |
| 1:C1:1520:U:C4 | 74:C1:1930:OHX:N1 | 2.84 | 0.46 |
| 1:C1:1602:C:C5' | 1:C1:1603:U:OP2 | 2.63 | 0.46 |
| 1:C1:1612:U:O4 | 1:C1:1613:U:C6 | 2.68 | 0.46 |
| 2:CA:54:TRP:C | 2:CA:56:LYS:N | 2.70 | 0.46 |
| 3:CB:126:ARG:C | 3:CB:128:GLY:H | 2.23 | 0.46 |
| 4:CC:114:ALA:C | 4:CC:116:ARG:H | 2.23 | 0.46 |
| 4:CC:125:TYR:HA | 4:CC:128:GLU:CB | 2.45 | 0.46 |
| 5:CD:164:PRO:O | 5:CD:167:ARG:N | 2.48 | 0.46 |
| 6:CE:59:LEU:C | 6:CE:61:THR:H | 2.23 | 0.46 |
| 6:CE:117:GLY:HA3 | 6:CE:179:ARG:CB | 2.45 | 0.46 |
| 9:CH:13:VAL:N | 9:CH:14:PHE:CB | 2.78 | 0.46 |
| 9:CH:25:ASP:O | 9:CH:26:THR:CB | 2.63 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 9:CH:88:GLY:HA2 | 9:CH:89:THR:HA | 1.61 | 0.46 |
| 15:CN:25:THR:H | 15:CN:115:GLU:CB | 2.28 | 0.46 |
| 16:CO:4:SER:O | 16:CO:5:SER:CB | 2.64 | 0.46 |
| 25:Cd:108:UNK:O | 25:Cd:112:UNK:N | 2.49 | 0.46 |
| 29:D1:10:C:O2' | 29:D1:11:A:O5' | 2.34 | 0.46 |
| 29:D1:31:C:H2' | 29:D1:32:U:O4' | 2.15 | 0.46 |
| 29:D1:86:G:OP1 | 29:D1:86:G:H4' | 2.15 | 0.46 |
| 29:D1:112:U:C4 | 29:D1:320:G:N1 | 2.83 | 0.46 |
| 29:D1:344:A:C5 | 29:D1:345:G:N7 | 2.83 | 0.46 |
| 29:D1:422:A:N9 | 29:D1:423:A:H5" | 2.31 | 0.46 |
| 29:D1:536:U:H4' | 29:D1:537:A:H5" | 1.97 | 0.46 |
| 29:D1:588:G:C4 | 29:D1:612:U:C5 | 3.03 | 0.46 |
| 29:D1:737:G:N3 | 29:D1:738:A:C8 | 2.83 | 0.46 |
| 29:D1:762:U:OP1 | 29:D1:763:G:P | 2.74 | 0.46 |
| 29:D1:762:U:C2 | 29:D1:770:G:N2 | 2.83 | 0.46 |
| 29:D1:780:A:N1 | 29:D1:781:G:C4 | 2.83 | 0.46 |
| 29:D1:802:C:C2 | 29:D1:803:C:C5 | 3.03 | 0.46 |
| 29:D1:844:G:H5" | 29:D1:845:G:P | 2.55 | 0.46 |
| 29:D1:965:A:N6 | 29:D1:966:U:N3 | 2.63 | 0.46 |
| 29:D1:983:A:N1 | 29:D1:985:U:O4 | 2.49 | 0.46 |
| 29:D1:986:U:H2' | 29:D1:987:U:C6 | 2.46 | 0.46 |
| 29:D1:1063:G:OP1 | 29:D1:1063:G:C4 | 2.68 | 0.46 |
| 29:D1:1184:A:H2' | 29:D1:1185:C:C6 | 2.50 | 0.46 |
| 29:D1:1205:A:H5" | 29:D1:1206:G:OP2 | 2.16 | 0.46 |
| 29:D1:1236:G:H1' | 29:D1:1245:A:H1' | 1.96 | 0.46 |
| 29:D1:1271:A:N6 | 29:D1:1272:C:H42 | 2.13 | 0.46 |
| 29:D1:1289:G:C2 | 29:D1:1290:A:C4 | 3.02 | 0.46 |
| 29:D1:1605:A:C5 | 29:D1:1608:C:C4 | 3.04 | 0.46 |
| 29:D1:1687:U:H2' | 29:D1:1688:U:O2' | 2.15 | 0.46 |
| 29:D1:1699:A:H2' | 29:D1:1700:G:H8 | 1.79 | 0.46 |
| 29:D1:1728:G:O2' | 55:DZ:86:ARG:O | 2.33 | 0.46 |
| 29:D1:1873:U:O2' | 29:D1:1874:A:H5' | 2.15 | 0.46 |
| 29:D1:1933:A:N7 | 29:D1:1934:G:N7 | 2.63 | 0.46 |
| 29:D1:2096:A:OP2 | 29:D1:2097:U:OP2 | 2.33 | 0.46 |
| 29:D1:2191:U:O4 | 29:D1:2192:C:N4 | 2.49 | 0.46 |
| 29:D1:2249:G:C4 | 29:D1:2272:G:N7 | 2.84 | 0.46 |
| 29:D1:2249:G:N7 | 74:D1:3464:OHX:N3 | 2.64 | 0.46 |
| 29:D1:2255:A:O4' | 74:D1:3415:OHX:N4 | 2.49 | 0.46 |
| 29:D1:2561:A:OP1 | 29:D1:2561:A:H8 | 1.99 | 0.46 |
| 29:D1:2591:A:C2 | 29:D1:2592:G:C1' | 2.99 | 0.46 |
| 29:D1:2631:U:C2' | 29:D1:2632:G:H5' | 2.45 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2712:U:H2' | 29:D1:2713:U:O5' | 2.14 | 0.46 |
| 29:D1:2714:G:C2 | 29:D1:2751:G:N1 | 2.83 | 0.46 |
| 29:D1:2725:U:C4 | 29:D1:2727:A:C4 | 3.03 | 0.46 |
| 29:D1:2822:U:C2' | 29:D1:2823:G:O5' | 2.63 | 0.46 |
| 29:D1:2859:U:H4' | 29:D1:2860:U:OP1 | 2.13 | 0.46 |
| 29:D1:2965:U:C2' | 29:D1:2966:G:H5' | 2.46 | 0.46 |
| 29:D1:3032:A:C8 | 29:D1:3032:A:H3' | 2.51 | 0.46 |
| 29:D1:3157:U:H3 | 29:D1:3293:U:C1' | 2.27 | 0.46 |
| 29:D1:3364:C:H2' | 29:D1:3365:U:H6 | 1.80 | 0.46 |
| 29:D1:3379:C:H2' | 29:D1:3380:U:O4' | 2.14 | 0.46 |
| 29:D1:3394:U:C2' | 29:D1:3395:G:N7 | 2.75 | 0.46 |
| 31:D3:3:A:C8 | 31:D3:3:A:C3' | 2.98 | 0.46 |
| 31:D3:74:U:O2 | 31:D3:74:U:O4' | 2.34 | 0.46 |
| 31:D3:74:U:C4 | 31:D3:77:A:OP1 | 2.68 | 0.46 |
| 31:D3:77:A:H61 | 53:DX:81:GLN:CB | 2.29 | 0.46 |
| 31:D3:113:U:O2' | 31:D3:114:G:OP1 | 2.31 | 0.46 |
| 35:DD:31:ARG:O | 35:DD:32:PRO:C | 2.58 | 0.46 |
| 35:DD:69:ARG:O | 35:DD:70:ALA:HB3 | 2.14 | 0.46 |
| 39:DH:168:ALA:C | 39:DH:170:CYS:N | 2.74 | 0.46 |
| 72:DL:131:GLU:O | 72:DL:133:LEU:N | 2.48 | 0.46 |
| 73:DM:85:GLY:O | 73:DM:86:PHE:O | 2.34 | 0.46 |
| 43:DN:33:ALA:HA | 43:DN:48:GLY:CA | 2.45 | 0.46 |
| 45:DP:130:LYS:HA | 45:DP:131:PRO:CB | 2.44 | 0.46 |
| 46:DQ:44:ALA:O | 46:DQ:45:GLN:C | 2.59 | 0.46 |
| 46:DQ:76:PHE:CB | 46:DQ:77:GLY:HA2 | 2.45 | 0.46 |
| 48:DS:59:SER:C | 48:DS:61:SER:N | 2.74 | 0.46 |
| 58:Dc:23:ASP:O | 58:Dc:24:LEU:C | 2.59 | 0.46 |
| 58:Dc:60:GLU:C | 58:Dc:62:GLN:N | 2.74 | 0.46 |
| 1:A1:14:C:OP1 | 3:AB:163:GLY:N | 2.49 | 0.46 |
| 1:A1:378:A:H2' | 1:A1:379:U:O5' | 2.16 | 0.46 |
| 1:A1:381:C:N3 | 1:A1:382:C:C5 | 2.84 | 0.46 |
| 1:A1:384:G:C6 | 1:A1:385:A:C6 | 3.04 | 0.46 |
| 1:A1:488:G:O2' | 1:A1:489:C:C6 | 2.66 | 0.46 |
| 1:A1:607:G:H4' | 1:A1:608:U:OP2 | 2.14 | 0.46 |
| 1:A1:615:A:C2 | 1:A1:616:G:C8 | 3.04 | 0.46 |
| 1:A1:644:C:N4 | 1:A1:691:C:N4 | 2.59 | 0.46 |
| 1:A1:737:A:O2' | 1:A1:738:G:H8 | 1.90 | 0.46 |
| 1:A1:926:A:H2 | 9:AH:125:SER:HA | 1.80 | 0.46 |
| 1:A1:985:G:H2' | 1:A1:986:G:C8 | 2.49 | 0.46 |
| 1:A1:1030:A:H3' | 1:A1:1031:U:C5' | 2.38 | 0.46 |
| 1:A1:1151:A:C4 | 1:A1:1152:A:C8 | 3.04 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1241:G:C2 | 1:A1:1243:G:H8 | 2.33 | 0.46 |
| 1:A1:1391:A:C8 | 1:A1:1412:G:C6 | 3.04 | 0.46 |
| 1:A1:1419:G:C6 | 1:A1:1420:C:O2 | 2.68 | 0.46 |
| 1:A1:1453:G:H2' | 1:A1:1454:G:H8 | 1.81 | 0.46 |
| 1:A1:1494:C:H2' | 1:A1:1495:C:O5' | 2.15 | 0.46 |
| 1:A1:1527:C:C2 | 1:A1:1528:U:C5 | 3.04 | 0.46 |
| 1:A1:1550:A:C4 | 1:A1:1551:U:C5 | 3.04 | 0.46 |
| 1:A1:1651:A:N3 | 1:A1:1651:A:H2' | 2.31 | 0.46 |
| 1:A1:1651:A:C2 | 1:A1:1652:C:C2 | 3.04 | 0.46 |
| 1:A1:1671:A:C8 | 1:A1:1731:A:C6 | 3.03 | 0.46 |
| 1:A1:1744:A:C2' | 1:A1:1745:G:H5' | 2.45 | 0.46 |
| 1:A1:1760:G:C4 | 1:A1:1761:U:C5 | 2.98 | 0.46 |
| 8:AG:49:GLN:CA | 8:AG:50:ILE:CB | 2.94 | 0.46 |
| 10:AI:66:ALA:O | 10:AI:67:ALA:HB3 | 2.15 | 0.46 |
| 11:AJ:125:GLU:O | 11:AJ:126:PRO:O | 2.34 | 0.46 |
| 13:AL:109:LEU:O | 13:AL:110:ARG:C | 2.58 | 0.46 |
| 14:AM:58:ALA:C | 14:AM:60:SER:N | 2.71 | 0.46 |
| 17:AP:46:SER:C | 17:AP:48:HIS:N | 2.74 | 0.46 |
| 21:AT:42:LEU:O | 21:AT:60:SER:CA | 2.64 | 0.46 |
| 24:Ac:8:UNK:O | 24:Ac:66:UNK:HA | 2.15 | 0.46 |
| 29:B1:8:C:C2 | 29:B1:9:U:C5 | 3.01 | 0.46 |
| 29:B1:68:C:C4 | 29:B1:76:G:N2 | 2.84 | 0.46 |
| 29:B1:115:A:C4 | 29:B1:116:A:N1 | 2.83 | 0.46 |
| 29:B1:250:U:O2 | 29:B1:250:U:C2' | 2.56 | 0.46 |
| 29:B1:252:U:C3' | 29:B1:253:A:H5' | 2.45 | 0.46 |
| 29:B1:290:G:C4 | 29:B1:291:C:C5 | 3.04 | 0.46 |
| 29:B1:344:A:C6 | 29:B1:345:G:C5 | 3.04 | 0.46 |
| 29:B1:346:C:C5 | 29:B1:348:A:C8 | 3.04 | 0.46 |
| 29:B1:429:U:H2' | 29:B1:430:U:C6 | 2.50 | 0.46 |
| 29:B1:594:U:C6 | 29:B1:609:G:N2 | 2.71 | 0.46 |
| 29:B1:600:G:C5 | 74:B1:3620:OHX:N1 | 2.84 | 0.46 |
| 29:B1:643:U:C4 | 29:B1:644:G:C5 | 3.03 | 0.46 |
| 29:B1:650:C:H2' | 29:B1:650:C:O2 | 2.15 | 0.46 |
| 29:B1:683:U:H2' | 29:B1:684:G:C5' | 2.45 | 0.46 |
| 29:B1:807:A:N6 | 29:B1:934:G:H1 | 2.13 | 0.46 |
| 29:B1:809:G:H2' | 29:B1:810:A:H8 | 1.81 | 0.46 |
| 29:B1:974:G:N3 | 29:B1:975:C:C6 | 2.84 | 0.46 |
| 29:B1:991:G:C2 | 29:B1:992:A:H1' | 2.50 | 0.46 |
| 29:B1:1077:U:O2' | 29:B1:1078:U:P | 2.73 | 0.46 |
| 29:B1:1128:U:O2 | 29:B1:1129:A:C1' | 2.64 | 0.46 |
| 29:B1:1140:G:C2 | 29:B1:1141:C:C4 | 3.04 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1145:G:N2 | 29:B1:1160:C:O4' | 2.48 | 0.46 |
| 29:B1:1166:G:C3' | 29:B1:1167:U:H5" | 2.46 | 0.46 |
| 29:B1:1186:G:C2' | 29:B1:1187:C:O5' | 2.63 | 0.46 |
| 29:B1:1228:C:N3 | 29:B1:1282:G:C2 | 2.83 | 0.46 |
| 29:B1:1319:G:C4 | 29:B1:1320:C:C5 | 3.04 | 0.46 |
| 29:B1:1342:C:O2 | 29:B1:1342:C:C2' | 2.62 | 0.46 |
| 29:B1:1390:A:C5 | 29:B1:1418:A:C6 | 3.03 | 0.46 |
| 29:B1:1413:G:N3 | 29:B1:1413:G:H2' | 2.31 | 0.46 |
| 29:B1:1448:U:O4 | 29:B1:2355:G:N3 | 2.48 | 0.46 |
| 29:B1:1490:A:N6 | 29:B1:1838:G:H1' | 2.31 | 0.46 |
| 29:B1:1511:U:H3' | 29:B1:1512:U:C6 | 2.51 | 0.46 |
| 29:B1:1619:A:C2 | 29:B1:1826:C:N3 | 2.84 | 0.46 |
| 29:B1:1677:G:C5 | 29:B1:1678:G:N7 | 2.83 | 0.46 |
| 29:B1:1774:C:O2 | 29:B1:1774:C:H2' | 2.14 | 0.46 |
| 29:B1:1818:U:H2' | 29:B1:1819:U:N1 | 2.29 | 0.46 |
| 29:B1:1901:A:H5" | 29:B1:1902:G:OP2 | 2.14 | 0.46 |
| 29:B1:2104:A:H2' | 29:B1:2105:G:H5" | 1.98 | 0.46 |
| 29:B1:2289:U:N3 | 29:B1:2290:C:C5 | 2.84 | 0.46 |
| 29:B1:2300:G:C2 | 29:B1:2301:U:C2 | 3.04 | 0.46 |
| 29:B1:2433:U:H1' | 44:BO:125:SER:CB | 2.45 | 0.46 |
| 29:B1:2761:G:O6 | 29:B1:2798:C:H1' | 2.15 | 0.46 |
| 29:B1:2783:U:C2' | 29:B1:2784:G:O5' | 2.63 | 0.46 |
| 29:B1:2813:A:C6 | 29:B1:2814:G:C5 | 3.03 | 0.46 |
| 29:B1:2821:C:H2' | 29:B1:2822:U:H5' | 1.97 | 0.46 |
| 29:B1:2852:C:C5 | 29:B1:2853:A:C5 | 3.03 | 0.46 |
| 29:B1:2893:C:C2' | 29:B1:2894:C:O5' | 2.63 | 0.46 |
| 29:B1:2960:C:H2' | 29:B1:2961:G:C8 | 2.50 | 0.46 |
| 29:B1:3060:C:H2' | 29:B1:3061:G:O5' | 2.15 | 0.46 |
| 29:B1:3136:G:C2 | 29:B1:3137:C:C6 | 3.03 | 0.46 |
| 29:B1:3196:U:OP2 | 29:B1:3196:U:N3 | 2.48 | 0.46 |
| 29:B1:3205:G:H2' | 29:B1:3205:G:N3 | 2.30 | 0.46 |
| 29:B1:3316:A:N6 | 29:B1:3320:A:C6 | 2.67 | 0.46 |
| 29:B1:3325:G:C2' | 29:B1:3326:G:O4' | 2.63 | 0.46 |
| 30:B2:12:U:C6 | 30:B2:70:U:OP1 | 2.68 | 0.46 |
| 30:B2:22:A:C6 | 30:B2:23:A:N1 | 2.84 | 0.46 |
| 30:B2:40:C:O2 | 30:B2:40:C:H2' | 2.16 | 0.46 |
| 30:B2:66:A:C5 | 30:B2:67:G:H8 | 2.34 | 0.46 |
| 30:B2:85:G:N7 | 74:B2:204:OHX:N1 | 2.63 | 0.46 |
| 30:B2:111:U:H4' | 30:B2:112:G:O3' | 2.14 | 0.46 |
| 31:B3:125:U:O4 | 74:B3:206:OHX:N5 | 2.48 | 0.46 |
| 36:BE:244:HIS:HA | 36:BE:248:ARG:CB | 2.46 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BG:167:ALA:HB3 | 38:BG:176:TYR:CB | 2.45 | 0.46 |
| 42:BK:19:LEU:O | 42:BK:68:HIS:O | 2.34 | 0.46 |
| 42:BK:147:THR:C | 42:BK:148:VAL:O | 2.58 | 0.46 |
| 47:BR:43:PRO:O | 47:BR:44:PHE:C | 2.58 | 0.46 |
| 47:BR:102:ALA:HB3 | 47:BR:122:ILE:N | 2.31 | 0.46 |
| 48:BS:169:ALA:HA | 48:BS:172:ARG:CB | 2.46 | 0.46 |
| 52:BW:127:THR:O | 52:BW:129:ASP:N | 2.49 | 0.46 |
| 54:BY:6:THR:C | 54:BY:8:THR:N | 2.70 | 0.46 |
| 55:BZ:43:ILE:O | 55:BZ:89:VAL:HA | 2.15 | 0.46 |
| 1:C1:43:A:H4' | 1:C1:99:C:P | 2.56 | 0.46 |
| 1:C1:112:A:C4' | 1:C1:113:U:OP1 | 2.55 | 0.46 |
| 1:C1:170:U:C3' | 1:C1:171:A:C5' | 2.94 | 0.46 |
| 1:C1:198:A:H1' | 1:C1:199:G:P | 2.54 | 0.46 |
| 1:C1:287:G:O6 | 1:C1:288:A:C6 | 2.69 | 0.46 |
| 1:C1:287:G:H2' | 1:C1:288:A:H5' | 1.96 | 0.46 |
| 1:C1:302:U:N3 | 1:C1:303:U:O2 | 2.49 | 0.46 |
| 1:C1:389:G:C6 | 1:C1:390:G:C6 | 3.03 | 0.46 |
| 1:C1:410:A:C6 | 1:C1:411:C:C4 | 3.04 | 0.46 |
| 1:C1:427:C:O2' | 1:C1:428:A:O4' | 2.24 | 0.46 |
| 1:C1:514:G:C5 | 1:C1:515:A:N7 | 2.83 | 0.46 |
| 1:C1:866:G:H2' | 1:C1:867:G:H8 | 1.80 | 0.46 |
| 1:C1:994:G:C6 | 1:C1:1011:G:N2 | 2.84 | 0.46 |
| 1:C1:1119:G:C5 | 1:C1:1120:U:C5 | 3.04 | 0.46 |
| 1:C1:1211:A:C4 | 1:C1:1212:G:C8 | 3.04 | 0.46 |
| 1:C1:1262:U:H2' | 1:C1:1263:G:C8 | 2.50 | 0.46 |
| 1:C1:1389:C:N4 | 1:C1:1391:A:C1' | 2.79 | 0.46 |
| 1:C1:1472:C:O2' | 5:CD:188:LYS:HA | 2.15 | 0.46 |
| 1:C1:1515:A:C6 | 15:CN:16:GLN:O | 2.69 | 0.46 |
| 1:C1:1524:A:C2' | 1:C1:1525:A:H8 | 2.24 | 0.46 |
| 1:C1:1550:A:C2' | 1:C1:1551:U:H5' | 2.46 | 0.46 |
| 1:C1:1559:A:N3 | 1:C1:1559:A:C2' | 2.68 | 0.46 |
| 1:C1:1605:G:N7 | 1:C1:1606:C:C5 | 2.84 | 0.46 |
| 1:C1:1636:C:N4 | 1:C1:1638:G:N2 | 2.64 | 0.46 |
| 1:C1:1764:C:OP2 | 1:C1:1771:U:H5" | 2.15 | 0.46 |
| 5:CD:93:LEU:C | 5:CD:95:ASN:N | 2.73 | 0.46 |
| 5:CD:136:ALA:C | 5:CD:138:THR:H | 2.23 | 0.46 |
| 5:CD:189:THR:CB | 5:CD:192:GLU:CB | 2.94 | 0.46 |
| 11:CJ:105:LEU:O | 11:CJ:106:LYS:C | 2.58 | 0.46 |
| 13:CL:109:LEU:O | 13:CL:110:ARG:C | 2.59 | 0.46 |
| 23:Cb:15:UNK:O | 23:Cb:16:UNK:CB | 2.62 | 0.46 |
| 29:D1:11:A:C2 | 31:D3:148:G:C5 | 3.03 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:40:A:C2' | 29:D1:41:G:H5' | 2.45 | 0.46 |
| 29:D1:65:A:C4 | 29:D1:110:G:N7 | 2.83 | 0.46 |
| 29:D1:71:A:N7 | 29:D1:72:C:C4 | 2.84 | 0.46 |
| 29:D1:282:G:N3 | 29:D1:286:U:C5' | 2.79 | 0.46 |
| 29:D1:287:G:H2' | 29:D1:288:C:O5' | 2.16 | 0.46 |
| 29:D1:310:U:H5' | 29:D1:311:C:OP2 | 2.16 | 0.46 |
| 29:D1:396:A:C4' | 29:D1:397:A:OP1 | 2.64 | 0.46 |
| 29:D1:421:G:C8 | 29:D1:421:G:C4' | 2.98 | 0.46 |
| 29:D1:432:G:H1 | 29:D1:627:U:H3 | 1.62 | 0.46 |
| 29:D1:505:G:C2' | 29:D1:506:U:O5' | 2.63 | 0.46 |
| 29:D1:520:U:H4' | 29:D1:521:A:C5' | 2.45 | 0.46 |
| 29:D1:559:A:O2' | 29:D1:560:G:C5' | 2.63 | 0.46 |
| 29:D1:597:G:H2' | 29:D1:598:A:C8 | 2.48 | 0.46 |
| 29:D1:656:A:C6 | 29:D1:1440:G:N1 | 2.83 | 0.46 |
| 29:D1:808:A:O2' | 29:D1:2413:A:H5' | 2.15 | 0.46 |
| 29:D1:880:G:OP2 | 46:DQ:131:ARG:CA | 2.61 | 0.46 |
| 29:D1:969:C:O2 | 29:D1:969:C:C2' | 2.58 | 0.46 |
| 29:D1:1019:G:N2 | 29:D1:1033:U:O2 | 2.31 | 0.46 |
| 29:D1:1212:A:C3' | 29:D1:1213:G:C5' | 2.91 | 0.46 |
| 29:D1:1237:G:C5 | 29:D1:1238:C:C5 | 3.03 | 0.46 |
| 29:D1:1311:G:O2' | 29:D1:2381:G:H4' | 2.15 | 0.46 |
| 29:D1:1326:A:C2 | 29:D1:1327:C:C2 | 3.04 | 0.46 |
| 29:D1:1488:G:H5' | 29:D1:1838:G:O6 | 2.16 | 0.46 |
| 29:D1:1495:U:N1 | 29:D1:1842:A:C2 | 2.84 | 0.46 |
| 29:D1:1556:C:O2' | 29:D1:1557:A:OP2 | 2.32 | 0.46 |
| 29:D1:1653:G:H2' | 29:D1:1654:A:C5' | 2.35 | 0.46 |
| 29:D1:1674:G:C6 | 29:D1:1675:G:C5 | 3.04 | 0.46 |
| 29:D1:1720:U:C6 | 29:D1:1720:U:C3' | 2.99 | 0.46 |
| 29:D1:1806:A:N3 | 29:D1:1807:G:H1' | 2.31 | 0.46 |
| 29:D1:1881:A:C6 | 29:D1:2352:A:C6 | 3.03 | 0.46 |
| 29:D1:1895:A:N1 | 29:D1:2341:A:C6 | 2.84 | 0.46 |
| 29:D1:1900:A:O2' | 29:D1:1906:G:N7 | 2.43 | 0.46 |
| 29:D1:1907:C:C6 | 29:D1:1907:C:C3' | 2.99 | 0.46 |
| 29:D1:1919:G:C2 | 29:D1:1920:U:C2 | 3.04 | 0.46 |
| 29:D1:1939:G:C2' | 29:D1:1940:G:C5' | 2.88 | 0.46 |
| 29:D1:2111:G:N2 | 51:DV:48:ARG:O | 2.48 | 0.46 |
| 29:D1:2253:G:H3' | 29:D1:2254:U:H6 | 1.75 | 0.46 |
| 29:D1:2259:A:C6 | 29:D1:2260:U:C2 | 3.03 | 0.46 |
| 29:D1:2270:A:C2' | 29:D1:2271:A:C8 | 2.93 | 0.46 |
| 29:D1:2283:G:H1' | 29:D1:2284:C:H5 | 1.79 | 0.46 |
| 29:D1:2357:A:H2' | 29:D1:2358:A:O5' | 2.16 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2730:G:N2 | 29:D1:2731:U:H1' | 2.31 | 0.46 |
| 29:D1:2761:G:N2 | 29:D1:2795:U:C6 | 2.84 | 0.46 |
| 29:D1:2844:C:H42 | 29:D1:2898:G:N2 | 2.13 | 0.46 |
| 29:D1:2900:A:O2' | 29:D1:2901:G:C5' | 2.63 | 0.46 |
| 29:D1:2919:A:H3' | 29:D1:2920:U:C5' | 2.45 | 0.46 |
| 29:D1:3102:G:O2' | 29:D1:3103:A:OP1 | 2.29 | 0.46 |
| 29:D1:3114:A:N6 | 29:D1:3115:C:H5 | 2.14 | 0.46 |
| 29:D1:3315:G:OP1 | 29:D1:3316:A:OP1 | 2.33 | 0.46 |
| 29:D1:3315:G:P | 29:D1:3316:A:OP1 | 2.73 | 0.46 |
| 30:D2:23:A:O5' | 30:D2:23:A:H8 | 1.99 | 0.46 |
| 30:D2:67:G:O6 | 30:D2:68:C:N3 | 2.49 | 0.46 |
| 31:D3:49:G:C2 | 31:D3:50:C:C6 | 3.03 | 0.46 |
| 31:D3:123:G:C5' | 74:D3:205:OHX:N5 | 2.78 | 0.46 |
| 32:DA:150:ASP:C | 32:DA:152:ARG:N | 2.74 | 0.46 |
| 34:DC:138:ALA:O | 34:DC:140:ASP:N | 2.49 | 0.46 |
| 37:DF:150:LYS:C | 37:DF:152:THR:N | 2.72 | 0.46 |
| 39:DH:100:GLU:CB | 39:DH:103:ALA:HB3 | 2.46 | 0.46 |
| 72:DL:82:ILE:C | 72:DL:84:ALA:H | 2.24 | 0.46 |
| 46:DQ:51:VAL:O | 46:DQ:52:LEU:CB | 2.64 | 0.46 |
| 47:DR:75:GLY:O | 47:DR:76:ALA:CB | 2.64 | 0.46 |
| 57:Db:22:SER:HA | 57:Db:28:VAL:CB | 2.46 | 0.46 |
| 62:Dg:25:GLN:C | 62:Dg:27:LYS:N | 2.73 | 0.46 |
| 64:Di:4:UNK:C | 64:Di:6:UNK:N | 2.75 | 0.46 |
| 1:A1:21:U:O2 | 1:A1:605:A:H2 | 1.99 | 0.46 |
| 1:A1:40:A:C8 | 1:A1:41:A:C8 | 3.02 | 0.46 |
| 1:A1:138:A:O2' | 1:A1:139:C:P | 2.73 | 0.46 |
| 1:A1:194:U:H5' | 1:A1:195:G:O4' | 2.15 | 0.46 |
| 1:A1:364:G:N2 | 1:A1:381:C:C1' | 2.79 | 0.46 |
| 1:A1:394:C:C3' | 1:A1:395:U:H5' | 2.46 | 0.46 |
| 1:A1:398:G:H5" | 1:A1:399:A:P | 2.56 | 0.46 |
| 1:A1:406:U:OP2 | 1:A1:406:U:C6 | 2.68 | 0.46 |
| 1:A1:530:C:C5' | 1:A1:531:C:OP2 | 2.60 | 0.46 |
| 1:A1:551:G:N3 | 1:A1:551:G:H2' | 2.29 | 0.46 |
| 1:A1:581:U:O2 | 1:A1:581:U:C2' | 2.61 | 0.46 |
| 1:A1:631:G:H2' | 1:A1:632:U:H5' | 1.98 | 0.46 |
| 1:A1:794:U:O2 | 1:A1:794:U:H2' | 2.16 | 0.46 |
| 1:A1:866:G:C2 | 1:A1:867:G:N7 | 2.83 | 0.46 |
| 1:A1:913:G:H1' | 1:A1:914:G:OP1 | 2.16 | 0.46 |
| 1:A1:1025:A:H2' | 1:A1:1027:A:O5' | 2.14 | 0.46 |
| 1:A1:1099:U:O2' | 1:A1:1100:G:C1' | 2.63 | 0.46 |
| 1:A1:1274:C:O2' | 1:A1:1275:A:P | 2.74 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1279:C:H2' | 1:A1:1280:C:O4' | 2.16 | 0.46 |
| 1:A1:1388:A:C6 | 1:A1:1411:A:C6 | 3.03 | 0.46 |
| 1:A1:1609:U:H3' | 1:A1:1610:G:H8 | 1.80 | 0.46 |
| 1:A1:1654:G:H2' | 1:A1:1745:G:H22 | 1.78 | 0.46 |
| 1:A1:1683:C:H5" | 1:A1:1722:A:H2 | 1.80 | 0.46 |
| 2:AA:84:ARG:C | 2:AA:86:VAL:N | 2.73 | 0.46 |
| 3:AB:107:SER:CA | 3:AB:190:LEU:O | 2.64 | 0.46 |
| 3:AB:161:LYS:CB | 3:AB:209:ASN:HA | 2.46 | 0.46 |
| 4:AC:117:ARG:HA | 4:AC:120:TYR:CB | 2.46 | 0.46 |
| 6:AE:59:LEU:C | 6:AE:61:THR:N | 2.73 | 0.46 |
| 9:AH:52:ARG:CB | 9:AH:53:ASP:HA | 2.46 | 0.46 |
| 9:AH:71:CYS:C | 9:AH:73:GLU:N | 2.73 | 0.46 |
| 11:AJ:81:ILE:C | 11:AJ:84:ALA:HB3 | 2.39 | 0.46 |
| 13:AL:76:PRO:HA | 13:AL:81:ILE:N | 2.31 | 0.46 |
| 16:AO:125:ILE:O | 16:AO:127:GLY:N | 2.48 | 0.46 |
| 28:Ah:20:UNK:O | 28:Ah:24:UNK:O | 2.34 | 0.46 |
| 29:B1:10:C:O2 | 29:B1:10:C:C2' | 2.62 | 0.46 |
| 29:B1:99:A:H1' | 29:B1:281:G:O6 | 2.16 | 0.46 |
| 29:B1:107:A:C2 | 29:B1:108:A:C4 | 3.03 | 0.46 |
| 29:B1:123:A:H2 | 29:B1:145:G:H22 | 1.64 | 0.46 |
| 29:B1:156:G:C4 | 29:B1:158:G:OP2 | 2.68 | 0.46 |
| 29:B1:281:G:N1 | 29:B1:282:G:O6 | 2.48 | 0.46 |
| 29:B1:355:A:N1 | 29:B1:365:A:N9 | 2.64 | 0.46 |
| 29:B1:377:A:C5' | 29:B1:378:A:OP1 | 2.64 | 0.46 |
| 29:B1:405:U:O4 | 29:B1:406:G:N1 | 2.48 | 0.46 |
| 29:B1:593:C:H2' | 29:B1:594:U:H5' | 1.98 | 0.46 |
| 29:B1:606:C:N3 | 29:B1:607:A:C6 | 2.83 | 0.46 |
| 29:B1:648:C:O2 | 29:B1:648:C:O4' | 2.32 | 0.46 |
| 29:B1:723:U:C6 | 29:B1:723:U:C3' | 2.99 | 0.46 |
| 29:B1:750:G:N1 | 29:B1:784:A:N9 | 2.64 | 0.46 |
| 29:B1:817:A:C5 | 59:Bd:14:LYS:HA | 2.51 | 0.46 |
| 29:B1:841:A:H5" | 48:BS:125:LYS:O | 2.16 | 0.46 |
| 29:B1:1047:A:N1 | 29:B1:2646:C:O2 | 2.49 | 0.46 |
| 29:B1:1057:A:N6 | 29:B1:1058:U:C4 | 2.83 | 0.46 |
| 29:B1:1105:A:C2 | 29:B1:1106:G:C4 | 3.03 | 0.46 |
| 29:B1:1140:G:H2' | 29:B1:1140:G:N3 | 2.30 | 0.46 |
| 29:B1:1196:C:C2 | 30:B2:86:U:C6 | 3.04 | 0.46 |
| 29:B1:1204:A:H1' | 29:B1:2855:U:C1' | 2.46 | 0.46 |
| 29:B1:1275:C:C5 | 29:B1:1276:U:C4 | 3.04 | 0.46 |
| 29:B1:1302:A:N9 | 29:B1:2887:A:N1 | 2.63 | 0.46 |
| 29:B1:1366:A:H2' | 29:B1:1367:G:H8 | 1.80 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1454:A:OP2 | 29:B1:1878:G:O6 | 2.34 | 0.46 |
| 29:B1:1493:G:N3 | 29:B1:1493:G:O5' | 2.48 | 0.46 |
| 29:B1:1617:G:H2' | 29:B1:1618:G:H5' | 1.98 | 0.46 |
| 29:B1:1703:U:O2' | 29:B1:1743:G:C2 | 2.68 | 0.46 |
| 29:B1:1798:A:N1 | 29:B1:1799:A:C6 | 2.84 | 0.46 |
| 29:B1:1933:A:N7 | 29:B1:1934:G:N7 | 2.63 | 0.46 |
| 29:B1:1948:G:C2 | 29:B1:1949:G:C8 | 3.04 | 0.46 |
| 29:B1:2234:G:C5 | 29:B1:2235:C:C5 | 3.04 | 0.46 |
| 29:B1:2240:G:C2' | 29:B1:2241:U:O5' | 2.64 | 0.46 |
| 29:B1:2284:C:N4 | 29:B1:2308:C:OP2 | 2.48 | 0.46 |
| 29:B1:2291:A:N1 | 29:B1:2292:U:C2 | 2.84 | 0.46 |
| 29:B1:2349:U:C2 | 29:B1:2350:C:C5 | 3.03 | 0.46 |
| 29:B1:2429:G:C2' | 29:B1:2430:A:H5' | 2.45 | 0.46 |
| 29:B1:2847:A:N6 | 29:B1:2898:G:N3 | 2.64 | 0.46 |
| 29:B1:2898:G:OP2 | 29:B1:2899:C:C6 | 2.69 | 0.46 |
| 29:B1:3035:A:C6 | 29:B1:3036:G:C5 | 3.04 | 0.46 |
| 29:B1:3122:A:C2' | 29:B1:3123:A:C5' | 2.72 | 0.46 |
| 29:B1:3219:G:OP1 | 29:B1:3220:G:C5' | 2.58 | 0.46 |
| 29:B1:3273:A:N1 | 29:B1:3274:A:C6 | 2.84 | 0.46 |
| 29:B1:3367:C:C2' | 29:B1:3368:U:C5' | 2.90 | 0.46 |
| 29:B1:3380:U:O4 | 74:B1:3456:OHX:N4 | 2.49 | 0.46 |
| 29:B1:3394:U:C2' | 29:B1:3395:G:C8 | 2.97 | 0.46 |
| 30:B2:68:C:O2' | 30:B2:69:C:H4' | 2.16 | 0.46 |
| 30:B2:97:A:C2' | 30:B2:98:C:C6 | 2.93 | 0.46 |
| 30:B2:106:U:C2 | 30:B2:107:C:C6 | 3.00 | 0.46 |
| 31:B3:1:A:H2' | 31:B3:2:A:O5' | 2.16 | 0.46 |
| 31:B3:9:A:C2 | 31:B3:10:A:C5 | 3.03 | 0.46 |
| 31:B3:26:U:C4 | 31:B3:27:U:O4 | 2.69 | 0.46 |
| 31:B3:74:U:O2' | 31:B3:89:A:C1' | 2.64 | 0.46 |
| 33:BB:82:VAL:O | 33:BB:84:THR:N | 2.49 | 0.46 |
| 34:BC:142:ALA:C | 34:BC:144:ILE:N | 2.69 | 0.46 |
| 36:BE:157:ALA:O | 36:BE:158:ARG:C | 2.58 | 0.46 |
| 37:BF:5:LYS:O | 37:BF:6:ALA:HB2 | 2.15 | 0.46 |
| 44:BO:56:LYS:HA | 44:BO:57:GLN:HA | 1.50 | 0.46 |
| 45:BP:63:ALA:O | 45:BP:64:PHE:CB | 2.62 | 0.46 |
| 45:BP:139:GLY:O | 45:BP:142:SER:CB | 2.64 | 0.46 |
| 45:BP:162:VAL:O | 45:BP:164:SER:N | 2.49 | 0.46 |
| 46:BQ:99:ALA:HA | 46:BQ:102:ALA:HB3 | 1.96 | 0.46 |
| 48:BS:84:THR:O | 48:BS:87:ALA:N | 2.48 | 0.46 |
| 49:BT:84:TYR:O | 49:BT:85:LEU:O | 2.34 | 0.46 |
| 53:BX:36:SER:O | 53:BX:39:LEU:N | 2.49 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 58:Bc:48:ARG:O | 58:Bc:49:LYS:C | 2.58 | 0.46 |
| 70:Bq:16:UNK:O | 70:Bq:17:UNK:C | 2.62 | 0.46 |
| 1:C1:11:A:H2' | 1:C1:12:U:O4' | 2.16 | 0.46 |
| 1:C1:151:G:C2 | 1:C1:164:A:C2 | 3.04 | 0.46 |
| 1:C1:151:G:N1 | 1:C1:163:G:N2 | 2.37 | 0.46 |
| 1:C1:207:U:N3 | 1:C1:208:U:C4 | 2.83 | 0.46 |
| 1:C1:289:U:N3 | 1:C1:290:G:C8 | 2.80 | 0.46 |
| 1:C1:378:A:OP1 | 1:C1:378:A:O4' | 2.33 | 0.46 |
| 1:C1:428:A:H2 | 1:C1:440:U:O2 | 1.99 | 0.46 |
| 1:C1:478:A:C2 | 1:C1:510:G:C2 | 3.04 | 0.46 |
| 1:C1:550:A:C4' | 1:C1:556:A:C6 | 2.99 | 0.46 |
| 1:C1:557:G:C3' | 1:C1:558:U:H4' | 2.45 | 0.46 |
| 1:C1:614:C:N3 | 1:C1:615:A:C8 | 2.84 | 0.46 |
| 1:C1:622:A:H4' | 1:C1:623:A:O5' | 2.13 | 0.46 |
| 1:C1:642:G:O6 | 1:C1:643:G:C6 | 2.69 | 0.46 |
| 1:C1:697:C:O2 | 1:C1:697:C:O4' | 2.30 | 0.46 |
| 1:C1:993:A:OP1 | 1:C1:1777:G:N2 | 2.39 | 0.46 |
| 1:C1:1086:A:H2' | 1:C1:1087:A:O4' | 2.16 | 0.46 |
| 1:C1:1390:U:H1' | 1:C1:1413:U:C2 | 2.51 | 0.46 |
| 1:C1:1543:A:H1' | 1:C1:1569:A:N1 | 2.31 | 0.46 |
| 1:C1:1670:G:H8 | 1:C1:1670:G:O5' | 1.99 | 0.46 |
| 1:C1:1673:G:H2' | 1:C1:1674:C:H6 | 1.80 | 0.46 |
| 1:C1:1753:A:C2 | 1:C1:1754:A:C2 | 3.03 | 0.46 |
| 2:CA:13:ASP:C | 2:CA:17:LEU:C | 2.82 | 0.46 |
| 2:CA:70:PRO:O | 2:CA:71:GLU:CB | 2.64 | 0.46 |
| 5:CD:184:PHE:HA | 5:CD:185:ARG:HA | 1.72 | 0.46 |
| 5:CD:185:ARG:C | 5:CD:187:ILE:H | 2.22 | 0.46 |
| 6:CE:100:LYS:CA | 6:CE:104:PHE:H | 2.29 | 0.46 |
| 8:CG:82:PRO:O | 8:CG:83:GLU:C | 2.59 | 0.46 |
| 8:CG:84:ILE:HA | 8:CG:85:PRO:HA | 1.74 | 0.46 |
| 10:CI:76:VAL:O | 10:CI:94:VAL:HA | 2.15 | 0.46 |
| 11:CJ:10:PHE:N | 11:CJ:18:ALA:O | 2.49 | 0.46 |
| 13:CL:76:PRO:C | 13:CL:78:HIS:H | 2.22 | 0.46 |
| 13:CL:124:GLY:C | 13:CL:126:ARG:H | 2.22 | 0.46 |
| 20:CS:19:ARG:O | 20:CS:20:GLN:O | 2.33 | 0.46 |
| 21:CT:269:TYR:O | 21:CT:271:VAL:N | 2.49 | 0.46 |
| 29:D1:53:G:C5 | 29:D1:54:C:C5 | 3.03 | 0.46 |
| 29:D1:60:A:C8 | 29:D1:327:A:N1 | 2.84 | 0.46 |
| 29:D1:71:A:H5' | 29:D1:73:C:H42 | 1.81 | 0.46 |
| 29:D1:94:G:C5 | 29:D1:95:A:C5 | 3.04 | 0.46 |
| 29:D1:96:G:H2' | 29:D1:97:U:O5' | 2.16 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:136:G:H2' | 29:D1:136:G:N3 | 2.29 | 0.46 |
| 29:D1:221:A:C5 | 29:D1:224:C:N4 | 2.84 | 0.46 |
| 29:D1:245:U:O4 | 74:D1:3495:OHX:N4 | 2.48 | 0.46 |
| 29:D1:246:U:OP1 | 29:D1:247:C:H5" | 2.15 | 0.46 |
| 29:D1:334:A:C2' | 29:D1:335:G:H8 | 2.06 | 0.46 |
| 29:D1:535:G:C3' | 29:D1:536:U:C5 | 2.94 | 0.46 |
| 29:D1:595:G:C4 | 29:D1:596:C:C6 | 3.03 | 0.46 |
| 29:D1:652:G:C2 | 29:D1:2361:A:O4' | 2.68 | 0.46 |
| 29:D1:682:U:C6 | 29:D1:683:U:C5 | 3.03 | 0.46 |
| 29:D1:952:A:C2 | 29:D1:1114:U:H4' | 2.50 | 0.46 |
| 29:D1:953:G:O2' | 29:D1:954:U:O5' | 2.33 | 0.46 |
| 29:D1:975:C:C2 | 29:D1:976:U:C5 | 3.03 | 0.46 |
| 29:D1:1009:A:H5" | 29:D1:1010:G:P | 2.56 | 0.46 |
| 29:D1:1050:U:C2' | 29:D1:1051:U:O5' | 2.64 | 0.46 |
| 29:D1:1062:A:HO2' | 29:D1:1063:G:P | 2.28 | 0.46 |
| 29:D1:1076:C:H4' | 29:D1:1077:U:OP1 | 2.14 | 0.46 |
| 29:D1:1180:A:C2 | 29:D1:1182:A:C5 | 3.04 | 0.46 |
| 29:D1:1192:C:OP2 | 29:D1:1192:C:C1' | 2.64 | 0.46 |
| 29:D1:1442:U:O2' | 29:D1:1443:G:O5' | 2.17 | 0.46 |
| 29:D1:1504:A:C8 | 29:D1:1505:C:H5 | 2.32 | 0.46 |
| 29:D1:1535:A:H8 | 29:D1:1536:G:C8 | 2.34 | 0.46 |
| 29:D1:1561:G:H2' | 29:D1:1562:C:C6 | 2.51 | 0.46 |
| 29:D1:1678:G:H4' | 29:D1:1756:C:H4' | 1.98 | 0.46 |
| 29:D1:1791:C:H2' | 29:D1:1792:C:C5 | 2.50 | 0.46 |
| 29:D1:1867:A:C5 | 29:D1:1868:G:C5 | 3.04 | 0.46 |
| 29:D1:1921:A:C8 | 29:D1:1932:A:C5 | 3.04 | 0.46 |
| 29:D1:1948:G:H2' | 29:D1:1949:G:H8 | 1.80 | 0.46 |
| 29:D1:2112:U:O2 | 29:D1:2113:A:C6 | 2.69 | 0.46 |
| 29:D1:2269:U:N1 | 29:D1:2272:G:O6 | 2.49 | 0.46 |
| 29:D1:2279:A:N7 | 29:D1:2288:G:C5 | 2.82 | 0.46 |
| 29:D1:2400:G:O4' | 29:D1:2401:A:OP1 | 2.33 | 0.46 |
| 29:D1:2412:G:N3 | 29:D1:2413:A:C8 | 2.84 | 0.46 |
| 29:D1:2541:U:O2 | 29:D1:2542:U:H4' | 2.14 | 0.46 |
| 29:D1:2698:G:C4 | 29:D1:2699:G:C8 | 3.03 | 0.46 |
| 29:D1:2779:A:C4 | 29:D1:2780:A:C8 | 3.03 | 0.46 |
| 29:D1:2813:A:C2 | 29:D1:2814:G:C4 | 3.04 | 0.46 |
| 29:D1:3036:G:C2' | 29:D1:3037:U:O5' | 2.64 | 0.46 |
| 29:D1:3058:U:OP1 | 29:D1:3058:U:C3' | 2.61 | 0.46 |
| 29:D1:3073:A:H2' | 29:D1:3074:G:O4' | 2.16 | 0.46 |
| 29:D1:3113:A:N6 | 29:D1:3114:A:N1 | 2.63 | 0.46 |
| 29:D1:3141:A:O4' | 29:D1:3143:C:C2' | 2.61 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3201:C:N4 | 29:D1:3202:G:O6 | 2.49 | 0.46 |
| 29:D1:3259:U:O3' | 29:D1:3260:G:C8 | 2.68 | 0.46 |
| 29:D1:3325:G:H2' | 29:D1:3326:G:H8 | 1.81 | 0.46 |
| 30:D2:60:G:C2 | 30:D2:61:G:N7 | 2.84 | 0.46 |
| 30:D2:103:A:H2' | 30:D2:104:A:C8 | 2.51 | 0.46 |
| 31:D3:14:C:C5' | 31:D3:15:G:OP2 | 2.64 | 0.46 |
| 31:D3:52:A:C6 | 31:D3:53:A:C5 | 3.03 | 0.46 |
| 34:DC:292:ALA:HA | 34:DC:293:ASN:HA | 1.36 | 0.46 |
| 35:DD:57:GLY:C | 35:DD:59:GLN:H | 2.23 | 0.46 |
| 35:DD:82:THR:O | 35:DD:84:ARG:N | 2.48 | 0.46 |
| 35:DD:159:ILE:C | 35:DD:161:LYS:N | 2.74 | 0.46 |
| 38:DG:47:ARG:O | 38:DG:49:ALA:O | 2.33 | 0.46 |
| 38:DG:154:GLY:C | 38:DG:156:ILE:H | 2.23 | 0.46 |
| 39:DH:98:ARG:O | 39:DH:99:PRO:O | 2.33 | 0.46 |
| 42:DK:87:LYS:O | 42:DK:88:GLU:C | 2.59 | 0.46 |
| 42:DK:133:ARG:CB | 42:DK:153:LYS:O | 2.63 | 0.46 |
| 44:DO:100:ALA:O | 44:DO:103:GLU:N | 2.48 | 0.46 |
| 47:DR:18:ALA:O | 47:DR:19:PRO:C | 2.58 | 0.46 |
| 47:DR:98:LYS:N | 47:DR:117:ALA:HB1 | 2.31 | 0.46 |
| 48:DS:183:ALA:C | 48:DS:185:LEU:H | 2.24 | 0.46 |
| 55:DZ:9:SER:O | 55:DZ:13:LYS:N | 2.48 | 0.46 |
| 1:A1:184:C:C4 | 1:A1:202:A:C2 | 3.04 | 0.46 |
| 1:A1:192:U:H3' | 1:A1:192:U:C6 | 2.50 | 0.46 |
| 1:A1:248:U:O2' | 1:A1:249:U:C5' | 2.63 | 0.46 |
| 1:A1:337:G:H5" | 1:A1:338:C:C5 | 2.51 | 0.46 |
| 1:A1:381:C:H1' | 1:A1:756:A:H2 | 1.80 | 0.46 |
| 1:A1:514:G:C2 | 1:A1:515:A:C8 | 3.03 | 0.46 |
| 1:A1:514:G:C4 | 1:A1:515:A:C8 | 3.03 | 0.46 |
| 1:A1:601:A:C5 | 1:A1:602:U:C5 | 3.04 | 0.46 |
| 1:A1:629:U:C2 | 1:A1:971:A:C6 | 3.03 | 0.46 |
| 1:A1:887:A:N3 | 1:A1:888:U:C6 | 2.84 | 0.46 |
| 1:A1:910:C:N4 | 1:A1:911:U:C4 | 2.84 | 0.46 |
| 1:A1:939:A:C2 | 1:A1:940:A:C4 | 3.04 | 0.46 |
| 1:A1:1186:U:H2' | 1:A1:1187:U:C5' | 2.46 | 0.46 |
| 1:A1:1209:C:N3 | 1:A1:1455:G:N2 | 2.63 | 0.46 |
| 1:A1:1273:G:C3' | 1:A1:1274:C:H5' | 2.42 | 0.46 |
| 1:A1:1310:U:O2' | 1:A1:1311:U:O5' | 2.30 | 0.46 |
| 1:A1:1354:G:C5 | 1:A1:1355:C:C5 | 3.02 | 0.46 |
| 1:A1:1359:C:H2' | 1:A1:1360:A:H8 | 1.81 | 0.46 |
| 1:A1:1420:C:C6 | 1:A1:1420:C:C3' | 2.99 | 0.46 |
| 1:A1:1440:C:O2' | 1:A1:1441:C:H5' | 2.15 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1470:C:OP1 | 1:A1:1471:A:H1' | 2.15 | 0.46 |
| 1:A1:1534:G:H4' | 1:A1:1536:G:C6 | 2.51 | 0.46 |
| 1:A1:1761:U:C2' | 1:A1:1762:A:OP2 | 2.64 | 0.46 |
| 5:AD:44:ASN:O | 5:AD:46:TRP:N | 2.49 | 0.46 |
| 6:AE:96:VAL:O | 6:AE:99:LEU:N | 2.48 | 0.46 |
| 7:AF:132:SER:O | 7:AF:134:THR:N | 2.49 | 0.46 |
| 15:AN:40:ASN:O | 15:AN:41:ILE:CB | 2.63 | 0.46 |
| 21:AT:288:HIS:O | 21:AT:289:ALA:C | 2.56 | 0.46 |
| 24:Ac:3:UNK:O | 24:Ac:99:UNK:N | 2.45 | 0.46 |
| 26:Ae:10:UNK:O | 26:Ae:12:UNK:N | 2.49 | 0.46 |
| 28:Ah:60:UNK:CA | 29:B1:3352:U:H1' | 2.46 | 0.46 |
| 29:B1:40:A:C2' | 29:B1:41:G:H5' | 2.45 | 0.46 |
| 29:B1:157:A:O2' | 29:B1:158:G:C8 | 2.67 | 0.46 |
| 29:B1:191:U:H2' | 29:B1:192:C:C6 | 2.51 | 0.46 |
| 29:B1:222:A:C5 | 29:B1:223:U:C4 | 3.04 | 0.46 |
| 29:B1:347:G:H8 | 29:B1:347:G:O5' | 1.99 | 0.46 |
| 29:B1:361:A:HO2' | 29:B1:362:U:P | 2.39 | 0.46 |
| 29:B1:372:A:C6 | 29:B1:373:A:C5 | 3.04 | 0.46 |
| 29:B1:415:G:C4 | 29:B1:416:A:C8 | 3.03 | 0.46 |
| 29:B1:537:A:OP1 | 29:B1:538:G:H5' | 2.16 | 0.46 |
| 29:B1:539:C:H2' | 29:B1:540:U:C6 | 2.51 | 0.46 |
| 29:B1:648:C:H6 | 29:B1:2375:G:OP2 | 1.99 | 0.46 |
| 29:B1:693:A:C5 | 29:B1:694:C:C5 | 3.04 | 0.46 |
| 29:B1:715:A:O2' | 29:B1:716:A:H5' | 2.15 | 0.46 |
| 29:B1:863:C:OP1 | 74:B1:3415:OHX:N2 | 2.49 | 0.46 |
| 29:B1:1042:U:C2' | 29:B1:1043:C:O5' | 2.64 | 0.46 |
| 29:B1:1051:U:O2 | 29:B1:1051:U:H2' | 2.16 | 0.46 |
| 29:B1:1072:G:C4 | 29:B1:1073:U:C5 | 3.03 | 0.46 |
| 29:B1:1079:A:C5 | 29:B1:1080:A:C6 | 3.02 | 0.46 |
| 29:B1:1107:C:O2 | 29:B1:1108:U:C5 | 2.69 | 0.46 |
| 29:B1:1119:C:H2' | 29:B1:1120:A:C8 | 2.51 | 0.46 |
| 29:B1:1133:A:H5' | 29:B1:2866:U:OP1 | 2.15 | 0.46 |
| 29:B1:1194:G:C8 | 29:B1:1319:G:H5" | 2.51 | 0.46 |
| 29:B1:1358:C:C3' | 29:B1:1359:C:H6 | 2.28 | 0.46 |
| 29:B1:1372:C:C2' | 29:B1:1373:A:H5' | 2.45 | 0.46 |
| 29:B1:1505:C:H4' | 29:B1:1505:C:OP1 | 2.15 | 0.46 |
| 29:B1:1565:G:N3 | 29:B1:1565:G:H2' | 2.30 | 0.46 |
| 29:B1:1833:G:N3 | 29:B1:1834:U:O2 | 2.49 | 0.46 |
| 29:B1:1851:G:C5 | 29:B1:1852:G:C8 | 3.04 | 0.46 |
| 29:B1:1953:G:N1 | 29:B1:2092:A:OP2 | 2.48 | 0.46 |
| 29:B1:2157:G:N2 | 33:BB:125:ALA:HA | 2.30 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2173:U:H2' | 29:B1:2174:G:OP1 | 2.15 | 0.46 |
| 29:B1:2250:G:N3 | 29:B1:2250:G:H2' | 2.31 | 0.46 |
| 29:B1:2288:G:C2 | 29:B1:2289:U:C5 | 3.03 | 0.46 |
| 29:B1:2294:U:C2 | 29:B1:2296:A:OP2 | 2.69 | 0.46 |
| 29:B1:2414:G:C2 | 29:B1:2415:C:C2 | 3.04 | 0.46 |
| 29:B1:2444:C:H3' | 29:B1:2445:A:H5" | 1.98 | 0.46 |
| 29:B1:2531:C:H42 | 29:B1:2548:C:N4 | 2.14 | 0.46 |
| 29:B1:2576:G:C4 | 29:B1:2577:C:C6 | 3.03 | 0.46 |
| 29:B1:2614:G:C4 | 29:B1:2797:C:H5 | 2.33 | 0.46 |
| 29:B1:2640:A:C2' | 29:B1:2641:U:H6 | 2.26 | 0.46 |
| 29:B1:2984:C:C2 | 29:B1:2985:C:C5 | 3.04 | 0.46 |
| 29:B1:3002:C:C2 | 29:B1:3147:G:C2 | 3.04 | 0.46 |
| 29:B1:3113:A:N1 | 29:B1:3122:A:C8 | 2.83 | 0.46 |
| 29:B1:3161:C:C5 | 29:B1:3161:C:OP2 | 2.69 | 0.46 |
| 29:B1:3215:A:OP2 | 29:B1:3218:A:N9 | 2.48 | 0.46 |
| 29:B1:3330:A:H2' | 29:B1:3331:U:O5' | 2.15 | 0.46 |
| 29:B1:3377:G:H1' | 29:B1:3378:C:P | 2.55 | 0.46 |
| 29:B1:3388:C:H6 | 29:B1:3388:C:C5' | 2.28 | 0.46 |
| 30:B2:44:C:C4 | 30:B2:45:A:C5 | 3.03 | 0.46 |
| 30:B2:75:G:P | 74:B2:201:OHX:N5 | 2.89 | 0.46 |
| 30:B2:108:A:C6 | 30:B2:109:G:O6 | 2.68 | 0.46 |
| 31:B3:42:G:N2 | 31:B3:43:A:C4 | 2.84 | 0.46 |
| 31:B3:91:C:H2' | 31:B3:92:A:O4' | 2.15 | 0.46 |
| 31:B3:95:G:H4' | 59:Bd:72:ARG:CA | 2.42 | 0.46 |
| 34:BC:231:HIS:O | 34:BC:232:ARG:C | 2.58 | 0.46 |
| 37:BF:112:THR:O | 37:BF:113:LYS:CB | 2.63 | 0.46 |
| 43:BN:24:LYS:CB | 43:BN:31:LYS:CA | 2.94 | 0.46 |
| 45:BP:124:LEU:CB | 45:BP:128:ARG:H | 2.26 | 0.46 |
| 49:BT:103:GLN:O | 49:BT:106:LEU:N | 2.47 | 0.46 |
| 1:C1:32:U:H2' | 1:C1:33:U:O5' | 2.16 | 0.46 |
| 1:C1:85:A:O2' | 1:C1:86:A:OP2 | 2.32 | 0.46 |
| 1:C1:90:C:N4 | 74:C1:1995:OHX:N6 | 2.63 | 0.46 |
| 1:C1:94:U:O4' | 1:C1:94:U:O2 | 2.33 | 0.46 |
| 1:C1:168:A:H3' | 1:C1:169:A:H8 | 1.78 | 0.46 |
| 1:C1:311:U:O2' | 1:C1:312:A:O5' | 2.34 | 0.46 |
| 1:C1:545:A:H61 | 1:C1:593:U:H2' | 1.79 | 0.46 |
| 1:C1:796:A:C2' | 1:C1:797:G:H5' | 2.46 | 0.46 |
| 1:C1:823:G:H21 | 1:C1:824:G:H2' | 1.79 | 0.46 |
| 1:C1:877:G:C2 | 1:C1:878:G:C8 | 3.03 | 0.46 |
| 1:C1:901:G:H3' | 1:C1:902:G:N7 | 2.30 | 0.46 |
| 1:C1:939:A:C2 | 1:C1:940:A:C4 | 3.03 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1025:A:N7 | 1:C1:1027:A:N9 | 2.64 | 0.46 |
| 1:C1:1170:G:C6 | 1:C1:1574:G:C5 | 3.04 | 0.46 |
| 1:C1:1186:U:H2' | 1:C1:1187:U:C5' | 2.46 | 0.46 |
| 1:C1:1186:U:C1' | 1:C1:1208:A:C2 | 2.98 | 0.46 |
| 1:C1:1237:G:C5 | 1:C1:1238:A:N7 | 2.84 | 0.46 |
| 1:C1:1299:G:C6 | 1:C1:1300:A:N6 | 2.84 | 0.46 |
| 1:C1:1373:C:H2' | 1:C1:1373:C:O2 | 2.13 | 0.46 |
| 1:C1:1483:A:C4 | 1:C1:1524:A:C6 | 3.04 | 0.46 |
| 1:C1:1536:G:C4 | 1:C1:1538:U:O2 | 2.69 | 0.46 |
| 1:C1:1587:A:C4 | 1:C1:1588:G:C8 | 3.04 | 0.46 |
| 1:C1:1608:U:H2' | 1:C1:1609:U:H6 | 1.80 | 0.46 |
| 1:C1:1622:G:C5 | 1:C1:1623:C:C4 | 3.04 | 0.46 |
| 1:C1:1649:G:C6 | 1:C1:1650:U:O4 | 2.69 | 0.46 |
| 1:C1:1663:G:C6 | 1:C1:1664:C:C4 | 3.03 | 0.46 |
| 1:C1:1734:U:C4 | 1:C1:1735:U:C4 | 3.03 | 0.46 |
| 1:C1:1758:U:O2 | 1:C1:1758:U:H2' | 2.16 | 0.46 |
| 2:CA:180:GLU:O | 2:CA:184:LEU:CB | 2.63 | 0.46 |
| 3:CB:122:ALA:O | 3:CB:125:ILE:N | 2.49 | 0.46 |
| 5:CD:218:GLU:C | 5:CD:220:VAL:N | 2.74 | 0.46 |
| 9:CH:57:PRO:O | 9:CH:58:TYR:C | 2.58 | 0.46 |
| 9:CH:77:THR:O | 9:CH:110:LEU:HA | 2.16 | 0.46 |
| 10:CI:66:ALA:O | 10:CI:67:ALA:HB3 | 2.16 | 0.46 |
| 21:CT:21:THR:N | 21:CT:37:SER:HA | 2.26 | 0.46 |
| 24:Cc:68:UNK:O | 24:Cc:69:UNK:CB | 2.64 | 0.46 |
| 29:D1:10:C:C2' | 29:D1:11:A:O5' | 2.63 | 0.46 |
| 29:D1:22:G:O4' | 31:D3:104:A:H1' | 2.16 | 0.46 |
| 29:D1:58:G:O2' | 29:D1:61:A:H5' | 2.16 | 0.46 |
| 29:D1:79:U:H2' | 29:D1:80:G:H8 | 1.81 | 0.46 |
| 29:D1:149:U:C4 | 44:DO:55:ALA:HA | 2.50 | 0.46 |
| 29:D1:167:U:H2' | 29:D1:168:U:H6 | 1.81 | 0.46 |
| 29:D1:252:U:C3' | 29:D1:253:A:H5' | 2.46 | 0.46 |
| 29:D1:363:G:C3' | 29:D1:364:G:C5' | 2.90 | 0.46 |
| 29:D1:370:U:H2' | 29:D1:371:G:O4' | 2.15 | 0.46 |
| 29:D1:392:G:N7 | 74:D1:3523:OHX:N4 | 2.64 | 0.46 |
| 29:D1:423:A:O5' | 29:D1:423:A:C8 | 2.69 | 0.46 |
| 29:D1:428:A:H3' | 29:D1:428:A:C8 | 2.51 | 0.46 |
| 29:D1:595:G:C2' | 29:D1:596:C:O4' | 2.59 | 0.46 |
| 29:D1:603:A:O5' | 29:D1:603:A:H8 | 1.97 | 0.46 |
| 29:D1:665:A:N6 | 29:D1:666:A:C6 | 2.84 | 0.46 |
| 29:D1:715:A:O2' | 29:D1:716:A:C5' | 2.64 | 0.46 |
| 29:D1:1139:G:H2' | 29:D1:1140:G:O4' | 2.16 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1183:C:C3’ | 29:D1:1184:A:C5’ | 2.93 | 0.46 |
| 29:D1:1203:A:C2 | 29:D1:2855:U:O2 | 2.69 | 0.46 |
| 29:D1:1226:G:O4’ | 29:D1:3116:G:N7 | 2.49 | 0.46 |
| 29:D1:1284:C:O2 | 29:D1:1284:C:H2’ | 2.16 | 0.46 |
| 29:D1:1294:A:H5” | 29:D1:1294:A:C8 | 2.33 | 0.46 |
| 29:D1:1438:U:H2’ | 29:D1:1439:U:C6 | 2.51 | 0.46 |
| 29:D1:1467:A:O2’ | 29:D1:1469:C:OP2 | 2.29 | 0.46 |
| 29:D1:1487:G:O6 | 74:D1:3588:OHX:N1 | 2.48 | 0.46 |
| 29:D1:1506:A:H3’ | 29:D1:1507:G:O4’ | 2.16 | 0.46 |
| 29:D1:1546:A:N6 | 29:D1:1547:G:C2 | 2.84 | 0.46 |
| 29:D1:1547:G:H2’ | 29:D1:1548:C:H6 | 1.76 | 0.46 |
| 29:D1:1675:G:C2 | 29:D1:1773:C:C4 | 3.04 | 0.46 |
| 29:D1:1771:C:H2’ | 29:D1:1772:U:O4’ | 2.16 | 0.46 |
| 29:D1:1797:A:C4 | 29:D1:1798:A:C8 | 3.04 | 0.46 |
| 29:D1:1838:G:H4’ | 29:D1:1839:A:C8 | 2.51 | 0.46 |
| 29:D1:1870:C:H2’ | 29:D1:1871:U:O4’ | 2.16 | 0.46 |
| 29:D1:2135:U:C2 | 29:D1:2136:C:C5 | 3.03 | 0.46 |
| 29:D1:2172:A:H1’ | 33:DB:10:LYS:C | 2.40 | 0.46 |
| 29:D1:2233:A:OP2 | 74:D1:3473:OHX:N4 | 2.49 | 0.46 |
| 29:D1:2362:C:H2’ | 29:D1:2363:A:O4’ | 2.16 | 0.46 |
| 29:D1:2413:A:C2’ | 29:D1:2414:G:O5’ | 2.64 | 0.46 |
| 29:D1:2579:G:OP1 | 29:D1:2581:U:H5’ | 2.15 | 0.46 |
| 29:D1:2617:U:O2 | 29:D1:2617:U:O4’ | 2.34 | 0.46 |
| 29:D1:2646:C:C2’ | 29:D1:2647:A:H5’ | 2.46 | 0.46 |
| 29:D1:2778:G:O6 | 29:D1:2779:A:N6 | 2.49 | 0.46 |
| 29:D1:2815:G:H5” | 29:D1:2816:G:OP1 | 2.15 | 0.46 |
| 29:D1:2868:U:C4 | 29:D1:2869:U:C5 | 3.04 | 0.46 |
| 29:D1:3000:A:C2’ | 29:D1:3001:C:C6 | 2.94 | 0.46 |
| 29:D1:3005:A:C2’ | 29:D1:3140:G:H22 | 2.28 | 0.46 |
| 29:D1:3047:U:O2 | 29:D1:3048:A:C2 | 2.63 | 0.46 |
| 29:D1:3221:C:N3 | 29:D1:3222:U:H5 | 2.08 | 0.46 |
| 29:D1:3278:C:H2’ | 29:D1:3279:A:N9 | 2.30 | 0.46 |
| 30:D2:22:A:C2’ | 30:D2:23:A:O5’ | 2.64 | 0.46 |
| 30:D2:69:C:H1’ | 30:D2:110:G:N2 | 2.27 | 0.46 |
| 30:D2:78:U:O2’ | 30:D2:79:A:O5’ | 2.34 | 0.46 |
| 30:D2:114:U:H3’ | 30:D2:115:G:H8 | 1.81 | 0.46 |
| 33:DB:231:SER:C | 33:DB:233:GLN:N | 2.70 | 0.46 |
| 34:DC:300:ARG:O | 34:DC:301:THR:CB | 2.64 | 0.46 |
| 35:DD:53:SER:O | 35:DD:54:GLU:C | 2.58 | 0.46 |
| 35:DD:84:ARG:C | 35:DD:86:GLY:N | 2.70 | 0.46 |
| 36:DE:42:ALA:O | 36:DE:43:LYS:CB | 2.63 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 36:DE:262:LYS:O | 36:DE:265:TYR:CB | 2.64 | 0.46 |
| 43:DN:10:SER:N | 43:DN:11:ASN:HA | 2.21 | 0.46 |
| 43:DN:62:GLN:O | 43:DN:63:VAL:O | 2.34 | 0.46 |
| 47:DR:102:ALA:O | 47:DR:103:ALA:HB2 | 2.16 | 0.46 |
| 51:DV:24:GLY:O | 51:DV:25:ASP:O | 2.34 | 0.46 |
| 51:DV:40:PHE:O | 51:DV:43:ARG:N | 2.48 | 0.46 |
| 52:DW:133:LEU:HA | 52:DW:136:ALA:HB3 | 1.97 | 0.46 |
| 58:Dc:65:ALA:C | 58:Dc:67:ARG:N | 2.73 | 0.46 |
| 62:Dg:81:SER:O | 62:Dg:83:ILE:N | 2.49 | 0.46 |
| 1:A1:12:U:H1' | 1:A1:1300:A:C1' | 2.40 | 0.46 |
| 1:A1:150:U:C4' | 1:A1:151:G:OP2 | 2.64 | 0.46 |
| 1:A1:287:G:H2' | 1:A1:288:A:C5' | 2.45 | 0.46 |
| 1:A1:329:G:C4 | 1:A1:330:G:N7 | 2.84 | 0.46 |
| 1:A1:391:A:N1 | 1:A1:392:G:C5 | 2.84 | 0.46 |
| 1:A1:435:C:H2' | 1:A1:436:A:O4' | 2.15 | 0.46 |
| 1:A1:550:A:C4' | 1:A1:556:A:C6 | 2.99 | 0.46 |
| 1:A1:567:A:N1 | 1:A1:583:C:H1' | 2.31 | 0.46 |
| 1:A1:642:G:O6 | 1:A1:643:G:C6 | 2.68 | 0.46 |
| 1:A1:690:G:C6 | 1:A1:691:C:C4 | 3.03 | 0.46 |
| 1:A1:704:C:N4 | 1:A1:735:C:H5" | 2.31 | 0.46 |
| 1:A1:726:C:H5' | 1:A1:727:U:OP1 | 2.16 | 0.46 |
| 1:A1:895:G:C6 | 1:A1:896:U:N3 | 2.84 | 0.46 |
| 1:A1:977:A:N6 | 1:A1:1025:A:N9 | 2.63 | 0.46 |
| 1:A1:980:G:O6 | 74:A1:1923:OHX:N2 | 2.49 | 0.46 |
| 1:A1:1032:G:C4 | 1:A1:1033:C:C5 | 3.04 | 0.46 |
| 1:A1:1054:U:C2 | 1:A1:1055:U:C6 | 3.04 | 0.46 |
| 1:A1:1160:A:C2' | 1:A1:1161:C:C6 | 2.87 | 0.46 |
| 1:A1:1176:G:C4 | 1:A1:1464:G:C2 | 3.03 | 0.46 |
| 1:A1:1227:A:C8 | 1:A1:1229:G:P | 3.09 | 0.46 |
| 1:A1:1274:C:P | 1:A1:1428:G:OP1 | 2.73 | 0.46 |
| 1:A1:1330:G:C2' | 1:A1:1331:A:H5' | 2.45 | 0.46 |
| 1:A1:1369:U:O4 | 74:A1:1959:OHX:N2 | 2.49 | 0.46 |
| 1:A1:1428:G:C2 | 1:A1:1429:G:N7 | 2.84 | 0.46 |
| 1:A1:1483:A:C4 | 1:A1:1524:A:C6 | 3.04 | 0.46 |
| 1:A1:1559:A:O2' | 1:A1:1560:U:H6 | 1.98 | 0.46 |
| 1:A1:1645:G:N1 | 1:A1:1757:G:C5 | 2.84 | 0.46 |
| 1:A1:1675:C:C4 | 1:A1:1678:A:N6 | 2.84 | 0.46 |
| 1:A1:1685:G:C4 | 1:A1:1719:A:N1 | 2.84 | 0.46 |
| 1:A1:1713:G:N3 | 1:A1:1713:G:C2' | 2.78 | 0.46 |
| 1:A1:1714:A:N1 | 1:A1:1715:G:C2 | 2.84 | 0.46 |
| 1:A1:1733:C:H2' | 1:A1:1734:U:O4' | 2.15 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1779:U:H4' | 1:A1:1780:G:OP1 | 2.16 | 0.46 |
| 2:AA:79:ARG:O | 2:AA:83:GLN:N | 2.49 | 0.46 |
| 3:AB:83:ILE:O | 3:AB:99:LYS:O | 2.34 | 0.46 |
| 4:AC:140:GLY:HA3 | 4:AC:182:LEU:CA | 2.40 | 0.46 |
| 6:AE:100:LYS:O | 6:AE:101:VAL:C | 2.58 | 0.46 |
| 8:AG:36:GLN:HA | 8:AG:39:LYS:CB | 2.45 | 0.46 |
| 12:AK:67:ARG:O | 12:AK:68:GLY:C | 2.58 | 0.46 |
| 14:AM:27:LYS:C | 14:AM:29:GLU:N | 2.74 | 0.46 |
| 15:AN:69:LYS:H | 15:AN:79:TRP:H | 1.62 | 0.46 |
| 17:AP:103:LEU:O | 17:AP:104:LEU:O | 2.33 | 0.46 |
| 21:AT:140:CYS:O | 21:AT:141:LEU:C | 2.59 | 0.46 |
| 21:AT:224:ASN:CB | 21:AT:227:ALA:HB3 | 2.45 | 0.46 |
| 29:B1:44:U:C6 | 29:B1:45:A:C8 | 3.04 | 0.46 |
| 29:B1:88:A:C8 | 29:B1:88:A:C3' | 2.98 | 0.46 |
| 29:B1:284:A:N3 | 29:B1:284:A:C2' | 2.76 | 0.46 |
| 29:B1:361:A:O2' | 29:B1:362:U:O5' | 2.34 | 0.46 |
| 29:B1:379:C:O2' | 29:B1:380:U:O5' | 2.30 | 0.46 |
| 29:B1:382:U:H3' | 29:B1:383:G:H4' | 1.95 | 0.46 |
| 29:B1:536:U:O2' | 29:B1:538:G:N7 | 2.43 | 0.46 |
| 29:B1:661:G:C8 | 29:B1:661:G:OP2 | 2.68 | 0.46 |
| 29:B1:705:A:H4' | 29:B1:706:A:C5' | 2.43 | 0.46 |
| 29:B1:729:C:C4 | 29:B1:730:C:C5 | 3.03 | 0.46 |
| 29:B1:935:U:H2' | 29:B1:936:A:H8 | 1.78 | 0.46 |
| 29:B1:943:U:O2' | 29:B1:944:C:C5' | 2.64 | 0.46 |
| 29:B1:1020:G:C6 | 29:B1:1021:G:C5 | 3.04 | 0.46 |
| 29:B1:1120:A:H2' | 29:B1:1120:A:N3 | 2.30 | 0.46 |
| 29:B1:1131:G:N3 | 29:B1:2373:A:C6 | 2.83 | 0.46 |
| 29:B1:1354:G:H2' | 29:B1:1355:A:C4 | 2.51 | 0.46 |
| 29:B1:1549:U:H2' | 29:B1:1550:C:H6 | 1.80 | 0.46 |
| 29:B1:1560:G:C6 | 29:B1:1561:G:C6 | 3.04 | 0.46 |
| 29:B1:1626:U:C4 | 29:B1:1627:U:C5 | 3.04 | 0.46 |
| 29:B1:1680:G:C4 | 29:B1:1681:U:H6 | 2.32 | 0.46 |
| 29:B1:1803:C:OP2 | 29:B1:1803:C:C6 | 2.69 | 0.46 |
| 29:B1:2112:U:C1' | 29:B1:2113:A:P | 3.04 | 0.46 |
| 29:B1:2150:G:OP2 | 29:B1:2150:G:H8 | 1.99 | 0.46 |
| 29:B1:2161:G:C5 | 29:B1:2162:U:C5 | 3.03 | 0.46 |
| 29:B1:2257:C:C2 | 29:B1:2258:U:C6 | 3.04 | 0.46 |
| 29:B1:2391:G:N2 | 29:B1:2989:U:C2 | 2.84 | 0.46 |
| 29:B1:2521:U:H2' | 29:B1:2522:G:C4' | 2.46 | 0.46 |
| 29:B1:2529:A:C6 | 29:B1:2530:G:C6 | 3.03 | 0.46 |
| 29:B1:2591:A:N1 | 29:B1:2592:G:H1' | 2.30 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2609:A:C4 | 29:B1:2610:G:C8 | 3.03 | 0.46 |
| 29:B1:2687:G:H5" | 74:B1:3429:OHX:N1 | 2.30 | 0.46 |
| 29:B1:2725:U:OP2 | 29:B1:2726:C:P | 2.73 | 0.46 |
| 29:B1:2929:C:H3' | 29:B1:2929:C:H6 | 1.79 | 0.46 |
| 29:B1:3010:U:O2' | 29:B1:3011:A:H5' | 2.15 | 0.46 |
| 29:B1:3141:A:H2 | 29:B1:3144:G:P | 2.38 | 0.46 |
| 29:B1:3274:A:C8 | 29:B1:3275:U:C2' | 2.90 | 0.46 |
| 29:B1:3395:G:HO2' | 29:B1:3396:U:P | 2.32 | 0.46 |
| 30:B2:30:G:C5 | 30:B2:31:U:N3 | 2.83 | 0.46 |
| 30:B2:46:A:H2' | 30:B2:47:C:C6 | 2.51 | 0.46 |
| 30:B2:63:A:C3' | 30:B2:64:A:C5' | 2.71 | 0.46 |
| 30:B2:81:U:O2 | 30:B2:81:U:H2' | 2.15 | 0.46 |
| 34:BC:189:SER:C | 34:BC:191:LYS:N | 2.68 | 0.46 |
| 34:BC:220:VAL:O | 34:BC:221:THR:CB | 2.64 | 0.46 |
| 38:BG:25:GLN:HA | 38:BG:28:ALA:HB2 | 1.96 | 0.46 |
| 38:BG:201:PHE:O | 38:BG:202:LEU:CB | 2.64 | 0.46 |
| 41:BJ:215:GLU:C | 41:BJ:217:PHE:N | 2.72 | 0.46 |
| 42:BK:87:LYS:O | 42:BK:88:GLU:C | 2.59 | 0.46 |
| 43:BN:24:LYS:O | 43:BN:25:LYS:O | 2.33 | 0.46 |
| 43:BN:111:ALA:O | 43:BN:113:THR:N | 2.48 | 0.46 |
| 45:BP:58:LEU:O | 45:BP:59:ARG:CB | 2.64 | 0.46 |
| 49:BT:58:GLN:C | 49:BT:60:LYS:H | 2.24 | 0.46 |
| 55:BZ:82:GLY:O | 55:BZ:83:LYS:C | 2.58 | 0.46 |
| 1:C1:16:G:C4 | 1:C1:17:C:C5 | 3.04 | 0.46 |
| 1:C1:276:C:O2 | 1:C1:277:U:H3' | 2.16 | 0.46 |
| 1:C1:542:A:C2 | 1:C1:544:A:H3' | 2.51 | 0.46 |
| 1:C1:611:U:O4 | 1:C1:612:U:C4 | 2.68 | 0.46 |
| 1:C1:758:U:C3' | 1:C1:759:U:H6 | 2.28 | 0.46 |
| 1:C1:952:A:C2 | 1:C1:953:G:C8 | 3.04 | 0.46 |
| 1:C1:1036:A:H3' | 1:C1:1037:C:H6 | 1.81 | 0.46 |
| 1:C1:1096:C:O2 | 1:C1:1098:U:OP2 | 2.34 | 0.46 |
| 1:C1:1124:A:C6 | 1:C1:1125:A:C2 | 3.04 | 0.46 |
| 1:C1:1211:A:C5 | 1:C1:1212:G:N7 | 2.84 | 0.46 |
| 1:C1:1250:U:C2 | 1:C1:1251:U:C4 | 3.04 | 0.46 |
| 1:C1:1269:U:H1' | 1:C1:1270:G:OP2 | 2.16 | 0.46 |
| 1:C1:1302:U:OP2 | 1:C1:1302:U:H6 | 1.99 | 0.46 |
| 1:C1:1348:A:H5" | 15:CN:11:GLU:C | 2.34 | 0.46 |
| 1:C1:1499:G:C6 | 1:C1:1508:U:O2 | 2.60 | 0.46 |
| 1:C1:1761:U:C1' | 1:C1:1762:A:OP2 | 2.64 | 0.46 |
| 1:C1:1764:C:H5' | 1:C1:1767:G:C8 | 2.51 | 0.46 |
| 2:CA:14:ALA:HA | 2:CA:15:GLN:HA | 1.80 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 2:CA:65:ALA:C | 2:CA:67:ILE:H | 2.23 | 0.46 |
| 2:CA:175:TYR:O | 2:CA:177:LEU:N | 2.49 | 0.46 |
| 3:CB:106:ASP:C | 3:CB:108:ASN:N | 2.74 | 0.46 |
| 3:CB:153:SER:O | 3:CB:154:LEU:CB | 2.64 | 0.46 |
| 8:CG:70:LYS:O | 8:CG:71:ILE:C | 2.58 | 0.46 |
| 10:CI:45:PHE:CB | 10:CI:46:ALA:CA | 2.92 | 0.46 |
| 11:CJ:90:VAL:HA | 11:CJ:97:VAL:HA | 1.98 | 0.46 |
| 21:CT:288:HIS:O | 21:CT:289:ALA:C | 2.58 | 0.46 |
| 25:Cd:106:UNK:O | 25:Cd:107:UNK:C | 2.62 | 0.46 |
| 29:D1:3:U:O2' | 29:D1:4:U:H5' | 2.16 | 0.46 |
| 29:D1:10:C:O2 | 29:D1:10:C:C2' | 2.52 | 0.46 |
| 29:D1:134:U:C4 | 58:Dc:67:ARG:HA | 2.51 | 0.46 |
| 29:D1:176:G:N3 | 29:D1:177:U:C6 | 2.84 | 0.46 |
| 29:D1:393:U:O2 | 29:D1:394:G:O4' | 2.33 | 0.46 |
| 29:D1:439:C:O2 | 29:D1:439:C:C2' | 2.64 | 0.46 |
| 29:D1:594:U:N3 | 29:D1:595:G:C2 | 2.58 | 0.46 |
| 29:D1:707:U:OP1 | 29:D1:782:U:O2' | 2.25 | 0.46 |
| 29:D1:759:U:O4 | 29:D1:773:G:N7 | 2.49 | 0.46 |
| 29:D1:790:U:C2' | 29:D1:791:A:O5' | 2.64 | 0.46 |
| 29:D1:847:A:C2' | 29:D1:848:A:C8 | 2.91 | 0.46 |
| 29:D1:963:G:H8 | 29:D1:963:G:C4' | 2.25 | 0.46 |
| 29:D1:1125:U:C4 | 29:D1:1134:G:C6 | 3.04 | 0.46 |
| 29:D1:1199:C:N4 | 74:D1:3574:OHX:N6 | 2.61 | 0.46 |
| 29:D1:1447:G:C8 | 29:D1:2355:G:O6 | 2.69 | 0.46 |
| 29:D1:1454:A:O5' | 29:D1:1878:G:N1 | 2.43 | 0.46 |
| 29:D1:1471:U:C2 | 29:D1:1472:U:C6 | 3.04 | 0.46 |
| 29:D1:1571:A:H2' | 29:D1:1571:A:N3 | 2.31 | 0.46 |
| 29:D1:1658:G:N1 | 29:D1:1796:G:O6 | 2.49 | 0.46 |
| 29:D1:1700:G:C5 | 29:D1:1701:C:C5 | 3.03 | 0.46 |
| 29:D1:1731:A:H2' | 29:D1:1732:U:O4' | 2.16 | 0.46 |
| 29:D1:2107:A:O2' | 29:D1:2108:C:H5' | 2.16 | 0.46 |
| 29:D1:2232:A:C8 | 29:D1:2232:A:H3' | 2.50 | 0.46 |
| 29:D1:2289:U:H2' | 29:D1:2289:U:O2 | 2.14 | 0.46 |
| 29:D1:2307:G:C6 | 29:D1:2310:U:C4 | 3.03 | 0.46 |
| 29:D1:2346:C:C2' | 29:D1:2347:U:H5' | 2.46 | 0.46 |
| 29:D1:2390:A:C4 | 29:D1:2990:G:N2 | 2.84 | 0.46 |
| 29:D1:2426:U:H2' | 29:D1:2427:U:C6 | 2.51 | 0.46 |
| 29:D1:2675:C:H5 | 29:D1:2676:A:N6 | 2.14 | 0.46 |
| 29:D1:2948:C:O2' | 29:D1:2949:U:C5' | 2.59 | 0.46 |
| 29:D1:3050:U:C6 | 29:D1:3051:U:C5 | 3.04 | 0.46 |
| 29:D1:3208:G:N3 | 29:D1:3208:G:C2' | 2.78 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3279:A:H2' | 29:D1:3280:U:C6 | 2.50 | 0.46 |
| 30:D2:1:G:N2 | 30:D2:2:G:C4 | 2.84 | 0.46 |
| 31:D3:16:G:N1 | 74:D3:212:OHX:N6 | 2.64 | 0.46 |
| 34:DC:295:ALA:O | 34:DC:296:THR:CB | 2.64 | 0.46 |
| 34:DC:301:THR:HA | 34:DC:302:LYS:HA | 1.69 | 0.46 |
| 35:DD:144:LYS:O | 35:DD:145:ILE:CB | 2.64 | 0.46 |
| 35:DD:238:LEU:O | 35:DD:239:ALA:HB2 | 2.15 | 0.46 |
| 37:DF:5:LYS:O | 37:DF:6:ALA:HB2 | 2.15 | 0.46 |
| 38:DG:144:ILE:O | 38:DG:148:VAL:N | 2.40 | 0.46 |
| 39:DH:219:ASP:O | 39:DH:223:ALA:CB | 2.62 | 0.46 |
| 40:DI:117:PHE:C | 40:DI:119:GLY:N | 2.73 | 0.46 |
| 43:DN:10:SER:CB | 43:DN:65:LEU:CB | 2.94 | 0.46 |
| 44:DO:78:GLY:N | 44:DO:79:ALA:CB | 2.78 | 0.46 |
| 47:DR:51:ALA:C | 47:DR:53:PHE:N | 2.71 | 0.46 |
| 52:DW:74:LYS:O | 52:DW:77:GLU:N | 2.42 | 0.46 |
| 53:DX:39:LEU:C | 53:DX:41:ALA:H | 2.23 | 0.46 |
| 53:DX:64:LYS:C | 53:DX:66:GLN:N | 2.72 | 0.46 |
| 53:DX:70:ILE:HA | 53:DX:82:VAL:HA | 1.97 | 0.46 |
| 54:DY:131:SER:CB | 54:DY:134:ALA:CB | 2.92 | 0.46 |
| 56:Da:9:THR:CA | 56:Da:76:SER:HA | 2.29 | 0.46 |
| 58:Dc:50:SER:O | 58:Dc:51:ILE:C | 2.59 | 0.46 |
| 59:Dd:60:GLY:C | 59:Dd:62:GLY:H | 2.22 | 0.46 |
| 61:Df:40:LYS:O | 61:Df:42:ARG:N | 2.49 | 0.46 |
| 62:Dg:64:VAL:C | 62:Dg:66:GLY:H | 2.23 | 0.46 |
| 1:A1:8:U:H3 | 1:A1:1139:A:H62 | 1.64 | 0.46 |
| 1:A1:13:C:H5" | 3:AB:162:CYS:HA | 1.97 | 0.46 |
| 1:A1:26:A:H8 | 1:A1:26:A:P | 2.38 | 0.46 |
| 1:A1:80:A:H5' | 1:A1:81:G:OP2 | 2.16 | 0.46 |
| 1:A1:192:U:C2 | 1:A1:192:U:OP1 | 2.69 | 0.46 |
| 1:A1:328:A:C6 | 1:A1:341:A:N6 | 2.84 | 0.46 |
| 1:A1:329:G:C4 | 1:A1:330:G:C8 | 3.03 | 0.46 |
| 1:A1:379:U:C2 | 1:A1:380:U:C5 | 3.01 | 0.46 |
| 1:A1:406:U:OP2 | 1:A1:406:U:H3' | 2.16 | 0.46 |
| 1:A1:406:U:O2' | 1:A1:407:A:H5' | 2.16 | 0.46 |
| 1:A1:483:A:C8 | 1:A1:483:A:OP2 | 2.69 | 0.46 |
| 1:A1:487:G:N3 | 1:A1:488:G:N7 | 2.63 | 0.46 |
| 1:A1:718:U:C5 | 1:A1:722:G:C5 | 3.00 | 0.46 |
| 1:A1:758:U:H3' | 1:A1:759:U:C6 | 2.50 | 0.46 |
| 1:A1:772:G:H8 | 1:A1:772:G:O5' | 1.99 | 0.46 |
| 1:A1:883:C:H5" | 1:A1:884:A:OP2 | 2.15 | 0.46 |
| 1:A1:925:G:C2 | 1:A1:988:A:H1' | 2.51 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:975:C:C4 | 1:A1:976:G:N7 | 2.84 | 0.46 |
| 1:A1:1001:A:H8 | 1:A1:1001:A:OP1 | 1.99 | 0.46 |
| 1:A1:1065:A:H4' | 24:Ac:38:UNK:O | 2.16 | 0.46 |
| 1:A1:1066:C:H2' | 1:A1:1066:C:O2 | 2.16 | 0.46 |
| 1:A1:1094:G:O2' | 1:A1:1095:U:C6 | 2.63 | 0.46 |
| 1:A1:1237:G:C4 | 1:A1:1238:A:N7 | 2.84 | 0.46 |
| 1:A1:1269:U:H4' | 1:A1:1270:G:C5' | 2.45 | 0.46 |
| 1:A1:1351:G:C6 | 1:A1:1352:G:N7 | 2.84 | 0.46 |
| 1:A1:1364:G:C5 | 1:A1:1365:C:C6 | 3.03 | 0.46 |
| 1:A1:1437:U:O2' | 1:A1:1438:G:H5" | 2.15 | 0.46 |
| 1:A1:1504:G:C6 | 1:A1:1505:A:C6 | 3.04 | 0.46 |
| 1:A1:1565:C:H2' | 1:A1:1565:C:O2 | 2.14 | 0.46 |
| 1:A1:1595:U:C6 | 1:A1:1596:C:C2 | 3.03 | 0.46 |
| 1:A1:1758:U:C4 | 1:A1:1759:C:N4 | 2.84 | 0.46 |
| 1:A1:1786:G:C5 | 1:A1:1787:C:N4 | 2.84 | 0.46 |
| 2:AA:54:TRP:O | 2:AA:56:LYS:N | 2.49 | 0.46 |
| 3:AB:101:VAL:HA | 3:AB:114:GLY:O | 2.15 | 0.46 |
| 4:AC:104:SER:O | 4:AC:105:MET:C | 2.58 | 0.46 |
| 5:AD:61:TYR:HA | 5:AD:64:VAL:CB | 2.46 | 0.46 |
| 5:AD:122:ASN:O | 5:AD:123:VAL:C | 2.59 | 0.46 |
| 9:AH:27:PHE:HA | 9:AH:43:THR:CB | 2.46 | 0.46 |
| 11:AJ:62:ASN:O | 11:AJ:63:ILE:CB | 2.64 | 0.46 |
| 15:AN:119:ALA:HB1 | 15:AN:120:SER:CA | 2.45 | 0.46 |
| 21:AT:135:THR:O | 21:AT:137:LYS:N | 2.48 | 0.46 |
| 21:AT:296:ALA:C | 21:AT:298:GLY:H | 2.24 | 0.46 |
| 23:Ab:84:UNK:H | 23:Ab:86:UNK:H | 1.64 | 0.46 |
| 29:B1:72:C:C4 | 29:B1:73:C:C1' | 2.98 | 0.46 |
| 29:B1:92:G:O6 | 29:B1:94:G:N2 | 2.49 | 0.46 |
| 29:B1:280:U:C2 | 29:B1:282:G:O2' | 2.53 | 0.46 |
| 29:B1:382:U:C6 | 29:B1:383:G:O4' | 2.68 | 0.46 |
| 29:B1:499:G:C2' | 29:B1:500:C:O5' | 2.62 | 0.46 |
| 29:B1:520:U:H1' | 29:B1:521:A:OP2 | 2.16 | 0.46 |
| 29:B1:545:U:H2' | 29:B1:546:C:C4 | 2.51 | 0.46 |
| 29:B1:562:C:C2' | 29:B1:563:U:H6 | 2.13 | 0.46 |
| 29:B1:591:G:N1 | 29:B1:592:A:C5 | 2.84 | 0.46 |
| 29:B1:614:C:O2' | 29:B1:615:U:H5' | 2.16 | 0.46 |
| 29:B1:636:C:N3 | 29:B1:646:A:C8 | 2.84 | 0.46 |
| 29:B1:695:C:O2 | 29:B1:695:C:H2' | 2.16 | 0.46 |
| 29:B1:828:A:H2' | 29:B1:828:A:N3 | 2.29 | 0.46 |
| 29:B1:958:C:P | 29:B1:2799:A:H2' | 2.55 | 0.46 |
| 29:B1:974:G:C6 | 29:B1:975:C:C5 | 3.03 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1056:U:O5' | 29:B1:1056:U:C6 | 2.67 | 0.46 |
| 29:B1:1076:C:H3' | 29:B1:1077:U:C6 | 2.51 | 0.46 |
| 29:B1:1105:A:N6 | 29:B1:1106:G:O6 | 2.49 | 0.46 |
| 29:B1:1386:A:O2' | 29:B1:1387:G:P | 2.74 | 0.46 |
| 29:B1:1449:A:C8 | 29:B1:1450:G:C4 | 3.04 | 0.46 |
| 29:B1:1532:C:H2' | 29:B1:1533:U:N1 | 2.31 | 0.46 |
| 29:B1:1556:C:O2 | 29:B1:1556:C:C2' | 2.63 | 0.46 |
| 29:B1:1628:C:O3' | 29:B1:1630:U:H6 | 1.99 | 0.46 |
| 29:B1:1684:U:C6 | 29:B1:1684:U:C3' | 2.98 | 0.46 |
| 29:B1:1793:C:OP1 | 29:B1:1793:C:H2' | 2.16 | 0.46 |
| 29:B1:2157:G:O6 | 29:B1:2178:A:H2' | 2.16 | 0.46 |
| 29:B1:2232:A:C8 | 29:B1:2232:A:H3' | 2.51 | 0.46 |
| 29:B1:2252:A:C4 | 29:B1:2253:G:N7 | 2.83 | 0.46 |
| 29:B1:2315:G:N3 | 29:B1:2316:G:C8 | 2.84 | 0.46 |
| 29:B1:2390:A:C5' | 29:B1:3307:A:H2 | 2.29 | 0.46 |
| 29:B1:2414:G:H2' | 29:B1:2415:C:H6 | 1.79 | 0.46 |
| 29:B1:2710:C:C6 | 29:B1:2710:C:C3' | 2.99 | 0.46 |
| 29:B1:2896:A:O2' | 29:B1:2897:A:C5' | 2.64 | 0.46 |
| 29:B1:3096:C:N3 | 29:B1:3097:C:C4 | 2.84 | 0.46 |
| 29:B1:3108:G:C2 | 29:B1:3109:G:C8 | 3.04 | 0.46 |
| 29:B1:3224:G:C6 | 29:B1:3225:C:C5 | 3.04 | 0.46 |
| 29:B1:3260:G:C6 | 29:B1:3261:C:O4' | 2.68 | 0.46 |
| 29:B1:3294:A:C6 | 29:B1:3295:A:C8 | 3.04 | 0.46 |
| 31:B3:35:C:H2' | 31:B3:36:G:C8 | 2.51 | 0.46 |
| 31:B3:55:U:C2 | 31:B3:62:C:H5 | 2.33 | 0.46 |
| 31:B3:145:U:C4 | 31:B3:146:U:C4 | 3.04 | 0.46 |
| 34:BC:236:LYS:O | 34:BC:237:LYS:C | 2.59 | 0.46 |
| 36:BE:163:LEU:O | 36:BE:166:ALA:N | 2.49 | 0.46 |
| 37:BF:166:LYS:O | 37:BF:167:ASN:O | 2.33 | 0.46 |
| 41:BJ:147:VAL:O | 41:BJ:148:VAL:C | 2.58 | 0.46 |
| 42:BK:114:ILE:O | 42:BK:115:LYS:O | 2.34 | 0.46 |
| 47:BR:126:GLN:C | 47:BR:128:ALA:H | 2.17 | 0.46 |
| 48:BS:35:ALA:HB1 | 48:BS:40:ALA:HB1 | 1.98 | 0.46 |
| 62:Bg:14:TYR:O | 62:Bg:15:GLY:O | 2.33 | 0.46 |
| 1:C1:38:C:C2' | 1:C1:39:A:H5" | 2.45 | 0.46 |
| 1:C1:75:U:O2' | 1:C1:76:A:H4' | 2.15 | 0.46 |
| 1:C1:284:G:OP1 | 1:C1:285:G:OP2 | 2.33 | 0.46 |
| 1:C1:328:A:N1 | 1:C1:341:A:C6 | 2.84 | 0.46 |
| 1:C1:340:U:C2 | 1:C1:341:A:N7 | 2.84 | 0.46 |
| 1:C1:492:A:C2 | 1:C1:494:U:H5" | 2.51 | 0.46 |
| 1:C1:743:U:C2 | 1:C1:809:A:C2 | 2.90 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:756:A:N6 | 1:C1:757:A:C6 | 2.83 | 0.46 |
| 1:C1:795:U:O2 | 1:C1:795:U:O4' | 2.33 | 0.46 |
| 1:C1:838:G:O6 | 74:C1:1928:OHX:N1 | 2.48 | 0.46 |
| 1:C1:921:U:C2' | 1:C1:922:G:H5' | 2.43 | 0.46 |
| 1:C1:1044:U:O2 | 1:C1:1045:C:H5 | 1.99 | 0.46 |
| 1:C1:1054:U:C2 | 1:C1:1055:U:C6 | 3.04 | 0.46 |
| 1:C1:1305:U:H3' | 1:C1:1306:C:N3 | 2.30 | 0.46 |
| 1:C1:1318:G:N2 | 1:C1:1319:A:N3 | 2.63 | 0.46 |
| 1:C1:1345:A:H2' | 1:C1:1346:A:C4 | 2.47 | 0.46 |
| 1:C1:1377:U:C2 | 1:C1:1378:U:H4' | 2.51 | 0.46 |
| 1:C1:1584:G:N3 | 1:C1:1584:G:H3' | 2.30 | 0.46 |
| 1:C1:1788:G:OP2 | 1:C1:1788:G:C8 | 2.69 | 0.46 |
| 1:C1:1798:U:O2 | 1:C1:1798:U:O4' | 2.33 | 0.46 |
| 2:CA:86:VAL:O | 2:CA:87:LEU:C | 2.59 | 0.46 |
| 3:CB:68:ILE:O | 3:CB:69:ILE:C | 2.59 | 0.46 |
| 4:CC:14:ASP:C | 4:CC:16:VAL:H | 2.22 | 0.46 |
| 11:CJ:102:LYS:C | 11:CJ:104:GLU:N | 2.71 | 0.46 |
| 21:CT:218:GLY:C | 21:CT:236:ALA:HB3 | 2.41 | 0.46 |
| 25:Cd:85:UNK:O | 25:Cd:89:UNK:N | 2.46 | 0.46 |
| 29:D1:230:U:H2' | 29:D1:231:G:C1' | 2.46 | 0.46 |
| 29:D1:247:C:C3' | 29:D1:248:U:H4' | 2.46 | 0.46 |
| 29:D1:281:G:C4 | 29:D1:282:G:N7 | 2.84 | 0.46 |
| 29:D1:306:A:OP2 | 29:D1:306:A:O4' | 2.32 | 0.46 |
| 29:D1:531:G:C2 | 29:D1:560:G:N2 | 2.81 | 0.46 |
| 29:D1:548:G:C8 | 29:D1:548:G:OP2 | 2.69 | 0.46 |
| 29:D1:726:G:N2 | 29:D1:744:A:N7 | 2.64 | 0.46 |
| 29:D1:731:U:OP1 | 47:DR:135:GLN:HA | 2.16 | 0.46 |
| 29:D1:1107:C:O2 | 29:D1:1108:U:C6 | 2.69 | 0.46 |
| 29:D1:1184:A:H5' | 29:D1:1184:A:C8 | 2.46 | 0.46 |
| 29:D1:1201:C:H2' | 29:D1:1201:C:O2 | 2.16 | 0.46 |
| 29:D1:1287:A:C6 | 29:D1:1288:U:C4 | 3.04 | 0.46 |
| 29:D1:1317:A:C4 | 29:D1:1319:G:N7 | 2.84 | 0.46 |
| 29:D1:1522:U:C6 | 29:D1:1835:A:O4' | 2.68 | 0.46 |
| 29:D1:1536:G:C6 | 29:D1:1586:G:C2 | 3.04 | 0.46 |
| 29:D1:1549:U:H2' | 29:D1:1550:C:C6 | 2.50 | 0.46 |
| 29:D1:1557:A:C2' | 29:D1:1558:A:O5' | 2.63 | 0.46 |
| 29:D1:1678:G:C4' | 29:D1:1756:C:H4' | 2.45 | 0.46 |
| 29:D1:1795:U:C5 | 62:Dg:51:ALA:HB2 | 2.50 | 0.46 |
| 29:D1:1852:G:H5" | 29:D1:1853:U:OP2 | 2.16 | 0.46 |
| 29:D1:2154:U:H4' | 33:DB:239:ALA:CB | 2.46 | 0.46 |
| 29:D1:2185:G:H5" | 29:D1:2186:U:OP2 | 2.15 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2240:G:H2' | 29:D1:2241:U:C5' | 2.45 | 0.46 |
| 29:D1:2294:U:N1 | 29:D1:2297:U:H5 | 2.13 | 0.46 |
| 29:D1:2831:G:C6 | 29:D1:2832:C:C4 | 3.04 | 0.46 |
| 29:D1:2860:U:O2 | 29:D1:2860:U:H2' | 2.16 | 0.46 |
| 29:D1:2961:G:H5" | 29:D1:2962:U:OP2 | 2.16 | 0.46 |
| 29:D1:3165:A:C2 | 29:D1:3286:G:C5 | 3.04 | 0.46 |
| 29:D1:3302:U:H6 | 29:D1:3302:U:O5' | 1.99 | 0.46 |
| 29:D1:3359:A:N3 | 29:D1:3360:C:H1' | 2.31 | 0.46 |
| 29:D1:3365:U:C2 | 29:D1:3366:G:C8 | 3.04 | 0.46 |
| 29:D1:3371:G:O6 | 29:D1:3372:A:C6 | 2.69 | 0.46 |
| 30:D2:41:G:N1 | 30:D2:43:U:C6 | 2.84 | 0.46 |
| 30:D2:108:A:C6 | 30:D2:109:G:O6 | 2.69 | 0.46 |
| 31:D3:9:A:H5' | 31:D3:10:A:OP2 | 2.16 | 0.46 |
| 31:D3:79:A:H3' | 31:D3:80:A:C8 | 2.50 | 0.46 |
| 34:DC:149:ALA:O | 34:DC:150:ARG:C | 2.55 | 0.46 |
| 35:DD:118:LYS:O | 35:DD:121:ALA:HB3 | 2.16 | 0.46 |
| 36:DE:111:GLN:H | 36:DE:114:GLY:CA | 2.29 | 0.46 |
| 38:DG:69:ALA:O | 38:DG:71:ALA:N | 2.48 | 0.46 |
| 44:DO:143:ARG:CA | 44:DO:146:ALA:HB2 | 2.46 | 0.46 |
| 45:DP:192:LYS:C | 45:DP:194:LEU:N | 2.66 | 0.46 |
| 48:DS:144:GLN:O | 48:DS:145:ALA:C | 2.58 | 0.46 |
| 50:DU:24:ASN:O | 50:DU:99:ALA:HA | 2.15 | 0.46 |
| 52:DW:87:SER:O | 52:DW:88:MET:C | 2.58 | 0.46 |
| 53:DX:23:PRO:O | 53:DX:24:SER:C | 2.57 | 0.46 |
| 58:Dc:10:ARG:HA | 58:Dc:11:THR:CB | 2.46 | 0.46 |
| 1:A1:96:G:H5' | 1:A1:460:A:O3' | 2.16 | 0.46 |
| 1:A1:196:G:C6 | 1:A1:197:A:C2 | 3.04 | 0.46 |
| 1:A1:321:C:H2' | 1:A1:322:G:H8 | 1.81 | 0.46 |
| 1:A1:556:A:O2' | 1:A1:590:C:O4' | 2.20 | 0.46 |
| 1:A1:575:C:C5 | 1:A1:576:G:N7 | 2.84 | 0.46 |
| 1:A1:625:C:H2' | 1:A1:626:U:C6 | 2.51 | 0.46 |
| 1:A1:738:G:H2' | 1:A1:739:G:N7 | 2.31 | 0.46 |
| 1:A1:824:G:H5" | 1:A1:825:U:OP1 | 2.16 | 0.46 |
| 1:A1:824:G:O6 | 1:A1:850:A:N3 | 2.49 | 0.46 |
| 1:A1:837:G:O2' | 1:A1:838:G:H5' | 2.15 | 0.46 |
| 1:A1:966:A:C2' | 1:A1:967:A:O5' | 2.64 | 0.46 |
| 1:A1:1039:A:O2' | 1:A1:1040:G:O5' | 2.32 | 0.46 |
| 1:A1:1308:G:C5 | 1:A1:1309:C:C5 | 3.04 | 0.46 |
| 1:A1:1311:U:H2' | 1:A1:1313:A:OP2 | 2.16 | 0.46 |
| 1:A1:1341:A:N3 | 1:A1:1341:A:C2' | 2.78 | 0.46 |
| 1:A1:1407:U:C6 | 1:A1:1408:G:C8 | 3.04 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1411:A:H5' | 1:A1:1412:G:OP2 | 2.16 | 0.46 |
| 1:A1:1536:G:C5 | 1:A1:1538:U:O2 | 2.68 | 0.46 |
| 1:A1:1543:A:N6 | 1:A1:1568:C:H1' | 2.31 | 0.46 |
| 1:A1:1683:C:OP2 | 1:A1:1684:U:OP2 | 2.34 | 0.46 |
| 3:AB:97:ARG:O | 3:AB:98:PHE:CB | 2.63 | 0.46 |
| 5:AD:183:ALA:O | 5:AD:184:PHE:CB | 2.64 | 0.46 |
| 8:AG:42:ARG:O | 8:AG:43:LYS:C | 2.59 | 0.46 |
| 10:AI:69:GLU:C | 10:AI:71:GLU:H | 2.23 | 0.46 |
| 20:AS:38:ILE:O | 20:AS:39:CYS:C | 2.58 | 0.46 |
| 21:AT:6:VAL:O | 21:AT:7:LEU:C | 2.59 | 0.46 |
| 29:B1:9:U:O2 | 29:B1:9:U:C2' | 2.64 | 0.46 |
| 29:B1:36:C:H2' | 29:B1:37:U:H5' | 1.97 | 0.46 |
| 29:B1:222:A:N3 | 29:B1:222:A:H2' | 2.31 | 0.46 |
| 29:B1:342:A:C4 | 29:B1:349:A:N7 | 2.84 | 0.46 |
| 29:B1:508:U:O2 | 29:B1:508:U:C2' | 2.64 | 0.46 |
| 29:B1:533:A:O2' | 29:B1:534:U:N1 | 2.48 | 0.46 |
| 29:B1:554:A:H2' | 29:B1:555:U:H5" | 1.96 | 0.46 |
| 29:B1:606:C:C4' | 29:B1:606:C:C6 | 2.98 | 0.46 |
| 29:B1:745:C:H42 | 29:B1:746:A:H61 | 1.60 | 0.46 |
| 29:B1:797:U:H2' | 29:B1:798:G:C8 | 2.51 | 0.46 |
| 29:B1:910:G:C6 | 29:B1:911:C:C4 | 3.04 | 0.46 |
| 29:B1:945:C:H2' | 29:B1:945:C:O2 | 2.15 | 0.46 |
| 29:B1:1234:G:N7 | 29:B1:1235:U:H2' | 2.30 | 0.46 |
| 29:B1:1278:A:N7 | 29:B1:1279:C:C4 | 2.83 | 0.46 |
| 29:B1:1293:U:C2' | 29:B1:1294:A:O5' | 2.63 | 0.46 |
| 29:B1:1384:U:H6 | 29:B1:1384:U:OP2 | 1.99 | 0.46 |
| 29:B1:1453:A:N3 | 29:B1:1878:G:C2 | 2.84 | 0.46 |
| 29:B1:1503:A:H2' | 29:B1:1504:A:O4' | 2.16 | 0.46 |
| 29:B1:1517:G:C2 | 29:B1:1518:U:C4 | 3.04 | 0.46 |
| 29:B1:1559:A:C2' | 29:B1:1560:G:H5' | 2.46 | 0.46 |
| 29:B1:1641:U:O2' | 29:B1:1643:A:OP1 | 2.28 | 0.46 |
| 29:B1:1675:G:C2 | 29:B1:1773:C:N3 | 2.84 | 0.46 |
| 29:B1:1713:G:C6 | 29:B1:1730:G:N3 | 2.84 | 0.46 |
| 29:B1:1787:A:C6 | 29:B1:1788:C:C4 | 3.03 | 0.46 |
| 29:B1:1901:A:H5" | 29:B1:2919:A:P | 2.54 | 0.46 |
| 29:B1:2279:A:C3' | 29:B1:2280:A:C5' | 2.95 | 0.46 |
| 29:B1:2313:A:C1' | 29:B1:2315:G:C8 | 2.99 | 0.46 |
| 29:B1:2394:G:H2' | 29:B1:2395:G:O4' | 2.16 | 0.46 |
| 29:B1:2409:G:C2 | 29:B1:2411:U:C6 | 3.04 | 0.46 |
| 29:B1:2454:G:N1 | 29:B1:2484:A:C5 | 2.83 | 0.46 |
| 29:B1:2513:U:H5 | 29:B1:2591:A:H61 | 1.60 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2730:G:C6 | 29:B1:2731:U:C5 | 3.03 | 0.46 |
| 29:B1:2910:A:C2' | 29:B1:2911:A:OP2 | 2.64 | 0.46 |
| 29:B1:2931:C:C2 | 29:B1:2935:U:C5 | 3.04 | 0.46 |
| 29:B1:2959:C:H5' | 29:B1:2960:C:OP2 | 2.16 | 0.46 |
| 29:B1:2985:C:C2 | 29:B1:2986:U:C5 | 3.04 | 0.46 |
| 29:B1:3106:A:H2' | 29:B1:3107:U:O5' | 2.16 | 0.46 |
| 29:B1:3125:U:H2' | 29:B1:3126:C:H5' | 1.96 | 0.46 |
| 29:B1:3175:U:O2 | 29:B1:3175:U:O5' | 2.34 | 0.46 |
| 29:B1:3245:A:O2' | 29:B1:3246:G:O5' | 2.34 | 0.46 |
| 29:B1:3311:C:C4 | 29:B1:3312:U:C4 | 3.04 | 0.46 |
| 29:B1:3315:G:P | 29:B1:3316:A:OP1 | 2.73 | 0.46 |
| 30:B2:69:C:H1' | 30:B2:110:G:N2 | 2.31 | 0.46 |
| 30:B2:104:A:C5 | 30:B2:105:C:C6 | 3.03 | 0.46 |
| 31:B3:74:U:OP1 | 31:B3:76:C:C5 | 2.68 | 0.46 |
| 31:B3:95:G:OP1 | 31:B3:96:A:OP2 | 2.34 | 0.46 |
| 31:B3:124:G:OP1 | 31:B3:124:G:C4' | 2.64 | 0.46 |
| 37:BF:41:ILE:H | 37:BF:85:ILE:C | 2.19 | 0.46 |
| 37:BF:100:LYS:C | 37:BF:102:ASN:H | 2.23 | 0.46 |
| 38:BG:60:ARG:O | 38:BG:61:ASN:C | 2.59 | 0.46 |
| 42:BK:85:LYS:O | 42:BK:87:LYS:N | 2.49 | 0.46 |
| 46:BQ:25:SER:CB | 46:BQ:29:THR:H | 2.29 | 0.46 |
| 48:BS:62:ARG:O | 48:BS:65:ALA:CB | 2.59 | 0.46 |
| 48:BS:66:HIS:O | 48:BS:67:ALA:C | 2.58 | 0.46 |
| 48:BS:129:GLY:O | 48:BS:130:ASN:CB | 2.63 | 0.46 |
| 59:Bd:67:LEU:HA | 59:Bd:70:VAL:C | 2.40 | 0.46 |
| 1:C1:339:C:C2 | 1:C1:340:U:C5 | 3.04 | 0.46 |
| 1:C1:388:G:H2' | 1:C1:389:G:H8 | 1.81 | 0.46 |
| 1:C1:701:U:C2 | 1:C1:702:G:C8 | 3.03 | 0.46 |
| 1:C1:954:G:N7 | 1:C1:955:A:N7 | 2.63 | 0.46 |
| 1:C1:1026:A:C2 | 1:C1:1792:G:N3 | 2.84 | 0.46 |
| 1:C1:1474:G:N3 | 1:C1:1475:A:C8 | 2.83 | 0.46 |
| 1:C1:1478:G:C4 | 1:C1:1479:A:C8 | 3.04 | 0.46 |
| 1:C1:1489:U:H6 | 1:C1:1494:C:N3 | 2.14 | 0.46 |
| 1:C1:1622:G:N3 | 1:C1:1622:G:H2' | 2.31 | 0.46 |
| 1:C1:1682:U:OP2 | 1:C1:1682:U:C6 | 2.69 | 0.46 |
| 2:CA:51:GLY:O | 2:CA:54:TRP:N | 2.42 | 0.46 |
| 2:CA:82:GLY:O | 2:CA:85:ALA:HB3 | 2.16 | 0.46 |
| 3:CB:243:TYR:O | 3:CB:244:SER:C | 2.58 | 0.46 |
| 4:CC:39:VAL:HA | 4:CC:47:GLU:O | 2.16 | 0.46 |
| 9:CH:21:ALA:HB2 | 9:CH:26:THR:HA | 1.98 | 0.46 |
| 16:CO:57:ARG:C | 16:CO:59:GLY:H | 2.23 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:CS:26:SER:C | 20:CS:28:THR:H | 2.23 | 0.46 |
| 24:Cc:19:UNK:C | 24:Cc:21:UNK:N | 2.79 | 0.46 |
| 29:D1:60:A:C8 | 29:D1:327:A:C2 | 3.04 | 0.46 |
| 29:D1:192:C:N3 | 29:D1:204:A:C2 | 2.84 | 0.46 |
| 29:D1:198:A:H2 | 29:D1:219:A:C8 | 2.34 | 0.46 |
| 29:D1:294:U:C2' | 29:D1:295:A:H5" | 2.45 | 0.46 |
| 29:D1:383:G:N2 | 29:D1:387:A:C5 | 2.84 | 0.46 |
| 29:D1:413:U:O5' | 29:D1:413:U:C6 | 2.67 | 0.46 |
| 29:D1:695:C:O2 | 29:D1:695:C:C2' | 2.63 | 0.46 |
| 29:D1:705:A:H2 | 29:D1:714:G:N3 | 2.13 | 0.46 |
| 29:D1:808:A:N6 | 29:D1:934:G:C5 | 2.84 | 0.46 |
| 29:D1:810:A:C2 | 29:D1:811:U:C4 | 3.04 | 0.46 |
| 29:D1:991:G:H2' | 29:D1:992:A:O4' | 2.16 | 0.46 |
| 29:D1:1062:A:O5' | 29:D1:1063:G:O6 | 2.34 | 0.46 |
| 29:D1:1130:A:C8 | 29:D1:1132:C:C6 | 3.04 | 0.46 |
| 29:D1:1178:G:OP2 | 29:D1:1179:A:OP2 | 2.34 | 0.46 |
| 29:D1:1194:G:H8 | 29:D1:1319:G:H5" | 1.79 | 0.46 |
| 29:D1:1220:U:C5 | 29:D1:1286:A:N6 | 2.84 | 0.46 |
| 29:D1:1262:G:O6 | 29:D1:1264:G:C2 | 2.69 | 0.46 |
| 29:D1:1347:U:H3' | 29:D1:1348:U:C6 | 2.51 | 0.46 |
| 29:D1:1461:A:C5 | 29:D1:1462:A:C5 | 3.04 | 0.46 |
| 29:D1:1535:A:H3' | 29:D1:1536:G:O4' | 2.16 | 0.46 |
| 29:D1:1617:G:H2' | 29:D1:1618:G:H5' | 1.98 | 0.46 |
| 29:D1:1671:C:C4 | 29:D1:1672:U:C5 | 3.04 | 0.46 |
| 29:D1:1686:U:C4' | 29:D1:1687:U:OP2 | 2.58 | 0.46 |
| 29:D1:1736:G:C5 | 29:D1:1737:U:C5 | 3.04 | 0.46 |
| 29:D1:1778:G:O3' | 29:D1:1779:C:O2 | 2.34 | 0.46 |
| 29:D1:1779:C:OP1 | 29:D1:1780:G:H5" | 2.16 | 0.46 |
| 29:D1:1953:G:N1 | 29:D1:2092:A:OP2 | 2.49 | 0.46 |
| 29:D1:2105:G:O2' | 29:D1:2106:A:O4' | 2.34 | 0.46 |
| 29:D1:2270:A:C8 | 29:D1:2270:A:C5' | 2.81 | 0.46 |
| 29:D1:2370:G:H8 | 29:D1:2370:G:O5' | 1.99 | 0.46 |
| 29:D1:2632:G:C6 | 29:D1:2633:U:C4 | 3.04 | 0.46 |
| 29:D1:2675:C:C5 | 29:D1:2676:A:N6 | 2.84 | 0.46 |
| 29:D1:2680:A:H61 | 42:DK:56:THR:CB | 2.29 | 0.46 |
| 29:D1:2702:A:N7 | 29:D1:2704:A:N6 | 2.64 | 0.46 |
| 29:D1:2802:A:N7 | 61:Df:54:THR:O | 2.49 | 0.46 |
| 29:D1:2843:U:H3' | 29:D1:2843:U:OP2 | 2.16 | 0.46 |
| 29:D1:2847:A:C8 | 29:D1:2898:G:C5 | 3.04 | 0.46 |
| 29:D1:2914:G:C4 | 29:D1:2915:U:C5 | 3.04 | 0.46 |
| 29:D1:2987:A:C2' | 29:D1:2988:C:H6 | 1.95 | 0.46 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3026:G:C8 | 29:D1:3026:G:H3' | 2.51 | 0.46 |
| 29:D1:3113:A:H2' | 29:D1:3114:A:H5' | 1.97 | 0.46 |
| 29:D1:3189:G:C4 | 29:D1:3190:C:C5 | 3.03 | 0.46 |
| 29:D1:3189:G:N2 | 29:D1:3190:C:C2 | 2.84 | 0.46 |
| 29:D1:3262:U:OP2 | 29:D1:3262:U:C3' | 2.58 | 0.46 |
| 29:D1:3340:G:H2' | 29:D1:3341:U:O5' | 2.16 | 0.46 |
| 29:D1:3341:U:H3' | 29:D1:3343:G:H1 | 1.79 | 0.46 |
| 30:D2:11:A:O2' | 30:D2:68:C:H5' | 2.15 | 0.46 |
| 30:D2:47:C:O2 | 30:D2:48:U:N3 | 2.49 | 0.46 |
| 31:D3:74:U:P | 31:D3:76:C:C4 | 3.09 | 0.46 |
| 31:D3:88:A:C8 | 31:D3:89:A:C6 | 3.04 | 0.46 |
| 33:DB:4:VAL:O | 33:DB:5:ILE:O | 2.33 | 0.46 |
| 34:DC:91:GLY:HA2 | 34:DC:159:ARG:H | 1.80 | 0.46 |
| 35:DD:32:PRO:O | 35:DD:33:ASP:C | 2.59 | 0.46 |
| 36:DE:31:TYR:O | 36:DE:35:ARG:CB | 2.64 | 0.46 |
| 38:DG:165:ASP:C | 38:DG:167:ALA:H | 2.24 | 0.46 |
| 44:DO:143:ARG:O | 44:DO:146:ALA:HB2 | 2.16 | 0.46 |
| 48:DS:66:HIS:C | 48:DS:68:GLN:N | 2.73 | 0.46 |
| 52:DW:74:LYS:O | 52:DW:75:LYS:C | 2.57 | 0.46 |
| 54:DY:15:VAL:C | 54:DY:17:ALA:HA | 2.41 | 0.46 |
| 56:Da:32:ALA:HA | 56:Da:35:GLU:CB | 2.46 | 0.46 |
| 60:De:30:ARG:O | 60:De:32:ASN:N | 2.48 | 0.46 |
| 1:A1:96:G:C6 | 1:A1:97:C:N4 | 2.84 | 0.45 |
| 1:A1:153:G:C2 | 1:A1:162:A:C5 | 3.03 | 0.45 |
| 1:A1:210:A:N6 | 1:A1:256:A:N6 | 2.64 | 0.45 |
| 1:A1:328:A:N1 | 1:A1:341:A:C6 | 2.84 | 0.45 |
| 1:A1:353:A:N6 | 1:A1:354:C:C2 | 2.84 | 0.45 |
| 1:A1:445:A:C2 | 1:A1:446:A:C8 | 3.04 | 0.45 |
| 1:A1:529:A:O2' | 1:A1:530:C:P | 2.74 | 0.45 |
| 1:A1:551:G:C4 | 1:A1:552:G:N7 | 2.84 | 0.45 |
| 1:A1:571:G:H2' | 1:A1:572:C:C6 | 2.51 | 0.45 |
| 1:A1:604:A:C6 | 1:A1:605:A:N1 | 2.84 | 0.45 |
| 1:A1:621:A:H5" | 1:A1:622:A:OP2 | 2.16 | 0.45 |
| 1:A1:685:A:O2' | 1:A1:686:C:O5' | 2.33 | 0.45 |
| 1:A1:761:G:O5' | 1:A1:761:G:H8 | 1.99 | 0.45 |
| 1:A1:800:U:C2 | 1:A1:801:G:N7 | 2.85 | 0.45 |
| 1:A1:839:U:C4 | 1:A1:840:U:O4 | 2.69 | 0.45 |
| 1:A1:898:A:C2 | 1:A1:915:A:N6 | 2.84 | 0.45 |
| 1:A1:1039:A:O4' | 1:A1:1081:A:N6 | 2.48 | 0.45 |
| 1:A1:1117:U:O2' | 1:A1:1118:G:H5' | 2.15 | 0.45 |
| 1:A1:1155:G:C2 | 1:A1:1156:C:C4 | 3.04 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1186:U:C1' | 1:A1:1208:A:C2 | 2.99 | 0.45 |
| 1:A1:1207:C:C4 | 1:A1:1208:A:N6 | 2.84 | 0.45 |
| 1:A1:1379:C:H3' | 1:A1:1380:U:H5' | 1.98 | 0.45 |
| 1:A1:1389:C:C4 | 1:A1:1391:A:O4' | 2.69 | 0.45 |
| 1:A1:1478:G:C2 | 1:A1:1479:A:C4 | 3.04 | 0.45 |
| 1:A1:1649:G:N7 | 74:A1:1969:OHX:N1 | 2.64 | 0.45 |
| 2:AA:72:ASP:HA | 2:AA:95:ALA:HA | 1.98 | 0.45 |
| 2:AA:103:THR:O | 2:AA:104:PRO:C | 2.59 | 0.45 |
| 3:AB:72:LEU:O | 3:AB:74:PRO:N | 2.50 | 0.45 |
| 26:Ae:14:UNK:O | 26:Ae:17:UNK:N | 2.49 | 0.45 |
| 29:B1:70:A:C2' | 29:B1:71:A:H5' | 2.45 | 0.45 |
| 29:B1:206:G:N1 | 29:B1:207:U:C2 | 2.84 | 0.45 |
| 29:B1:208:C:C2 | 29:B1:209:A:C8 | 3.04 | 0.45 |
| 29:B1:382:U:H3' | 29:B1:383:G:C4' | 2.46 | 0.45 |
| 29:B1:382:U:C4 | 29:B1:383:G:C8 | 3.04 | 0.45 |
| 29:B1:502:U:C2' | 29:B1:503:C:H5' | 2.47 | 0.45 |
| 29:B1:565:U:H2' | 29:B1:566:G:H5' | 1.95 | 0.45 |
| 29:B1:643:U:H2' | 29:B1:1153:A:N1 | 2.31 | 0.45 |
| 29:B1:709:A:OP1 | 29:B1:709:A:C8 | 2.53 | 0.45 |
| 29:B1:721:G:H2' | 29:B1:722:G:OP2 | 2.16 | 0.45 |
| 29:B1:747:A:C8 | 29:B1:747:A:O5' | 2.69 | 0.45 |
| 29:B1:773:G:H21 | 29:B1:774:G:C1' | 2.29 | 0.45 |
| 29:B1:915:A:C2 | 29:B1:917:A:H1' | 2.52 | 0.45 |
| 29:B1:917:A:H2' | 29:B1:917:A:N3 | 2.31 | 0.45 |
| 29:B1:963:G:C6 | 29:B1:964:G:C5 | 3.04 | 0.45 |
| 29:B1:975:C:C6 | 29:B1:975:C:H5" | 2.50 | 0.45 |
| 29:B1:993:G:C4 | 29:B1:2637:A:N3 | 2.84 | 0.45 |
| 29:B1:1119:C:H1' | 29:B1:1154:A:C4 | 2.51 | 0.45 |
| 29:B1:1148:G:O2' | 29:B1:1171:G:O4' | 2.33 | 0.45 |
| 29:B1:1260:A:H2' | 29:B1:1261:G:O5' | 2.16 | 0.45 |
| 29:B1:1556:C:N4 | 29:B1:2169:G:N7 | 2.62 | 0.45 |
| 29:B1:1678:G:H5" | 29:B1:1756:C:O3' | 2.16 | 0.45 |
| 29:B1:1704:A:H2' | 29:B1:1705:U:O5' | 2.16 | 0.45 |
| 29:B1:1847:A:C2 | 29:B1:1849:C:N1 | 2.84 | 0.45 |
| 29:B1:2092:A:OP2 | 29:B1:2093:A:C8 | 2.68 | 0.45 |
| 29:B1:2112:U:C4' | 29:B1:2113:A:OP2 | 2.65 | 0.45 |
| 29:B1:2180:G:C6 | 29:B1:2181:C:N4 | 2.84 | 0.45 |
| 29:B1:2184:U:H2' | 29:B1:2185:G:O4' | 2.16 | 0.45 |
| 29:B1:2301:U:O2' | 29:B1:2302:G:H5' | 2.16 | 0.45 |
| 29:B1:2365:C:OP1 | 29:B1:2365:C:C6 | 2.66 | 0.45 |
| 29:B1:2443:A:C6 | 29:B1:2444:C:N4 | 2.83 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2573:G:C5 | 29:B1:2574:G:C8 | 3.03 | 0.45 |
| 29:B1:2591:A:N3 | 29:B1:2592:G:O4' | 2.48 | 0.45 |
| 29:B1:2610:G:H2' | 29:B1:2610:G:N3 | 2.31 | 0.45 |
| 29:B1:2630:C:C2' | 29:B1:2631:U:O5' | 2.63 | 0.45 |
| 29:B1:2719:U:C4 | 29:B1:2720:G:C4 | 3.04 | 0.45 |
| 29:B1:2743:A:C8 | 29:B1:2744:U:C5 | 3.05 | 0.45 |
| 29:B1:2852:C:N4 | 29:B1:2853:A:N3 | 2.64 | 0.45 |
| 29:B1:2925:C:C6 | 29:B1:2926:A:C8 | 3.04 | 0.45 |
| 29:B1:3023:U:H4' | 29:B1:3024:A:OP2 | 2.14 | 0.45 |
| 29:B1:3048:A:N3 | 29:B1:3048:A:O4' | 2.48 | 0.45 |
| 29:B1:3090:U:C6 | 29:B1:3090:U:C4' | 2.94 | 0.45 |
| 29:B1:3309:G:C5 | 29:B1:3310:A:H1' | 2.50 | 0.45 |
| 29:B1:3316:A:H62 | 29:B1:3320:A:N6 | 2.12 | 0.45 |
| 29:B1:3381:U:C2 | 29:B1:3383:G:C6 | 3.04 | 0.45 |
| 31:B3:30:C:O2' | 31:B3:31:G:O5' | 2.34 | 0.45 |
| 31:B3:116:G:H2' | 31:B3:117:C:O5' | 2.16 | 0.45 |
| 34:BC:295:ALA:O | 34:BC:296:THR:CB | 2.63 | 0.45 |
| 35:BD:84:ARG:C | 35:BD:86:GLY:N | 2.74 | 0.45 |
| 35:BD:99:MET:C | 35:BD:100:PHE:O | 2.59 | 0.45 |
| 36:BE:98:ALA:HB1 | 36:BE:162:ALA:N | 2.31 | 0.45 |
| 38:BG:73:GLY:CA | 38:BG:74:SER:C | 2.86 | 0.45 |
| 38:BG:219:LYS:O | 38:BG:221:LYS:N | 2.49 | 0.45 |
| 42:BK:61:ARG:O | 42:BK:63:GLU:N | 2.49 | 0.45 |
| 42:BK:118:PRO:CA | 42:BK:119:SER:CB | 2.92 | 0.45 |
| 45:BP:142:SER:O | 45:BP:143:THR:C | 2.60 | 0.45 |
| 45:BP:165:ALA:O | 45:BP:166:GLU:C | 2.57 | 0.45 |
| 46:BQ:141:SER:O | 46:BQ:143:PRO:N | 2.49 | 0.45 |
| 48:BS:11:ALA:O | 48:BS:14:VAL:N | 2.49 | 0.45 |
| 53:BX:101:PRO:C | 53:BX:103:LYS:H | 2.24 | 0.45 |
| 54:BY:135:GLU:O | 54:BY:137:LYS:N | 2.49 | 0.45 |
| 1:C1:17:C:N3 | 1:C1:18:C:C5 | 2.84 | 0.45 |
| 1:C1:45:U:C2 | 1:C1:436:A:N6 | 2.84 | 0.45 |
| 1:C1:63:G:C8 | 1:C1:63:G:OP1 | 2.69 | 0.45 |
| 1:C1:114:C:H42 | 1:C1:250:C:C4' | 2.28 | 0.45 |
| 1:C1:119:A:O4' | 1:C1:397:A:C1' | 2.63 | 0.45 |
| 1:C1:129:U:H5 | 1:C1:264:G:N7 | 2.14 | 0.45 |
| 1:C1:173:A:N1 | 1:C1:174:U:C1' | 2.72 | 0.45 |
| 1:C1:186:C:N4 | 1:C1:187:G:C4 | 2.85 | 0.45 |
| 1:C1:199:G:C5 | 1:C1:200:A:N7 | 2.84 | 0.45 |
| 1:C1:333:A:N1 | 1:C1:334:G:N1 | 2.64 | 0.45 |
| 1:C1:358:U:O2 | 1:C1:360:A:C8 | 2.69 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:366:A:C2 | 1:C1:376:C:C2 | 3.04 | 0.45 |
| 1:C1:426:G:H21 | 1:C1:459:G:C2' | 2.29 | 0.45 |
| 1:C1:436:A:H5" | 1:C1:437:A:P | 2.57 | 0.45 |
| 1:C1:529:A:O2' | 1:C1:530:C:P | 2.74 | 0.45 |
| 1:C1:575:C:N4 | 1:C1:576:G:C6 | 2.84 | 0.45 |
| 1:C1:588:U:N3 | 1:C1:589:C:C5 | 2.83 | 0.45 |
| 1:C1:632:U:C2' | 1:C1:633:U:O5' | 2.64 | 0.45 |
| 1:C1:728:U:O2 | 1:C1:728:U:C2' | 2.64 | 0.45 |
| 1:C1:756:A:C5 | 1:C1:757:A:C5 | 3.04 | 0.45 |
| 1:C1:814:A:H2' | 1:C1:816:G:H21 | 1.81 | 0.45 |
| 1:C1:824:G:C5' | 1:C1:825:U:OP1 | 2.64 | 0.45 |
| 1:C1:877:G:O2' | 1:C1:878:G:H5' | 2.15 | 0.45 |
| 1:C1:925:G:C2 | 1:C1:988:A:H1' | 2.51 | 0.45 |
| 1:C1:968:U:H5" | 1:C1:1033:C:O2' | 2.15 | 0.45 |
| 1:C1:1113:A:N3 | 1:C1:1115:U:C5 | 2.84 | 0.45 |
| 1:C1:1150:G:C2' | 1:C1:1151:A:O5' | 2.64 | 0.45 |
| 1:C1:1330:G:H2' | 1:C1:1331:A:O4' | 2.16 | 0.45 |
| 1:C1:1449:U:H2' | 1:C1:1450:U:C6 | 2.49 | 0.45 |
| 1:C1:1480:G:N2 | 1:C1:1528:U:C2 | 2.84 | 0.45 |
| 1:C1:1533:C:H4' | 1:C1:1539:G:C6 | 2.51 | 0.45 |
| 1:C1:1557:U:O2 | 1:C1:1557:U:C3' | 2.64 | 0.45 |
| 1:C1:1619:C:H2' | 1:C1:1620:C:C6 | 2.52 | 0.45 |
| 1:C1:1644:C:H2' | 1:C1:1645:G:O5' | 2.15 | 0.45 |
| 1:C1:1651:A:N1 | 1:C1:1652:C:C4 | 2.84 | 0.45 |
| 1:C1:1705:C:N4 | 1:C1:1706:C:C4 | 2.84 | 0.45 |
| 1:C1:1760:G:C2 | 1:C1:1761:U:C6 | 3.04 | 0.45 |
| 2:CA:19:ALA:O | 2:CA:20:ALA:C | 2.60 | 0.45 |
| 6:CE:59:LEU:C | 6:CE:61:THR:N | 2.74 | 0.45 |
| 8:CG:97:SER:C | 8:CG:99:ARG:H | 2.23 | 0.45 |
| 13:CL:27:LYS:HA | 13:CL:57:ARG:CA | 2.46 | 0.45 |
| 15:CN:52:LYS:C | 15:CN:54:GLY:H | 2.23 | 0.45 |
| 21:CT:175:ASP:O | 21:CT:176:LYS:CB | 2.64 | 0.45 |
| 21:CT:243:LEU:HA | 21:CT:254:ALA:HB2 | 1.98 | 0.45 |
| 21:CT:243:LEU:O | 21:CT:244:ALA:HB2 | 2.15 | 0.45 |
| 25:Cd:108:UNK:HA | 25:Cd:112:UNK:N | 2.31 | 0.45 |
| 29:D1:23:A:H5" | 29:D1:24:G:OP2 | 2.16 | 0.45 |
| 29:D1:34:A:C6 | 29:D1:35:A:C6 | 3.04 | 0.45 |
| 29:D1:190:U:N1 | 29:D1:224:C:O4' | 2.49 | 0.45 |
| 29:D1:212:G:C5 | 29:D1:222:A:N7 | 2.85 | 0.45 |
| 29:D1:504:A:C2' | 29:D1:505:G:C5' | 2.93 | 0.45 |
| 29:D1:558:U:O2' | 29:D1:558:U:O2 | 2.34 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:559:A:C2' | 29:D1:560:G:C8 | 2.96 | 0.45 |
| 29:D1:584:G:C2 | 29:D1:585:A:C4 | 3.03 | 0.45 |
| 29:D1:624:G:N3 | 29:D1:625:G:C8 | 2.84 | 0.45 |
| 29:D1:693:A:C5 | 29:D1:694:C:C5 | 3.04 | 0.45 |
| 29:D1:752:C:O2' | 29:D1:753:C:H6 | 1.99 | 0.45 |
| 29:D1:795:G:H4' | 29:D1:1111:U:O3' | 2.16 | 0.45 |
| 29:D1:918:C:H2' | 29:D1:919:U:O4' | 2.16 | 0.45 |
| 29:D1:941:G:H8 | 29:D1:941:G:O5' | 2.00 | 0.45 |
| 29:D1:993:G:C4 | 29:D1:2637:A:N3 | 2.84 | 0.45 |
| 29:D1:1065:A:O2' | 29:D1:1093:A:N1 | 2.49 | 0.45 |
| 29:D1:1084:A:H3' | 29:D1:1085:A:C8 | 2.51 | 0.45 |
| 29:D1:1192:C:O3' | 29:D1:1193:A:C4' | 2.64 | 0.45 |
| 29:D1:1212:A:C5 | 29:D1:1294:A:C2 | 3.04 | 0.45 |
| 29:D1:1302:A:O2' | 29:D1:2887:A:H2 | 1.97 | 0.45 |
| 29:D1:1338:C:O2 | 29:D1:1338:C:C2' | 2.63 | 0.45 |
| 29:D1:1358:C:C3' | 29:D1:1359:C:H6 | 2.29 | 0.45 |
| 29:D1:1757:A:O2' | 29:D1:1758:G:H5' | 2.16 | 0.45 |
| 29:D1:1794:G:O3' | 29:D1:1796:G:N2 | 2.43 | 0.45 |
| 29:D1:1814:A:H2' | 29:D1:1814:A:N3 | 2.31 | 0.45 |
| 29:D1:1952:G:C6 | 29:D1:2093:A:N6 | 2.84 | 0.45 |
| 29:D1:2104:A:H2' | 29:D1:2105:G:H5" | 1.98 | 0.45 |
| 29:D1:2107:A:C4 | 29:D1:2108:C:C6 | 3.04 | 0.45 |
| 29:D1:2133:U:H2' | 29:D1:2134:G:H5' | 1.97 | 0.45 |
| 29:D1:2150:G:C3' | 29:D1:2151:C:H5" | 2.46 | 0.45 |
| 29:D1:2207:A:H8 | 29:D1:2237:C:C2 | 2.35 | 0.45 |
| 29:D1:2214:A:H2' | 29:D1:2215:A:H8 | 1.81 | 0.45 |
| 29:D1:2403:G:H4' | 29:D1:2404:A:OP1 | 2.15 | 0.45 |
| 29:D1:2502:A:O2' | 29:D1:2503:G:P | 2.74 | 0.45 |
| 29:D1:2590:A:C5 | 29:D1:2591:A:C8 | 3.04 | 0.45 |
| 29:D1:2754:G:H5' | 29:D1:2755:C:H5' | 1.98 | 0.45 |
| 29:D1:2853:A:C6 | 29:D1:2854:U:C2 | 3.04 | 0.45 |
| 29:D1:2880:U:H2' | 29:D1:2881:C:C5' | 2.45 | 0.45 |
| 29:D1:2983:C:O2 | 29:D1:2983:C:O4' | 2.30 | 0.45 |
| 29:D1:3060:C:H2' | 29:D1:3061:G:C8 | 2.51 | 0.45 |
| 29:D1:3072:C:O2' | 29:D1:3073:A:H5' | 2.16 | 0.45 |
| 29:D1:3079:U:H3' | 29:D1:3080:G:C5' | 2.46 | 0.45 |
| 29:D1:3090:U:C6 | 29:D1:3090:U:C4' | 2.99 | 0.45 |
| 29:D1:3092:C:C5' | 29:D1:3093:C:OP2 | 2.63 | 0.45 |
| 29:D1:3153:U:H1' | 29:D1:3395:G:H21 | 1.80 | 0.45 |
| 29:D1:3228:C:H3' | 29:D1:3229:G:N7 | 2.30 | 0.45 |
| 29:D1:3289:G:N7 | 74:D1:3524:OHX:N2 | 2.65 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:D2:26:C:C4' | 30:D2:27:A:OP1 | 2.59 | 0.45 |
| 31:D3:50:C:HO2' | 31:D3:51:G:P | 2.38 | 0.45 |
| 31:D3:103:G:C5 | 31:D3:105:A:C6 | 3.04 | 0.45 |
| 31:D3:118:C:H2' | 31:D3:118:C:O2 | 2.15 | 0.45 |
| 33:DB:78:ALA:HA | 33:DB:168:VAL:HA | 1.98 | 0.45 |
| 34:DC:109:HIS:O | 34:DC:110:LEU:CB | 2.64 | 0.45 |
| 34:DC:197:GLU:O | 34:DC:199:PHE:N | 2.49 | 0.45 |
| 35:DD:115:HIS:O | 35:DD:116:ASN:C | 2.59 | 0.45 |
| 37:DF:67:GLY:O | 37:DF:68:PRO:CB | 2.65 | 0.45 |
| 40:DI:174:LYS:O | 40:DI:176:LEU:N | 2.49 | 0.45 |
| 42:DK:19:LEU:O | 42:DK:68:HIS:O | 2.34 | 0.45 |
| 50:DU:133:SER:C | 50:DU:135:VAL:N | 2.72 | 0.45 |
| 1:A1:87:C:O2 | 1:A1:87:C:C2' | 2.56 | 0.45 |
| 1:A1:112:A:C6 | 1:A1:303:U:O2 | 2.70 | 0.45 |
| 1:A1:150:U:C5' | 1:A1:151:G:OP2 | 2.64 | 0.45 |
| 1:A1:168:A:N6 | 1:A1:169:A:N6 | 2.65 | 0.45 |
| 1:A1:274:G:C4 | 1:A1:275:C:C5 | 3.04 | 0.45 |
| 1:A1:289:U:C2 | 1:A1:290:G:C8 | 3.04 | 0.45 |
| 1:A1:469:C:C2 | 1:A1:469:C:P | 3.09 | 0.45 |
| 1:A1:708:C:C4 | 1:A1:731:C:C5 | 3.04 | 0.45 |
| 1:A1:809:A:N1 | 1:A1:810:G:C6 | 2.85 | 0.45 |
| 1:A1:837:G:C4 | 1:A1:838:G:C8 | 3.04 | 0.45 |
| 1:A1:956:C:H5" | 1:A1:1073:G:O2' | 2.16 | 0.45 |
| 1:A1:978:A:N6 | 1:A1:1024:U:C4 | 2.83 | 0.45 |
| 1:A1:993:A:C6 | 1:A1:1012:U:C2 | 3.04 | 0.45 |
| 1:A1:1065:A:C5 | 1:A1:1066:C:C5 | 3.03 | 0.45 |
| 1:A1:1075:C:N3 | 1:A1:1076:A:C2 | 2.84 | 0.45 |
| 1:A1:1110:G:H2' | 1:A1:1111:G:H8 | 1.81 | 0.45 |
| 1:A1:1133:A:N3 | 1:A1:1133:A:H2' | 2.31 | 0.45 |
| 1:A1:1151:A:C6 | 1:A1:1152:A:N7 | 2.84 | 0.45 |
| 1:A1:1199:G:C6 | 1:A1:1200:G:C1' | 2.96 | 0.45 |
| 1:A1:1281:G:C6 | 1:A1:1282:U:C4 | 3.03 | 0.45 |
| 1:A1:1344:A:H1' | 1:A1:1345:A:O5' | 2.16 | 0.45 |
| 1:A1:1477:G:H2' | 1:A1:1478:G:C5' | 2.46 | 0.45 |
| 1:A1:1489:U:H6 | 1:A1:1494:C:N3 | 2.14 | 0.45 |
| 1:A1:1530:C:H2' | 1:A1:1531:G:H8 | 1.81 | 0.45 |
| 1:A1:1538:U:C5 | 1:A1:1540:G:C8 | 3.03 | 0.45 |
| 1:A1:1557:U:O2 | 1:A1:1558:U:C6 | 2.69 | 0.45 |
| 1:A1:1591:C:C6 | 1:A1:1591:C:O5' | 2.69 | 0.45 |
| 1:A1:1705:C:N4 | 1:A1:1706:C:C4 | 2.85 | 0.45 |
| 2:AA:178:ALA:HA | 2:AA:181:VAL:CB | 2.46 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 5:AD:93:LEU:O | 5:AD:96:SER:N | 2.32 | 0.45 |
| 5:AD:164:PRO:O | 5:AD:166:ARG:N | 2.49 | 0.45 |
| 10:AI:67:ALA:CA | 10:AI:68:PRO:C | 2.89 | 0.45 |
| 13:AL:108:LYS:O | 13:AL:109:LEU:C | 2.59 | 0.45 |
| 29:B1:73:C:P | 29:B1:74:G:O5' | 2.74 | 0.45 |
| 29:B1:374:A:C2 | 29:B1:375:A:C6 | 3.04 | 0.45 |
| 29:B1:697:A:C8 | 29:B1:698:U:H3' | 2.50 | 0.45 |
| 29:B1:759:U:H2' | 29:B1:760:G:C5' | 2.46 | 0.45 |
| 29:B1:774:G:C4 | 29:B1:775:A:C8 | 3.04 | 0.45 |
| 29:B1:885:U:N3 | 29:B1:886:C:C5 | 2.84 | 0.45 |
| 29:B1:975:C:C2 | 29:B1:976:U:C5 | 3.03 | 0.45 |
| 29:B1:1029:G:H2' | 29:B1:1030:A:H5" | 1.98 | 0.45 |
| 29:B1:1075:A:C2 | 69:Bp:246:UNK:N | 2.84 | 0.45 |
| 29:B1:1129:A:C5 | 29:B1:1130:A:N6 | 2.84 | 0.45 |
| 29:B1:1178:G:C8 | 29:B1:1179:A:C5 | 3.04 | 0.45 |
| 29:B1:1192:C:O2 | 29:B1:1193:A:C2 | 2.69 | 0.45 |
| 29:B1:1268:G:H2' | 29:B1:1269:U:C4' | 2.46 | 0.45 |
| 29:B1:1302:A:N7 | 29:B1:2857:C:O2' | 2.49 | 0.45 |
| 29:B1:1330:A:C8 | 29:B1:1330:A:H3' | 2.50 | 0.45 |
| 29:B1:1347:U:H3' | 29:B1:1348:U:C6 | 2.52 | 0.45 |
| 29:B1:1497:C:O2' | 29:B1:1498:A:H5' | 2.16 | 0.45 |
| 29:B1:1562:C:H2' | 29:B1:1563:C:C6 | 2.51 | 0.45 |
| 29:B1:1685:C:C2' | 29:B1:1687:U:OP2 | 2.63 | 0.45 |
| 29:B1:1907:C:C2' | 29:B1:1908:A:H5' | 2.46 | 0.45 |
| 29:B1:1915:A:H5" | 48:BS:84:THR:N | 2.32 | 0.45 |
| 29:B1:2180:G:H2' | 29:B1:2181:C:C6 | 2.51 | 0.45 |
| 29:B1:2302:G:H2' | 29:B1:2303:A:O4' | 2.16 | 0.45 |
| 29:B1:2469:G:N2 | 29:B1:2488:A:C2 | 2.84 | 0.45 |
| 29:B1:2639:G:H21 | 29:B1:2640:A:H1' | 1.82 | 0.45 |
| 29:B1:2666:C:C6 | 29:B1:2666:C:O5' | 2.69 | 0.45 |
| 29:B1:2681:U:H6 | 29:B1:2681:U:H2' | 1.09 | 0.45 |
| 29:B1:2773:C:N3 | 29:B1:2774:C:C5 | 2.84 | 0.45 |
| 29:B1:2839:G:C6 | 29:B1:2850:G:C2 | 3.04 | 0.45 |
| 29:B1:2965:U:H2' | 29:B1:2966:G:H5' | 1.99 | 0.45 |
| 29:B1:3060:C:H2' | 29:B1:3061:G:C8 | 2.51 | 0.45 |
| 29:B1:3093:C:O2' | 29:B1:3094:A:O5' | 2.34 | 0.45 |
| 29:B1:3110:C:N3 | 29:B1:3111:U:C5 | 2.84 | 0.45 |
| 29:B1:3140:G:C8 | 29:B1:3140:G:C5' | 2.92 | 0.45 |
| 29:B1:3229:G:H4' | 29:B1:3230:G:OP1 | 2.16 | 0.45 |
| 29:B1:3369:G:O2' | 29:B1:3370:A:P | 2.74 | 0.45 |
| 29:B1:3392:U:C4 | 29:B1:3393:U:C4 | 2.86 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:B2:14:U:P | 30:B2:14:U:O4' | 2.74 | 0.45 |
| 30:B2:43:U:H2' | 30:B2:44:C:C5' | 2.46 | 0.45 |
| 30:B2:66:A:C6 | 30:B2:67:G:C8 | 3.05 | 0.45 |
| 31:B3:116:G:N3 | 31:B3:117:C:C6 | 2.84 | 0.45 |
| 33:BB:223:SER:O | 33:BB:236:GLY:O | 2.33 | 0.45 |
| 35:BD:21:PRO:O | 35:BD:22:LEU:CB | 2.65 | 0.45 |
| 39:BH:111:LYS:HA | 39:BH:112:GLU:HA | 1.47 | 0.45 |
| 40:BI:140:VAL:O | 40:BI:141:LYS:CB | 2.63 | 0.45 |
| 42:BK:29:ARG:C | 42:BK:31:THR:N | 2.72 | 0.45 |
| 43:BN:59:ASN:O | 43:BN:60:LEU:CB | 2.64 | 0.45 |
| 45:BP:59:ARG:N | 45:BP:61:ALA:H | 2.14 | 0.45 |
| 46:BQ:85:ALA:O | 46:BQ:87:SER:N | 2.49 | 0.45 |
| 48:BS:11:ALA:O | 48:BS:12:ALA:C | 2.57 | 0.45 |
| 51:BV:39:LEU:O | 51:BV:42:GLN:N | 2.49 | 0.45 |
| 54:BY:47:LYS:CB | 54:BY:53:PHE:CB | 2.94 | 0.45 |
| 56:Ba:56:ASN:C | 56:Ba:58:ALA:N | 2.74 | 0.45 |
| 63:Bh:37:UNK:O | 63:Bh:39:UNK:N | 2.50 | 0.45 |
| 66:Bl:4:UNK:C | 66:Bl:6:UNK:N | 2.68 | 0.45 |
| 1:C1:104:A:C2 | 1:C1:106:U:H1' | 2.52 | 0.45 |
| 1:C1:106:U:H3' | 1:C1:107:C:H6 | 1.81 | 0.45 |
| 1:C1:139:C:H4' | 1:C1:140:A:O5' | 2.17 | 0.45 |
| 1:C1:252:U:HO2' | 1:C1:253:A:C5' | 2.29 | 0.45 |
| 1:C1:356:G:C6 | 1:C1:357:G:C8 | 3.04 | 0.45 |
| 1:C1:359:A:N3 | 1:C1:359:A:C2' | 2.80 | 0.45 |
| 1:C1:381:C:N3 | 1:C1:382:C:C5 | 2.84 | 0.45 |
| 1:C1:509:G:C2' | 1:C1:510:G:C8 | 2.81 | 0.45 |
| 1:C1:568:G:C6 | 1:C1:569:C:C5 | 3.04 | 0.45 |
| 1:C1:590:C:C2 | 1:C1:591:A:N7 | 2.84 | 0.45 |
| 1:C1:646:C:H2' | 1:C1:647:G:C4' | 2.46 | 0.45 |
| 1:C1:747:C:C2 | 1:C1:748:U:C5 | 3.04 | 0.45 |
| 1:C1:787:G:H3' | 1:C1:788:A:C8 | 2.52 | 0.45 |
| 1:C1:817:A:C2 | 1:C1:855:A:C2 | 3.01 | 0.45 |
| 1:C1:831:U:H5' | 1:C1:832:U:P | 2.57 | 0.45 |
| 1:C1:1167:G:N3 | 1:C1:1167:G:C2' | 2.79 | 0.45 |
| 1:C1:1174:C:H4' | 1:C1:1601:G:C5 | 2.50 | 0.45 |
| 1:C1:1239:U:H2' | 1:C1:1240:U:OP2 | 2.17 | 0.45 |
| 1:C1:1241:G:C2 | 1:C1:1243:G:H8 | 2.34 | 0.45 |
| 1:C1:1471:A:C8 | 1:C1:1540:G:H1' | 2.51 | 0.45 |
| 1:C1:1607:G:C2 | 1:C1:1608:U:C6 | 3.04 | 0.45 |
| 1:C1:1738:U:H2' | 1:C1:1739:C:C6 | 2.52 | 0.45 |
| 4:CC:98:ALA:C | 4:CC:100:ALA:N | 2.74 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:CG:134:VAL:O | 8:CG:135:LEU:C | 2.59 | 0.45 |
| 21:CT:128:ASP:O | 21:CT:129:LYS:CB | 2.64 | 0.45 |
| 23:Cb:60:UNK:O | 23:Cb:62:UNK:N | 2.49 | 0.45 |
| 29:D1:187:A:C8 | 29:D1:211:A:N1 | 2.85 | 0.45 |
| 29:D1:278:U:N3 | 29:D1:279:U:C5 | 2.85 | 0.45 |
| 29:D1:329:U:O2 | 29:D1:329:U:O4' | 2.30 | 0.45 |
| 29:D1:417:A:O2' | 29:D1:418:A:H5' | 2.17 | 0.45 |
| 29:D1:517:G:C2' | 29:D1:518:G:O4' | 2.64 | 0.45 |
| 29:D1:524:U:C2 | 29:D1:525:C:C6 | 3.03 | 0.45 |
| 29:D1:529:A:H2' | 29:D1:530:G:C8 | 2.51 | 0.45 |
| 29:D1:574:U:C6 | 29:D1:574:U:C5' | 2.94 | 0.45 |
| 29:D1:586:C:H5" | 29:D1:587:U:OP2 | 2.16 | 0.45 |
| 29:D1:692:A:C2 | 29:D1:693:A:N9 | 2.84 | 0.45 |
| 29:D1:809:G:H2' | 29:D1:810:A:C8 | 2.51 | 0.45 |
| 29:D1:993:G:N7 | 29:D1:2637:A:C2 | 2.84 | 0.45 |
| 29:D1:1357:G:C5 | 29:D1:1358:C:C5 | 3.04 | 0.45 |
| 29:D1:1378:U:O2 | 29:D1:1378:U:C2' | 2.63 | 0.45 |
| 29:D1:1379:G:C4 | 29:D1:1380:G:C8 | 3.04 | 0.45 |
| 29:D1:1483:G:C8 | 29:D1:1485:G:C5 | 3.04 | 0.45 |
| 29:D1:1489:A:H5" | 29:D1:1490:A:OP2 | 2.16 | 0.45 |
| 29:D1:1489:A:C2 | 29:D1:1854:C:C2 | 3.04 | 0.45 |
| 29:D1:1498:A:C2' | 29:D1:1499:C:H5' | 2.45 | 0.45 |
| 29:D1:1528:G:N1 | 29:D1:1833:G:C6 | 2.84 | 0.45 |
| 29:D1:1562:C:H2' | 29:D1:1563:C:C6 | 2.51 | 0.45 |
| 29:D1:1566:A:H2' | 29:D1:1567:U:C5 | 2.51 | 0.45 |
| 29:D1:1617:G:C2' | 29:D1:1618:G:H5' | 2.46 | 0.45 |
| 29:D1:1634:G:N1 | 29:D1:1640:G:O6 | 2.49 | 0.45 |
| 29:D1:1679:A:C2 | 29:D1:1680:G:C5 | 3.04 | 0.45 |
| 29:D1:1741:A:H2' | 29:D1:1742:U:O4' | 2.17 | 0.45 |
| 29:D1:2117:A:N3 | 29:D1:2117:A:C2' | 2.79 | 0.45 |
| 29:D1:2255:A:C4 | 74:D1:3415:OHX:N4 | 2.84 | 0.45 |
| 29:D1:2298:U:C3' | 29:D1:2299:A:H5" | 2.46 | 0.45 |
| 29:D1:2459:A:N6 | 29:D1:2486:A:H2 | 2.15 | 0.45 |
| 29:D1:2468:A:H5" | 32:DA:31:THR:CB | 2.46 | 0.45 |
| 29:D1:2648:G:C6 | 29:D1:2649:A:C5 | 3.04 | 0.45 |
| 29:D1:2716:U:N3 | 29:D1:2717:U:C5 | 2.85 | 0.45 |
| 29:D1:2738:A:H2' | 29:D1:2738:A:N3 | 2.31 | 0.45 |
| 29:D1:2942:C:C6 | 29:D1:2942:C:O5' | 2.70 | 0.45 |
| 29:D1:2945:G:H8 | 29:D1:2979:U:O2 | 1.94 | 0.45 |
| 29:D1:3027:A:C8 | 29:D1:3028:G:N7 | 2.84 | 0.45 |
| 29:D1:3028:G:N1 | 29:D1:3029:A:C2 | 2.84 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3135:U:H3' | 29:D1:3136:G:C8 | 2.50 | 0.45 |
| 29:D1:3253:G:C5 | 29:D1:3254:G:C8 | 3.04 | 0.45 |
| 29:D1:3273:A:O4' | 29:D1:3273:A:P | 2.73 | 0.45 |
| 29:D1:3298:C:N3 | 29:D1:3391:A:C2 | 2.84 | 0.45 |
| 29:D1:3325:G:C2' | 29:D1:3326:G:O4' | 2.64 | 0.45 |
| 29:D1:3337:G:H2' | 29:D1:3338:C:O4' | 2.16 | 0.45 |
| 29:D1:3390:G:C5 | 29:D1:3391:A:C5 | 3.04 | 0.45 |
| 30:D2:11:A:O5' | 30:D2:13:A:C5 | 2.68 | 0.45 |
| 30:D2:66:A:C6 | 30:D2:67:G:C8 | 3.04 | 0.45 |
| 30:D2:69:C:N3 | 30:D2:70:U:C4 | 2.85 | 0.45 |
| 30:D2:102:A:C2' | 30:D2:103:A:O5' | 2.64 | 0.45 |
| 31:D3:1:A:N1 | 31:D3:2:A:C4 | 2.84 | 0.45 |
| 31:D3:53:A:H2' | 31:D3:54:A:C8 | 2.51 | 0.45 |
| 31:D3:70:G:H3' | 31:D3:71:A:O4' | 2.17 | 0.45 |
| 31:D3:140:G:C2 | 31:D3:141:C:C2 | 3.04 | 0.45 |
| 31:D3:142:C:N3 | 31:D3:143:U:C4 | 2.83 | 0.45 |
| 34:DC:251:CYS:O | 34:DC:252:ILE:CB | 2.64 | 0.45 |
| 36:DE:71:GLY:O | 36:DE:72:ASP:C | 2.59 | 0.45 |
| 38:DG:167:ALA:HB3 | 38:DG:176:TYR:CB | 2.46 | 0.45 |
| 40:DI:129:ARG:O | 40:DI:131:GLY:N | 2.47 | 0.45 |
| 44:DO:163:GLY:O | 44:DO:165:THR:N | 2.49 | 0.45 |
| 47:DR:36:LEU:C | 47:DR:37:ALA:O | 2.59 | 0.45 |
| 57:Db:40:SER:C | 57:Db:42:VAL:N | 2.73 | 0.45 |
| 26:Dj:19:UNK:O | 26:Dj:20:UNK:C | 2.64 | 0.45 |
| 1:A1:119:A:OP2 | 1:A1:120:U:C5 | 2.69 | 0.45 |
| 1:A1:312:A:C2 | 1:A1:314:C:C2 | 3.04 | 0.45 |
| 1:A1:333:A:H2' | 1:A1:334:G:C8 | 2.51 | 0.45 |
| 1:A1:353:A:C8 | 1:A1:354:C:C5 | 3.04 | 0.45 |
| 1:A1:413:U:O2' | 1:A1:414:C:H5' | 2.17 | 0.45 |
| 1:A1:648:G:C6 | 1:A1:649:U:C5 | 3.04 | 0.45 |
| 1:A1:852:C:C4 | 1:A1:853:G:C2 | 3.04 | 0.45 |
| 1:A1:879:G:C6 | 1:A1:880:C:C4 | 3.04 | 0.45 |
| 1:A1:1065:A:C8 | 1:A1:1066:C:C5 | 3.04 | 0.45 |
| 1:A1:1116:A:C5 | 1:A1:1117:U:C5 | 3.04 | 0.45 |
| 1:A1:1138:A:N1 | 1:A1:1139:A:C5 | 2.83 | 0.45 |
| 1:A1:1198:G:OP2 | 1:A1:1199:G:N7 | 2.50 | 0.45 |
| 1:A1:1232:U:O2 | 1:A1:1232:U:C3' | 2.64 | 0.45 |
| 1:A1:1246:C:C6 | 1:A1:1247:U:C5 | 3.03 | 0.45 |
| 1:A1:1272:U:O4 | 1:A1:1431:C:C2 | 2.69 | 0.45 |
| 1:A1:1276:U:O2' | 1:A1:1277:G:H5' | 2.16 | 0.45 |
| 1:A1:1277:G:C6 | 1:A1:1278:G:C2 | 3.05 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1472:C:H5' | 1:A1:1474:G:C1' | 2.46 | 0.45 |
| 1:A1:1528:U:O5' | 1:A1:1528:U:H6 | 1.99 | 0.45 |
| 1:A1:1657:U:N3 | 74:A1:1949:OHX:N5 | 2.65 | 0.45 |
| 1:A1:1722:A:H8 | 1:A1:1723:U:H6 | 1.54 | 0.45 |
| 9:AH:98:GLY:O | 9:AH:101:ALA:HB3 | 2.16 | 0.45 |
| 11:AJ:10:PHE:N | 11:AJ:19:VAL:HA | 2.32 | 0.45 |
| 16:AO:30:SER:O | 16:AO:34:ILE:CB | 2.64 | 0.45 |
| 21:AT:3:SER:O | 21:AT:4:ASN:C | 2.60 | 0.45 |
| 28:Ah:2:UNK:O | 28:Ah:5:UNK:N | 2.49 | 0.45 |
| 29:B1:96:G:H8 | 29:B1:96:G:C5' | 2.28 | 0.45 |
| 29:B1:296:A:N6 | 29:B1:297:G:H1 | 2.14 | 0.45 |
| 29:B1:541:U:H2' | 29:B1:542:G:C8 | 2.51 | 0.45 |
| 29:B1:549:U:O2' | 29:B1:550:A:O5' | 2.23 | 0.45 |
| 29:B1:556:U:C2 | 29:B1:557:A:H1' | 2.51 | 0.45 |
| 29:B1:559:A:C4 | 29:B1:560:G:C8 | 3.03 | 0.45 |
| 29:B1:564:G:OP1 | 29:B1:564:G:H4' | 2.16 | 0.45 |
| 29:B1:584:G:C2 | 29:B1:585:A:C8 | 3.04 | 0.45 |
| 29:B1:706:A:C6 | 29:B1:714:G:N2 | 2.83 | 0.45 |
| 29:B1:771:A:N1 | 29:B1:772:U:C4 | 2.85 | 0.45 |
| 29:B1:871:U:C4 | 29:B1:872:U:C4 | 3.04 | 0.45 |
| 29:B1:883:A:C6 | 29:B1:921:A:N6 | 2.85 | 0.45 |
| 29:B1:1003:A:C6 | 29:B1:1004:U:C2 | 3.04 | 0.45 |
| 29:B1:1020:G:C6 | 29:B1:1021:G:N7 | 2.84 | 0.45 |
| 29:B1:1063:G:OP1 | 29:B1:1063:G:C4 | 2.70 | 0.45 |
| 29:B1:1142:G:H3' | 29:B1:1143:A:C5' | 2.46 | 0.45 |
| 29:B1:1272:C:C2' | 29:B1:1273:A:O5' | 2.64 | 0.45 |
| 29:B1:1342:C:H2' | 29:B1:1342:C:O2 | 2.15 | 0.45 |
| 29:B1:1540:U:C2' | 29:B1:1541:G:C5' | 2.95 | 0.45 |
| 29:B1:1604:G:N1 | 29:B1:1605:A:C6 | 2.84 | 0.45 |
| 29:B1:1655:G:H5' | 29:B1:1656:A:O5' | 2.17 | 0.45 |
| 29:B1:1715:A:N7 | 29:B1:1716:U:O4' | 2.49 | 0.45 |
| 29:B1:1753:G:N1 | 29:B1:1754:G:C5 | 2.85 | 0.45 |
| 29:B1:1780:G:O2' | 29:B1:1781:C:H6 | 1.97 | 0.45 |
| 29:B1:1784:G:C6 | 29:B1:1785:U:C4 | 3.04 | 0.45 |
| 29:B1:1912:U:O2' | 29:B1:1913:A:O4' | 2.33 | 0.45 |
| 29:B1:2215:A:C2 | 29:B1:2216:G:N9 | 2.83 | 0.45 |
| 29:B1:2356:A:C2 | 29:B1:2357:A:N9 | 2.83 | 0.45 |
| 29:B1:2383:C:H2' | 29:B1:2384:A:C8 | 2.49 | 0.45 |
| 29:B1:2390:A:O4' | 29:B1:3307:A:N1 | 2.49 | 0.45 |
| 29:B1:2399:A:N1 | 29:B1:2981:U:C5 | 2.84 | 0.45 |
| 29:B1:2662:G:N3 | 29:B1:2662:G:H2' | 2.30 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2676:A:C2' | 29:B1:2677:G:OP1 | 2.64 | 0.45 |
| 29:B1:2824:G:N7 | 74:B1:3478:OHX:N4 | 2.65 | 0.45 |
| 29:B1:3030:G:O2' | 29:B1:3031:G:O5' | 2.34 | 0.45 |
| 29:B1:3087:A:C4 | 29:B1:3088:G:C8 | 3.03 | 0.45 |
| 29:B1:3101:G:C5 | 29:B1:3134:A:C2 | 3.04 | 0.45 |
| 29:B1:3129:A:H2' | 29:B1:3129:A:N3 | 2.31 | 0.45 |
| 29:B1:3278:C:O3' | 29:B1:3279:A:O4' | 2.33 | 0.45 |
| 29:B1:3298:C:C4 | 29:B1:3299:A:N6 | 2.85 | 0.45 |
| 29:B1:3310:A:C2 | 29:B1:3311:C:C1' | 3.00 | 0.45 |
| 30:B2:11:A:O3' | 30:B2:68:C:H4' | 2.16 | 0.45 |
| 30:B2:11:A:O5' | 30:B2:13:A:C4 | 2.70 | 0.45 |
| 30:B2:120:C:H2' | 30:B2:121:U:C5 | 2.51 | 0.45 |
| 31:B3:40:A:HO2' | 31:B3:41:A:P | 2.39 | 0.45 |
| 31:B3:104:A:C8 | 31:B3:105:A:N7 | 2.84 | 0.45 |
| 31:B3:116:G:C2' | 31:B3:117:C:O5' | 2.65 | 0.45 |
| 34:BC:278:ILE:O | 34:BC:280:HIS:N | 2.45 | 0.45 |
| 36:BE:44:TYR:CA | 36:BE:45:ASN:CB | 2.94 | 0.45 |
| 36:BE:274:GLN:C | 36:BE:276:LYS:H | 2.25 | 0.45 |
| 38:BG:163:LEU:C | 38:BG:165:ASP:H | 2.24 | 0.45 |
| 39:BH:103:ALA:C | 39:BH:105:LYS:N | 2.75 | 0.45 |
| 43:BN:86:ALA:HA | 43:BN:90:VAL:CB | 2.47 | 0.45 |
| 44:BO:108:ARG:C | 44:BO:110:ALA:H | 2.24 | 0.45 |
| 54:BY:36:GLY:O | 54:BY:37:GLY:O | 2.35 | 0.45 |
| 54:BY:46:ASP:HA | 54:BY:47:LYS:HA | 1.33 | 0.45 |
| 55:BZ:28:LYS:O | 55:BZ:31:VAL:N | 2.49 | 0.45 |
| 59:Bd:36:SER:CB | 74:Bd:101:OHX:N3 | 2.80 | 0.45 |
| 68:Bn:7:UNK:C | 68:Bn:9:UNK:N | 2.80 | 0.45 |
| 1:C1:262:U:H2' | 1:C1:263:C:C6 | 2.50 | 0.45 |
| 1:C1:289:U:O2 | 1:C1:290:G:O4' | 2.34 | 0.45 |
| 1:C1:312:A:H4' | 1:C1:313:U:H5" | 1.98 | 0.45 |
| 1:C1:321:C:H2' | 1:C1:322:G:C8 | 2.52 | 0.45 |
| 1:C1:361:C:O2' | 1:C1:362:G:H5' | 2.16 | 0.45 |
| 1:C1:749:U:O2 | 1:C1:801:G:N3 | 2.49 | 0.45 |
| 1:C1:789:A:C5 | 1:C1:790:U:C4 | 3.04 | 0.45 |
| 1:C1:792:U:H2' | 1:C1:793:A:C5' | 2.46 | 0.45 |
| 1:C1:837:G:N1 | 1:C1:838:G:C5 | 2.83 | 0.45 |
| 1:C1:1003:A:C1' | 1:C1:1004:U:OP2 | 2.64 | 0.45 |
| 1:C1:1117:U:C2 | 1:C1:1118:G:C8 | 3.05 | 0.45 |
| 1:C1:1200:G:O3' | 1:C1:1201:G:O4' | 2.33 | 0.45 |
| 1:C1:1217:A:OP2 | 1:C1:1218:G:H3' | 2.16 | 0.45 |
| 1:C1:1218:G:C6 | 1:C1:1444:A:H8 | 2.34 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1367:G:N7 | 74:C1:2001:OHX:N3 | 2.64 | 0.45 |
| 1:C1:1508:U:O4 | 74:C1:1903:OHX:N4 | 2.49 | 0.45 |
| 1:C1:1534:G:H4' | 1:C1:1536:G:C6 | 2.51 | 0.45 |
| 1:C1:1566:U:H2' | 1:C1:1567:U:C5' | 2.46 | 0.45 |
| 6:CE:66:ASP:O | 6:CE:68:LYS:N | 2.49 | 0.45 |
| 6:CE:99:LEU:O | 6:CE:102:GLU:N | 2.48 | 0.45 |
| 8:CG:138:ASN:HA | 8:CG:142:GLU:H | 1.82 | 0.45 |
| 9:CH:49:LYS:O | 9:CH:50:ALA:C | 2.58 | 0.45 |
| 12:CK:67:ARG:O | 12:CK:68:GLY:C | 2.59 | 0.45 |
| 17:CP:107:PHE:O | 17:CP:108:GLY:C | 2.59 | 0.45 |
| 21:CT:194:GLY:O | 21:CT:195:HIS:C | 2.59 | 0.45 |
| 29:D1:22:G:H2' | 29:D1:23:A:O4' | 2.16 | 0.45 |
| 29:D1:32:U:C4 | 29:D1:33:G:C5 | 3.05 | 0.45 |
| 29:D1:174:C:O5' | 29:D1:174:C:H6 | 1.99 | 0.45 |
| 29:D1:282:G:H4' | 29:D1:283:G:O5' | 2.12 | 0.45 |
| 29:D1:299:G:C5 | 29:D1:300:G:N7 | 2.84 | 0.45 |
| 29:D1:411:U:C2' | 29:D1:412:G:H5' | 2.45 | 0.45 |
| 29:D1:597:G:N3 | 29:D1:598:A:N9 | 2.64 | 0.45 |
| 29:D1:773:G:H21 | 29:D1:774:G:C1' | 2.28 | 0.45 |
| 29:D1:867:G:C6 | 29:D1:868:C:C4 | 3.04 | 0.45 |
| 29:D1:976:U:C4 | 29:D1:977:C:N4 | 2.84 | 0.45 |
| 29:D1:1008:U:C2 | 29:D1:1043:C:C2 | 3.04 | 0.45 |
| 29:D1:1078:U:O4 | 29:D1:1082:U:C4 | 2.69 | 0.45 |
| 29:D1:1108:U:C2 | 29:D1:1109:U:C5 | 3.04 | 0.45 |
| 29:D1:1141:C:H2' | 29:D1:1142:G:H8 | 1.81 | 0.45 |
| 29:D1:1168:U:H2' | 29:D1:1169:A:C5' | 2.47 | 0.45 |
| 29:D1:1197:A:H5' | 29:D1:1197:A:C8 | 2.51 | 0.45 |
| 29:D1:1287:A:H2' | 29:D1:1288:U:H6 | 1.81 | 0.45 |
| 29:D1:1296:C:O2' | 29:D1:1297:C:OP1 | 2.33 | 0.45 |
| 29:D1:1393:A:C2' | 29:D1:1394:A:H5" | 2.46 | 0.45 |
| 29:D1:1464:G:H21 | 29:D1:1466:G:H8 | 1.64 | 0.45 |
| 29:D1:1480:G:N3 | 29:D1:1480:G:H2' | 2.31 | 0.45 |
| 29:D1:1488:G:C6 | 29:D1:1855:U:C4 | 3.04 | 0.45 |
| 29:D1:1499:C:O2' | 29:D1:1500:G:H5' | 2.16 | 0.45 |
| 29:D1:1628:C:O3' | 29:D1:1630:U:H6 | 1.99 | 0.45 |
| 29:D1:1746:U:H2' | 29:D1:1747:G:O4' | 2.16 | 0.45 |
| 29:D1:1839:A:OP1 | 74:D1:3588:OHX:N6 | 2.49 | 0.45 |
| 29:D1:1948:G:N3 | 29:D1:1949:G:C8 | 2.85 | 0.45 |
| 29:D1:2192:C:C2' | 29:D1:2193:U:H5' | 2.42 | 0.45 |
| 29:D1:2262:A:H5" | 29:D1:2263:C:OP2 | 2.16 | 0.45 |
| 29:D1:2320:A:H8 | 29:D1:2320:A:O5' | 1.98 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2370:G:C6 | 29:D1:2371:G:C5 | 3.04 | 0.45 |
| 29:D1:2521:U:H2' | 29:D1:2522:G:C4' | 2.47 | 0.45 |
| 29:D1:2592:G:H4' | 29:D1:2594:C:C2 | 2.52 | 0.45 |
| 29:D1:2628:A:O4' | 29:D1:2798:C:C5 | 2.69 | 0.45 |
| 29:D1:2673:A:C2 | 29:D1:2676:A:C8 | 3.03 | 0.45 |
| 29:D1:2730:G:C2 | 29:D1:2731:U:C6 | 3.04 | 0.45 |
| 29:D1:2808:A:N3 | 29:D1:2808:A:C2' | 2.80 | 0.45 |
| 29:D1:2809:C:C2' | 29:D1:2810:C:OP1 | 2.64 | 0.45 |
| 29:D1:3077:A:N7 | 29:D1:3080:G:C8 | 2.84 | 0.45 |
| 29:D1:3097:C:C6 | 29:D1:3097:C:C3' | 2.99 | 0.45 |
| 29:D1:3182:G:O5' | 29:D1:3182:G:H8 | 1.99 | 0.45 |
| 29:D1:3205:G:C2 | 43:DN:89:ALA:HB1 | 2.51 | 0.45 |
| 29:D1:3309:G:C5 | 29:D1:3310:A:C1' | 3.00 | 0.45 |
| 29:D1:3323:A:C2 | 29:D1:3324:C:N1 | 2.84 | 0.45 |
| 30:D2:74:C:C5 | 30:D2:75:G:N7 | 2.84 | 0.45 |
| 31:D3:8:C:C5 | 31:D3:9:A:N7 | 2.85 | 0.45 |
| 31:D3:91:C:O5' | 31:D3:91:C:H6 | 2.00 | 0.45 |
| 31:D3:131:A:N3 | 31:D3:132:G:C8 | 2.84 | 0.45 |
| 34:DC:104:THR:O | 34:DC:105:VAL:O | 2.34 | 0.45 |
| 36:DE:42:ALA:CB | 49:DT:69:LYS:O | 2.65 | 0.45 |
| 36:DE:193:GLU:O | 36:DE:196:ARG:CB | 2.64 | 0.45 |
| 36:DE:247:ILE:C | 36:DE:249:ALA:H | 2.25 | 0.45 |
| 36:DE:254:LYS:C | 36:DE:256:THR:H | 2.24 | 0.45 |
| 37:DF:24:ALA:N | 37:DF:114:LYS:CB | 2.79 | 0.45 |
| 37:DF:30:LEU:CB | 37:DF:31:ARG:CA | 2.94 | 0.45 |
| 38:DG:132:PRO:O | 38:DG:229:PHE:CB | 2.64 | 0.45 |
| 39:DH:210:ALA:O | 39:DH:211:LEU:C | 2.59 | 0.45 |
| 41:DJ:66:GLU:O | 41:DJ:68:ALA:N | 2.49 | 0.45 |
| 41:DJ:94:PHE:O | 41:DJ:126:ALA:O | 2.34 | 0.45 |
| 42:DK:155:THR:HA | 42:DK:159:THR:CB | 2.46 | 0.45 |
| 43:DN:9:ALA:O | 43:DN:14:LEU:CB | 2.65 | 0.45 |
| 44:DO:59:PHE:O | 44:DO:60:VAL:CB | 2.63 | 0.45 |
| 52:DW:68:THR:HA | 52:DW:72:ALA:CB | 2.46 | 0.45 |
| 55:DZ:91:SER:O | 55:DZ:92:ILE:C | 2.60 | 0.45 |
| 59:Dd:42:ALA:O | 59:Dd:43:LYS:C | 2.60 | 0.45 |
| 62:Dg:73:THR:O | 62:Dg:74:ALA:HB3 | 2.17 | 0.45 |
| 1:A1:104:A:N6 | 1:A1:106:U:C2 | 2.84 | 0.45 |
| 1:A1:110:U:C3' | 1:A1:111:U:H5" | 2.43 | 0.45 |
| 1:A1:126:A:C2 | 1:A1:292:U:H1' | 2.50 | 0.45 |
| 1:A1:142:G:C6 | 1:A1:266:A:N7 | 2.84 | 0.45 |
| 1:A1:280:U:H5' | 1:A1:281:G:OP2 | 2.17 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:657:U:O2' | 1:A1:661:A:N6 | 2.50 | 0.45 |
| 1:A1:704:C:O2' | 1:A1:705:U:H5" | 2.16 | 0.45 |
| 1:A1:774:A:C6 | 1:A1:787:G:C2 | 3.04 | 0.45 |
| 1:A1:819:G:N1 | 1:A1:854:U:N3 | 2.65 | 0.45 |
| 1:A1:824:G:N1 | 1:A1:850:A:C2 | 2.84 | 0.45 |
| 1:A1:830:U:OP1 | 1:A1:830:U:H3' | 2.16 | 0.45 |
| 1:A1:848:C:N3 | 1:A1:849:C:C4 | 2.85 | 0.45 |
| 1:A1:921:U:C2' | 1:A1:922:G:H5' | 2.47 | 0.45 |
| 1:A1:938:G:C2 | 1:A1:942:G:C6 | 3.04 | 0.45 |
| 1:A1:1236:A:C2 | 1:A1:1237:G:C4 | 3.05 | 0.45 |
| 1:A1:1277:G:C2' | 1:A1:1278:G:H5' | 2.47 | 0.45 |
| 1:A1:1294:G:N2 | 1:A1:1295:G:C4 | 2.84 | 0.45 |
| 1:A1:1294:G:N7 | 74:A1:1952:OHX:N3 | 2.65 | 0.45 |
| 1:A1:1364:G:C6 | 1:A1:1365:C:C4 | 3.05 | 0.45 |
| 1:A1:1541:G:C5 | 1:A1:1542:G:O6 | 2.69 | 0.45 |
| 1:A1:1765:A:OP2 | 74:A1:1931:OHX:N3 | 2.50 | 0.45 |
| 1:A1:1771:U:C2 | 1:A1:1772:C:C6 | 3.04 | 0.45 |
| 74:A1:1916:OHX:N5 | 74:A1:1975:OHX:N1 | 2.64 | 0.45 |
| 2:AA:13:ASP:O | 2:AA:14:ALA:CB | 2.65 | 0.45 |
| 3:AB:195:ASP:O | 3:AB:196:VAL:O | 2.34 | 0.45 |
| 11:AJ:89:LEU:O | 11:AJ:97:VAL:HA | 2.17 | 0.45 |
| 14:AM:116:ILE:O | 14:AM:117:SER:O | 2.34 | 0.45 |
| 21:AT:20:VAL:HA | 21:AT:37:SER:CB | 2.46 | 0.45 |
| 21:AT:116:ASP:O | 21:AT:118:LYS:N | 2.49 | 0.45 |
| 29:B1:76:G:OP2 | 29:B1:76:G:H8 | 1.99 | 0.45 |
| 29:B1:99:A:H1' | 29:B1:281:G:C6 | 2.50 | 0.45 |
| 29:B1:107:A:O2' | 29:B1:324:A:N3 | 2.41 | 0.45 |
| 29:B1:108:A:C2' | 29:B1:109:A:H5" | 2.47 | 0.45 |
| 29:B1:111:C:O2' | 29:B1:112:U:H5' | 2.16 | 0.45 |
| 29:B1:521:A:N7 | 29:B1:572:A:C6 | 2.84 | 0.45 |
| 29:B1:594:U:C4 | 29:B1:595:G:C2 | 3.04 | 0.45 |
| 29:B1:629:U:C3' | 29:B1:630:A:H8 | 2.29 | 0.45 |
| 29:B1:636:C:C5 | 29:B1:2378:C:C1' | 2.94 | 0.45 |
| 29:B1:643:U:O4 | 29:B1:644:G:C5 | 2.69 | 0.45 |
| 29:B1:699:A:C8 | 29:B1:699:A:C3' | 2.99 | 0.45 |
| 29:B1:723:U:H6 | 29:B1:723:U:C4' | 2.29 | 0.45 |
| 29:B1:995:U:C4 | 29:B1:2637:A:C8 | 3.03 | 0.45 |
| 29:B1:1112:A:H3' | 29:B1:1113:G:C8 | 2.52 | 0.45 |
| 29:B1:1228:C:H2' | 29:B1:1229:G:C1' | 2.47 | 0.45 |
| 29:B1:1468:A:C2' | 29:B1:1469:C:O5' | 2.64 | 0.45 |
| 29:B1:1669:C:C4 | 29:B1:1670:C:C5 | 3.05 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1685:C:C6 | 29:B1:1687:U:C5 | 3.04 | 0.45 |
| 29:B1:1695:U:O2' | 29:B1:1749:A:C6 | 2.67 | 0.45 |
| 29:B1:1759:C:H2' | 29:B1:1760:A:H5" | 1.98 | 0.45 |
| 29:B1:1878:G:C3' | 29:B1:1879:A:H5' | 2.47 | 0.45 |
| 29:B1:1891:A:N6 | 29:B1:2345:A:N6 | 2.64 | 0.45 |
| 29:B1:2222:A:O2' | 29:B1:2223:A:H5" | 2.17 | 0.45 |
| 29:B1:2287:C:O2 | 29:B1:2298:U:H5" | 2.17 | 0.45 |
| 29:B1:2413:A:C2 | 29:B1:2414:G:C5 | 3.04 | 0.45 |
| 29:B1:2432:A:H2' | 29:B1:2432:A:N3 | 2.32 | 0.45 |
| 29:B1:2590:A:C4 | 29:B1:2591:A:H8 | 2.35 | 0.45 |
| 29:B1:2732:G:H2' | 29:B1:2733:A:C8 | 2.51 | 0.45 |
| 29:B1:2735:U:H2' | 29:B1:2736:A:C8 | 2.52 | 0.45 |
| 29:B1:2805:G:O2' | 29:B1:2806:U:C5' | 2.65 | 0.45 |
| 29:B1:2840:C:N4 | 29:B1:2841:G:C5 | 2.85 | 0.45 |
| 29:B1:3003:G:N1 | 29:B1:3004:C:C4 | 2.85 | 0.45 |
| 29:B1:3004:C:H2' | 29:B1:3005:A:O5' | 2.17 | 0.45 |
| 29:B1:3244:A:O2' | 29:B1:3245:A:C8 | 2.65 | 0.45 |
| 29:B1:3263:G:C2 | 29:B1:3264:G:C4 | 3.04 | 0.45 |
| 29:B1:3271:G:N3 | 29:B1:3271:G:C3' | 2.79 | 0.45 |
| 29:B1:3326:G:N1 | 29:B1:3327:G:C5 | 2.85 | 0.45 |
| 29:B1:3355:U:O2' | 29:B1:3356:G:O4' | 2.35 | 0.45 |
| 29:B1:3374:U:O2' | 29:B1:3375:A:N3 | 2.43 | 0.45 |
| 29:B1:3386:G:H8 | 29:B1:3386:G:C3' | 2.25 | 0.45 |
| 31:B3:24:G:H8 | 31:B3:24:G:C5' | 2.29 | 0.45 |
| 31:B3:105:A:O3' | 31:B3:106:C:H2' | 2.16 | 0.45 |
| 35:BD:7:THR:H | 35:BD:19:ALA:HA | 1.80 | 0.45 |
| 37:BF:159:LEU:O | 37:BF:162:SER:N | 2.49 | 0.45 |
| 38:BG:98:LYS:O | 38:BG:100:ARG:N | 2.49 | 0.45 |
| 39:BH:223:ALA:C | 39:BH:225:LYS:N | 2.73 | 0.45 |
| 43:BN:46:ILE:N | 43:BN:56:GLN:H | 2.14 | 0.45 |
| 43:BN:65:LEU:O | 43:BN:66:THR:O | 2.33 | 0.45 |
| 44:BO:24:ARG:O | 44:BO:25:VAL:C | 2.57 | 0.45 |
| 44:BO:57:GLN:C | 44:BO:59:PHE:H | 2.25 | 0.45 |
| 44:BO:158:HIS:C | 44:BO:160:GLU:N | 2.73 | 0.45 |
| 45:BP:60:LYS:O | 45:BP:61:ALA:C | 2.59 | 0.45 |
| 45:BP:130:LYS:HA | 45:BP:131:PRO:CB | 2.46 | 0.45 |
| 47:BR:93:ILE:O | 47:BR:94:PHE:CB | 2.64 | 0.45 |
| 54:BY:37:GLY:C | 54:BY:39:HIS:H | 2.24 | 0.45 |
| 67:Bm:11:UNK:HA | 67:Bm:14:UNK:CB | 2.46 | 0.45 |
| 70:Bq:8:UNK:O | 70:Bq:12:UNK:N | 2.49 | 0.45 |
| 71:Br:2:UNK:HA | 71:Br:5:UNK:CB | 2.47 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:14:C:H2' | 1:C1:15:U:H6 | 1.81 | 0.45 |
| 1:C1:58:U:O2 | 1:C1:58:U:C2' | 2.63 | 0.45 |
| 1:C1:101:U:C2' | 1:C1:102:U:O5' | 2.64 | 0.45 |
| 1:C1:127:G:C5 | 1:C1:179:A:N7 | 2.84 | 0.45 |
| 1:C1:129:U:C5 | 1:C1:264:G:N7 | 2.84 | 0.45 |
| 1:C1:129:U:O4 | 1:C1:264:G:C8 | 2.69 | 0.45 |
| 1:C1:174:U:O4 | 1:C1:175:G:C6 | 2.69 | 0.45 |
| 1:C1:209:U:H3' | 1:C1:210:A:H8 | 1.81 | 0.45 |
| 1:C1:295:A:O2' | 1:C1:296:U:O5' | 2.27 | 0.45 |
| 1:C1:329:G:C4 | 1:C1:330:G:N7 | 2.84 | 0.45 |
| 1:C1:397:A:H2' | 1:C1:397:A:N3 | 2.31 | 0.45 |
| 1:C1:456:A:C6 | 1:C1:457:G:C5 | 3.04 | 0.45 |
| 1:C1:722:G:O2' | 1:C1:723:G:H3' | 2.15 | 0.45 |
| 1:C1:798:C:O2' | 1:C1:799:A:H5' | 2.17 | 0.45 |
| 1:C1:910:C:H2' | 1:C1:910:C:O2 | 2.16 | 0.45 |
| 1:C1:947:U:O5' | 1:C1:947:U:H6 | 1.99 | 0.45 |
| 1:C1:968:U:C2' | 1:C1:969:C:O5' | 2.64 | 0.45 |
| 1:C1:1118:G:C2 | 1:C1:1119:G:N9 | 2.85 | 0.45 |
| 1:C1:1200:G:H5' | 1:C1:1201:G:H8 | 1.74 | 0.45 |
| 1:C1:1201:G:H3' | 1:C1:1201:G:C4 | 2.43 | 0.45 |
| 1:C1:1277:G:C2 | 1:C1:1436:A:C4 | 3.05 | 0.45 |
| 1:C1:1281:G:C5 | 1:C1:1282:U:C5 | 3.05 | 0.45 |
| 1:C1:1370:U:N3 | 1:C1:1371:A:H8 | 2.15 | 0.45 |
| 1:C1:1370:U:C4 | 1:C1:1371:A:N7 | 2.85 | 0.45 |
| 1:C1:1558:U:H5 | 1:C1:1559:A:H3' | 1.81 | 0.45 |
| 1:C1:1584:G:N9 | 11:CJ:123:ARG:C | 2.75 | 0.45 |
| 1:C1:1640:C:H3' | 1:C1:1640:C:C6 | 2.51 | 0.45 |
| 2:CA:48:ILE:O | 2:CA:49:ASN:C | 2.59 | 0.45 |
| 4:CC:27:ARG:C | 4:CC:29:LEU:N | 2.75 | 0.45 |
| 14:CM:15:ILE:O | 14:CM:16:ASN:C | 2.58 | 0.45 |
| 14:CM:68:ARG:C | 14:CM:70:GLN:N | 2.75 | 0.45 |
| 17:CP:43:PHE:C | 17:CP:45:GLY:N | 2.75 | 0.45 |
| 29:D1:25:U:O4 | 29:D1:331:G:C8 | 2.70 | 0.45 |
| 29:D1:46:U:O4 | 29:D1:47:C:C4 | 2.69 | 0.45 |
| 29:D1:118:U:H5' | 29:D1:118:U:H6 | 1.81 | 0.45 |
| 29:D1:154:U:OP1 | 29:D1:156:G:C6 | 2.70 | 0.45 |
| 29:D1:221:A:N3 | 29:D1:224:C:C5 | 2.85 | 0.45 |
| 29:D1:223:U:OP1 | 29:D1:225:C:N4 | 2.49 | 0.45 |
| 29:D1:252:U:H4' | 29:D1:253:A:OP2 | 2.17 | 0.45 |
| 29:D1:331:G:O6 | 31:D3:33:A:N1 | 2.48 | 0.45 |
| 29:D1:532:A:N1 | 29:D1:560:G:C2 | 2.85 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:546:C:H6 | 29:D1:546:C:H3' | 1.81 | 0.45 |
| 29:D1:561:C:O2' | 29:D1:562:C:P | 2.73 | 0.45 |
| 29:D1:597:G:N3 | 29:D1:598:A:H1' | 2.31 | 0.45 |
| 29:D1:653:A:O4' | 29:D1:2360:C:H2' | 2.16 | 0.45 |
| 29:D1:739:G:H2' | 29:D1:739:G:N3 | 2.31 | 0.45 |
| 29:D1:826:G:N3 | 29:D1:827:A:C8 | 2.85 | 0.45 |
| 29:D1:945:C:C2' | 29:D1:946:U:H6 | 2.29 | 0.45 |
| 29:D1:1020:G:C6 | 29:D1:1021:G:N7 | 2.85 | 0.45 |
| 29:D1:1105:A:C4 | 29:D1:1106:G:C8 | 3.04 | 0.45 |
| 29:D1:1140:G:N3 | 29:D1:1140:G:C2' | 2.79 | 0.45 |
| 29:D1:1242:G:C6 | 29:D1:1243:G:N1 | 2.84 | 0.45 |
| 29:D1:1295:G:H2' | 29:D1:1296:C:C5 | 2.50 | 0.45 |
| 29:D1:1315:U:O2' | 29:D1:1316:C:C5' | 2.65 | 0.45 |
| 29:D1:1357:G:N3 | 29:D1:1358:C:C6 | 2.85 | 0.45 |
| 29:D1:1449:A:C2 | 29:D1:2356:A:C5 | 3.03 | 0.45 |
| 29:D1:1551:C:OP1 | 29:D1:1551:C:H6 | 1.99 | 0.45 |
| 29:D1:1627:U:C5 | 29:D1:1628:C:C2 | 3.05 | 0.45 |
| 29:D1:1631:C:C2 | 29:D1:1645:U:C5 | 3.05 | 0.45 |
| 29:D1:1675:G:C2 | 29:D1:1773:C:N3 | 2.84 | 0.45 |
| 29:D1:1724:U:O2' | 29:D1:1725:C:C4' | 2.64 | 0.45 |
| 29:D1:1844:C:H1' | 59:Dd:9:GLY:HA2 | 1.98 | 0.45 |
| 29:D1:1908:A:N6 | 29:D1:1909:A:N1 | 2.64 | 0.45 |
| 29:D1:1934:G:H2' | 29:D1:1935:G:O4' | 2.16 | 0.45 |
| 29:D1:2188:A:H2 | 62:Dg:19:GLY:CA | 2.29 | 0.45 |
| 29:D1:2302:G:H2' | 29:D1:2303:A:O4' | 2.16 | 0.45 |
| 29:D1:2325:G:C4 | 29:D1:2326:A:C8 | 3.05 | 0.45 |
| 29:D1:2510:U:C2 | 29:D1:2511:A:H8 | 2.33 | 0.45 |
| 29:D1:2529:A:C6 | 29:D1:2530:G:C6 | 3.04 | 0.45 |
| 29:D1:2589:G:N3 | 29:D1:2589:G:H2' | 2.31 | 0.45 |
| 29:D1:2654:C:C4' | 29:D1:2657:A:C6 | 2.99 | 0.45 |
| 29:D1:2658:G:H1 | 29:D1:2712:U:H3 | 1.64 | 0.45 |
| 29:D1:2839:G:C6 | 29:D1:2850:G:N2 | 2.84 | 0.45 |
| 29:D1:2872:A:O4' | 29:D1:2873:U:OP1 | 2.34 | 0.45 |
| 29:D1:2902:A:O2' | 29:D1:2903:A:H5' | 2.17 | 0.45 |
| 29:D1:2976:A:H8 | 29:D1:2976:A:O5' | 1.99 | 0.45 |
| 29:D1:3060:C:C2' | 29:D1:3061:G:O5' | 2.63 | 0.45 |
| 29:D1:3137:C:H5' | 29:D1:3138:U:OP2 | 2.17 | 0.45 |
| 29:D1:3292:A:C2' | 29:D1:3293:U:H4' | 2.46 | 0.45 |
| 29:D1:3322:A:C4 | 29:D1:3323:A:N7 | 2.84 | 0.45 |
| 29:D1:3341:U:C4 | 29:D1:3362:A:N1 | 2.84 | 0.45 |
| 29:D1:3351:U:H1' | 29:D1:3352:U:OP1 | 2.16 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3390:G:C2 | 29:D1:3391:A:N3 | 2.83 | 0.45 |
| 29:D1:3393:U:C2 | 29:D1:3394:U:C6 | 3.03 | 0.45 |
| 30:D2:9:C:O5' | 30:D2:10:C:O5' | 2.35 | 0.45 |
| 30:D2:68:C:O2' | 30:D2:69:C:O5' | 2.30 | 0.45 |
| 30:D2:80:G:C4 | 30:D2:81:U:C6 | 3.04 | 0.45 |
| 31:D3:8:C:C4 | 31:D3:9:A:N7 | 2.85 | 0.45 |
| 31:D3:69:U:C3' | 31:D3:70:G:C4' | 2.83 | 0.45 |
| 31:D3:145:U:O2' | 31:D3:146:U:H5' | 2.17 | 0.45 |
| 32:DA:56:PRO:HA | 32:DA:155:ILE:N | 2.32 | 0.45 |
| 34:DC:80:ASP:O | 34:DC:82:PRO:N | 2.50 | 0.45 |
| 34:DC:238:LEU:CB | 34:DC:246:LEU:O | 2.65 | 0.45 |
| 36:DE:123:GLU:O | 36:DE:124:GLU:C | 2.60 | 0.45 |
| 36:DE:281:GLU:O | 36:DE:282:ARG:O | 2.35 | 0.45 |
| 37:DF:156:LYS:O | 37:DF:160:SER:N | 2.45 | 0.45 |
| 39:DH:116:VAL:O | 39:DH:119:GLY:N | 2.49 | 0.45 |
| 40:DI:104:VAL:CB | 40:DI:105:GLU:CA | 2.94 | 0.45 |
| 73:DM:60:ARG:C | 73:DM:62:ALA:H | 2.25 | 0.45 |
| 44:DO:85:THR:CB | 44:DO:88:GLY:N | 2.78 | 0.45 |
| 49:DT:70:SER:C | 49:DT:72:VAL:N | 2.74 | 0.45 |
| 58:Dc:1:MET:H3 | 58:Dc:5:LYS:H | 1.63 | 0.45 |
| 1:A1:9:U:N3 | 1:A1:11:A:OP2 | 2.50 | 0.45 |
| 1:A1:55:A:C3' | 1:A1:56:U:C5' | 2.95 | 0.45 |
| 1:A1:89:G:C5 | 1:A1:90:C:C5 | 3.05 | 0.45 |
| 1:A1:275:C:C4 | 1:A1:276:C:N4 | 2.84 | 0.45 |
| 1:A1:289:U:N3 | 1:A1:290:G:C8 | 2.84 | 0.45 |
| 1:A1:330:G:C5 | 1:A1:331:A:N7 | 2.85 | 0.45 |
| 1:A1:600:U:H2' | 1:A1:601:A:H8 | 1.80 | 0.45 |
| 1:A1:614:C:O2 | 1:A1:614:C:H2' | 2.17 | 0.45 |
| 1:A1:718:U:H2' | 1:A1:719:U:N3 | 2.31 | 0.45 |
| 1:A1:774:A:H2' | 1:A1:775:G:C5' | 2.46 | 0.45 |
| 1:A1:825:U:O2 | 1:A1:825:U:H2' | 2.17 | 0.45 |
| 1:A1:828:U:C5 | 1:A1:829:A:N6 | 2.85 | 0.45 |
| 1:A1:845:G:C2' | 1:A1:846:G:H5" | 2.45 | 0.45 |
| 1:A1:860:U:N3 | 1:A1:861:U:C2 | 2.79 | 0.45 |
| 1:A1:876:G:H2' | 1:A1:936:G:N2 | 2.32 | 0.45 |
| 1:A1:947:U:O5' | 1:A1:947:U:H6 | 2.00 | 0.45 |
| 1:A1:1001:A:C5 | 1:A1:1002:G:C5 | 3.04 | 0.45 |
| 1:A1:1076:A:H2' | 1:A1:1077:C:C5' | 2.46 | 0.45 |
| 1:A1:1091:A:C4' | 1:A1:1092:A:O5' | 2.59 | 0.45 |
| 1:A1:1120:U:N3 | 1:A1:1121:C:C5 | 2.84 | 0.45 |
| 1:A1:1216:C:O3' | 1:A1:1217:A:H3' | 2.16 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1297:G:C8 | 1:A1:1297:G:H3' | 2.51 | 0.45 |
| 1:A1:1615:C:H3' | 1:A1:1616:G:H5" | 1.99 | 0.45 |
| 1:A1:1672:G:C2 | 1:A1:1673:G:C6 | 3.05 | 0.45 |
| 4:AC:27:ARG:C | 4:AC:29:LEU:N | 2.75 | 0.45 |
| 4:AC:92:GLN:O | 4:AC:94:ARG:N | 2.49 | 0.45 |
| 6:AE:72:GLU:C | 6:AE:75:ALA:HB3 | 2.42 | 0.45 |
| 10:AI:45:PHE:CB | 10:AI:46:ALA:CA | 2.88 | 0.45 |
| 11:AJ:102:LYS:C | 11:AJ:104:GLU:N | 2.74 | 0.45 |
| 11:AJ:105:LEU:O | 11:AJ:106:LYS:C | 2.59 | 0.45 |
| 12:AK:38:ILE:O | 12:AK:39:ALA:O | 2.35 | 0.45 |
| 13:AL:46:VAL:O | 13:AL:48:LYS:N | 2.44 | 0.45 |
| 17:AP:97:ASP:O | 17:AP:98:GLU:C | 2.59 | 0.45 |
| 17:AP:114:LYS:CB | 17:AP:115:GLY:CA | 2.94 | 0.45 |
| 21:AT:267:PRO:O | 21:AT:269:TYR:N | 2.46 | 0.45 |
| 29:B1:32:U:H2' | 29:B1:33:G:H8 | 1.82 | 0.45 |
| 29:B1:197:G:C4 | 29:B1:198:A:C8 | 3.05 | 0.45 |
| 29:B1:282:G:P | 29:B1:282:G:C3' | 3.01 | 0.45 |
| 29:B1:337:G:C2 | 31:B3:27:U:O2 | 2.70 | 0.45 |
| 29:B1:393:U:N3 | 29:B1:394:G:C5 | 2.73 | 0.45 |
| 29:B1:397:A:N1 | 29:B1:400:G:C2 | 2.84 | 0.45 |
| 29:B1:813:G:N2 | 29:B1:814:U:C2 | 2.84 | 0.45 |
| 29:B1:817:A:N1 | 59:Bd:15:SER:CB | 2.79 | 0.45 |
| 29:B1:993:G:H1 | 29:B1:1056:U:H3 | 1.64 | 0.45 |
| 29:B1:1191:U:O5' | 29:B1:1192:C:OP2 | 2.35 | 0.45 |
| 29:B1:1347:U:C3' | 29:B1:1348:U:C5 | 2.99 | 0.45 |
| 29:B1:1393:A:C2 | 29:B1:1394:A:N9 | 2.84 | 0.45 |
| 29:B1:1421:G:C2 | 29:B1:1422:G:C5 | 3.04 | 0.45 |
| 29:B1:1604:G:H2' | 29:B1:1605:A:H5" | 1.97 | 0.45 |
| 29:B1:1617:G:C2' | 29:B1:1618:G:H5' | 2.47 | 0.45 |
| 29:B1:1645:U:C2' | 29:B1:1646:G:O5' | 2.65 | 0.45 |
| 29:B1:1677:G:C4 | 29:B1:1678:G:C8 | 3.04 | 0.45 |
| 29:B1:1721:U:O2 | 29:B1:1723:A:C8 | 2.69 | 0.45 |
| 29:B1:1806:A:O2' | 29:B1:1807:G:O5' | 2.33 | 0.45 |
| 29:B1:1889:G:OP1 | 34:BC:245:GLY:C | 2.60 | 0.45 |
| 29:B1:2144:A:C5 | 29:B1:2281:A:N1 | 2.84 | 0.45 |
| 29:B1:2160:G:O6 | 29:B1:2174:G:O6 | 2.34 | 0.45 |
| 29:B1:2410:U:O2 | 29:B1:2410:U:H2' | 2.15 | 0.45 |
| 29:B1:2514:U:O2' | 29:B1:2515:A:C8 | 2.70 | 0.45 |
| 29:B1:2707:C:O2' | 29:B1:2708:C:H5' | 2.17 | 0.45 |
| 29:B1:2844:C:H42 | 29:B1:2898:G:N2 | 2.08 | 0.45 |
| 29:B1:2886:U:N3 | 29:B1:2911:A:C6 | 2.85 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3026:G:N2 | 29:B1:3030:G:N7 | 2.63 | 0.45 |
| 29:B1:3030:G:H2' | 29:B1:3031:G:C8 | 2.52 | 0.45 |
| 29:B1:3102:G:O2' | 29:B1:3103:A:OP1 | 2.30 | 0.45 |
| 29:B1:3126:C:N3 | 29:B1:3127:A:C8 | 2.85 | 0.45 |
| 29:B1:3207:U:C6 | 29:B1:3209:A:C4 | 3.04 | 0.45 |
| 29:B1:3306:U:H2' | 29:B1:3308:C:OP2 | 2.17 | 0.45 |
| 30:B2:8:G:OP1 | 49:BT:28:SER:CB | 2.65 | 0.45 |
| 30:B2:87:G:C2 | 30:B2:95:A:C5 | 3.04 | 0.45 |
| 30:B2:88:G:C6 | 30:B2:89:G:C6 | 3.05 | 0.45 |
| 31:B3:14:C:C6 | 31:B3:15:G:N7 | 2.85 | 0.45 |
| 31:B3:49:G:C8 | 58:Bc:40:SER:O | 2.70 | 0.45 |
| 31:B3:94:C:O5' | 31:B3:94:C:C6 | 2.70 | 0.45 |
| 33:BB:181:LYS:C | 33:BB:182:ALA:O | 2.58 | 0.45 |
| 34:BC:141:GLY:O | 34:BC:142:ALA:C | 2.60 | 0.45 |
| 34:BC:289:ASP:CB | 34:BC:290:ASP:CB | 2.95 | 0.45 |
| 37:BF:98:VAL:O | 37:BF:99:GLU:C | 2.60 | 0.45 |
| 38:BG:222:HIS:CB | 38:BG:226:GLY:O | 2.64 | 0.45 |
| 62:Bg:20:SER:O | 62:Bg:21:SER:C | 2.59 | 0.45 |
| 1:C1:5:U:C2 | 1:C1:20:G:N2 | 2.84 | 0.45 |
| 1:C1:27:U:C2' | 1:C1:28:A:H5' | 2.46 | 0.45 |
| 1:C1:32:U:H2' | 1:C1:33:U:C5' | 2.46 | 0.45 |
| 1:C1:36:C:C2 | 1:C1:473:A:C2 | 3.04 | 0.45 |
| 1:C1:68:A:H4' | 1:C1:69:G:OP1 | 2.14 | 0.45 |
| 1:C1:98:U:C2 | 1:C1:99:C:C5 | 3.05 | 0.45 |
| 1:C1:145:A:N1 | 1:C1:171:A:N1 | 2.64 | 0.45 |
| 1:C1:166:C:N4 | 1:C1:167:U:O4 | 2.50 | 0.45 |
| 1:C1:168:A:C2' | 1:C1:169:A:C8 | 2.99 | 0.45 |
| 1:C1:168:A:N6 | 1:C1:169:A:N6 | 2.64 | 0.45 |
| 1:C1:206:A:C2 | 1:C1:262:U:C4 | 3.04 | 0.45 |
| 1:C1:378:A:OP1 | 1:C1:378:A:N9 | 2.47 | 0.45 |
| 1:C1:556:A:O2' | 1:C1:590:C:O4' | 2.18 | 0.45 |
| 1:C1:558:U:C4 | 1:C1:559:C:N4 | 2.84 | 0.45 |
| 1:C1:615:A:N1 | 1:C1:1107:G:C6 | 2.84 | 0.45 |
| 1:C1:743:U:C2 | 1:C1:809:A:N3 | 2.82 | 0.45 |
| 1:C1:763:G:C4 | 1:C1:764:U:C5 | 3.04 | 0.45 |
| 1:C1:765:G:C4' | 1:C1:766:U:OP1 | 2.62 | 0.45 |
| 1:C1:824:G:H5" | 1:C1:825:U:OP1 | 2.16 | 0.45 |
| 1:C1:847:A:C2' | 1:C1:848:C:H5' | 2.42 | 0.45 |
| 1:C1:852:C:C4 | 1:C1:853:G:C2 | 3.05 | 0.45 |
| 1:C1:1164:G:H2' | 1:C1:1165:G:H8 | 1.82 | 0.45 |
| 1:C1:1240:U:P | 1:C1:1241:G:OP2 | 2.75 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1362:U:H3' | 1:C1:1363:U:C4' | 2.46 | 0.45 |
| 1:C1:1733:C:N3 | 1:C1:1734:U:C4 | 2.85 | 0.45 |
| 1:C1:1781:A:N1 | 1:C1:1782:A:N1 | 2.65 | 0.45 |
| 3:CB:65:GLU:C | 3:CB:68:ILE:CB | 2.89 | 0.45 |
| 6:CE:53:ARG:HA | 6:CE:56:ALA:HB3 | 1.98 | 0.45 |
| 8:CG:127:ARG:C | 8:CG:129:TYR:N | 2.75 | 0.45 |
| 13:CL:50:ALA:C | 13:CL:52:VAL:N | 2.75 | 0.45 |
| 18:CQ:41:ILE:C | 18:CQ:43:ASP:N | 2.74 | 0.45 |
| 20:CS:52:PHE:O | 20:CS:53:ASN:C | 2.59 | 0.45 |
| 21:CT:37:SER:C | 21:CT:39:ASP:N | 2.71 | 0.45 |
| 29:D1:26:A:O2' | 29:D1:329:U:H1' | 2.17 | 0.45 |
| 29:D1:39:A:C8 | 29:D1:41:G:P | 3.10 | 0.45 |
| 29:D1:53:G:O2' | 29:D1:54:C:H5' | 2.16 | 0.45 |
| 29:D1:88:A:C2 | 29:D1:281:G:C2 | 3.00 | 0.45 |
| 29:D1:110:G:C2 | 29:D1:322:U:O2 | 2.70 | 0.45 |
| 29:D1:265:A:H4' | 29:D1:266:A:OP1 | 2.14 | 0.45 |
| 29:D1:288:C:H2' | 29:D1:289:A:H8 | 1.76 | 0.45 |
| 29:D1:297:G:H4' | 29:D1:299:G:C4' | 2.47 | 0.45 |
| 29:D1:301:G:H2' | 29:D1:302:U:O5' | 2.17 | 0.45 |
| 29:D1:317:A:C2' | 29:D1:318:A:O5' | 2.65 | 0.45 |
| 29:D1:339:C:OP2 | 29:D1:1380:G:O2' | 2.32 | 0.45 |
| 29:D1:359:U:O2' | 29:D1:360:G:H5' | 2.17 | 0.45 |
| 29:D1:374:A:H4' | 29:D1:375:A:H5' | 1.99 | 0.45 |
| 29:D1:412:G:N1 | 29:D1:413:U:C2 | 2.85 | 0.45 |
| 29:D1:511:G:N1 | 29:D1:579:G:N1 | 2.64 | 0.45 |
| 29:D1:518:G:H1 | 29:D1:572:A:N6 | 2.14 | 0.45 |
| 29:D1:550:A:O2' | 29:D1:551:A:H5' | 2.17 | 0.45 |
| 29:D1:643:U:H3' | 29:D1:643:U:C6 | 2.52 | 0.45 |
| 29:D1:650:C:H5' | 29:D1:2872:A:P | 2.57 | 0.45 |
| 29:D1:684:G:C4 | 29:D1:685:G:C8 | 3.05 | 0.45 |
| 29:D1:783:A:H2' | 29:D1:784:A:O5' | 2.17 | 0.45 |
| 29:D1:784:A:C2' | 29:D1:785:G:C8 | 2.84 | 0.45 |
| 29:D1:804:C:N4 | 29:D1:940:G:N1 | 2.63 | 0.45 |
| 29:D1:968:G:C5 | 29:D1:969:C:C5 | 3.05 | 0.45 |
| 29:D1:994:G:OP2 | 29:D1:994:G:H8 | 2.00 | 0.45 |
| 29:D1:1213:G:H2' | 29:D1:1214:U:O5' | 2.16 | 0.45 |
| 29:D1:1610:G:H2' | 29:D1:1611:G:H8 | 1.79 | 0.45 |
| 29:D1:1830:G:C4 | 29:D1:1831:U:C5 | 3.04 | 0.45 |
| 29:D1:1902:G:C2 | 29:D1:1903:U:H1' | 2.52 | 0.45 |
| 29:D1:2251:G:C2 | 29:D1:2252:A:C8 | 3.05 | 0.45 |
| 29:D1:2315:G:N2 | 29:D1:2316:G:C5 | 2.85 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2394:G:C4 | 34:DC:259:HIS:CB | 3.00 | 0.45 |
| 29:D1:2407:C:C1' | 29:D1:2818:U:H3 | 2.27 | 0.45 |
| 29:D1:2707:C:O2' | 29:D1:2708:C:O5' | 2.35 | 0.45 |
| 29:D1:2835:U:H2' | 29:D1:2835:U:O2 | 2.16 | 0.45 |
| 29:D1:2847:A:N7 | 29:D1:2898:G:C4 | 2.85 | 0.45 |
| 29:D1:2914:G:H2' | 29:D1:2915:U:O4' | 2.17 | 0.45 |
| 29:D1:3020:U:H2' | 29:D1:3021:A:OP1 | 2.16 | 0.45 |
| 29:D1:3038:U:O2' | 29:D1:3039:C:P | 2.74 | 0.45 |
| 29:D1:3046:A:C4 | 29:D1:3047:U:C5 | 3.05 | 0.45 |
| 29:D1:3082:C:O2' | 29:D1:3083:G:H5' | 2.17 | 0.45 |
| 29:D1:3170:A:H2' | 29:D1:3171:U:O5' | 2.16 | 0.45 |
| 29:D1:3240:C:H2' | 29:D1:3241:G:H8 | 1.81 | 0.45 |
| 30:D2:35:C:C6 | 30:D2:35:C:C5' | 2.95 | 0.45 |
| 30:D2:75:G:C5' | 30:D2:76:A:OP2 | 2.65 | 0.45 |
| 30:D2:107:C:H2' | 30:D2:108:A:O4' | 2.16 | 0.45 |
| 31:D3:76:C:C2' | 53:DX:76:LEU:CB | 2.91 | 0.45 |
| 33:DB:44:ILE:HA | 33:DB:60:LYS:HA | 1.98 | 0.45 |
| 35:DD:273:GLY:C | 35:DD:275:THR:H | 2.25 | 0.45 |
| 36:DE:38:THR:HA | 36:DE:41:LYS:CB | 2.46 | 0.45 |
| 36:DE:102:GLY:O | 36:DE:105:ILE:O | 2.35 | 0.45 |
| 36:DE:125:VAL:HA | 36:DE:126:GLU:HA | 1.61 | 0.45 |
| 36:DE:173:VAL:O | 36:DE:174:PRO:CB | 2.63 | 0.45 |
| 43:DN:24:LYS:CB | 43:DN:31:LYS:CA | 2.94 | 0.45 |
| 48:DS:24:LEU:O | 48:DS:25:ASP:C | 2.60 | 0.45 |
| 53:DX:89:LYS:C | 53:DX:91:ASN:N | 2.72 | 0.45 |
| 54:DY:25:HIS:C | 54:DY:27:LYS:N | 2.69 | 0.45 |
| 54:DY:138:ILE:C | 54:DY:140:ALA:N | 2.74 | 0.45 |
| 56:Da:43:HIS:O | 56:Da:45:GLY:N | 2.49 | 0.45 |
| 62:Dg:88:GLU:O | 62:Dg:90:VAL:O | 2.35 | 0.45 |
| 63:Dh:17:UNK:O | 63:Dh:18:UNK:C | 2.64 | 0.45 |
| 1:A1:192:U:C6 | 1:A1:192:U:C3' | 3.00 | 0.45 |
| 1:A1:287:G:O2' | 1:A1:288:A:H5' | 2.16 | 0.45 |
| 1:A1:290:G:H2' | 1:A1:291:G:C8 | 2.50 | 0.45 |
| 1:A1:350:U:OP1 | 1:A1:351:C:O2' | 2.21 | 0.45 |
| 1:A1:386:G:C2' | 1:A1:387:A:O5' | 2.65 | 0.45 |
| 1:A1:553:G:C5 | 1:A1:554:C:N3 | 2.84 | 0.45 |
| 1:A1:587:C:C4 | 1:A1:588:U:C4 | 3.04 | 0.45 |
| 1:A1:699:U:H5' | 1:A1:700:C:OP2 | 2.17 | 0.45 |
| 1:A1:702:G:H21 | 1:A1:737:A:N6 | 2.15 | 0.45 |
| 1:A1:797:G:C2' | 1:A1:798:C:H5' | 2.47 | 0.45 |
| 1:A1:818:C:N4 | 1:A1:854:U:C4 | 2.85 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:910:C:H2' | 1:A1:910:C:O2 | 2.17 | 0.45 |
| 1:A1:1125:A:N7 | 1:A1:1126:G:C1' | 2.79 | 0.45 |
| 1:A1:1202:A:H62 | 1:A1:1456:C:H2' | 1.81 | 0.45 |
| 1:A1:1329:A:C8 | 1:A1:1330:G:N7 | 2.85 | 0.45 |
| 1:A1:1329:A:H2' | 1:A1:1330:G:C5' | 2.47 | 0.45 |
| 1:A1:1334:U:C2 | 1:A1:1335:U:C5 | 3.05 | 0.45 |
| 1:A1:1351:G:C6 | 1:A1:1352:G:C5 | 3.04 | 0.45 |
| 1:A1:1353:U:H3 | 1:A1:1371:A:N6 | 2.15 | 0.45 |
| 1:A1:1391:A:N7 | 1:A1:1412:G:C6 | 2.84 | 0.45 |
| 1:A1:1444:A:H5" | 1:A1:1445:G:OP1 | 2.17 | 0.45 |
| 1:A1:1472:C:H3' | 1:A1:1472:C:P | 2.56 | 0.45 |
| 1:A1:1591:C:O5' | 1:A1:1591:C:H6 | 2.00 | 0.45 |
| 1:A1:1675:C:O2' | 1:A1:1678:A:H8 | 1.96 | 0.45 |
| 1:A1:1721:A:O3' | 1:A1:1722:A:H4' | 2.08 | 0.45 |
| 1:A1:1727:G:C2 | 1:A1:1728:A:C6 | 3.05 | 0.45 |
| 1:A1:1778:G:H2' | 1:A1:1779:U:C5' | 2.45 | 0.45 |
| 5:AD:164:PRO:O | 5:AD:165:LEU:C | 2.59 | 0.45 |
| 6:AE:55:ALA:O | 6:AE:58:ASP:CB | 2.65 | 0.45 |
| 6:AE:94:ASP:C | 6:AE:96:VAL:N | 2.74 | 0.45 |
| 7:AF:80:MET:O | 7:AF:81:HIS:C | 2.59 | 0.45 |
| 14:AM:67:MET:HA | 14:AM:70:GLN:O | 2.16 | 0.45 |
| 24:Ac:1:UNK:N | 24:Ac:73:UNK:C | 2.80 | 0.45 |
| 24:Ac:52:UNK:CB | 24:Ac:64:UNK:O | 2.65 | 0.45 |
| 29:B1:19:U:O4 | 74:B3:211:OHX:N6 | 2.49 | 0.45 |
| 29:B1:41:G:N7 | 29:B1:42:C:C5 | 2.84 | 0.45 |
| 29:B1:43:A:OP1 | 29:B1:43:A:H4' | 2.16 | 0.45 |
| 29:B1:54:C:H2' | 29:B1:55:G:O5' | 2.16 | 0.45 |
| 29:B1:123:A:C2 | 29:B1:145:G:N1 | 2.77 | 0.45 |
| 29:B1:648:C:C6 | 29:B1:2375:G:P | 3.09 | 0.45 |
| 29:B1:1031:C:C4 | 29:B1:1032:C:C5 | 3.05 | 0.45 |
| 29:B1:1038:C:O2' | 29:B1:1039:U:H5' | 2.16 | 0.45 |
| 29:B1:1080:A:O2' | 29:B1:1081:U:O5' | 2.34 | 0.45 |
| 29:B1:1081:U:C2' | 29:B1:1082:U:OP1 | 2.64 | 0.45 |
| 29:B1:1104:G:H2' | 29:B1:1105:A:C5' | 2.46 | 0.45 |
| 29:B1:1192:C:O4' | 29:B1:1298:C:P | 2.75 | 0.45 |
| 29:B1:1262:G:OP2 | 29:B1:1262:G:H2' | 2.17 | 0.45 |
| 29:B1:1271:A:N3 | 29:B1:1271:A:O5' | 2.49 | 0.45 |
| 29:B1:1286:A:C4' | 29:B1:1287:A:OP1 | 2.65 | 0.45 |
| 29:B1:1342:C:H3' | 29:B1:1343:A:H8 | 1.82 | 0.45 |
| 29:B1:1351:U:H2' | 29:B1:1352:A:C8 | 2.52 | 0.45 |
| 29:B1:1468:A:O2' | 29:B1:1469:C:OP1 | 2.28 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1490:A:H61 | 29:B1:1838:G:H1' | 1.81 | 0.45 |
| 29:B1:1506:A:C2' | 29:B1:1507:G:H5' | 2.47 | 0.45 |
| 29:B1:1593:A:C2' | 29:B1:1594:A:C8 | 2.89 | 0.45 |
| 29:B1:1654:A:O2' | 29:B1:1655:G:O5' | 2.28 | 0.45 |
| 29:B1:1662:G:C6 | 29:B1:1663:C:C4 | 3.05 | 0.45 |
| 29:B1:1852:G:H2' | 29:B1:1852:G:N3 | 2.32 | 0.45 |
| 29:B1:1857:C:C2' | 29:B1:1858:A:C8 | 3.00 | 0.45 |
| 29:B1:1858:A:H2' | 29:B1:1859:A:OP1 | 2.16 | 0.45 |
| 29:B1:1913:A:C6 | 29:B1:2120:A:N7 | 2.83 | 0.45 |
| 29:B1:1947:G:N3 | 29:B1:1947:G:H2' | 2.29 | 0.45 |
| 29:B1:2140:U:H2' | 29:B1:2141:U:C5' | 2.46 | 0.45 |
| 29:B1:2154:U:C2' | 29:B1:2155:G:H5' | 2.46 | 0.45 |
| 29:B1:2289:U:C2' | 29:B1:2290:C:C5' | 2.94 | 0.45 |
| 29:B1:2316:G:H2' | 29:B1:2317:A:H8 | 1.81 | 0.45 |
| 29:B1:2347:U:H2' | 29:B1:2348:A:O4' | 2.16 | 0.45 |
| 29:B1:2364:G:OP2 | 29:B1:2364:G:C8 | 2.70 | 0.45 |
| 29:B1:2530:G:O2' | 29:B1:2531:C:O5' | 2.33 | 0.45 |
| 29:B1:2562:A:C4 | 29:B1:2563:G:C8 | 3.04 | 0.45 |
| 29:B1:2674:A:O5' | 42:BK:107:ASP:CB | 2.65 | 0.45 |
| 29:B1:2675:C:N4 | 42:BK:24:GLY:HA3 | 2.32 | 0.45 |
| 29:B1:2681:U:O2' | 29:B1:2682:C:OP2 | 2.35 | 0.45 |
| 29:B1:2687:G:C3' | 29:B1:2687:G:C4 | 2.99 | 0.45 |
| 29:B1:2741:C:H2' | 29:B1:2742:C:O4' | 2.17 | 0.45 |
| 29:B1:3195:U:H3' | 29:B1:3196:U:H3 | 1.81 | 0.45 |
| 29:B1:3323:A:C2 | 29:B1:3324:C:C6 | 3.05 | 0.45 |
| 29:B1:3347:A:C5 | 29:B1:3348:G:N7 | 2.85 | 0.45 |
| 30:B2:3:U:N3 | 30:B2:4:U:C5 | 2.85 | 0.45 |
| 30:B2:43:U:H2' | 30:B2:43:U:O2 | 2.17 | 0.45 |
| 30:B2:73:C:N4 | 30:B2:74:C:N4 | 2.61 | 0.45 |
| 31:B3:10:A:H2' | 31:B3:11:C:C6 | 2.47 | 0.45 |
| 31:B3:26:U:O5' | 31:B3:26:U:H6 | 1.99 | 0.45 |
| 31:B3:78:G:H21 | 60:Be:26:TRP:CB | 2.30 | 0.45 |
| 31:B3:82:U:O4 | 74:B3:205:OHX:N5 | 2.49 | 0.45 |
| 32:BA:188:ASN:C | 32:BA:190:PHE:N | 2.72 | 0.45 |
| 35:BD:273:GLY:C | 35:BD:275:THR:N | 2.72 | 0.45 |
| 36:BE:30:TYR:C | 36:BE:32:GLN:H | 2.24 | 0.45 |
| 36:BE:102:GLY:C | 36:BE:166:ALA:HA | 2.41 | 0.45 |
| 36:BE:281:GLU:O | 36:BE:282:ARG:O | 2.34 | 0.45 |
| 37:BF:43:LEU:N | 37:BF:84:VAL:CB | 2.73 | 0.45 |
| 37:BF:146:ILE:O | 37:BF:147:ALA:C | 2.59 | 0.45 |
| 39:BH:210:ALA:O | 39:BH:211:LEU:C | 2.60 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BI:51:GLN:CB | 40:BI:52:LEU:HA | 2.46 | 0.45 |
| 42:BK:39:GLN:C | 42:BK:41:SER:H | 2.25 | 0.45 |
| 46:BQ:84:PRO:O | 46:BQ:85:ALA:HB3 | 2.17 | 0.45 |
| 48:BS:70:LYS:C | 48:BS:72:GLU:N | 2.75 | 0.45 |
| 62:Bg:64:VAL:C | 62:Bg:66:GLY:H | 2.23 | 0.45 |
| 1:C1:109:G:H2' | 1:C1:109:G:N3 | 2.31 | 0.45 |
| 1:C1:149:C:H2' | 1:C1:150:U:C6 | 2.51 | 0.45 |
| 1:C1:228:G:C4 | 1:C1:229:U:C5 | 3.05 | 0.45 |
| 1:C1:340:U:O2 | 1:C1:340:U:H2' | 2.14 | 0.45 |
| 1:C1:425:A:H2' | 1:C1:426:G:OP2 | 2.16 | 0.45 |
| 1:C1:450:U:N3 | 1:C1:451:A:N6 | 2.64 | 0.45 |
| 1:C1:551:G:C2 | 1:C1:552:G:N7 | 2.84 | 0.45 |
| 1:C1:647:G:N1 | 1:C1:687:G:C6 | 2.84 | 0.45 |
| 1:C1:651:G:C4 | 1:C1:684:A:N6 | 2.85 | 0.45 |
| 1:C1:743:U:O4 | 1:C1:809:A:C6 | 2.69 | 0.45 |
| 1:C1:814:A:N6 | 1:C1:858:G:N3 | 2.64 | 0.45 |
| 1:C1:901:G:C6 | 1:C1:902:G:C2 | 3.05 | 0.45 |
| 1:C1:922:G:O2' | 1:C1:923:A:C8 | 2.62 | 0.45 |
| 1:C1:1236:A:C4 | 1:C1:1237:G:C8 | 3.05 | 0.45 |
| 1:C1:1239:U:C5 | 1:C1:1241:G:O6 | 2.70 | 0.45 |
| 1:C1:1252:C:O2' | 1:C1:1253:U:H5' | 2.17 | 0.45 |
| 1:C1:1257:U:O2' | 1:C1:1258:U:C5' | 2.65 | 0.45 |
| 1:C1:1270:G:C2 | 1:C1:1271:G:C8 | 3.05 | 0.45 |
| 1:C1:1297:G:C2 | 1:C1:1301:U:N3 | 2.84 | 0.45 |
| 1:C1:1326:A:HO2' | 1:C1:1327:C:H5' | 1.81 | 0.45 |
| 1:C1:1360:A:H2' | 1:C1:1360:A:N3 | 2.31 | 0.45 |
| 1:C1:1364:G:C6 | 1:C1:1365:C:C4 | 3.04 | 0.45 |
| 1:C1:1455:G:C5 | 1:C1:1456:C:N4 | 2.85 | 0.45 |
| 1:C1:1477:G:H2' | 1:C1:1478:G:C5' | 2.44 | 0.45 |
| 1:C1:1483:A:C4 | 1:C1:1524:A:N6 | 2.85 | 0.45 |
| 1:C1:1689:A:C6 | 1:C1:1716:C:C2 | 3.05 | 0.45 |
| 1:C1:1753:A:C6 | 1:C1:1754:A:N1 | 2.84 | 0.45 |
| 1:C1:1783:C:C4 | 1:C1:1784:C:N4 | 2.84 | 0.45 |
| 3:CB:203:LYS:O | 3:CB:204:THR:C | 2.59 | 0.45 |
| 5:CD:175:LEU:O | 5:CD:176:THR:C | 2.60 | 0.45 |
| 13:CL:76:PRO:HA | 13:CL:81:ILE:N | 2.30 | 0.45 |
| 17:CP:69:ARG:O | 17:CP:70:LYS:C | 2.58 | 0.45 |
| 19:CR:26:THR:HA | 19:CR:38:ARG:HA | 1.98 | 0.45 |
| 21:CT:307:ASP:C | 21:CT:309:VAL:H | 2.23 | 0.45 |
| 29:D1:60:A:N1 | 29:D1:328:U:O2 | 2.50 | 0.45 |
| 29:D1:210:U:OP2 | 29:D1:210:U:C5 | 2.64 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:291:C:O2' | 29:D1:2599:U:H1' | 2.17 | 0.45 |
| 29:D1:559:A:N9 | 29:D1:560:G:N7 | 2.64 | 0.45 |
| 29:D1:563:U:C3' | 29:D1:564:G:C4' | 2.90 | 0.45 |
| 29:D1:628:A:H5" | 29:D1:1399:A:N7 | 2.31 | 0.45 |
| 29:D1:924:G:N7 | 29:D1:2809:C:H1' | 2.32 | 0.45 |
| 29:D1:995:U:C4 | 29:D1:2637:A:C5 | 3.04 | 0.45 |
| 29:D1:1004:U:C2 | 29:D1:1005:G:C8 | 3.05 | 0.45 |
| 29:D1:1167:U:O2' | 29:D1:1168:U:O5' | 2.34 | 0.45 |
| 29:D1:1282:G:H4' | 73:DM:82:GLY:C | 2.42 | 0.45 |
| 29:D1:1394:A:N7 | 29:D1:1395:G:N7 | 2.64 | 0.45 |
| 29:D1:1399:A:N6 | 31:D3:7:U:O2' | 2.50 | 0.45 |
| 29:D1:1787:A:C3' | 29:D1:1788:C:H5" | 2.45 | 0.45 |
| 29:D1:1792:C:O2 | 29:D1:1794:G:O2' | 2.32 | 0.45 |
| 29:D1:1878:G:H5' | 29:D1:1879:A:H5' | 1.99 | 0.45 |
| 29:D1:1921:A:C4 | 29:D1:1932:A:C6 | 3.04 | 0.45 |
| 29:D1:1940:G:P | 48:DS:75:HIS:HA | 2.56 | 0.45 |
| 29:D1:2095:G:H2' | 29:D1:2096:A:H8 | 1.81 | 0.45 |
| 29:D1:2114:C:H5" | 29:D1:2116:G:N7 | 2.32 | 0.45 |
| 29:D1:2150:G:OP2 | 29:D1:2150:G:H8 | 1.99 | 0.45 |
| 29:D1:2198:A:C4 | 29:D1:2199:G:C8 | 3.04 | 0.45 |
| 29:D1:2218:G:C2 | 29:D1:2228:A:N3 | 2.85 | 0.45 |
| 29:D1:2252:A:N1 | 29:D1:2253:G:C6 | 2.85 | 0.45 |
| 29:D1:2441:A:C6 | 29:D1:2507:C:C2 | 3.04 | 0.45 |
| 29:D1:2643:A:OP1 | 29:D1:2643:A:H4' | 2.16 | 0.45 |
| 29:D1:2743:A:N6 | 29:D1:2751:G:O6 | 2.49 | 0.45 |
| 29:D1:2783:U:H2' | 29:D1:2784:G:O5' | 2.16 | 0.45 |
| 29:D1:2882:U:C4 | 29:D1:2883:U:C4 | 3.05 | 0.45 |
| 29:D1:3244:A:O2' | 29:D1:3245:A:P | 2.75 | 0.45 |
| 29:D1:3305:A:N9 | 29:D1:3306:U:O2 | 2.50 | 0.45 |
| 29:D1:3333:G:H1 | 29:D1:3370:A:HO2' | 1.61 | 0.45 |
| 29:D1:3356:G:H2' | 29:D1:3357:U:O4' | 2.17 | 0.45 |
| 30:D2:112:G:OP1 | 74:D2:207:OHX:N2 | 2.49 | 0.45 |
| 30:D2:118:A:H2' | 30:D2:119:U:O4' | 2.17 | 0.45 |
| 31:D3:48:A:N1 | 31:D3:51:G:C6 | 2.84 | 0.45 |
| 37:DF:3:ALA:O | 37:DF:4:GLN:O | 2.34 | 0.45 |
| 37:DF:134:ARG:HA | 37:DF:137:ASP:CB | 2.46 | 0.45 |
| 38:DG:103:LEU:O | 38:DG:107:ARG:N | 2.50 | 0.45 |
| 39:DH:185:ARG:C | 39:DH:187:GLY:N | 2.71 | 0.45 |
| 40:DI:187:ILE:HA | 40:DI:188:THR:HA | 1.47 | 0.45 |
| 73:DM:46:ARG:C | 73:DM:49:ALA:HB2 | 2.42 | 0.45 |
| 44:DO:86:ASN:C | 44:DO:88:GLY:N | 2.72 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 46:DQ:73:GLY:C | 46:DQ:75:GLU:O | 2.60 | 0.45 |
| 46:DQ:128:ARG:CA | 46:DQ:139:TYR:H | 2.30 | 0.45 |
| 49:DT:58:GLN:C | 49:DT:60:LYS:H | 2.24 | 0.45 |
| 51:DV:45:ASN:O | 51:DV:47:ARG:CB | 2.65 | 0.45 |
| 52:DW:56:ARG:HA | 52:DW:57:LEU:HA | 1.52 | 0.45 |
| 53:DX:75:ARG:C | 53:DX:77:LYS:N | 2.75 | 0.45 |
| 57:Db:103:LYS:C | 57:Db:105:ARG:N | 2.74 | 0.45 |
| 59:Dd:37:CYS:CA | 74:Dd:101:OHX:N5 | 2.80 | 0.45 |
| 62:Dg:86:LEU:C | 62:Dg:88:GLU:N | 2.75 | 0.45 |
| 1:A1:93:A:C2 | 1:A1:399:A:N1 | 2.84 | 0.45 |
| 1:A1:119:A:O4' | 1:A1:397:A:C1' | 2.64 | 0.45 |
| 1:A1:123:G:O6 | 1:A1:295:A:N6 | 2.50 | 0.45 |
| 1:A1:205:U:O4 | 1:A1:206:A:N6 | 2.50 | 0.45 |
| 1:A1:290:G:C2' | 1:A1:291:G:C8 | 2.99 | 0.45 |
| 1:A1:308:C:H5' | 1:A1:308:C:C6 | 2.51 | 0.45 |
| 1:A1:310:C:C6 | 1:A1:310:C:C4' | 2.99 | 0.45 |
| 1:A1:357:G:C4 | 1:A1:358:U:C6 | 3.04 | 0.45 |
| 1:A1:472:U:C6 | 1:A1:473:A:C8 | 3.04 | 0.45 |
| 1:A1:589:C:H2' | 1:A1:590:C:H6 | 1.81 | 0.45 |
| 1:A1:649:U:C2 | 1:A1:650:U:C6 | 3.05 | 0.45 |
| 1:A1:703:G:N2 | 1:A1:735:C:C2 | 2.84 | 0.45 |
| 1:A1:735:C:O2 | 1:A1:735:C:O4' | 2.33 | 0.45 |
| 1:A1:763:G:C4 | 1:A1:764:U:C5 | 3.05 | 0.45 |
| 1:A1:838:G:C6 | 1:A1:839:U:N3 | 2.85 | 0.45 |
| 1:A1:897:C:OP2 | 1:A1:897:C:H6 | 2.00 | 0.45 |
| 1:A1:937:C:H2' | 1:A1:938:G:O4' | 2.17 | 0.45 |
| 1:A1:939:A:H5" | 1:A1:940:A:OP2 | 2.17 | 0.45 |
| 1:A1:1002:G:C4 | 1:A1:1003:A:C2 | 3.05 | 0.45 |
| 1:A1:1043:A:C6 | 1:A1:1044:U:O4 | 2.70 | 0.45 |
| 1:A1:1109:G:C3' | 1:A1:1110:G:C5' | 2.95 | 0.45 |
| 1:A1:1167:G:N1 | 1:A1:1168:U:C4 | 2.85 | 0.45 |
| 1:A1:1206:U:O4 | 1:A1:1455:G:O6 | 2.34 | 0.45 |
| 1:A1:1231:U:H5" | 1:A1:1232:U:C5 | 2.52 | 0.45 |
| 1:A1:1237:G:N3 | 1:A1:1238:A:C8 | 2.85 | 0.45 |
| 1:A1:1250:U:H2' | 1:A1:1251:U:O4' | 2.16 | 0.45 |
| 1:A1:1270:G:C2 | 1:A1:1271:G:C8 | 3.05 | 0.45 |
| 1:A1:1402:G:C4 | 1:A1:1403:C:C6 | 3.04 | 0.45 |
| 1:A1:1483:A:C4 | 1:A1:1524:A:C5 | 3.05 | 0.45 |
| 1:A1:1557:U:H5 | 10:AI:81:ARG:O | 2.00 | 0.45 |
| 1:A1:1592:A:C5 | 1:A1:1605:G:C2 | 3.05 | 0.45 |
| 1:A1:1623:C:C2 | 1:A1:1624:C:C6 | 3.05 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1645:G:H3' | 1:A1:1645:G:H8 | 1.82 | 0.45 |
| 1:A1:1686:C:C4 | 1:A1:1687:U:C4 | 3.05 | 0.45 |
| 1:A1:1693:A:N1 | 1:A1:1708:U:N3 | 2.65 | 0.45 |
| 1:A1:1720:G:N7 | 1:A1:1721:A:C5 | 2.85 | 0.45 |
| 1:A1:1793:G:N2 | 1:A1:1794:A:H1' | 2.31 | 0.45 |
| 2:AA:10:THR:C | 2:AA:14:ALA:O | 2.60 | 0.45 |
| 2:AA:62:ARG:HA | 2:AA:65:ALA:HB2 | 1.98 | 0.45 |
| 2:AA:132:ALA:O | 2:AA:133:ILE:C | 2.60 | 0.45 |
| 6:AE:99:LEU:O | 6:AE:102:GLU:N | 2.50 | 0.45 |
| 7:AF:75:VAL:CA | 7:AF:86:ILE:HA | 2.41 | 0.45 |
| 11:AJ:93:HIS:HA | 11:AJ:96:TYR:O | 2.16 | 0.45 |
| 13:AL:29:VAL:O | 13:AL:43:SER:CB | 2.65 | 0.45 |
| 15:AN:52:LYS:C | 15:AN:54:GLY:H | 2.25 | 0.45 |
| 20:AS:38:ILE:C | 20:AS:40:ARG:H | 2.24 | 0.45 |
| 24:Ac:1:UNK:N | 24:Ac:73:UNK:O | 2.50 | 0.45 |
| 29:B1:29:C:H3' | 29:B1:29:C:H6 | 1.81 | 0.45 |
| 29:B1:39:A:H2 | 29:B1:44:U:O4 | 1.99 | 0.45 |
| 29:B1:69:C:H5" | 29:B1:70:A:OP2 | 2.17 | 0.45 |
| 29:B1:144:A:N3 | 29:B1:145:G:H1' | 2.32 | 0.45 |
| 29:B1:319:A:H1' | 44:BO:50:ARG:O | 2.16 | 0.45 |
| 29:B1:404:G:H2' | 29:B1:405:U:H5' | 1.98 | 0.45 |
| 29:B1:516:A:H2 | 29:B1:574:U:O2 | 2.00 | 0.45 |
| 29:B1:571:U:C2 | 29:B1:572:A:C8 | 3.05 | 0.45 |
| 29:B1:656:A:C2 | 29:B1:1440:G:C2 | 3.05 | 0.45 |
| 29:B1:658:G:N2 | 29:B1:1438:U:C2 | 2.85 | 0.45 |
| 29:B1:682:U:C5 | 29:B1:683:U:H5 | 2.32 | 0.45 |
| 29:B1:709:A:N6 | 29:B1:710:A:C6 | 2.85 | 0.45 |
| 29:B1:901:G:C2 | 29:B1:902:G:C8 | 3.05 | 0.45 |
| 29:B1:963:G:H8 | 29:B1:963:G:C4' | 2.28 | 0.45 |
| 29:B1:1053:A:H2' | 29:B1:1053:A:N3 | 2.32 | 0.45 |
| 29:B1:1112:A:N6 | 29:B1:1113:G:C6 | 2.85 | 0.45 |
| 29:B1:1220:U:H5' | 29:B1:1223:A:C4' | 2.46 | 0.45 |
| 29:B1:1254:C:C2 | 29:B1:1255:C:H5 | 2.32 | 0.45 |
| 29:B1:1270:A:H3' | 29:B1:1271:A:O4' | 2.17 | 0.45 |
| 29:B1:1302:A:C2' | 29:B1:1303:A:O5' | 2.65 | 0.45 |
| 29:B1:1324:U:H5" | 29:B1:1324:U:H6 | 1.78 | 0.45 |
| 29:B1:1412:G:C2' | 29:B1:1413:G:H8 | 2.29 | 0.45 |
| 29:B1:1550:C:C1' | 29:B1:2166:A:H61 | 2.29 | 0.45 |
| 29:B1:1624:G:C2 | 29:B1:1625:A:N3 | 2.85 | 0.45 |
| 29:B1:1795:U:O4 | 62:Bg:51:ALA:HB2 | 2.16 | 0.45 |
| 29:B1:2107:A:C4 | 29:B1:2108:C:C6 | 3.04 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2385:G:C6 | 29:B1:3142:A:N1 | 2.85 | 0.45 |
| 29:B1:2386:A:N3 | 31:B3:3:A:H2 | 2.15 | 0.45 |
| 29:B1:2582:C:C5' | 29:B1:2583:C:OP2 | 2.61 | 0.45 |
| 29:B1:2593:A:H4' | 29:B1:2594:C:OP2 | 2.16 | 0.45 |
| 29:B1:2775:U:HO2' | 29:B1:2776:C:P | 2.29 | 0.45 |
| 29:B1:3000:A:C6 | 29:B1:3001:C:N4 | 2.84 | 0.45 |
| 29:B1:3056:U:OP1 | 74:B1:3460:OHX:N3 | 2.49 | 0.45 |
| 29:B1:3087:A:C2 | 29:B1:3088:G:C4 | 3.04 | 0.45 |
| 29:B1:3115:C:HO2' | 29:B1:3117:C:H5 | 1.62 | 0.45 |
| 29:B1:3147:G:H2' | 29:B1:3148:U:C5' | 2.47 | 0.45 |
| 29:B1:3273:A:OP1 | 29:B1:3273:A:C4' | 2.64 | 0.45 |
| 29:B1:3288:G:H2' | 29:B1:3289:G:H5' | 1.99 | 0.45 |
| 29:B1:3298:C:C2 | 29:B1:3391:A:C2 | 3.04 | 0.45 |
| 29:B1:3330:A:C6 | 29:B1:3331:U:C4 | 3.05 | 0.45 |
| 29:B1:3384:U:N3 | 29:B1:3385:U:C4 | 2.84 | 0.45 |
| 30:B2:9:C:C3' | 30:B2:10:C:H4' | 2.46 | 0.45 |
| 30:B2:37:G:H2' | 30:B2:38:U:O5' | 2.17 | 0.45 |
| 31:B3:117:C:C2 | 31:B3:118:C:C6 | 3.04 | 0.45 |
| 31:B3:136:G:C2 | 31:B3:137:C:C5 | 3.05 | 0.45 |
| 35:BD:31:ARG:O | 35:BD:32:PRO:C | 2.59 | 0.45 |
| 37:BF:134:ARG:HA | 37:BF:137:ASP:CB | 2.47 | 0.45 |
| 38:BG:242:SER:O | 38:BG:243:MET:CB | 2.64 | 0.45 |
| 39:BH:100:GLU:CB | 39:BH:103:ALA:HB3 | 2.47 | 0.45 |
| 39:BH:228:GLU:C | 39:BH:230:LYS:N | 2.74 | 0.45 |
| 45:BP:80:PHE:O | 45:BP:81:TYR:C | 2.58 | 0.45 |
| 46:BQ:10:ASN:N | 46:BQ:12:ALA:N | 2.65 | 0.45 |
| 52:BW:98:ALA:O | 52:BW:101:GLU:N | 2.49 | 0.45 |
| 53:BX:19:TYR:C | 53:BX:21:THR:N | 2.68 | 0.45 |
| 53:BX:34:PRO:HA | 53:BX:47:ALA:CB | 2.46 | 0.45 |
| 61:Bf:23:HIS:HA | 61:Bf:74:CYS:HA | 1.98 | 0.45 |
| 62:Bg:65:ALA:O | 62:Bg:66:GLY:C | 2.59 | 0.45 |
| 65:Bk:6:UNK:O | 65:Bk:8:UNK:N | 2.49 | 0.45 |
| 1:C1:29:U:C2 | 1:C1:597:G:O6 | 2.68 | 0.45 |
| 1:C1:70:C:H3' | 1:C1:71:A:H8 | 1.81 | 0.45 |
| 1:C1:170:U:C5' | 1:C1:267:U:O2' | 2.65 | 0.45 |
| 1:C1:172:C:C2 | 1:C1:173:A:C8 | 3.05 | 0.45 |
| 1:C1:174:U:N3 | 1:C1:175:G:C4 | 2.84 | 0.45 |
| 1:C1:192:U:H3' | 1:C1:192:U:C6 | 2.52 | 0.45 |
| 1:C1:266:A:C3' | 1:C1:267:U:O4' | 2.65 | 0.45 |
| 1:C1:297:U:H2' | 1:C1:298:C:H5' | 1.99 | 0.45 |
| 1:C1:346:G:C6 | 1:C1:347:G:C6 | 3.04 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:409:C:O4' | 1:C1:1732:A:H4' | 2.15 | 0.45 |
| 1:C1:435:C:H2' | 1:C1:436:A:O4' | 2.17 | 0.45 |
| 1:C1:479:C:H5" | 1:C1:480:G:P | 2.57 | 0.45 |
| 1:C1:515:A:OP1 | 74:C1:1933:OHX:N6 | 2.50 | 0.45 |
| 1:C1:556:A:OP1 | 1:C1:556:A:O4' | 2.35 | 0.45 |
| 1:C1:699:U:O2' | 1:C1:700:C:H5' | 2.16 | 0.45 |
| 1:C1:726:C:C4 | 1:C1:727:U:C4 | 3.04 | 0.45 |
| 1:C1:745:U:C2' | 1:C1:746:A:H5' | 2.47 | 0.45 |
| 1:C1:834:G:H2' | 1:C1:835:U:O4' | 2.17 | 0.45 |
| 1:C1:956:C:C4 | 1:C1:957:G:N7 | 2.85 | 0.45 |
| 1:C1:1006:C:OP1 | 74:C1:1907:OHX:N4 | 2.50 | 0.45 |
| 1:C1:1104:U:C5 | 1:C1:1105:C:C6 | 3.05 | 0.45 |
| 1:C1:1150:G:H2' | 1:C1:1151:A:O4' | 2.16 | 0.45 |
| 1:C1:1334:U:H2' | 1:C1:1335:U:H1' | 1.99 | 0.45 |
| 1:C1:1494:C:H2' | 1:C1:1495:C:O5' | 2.17 | 0.45 |
| 1:C1:1535:U:OP1 | 1:C1:1536:G:C5 | 2.69 | 0.45 |
| 1:C1:1666:U:C4 | 1:C1:1736:G:C2 | 3.05 | 0.45 |
| 1:C1:1691:A:N6 | 1:C1:1713:G:C4 | 2.85 | 0.45 |
| 5:CD:91:GLU:O | 5:CD:93:LEU:N | 2.50 | 0.45 |
| 8:CG:114:ARG:O | 8:CG:117:LEU:N | 2.49 | 0.45 |
| 11:CJ:92:TYR:N | 11:CJ:93:HIS:HA | 2.31 | 0.45 |
| 11:CJ:106:LYS:O | 11:CJ:109:PHE:N | 2.50 | 0.45 |
| 18:CQ:59:TYR:O | 18:CQ:91:PRO:HA | 2.16 | 0.45 |
| 23:Cb:62:UNK:C | 23:Cb:64:UNK:N | 2.78 | 0.45 |
| 29:D1:112:U:HO2' | 29:D1:113:C:P | 2.38 | 0.45 |
| 29:D1:299:G:C6 | 29:D1:300:G:C6 | 3.04 | 0.45 |
| 29:D1:327:A:H8 | 29:D1:327:A:H5' | 1.81 | 0.45 |
| 29:D1:354:U:OP2 | 29:D1:364:G:C6 | 2.70 | 0.45 |
| 29:D1:504:A:C2 | 29:D1:505:G:C2 | 3.04 | 0.45 |
| 29:D1:585:A:H2' | 29:D1:585:A:N3 | 2.31 | 0.45 |
| 29:D1:585:A:C2' | 29:D1:586:C:H6 | 2.15 | 0.45 |
| 29:D1:592:A:H3' | 29:D1:592:A:OP2 | 2.17 | 0.45 |
| 29:D1:617:G:C2' | 29:D1:618:C:O5' | 2.65 | 0.45 |
| 29:D1:655:C:C2 | 29:D1:656:A:C8 | 3.04 | 0.45 |
| 29:D1:692:A:H3' | 29:D1:693:A:H8 | 1.81 | 0.45 |
| 29:D1:739:G:C3' | 29:D1:740:G:H8 | 2.30 | 0.45 |
| 29:D1:827:A:C5' | 29:D1:828:A:OP2 | 2.65 | 0.45 |
| 29:D1:886:C:H2' | 29:D1:887:G:H5' | 1.96 | 0.45 |
| 29:D1:943:U:C6 | 29:D1:1432:C:C5 | 3.04 | 0.45 |
| 29:D1:944:C:OP2 | 29:D1:1432:C:H4' | 2.17 | 0.45 |
| 29:D1:965:A:N6 | 29:D1:966:U:H3 | 2.14 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1024:G:C2' | 29:D1:1025:A:H5' | 2.44 | 0.45 |
| 29:D1:1057:A:C6 | 29:D1:1058:U:C4 | 3.04 | 0.45 |
| 29:D1:1086:C:O2 | 29:D1:1086:C:H2' | 2.15 | 0.45 |
| 29:D1:1126:G:OP2 | 41:DJ:13:LYS:O | 2.35 | 0.45 |
| 29:D1:1132:C:C2' | 29:D1:1133:A:O5' | 2.64 | 0.45 |
| 29:D1:1174:G:C4 | 29:D1:1175:C:C5 | 3.04 | 0.45 |
| 29:D1:1189:C:N4 | 29:D1:1316:C:OP2 | 2.46 | 0.45 |
| 29:D1:1206:G:N3 | 29:D1:1206:G:C2' | 2.79 | 0.45 |
| 29:D1:1359:C:O2 | 29:D1:1359:C:C2' | 2.64 | 0.45 |
| 29:D1:1376:C:C2 | 29:D1:1377:G:C8 | 3.05 | 0.45 |
| 29:D1:1455:U:C2 | 29:D1:3078:U:H5 | 2.35 | 0.45 |
| 29:D1:1468:A:O2' | 29:D1:1469:C:OP1 | 2.33 | 0.45 |
| 29:D1:1530:U:C5' | 29:D1:1531:C:OP2 | 2.65 | 0.45 |
| 29:D1:1690:C:C4 | 29:D1:1691:U:C5 | 3.05 | 0.45 |
| 29:D1:2246:G:C4 | 29:D1:2247:G:C8 | 3.05 | 0.45 |
| 29:D1:2300:G:C2 | 29:D1:2301:U:C2 | 3.04 | 0.45 |
| 29:D1:2516:U:H6 | 29:D1:2516:U:O5' | 2.00 | 0.45 |
| 29:D1:2526:C:H3' | 29:D1:2527:G:C8 | 2.52 | 0.45 |
| 29:D1:2618:G:H4' | 29:D1:2619:G:OP2 | 2.17 | 0.45 |
| 29:D1:2807:U:C2' | 29:D1:2808:A:H5" | 2.47 | 0.45 |
| 29:D1:2827:U:H2' | 29:D1:2827:U:O2 | 2.16 | 0.45 |
| 29:D1:2912:G:C1' | 29:D1:3131:U:H5' | 2.47 | 0.45 |
| 29:D1:2933:A:O3' | 74:D1:3619:OHX:N4 | 2.50 | 0.45 |
| 29:D1:3021:A:C8 | 29:D1:3023:U:N3 | 2.85 | 0.45 |
| 29:D1:3293:U:H3' | 29:D1:3293:U:O2 | 2.16 | 0.45 |
| 29:D1:3343:G:N7 | 29:D1:3344:A:C6 | 2.84 | 0.45 |
| 29:D1:3348:G:C5 | 29:D1:3349:C:C2 | 3.05 | 0.45 |
| 30:D2:59:U:H2' | 30:D2:60:G:H8 | 1.78 | 0.45 |
| 31:D3:41:A:H2' | 31:D3:41:A:N3 | 2.32 | 0.45 |
| 34:DC:68:HIS:O | 34:DC:70:ARG:N | 2.50 | 0.45 |
| 34:DC:310:GLY:O | 34:DC:311:PHE:C | 2.60 | 0.45 |
| 35:DD:123:ALA:O | 35:DD:124:SER:C | 2.59 | 0.45 |
| 36:DE:80:SER:C | 36:DE:82:GLU:H | 2.24 | 0.45 |
| 36:DE:102:GLY:C | 36:DE:166:ALA:HA | 2.41 | 0.45 |
| 37:DF:5:LYS:CB | 38:DG:77:VAL:N | 2.79 | 0.45 |
| 37:DF:126:GLN:C | 37:DF:128:LYS:H | 2.21 | 0.45 |
| 38:DG:41:ARG:O | 38:DG:45:LEU:N | 2.49 | 0.45 |
| 38:DG:84:VAL:C | 38:DG:86:VAL:N | 2.65 | 0.45 |
| 39:DH:81:THR:O | 39:DH:84:ARG:N | 2.49 | 0.45 |
| 72:DL:89:PRO:O | 72:DL:90:ARG:O | 2.35 | 0.45 |
| 43:DN:76:ALA:HA | 43:DN:79:ALA:CB | 2.31 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 46:DQ:83:TRP:O | 46:DQ:84:PRO:C | 2.59 | 0.45 |
| 47:DR:80:THR:N | 47:DR:136:ASN:O | 2.45 | 0.45 |
| 47:DR:145:ASN:CB | 47:DR:147:ARG:H | 2.29 | 0.45 |
| 48:DS:141:HIS:O | 48:DS:142:ILE:C | 2.60 | 0.45 |
| 51:DV:7:SER:C | 51:DV:9:SER:N | 2.74 | 0.45 |
| 63:Dh:42:UNK:O | 63:Dh:43:UNK:C | 2.65 | 0.45 |
| 1:A1:14:C:H5' | 3:AB:163:GLY:HA2 | 1.98 | 0.45 |
| 1:A1:36:C:C2 | 1:A1:473:A:C2 | 3.05 | 0.45 |
| 1:A1:43:A:H4' | 1:A1:99:C:OP1 | 2.16 | 0.45 |
| 1:A1:63:G:O2' | 1:A1:169:A:O3' | 2.35 | 0.45 |
| 1:A1:117:U:H2' | 1:A1:118:U:O4' | 2.16 | 0.45 |
| 1:A1:174:U:O2 | 1:A1:174:U:C2' | 2.58 | 0.45 |
| 1:A1:198:A:C1' | 1:A1:199:G:P | 3.05 | 0.45 |
| 1:A1:220:A:N6 | 1:A1:221:A:N6 | 2.64 | 0.45 |
| 1:A1:271:A:C2 | 1:A1:285:G:C5 | 3.05 | 0.45 |
| 1:A1:430:G:C5 | 1:A1:431:C:C5 | 3.04 | 0.45 |
| 1:A1:457:G:H2' | 1:A1:458:G:H5' | 1.96 | 0.45 |
| 1:A1:515:A:N3 | 1:A1:515:A:C2' | 2.80 | 0.45 |
| 1:A1:578:U:H6 | 1:A1:578:U:H5" | 1.82 | 0.45 |
| 1:A1:586:G:H2' | 1:A1:587:C:O5' | 2.17 | 0.45 |
| 1:A1:589:C:H2' | 1:A1:590:C:C6 | 2.51 | 0.45 |
| 1:A1:604:A:N1 | 1:A1:605:A:C2 | 2.85 | 0.45 |
| 1:A1:635:A:C5 | 1:A1:863:A:C8 | 3.05 | 0.45 |
| 1:A1:637:C:O2' | 1:A1:638:U:H5' | 2.17 | 0.45 |
| 1:A1:802:G:H21 | 16:AO:107:SER:CB | 2.29 | 0.45 |
| 1:A1:986:G:O6 | 74:A1:1905:OHX:N2 | 2.50 | 0.45 |
| 1:A1:1044:U:O2 | 1:A1:1045:C:H5 | 1.98 | 0.45 |
| 1:A1:1092:A:C8 | 1:A1:1094:G:C8 | 3.05 | 0.45 |
| 1:A1:1146:G:C8 | 1:A1:1635:A:H2 | 2.31 | 0.45 |
| 1:A1:1172:G:C5 | 1:A1:1173:C:C5 | 3.05 | 0.45 |
| 1:A1:1203:A:N3 | 1:A1:1555:A:C2 | 2.85 | 0.45 |
| 1:A1:1304:G:N7 | 1:A1:1305:U:C4 | 2.85 | 0.45 |
| 1:A1:1382:A:C4 | 1:A1:1383:G:C8 | 3.04 | 0.45 |
| 1:A1:1403:C:OP1 | 1:A1:1414:U:OP1 | 2.35 | 0.45 |
| 1:A1:1449:U:H2' | 1:A1:1450:U:O4' | 2.17 | 0.45 |
| 1:A1:1489:U:H5" | 1:A1:1490:C:OP2 | 2.17 | 0.45 |
| 1:A1:1525:A:H1' | 1:A1:1590:G:H4' | 1.98 | 0.45 |
| 1:A1:1543:A:H1' | 1:A1:1569:A:N1 | 2.32 | 0.45 |
| 1:A1:1583:A:H1' | 1:A1:1585:U:C2 | 2.52 | 0.45 |
| 1:A1:1644:C:H2' | 1:A1:1645:G:O5' | 2.17 | 0.45 |
| 3:AB:66:PHE:C | 3:AB:68:ILE:N | 2.71 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AE:59:LEU:C | 6:AE:61:THR:H | 2.24 | 0.45 |
| 11:AJ:127:LYS:CA | 11:AJ:134:ALA:H | 2.27 | 0.45 |
| 11:AJ:131:GLY:HA3 | 11:AJ:138:PHE:N | 2.31 | 0.45 |
| 16:AO:55:ASP:C | 23:Ab:1:UNK:CB | 2.90 | 0.45 |
| 21:AT:240:VAL:O | 21:AT:241:PHE:O | 2.34 | 0.45 |
| 23:Ab:52:UNK:C | 23:Ab:54:UNK:N | 2.76 | 0.45 |
| 23:Ab:135:UNK:O | 23:Ab:136:UNK:C | 2.65 | 0.45 |
| 28:Ah:9:UNK:O | 28:Ah:11:UNK:N | 2.50 | 0.45 |
| 29:B1:19:U:C5 | 29:B1:20:A:N6 | 2.76 | 0.45 |
| 29:B1:72:C:N4 | 29:B1:73:C:O2 | 2.50 | 0.45 |
| 29:B1:152:U:H2' | 29:B1:153:U:C6 | 2.39 | 0.45 |
| 29:B1:191:U:O2 | 29:B1:191:U:H2' | 2.17 | 0.45 |
| 29:B1:222:A:C2' | 29:B1:223:U:H5' | 2.46 | 0.45 |
| 29:B1:293:C:C4 | 29:B1:294:U:C2 | 3.05 | 0.45 |
| 29:B1:295:A:O2' | 29:B1:296:A:H5' | 2.17 | 0.45 |
| 29:B1:307:A:H1' | 29:B1:2223:A:N3 | 2.31 | 0.45 |
| 29:B1:311:C:C2 | 29:B1:2779:A:N1 | 2.85 | 0.45 |
| 29:B1:412:G:C5 | 31:B3:12:A:N1 | 2.85 | 0.45 |
| 29:B1:505:G:C8 | 29:B1:506:U:C6 | 3.05 | 0.45 |
| 29:B1:694:C:O2 | 29:B1:694:C:C2' | 2.52 | 0.45 |
| 29:B1:740:G:C2 | 29:B1:741:U:H6 | 2.35 | 0.45 |
| 29:B1:763:G:C5 | 29:B1:764:U:C2 | 3.05 | 0.45 |
| 29:B1:871:U:C2 | 29:B1:890:C:H1' | 2.52 | 0.45 |
| 29:B1:914:A:O5' | 29:B1:914:A:C8 | 2.69 | 0.45 |
| 29:B1:924:G:O6 | 29:B1:2809:C:O4' | 2.35 | 0.45 |
| 29:B1:959:C:OP1 | 29:B1:2800:G:OP2 | 2.35 | 0.45 |
| 29:B1:986:U:H2' | 29:B1:987:U:H6 | 1.81 | 0.45 |
| 29:B1:1028:U:H2' | 29:B1:1029:G:C5 | 2.52 | 0.45 |
| 29:B1:1105:A:C5 | 29:B1:1106:G:N7 | 2.85 | 0.45 |
| 29:B1:1174:G:N1 | 29:B1:1175:C:C4 | 2.85 | 0.45 |
| 29:B1:1220:U:O4' | 29:B1:1223:A:N3 | 2.50 | 0.45 |
| 29:B1:1220:U:H5' | 29:B1:1223:A:O4' | 2.17 | 0.45 |
| 29:B1:1379:G:C6 | 29:B1:1428:A:C2 | 3.04 | 0.45 |
| 29:B1:1444:G:O6 | 74:B1:3540:OHX:N1 | 2.50 | 0.45 |
| 29:B1:1505:C:H2' | 29:B1:1505:C:O2 | 2.17 | 0.45 |
| 29:B1:1609:C:HO2' | 29:B1:1610:G:P | 2.40 | 0.45 |
| 29:B1:1634:G:C5 | 29:B1:1635:G:N7 | 2.84 | 0.45 |
| 29:B1:1719:G:C4' | 29:B1:1732:U:H4' | 2.47 | 0.45 |
| 29:B1:1731:A:H2' | 29:B1:1732:U:O4' | 2.16 | 0.45 |
| 29:B1:1941:C:N4 | 29:B1:1942:U:O4 | 2.49 | 0.45 |
| 29:B1:2255:A:C6 | 74:B1:3438:OHX:N5 | 2.85 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2352:A:N6 | 29:B1:2353:G:C6 | 2.84 | 0.45 |
| 29:B1:2414:G:O2' | 29:B1:2415:C:P | 2.74 | 0.45 |
| 29:B1:2520:A:C5 | 29:B1:2521:U:C4 | 3.05 | 0.45 |
| 29:B1:2553:U:O2' | 29:B1:2554:A:P | 2.74 | 0.45 |
| 29:B1:2607:G:C6 | 29:B1:2608:G:N7 | 2.85 | 0.45 |
| 29:B1:2727:A:C2 | 29:B1:2729:U:C5 | 2.93 | 0.45 |
| 29:B1:3059:G:O4' | 29:B1:3059:G:OP2 | 2.35 | 0.45 |
| 29:B1:3068:U:OP1 | 48:BS:57:VAL:O | 2.35 | 0.45 |
| 29:B1:3205:G:O2' | 29:B1:3206:C:C4 | 2.55 | 0.45 |
| 29:B1:3212:C:C4 | 29:B1:3213:A:N1 | 2.85 | 0.45 |
| 29:B1:3308:C:H5 | 29:B1:3309:G:C4 | 2.27 | 0.45 |
| 29:B1:3322:A:C6 | 29:B1:3323:A:C6 | 3.04 | 0.45 |
| 29:B1:3390:G:C5 | 29:B1:3391:A:N7 | 2.85 | 0.45 |
| 30:B2:46:A:C2' | 30:B2:47:C:H5' | 2.47 | 0.45 |
| 30:B2:75:G:C5' | 30:B2:76:A:OP2 | 2.65 | 0.45 |
| 31:B3:41:A:OP2 | 59:Bd:58:THR:CB | 2.65 | 0.45 |
| 31:B3:67:U:O3' | 31:B3:68:G:O4' | 2.33 | 0.45 |
| 31:B3:107:G:N1 | 31:B3:116:G:N7 | 2.65 | 0.45 |
| 31:B3:149:A:N7 | 74:B3:212:OHX:N1 | 2.65 | 0.45 |
| 35:BD:265:GLU:O | 35:BD:266:THR:CB | 2.65 | 0.45 |
| 41:BJ:56:GLU:N | 41:BJ:131:ILE:HA | 2.32 | 0.45 |
| 41:BJ:148:VAL:O | 41:BJ:149:VAL:C | 2.59 | 0.45 |
| 42:BK:101:ASN:C | 42:BK:103:GLY:H | 2.25 | 0.45 |
| 43:BN:38:ILE:HA | 43:BN:44:VAL:HA | 1.99 | 0.45 |
| 43:BN:107:GLU:O | 43:BN:108:ARG:C | 2.59 | 0.45 |
| 52:BW:98:ALA:O | 52:BW:99:VAL:C | 2.60 | 0.45 |
| 58:Bc:40:SER:CB | 58:Bc:41:LEU:C | 2.90 | 0.45 |
| 26:Bj:10:UNK:O | 26:Bj:11:UNK:C | 2.65 | 0.45 |
| 1:C1:39:A:N7 | 1:C1:467:G:N1 | 2.60 | 0.45 |
| 1:C1:139:C:C5 | 1:C1:176:C:N3 | 2.85 | 0.45 |
| 1:C1:228:G:N1 | 1:C1:229:U:C2 | 2.84 | 0.45 |
| 1:C1:361:C:C4 | 1:C1:384:G:N1 | 2.85 | 0.45 |
| 1:C1:446:A:H2' | 1:C1:447:U:H5' | 1.98 | 0.45 |
| 1:C1:651:G:C5 | 74:C1:1970:OHX:N5 | 2.85 | 0.45 |
| 1:C1:812:A:C5 | 1:C1:858:G:N7 | 2.84 | 0.45 |
| 1:C1:867:G:N3 | 1:C1:868:G:C8 | 2.84 | 0.45 |
| 1:C1:1155:G:C6 | 1:C1:1156:C:N4 | 2.85 | 0.45 |
| 1:C1:1225:U:C5 | 1:C1:1226:A:C6 | 3.05 | 0.45 |
| 1:C1:1274:C:O2 | 1:C1:1274:C:C2' | 2.53 | 0.45 |
| 1:C1:1319:A:H2' | 1:C1:1320:U:O4' | 2.17 | 0.45 |
| 1:C1:1348:A:H8 | 1:C1:1348:A:P | 2.40 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1470:C:H3' | 1:C1:1573:A:H62 | 1.82 | 0.45 |
| 1:C1:1471:A:C5 | 1:C1:1540:G:O4' | 2.70 | 0.45 |
| 1:C1:1472:C:H5' | 1:C1:1474:G:C1' | 2.46 | 0.45 |
| 1:C1:1529:C:H2' | 1:C1:1530:C:C6 | 2.52 | 0.45 |
| 2:CA:199:PRO:HA | 2:CA:200:ASP:HA | 1.68 | 0.45 |
| 3:CB:124:ALA:O | 3:CB:126:ARG:N | 2.49 | 0.45 |
| 3:CB:149:GLY:C | 3:CB:151:PRO:N | 2.74 | 0.45 |
| 3:CB:231:ALA:HB1 | 3:CB:234:PRO:CB | 2.46 | 0.45 |
| 5:CD:132:VAL:O | 5:CD:136:ALA:N | 2.50 | 0.45 |
| 7:CF:75:VAL:HA | 7:CF:86:ILE:CA | 2.44 | 0.45 |
| 9:CH:44:GLY:O | 9:CH:45:GLY:C | 2.59 | 0.45 |
| 14:CM:29:GLU:O | 14:CM:30:VAL:C | 2.60 | 0.45 |
| 14:CM:69:LYS:CB | 14:CM:123:ARG:HA | 2.47 | 0.45 |
| 18:CQ:43:ASP:HA | 18:CQ:46:LYS:CB | 2.46 | 0.45 |
| 24:Cc:5:UNK:C | 24:Cc:71:UNK:CB | 2.95 | 0.45 |
| 24:Cc:54:UNK:N | 24:Cc:63:UNK:N | 2.65 | 0.45 |
| 29:D1:64:G:C5 | 29:D1:322:U:C4 | 3.05 | 0.45 |
| 29:D1:83:U:H2' | 29:D1:84:U:O4' | 2.16 | 0.45 |
| 29:D1:111:C:O2 | 29:D1:111:C:C2' | 2.58 | 0.45 |
| 29:D1:122:A:N3 | 29:D1:123:A:C8 | 2.85 | 0.45 |
| 29:D1:134:U:H6 | 29:D1:134:U:P | 2.40 | 0.45 |
| 29:D1:264:G:H3' | 29:D1:265:A:N7 | 2.31 | 0.45 |
| 29:D1:342:A:N7 | 29:D1:368:G:C6 | 2.85 | 0.45 |
| 29:D1:420:G:C2 | 29:D1:2384:A:H2' | 2.52 | 0.45 |
| 29:D1:438:A:O2' | 29:D1:494:G:C1' | 2.64 | 0.45 |
| 29:D1:552:G:C6 | 29:D1:553:U:N3 | 2.85 | 0.45 |
| 29:D1:554:A:H2' | 29:D1:555:U:H5" | 1.98 | 0.45 |
| 29:D1:569:A:N1 | 29:D1:570:A:C4 | 2.85 | 0.45 |
| 29:D1:569:A:C4 | 29:D1:570:A:C8 | 3.04 | 0.45 |
| 29:D1:597:G:C2 | 29:D1:598:A:N9 | 2.85 | 0.45 |
| 29:D1:601:U:C2 | 29:D1:602:A:C8 | 3.04 | 0.45 |
| 29:D1:601:U:C4 | 29:D1:602:A:C8 | 3.04 | 0.45 |
| 29:D1:624:G:N2 | 29:D1:625:G:N9 | 2.65 | 0.45 |
| 29:D1:740:G:C2 | 29:D1:741:U:H6 | 2.34 | 0.45 |
| 29:D1:750:G:N1 | 29:D1:784:A:C1' | 2.78 | 0.45 |
| 29:D1:760:G:O2' | 29:D1:761:A:H8 | 1.97 | 0.45 |
| 29:D1:760:G:OP2 | 74:D1:3514:OHX:N2 | 2.50 | 0.45 |
| 29:D1:900:G:H2' | 29:D1:901:G:H8 | 1.82 | 0.45 |
| 29:D1:956:U:H2' | 29:D1:957:C:C6 | 2.51 | 0.45 |
| 29:D1:967:A:H2' | 29:D1:967:A:N3 | 2.32 | 0.45 |
| 29:D1:1174:G:H1' | 29:D1:1181:U:C4 | 2.51 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1325:U:C2 | 29:D1:1326:A:N7 | 2.85 | 0.45 |
| 29:D1:1489:A:OP2 | 29:D1:1838:G:N2 | 2.50 | 0.45 |
| 29:D1:1625:A:C5 | 29:D1:1626:U:C2 | 3.05 | 0.45 |
| 29:D1:1645:U:C2' | 29:D1:1646:G:O5' | 2.64 | 0.45 |
| 29:D1:1787:A:C6 | 29:D1:1788:C:C4 | 3.05 | 0.45 |
| 29:D1:1876:U:H5' | 29:D1:1876:U:C6 | 2.52 | 0.45 |
| 29:D1:2092:A:OP2 | 29:D1:2093:A:C8 | 2.70 | 0.45 |
| 29:D1:2120:A:HO2' | 29:D1:2121:G:C5' | 2.16 | 0.45 |
| 29:D1:2199:G:C2 | 29:D1:2200:U:C6 | 3.05 | 0.45 |
| 29:D1:2206:G:H2' | 29:D1:2206:G:N3 | 2.31 | 0.45 |
| 29:D1:2641:U:O2 | 29:D1:2641:U:H2' | 2.16 | 0.45 |
| 29:D1:2732:G:C5 | 29:D1:2733:A:C5 | 3.05 | 0.45 |
| 29:D1:2733:A:C4 | 29:D1:2734:A:C8 | 3.05 | 0.45 |
| 29:D1:2862:U:C2' | 29:D1:2863:G:H5' | 2.46 | 0.45 |
| 29:D1:3012:A:H2' | 29:D1:3013:U:C5' | 2.22 | 0.45 |
| 29:D1:3086:A:C2' | 29:D1:3087:A:H8 | 2.29 | 0.45 |
| 29:D1:3105:U:C2 | 29:D1:3129:A:C5 | 3.05 | 0.45 |
| 29:D1:3121:U:C2 | 29:D1:3122:A:C8 | 3.04 | 0.45 |
| 29:D1:3150:A:H5" | 34:DC:134:SER:CA | 2.42 | 0.45 |
| 29:D1:3229:G:H4' | 29:D1:3230:G:OP1 | 2.15 | 0.45 |
| 29:D1:3316:A:H1' | 29:D1:3317:U:OP2 | 2.17 | 0.45 |
| 29:D1:3325:G:C4 | 29:D1:3326:G:C8 | 3.04 | 0.45 |
| 29:D1:3326:G:N2 | 29:D1:3327:G:H1' | 2.32 | 0.45 |
| 29:D1:3327:G:C5 | 29:D1:3328:G:C5 | 3.05 | 0.45 |
| 30:D2:40:C:C5' | 30:D2:41:G:OP2 | 2.64 | 0.45 |
| 31:D3:1:A:OP1 | 74:D3:201:OHX:N4 | 2.50 | 0.45 |
| 31:D3:12:A:C2' | 31:D3:13:A:H5' | 2.45 | 0.45 |
| 31:D3:149:A:C6 | 31:D3:150:G:O6 | 2.70 | 0.45 |
| 36:DE:53:VAL:CB | 36:DE:62:CYS:HA | 2.47 | 0.45 |
| 36:DE:84:PRO:O | 36:DE:85:ARG:C | 2.59 | 0.45 |
| 42:DK:160:VAL:C | 42:DK:162:TRP:H | 2.24 | 0.45 |
| 44:DO:108:ARG:C | 44:DO:110:ALA:H | 2.24 | 0.45 |
| 44:DO:146:ALA:HB1 | 44:DO:149:ASN:CB | 2.47 | 0.45 |
| 48:DS:39:ASN:C | 48:DS:41:ILE:N | 2.74 | 0.45 |
| 54:DY:130:VAL:C | 54:DY:132:LYS:N | 2.74 | 0.45 |
| 56:Da:13:THR:O | 56:Da:14:ILE:O | 2.35 | 0.45 |
| 62:Dg:12:GLY:O | 62:Dg:15:GLY:CA | 2.65 | 0.45 |
| 62:Dg:22:LEU:O | 62:Dg:23:ARG:C | 2.58 | 0.45 |
| 63:Dh:53:UNK:CA | 63:Dh:54:UNK:CB | 2.90 | 0.45 |
| 65:Dk:11:UNK:O | 65:Dk:13:UNK:C | 2.65 | 0.45 |
| 1:A1:24:U:C6 | 1:A1:24:U:C5' | 2.99 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:57:G:C6 | 1:A1:91:G:C6 | 3.05 | 0.45 |
| 1:A1:139:C:O4' | 1:A1:141:U:H5" | 2.17 | 0.45 |
| 1:A1:198:A:H1' | 1:A1:199:G:O5' | 2.16 | 0.45 |
| 1:A1:283:U:C3' | 1:A1:284:G:C5' | 2.92 | 0.45 |
| 1:A1:728:U:H2' | 1:A1:729:G:C8 | 2.50 | 0.45 |
| 1:A1:973:A:N3 | 1:A1:974:A:N7 | 2.65 | 0.45 |
| 1:A1:993:A:C4 | 1:A1:1012:U:O2 | 2.70 | 0.45 |
| 1:A1:1138:A:C6 | 1:A1:1139:A:N6 | 2.85 | 0.45 |
| 1:A1:1239:U:H5 | 1:A1:1241:G:C6 | 2.35 | 0.45 |
| 1:A1:1274:C:C5 | 1:A1:1427:A:N7 | 2.83 | 0.45 |
| 1:A1:1284:C:O2 | 1:A1:1286:U:N3 | 2.49 | 0.45 |
| 1:A1:1294:G:C6 | 74:A1:1952:OHX:N4 | 2.85 | 0.45 |
| 1:A1:1411:A:C5' | 1:A1:1412:G:OP2 | 2.64 | 0.45 |
| 1:A1:1431:C:C2 | 1:A1:1437:U:O4 | 2.70 | 0.45 |
| 1:A1:1455:G:N3 | 1:A1:1456:C:O2 | 2.50 | 0.45 |
| 1:A1:1522:U:C6 | 1:A1:1522:U:OP1 | 2.69 | 0.45 |
| 1:A1:1523:G:H3' | 1:A1:1524:A:H5" | 1.99 | 0.45 |
| 1:A1:1540:G:C6 | 1:A1:1541:G:C5 | 3.05 | 0.45 |
| 1:A1:1631:A:C6 | 1:A1:1636:C:N4 | 2.81 | 0.45 |
| 1:A1:1689:A:C6 | 1:A1:1716:C:C2 | 3.05 | 0.45 |
| 2:AA:111:ILE:O | 2:AA:112:THR:CB | 2.65 | 0.45 |
| 2:AA:205:ARG:O | 2:AA:206:ASP:C | 2.60 | 0.45 |
| 3:AB:160:GLY:O | 3:AB:209:ASN:HA | 2.16 | 0.45 |
| 5:AD:163:SER:O | 5:AD:164:PRO:C | 2.60 | 0.45 |
| 5:AD:184:PHE:HA | 5:AD:185:ARG:HA | 1.72 | 0.45 |
| 6:AE:59:LEU:O | 6:AE:61:THR:N | 2.43 | 0.45 |
| 9:AH:49:LYS:O | 9:AH:50:ALA:C | 2.60 | 0.45 |
| 10:AI:125:PRO:O | 10:AI:127:ARG:N | 2.50 | 0.45 |
| 11:AJ:42:GLU:O | 11:AJ:44:LEU:N | 2.50 | 0.45 |
| 11:AJ:74:HIS:O | 11:AJ:75:VAL:C | 2.59 | 0.45 |
| 21:AT:216:LYS:O | 21:AT:218:GLY:N | 2.50 | 0.45 |
| 29:B1:36:C:H4' | 29:B1:808:A:N1 | 2.32 | 0.45 |
| 29:B1:65:A:C4 | 29:B1:110:G:N7 | 2.85 | 0.45 |
| 29:B1:78:U:O4 | 29:B1:325:A:N1 | 2.49 | 0.45 |
| 29:B1:100:A:C2' | 29:B1:101:G:C8 | 2.91 | 0.45 |
| 29:B1:156:G:H1' | 29:B1:157:A:P | 2.56 | 0.45 |
| 29:B1:209:A:O2' | 35:BD:162:THR:CB | 2.65 | 0.45 |
| 29:B1:344:A:H2' | 29:B1:345:G:C5' | 2.46 | 0.45 |
| 29:B1:348:A:H1' | 29:B1:352:A:N3 | 2.32 | 0.45 |
| 29:B1:355:A:C2 | 29:B1:365:A:C6 | 3.05 | 0.45 |
| 29:B1:413:U:N3 | 29:B1:414:U:C5 | 2.85 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:428:A:C8 | 29:B1:428:A:C3' | 3.00 | 0.45 |
| 29:B1:597:G:C2' | 29:B1:598:A:O4' | 2.65 | 0.45 |
| 29:B1:633:C:O2' | 29:B1:634:C:H5' | 2.16 | 0.45 |
| 29:B1:784:A:H2' | 29:B1:784:A:N3 | 2.31 | 0.45 |
| 29:B1:876:A:H2' | 29:B1:877:C:C5' | 2.45 | 0.45 |
| 29:B1:960:U:H5" | 29:B1:961:C:OP2 | 2.17 | 0.45 |
| 29:B1:962:A:C2' | 29:B1:963:G:H5" | 2.47 | 0.45 |
| 29:B1:975:C:N3 | 29:B1:976:U:C4 | 2.85 | 0.45 |
| 29:B1:1013:G:O3' | 29:B1:1014:U:H4' | 2.11 | 0.45 |
| 29:B1:1021:G:C5 | 29:B1:1022:U:C5 | 3.04 | 0.45 |
| 29:B1:1193:A:H8 | 29:B1:1194:G:N2 | 2.14 | 0.45 |
| 29:B1:1296:C:HO2' | 29:B1:1297:C:P | 2.40 | 0.45 |
| 29:B1:1302:A:N9 | 29:B1:2887:A:C2 | 2.85 | 0.45 |
| 29:B1:1316:C:H5' | 29:B1:1317:A:C5' | 2.47 | 0.45 |
| 29:B1:1455:U:C2 | 29:B1:3078:U:C6 | 3.05 | 0.45 |
| 29:B1:1481:A:O2' | 29:B1:1858:A:C2' | 2.56 | 0.45 |
| 29:B1:1566:A:N7 | 29:B1:1568:U:N3 | 2.65 | 0.45 |
| 29:B1:1622:U:H2' | 29:B1:1623:G:C8 | 2.52 | 0.45 |
| 29:B1:1631:C:H2' | 29:B1:1632:A:OP2 | 2.17 | 0.45 |
| 29:B1:1640:G:C4' | 29:B1:1641:U:OP2 | 2.65 | 0.45 |
| 29:B1:1724:U:O2' | 29:B1:1725:C:C4' | 2.62 | 0.45 |
| 29:B1:1782:U:H3' | 29:B1:1782:U:P | 2.57 | 0.45 |
| 29:B1:1879:A:O2' | 29:B1:1880:U:C4' | 2.46 | 0.45 |
| 29:B1:2367:A:H2' | 29:B1:2368:A:C8 | 2.52 | 0.45 |
| 29:B1:2397:A:OP1 | 29:B1:2398:A:H4' | 2.17 | 0.45 |
| 29:B1:2407:C:C2 | 29:B1:2815:G:C2 | 3.04 | 0.45 |
| 29:B1:2504:U:C5 | 29:B1:2505:U:C5 | 3.05 | 0.45 |
| 29:B1:2673:A:N3 | 29:B1:2674:A:N7 | 2.65 | 0.45 |
| 29:B1:2674:A:C8 | 42:BK:108:GLU:CB | 2.99 | 0.45 |
| 29:B1:2702:A:C8 | 29:B1:2704:A:C5 | 3.03 | 0.45 |
| 29:B1:2713:U:O5' | 29:B1:2713:U:H6 | 2.00 | 0.45 |
| 29:B1:2872:A:O4' | 29:B1:2873:U:OP1 | 2.35 | 0.45 |
| 29:B1:3289:G:N7 | 74:B1:3581:OHX:N1 | 2.65 | 0.45 |
| 29:B1:3360:C:O2 | 29:B1:3360:C:C2' | 2.54 | 0.45 |
| 30:B2:22:A:H2' | 30:B2:23:A:O5' | 2.17 | 0.45 |
| 30:B2:48:U:C2' | 30:B2:49:G:N7 | 2.80 | 0.45 |
| 30:B2:80:G:C4 | 30:B2:81:U:C6 | 3.04 | 0.45 |
| 31:B3:10:A:C2 | 31:B3:11:C:C6 | 3.05 | 0.45 |
| 31:B3:20:U:O2' | 31:B3:21:C:O5' | 2.33 | 0.45 |
| 31:B3:25:G:C5 | 31:B3:26:U:C4 | 3.05 | 0.45 |
| 31:B3:154:C:N3 | 31:B3:155:A:N7 | 2.65 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 32:BA:68:PHE:HA | 32:BA:73:ASP:CB | 2.46 | 0.45 |
| 35:BD:118:LYS:C | 35:BD:121:ALA:HB3 | 2.42 | 0.45 |
| 36:BE:47:PRO:O | 36:BE:48:LYS:CB | 2.64 | 0.45 |
| 36:BE:115:LEU:O | 36:BE:118:THR:C | 2.60 | 0.45 |
| 36:BE:269:SER:HA | 36:BE:270:LYS:HA | 1.73 | 0.45 |
| 37:BF:155:LEU:C | 37:BF:157:GLN:N | 2.75 | 0.45 |
| 39:BH:185:ARG:C | 39:BH:187:GLY:N | 2.63 | 0.45 |
| 40:BI:51:GLN:N | 40:BI:52:LEU:CB | 2.80 | 0.45 |
| 41:BJ:114:GLY:O | 41:BJ:115:MET:CB | 2.65 | 0.45 |
| 44:BO:59:PHE:O | 44:BO:60:VAL:CB | 2.65 | 0.45 |
| 47:BR:81:VAL:HA | 47:BR:138:LEU:O | 2.17 | 0.45 |
| 51:BV:14:TYR:O | 51:BV:15:PRO:C | 2.59 | 0.45 |
| 54:BY:90:TYR:C | 54:BY:92:LYS:HA | 2.42 | 0.45 |
| 59:Bd:37:CYS:CA | 74:Bd:101:OHX:N6 | 2.80 | 0.45 |
| 63:Bh:34:UNK:O | 63:Bh:35:UNK:CB | 2.65 | 0.45 |
| 1:C1:5:U:O2' | 1:C1:553:G:O3' | 2.34 | 0.45 |
| 1:C1:28:A:H5" | 1:C1:436:A:O2' | 2.17 | 0.45 |
| 1:C1:92:A:P | 1:C1:398:G:H22 | 2.39 | 0.45 |
| 1:C1:168:A:C3' | 1:C1:169:A:C8 | 3.00 | 0.45 |
| 1:C1:380:U:O2' | 1:C1:381:C:O5' | 2.33 | 0.45 |
| 1:C1:402:C:H2' | 1:C1:402:C:O2 | 2.16 | 0.45 |
| 1:C1:461:G:N1 | 1:C1:462:G:C5 | 2.85 | 0.45 |
| 1:C1:627:C:N4 | 1:C1:628:G:C6 | 2.84 | 0.45 |
| 1:C1:649:U:O2' | 1:C1:650:U:P | 2.75 | 0.45 |
| 1:C1:775:G:C2 | 1:C1:786:C:N3 | 2.85 | 0.45 |
| 1:C1:819:G:N1 | 1:C1:853:G:C2 | 2.84 | 0.45 |
| 1:C1:850:A:C2 | 1:C1:851:U:C2 | 3.05 | 0.45 |
| 1:C1:853:G:C6 | 1:C1:854:U:O4 | 2.70 | 0.45 |
| 1:C1:863:A:N9 | 1:C1:865:A:C8 | 2.85 | 0.45 |
| 1:C1:1097:U:C2' | 1:C1:1098:U:C5' | 2.89 | 0.45 |
| 1:C1:1106:U:C2' | 1:C1:1107:G:H5' | 2.47 | 0.45 |
| 1:C1:1369:U:HO2' | 1:C1:1370:U:C1' | 2.29 | 0.45 |
| 1:C1:1455:G:C5 | 1:C1:1456:C:C4 | 3.04 | 0.45 |
| 1:C1:1458:G:C2 | 1:C1:1459:C:C4 | 3.05 | 0.45 |
| 1:C1:1472:C:O2 | 1:C1:1472:C:H2' | 2.16 | 0.45 |
| 1:C1:1481:C:H6 | 1:C1:1482:C:C2 | 2.34 | 0.45 |
| 1:C1:1481:C:O2' | 1:C1:1482:C:C6 | 2.69 | 0.45 |
| 1:C1:1727:G:H2' | 1:C1:1728:A:C8 | 2.52 | 0.45 |
| 1:C1:1728:A:C4 | 1:C1:1729:C:C6 | 3.04 | 0.45 |
| 2:CA:173:ILE:C | 2:CA:175:TYR:H | 2.25 | 0.45 |
| 4:CC:96:LEU:O | 4:CC:98:ALA:N | 2.50 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 4:CC:128:GLU:C | 4:CC:130:GLY:H | 2.25 | 0.45 |
| 5:CD:174:LEU:O | 5:CD:175:LEU:C | 2.60 | 0.45 |
| 6:CE:61:THR:CB | 6:CE:62:ARG:O | 2.65 | 0.45 |
| 11:CJ:90:VAL:HA | 11:CJ:97:VAL:CB | 2.47 | 0.45 |
| 12:CK:10:LYS:HA | 12:CK:13:SER:CB | 2.46 | 0.45 |
| 14:CM:113:ILE:HA | 14:CM:125:SER:CB | 2.47 | 0.45 |
| 16:CO:53:ILE:N | 16:CO:60:LYS:O | 2.50 | 0.45 |
| 21:CT:92:TRP:HA | 21:CT:100:TYR:CB | 2.47 | 0.45 |
| 29:D1:70:A:C2' | 29:D1:71:A:H5' | 2.46 | 0.45 |
| 29:D1:187:A:H1' | 29:D1:211:A:H61 | 1.72 | 0.45 |
| 29:D1:383:G:C5' | 29:D1:385:A:OP2 | 2.65 | 0.45 |
| 29:D1:412:G:C4 | 29:D1:413:U:C5 | 3.05 | 0.45 |
| 29:D1:421:G:N2 | 29:D1:2365:C:N1 | 2.65 | 0.45 |
| 29:D1:506:U:H2' | 29:D1:507:U:C6 | 2.52 | 0.45 |
| 29:D1:601:U:C2 | 29:D1:602:A:H8 | 2.34 | 0.45 |
| 29:D1:666:A:H2' | 29:D1:667:C:O5' | 2.17 | 0.45 |
| 29:D1:706:A:H2' | 29:D1:707:U:H5' | 1.99 | 0.45 |
| 29:D1:726:G:C2 | 29:D1:727:G:C5 | 3.04 | 0.45 |
| 29:D1:881:C:C2 | 29:D1:1850:A:H8 | 2.34 | 0.45 |
| 29:D1:900:G:N3 | 29:D1:1589:A:N6 | 2.65 | 0.45 |
| 29:D1:920:A:O5' | 29:D1:922:U:O4 | 2.35 | 0.45 |
| 29:D1:986:U:N3 | 29:D1:987:U:C5 | 2.85 | 0.45 |
| 29:D1:993:G:C6 | 29:D1:2637:A:C5 | 3.05 | 0.45 |
| 29:D1:1028:U:H2' | 29:D1:1029:G:C5 | 2.51 | 0.45 |
| 29:D1:1029:G:H2' | 29:D1:1030:A:H5" | 1.99 | 0.45 |
| 29:D1:1029:G:C3' | 29:D1:1030:A:H5' | 2.47 | 0.45 |
| 29:D1:1075:A:C8 | 29:D1:1076:C:C5 | 3.04 | 0.45 |
| 29:D1:1076:C:C5' | 29:D1:1077:U:OP2 | 2.63 | 0.45 |
| 29:D1:1206:G:C2 | 29:D1:1207:G:N7 | 2.85 | 0.45 |
| 29:D1:1225:A:C5 | 29:D1:1226:G:C5 | 3.05 | 0.45 |
| 29:D1:1335:C:C4 | 29:D1:1336:U:C4 | 3.05 | 0.45 |
| 29:D1:1394:A:O2' | 29:D1:1395:G:H5' | 2.17 | 0.45 |
| 29:D1:1479:U:OP2 | 29:D1:1480:G:C2 | 2.70 | 0.45 |
| 29:D1:1517:G:C6 | 29:D1:1518:U:C4 | 3.05 | 0.45 |
| 29:D1:1550:C:O2' | 29:D1:2166:A:N6 | 2.50 | 0.45 |
| 29:D1:1604:G:C6 | 29:D1:1605:A:C6 | 3.04 | 0.45 |
| 29:D1:1718:G:H2' | 29:D1:1719:G:H5' | 1.99 | 0.45 |
| 29:D1:1901:A:H3' | 29:D1:1901:A:N3 | 2.32 | 0.45 |
| 29:D1:1909:A:C6 | 29:D1:1910:A:C4 | 3.05 | 0.45 |
| 29:D1:2173:U:C2' | 29:D1:2174:G:OP1 | 2.64 | 0.45 |
| 29:D1:2191:U:C4 | 29:D1:2192:C:C5 | 3.05 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2280:A:H8 | 29:D1:2280:A:H3' | 1.81 | 0.45 |
| 29:D1:2400:G:O2' | 29:D1:2401:A:C5' | 2.65 | 0.45 |
| 29:D1:2403:G:C8 | 29:D1:2872:A:C5 | 3.05 | 0.45 |
| 29:D1:2590:A:C4 | 29:D1:2591:A:C8 | 3.04 | 0.45 |
| 29:D1:2673:A:C2 | 29:D1:2674:A:N7 | 2.85 | 0.45 |
| 29:D1:2680:A:C6 | 42:DK:56:THR:N | 2.85 | 0.45 |
| 29:D1:2730:G:C6 | 29:D1:2799:A:N6 | 2.82 | 0.45 |
| 29:D1:2743:A:C5 | 29:D1:2744:U:C5 | 3.04 | 0.45 |
| 29:D1:2998:U:OP1 | 29:D1:3396:U:O2 | 2.34 | 0.45 |
| 29:D1:3003:G:O2' | 29:D1:3004:C:H5' | 2.17 | 0.45 |
| 29:D1:3064:U:N3 | 29:D1:3065:G:N7 | 2.64 | 0.45 |
| 29:D1:3086:A:N9 | 29:D1:3087:A:C8 | 2.85 | 0.45 |
| 29:D1:3088:G:H3' | 29:D1:3089:C:H6 | 1.80 | 0.45 |
| 29:D1:3101:G:C2' | 29:D1:3102:G:C5' | 2.76 | 0.45 |
| 29:D1:3153:U:H1' | 29:D1:3395:G:N2 | 2.32 | 0.45 |
| 29:D1:3191:G:N1 | 29:D1:3202:G:N1 | 2.64 | 0.45 |
| 29:D1:3209:A:C2 | 29:D1:3210:A:N1 | 2.79 | 0.45 |
| 29:D1:3236:U:C4 | 29:D1:3237:U:O4 | 2.70 | 0.45 |
| 29:D1:3238:G:C6 | 29:D1:3250:U:N3 | 2.84 | 0.45 |
| 29:D1:3281:U:C2 | 29:D1:3282:U:N3 | 2.85 | 0.45 |
| 29:D1:3302:U:C2' | 29:D1:3303:G:H5" | 2.47 | 0.45 |
| 29:D1:3327:G:H5' | 29:D1:3328:G:OP2 | 2.17 | 0.45 |
| 30:D2:46:A:N3 | 30:D2:46:A:C3' | 2.64 | 0.45 |
| 30:D2:47:C:O2 | 30:D2:47:C:H2' | 2.15 | 0.45 |
| 31:D3:42:G:OP1 | 59:Dd:54:LYS:O | 2.34 | 0.45 |
| 31:D3:79:A:C3' | 31:D3:80:A:H8 | 2.29 | 0.45 |
| 32:DA:54:LYS:CA | 32:DA:55:LEU:CB | 2.95 | 0.45 |
| 36:DE:44:TYR:CA | 36:DE:45:ASN:CB | 2.95 | 0.45 |
| 36:DE:96:ALA:O | 36:DE:99:TYR:N | 2.50 | 0.45 |
| 36:DE:243:ALA:CB | 36:DE:247:ILE:CB | 2.94 | 0.45 |
| 39:DH:99:PRO:HA | 39:DH:236:GLY:H | 1.80 | 0.45 |
| 39:DH:110:THR:O | 39:DH:111:LYS:C | 2.60 | 0.45 |
| 40:DI:66:ALA:O | 40:DI:67:ALA:C | 2.59 | 0.45 |
| 40:DI:157:ASN:O | 40:DI:160:ASP:N | 2.49 | 0.45 |
| 41:DJ:202:LYS:O | 41:DJ:203:LYS:CB | 2.65 | 0.45 |
| 41:DJ:217:PHE:O | 41:DJ:220:GLN:N | 2.49 | 0.45 |
| 45:DP:99:LEU:C | 45:DP:101:ARG:N | 2.73 | 0.45 |
| 46:DQ:44:ALA:O | 46:DQ:46:LYS:N | 2.50 | 0.45 |
| 46:DQ:104:ALA:O | 46:DQ:106:GLY:N | 2.49 | 0.45 |
| 50:DU:121:GLU:O | 50:DU:122:CYS:C | 2.60 | 0.45 |
| 53:DX:28:ARG:O | 53:DX:31:LEU:C | 2.59 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 53:DX:73:VAL:HA | 53:DX:80:VAL:HA | 1.98 | 0.45 |
| 59:Dd:60:GLY:C | 59:Dd:62:GLY:N | 2.75 | 0.45 |
| 62:Dg:58:SER:C | 62:Dg:60:CYS:N | 2.74 | 0.45 |
| 62:Dg:76:ALA:O | 62:Dg:80:ARG:N | 2.37 | 0.45 |
| 1:A1:104:A:C2 | 1:A1:106:U:H1' | 2.52 | 0.45 |
| 1:A1:111:U:O2 | 1:A1:111:U:H2' | 2.16 | 0.45 |
| 1:A1:119:A:C2' | 1:A1:120:U:O5' | 2.65 | 0.45 |
| 1:A1:210:A:H3' | 1:A1:211:U:H5" | 1.98 | 0.45 |
| 1:A1:266:A:O3' | 1:A1:267:U:O4' | 2.35 | 0.45 |
| 1:A1:269:G:C5 | 1:A1:270:C:C5 | 3.05 | 0.45 |
| 1:A1:333:A:C2 | 1:A1:334:G:N3 | 2.85 | 0.45 |
| 1:A1:333:A:N1 | 1:A1:334:G:C6 | 2.85 | 0.45 |
| 1:A1:402:C:C2 | 1:A1:403:G:O4' | 2.70 | 0.45 |
| 1:A1:426:G:C2 | 1:A1:427:C:C6 | 3.04 | 0.45 |
| 1:A1:426:G:H21 | 1:A1:459:G:C2' | 2.30 | 0.45 |
| 1:A1:450:U:C2' | 1:A1:451:A:H8 | 2.29 | 0.45 |
| 1:A1:578:U:H4' | 1:A1:578:U:OP1 | 2.16 | 0.45 |
| 1:A1:825:U:C6 | 1:A1:826:U:C2 | 3.05 | 0.45 |
| 1:A1:840:U:HO2' | 1:A1:841:U:P | 2.39 | 0.45 |
| 1:A1:868:G:H2' | 1:A1:868:G:N3 | 2.32 | 0.45 |
| 1:A1:995:A:H3' | 1:A1:996:U:H6 | 1.82 | 0.45 |
| 1:A1:1086:A:H5' | 3:AB:164:SER:CB | 2.47 | 0.45 |
| 1:A1:1116:A:C6 | 1:A1:1131:A:C8 | 3.04 | 0.45 |
| 1:A1:1131:A:C3' | 1:A1:1132:A:H8 | 2.30 | 0.45 |
| 1:A1:1149:G:O6 | 1:A1:1629:G:C2 | 2.70 | 0.45 |
| 1:A1:1150:G:H2' | 1:A1:1151:A:O4' | 2.16 | 0.45 |
| 1:A1:1215:C:C2' | 1:A1:1216:C:H5' | 2.47 | 0.45 |
| 1:A1:1225:U:C5 | 1:A1:1226:A:C6 | 3.05 | 0.45 |
| 1:A1:1242:A:N1 | 1:A1:1452:U:H1' | 2.32 | 0.45 |
| 1:A1:1257:U:O2' | 1:A1:1258:U:C5' | 2.64 | 0.45 |
| 1:A1:1332:C:O2' | 1:A1:1333:C:P | 2.75 | 0.45 |
| 1:A1:1344:A:C2 | 1:A1:1345:A:H1' | 2.51 | 0.45 |
| 1:A1:1370:U:C4 | 1:A1:1371:A:N7 | 2.85 | 0.45 |
| 1:A1:1471:A:C8 | 1:A1:1540:G:H1' | 2.52 | 0.45 |
| 1:A1:1481:C:H6 | 1:A1:1482:C:N1 | 2.15 | 0.45 |
| 1:A1:1657:U:C4 | 74:A1:1949:OHX:N1 | 2.84 | 0.45 |
| 1:A1:1720:G:C8 | 1:A1:1721:A:C8 | 3.05 | 0.45 |
| 4:AC:10:LYS:O | 4:AC:11:LEU:C | 2.59 | 0.45 |
| 5:AD:218:GLU:C | 5:AD:220:VAL:N | 2.75 | 0.45 |
| 7:AF:89:ALA:O | 7:AF:90:TYR:O | 2.35 | 0.45 |
| 11:AJ:106:LYS:O | 11:AJ:109:PHE:N | 2.50 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 12:AK:11:ARG:O | 12:AK:15:ALA:N | 2.50 | 0.45 |
| 12:AK:27:ASP:C | 12:AK:29:GLN:N | 2.75 | 0.45 |
| 15:AN:43:LYS:C | 15:AN:45:ALA:H | 2.25 | 0.45 |
| 29:B1:47:C:C5 | 29:B1:48:A:C5 | 3.05 | 0.45 |
| 29:B1:53:G:N3 | 29:B1:54:C:C6 | 2.85 | 0.45 |
| 29:B1:64:G:N2 | 29:B1:322:U:C2 | 2.85 | 0.45 |
| 29:B1:84:U:OP1 | 29:B1:701:G:H5" | 2.16 | 0.45 |
| 29:B1:90:C:H4' | 29:B1:282:G:OP1 | 2.17 | 0.45 |
| 29:B1:180:C:H2' | 29:B1:181:U:H6 | 1.82 | 0.45 |
| 29:B1:211:A:O4' | 29:B1:229:G:H1' | 2.17 | 0.45 |
| 29:B1:307:A:H2' | 29:B1:308:A:C5' | 2.47 | 0.45 |
| 29:B1:359:U:O4 | 29:B1:360:G:N1 | 2.50 | 0.45 |
| 29:B1:371:G:C8 | 29:B1:371:G:C3' | 3.00 | 0.45 |
| 29:B1:377:A:O2' | 29:B1:391:A:N6 | 2.45 | 0.45 |
| 29:B1:533:A:O2' | 29:B1:534:U:C2 | 2.57 | 0.45 |
| 29:B1:712:G:C5 | 29:B1:713:U:C5 | 3.05 | 0.45 |
| 29:B1:716:A:C8 | 29:B1:717:C:O4' | 2.70 | 0.45 |
| 29:B1:857:G:C4' | 29:B1:858:A:OP1 | 2.65 | 0.45 |
| 29:B1:942:U:O4 | 74:B1:3492:OHX:N2 | 2.50 | 0.45 |
| 29:B1:947:G:C5 | 29:B1:1373:A:C2 | 3.06 | 0.45 |
| 29:B1:1105:A:N6 | 29:B1:1106:G:C6 | 2.85 | 0.45 |
| 29:B1:1111:U:O2' | 29:B1:1112:A:O5' | 2.24 | 0.45 |
| 29:B1:1489:A:C5' | 29:B1:1490:A:OP2 | 2.65 | 0.45 |
| 29:B1:1539:A:C6 | 29:B1:1540:U:C5 | 3.05 | 0.45 |
| 29:B1:1558:A:H5" | 29:B1:1559:A:O5' | 2.16 | 0.45 |
| 29:B1:1594:A:O2' | 29:B1:1614:C:O2 | 2.34 | 0.45 |
| 29:B1:1816:A:C8 | 29:B1:1816:A:OP2 | 2.70 | 0.45 |
| 29:B1:1924:U:N3 | 29:B1:1926:C:N3 | 2.65 | 0.45 |
| 29:B1:1946:A:H3' | 29:B1:1947:G:H8 | 1.82 | 0.45 |
| 29:B1:1952:G:C6 | 29:B1:2093:A:N6 | 2.85 | 0.45 |
| 29:B1:2137:U:C5 | 29:B1:2142:A:N7 | 2.85 | 0.45 |
| 29:B1:2162:U:H2' | 29:B1:2163:C:O4' | 2.18 | 0.45 |
| 29:B1:2278:C:O2' | 29:B1:2279:A:H5" | 2.16 | 0.45 |
| 29:B1:2651:G:N3 | 29:B1:2796:G:C2 | 2.84 | 0.45 |
| 29:B1:2719:U:C4 | 29:B1:2720:G:C5 | 3.05 | 0.45 |
| 29:B1:2847:A:C5' | 29:B1:2848:G:OP2 | 2.55 | 0.45 |
| 29:B1:2906:C:H2' | 29:B1:2907:G:O4' | 2.17 | 0.45 |
| 29:B1:2914:G:O2' | 29:B1:2933:A:N6 | 2.50 | 0.45 |
| 29:B1:3046:A:C5 | 29:B1:3047:U:C4 | 3.05 | 0.45 |
| 29:B1:3049:A:C2 | 34:BC:75:ALA:CB | 3.00 | 0.45 |
| 29:B1:3221:C:H2' | 29:B1:3222:U:C5' | 2.47 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3293:U:H3' | 29:B1:3293:U:O2 | 2.17 | 0.45 |
| 30:B2:62:U:O2 | 30:B2:62:U:C2' | 2.65 | 0.45 |
| 30:B2:62:U:C5' | 30:B2:63:A:OP2 | 2.65 | 0.45 |
| 30:B2:77:G:C1' | 30:B2:78:U:OP2 | 2.63 | 0.45 |
| 30:B2:106:U:C2 | 30:B2:107:C:C4 | 3.05 | 0.45 |
| 31:B3:24:G:H2' | 31:B3:25:G:O4' | 2.17 | 0.45 |
| 31:B3:42:G:H21 | 31:B3:43:A:H1' | 1.82 | 0.45 |
| 31:B3:64:U:C4 | 31:B3:97:A:C2 | 3.05 | 0.45 |
| 33:BB:121:GLY:O | 33:BB:122:ASP:C | 2.59 | 0.45 |
| 34:BC:174:LYS:O | 34:BC:175:LYS:CB | 2.64 | 0.45 |
| 34:BC:292:ALA:HA | 34:BC:293:ASN:HA | 1.32 | 0.45 |
| 34:BC:334:ARG:O | 34:BC:335:ILE:C | 2.59 | 0.45 |
| 38:BG:183:ASP:O | 38:BG:184:LEU:C | 2.59 | 0.45 |
| 40:BI:29:GLY:O | 40:BI:32:GLY:N | 2.45 | 0.45 |
| 43:BN:58:ILE:N | 43:BN:59:ASN:CB | 2.79 | 0.45 |
| 43:BN:78:THR:C | 43:BN:80:THR:H | 2.25 | 0.45 |
| 44:BO:3:ALA:O | 44:BO:4:TYR:C | 2.59 | 0.45 |
| 44:BO:5:LYS:O | 44:BO:6:TYR:C | 2.58 | 0.45 |
| 45:BP:81:TYR:C | 45:BP:83:ALA:N | 2.75 | 0.45 |
| 48:BS:8:LYS:O | 48:BS:9:ARG:C | 2.60 | 0.45 |
| 48:BS:37:SER:C | 48:BS:39:ASN:H | 2.25 | 0.45 |
| 50:BU:127:PRO:O | 50:BU:130:ALA:N | 2.42 | 0.45 |
| 51:BV:7:SER:O | 51:BV:8:PHE:C | 2.59 | 0.45 |
| 1:C1:55:A:C2 | 1:C1:403:G:C6 | 3.04 | 0.45 |
| 1:C1:61:A:OP2 | 1:C1:453:U:H6 | 2.00 | 0.45 |
| 1:C1:104:A:N1 | 1:C1:106:U:H1' | 2.31 | 0.45 |
| 1:C1:551:G:N3 | 1:C1:552:G:C8 | 2.84 | 0.45 |
| 1:C1:723:G:H2' | 1:C1:724:C:O4' | 2.17 | 0.45 |
| 1:C1:756:A:N6 | 1:C1:757:A:N6 | 2.65 | 0.45 |
| 1:C1:778:G:C2 | 1:C1:783:G:C6 | 3.05 | 0.45 |
| 1:C1:889:U:O2' | 1:C1:890:C:C5' | 2.64 | 0.45 |
| 1:C1:1065:A:C5 | 1:C1:1066:C:C5 | 3.05 | 0.45 |
| 1:C1:1065:A:C6 | 1:C1:1066:C:C4 | 3.05 | 0.45 |
| 1:C1:1087:A:N6 | 1:C1:1088:A:N6 | 2.65 | 0.45 |
| 1:C1:1239:U:H5 | 1:C1:1241:G:O6 | 2.00 | 0.45 |
| 1:C1:1241:G:O3' | 1:C1:1242:A:C8 | 2.67 | 0.45 |
| 1:C1:1254:U:O2' | 1:C1:1255:G:OP2 | 2.35 | 0.45 |
| 1:C1:1294:G:N3 | 1:C1:1295:G:C8 | 2.85 | 0.45 |
| 1:C1:1489:U:H5" | 1:C1:1490:C:OP2 | 2.17 | 0.45 |
| 1:C1:1541:G:C5 | 1:C1:1542:G:O6 | 2.70 | 0.45 |
| 1:C1:1633:A:OP1 | 1:C1:1633:A:C4' | 2.64 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1756:A:C8 | 1:C1:1756:A:H3' | 2.52 | 0.45 |
| 3:CB:57:PHE:O | 3:CB:59:HIS:N | 2.50 | 0.45 |
| 9:CH:57:PRO:CB | 9:CH:60:ALA:HB3 | 2.47 | 0.45 |
| 10:CI:125:PRO:O | 10:CI:127:ARG:N | 2.50 | 0.45 |
| 11:CJ:48:VAL:C | 11:CJ:50:GLU:N | 2.73 | 0.45 |
| 11:CJ:102:LYS:C | 11:CJ:104:GLU:H | 2.24 | 0.45 |
| 14:CM:35:ASP:O | 14:CM:36:ILE:CB | 2.64 | 0.45 |
| 16:CO:17:ALA:C | 16:CO:19:LYS:N | 2.75 | 0.45 |
| 21:CT:63:GLY:O | 21:CT:64:HIS:C | 2.59 | 0.45 |
| 24:Cc:43:UNK:HA | 24:Cc:70:UNK:O | 2.15 | 0.45 |
| 29:D1:199:A:N1 | 29:D1:201:A:H1' | 2.32 | 0.45 |
| 29:D1:232:G:H2' | 29:D1:233:C:H6 | 1.82 | 0.45 |
| 29:D1:264:G:C6 | 29:D1:265:A:C5 | 3.03 | 0.45 |
| 29:D1:303:G:C2 | 29:D1:2778:G:C8 | 3.04 | 0.45 |
| 29:D1:385:A:C2' | 29:D1:386:A:O5' | 2.65 | 0.45 |
| 29:D1:413:U:C2 | 29:D1:414:U:C5 | 3.04 | 0.45 |
| 29:D1:547:G:C8 | 29:D1:548:G:C4 | 3.05 | 0.45 |
| 29:D1:556:U:C5 | 29:D1:557:A:H2 | 2.35 | 0.45 |
| 29:D1:703:G:HO2' | 29:D1:787:G:HO2' | 1.55 | 0.45 |
| 29:D1:752:C:C6 | 29:D1:753:C:H5 | 2.35 | 0.45 |
| 29:D1:773:G:O2' | 29:D1:774:G:C8 | 2.26 | 0.45 |
| 29:D1:859:G:N2 | 29:D1:861:C:C1' | 2.77 | 0.45 |
| 29:D1:880:G:C4 | 29:D1:882:A:N7 | 2.85 | 0.45 |
| 29:D1:1103:A:O4' | 29:D1:1103:A:OP1 | 2.35 | 0.45 |
| 29:D1:1194:G:O4' | 29:D1:1319:G:O3' | 2.35 | 0.45 |
| 29:D1:1650:G:H2' | 29:D1:1651:U:C6 | 2.52 | 0.45 |
| 29:D1:1687:U:O2' | 29:D1:1688:U:H4' | 2.17 | 0.45 |
| 29:D1:1779:C:C5' | 29:D1:1780:G:H5" | 2.47 | 0.45 |
| 29:D1:1798:A:N1 | 29:D1:1799:A:C6 | 2.85 | 0.45 |
| 29:D1:2417:U:C4 | 29:D1:2606:G:N7 | 2.84 | 0.45 |
| 29:D1:2594:C:C6 | 29:D1:2595:A:N7 | 2.85 | 0.45 |
| 29:D1:2673:A:O3' | 42:DK:106:ILE:O | 2.35 | 0.45 |
| 29:D1:2680:A:C8 | 42:DK:54:VAL:CB | 2.99 | 0.45 |
| 29:D1:2688:U:C2' | 29:D1:2689:A:OP1 | 2.64 | 0.45 |
| 29:D1:2798:C:O5' | 29:D1:2799:A:OP1 | 2.35 | 0.45 |
| 29:D1:2917:G:O6 | 29:D1:2930:A:C6 | 2.70 | 0.45 |
| 29:D1:2980:U:H2' | 29:D1:2981:U:C5' | 2.46 | 0.45 |
| 29:D1:2983:C:O2' | 29:D1:2984:C:H5' | 2.17 | 0.45 |
| 29:D1:2987:A:C6 | 29:D1:2988:C:N4 | 2.85 | 0.45 |
| 29:D1:3021:A:O4' | 29:D1:3023:U:C2 | 2.69 | 0.45 |
| 29:D1:3059:G:C8 | 29:D1:3059:G:C5' | 2.99 | 0.45 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3065:G:H2' | 29:D1:3066:U:C6 | 2.52 | 0.45 |
| 29:D1:3117:C:C4 | 29:D1:3118:C:C5 | 3.05 | 0.45 |
| 29:D1:3136:G:C2 | 29:D1:3137:C:C6 | 3.05 | 0.45 |
| 29:D1:3370:A:H2' | 29:D1:3370:A:N3 | 2.31 | 0.45 |
| 30:D2:88:G:C4 | 30:D2:89:G:C8 | 3.04 | 0.45 |
| 31:D3:25:G:H2' | 31:D3:26:U:O5' | 2.17 | 0.45 |
| 31:D3:43:A:C4 | 31:D3:44:A:C8 | 3.05 | 0.45 |
| 31:D3:143:U:H2' | 31:D3:144:G:H8 | 1.80 | 0.45 |
| 34:DC:44:THR:O | 34:DC:45:SER:CB | 2.65 | 0.45 |
| 38:DG:153:PHE:O | 38:DG:154:GLY:O | 2.35 | 0.45 |
| 73:DM:36:GLN:O | 73:DM:38:MET:N | 2.50 | 0.45 |
| 44:DO:84:PRO:CA | 74:DO:301:OHX:N6 | 2.77 | 0.45 |
| 45:DP:49:ARG:O | 45:DP:50:ASN:C | 2.60 | 0.45 |
| 48:DS:86:GLU:O | 48:DS:89:LEU:O | 2.34 | 0.45 |
| 49:DT:11:THR:O | 49:DT:12:ARG:C | 2.59 | 0.45 |
| 52:DW:54:TYR:O | 52:DW:56:ARG:N | 2.47 | 0.45 |
| 54:DY:135:GLU:O | 54:DY:137:LYS:N | 2.50 | 0.45 |
| 58:Dc:38:ARG:CB | 58:Dc:39:PRO:CA | 2.88 | 0.45 |
| 59:Dd:21:ARG:O | 74:Dd:101:OHX:N3 | 2.50 | 0.45 |
| 1:A1:36:C:N3 | 1:A1:472:U:O4 | 2.49 | 0.44 |
| 1:A1:221:A:N7 | 1:A1:832:U:O4 | 2.50 | 0.44 |
| 1:A1:321:C:H2' | 1:A1:322:G:H5' | 1.96 | 0.44 |
| 1:A1:379:U:O3' | 1:A1:379:U:OP1 | 2.35 | 0.44 |
| 1:A1:438:A:O5' | 1:A1:438:A:C8 | 2.69 | 0.44 |
| 1:A1:518:A:C3' | 1:A1:519:C:C5' | 2.95 | 0.44 |
| 1:A1:568:G:N1 | 1:A1:569:C:C4 | 2.86 | 0.44 |
| 1:A1:642:G:C6 | 1:A1:643:G:C6 | 3.05 | 0.44 |
| 1:A1:643:G:C2 | 1:A1:692:C:C4 | 3.05 | 0.44 |
| 1:A1:831:U:H5' | 1:A1:832:U:OP2 | 2.17 | 0.44 |
| 1:A1:862:A:C8 | 1:A1:963:A:N6 | 2.85 | 0.44 |
| 1:A1:960:U:C2' | 1:A1:961:U:H5' | 2.47 | 0.44 |
| 1:A1:1203:A:C2 | 1:A1:1556:A:C1' | 2.92 | 0.44 |
| 1:A1:1346:A:O4' | 1:A1:1346:A:OP1 | 2.34 | 0.44 |
| 1:A1:1358:G:O2' | 14:AM:129:GLN:C | 2.60 | 0.44 |
| 1:A1:1428:G:C2 | 1:A1:1429:G:C5 | 3.04 | 0.44 |
| 1:A1:1584:G:N7 | 11:AJ:123:ARG:O | 2.50 | 0.44 |
| 1:A1:1783:C:N4 | 1:A1:1784:C:N4 | 2.66 | 0.44 |
| 4:AC:11:LEU:O | 4:AC:12:VAL:C | 2.59 | 0.44 |
| 5:AD:182:ALA:C | 5:AD:184:PHE:H | 2.25 | 0.44 |
| 13:AL:108:LYS:O | 13:AL:111:ASP:CB | 2.65 | 0.44 |
| 14:AM:126:GLU:O | 14:AM:127:ASN:C | 2.60 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 15:AN:15:GLN:O | 15:AN:17:GLN:HA | 2.17 | 0.44 |
| 29:B1:34:A:H5' | 29:B1:35:A:OP2 | 2.16 | 0.44 |
| 29:B1:40:A:N6 | 29:B1:937:G:C2 | 2.85 | 0.44 |
| 29:B1:41:G:H4' | 29:B1:2410:U:H2' | 1.99 | 0.44 |
| 29:B1:72:C:C5 | 29:B1:73:C:N1 | 2.85 | 0.44 |
| 29:B1:171:G:H2' | 29:B1:172:G:O5' | 2.17 | 0.44 |
| 29:B1:252:U:H4' | 29:B1:253:A:OP2 | 2.17 | 0.44 |
| 29:B1:394:G:H2' | 29:B1:395:A:O5' | 2.17 | 0.44 |
| 29:B1:409:A:OP2 | 29:B1:410:U:C5 | 2.71 | 0.44 |
| 29:B1:532:A:OP2 | 29:B1:533:A:N6 | 2.49 | 0.44 |
| 29:B1:585:A:H5" | 29:B1:586:C:P | 2.58 | 0.44 |
| 29:B1:600:G:N7 | 74:B1:3620:OHX:N2 | 2.65 | 0.44 |
| 29:B1:641:C:O2' | 29:B1:642:U:P | 2.75 | 0.44 |
| 29:B1:652:G:H2' | 29:B1:2361:A:H5" | 1.99 | 0.44 |
| 29:B1:706:A:H4' | 29:B1:783:A:O2' | 2.18 | 0.44 |
| 29:B1:769:G:N3 | 29:B1:770:G:N9 | 2.66 | 0.44 |
| 29:B1:943:U:H5' | 29:B1:943:U:H6 | 1.82 | 0.44 |
| 29:B1:953:G:O3' | 29:B1:954:U:O4' | 2.35 | 0.44 |
| 29:B1:998:A:C2' | 29:B1:999:G:C5' | 2.93 | 0.44 |
| 29:B1:1029:G:C3' | 29:B1:1030:A:H5' | 2.48 | 0.44 |
| 29:B1:1057:A:C6 | 29:B1:1058:U:C5 | 3.05 | 0.44 |
| 29:B1:1077:U:N3 | 29:B1:1083:G:N2 | 2.65 | 0.44 |
| 29:B1:1189:C:N4 | 29:B1:1316:C:OP2 | 2.47 | 0.44 |
| 29:B1:1213:G:H2' | 29:B1:1214:U:O5' | 2.17 | 0.44 |
| 29:B1:1246:G:C2 | 29:B1:1265:U:C5 | 3.06 | 0.44 |
| 29:B1:1315:U:O2' | 29:B1:1316:C:C5' | 2.65 | 0.44 |
| 29:B1:1508:C:C2' | 29:B1:1509:A:H5' | 2.46 | 0.44 |
| 29:B1:1511:U:H5' | 29:B1:1512:U:H5 | 1.81 | 0.44 |
| 29:B1:1549:U:H2' | 29:B1:1550:C:C6 | 2.52 | 0.44 |
| 29:B1:1561:G:C5 | 29:B1:1562:C:C5 | 3.05 | 0.44 |
| 29:B1:1571:A:N3 | 29:B1:1571:A:H2' | 2.31 | 0.44 |
| 29:B1:1783:U:H2' | 29:B1:1784:G:C8 | 2.53 | 0.44 |
| 29:B1:1907:C:H3' | 29:B1:1907:C:C6 | 2.49 | 0.44 |
| 29:B1:2107:A:O2' | 29:B1:2108:C:H5' | 2.17 | 0.44 |
| 29:B1:2249:G:H2' | 29:B1:2250:G:O4' | 2.16 | 0.44 |
| 29:B1:2252:A:N1 | 29:B1:2253:G:C6 | 2.85 | 0.44 |
| 29:B1:2295:A:H2' | 29:B1:2296:A:C8 | 2.52 | 0.44 |
| 29:B1:2514:U:O2' | 29:B1:2515:A:H8 | 2.01 | 0.44 |
| 29:B1:2615:G:H2' | 29:B1:2616:C:C6 | 2.52 | 0.44 |
| 29:B1:2672:G:H4' | 42:BK:104:PHE:C | 2.42 | 0.44 |
| 29:B1:2690:G:OP2 | 29:B1:2691:A:N7 | 2.50 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2694:A:C5' | 29:B1:2695:A:OP2 | 2.65 | 0.44 |
| 29:B1:2717:U:O4 | 29:B1:2740:A:C6 | 2.70 | 0.44 |
| 29:B1:2718:U:OP2 | 74:B1:3592:OHX:N5 | 2.50 | 0.44 |
| 29:B1:2808:A:N3 | 29:B1:2808:A:H2' | 2.31 | 0.44 |
| 29:B1:2847:A:C8 | 29:B1:2898:G:C5 | 3.05 | 0.44 |
| 29:B1:2894:C:H2' | 29:B1:2895:G:C8 | 2.48 | 0.44 |
| 29:B1:2900:A:O2' | 29:B1:2901:G:O5' | 2.35 | 0.44 |
| 29:B1:3202:G:C2 | 29:B1:3203:U:O2 | 2.70 | 0.44 |
| 29:B1:3202:G:N1 | 29:B1:3203:U:N3 | 2.65 | 0.44 |
| 29:B1:3207:U:H3' | 29:B1:3208:G:H5' | 1.99 | 0.44 |
| 30:B2:4:U:C2 | 30:B2:118:A:C2 | 3.05 | 0.44 |
| 30:B2:82:G:C5 | 30:B2:99:G:N1 | 2.86 | 0.44 |
| 31:B3:9:A:C2 | 31:B3:10:A:N7 | 2.85 | 0.44 |
| 31:B3:69:U:H2' | 31:B3:70:G:C3' | 2.47 | 0.44 |
| 34:BC:122:TRP:HA | 34:BC:128:LYS:O | 2.16 | 0.44 |
| 34:BC:301:THR:HA | 34:BC:302:LYS:HA | 1.59 | 0.44 |
| 35:BD:123:ALA:C | 35:BD:125:ALA:N | 2.71 | 0.44 |
| 39:BH:217:THR:O | 39:BH:220:ALA:HB3 | 2.17 | 0.44 |
| 43:BN:26:GLY:O | 43:BN:27:GLN:C | 2.60 | 0.44 |
| 45:BP:49:ARG:O | 45:BP:52:LEU:N | 2.50 | 0.44 |
| 45:BP:95:GLY:C | 45:BP:97:ALA:N | 2.75 | 0.44 |
| 1:C1:143:G:H2' | 1:C1:144:U:O2' | 2.16 | 0.44 |
| 1:C1:380:U:C2' | 1:C1:381:C:C6 | 2.80 | 0.44 |
| 1:C1:542:A:H2' | 1:C1:544:A:H5" | 1.98 | 0.44 |
| 1:C1:601:A:C5 | 1:C1:602:U:C5 | 3.04 | 0.44 |
| 1:C1:649:U:C6 | 1:C1:650:U:C5 | 3.05 | 0.44 |
| 1:C1:718:U:H4' | 1:C1:719:U:OP2 | 2.16 | 0.44 |
| 1:C1:733:A:C4 | 1:C1:734:A:C8 | 3.05 | 0.44 |
| 1:C1:886:U:H2' | 9:CH:122:PRO:CB | 2.47 | 0.44 |
| 1:C1:900:A:C4' | 1:C1:916:U:H1' | 2.46 | 0.44 |
| 1:C1:903:U:O2 | 1:C1:906:A:N7 | 2.50 | 0.44 |
| 1:C1:915:A:N7 | 1:C1:916:U:N3 | 2.64 | 0.44 |
| 1:C1:964:U:O4' | 1:C1:965:U:C2 | 2.70 | 0.44 |
| 1:C1:1045:C:N4 | 1:C1:1074:G:H1 | 2.15 | 0.44 |
| 1:C1:1228:G:H2' | 1:C1:1228:G:N3 | 2.32 | 0.44 |
| 1:C1:1354:G:C5 | 1:C1:1355:C:C5 | 3.05 | 0.44 |
| 1:C1:1373:C:O2 | 1:C1:1373:C:C2' | 2.64 | 0.44 |
| 1:C1:1390:U:C1' | 1:C1:1413:U:C2 | 3.00 | 0.44 |
| 1:C1:1428:G:C2 | 1:C1:1429:G:N7 | 2.85 | 0.44 |
| 1:C1:1605:G:H2' | 1:C1:1606:C:H5' | 1.99 | 0.44 |
| 1:C1:1634:C:O5' | 1:C1:1634:C:N1 | 2.50 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1744:A:N6 | 1:C1:1745:G:C6 | 2.85 | 0.44 |
| 2:CA:13:ASP:N | 2:CA:17:LEU:CB | 2.81 | 0.44 |
| 2:CA:74:VAL:O | 2:CA:121:VAL:HA | 2.16 | 0.44 |
| 3:CB:57:PHE:C | 3:CB:59:HIS:H | 2.24 | 0.44 |
| 3:CB:147:ASN:C | 3:CB:149:GLY:N | 2.75 | 0.44 |
| 4:CC:162:GLN:O | 4:CC:163:PRO:C | 2.60 | 0.44 |
| 11:CJ:62:ASN:O | 11:CJ:63:ILE:CB | 2.63 | 0.44 |
| 12:CK:66:VAL:O | 12:CK:67:ARG:C | 2.59 | 0.44 |
| 13:CL:114:GLU:O | 13:CL:115:ARG:C | 2.60 | 0.44 |
| 21:CT:27:ALA:O | 21:CT:28:GLY:C | 2.59 | 0.44 |
| 21:CT:257:ALA:C | 21:CT:259:GLY:H | 2.23 | 0.44 |
| 29:D1:18:G:O2' | 29:D1:19:U:H5' | 2.17 | 0.44 |
| 29:D1:22:G:N1 | 31:D3:35:C:N3 | 2.62 | 0.44 |
| 29:D1:23:A:C2 | 29:D1:24:G:N9 | 2.85 | 0.44 |
| 29:D1:246:U:H3' | 29:D1:247:C:C5' | 2.42 | 0.44 |
| 29:D1:309:U:C5 | 29:D1:310:U:C5 | 3.04 | 0.44 |
| 29:D1:382:U:C4 | 29:D1:383:G:N9 | 2.86 | 0.44 |
| 29:D1:539:C:O2 | 29:D1:539:C:C2' | 2.63 | 0.44 |
| 29:D1:559:A:H2' | 29:D1:560:G:H8 | 1.82 | 0.44 |
| 29:D1:584:G:C2 | 29:D1:585:A:C5 | 3.05 | 0.44 |
| 29:D1:608:A:C6 | 29:D1:609:G:C5 | 3.05 | 0.44 |
| 29:D1:937:G:OP2 | 54:DY:24:LYS:CB | 2.65 | 0.44 |
| 29:D1:965:A:N3 | 29:D1:965:A:C2' | 2.76 | 0.44 |
| 29:D1:1169:A:N1 | 29:D1:1330:A:C5 | 2.85 | 0.44 |
| 29:D1:1205:A:C6 | 29:D1:1206:G:C5 | 3.05 | 0.44 |
| 29:D1:1224:C:C4 | 29:D1:1285:G:N1 | 2.85 | 0.44 |
| 29:D1:1237:G:OP1 | 29:D1:1237:G:H3' | 2.17 | 0.44 |
| 29:D1:1354:G:H2' | 29:D1:1355:A:C4 | 2.52 | 0.44 |
| 29:D1:1393:A:N7 | 29:D1:1418:A:C4 | 2.85 | 0.44 |
| 29:D1:1498:A:C2 | 29:D1:1519:G:C2 | 3.05 | 0.44 |
| 29:D1:1557:A:C4 | 29:D1:1558:A:H1' | 2.52 | 0.44 |
| 29:D1:1750:A:C2' | 29:D1:1751:G:OP1 | 2.65 | 0.44 |
| 29:D1:1922:A:N7 | 29:D1:1923:C:C5 | 2.85 | 0.44 |
| 29:D1:1945:A:C6 | 29:D1:2104:A:C6 | 3.05 | 0.44 |
| 29:D1:2141:U:O2 | 29:D1:2956:A:C6 | 2.70 | 0.44 |
| 29:D1:2144:A:C2 | 29:D1:2281:A:N7 | 2.83 | 0.44 |
| 29:D1:2179:C:O2 | 29:D1:2179:C:O2' | 2.35 | 0.44 |
| 29:D1:2206:G:N2 | 29:D1:2207:A:C8 | 2.85 | 0.44 |
| 29:D1:2794:G:C2 | 29:D1:2795:U:C2 | 3.05 | 0.44 |
| 29:D1:2808:A:N3 | 29:D1:2808:A:H2' | 2.32 | 0.44 |
| 29:D1:2851:A:C2' | 29:D1:2852:C:O4' | 2.56 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2908:G:C2' | 29:D1:2909:U:O5' | 2.66 | 0.44 |
| 29:D1:2948:C:C2 | 29:D1:2949:U:C5 | 3.05 | 0.44 |
| 29:D1:2997:G:N2 | 29:D1:2998:U:H4' | 2.31 | 0.44 |
| 29:D1:3003:G:N3 | 29:D1:3004:C:C5 | 2.84 | 0.44 |
| 29:D1:3079:U:O2' | 29:D1:3080:G:P | 2.75 | 0.44 |
| 29:D1:3203:U:C2' | 29:D1:3204:C:N1 | 2.80 | 0.44 |
| 29:D1:3220:G:N2 | 29:D1:3221:C:C5 | 2.85 | 0.44 |
| 29:D1:3245:A:O2' | 29:D1:3246:G:O5' | 2.36 | 0.44 |
| 30:D2:22:A:C6 | 30:D2:23:A:N1 | 2.85 | 0.44 |
| 30:D2:31:U:C5 | 30:D2:32:U:C5 | 3.05 | 0.44 |
| 31:D3:54:A:H2' | 31:D3:55:U:O5' | 2.16 | 0.44 |
| 31:D3:102:U:O4 | 31:D3:103:G:C6 | 2.70 | 0.44 |
| 33:DB:91:GLY:O | 33:DB:93:LYS:N | 2.50 | 0.44 |
| 34:DC:132:LYS:O | 34:DC:134:SER:N | 2.46 | 0.44 |
| 34:DC:289:ASP:CB | 34:DC:290:ASP:CB | 2.95 | 0.44 |
| 34:DC:289:ASP:CA | 34:DC:290:ASP:CB | 2.95 | 0.44 |
| 35:DD:89:ALA:O | 35:DD:91:GLY:N | 2.50 | 0.44 |
| 35:DD:175:HIS:O | 35:DD:176:SER:C | 2.59 | 0.44 |
| 36:DE:199:ILE:O | 36:DE:201:GLY:N | 2.50 | 0.44 |
| 38:DG:48:ASN:C | 38:DG:49:ALA:O | 2.60 | 0.44 |
| 42:DK:76:ALA:C | 42:DK:78:GLU:N | 2.73 | 0.44 |
| 45:DP:184:THR:O | 45:DP:187:GLU:CB | 2.65 | 0.44 |
| 48:DS:18:GLY:C | 48:DS:20:ARG:N | 2.75 | 0.44 |
| 48:DS:35:ALA:HB1 | 48:DS:40:ALA:HB1 | 1.98 | 0.44 |
| 49:DT:101:CYS:C | 49:DT:103:GLN:H | 2.24 | 0.44 |
| 49:DT:110:LYS:O | 49:DT:111:ALA:C | 2.59 | 0.44 |
| 49:DT:112:ASN:C | 49:DT:114:ALA:N | 2.75 | 0.44 |
| 61:Df:33:ALA:O | 61:Df:34:SER:C | 2.59 | 0.44 |
| 64:Di:8:UNK:O | 64:Di:10:UNK:N | 2.50 | 0.44 |
| 1:A1:17:C:N3 | 1:A1:18:C:C5 | 2.86 | 0.44 |
| 1:A1:63:G:C6 | 1:A1:64:U:C5 | 3.05 | 0.44 |
| 1:A1:202:A:C5 | 1:A1:203:U:O4 | 2.70 | 0.44 |
| 1:A1:361:C:C4 | 1:A1:384:G:C2 | 3.05 | 0.44 |
| 1:A1:363:G:N1 | 1:A1:382:C:C4 | 2.85 | 0.44 |
| 1:A1:413:U:C2 | 1:A1:421:A:C2 | 3.06 | 0.44 |
| 1:A1:439:U:O2' | 1:A1:440:U:H4' | 2.17 | 0.44 |
| 1:A1:929:A:C6 | 1:A1:930:A:C4 | 3.05 | 0.44 |
| 1:A1:1109:G:C6 | 1:A1:1110:G:N7 | 2.86 | 0.44 |
| 1:A1:1170:G:C6 | 1:A1:1574:G:C6 | 3.06 | 0.44 |
| 1:A1:1174:C:H4' | 1:A1:1601:G:C5 | 2.52 | 0.44 |
| 1:A1:1276:U:H5' | 4:AC:147:ALA:CB | 2.47 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1324:G:C6 | 1:A1:1325:A:C8 | 3.04 | 0.44 |
| 1:A1:1346:A:H2' | 1:A1:1347:U:O5' | 2.18 | 0.44 |
| 1:A1:1543:A:H2 | 1:A1:1544:U:H1' | 1.81 | 0.44 |
| 1:A1:1567:U:C2' | 1:A1:1568:C:O4' | 2.64 | 0.44 |
| 1:A1:1629:G:C2' | 1:A1:1630:U:O4' | 2.64 | 0.44 |
| 1:A1:1684:U:C4 | 1:A1:1721:A:C2 | 2.98 | 0.44 |
| 1:A1:1717:G:C6 | 1:A1:1718:G:C2 | 3.04 | 0.44 |
| 1:A1:1765:A:OP1 | 74:A1:1931:OHX:N3 | 2.50 | 0.44 |
| 2:AA:175:TYR:O | 2:AA:177:LEU:N | 2.50 | 0.44 |
| 4:AC:27:ARG:O | 4:AC:28:GLU:C | 2.60 | 0.44 |
| 6:AE:96:VAL:C | 6:AE:98:ALA:N | 2.75 | 0.44 |
| 6:AE:103:ASP:C | 6:AE:105:LEU:N | 2.74 | 0.44 |
| 11:AJ:80:ALA:C | 11:AJ:82:ARG:N | 2.75 | 0.44 |
| 12:AK:19:ARG:O | 12:AK:20:TYR:C | 2.60 | 0.44 |
| 21:AT:282:SER:C | 21:AT:284:ALA:H | 2.20 | 0.44 |
| 21:AT:307:ASP:C | 21:AT:309:VAL:H | 2.24 | 0.44 |
| 24:Ac:51:UNK:CA | 24:Ac:65:UNK:HA | 2.35 | 0.44 |
| 29:B1:44:U:OP2 | 44:BO:83:LYS:CB | 2.66 | 0.44 |
| 29:B1:170:G:N2 | 29:B1:171:G:H1' | 2.33 | 0.44 |
| 29:B1:396:A:C4' | 29:B1:397:A:OP1 | 2.65 | 0.44 |
| 29:B1:425:G:C6 | 29:B1:635:G:N1 | 2.85 | 0.44 |
| 29:B1:436:A:H2' | 29:B1:437:G:O4' | 2.18 | 0.44 |
| 29:B1:510:G:N1 | 29:B1:511:G:C4 | 2.85 | 0.44 |
| 29:B1:512:U:O2 | 29:B1:579:G:C2 | 2.69 | 0.44 |
| 29:B1:612:U:C1' | 29:B1:613:G:N7 | 2.75 | 0.44 |
| 29:B1:618:C:C2' | 29:B1:619:A:C8 | 2.73 | 0.44 |
| 29:B1:636:C:O2' | 29:B1:637:C:O5' | 2.35 | 0.44 |
| 29:B1:656:A:H5' | 29:B1:657:A:OP2 | 2.17 | 0.44 |
| 29:B1:674:G:H2' | 29:B1:675:C:O4' | 2.18 | 0.44 |
| 29:B1:682:U:O5' | 29:B1:683:U:OP2 | 2.35 | 0.44 |
| 29:B1:756:U:C4 | 29:B1:757:C:C5 | 3.05 | 0.44 |
| 29:B1:763:G:N7 | 29:B1:764:U:C2 | 2.85 | 0.44 |
| 29:B1:779:G:H2' | 29:B1:780:A:O4' | 2.18 | 0.44 |
| 29:B1:844:G:H5" | 29:B1:845:G:P | 2.57 | 0.44 |
| 29:B1:947:G:N3 | 29:B1:948:C:C6 | 2.86 | 0.44 |
| 29:B1:986:U:N3 | 29:B1:1099:A:C2 | 2.84 | 0.44 |
| 29:B1:1121:U:H2' | 29:B1:1122:U:C6 | 2.52 | 0.44 |
| 29:B1:1130:A:C8 | 29:B1:1132:C:C6 | 3.05 | 0.44 |
| 29:B1:1158:A:N3 | 29:B1:1158:A:H2' | 2.32 | 0.44 |
| 29:B1:1178:G:N7 | 29:B1:1179:A:N1 | 2.66 | 0.44 |
| 29:B1:1453:A:H2 | 74:B1:3561:OHX:N5 | 2.15 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1621:A:H2' | 29:B1:1622:U:C5 | 2.49 | 0.44 |
| 29:B1:1626:U:C2' | 29:B1:1627:U:O4' | 2.66 | 0.44 |
| 29:B1:1656:A:O4' | 29:B1:1657:C:C5 | 2.70 | 0.44 |
| 29:B1:2119:A:C4 | 29:B1:2120:A:H2 | 2.35 | 0.44 |
| 29:B1:2185:G:C6 | 29:B1:2186:U:C5 | 3.05 | 0.44 |
| 29:B1:2218:G:C4 | 29:B1:2228:A:C2 | 3.06 | 0.44 |
| 29:B1:2222:A:H61 | 29:B1:2783:U:C5' | 2.30 | 0.44 |
| 29:B1:2253:G:C3' | 29:B1:2254:U:C6 | 2.97 | 0.44 |
| 29:B1:2430:A:H2' | 29:B1:2431:C:H6 | 1.82 | 0.44 |
| 29:B1:2441:A:H3' | 29:B1:2442:G:H8 | 1.83 | 0.44 |
| 29:B1:2632:G:C6 | 29:B1:2633:U:C4 | 3.05 | 0.44 |
| 29:B1:2679:A:OP2 | 29:B1:2679:A:C4' | 2.65 | 0.44 |
| 29:B1:2688:U:O2 | 29:B1:2688:U:H2' | 2.18 | 0.44 |
| 29:B1:2889:C:C2' | 29:B1:2890:A:H5' | 2.47 | 0.44 |
| 29:B1:2909:U:H2' | 29:B1:2910:A:H5' | 1.99 | 0.44 |
| 29:B1:2918:G:N3 | 29:B1:2919:A:H8 | 2.11 | 0.44 |
| 29:B1:3110:C:C2' | 29:B1:3111:U:H5' | 2.46 | 0.44 |
| 29:B1:3115:C:O2' | 29:B1:3117:C:H5 | 2.00 | 0.44 |
| 29:B1:3142:A:H2 | 74:B1:3428:OHX:N5 | 2.15 | 0.44 |
| 29:B1:3191:G:C2 | 29:B1:3202:G:N3 | 2.86 | 0.44 |
| 29:B1:3202:G:H2' | 29:B1:3203:U:C6 | 2.52 | 0.44 |
| 29:B1:3212:C:C5 | 29:B1:3213:A:C2 | 3.05 | 0.44 |
| 29:B1:3265:C:C5 | 29:B1:3266:G:N7 | 2.85 | 0.44 |
| 29:B1:3329:U:O4 | 29:B1:3374:U:C4 | 2.71 | 0.44 |
| 29:B1:3332:U:C2' | 29:B1:3333:G:OP2 | 2.65 | 0.44 |
| 29:B1:3374:U:C2 | 29:B1:3375:A:C2 | 3.06 | 0.44 |
| 74:B1:3536:OHX:N6 | 44:BO:84:PRO:HA | 2.31 | 0.44 |
| 30:B2:11:A:O2' | 30:B2:68:C:H5' | 2.17 | 0.44 |
| 30:B2:121:U:C3' | 36:BE:263:GLU:O | 2.65 | 0.44 |
| 31:B3:29:U:N3 | 31:B3:30:C:H5 | 2.14 | 0.44 |
| 31:B3:42:G:N2 | 31:B3:43:A:N9 | 2.66 | 0.44 |
| 31:B3:130:C:H2' | 31:B3:131:A:C8 | 2.52 | 0.44 |
| 36:BE:185:PHE:CB | 36:BE:186:GLU:CA | 2.95 | 0.44 |
| 36:BE:204:VAL:O | 36:BE:207:TYR:N | 2.50 | 0.44 |
| 39:BH:215:VAL:O | 39:BH:219:ASP:CB | 2.65 | 0.44 |
| 40:BI:65:VAL:O | 40:BI:66:ALA:C | 2.60 | 0.44 |
| 42:BK:94:ARG:HA | 42:BK:95:ASN:HA | 1.72 | 0.44 |
| 44:BO:49:ARG:C | 44:BO:51:LEU:N | 2.73 | 0.44 |
| 45:BP:58:LEU:CB | 45:BP:72:HIS:HA | 2.47 | 0.44 |
| 49:BT:71:SER:O | 49:BT:72:VAL:C | 2.60 | 0.44 |
| 51:BV:41:LYS:O | 51:BV:43:ARG:N | 2.47 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:16:G:N2 | 1:C1:17:C:N3 | 2.65 | 0.44 |
| 1:C1:97:C:C5 | 1:C1:98:U:C5 | 3.05 | 0.44 |
| 1:C1:106:U:H2' | 1:C1:107:C:O4' | 2.17 | 0.44 |
| 1:C1:124:A:H2' | 1:C1:124:A:N3 | 2.32 | 0.44 |
| 1:C1:139:C:H2' | 1:C1:139:C:O2 | 2.17 | 0.44 |
| 1:C1:217:A:C1' | 1:C1:218:A:C5' | 2.96 | 0.44 |
| 1:C1:243:G:N2 | 1:C1:251:A:C4 | 2.85 | 0.44 |
| 1:C1:243:G:H5" | 1:C1:243:G:H8 | 1.81 | 0.44 |
| 1:C1:254:A:N3 | 1:C1:254:A:H2' | 2.32 | 0.44 |
| 1:C1:310:C:C5' | 1:C1:310:C:H6 | 2.29 | 0.44 |
| 1:C1:451:A:N3 | 1:C1:451:A:H2' | 2.32 | 0.44 |
| 1:C1:487:G:N3 | 1:C1:488:G:N7 | 2.65 | 0.44 |
| 1:C1:735:C:N3 | 1:C1:736:C:N4 | 2.64 | 0.44 |
| 1:C1:1236:A:C2 | 1:C1:1237:G:C4 | 3.04 | 0.44 |
| 1:C1:1390:U:C2' | 1:C1:1391:A:OP2 | 2.63 | 0.44 |
| 1:C1:1609:U:H3' | 1:C1:1610:G:H8 | 1.82 | 0.44 |
| 2:CA:197:ILE:O | 2:CA:198:MET:C | 2.60 | 0.44 |
| 2:CA:210:VAL:O | 2:CA:212:GLN:N | 2.49 | 0.44 |
| 3:CB:43:ARG:O | 3:CB:44:LEU:C | 2.60 | 0.44 |
| 4:CC:119:ALA:C | 4:CC:121:GLY:N | 2.75 | 0.44 |
| 13:CL:58:ALA:C | 13:CL:60:GLU:N | 2.76 | 0.44 |
| 16:CO:49:GLU:O | 16:CO:50:PHE:C | 2.60 | 0.44 |
| 21:CT:20:VAL:HA | 21:CT:37:SER:CB | 2.47 | 0.44 |
| 21:CT:280:GLY:O | 21:CT:281:TYR:CB | 2.65 | 0.44 |
| 23:Cb:110:UNK:C | 23:Cb:112:UNK:N | 2.77 | 0.44 |
| 24:Cc:27:UNK:HA | 24:Cc:30:UNK:CB | 2.47 | 0.44 |
| 29:D1:90:C:H2' | 29:D1:91:G:H5' | 1.99 | 0.44 |
| 29:D1:155:G:OP2 | 29:D1:157:A:H2 | 2.00 | 0.44 |
| 29:D1:158:G:N7 | 29:D1:159:A:C1' | 2.74 | 0.44 |
| 29:D1:313:A:C6 | 29:D1:314:U:C4 | 3.05 | 0.44 |
| 29:D1:337:G:C2 | 29:D1:339:C:N3 | 2.85 | 0.44 |
| 29:D1:397:A:N1 | 29:D1:400:G:C2 | 2.84 | 0.44 |
| 29:D1:420:G:C5 | 29:D1:2385:G:N1 | 2.85 | 0.44 |
| 29:D1:577:C:O2' | 29:D1:578:A:H2' | 2.16 | 0.44 |
| 29:D1:616:G:H8 | 29:D1:616:G:O5' | 2.00 | 0.44 |
| 29:D1:632:G:C8 | 29:D1:632:G:H3' | 2.52 | 0.44 |
| 29:D1:659:G:C6 | 29:D1:1432:C:C2 | 3.05 | 0.44 |
| 29:D1:681:U:O2 | 29:D1:682:U:C6 | 2.70 | 0.44 |
| 29:D1:774:G:C5 | 29:D1:775:A:C8 | 3.04 | 0.44 |
| 29:D1:781:G:O6 | 29:D1:782:U:C4 | 2.70 | 0.44 |
| 29:D1:835:G:O2' | 29:D1:836:A:P | 2.76 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:863:C:OP1 | 74:D1:3428:OHX:N3 | 2.50 | 0.44 |
| 29:D1:898:U:N3 | 29:D1:899:U:C5 | 2.85 | 0.44 |
| 29:D1:946:U:C2' | 29:D1:947:G:H5' | 2.47 | 0.44 |
| 29:D1:985:U:C2' | 29:D1:986:U:H6 | 2.25 | 0.44 |
| 29:D1:1009:A:C2 | 29:D1:1042:U:O2 | 2.69 | 0.44 |
| 29:D1:1046:A:H2' | 29:D1:1049:C:H5 | 1.82 | 0.44 |
| 29:D1:1179:A:O4' | 29:D1:1328:C:O4' | 2.36 | 0.44 |
| 29:D1:1203:A:H2' | 29:D1:2855:U:O2' | 2.17 | 0.44 |
| 29:D1:1275:C:C4 | 29:D1:1276:U:C5 | 3.05 | 0.44 |
| 29:D1:1409:G:O2' | 29:D1:1410:U:H5' | 2.17 | 0.44 |
| 29:D1:1444:G:C8 | 29:D1:1444:G:H3' | 2.52 | 0.44 |
| 29:D1:1449:A:C8 | 29:D1:1450:G:C4 | 3.05 | 0.44 |
| 29:D1:1456:A:N6 | 29:D1:1477:A:H4' | 2.31 | 0.44 |
| 29:D1:1587:A:C2 | 29:D1:1590:G:C8 | 3.05 | 0.44 |
| 29:D1:1604:G:C5 | 29:D1:1605:A:C5 | 3.04 | 0.44 |
| 29:D1:1673:G:C2 | 29:D1:1775:G:N3 | 2.85 | 0.44 |
| 29:D1:1878:G:C3' | 29:D1:1879:A:H5' | 2.47 | 0.44 |
| 29:D1:2155:G:C5 | 29:D1:2156:C:C4 | 3.05 | 0.44 |
| 29:D1:2261:G:N2 | 29:D1:2263:C:N3 | 2.64 | 0.44 |
| 29:D1:2680:A:N6 | 42:DK:56:THR:N | 2.64 | 0.44 |
| 29:D1:2711:C:C4 | 29:D1:2712:U:C5 | 3.05 | 0.44 |
| 29:D1:2786:G:N3 | 29:D1:2786:G:H2' | 2.32 | 0.44 |
| 29:D1:2823:G:C5 | 29:D1:2824:G:C8 | 3.05 | 0.44 |
| 29:D1:2828:G:H2' | 29:D1:2829:U:O5' | 2.18 | 0.44 |
| 29:D1:2853:A:C5 | 29:D1:2854:U:C4 | 3.04 | 0.44 |
| 29:D1:2916:U:C5 | 29:D1:2935:U:O2 | 2.70 | 0.44 |
| 29:D1:2946:A:C2' | 29:D1:2982:A:N7 | 2.80 | 0.44 |
| 29:D1:3034:C:H3' | 29:D1:3034:C:C6 | 2.51 | 0.44 |
| 29:D1:3046:A:C4 | 29:D1:3047:U:C6 | 3.05 | 0.44 |
| 29:D1:3126:C:C4 | 29:D1:3127:A:C8 | 3.05 | 0.44 |
| 29:D1:3218:A:C3' | 29:D1:3220:G:C8 | 3.00 | 0.44 |
| 29:D1:3310:A:C2 | 29:D1:3311:C:C1' | 3.00 | 0.44 |
| 30:D2:121:U:OP2 | 36:DE:260:PHE:HA | 2.17 | 0.44 |
| 31:D3:72:A:O2' | 31:D3:73:U:P | 2.75 | 0.44 |
| 31:D3:79:A:H2' | 31:D3:80:A:C8 | 2.51 | 0.44 |
| 31:D3:96:A:C3' | 31:D3:97:A:H5" | 2.39 | 0.44 |
| 31:D3:103:G:C2 | 31:D3:105:A:N6 | 2.85 | 0.44 |
| 34:DC:50:LYS:CB | 34:DC:333:LYS:N | 2.62 | 0.44 |
| 35:DD:168:ALA:C | 35:DD:170:LYS:N | 2.72 | 0.44 |
| 36:DE:185:PHE:CB | 36:DE:186:GLU:CA | 2.96 | 0.44 |
| 36:DE:262:LYS:C | 36:DE:264:GLN:H | 2.25 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:DI:154:VAL:O | 40:DI:155:SER:C | 2.59 | 0.44 |
| 41:DJ:64:ALA:O | 41:DJ:65:LEU:C | 2.60 | 0.44 |
| 45:DP:178:VAL:C | 45:DP:180:SER:H | 2.24 | 0.44 |
| 48:DS:12:ALA:HB2 | 48:DS:19:LYS:HA | 1.99 | 0.44 |
| 52:DW:132:ALA:C | 52:DW:134:ASP:N | 2.75 | 0.44 |
| 56:Da:25:PHE:O | 56:Da:26:LYS:CB | 2.65 | 0.44 |
| 1:A1:20:G:C3' | 1:A1:21:U:H5' | 2.46 | 0.44 |
| 1:A1:92:A:P | 1:A1:398:G:H22 | 2.41 | 0.44 |
| 1:A1:389:G:C4 | 1:A1:390:G:C8 | 3.06 | 0.44 |
| 1:A1:437:A:C5' | 1:A1:438:A:OP1 | 2.65 | 0.44 |
| 1:A1:478:A:C2 | 1:A1:479:C:C4 | 3.05 | 0.44 |
| 1:A1:652:G:N1 | 1:A1:683:C:C2 | 2.85 | 0.44 |
| 1:A1:846:G:HO2' | 1:A1:847:A:C4' | 2.26 | 0.44 |
| 1:A1:1036:A:H5' | 1:A1:1037:C:OP2 | 2.17 | 0.44 |
| 1:A1:1167:G:C6 | 1:A1:1168:U:C4 | 3.06 | 0.44 |
| 1:A1:1214:U:O5' | 1:A1:1245:G:N2 | 2.50 | 0.44 |
| 1:A1:1245:G:C5 | 1:A1:1246:C:C6 | 3.06 | 0.44 |
| 1:A1:1251:U:C2 | 1:A1:1252:C:C6 | 3.06 | 0.44 |
| 1:A1:1336:A:N1 | 1:A1:1416:G:C6 | 2.85 | 0.44 |
| 1:A1:1391:A:N3 | 1:A1:1392:U:C5 | 2.85 | 0.44 |
| 1:A1:1607:G:C2 | 1:A1:1608:U:C6 | 3.05 | 0.44 |
| 1:A1:1636:C:N3 | 1:A1:1765:A:C6 | 2.85 | 0.44 |
| 1:A1:1681:A:C8 | 1:A1:1682:U:N3 | 2.86 | 0.44 |
| 1:A1:1791:A:O2' | 1:A1:1793:G:C5' | 2.62 | 0.44 |
| 2:AA:82:GLY:HA2 | 2:AA:85:ALA:HB3 | 1.98 | 0.44 |
| 4:AC:93:ASP:O | 4:AC:95:GLY:N | 2.50 | 0.44 |
| 5:AD:117:THR:CB | 5:AD:191:ALA:HB1 | 2.47 | 0.44 |
| 5:AD:136:ALA:C | 5:AD:138:THR:N | 2.72 | 0.44 |
| 21:AT:236:ALA:O | 21:AT:237:GLN:CB | 2.64 | 0.44 |
| 24:Ac:33:UNK:O | 24:Ac:37:UNK:N | 2.51 | 0.44 |
| 29:B1:36:C:H4' | 29:B1:808:A:H2 | 1.79 | 0.44 |
| 29:B1:72:C:C3' | 29:B1:73:C:C5' | 2.83 | 0.44 |
| 29:B1:419:G:H5' | 29:B1:420:G:OP2 | 2.17 | 0.44 |
| 29:B1:533:A:H2' | 29:B1:534:U:C6 | 2.52 | 0.44 |
| 29:B1:598:A:C2 | 29:B1:599:C:C2 | 3.05 | 0.44 |
| 29:B1:940:G:OP1 | 29:B1:2871:G:C6 | 2.70 | 0.44 |
| 29:B1:954:U:H5 | 29:B1:1115:G:O2' | 1.99 | 0.44 |
| 29:B1:993:G:H21 | 29:B1:2638:C:P | 2.40 | 0.44 |
| 29:B1:1076:C:C4 | 29:B1:1077:U:O4 | 2.70 | 0.44 |
| 29:B1:1104:G:N7 | 29:B1:1105:A:C4 | 2.86 | 0.44 |
| 29:B1:1131:G:N2 | 29:B1:2373:A:C5 | 2.86 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1157:G:C6 | 29:B1:1158:A:C2 | 3.05 | 0.44 |
| 29:B1:1435:A:N7 | 29:B1:1437:C:N1 | 2.64 | 0.44 |
| 29:B1:1713:G:C8 | 29:B1:1714:A:C2 | 3.05 | 0.44 |
| 29:B1:1751:G:C5 | 29:B1:1752:A:N7 | 2.85 | 0.44 |
| 29:B1:1779:C:P | 29:B1:1780:G:H8 | 2.41 | 0.44 |
| 29:B1:1905:G:N2 | 29:B1:1907:C:H5' | 2.33 | 0.44 |
| 29:B1:1908:A:C8 | 29:B1:1909:A:C8 | 3.04 | 0.44 |
| 29:B1:1912:U:HO2' | 29:B1:1913:A:P | 2.40 | 0.44 |
| 29:B1:2115:G:N2 | 74:B1:3440:OHX:N5 | 2.65 | 0.44 |
| 29:B1:2161:G:C6 | 29:B1:2162:U:C4 | 3.06 | 0.44 |
| 29:B1:2235:C:H2' | 29:B1:2236:G:C8 | 2.52 | 0.44 |
| 29:B1:2403:G:C8 | 29:B1:2872:A:C5 | 3.05 | 0.44 |
| 29:B1:2554:A:N1 | 33:BB:85:GLY:O | 2.50 | 0.44 |
| 29:B1:2704:A:OP2 | 74:B1:3405:OHX:N4 | 2.50 | 0.44 |
| 29:B1:2881:C:H2' | 29:B1:2882:U:O5' | 2.16 | 0.44 |
| 29:B1:2919:A:C3' | 29:B1:2920:U:H5' | 2.42 | 0.44 |
| 29:B1:2931:C:O2' | 29:B1:2932:U:H5' | 2.17 | 0.44 |
| 30:B2:18:C:C4 | 30:B2:19:C:C5 | 3.05 | 0.44 |
| 30:B2:60:G:C4 | 30:B2:61:G:C8 | 3.05 | 0.44 |
| 30:B2:90:U:O2 | 30:B2:90:U:C2' | 2.62 | 0.44 |
| 30:B2:91:G:C5 | 30:B2:92:A:C5 | 3.04 | 0.44 |
| 30:B2:120:C:H5" | 30:B2:121:U:OP2 | 2.17 | 0.44 |
| 34:BC:289:ASP:CA | 34:BC:290:ASP:CB | 2.96 | 0.44 |
| 36:BE:42:ALA:O | 36:BE:43:LYS:CB | 2.65 | 0.44 |
| 38:BG:103:LEU:O | 38:BG:104:GLN:C | 2.60 | 0.44 |
| 39:BH:130:TYR:O | 39:BH:131:ALA:C | 2.59 | 0.44 |
| 42:BK:79:ILE:C | 42:BK:81:GLU:N | 2.74 | 0.44 |
| 44:BO:137:PRO:O | 44:BO:139:HIS:N | 2.39 | 0.44 |
| 45:BP:35:VAL:N | 45:BP:103:LYS:O | 2.50 | 0.44 |
| 49:BT:16:GLN:CB | 74:BT:201:OHX:N2 | 2.80 | 0.44 |
| 50:BU:13:ILE:O | 50:BU:14:SER:C | 2.60 | 0.44 |
| 58:Bc:27:GLU:O | 58:Bc:28:LEU:C | 2.61 | 0.44 |
| 59:Bd:23:GLY:N | 74:Bd:101:OHX:N1 | 2.55 | 0.44 |
| 59:Bd:67:LEU:O | 59:Bd:68:LYS:O | 2.36 | 0.44 |
| 61:Bf:92:GLU:O | 61:Bf:93:LEU:O | 2.35 | 0.44 |
| 65:Bk:8:UNK:O | 65:Bk:9:UNK:C | 2.65 | 0.44 |
| 66:Bl:15:UNK:O | 66:Bl:18:UNK:CB | 2.66 | 0.44 |
| 71:Br:2:UNK:O | 71:Br:6:UNK:N | 2.51 | 0.44 |
| 1:C1:55:A:HO2' | 1:C1:403:G:H1 | 1.62 | 0.44 |
| 1:C1:156:A:H2' | 1:C1:157:A:C8 | 2.52 | 0.44 |
| 1:C1:273:G:O2' | 1:C1:274:G:P | 2.75 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:333:A:O2' | 1:C1:334:G:O5' | 2.28 | 0.44 |
| 1:C1:391:A:N1 | 1:C1:392:G:C5 | 2.85 | 0.44 |
| 1:C1:468:A:O3' | 1:C1:469:C:C4 | 2.70 | 0.44 |
| 1:C1:589:C:H2' | 1:C1:590:C:C6 | 2.53 | 0.44 |
| 1:C1:804:A:C5 | 1:C1:805:U:C5 | 3.05 | 0.44 |
| 1:C1:1204:A:C6 | 1:C1:1205:C:O2 | 2.70 | 0.44 |
| 1:C1:1241:G:C3' | 1:C1:1242:A:H5" | 2.47 | 0.44 |
| 1:C1:1249:U:C2' | 1:C1:1250:U:H5' | 2.47 | 0.44 |
| 1:C1:1255:G:O4' | 1:C1:1255:G:P | 2.74 | 0.44 |
| 1:C1:1346:A:C2 | 15:CN:13:GLU:O | 2.58 | 0.44 |
| 1:C1:1378:U:H3' | 1:C1:1379:C:H5" | 1.98 | 0.44 |
| 1:C1:1498:G:C2 | 1:C1:1510:U:O2 | 2.70 | 0.44 |
| 1:C1:1522:U:HO2' | 1:C1:1523:G:P | 2.40 | 0.44 |
| 1:C1:1679:G:H2' | 1:C1:1680:G:O4' | 2.17 | 0.44 |
| 2:CA:10:THR:C | 2:CA:14:ALA:O | 2.60 | 0.44 |
| 2:CA:52:LYS:O | 2:CA:54:TRP:N | 2.50 | 0.44 |
| 2:CA:72:ASP:HA | 2:CA:95:ALA:HA | 1.99 | 0.44 |
| 2:CA:88:LYS:C | 2:CA:90:ALA:N | 2.74 | 0.44 |
| 3:CB:134:LEU:O | 3:CB:136:VAL:N | 2.50 | 0.44 |
| 3:CB:233:GLN:O | 3:CB:234:PRO:C | 2.59 | 0.44 |
| 5:CD:117:THR:O | 5:CD:121:ILE:CB | 2.65 | 0.44 |
| 8:CG:42:ARG:O | 8:CG:43:LYS:C | 2.59 | 0.44 |
| 11:CJ:28:LEU:HA | 14:CM:1:MET:HA | 1.98 | 0.44 |
| 14:CM:99:SER:CA | 14:CM:102:ARG:CB | 2.91 | 0.44 |
| 21:CT:180:ALA:CB | 21:CT:190:ALA:O | 2.52 | 0.44 |
| 24:Cc:52:UNK:O | 24:Cc:64:UNK:N | 2.50 | 0.44 |
| 28:Ch:9:UNK:O | 28:Ch:10:UNK:C | 2.64 | 0.44 |
| 29:D1:37:U:N3 | 29:D1:38:U:C4 | 2.86 | 0.44 |
| 29:D1:88:A:C8 | 29:D1:88:A:C3' | 3.00 | 0.44 |
| 29:D1:113:C:H2' | 29:D1:113:C:O2 | 2.16 | 0.44 |
| 29:D1:189:G:C6 | 29:D1:206:G:C5 | 3.05 | 0.44 |
| 29:D1:207:U:O2' | 29:D1:208:C:H5' | 2.18 | 0.44 |
| 29:D1:309:U:C5 | 29:D1:310:U:C4 | 3.05 | 0.44 |
| 29:D1:348:A:H1' | 29:D1:352:A:N3 | 2.33 | 0.44 |
| 29:D1:372:A:N3 | 29:D1:372:A:H2' | 2.33 | 0.44 |
| 29:D1:395:A:H2' | 29:D1:396:A:C8 | 2.52 | 0.44 |
| 29:D1:436:A:N1 | 29:D1:624:G:N1 | 2.65 | 0.44 |
| 29:D1:589:A:H5" | 29:D1:611:A:H2 | 1.82 | 0.44 |
| 29:D1:659:G:O5' | 29:D1:659:G:C8 | 2.57 | 0.44 |
| 29:D1:718:G:OP1 | 29:D1:719:U:H4' | 2.17 | 0.44 |
| 29:D1:826:G:C6 | 29:D1:827:A:C5 | 3.06 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:869:G:H2' | 29:D1:869:G:N3 | 2.31 | 0.44 |
| 29:D1:887:G:C5 | 29:D1:888:A:C5 | 3.04 | 0.44 |
| 29:D1:891:G:O2' | 29:D1:892:U:C5' | 2.64 | 0.44 |
| 29:D1:1130:A:C2' | 29:D1:1132:C:H6 | 2.27 | 0.44 |
| 29:D1:1131:G:H2' | 29:D1:2825:C:O2' | 2.17 | 0.44 |
| 29:D1:1240:A:H3' | 29:D1:1241:U:C5' | 2.47 | 0.44 |
| 29:D1:1258:U:N3 | 29:D1:1260:A:OP2 | 2.50 | 0.44 |
| 29:D1:1357:G:C3' | 29:D1:1358:C:H6 | 2.30 | 0.44 |
| 29:D1:1586:G:H8 | 29:D1:1586:G:O5' | 2.00 | 0.44 |
| 29:D1:1654:A:C2' | 29:D1:1655:G:O4' | 2.65 | 0.44 |
| 29:D1:1742:U:H2' | 29:D1:1743:G:C8 | 2.49 | 0.44 |
| 29:D1:1778:G:H4' | 29:D1:1779:C:C2 | 2.52 | 0.44 |
| 29:D1:1805:C:O2' | 29:D1:1806:A:H5' | 2.18 | 0.44 |
| 29:D1:1818:U:H2' | 29:D1:1819:U:C6 | 2.51 | 0.44 |
| 29:D1:1835:A:C5 | 29:D1:1836:C:C4 | 3.05 | 0.44 |
| 29:D1:1940:G:C2 | 29:D1:1941:C:C2 | 3.05 | 0.44 |
| 29:D1:2197:C:N3 | 29:D1:2242:A:C2 | 2.86 | 0.44 |
| 29:D1:2315:G:N3 | 29:D1:2316:G:C8 | 2.85 | 0.44 |
| 29:D1:2357:A:C2 | 29:D1:2983:C:H5 | 2.33 | 0.44 |
| 29:D1:2368:A:H2' | 29:D1:2369:G:H5' | 1.98 | 0.44 |
| 29:D1:2397:A:OP1 | 29:D1:2398:A:H4' | 2.17 | 0.44 |
| 29:D1:2405:C:C2 | 29:D1:2820:A:N1 | 2.84 | 0.44 |
| 29:D1:2526:C:H3' | 29:D1:2527:G:H8 | 1.82 | 0.44 |
| 29:D1:2581:U:C5' | 74:D1:3567:OHX:N1 | 2.79 | 0.44 |
| 29:D1:2812:C:C2 | 29:D1:2813:A:C8 | 3.05 | 0.44 |
| 29:D1:2857:C:C2 | 29:D1:2858:U:C6 | 3.04 | 0.44 |
| 29:D1:2986:U:H2' | 29:D1:2987:A:H5' | 1.99 | 0.44 |
| 29:D1:3141:A:H2 | 29:D1:3144:G:OP2 | 2.00 | 0.44 |
| 29:D1:3161:C:C5 | 29:D1:3161:C:OP2 | 2.71 | 0.44 |
| 29:D1:3191:G:C6 | 29:D1:3192:U:N3 | 2.85 | 0.44 |
| 29:D1:3224:G:C6 | 29:D1:3225:C:C5 | 3.05 | 0.44 |
| 29:D1:3252:G:H2' | 29:D1:3253:G:H8 | 1.79 | 0.44 |
| 29:D1:3271:G:N2 | 29:D1:3272:C:OP1 | 2.50 | 0.44 |
| 29:D1:3296:A:N3 | 29:D1:3297:U:H1' | 2.32 | 0.44 |
| 29:D1:3384:U:N3 | 29:D1:3385:U:C4 | 2.85 | 0.44 |
| 30:D2:14:U:O2' | 30:D2:15:C:O5' | 2.35 | 0.44 |
| 30:D2:19:C:H2' | 30:D2:20:A:C8 | 2.52 | 0.44 |
| 30:D2:24:A:C4 | 30:D2:25:G:N7 | 2.85 | 0.44 |
| 30:D2:82:G:C4 | 30:D2:99:G:N2 | 2.85 | 0.44 |
| 30:D2:121:U:H3' | 36:DE:263:GLU:O | 2.17 | 0.44 |
| 31:D3:97:A:H2' | 31:D3:98:U:H5' | 2.00 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:DC:128:LYS:HA | 34:DC:129:ALA:O | 2.17 | 0.44 |
| 34:DC:323:MET:O | 34:DC:324:VAL:C | 2.60 | 0.44 |
| 36:DE:43:LYS:HA | 49:DT:70:SER:N | 2.32 | 0.44 |
| 36:DE:257:GLU:C | 36:DE:259:LYS:N | 2.75 | 0.44 |
| 36:DE:264:GLN:HA | 36:DE:265:TYR:C | 2.42 | 0.44 |
| 37:DF:132:ALA:O | 37:DF:133:GLU:C | 2.59 | 0.44 |
| 37:DF:150:LYS:C | 37:DF:152:THR:H | 2.25 | 0.44 |
| 42:DK:79:ILE:C | 42:DK:81:GLU:N | 2.74 | 0.44 |
| 44:DO:157:LYS:O | 44:DO:159:ARG:N | 2.50 | 0.44 |
| 44:DO:160:GLU:O | 44:DO:161:ALA:CB | 2.64 | 0.44 |
| 49:DT:11:THR:O | 49:DT:13:TYR:N | 2.50 | 0.44 |
| 50:DU:105:PRO:C | 50:DU:107:GLY:N | 2.73 | 0.44 |
| 57:Db:80:LYS:O | 57:Db:83:GLU:CB | 2.65 | 0.44 |
| 61:Df:73:GLU:CB | 61:Df:81:ALA:HA | 2.48 | 0.44 |
| 1:A1:4:C:O2 | 1:A1:4:C:C2' | 2.66 | 0.44 |
| 1:A1:55:A:O2' | 1:A1:56:U:OP1 | 2.36 | 0.44 |
| 1:A1:61:A:N3 | 1:A1:61:A:C2' | 2.75 | 0.44 |
| 1:A1:209:U:H3' | 1:A1:210:A:H8 | 1.82 | 0.44 |
| 1:A1:270:C:H4' | 1:A1:270:C:OP1 | 2.17 | 0.44 |
| 1:A1:388:G:C2 | 1:A1:389:G:N7 | 2.85 | 0.44 |
| 1:A1:618:U:O2' | 1:A1:619:A:H5" | 2.17 | 0.44 |
| 1:A1:636:A:C2 | 1:A1:861:U:O2 | 2.70 | 0.44 |
| 1:A1:649:U:O2' | 1:A1:650:U:P | 2.75 | 0.44 |
| 1:A1:650:U:H2' | 1:A1:651:G:C5' | 2.22 | 0.44 |
| 1:A1:838:G:C2 | 1:A1:839:U:C6 | 3.05 | 0.44 |
| 1:A1:935:U:H2' | 1:A1:936:G:C8 | 2.50 | 0.44 |
| 1:A1:1106:U:H2' | 1:A1:1107:G:H5' | 1.99 | 0.44 |
| 1:A1:1141:G:C2 | 1:A1:1142:A:C5 | 3.05 | 0.44 |
| 1:A1:1164:G:O2' | 1:A1:1165:G:H5' | 2.18 | 0.44 |
| 1:A1:1186:U:O4' | 1:A1:1208:A:C2 | 2.70 | 0.44 |
| 1:A1:1201:G:N7 | 1:A1:1202:A:N3 | 2.64 | 0.44 |
| 1:A1:1372:U:O2 | 1:A1:1373:C:H1' | 2.17 | 0.44 |
| 1:A1:1494:C:H2' | 1:A1:1495:C:H6 | 1.82 | 0.44 |
| 1:A1:1569:A:C2 | 1:A1:1570:A:C8 | 3.06 | 0.44 |
| 1:A1:1632:C:C2' | 1:A1:1633:A:H5" | 2.48 | 0.44 |
| 2:AA:25:GLY:O | 2:AA:26:ALA:CB | 2.65 | 0.44 |
| 2:AA:132:ALA:O | 2:AA:136:ALA:N | 2.51 | 0.44 |
| 3:AB:163:GLY:HA3 | 3:AB:203:LYS:N | 2.32 | 0.44 |
| 3:AB:219:GLY:C | 3:AB:221:THR:N | 2.75 | 0.44 |
| 5:AD:118:LEU:O | 5:AD:119:ASP:C | 2.60 | 0.44 |
| 5:AD:182:ALA:C | 5:AD:184:PHE:N | 2.75 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AE:53:ARG:HA | 6:AE:56:ALA:HB3 | 1.98 | 0.44 |
| 10:AI:11:VAL:O | 10:AI:13:LYS:N | 2.47 | 0.44 |
| 12:AK:20:TYR:O | 12:AK:21:TYR:CB | 2.66 | 0.44 |
| 16:AO:52:TYR:CB | 23:Ab:5:UNK:O | 2.66 | 0.44 |
| 27:Af:10:UNK:O | 27:Af:14:UNK:N | 2.51 | 0.44 |
| 29:B1:158:G:C2' | 29:B1:159:A:H4' | 2.47 | 0.44 |
| 29:B1:176:G:N3 | 29:B1:177:U:C6 | 2.86 | 0.44 |
| 29:B1:247:C:C3' | 29:B1:248:U:H4' | 2.47 | 0.44 |
| 29:B1:317:A:O2' | 29:B1:318:A:O5' | 2.29 | 0.44 |
| 29:B1:328:U:H2' | 29:B1:329:U:H3 | 1.82 | 0.44 |
| 29:B1:335:G:N3 | 29:B1:335:G:H2' | 2.32 | 0.44 |
| 29:B1:361:A:H5" | 59:Bd:35:SER:CB | 2.48 | 0.44 |
| 29:B1:371:G:N1 | 29:B1:373:A:H3' | 2.32 | 0.44 |
| 29:B1:532:A:H3' | 29:B1:533:A:N7 | 2.33 | 0.44 |
| 29:B1:540:U:H2' | 29:B1:541:U:H6 | 1.78 | 0.44 |
| 29:B1:542:G:C4 | 29:B1:543:C:C5 | 3.06 | 0.44 |
| 29:B1:573:C:C4 | 29:B1:574:U:O4 | 2.70 | 0.44 |
| 29:B1:596:C:O2 | 29:B1:596:C:H5" | 2.18 | 0.44 |
| 29:B1:645:A:C6 | 29:B1:649:A:N7 | 2.85 | 0.44 |
| 29:B1:699:A:C6 | 29:B1:700:C:N3 | 2.86 | 0.44 |
| 29:B1:934:G:C6 | 29:B1:935:U:C4 | 3.06 | 0.44 |
| 29:B1:1129:A:C2' | 29:B1:1130:A:C5' | 2.94 | 0.44 |
| 29:B1:1212:A:C2 | 29:B1:1213:G:N9 | 2.85 | 0.44 |
| 29:B1:1234:G:C3' | 29:B1:1235:U:C5' | 2.92 | 0.44 |
| 29:B1:1275:C:O2 | 29:B1:1275:C:H2' | 2.16 | 0.44 |
| 29:B1:1452:A:C4 | 29:B1:2347:U:H4' | 2.52 | 0.44 |
| 29:B1:1785:U:O2' | 29:B1:1786:G:P | 2.76 | 0.44 |
| 29:B1:1804:A:C4 | 29:B1:1805:C:C5 | 3.05 | 0.44 |
| 29:B1:1844:C:C4 | 29:B1:1845:G:N7 | 2.85 | 0.44 |
| 29:B1:2150:G:C3' | 29:B1:2151:C:C5' | 2.96 | 0.44 |
| 29:B1:2173:U:C5 | 29:B1:2174:G:C5 | 3.05 | 0.44 |
| 29:B1:2186:U:H2' | 29:B1:2187:G:O5' | 2.18 | 0.44 |
| 29:B1:2218:G:C5 | 29:B1:2228:A:C2 | 3.06 | 0.44 |
| 29:B1:2258:U:H3' | 29:B1:2259:A:C8 | 2.50 | 0.44 |
| 29:B1:2297:U:O2 | 29:B1:2299:A:C5 | 2.70 | 0.44 |
| 29:B1:2328:U:H2' | 29:B1:2329:C:H6 | 1.82 | 0.44 |
| 29:B1:2376:G:C2 | 29:B1:2377:G:C2 | 3.05 | 0.44 |
| 29:B1:2395:G:H8 | 29:B1:2946:A:H61 | 1.55 | 0.44 |
| 29:B1:2414:G:H2' | 29:B1:2415:C:C6 | 2.52 | 0.44 |
| 29:B1:2515:A:C2' | 29:B1:2516:U:H5' | 2.47 | 0.44 |
| 29:B1:3000:A:HO2' | 29:B1:3001:C:H6 | 1.60 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3119:U:H2' | 29:B1:3120:C:C5' | 2.45 | 0.44 |
| 29:B1:3144:G:OP1 | 29:B1:3145:C:OP2 | 2.36 | 0.44 |
| 29:B1:3177:G:O6 | 29:B1:3210:A:N6 | 2.50 | 0.44 |
| 29:B1:3197:G:H3' | 29:B1:3197:G:N3 | 2.32 | 0.44 |
| 29:B1:3207:U:O4' | 29:B1:3209:A:C8 | 2.71 | 0.44 |
| 29:B1:3211:C:OP1 | 29:B1:3211:C:H4' | 2.17 | 0.44 |
| 29:B1:3218:A:C4' | 29:B1:3220:G:C8 | 2.95 | 0.44 |
| 29:B1:3221:C:C4 | 29:B1:3222:U:C5 | 3.04 | 0.44 |
| 29:B1:3363:U:C5' | 29:B1:3364:C:OP2 | 2.61 | 0.44 |
| 29:B1:3374:U:O2' | 29:B1:3375:A:O5' | 2.35 | 0.44 |
| 30:B2:90:U:H2' | 30:B2:91:G:O4' | 2.17 | 0.44 |
| 31:B3:41:A:H3' | 31:B3:42:G:H8 | 1.83 | 0.44 |
| 31:B3:96:A:C3' | 31:B3:97:A:H5" | 2.39 | 0.44 |
| 31:B3:118:C:O2 | 31:B3:118:C:C2' | 2.66 | 0.44 |
| 34:BC:159:ARG:CB | 34:BC:180:GLU:O | 2.66 | 0.44 |
| 36:BE:196:ARG:O | 36:BE:199:ILE:N | 2.50 | 0.44 |
| 38:BG:165:ASP:C | 38:BG:167:ALA:H | 2.25 | 0.44 |
| 40:BI:161:LEU:C | 40:BI:163:GLN:N | 2.72 | 0.44 |
| 42:BK:133:ARG:H | 42:BK:155:THR:CA | 2.31 | 0.44 |
| 44:BO:107:GLY:O | 44:BO:108:ARG:C | 2.61 | 0.44 |
| 45:BP:77:SER:C | 45:BP:79:ILE:H | 2.25 | 0.44 |
| 45:BP:140:LYS:C | 45:BP:142:SER:N | 2.72 | 0.44 |
| 47:BR:148:GLU:HA | 47:BR:149:ALA:HA | 1.36 | 0.44 |
| 51:BV:10:GLY:O | 51:BV:11:ALA:C | 2.59 | 0.44 |
| 1:C1:80:A:H5' | 1:C1:81:G:OP2 | 2.17 | 0.44 |
| 1:C1:273:G:C4 | 1:C1:274:G:C8 | 3.06 | 0.44 |
| 1:C1:434:G:H21 | 1:C1:437:A:H2 | 1.66 | 0.44 |
| 1:C1:605:A:N7 | 1:C1:606:A:C5 | 2.85 | 0.44 |
| 1:C1:635:A:C4 | 1:C1:863:A:C5 | 3.05 | 0.44 |
| 1:C1:640:U:C4 | 1:C1:641:G:C6 | 3.05 | 0.44 |
| 1:C1:826:U:H2' | 1:C1:827:C:C5 | 2.52 | 0.44 |
| 1:C1:826:U:O2 | 1:C1:847:A:C2 | 2.70 | 0.44 |
| 1:C1:896:U:H2' | 1:C1:897:C:O4' | 2.17 | 0.44 |
| 1:C1:1021:C:C4 | 1:C1:1022:C:N3 | 2.85 | 0.44 |
| 1:C1:1046:G:O6 | 74:C1:1905:OHX:N1 | 2.51 | 0.44 |
| 1:C1:1058:U:C2 | 1:C1:1060:U:OP2 | 2.70 | 0.44 |
| 1:C1:1101:G:C2' | 1:C1:1102:G:H5' | 2.47 | 0.44 |
| 1:C1:1201:G:C2' | 1:C1:1202:A:H4' | 2.12 | 0.44 |
| 1:C1:1353:U:H3 | 1:C1:1371:A:N6 | 2.15 | 0.44 |
| 1:C1:1558:U:H2' | 1:C1:1559:A:H2 | 1.75 | 0.44 |
| 1:C1:1604:U:H3' | 1:C1:1605:G:C5' | 2.29 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1662:G:H2' | 1:C1:1663:G:C8 | 2.53 | 0.44 |
| 1:C1:1734:U:H5" | 1:C1:1735:U:OP2 | 2.18 | 0.44 |
| 1:C1:1771:U:N3 | 1:C1:1772:C:C5 | 2.85 | 0.44 |
| 2:CA:96:THR:O | 2:CA:97:PRO:O | 2.36 | 0.44 |
| 3:CB:153:SER:O | 3:CB:170:ILE:HA | 2.18 | 0.44 |
| 4:CC:7:LYS:O | 4:CC:8:LYS:C | 2.60 | 0.44 |
| 5:CD:166:ARG:C | 5:CD:168:VAL:N | 2.74 | 0.44 |
| 10:CI:10:ARG:O | 10:CI:11:VAL:CB | 2.65 | 0.44 |
| 11:CJ:80:ALA:C | 11:CJ:82:ARG:N | 2.72 | 0.44 |
| 11:CJ:92:TYR:CB | 11:CJ:93:HIS:O | 2.66 | 0.44 |
| 12:CK:29:GLN:C | 12:CK:31:ASN:N | 2.76 | 0.44 |
| 13:CL:53:ASP:O | 13:CL:56:LYS:N | 2.51 | 0.44 |
| 13:CL:124:GLY:O | 13:CL:125:ILE:C | 2.60 | 0.44 |
| 14:CM:137:ALA:O | 14:CM:140:LEU:N | 2.51 | 0.44 |
| 15:CN:54:GLY:O | 15:CN:91:ILE:HA | 2.18 | 0.44 |
| 20:CS:37:ASN:CB | 20:CS:38:ILE:CA | 2.90 | 0.44 |
| 29:D1:32:U:H3 | 29:D1:52:A:H61 | 1.65 | 0.44 |
| 29:D1:54:C:C2' | 29:D1:55:G:O5' | 2.65 | 0.44 |
| 29:D1:171:G:H2' | 29:D1:172:G:O5' | 2.16 | 0.44 |
| 29:D1:184:U:H2' | 29:D1:185:C:H6 | 1.82 | 0.44 |
| 29:D1:220:G:H8 | 29:D1:220:G:H5" | 1.82 | 0.44 |
| 29:D1:391:A:H2' | 29:D1:392:G:OP1 | 2.17 | 0.44 |
| 29:D1:505:G:C8 | 29:D1:506:U:C6 | 3.06 | 0.44 |
| 29:D1:565:U:C5 | 29:D1:565:U:OP2 | 2.71 | 0.44 |
| 29:D1:642:U:H5" | 29:D1:643:U:OP2 | 2.18 | 0.44 |
| 29:D1:725:G:C2 | 29:D1:726:G:O4' | 2.70 | 0.44 |
| 29:D1:790:U:H4' | 35:DD:112:LYS:O | 2.17 | 0.44 |
| 29:D1:809:G:C4 | 29:D1:810:A:C8 | 3.06 | 0.44 |
| 29:D1:814:U:C2' | 29:D1:815:G:O5' | 2.65 | 0.44 |
| 29:D1:828:A:H5" | 29:D1:829:U:P | 2.57 | 0.44 |
| 29:D1:859:G:C2 | 29:D1:861:C:C6 | 3.04 | 0.44 |
| 29:D1:932:U:C4 | 29:D1:934:G:H1' | 2.52 | 0.44 |
| 29:D1:952:A:C2' | 29:D1:953:G:C5' | 2.89 | 0.44 |
| 29:D1:1062:A:P | 29:D1:1063:G:O6 | 2.75 | 0.44 |
| 29:D1:1253:U:O4 | 29:D1:1264:G:OP1 | 2.36 | 0.44 |
| 29:D1:1457:U:C4 | 29:D1:1476:G:C2 | 3.06 | 0.44 |
| 29:D1:1485:G:O6 | 74:D1:3589:OHX:N1 | 2.51 | 0.44 |
| 29:D1:1528:G:N3 | 29:D1:1529:A:C8 | 2.85 | 0.44 |
| 29:D1:1532:C:H2' | 29:D1:1533:U:N1 | 2.31 | 0.44 |
| 29:D1:1623:G:C8 | 74:D1:3559:OHX:N1 | 2.86 | 0.44 |
| 29:D1:1794:G:H5" | 33:DB:186:PHE:CB | 2.48 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1906:G:N3 | 29:D1:1908:A:N6 | 2.65 | 0.44 |
| 29:D1:2094:C:N4 | 29:D1:2095:G:H21 | 2.16 | 0.44 |
| 29:D1:2145:A:N3 | 29:D1:2145:A:H2' | 2.32 | 0.44 |
| 29:D1:2151:C:O2' | 29:D1:2243:A:C6 | 2.68 | 0.44 |
| 29:D1:2151:C:H1' | 29:D1:2313:A:N1 | 2.32 | 0.44 |
| 29:D1:2177:G:HO2' | 29:D1:2178:A:P | 2.40 | 0.44 |
| 29:D1:2261:G:O6 | 74:D1:3415:OHX:N5 | 2.50 | 0.44 |
| 29:D1:2374:C:C4 | 29:D1:2941:A:C2 | 3.06 | 0.44 |
| 29:D1:2394:G:H2' | 29:D1:2395:G:O4' | 2.17 | 0.44 |
| 29:D1:2516:U:H6 | 29:D1:2516:U:C5' | 2.30 | 0.44 |
| 29:D1:2655:U:C4' | 29:D1:2656:A:H5' | 2.46 | 0.44 |
| 29:D1:2910:A:H2' | 29:D1:2911:A:OP2 | 2.17 | 0.44 |
| 29:D1:2910:A:N6 | 74:D1:3419:OHX:N4 | 2.66 | 0.44 |
| 29:D1:2933:A:C6 | 29:D1:2934:A:N1 | 2.85 | 0.44 |
| 29:D1:2990:G:C2' | 29:D1:2991:A:H5' | 2.48 | 0.44 |
| 29:D1:3013:U:O2 | 29:D1:3013:U:H2' | 2.16 | 0.44 |
| 29:D1:3057:U:O2 | 29:D1:3057:U:C5' | 2.66 | 0.44 |
| 29:D1:3070:A:C4 | 29:D1:3071:U:C5 | 3.06 | 0.44 |
| 29:D1:3152:U:H4' | 29:D1:3294:A:O4' | 2.18 | 0.44 |
| 29:D1:3153:U:C5' | 29:D1:3293:U:C6 | 3.00 | 0.44 |
| 29:D1:3248:C:H2' | 29:D1:3249:C:O4' | 2.17 | 0.44 |
| 29:D1:3371:G:C6 | 29:D1:3372:A:C5 | 3.06 | 0.44 |
| 29:D1:3392:U:C5' | 29:D1:3392:U:H6 | 2.31 | 0.44 |
| 30:D2:3:U:O2 | 30:D2:4:U:C6 | 2.70 | 0.44 |
| 30:D2:5:G:C2' | 30:D2:6:C:H5" | 2.47 | 0.44 |
| 30:D2:44:C:C4 | 30:D2:45:A:C8 | 3.04 | 0.44 |
| 30:D2:112:G:O5' | 74:D2:207:OHX:N6 | 2.49 | 0.44 |
| 31:D3:37:A:H61 | 31:D3:104:A:C2' | 2.15 | 0.44 |
| 31:D3:41:A:H3' | 31:D3:42:G:H8 | 1.83 | 0.44 |
| 31:D3:131:A:C2 | 31:D3:132:G:N7 | 2.86 | 0.44 |
| 35:DD:115:HIS:C | 35:DD:117:GLU:H | 2.26 | 0.44 |
| 36:DE:257:GLU:C | 36:DE:259:LYS:H | 2.26 | 0.44 |
| 37:DF:43:LEU:O | 37:DF:44:ALA:C | 2.59 | 0.44 |
| 39:DH:188:THR:C | 39:DH:190:VAL:H | 2.26 | 0.44 |
| 43:DN:78:THR:C | 43:DN:80:THR:N | 2.75 | 0.44 |
| 44:DO:136:ASP:O | 44:DO:138:GLN:N | 2.50 | 0.44 |
| 46:DQ:82:ARG:O | 46:DQ:83:TRP:CB | 2.65 | 0.44 |
| 48:DS:135:LYS:O | 48:DS:136:ARG:C | 2.61 | 0.44 |
| 51:DV:47:ARG:C | 51:DV:49:ILE:H | 2.25 | 0.44 |
| 51:DV:58:HIS:HA | 51:DV:59:HIS:HA | 1.61 | 0.44 |
| 52:DW:66:PRO:O | 52:DW:68:THR:N | 2.50 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 52:DW:83:VAL:O | 52:DW:84:PHE:O | 2.35 | 0.44 |
| 54:DY:6:THR:C | 54:DY:8:THR:N | 2.73 | 0.44 |
| 57:Db:97:ALA:O | 57:Db:98:HIS:C | 2.60 | 0.44 |
| 1:A1:139:C:C4 | 1:A1:176:C:C2 | 3.05 | 0.44 |
| 1:A1:195:G:H1' | 1:A1:196:G:P | 2.57 | 0.44 |
| 1:A1:202:A:H3' | 1:A1:202:A:C8 | 2.52 | 0.44 |
| 1:A1:211:U:H6 | 1:A1:211:U:H5" | 1.82 | 0.44 |
| 1:A1:224:C:O2' | 1:A1:225:A:C8 | 2.69 | 0.44 |
| 1:A1:328:A:N3 | 1:A1:329:G:C8 | 2.86 | 0.44 |
| 1:A1:339:C:C2 | 1:A1:340:U:C6 | 3.06 | 0.44 |
| 1:A1:450:U:C4 | 1:A1:451:A:N6 | 2.81 | 0.44 |
| 1:A1:473:A:H3' | 1:A1:474:A:H8 | 1.82 | 0.44 |
| 1:A1:490:C:H5" | 1:A1:491:C:OP2 | 2.17 | 0.44 |
| 1:A1:525:A:OP1 | 1:A1:527:A:H2 | 2.00 | 0.44 |
| 1:A1:569:C:C2' | 1:A1:570:A:O5' | 2.65 | 0.44 |
| 1:A1:624:G:H1' | 1:A1:1027:A:C2 | 2.51 | 0.44 |
| 1:A1:812:A:C2 | 1:A1:858:G:O6 | 2.71 | 0.44 |
| 1:A1:831:U:H5' | 1:A1:832:U:P | 2.57 | 0.44 |
| 1:A1:895:G:N2 | 1:A1:917:U:N3 | 2.64 | 0.44 |
| 1:A1:1046:G:C8 | 1:A1:1073:G:N2 | 2.85 | 0.44 |
| 1:A1:1063:U:H2' | 1:A1:1064:G:H8 | 1.82 | 0.44 |
| 1:A1:1167:G:C6 | 1:A1:1168:U:O4 | 2.70 | 0.44 |
| 1:A1:1255:G:C4' | 1:A1:1256:A:OP1 | 2.44 | 0.44 |
| 1:A1:1348:A:H3' | 1:A1:1349:G:H5" | 1.99 | 0.44 |
| 1:A1:1348:A:C3' | 1:A1:1349:G:C5' | 2.94 | 0.44 |
| 1:A1:1524:A:N3 | 1:A1:1590:G:O2' | 2.47 | 0.44 |
| 1:A1:1532:U:H2' | 1:A1:1533:C:C6 | 2.52 | 0.44 |
| 1:A1:1600:A:C8 | 1:A1:1602:C:C5 | 3.05 | 0.44 |
| 1:A1:1693:A:N3 | 1:A1:1694:A:N7 | 2.65 | 0.44 |
| 1:A1:1720:G:H5" | 74:A1:1950:OHX:N1 | 2.32 | 0.44 |
| 1:A1:1756:A:N6 | 74:A1:1901:OHX:N2 | 2.49 | 0.44 |
| 2:AA:106:SER:O | 2:AA:108:THR:N | 2.50 | 0.44 |
| 3:AB:118:ALA:HB2 | 3:AB:124:ALA:CA | 2.46 | 0.44 |
| 4:AC:7:LYS:O | 4:AC:8:LYS:O | 2.35 | 0.44 |
| 5:AD:108:LEU:O | 5:AD:110:ALA:N | 2.42 | 0.44 |
| 6:AE:66:ASP:O | 6:AE:68:LYS:N | 2.47 | 0.44 |
| 8:AG:51:GLY:HA2 | 8:AG:52:VAL:C | 2.28 | 0.44 |
| 9:AH:8:ARG:CB | 9:AH:9:ASP:HA | 2.46 | 0.44 |
| 11:AJ:69:VAL:O | 11:AJ:70:THR:CB | 2.65 | 0.44 |
| 14:AM:58:ALA:O | 14:AM:62:ALA:CB | 2.59 | 0.44 |
| 14:AM:129:GLN:O | 14:AM:133:ASP:CB | 2.65 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AT:187:GLN:O | 21:AT:189:GLU:N | 2.51 | 0.44 |
| 28:Ah:13:UNK:O | 28:Ah:16:UNK:N | 2.51 | 0.44 |
| 29:B1:44:U:H5" | 29:B1:45:A:OP2 | 2.17 | 0.44 |
| 29:B1:189:G:N3 | 29:B1:191:U:O4 | 2.50 | 0.44 |
| 29:B1:279:U:OP1 | 74:B1:3536:OHX:N1 | 2.50 | 0.44 |
| 29:B1:301:G:H2' | 29:B1:302:U:O5' | 2.18 | 0.44 |
| 29:B1:355:A:C6 | 29:B1:365:A:C8 | 3.05 | 0.44 |
| 29:B1:421:G:C8 | 29:B1:421:G:C4' | 3.00 | 0.44 |
| 29:B1:428:A:H5' | 29:B1:428:A:H8 | 1.83 | 0.44 |
| 29:B1:528:U:N3 | 29:B1:564:G:N1 | 2.65 | 0.44 |
| 29:B1:790:U:H2' | 29:B1:791:A:O4' | 2.18 | 0.44 |
| 29:B1:945:C:C3' | 29:B1:946:U:H6 | 2.30 | 0.44 |
| 29:B1:1018:G:C5 | 74:B1:3529:OHX:N1 | 2.86 | 0.44 |
| 29:B1:1180:A:C2 | 29:B1:1182:A:C5 | 3.05 | 0.44 |
| 29:B1:1212:A:C3' | 29:B1:1213:G:C5' | 2.92 | 0.44 |
| 29:B1:1298:C:N3 | 29:B1:1299:U:C5 | 2.85 | 0.44 |
| 29:B1:1424:C:C4 | 29:B1:1425:U:C5 | 3.05 | 0.44 |
| 29:B1:1448:U:H5 | 29:B1:2355:G:H21 | 1.61 | 0.44 |
| 29:B1:1454:A:N1 | 29:B1:1484:U:O4 | 2.51 | 0.44 |
| 29:B1:1465:A:C2' | 29:B1:1466:G:H5' | 2.47 | 0.44 |
| 29:B1:1509:A:N6 | 29:B1:1510:G:N1 | 2.65 | 0.44 |
| 29:B1:1515:A:H2' | 29:B1:1516:C:C6 | 2.52 | 0.44 |
| 29:B1:1524:A:C5 | 29:B1:1527:C:C4 | 3.06 | 0.44 |
| 29:B1:1528:G:C4 | 29:B1:1529:A:N7 | 2.85 | 0.44 |
| 29:B1:1599:G:N1 | 29:B1:1600:U:O2 | 2.51 | 0.44 |
| 29:B1:1610:G:H2' | 29:B1:1611:G:C8 | 2.52 | 0.44 |
| 29:B1:1734:G:C5 | 29:B1:1735:G:N7 | 2.85 | 0.44 |
| 29:B1:1916:U:C2 | 29:B1:1917:C:C5 | 3.06 | 0.44 |
| 29:B1:1922:A:H2' | 29:B1:1923:C:C5' | 2.47 | 0.44 |
| 29:B1:2117:A:C2 | 29:B1:2118:C:H1' | 2.52 | 0.44 |
| 29:B1:2140:U:C5 | 29:B1:2956:A:C2 | 3.05 | 0.44 |
| 29:B1:2148:U:H2' | 29:B1:2149:A:C4 | 2.51 | 0.44 |
| 29:B1:2194:G:H2' | 29:B1:2195:C:H5' | 1.97 | 0.44 |
| 29:B1:2240:G:H2' | 29:B1:2241:U:C5' | 2.47 | 0.44 |
| 29:B1:2459:A:N6 | 29:B1:2486:A:H2 | 2.15 | 0.44 |
| 29:B1:2513:U:C5 | 29:B1:2592:G:N3 | 2.84 | 0.44 |
| 29:B1:2594:C:C6 | 29:B1:2595:A:C8 | 3.05 | 0.44 |
| 29:B1:2655:U:O4' | 29:B1:2656:A:N3 | 2.51 | 0.44 |
| 29:B1:2661:G:N3 | 29:B1:2662:G:C8 | 2.85 | 0.44 |
| 29:B1:2725:U:O4 | 29:B1:2727:A:N3 | 2.49 | 0.44 |
| 29:B1:2785:A:N6 | 29:B1:2786:G:C5 | 2.86 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2822:U:C2' | 29:B1:2823:G:O5' | 2.66 | 0.44 |
| 29:B1:3196:U:H2' | 29:B1:3197:G:C2 | 2.51 | 0.44 |
| 29:B1:3200:G:H2' | 29:B1:3201:C:C6 | 2.52 | 0.44 |
| 29:B1:3205:G:C2 | 43:BN:89:ALA:HB1 | 2.52 | 0.44 |
| 29:B1:3209:A:C4 | 29:B1:3210:A:C5 | 3.04 | 0.44 |
| 29:B1:3250:U:C2' | 29:B1:3251:U:O5' | 2.66 | 0.44 |
| 30:B2:9:C:C5 | 30:B2:10:C:C1' | 3.01 | 0.44 |
| 31:B3:19:C:N4 | 31:B3:20:U:O4 | 2.51 | 0.44 |
| 31:B3:27:U:H2' | 31:B3:28:C:O4' | 2.18 | 0.44 |
| 34:BC:90:VAL:CB | 34:BC:103:THR:N | 2.80 | 0.44 |
| 34:BC:104:THR:O | 34:BC:105:VAL:O | 2.36 | 0.44 |
| 34:BC:269:GLN:O | 34:BC:270:ARG:O | 2.35 | 0.44 |
| 39:BH:94:PHE:O | 39:BH:96:LYS:N | 2.45 | 0.44 |
| 39:BH:150:LEU:O | 39:BH:151:VAL:C | 2.61 | 0.44 |
| 41:BJ:66:GLU:O | 41:BJ:68:ALA:N | 2.51 | 0.44 |
| 41:BJ:83:ASP:O | 41:BJ:84:ALA:HB2 | 2.17 | 0.44 |
| 43:BN:78:THR:C | 43:BN:80:THR:N | 2.75 | 0.44 |
| 45:BP:18:ARG:O | 45:BP:19:LEU:C | 2.61 | 0.44 |
| 46:BQ:30:ARG:O | 46:BQ:32:THR:N | 2.51 | 0.44 |
| 47:BR:49:LEU:C | 47:BR:51:ALA:N | 2.74 | 0.44 |
| 48:BS:124:TYR:HA | 48:BS:127:SER:CB | 2.48 | 0.44 |
| 61:Bf:45:ARG:O | 61:Bf:46:LYS:CB | 2.65 | 0.44 |
| 1:C1:21:U:O2 | 1:C1:605:A:H2 | 2.01 | 0.44 |
| 1:C1:60:U:C6 | 1:C1:453:U:H2' | 2.52 | 0.44 |
| 1:C1:72:A:N1 | 1:C1:81:G:O6 | 2.51 | 0.44 |
| 1:C1:109:G:O2' | 1:C1:796:A:N1 | 2.43 | 0.44 |
| 1:C1:125:U:C5' | 1:C1:125:U:C6 | 3.00 | 0.44 |
| 1:C1:210:A:N3 | 1:C1:211:U:C6 | 2.86 | 0.44 |
| 1:C1:377:G:O2' | 1:C1:378:A:P | 2.76 | 0.44 |
| 1:C1:699:U:O2 | 1:C1:740:A:C2 | 2.70 | 0.44 |
| 1:C1:713:A:H3' | 1:C1:714:G:H5" | 1.98 | 0.44 |
| 1:C1:762:A:H2' | 1:C1:762:A:N3 | 2.31 | 0.44 |
| 1:C1:894:U:O4 | 1:C1:915:A:OP1 | 2.35 | 0.44 |
| 1:C1:985:G:C6 | 1:C1:986:G:C5 | 3.04 | 0.44 |
| 1:C1:988:A:C2 | 1:C1:989:U:H1' | 2.52 | 0.44 |
| 1:C1:989:U:C2 | 1:C1:990:C:C6 | 3.05 | 0.44 |
| 1:C1:1056:U:C4 | 1:C1:1063:U:N3 | 2.86 | 0.44 |
| 1:C1:1073:G:C5' | 1:C1:1073:G:H8 | 2.30 | 0.44 |
| 1:C1:1149:G:N2 | 1:C1:1151:A:N6 | 2.65 | 0.44 |
| 1:C1:1176:G:C5 | 1:C1:1177:C:C5 | 3.05 | 0.44 |
| 1:C1:1201:G:OP2 | 1:C1:1201:G:C5 | 2.71 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1234:A:H5” | 1:C1:1235:C:OP1 | 2.18 | 0.44 |
| 1:C1:1256:A:H5” | 1:C1:1257:U:O5’ | 2.17 | 0.44 |
| 1:C1:1536:G:C6 | 1:C1:1538:U:O2 | 2.70 | 0.44 |
| 1:C1:1575:G:C5’ | 1:C1:1576:A:OP2 | 2.66 | 0.44 |
| 1:C1:1640:C:C6 | 1:C1:1640:C:C3’ | 3.01 | 0.44 |
| 1:C1:1652:C:O2 | 1:C1:1652:C:C2’ | 2.65 | 0.44 |
| 1:C1:1719:A:C2’ | 1:C1:1720:G:C5 | 2.96 | 0.44 |
| 2:CA:25:GLY:O | 2:CA:26:ALA:CB | 2.66 | 0.44 |
| 3:CB:46:LYS:O | 3:CB:47:ALA:C | 2.58 | 0.44 |
| 4:CC:166:ASP:O | 4:CC:167:PHE:CB | 2.65 | 0.44 |
| 5:CD:93:LEU:O | 5:CD:96:SER:N | 2.28 | 0.44 |
| 6:CE:103:ASP:O | 6:CE:105:LEU:N | 2.50 | 0.44 |
| 9:CH:8:ARG:CB | 9:CH:9:ASP:HA | 2.46 | 0.44 |
| 15:CN:40:ASN:O | 15:CN:41:ILE:CB | 2.65 | 0.44 |
| 16:CO:85:ASP:O | 16:CO:86:ILE:C | 2.60 | 0.44 |
| 16:CO:106:THR:HA | 16:CO:122:SER:O | 2.17 | 0.44 |
| 21:CT:216:LYS:O | 21:CT:218:GLY:N | 2.51 | 0.44 |
| 29:D1:12:A:OP2 | 29:D1:12:A:C8 | 2.62 | 0.44 |
| 29:D1:77:A:C2 | 29:D1:78:U:N1 | 2.86 | 0.44 |
| 29:D1:96:G:N2 | 29:D1:97:U:C1’ | 2.72 | 0.44 |
| 29:D1:283:G:C8 | 29:D1:285:A:C8 | 3.05 | 0.44 |
| 29:D1:303:G:N2 | 29:D1:2778:G:C8 | 2.85 | 0.44 |
| 29:D1:318:A:OP2 | 29:D1:318:A:C8 | 2.63 | 0.44 |
| 29:D1:365:A:C2 | 29:D1:366:A:N9 | 2.86 | 0.44 |
| 29:D1:381:U:H3 | 29:D1:387:A:N6 | 2.15 | 0.44 |
| 29:D1:512:U:O2 | 29:D1:579:G:C2 | 2.69 | 0.44 |
| 29:D1:517:G:C8 | 29:D1:517:G:P | 3.06 | 0.44 |
| 29:D1:532:A:C3’ | 29:D1:533:A:H8 | 2.29 | 0.44 |
| 29:D1:542:G:C4 | 29:D1:543:C:C5 | 3.05 | 0.44 |
| 29:D1:561:C:C2’ | 29:D1:562:C:OP2 | 2.66 | 0.44 |
| 29:D1:612:U:C2 | 29:D1:613:G:C5 | 3.06 | 0.44 |
| 29:D1:632:G:C8 | 29:D1:632:G:C3’ | 3.01 | 0.44 |
| 29:D1:796:U:C2 | 29:D1:797:U:C5 | 3.05 | 0.44 |
| 29:D1:1106:G:C4 | 29:D1:1107:C:C6 | 3.06 | 0.44 |
| 29:D1:1129:A:C5 | 29:D1:1130:A:C6 | 3.05 | 0.44 |
| 29:D1:1180:A:O2’ | 29:D1:1181:U:H5’ | 2.18 | 0.44 |
| 29:D1:1217:A:H5’ | 29:D1:1218:U:OP2 | 2.17 | 0.44 |
| 29:D1:1273:A:N7 | 29:D1:1274:A:C8 | 2.85 | 0.44 |
| 29:D1:1276:U:O2’ | 29:D1:1277:C:H5’ | 2.17 | 0.44 |
| 29:D1:1380:G:N3 | 29:D1:1380:G:C2’ | 2.80 | 0.44 |
| 29:D1:1453:A:H2’ | 29:D1:1878:G:H1 | 1.83 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1619:A:C2 | 29:D1:1826:C:N3 | 2.85 | 0.44 |
| 29:D1:1654:A:O2' | 29:D1:1655:G:C4' | 2.65 | 0.44 |
| 29:D1:1687:U:O2 | 29:D1:3069:G:C2 | 2.71 | 0.44 |
| 29:D1:1739:U:C6 | 29:D1:1739:U:C3' | 3.00 | 0.44 |
| 29:D1:1753:G:C4 | 29:D1:1754:G:C8 | 3.06 | 0.44 |
| 29:D1:1779:C:H5' | 29:D1:1780:G:O4' | 2.18 | 0.44 |
| 29:D1:2243:A:C6 | 29:D1:2313:A:N7 | 2.85 | 0.44 |
| 29:D1:2302:G:C6 | 29:D1:2303:A:C5 | 3.05 | 0.44 |
| 29:D1:2341:A:H4' | 29:D1:3090:U:O2' | 2.17 | 0.44 |
| 29:D1:2521:U:H2' | 29:D1:2522:G:O5' | 2.17 | 0.44 |
| 29:D1:2720:G:C5 | 29:D1:2721:A:N7 | 2.86 | 0.44 |
| 29:D1:2723:U:O4 | 74:D1:3585:OHX:N3 | 2.51 | 0.44 |
| 29:D1:2780:A:C2 | 29:D1:2781:U:N3 | 2.86 | 0.44 |
| 29:D1:2849:C:O2 | 29:D1:2849:C:C2' | 2.66 | 0.44 |
| 29:D1:2875:U:O2 | 29:D1:2875:U:C2' | 2.60 | 0.44 |
| 29:D1:3070:A:C4 | 29:D1:3071:U:C6 | 3.05 | 0.44 |
| 29:D1:3306:U:O2 | 29:D1:3306:U:O4' | 2.33 | 0.44 |
| 29:D1:3316:A:N6 | 29:D1:3387:U:C4 | 2.85 | 0.44 |
| 29:D1:3342:A:H2' | 29:D1:3343:G:N3 | 2.33 | 0.44 |
| 30:D2:28:C:C4 | 30:D2:29:C:C2 | 3.06 | 0.44 |
| 30:D2:42:A:C2 | 30:D2:47:C:C5 | 3.03 | 0.44 |
| 31:D3:72:A:O3' | 31:D3:73:U:H4' | 2.18 | 0.44 |
| 31:D3:104:A:C8 | 31:D3:105:A:C8 | 3.05 | 0.44 |
| 35:DD:8:VAL:N | 35:DD:18:ASN:O | 2.50 | 0.44 |
| 35:DD:190:GLY:O | 35:DD:192:GLY:N | 2.50 | 0.44 |
| 36:DE:69:ILE:O | 36:DE:70:THR:C | 2.59 | 0.44 |
| 73:DM:11:TYR:O | 73:DM:13:ALA:N | 2.45 | 0.44 |
| 44:DO:74:PRO:O | 44:DO:75:VAL:CB | 2.65 | 0.44 |
| 45:DP:92:THR:O | 45:DP:95:GLY:N | 2.50 | 0.44 |
| 48:DS:101:VAL:O | 48:DS:102:LEU:C | 2.59 | 0.44 |
| 48:DS:151:ARG:O | 48:DS:154:ALA:N | 2.50 | 0.44 |
| 54:DY:49:HIS:O | 54:DY:51:GLY:N | 2.51 | 0.44 |
| 58:Dc:16:GLN:H | 58:Dc:18:ALA:H | 1.66 | 0.44 |
| 1:A1:80:A:H3' | 1:A1:81:G:C8 | 2.48 | 0.44 |
| 1:A1:104:A:N1 | 1:A1:106:U:H1' | 2.33 | 0.44 |
| 1:A1:202:A:H3' | 1:A1:202:A:H8 | 1.82 | 0.44 |
| 1:A1:237:C:O2' | 1:A1:238:U:P | 2.76 | 0.44 |
| 1:A1:488:G:O2' | 1:A1:489:C:P | 2.76 | 0.44 |
| 1:A1:585:A:H2' | 1:A1:586:G:C8 | 2.52 | 0.44 |
| 1:A1:745:U:C2' | 1:A1:746:A:H5' | 2.47 | 0.44 |
| 1:A1:837:G:N1 | 1:A1:838:G:C5 | 2.85 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:850:A:O2' | 1:A1:851:U:H5' | 2.17 | 0.44 |
| 1:A1:940:A:H2' | 1:A1:941:A:C8 | 2.52 | 0.44 |
| 1:A1:955:A:H4' | 1:A1:1074:G:HO2' | 1.77 | 0.44 |
| 1:A1:1030:A:C3' | 1:A1:1031:U:H5' | 2.39 | 0.44 |
| 1:A1:1179:G:H21 | 1:A1:1460:A:N6 | 2.15 | 0.44 |
| 1:A1:1205:C:H6 | 1:A1:1205:C:H2' | 1.50 | 0.44 |
| 1:A1:1234:A:H5" | 1:A1:1235:C:OP1 | 2.17 | 0.44 |
| 1:A1:1310:U:H2' | 1:A1:1311:U:C6 | 2.44 | 0.44 |
| 1:A1:1381:U:C5 | 1:A1:1382:A:N7 | 2.85 | 0.44 |
| 1:A1:1392:U:C2 | 1:A1:1393:C:C5 | 3.05 | 0.44 |
| 1:A1:1393:C:H2' | 1:A1:1394:G:H8 | 1.83 | 0.44 |
| 1:A1:1403:C:O2' | 1:A1:1404:C:H5' | 2.18 | 0.44 |
| 1:A1:1550:A:C2' | 1:A1:1551:U:H5' | 2.48 | 0.44 |
| 1:A1:1553:G:H1' | 1:A1:1597:A:H2 | 1.83 | 0.44 |
| 1:A1:1575:G:C2 | 1:A1:1576:A:N9 | 2.86 | 0.44 |
| 1:A1:1716:C:C2 | 1:A1:1717:G:C8 | 3.05 | 0.44 |
| 1:A1:1798:U:H5' | 1:A1:1799:U:OP2 | 2.17 | 0.44 |
| 2:AA:65:ALA:O | 2:AA:67:ILE:N | 2.50 | 0.44 |
| 2:AA:68:PRO:C | 2:AA:70:PRO:N | 2.73 | 0.44 |
| 3:AB:62:PRO:CB | 3:AB:63:VAL:CB | 2.95 | 0.44 |
| 3:AB:160:GLY:O | 3:AB:161:LYS:CB | 2.66 | 0.44 |
| 4:AC:57:ASP:C | 4:AC:59:LEU:N | 2.75 | 0.44 |
| 21:AT:96:THR:O | 21:AT:97:GLY:C | 2.61 | 0.44 |
| 23:Ab:132:UNK:HA | 23:Ab:133:UNK:CB | 2.48 | 0.44 |
| 29:B1:54:C:C2' | 29:B1:55:G:O5' | 2.66 | 0.44 |
| 29:B1:78:U:H3 | 29:B1:325:A:N6 | 2.13 | 0.44 |
| 29:B1:91:G:C8 | 29:B1:93:C:C6 | 3.05 | 0.44 |
| 29:B1:117:U:C4 | 29:B1:118:U:H5 | 2.36 | 0.44 |
| 29:B1:257:U:C2' | 29:B1:258:G:H8 | 2.20 | 0.44 |
| 29:B1:311:C:C5 | 29:B1:312:C:C5 | 3.06 | 0.44 |
| 29:B1:423:A:C6 | 29:B1:424:G:N1 | 2.85 | 0.44 |
| 29:B1:424:G:O5' | 29:B1:424:G:H8 | 2.00 | 0.44 |
| 29:B1:440:A:H5' | 29:B1:441:U:C4' | 2.48 | 0.44 |
| 29:B1:520:U:C1' | 29:B1:521:A:OP2 | 2.66 | 0.44 |
| 29:B1:558:U:O2' | 29:B1:558:U:O2 | 2.36 | 0.44 |
| 29:B1:578:A:H1' | 37:BF:156:LYS:CB | 2.48 | 0.44 |
| 29:B1:595:G:O6 | 29:B1:609:G:C4 | 2.69 | 0.44 |
| 29:B1:637:C:N3 | 29:B1:638:C:N4 | 2.65 | 0.44 |
| 29:B1:668:G:H2' | 29:B1:669:U:O5' | 2.18 | 0.44 |
| 29:B1:692:A:C2 | 29:B1:693:A:N9 | 2.85 | 0.44 |
| 29:B1:703:G:C6 | 29:B1:704:U:N3 | 2.86 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:729:C:N4 | 29:B1:730:C:N4 | 2.65 | 0.44 |
| 29:B1:740:G:C5 | 29:B1:741:U:C5 | 3.05 | 0.44 |
| 29:B1:760:G:OP2 | 74:B1:3479:OHX:N2 | 2.50 | 0.44 |
| 29:B1:772:U:H5 | 74:B1:3523:OHX:N4 | 2.15 | 0.44 |
| 29:B1:774:G:C2 | 29:B1:775:A:C8 | 3.05 | 0.44 |
| 29:B1:818:C:C5 | 29:B1:819:U:C4 | 3.06 | 0.44 |
| 29:B1:955:U:C2 | 29:B1:956:U:C6 | 3.05 | 0.44 |
| 29:B1:995:U:C4 | 29:B1:2637:A:C5 | 3.06 | 0.44 |
| 29:B1:995:U:O2' | 29:B1:996:A:P | 2.76 | 0.44 |
| 29:B1:1104:G:C2' | 29:B1:1105:A:O5' | 2.63 | 0.44 |
| 29:B1:1168:U:OP1 | 38:BG:212:GLY:O | 2.36 | 0.44 |
| 29:B1:1317:A:N7 | 29:B1:1319:G:N7 | 2.66 | 0.44 |
| 29:B1:1394:A:O2' | 29:B1:1395:G:H5' | 2.17 | 0.44 |
| 29:B1:1423:C:C2 | 29:B1:1424:C:C5 | 3.05 | 0.44 |
| 29:B1:1573:G:C8 | 29:B1:1574:C:C6 | 3.06 | 0.44 |
| 29:B1:1587:A:C2 | 29:B1:1590:G:C8 | 3.06 | 0.44 |
| 29:B1:1654:A:C2' | 29:B1:1655:G:O4' | 2.65 | 0.44 |
| 29:B1:1787:A:N6 | 29:B1:1788:C:N4 | 2.66 | 0.44 |
| 29:B1:1809:A:C2 | 29:B1:1810:A:H1' | 2.53 | 0.44 |
| 29:B1:1909:A:C6 | 29:B1:1910:A:C4 | 3.06 | 0.44 |
| 29:B1:2111:G:H21 | 51:BV:49:ILE:CA | 2.24 | 0.44 |
| 29:B1:2224:A:H3' | 29:B1:2225:U:H6 | 1.83 | 0.44 |
| 29:B1:2342:U:O2' | 29:B1:2343:C:C5' | 2.66 | 0.44 |
| 29:B1:2353:G:C4 | 29:B1:2354:C:C5 | 3.02 | 0.44 |
| 29:B1:2419:A:C5 | 29:B1:2804:A:N7 | 2.86 | 0.44 |
| 29:B1:2595:A:H2' | 29:B1:2596:U:H6 | 1.83 | 0.44 |
| 29:B1:2677:G:C2 | 29:B1:2678:A:H5' | 2.53 | 0.44 |
| 29:B1:2888:U:C2 | 29:B1:2910:A:C2 | 3.05 | 0.44 |
| 29:B1:2903:A:C5 | 29:B1:2904:U:C5 | 3.05 | 0.44 |
| 29:B1:3050:U:H3' | 29:B1:3051:U:H6 | 1.82 | 0.44 |
| 29:B1:3100:U:O2 | 29:B1:3101:G:C8 | 2.71 | 0.44 |
| 29:B1:3113:A:C2' | 29:B1:3114:A:H5' | 2.47 | 0.44 |
| 29:B1:3166:C:H2' | 29:B1:3167:A:C8 | 2.52 | 0.44 |
| 29:B1:3234:A:C2 | 29:B1:3235:C:C4 | 3.06 | 0.44 |
| 29:B1:3292:A:O3' | 29:B1:3293:U:O3' | 2.35 | 0.44 |
| 29:B1:3296:A:N3 | 29:B1:3297:U:C6 | 2.86 | 0.44 |
| 29:B1:3309:G:N3 | 29:B1:3309:G:H5" | 2.32 | 0.44 |
| 30:B2:38:U:H3 | 30:B2:44:C:N4 | 2.16 | 0.44 |
| 30:B2:77:G:C2' | 30:B2:78:U:OP2 | 2.66 | 0.44 |
| 30:B2:80:G:H2' | 30:B2:81:U:O4' | 2.17 | 0.44 |
| 31:B3:149:A:H2' | 31:B3:150:G:C8 | 2.53 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:BC:159:ARG:CB | 34:BC:181:ILE:O | 2.65 | 0.44 |
| 34:BC:162:VAL:O | 34:BC:163:HIS:C | 2.58 | 0.44 |
| 36:BE:87:GLY:O | 36:BE:241:THR:CB | 2.66 | 0.44 |
| 36:BE:227:LEU:HA | 36:BE:228:ALA:HB3 | 1.98 | 0.44 |
| 37:BF:143:LYS:O | 37:BF:144:ALA:O | 2.36 | 0.44 |
| 38:BG:43:ILE:C | 38:BG:45:LEU:N | 2.71 | 0.44 |
| 39:BH:225:LYS:C | 39:BH:227:ASP:N | 2.75 | 0.44 |
| 40:BI:154:VAL:O | 40:BI:155:SER:C | 2.61 | 0.44 |
| 43:BN:46:ILE:H | 43:BN:56:GLN:H | 1.65 | 0.44 |
| 45:BP:11:GLY:O | 45:BP:13:GLY:N | 2.50 | 0.44 |
| 48:BS:5:ARG:O | 48:BS:8:LYS:N | 2.51 | 0.44 |
| 48:BS:66:HIS:O | 48:BS:69:SER:N | 2.50 | 0.44 |
| 54:BY:130:VAL:O | 54:BY:132:LYS:N | 2.42 | 0.44 |
| 56:Ba:32:ALA:O | 56:Ba:33:VAL:C | 2.59 | 0.44 |
| 60:Be:23:LEU:C | 60:Be:24:PRO:O | 2.54 | 0.44 |
| 1:C1:33:U:C6 | 1:C1:33:U:C3' | 3.00 | 0.44 |
| 1:C1:36:C:N3 | 1:C1:472:U:O4 | 2.51 | 0.44 |
| 1:C1:43:A:C5 | 1:C1:378:A:N1 | 2.86 | 0.44 |
| 1:C1:104:A:C5 | 1:C1:106:U:C6 | 3.05 | 0.44 |
| 1:C1:119:A:C2' | 1:C1:120:U:O5' | 2.66 | 0.44 |
| 1:C1:243:G:N1 | 1:C1:251:A:C5 | 2.79 | 0.44 |
| 1:C1:275:C:C4 | 1:C1:276:C:N4 | 2.86 | 0.44 |
| 1:C1:353:A:H8 | 1:C1:353:A:O5' | 2.00 | 0.44 |
| 1:C1:581:U:H2' | 1:C1:581:U:O2 | 2.17 | 0.44 |
| 1:C1:612:U:OP1 | 1:C1:1100:G:N2 | 2.51 | 0.44 |
| 1:C1:706:A:N7 | 1:C1:733:A:C2 | 2.85 | 0.44 |
| 1:C1:743:U:HO2' | 1:C1:744:U:H6 | 1.63 | 0.44 |
| 1:C1:825:U:O2 | 1:C1:825:U:H2' | 2.17 | 0.44 |
| 1:C1:869:A:N7 | 1:C1:870:C:C5 | 2.85 | 0.44 |
| 1:C1:893:U:H2' | 1:C1:893:U:O2 | 2.16 | 0.44 |
| 1:C1:968:U:H2' | 1:C1:969:C:O5' | 2.18 | 0.44 |
| 1:C1:1045:C:HO2' | 1:C1:1046:G:P | 2.41 | 0.44 |
| 1:C1:1205:C:H6 | 1:C1:1205:C:H2' | 1.55 | 0.44 |
| 1:C1:1219:A:C4' | 1:C1:1220:C:C5 | 3.01 | 0.44 |
| 1:C1:1340:U:C2 | 1:C1:1342:C:C5 | 3.05 | 0.44 |
| 1:C1:1347:U:O3' | 1:C1:1348:A:C8 | 2.70 | 0.44 |
| 1:C1:1426:C:C2 | 1:C1:1428:G:N7 | 2.85 | 0.44 |
| 1:C1:1478:G:C2' | 1:C1:1479:A:O5' | 2.65 | 0.44 |
| 1:C1:1558:U:C5 | 1:C1:1559:A:N3 | 2.86 | 0.44 |
| 1:C1:1664:C:H5" | 1:C1:1665:U:OP2 | 2.18 | 0.44 |
| 3:CB:101:VAL:HA | 3:CB:114:GLY:O | 2.17 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:CB:118:ALA:CB | 3:CB:124:ALA:H | 2.29 | 0.44 |
| 3:CB:165:VAL:CA | 3:CB:202:GLY:HA3 | 2.47 | 0.44 |
| 3:CB:229:LEU:O | 3:CB:232:GLU:CB | 2.65 | 0.44 |
| 8:CG:85:PRO:O | 8:CG:87:ASP:N | 2.51 | 0.44 |
| 21:CT:24:ALA:HB2 | 21:CT:71:CYS:O | 2.18 | 0.44 |
| 29:D1:26:A:N1 | 29:D1:331:G:N7 | 2.66 | 0.44 |
| 29:D1:41:G:OP1 | 29:D1:42:C:OP2 | 2.35 | 0.44 |
| 29:D1:61:A:C6 | 29:D1:62:A:C4 | 3.05 | 0.44 |
| 29:D1:91:G:C2' | 29:D1:92:G:OP2 | 2.65 | 0.44 |
| 29:D1:149:U:C6 | 44:DO:55:ALA:HB2 | 2.52 | 0.44 |
| 29:D1:172:G:N2 | 29:D1:173:G:C4 | 2.85 | 0.44 |
| 29:D1:303:G:N2 | 29:D1:2778:G:C5 | 2.86 | 0.44 |
| 29:D1:372:A:N6 | 29:D1:373:A:N1 | 2.65 | 0.44 |
| 29:D1:385:A:C4 | 29:D1:386:A:N7 | 2.85 | 0.44 |
| 29:D1:533:A:C2' | 29:D1:534:U:C6 | 3.00 | 0.44 |
| 29:D1:534:U:OP2 | 29:D1:555:U:C4 | 2.70 | 0.44 |
| 29:D1:597:G:C2' | 29:D1:598:A:O4' | 2.65 | 0.44 |
| 29:D1:627:U:H2' | 29:D1:628:A:H8 | 1.79 | 0.44 |
| 29:D1:652:G:H2' | 29:D1:2361:A:H5" | 1.98 | 0.44 |
| 29:D1:670:C:H2' | 29:D1:671:U:C6 | 2.53 | 0.44 |
| 29:D1:697:A:C8 | 29:D1:698:U:H3' | 2.51 | 0.44 |
| 29:D1:752:C:O2' | 29:D1:753:C:C6 | 2.69 | 0.44 |
| 29:D1:790:U:N3 | 29:D1:791:A:C8 | 2.84 | 0.44 |
| 29:D1:859:G:C6 | 29:D1:861:C:C5 | 3.06 | 0.44 |
| 29:D1:935:U:H2' | 29:D1:936:A:H8 | 1.81 | 0.44 |
| 29:D1:950:G:O5' | 29:D1:950:G:C8 | 2.68 | 0.44 |
| 29:D1:1063:G:C8 | 29:D1:1064:A:C1' | 3.01 | 0.44 |
| 29:D1:1076:C:H3' | 29:D1:1077:U:C5 | 2.53 | 0.44 |
| 29:D1:1123:U:OP2 | 29:D1:1123:U:H6 | 2.01 | 0.44 |
| 29:D1:1152:G:O2' | 29:D1:1153:A:C5' | 2.65 | 0.44 |
| 29:D1:1172:G:C2' | 29:D1:1173:U:O5' | 2.65 | 0.44 |
| 29:D1:1204:A:H62 | 29:D1:1300:G:N2 | 2.11 | 0.44 |
| 29:D1:1275:C:C5' | 29:D1:1275:C:H6 | 2.31 | 0.44 |
| 29:D1:1279:C:HO2' | 29:D1:1280:C:H6 | 1.65 | 0.44 |
| 29:D1:1302:A:C2' | 29:D1:2887:A:C2 | 3.00 | 0.44 |
| 29:D1:1505:C:O2 | 29:D1:1505:C:H2' | 2.17 | 0.44 |
| 29:D1:1550:C:H2' | 29:D1:1551:C:H5' | 1.96 | 0.44 |
| 29:D1:1561:G:C6 | 29:D1:1562:C:C4 | 3.05 | 0.44 |
| 29:D1:1626:U:N3 | 29:D1:1627:U:C4 | 2.85 | 0.44 |
| 29:D1:1633:C:N4 | 29:D1:1634:G:C6 | 2.86 | 0.44 |
| 29:D1:1724:U:H2' | 29:D1:1725:C:O4' | 2.18 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1728:G:N7 | 55:DZ:85:PHE:CB | 2.80 | 0.44 |
| 29:D1:1898:G:C5 | 29:D1:1899:G:C5 | 3.06 | 0.44 |
| 29:D1:1933:A:C3' | 29:D1:1934:G:H5' | 2.47 | 0.44 |
| 29:D1:2284:C:H2' | 29:D1:2285:C:C2 | 2.53 | 0.44 |
| 29:D1:2413:A:O2' | 29:D1:2414:G:C5' | 2.65 | 0.44 |
| 29:D1:2843:U:H3' | 29:D1:2843:U:P | 2.57 | 0.44 |
| 29:D1:2847:A:N6 | 29:D1:2898:G:N3 | 2.64 | 0.44 |
| 29:D1:2949:U:C2 | 29:D1:2950:G:N7 | 2.86 | 0.44 |
| 29:D1:3058:U:C1' | 29:D1:3059:G:O5' | 2.66 | 0.44 |
| 29:D1:3214:U:O2' | 29:D1:3218:A:C5' | 2.65 | 0.44 |
| 29:D1:3241:G:N2 | 29:D1:3246:G:N2 | 2.65 | 0.44 |
| 29:D1:3291:G:O2' | 29:D1:3292:A:O4' | 2.30 | 0.44 |
| 29:D1:3294:A:C2' | 29:D1:3295:A:H5' | 2.47 | 0.44 |
| 29:D1:3377:G:C5 | 74:D1:3452:OHX:N6 | 2.85 | 0.44 |
| 30:D2:81:U:O2 | 30:D2:81:U:H2' | 2.17 | 0.44 |
| 31:D3:1:A:C2' | 31:D3:2:A:O5' | 2.65 | 0.44 |
| 31:D3:136:G:C2 | 31:D3:137:C:C5 | 3.06 | 0.44 |
| 31:D3:145:U:N3 | 31:D3:146:U:C2 | 2.86 | 0.44 |
| 34:DC:170:PRO:CB | 34:DC:316:GLU:H | 2.31 | 0.44 |
| 34:DC:245:GLY:HA3 | 34:DC:246:LEU:HA | 1.77 | 0.44 |
| 35:DD:6:VAL:CB | 35:DD:20:LEU:N | 2.80 | 0.44 |
| 39:DH:158:ASP:CA | 39:DH:159:PRO:C | 2.90 | 0.44 |
| 39:DH:225:LYS:C | 39:DH:227:ASP:H | 2.25 | 0.44 |
| 42:DK:101:ASN:O | 42:DK:103:GLY:O | 2.35 | 0.44 |
| 44:DO:39:ALA:HA | 44:DO:61:ILE:O | 2.18 | 0.44 |
| 44:DO:53:TYR:O | 44:DO:54:LYS:C | 2.60 | 0.44 |
| 46:DQ:84:PRO:O | 46:DQ:85:ALA:HB3 | 2.16 | 0.44 |
| 48:DS:119:LEU:O | 48:DS:123:LEU:CB | 2.65 | 0.44 |
| 52:DW:75:LYS:C | 52:DW:77:GLU:N | 2.76 | 0.44 |
| 53:DX:36:SER:O | 53:DX:39:LEU:N | 2.51 | 0.44 |
| 54:DY:93:SER:O | 54:DY:94:ALA:O | 2.35 | 0.44 |
| 55:DZ:28:LYS:C | 55:DZ:30:THR:N | 2.75 | 0.44 |
| 60:De:23:LEU:C | 60:De:24:PRO:O | 2.58 | 0.44 |
| 60:De:43:ASN:O | 60:De:44:TRP:C | 2.60 | 0.44 |
| 65:Dk:7:UNK:O | 65:Dk:11:UNK:N | 2.51 | 0.44 |
| 1:A1:148:A:N6 | 1:A1:167:U:N3 | 2.66 | 0.44 |
| 1:A1:151:G:C6 | 1:A1:164:A:N1 | 2.86 | 0.44 |
| 1:A1:276:C:O2 | 1:A1:277:U:H3' | 2.18 | 0.44 |
| 1:A1:302:U:O4 | 1:A1:303:U:O2 | 2.35 | 0.44 |
| 1:A1:451:A:H61 | 1:A1:456:A:N6 | 2.15 | 0.44 |
| 1:A1:512:A:O2' | 1:A1:512:A:N3 | 2.48 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:601:A:C5' | 1:A1:602:U:OP2 | 2.66 | 0.44 |
| 1:A1:775:G:C2 | 1:A1:786:C:N3 | 2.86 | 0.44 |
| 1:A1:887:A:N3 | 1:A1:887:A:H2' | 2.32 | 0.44 |
| 1:A1:1008:G:N1 | 1:A1:1009:U:C2 | 2.86 | 0.44 |
| 1:A1:1056:U:C4 | 1:A1:1063:U:N3 | 2.85 | 0.44 |
| 1:A1:1071:U:H5' | 1:A1:1072:C:OP2 | 2.17 | 0.44 |
| 1:A1:1109:G:C2 | 1:A1:1110:G:C5 | 3.06 | 0.44 |
| 1:A1:1239:U:C5 | 1:A1:1241:G:O6 | 2.70 | 0.44 |
| 1:A1:1267:G:N2 | 1:A1:1448:G:H5" | 2.32 | 0.44 |
| 1:A1:1277:G:H2' | 1:A1:1278:G:O4' | 2.18 | 0.44 |
| 1:A1:1330:G:O2' | 1:A1:1331:A:H5' | 2.18 | 0.44 |
| 1:A1:1441:C:H2' | 1:A1:1442:U:C6 | 2.52 | 0.44 |
| 1:A1:1466:G:H2' | 1:A1:1467:C:H6 | 1.79 | 0.44 |
| 1:A1:1467:C:C5' | 1:A1:1602:C:OP1 | 2.54 | 0.44 |
| 1:A1:1623:C:C4 | 1:A1:1624:C:C5 | 3.05 | 0.44 |
| 1:A1:1623:C:C2 | 1:A1:1624:C:C5 | 3.05 | 0.44 |
| 1:A1:1683:C:O4' | 1:A1:1721:A:N1 | 2.50 | 0.44 |
| 1:A1:1756:A:C6 | 74:A1:1901:OHX:N5 | 2.82 | 0.44 |
| 2:AA:67:ILE:C | 2:AA:69:ASN:N | 2.74 | 0.44 |
| 2:AA:70:PRO:O | 2:AA:71:GLU:CB | 2.65 | 0.44 |
| 3:AB:203:LYS:O | 3:AB:205:ARG:N | 2.51 | 0.44 |
| 6:AE:26:ALA:O | 6:AE:29:LYS:N | 2.50 | 0.44 |
| 11:AJ:32:ASN:H | 11:AJ:68:ARG:HA | 1.83 | 0.44 |
| 21:AT:194:GLY:O | 21:AT:195:HIS:C | 2.60 | 0.44 |
| 21:AT:257:ALA:C | 21:AT:259:GLY:H | 2.25 | 0.44 |
| 29:B1:43:A:C8 | 29:B1:2803:A:N6 | 2.85 | 0.44 |
| 29:B1:67:A:C2 | 29:B1:317:A:N7 | 2.85 | 0.44 |
| 29:B1:92:G:N7 | 29:B1:94:G:N2 | 2.66 | 0.44 |
| 29:B1:115:A:C2' | 29:B1:116:A:H2 | 2.27 | 0.44 |
| 29:B1:237:G:O2' | 29:B1:238:A:H5' | 2.18 | 0.44 |
| 29:B1:303:G:C2 | 29:B1:2778:G:N7 | 2.86 | 0.44 |
| 29:B1:423:A:C6 | 29:B1:424:G:C6 | 3.05 | 0.44 |
| 29:B1:431:U:C6 | 29:B1:431:U:C4' | 3.01 | 0.44 |
| 29:B1:535:G:C2 | 29:B1:559:A:H5' | 2.53 | 0.44 |
| 29:B1:550:A:O2' | 29:B1:551:A:H5' | 2.17 | 0.44 |
| 29:B1:554:A:N6 | 29:B1:555:U:H3 | 2.15 | 0.44 |
| 29:B1:592:A:C6 | 29:B1:593:C:C5 | 3.06 | 0.44 |
| 29:B1:605:U:C5' | 29:B1:605:U:C6 | 2.92 | 0.44 |
| 29:B1:787:G:H2' | 29:B1:788:C:C6 | 2.53 | 0.44 |
| 29:B1:995:U:C4 | 29:B1:2637:A:N9 | 2.86 | 0.44 |
| 29:B1:1019:G:N2 | 29:B1:1033:U:O2 | 2.31 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1065:A:O2' | 29:B1:1093:A:N1 | 2.50 | 0.44 |
| 29:B1:1218:U:H2' | 29:B1:1218:U:O2 | 2.18 | 0.44 |
| 29:B1:1313:G:C2' | 29:B1:1314:C:O5' | 2.66 | 0.44 |
| 29:B1:1388:U:C2 | 29:B1:1389:G:N7 | 2.85 | 0.44 |
| 29:B1:1454:A:C8 | 29:B1:1454:A:C3' | 3.01 | 0.44 |
| 29:B1:1478:C:C6 | 29:B1:1478:C:H5' | 2.52 | 0.44 |
| 29:B1:1522:U:C5 | 29:B1:1835:A:O4' | 2.71 | 0.44 |
| 29:B1:1524:A:O4' | 29:B1:1607:U:O2 | 2.35 | 0.44 |
| 29:B1:1601:U:O2' | 29:B1:1602:A:O5' | 2.35 | 0.44 |
| 29:B1:1623:G:C2 | 29:B1:1823:A:C2 | 3.05 | 0.44 |
| 29:B1:1779:C:H4' | 29:B1:1779:C:OP1 | 2.16 | 0.44 |
| 29:B1:1779:C:H5' | 29:B1:1780:G:O4' | 2.17 | 0.44 |
| 29:B1:1836:C:H2' | 29:B1:1837:U:O4' | 2.17 | 0.44 |
| 29:B1:1841:A:C6 | 29:B1:1848:G:C5 | 3.06 | 0.44 |
| 29:B1:1853:U:O4 | 74:B1:3559:OHX:N6 | 2.51 | 0.44 |
| 29:B1:1914:G:H2' | 29:B1:1914:G:N3 | 2.33 | 0.44 |
| 29:B1:2145:A:N3 | 29:B1:2145:A:H2' | 2.33 | 0.44 |
| 29:B1:2211:U:O2' | 29:B1:2212:C:H5' | 2.17 | 0.44 |
| 29:B1:2246:G:C4 | 29:B1:2247:G:C8 | 3.06 | 0.44 |
| 29:B1:2247:G:H5" | 29:B1:2248:C:OP2 | 2.17 | 0.44 |
| 29:B1:2300:G:H2' | 29:B1:2300:G:N3 | 2.32 | 0.44 |
| 29:B1:2316:G:N3 | 29:B1:2317:A:C8 | 2.85 | 0.44 |
| 29:B1:2423:U:O5' | 29:B1:2423:U:H6 | 2.00 | 0.44 |
| 29:B1:2459:A:N6 | 29:B1:2486:A:C2 | 2.86 | 0.44 |
| 29:B1:2488:A:H2' | 29:B1:2488:A:N3 | 2.33 | 0.44 |
| 29:B1:2617:U:O2 | 29:B1:2617:U:O4' | 2.32 | 0.44 |
| 29:B1:2672:G:C8 | 29:B1:2672:G:C3' | 3.00 | 0.44 |
| 29:B1:2727:A:P | 49:BT:80:VAL:O | 2.76 | 0.44 |
| 29:B1:2835:U:H2' | 29:B1:2835:U:O2 | 2.17 | 0.44 |
| 29:B1:2891:U:H3 | 29:B1:3130:A:N6 | 2.16 | 0.44 |
| 29:B1:2961:G:H5" | 29:B1:2962:U:P | 2.58 | 0.44 |
| 29:B1:2997:G:H21 | 29:B1:2998:U:H4' | 1.82 | 0.44 |
| 29:B1:3063:C:O2 | 29:B1:3064:U:C5 | 2.70 | 0.44 |
| 29:B1:3077:A:N7 | 29:B1:3080:G:C8 | 2.85 | 0.44 |
| 29:B1:3147:G:C2' | 29:B1:3148:U:O5' | 2.65 | 0.44 |
| 29:B1:3188:G:H2' | 29:B1:3189:G:H8 | 1.83 | 0.44 |
| 29:B1:3219:G:N2 | 29:B1:3258:U:OP2 | 2.50 | 0.44 |
| 29:B1:3344:A:O2' | 29:B1:3345:G:N7 | 2.37 | 0.44 |
| 29:B1:3387:U:C2 | 29:B1:3388:C:N4 | 2.86 | 0.44 |
| 30:B2:65:G:N2 | 30:B2:66:A:N9 | 2.65 | 0.44 |
| 30:B2:66:A:C4 | 30:B2:67:G:H8 | 2.36 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:B3:56:G:H2' | 31:B3:57:C:C6 | 2.49 | 0.44 |
| 33:BB:15:ILE:O | 33:BB:16:PHE:CB | 2.63 | 0.44 |
| 35:BD:22:LEU:O | 35:BD:23:PRO:C | 2.60 | 0.44 |
| 39:BH:98:ARG:O | 39:BH:99:PRO:O | 2.35 | 0.44 |
| 39:BH:110:THR:O | 39:BH:111:LYS:C | 2.60 | 0.44 |
| 39:BH:243:GLN:O | 39:BH:244:ALA:C | 2.60 | 0.44 |
| 40:BI:126:VAL:O | 40:BI:127:PRO:O | 2.36 | 0.44 |
| 41:BJ:47:PRO:O | 41:BJ:48:LEU:C | 2.60 | 0.44 |
| 45:BP:158:ALA:O | 45:BP:160:ARG:N | 2.51 | 0.44 |
| 47:BR:102:ALA:O | 47:BR:103:ALA:HB2 | 2.17 | 0.44 |
| 48:BS:65:ALA:O | 48:BS:68:GLN:CB | 2.65 | 0.44 |
| 49:BT:9:SER:C | 49:BT:11:THR:N | 2.76 | 0.44 |
| 51:BV:3:VAL:O | 51:BV:4:GLU:CB | 2.66 | 0.44 |
| 54:BY:130:VAL:C | 54:BY:132:LYS:N | 2.75 | 0.44 |
| 56:Ba:59:ILE:O | 56:Ba:60:TRP:O | 2.36 | 0.44 |
| 59:Bd:37:CYS:O | 59:Bd:39:TYR:N | 2.51 | 0.44 |
| 67:Bm:15:UNK:O | 67:Bm:16:UNK:C | 2.66 | 0.44 |
| 1:C1:42:G:O6 | 74:C1:1910:OHX:N5 | 2.50 | 0.44 |
| 1:C1:198:A:C1' | 1:C1:199:G:P | 3.06 | 0.44 |
| 1:C1:224:C:C2' | 1:C1:225:A:C8 | 2.90 | 0.44 |
| 1:C1:267:U:O4' | 1:C1:267:U:P | 2.76 | 0.44 |
| 1:C1:348:U:O2' | 1:C1:349:U:H5' | 2.18 | 0.44 |
| 1:C1:514:G:N3 | 1:C1:515:A:C8 | 2.86 | 0.44 |
| 1:C1:609:U:C5' | 1:C1:610:G:C5 | 2.89 | 0.44 |
| 1:C1:640:U:C5 | 1:C1:641:G:C6 | 3.05 | 0.44 |
| 1:C1:648:G:C6 | 1:C1:649:U:C5 | 3.05 | 0.44 |
| 1:C1:862:A:C5 | 1:C1:963:A:N6 | 2.86 | 0.44 |
| 1:C1:900:A:C2 | 1:C1:901:G:H1' | 2.53 | 0.44 |
| 1:C1:1056:U:C5 | 1:C1:1057:U:C4 | 3.06 | 0.44 |
| 1:C1:1138:A:O2' | 1:C1:1139:A:C5' | 2.63 | 0.44 |
| 1:C1:1179:G:N7 | 1:C1:1180:C:C5 | 2.86 | 0.44 |
| 1:C1:1203:A:N3 | 1:C1:1555:A:C2 | 2.85 | 0.44 |
| 1:C1:1211:A:C6 | 1:C1:1212:G:N7 | 2.86 | 0.44 |
| 1:C1:1558:U:H5 | 1:C1:1559:A:C3' | 2.31 | 0.44 |
| 1:C1:1609:U:H2' | 1:C1:1610:G:C8 | 2.52 | 0.44 |
| 1:C1:1682:U:O4 | 74:C1:1951:OHX:N3 | 2.51 | 0.44 |
| 1:C1:1693:A:N3 | 1:C1:1694:A:N7 | 2.66 | 0.44 |
| 10:CI:36:LEU:HA | 10:CI:37:ALA:CB | 2.34 | 0.44 |
| 16:CO:117:ARG:O | 16:CO:118:ARG:O | 2.35 | 0.44 |
| 21:CT:224:ASN:CB | 21:CT:227:ALA:HB3 | 2.48 | 0.44 |
| 23:Cb:125:UNK:O | 23:Cb:134:UNK:O | 2.36 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:15:C:C2 | 52:DW:46:TYR:HA | 2.53 | 0.44 |
| 29:D1:25:U:C2 | 29:D1:330:G:O3' | 2.71 | 0.44 |
| 29:D1:26:A:H2 | 29:D1:330:G:N2 | 2.16 | 0.44 |
| 29:D1:48:A:H5' | 29:D1:50:U:O4' | 2.18 | 0.44 |
| 29:D1:51:A:H2' | 29:D1:52:A:H5' | 1.98 | 0.44 |
| 29:D1:158:G:C2' | 29:D1:159:A:H4' | 2.46 | 0.44 |
| 29:D1:189:G:C4 | 29:D1:191:U:O4 | 2.71 | 0.44 |
| 29:D1:362:U:H2' | 29:D1:363:G:O4' | 2.18 | 0.44 |
| 29:D1:384:A:H8 | 29:D1:384:A:P | 2.37 | 0.44 |
| 29:D1:395:A:H2' | 29:D1:395:A:N3 | 2.33 | 0.44 |
| 29:D1:422:A:C4 | 29:D1:423:A:H5" | 2.53 | 0.44 |
| 29:D1:768:C:H2' | 29:D1:769:G:C4 | 2.52 | 0.44 |
| 29:D1:769:G:N3 | 29:D1:770:G:N9 | 2.65 | 0.44 |
| 29:D1:816:A:H5' | 29:D1:906:A:H61 | 1.81 | 0.44 |
| 29:D1:850:U:H2' | 29:D1:851:C:C6 | 2.52 | 0.44 |
| 29:D1:895:A:C4 | 29:D1:897:U:C6 | 3.05 | 0.44 |
| 29:D1:1007:U:OP1 | 29:D1:1007:U:H4' | 2.18 | 0.44 |
| 29:D1:1076:C:N3 | 29:D1:1077:U:C4 | 2.86 | 0.44 |
| 29:D1:1225:A:H2' | 29:D1:1226:G:H8 | 1.81 | 0.44 |
| 29:D1:1226:G:N1 | 29:D1:1227:C:C4 | 2.85 | 0.44 |
| 29:D1:1251:A:H5" | 74:D1:3557:OHX:N6 | 2.33 | 0.44 |
| 29:D1:1266:G:C2 | 29:D1:1267:U:C6 | 3.06 | 0.44 |
| 29:D1:1293:U:H2' | 29:D1:1294:A:O5' | 2.17 | 0.44 |
| 29:D1:1300:G:C5 | 29:D1:1301:A:N7 | 2.86 | 0.44 |
| 29:D1:1390:A:N7 | 29:D1:1418:A:C8 | 2.86 | 0.44 |
| 29:D1:1394:A:N7 | 29:D1:1395:G:C8 | 2.86 | 0.44 |
| 29:D1:1415:U:C2 | 29:D1:1416:C:C6 | 3.06 | 0.44 |
| 29:D1:1506:A:C6 | 29:D1:1513:G:N1 | 2.86 | 0.44 |
| 29:D1:1537:A:C5 | 29:D1:1538:G:C8 | 3.06 | 0.44 |
| 29:D1:1590:G:N3 | 29:D1:1591:G:C8 | 2.86 | 0.44 |
| 29:D1:1684:U:H2' | 29:D1:1685:C:O2 | 2.17 | 0.44 |
| 29:D1:1706:C:C3' | 29:D1:1707:A:H5' | 2.48 | 0.44 |
| 29:D1:1763:U:H2' | 29:D1:1764:U:O4' | 2.18 | 0.44 |
| 29:D1:1795:U:O4 | 62:Dg:51:ALA:HB2 | 2.17 | 0.44 |
| 29:D1:2108:C:H1' | 29:D1:3342:A:N7 | 2.33 | 0.44 |
| 29:D1:2119:A:C8 | 29:D1:2120:A:H2 | 2.35 | 0.44 |
| 29:D1:2133:U:O2' | 29:D1:2134:G:H5' | 2.18 | 0.44 |
| 29:D1:2214:A:H2' | 29:D1:2215:A:C8 | 2.53 | 0.44 |
| 29:D1:2386:A:C5 | 29:D1:2387:A:C8 | 3.05 | 0.44 |
| 29:D1:2541:U:O2 | 29:D1:2541:U:C2' | 2.57 | 0.44 |
| 29:D1:2561:A:OP1 | 29:D1:2561:A:C8 | 2.70 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2594:C:C6 | 29:D1:2595:A:C8 | 3.06 | 0.44 |
| 29:D1:2673:A:N6 | 29:D1:2681:U:N3 | 2.49 | 0.44 |
| 29:D1:2680:A:H61 | 42:DK:56:THR:N | 2.16 | 0.44 |
| 29:D1:2697:A:H2' | 29:D1:2698:G:O4' | 2.18 | 0.44 |
| 29:D1:2727:A:C2 | 29:D1:2729:U:C5 | 2.92 | 0.44 |
| 29:D1:2741:C:H4' | 61:Df:19:LYS:H | 1.83 | 0.44 |
| 29:D1:2912:G:N3 | 29:D1:3130:A:H2' | 2.33 | 0.44 |
| 29:D1:3034:C:C6 | 29:D1:3034:C:C3' | 3.00 | 0.44 |
| 29:D1:3039:C:H2' | 29:D1:3040:A:H8 | 1.82 | 0.44 |
| 29:D1:3090:U:HO2' | 29:D1:3091:A:P | 2.24 | 0.44 |
| 29:D1:3106:A:C6 | 29:D1:3107:U:C2 | 3.05 | 0.44 |
| 29:D1:3156:U:H3' | 29:D1:3156:U:O2 | 2.17 | 0.44 |
| 29:D1:3197:G:H21 | 29:D1:3198:U:H6 | 1.65 | 0.44 |
| 29:D1:3273:A:OP1 | 29:D1:3273:A:C4' | 2.66 | 0.44 |
| 29:D1:3273:A:C2' | 29:D1:3274:A:C4' | 2.95 | 0.44 |
| 29:D1:3368:U:H3' | 29:D1:3369:G:C5' | 2.47 | 0.44 |
| 30:D2:9:C:OP2 | 30:D2:10:C:O4' | 2.36 | 0.44 |
| 30:D2:35:C:H6 | 30:D2:35:C:C5' | 2.29 | 0.44 |
| 30:D2:103:A:H2' | 30:D2:104:A:H8 | 1.83 | 0.44 |
| 31:D3:114:G:H2' | 31:D3:115:C:C5' | 2.48 | 0.44 |
| 32:DA:55:LEU:HA | 32:DA:166:ALA:O | 2.18 | 0.44 |
| 37:DF:156:LYS:O | 37:DF:157:GLN:C | 2.58 | 0.44 |
| 39:DH:130:TYR:O | 39:DH:131:ALA:C | 2.60 | 0.44 |
| 39:DH:239:GLY:C | 39:DH:241:LYS:N | 2.75 | 0.44 |
| 40:DI:121:LYS:O | 40:DI:122:LYS:O | 2.34 | 0.44 |
| 41:DJ:56:GLU:O | 41:DJ:58:GLU:N | 2.50 | 0.44 |
| 72:DL:28:LEU:CB | 72:DL:42:VAL:O | 2.66 | 0.44 |
| 44:DO:111:ALA:C | 44:DO:113:LEU:N | 2.75 | 0.44 |
| 45:DP:49:ARG:C | 45:DP:51:LYS:N | 2.69 | 0.44 |
| 45:DP:58:LEU:H | 45:DP:60:LYS:N | 2.16 | 0.44 |
| 1:A1:6:G:H5' | 1:A1:553:G:H4' | 1.99 | 0.44 |
| 1:A1:101:U:H5" | 74:A1:1978:OHX:N1 | 2.32 | 0.44 |
| 1:A1:356:G:OP2 | 74:A1:1916:OHX:N6 | 2.51 | 0.44 |
| 1:A1:381:C:C5' | 1:A1:382:C:OP2 | 2.65 | 0.44 |
| 1:A1:430:G:O2' | 1:A1:431:C:H5' | 2.18 | 0.44 |
| 1:A1:451:A:N6 | 1:A1:456:A:N6 | 2.65 | 0.44 |
| 1:A1:464:A:H2' | 1:A1:464:A:N3 | 2.33 | 0.44 |
| 1:A1:498:G:H1' | 1:A1:499:U:C5 | 2.46 | 0.44 |
| 1:A1:694:U:H3' | 1:A1:695:U:C6 | 2.52 | 0.44 |
| 1:A1:760:A:C2' | 1:A1:761:G:H5' | 2.45 | 0.44 |
| 1:A1:792:U:H2' | 1:A1:793:A:C5' | 2.48 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:806:A:H2' | 1:A1:807:A:C8 | 2.46 | 0.44 |
| 1:A1:862:A:H2' | 1:A1:862:A:N3 | 2.33 | 0.44 |
| 1:A1:1058:U:C2 | 1:A1:1060:U:OP2 | 2.71 | 0.44 |
| 1:A1:1097:U:O2' | 1:A1:1097:U:O2 | 2.28 | 0.44 |
| 1:A1:1140:G:N3 | 1:A1:1141:G:C8 | 2.86 | 0.44 |
| 2:AA:73:VAL:O | 2:AA:95:ALA:HB1 | 2.18 | 0.44 |
| 3:AB:217:ALA:C | 3:AB:219:GLY:N | 2.73 | 0.44 |
| 11:AJ:12:LYS:CB | 11:AJ:16:ALA:O | 2.66 | 0.44 |
| 14:AM:68:ARG:C | 14:AM:70:GLN:N | 2.76 | 0.44 |
| 14:AM:101:ASN:C | 14:AM:103:LYS:N | 2.76 | 0.44 |
| 17:AP:136:TRP:HA | 17:AP:137:LYS:C | 2.42 | 0.44 |
| 21:AT:111:MET:O | 21:AT:112:SER:CB | 2.66 | 0.44 |
| 21:AT:301:LEU:O | 21:AT:312:VAL:CA | 2.65 | 0.44 |
| 29:B1:22:G:O2' | 31:B3:40:A:N1 | 2.47 | 0.44 |
| 29:B1:88:A:C2 | 29:B1:281:G:C2 | 3.05 | 0.44 |
| 29:B1:166:C:C4 | 29:B1:167:U:C4 | 3.06 | 0.44 |
| 29:B1:353:G:OP1 | 29:B1:353:G:H4' | 2.17 | 0.44 |
| 29:B1:556:U:OP2 | 29:B1:557:A:OP2 | 2.36 | 0.44 |
| 29:B1:559:A:C8 | 29:B1:560:G:N7 | 2.86 | 0.44 |
| 29:B1:656:A:C6 | 29:B1:1440:G:C6 | 3.06 | 0.44 |
| 29:B1:815:G:C6 | 29:B1:906:A:C4 | 3.06 | 0.44 |
| 29:B1:819:U:H4' | 29:B1:2138:A:C2 | 2.52 | 0.44 |
| 29:B1:884:A:O3' | 29:B1:885:U:H6 | 2.01 | 0.44 |
| 29:B1:1042:U:OP2 | 29:B1:1042:U:C5 | 2.69 | 0.44 |
| 29:B1:1084:A:C5 | 29:B1:1085:A:C5 | 3.05 | 0.44 |
| 29:B1:1099:A:H1' | 38:BG:122:ALA:CB | 2.48 | 0.44 |
| 29:B1:1228:C:C4 | 29:B1:1282:G:N1 | 2.85 | 0.44 |
| 29:B1:1295:G:C5 | 29:B1:1296:C:N4 | 2.86 | 0.44 |
| 29:B1:1315:U:O2' | 29:B1:1316:C:O5' | 2.36 | 0.44 |
| 29:B1:1360:C:H2' | 29:B1:1361:U:C6 | 2.53 | 0.44 |
| 29:B1:1367:G:C2' | 29:B1:1368:U:OP2 | 2.65 | 0.44 |
| 29:B1:1453:A:C2 | 29:B1:1878:G:C2 | 3.06 | 0.44 |
| 29:B1:1483:G:C8 | 29:B1:1485:G:C5 | 3.06 | 0.44 |
| 29:B1:1494:U:O2 | 29:B1:1835:A:C2 | 2.71 | 0.44 |
| 29:B1:1528:G:C2' | 29:B1:1529:A:H5' | 2.47 | 0.44 |
| 29:B1:1688:U:H2' | 29:B1:1688:U:O2 | 2.18 | 0.44 |
| 29:B1:1795:U:O4' | 29:B1:1796:G:C2 | 2.71 | 0.44 |
| 29:B1:1805:C:O2' | 29:B1:1806:A:H5' | 2.18 | 0.44 |
| 29:B1:1877:U:OP2 | 74:B1:3485:OHX:N3 | 2.49 | 0.44 |
| 29:B1:1900:A:N1 | 29:B1:1908:A:N1 | 2.66 | 0.44 |
| 29:B1:2161:G:N3 | 29:B1:2161:G:H2' | 2.32 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2270:A:C6 | 29:B1:2271:A:C6 | 3.05 | 0.44 |
| 29:B1:2285:C:H41 | 29:B1:2286:U:H3 | 1.65 | 0.44 |
| 29:B1:2550:U:C5' | 29:B1:2551:U:OP2 | 2.65 | 0.44 |
| 29:B1:2611:U:O2' | 29:B1:2803:A:N1 | 2.51 | 0.44 |
| 29:B1:2643:A:C4' | 29:B1:2644:C:OP2 | 2.66 | 0.44 |
| 29:B1:2777:G:H4' | 29:B1:2778:G:H5" | 2.00 | 0.44 |
| 29:B1:3021:A:C8 | 29:B1:3023:U:N3 | 2.86 | 0.44 |
| 29:B1:3045:G:C8 | 29:B1:3045:G:C3' | 3.01 | 0.44 |
| 29:B1:3105:U:H2' | 29:B1:3106:A:C8 | 2.53 | 0.44 |
| 29:B1:3198:U:O2 | 29:B1:3199:G:N7 | 2.51 | 0.44 |
| 29:B1:3207:U:C6 | 29:B1:3209:A:C2 | 3.06 | 0.44 |
| 29:B1:3235:C:H2' | 29:B1:3236:U:O4' | 2.17 | 0.44 |
| 29:B1:3289:G:C6 | 29:B1:3290:G:C5 | 3.06 | 0.44 |
| 29:B1:3292:A:O2' | 29:B1:3293:U:H4' | 2.18 | 0.44 |
| 29:B1:3326:G:C2 | 29:B1:3327:G:N9 | 2.85 | 0.44 |
| 30:B2:48:U:C6 | 30:B2:49:G:C6 | 3.05 | 0.44 |
| 30:B2:60:G:N1 | 30:B2:61:G:C5 | 2.86 | 0.44 |
| 30:B2:95:A:C2 | 30:B2:96:U:N3 | 2.86 | 0.44 |
| 30:B2:114:U:H2' | 30:B2:115:G:H1' | 1.98 | 0.44 |
| 31:B3:82:U:O4 | 74:B3:205:OHX:N2 | 2.50 | 0.44 |
| 31:B3:96:A:N3 | 31:B3:96:A:H2' | 2.33 | 0.44 |
| 31:B3:115:C:C2' | 31:B3:116:G:O5' | 2.66 | 0.44 |
| 33:BB:172:GLY:N | 62:Bg:68:ALA:CB | 2.81 | 0.44 |
| 34:BC:261:MET:HA | 34:BC:263:SER:C | 2.43 | 0.44 |
| 35:BD:16:THR:CB | 35:BD:153:SER:H | 2.30 | 0.44 |
| 35:BD:75:PRO:O | 35:BD:88:GLY:HA2 | 2.17 | 0.44 |
| 36:BE:236:LEU:C | 36:BE:238:ASP:N | 2.73 | 0.44 |
| 38:BG:167:ALA:HB1 | 38:BG:178:ILE:O | 2.18 | 0.44 |
| 40:BI:171:ASP:O | 40:BI:172:ILE:C | 2.60 | 0.44 |
| 46:BQ:99:ALA:C | 46:BQ:102:ALA:HB3 | 2.43 | 0.44 |
| 47:BR:41:ASP:O | 47:BR:42:ALA:HB3 | 2.18 | 0.44 |
| 48:BS:183:ALA:C | 48:BS:185:LEU:H | 2.25 | 0.44 |
| 55:BZ:51:LEU:C | 55:BZ:53:LYS:N | 2.75 | 0.44 |
| 58:Bc:32:LYS:O | 58:Bc:34:GLN:N | 2.51 | 0.44 |
| 1:C1:4:C:O2 | 1:C1:4:C:C2' | 2.65 | 0.44 |
| 1:C1:90:C:H1' | 1:C1:452:A:OP1 | 2.18 | 0.44 |
| 1:C1:156:A:H5' | 1:C1:416:A:H8 | 1.81 | 0.44 |
| 1:C1:220:A:N1 | 1:C1:842:C:O2 | 2.51 | 0.44 |
| 1:C1:290:G:H2' | 1:C1:291:G:C8 | 2.53 | 0.44 |
| 1:C1:329:G:C4 | 1:C1:330:G:C8 | 3.05 | 0.44 |
| 1:C1:332:U:C2 | 1:C1:334:G:OP2 | 2.71 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:492:A:N7 | 1:C1:494:U:OP2 | 2.51 | 0.44 |
| 1:C1:498:G:N3 | 1:C1:499:U:O4 | 2.51 | 0.44 |
| 1:C1:519:C:N4 | 1:C1:534:A:N1 | 2.66 | 0.44 |
| 1:C1:541:A:OP2 | 1:C1:541:A:C4 | 2.71 | 0.44 |
| 1:C1:544:A:OP1 | 1:C1:544:A:C8 | 2.71 | 0.44 |
| 1:C1:544:A:N1 | 1:C1:545:A:H8 | 2.16 | 0.44 |
| 1:C1:624:G:C5 | 1:C1:625:C:C5 | 3.06 | 0.44 |
| 1:C1:652:G:N1 | 1:C1:683:C:C2 | 2.84 | 0.44 |
| 1:C1:719:U:O2 | 1:C1:719:U:H2' | 2.17 | 0.44 |
| 1:C1:753:A:H2' | 1:C1:754:A:C8 | 2.52 | 0.44 |
| 1:C1:839:U:C4 | 1:C1:840:U:O4 | 2.71 | 0.44 |
| 1:C1:924:A:O2' | 1:C1:925:G:O4' | 2.36 | 0.44 |
| 1:C1:925:G:N3 | 1:C1:988:A:H1' | 2.33 | 0.44 |
| 1:C1:1065:A:C2' | 1:C1:1066:C:C6 | 2.98 | 0.44 |
| 1:C1:1076:A:H2' | 1:C1:1077:C:C5' | 2.48 | 0.44 |
| 1:C1:1195:C:N4 | 11:CJ:143:ARG:H | 2.16 | 0.44 |
| 1:C1:1213:G:O2' | 1:C1:1245:G:N2 | 2.48 | 0.44 |
| 1:C1:1329:A:H2' | 1:C1:1330:G:C5' | 2.48 | 0.44 |
| 1:C1:1336:A:N1 | 1:C1:1416:G:C6 | 2.86 | 0.44 |
| 1:C1:1341:A:C2 | 21:CT:63:GLY:HA2 | 2.53 | 0.44 |
| 1:C1:1348:A:C3' | 1:C1:1349:G:C5' | 2.95 | 0.44 |
| 1:C1:1428:G:C2 | 1:C1:1429:G:C5 | 3.05 | 0.44 |
| 1:C1:1584:G:C4 | 11:CJ:123:ARG:O | 2.71 | 0.44 |
| 1:C1:1594:G:H2' | 1:C1:1595:U:H5' | 1.99 | 0.44 |
| 1:C1:1648:A:H2' | 1:C1:1649:G:C8 | 2.53 | 0.44 |
| 1:C1:1740:A:H2' | 1:C1:1741:U:H6 | 1.82 | 0.44 |
| 2:CA:68:PRO:C | 2:CA:71:GLU:H | 2.26 | 0.44 |
| 3:CB:58:LEU:O | 3:CB:59:HIS:C | 2.59 | 0.44 |
| 3:CB:62:PRO:CB | 3:CB:63:VAL:CB | 2.96 | 0.44 |
| 3:CB:131:ILE:C | 3:CB:133:LYS:N | 2.75 | 0.44 |
| 3:CB:138:PRO:C | 3:CB:140:ARG:H | 2.25 | 0.44 |
| 4:CC:22:ASN:O | 4:CC:26:THR:N | 2.51 | 0.44 |
| 4:CC:66:ILE:O | 4:CC:68:GLU:N | 2.51 | 0.44 |
| 5:CD:149:VAL:CB | 5:CD:157:ARG:H | 2.30 | 0.44 |
| 9:CH:60:ALA:HA | 9:CH:63:ALA:HB2 | 2.00 | 0.44 |
| 10:CI:77:ARG:CB | 10:CI:95:GLY:HA3 | 2.48 | 0.44 |
| 25:Cd:103:UNK:C | 25:Cd:105:UNK:N | 2.79 | 0.44 |
| 25:Cd:108:UNK:O | 25:Cd:109:UNK:C | 2.66 | 0.44 |
| 29:D1:9:U:O2 | 29:D1:9:U:C3' | 2.66 | 0.44 |
| 29:D1:35:A:C6 | 29:D1:36:C:C4 | 3.05 | 0.44 |
| 29:D1:106:A:C2' | 29:D1:107:A:O5' | 2.65 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:124:U:C4 | 29:D1:125:C:C5 | 3.05 | 0.44 |
| 29:D1:159:A:C4 | 29:D1:160:G:N7 | 2.86 | 0.44 |
| 29:D1:196:G:O6 | 29:D1:199:A:OP2 | 2.36 | 0.44 |
| 29:D1:215:G:N3 | 29:D1:215:G:H2' | 2.32 | 0.44 |
| 29:D1:222:A:C5 | 29:D1:223:U:C5 | 3.06 | 0.44 |
| 29:D1:270:U:H6 | 29:D1:270:U:H3' | 1.83 | 0.44 |
| 29:D1:305:U:O2 | 29:D1:305:U:C2' | 2.50 | 0.44 |
| 29:D1:407:A:H8 | 29:D1:407:A:C5' | 2.30 | 0.44 |
| 29:D1:523:A:C2 | 29:D1:524:U:N1 | 2.86 | 0.44 |
| 29:D1:544:C:H2' | 29:D1:545:U:H3' | 2.00 | 0.44 |
| 29:D1:609:G:C5 | 29:D1:610:G:O6 | 2.70 | 0.44 |
| 29:D1:656:A:H5' | 29:D1:657:A:OP2 | 2.18 | 0.44 |
| 29:D1:689:U:C5 | 35:DD:227:THR:O | 2.71 | 0.44 |
| 29:D1:771:A:H61 | 29:D1:772:U:H3 | 1.65 | 0.44 |
| 29:D1:894:G:H1' | 29:D1:895:A:N7 | 2.33 | 0.44 |
| 29:D1:1054:A:H5" | 29:D1:2637:A:H61 | 1.82 | 0.44 |
| 29:D1:1121:U:H2' | 29:D1:1122:U:H6 | 1.81 | 0.44 |
| 29:D1:1130:A:C5' | 29:D1:1130:A:H8 | 2.31 | 0.44 |
| 29:D1:1141:C:C4 | 29:D1:1142:G:N7 | 2.86 | 0.44 |
| 29:D1:1183:C:O2 | 29:D1:1183:C:H2' | 2.17 | 0.44 |
| 29:D1:1220:U:O2 | 29:D1:1220:U:H2' | 2.17 | 0.44 |
| 29:D1:1235:U:OP2 | 29:D1:1235:U:H3' | 2.18 | 0.44 |
| 29:D1:1276:U:C2' | 29:D1:1277:C:H5' | 2.48 | 0.44 |
| 29:D1:1419:A:C6 | 29:D1:1420:C:C4 | 3.06 | 0.44 |
| 29:D1:1444:G:H1 | 29:D1:2359:C:H42 | 1.66 | 0.44 |
| 29:D1:1687:U:C3' | 29:D1:1688:U:H4' | 2.48 | 0.44 |
| 29:D1:1719:G:C4' | 29:D1:1732:U:H4' | 2.48 | 0.44 |
| 29:D1:1890:U:C4 | 29:D1:1891:A:N7 | 2.86 | 0.44 |
| 29:D1:2137:U:C5 | 29:D1:2142:A:N7 | 2.86 | 0.44 |
| 29:D1:2361:A:C5 | 29:D1:2362:C:C4 | 3.06 | 0.44 |
| 29:D1:2391:G:C6 | 29:D1:2392:C:N3 | 2.86 | 0.44 |
| 29:D1:2399:A:C6 | 29:D1:2400:G:C6 | 3.06 | 0.44 |
| 29:D1:2491:A:H1' | 32:DA:205:VAL:CB | 2.47 | 0.44 |
| 29:D1:2679:A:OP2 | 29:D1:2679:A:C4' | 2.66 | 0.44 |
| 29:D1:2689:A:C4 | 29:D1:2702:A:N1 | 2.85 | 0.44 |
| 29:D1:2730:G:H2' | 29:D1:2731:U:O5' | 2.18 | 0.44 |
| 29:D1:2823:G:C4 | 29:D1:2824:G:C8 | 3.05 | 0.44 |
| 29:D1:3005:A:C2 | 29:D1:3140:G:C2 | 3.05 | 0.44 |
| 29:D1:3035:A:C4 | 29:D1:3036:G:N7 | 2.86 | 0.44 |
| 29:D1:3048:A:N3 | 29:D1:3048:A:O4' | 2.50 | 0.44 |
| 29:D1:3056:U:OP2 | 74:D1:3454:OHX:N5 | 2.50 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3141:A:N3 | 29:D1:3143:C:O2' | 2.51 | 0.44 |
| 29:D1:3174:A:O2' | 29:D1:3175:U:C5' | 2.64 | 0.44 |
| 30:D2:14:U:O2' | 30:D2:15:C:O4' | 2.36 | 0.44 |
| 30:D2:106:U:C2 | 30:D2:107:C:C4 | 3.04 | 0.44 |
| 30:D2:112:G:OP1 | 74:D2:207:OHX:N4 | 2.51 | 0.44 |
| 30:D2:114:U:H2' | 30:D2:115:G:C1' | 2.48 | 0.44 |
| 31:D3:47:C:H1' | 31:D3:61:A:H2' | 2.00 | 0.44 |
| 31:D3:106:C:C1' | 31:D3:107:G:OP2 | 2.66 | 0.44 |
| 31:D3:139:U:H2' | 31:D3:140:G:O4' | 2.18 | 0.44 |
| 36:DE:74:VAL:O | 36:DE:75:LEU:C | 2.61 | 0.44 |
| 36:DE:125:VAL:O | 36:DE:246:ALA:CB | 2.65 | 0.44 |
| 36:DE:258:LYS:C | 36:DE:260:PHE:N | 2.72 | 0.44 |
| 37:DF:115:GLU:C | 37:DF:117:LYS:N | 2.76 | 0.44 |
| 38:DG:130:ILE:O | 38:DG:131:GLU:C | 2.60 | 0.44 |
| 42:DK:147:THR:O | 42:DK:148:VAL:O | 2.35 | 0.44 |
| 72:DL:70:ALA:O | 72:DL:72:SER:N | 2.46 | 0.44 |
| 73:DM:3:GLY:C | 73:DM:5:ARG:N | 2.76 | 0.44 |
| 46:DQ:62:ARG:C | 46:DQ:64:ASN:N | 2.76 | 0.44 |
| 47:DR:149:ALA:HB3 | 47:DR:150:VAL:C | 2.43 | 0.44 |
| 48:DS:39:ASN:O | 48:DS:42:ARG:N | 2.51 | 0.44 |
| 57:Db:107:VAL:O | 57:Db:110:ALA:HB3 | 2.18 | 0.44 |
| 60:De:7:PHE:C | 60:De:10:LYS:H | 2.25 | 0.44 |
| 1:A1:3:U:C4' | 3:AB:180:ALA:HA | 2.47 | 0.44 |
| 1:A1:95:G:N3 | 1:A1:95:G:H2' | 2.33 | 0.44 |
| 1:A1:143:G:C2 | 1:A1:144:U:H1' | 2.53 | 0.44 |
| 1:A1:148:A:H3' | 1:A1:149:C:H6 | 1.81 | 0.44 |
| 1:A1:278:U:O2 | 1:A1:278:U:C3' | 2.63 | 0.44 |
| 1:A1:337:G:O5' | 1:A1:337:G:H8 | 2.00 | 0.44 |
| 1:A1:479:C:H2' | 1:A1:480:G:C8 | 2.52 | 0.44 |
| 1:A1:618:U:OP1 | 1:A1:1030:A:C2 | 2.70 | 0.44 |
| 1:A1:646:C:C3' | 1:A1:647:G:C5' | 2.91 | 0.44 |
| 1:A1:708:C:N3 | 1:A1:731:C:C6 | 2.86 | 0.44 |
| 1:A1:723:G:N2 | 1:A1:724:C:C2 | 2.86 | 0.44 |
| 1:A1:733:A:N3 | 1:A1:733:A:H2' | 2.31 | 0.44 |
| 1:A1:826:U:O2 | 1:A1:847:A:C2 | 2.71 | 0.44 |
| 1:A1:926:A:C5 | 1:A1:927:C:C6 | 3.05 | 0.44 |
| 1:A1:993:A:C5 | 1:A1:1012:U:O2 | 2.71 | 0.44 |
| 1:A1:1039:A:C5 | 1:A1:1091:A:C2 | 3.06 | 0.44 |
| 1:A1:1066:C:C2' | 1:A1:1067:C:H5' | 2.47 | 0.44 |
| 1:A1:1087:A:C3' | 1:A1:1088:A:C8 | 2.94 | 0.44 |
| 1:A1:1113:A:N3 | 1:A1:1115:U:C5 | 2.86 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1139:A:O2' | 1:A1:1140:G:H5' | 2.18 | 0.44 |
| 1:A1:1390:U:O4' | 1:A1:1413:U:C2 | 2.71 | 0.44 |
| 1:A1:1486:G:C6 | 1:A1:1487:A:C5 | 3.06 | 0.44 |
| 1:A1:1538:U:H3' | 1:A1:1538:U:C6 | 2.53 | 0.44 |
| 1:A1:1543:A:H1' | 1:A1:1569:A:C6 | 2.53 | 0.44 |
| 1:A1:1572:G:OP1 | 1:A1:1572:G:H3' | 2.17 | 0.44 |
| 1:A1:1573:A:C5' | 1:A1:1574:G:H5' | 2.48 | 0.44 |
| 1:A1:1663:G:C6 | 1:A1:1664:C:C4 | 3.06 | 0.44 |
| 1:A1:1718:G:C2 | 1:A1:1719:A:N7 | 2.86 | 0.44 |
| 1:A1:1731:A:H3' | 1:A1:1732:A:H8 | 1.83 | 0.44 |
| 1:A1:1783:C:N4 | 1:A1:1784:C:H41 | 2.15 | 0.44 |
| 1:A1:1793:G:O2' | 1:A1:1794:A:OP2 | 2.36 | 0.44 |
| 3:AB:163:GLY:O | 3:AB:164:SER:C | 2.60 | 0.44 |
| 6:AE:156:ILE:O | 6:AE:158:PHE:N | 2.51 | 0.44 |
| 8:AG:119:GLU:C | 8:AG:121:ARG:N | 2.75 | 0.44 |
| 17:AP:79:ASN:O | 17:AP:81:LYS:N | 2.47 | 0.44 |
| 18:AQ:45:GLU:O | 18:AQ:48:ASP:N | 2.50 | 0.44 |
| 21:AT:280:GLY:O | 21:AT:281:TYR:CB | 2.66 | 0.44 |
| 29:B1:39:A:C2 | 29:B1:44:U:O4 | 2.70 | 0.44 |
| 29:B1:86:G:OP1 | 29:B1:86:G:H4' | 2.17 | 0.44 |
| 29:B1:359:U:O2 | 29:B1:920:A:N6 | 2.50 | 0.44 |
| 29:B1:609:G:C6 | 29:B1:610:G:O6 | 2.71 | 0.44 |
| 29:B1:884:A:C5 | 29:B1:2139:A:N3 | 2.85 | 0.44 |
| 29:B1:968:G:C6 | 29:B1:969:C:N4 | 2.85 | 0.44 |
| 29:B1:993:G:C4 | 29:B1:2637:A:C4 | 3.06 | 0.44 |
| 29:B1:1036:A:C6 | 29:B1:1037:C:N4 | 2.86 | 0.44 |
| 29:B1:1064:A:O2' | 29:B1:1065:A:O5' | 2.36 | 0.44 |
| 29:B1:1083:G:C2' | 29:B1:1084:A:O5' | 2.66 | 0.44 |
| 29:B1:1083:G:O2' | 29:B1:1084:A:O5' | 2.35 | 0.44 |
| 29:B1:1099:A:C6 | 29:B1:1100:U:C4 | 3.05 | 0.44 |
| 29:B1:1224:C:H6 | 29:B1:1224:C:OP2 | 2.01 | 0.44 |
| 29:B1:1260:A:H3' | 29:B1:1261:G:C2 | 2.53 | 0.44 |
| 29:B1:1339:C:C2 | 29:B1:1340:G:N7 | 2.86 | 0.44 |
| 29:B1:1413:G:C2 | 29:B1:1414:G:N7 | 2.86 | 0.44 |
| 29:B1:1440:G:HO2' | 29:B1:1441:G:H5' | 1.82 | 0.44 |
| 29:B1:1442:U:O2' | 29:B1:1443:G:O5' | 2.33 | 0.44 |
| 29:B1:1492:G:H3' | 29:B1:1493:G:C2 | 2.52 | 0.44 |
| 29:B1:1561:G:C5 | 29:B1:1562:C:C4 | 3.06 | 0.44 |
| 29:B1:1627:U:C5 | 29:B1:1628:C:C2 | 3.06 | 0.44 |
| 29:B1:1658:G:C5 | 29:B1:1659:U:C4 | 3.05 | 0.44 |
| 29:B1:1695:U:O2 | 29:B1:1749:A:C2 | 2.71 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1728:G:N2 | 29:B1:1730:G:H21 | 2.14 | 0.44 |
| 29:B1:2143:A:O2' | 29:B1:2144:A:C5' | 2.66 | 0.44 |
| 29:B1:2209:U:OP2 | 29:B1:2209:U:N1 | 2.51 | 0.44 |
| 29:B1:2223:A:C2 | 29:B1:2224:A:C5 | 3.06 | 0.44 |
| 29:B1:2270:A:H2' | 29:B1:2271:A:H8 | 1.71 | 0.44 |
| 29:B1:2316:G:C2 | 29:B1:2317:A:C5 | 3.05 | 0.44 |
| 29:B1:2325:G:N3 | 29:B1:2326:A:C8 | 2.86 | 0.44 |
| 29:B1:2516:U:H6 | 29:B1:2516:U:C5' | 2.31 | 0.44 |
| 29:B1:2526:C:H3' | 29:B1:2527:G:C8 | 2.53 | 0.44 |
| 29:B1:2667:A:N3 | 29:B1:2667:A:C2' | 2.80 | 0.44 |
| 29:B1:2717:U:O4 | 29:B1:2740:A:N6 | 2.51 | 0.44 |
| 29:B1:2837:A:H2' | 29:B1:2845:A:C6 | 2.52 | 0.44 |
| 29:B1:2891:U:N3 | 29:B1:3130:A:N6 | 2.65 | 0.44 |
| 29:B1:2925:C:C5 | 29:B1:2926:A:C5 | 3.06 | 0.44 |
| 29:B1:3021:A:C5 | 29:B1:3023:U:O4 | 2.71 | 0.44 |
| 29:B1:3055:U:O2 | 29:B1:3085:G:C2 | 2.71 | 0.44 |
| 29:B1:3106:A:C6 | 29:B1:3107:U:C2 | 3.06 | 0.44 |
| 29:B1:3128:G:H2' | 29:B1:3128:G:N3 | 2.31 | 0.44 |
| 29:B1:3201:C:N4 | 29:B1:3202:G:O6 | 2.51 | 0.44 |
| 29:B1:3211:C:P | 29:B1:3211:C:O4' | 2.76 | 0.44 |
| 29:B1:3239:G:C2' | 29:B1:3240:C:H5' | 2.48 | 0.44 |
| 29:B1:3302:U:O2' | 29:B1:3303:G:C4' | 2.65 | 0.44 |
| 29:B1:3331:U:H6 | 29:B1:3331:U:O5' | 2.00 | 0.44 |
| 30:B2:14:U:O2' | 30:B2:15:C:H4' | 2.18 | 0.44 |
| 30:B2:26:C:C4' | 30:B2:27:A:OP1 | 2.59 | 0.44 |
| 31:B3:41:A:H5' | 31:B3:42:G:OP2 | 2.17 | 0.44 |
| 31:B3:79:A:C2' | 31:B3:80:A:C8 | 3.01 | 0.44 |
| 34:BC:114:VAL:N | 34:BC:115:LYS:CB | 2.81 | 0.44 |
| 34:BC:210:GLU:C | 34:BC:212:ASN:H | 2.26 | 0.44 |
| 34:BC:295:ALA:N | 34:BC:306:THR:H | 2.15 | 0.44 |
| 34:BC:300:ARG:O | 34:BC:301:THR:CB | 2.65 | 0.44 |
| 38:BG:34:LYS:O | 38:BG:35:ALA:C | 2.61 | 0.44 |
| 38:BG:124:LEU:O | 38:BG:127:LEU:N | 2.51 | 0.44 |
| 43:BN:9:ALA:O | 43:BN:14:LEU:CB | 2.66 | 0.44 |
| 44:BO:143:ARG:CA | 44:BO:146:ALA:HB2 | 2.48 | 0.44 |
| 45:BP:49:ARG:C | 45:BP:51:LYS:N | 2.71 | 0.44 |
| 45:BP:161:LYS:O | 45:BP:164:SER:CB | 2.66 | 0.44 |
| 50:BU:39:VAL:HA | 50:BU:58:VAL:HA | 1.99 | 0.44 |
| 52:BW:87:SER:O | 52:BW:90:ALA:N | 2.51 | 0.44 |
| 56:Ba:13:THR:HA | 56:Ba:72:ARG:HA | 1.99 | 0.44 |
| 63:Bh:40:UNK:C | 63:Bh:42:UNK:N | 2.74 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:100:A:C6 | 1:C1:101:U:C4 | 3.05 | 0.44 |
| 1:C1:706:A:C5 | 1:C1:733:A:C2 | 3.05 | 0.44 |
| 1:C1:878:G:C6 | 1:C1:951:A:C6 | 3.06 | 0.44 |
| 1:C1:977:A:C5 | 1:C1:1025:A:C2 | 3.06 | 0.44 |
| 1:C1:1039:A:C5 | 1:C1:1091:A:C2 | 3.05 | 0.44 |
| 1:C1:1128:C:H2' | 1:C1:1129:U:O4' | 2.17 | 0.44 |
| 1:C1:1136:U:H2' | 1:C1:1137:A:H5' | 1.99 | 0.44 |
| 1:C1:1268:G:C2 | 1:C1:1270:G:N7 | 2.85 | 0.44 |
| 1:C1:1378:U:C3' | 1:C1:1379:C:C5' | 2.91 | 0.44 |
| 1:C1:1467:C:C2 | 1:C1:1468:U:C5 | 3.05 | 0.44 |
| 1:C1:1497:U:C4 | 1:C1:1498:G:C5 | 3.06 | 0.44 |
| 1:C1:1573:A:O4' | 1:C1:1574:G:C2 | 2.71 | 0.44 |
| 1:C1:1649:G:C2 | 1:C1:1650:U:C4 | 3.06 | 0.44 |
| 1:C1:1683:C:H2' | 1:C1:1719:A:C6 | 2.53 | 0.44 |
| 8:CG:69:ASN:O | 8:CG:71:ILE:N | 2.51 | 0.44 |
| 8:CG:127:ARG:O | 8:CG:129:TYR:N | 2.49 | 0.44 |
| 9:CH:64:ALA:O | 9:CH:68:ALA:N | 2.50 | 0.44 |
| 12:CK:9:VAL:C | 12:CK:11:ARG:N | 2.76 | 0.44 |
| 13:CL:18:LEU:O | 13:CL:21:ASN:CB | 2.66 | 0.44 |
| 21:CT:167:VAL:O | 21:CT:182:ASN:HA | 2.18 | 0.44 |
| 21:CT:267:PRO:O | 21:CT:269:TYR:N | 2.49 | 0.44 |
| 29:D1:23:A:N3 | 29:D1:24:G:H1' | 2.33 | 0.44 |
| 29:D1:34:A:C6 | 29:D1:35:A:C5 | 3.05 | 0.44 |
| 29:D1:60:A:C8 | 29:D1:61:A:C8 | 3.06 | 0.44 |
| 29:D1:66:A:N6 | 29:D1:76:G:H21 | 2.09 | 0.44 |
| 29:D1:167:U:H2' | 29:D1:168:U:C6 | 2.53 | 0.44 |
| 29:D1:198:A:C2 | 29:D1:219:A:C5 | 3.06 | 0.44 |
| 29:D1:377:A:H2' | 29:D1:391:A:H61 | 1.82 | 0.44 |
| 29:D1:421:G:C8 | 29:D1:421:G:H5" | 2.53 | 0.44 |
| 29:D1:428:A:C8 | 29:D1:428:A:C3' | 3.01 | 0.44 |
| 29:D1:592:A:C2 | 29:D1:593:C:C6 | 3.06 | 0.44 |
| 29:D1:606:C:H6 | 29:D1:606:C:C4' | 2.22 | 0.44 |
| 29:D1:649:A:N3 | 29:D1:650:C:C6 | 2.86 | 0.44 |
| 29:D1:661:G:C6 | 29:D1:802:C:C5 | 3.05 | 0.44 |
| 29:D1:703:G:C6 | 29:D1:704:U:N3 | 2.86 | 0.44 |
| 29:D1:722:G:C6 | 29:D1:748:U:N3 | 2.86 | 0.44 |
| 29:D1:888:A:N6 | 29:D1:889:U:C4 | 2.85 | 0.44 |
| 29:D1:934:G:N3 | 29:D1:934:G:H2' | 2.32 | 0.44 |
| 29:D1:953:G:O3' | 29:D1:954:U:O4' | 2.36 | 0.44 |
| 29:D1:957:C:O2' | 29:D1:2799:A:O2' | 2.32 | 0.44 |
| 29:D1:1001:G:C8 | 29:D1:1041:U:O3' | 2.70 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1159:A:N3 | 29:D1:1159:A:C2' | 2.75 | 0.44 |
| 29:D1:1192:C:C2' | 29:D1:1193:A:H1' | 2.48 | 0.44 |
| 29:D1:1225:A:C4 | 29:D1:1226:G:N7 | 2.86 | 0.44 |
| 29:D1:1337:A:H2' | 29:D1:1338:C:C6 | 2.45 | 0.44 |
| 29:D1:1345:G:C5 | 74:D1:3480:OHX:N6 | 2.86 | 0.44 |
| 29:D1:1451:C:O2 | 29:D1:1451:C:C2' | 2.66 | 0.44 |
| 29:D1:1489:A:H2' | 29:D1:1490:A:H8 | 1.83 | 0.44 |
| 29:D1:1496:C:P | 29:D1:1514:G:H5' | 2.57 | 0.44 |
| 29:D1:1499:C:C2 | 29:D1:1500:G:C8 | 3.06 | 0.44 |
| 29:D1:1506:A:C1' | 29:D1:1848:G:O6 | 2.66 | 0.44 |
| 29:D1:1604:G:N1 | 29:D1:1605:A:C6 | 2.86 | 0.44 |
| 29:D1:1631:C:H2' | 29:D1:1632:A:OP2 | 2.17 | 0.44 |
| 29:D1:1713:G:C6 | 29:D1:1730:G:N3 | 2.86 | 0.44 |
| 29:D1:1743:G:H2' | 29:D1:1744:G:H5' | 2.00 | 0.44 |
| 29:D1:1747:G:N7 | 29:D1:1748:G:N7 | 2.65 | 0.44 |
| 29:D1:1815:U:H3' | 29:D1:1816:A:C5' | 2.44 | 0.44 |
| 29:D1:1868:G:C5 | 29:D1:1869:C:C6 | 3.05 | 0.44 |
| 29:D1:1876:U:H6 | 29:D1:1876:U:C5' | 2.31 | 0.44 |
| 29:D1:1929:G:H3' | 29:D1:1930:A:H2' | 1.99 | 0.44 |
| 29:D1:2149:A:H2' | 29:D1:2150:G:O4' | 2.18 | 0.44 |
| 29:D1:2262:A:N3 | 29:D1:2263:C:H5" | 2.33 | 0.44 |
| 29:D1:2340:U:O2' | 29:D1:2341:A:H5' | 2.18 | 0.44 |
| 29:D1:2390:A:C2 | 29:D1:2990:G:C2 | 3.06 | 0.44 |
| 29:D1:2443:A:O2' | 29:D1:2444:C:H5' | 2.18 | 0.44 |
| 29:D1:2651:G:C5 | 29:D1:2796:G:N2 | 2.86 | 0.44 |
| 29:D1:2688:U:H2' | 29:D1:2688:U:O2 | 2.17 | 0.44 |
| 29:D1:2853:A:C5 | 29:D1:2854:U:N3 | 2.86 | 0.44 |
| 29:D1:2909:U:H2' | 29:D1:2910:A:C5' | 2.47 | 0.44 |
| 29:D1:2923:U:H2' | 29:D1:2924:U:H6 | 1.83 | 0.44 |
| 29:D1:2937:G:N7 | 34:DC:5:LYS:CB | 2.81 | 0.44 |
| 29:D1:2942:C:H6 | 29:D1:2942:C:O5' | 2.01 | 0.44 |
| 29:D1:2969:A:C4 | 29:D1:2970:C:C5 | 3.05 | 0.44 |
| 29:D1:2998:U:OP1 | 29:D1:2998:U:H6 | 2.01 | 0.44 |
| 29:D1:3030:G:O2' | 29:D1:3031:G:O5' | 2.35 | 0.44 |
| 29:D1:3032:A:H3' | 29:D1:3032:A:H8 | 1.83 | 0.44 |
| 29:D1:3057:U:HO2' | 29:D1:3059:G:H8 | 1.65 | 0.44 |
| 29:D1:3179:U:O5' | 29:D1:3179:U:C6 | 2.67 | 0.44 |
| 29:D1:3211:C:O2' | 29:D1:3212:C:O5' | 2.33 | 0.44 |
| 29:D1:3279:A:C5 | 29:D1:3280:U:O4 | 2.70 | 0.44 |
| 29:D1:3289:G:C6 | 29:D1:3290:G:C5 | 3.06 | 0.44 |
| 29:D1:3305:A:C5 | 29:D1:3306:U:C2 | 3.06 | 0.44 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3321:C:H42 | 29:D1:3386:G:H22 | 1.65 | 0.44 |
| 30:D2:43:U:C4 | 30:D2:44:C:C4 | 3.06 | 0.44 |
| 30:D2:52:G:N2 | 30:D2:53:U:C2 | 2.86 | 0.44 |
| 31:D3:14:C:C3' | 31:D3:15:G:H8 | 2.17 | 0.44 |
| 31:D3:56:G:H21 | 31:D3:57:C:H1' | 1.82 | 0.44 |
| 31:D3:68:G:O5' | 74:D3:204:OHX:N3 | 2.50 | 0.44 |
| 31:D3:75:G:OP2 | 31:D3:76:C:P | 2.76 | 0.44 |
| 32:DA:65:ILE:HA | 32:DA:109:ALA:C | 2.42 | 0.44 |
| 32:DA:82:VAL:O | 32:DA:83:ASP:C | 2.60 | 0.44 |
| 34:DC:122:TRP:HA | 34:DC:128:LYS:O | 2.18 | 0.44 |
| 36:DE:98:ALA:O | 36:DE:162:ALA:HA | 2.18 | 0.44 |
| 37:DF:30:LEU:CB | 37:DF:31:ARG:HA | 2.47 | 0.44 |
| 37:DF:152:THR:O | 37:DF:153:PRO:C | 2.60 | 0.44 |
| 39:DH:241:LYS:O | 39:DH:242:ALA:C | 2.60 | 0.44 |
| 42:DK:50:ALA:N | 42:DK:62:ASN:HA | 2.33 | 0.44 |
| 42:DK:156:LYS:O | 42:DK:158:ASP:N | 2.51 | 0.44 |
| 43:DN:33:ALA:HA | 43:DN:48:GLY:N | 2.32 | 0.44 |
| 46:DQ:55:GLN:O | 46:DQ:56:ARG:CB | 2.65 | 0.44 |
| 47:DR:31:LYS:O | 47:DR:35:PHE:CB | 2.66 | 0.44 |
| 47:DR:149:ALA:H | 47:DR:150:VAL:HA | 1.83 | 0.44 |
| 55:DZ:56:LEU:O | 55:DZ:57:GLU:C | 2.61 | 0.44 |
| 58:Dc:40:SER:CB | 58:Dc:41:LEU:C | 2.91 | 0.44 |
| 59:Dd:26:SER:CB | 59:Dd:35:SER:CB | 2.95 | 0.44 |
| 1:A1:108:A:H3' | 1:A1:109:G:C8 | 2.51 | 0.43 |
| 1:A1:328:A:N6 | 1:A1:341:A:H61 | 2.14 | 0.43 |
| 1:A1:350:U:C5' | 1:A1:352:A:O4' | 2.66 | 0.43 |
| 1:A1:380:U:HO2' | 1:A1:381:C:H6 | 1.65 | 0.43 |
| 1:A1:450:U:H2' | 1:A1:451:A:N7 | 2.30 | 0.43 |
| 1:A1:498:G:N3 | 1:A1:499:U:O4 | 2.51 | 0.43 |
| 1:A1:651:G:N2 | 1:A1:652:G:C6 | 2.85 | 0.43 |
| 1:A1:704:C:H1' | 1:A1:705:U:OP1 | 2.17 | 0.43 |
| 1:A1:720:G:H8 | 1:A1:720:G:OP1 | 2.01 | 0.43 |
| 1:A1:752:A:H8 | 1:A1:752:A:O5' | 1.99 | 0.43 |
| 1:A1:925:G:H5' | 1:A1:987:G:OP1 | 2.18 | 0.43 |
| 1:A1:977:A:C5 | 1:A1:1025:A:C4 | 3.06 | 0.43 |
| 1:A1:991:G:O2' | 1:A1:1013:A:N6 | 2.44 | 0.43 |
| 1:A1:1043:A:C4 | 1:A1:1044:U:C5 | 3.06 | 0.43 |
| 1:A1:1056:U:C5 | 1:A1:1057:U:C4 | 3.06 | 0.43 |
| 1:A1:1113:A:C2 | 1:A1:1115:U:C4 | 3.05 | 0.43 |
| 1:A1:1138:A:O2' | 1:A1:1139:A:C5' | 2.60 | 0.43 |
| 1:A1:1248:C:H2' | 1:A1:1249:U:C6 | 2.53 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1398:U:O2' | 1:A1:1399:C:O5' | 2.30 | 0.43 |
| 1:A1:1481:C:C4' | 1:A1:1482:C:OP1 | 2.64 | 0.43 |
| 1:A1:1566:U:H2' | 1:A1:1567:U:H5" | 1.97 | 0.43 |
| 1:A1:1603:U:O2 | 1:A1:1603:U:C2' | 2.60 | 0.43 |
| 1:A1:1658:G:OP1 | 1:A1:1659:A:OP2 | 2.35 | 0.43 |
| 1:A1:1659:A:C2 | 1:A1:1660:A:C8 | 3.06 | 0.43 |
| 1:A1:1671:A:N6 | 1:A1:1672:G:C2 | 2.85 | 0.43 |
| 1:A1:1681:A:C8 | 1:A1:1682:U:C2 | 3.06 | 0.43 |
| 3:AB:217:ALA:O | 3:AB:218:ILE:C | 2.61 | 0.43 |
| 11:AJ:28:LEU:CA | 14:AM:1:MET:HA | 2.48 | 0.43 |
| 29:B1:30:G:N1 | 29:B1:55:G:C6 | 2.86 | 0.43 |
| 29:B1:48:A:C4 | 29:B1:50:U:C4 | 3.05 | 0.43 |
| 29:B1:96:G:C2' | 29:B1:97:U:O5' | 2.66 | 0.43 |
| 29:B1:245:U:C5 | 74:B1:3489:OHX:N1 | 2.85 | 0.43 |
| 29:B1:416:A:N3 | 29:B1:416:A:H2' | 2.32 | 0.43 |
| 29:B1:507:U:C2 | 29:B1:584:G:N1 | 2.86 | 0.43 |
| 29:B1:776:U:H6 | 29:B1:777:U:N1 | 2.16 | 0.43 |
| 29:B1:843:A:O2' | 29:B1:844:G:H5' | 2.19 | 0.43 |
| 29:B1:877:C:H6 | 29:B1:877:C:C3' | 2.30 | 0.43 |
| 29:B1:880:G:C4 | 29:B1:882:A:N7 | 2.86 | 0.43 |
| 29:B1:941:G:N7 | 74:B1:3492:OHX:N6 | 2.65 | 0.43 |
| 29:B1:1152:G:C8 | 29:B1:1152:G:P | 3.11 | 0.43 |
| 29:B1:1206:G:N3 | 29:B1:1206:G:C2' | 2.81 | 0.43 |
| 29:B1:1260:A:H2 | 29:B1:1278:A:C5 | 2.36 | 0.43 |
| 29:B1:1379:G:C6 | 29:B1:1428:A:N1 | 2.86 | 0.43 |
| 29:B1:1412:G:C6 | 29:B1:1413:G:C5 | 3.06 | 0.43 |
| 29:B1:1414:G:H2' | 29:B1:1415:U:O4' | 2.18 | 0.43 |
| 29:B1:1430:U:H5' | 29:B1:1430:U:H6 | 1.83 | 0.43 |
| 29:B1:1444:G:C2' | 29:B1:1445:U:O5' | 2.65 | 0.43 |
| 29:B1:1506:A:H3' | 29:B1:1507:G:O4' | 2.17 | 0.43 |
| 29:B1:1517:G:N1 | 29:B1:1518:U:C4 | 2.86 | 0.43 |
| 29:B1:1696:A:N1 | 29:B1:1697:A:C6 | 2.86 | 0.43 |
| 29:B1:1907:C:C5 | 29:B1:1908:A:C4 | 3.05 | 0.43 |
| 29:B1:1909:A:N6 | 29:B1:1910:A:C6 | 2.86 | 0.43 |
| 29:B1:2107:A:C5 | 29:B1:2108:C:C5 | 3.06 | 0.43 |
| 29:B1:2381:G:C2' | 29:B1:2382:G:H5' | 2.48 | 0.43 |
| 29:B1:2389:C:H2' | 29:B1:2390:A:O5' | 2.17 | 0.43 |
| 29:B1:2406:C:H1' | 29:B1:2819:A:C5 | 2.52 | 0.43 |
| 29:B1:2434:U:C2 | 29:B1:2593:A:O2' | 2.71 | 0.43 |
| 29:B1:2461:A:C2 | 29:B1:2485:A:H2' | 2.53 | 0.43 |
| 29:B1:2469:G:H2' | 29:B1:2470:C:C6 | 2.53 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2514:U:P | 29:B1:2586:G:H22 | 2.41 | 0.43 |
| 29:B1:2516:U:H6 | 29:B1:2516:U:O5' | 2.00 | 0.43 |
| 29:B1:2672:G:O6 | 29:B1:2683:U:O4 | 2.36 | 0.43 |
| 29:B1:2715:A:H4' | 29:B1:2716:U:OP2 | 2.18 | 0.43 |
| 29:B1:2722:U:O3' | 49:BT:88:ARG:O | 2.34 | 0.43 |
| 29:B1:2801:A:O2' | 29:B1:2802:A:H2' | 2.17 | 0.43 |
| 29:B1:2830:G:H2' | 29:B1:2831:G:H8 | 1.83 | 0.43 |
| 29:B1:2916:U:C5 | 29:B1:2935:U:O2 | 2.71 | 0.43 |
| 29:B1:2945:G:N3 | 29:B1:2945:G:O4' | 2.49 | 0.43 |
| 29:B1:3005:A:O2' | 29:B1:3140:G:N2 | 2.40 | 0.43 |
| 29:B1:3146:G:C2 | 29:B1:3147:G:C8 | 3.06 | 0.43 |
| 29:B1:3160:U:N3 | 29:B1:3161:C:C4 | 2.86 | 0.43 |
| 29:B1:3215:A:H5" | 29:B1:3218:A:H5" | 1.96 | 0.43 |
| 29:B1:3278:C:C4 | 29:B1:3279:A:N6 | 2.86 | 0.43 |
| 29:B1:3295:A:H2' | 29:B1:3296:A:C8 | 2.50 | 0.43 |
| 29:B1:3303:G:C5 | 29:B1:3305:A:C6 | 3.05 | 0.43 |
| 30:B2:2:G:N3 | 30:B2:3:U:C5 | 2.86 | 0.43 |
| 30:B2:27:A:H2' | 30:B2:27:A:N3 | 2.33 | 0.43 |
| 31:B3:20:U:C2 | 31:B3:21:C:C6 | 3.06 | 0.43 |
| 33:BB:170:ALA:O | 33:BB:171:GLY:O | 2.35 | 0.43 |
| 34:BC:191:LYS:O | 34:BC:192:VAL:O | 2.36 | 0.43 |
| 34:BC:245:GLY:HA3 | 34:BC:246:LEU:HA | 1.77 | 0.43 |
| 35:BD:39:PHE:O | 35:BD:41:SER:C | 2.60 | 0.43 |
| 35:BD:69:ARG:O | 35:BD:70:ALA:HB3 | 2.18 | 0.43 |
| 35:BD:257:LYS:O | 35:BD:258:LEU:O | 2.36 | 0.43 |
| 38:BG:36:ALA:O | 38:BG:37:ASN:C | 2.61 | 0.43 |
| 38:BG:148:VAL:O | 38:BG:152:GLY:CA | 2.66 | 0.43 |
| 38:BG:192:GLY:O | 38:BG:195:PHE:CB | 2.65 | 0.43 |
| 43:BN:84:LYS:C | 43:BN:86:ALA:N | 2.76 | 0.43 |
| 45:BP:166:GLU:O | 45:BP:168:TYR:N | 2.50 | 0.43 |
| 48:BS:28:GLU:O | 48:BS:29:THR:C | 2.60 | 0.43 |
| 52:BW:95:ILE:O | 52:BW:96:LYS:C | 2.60 | 0.43 |
| 53:BX:70:ILE:HA | 53:BX:82:VAL:HA | 2.00 | 0.43 |
| 56:Ba:43:HIS:O | 56:Ba:45:GLY:N | 2.51 | 0.43 |
| 58:Bc:52:ALA:O | 58:Bc:55:LEU:N | 2.51 | 0.43 |
| 62:Bg:59:CYS:CB | 74:Bg:101:OHX:N1 | 2.80 | 0.43 |
| 1:C1:55:A:C2 | 1:C1:403:G:C4 | 3.05 | 0.43 |
| 1:C1:62:A:H2 | 1:C1:63:G:C5 | 2.35 | 0.43 |
| 1:C1:84:A:N6 | 1:C1:85:A:C6 | 2.86 | 0.43 |
| 1:C1:198:A:H1' | 1:C1:199:G:O5' | 2.17 | 0.43 |
| 1:C1:218:A:N1 | 1:C1:844:A:H1' | 2.33 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:251:A:C2' | 1:C1:252:U:H5' | 2.46 | 0.43 |
| 1:C1:333:A:H2' | 1:C1:334:G:C8 | 2.53 | 0.43 |
| 1:C1:551:G:N1 | 1:C1:552:G:C6 | 2.86 | 0.43 |
| 1:C1:567:A:N1 | 1:C1:583:C:H1' | 2.33 | 0.43 |
| 1:C1:571:G:C3' | 1:C1:572:C:H6 | 2.30 | 0.43 |
| 1:C1:607:G:N7 | 1:C1:613:G:C8 | 2.86 | 0.43 |
| 1:C1:651:G:C2 | 1:C1:684:A:N7 | 2.86 | 0.43 |
| 1:C1:756:A:N7 | 1:C1:757:A:N7 | 2.66 | 0.43 |
| 1:C1:852:C:H2' | 1:C1:853:G:O4' | 2.18 | 0.43 |
| 1:C1:997:G:C2 | 1:C1:1008:G:C8 | 3.06 | 0.43 |
| 1:C1:1051:G:N3 | 1:C1:1052:U:C2 | 2.86 | 0.43 |
| 1:C1:1116:A:C5 | 1:C1:1117:U:C4 | 3.05 | 0.43 |
| 1:C1:1161:C:O2 | 1:C1:1161:C:H2' | 2.17 | 0.43 |
| 1:C1:1232:U:O4 | 1:C1:1253:U:C2 | 2.71 | 0.43 |
| 1:C1:1270:G:C6 | 1:C1:1271:G:N7 | 2.86 | 0.43 |
| 1:C1:1454:G:C2 | 1:C1:1455:G:C1' | 3.01 | 0.43 |
| 1:C1:1528:U:O5' | 1:C1:1528:U:H6 | 2.01 | 0.43 |
| 1:C1:1564:U:C2' | 1:C1:1565:C:C6 | 2.91 | 0.43 |
| 1:C1:1587:A:C5 | 1:C1:1588:G:N7 | 2.86 | 0.43 |
| 1:C1:1675:C:O2' | 1:C1:1678:A:H8 | 2.01 | 0.43 |
| 1:C1:1718:G:N1 | 1:C1:1719:A:N7 | 2.66 | 0.43 |
| 2:CA:91:ALA:C | 2:CA:93:THR:N | 2.76 | 0.43 |
| 3:CB:162:CYS:CB | 3:CB:205:ARG:O | 2.66 | 0.43 |
| 6:CE:94:ASP:O | 6:CE:95:TYR:C | 2.60 | 0.43 |
| 8:CG:93:LYS:O | 8:CG:94:LYS:C | 2.61 | 0.43 |
| 17:CP:107:PHE:O | 17:CP:108:GLY:O | 2.36 | 0.43 |
| 21:CT:266:ASP:HA | 21:CT:267:PRO:HA | 1.81 | 0.43 |
| 23:Cb:118:UNK:CB | 23:Cb:126:UNK:C | 2.96 | 0.43 |
| 29:D1:26:A:C8 | 29:D1:27:C:H5 | 2.32 | 0.43 |
| 29:D1:36:C:H2' | 29:D1:37:U:H5' | 1.99 | 0.43 |
| 29:D1:156:G:H1' | 29:D1:157:A:P | 2.57 | 0.43 |
| 29:D1:196:G:C2 | 29:D1:219:A:N6 | 2.82 | 0.43 |
| 29:D1:208:C:C2 | 29:D1:209:A:N7 | 2.86 | 0.43 |
| 29:D1:310:U:C5 | 29:D1:311:C:C5 | 3.06 | 0.43 |
| 29:D1:365:A:C6 | 29:D1:366:A:C6 | 3.06 | 0.43 |
| 29:D1:423:A:C6 | 29:D1:424:G:C2 | 3.06 | 0.43 |
| 29:D1:532:A:C5 | 29:D1:533:A:C5 | 3.06 | 0.43 |
| 29:D1:727:G:OP1 | 29:D1:727:G:H4' | 2.17 | 0.43 |
| 29:D1:820:A:C2 | 29:D1:911:C:O2' | 2.69 | 0.43 |
| 29:D1:828:A:H2' | 29:D1:828:A:N3 | 2.33 | 0.43 |
| 29:D1:843:A:C2' | 29:D1:844:G:H5' | 2.47 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:866:A:N7 | 29:D1:867:G:C8 | 2.83 | 0.43 |
| 29:D1:869:G:C3' | 29:D1:870:G:H8 | 2.31 | 0.43 |
| 29:D1:878:G:C1' | 29:D1:880:G:N2 | 2.81 | 0.43 |
| 29:D1:945:C:H2' | 29:D1:946:U:H6 | 1.81 | 0.43 |
| 29:D1:1108:U:C2 | 29:D1:1109:U:C6 | 3.06 | 0.43 |
| 29:D1:1277:C:OP2 | 29:D1:1277:C:C2' | 2.61 | 0.43 |
| 29:D1:1291:A:HO2' | 29:D1:1292:C:P | 2.40 | 0.43 |
| 29:D1:1306:G:C6 | 45:DP:63:ALA:HA | 2.52 | 0.43 |
| 29:D1:1329:U:O2' | 29:D1:1330:A:O5' | 2.34 | 0.43 |
| 29:D1:1449:A:C6 | 29:D1:2356:A:C8 | 3.06 | 0.43 |
| 29:D1:1453:A:N3 | 29:D1:1878:G:C2 | 2.85 | 0.43 |
| 29:D1:1455:U:O4' | 29:D1:1455:U:P | 2.76 | 0.43 |
| 29:D1:1513:G:C5 | 29:D1:1515:A:C4 | 3.06 | 0.43 |
| 29:D1:1536:G:C5 | 29:D1:1586:G:N2 | 2.86 | 0.43 |
| 29:D1:1720:U:H3' | 29:D1:1720:U:H6 | 1.83 | 0.43 |
| 29:D1:1782:U:C2' | 29:D1:1783:U:O4' | 2.56 | 0.43 |
| 29:D1:1810:A:C6 | 29:D1:1811:G:C6 | 3.06 | 0.43 |
| 29:D1:1887:A:N7 | 29:D1:2348:A:C2 | 2.84 | 0.43 |
| 29:D1:1922:A:C8 | 29:D1:1923:C:C5 | 3.06 | 0.43 |
| 29:D1:2197:C:C2 | 29:D1:2242:A:C2 | 3.06 | 0.43 |
| 29:D1:2223:A:C2 | 29:D1:2224:A:C4 | 3.06 | 0.43 |
| 29:D1:2248:C:C4' | 29:D1:2271:A:H2 | 2.31 | 0.43 |
| 29:D1:2276:G:C4 | 29:D1:2277:C:C5 | 3.06 | 0.43 |
| 29:D1:2373:A:O2' | 29:D1:2374:C:OP1 | 2.33 | 0.43 |
| 29:D1:2443:A:C6 | 29:D1:2444:C:N4 | 2.86 | 0.43 |
| 29:D1:2515:A:C2' | 29:D1:2516:U:H5' | 2.47 | 0.43 |
| 29:D1:2576:G:C4 | 29:D1:2577:C:C5 | 3.06 | 0.43 |
| 29:D1:2700:G:N7 | 74:D1:3416:OHX:N3 | 2.66 | 0.43 |
| 29:D1:2702:A:O4' | 29:D1:2704:A:N7 | 2.51 | 0.43 |
| 29:D1:2727:A:C6 | 29:D1:2728:G:C6 | 3.01 | 0.43 |
| 29:D1:2739:A:H5" | 29:D1:2740:A:P | 2.57 | 0.43 |
| 29:D1:2767:U:H4' | 61:Df:31:GLY:O | 2.18 | 0.43 |
| 29:D1:2804:A:O2' | 29:D1:2805:G:H5" | 2.18 | 0.43 |
| 29:D1:2930:A:C6 | 29:D1:2931:C:C4 | 3.06 | 0.43 |
| 29:D1:3038:U:O2' | 29:D1:3039:C:O5' | 2.35 | 0.43 |
| 29:D1:3195:U:H3' | 29:D1:3196:U:H3 | 1.83 | 0.43 |
| 29:D1:3221:C:H2' | 29:D1:3222:U:H5' | 1.99 | 0.43 |
| 29:D1:3235:C:H2' | 29:D1:3236:U:O4' | 2.17 | 0.43 |
| 29:D1:3295:A:C4 | 29:D1:3296:A:C8 | 3.06 | 0.43 |
| 29:D1:3372:A:C6 | 29:D1:3373:U:C4 | 3.06 | 0.43 |
| 74:D1:3543:OHX:N5 | 38:DG:217:PRO:C | 2.76 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:D2:44:C:C2 | 30:D2:45:A:C8 | 3.06 | 0.43 |
| 31:D3:70:G:N7 | 31:D3:71:A:C6 | 2.86 | 0.43 |
| 31:D3:87:G:O2' | 31:D3:88:A:OP1 | 2.32 | 0.43 |
| 31:D3:147:U:N3 | 31:D3:148:G:N7 | 2.65 | 0.43 |
| 32:DA:6:SER:C | 32:DA:8:GLN:N | 2.76 | 0.43 |
| 32:DA:154:THR:HA | 32:DA:155:ILE:CB | 2.48 | 0.43 |
| 36:DE:94:ASN:C | 36:DE:96:ALA:N | 2.76 | 0.43 |
| 36:DE:102:GLY:HA2 | 36:DE:166:ALA:HB2 | 2.00 | 0.43 |
| 36:DE:217:GLU:HA | 36:DE:220:SER:CB | 2.48 | 0.43 |
| 36:DE:282:ARG:O | 36:DE:285:ARG:O | 2.36 | 0.43 |
| 38:DG:209:ASN:C | 38:DG:211:SER:H | 2.25 | 0.43 |
| 73:DM:42:ARG:O | 73:DM:43:LYS:C | 2.60 | 0.43 |
| 43:DN:61:GLY:O | 43:DN:62:GLN:CB | 2.65 | 0.43 |
| 44:DO:158:HIS:C | 44:DO:160:GLU:N | 2.76 | 0.43 |
| 44:DO:183:THR:CB | 44:DO:185:ALA:HB3 | 2.48 | 0.43 |
| 45:DP:59:ARG:N | 45:DP:61:ALA:H | 2.16 | 0.43 |
| 45:DP:140:LYS:O | 45:DP:141:LEU:C | 2.59 | 0.43 |
| 45:DP:162:VAL:O | 45:DP:164:SER:N | 2.51 | 0.43 |
| 57:Db:88:HIS:O | 57:Db:89:THR:CB | 2.66 | 0.43 |
| 62:Dg:48:LYS:O | 62:Dg:71:VAL:CB | 2.66 | 0.43 |
| 1:A1:14:C:C2 | 1:A1:15:U:C5 | 3.06 | 0.43 |
| 1:A1:57:G:C6 | 1:A1:91:G:C2 | 3.06 | 0.43 |
| 1:A1:220:A:C5 | 1:A1:221:A:N7 | 2.86 | 0.43 |
| 1:A1:267:U:O4' | 1:A1:267:U:P | 2.75 | 0.43 |
| 1:A1:302:U:C2' | 1:A1:303:U:H5' | 2.47 | 0.43 |
| 1:A1:340:U:C2 | 1:A1:341:A:N7 | 2.85 | 0.43 |
| 1:A1:449:C:C2 | 1:A1:450:U:C5 | 3.06 | 0.43 |
| 1:A1:450:U:C2' | 1:A1:451:A:C8 | 2.91 | 0.43 |
| 1:A1:509:G:C5 | 1:A1:510:G:N7 | 2.86 | 0.43 |
| 1:A1:521:A:O2' | 1:A1:522:U:C5 | 2.67 | 0.43 |
| 1:A1:590:C:C2 | 1:A1:591:A:N7 | 2.86 | 0.43 |
| 1:A1:640:U:H3' | 1:A1:641:G:H8 | 1.83 | 0.43 |
| 1:A1:861:U:H2' | 1:A1:862:A:C5' | 2.48 | 0.43 |
| 1:A1:1009:U:H2' | 1:A1:1010:C:C6 | 2.53 | 0.43 |
| 1:A1:1044:U:O2 | 1:A1:1045:C:C5 | 2.71 | 0.43 |
| 1:A1:1046:G:N7 | 1:A1:1073:G:N2 | 2.67 | 0.43 |
| 1:A1:1057:U:H1' | 1:A1:1062:A:H61 | 1.84 | 0.43 |
| 1:A1:1112:G:N2 | 1:A1:1134:C:N3 | 2.67 | 0.43 |
| 1:A1:1112:G:C6 | 1:A1:1113:A:N6 | 2.81 | 0.43 |
| 1:A1:1131:A:H2' | 1:A1:1132:A:C8 | 2.53 | 0.43 |
| 1:A1:1347:U:C4 | 1:A1:1376:C:N4 | 2.86 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1484:G:N2 | 1:A1:1485:C:C2 | 2.86 | 0.43 |
| 1:A1:1608:U:C2 | 1:A1:1609:U:C5 | 3.06 | 0.43 |
| 1:A1:1720:G:O3' | 74:A1:1950:OHX:N5 | 2.51 | 0.43 |
| 1:A1:1798:U:O2 | 1:A1:1798:U:O4' | 2.34 | 0.43 |
| 5:AD:39:GLU:CA | 5:AD:40:ILE:CB | 2.96 | 0.43 |
| 6:AE:31:ALA:O | 6:AE:34:PHE:CB | 2.67 | 0.43 |
| 8:AG:91:LEU:O | 8:AG:95:ALA:HB2 | 2.17 | 0.43 |
| 10:AI:29:SER:C | 10:AI:31:GLU:N | 2.75 | 0.43 |
| 14:AM:20:SER:O | 14:AM:24:ARG:HA | 2.18 | 0.43 |
| 17:AP:87:VAL:HA | 17:AP:124:VAL:CB | 2.48 | 0.43 |
| 23:Ab:58:UNK:O | 23:Ab:59:UNK:O | 2.37 | 0.43 |
| 24:Ac:50:UNK:O | 24:Ac:51:UNK:CB | 2.65 | 0.43 |
| 25:Ad:101:UNK:C | 25:Ad:102:UNK:O | 2.67 | 0.43 |
| 29:B1:10:C:O2' | 29:B1:11:A:O5' | 2.36 | 0.43 |
| 29:B1:90:C:H2' | 29:B1:91:G:H5' | 2.00 | 0.43 |
| 29:B1:112:U:C4 | 29:B1:320:G:N1 | 2.86 | 0.43 |
| 29:B1:120:G:H5' | 29:B1:121:A:P | 2.58 | 0.43 |
| 29:B1:196:G:C2 | 29:B1:219:A:N6 | 2.80 | 0.43 |
| 29:B1:546:C:H6 | 29:B1:546:C:H3' | 1.82 | 0.43 |
| 29:B1:684:G:C6 | 29:B1:685:G:N7 | 2.86 | 0.43 |
| 29:B1:705:A:N6 | 29:B1:715:A:C8 | 2.86 | 0.43 |
| 29:B1:705:A:C2 | 29:B1:714:G:N3 | 2.86 | 0.43 |
| 29:B1:733:G:N3 | 29:B1:733:G:C3' | 2.80 | 0.43 |
| 29:B1:753:C:H2' | 29:B1:754:G:O4' | 2.19 | 0.43 |
| 29:B1:861:C:C2 | 29:B1:862:U:C6 | 3.06 | 0.43 |
| 29:B1:983:A:C2 | 29:B1:985:U:O4 | 2.71 | 0.43 |
| 29:B1:1047:A:N6 | 29:B1:2646:C:H1' | 2.26 | 0.43 |
| 29:B1:1085:A:H3' | 29:B1:1086:C:H6 | 1.81 | 0.43 |
| 29:B1:1112:A:C5 | 29:B1:1113:G:C5 | 3.07 | 0.43 |
| 29:B1:1143:A:C8 | 29:B1:1368:U:C2 | 3.06 | 0.43 |
| 29:B1:1172:G:N3 | 29:B1:1179:A:C2 | 2.85 | 0.43 |
| 29:B1:1174:G:N2 | 29:B1:1175:C:C2 | 2.86 | 0.43 |
| 29:B1:1196:C:N3 | 30:B2:86:U:C6 | 2.86 | 0.43 |
| 29:B1:1218:U:O2' | 29:B1:1219:C:C5' | 2.66 | 0.43 |
| 29:B1:1244:A:C2 | 29:B1:1248:C:OP1 | 2.71 | 0.43 |
| 29:B1:1310:G:C8 | 29:B1:1310:G:H3' | 2.53 | 0.43 |
| 29:B1:1477:A:C2' | 29:B1:1478:C:H5" | 2.48 | 0.43 |
| 29:B1:1544:G:N3 | 29:B1:1544:G:H2' | 2.33 | 0.43 |
| 29:B1:1654:A:O2' | 29:B1:1655:G:C4' | 2.66 | 0.43 |
| 29:B1:1704:A:O2' | 29:B1:1705:U:H5' | 2.17 | 0.43 |
| 29:B1:1739:U:H2' | 29:B1:1740:U:C4' | 2.48 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1739:U:H3' | 29:B1:1739:U:C6 | 2.54 | 0.43 |
| 29:B1:1886:A:C6 | 29:B1:1887:A:N7 | 2.86 | 0.43 |
| 29:B1:1887:A:H4' | 34:BC:227:GLU:HA | 2.00 | 0.43 |
| 29:B1:1899:G:OP1 | 50:BU:22:ILE:N | 2.43 | 0.43 |
| 29:B1:1914:G:C6 | 29:B1:1915:A:C6 | 3.06 | 0.43 |
| 29:B1:1953:G:N2 | 29:B1:2092:A:N7 | 2.66 | 0.43 |
| 29:B1:2117:A:N3 | 29:B1:2117:A:C2' | 2.79 | 0.43 |
| 29:B1:2145:A:N3 | 29:B1:2146:C:C6 | 2.85 | 0.43 |
| 29:B1:2217:U:H2' | 29:B1:2218:G:H8 | 1.83 | 0.43 |
| 29:B1:2308:C:C3' | 29:B1:2309:A:H5" | 2.47 | 0.43 |
| 29:B1:2325:G:N3 | 29:B1:2325:G:H2' | 2.33 | 0.43 |
| 29:B1:2386:A:C5 | 29:B1:2387:A:C8 | 3.05 | 0.43 |
| 29:B1:2406:C:H2' | 29:B1:2407:C:H6 | 1.82 | 0.43 |
| 29:B1:2441:A:C6 | 29:B1:2507:C:C2 | 3.06 | 0.43 |
| 29:B1:2507:C:C2 | 29:B1:2508:U:C5 | 3.06 | 0.43 |
| 29:B1:2558:U:H4' | 29:B1:2559:U:OP2 | 2.18 | 0.43 |
| 29:B1:2589:G:N3 | 29:B1:2589:G:H2' | 2.32 | 0.43 |
| 29:B1:2681:U:HO2' | 29:B1:2682:C:H5" | 1.80 | 0.43 |
| 29:B1:2703:A:C4' | 29:B1:2704:A:H5' | 2.47 | 0.43 |
| 29:B1:2725:U:C6 | 29:B1:2725:U:C3' | 3.01 | 0.43 |
| 29:B1:2836:C:O2 | 29:B1:2836:C:C3' | 2.65 | 0.43 |
| 29:B1:2868:U:C4 | 29:B1:2869:U:C5 | 3.06 | 0.43 |
| 29:B1:2971:A:H3' | 29:B1:2971:A:P | 2.59 | 0.43 |
| 29:B1:3064:U:N3 | 29:B1:3065:G:N7 | 2.66 | 0.43 |
| 29:B1:3166:C:OP2 | 29:B1:3166:C:H3' | 2.18 | 0.43 |
| 29:B1:3174:A:H1' | 29:B1:3175:U:C5' | 2.37 | 0.43 |
| 29:B1:3273:A:H2' | 29:B1:3273:A:N3 | 2.34 | 0.43 |
| 29:B1:3325:G:N2 | 29:B1:3326:G:N3 | 2.66 | 0.43 |
| 29:B1:3383:G:N2 | 29:B1:3384:U:C4 | 2.86 | 0.43 |
| 30:B2:25:G:C2 | 30:B2:26:C:C2 | 3.04 | 0.43 |
| 30:B2:73:C:C4 | 30:B2:74:C:C5 | 3.06 | 0.43 |
| 30:B2:73:C:C2 | 30:B2:74:C:C5 | 3.06 | 0.43 |
| 31:B3:3:A:N6 | 31:B3:4:C:N3 | 2.65 | 0.43 |
| 31:B3:74:U:H1' | 31:B3:89:A:C5 | 2.52 | 0.43 |
| 31:B3:144:G:H2' | 31:B3:145:U:H5' | 1.98 | 0.43 |
| 33:BB:65:ASP:O | 33:BB:66:PRO:CB | 2.67 | 0.43 |
| 34:BC:297:SER:O | 34:BC:299:ASP:CB | 2.65 | 0.43 |
| 36:BE:177:GLU:O | 36:BE:178:ASN:C | 2.61 | 0.43 |
| 38:BG:33:ARG:O | 38:BG:34:LYS:C | 2.61 | 0.43 |
| 38:BG:130:ILE:O | 38:BG:131:GLU:C | 2.60 | 0.43 |
| 42:BK:84:LEU:O | 42:BK:88:GLU:N | 2.52 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 43:BN:81:VAL:O | 43:BN:82:SER:C | 2.61 | 0.43 |
| 46:BQ:22:LEU:O | 46:BQ:144:SER:N | 2.47 | 0.43 |
| 48:BS:7:GLN:O | 48:BS:8:LYS:C | 2.61 | 0.43 |
| 51:BV:32:GLN:O | 51:BV:33:ASN:CB | 2.66 | 0.43 |
| 54:BY:44:ASN:C | 54:BY:46:ASP:CB | 2.91 | 0.43 |
| 1:C1:34:G:O6 | 1:C1:474:A:C2 | 2.67 | 0.43 |
| 1:C1:52:U:O2' | 1:C1:53:G:H5' | 2.17 | 0.43 |
| 1:C1:144:U:C4 | 1:C1:145:A:C8 | 3.07 | 0.43 |
| 1:C1:195:G:H1' | 1:C1:196:G:P | 2.58 | 0.43 |
| 1:C1:206:A:C4 | 1:C1:262:U:C4 | 3.07 | 0.43 |
| 1:C1:274:G:C4 | 1:C1:275:C:C5 | 3.05 | 0.43 |
| 1:C1:310:C:C6 | 1:C1:310:C:C4' | 3.00 | 0.43 |
| 1:C1:365:G:O6 | 1:C1:377:G:O6 | 2.35 | 0.43 |
| 1:C1:450:U:C4 | 1:C1:451:A:N6 | 2.82 | 0.43 |
| 1:C1:475:A:N1 | 1:C1:476:U:O2 | 2.51 | 0.43 |
| 1:C1:521:A:H2' | 1:C1:521:A:N3 | 2.33 | 0.43 |
| 1:C1:545:A:N6 | 1:C1:593:U:O2' | 2.46 | 0.43 |
| 1:C1:567:A:H8 | 1:C1:567:A:O5' | 2.01 | 0.43 |
| 1:C1:610:G:O2' | 1:C1:611:U:OP2 | 2.20 | 0.43 |
| 1:C1:940:A:C2 | 1:C1:941:A:N9 | 2.86 | 0.43 |
| 1:C1:940:A:N1 | 1:C1:941:A:C5 | 2.85 | 0.43 |
| 1:C1:963:A:O2' | 1:C1:964:U:C6 | 2.43 | 0.43 |
| 1:C1:1111:G:O2' | 1:C1:1112:G:H5' | 2.17 | 0.43 |
| 1:C1:1163:A:N6 | 1:C1:1164:G:C5 | 2.86 | 0.43 |
| 1:C1:1185:U:C1' | 1:C1:1186:U:OP2 | 2.67 | 0.43 |
| 1:C1:1250:U:H2' | 1:C1:1251:U:O4' | 2.18 | 0.43 |
| 1:C1:1329:A:H2' | 1:C1:1330:G:H5' | 2.00 | 0.43 |
| 1:C1:1342:C:H2' | 1:C1:1343:U:H6 | 1.83 | 0.43 |
| 1:C1:1358:G:N3 | 1:C1:1358:G:C2' | 2.74 | 0.43 |
| 1:C1:1388:A:C6 | 1:C1:1411:A:N7 | 2.87 | 0.43 |
| 1:C1:1390:U:H2' | 1:C1:1390:U:O2 | 2.18 | 0.43 |
| 1:C1:1410:A:C6 | 1:C1:1411:A:C2 | 3.05 | 0.43 |
| 4:CC:57:ASP:C | 4:CC:59:LEU:H | 2.24 | 0.43 |
| 6:CE:33:GLU:HA | 6:CE:36:LEU:CB | 2.49 | 0.43 |
| 10:CI:19:GLY:HA2 | 13:CL:97:ASP:O | 2.18 | 0.43 |
| 11:CJ:120:ASP:C | 11:CJ:122:ARG:H | 2.26 | 0.43 |
| 11:CJ:128:LYS:O | 11:CJ:130:GLY:N | 2.51 | 0.43 |
| 12:CK:27:ASP:C | 12:CK:29:GLN:N | 2.76 | 0.43 |
| 13:CL:68:ARG:O | 13:CL:71:GLN:CB | 2.66 | 0.43 |
| 13:CL:68:ARG:C | 13:CL:71:GLN:H | 2.26 | 0.43 |
| 13:CL:69:ILE:O | 13:CL:73:MET:CB | 2.67 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 14:CM:27:LYS:C | 14:CM:29:GLU:N | 2.76 | 0.43 |
| 16:CO:29:PRO:O | 16:CO:57:ARG:O | 2.35 | 0.43 |
| 25:Cd:111:UNK:O | 25:Cd:112:UNK:C | 2.66 | 0.43 |
| 29:D1:41:G:N7 | 29:D1:42:C:C5 | 2.86 | 0.43 |
| 29:D1:92:G:C5 | 29:D1:94:G:N2 | 2.86 | 0.43 |
| 29:D1:95:A:H5" | 54:DY:34:MET:O | 2.18 | 0.43 |
| 29:D1:169:U:H6 | 29:D1:169:U:O5' | 2.01 | 0.43 |
| 29:D1:273:A:H2' | 29:D1:274:G:H8 | 1.83 | 0.43 |
| 29:D1:424:G:C8 | 29:D1:424:G:C3' | 3.02 | 0.43 |
| 29:D1:440:A:H5' | 29:D1:441:U:C4' | 2.48 | 0.43 |
| 29:D1:535:G:N1 | 29:D1:559:A:H5' | 2.33 | 0.43 |
| 29:D1:554:A:C3' | 29:D1:555:U:H5" | 2.48 | 0.43 |
| 29:D1:563:U:N3 | 29:D1:564:G:O4' | 2.51 | 0.43 |
| 29:D1:637:C:N4 | 29:D1:638:C:N4 | 2.66 | 0.43 |
| 29:D1:707:U:C5' | 29:D1:782:U:O2' | 2.62 | 0.43 |
| 29:D1:762:U:C4 | 74:D1:3514:OHX:N4 | 2.86 | 0.43 |
| 29:D1:844:G:C6 | 29:D1:845:G:N1 | 2.86 | 0.43 |
| 29:D1:915:A:C2 | 29:D1:917:A:H1' | 2.54 | 0.43 |
| 29:D1:943:U:C2' | 29:D1:944:C:OP1 | 2.66 | 0.43 |
| 29:D1:949:C:O2' | 29:D1:971:G:OP1 | 2.36 | 0.43 |
| 29:D1:952:A:C1' | 29:D1:1114:U:O2' | 2.56 | 0.43 |
| 29:D1:957:C:O5' | 29:D1:957:C:H6 | 2.01 | 0.43 |
| 29:D1:995:U:C4 | 29:D1:2637:A:C8 | 3.06 | 0.43 |
| 29:D1:1059:G:N3 | 29:D1:1059:G:C2' | 2.79 | 0.43 |
| 29:D1:1143:A:O4' | 29:D1:1368:U:C6 | 2.71 | 0.43 |
| 29:D1:1192:C:O2 | 29:D1:1193:A:C2 | 2.71 | 0.43 |
| 29:D1:1226:G:C4' | 29:D1:3116:G:N7 | 2.81 | 0.43 |
| 29:D1:1296:C:HO2' | 29:D1:1297:C:P | 2.40 | 0.43 |
| 29:D1:1340:G:N2 | 29:D1:1341:U:C2 | 2.86 | 0.43 |
| 29:D1:1358:C:C2' | 29:D1:1359:C:H6 | 2.31 | 0.43 |
| 29:D1:1390:A:C5 | 29:D1:1418:A:C4 | 3.07 | 0.43 |
| 29:D1:1393:A:O2' | 29:D1:1419:A:C2 | 2.70 | 0.43 |
| 29:D1:1453:A:C2 | 29:D1:1878:G:C2 | 3.06 | 0.43 |
| 29:D1:1640:G:P | 29:D1:1738:C:H5" | 2.58 | 0.43 |
| 29:D1:1802:C:O2 | 29:D1:1802:C:H2' | 2.17 | 0.43 |
| 29:D1:1878:G:P | 29:D1:1879:A:C2 | 3.12 | 0.43 |
| 29:D1:1938:U:O4 | 74:D1:3448:OHX:N3 | 2.51 | 0.43 |
| 29:D1:2097:U:H2' | 29:D1:2098:C:C6 | 2.52 | 0.43 |
| 29:D1:2155:G:C6 | 29:D1:2156:C:N4 | 2.86 | 0.43 |
| 29:D1:2173:U:C4 | 29:D1:2174:G:C5 | 3.06 | 0.43 |
| 29:D1:2257:C:H5' | 29:D1:2258:U:C5 | 2.48 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2300:G:N2 | 29:D1:2301:U:C1’ | 2.81 | 0.43 |
| 29:D1:2353:G:C2 | 29:D1:2354:C:C6 | 3.06 | 0.43 |
| 29:D1:2459:A:N6 | 29:D1:2486:A:C2 | 2.86 | 0.43 |
| 29:D1:2469:G:H2’ | 29:D1:2470:C:C6 | 2.53 | 0.43 |
| 29:D1:2503:G:H2’ | 29:D1:2504:U:H6 | 1.77 | 0.43 |
| 29:D1:2559:U:O2 | 29:D1:2559:U:C2’ | 2.66 | 0.43 |
| 29:D1:2571:U:H2’ | 29:D1:2572:C:C5’ | 2.48 | 0.43 |
| 29:D1:2602:G:N3 | 29:D1:2603:G:C8 | 2.86 | 0.43 |
| 29:D1:2615:G:C4 | 29:D1:2616:C:C5 | 3.06 | 0.43 |
| 29:D1:2665:U:H4’ | 29:D1:2666:C:OP1 | 2.18 | 0.43 |
| 29:D1:2678:A:C5’ | 29:D1:2679:A:C2 | 3.00 | 0.43 |
| 29:D1:2714:G:OP2 | 61:Df:10:THR:HA | 2.19 | 0.43 |
| 29:D1:2741:C:H4’ | 61:Df:19:LYS:HA | 2.00 | 0.43 |
| 29:D1:2814:G:C2 | 29:D1:2815:G:C5 | 3.06 | 0.43 |
| 29:D1:2909:U:C2’ | 29:D1:2910:A:H5’ | 2.46 | 0.43 |
| 29:D1:2957:G:H8 | 29:D1:2957:G:H5’ | 1.83 | 0.43 |
| 29:D1:3211:C:C4’ | 29:D1:3211:C:OP1 | 2.67 | 0.43 |
| 29:D1:3278:C:C5’ | 29:D1:3279:A:OP2 | 2.53 | 0.43 |
| 29:D1:3281:U:C4 | 29:D1:3282:U:C4 | 3.06 | 0.43 |
| 29:D1:3299:A:O2’ | 29:D1:3300:U:OP2 | 2.36 | 0.43 |
| 29:D1:3335:A:C8 | 29:D1:3335:A:H3’ | 2.53 | 0.43 |
| 29:D1:3393:U:H2’ | 29:D1:3394:U:H6 | 1.82 | 0.43 |
| 30:D2:42:A:C2 | 30:D2:47:C:C4 | 2.94 | 0.43 |
| 30:D2:58:C:H5” | 74:D2:204:OHX:N6 | 2.33 | 0.43 |
| 30:D2:74:C:C3’ | 30:D2:75:G:H5’ | 2.46 | 0.43 |
| 30:D2:120:C:H2’ | 30:D2:121:U:C5 | 2.52 | 0.43 |
| 31:D3:65:A:C8 | 31:D3:66:A:N7 | 2.86 | 0.43 |
| 36:DE:94:ASN:O | 36:DE:97:ALA:N | 2.43 | 0.43 |
| 37:DF:64:LEU:HA | 37:DF:78:ARG:HA | 1.99 | 0.43 |
| 39:DH:215:VAL:O | 39:DH:219:ASP:CB | 2.67 | 0.43 |
| 41:DJ:75:TYR:O | 41:DJ:77:THR:N | 2.51 | 0.43 |
| 41:DJ:170:LYS:CB | 41:DJ:176:LEU:O | 2.66 | 0.43 |
| 42:DK:29:ARG:O | 42:DK:30:LEU:C | 2.60 | 0.43 |
| 42:DK:32:ARG:O | 42:DK:33:ALA:C | 2.60 | 0.43 |
| 42:DK:118:PRO:CA | 42:DK:119:SER:CB | 2.95 | 0.43 |
| 42:DK:133:ARG:CB | 42:DK:153:LYS:C | 2.91 | 0.43 |
| 73:DM:85:GLY:O | 73:DM:86:PHE:C | 2.62 | 0.43 |
| 73:DM:96:ILE:C | 73:DM:98:ASN:H | 2.26 | 0.43 |
| 73:DM:102:SER:O | 73:DM:104:ARG:N | 2.51 | 0.43 |
| 73:DM:187:VAL:O | 73:DM:188:VAL:CB | 2.66 | 0.43 |
| 44:DO:52:GLY:O | 44:DO:53:TYR:O | 2.35 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 53:DX:112:ASP:O | 53:DX:114:ASP:N | 2.51 | 0.43 |
| 57:Db:81:ASP:C | 57:Db:83:GLU:N | 2.76 | 0.43 |
| 57:Db:96:ILE:H | 57:Db:121:ASN:CB | 2.31 | 0.43 |
| 1:A1:34:G:O6 | 1:A1:474:A:C2 | 2.64 | 0.43 |
| 1:A1:63:G:C6 | 1:A1:64:U:C6 | 3.06 | 0.43 |
| 1:A1:63:G:C6 | 1:A1:88:U:C2 | 3.06 | 0.43 |
| 1:A1:85:A:O2' | 1:A1:86:A:OP2 | 2.37 | 0.43 |
| 1:A1:108:A:C3' | 1:A1:109:G:C8 | 3.00 | 0.43 |
| 1:A1:127:G:C5 | 1:A1:179:A:N7 | 2.86 | 0.43 |
| 1:A1:190:C:N4 | 1:A1:192:U:O4 | 2.51 | 0.43 |
| 1:A1:195:G:C4' | 1:A1:196:G:OP1 | 2.66 | 0.43 |
| 1:A1:200:A:O2' | 1:A1:201:G:P | 2.76 | 0.43 |
| 1:A1:341:A:C5 | 1:A1:342:C:C5 | 3.07 | 0.43 |
| 1:A1:353:A:O5' | 1:A1:353:A:H8 | 2.01 | 0.43 |
| 1:A1:702:G:C2 | 1:A1:703:G:C6 | 3.06 | 0.43 |
| 1:A1:869:A:C4 | 1:A1:870:C:C6 | 3.06 | 0.43 |
| 1:A1:1051:G:N3 | 1:A1:1052:U:C2 | 2.86 | 0.43 |
| 1:A1:1228:G:H2' | 1:A1:1228:G:N3 | 2.32 | 0.43 |
| 1:A1:1237:G:C6 | 1:A1:1238:A:C5 | 3.07 | 0.43 |
| 1:A1:1237:G:N1 | 1:A1:1238:A:C5 | 2.86 | 0.43 |
| 1:A1:1358:G:N3 | 1:A1:1358:G:C2' | 2.73 | 0.43 |
| 1:A1:1389:C:N4 | 1:A1:1391:A:C1' | 2.81 | 0.43 |
| 1:A1:1433:G:O6 | 15:AN:71:PRO:CB | 2.67 | 0.43 |
| 1:A1:1557:U:O2 | 1:A1:1557:U:C3' | 2.66 | 0.43 |
| 1:A1:1587:A:C6 | 1:A1:1588:G:N7 | 2.86 | 0.43 |
| 1:A1:1649:G:C4 | 1:A1:1650:U:C5 | 3.06 | 0.43 |
| 1:A1:1650:U:C2 | 1:A1:1651:A:N7 | 2.86 | 0.43 |
| 1:A1:1720:G:C8 | 1:A1:1721:A:N7 | 2.87 | 0.43 |
| 1:A1:1773:C:N1 | 1:A1:1789:G:N2 | 2.65 | 0.43 |
| 8:AG:93:LYS:C | 8:AG:95:ALA:N | 2.74 | 0.43 |
| 8:AG:127:ARG:O | 8:AG:131:THR:N | 2.51 | 0.43 |
| 13:AL:58:ALA:C | 13:AL:60:GLU:N | 2.75 | 0.43 |
| 17:AP:107:PHE:O | 17:AP:108:GLY:O | 2.35 | 0.43 |
| 29:B1:12:A:OP2 | 29:B1:12:A:C8 | 2.62 | 0.43 |
| 29:B1:64:G:H8 | 29:B1:64:G:O5' | 2.00 | 0.43 |
| 29:B1:203:G:C2 | 29:B1:204:A:H1' | 2.53 | 0.43 |
| 29:B1:311:C:C2 | 29:B1:2779:A:C2 | 3.06 | 0.43 |
| 29:B1:429:U:O2' | 29:B1:430:U:H5' | 2.17 | 0.43 |
| 29:B1:532:A:C3' | 29:B1:533:A:H8 | 2.30 | 0.43 |
| 29:B1:749:C:O2 | 29:B1:750:G:C8 | 2.71 | 0.43 |
| 29:B1:808:A:C5 | 29:B1:809:G:C8 | 3.06 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:850:U:H2' | 29:B1:851:C:C6 | 2.54 | 0.43 |
| 29:B1:869:G:C3' | 29:B1:870:G:H8 | 2.31 | 0.43 |
| 29:B1:884:A:H5" | 29:B1:884:A:H8 | 1.83 | 0.43 |
| 29:B1:943:U:C2 | 29:B1:1432:C:C5 | 3.04 | 0.43 |
| 29:B1:974:G:C2 | 29:B1:975:C:C5 | 3.06 | 0.43 |
| 29:B1:1129:A:N6 | 29:B1:1130:A:N1 | 2.67 | 0.43 |
| 29:B1:1143:A:O4' | 29:B1:1368:U:C6 | 2.71 | 0.43 |
| 29:B1:1360:C:O2 | 29:B1:1360:C:C2' | 2.62 | 0.43 |
| 29:B1:1393:A:C3' | 29:B1:1394:A:H5" | 2.48 | 0.43 |
| 29:B1:1404:G:N1 | 29:B1:1408:G:C5 | 2.87 | 0.43 |
| 29:B1:1488:G:OP2 | 29:B1:1837:U:OP2 | 2.36 | 0.43 |
| 29:B1:1489:A:C4 | 29:B1:1490:A:C8 | 3.06 | 0.43 |
| 29:B1:1498:A:C2 | 29:B1:1519:G:N3 | 2.87 | 0.43 |
| 29:B1:1504:A:C4 | 29:B1:1505:C:H5 | 2.33 | 0.43 |
| 29:B1:1539:A:N7 | 29:B1:1540:U:H5 | 2.15 | 0.43 |
| 29:B1:1644:C:N3 | 74:B1:3505:OHX:N1 | 2.66 | 0.43 |
| 29:B1:1654:A:C2 | 29:B1:1655:G:N3 | 2.87 | 0.43 |
| 29:B1:1678:G:C4 | 29:B1:1679:A:C8 | 3.05 | 0.43 |
| 29:B1:1684:U:H2' | 29:B1:1685:C:O2 | 2.18 | 0.43 |
| 29:B1:1688:U:C3' | 29:B1:1689:U:H5 | 2.31 | 0.43 |
| 29:B1:1713:G:C4 | 29:B1:1730:G:N2 | 2.86 | 0.43 |
| 29:B1:1948:G:H2' | 29:B1:1949:G:H8 | 1.82 | 0.43 |
| 29:B1:2182:A:N1 | 29:B1:2183:A:C5 | 2.86 | 0.43 |
| 29:B1:2197:C:N3 | 29:B1:2242:A:C2 | 2.86 | 0.43 |
| 29:B1:2300:G:N2 | 29:B1:2301:U:H1' | 2.34 | 0.43 |
| 29:B1:2386:A:H2' | 29:B1:2387:A:O4' | 2.18 | 0.43 |
| 29:B1:2395:G:OP2 | 29:B1:2946:A:N6 | 2.48 | 0.43 |
| 29:B1:2420:C:C3' | 29:B1:2421:U:H5' | 2.49 | 0.43 |
| 29:B1:2430:A:C5 | 29:B1:2431:C:C5 | 3.06 | 0.43 |
| 29:B1:2450:G:OP2 | 29:B1:2450:G:H8 | 2.01 | 0.43 |
| 29:B1:2674:A:N9 | 42:BK:108:GLU:CB | 2.82 | 0.43 |
| 29:B1:2794:G:O6 | 74:B1:3553:OHX:N1 | 2.51 | 0.43 |
| 29:B1:2831:G:C2 | 29:B1:2832:C:C2 | 3.06 | 0.43 |
| 29:B1:2890:A:C6 | 29:B1:2891:U:C4 | 3.06 | 0.43 |
| 29:B1:2895:G:H2' | 29:B1:2896:A:C8 | 2.53 | 0.43 |
| 29:B1:2898:G:OP2 | 29:B1:2899:C:H6 | 2.02 | 0.43 |
| 29:B1:2912:G:N3 | 29:B1:3130:A:H2' | 2.32 | 0.43 |
| 29:B1:3056:U:C2 | 29:B1:3079:U:N3 | 2.87 | 0.43 |
| 29:B1:3066:U:H3 | 29:B1:3075:G:H1 | 1.66 | 0.43 |
| 29:B1:3094:A:C4 | 29:B1:3095:U:C5 | 3.05 | 0.43 |
| 29:B1:3256:G:N3 | 29:B1:3256:G:C2' | 2.73 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3273:A:C2' | 29:B1:3274:A:C4' | 2.95 | 0.43 |
| 29:B1:3294:A:C6 | 29:B1:3295:A:C4 | 3.06 | 0.43 |
| 29:B1:3315:G:H5" | 29:B1:3319:U:O3' | 2.18 | 0.43 |
| 30:B2:23:A:N7 | 30:B2:24:A:N7 | 2.66 | 0.43 |
| 30:B2:117:A:N6 | 30:B2:118:A:N6 | 2.66 | 0.43 |
| 31:B3:56:G:H21 | 31:B3:57:C:H1' | 1.82 | 0.43 |
| 31:B3:152:G:N2 | 31:B3:153:U:H1' | 2.31 | 0.43 |
| 32:BA:32:VAL:HA | 32:BA:208:SER:HA | 2.00 | 0.43 |
| 32:BA:68:PHE:H | 32:BA:112:ALA:HB2 | 1.83 | 0.43 |
| 34:BC:298:PHE:CA | 34:BC:299:ASP:CB | 2.96 | 0.43 |
| 35:BD:8:VAL:H | 35:BD:19:ALA:HA | 1.83 | 0.43 |
| 37:BF:131:LYS:O | 38:BG:70:LYS:O | 2.36 | 0.43 |
| 41:BJ:24:ARG:O | 41:BJ:25:ALA:CB | 2.65 | 0.43 |
| 42:BK:101:ASN:O | 42:BK:102:PHE:C | 2.60 | 0.43 |
| 44:BO:36:ILE:HA | 44:BO:64:VAL:HA | 2.00 | 0.43 |
| 45:BP:10:ASP:O | 45:BP:11:GLY:C | 2.60 | 0.43 |
| 47:BR:31:LYS:O | 47:BR:32:LEU:C | 2.61 | 0.43 |
| 47:BR:35:PHE:C | 47:BR:36:LEU:O | 2.60 | 0.43 |
| 51:BV:37:ALA:O | 51:BV:38:SER:C | 2.61 | 0.43 |
| 63:Bh:45:UNK:O | 63:Bh:49:UNK:CB | 2.65 | 0.43 |
| 1:C1:57:G:C6 | 1:C1:91:G:C2 | 3.06 | 0.43 |
| 1:C1:60:U:C5 | 1:C1:453:U:H2' | 2.53 | 0.43 |
| 1:C1:85:A:C2 | 1:C1:86:A:H1' | 2.53 | 0.43 |
| 1:C1:93:A:O4' | 1:C1:399:A:C2 | 2.71 | 0.43 |
| 1:C1:287:G:H2' | 1:C1:288:A:C5' | 2.47 | 0.43 |
| 1:C1:328:A:C6 | 1:C1:329:G:C5 | 3.07 | 0.43 |
| 1:C1:330:G:C5 | 1:C1:331:A:N7 | 2.86 | 0.43 |
| 1:C1:463:U:O2' | 1:C1:527:A:H4' | 2.18 | 0.43 |
| 1:C1:490:C:H5" | 1:C1:491:C:OP2 | 2.17 | 0.43 |
| 1:C1:524:U:C4 | 1:C1:527:A:C6 | 3.06 | 0.43 |
| 1:C1:719:U:C1' | 1:C1:720:G:P | 3.06 | 0.43 |
| 1:C1:760:A:C4 | 1:C1:791:A:C2 | 3.06 | 0.43 |
| 1:C1:1032:G:N3 | 1:C1:1033:C:C5 | 2.86 | 0.43 |
| 1:C1:1207:C:C2 | 1:C1:1208:A:C6 | 3.06 | 0.43 |
| 1:C1:1211:A:N6 | 1:C1:1453:G:C6 | 2.86 | 0.43 |
| 1:C1:1228:G:C5 | 1:C1:1229:G:C8 | 3.06 | 0.43 |
| 1:C1:1325:A:N3 | 1:C1:1326:A:N7 | 2.66 | 0.43 |
| 1:C1:1377:U:H2' | 1:C1:1378:U:O2' | 2.18 | 0.43 |
| 1:C1:1380:U:O2' | 1:C1:1381:U:H5' | 2.18 | 0.43 |
| 1:C1:1383:G:C6 | 1:C1:1384:A:C5 | 3.07 | 0.43 |
| 1:C1:1411:A:H5' | 1:C1:1412:G:OP2 | 2.18 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1433:G:O6 | 15:CN:71:PRO:CB | 2.66 | 0.43 |
| 1:C1:1478:G:C2' | 1:C1:1479:A:O4' | 2.67 | 0.43 |
| 1:C1:1536:G:N3 | 1:C1:1536:G:C2' | 2.75 | 0.43 |
| 1:C1:1568:C:H4' | 1:C1:1568:C:OP1 | 2.18 | 0.43 |
| 1:C1:1592:A:O2' | 1:C1:1593:A:H5' | 2.18 | 0.43 |
| 3:CB:201:ASN:O | 3:CB:202:GLY:C | 2.61 | 0.43 |
| 4:CC:125:TYR:C | 4:CC:128:GLU:H | 2.27 | 0.43 |
| 8:CG:97:SER:O | 8:CG:99:ARG:N | 2.51 | 0.43 |
| 10:CI:40:ARG:C | 10:CI:42:ARG:N | 2.76 | 0.43 |
| 14:CM:10:ALA:O | 14:CM:13:ASP:N | 2.46 | 0.43 |
| 14:CM:37:VAL:C | 14:CM:50:ALA:N | 2.77 | 0.43 |
| 24:Cc:29:UNK:O | 24:Cc:30:UNK:C | 2.67 | 0.43 |
| 29:D1:78:U:O4 | 29:D1:325:A:N1 | 2.52 | 0.43 |
| 29:D1:98:G:H5" | 29:D1:99:A:OP1 | 2.18 | 0.43 |
| 29:D1:117:U:C6 | 29:D1:117:U:C3' | 3.01 | 0.43 |
| 29:D1:123:A:C2 | 29:D1:146:U:O2 | 2.71 | 0.43 |
| 29:D1:225:C:C2' | 29:D1:226:C:O5' | 2.67 | 0.43 |
| 29:D1:257:U:O2' | 29:D1:258:G:O5' | 2.19 | 0.43 |
| 29:D1:311:C:C2 | 29:D1:2779:A:C2 | 3.06 | 0.43 |
| 29:D1:339:C:N4 | 29:D1:340:C:H41 | 2.15 | 0.43 |
| 29:D1:355:A:C8 | 29:D1:356:C:C5 | 3.06 | 0.43 |
| 29:D1:428:A:H2' | 29:D1:429:U:O4' | 2.18 | 0.43 |
| 29:D1:431:U:HO2' | 29:D1:432:G:P | 2.41 | 0.43 |
| 29:D1:523:A:N3 | 29:D1:524:U:C6 | 2.86 | 0.43 |
| 29:D1:541:U:H2' | 29:D1:542:G:C8 | 2.54 | 0.43 |
| 29:D1:578:A:H1' | 37:DF:156:LYS:CB | 2.49 | 0.43 |
| 29:D1:607:A:C6 | 29:D1:608:A:C4 | 3.05 | 0.43 |
| 29:D1:627:U:O2' | 29:D1:628:A:H5' | 2.18 | 0.43 |
| 29:D1:650:C:C5' | 29:D1:2872:A:OP2 | 2.66 | 0.43 |
| 29:D1:717:C:H41 | 29:D1:721:G:C5' | 2.03 | 0.43 |
| 29:D1:1055:A:C8 | 29:D1:1056:U:C5 | 3.07 | 0.43 |
| 29:D1:1063:G:O4' | 29:D1:1063:G:P | 2.76 | 0.43 |
| 29:D1:1178:G:C2' | 29:D1:1179:A:C5' | 2.94 | 0.43 |
| 29:D1:1209:G:H8 | 29:D1:1209:G:OP1 | 2.01 | 0.43 |
| 29:D1:1218:U:O2 | 29:D1:1218:U:H2' | 2.17 | 0.43 |
| 29:D1:1257:C:N3 | 29:D1:1261:G:N2 | 2.66 | 0.43 |
| 29:D1:1357:G:C4 | 29:D1:1358:C:C6 | 3.06 | 0.43 |
| 29:D1:1524:A:C5 | 29:D1:1527:C:C4 | 3.06 | 0.43 |
| 29:D1:1543:G:N3 | 29:D1:1544:G:C8 | 2.86 | 0.43 |
| 29:D1:1611:G:H2' | 29:D1:1612:A:C8 | 2.53 | 0.43 |
| 29:D1:1627:U:OP1 | 29:D1:1628:C:OP2 | 2.36 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1654:A:O2' | 29:D1:1655:G:O4' | 2.36 | 0.43 |
| 29:D1:1658:G:C4 | 29:D1:1659:U:C6 | 3.06 | 0.43 |
| 29:D1:1678:G:OP2 | 29:D1:1678:G:H8 | 2.02 | 0.43 |
| 29:D1:1689:U:C4 | 29:D1:1690:C:C4 | 3.06 | 0.43 |
| 29:D1:1695:U:C2 | 29:D1:1749:A:N1 | 2.86 | 0.43 |
| 29:D1:1730:G:O6 | 55:DZ:26:GLY:CA | 2.66 | 0.43 |
| 29:D1:1910:A:C6 | 29:D1:1911:A:N1 | 2.86 | 0.43 |
| 29:D1:2223:A:C2' | 29:D1:2224:A:C8 | 3.01 | 0.43 |
| 29:D1:2261:G:N2 | 29:D1:2263:C:C2 | 2.86 | 0.43 |
| 29:D1:2423:U:O2' | 29:D1:2424:A:O5' | 2.36 | 0.43 |
| 29:D1:2463:G:O2' | 29:D1:2464:U:H5' | 2.18 | 0.43 |
| 29:D1:2625:C:O5' | 29:D1:2625:C:H6 | 2.01 | 0.43 |
| 29:D1:2672:G:C8 | 29:D1:2672:G:C3' | 3.00 | 0.43 |
| 29:D1:2708:C:C2' | 29:D1:2709:C:O5' | 2.66 | 0.43 |
| 29:D1:2762:A:C5 | 29:D1:2763:U:C5 | 3.06 | 0.43 |
| 29:D1:2771:U:HO2' | 29:D1:2772:C:P | 2.41 | 0.43 |
| 29:D1:2821:C:C6 | 29:D1:2821:C:C3' | 3.01 | 0.43 |
| 29:D1:2834:G:C5 | 29:D1:2835:U:C5 | 3.04 | 0.43 |
| 29:D1:2992:U:C6 | 29:D1:2992:U:H3' | 2.53 | 0.43 |
| 29:D1:3012:A:C2 | 29:D1:3043:C:C2 | 3.06 | 0.43 |
| 29:D1:3057:U:O2' | 29:D1:3058:U:C4' | 2.64 | 0.43 |
| 29:D1:3129:A:N3 | 29:D1:3129:A:C2' | 2.82 | 0.43 |
| 29:D1:3271:G:N3 | 29:D1:3271:G:H3' | 2.32 | 0.43 |
| 29:D1:3310:A:N1 | 29:D1:3311:C:C6 | 2.86 | 0.43 |
| 29:D1:3321:C:O2 | 29:D1:3322:A:C8 | 2.70 | 0.43 |
| 29:D1:3330:A:C6 | 29:D1:3331:U:C4 | 3.07 | 0.43 |
| 29:D1:3367:C:C2 | 29:D1:3368:U:C5 | 3.06 | 0.43 |
| 29:D1:3381:U:C2 | 29:D1:3383:G:N1 | 2.86 | 0.43 |
| 30:D2:41:G:C6 | 30:D2:43:U:C5 | 3.07 | 0.43 |
| 30:D2:69:C:O2 | 30:D2:110:G:N2 | 2.51 | 0.43 |
| 31:D3:11:C:O2' | 46:DQ:4:TYR:HA | 2.19 | 0.43 |
| 31:D3:44:A:H5" | 31:D3:45:C:OP2 | 2.18 | 0.43 |
| 33:DB:229:ALA:O | 33:DB:230:VAL:C | 2.61 | 0.43 |
| 34:DC:12:GLY:O | 34:DC:13:HIS:O | 2.35 | 0.43 |
| 36:DE:260:PHE:C | 36:DE:262:LYS:N | 2.76 | 0.43 |
| 37:DF:10:TYR:O | 37:DF:11:PRO:CB | 2.66 | 0.43 |
| 37:DF:16:ALA:C | 37:DF:18:LEU:N | 2.76 | 0.43 |
| 40:DI:51:GLN:N | 40:DI:52:LEU:CB | 2.81 | 0.43 |
| 41:DJ:28:ASP:O | 41:DJ:29:SER:O | 2.36 | 0.43 |
| 41:DJ:114:GLY:O | 41:DJ:115:MET:CB | 2.65 | 0.43 |
| 45:DP:81:TYR:C | 45:DP:83:ALA:N | 2.76 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 45:DP:168:TYR:O | 45:DP:169:ALA:C | 2.62 | 0.43 |
| 46:DQ:100:ALA:C | 46:DQ:102:ALA:H | 2.25 | 0.43 |
| 47:DR:63:SER:O | 47:DR:66:ARG:N | 2.51 | 0.43 |
| 49:DT:71:SER:O | 49:DT:72:VAL:C | 2.60 | 0.43 |
| 53:DX:89:LYS:C | 53:DX:91:ASN:H | 2.25 | 0.43 |
| 53:DX:101:PRO:C | 53:DX:103:LYS:H | 2.25 | 0.43 |
| 55:DZ:35:ARG:O | 55:DZ:36:GLN:C | 2.61 | 0.43 |
| 57:Db:24:ARG:O | 57:Db:25:TYR:C | 2.61 | 0.43 |
| 1:A1:158:U:HO2' | 1:A1:159:U:H3' | 1.84 | 0.43 |
| 1:A1:169:A:C8 | 1:A1:171:A:N6 | 2.85 | 0.43 |
| 1:A1:321:C:N4 | 1:A1:341:A:OP2 | 2.50 | 0.43 |
| 1:A1:323:A:O2' | 1:A1:324:U:C5' | 2.67 | 0.43 |
| 1:A1:478:A:C2 | 1:A1:510:G:C2 | 3.07 | 0.43 |
| 1:A1:542:A:H2' | 1:A1:542:A:N3 | 2.33 | 0.43 |
| 1:A1:577:G:H3' | 1:A1:577:G:P | 2.59 | 0.43 |
| 1:A1:628:G:N2 | 1:A1:970:A:OP2 | 2.51 | 0.43 |
| 1:A1:717:C:H3' | 1:A1:717:C:O2 | 2.19 | 0.43 |
| 1:A1:827:C:C4' | 1:A1:828:U:OP1 | 2.66 | 0.43 |
| 1:A1:900:A:C2 | 1:A1:901:G:H1' | 2.53 | 0.43 |
| 1:A1:900:A:O2' | 1:A1:916:U:H4' | 2.18 | 0.43 |
| 1:A1:946:U:O2 | 1:A1:946:U:C2' | 2.66 | 0.43 |
| 1:A1:1002:G:C5 | 1:A1:1003:A:C2 | 3.07 | 0.43 |
| 1:A1:1042:G:C6 | 1:A1:1043:A:C5 | 3.06 | 0.43 |
| 1:A1:1096:C:O2 | 1:A1:1098:U:OP2 | 2.35 | 0.43 |
| 1:A1:1205:C:H6 | 1:A1:1206:U:C2 | 2.36 | 0.43 |
| 1:A1:1228:G:C5 | 1:A1:1229:G:C8 | 3.05 | 0.43 |
| 1:A1:1266:U:H5" | 1:A1:1267:G:OP2 | 2.18 | 0.43 |
| 1:A1:1287:A:O2' | 1:A1:1288:G:C8 | 2.71 | 0.43 |
| 1:A1:1294:G:N3 | 1:A1:1295:G:C8 | 2.86 | 0.43 |
| 1:A1:1536:G:C2 | 1:A1:1538:U:N3 | 2.82 | 0.43 |
| 1:A1:1558:U:C6 | 1:A1:1559:A:N3 | 2.86 | 0.43 |
| 1:A1:1579:U:O4 | 1:A1:1580:C:N4 | 2.51 | 0.43 |
| 1:A1:1596:C:O2' | 1:A1:1597:A:H3' | 2.19 | 0.43 |
| 2:AA:80:THR:C | 2:AA:82:GLY:N | 2.75 | 0.43 |
| 2:AA:126:PRO:O | 2:AA:130:ALA:HB2 | 2.18 | 0.43 |
| 2:AA:171:GLY:C | 2:AA:173:ILE:H | 2.27 | 0.43 |
| 4:AC:98:ALA:C | 4:AC:100:ALA:N | 2.76 | 0.43 |
| 9:AH:83:ILE:O | 9:AH:117:ASP:HA | 2.19 | 0.43 |
| 11:AJ:35:PRO:O | 11:AJ:38:LEU:N | 2.51 | 0.43 |
| 12:AK:33:ARG:C | 12:AK:35:CYS:N | 2.76 | 0.43 |
| 20:AS:23:VAL:CB | 74:AS:101:OHX:N1 | 2.80 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 23:Ab:64:UNK:CB | 23:Ab:68:UNK:HA | 2.48 | 0.43 |
| 29:B1:117:U:C5 | 29:B1:118:U:H5 | 2.36 | 0.43 |
| 29:B1:192:C:N3 | 29:B1:193:C:C5 | 2.87 | 0.43 |
| 29:B1:198:A:H2 | 29:B1:219:A:C8 | 2.36 | 0.43 |
| 29:B1:282:G:H4' | 29:B1:283:G:OP2 | 2.17 | 0.43 |
| 29:B1:340:C:H5" | 29:B1:340:C:H6 | 1.83 | 0.43 |
| 29:B1:382:U:C4 | 29:B1:383:G:N9 | 2.87 | 0.43 |
| 29:B1:422:A:C4 | 29:B1:423:A:H5" | 2.53 | 0.43 |
| 29:B1:428:A:H2' | 29:B1:429:U:O4' | 2.18 | 0.43 |
| 29:B1:589:A:C5' | 29:B1:611:A:H2 | 2.31 | 0.43 |
| 29:B1:606:C:H6 | 29:B1:606:C:C4' | 2.26 | 0.43 |
| 29:B1:632:G:C2' | 29:B1:633:C:O5' | 2.67 | 0.43 |
| 29:B1:789:A:H2' | 29:B1:790:U:H6 | 1.79 | 0.43 |
| 29:B1:830:A:C4 | 29:B1:865:U:O2 | 2.71 | 0.43 |
| 29:B1:844:G:C6 | 29:B1:845:G:C6 | 3.06 | 0.43 |
| 29:B1:1114:U:C5 | 29:B1:1115:G:N2 | 2.86 | 0.43 |
| 29:B1:1145:G:N3 | 29:B1:1160:C:C4 | 2.87 | 0.43 |
| 29:B1:1183:C:C3' | 29:B1:1184:A:C5' | 2.96 | 0.43 |
| 29:B1:1393:A:H2 | 29:B1:1394:A:C1' | 2.32 | 0.43 |
| 29:B1:1397:C:C4 | 29:B1:1398:U:O4 | 2.72 | 0.43 |
| 29:B1:1495:U:O3' | 29:B1:1514:G:C5' | 2.65 | 0.43 |
| 29:B1:1543:G:N3 | 29:B1:1544:G:C8 | 2.86 | 0.43 |
| 29:B1:1627:U:C3' | 29:B1:1628:C:O4' | 2.66 | 0.43 |
| 29:B1:1804:A:C4 | 29:B1:1805:C:C6 | 3.06 | 0.43 |
| 29:B1:1896:A:N3 | 29:B1:3093:C:C5 | 2.86 | 0.43 |
| 29:B1:2182:A:C2 | 29:B1:2183:A:C5 | 3.06 | 0.43 |
| 29:B1:2199:G:C2 | 29:B1:2200:U:C6 | 3.06 | 0.43 |
| 29:B1:2255:A:N1 | 29:B1:2260:U:O4 | 2.52 | 0.43 |
| 29:B1:2256:A:O2' | 29:B1:2257:C:OP2 | 2.36 | 0.43 |
| 29:B1:2278:C:C4 | 29:B1:2305:G:C5 | 3.06 | 0.43 |
| 29:B1:2284:C:C5' | 29:B1:2285:C:OP2 | 2.66 | 0.43 |
| 29:B1:2372:A:O2' | 29:B1:2373:A:P | 2.77 | 0.43 |
| 29:B1:2406:C:H2' | 29:B1:2407:C:C6 | 2.52 | 0.43 |
| 29:B1:2517:U:O2 | 29:B1:2517:U:C2' | 2.63 | 0.43 |
| 29:B1:2630:C:C4 | 29:B1:2649:A:N1 | 2.86 | 0.43 |
| 29:B1:2719:U:C5 | 29:B1:2720:G:N7 | 2.86 | 0.43 |
| 29:B1:2857:C:C2 | 29:B1:2858:U:C6 | 3.06 | 0.43 |
| 29:B1:2917:G:HO2' | 29:B1:2918:G:P | 2.41 | 0.43 |
| 29:B1:2947:G:N3 | 29:B1:2948:C:C5 | 2.86 | 0.43 |
| 29:B1:2997:G:C1' | 29:B1:2998:U:OP2 | 2.66 | 0.43 |
| 29:B1:3055:U:H5" | 29:B1:3056:U:C5 | 2.53 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3141:A:H5' | 29:B1:3143:C:C1' | 2.48 | 0.43 |
| 29:B1:3187:A:C2 | 29:B1:3188:G:N9 | 2.85 | 0.43 |
| 29:B1:3191:G:C5 | 29:B1:3202:G:N2 | 2.85 | 0.43 |
| 29:B1:3225:C:H5 | 74:B1:3420:OHX:N3 | 2.17 | 0.43 |
| 30:B2:30:G:C6 | 30:B2:49:G:N1 | 2.85 | 0.43 |
| 35:BD:18:ASN:O | 35:BD:19:ALA:HB2 | 2.18 | 0.43 |
| 35:BD:163:LYS:O | 35:BD:164:GLU:C | 2.61 | 0.43 |
| 36:BE:226:TYR:CB | 36:BE:232:ASP:H | 2.32 | 0.43 |
| 37:BF:92:SER:C | 37:BF:94:GLU:N | 2.76 | 0.43 |
| 38:BG:38:LYS:O | 38:BG:39:GLU:C | 2.61 | 0.43 |
| 38:BG:74:SER:CB | 38:BG:75:TYR:C | 2.91 | 0.43 |
| 38:BG:152:GLY:O | 38:BG:153:PHE:CB | 2.65 | 0.43 |
| 38:BG:180:SER:O | 38:BG:181:ILE:C | 2.59 | 0.43 |
| 41:BJ:20:SER:O | 41:BJ:21:ARG:C | 2.61 | 0.43 |
| 44:BO:146:ALA:HB1 | 44:BO:149:ASN:CB | 2.48 | 0.43 |
| 45:BP:27:LEU:O | 45:BP:30:GLY:N | 2.48 | 0.43 |
| 46:BQ:28:ASN:O | 46:BQ:29:THR:C | 2.62 | 0.43 |
| 49:BT:20:ARG:O | 49:BT:22:HIS:N | 2.47 | 0.43 |
| 51:BV:5:ILE:O | 51:BV:6:ASP:CB | 2.66 | 0.43 |
| 62:Bg:25:GLN:O | 62:Bg:28:LYS:N | 2.51 | 0.43 |
| 62:Bg:73:THR:O | 62:Bg:74:ALA:HB3 | 2.18 | 0.43 |
| 1:C1:50:C:C5 | 1:C1:424:C:C5 | 3.06 | 0.43 |
| 1:C1:147:A:H2' | 1:C1:148:A:H1' | 1.99 | 0.43 |
| 1:C1:179:A:N6 | 1:C1:180:A:H62 | 2.16 | 0.43 |
| 1:C1:250:C:O2 | 1:C1:251:A:N9 | 2.52 | 0.43 |
| 1:C1:287:G:C2' | 1:C1:288:A:H5' | 2.48 | 0.43 |
| 1:C1:308:C:C6 | 1:C1:308:C:H5' | 2.54 | 0.43 |
| 1:C1:642:G:C6 | 1:C1:643:G:C6 | 3.06 | 0.43 |
| 1:C1:727:U:H2' | 1:C1:728:U:H6 | 1.83 | 0.43 |
| 1:C1:755:A:C1' | 1:C1:756:A:C8 | 3.00 | 0.43 |
| 1:C1:800:U:H2' | 1:C1:800:U:O2 | 2.19 | 0.43 |
| 1:C1:853:G:N1 | 1:C1:854:U:O4 | 2.51 | 0.43 |
| 1:C1:862:A:H1' | 1:C1:963:A:N1 | 2.33 | 0.43 |
| 1:C1:929:A:N7 | 1:C1:930:A:C5 | 2.86 | 0.43 |
| 1:C1:1201:G:N3 | 1:C1:1201:G:O5' | 2.51 | 0.43 |
| 1:C1:1231:U:C2 | 1:C1:1258:U:H5' | 2.53 | 0.43 |
| 1:C1:1237:G:N3 | 1:C1:1238:A:C8 | 2.87 | 0.43 |
| 1:C1:1245:G:N7 | 1:C1:1246:C:C5 | 2.87 | 0.43 |
| 1:C1:1272:U:O4 | 1:C1:1431:C:O2 | 2.36 | 0.43 |
| 1:C1:1437:U:O2' | 1:C1:1438:G:H5" | 2.18 | 0.43 |
| 1:C1:1491:U:H3' | 1:C1:1492:A:H5" | 2.00 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1624:C:O2 | 1:C1:1624:C:C2' | 2.66 | 0.43 |
| 1:C1:1707:A:H2' | 1:C1:1708:U:O2 | 2.17 | 0.43 |
| 1:C1:1722:A:H3' | 1:C1:1723:U:H6 | 1.82 | 0.43 |
| 2:CA:87:LEU:O | 2:CA:88:LYS:C | 2.60 | 0.43 |
| 2:CA:181:VAL:O | 2:CA:182:LEU:C | 2.62 | 0.43 |
| 3:CB:133:LYS:C | 3:CB:135:SER:H | 2.26 | 0.43 |
| 4:CC:27:ARG:O | 4:CC:28:GLU:C | 2.62 | 0.43 |
| 5:CD:164:PRO:C | 5:CD:166:ARG:N | 2.76 | 0.43 |
| 10:CI:18:ARG:O | 10:CI:21:ASP:CB | 2.65 | 0.43 |
| 11:CJ:43:ILE:C | 11:CJ:45:ARG:H | 2.26 | 0.43 |
| 16:CO:119:LYS:O | 16:CO:121:VAL:N | 2.51 | 0.43 |
| 17:CP:92:CYS:C | 17:CP:94:ASN:N | 2.76 | 0.43 |
| 17:CP:99:ASN:O | 17:CP:100:ASP:O | 2.35 | 0.43 |
| 21:CT:85:TRP:C | 21:CT:87:LYS:N | 2.76 | 0.43 |
| 21:CT:218:GLY:O | 21:CT:236:ALA:HB3 | 2.17 | 0.43 |
| 23:Cb:45:UNK:N | 23:Cb:48:UNK:CB | 2.81 | 0.43 |
| 29:D1:32:U:H2' | 29:D1:33:G:H8 | 1.83 | 0.43 |
| 29:D1:88:A:C8 | 29:D1:99:A:N6 | 2.86 | 0.43 |
| 29:D1:112:U:C4 | 29:D1:320:G:C6 | 3.07 | 0.43 |
| 29:D1:131:C:O2 | 29:D1:132:C:H1' | 2.19 | 0.43 |
| 29:D1:138:U:C2 | 29:D1:139:G:C8 | 3.07 | 0.43 |
| 29:D1:155:G:C8 | 29:D1:157:A:C2 | 3.05 | 0.43 |
| 29:D1:192:C:C4 | 29:D1:204:A:C2 | 3.06 | 0.43 |
| 29:D1:212:G:C4 | 29:D1:222:A:C8 | 3.06 | 0.43 |
| 29:D1:401:U:O2 | 29:D1:401:U:O4' | 2.32 | 0.43 |
| 29:D1:644:G:N1 | 29:D1:2868:U:OP1 | 2.45 | 0.43 |
| 29:D1:701:G:C5 | 29:D1:702:C:C4 | 3.06 | 0.43 |
| 29:D1:716:A:C5 | 29:D1:721:G:N2 | 2.78 | 0.43 |
| 29:D1:804:C:N3 | 29:D1:940:G:C2 | 2.86 | 0.43 |
| 29:D1:843:A:O2' | 29:D1:844:G:H5' | 2.18 | 0.43 |
| 29:D1:1063:G:OP2 | 29:D1:1098:A:OP2 | 2.36 | 0.43 |
| 29:D1:1090:G:O2' | 29:D1:1091:A:H5' | 2.18 | 0.43 |
| 29:D1:1131:G:C4 | 29:D1:2373:A:N1 | 2.85 | 0.43 |
| 29:D1:1155:C:O5' | 29:D1:1156:C:OP2 | 2.37 | 0.43 |
| 29:D1:1157:G:H2' | 29:D1:1158:A:C1' | 2.45 | 0.43 |
| 29:D1:1325:U:C2 | 29:D1:1326:A:C8 | 3.07 | 0.43 |
| 29:D1:1415:U:H5" | 29:D1:1416:C:OP2 | 2.18 | 0.43 |
| 29:D1:1454:A:C5' | 29:D1:1878:G:H1 | 2.30 | 0.43 |
| 29:D1:1573:G:C8 | 29:D1:1574:C:C6 | 3.06 | 0.43 |
| 29:D1:1661:G:N2 | 29:D1:1789:G:H1' | 2.33 | 0.43 |
| 29:D1:1779:C:C4' | 29:D1:1780:G:C5' | 2.81 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1882:G:H5” | 29:D1:1883:A:OP2 | 2.18 | 0.43 |
| 29:D1:2130:G:O6 | 29:D1:2323:G:C6 | 2.72 | 0.43 |
| 29:D1:2175:U:C3’ | 29:D1:2176:U:H5’ | 2.47 | 0.43 |
| 29:D1:2202:C:H5” | 33:DB:225:ILE:CA | 2.48 | 0.43 |
| 29:D1:2259:A:C8 | 29:D1:2260:U:C4 | 3.06 | 0.43 |
| 29:D1:2289:U:O2’ | 29:D1:2290:C:C5’ | 2.65 | 0.43 |
| 29:D1:2291:A:C2 | 29:D1:2292:U:C2 | 3.07 | 0.43 |
| 29:D1:2297:U:N3 | 29:D1:2299:A:N6 | 2.66 | 0.43 |
| 29:D1:2383:C:C5 | 29:D1:2384:A:N7 | 2.87 | 0.43 |
| 29:D1:2390:A:N6 | 29:D1:2391:G:C6 | 2.85 | 0.43 |
| 29:D1:2434:U:C2 | 29:D1:2593:A:O2’ | 2.71 | 0.43 |
| 29:D1:2441:A:H3’ | 29:D1:2442:G:H8 | 1.83 | 0.43 |
| 29:D1:2469:G:N2 | 29:D1:2488:A:C2 | 2.86 | 0.43 |
| 29:D1:2506:U:O5’ | 29:D1:2506:U:H6 | 2.01 | 0.43 |
| 29:D1:2515:A:N6 | 29:D1:2593:A:C8 | 2.86 | 0.43 |
| 29:D1:2687:G:C3’ | 29:D1:2687:G:C4 | 3.01 | 0.43 |
| 29:D1:2854:U:C2’ | 29:D1:2855:U:H5’ | 2.48 | 0.43 |
| 29:D1:2959:C:H5” | 29:D1:2960:C:OP2 | 2.18 | 0.43 |
| 29:D1:2981:U:C2’ | 29:D1:2982:A:H5” | 2.48 | 0.43 |
| 29:D1:2992:U:OP1 | 29:D1:3310:A:O2’ | 2.25 | 0.43 |
| 29:D1:3041:U:HO2’ | 29:D1:3042:U:H5’ | 1.81 | 0.43 |
| 29:D1:3110:C:N3 | 29:D1:3111:U:C5 | 2.86 | 0.43 |
| 29:D1:3181:C:C1’ | 45:DP:167:TYR:CB | 2.95 | 0.43 |
| 29:D1:3182:G:O2’ | 29:D1:3183:A:C5’ | 2.66 | 0.43 |
| 29:D1:3184:A:H8 | 29:D1:3184:A:C5’ | 2.23 | 0.43 |
| 30:D2:30:G:C5 | 30:D2:31:U:N3 | 2.87 | 0.43 |
| 30:D2:76:A:C5 | 30:D2:78:U:O4 | 2.72 | 0.43 |
| 30:D2:90:U:O2 | 30:D2:90:U:C2’ | 2.66 | 0.43 |
| 31:D3:35:C:C5 | 31:D3:36:G:N7 | 2.87 | 0.43 |
| 31:D3:42:G:C2 | 31:D3:43:A:C8 | 3.06 | 0.43 |
| 33:DB:5:ILE:O | 33:DB:6:ARG:CB | 2.65 | 0.43 |
| 33:DB:65:ASP:O | 33:DB:66:PRO:CB | 2.65 | 0.43 |
| 35:DD:97:GLY:O | 35:DD:98:ARG:C | 2.61 | 0.43 |
| 35:DD:220:ARG:C | 35:DD:222:VAL:H | 2.25 | 0.43 |
| 36:DE:19:PRO:O | 36:DE:20:PHE:CB | 2.62 | 0.43 |
| 38:DG:98:LYS:O | 38:DG:100:ARG:N | 2.52 | 0.43 |
| 39:DH:122:LYS:C | 39:DH:124:ASP:H | 2.26 | 0.43 |
| 40:DI:171:ASP:O | 40:DI:172:ILE:C | 2.60 | 0.43 |
| 44:DO:85:THR:CA | 44:DO:86:ASN:CB | 2.96 | 0.43 |
| 49:DT:13:TYR:O | 49:DT:16:GLN:CB | 2.66 | 0.43 |
| 53:DX:24:SER:C | 53:DX:26:GLN:H | 2.26 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 62:Dg:65:ALA:O | 62:Dg:66:GLY:C | 2.61 | 0.43 |
| 63:Dh:3:UNK:O | 63:Dh:4:UNK:CB | 2.63 | 0.43 |
| 65:Dk:11:UNK:O | 65:Dk:13:UNK:N | 2.51 | 0.43 |
| 1:A1:9:U:C2 | 1:A1:11:A:OP2 | 2.71 | 0.43 |
| 1:A1:145:A:N1 | 1:A1:171:A:N1 | 2.66 | 0.43 |
| 1:A1:204:G:N2 | 1:A1:264:G:C2 | 2.86 | 0.43 |
| 1:A1:250:C:H3' | 1:A1:250:C:P | 2.54 | 0.43 |
| 1:A1:359:A:N3 | 1:A1:359:A:C2' | 2.82 | 0.43 |
| 1:A1:359:A:N3 | 1:A1:359:A:H2' | 2.34 | 0.43 |
| 1:A1:378:A:C2 | 1:A1:379:U:H5" | 2.53 | 0.43 |
| 1:A1:387:A:C2 | 1:A1:402:C:H5 | 2.36 | 0.43 |
| 1:A1:407:A:C4 | 1:A1:408:C:C5 | 3.06 | 0.43 |
| 1:A1:550:A:O4' | 1:A1:556:A:C2 | 2.72 | 0.43 |
| 1:A1:568:G:H2' | 1:A1:569:C:H5' | 1.98 | 0.43 |
| 1:A1:623:A:N1 | 1:A1:1105:C:C4' | 2.81 | 0.43 |
| 1:A1:634:G:C2 | 1:A1:966:A:C5 | 3.06 | 0.43 |
| 1:A1:702:G:N1 | 1:A1:703:G:C6 | 2.86 | 0.43 |
| 1:A1:765:G:C4' | 1:A1:766:U:OP1 | 2.64 | 0.43 |
| 1:A1:798:C:O2' | 1:A1:799:A:H5' | 2.19 | 0.43 |
| 1:A1:1008:G:C2 | 1:A1:1009:U:C1' | 2.98 | 0.43 |
| 1:A1:1028:C:C1' | 1:A1:1029:U:H5" | 2.44 | 0.43 |
| 1:A1:1042:G:H2' | 1:A1:1043:A:H8 | 1.80 | 0.43 |
| 1:A1:1086:A:N7 | 1:A1:1087:A:C5 | 2.87 | 0.43 |
| 1:A1:1124:A:N6 | 1:A1:1125:A:N1 | 2.65 | 0.43 |
| 1:A1:1155:G:H2' | 1:A1:1156:C:C6 | 2.53 | 0.43 |
| 1:A1:1179:G:C2 | 1:A1:1180:C:H1' | 2.53 | 0.43 |
| 1:A1:1362:U:C3' | 1:A1:1363:U:O4' | 2.50 | 0.43 |
| 1:A1:1592:A:C4 | 1:A1:1593:A:C8 | 3.06 | 0.43 |
| 1:A1:1630:U:C4' | 1:A1:1765:A:OP1 | 2.56 | 0.43 |
| 1:A1:1736:G:O2' | 1:A1:1737:G:H5' | 2.19 | 0.43 |
| 2:AA:42:PRO:O | 2:AA:43:ASP:C | 2.61 | 0.43 |
| 2:AA:75:ALA:HB1 | 2:AA:122:ILE:O | 2.18 | 0.43 |
| 10:AI:91:GLY:HA2 | 10:AI:107:ILE:O | 2.18 | 0.43 |
| 12:AK:50:ILE:O | 12:AK:54:THR:N | 2.39 | 0.43 |
| 17:AP:43:PHE:C | 17:AP:45:GLY:N | 2.74 | 0.43 |
| 17:AP:48:HIS:HA | 17:AP:105:ALA:CB | 2.41 | 0.43 |
| 21:AT:27:ALA:HB2 | 21:AT:296:ALA:HB1 | 1.99 | 0.43 |
| 24:Ac:9:UNK:C | 24:Ac:64:UNK:CB | 2.96 | 0.43 |
| 24:Ac:24:UNK:C | 24:Ac:26:UNK:N | 2.80 | 0.43 |
| 26:Ae:3:UNK:O | 26:Ae:7:UNK:N | 2.52 | 0.43 |
| 28:Ah:6:UNK:O | 28:Ah:7:UNK:C | 2.66 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:22:G:H2' | 29:B1:23:A:O4' | 2.18 | 0.43 |
| 29:B1:25:U:O4 | 29:B1:331:G:C8 | 2.72 | 0.43 |
| 29:B1:47:C:C6 | 29:B1:48:A:C8 | 3.07 | 0.43 |
| 29:B1:75:G:C6 | 29:B1:76:G:N1 | 2.86 | 0.43 |
| 29:B1:97:U:H2' | 29:B1:97:U:O2 | 2.19 | 0.43 |
| 29:B1:102:C:C1' | 29:B1:103:G:P | 3.06 | 0.43 |
| 29:B1:107:A:H1' | 29:B1:325:A:N3 | 2.33 | 0.43 |
| 29:B1:197:G:H21 | 29:B1:218:G:H21 | 1.65 | 0.43 |
| 29:B1:282:G:N2 | 29:B1:286:U:C4' | 2.59 | 0.43 |
| 29:B1:297:G:H4' | 29:B1:299:G:C4' | 2.47 | 0.43 |
| 29:B1:412:G:C4 | 29:B1:413:U:C5 | 3.06 | 0.43 |
| 29:B1:509:U:O2 | 29:B1:509:U:C2' | 2.66 | 0.43 |
| 29:B1:521:A:N7 | 29:B1:572:A:C5 | 2.86 | 0.43 |
| 29:B1:580:C:N4 | 29:B1:581:U:O4 | 2.51 | 0.43 |
| 29:B1:634:C:C2 | 29:B1:635:G:C8 | 3.07 | 0.43 |
| 29:B1:665:A:N6 | 29:B1:666:A:C6 | 2.86 | 0.43 |
| 29:B1:682:U:C6 | 29:B1:683:U:C5 | 3.06 | 0.43 |
| 29:B1:682:U:C6 | 29:B1:683:U:H5 | 2.36 | 0.43 |
| 29:B1:712:G:C5 | 29:B1:713:U:C4 | 3.06 | 0.43 |
| 29:B1:825:U:C2 | 29:B1:826:G:C8 | 3.07 | 0.43 |
| 29:B1:832:G:N2 | 29:B1:863:C:C2 | 2.86 | 0.43 |
| 29:B1:866:A:C5' | 29:B1:867:G:OP2 | 2.66 | 0.43 |
| 29:B1:941:G:C5 | 29:B1:942:U:C5 | 3.07 | 0.43 |
| 29:B1:987:U:C2 | 29:B1:988:U:C5 | 3.07 | 0.43 |
| 29:B1:1049:C:N3 | 29:B1:1050:U:C5 | 2.86 | 0.43 |
| 29:B1:1176:C:C3' | 29:B1:1177:G:H5" | 2.49 | 0.43 |
| 29:B1:1193:A:N7 | 29:B1:1194:G:C6 | 2.85 | 0.43 |
| 29:B1:1212:A:H3' | 29:B1:1213:G:H5" | 1.99 | 0.43 |
| 29:B1:1225:A:C2 | 29:B1:1226:G:H1' | 2.53 | 0.43 |
| 29:B1:1397:C:H2' | 29:B1:1398:U:C6 | 2.53 | 0.43 |
| 29:B1:1463:U:N3 | 29:B1:1464:G:N7 | 2.67 | 0.43 |
| 29:B1:1506:A:C6 | 29:B1:1513:G:C6 | 3.06 | 0.43 |
| 29:B1:1557:A:C5 | 29:B1:1558:A:H1' | 2.53 | 0.43 |
| 29:B1:1673:G:C6 | 29:B1:1775:G:C6 | 3.06 | 0.43 |
| 29:B1:1687:U:O2 | 29:B1:3069:G:C2 | 2.71 | 0.43 |
| 29:B1:1687:U:C3' | 29:B1:1688:U:H4' | 2.47 | 0.43 |
| 29:B1:1728:G:H5" | 29:B1:1729:A:H3' | 2.00 | 0.43 |
| 29:B1:1857:C:H2' | 29:B1:1858:A:C8 | 2.53 | 0.43 |
| 29:B1:2125:A:C2 | 29:B1:2329:C:C2 | 3.06 | 0.43 |
| 29:B1:2133:U:H2' | 29:B1:2134:G:H5' | 2.00 | 0.43 |
| 29:B1:2348:A:H3' | 29:B1:2349:U:H6 | 1.84 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2576:G:C2 | 29:B1:2577:C:C2 | 3.06 | 0.43 |
| 29:B1:2901:G:H2' | 29:B1:2902:A:C8 | 2.53 | 0.43 |
| 29:B1:3010:U:C2' | 29:B1:3011:A:H5' | 2.49 | 0.43 |
| 29:B1:3030:G:C2' | 29:B1:3031:G:O4' | 2.66 | 0.43 |
| 29:B1:3157:U:N3 | 29:B1:3293:U:N1 | 2.66 | 0.43 |
| 29:B1:3253:G:H5" | 29:B1:3254:G:OP2 | 2.19 | 0.43 |
| 29:B1:3302:U:HO2' | 29:B1:3303:G:C4' | 2.30 | 0.43 |
| 29:B1:3342:A:P | 29:B1:3343:G:N2 | 2.91 | 0.43 |
| 29:B1:3381:U:C2 | 29:B1:3383:G:N1 | 2.86 | 0.43 |
| 29:B1:3388:C:O2' | 29:B1:3389:U:C6 | 2.71 | 0.43 |
| 30:B2:78:U:O2' | 30:B2:79:A:O5' | 2.36 | 0.43 |
| 30:B2:88:G:C6 | 30:B2:89:G:C5 | 3.07 | 0.43 |
| 31:B3:18:U:C2 | 31:B3:19:C:C5 | 3.06 | 0.43 |
| 34:BC:186:GLY:O | 34:BC:187:SER:O | 2.37 | 0.43 |
| 34:BC:222:LYS:O | 34:BC:271:GLY:C | 2.62 | 0.43 |
| 36:BE:40:HIS:N | 36:BE:41:LYS:CB | 2.82 | 0.43 |
| 36:BE:91:GLY:O | 36:BE:92:LEU:C | 2.62 | 0.43 |
| 36:BE:250:ASP:C | 36:BE:251:PRO:O | 2.59 | 0.43 |
| 38:BG:49:ALA:O | 38:BG:50:ALA:C | 2.61 | 0.43 |
| 38:BG:193:PRO:O | 38:BG:194:HIS:C | 2.61 | 0.43 |
| 44:BO:121:VAL:O | 44:BO:122:ASN:CB | 2.67 | 0.43 |
| 49:BT:75:ILE:HA | 49:BT:89:LEU:O | 2.18 | 0.43 |
| 50:BU:24:ASN:O | 50:BU:99:ALA:HA | 2.19 | 0.43 |
| 52:BW:88:MET:O | 52:BW:90:ALA:N | 2.46 | 0.43 |
| 54:BY:20:GLY:O | 54:BY:22:ILE:N | 2.50 | 0.43 |
| 57:Bb:4:LEU:C | 57:Bb:6:HIS:N | 2.74 | 0.43 |
| 57:Bb:66:LEU:HA | 57:Bb:67:SER:CB | 2.48 | 0.43 |
| 57:Bb:103:LYS:O | 57:Bb:105:ARG:N | 2.52 | 0.43 |
| 65:Bk:11:UNK:O | 65:Bk:12:UNK:O | 2.33 | 0.43 |
| 1:C1:269:G:C4 | 1:C1:287:G:N2 | 2.87 | 0.43 |
| 1:C1:281:G:N3 | 1:C1:281:G:H2' | 2.33 | 0.43 |
| 1:C1:295:A:C2 | 1:C1:296:U:O4' | 2.71 | 0.43 |
| 1:C1:328:A:C6 | 1:C1:341:A:N6 | 2.86 | 0.43 |
| 1:C1:371:G:C6 | 1:C1:372:G:C2 | 3.07 | 0.43 |
| 1:C1:428:A:O3' | 1:C1:439:U:H2' | 2.19 | 0.43 |
| 1:C1:469:C:N3 | 1:C1:469:C:P | 2.92 | 0.43 |
| 1:C1:488:G:O2' | 1:C1:489:C:P | 2.76 | 0.43 |
| 1:C1:519:C:C4 | 1:C1:534:A:C2 | 3.07 | 0.43 |
| 1:C1:536:C:C4 | 1:C1:537:G:N7 | 2.87 | 0.43 |
| 1:C1:542:A:H2' | 1:C1:542:A:N3 | 2.34 | 0.43 |
| 1:C1:755:A:C4 | 1:C1:756:A:C8 | 3.07 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:812:A:C6 | 1:C1:859:A:N7 | 2.87 | 0.43 |
| 1:C1:814:A:C6 | 1:C1:858:G:C2 | 3.06 | 0.43 |
| 1:C1:899:G:H5' | 9:CH:45:GLY:HA2 | 2.00 | 0.43 |
| 1:C1:1016:C:H2' | 1:C1:1017:U:H5' | 1.99 | 0.43 |
| 1:C1:1185:U:H1' | 1:C1:1186:U:OP2 | 2.19 | 0.43 |
| 1:C1:1245:G:C5 | 1:C1:1246:C:C6 | 3.06 | 0.43 |
| 1:C1:1251:U:C4 | 1:C1:1252:C:C5 | 3.07 | 0.43 |
| 1:C1:1291:G:N2 | 1:C1:1324:G:N1 | 2.48 | 0.43 |
| 1:C1:1345:A:C2' | 1:C1:1346:A:C8 | 3.00 | 0.43 |
| 1:C1:1485:C:H42 | 1:C1:1592:A:C4' | 2.31 | 0.43 |
| 1:C1:1550:A:C2 | 1:C1:1562:G:C6 | 3.06 | 0.43 |
| 1:C1:1598:U:H2' | 1:C1:1599:C:O5' | 2.18 | 0.43 |
| 1:C1:1693:A:N1 | 1:C1:1708:U:N3 | 2.66 | 0.43 |
| 1:C1:1705:C:C5 | 1:C1:1706:C:C5 | 3.07 | 0.43 |
| 1:C1:1765:A:P | 74:C1:1983:OHX:N4 | 2.92 | 0.43 |
| 6:CE:68:LYS:O | 6:CE:70:LEU:N | 2.52 | 0.43 |
| 6:CE:135:ALA:O | 6:CE:155:HIS:O | 2.36 | 0.43 |
| 8:CG:114:ARG:C | 8:CG:116:ILE:N | 2.74 | 0.43 |
| 16:CO:17:ALA:O | 16:CO:19:LYS:N | 2.51 | 0.43 |
| 17:CP:71:CYS:HA | 17:CP:86:PHE:HA | 2.00 | 0.43 |
| 21:CT:297:ASP:O | 21:CT:299:GLN:N | 2.51 | 0.43 |
| 29:D1:6:A:N1 | 31:D3:154:C:C2 | 2.87 | 0.43 |
| 29:D1:39:A:C5' | 29:D1:40:A:H4' | 2.48 | 0.43 |
| 29:D1:64:G:N1 | 29:D1:322:U:C5 | 2.87 | 0.43 |
| 29:D1:72:C:C5 | 29:D1:73:C:N1 | 2.87 | 0.43 |
| 29:D1:72:C:C4 | 29:D1:73:C:C1' | 3.01 | 0.43 |
| 29:D1:108:A:C2' | 29:D1:109:A:H5" | 2.49 | 0.43 |
| 29:D1:238:A:O2' | 29:D1:239:G:O5' | 2.36 | 0.43 |
| 29:D1:296:A:C5 | 29:D1:297:G:C2 | 3.06 | 0.43 |
| 29:D1:296:A:C5 | 29:D1:297:G:N1 | 2.86 | 0.43 |
| 29:D1:346:C:C4 | 29:D1:348:A:C8 | 3.05 | 0.43 |
| 29:D1:692:A:C2' | 29:D1:693:A:H8 | 2.31 | 0.43 |
| 29:D1:728:G:C2 | 29:D1:742:G:C6 | 3.07 | 0.43 |
| 29:D1:736:A:N7 | 29:D1:737:G:N7 | 2.67 | 0.43 |
| 29:D1:901:G:C5 | 29:D1:902:G:N7 | 2.85 | 0.43 |
| 29:D1:939:U:H2' | 29:D1:940:G:O5' | 2.18 | 0.43 |
| 29:D1:943:U:H5' | 29:D1:943:U:H6 | 1.84 | 0.43 |
| 29:D1:947:G:C5 | 29:D1:1373:A:C2 | 3.06 | 0.43 |
| 29:D1:1009:A:C2 | 29:D1:1042:U:C2 | 3.07 | 0.43 |
| 29:D1:1053:A:N3 | 29:D1:1053:A:C2' | 2.81 | 0.43 |
| 29:D1:1066:G:H2' | 29:D1:1067:U:C1' | 2.49 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1112:A:N3 | 29:D1:1370:G:O2' | 2.52 | 0.43 |
| 29:D1:1135:A:H2' | 29:D1:1136:A:H5' | 1.98 | 0.43 |
| 29:D1:1164:G:C4 | 29:D1:1165:A:N7 | 2.87 | 0.43 |
| 29:D1:1212:A:C2 | 29:D1:1213:G:N9 | 2.87 | 0.43 |
| 29:D1:1259:A:N3 | 29:D1:1280:C:O2' | 2.39 | 0.43 |
| 29:D1:1377:G:C6 | 29:D1:1431:G:O6 | 2.71 | 0.43 |
| 29:D1:1470:U:H2' | 29:D1:1471:U:C6 | 2.53 | 0.43 |
| 29:D1:1483:G:C8 | 29:D1:1485:G:C8 | 3.06 | 0.43 |
| 29:D1:1497:C:O2' | 29:D1:1498:A:H5' | 2.18 | 0.43 |
| 29:D1:1528:G:C6 | 29:D1:1529:A:C5 | 3.07 | 0.43 |
| 29:D1:1658:G:C5 | 29:D1:1796:G:O6 | 2.72 | 0.43 |
| 29:D1:1687:U:C2' | 29:D1:1688:U:O2' | 2.67 | 0.43 |
| 29:D1:1736:G:C4 | 29:D1:1737:U:C5 | 3.07 | 0.43 |
| 29:D1:1898:G:C8 | 29:D1:1899:G:C8 | 3.07 | 0.43 |
| 29:D1:2207:A:C8 | 29:D1:2237:C:C2 | 3.06 | 0.43 |
| 29:D1:2211:U:O2' | 29:D1:2212:C:H5' | 2.19 | 0.43 |
| 29:D1:2213:A:N1 | 29:D1:2214:A:C6 | 2.86 | 0.43 |
| 29:D1:2289:U:O2 | 29:D1:2290:C:C6 | 2.72 | 0.43 |
| 29:D1:2290:C:H2' | 29:D1:2291:A:C8 | 2.50 | 0.43 |
| 29:D1:2471:U:H4' | 32:DA:23:THR:CB | 2.49 | 0.43 |
| 29:D1:2531:C:H42 | 29:D1:2548:C:N4 | 2.17 | 0.43 |
| 29:D1:2717:U:C5' | 29:D1:2717:U:C6 | 3.01 | 0.43 |
| 29:D1:2749:G:C8 | 29:D1:2750:U:C5 | 3.07 | 0.43 |
| 29:D1:2767:U:OP1 | 61:Df:33:ALA:CB | 2.67 | 0.43 |
| 29:D1:2823:G:C6 | 29:D1:2824:G:C5 | 3.07 | 0.43 |
| 29:D1:2881:C:O2 | 29:D1:2882:U:C6 | 2.71 | 0.43 |
| 29:D1:2922:G:C2 | 29:D1:2923:U:O2 | 2.72 | 0.43 |
| 29:D1:2997:G:O2' | 29:D1:2998:U:O5' | 2.35 | 0.43 |
| 29:D1:3144:G:C5 | 74:D1:3431:OHX:N1 | 2.86 | 0.43 |
| 29:D1:3202:G:P | 29:D1:3202:G:C3' | 3.07 | 0.43 |
| 29:D1:3203:U:O5' | 29:D1:3204:C:OP2 | 2.36 | 0.43 |
| 29:D1:3314:A:C2' | 34:DC:119:TYR:O | 2.66 | 0.43 |
| 29:D1:3344:A:N6 | 29:D1:3362:A:C6 | 2.78 | 0.43 |
| 30:D2:1:G:N3 | 30:D2:1:G:C2' | 2.77 | 0.43 |
| 30:D2:98:C:O2 | 30:D2:98:C:C2' | 2.52 | 0.43 |
| 31:D3:136:G:OP1 | 52:DW:52:PRO:CB | 2.67 | 0.43 |
| 35:DD:25:VAL:O | 35:DD:28:ALA:N | 2.33 | 0.43 |
| 36:DE:67:SER:O | 36:DE:68:THR:CB | 2.66 | 0.43 |
| 41:DJ:39:LYS:O | 41:DJ:41:ALA:N | 2.51 | 0.43 |
| 73:DM:191:TYR:O | 73:DM:192:ASP:CB | 2.66 | 0.43 |
| 43:DN:24:LYS:O | 43:DN:25:LYS:O | 2.37 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 45:DP:25:LYS:O | 45:DP:26:GLN:C | 2.61 | 0.43 |
| 45:DP:54:TYR:C | 45:DP:56:ASP:H | 2.26 | 0.43 |
| 46:DQ:14:SER:CB | 46:DQ:151:THR:HA | 2.48 | 0.43 |
| 46:DQ:65:SER:O | 46:DQ:66:SER:CB | 2.67 | 0.43 |
| 47:DR:117:ALA:CB | 47:DR:118:GLY:CA | 2.93 | 0.43 |
| 47:DR:148:GLU:HA | 47:DR:149:ALA:HA | 1.45 | 0.43 |
| 48:DS:158:GLU:O | 48:DS:161:ALA:HB3 | 2.19 | 0.43 |
| 52:DW:92:LYS:C | 52:DW:94:GLN:N | 2.76 | 0.43 |
| 56:Da:14:ILE:O | 56:Da:15:ASN:CB | 2.65 | 0.43 |
| 1:A1:32:U:H2' | 1:A1:33:U:O5' | 2.19 | 0.43 |
| 1:A1:54:C:H2' | 1:A1:54:C:O2 | 2.17 | 0.43 |
| 1:A1:60:U:O5' | 1:A1:454:U:O4' | 2.37 | 0.43 |
| 1:A1:93:A:C4 | 1:A1:399:A:N3 | 2.86 | 0.43 |
| 1:A1:123:G:N1 | 1:A1:295:A:C6 | 2.86 | 0.43 |
| 1:A1:133:U:C1' | 1:A1:134:U:P | 3.06 | 0.43 |
| 1:A1:204:G:N2 | 1:A1:205:U:O2 | 2.51 | 0.43 |
| 1:A1:228:G:N1 | 1:A1:229:U:C2 | 2.87 | 0.43 |
| 1:A1:269:G:C6 | 1:A1:287:G:C2 | 3.06 | 0.43 |
| 1:A1:409:C:H4' | 1:A1:1732:A:O3' | 2.19 | 0.43 |
| 1:A1:452:A:C2' | 1:A1:453:U:C5' | 2.87 | 0.43 |
| 1:A1:478:A:C2 | 1:A1:479:C:N3 | 2.87 | 0.43 |
| 1:A1:522:U:H3' | 1:A1:522:U:C6 | 2.53 | 0.43 |
| 1:A1:896:U:C5 | 1:A1:897:C:C4 | 3.06 | 0.43 |
| 1:A1:938:G:N2 | 1:A1:942:G:N3 | 2.65 | 0.43 |
| 1:A1:948:G:C4 | 1:A1:949:C:C5 | 3.07 | 0.43 |
| 1:A1:1116:A:C2 | 1:A1:1117:U:C2 | 3.06 | 0.43 |
| 1:A1:1151:A:C2 | 1:A1:1152:A:C8 | 3.07 | 0.43 |
| 1:A1:1219:A:N3 | 1:A1:1219:A:O5' | 2.51 | 0.43 |
| 1:A1:1477:G:C2' | 1:A1:1478:G:C5' | 2.96 | 0.43 |
| 1:A1:1525:A:C2 | 1:A1:1526:A:C5 | 3.06 | 0.43 |
| 1:A1:1585:U:C2' | 1:A1:1586:A:H5' | 2.49 | 0.43 |
| 1:A1:1594:G:C6 | 1:A1:1595:U:C2 | 3.06 | 0.43 |
| 1:A1:1723:U:C4 | 1:A1:1724:U:C5 | 3.07 | 0.43 |
| 1:A1:1745:G:H8 | 1:A1:1745:G:O5' | 2.01 | 0.43 |
| 1:A1:1756:A:H2' | 1:A1:1757:G:C5' | 2.45 | 0.43 |
| 1:A1:1777:G:C6 | 1:A1:1778:G:N7 | 2.87 | 0.43 |
| 2:AA:20:ALA:C | 2:AA:22:THR:H | 2.26 | 0.43 |
| 3:AB:55:GLU:O | 3:AB:56:ILE:C | 2.62 | 0.43 |
| 3:AB:170:ILE:O | 3:AB:196:VAL:HA | 2.18 | 0.43 |
| 4:AC:102:ALA:O | 4:AC:106:LYS:CB | 2.66 | 0.43 |
| 5:AD:44:ASN:C | 5:AD:46:TRP:N | 2.76 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 6:AE:38:ASN:O | 6:AE:39:LYS:O | 2.37 | 0.43 |
| 11:AJ:42:GLU:O | 11:AJ:43:ILE:C | 2.60 | 0.43 |
| 11:AJ:92:TYR:CB | 11:AJ:93:HIS:O | 2.67 | 0.43 |
| 13:AL:42:TYR:O | 13:AL:43:SER:C | 2.62 | 0.43 |
| 17:AP:54:LEU:H | 17:AP:74:VAL:HA | 1.84 | 0.43 |
| 19:AR:28:VAL:O | 19:AR:29:ARG:CB | 2.66 | 0.43 |
| 23:Ab:78:UNK:O | 23:Ab:79:UNK:O | 2.37 | 0.43 |
| 23:Ab:102:UNK:O | 23:Ab:103:UNK:C | 2.67 | 0.43 |
| 29:B1:12:A:C2' | 29:B1:13:A:O5' | 2.66 | 0.43 |
| 29:B1:25:U:C2 | 29:B1:330:G:O3' | 2.71 | 0.43 |
| 29:B1:61:A:C4 | 29:B1:62:A:C8 | 3.06 | 0.43 |
| 29:B1:158:G:C2 | 29:B1:160:G:H5" | 2.53 | 0.43 |
| 29:B1:161:G:O2' | 29:B1:162:G:H5' | 2.19 | 0.43 |
| 29:B1:187:A:C4 | 29:B1:211:A:C6 | 3.07 | 0.43 |
| 29:B1:419:G:N7 | 74:B3:202:OHX:N6 | 2.65 | 0.43 |
| 29:B1:511:G:O2' | 29:B1:512:U:H5' | 2.19 | 0.43 |
| 29:B1:552:G:C6 | 29:B1:553:U:N3 | 2.87 | 0.43 |
| 29:B1:559:A:O2' | 29:B1:560:G:O5' | 2.30 | 0.43 |
| 29:B1:601:U:C2 | 29:B1:602:A:C8 | 3.06 | 0.43 |
| 29:B1:603:A:H2' | 29:B1:604:G:O4' | 2.19 | 0.43 |
| 29:B1:716:A:O3' | 29:B1:717:C:H4' | 2.16 | 0.43 |
| 29:B1:718:G:OP1 | 29:B1:719:U:H4' | 2.18 | 0.43 |
| 29:B1:771:A:C6 | 29:B1:772:U:N3 | 2.86 | 0.43 |
| 29:B1:804:C:N4 | 29:B1:940:G:N1 | 2.66 | 0.43 |
| 29:B1:822:G:C2 | 29:B1:823:C:C2 | 3.06 | 0.43 |
| 29:B1:952:A:C8 | 29:B1:952:A:C5' | 2.97 | 0.43 |
| 29:B1:956:U:C2' | 29:B1:957:C:O5' | 2.66 | 0.43 |
| 29:B1:1052:U:C5 | 29:B1:1053:A:C8 | 3.06 | 0.43 |
| 29:B1:1079:A:C5 | 29:B1:1080:A:N6 | 2.87 | 0.43 |
| 29:B1:1489:A:N3 | 29:B1:1489:A:C2' | 2.82 | 0.43 |
| 29:B1:1683:A:H5" | 29:B1:1684:U:OP1 | 2.18 | 0.43 |
| 29:B1:1692:U:O2' | 29:B1:1693:C:H5' | 2.19 | 0.43 |
| 29:B1:1730:G:O6 | 55:BZ:26:GLY:HA2 | 2.19 | 0.43 |
| 29:B1:1740:U:C3' | 29:B1:1741:A:C5' | 2.96 | 0.43 |
| 29:B1:1919:G:N2 | 29:B1:1920:U:C2 | 2.87 | 0.43 |
| 29:B1:2111:G:H22 | 51:BV:50:ALA:N | 2.13 | 0.43 |
| 29:B1:2140:U:O2' | 29:B1:2978:U:H5' | 2.18 | 0.43 |
| 29:B1:2189:U:H2' | 29:B1:2189:U:O2 | 2.17 | 0.43 |
| 29:B1:2209:U:C6 | 29:B1:2209:U:C3' | 3.01 | 0.43 |
| 29:B1:2226:U:O2' | 29:B1:2227:C:C6 | 2.68 | 0.43 |
| 29:B1:2279:A:C2 | 29:B1:2283:G:N2 | 2.86 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2281:A:H1' | 29:B1:2282:U:OP1 | 2.18 | 0.43 |
| 29:B1:2346:C:C2' | 29:B1:2347:U:H5' | 2.49 | 0.43 |
| 29:B1:2365:C:C2' | 29:B1:2366:C:O5' | 2.66 | 0.43 |
| 29:B1:2463:G:O2' | 29:B1:2464:U:H5' | 2.19 | 0.43 |
| 29:B1:2564:G:H2' | 29:B1:2565:U:O4' | 2.19 | 0.43 |
| 29:B1:2571:U:H2' | 29:B1:2572:C:C5' | 2.48 | 0.43 |
| 29:B1:2752:U:O2 | 29:B1:2752:U:C3' | 2.65 | 0.43 |
| 29:B1:2786:G:C6 | 29:B1:2787:G:N7 | 2.87 | 0.43 |
| 29:B1:2900:A:N1 | 29:B1:2901:G:C5 | 2.85 | 0.43 |
| 29:B1:2917:G:O6 | 29:B1:2930:A:C6 | 2.71 | 0.43 |
| 29:B1:2960:C:H3' | 29:B1:2961:G:C8 | 2.50 | 0.43 |
| 29:B1:2978:U:H4' | 29:B1:2979:U:OP2 | 2.19 | 0.43 |
| 29:B1:3006:A:N1 | 29:B1:3143:C:C2' | 2.82 | 0.43 |
| 29:B1:3007:U:O5' | 29:B1:3007:U:H6 | 2.02 | 0.43 |
| 29:B1:3119:U:O2 | 29:B1:3121:U:OP1 | 2.37 | 0.43 |
| 29:B1:3184:A:C2 | 29:B1:3188:G:O2' | 2.67 | 0.43 |
| 29:B1:3214:U:HO2' | 29:B1:3217:C:H4' | 1.83 | 0.43 |
| 29:B1:3353:G:C6 | 29:B1:3356:G:C6 | 3.07 | 0.43 |
| 29:B1:3377:G:C2' | 74:B1:3450:OHX:N4 | 2.82 | 0.43 |
| 30:B2:2:G:N2 | 30:B2:3:U:C2 | 2.87 | 0.43 |
| 30:B2:26:C:C6 | 30:B2:26:C:O5' | 2.72 | 0.43 |
| 30:B2:87:G:N1 | 30:B2:95:A:C6 | 2.87 | 0.43 |
| 31:B3:56:G:C4 | 31:B3:57:C:C5 | 3.07 | 0.43 |
| 31:B3:109:A:H2' | 31:B3:110:C:O4' | 2.18 | 0.43 |
| 31:B3:140:G:C5 | 31:B3:141:C:C5 | 3.07 | 0.43 |
| 33:BB:78:ALA:HB1 | 33:BB:167:GLY:O | 2.17 | 0.43 |
| 33:BB:181:LYS:O | 33:BB:182:ALA:O | 2.37 | 0.43 |
| 35:BD:25:VAL:C | 35:BD:27:SER:N | 2.76 | 0.43 |
| 35:BD:84:ARG:CB | 35:BD:85:SER:HA | 2.49 | 0.43 |
| 35:BD:106:TRP:O | 35:BD:107:ARG:O | 2.36 | 0.43 |
| 36:BE:281:GLU:C | 36:BE:283:ALA:O | 2.62 | 0.43 |
| 37:BF:156:LYS:O | 37:BF:159:LEU:CA | 2.66 | 0.43 |
| 38:BG:56:GLU:O | 38:BG:57:THR:C | 2.59 | 0.43 |
| 39:BH:221:ASN:O | 39:BH:225:LYS:CB | 2.67 | 0.43 |
| 41:BJ:56:GLU:O | 41:BJ:58:GLU:N | 2.52 | 0.43 |
| 41:BJ:202:LYS:O | 41:BJ:203:LYS:CB | 2.65 | 0.43 |
| 43:BN:24:LYS:CA | 43:BN:31:LYS:C | 2.92 | 0.43 |
| 44:BO:48:ALA:O | 44:BO:51:LEU:O | 2.37 | 0.43 |
| 47:BR:37:ALA:O | 47:BR:38:ARG:CB | 2.66 | 0.43 |
| 47:BR:75:GLY:O | 47:BR:76:ALA:CB | 2.66 | 0.43 |
| 47:BR:149:ALA:HB3 | 47:BR:150:VAL:HA | 2.00 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 48:BS:141:HIS:O | 48:BS:145:ALA:CB | 2.67 | 0.43 |
| 51:BV:21:PHE:O | 51:BV:22:VAL:CB | 2.64 | 0.43 |
| 54:BY:135:GLU:C | 54:BY:137:LYS:N | 2.75 | 0.43 |
| 62:Bg:59:CYS:C | 74:Bg:101:OHX:N5 | 2.76 | 0.43 |
| 1:C1:47:A:C4 | 1:C1:425:A:C6 | 3.06 | 0.43 |
| 1:C1:53:G:C5 | 1:C1:54:C:C6 | 3.06 | 0.43 |
| 1:C1:106:U:H3' | 1:C1:107:C:C6 | 2.54 | 0.43 |
| 1:C1:169:A:C8 | 1:C1:171:A:N6 | 2.85 | 0.43 |
| 1:C1:190:C:N4 | 1:C1:192:U:O4 | 2.52 | 0.43 |
| 1:C1:390:G:N2 | 1:C1:407:A:N6 | 2.66 | 0.43 |
| 1:C1:451:A:C6 | 1:C1:456:A:N1 | 2.87 | 0.43 |
| 1:C1:498:G:C1' | 1:C1:499:U:H5 | 2.27 | 0.43 |
| 1:C1:500:C:O2 | 1:C1:501:U:C5 | 2.71 | 0.43 |
| 1:C1:635:A:C6 | 1:C1:863:A:C8 | 3.06 | 0.43 |
| 1:C1:692:C:N4 | 1:C1:693:U:O4 | 2.51 | 0.43 |
| 1:C1:710:U:C4 | 1:C1:729:G:O6 | 2.71 | 0.43 |
| 1:C1:789:A:N3 | 1:C1:790:U:C6 | 2.87 | 0.43 |
| 1:C1:900:A:O2' | 1:C1:916:U:H4' | 2.19 | 0.43 |
| 1:C1:1164:G:C2' | 1:C1:1165:G:O5' | 2.67 | 0.43 |
| 1:C1:1192:C:H3' | 1:C1:1193:A:H2' | 2.00 | 0.43 |
| 1:C1:1206:U:C6 | 1:C1:1207:C:C6 | 3.06 | 0.43 |
| 1:C1:1248:C:H2' | 1:C1:1249:U:C6 | 2.53 | 0.43 |
| 1:C1:1378:U:O2 | 1:C1:1378:U:C2' | 2.66 | 0.43 |
| 1:C1:1498:G:C6 | 1:C1:1510:U:N3 | 2.86 | 0.43 |
| 1:C1:1541:G:H2' | 1:C1:1542:G:C8 | 2.53 | 0.43 |
| 1:C1:1556:A:C2 | 1:C1:1560:U:H1' | 2.54 | 0.43 |
| 1:C1:1751:C:O2 | 1:C1:1751:C:C2' | 2.61 | 0.43 |
| 5:CD:144:GLU:HA | 5:CD:160:VAL:C | 2.42 | 0.43 |
| 10:CI:91:GLY:HA2 | 10:CI:107:ILE:O | 2.18 | 0.43 |
| 11:CJ:131:GLY:O | 11:CJ:132:LYS:C | 2.61 | 0.43 |
| 13:CL:33:THR:C | 13:CL:35:ILE:N | 2.76 | 0.43 |
| 29:D1:54:C:O2' | 29:D1:55:G:C5' | 2.65 | 0.43 |
| 29:D1:84:U:OP1 | 29:D1:701:G:H5" | 2.18 | 0.43 |
| 29:D1:112:U:O4 | 29:D1:320:G:C6 | 2.71 | 0.43 |
| 29:D1:160:G:H1 | 29:D1:263:C:HO2' | 1.58 | 0.43 |
| 29:D1:268:A:N6 | 29:D1:296:A:OP2 | 2.51 | 0.43 |
| 29:D1:384:A:H1' | 29:D1:1465:A:C5 | 2.53 | 0.43 |
| 29:D1:440:A:N3 | 29:D1:440:A:C2' | 2.82 | 0.43 |
| 29:D1:517:G:O3' | 29:D1:518:G:O4' | 2.36 | 0.43 |
| 29:D1:548:G:C5 | 29:D1:549:U:H1' | 2.53 | 0.43 |
| 29:D1:846:A:C5 | 29:D1:847:A:C8 | 3.07 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:853:G:H2' | 29:D1:854:G:O4' | 2.19 | 0.43 |
| 29:D1:873:C:C3' | 29:D1:874:U:H4' | 2.49 | 0.43 |
| 29:D1:1029:G:H8 | 29:D1:1029:G:P | 2.41 | 0.43 |
| 29:D1:1225:A:C6 | 29:D1:1226:G:C5 | 3.07 | 0.43 |
| 29:D1:1231:A:N6 | 29:D1:1279:C:N4 | 2.67 | 0.43 |
| 29:D1:1284:C:N3 | 29:D1:1285:G:C8 | 2.87 | 0.43 |
| 29:D1:1298:C:N3 | 29:D1:1299:U:C5 | 2.86 | 0.43 |
| 29:D1:1302:A:H1' | 29:D1:2887:A:H2 | 1.78 | 0.43 |
| 29:D1:1412:G:H2' | 29:D1:1413:G:O4' | 2.18 | 0.43 |
| 29:D1:1422:G:C4 | 29:D1:1423:C:C5 | 3.06 | 0.43 |
| 29:D1:1594:A:O2' | 29:D1:1614:C:O2 | 2.35 | 0.43 |
| 29:D1:1629:U:H3' | 29:D1:1630:U:C5' | 2.47 | 0.43 |
| 29:D1:1631:C:H3' | 29:D1:1631:C:P | 2.58 | 0.43 |
| 29:D1:1651:U:H2' | 29:D1:1652:G:C8 | 2.54 | 0.43 |
| 29:D1:1688:U:H2' | 29:D1:1688:U:O2 | 2.17 | 0.43 |
| 29:D1:1695:U:O2' | 29:D1:1749:A:C6 | 2.71 | 0.43 |
| 29:D1:1759:C:C3' | 29:D1:1760:A:H5" | 2.49 | 0.43 |
| 29:D1:1759:C:H2' | 29:D1:1760:A:H5" | 1.99 | 0.43 |
| 29:D1:1793:C:H6 | 29:D1:1793:C:H2' | 1.52 | 0.43 |
| 29:D1:1815:U:OP2 | 29:D1:1816:A:C4 | 2.72 | 0.43 |
| 29:D1:1853:U:O4 | 74:D1:3576:OHX:N3 | 2.52 | 0.43 |
| 29:D1:1922:A:H8 | 29:D1:1922:A:O5' | 2.02 | 0.43 |
| 29:D1:2144:A:C4 | 29:D1:2281:A:N6 | 2.86 | 0.43 |
| 29:D1:2182:A:C2 | 29:D1:2183:A:C8 | 3.06 | 0.43 |
| 29:D1:2219:A:C2' | 29:D1:2220:A:H5' | 2.49 | 0.43 |
| 29:D1:2281:A:C6 | 29:D1:2959:C:H1' | 2.53 | 0.43 |
| 29:D1:2382:G:O2' | 45:DP:70:PRO:N | 2.52 | 0.43 |
| 29:D1:2644:C:O3' | 41:DJ:117:GLY:HA3 | 2.19 | 0.43 |
| 29:D1:2654:C:H3' | 29:D1:2654:C:C6 | 2.53 | 0.43 |
| 29:D1:2673:A:C2 | 29:D1:2674:A:N6 | 2.86 | 0.43 |
| 29:D1:2673:A:C2 | 29:D1:2676:A:H8 | 2.36 | 0.43 |
| 29:D1:2677:G:C6 | 29:D1:2679:A:C5 | 3.07 | 0.43 |
| 29:D1:2696:A:C8 | 29:D1:2696:A:H3' | 2.53 | 0.43 |
| 29:D1:2707:C:O2' | 29:D1:2708:C:H5' | 2.19 | 0.43 |
| 29:D1:3153:U:H5" | 29:D1:3293:U:C6 | 2.52 | 0.43 |
| 29:D1:3189:G:C2 | 29:D1:3190:C:C5 | 3.07 | 0.43 |
| 29:D1:3191:G:C5 | 29:D1:3202:G:C2 | 3.07 | 0.43 |
| 29:D1:3205:G:N3 | 29:D1:3205:G:H2' | 2.34 | 0.43 |
| 29:D1:3206:C:O2' | 74:D1:3597:OHX:N3 | 2.51 | 0.43 |
| 29:D1:3295:A:H2' | 29:D1:3296:A:C8 | 2.47 | 0.43 |
| 30:D2:46:A:OP2 | 30:D2:46:A:C4 | 2.72 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:D2:65:G:H2' | 30:D2:65:G:N3 | 2.34 | 0.43 |
| 30:D2:75:G:N2 | 30:D2:105:C:N4 | 2.65 | 0.43 |
| 30:D2:82:G:C5 | 30:D2:99:G:N1 | 2.87 | 0.43 |
| 31:D3:18:U:C2 | 31:D3:19:C:C5 | 3.06 | 0.43 |
| 31:D3:40:A:O2' | 31:D3:41:A:OP1 | 2.36 | 0.43 |
| 31:D3:48:A:N1 | 31:D3:51:G:C5 | 2.86 | 0.43 |
| 31:D3:79:A:H2' | 31:D3:80:A:O4' | 2.18 | 0.43 |
| 31:D3:117:C:C2 | 31:D3:118:C:C6 | 3.07 | 0.43 |
| 33:DB:175:VAL:O | 33:DB:176:ASP:CB | 2.65 | 0.43 |
| 34:DC:295:ALA:N | 34:DC:306:THR:H | 2.16 | 0.43 |
| 35:DD:234:ASN:O | 35:DD:237:GLN:N | 2.50 | 0.43 |
| 36:DE:254:LYS:C | 36:DE:256:THR:N | 2.77 | 0.43 |
| 38:DG:209:ASN:O | 38:DG:211:SER:N | 2.41 | 0.43 |
| 39:DH:86:THR:C | 39:DH:88:ALA:N | 2.74 | 0.43 |
| 42:DK:107:ASP:C | 42:DK:108:GLU:O | 2.61 | 0.43 |
| 42:DK:109:HIS:O | 42:DK:110:ILE:CB | 2.66 | 0.43 |
| 72:DL:30:PRO:O | 72:DL:32:ILE:O | 2.36 | 0.43 |
| 44:DO:57:GLN:C | 44:DO:59:PHE:N | 2.76 | 0.43 |
| 46:DQ:8:SER:O | 46:DQ:14:SER:O | 2.37 | 0.43 |
| 46:DQ:9:THR:HA | 46:DQ:13:LYS:CA | 2.48 | 0.43 |
| 49:DT:58:GLN:O | 49:DT:60:LYS:N | 2.52 | 0.43 |
| 55:DZ:55:GLU:O | 55:DZ:56:LEU:C | 2.61 | 0.43 |
| 60:De:34:THR:O | 60:De:35:ILE:O | 2.36 | 0.43 |
| 61:Df:45:ARG:O | 61:Df:46:LYS:CB | 2.66 | 0.43 |
| 65:Dk:9:UNK:O | 65:Dk:10:UNK:C | 2.65 | 0.43 |
| 1:A1:34:G:C4 | 1:A1:35:U:C5 | 3.07 | 0.43 |
| 1:A1:92:A:H5" | 1:A1:93:A:H5" | 2.01 | 0.43 |
| 1:A1:276:C:O2' | 1:A1:277:U:O5' | 2.37 | 0.43 |
| 1:A1:295:A:O2' | 1:A1:296:U:O5' | 2.37 | 0.43 |
| 1:A1:528:U:H3 | 1:A1:530:C:H42 | 1.67 | 0.43 |
| 1:A1:551:G:C4' | 1:A1:581:U:O2 | 2.67 | 0.43 |
| 1:A1:558:U:N3 | 1:A1:559:C:C4 | 2.87 | 0.43 |
| 1:A1:704:C:O2' | 1:A1:705:U:H6 | 2.02 | 0.43 |
| 1:A1:841:U:O4 | 1:A1:842:C:C4 | 2.72 | 0.43 |
| 1:A1:844:A:N7 | 74:A1:1932:OHX:N2 | 2.66 | 0.43 |
| 1:A1:985:G:C6 | 1:A1:986:G:O6 | 2.72 | 0.43 |
| 1:A1:1035:G:C6 | 1:A1:1101:G:C6 | 3.07 | 0.43 |
| 1:A1:1087:A:HO2' | 1:A1:1142:A:HO2' | 1.61 | 0.43 |
| 1:A1:1142:A:C2' | 1:A1:1143:A:O4' | 2.67 | 0.43 |
| 1:A1:1198:G:OP1 | 1:A1:1200:G:N2 | 2.51 | 0.43 |
| 1:A1:1201:G:N3 | 1:A1:1201:G:O5' | 2.52 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1265:G:C5 | 1:A1:1266:U:C5 | 3.07 | 0.43 |
| 1:A1:1265:G:C6 | 1:A1:1266:U:C4 | 3.06 | 0.43 |
| 1:A1:1378:U:H3' | 1:A1:1379:C:H5" | 1.97 | 0.43 |
| 1:A1:1442:U:N3 | 1:A1:1443:U:O4 | 2.52 | 0.43 |
| 1:A1:1449:U:H2' | 1:A1:1450:U:C6 | 2.48 | 0.43 |
| 1:A1:1492:A:C1' | 1:A1:1493:A:O5' | 2.67 | 0.43 |
| 1:A1:1650:U:C2 | 1:A1:1651:A:C8 | 3.06 | 0.43 |
| 1:A1:1707:A:H2' | 1:A1:1708:U:O2 | 2.18 | 0.43 |
| 1:A1:1781:A:N1 | 1:A1:1782:A:N1 | 2.66 | 0.43 |
| 4:AC:131:ALA:O | 4:AC:132:LYS:C | 2.61 | 0.43 |
| 13:AL:36:LYS:O | 13:AL:102:ALA:C | 2.61 | 0.43 |
| 16:AO:13:ALA:O | 16:AO:17:ALA:CB | 2.66 | 0.43 |
| 16:AO:55:ASP:O | 23:Ab:1:UNK:CB | 2.66 | 0.43 |
| 21:AT:267:PRO:C | 21:AT:269:TYR:N | 2.73 | 0.43 |
| 25:Ad:97:UNK:O | 25:Ad:98:UNK:C | 2.66 | 0.43 |
| 29:B1:66:A:H62 | 29:B1:76:G:N2 | 2.16 | 0.43 |
| 29:B1:117:U:C6 | 29:B1:117:U:C3' | 3.01 | 0.43 |
| 29:B1:149:U:OP2 | 29:B1:149:U:O4' | 2.37 | 0.43 |
| 29:B1:278:U:C4 | 29:B1:279:U:O4 | 2.71 | 0.43 |
| 29:B1:340:C:C4 | 31:B3:25:G:N1 | 2.86 | 0.43 |
| 29:B1:407:A:H5' | 29:B1:1396:C:O2' | 2.18 | 0.43 |
| 29:B1:496:C:H2' | 29:B1:497:C:O5' | 2.19 | 0.43 |
| 29:B1:515:C:C2 | 29:B1:516:A:H8 | 2.31 | 0.43 |
| 29:B1:547:G:C8 | 29:B1:548:G:C4 | 3.06 | 0.43 |
| 29:B1:562:C:OP2 | 29:B1:562:C:H6 | 2.01 | 0.43 |
| 29:B1:710:A:H2 | 29:B1:2774:C:O4' | 2.02 | 0.43 |
| 29:B1:916:G:C5 | 29:B1:924:G:C4 | 3.06 | 0.43 |
| 29:B1:934:G:C2 | 29:B1:935:U:C6 | 3.07 | 0.43 |
| 29:B1:955:U:C5 | 29:B1:967:A:N1 | 2.87 | 0.43 |
| 29:B1:1024:G:N7 | 29:B1:1025:A:N7 | 2.67 | 0.43 |
| 29:B1:1150:A:C2 | 29:B1:1151:U:C1' | 3.02 | 0.43 |
| 29:B1:1236:G:H1' | 29:B1:1245:A:C4' | 2.48 | 0.43 |
| 29:B1:1252:A:H2' | 29:B1:1253:U:O2 | 2.18 | 0.43 |
| 29:B1:1303:A:N7 | 29:B1:1304:A:N1 | 2.66 | 0.43 |
| 29:B1:1337:A:N6 | 29:B1:1338:C:N4 | 2.67 | 0.43 |
| 29:B1:1368:U:H2' | 29:B1:1369:A:C8 | 2.42 | 0.43 |
| 29:B1:1412:G:H2' | 29:B1:1413:G:O4' | 2.18 | 0.43 |
| 29:B1:1505:C:O2' | 29:B1:1506:A:H5' | 2.18 | 0.43 |
| 29:B1:1538:G:H5' | 29:B1:1539:A:OP1 | 2.19 | 0.43 |
| 29:B1:1547:G:C2' | 29:B1:1548:C:C6 | 2.94 | 0.43 |
| 29:B1:1799:A:C2 | 29:B1:1800:A:C4 | 3.06 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1815:U:OP2 | 29:B1:1816:A:C4 | 2.71 | 0.43 |
| 29:B1:1881:A:C4 | 29:B1:1882:G:C8 | 3.07 | 0.43 |
| 29:B1:1942:U:O4' | 29:B1:3342:A:C2 | 2.71 | 0.43 |
| 29:B1:2095:G:H2' | 29:B1:2096:A:H8 | 1.83 | 0.43 |
| 29:B1:2182:A:C2' | 29:B1:2183:A:H5' | 2.48 | 0.43 |
| 29:B1:2191:U:N3 | 29:B1:2192:C:C5 | 2.87 | 0.43 |
| 29:B1:2197:C:C2 | 29:B1:2242:A:C2 | 3.06 | 0.43 |
| 29:B1:2211:U:H2' | 29:B1:2212:C:C6 | 2.54 | 0.43 |
| 29:B1:2218:G:C6 | 29:B1:2228:A:C6 | 3.07 | 0.43 |
| 29:B1:2254:U:H2' | 29:B1:2255:A:OP1 | 2.18 | 0.43 |
| 29:B1:2286:U:O4 | 29:B1:2288:G:H1' | 2.18 | 0.43 |
| 29:B1:2372:A:O2' | 29:B1:2373:A:OP1 | 2.36 | 0.43 |
| 29:B1:2394:G:O4' | 34:BC:253:GLY:HA3 | 2.18 | 0.43 |
| 29:B1:2418:G:O6 | 29:B1:2965:U:C6 | 2.72 | 0.43 |
| 29:B1:2631:U:C4 | 29:B1:2648:G:C2 | 3.07 | 0.43 |
| 29:B1:2671:A:C6 | 29:B1:2684:C:N4 | 2.87 | 0.43 |
| 29:B1:2674:A:H2 | 29:B1:2675:C:C6 | 2.36 | 0.43 |
| 29:B1:2828:G:H2' | 29:B1:2829:U:O5' | 2.18 | 0.43 |
| 29:B1:2837:A:C8 | 29:B1:2845:A:H2 | 2.36 | 0.43 |
| 29:B1:2846:U:H2' | 29:B1:2847:A:OP2 | 2.19 | 0.43 |
| 29:B1:2851:A:H3' | 29:B1:2852:C:C5' | 2.48 | 0.43 |
| 29:B1:2912:G:C6 | 29:B1:3130:A:C6 | 3.05 | 0.43 |
| 29:B1:2955:U:O2 | 29:B1:2956:A:C8 | 2.71 | 0.43 |
| 29:B1:3038:U:C2 | 29:B1:3039:C:C6 | 3.07 | 0.43 |
| 29:B1:3068:U:C2' | 29:B1:3069:G:OP1 | 2.67 | 0.43 |
| 29:B1:3278:C:O2 | 29:B1:3279:A:N7 | 2.52 | 0.43 |
| 29:B1:3296:A:C5 | 29:B1:3297:U:C5 | 3.07 | 0.43 |
| 30:B2:15:C:C5 | 30:B2:16:U:C5 | 3.07 | 0.43 |
| 31:B3:40:A:C8 | 31:B3:40:A:C5' | 2.92 | 0.43 |
| 31:B3:72:A:H61 | 31:B3:85:G:H5' | 1.84 | 0.43 |
| 31:B3:108:C:C2' | 31:B3:109:A:O5' | 2.67 | 0.43 |
| 31:B3:145:U:N3 | 31:B3:146:U:C2 | 2.87 | 0.43 |
| 34:BC:178:LEU:O | 34:BC:179:ALA:O | 2.37 | 0.43 |
| 35:BD:164:GLU:O | 35:BD:168:ALA:HB2 | 2.19 | 0.43 |
| 35:BD:203:ARG:C | 35:BD:204:GLY:O | 2.60 | 0.43 |
| 36:BE:227:LEU:CA | 36:BE:228:ALA:HB3 | 2.48 | 0.43 |
| 42:BK:97:SER:C | 42:BK:99:THR:N | 2.76 | 0.43 |
| 46:BQ:99:ALA:O | 46:BQ:102:ALA:CB | 2.61 | 0.43 |
| 48:BS:18:GLY:C | 48:BS:20:ARG:N | 2.73 | 0.43 |
| 54:BY:73:LEU:HA | 54:BY:116:GLY:HA2 | 2.01 | 0.43 |
| 57:Bb:92:TYR:O | 57:Bb:93:ALA:HB2 | 2.19 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 58:Bc:39:PRO:O | 58:Bc:40:SER:CB | 2.65 | 0.43 |
| 26:Bj:12:UNK:O | 26:Bj:15:UNK:N | 2.51 | 0.43 |
| 1:C1:13:C:H5' | 3:CB:161:LYS:C | 2.44 | 0.43 |
| 1:C1:25:C:C5 | 1:C1:367:A:H1' | 2.53 | 0.43 |
| 1:C1:205:U:O4 | 1:C1:206:A:N6 | 2.52 | 0.43 |
| 1:C1:317:C:C4 | 1:C1:318:U:C4 | 3.07 | 0.43 |
| 1:C1:320:U:OP1 | 1:C1:320:U:O4' | 2.36 | 0.43 |
| 1:C1:414:C:H2' | 1:C1:415:C:O4' | 2.18 | 0.43 |
| 1:C1:439:U:C4 | 1:C1:465:G:C2 | 3.07 | 0.43 |
| 1:C1:446:A:C4 | 1:C1:447:U:H5 | 2.29 | 0.43 |
| 1:C1:463:U:C2 | 1:C1:464:A:C8 | 3.06 | 0.43 |
| 1:C1:478:A:H2 | 1:C1:479:C:C2 | 2.36 | 0.43 |
| 1:C1:685:A:O2' | 1:C1:686:C:O5' | 2.37 | 0.43 |
| 1:C1:759:U:H2' | 1:C1:759:U:O2 | 2.18 | 0.43 |
| 1:C1:827:C:C4' | 1:C1:828:U:OP1 | 2.66 | 0.43 |
| 1:C1:883:C:H5" | 1:C1:884:A:OP2 | 2.18 | 0.43 |
| 1:C1:1014:G:C5 | 1:C1:1015:U:C5 | 3.06 | 0.43 |
| 1:C1:1035:G:N1 | 1:C1:1101:G:C5 | 2.87 | 0.43 |
| 1:C1:1050:G:C5 | 1:C1:1051:G:H1' | 2.50 | 0.43 |
| 1:C1:1266:U:H5" | 1:C1:1267:G:OP2 | 2.18 | 0.43 |
| 1:C1:1310:U:O5' | 1:C1:1310:U:C6 | 2.67 | 0.43 |
| 1:C1:1332:C:O2' | 1:C1:1333:C:P | 2.77 | 0.43 |
| 1:C1:1333:C:H2' | 1:C1:1334:U:C6 | 2.53 | 0.43 |
| 1:C1:1346:A:O4' | 1:C1:1346:A:OP1 | 2.37 | 0.43 |
| 1:C1:1455:G:N3 | 1:C1:1456:C:O2 | 2.51 | 0.43 |
| 1:C1:1558:U:H3' | 1:C1:1559:A:H5" | 2.00 | 0.43 |
| 1:C1:1591:C:O2' | 1:C1:1592:A:H5' | 2.19 | 0.43 |
| 1:C1:1682:U:O4 | 74:C1:1951:OHX:N6 | 2.52 | 0.43 |
| 1:C1:1722:A:H5' | 1:C1:1723:U:H5 | 1.84 | 0.43 |
| 1:C1:1756:A:N7 | 74:C1:1901:OHX:N2 | 2.66 | 0.43 |
| 1:C1:1770:U:C5 | 1:C1:1793:G:N2 | 2.86 | 0.43 |
| 2:CA:132:ALA:O | 2:CA:136:ALA:N | 2.51 | 0.43 |
| 3:CB:217:ALA:O | 3:CB:218:ILE:C | 2.60 | 0.43 |
| 6:CE:106:GLU:O | 6:CE:107:ARG:C | 2.60 | 0.43 |
| 11:CJ:89:LEU:O | 11:CJ:97:VAL:HA | 2.19 | 0.43 |
| 15:CN:43:LYS:C | 15:CN:45:ALA:H | 2.27 | 0.43 |
| 19:CR:33:LEU:O | 19:CR:34:GLU:CB | 2.66 | 0.43 |
| 23:Cb:121:UNK:O | 23:Cb:122:UNK:C | 2.67 | 0.43 |
| 29:D1:301:G:C5 | 29:D1:302:U:C5 | 3.07 | 0.43 |
| 29:D1:328:U:H2' | 29:D1:329:U:H3 | 1.84 | 0.43 |
| 29:D1:380:U:C2 | 29:D1:381:U:H5 | 2.36 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:392:G:O6 | 74:D1:3523:OHX:N3 | 2.51 | 0.43 |
| 29:D1:513:G:N1 | 29:D1:577:C:N4 | 2.65 | 0.43 |
| 29:D1:808:A:N6 | 29:D1:934:G:C8 | 2.87 | 0.43 |
| 29:D1:929:A:C6 | 29:D1:930:U:C4 | 3.07 | 0.43 |
| 29:D1:985:U:C2 | 29:D1:986:U:C5 | 3.06 | 0.43 |
| 29:D1:1008:U:H5" | 29:D1:1008:U:H6 | 1.82 | 0.43 |
| 29:D1:1047:A:N1 | 29:D1:2646:C:O2 | 2.51 | 0.43 |
| 29:D1:1063:G:C5' | 29:D1:1098:A:O5' | 2.54 | 0.43 |
| 29:D1:1139:G:C2 | 29:D1:1140:G:N9 | 2.86 | 0.43 |
| 29:D1:1271:A:H61 | 29:D1:1272:C:H42 | 1.66 | 0.43 |
| 29:D1:1287:A:C5 | 29:D1:1288:U:C5 | 3.07 | 0.43 |
| 29:D1:1351:U:H2' | 29:D1:1352:A:C8 | 2.53 | 0.43 |
| 29:D1:1383:G:C2' | 29:D1:1384:U:H5' | 2.47 | 0.43 |
| 29:D1:1394:A:N7 | 29:D1:1395:G:C5 | 2.87 | 0.43 |
| 29:D1:1520:G:C2 | 29:D1:1521:G:C4 | 3.06 | 0.43 |
| 29:D1:1683:A:C5 | 29:D1:1684:U:N3 | 2.86 | 0.43 |
| 29:D1:1838:G:C5' | 29:D1:1839:A:O4' | 2.66 | 0.43 |
| 29:D1:1882:G:N3 | 29:D1:1882:G:H2' | 2.34 | 0.43 |
| 29:D1:1895:A:O3' | 29:D1:1896:A:H8 | 2.01 | 0.43 |
| 29:D1:1931:U:O2' | 29:D1:2121:G:N2 | 2.49 | 0.43 |
| 29:D1:2105:G:C2 | 29:D1:2106:A:C4 | 3.06 | 0.43 |
| 29:D1:2135:U:H2' | 29:D1:2136:C:C6 | 2.45 | 0.43 |
| 29:D1:2209:U:H6 | 29:D1:2209:U:H3' | 1.83 | 0.43 |
| 29:D1:2254:U:H2' | 29:D1:2255:A:OP1 | 2.18 | 0.43 |
| 29:D1:2279:A:H4' | 29:D1:2280:A:C5' | 2.41 | 0.43 |
| 29:D1:2299:A:C2' | 29:D1:2300:G:O5' | 2.67 | 0.43 |
| 29:D1:2414:G:C2 | 29:D1:2415:C:H1' | 2.54 | 0.43 |
| 29:D1:2706:G:C4 | 29:D1:2707:C:C5 | 3.07 | 0.43 |
| 29:D1:2735:U:H2' | 29:D1:2736:A:C8 | 2.53 | 0.43 |
| 29:D1:2950:G:N3 | 29:D1:2950:G:C2' | 2.80 | 0.43 |
| 29:D1:3184:A:C2' | 29:D1:3185:U:H5' | 2.49 | 0.43 |
| 29:D1:3387:U:C2' | 29:D1:3388:C:H5 | 2.29 | 0.43 |
| 30:D2:110:G:O6 | 30:D2:111:U:C4 | 2.71 | 0.43 |
| 31:D3:24:G:C2 | 31:D3:25:G:H1' | 2.54 | 0.43 |
| 31:D3:81:U:C5 | 31:D3:82:U:C6 | 3.07 | 0.43 |
| 32:DA:147:LYS:C | 32:DA:149:THR:H | 2.27 | 0.43 |
| 40:DI:115:ARG:O | 40:DI:116:ASN:CB | 2.65 | 0.43 |
| 40:DI:185:GLY:O | 40:DI:187:ILE:N | 2.52 | 0.43 |
| 41:DJ:12:GLN:O | 41:DJ:14:ASN:O | 2.37 | 0.43 |
| 41:DJ:27:PRO:O | 41:DJ:28:ASP:C | 2.61 | 0.43 |
| 72:DL:24:ALA:O | 72:DL:25:SER:CB | 2.66 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 72:DL:96:LYS:O | 72:DL:97:ASN:CB | 2.66 | 0.43 |
| 43:DN:70:PHE:O | 43:DN:71:ALA:C | 2.62 | 0.43 |
| 43:DN:109:ARG:O | 43:DN:113:THR:CB | 2.67 | 0.43 |
| 45:DP:158:ALA:O | 45:DP:160:ARG:N | 2.51 | 0.43 |
| 48:DS:11:ALA:O | 48:DS:12:ALA:C | 2.62 | 0.43 |
| 49:DT:71:SER:O | 49:DT:73:GLY:N | 2.52 | 0.43 |
| 54:DY:45:MET:N | 54:DY:46:ASP:CB | 2.82 | 0.43 |
| 54:DY:46:ASP:HA | 54:DY:47:LYS:HA | 1.32 | 0.43 |
| 56:Da:56:ASN:O | 56:Da:58:ALA:N | 2.51 | 0.43 |
| 61:Df:40:LYS:O | 61:Df:41:ARG:C | 2.62 | 0.43 |
| 1:A1:328:A:H61 | 1:A1:341:A:N6 | 2.16 | 0.43 |
| 1:A1:375:U:O2 | 1:A1:375:U:C2' | 2.64 | 0.43 |
| 1:A1:407:A:O4' | 1:A1:1672:G:H4' | 2.19 | 0.43 |
| 1:A1:446:A:C6 | 1:A1:447:U:C4 | 3.07 | 0.43 |
| 1:A1:615:A:N1 | 1:A1:1107:G:C6 | 2.87 | 0.43 |
| 1:A1:647:G:OP1 | 1:A1:647:G:H4' | 2.19 | 0.43 |
| 1:A1:755:A:C4 | 1:A1:756:A:C8 | 3.06 | 0.43 |
| 1:A1:819:G:N1 | 1:A1:853:G:C2 | 2.87 | 0.43 |
| 1:A1:834:G:H2' | 1:A1:835:U:O4' | 2.19 | 0.43 |
| 1:A1:903:U:O4 | 9:AH:50:ALA:O | 2.36 | 0.43 |
| 1:A1:985:G:C6 | 1:A1:986:G:C5 | 3.07 | 0.43 |
| 1:A1:1101:G:C2' | 1:A1:1102:G:H5' | 2.48 | 0.43 |
| 1:A1:1196:A:O4' | 1:A1:1197:C:O5' | 2.37 | 0.43 |
| 1:A1:1324:G:O6 | 1:A1:1325:A:N7 | 2.52 | 0.43 |
| 1:A1:1366:U:O4 | 74:A1:1935:OHX:N6 | 2.52 | 0.43 |
| 1:A1:1486:G:H1' | 1:A1:1592:A:O2' | 2.18 | 0.43 |
| 1:A1:1660:A:H2' | 1:A1:1661:U:O4' | 2.18 | 0.43 |
| 1:A1:1685:G:C2 | 1:A1:1719:A:N1 | 2.87 | 0.43 |
| 1:A1:1686:C:C4 | 1:A1:1687:U:O4 | 2.71 | 0.43 |
| 1:A1:1723:U:N3 | 1:A1:1724:U:C5 | 2.86 | 0.43 |
| 2:AA:51:GLY:O | 2:AA:54:TRP:N | 2.47 | 0.43 |
| 4:AC:10:LYS:O | 4:AC:13:ALA:HB3 | 2.19 | 0.43 |
| 4:AC:114:ALA:C | 4:AC:116:ARG:N | 2.76 | 0.43 |
| 5:AD:153:GLY:H | 5:AD:154:ALA:C | 2.26 | 0.43 |
| 6:AE:61:THR:CB | 6:AE:62:ARG:CA | 2.96 | 0.43 |
| 6:AE:61:THR:CB | 6:AE:62:ARG:O | 2.67 | 0.43 |
| 11:AJ:137:ARG:O | 11:AJ:138:PHE:O | 2.37 | 0.43 |
| 13:AL:33:THR:C | 13:AL:35:ILE:H | 2.27 | 0.43 |
| 13:AL:53:ASP:O | 13:AL:56:LYS:N | 2.48 | 0.43 |
| 13:AL:62:THR:O | 13:AL:65:GLU:CB | 2.66 | 0.43 |
| 16:AO:7:LEU:C | 16:AO:9:ASP:N | 2.73 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 20:AS:24:CYS:O | 74:AS:101:OHX:N2 | 2.52 | 0.43 |
| 21:AT:279:ALA:HA | 74:AT:401:OHX:N5 | 2.34 | 0.43 |
| 21:AT:297:ASP:O | 21:AT:299:GLN:N | 2.52 | 0.43 |
| 26:Ae:10:UNK:C | 26:Ae:12:UNK:N | 2.81 | 0.43 |
| 29:B1:8:C:O2 | 31:B3:152:G:N1 | 2.51 | 0.43 |
| 29:B1:43:A:N7 | 29:B1:2803:A:C6 | 2.87 | 0.43 |
| 29:B1:86:G:H1 | 29:B1:98:G:H3' | 1.84 | 0.43 |
| 29:B1:114:A:H2 | 29:B1:267:G:C4 | 2.36 | 0.43 |
| 29:B1:158:G:H2' | 29:B1:159:A:O5' | 2.19 | 0.43 |
| 29:B1:190:U:C6 | 29:B1:224:C:C1' | 3.01 | 0.43 |
| 29:B1:283:G:OP2 | 29:B1:285:A:C2' | 2.66 | 0.43 |
| 29:B1:283:G:C2 | 29:B1:285:A:N6 | 2.87 | 0.43 |
| 29:B1:309:U:H5 | 29:B1:310:U:C5 | 2.36 | 0.43 |
| 29:B1:324:A:C5' | 29:B1:325:A:OP2 | 2.67 | 0.43 |
| 29:B1:327:A:H5' | 29:B1:327:A:H8 | 1.82 | 0.43 |
| 29:B1:411:U:N3 | 31:B3:13:A:C2 | 2.86 | 0.43 |
| 29:B1:517:G:C2' | 29:B1:518:G:O4' | 2.66 | 0.43 |
| 29:B1:630:A:H5' | 29:B1:631:U:OP2 | 2.18 | 0.43 |
| 29:B1:688:G:C6 | 29:B1:690:A:C5 | 3.07 | 0.43 |
| 29:B1:722:G:C6 | 29:B1:748:U:N3 | 2.86 | 0.43 |
| 29:B1:779:G:C4 | 29:B1:780:A:N7 | 2.86 | 0.43 |
| 29:B1:853:G:H2' | 29:B1:854:G:O4' | 2.18 | 0.43 |
| 29:B1:910:G:C3' | 29:B1:911:C:H6 | 2.32 | 0.43 |
| 29:B1:966:U:C2' | 29:B1:967:A:H8 | 2.23 | 0.43 |
| 29:B1:992:A:O2' | 49:BT:59:GLY:HA3 | 2.19 | 0.43 |
| 29:B1:1169:A:C6 | 29:B1:1330:A:N7 | 2.87 | 0.43 |
| 29:B1:1175:C:H3' | 29:B1:1175:C:P | 2.58 | 0.43 |
| 29:B1:1192:C:O4' | 29:B1:1298:C:OP1 | 2.37 | 0.43 |
| 29:B1:1239:C:C5 | 29:B1:1240:A:C4 | 3.07 | 0.43 |
| 29:B1:1248:C:HO2' | 29:B1:1249:G:H8 | 1.65 | 0.43 |
| 29:B1:1294:A:H5" | 29:B1:1294:A:C8 | 2.43 | 0.43 |
| 29:B1:1304:A:C2 | 29:B1:2938:G:N3 | 2.85 | 0.43 |
| 29:B1:1348:U:HO2' | 29:B1:1349:G:H8 | 1.67 | 0.43 |
| 29:B1:1357:G:C2 | 29:B1:1358:C:C2 | 3.06 | 0.43 |
| 29:B1:1357:G:H3' | 29:B1:1358:C:H6 | 1.83 | 0.43 |
| 29:B1:1498:A:C5 | 29:B1:1499:C:C5 | 3.07 | 0.43 |
| 29:B1:1543:G:C2 | 29:B1:1544:G:N7 | 2.86 | 0.43 |
| 29:B1:1687:U:O2' | 29:B1:1688:U:H4' | 2.18 | 0.43 |
| 29:B1:1703:U:H1' | 29:B1:1743:G:C6 | 2.54 | 0.43 |
| 29:B1:1771:C:H2' | 29:B1:1772:U:O4' | 2.18 | 0.43 |
| 29:B1:1771:C:N4 | 29:B1:1772:U:C4 | 2.87 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1846:C:H5' | 29:B1:1849:C:N4 | 2.34 | 0.43 |
| 29:B1:1896:A:C5 | 29:B1:3093:C:C5 | 3.06 | 0.43 |
| 29:B1:2148:U:O3' | 29:B1:2149:A:N7 | 2.51 | 0.43 |
| 29:B1:2151:C:O2 | 29:B1:2243:A:H2 | 2.02 | 0.43 |
| 29:B1:2178:A:H1' | 29:B1:2180:G:C4 | 2.54 | 0.43 |
| 29:B1:2212:C:O2' | 29:B1:2233:A:N6 | 2.51 | 0.43 |
| 29:B1:2394:G:C4 | 34:BC:259:HIS:CB | 3.02 | 0.43 |
| 29:B1:2688:U:O2' | 29:B1:2689:A:OP1 | 2.27 | 0.43 |
| 29:B1:2812:C:C2 | 29:B1:2813:A:N7 | 2.87 | 0.43 |
| 29:B1:2864:A:C5 | 29:B1:2865:U:C4 | 3.07 | 0.43 |
| 29:B1:2932:U:C2' | 29:B1:2933:A:O5' | 2.67 | 0.43 |
| 29:B1:2966:G:O5' | 29:B1:2966:G:H8 | 2.00 | 0.43 |
| 29:B1:2968:G:O2' | 29:B1:2969:A:H5' | 2.18 | 0.43 |
| 29:B1:2998:U:C6 | 29:B1:2998:U:OP1 | 2.71 | 0.43 |
| 29:B1:3060:C:C2 | 29:B1:3061:G:C8 | 3.07 | 0.43 |
| 29:B1:3149:G:N1 | 29:B1:3150:A:C4 | 2.87 | 0.43 |
| 29:B1:3311:C:C2' | 29:B1:3312:U:O4' | 2.64 | 0.43 |
| 29:B1:3314:A:C2' | 34:BC:119:TYR:H | 2.27 | 0.43 |
| 29:B1:3342:A:C2' | 29:B1:3343:G:O4' | 2.66 | 0.43 |
| 30:B2:31:U:C5 | 30:B2:32:U:C5 | 3.07 | 0.43 |
| 30:B2:35:C:N4 | 30:B2:47:C:C1' | 2.52 | 0.43 |
| 30:B2:60:G:H2' | 30:B2:61:G:C8 | 2.44 | 0.43 |
| 30:B2:95:A:O2' | 30:B2:96:U:O5' | 2.36 | 0.43 |
| 31:B3:1:A:C2 | 31:B3:2:A:N3 | 2.86 | 0.43 |
| 31:B3:30:C:C2' | 31:B3:31:G:O5' | 2.67 | 0.43 |
| 31:B3:43:A:H2' | 31:B3:44:A:O4' | 2.17 | 0.43 |
| 31:B3:74:U:HO2' | 31:B3:89:A:C1' | 2.32 | 0.43 |
| 34:BC:64:GLY:O | 34:BC:65:SER:CB | 2.67 | 0.43 |
| 35:BD:130:ALA:O | 35:BD:132:ALA:N | 2.52 | 0.43 |
| 37:BF:27:PRO:O | 37:BF:29:LYS:N | 2.52 | 0.43 |
| 41:BJ:212:GLU:O | 41:BJ:213:PHE:C | 2.62 | 0.43 |
| 42:BK:160:VAL:C | 42:BK:162:TRP:H | 2.27 | 0.43 |
| 44:BO:22:LEU:C | 44:BO:24:ARG:N | 2.77 | 0.43 |
| 44:BO:86:ASN:O | 44:BO:88:GLY:N | 2.51 | 0.43 |
| 47:BR:80:THR:N | 47:BR:136:ASN:O | 2.44 | 0.43 |
| 53:BX:52:ARG:C | 53:BX:54:ASP:N | 2.77 | 0.43 |
| 54:BY:15:VAL:C | 54:BY:17:ALA:HA | 2.43 | 0.43 |
| 57:Bb:60:ASN:O | 57:Bb:61:LYS:C | 2.61 | 0.43 |
| 57:Bb:64:LYS:O | 57:Bb:66:LEU:N | 2.52 | 0.43 |
| 59:Bd:5:THR:O | 59:Bd:7:SER:O | 2.36 | 0.43 |
| 62:Bg:59:CYS:N | 74:Bg:101:OHX:N3 | 2.67 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 63:Bh:47:UNK:C | 63:Bh:49:UNK:N | 2.80 | 0.43 |
| 1:C1:71:A:C1' | 1:C1:72:A:OP1 | 2.67 | 0.43 |
| 1:C1:80:A:H3' | 1:C1:81:G:C8 | 2.46 | 0.43 |
| 1:C1:104:A:N7 | 1:C1:106:U:C5 | 2.87 | 0.43 |
| 1:C1:288:A:O2' | 1:C1:289:U:P | 2.77 | 0.43 |
| 1:C1:328:A:N6 | 1:C1:341:A:H61 | 2.16 | 0.43 |
| 1:C1:503:G:C5 | 1:C1:504:U:C6 | 3.07 | 0.43 |
| 1:C1:568:G:C2 | 1:C1:569:C:C5 | 3.06 | 0.43 |
| 1:C1:568:G:N1 | 1:C1:569:C:C5 | 2.86 | 0.43 |
| 1:C1:590:C:C2 | 1:C1:591:A:C8 | 3.07 | 0.43 |
| 1:C1:748:U:H3 | 1:C1:801:G:H1 | 1.66 | 0.43 |
| 1:C1:794:U:H2' | 1:C1:794:U:O2 | 2.18 | 0.43 |
| 1:C1:956:C:N3 | 1:C1:957:G:N7 | 2.67 | 0.43 |
| 1:C1:985:G:O6 | 1:C1:986:G:O6 | 2.36 | 0.43 |
| 1:C1:1334:U:H2' | 1:C1:1334:U:O2 | 2.19 | 0.43 |
| 1:C1:1358:G:C2 | 1:C1:1359:C:C5 | 3.07 | 0.43 |
| 1:C1:1377:U:O2 | 1:C1:1378:U:O4' | 2.37 | 0.43 |
| 1:C1:1438:G:C5 | 1:C1:1439:C:C4 | 3.07 | 0.43 |
| 1:C1:1455:G:C6 | 1:C1:1456:C:N4 | 2.83 | 0.43 |
| 1:C1:1584:G:C4 | 1:C1:1584:G:C3' | 2.99 | 0.43 |
| 1:C1:1649:G:N7 | 74:C1:1997:OHX:N4 | 2.67 | 0.43 |
| 1:C1:1657:U:C4 | 74:C1:1955:OHX:N5 | 2.87 | 0.43 |
| 1:C1:1681:A:C8 | 1:C1:1682:U:N3 | 2.87 | 0.43 |
| 1:C1:1716:C:C2 | 1:C1:1717:G:C8 | 3.07 | 0.43 |
| 3:CB:97:ARG:O | 3:CB:98:PHE:CB | 2.66 | 0.43 |
| 3:CB:238:SER:C | 3:CB:240:LEU:N | 2.76 | 0.43 |
| 5:CD:183:ALA:O | 5:CD:184:PHE:CB | 2.66 | 0.43 |
| 9:CH:57:PRO:O | 9:CH:59:ALA:N | 2.52 | 0.43 |
| 10:CI:59:LYS:O | 10:CI:60:LEU:C | 2.62 | 0.43 |
| 10:CI:59:LYS:C | 10:CI:61:ARG:N | 2.70 | 0.43 |
| 11:CJ:74:HIS:O | 11:CJ:77:GLN:N | 2.51 | 0.43 |
| 16:CO:70:ASN:HA | 16:CO:71:LYS:HA | 1.42 | 0.43 |
| 16:CO:102:VAL:O | 16:CO:103:ILE:C | 2.61 | 0.43 |
| 17:CP:53:VAL:CB | 17:CP:100:ASP:O | 2.67 | 0.43 |
| 21:CT:27:ALA:O | 21:CT:28:GLY:O | 2.37 | 0.43 |
| 21:CT:116:ASP:O | 21:CT:118:LYS:N | 2.51 | 0.43 |
| 24:Cc:31:UNK:C | 24:Cc:33:UNK:N | 2.79 | 0.43 |
| 29:D1:40:A:C6 | 54:DY:30:GLY:HA2 | 2.53 | 0.43 |
| 29:D1:44:U:P | 44:DO:83:LYS:CB | 3.07 | 0.43 |
| 29:D1:66:A:C2 | 29:D1:77:A:O3' | 2.71 | 0.43 |
| 29:D1:184:U:N3 | 29:D1:185:C:C5 | 2.87 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:303:G:N2 | 29:D1:2778:G:C4 | 2.87 | 0.43 |
| 29:D1:371:G:N1 | 29:D1:373:A:H3' | 2.33 | 0.43 |
| 29:D1:419:G:C2 | 31:D3:5:U:O2 | 2.72 | 0.43 |
| 29:D1:645:A:N7 | 29:D1:649:A:C5 | 2.87 | 0.43 |
| 29:D1:733:G:C2 | 29:D1:736:A:N1 | 2.86 | 0.43 |
| 29:D1:926:A:C2 | 29:D1:927:C:C2 | 3.07 | 0.43 |
| 29:D1:1142:G:H3' | 29:D1:1143:A:C5' | 2.46 | 0.43 |
| 29:D1:1170:A:C8 | 29:D1:1170:A:H3' | 2.54 | 0.43 |
| 29:D1:1207:G:H5' | 29:D1:1207:G:H8 | 1.82 | 0.43 |
| 29:D1:1254:C:C2 | 29:D1:1263:A:C2 | 3.07 | 0.43 |
| 29:D1:1363:A:H2' | 29:D1:1364:C:C6 | 2.54 | 0.43 |
| 29:D1:1414:G:H2' | 29:D1:1415:U:O4' | 2.18 | 0.43 |
| 29:D1:1421:G:N2 | 29:D1:1422:G:C5 | 2.87 | 0.43 |
| 29:D1:1489:A:C2' | 29:D1:1490:A:H8 | 2.32 | 0.43 |
| 29:D1:1511:U:H3' | 29:D1:1512:U:C6 | 2.53 | 0.43 |
| 29:D1:1566:A:N7 | 29:D1:1568:U:N3 | 2.66 | 0.43 |
| 29:D1:1596:C:H2' | 29:D1:1597:C:C5 | 2.53 | 0.43 |
| 29:D1:1715:A:N7 | 29:D1:1716:U:O4' | 2.52 | 0.43 |
| 29:D1:1721:U:O2 | 29:D1:1723:A:C8 | 2.72 | 0.43 |
| 29:D1:1833:G:C5 | 29:D1:1834:U:N3 | 2.87 | 0.43 |
| 29:D1:1846:C:H5' | 29:D1:1849:C:N4 | 2.33 | 0.43 |
| 29:D1:1895:A:C2 | 29:D1:2335:G:O6 | 2.71 | 0.43 |
| 29:D1:2210:G:C5 | 29:D1:2211:U:C5 | 3.06 | 0.43 |
| 29:D1:2254:U:N3 | 74:D1:3583:OHX:N6 | 2.66 | 0.43 |
| 29:D1:2360:C:C6 | 29:D1:2360:C:OP2 | 2.72 | 0.43 |
| 29:D1:2375:G:C5 | 29:D1:2378:C:C5 | 3.07 | 0.43 |
| 29:D1:2504:U:C5 | 29:D1:2505:U:C5 | 3.06 | 0.43 |
| 29:D1:2568:C:H2' | 29:D1:2569:A:H4' | 2.01 | 0.43 |
| 29:D1:2630:C:O4' | 29:D1:2758:A:H1' | 2.19 | 0.43 |
| 29:D1:2676:A:C2' | 29:D1:2677:G:OP1 | 2.66 | 0.43 |
| 29:D1:2741:C:H2' | 29:D1:2742:C:O4' | 2.19 | 0.43 |
| 29:D1:2743:A:C4 | 29:D1:2744:U:C5 | 3.07 | 0.43 |
| 29:D1:3088:G:C5 | 29:D1:3089:C:C5 | 3.07 | 0.43 |
| 29:D1:3110:C:O2' | 29:D1:3111:U:H5' | 2.19 | 0.43 |
| 29:D1:3143:C:H5' | 29:D1:3143:C:H6 | 1.84 | 0.43 |
| 29:D1:3153:U:O4 | 29:D1:3160:U:H1' | 2.17 | 0.43 |
| 29:D1:3195:U:C2' | 29:D1:3196:U:O2 | 2.43 | 0.43 |
| 29:D1:3197:G:H2' | 29:D1:3198:U:OP1 | 2.18 | 0.43 |
| 29:D1:3246:G:H2' | 29:D1:3247:G:C8 | 2.47 | 0.43 |
| 29:D1:3260:G:OP2 | 29:D1:3260:G:C8 | 2.71 | 0.43 |
| 29:D1:3262:U:C2 | 29:D1:3263:G:N7 | 2.87 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3304:U:C4 | 34:DC:333:LYS:O | 2.71 | 0.43 |
| 29:D1:3321:C:N4 | 29:D1:3386:G:H22 | 2.16 | 0.43 |
| 29:D1:3321:C:N1 | 29:D1:3322:A:C8 | 2.84 | 0.43 |
| 29:D1:3333:G:H1 | 29:D1:3370:A:C1' | 2.31 | 0.43 |
| 30:D2:26:C:H2' | 30:D2:27:A:C8 | 2.54 | 0.43 |
| 31:D3:130:C:H2' | 31:D3:131:A:C8 | 2.51 | 0.43 |
| 33:DB:53:GLY:C | 33:DB:54:ARG:O | 2.59 | 0.43 |
| 34:DC:27:ALA:HB2 | 34:DC:219:ALA:CA | 2.48 | 0.43 |
| 34:DC:160:VAL:C | 34:DC:161:LEU:O | 2.60 | 0.43 |
| 35:DD:118:LYS:HA | 35:DD:121:ALA:HB3 | 2.01 | 0.43 |
| 35:DD:237:GLN:C | 35:DD:239:ALA:N | 2.71 | 0.43 |
| 36:DE:150:LEU:O | 36:DE:151:GLN:C | 2.62 | 0.43 |
| 37:DF:114:LYS:O | 37:DF:115:GLU:C | 2.61 | 0.43 |
| 38:DG:161:VAL:O | 38:DG:165:ASP:CB | 2.66 | 0.43 |
| 38:DG:219:LYS:C | 38:DG:221:LYS:H | 2.26 | 0.43 |
| 40:DI:48:VAL:C | 40:DI:50:ASN:N | 2.77 | 0.43 |
| 40:DI:86:TYR:CB | 40:DI:87:LYS:CB | 2.96 | 0.43 |
| 41:DJ:153:ARG:O | 41:DJ:154:ARG:C | 2.60 | 0.43 |
| 42:DK:50:ALA:HB3 | 42:DK:63:GLU:N | 2.09 | 0.43 |
| 47:DR:110:ALA:O | 47:DR:111:ARG:C | 2.62 | 0.43 |
| 48:DS:63:THR:C | 48:DS:65:ALA:N | 2.76 | 0.43 |
| 1:A1:119:A:H1' | 1:A1:397:A:C8 | 2.54 | 0.43 |
| 1:A1:139:C:C5 | 1:A1:176:C:C2 | 3.06 | 0.43 |
| 1:A1:180:A:O2' | 1:A1:181:A:C8 | 2.71 | 0.43 |
| 1:A1:186:C:N4 | 1:A1:187:G:C6 | 2.80 | 0.43 |
| 1:A1:614:C:N3 | 1:A1:615:A:C8 | 2.87 | 0.43 |
| 1:A1:647:G:C6 | 1:A1:687:G:C6 | 3.07 | 0.43 |
| 1:A1:740:A:N1 | 1:A1:741:C:C4 | 2.87 | 0.43 |
| 1:A1:898:A:N6 | 1:A1:914:G:C2 | 2.87 | 0.43 |
| 1:A1:1068:C:C2 | 1:A1:1069:A:C8 | 3.06 | 0.43 |
| 1:A1:1086:A:C2 | 1:A1:1141:G:N3 | 2.86 | 0.43 |
| 1:A1:1118:G:C4 | 1:A1:1119:G:C8 | 3.07 | 0.43 |
| 1:A1:1201:G:OP2 | 1:A1:1201:G:C5 | 2.72 | 0.43 |
| 1:A1:1407:U:H2' | 1:A1:1408:G:O4' | 2.19 | 0.43 |
| 1:A1:1431:C:H4' | 1:A1:1432:U:H5' | 2.00 | 0.43 |
| 1:A1:1467:C:HO2' | 1:A1:1468:U:H5' | 1.80 | 0.43 |
| 1:A1:1529:C:H2' | 1:A1:1530:C:C6 | 2.54 | 0.43 |
| 1:A1:1558:U:H5 | 1:A1:1559:A:H3' | 1.84 | 0.43 |
| 1:A1:1671:A:C4 | 1:A1:1731:A:N1 | 2.87 | 0.43 |
| 1:A1:1764:C:H5' | 1:A1:1767:G:C8 | 2.54 | 0.43 |
| 2:AA:84:ARG:O | 2:AA:86:VAL:N | 2.52 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 8:AG:84:ILE:HA | 8:AG:85:PRO:HA | 1.83 | 0.43 |
| 8:AG:107:LYS:O | 8:AG:109:LYS:N | 2.45 | 0.43 |
| 9:AH:25:ASP:O | 9:AH:26:THR:CB | 2.66 | 0.43 |
| 10:AI:65:LEU:O | 10:AI:66:ALA:C | 2.62 | 0.43 |
| 10:AI:84:ILE:O | 10:AI:85:ILE:C | 2.61 | 0.43 |
| 15:AN:25:THR:H | 15:AN:115:GLU:CB | 2.32 | 0.43 |
| 17:AP:52:ILE:O | 17:AP:74:VAL:CB | 2.67 | 0.43 |
| 20:AS:23:VAL:O | 20:AS:24:CYS:C | 2.62 | 0.43 |
| 21:AT:86:ASP:O | 21:AT:87:LYS:CB | 2.66 | 0.43 |
| 26:Ae:12:UNK:C | 26:Ae:14:UNK:N | 2.78 | 0.43 |
| 27:Af:9:UNK:HA | 27:Af:12:UNK:CB | 2.49 | 0.43 |
| 29:B1:37:U:N3 | 29:B1:38:U:C4 | 2.87 | 0.43 |
| 29:B1:65:A:H2' | 29:B1:111:C:C5 | 2.54 | 0.43 |
| 29:B1:120:G:N1 | 29:B1:150:A:H5" | 2.34 | 0.43 |
| 29:B1:145:G:N3 | 29:B1:145:G:C2' | 2.82 | 0.43 |
| 29:B1:157:A:C2' | 29:B1:158:G:C8 | 3.02 | 0.43 |
| 29:B1:198:A:C2 | 29:B1:219:A:N7 | 2.86 | 0.43 |
| 29:B1:206:G:N2 | 29:B1:207:U:H1' | 2.34 | 0.43 |
| 29:B1:208:C:C2' | 29:B1:209:A:O5' | 2.66 | 0.43 |
| 29:B1:299:G:H2' | 29:B1:300:G:O4' | 2.18 | 0.43 |
| 29:B1:561:C:O2' | 29:B1:562:C:P | 2.76 | 0.43 |
| 29:B1:570:A:C4 | 29:B1:571:U:C6 | 3.07 | 0.43 |
| 29:B1:576:C:HO2' | 29:B1:577:C:H5" | 1.84 | 0.43 |
| 29:B1:596:C:O2 | 29:B1:596:C:C4' | 2.66 | 0.43 |
| 29:B1:601:U:C4 | 29:B1:602:A:C8 | 3.06 | 0.43 |
| 29:B1:645:A:H1' | 29:B1:647:A:OP2 | 2.19 | 0.43 |
| 29:B1:706:A:C6 | 29:B1:714:G:C2 | 3.07 | 0.43 |
| 29:B1:717:C:N4 | 29:B1:721:G:OP1 | 2.52 | 0.43 |
| 29:B1:723:U:C6 | 29:B1:723:U:C4' | 3.01 | 0.43 |
| 29:B1:790:U:C2' | 29:B1:791:A:O5' | 2.67 | 0.43 |
| 29:B1:901:G:N3 | 29:B1:902:G:C8 | 2.87 | 0.43 |
| 29:B1:1062:A:P | 29:B1:1063:G:O6 | 2.76 | 0.43 |
| 29:B1:1067:U:H5" | 29:B1:1068:C:OP2 | 2.18 | 0.43 |
| 29:B1:1295:G:C5 | 29:B1:1296:C:C4 | 3.06 | 0.43 |
| 29:B1:1317:A:OP2 | 29:B1:1317:A:H3' | 2.19 | 0.43 |
| 29:B1:1335:C:C4 | 29:B1:1336:U:C5 | 3.06 | 0.43 |
| 29:B1:1415:U:C2 | 29:B1:1416:C:C6 | 3.07 | 0.43 |
| 29:B1:1432:C:O2' | 29:B1:1433:A:H3' | 2.19 | 0.43 |
| 29:B1:1461:A:C4 | 29:B1:1462:A:N7 | 2.87 | 0.43 |
| 29:B1:1499:C:N3 | 29:B1:1500:G:N7 | 2.67 | 0.43 |
| 29:B1:1586:G:H8 | 29:B1:1586:G:O5' | 2.02 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1690:C:C4 | 29:B1:1691:U:C5 | 3.06 | 0.43 |
| 29:B1:1818:U:H2' | 29:B1:1819:U:C6 | 2.54 | 0.43 |
| 29:B1:1867:A:C5 | 29:B1:1868:G:C5 | 3.07 | 0.43 |
| 29:B1:2113:A:H2' | 29:B1:2114:C:H5" | 1.96 | 0.43 |
| 29:B1:2114:C:C4' | 29:B1:2116:G:C4 | 3.00 | 0.43 |
| 29:B1:2152:A:H1' | 29:B1:2243:A:C2 | 2.54 | 0.43 |
| 29:B1:2201:G:C4 | 29:B1:2202:C:C6 | 3.07 | 0.43 |
| 29:B1:2247:G:C6 | 29:B1:2248:C:N4 | 2.87 | 0.43 |
| 29:B1:2257:C:O2 | 29:B1:2257:C:O4' | 2.36 | 0.43 |
| 29:B1:2390:A:C2 | 29:B1:2990:G:C2 | 3.07 | 0.43 |
| 29:B1:2513:U:C5 | 29:B1:2591:A:N6 | 2.84 | 0.43 |
| 29:B1:2583:C:H2' | 29:B1:2584:G:N7 | 2.32 | 0.43 |
| 29:B1:2659:G:H2' | 29:B1:2660:G:H8 | 1.84 | 0.43 |
| 29:B1:2671:A:C6 | 29:B1:2672:G:N7 | 2.86 | 0.43 |
| 29:B1:2741:C:O5' | 29:B1:2741:C:H6 | 2.02 | 0.43 |
| 29:B1:2749:G:C6 | 29:B1:2750:U:C4 | 3.07 | 0.43 |
| 29:B1:2770:G:C6 | 29:B1:2771:U:O4 | 2.72 | 0.43 |
| 29:B1:2824:G:H5" | 29:B1:2825:C:P | 2.59 | 0.43 |
| 29:B1:2830:G:H2' | 29:B1:2831:G:O5' | 2.19 | 0.43 |
| 29:B1:2856:G:N2 | 29:B1:2857:C:C2 | 2.87 | 0.43 |
| 29:B1:2946:A:C2' | 29:B1:2982:A:N7 | 2.81 | 0.43 |
| 29:B1:3014:U:O2 | 29:B1:3041:U:O2 | 2.36 | 0.43 |
| 29:B1:3026:G:C8 | 29:B1:3026:G:H3' | 2.53 | 0.43 |
| 29:B1:3064:U:C2' | 29:B1:3065:G:H5' | 2.49 | 0.43 |
| 29:B1:3110:C:C4 | 29:B1:3111:U:C5 | 3.06 | 0.43 |
| 29:B1:3234:A:H2 | 29:B1:3253:G:N2 | 2.10 | 0.43 |
| 74:B1:3536:OHX:N4 | 44:BO:84:PRO:CA | 2.80 | 0.43 |
| 30:B2:15:C:C2 | 30:B2:66:A:C2 | 3.06 | 0.43 |
| 30:B2:22:A:C5 | 30:B2:23:A:C5 | 3.06 | 0.43 |
| 30:B2:26:C:O2' | 30:B2:27:A:C5' | 2.67 | 0.43 |
| 30:B2:46:A:C4 | 30:B2:46:A:C3' | 3.02 | 0.43 |
| 31:B3:65:A:N6 | 31:B3:66:A:N6 | 2.67 | 0.43 |
| 31:B3:76:C:N4 | 53:BX:75:ARG:CB | 2.82 | 0.43 |
| 32:BA:126:PRO:O | 32:BA:128:LEU:N | 2.52 | 0.43 |
| 34:BC:118:PHE:CB | 34:BC:119:TYR:O | 2.67 | 0.43 |
| 34:BC:288:GLY:H | 34:BC:291:GLU:CB | 2.32 | 0.43 |
| 34:BC:306:THR:C | 34:BC:308:MET:H | 2.22 | 0.43 |
| 35:BD:134:LEU:C | 35:BD:136:LEU:H | 2.27 | 0.43 |
| 36:BE:43:LYS:N | 49:BT:70:SER:N | 2.67 | 0.43 |
| 36:BE:87:GLY:O | 36:BE:88:ILE:CB | 2.66 | 0.43 |
| 38:BG:167:ALA:HB3 | 38:BG:176:TYR:C | 2.43 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 40:BI:104:VAL:CB | 40:BI:105:GLU:CB | 2.97 | 0.43 |
| 42:BK:89:TYR:CB | 42:BK:168:ASP:CB | 2.97 | 0.43 |
| 46:BQ:99:ALA:O | 46:BQ:102:ALA:N | 2.51 | 0.43 |
| 47:BR:125:ASP:O | 47:BR:126:GLN:C | 2.61 | 0.43 |
| 48:BS:59:SER:C | 48:BS:61:SER:H | 2.18 | 0.43 |
| 52:BW:61:LYS:CB | 52:BW:62:VAL:CA | 2.96 | 0.43 |
| 52:BW:69:SER:N | 52:BW:72:ALA:HB3 | 2.24 | 0.43 |
| 58:Bc:4:VAL:CA | 58:Bc:5:LYS:CB | 2.96 | 0.43 |
| 58:Bc:65:ALA:C | 58:Bc:67:ARG:N | 2.75 | 0.43 |
| 59:Bd:60:GLY:C | 59:Bd:62:GLY:N | 2.76 | 0.43 |
| 62:Bg:75:ALA:C | 62:Bg:77:ALA:N | 2.76 | 0.43 |
| 1:C1:47:A:O5' | 1:C1:48:G:H5" | 2.18 | 0.43 |
| 1:C1:60:U:O5' | 1:C1:454:U:O4' | 2.37 | 0.43 |
| 1:C1:111:U:O4 | 1:C1:112:A:N6 | 2.52 | 0.43 |
| 1:C1:121:U:C2 | 1:C1:122:U:H1' | 2.54 | 0.43 |
| 1:C1:130:C:H3' | 1:C1:131:C:C5' | 2.49 | 0.43 |
| 1:C1:172:C:O2 | 1:C1:173:A:C1' | 2.67 | 0.43 |
| 1:C1:230:C:O2' | 1:C1:231:U:H5' | 2.19 | 0.43 |
| 1:C1:283:U:H3' | 1:C1:284:G:C4' | 2.49 | 0.43 |
| 1:C1:330:G:C4 | 1:C1:331:A:N7 | 2.87 | 0.43 |
| 1:C1:417:A:H8 | 1:C1:417:A:P | 2.41 | 0.43 |
| 1:C1:482:U:C3' | 1:C1:483:A:C8 | 3.02 | 0.43 |
| 1:C1:539:G:H5" | 1:C1:543:C:H41 | 1.83 | 0.43 |
| 1:C1:635:A:H61 | 1:C1:861:U:H3 | 1.65 | 0.43 |
| 1:C1:708:C:C4 | 1:C1:709:C:O2 | 2.71 | 0.43 |
| 1:C1:722:G:C4 | 1:C1:723:G:C8 | 3.07 | 0.43 |
| 1:C1:768:C:C2 | 6:CE:143:ILE:CB | 3.02 | 0.43 |
| 1:C1:807:A:C5' | 1:C1:807:A:C8 | 3.02 | 0.43 |
| 1:C1:880:C:C2 | 1:C1:881:A:C8 | 3.06 | 0.43 |
| 1:C1:898:A:N6 | 1:C1:914:G:C2 | 2.86 | 0.43 |
| 1:C1:929:A:C5 | 1:C1:930:A:C5 | 3.06 | 0.43 |
| 1:C1:973:A:O2' | 29:D1:848:A:H1' | 2.19 | 0.43 |
| 1:C1:977:A:C2 | 1:C1:1025:A:C2 | 3.06 | 0.43 |
| 1:C1:1113:A:C2 | 1:C1:1115:U:C4 | 3.06 | 0.43 |
| 1:C1:1204:A:C5 | 1:C1:1205:C:C2 | 3.07 | 0.43 |
| 1:C1:1205:C:C5 | 1:C1:1206:U:O2 | 2.71 | 0.43 |
| 1:C1:1239:U:H2' | 1:C1:1240:U:C5 | 2.54 | 0.43 |
| 1:C1:1271:G:C6 | 1:C1:1272:U:C4 | 3.06 | 0.43 |
| 1:C1:1341:A:N3 | 1:C1:1341:A:C2' | 2.79 | 0.43 |
| 1:C1:1372:U:O2 | 1:C1:1373:C:H1' | 2.18 | 0.43 |
| 1:C1:1452:U:C2 | 1:C1:1453:G:C8 | 3.07 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1491:U:O2' | 1:C1:1492:A:C8 | 2.72 | 0.43 |
| 1:C1:1493:A:OP2 | 1:C1:1494:C:O5' | 2.36 | 0.43 |
| 1:C1:1615:C:H3' | 1:C1:1616:G:C5' | 2.49 | 0.43 |
| 1:C1:1665:U:H1' | 1:C1:1737:G:N2 | 2.34 | 0.43 |
| 1:C1:1793:G:O2' | 1:C1:1794:A:OP2 | 2.36 | 0.43 |
| 3:CB:170:ILE:O | 3:CB:171:PRO:C | 2.61 | 0.43 |
| 4:CC:161:GLY:O | 4:CC:163:PRO:N | 2.51 | 0.43 |
| 5:CD:169:ASN:C | 5:CD:171:ALA:H | 2.26 | 0.43 |
| 7:CF:110:HIS:CB | 7:CF:111:VAL:CB | 2.96 | 0.43 |
| 10:CI:65:LEU:O | 10:CI:66:ALA:C | 2.61 | 0.43 |
| 10:CI:75:PRO:O | 10:CI:93:VAL:O | 2.36 | 0.43 |
| 29:D1:65:A:C2' | 29:D1:111:C:H41 | 2.31 | 0.43 |
| 29:D1:78:U:H2' | 29:D1:79:U:H5' | 2.00 | 0.43 |
| 29:D1:87:U:O2 | 29:D1:87:U:C2' | 2.67 | 0.43 |
| 29:D1:158:G:H2' | 29:D1:159:A:O5' | 2.18 | 0.43 |
| 29:D1:222:A:N3 | 29:D1:222:A:H2' | 2.34 | 0.43 |
| 29:D1:259:C:H2' | 29:D1:260:C:C6 | 2.52 | 0.43 |
| 29:D1:307:A:H2' | 29:D1:308:A:O4' | 2.19 | 0.43 |
| 29:D1:405:U:C5 | 29:D1:406:G:N9 | 2.87 | 0.43 |
| 29:D1:512:U:C2 | 29:D1:579:G:N2 | 2.84 | 0.43 |
| 29:D1:531:G:N1 | 29:D1:560:G:N2 | 2.64 | 0.43 |
| 29:D1:557:A:H3' | 29:D1:557:A:H8 | 1.79 | 0.43 |
| 29:D1:569:A:H2' | 29:D1:570:A:C5' | 2.48 | 0.43 |
| 29:D1:600:G:N2 | 29:D1:604:G:C5 | 2.86 | 0.43 |
| 29:D1:699:A:H3' | 29:D1:699:A:H8 | 1.81 | 0.43 |
| 29:D1:780:A:N6 | 29:D1:781:G:C6 | 2.86 | 0.43 |
| 29:D1:880:G:OP2 | 46:DQ:131:ARG:CB | 2.67 | 0.43 |
| 29:D1:900:G:H2' | 29:D1:901:G:C8 | 2.53 | 0.43 |
| 29:D1:1083:G:C2' | 29:D1:1084:A:O5' | 2.66 | 0.43 |
| 29:D1:1217:A:N3 | 29:D1:1217:A:H2' | 2.34 | 0.43 |
| 29:D1:1358:C:N3 | 29:D1:1359:C:C5 | 2.87 | 0.43 |
| 29:D1:1480:G:N1 | 29:D1:1871:U:P | 2.92 | 0.43 |
| 29:D1:1562:C:H2' | 29:D1:1563:C:O4' | 2.19 | 0.43 |
| 29:D1:1594:A:H5" | 29:D1:1595:U:OP2 | 2.19 | 0.43 |
| 29:D1:1714:A:C5 | 29:D1:1728:G:C6 | 3.06 | 0.43 |
| 29:D1:1731:A:C6 | 29:D1:1732:U:N3 | 2.86 | 0.43 |
| 29:D1:1841:A:C6 | 29:D1:1848:G:C5 | 3.07 | 0.43 |
| 29:D1:1881:A:C4 | 29:D1:1882:G:C8 | 3.06 | 0.43 |
| 29:D1:1895:A:C5 | 29:D1:2335:G:N7 | 2.87 | 0.43 |
| 29:D1:1904:C:C4 | 29:D1:1905:G:N7 | 2.87 | 0.43 |
| 29:D1:1941:C:OP2 | 48:DS:75:HIS:CA | 2.67 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2221:G:N2 | 29:D1:2223:A:H2' | 2.34 | 0.43 |
| 29:D1:2311:G:C2' | 29:D1:2312:A:O5' | 2.66 | 0.43 |
| 29:D1:2393:G:H2' | 29:D1:2947:G:H5" | 2.01 | 0.43 |
| 29:D1:2395:G:C2' | 29:D1:2396:G:C5' | 2.94 | 0.43 |
| 29:D1:2571:U:O2 | 29:D1:2571:U:C2' | 2.64 | 0.43 |
| 29:D1:2588:U:C5' | 29:D1:2589:G:OP2 | 2.62 | 0.43 |
| 29:D1:2601:A:C2 | 29:D1:2602:G:C5 | 3.07 | 0.43 |
| 29:D1:2639:G:N1 | 29:D1:2640:A:C5 | 2.87 | 0.43 |
| 29:D1:2728:G:C2 | 29:D1:2729:U:C5 | 3.07 | 0.43 |
| 29:D1:2813:A:N1 | 29:D1:2814:G:C5 | 2.86 | 0.43 |
| 29:D1:2838:A:N1 | 29:D1:2851:A:C8 | 2.87 | 0.43 |
| 29:D1:2897:A:N7 | 29:D1:2899:C:C1' | 2.82 | 0.43 |
| 29:D1:3093:C:O2' | 29:D1:3094:A:O5' | 2.34 | 0.43 |
| 29:D1:3122:A:N1 | 40:DI:70:THR:CB | 2.82 | 0.43 |
| 29:D1:3205:G:OP2 | 29:D1:3206:C:OP2 | 2.36 | 0.43 |
| 29:D1:3311:C:C2' | 29:D1:3312:U:O4' | 2.66 | 0.43 |
| 29:D1:3328:G:N3 | 29:D1:3328:G:C2' | 2.77 | 0.43 |
| 29:D1:3330:A:C6 | 29:D1:3331:U:O4 | 2.72 | 0.43 |
| 29:D1:3371:G:O6 | 29:D1:3372:A:C2 | 2.71 | 0.43 |
| 30:D2:18:C:N4 | 30:D2:19:C:N4 | 2.67 | 0.43 |
| 31:D3:49:G:C8 | 58:Dc:40:SER:C | 2.97 | 0.43 |
| 31:D3:76:C:N4 | 53:DX:75:ARG:CB | 2.82 | 0.43 |
| 31:D3:88:A:C8 | 31:D3:89:A:N1 | 2.86 | 0.43 |
| 31:D3:116:G:C2' | 31:D3:117:C:O5' | 2.67 | 0.43 |
| 34:DC:142:ALA:C | 34:DC:144:ILE:N | 2.74 | 0.43 |
| 35:DD:203:ARG:C | 35:DD:204:GLY:O | 2.62 | 0.43 |
| 36:DE:33:ARG:C | 36:DE:35:ARG:H | 2.26 | 0.43 |
| 37:DF:164:SER:CA | 38:DG:182:ASP:CB | 2.94 | 0.43 |
| 38:DG:199:ASN:C | 38:DG:201:PHE:H | 2.26 | 0.43 |
| 38:DG:219:LYS:HA | 38:DG:227:GLY:C | 2.44 | 0.43 |
| 40:DI:61:GLY:O | 40:DI:62:ARG:C | 2.61 | 0.43 |
| 41:DJ:219:ALA:C | 41:DJ:221:ALA:H | 2.27 | 0.43 |
| 73:DM:13:ALA:O | 73:DM:17:GLU:CB | 2.67 | 0.43 |
| 43:DN:87:ALA:C | 43:DN:88:ALA:O | 2.60 | 0.43 |
| 48:DS:30:SER:O | 48:DS:33:ALA:HB3 | 2.19 | 0.43 |
| 49:DT:18:ASP:O | 49:DT:19:PHE:CB | 2.66 | 0.43 |
| 50:DU:81:GLN:O | 50:DU:82:ALA:CB | 2.65 | 0.43 |
| 54:DY:148:ILE:O | 54:DY:149:ALA:C | 2.61 | 0.43 |
| 56:Da:60:TRP:C | 56:Da:62:ARG:N | 2.76 | 0.43 |
| 57:Db:107:VAL:O | 57:Db:109:LEU:N | 2.52 | 0.43 |
| 1:A1:71:A:H1' | 1:A1:72:A:OP1 | 2.19 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:104:A:C5 | 1:A1:106:U:C6 | 3.06 | 0.43 |
| 1:A1:125:U:C5' | 1:A1:125:U:C6 | 3.02 | 0.43 |
| 1:A1:214:G:H3' | 1:A1:215:A:C5' | 2.49 | 0.43 |
| 1:A1:247:A:C8 | 1:A1:247:A:C3' | 3.01 | 0.43 |
| 1:A1:292:U:C6 | 1:A1:292:U:O5' | 2.67 | 0.43 |
| 1:A1:328:A:N1 | 1:A1:329:G:C5 | 2.87 | 0.43 |
| 1:A1:511:A:H4' | 1:A1:511:A:OP1 | 2.15 | 0.43 |
| 1:A1:514:G:N7 | 1:A1:538:A:H2 | 2.16 | 0.43 |
| 1:A1:692:C:N3 | 1:A1:693:U:N3 | 2.67 | 0.43 |
| 1:A1:747:C:C2 | 1:A1:748:U:C5 | 3.07 | 0.43 |
| 1:A1:929:A:N7 | 1:A1:930:A:C5 | 2.87 | 0.43 |
| 1:A1:1033:C:O2' | 1:A1:1034:C:H5' | 2.19 | 0.43 |
| 1:A1:1116:A:C5 | 1:A1:1131:A:N7 | 2.87 | 0.43 |
| 1:A1:1121:C:O2 | 1:A1:1127:G:C2 | 2.72 | 0.43 |
| 1:A1:1205:C:H6 | 1:A1:1206:U:O2 | 2.01 | 0.43 |
| 1:A1:1334:U:H2' | 1:A1:1335:U:H1' | 2.01 | 0.43 |
| 1:A1:1346:A:N7 | 1:A1:1347:U:N1 | 2.67 | 0.43 |
| 1:A1:1429:G:N3 | 1:A1:1430:U:C6 | 2.87 | 0.43 |
| 1:A1:1491:U:H3' | 1:A1:1492:A:H5" | 2.01 | 0.43 |
| 1:A1:1622:G:N3 | 1:A1:1622:G:H2' | 2.33 | 0.43 |
| 1:A1:1662:G:H2' | 1:A1:1663:G:H8 | 1.83 | 0.43 |
| 2:AA:59:LEU:O | 2:AA:60:ALA:C | 2.62 | 0.43 |
| 5:AD:134:VAL:C | 5:AD:136:ALA:N | 2.77 | 0.43 |
| 13:AL:75:ASN:C | 13:AL:78:HIS:H | 2.25 | 0.43 |
| 14:AM:69:LYS:O | 14:AM:70:GLN:CB | 2.66 | 0.43 |
| 14:AM:138:GLN:O | 14:AM:142:GLU:CB | 2.67 | 0.43 |
| 18:AQ:80:LEU:C | 18:AQ:82:HIS:N | 2.77 | 0.43 |
| 29:B1:83:U:C2' | 29:B1:84:U:H5' | 2.48 | 0.43 |
| 29:B1:198:A:N1 | 29:B1:219:A:C4 | 2.87 | 0.43 |
| 29:B1:220:G:C6 | 29:B1:1389:G:C2 | 3.07 | 0.43 |
| 29:B1:373:A:N6 | 29:B1:375:A:N6 | 2.66 | 0.43 |
| 29:B1:408:A:N1 | 29:B1:409:A:N1 | 2.67 | 0.43 |
| 29:B1:413:U:C6 | 29:B1:413:U:O5' | 2.72 | 0.43 |
| 29:B1:574:U:H5' | 29:B1:574:U:H6 | 1.84 | 0.43 |
| 29:B1:612:U:O2 | 29:B1:613:G:C5 | 2.72 | 0.43 |
| 29:B1:635:G:C2' | 29:B1:636:C:H5' | 2.48 | 0.43 |
| 29:B1:789:A:N1 | 29:B1:790:U:C4 | 2.87 | 0.43 |
| 29:B1:1029:G:C2' | 29:B1:1030:A:H5' | 2.49 | 0.43 |
| 29:B1:1031:C:N4 | 29:B1:1032:C:C4 | 2.87 | 0.43 |
| 29:B1:1130:A:H5' | 29:B1:1130:A:C8 | 2.54 | 0.43 |
| 29:B1:1287:A:N6 | 29:B1:1288:U:O4 | 2.52 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1302:A:C1' | 29:B1:2887:A:H2 | 2.27 | 0.43 |
| 29:B1:1302:A:C2' | 29:B1:2887:A:C2 | 3.01 | 0.43 |
| 29:B1:1306:G:O6 | 45:BP:63:ALA:HA | 2.19 | 0.43 |
| 29:B1:1317:A:C5 | 29:B1:1319:G:C8 | 3.07 | 0.43 |
| 29:B1:1357:G:C4 | 29:B1:1358:C:C6 | 3.07 | 0.43 |
| 29:B1:1412:G:C4 | 29:B1:1413:G:N7 | 2.83 | 0.43 |
| 29:B1:1555:U:H5" | 29:B1:1580:A:N1 | 2.34 | 0.43 |
| 29:B1:1622:U:H2' | 29:B1:1623:G:H8 | 1.84 | 0.43 |
| 29:B1:1656:A:O4' | 29:B1:1657:C:C4 | 2.72 | 0.43 |
| 29:B1:1671:C:C4 | 29:B1:1672:U:C5 | 3.07 | 0.43 |
| 29:B1:1688:U:C3' | 29:B1:1689:U:C5 | 3.02 | 0.43 |
| 29:B1:1759:C:C3' | 29:B1:1760:A:H5" | 2.49 | 0.43 |
| 29:B1:1847:A:N3 | 29:B1:1847:A:O2' | 2.49 | 0.43 |
| 29:B1:2111:G:H21 | 51:BV:48:ARG:C | 2.26 | 0.43 |
| 29:B1:2136:C:H2' | 29:B1:2137:U:C6 | 2.54 | 0.43 |
| 29:B1:2243:A:C6 | 29:B1:2313:A:N7 | 2.87 | 0.43 |
| 29:B1:2262:A:C3' | 29:B1:2263:C:C5' | 2.88 | 0.43 |
| 29:B1:2443:A:O2' | 29:B1:2444:C:H5' | 2.18 | 0.43 |
| 29:B1:2511:A:C2' | 29:B1:2512:C:H5' | 2.49 | 0.43 |
| 29:B1:2592:G:C5 | 74:B1:3449:OHX:N4 | 2.86 | 0.43 |
| 29:B1:2619:G:N3 | 29:B1:2619:G:H2' | 2.34 | 0.43 |
| 29:B1:2620:G:H2' | 29:B1:2621:G:H5' | 2.00 | 0.43 |
| 29:B1:2659:G:H4' | 29:B1:2751:G:O2' | 2.19 | 0.43 |
| 29:B1:2665:U:H4' | 29:B1:2666:C:OP1 | 2.18 | 0.43 |
| 29:B1:2684:C:C6 | 29:B1:2684:C:C4' | 2.96 | 0.43 |
| 29:B1:2690:G:O2' | 29:B1:2691:A:P | 2.74 | 0.43 |
| 29:B1:2712:U:H2' | 29:B1:2713:U:O5' | 2.18 | 0.43 |
| 29:B1:2737:C:P | 49:BT:72:VAL:CB | 3.07 | 0.43 |
| 29:B1:2810:C:OP1 | 29:B1:2810:C:H4' | 2.19 | 0.43 |
| 29:B1:2880:U:H1' | 34:BC:250:ALA:CB | 2.48 | 0.43 |
| 29:B1:2919:A:H2' | 29:B1:2920:U:H5" | 2.01 | 0.43 |
| 29:B1:3055:U:C2 | 29:B1:3085:G:C2 | 3.07 | 0.43 |
| 29:B1:3105:U:H5 | 29:B1:3128:G:N2 | 2.00 | 0.43 |
| 29:B1:3242:G:C2' | 29:B1:3246:G:H22 | 2.32 | 0.43 |
| 30:B2:9:C:C5 | 30:B2:10:C:H1' | 2.54 | 0.43 |
| 31:B3:64:U:O2 | 31:B3:64:U:C2' | 2.57 | 0.43 |
| 33:BB:229:ALA:O | 33:BB:230:VAL:C | 2.61 | 0.43 |
| 34:BC:149:ALA:O | 34:BC:150:ARG:C | 2.60 | 0.43 |
| 35:BD:115:HIS:O | 35:BD:118:LYS:N | 2.52 | 0.43 |
| 35:BD:144:LYS:O | 35:BD:145:ILE:CB | 2.66 | 0.43 |
| 36:BE:173:VAL:O | 36:BE:174:PRO:CB | 2.66 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 38:BG:111:ILE:O | 38:BG:113:SER:N | 2.51 | 0.43 |
| 44:BO:84:PRO:O | 44:BO:86:ASN:CB | 2.67 | 0.43 |
| 44:BO:97:SER:O | 44:BO:98:LEU:C | 2.61 | 0.43 |
| 48:BS:121:HIS:C | 48:BS:123:LEU:N | 2.75 | 0.43 |
| 51:BV:24:GLY:O | 51:BV:25:ASP:O | 2.35 | 0.43 |
| 56:Ba:3:GLY:HA2 | 56:Ba:4:LEU:CB | 2.49 | 0.43 |
| 57:Bb:89:THR:CB | 57:Bb:90:LYS:O | 2.67 | 0.43 |
| 68:Bn:11:UNK:O | 68:Bn:15:UNK:CB | 2.67 | 0.43 |
| 1:C1:13:C:C5' | 3:CB:162:CYS:HA | 2.48 | 0.43 |
| 1:C1:38:C:O5' | 1:C1:38:C:H6 | 2.02 | 0.43 |
| 1:C1:71:A:H2 | 1:C1:72:A:N6 | 2.11 | 0.43 |
| 1:C1:186:C:N4 | 1:C1:187:G:C6 | 2.79 | 0.43 |
| 1:C1:195:G:C4' | 1:C1:196:G:OP1 | 2.67 | 0.43 |
| 1:C1:228:G:C2 | 1:C1:229:U:O2 | 2.72 | 0.43 |
| 1:C1:282:C:O2 | 1:C1:282:C:C2' | 2.66 | 0.43 |
| 1:C1:371:G:N2 | 1:C1:612:U:C2 | 2.87 | 0.43 |
| 1:C1:379:U:OP2 | 1:C1:380:U:P | 2.77 | 0.43 |
| 1:C1:445:A:H1' | 1:C1:524:U:O3' | 2.19 | 0.43 |
| 1:C1:486:G:C6 | 1:C1:487:G:C4 | 3.07 | 0.43 |
| 1:C1:539:G:N7 | 1:C1:542:A:N6 | 2.66 | 0.43 |
| 1:C1:555:A:H4' | 1:C1:556:A:OP2 | 2.18 | 0.43 |
| 1:C1:690:G:C6 | 1:C1:691:C:C4 | 3.06 | 0.43 |
| 1:C1:736:C:H2' | 1:C1:737:A:O4' | 2.19 | 0.43 |
| 1:C1:782:U:C1' | 1:C1:783:G:OP2 | 2.65 | 0.43 |
| 1:C1:929:A:C6 | 1:C1:930:A:C4 | 3.07 | 0.43 |
| 1:C1:1003:A:O2' | 1:C1:1004:U:OP2 | 2.30 | 0.43 |
| 1:C1:1025:A:H2' | 1:C1:1027:A:O5' | 2.19 | 0.43 |
| 1:C1:1201:G:C4 | 1:C1:1201:G:C3' | 3.02 | 0.43 |
| 1:C1:1241:G:N3 | 1:C1:1243:G:C8 | 2.85 | 0.43 |
| 1:C1:1284:C:O2 | 1:C1:1286:U:C2 | 2.72 | 0.43 |
| 1:C1:1332:C:O2' | 1:C1:1333:C:C6 | 2.51 | 0.43 |
| 1:C1:1345:A:H2 | 1:C1:1380:U:O4 | 2.02 | 0.43 |
| 1:C1:1348:A:O5' | 15:CN:10:GLU:O | 2.37 | 0.43 |
| 1:C1:1472:C:H3' | 1:C1:1472:C:OP1 | 2.19 | 0.43 |
| 1:C1:1474:G:C2 | 1:C1:1475:A:C6 | 3.07 | 0.43 |
| 1:C1:1497:U:C4 | 1:C1:1511:U:O2 | 2.72 | 0.43 |
| 1:C1:1645:G:C2 | 1:C1:1757:G:C2 | 3.07 | 0.43 |
| 1:C1:1752:U:C2 | 1:C1:1753:A:N7 | 2.87 | 0.43 |
| 2:CA:6:THR:C | 2:CA:8:ASP:N | 2.76 | 0.43 |
| 3:CB:118:ALA:HB2 | 3:CB:124:ALA:CA | 2.48 | 0.43 |
| 4:CC:10:LYS:O | 4:CC:11:LEU:C | 2.62 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 16:CO:39:GLN:C | 16:CO:41:MET:N | 2.75 | 0.43 |
| 29:D1:88:A:N7 | 29:D1:99:A:N6 | 2.66 | 0.43 |
| 29:D1:107:A:C2' | 29:D1:108:A:O5' | 2.66 | 0.43 |
| 29:D1:109:A:O3' | 29:D1:110:G:O4' | 2.36 | 0.43 |
| 29:D1:117:U:C6 | 29:D1:117:U:H3' | 2.54 | 0.43 |
| 29:D1:148:G:H2' | 29:D1:148:G:N3 | 2.33 | 0.43 |
| 29:D1:165:A:N1 | 29:D1:257:U:O4 | 2.51 | 0.43 |
| 29:D1:371:G:H3' | 29:D1:371:G:C8 | 2.54 | 0.43 |
| 29:D1:375:A:C2' | 29:D1:376:G:OP1 | 2.66 | 0.43 |
| 29:D1:406:G:C2 | 31:D3:16:G:C4 | 3.07 | 0.43 |
| 29:D1:508:U:H2' | 29:D1:508:U:O2 | 2.17 | 0.43 |
| 29:D1:528:U:N3 | 29:D1:564:G:N1 | 2.67 | 0.43 |
| 29:D1:633:C:O2' | 29:D1:634:C:H5' | 2.18 | 0.43 |
| 29:D1:673:U:C2' | 29:D1:674:G:C5' | 2.93 | 0.43 |
| 29:D1:780:A:C2 | 29:D1:781:G:C4 | 3.07 | 0.43 |
| 29:D1:789:A:C2 | 29:D1:790:U:C4 | 3.07 | 0.43 |
| 29:D1:943:U:OP2 | 54:DY:10:LYS:N | 2.52 | 0.43 |
| 29:D1:1050:U:O2 | 29:D1:1051:U:H5 | 2.02 | 0.43 |
| 29:D1:1073:U:C5' | 29:D1:1074:U:OP2 | 2.67 | 0.43 |
| 29:D1:1213:G:C2 | 29:D1:1293:U:C2 | 3.06 | 0.43 |
| 29:D1:1239:C:H6 | 29:D1:1239:C:OP2 | 2.02 | 0.43 |
| 29:D1:1296:C:H2' | 29:D1:1297:C:O4' | 2.19 | 0.43 |
| 29:D1:1302:A:N9 | 29:D1:2887:A:C2 | 2.87 | 0.43 |
| 29:D1:1316:C:H5' | 29:D1:1317:A:H5" | 2.01 | 0.43 |
| 29:D1:1343:A:H2' | 29:D1:1344:G:C8 | 2.54 | 0.43 |
| 29:D1:1365:G:H8 | 29:D1:1365:G:OP2 | 2.02 | 0.43 |
| 29:D1:1454:A:C2 | 29:D1:1484:U:O4 | 2.71 | 0.43 |
| 29:D1:1455:U:C3' | 29:D1:1456:A:C8 | 2.94 | 0.43 |
| 29:D1:1539:A:C3' | 29:D1:1540:U:H5' | 2.48 | 0.43 |
| 29:D1:1555:U:H5" | 29:D1:1580:A:N1 | 2.33 | 0.43 |
| 29:D1:1605:A:OP1 | 29:D1:1836:C:OP2 | 2.37 | 0.43 |
| 29:D1:1610:G:O2' | 29:D1:1611:G:H5' | 2.18 | 0.43 |
| 29:D1:1618:G:C2 | 29:D1:1619:A:C4 | 3.07 | 0.43 |
| 29:D1:1624:G:N7 | 74:D1:3559:OHX:N1 | 2.67 | 0.43 |
| 29:D1:1658:G:C2 | 29:D1:1659:U:C2 | 3.07 | 0.43 |
| 29:D1:1724:U:HO2' | 29:D1:1725:C:C4' | 2.32 | 0.43 |
| 29:D1:1797:A:C6 | 29:D1:1798:A:C5 | 3.07 | 0.43 |
| 29:D1:1836:C:H2' | 29:D1:1837:U:O4' | 2.19 | 0.43 |
| 29:D1:2135:U:N3 | 29:D1:2136:C:C5 | 2.87 | 0.43 |
| 29:D1:2240:G:O2' | 29:D1:2241:U:H5' | 2.19 | 0.43 |
| 29:D1:2284:C:C2 | 29:D1:2308:C:C1' | 3.01 | 0.43 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2436:U:C5' | 29:D1:2437:G:OP2 | 2.63 | 0.43 |
| 29:D1:2601:A:H2' | 29:D1:2602:G:H8 | 1.83 | 0.43 |
| 29:D1:2632:G:C5 | 29:D1:2633:U:C5 | 3.07 | 0.43 |
| 29:D1:2633:U:C2' | 29:D1:2634:U:H5' | 2.45 | 0.43 |
| 29:D1:2694:A:C5' | 29:D1:2695:A:OP2 | 2.67 | 0.43 |
| 29:D1:2899:C:C2 | 40:DI:171:ASP:CB | 3.02 | 0.43 |
| 29:D1:3025:C:P | 40:DI:96:HIS:CB | 3.07 | 0.43 |
| 29:D1:3048:A:C8 | 29:D1:3090:U:C4 | 3.06 | 0.43 |
| 29:D1:3111:U:O4 | 29:D1:3121:U:H5 | 2.02 | 0.43 |
| 29:D1:3327:G:C5 | 29:D1:3328:G:O6 | 2.72 | 0.43 |
| 29:D1:3369:G:O2' | 29:D1:3370:A:P | 2.77 | 0.43 |
| 30:D2:14:U:P | 30:D2:14:U:O4' | 2.76 | 0.43 |
| 30:D2:38:U:H2' | 30:D2:41:G:OP2 | 2.19 | 0.43 |
| 30:D2:106:U:O2' | 30:D2:107:C:P | 2.77 | 0.43 |
| 31:D3:9:A:C2 | 31:D3:10:A:N7 | 2.87 | 0.43 |
| 31:D3:74:U:OP1 | 31:D3:76:C:C5 | 2.72 | 0.43 |
| 31:D3:100:U:H2' | 31:D3:101:U:C6 | 2.54 | 0.43 |
| 32:DA:55:LEU:H | 32:DA:167:VAL:CA | 2.28 | 0.43 |
| 33:DB:137:ILE:C | 33:DB:139:HIS:H | 2.26 | 0.43 |
| 33:DB:170:ALA:O | 33:DB:171:GLY:O | 2.36 | 0.43 |
| 36:DE:158:ARG:O | 36:DE:159:VAL:C | 2.60 | 0.43 |
| 36:DE:289:LYS:O | 36:DE:291:ALA:N | 2.52 | 0.43 |
| 37:DF:138:GLN:O | 37:DF:139:LYS:C | 2.62 | 0.43 |
| 39:DH:223:ALA:C | 39:DH:225:LYS:H | 2.27 | 0.43 |
| 43:DN:33:ALA:CB | 43:DN:48:GLY:N | 2.70 | 0.43 |
| 44:DO:173:GLY:HA3 | 44:DO:181:ASN:O | 2.18 | 0.43 |
| 45:DP:58:LEU:N | 45:DP:60:LYS:H | 2.17 | 0.43 |
| 52:DW:90:ALA:C | 52:DW:92:LYS:H | 2.26 | 0.43 |
| 52:DW:94:GLN:O | 52:DW:97:LYS:N | 2.52 | 0.43 |
| 55:DZ:50:VAL:O | 55:DZ:53:LYS:CB | 2.67 | 0.43 |
| 55:DZ:78:GLY:C | 55:DZ:80:ALA:N | 2.75 | 0.43 |
| 57:Db:32:TRP:O | 57:Db:34:LYS:N | 2.35 | 0.43 |
| 57:Db:112:ALA:C | 57:Db:114:ALA:N | 2.76 | 0.43 |
| 59:Dd:36:SER:O | 59:Dd:38:GLY:N | 2.48 | 0.43 |
| 59:Dd:37:CYS:O | 59:Dd:39:TYR:N | 2.52 | 0.43 |
| 1:A1:47:A:O2' | 1:A1:100:A:O4' | 2.31 | 0.42 |
| 1:A1:70:C:H3' | 1:A1:71:A:H8 | 1.83 | 0.42 |
| 1:A1:87:C:H3' | 1:A1:88:U:C5' | 2.32 | 0.42 |
| 1:A1:89:G:H2' | 1:A1:90:C:C6 | 2.50 | 0.42 |
| 1:A1:168:A:C5 | 1:A1:169:A:N6 | 2.87 | 0.42 |
| 1:A1:225:A:N1 | 1:A1:836:U:O2 | 2.52 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:239:C:H1' | 1:A1:240:U:H6 | 1.81 | 0.42 |
| 1:A1:262:U:C4 | 1:A1:263:C:C4 | 3.06 | 0.42 |
| 1:A1:364:G:H21 | 1:A1:381:C:C1' | 2.31 | 0.42 |
| 1:A1:468:A:O3' | 1:A1:469:C:C4 | 2.72 | 0.42 |
| 1:A1:518:A:H3' | 1:A1:519:C:C5' | 2.49 | 0.42 |
| 1:A1:604:A:H2' | 1:A1:605:A:C1' | 2.48 | 0.42 |
| 1:A1:756:A:C4 | 1:A1:757:A:C8 | 3.06 | 0.42 |
| 1:A1:782:U:H4' | 1:A1:783:G:C5' | 2.47 | 0.42 |
| 1:A1:838:G:O6 | 74:A1:1917:OHX:N5 | 2.52 | 0.42 |
| 1:A1:841:U:C4 | 1:A1:842:C:N3 | 2.87 | 0.42 |
| 1:A1:878:G:P | 1:A1:943:C:HO2' | 2.41 | 0.42 |
| 1:A1:1118:G:N3 | 1:A1:1119:G:C8 | 2.87 | 0.42 |
| 1:A1:1294:G:C4 | 1:A1:1295:G:C8 | 3.07 | 0.42 |
| 1:A1:1334:U:H2' | 1:A1:1335:U:C6 | 2.54 | 0.42 |
| 1:A1:1369:U:O2 | 1:A1:1370:U:N3 | 2.52 | 0.42 |
| 1:A1:1390:U:H2' | 1:A1:1390:U:O2 | 2.19 | 0.42 |
| 1:A1:1503:A:C2 | 10:AI:13:LYS:CB | 3.02 | 0.42 |
| 1:A1:1515:A:C6 | 15:AN:16:GLN:O | 2.72 | 0.42 |
| 1:A1:1556:A:C2' | 1:A1:1560:U:C4 | 2.97 | 0.42 |
| 1:A1:1733:C:H2' | 1:A1:1734:U:C6 | 2.54 | 0.42 |
| 2:AA:109:ASN:O | 2:AA:110:TYR:C | 2.60 | 0.42 |
| 3:AB:215:PHE:O | 3:AB:216:VAL:C | 2.62 | 0.42 |
| 6:AE:139:GLN:C | 6:AE:140:ILE:O | 2.62 | 0.42 |
| 8:AG:149:LEU:HA | 8:AG:150:VAL:HA | 1.82 | 0.42 |
| 9:AH:61:MET:C | 9:AH:63:ALA:N | 2.76 | 0.42 |
| 11:AJ:102:LYS:C | 11:AJ:104:GLU:H | 2.26 | 0.42 |
| 14:AM:35:ASP:O | 14:AM:36:ILE:CB | 2.68 | 0.42 |
| 23:Ab:79:UNK:O | 23:Ab:80:UNK:C | 2.66 | 0.42 |
| 25:Ad:109:UNK:O | 25:Ad:113:UNK:N | 2.52 | 0.42 |
| 29:B1:31:C:C4 | 29:B1:32:U:C5 | 3.07 | 0.42 |
| 29:B1:64:G:C2 | 29:B1:322:U:C2 | 3.07 | 0.42 |
| 29:B1:118:U:H6 | 29:B1:118:U:H5' | 1.83 | 0.42 |
| 29:B1:164:A:N6 | 29:B1:165:A:N1 | 2.66 | 0.42 |
| 29:B1:169:U:O2' | 29:B1:170:G:P | 2.77 | 0.42 |
| 29:B1:238:A:O2' | 29:B1:239:G:P | 2.77 | 0.42 |
| 29:B1:299:G:O5' | 29:B1:299:G:C8 | 2.65 | 0.42 |
| 29:B1:363:G:H3' | 29:B1:364:G:C5' | 2.49 | 0.42 |
| 29:B1:374:A:H4' | 29:B1:375:A:H5' | 2.01 | 0.42 |
| 29:B1:395:A:C6 | 29:B1:396:A:N6 | 2.87 | 0.42 |
| 29:B1:415:G:O6 | 31:B3:9:A:N6 | 2.52 | 0.42 |
| 29:B1:431:U:C2 | 29:B1:432:G:N7 | 2.87 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:514:G:O2' | 37:BF:145:LEU:C | 2.61 | 0.42 |
| 29:B1:544:C:H2' | 29:B1:545:U:H3' | 2.00 | 0.42 |
| 29:B1:548:G:C5 | 29:B1:549:U:H1' | 2.53 | 0.42 |
| 29:B1:571:U:C2' | 29:B1:571:U:O2 | 2.65 | 0.42 |
| 29:B1:607:A:C6 | 29:B1:608:A:C4 | 3.05 | 0.42 |
| 29:B1:609:G:N7 | 29:B1:610:G:N1 | 2.67 | 0.42 |
| 29:B1:684:G:C4 | 29:B1:685:G:C8 | 3.07 | 0.42 |
| 29:B1:804:C:N3 | 29:B1:940:G:C2 | 2.87 | 0.42 |
| 29:B1:944:C:OP1 | 29:B1:1432:C:H5' | 2.18 | 0.42 |
| 29:B1:947:G:C4 | 29:B1:948:C:C6 | 3.07 | 0.42 |
| 29:B1:1099:A:N6 | 29:B1:1100:U:C4 | 2.87 | 0.42 |
| 29:B1:1106:G:C4 | 29:B1:1107:C:C6 | 3.07 | 0.42 |
| 29:B1:1194:G:C8 | 29:B1:1319:G:C4' | 2.96 | 0.42 |
| 29:B1:1347:U:H6 | 29:B1:1347:U:P | 2.42 | 0.42 |
| 29:B1:1352:A:C8 | 29:B1:1352:A:OP2 | 2.72 | 0.42 |
| 29:B1:1358:C:C2 | 29:B1:1359:C:C6 | 3.07 | 0.42 |
| 29:B1:1390:A:N6 | 29:B1:1418:A:O2' | 2.49 | 0.42 |
| 29:B1:1461:A:N6 | 29:B1:1462:A:N6 | 2.67 | 0.42 |
| 29:B1:1465:A:C6 | 29:B1:1466:G:C2 | 3.07 | 0.42 |
| 29:B1:1528:G:C6 | 29:B1:1529:A:C5 | 3.07 | 0.42 |
| 29:B1:1560:G:C6 | 29:B1:1579:C:N3 | 2.87 | 0.42 |
| 29:B1:1624:G:N2 | 29:B1:1625:A:C2 | 2.86 | 0.42 |
| 29:B1:1668:G:O2' | 29:B1:1669:C:H5' | 2.18 | 0.42 |
| 29:B1:1714:A:C6 | 29:B1:1728:G:C6 | 3.07 | 0.42 |
| 29:B1:1728:G:C4' | 29:B1:1729:A:OP2 | 2.65 | 0.42 |
| 29:B1:1731:A:C5 | 29:B1:1732:U:C6 | 3.07 | 0.42 |
| 29:B1:1891:A:C6 | 29:B1:2345:A:N6 | 2.87 | 0.42 |
| 29:B1:1898:G:OP2 | 74:B1:3464:OHX:N3 | 2.52 | 0.42 |
| 29:B1:2175:U:H3' | 29:B1:2176:U:H5' | 1.99 | 0.42 |
| 29:B1:2186:U:H5' | 29:B1:2314:U:OP2 | 2.18 | 0.42 |
| 29:B1:2249:G:N9 | 29:B1:2272:G:N7 | 2.66 | 0.42 |
| 29:B1:2285:C:C5 | 29:B1:2286:U:C6 | 3.07 | 0.42 |
| 29:B1:2325:G:C5 | 29:B1:2326:A:N7 | 2.87 | 0.42 |
| 29:B1:2413:A:N3 | 29:B1:2414:G:N7 | 2.67 | 0.42 |
| 29:B1:2634:U:H1' | 29:B1:2645:G:N1 | 2.34 | 0.42 |
| 29:B1:2654:C:H4' | 29:B1:2657:A:C5 | 2.54 | 0.42 |
| 29:B1:2726:C:H5" | 29:B1:2727:A:C5' | 2.44 | 0.42 |
| 29:B1:2969:A:C4 | 29:B1:2970:C:C5 | 3.07 | 0.42 |
| 29:B1:3011:A:H1' | 29:B1:3012:A:C4' | 2.49 | 0.42 |
| 29:B1:3127:A:C4 | 29:B1:3128:G:C8 | 3.07 | 0.42 |
| 29:B1:3156:U:O2 | 29:B1:3156:U:C2' | 2.67 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3309:G:H2' | 29:B1:3310:A:O4' | 2.18 | 0.42 |
| 30:B2:37:G:N2 | 30:B2:45:A:H61 | 2.17 | 0.42 |
| 30:B2:59:U:C2 | 30:B2:60:G:N7 | 2.87 | 0.42 |
| 30:B2:60:G:C4 | 30:B2:61:G:N7 | 2.87 | 0.42 |
| 30:B2:92:A:O2' | 30:B2:93:C:H4' | 2.19 | 0.42 |
| 31:B3:25:G:H2' | 31:B3:26:U:O5' | 2.20 | 0.42 |
| 31:B3:68:G:O2' | 31:B3:69:U:H5' | 2.19 | 0.42 |
| 31:B3:123:G:H3' | 31:B3:124:G:C5' | 2.47 | 0.42 |
| 31:B3:145:U:C4 | 31:B3:146:U:N3 | 2.87 | 0.42 |
| 33:BB:171:GLY:N | 62:Bg:68:ALA:HB2 | 2.33 | 0.42 |
| 35:BD:126:ILE:C | 35:BD:128:ALA:H | 2.27 | 0.42 |
| 36:BE:18:THR:CB | 36:BE:19:PRO:CA | 2.93 | 0.42 |
| 36:BE:139:PRO:HA | 36:BE:140:ARG:CB | 2.49 | 0.42 |
| 36:BE:258:LYS:C | 36:BE:260:PHE:N | 2.72 | 0.42 |
| 37:BF:32:ALA:O | 37:BF:33:SER:O | 2.37 | 0.42 |
| 40:BI:86:TYR:CB | 40:BI:148:GLY:H | 2.31 | 0.42 |
| 40:BI:150:SER:O | 40:BI:153:ASP:N | 2.52 | 0.42 |
| 47:BR:28:LEU:O | 47:BR:29:LEU:C | 2.62 | 0.42 |
| 47:BR:149:ALA:HB3 | 47:BR:150:VAL:C | 2.44 | 0.42 |
| 56:Ba:20:LEU:C | 56:Ba:22:GLY:N | 2.75 | 0.42 |
| 57:Bb:33:ARG:O | 57:Bb:34:LYS:O | 2.37 | 0.42 |
| 1:C1:57:G:C4 | 1:C1:58:U:C6 | 3.07 | 0.42 |
| 1:C1:65:A:H2 | 1:C1:84:A:N6 | 2.11 | 0.42 |
| 1:C1:78:A:OP1 | 1:C1:78:A:C2 | 2.72 | 0.42 |
| 1:C1:156:A:H2 | 1:C1:419:G:H21 | 1.63 | 0.42 |
| 1:C1:204:G:N2 | 1:C1:264:G:C2 | 2.87 | 0.42 |
| 1:C1:270:C:H2' | 1:C1:271:A:O4' | 2.19 | 0.42 |
| 1:C1:313:U:H4' | 1:C1:314:C:C5' | 2.49 | 0.42 |
| 1:C1:339:C:N3 | 1:C1:340:U:C5 | 2.87 | 0.42 |
| 1:C1:341:A:C6 | 1:C1:342:C:N4 | 2.86 | 0.42 |
| 1:C1:355:G:P | 74:C1:1924:OHX:N3 | 2.92 | 0.42 |
| 1:C1:365:G:C4 | 1:C1:377:G:N1 | 2.86 | 0.42 |
| 1:C1:569:C:H1' | 1:C1:583:C:C5' | 2.46 | 0.42 |
| 1:C1:603:U:H2' | 1:C1:604:A:H8 | 1.84 | 0.42 |
| 1:C1:809:A:C6 | 1:C1:810:G:C6 | 3.07 | 0.42 |
| 1:C1:837:G:O2' | 1:C1:838:G:H5' | 2.20 | 0.42 |
| 1:C1:887:A:H2' | 1:C1:888:U:C6 | 2.54 | 0.42 |
| 1:C1:916:U:H6 | 1:C1:916:U:H3' | 1.84 | 0.42 |
| 1:C1:974:A:P | 29:D1:848:A:O2' | 2.76 | 0.42 |
| 1:C1:1045:C:N4 | 1:C1:1075:C:N3 | 2.67 | 0.42 |
| 1:C1:1179:G:H3' | 1:C1:1180:C:H6 | 1.84 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1232:U:O2' | 1:C1:1233:G:H5' | 2.19 | 0.42 |
| 1:C1:1411:A:C5' | 1:C1:1412:G:OP2 | 2.67 | 0.42 |
| 1:C1:1651:A:C2 | 1:C1:1652:C:C2 | 3.07 | 0.42 |
| 1:C1:1683:C:O2 | 1:C1:1720:G:N7 | 2.52 | 0.42 |
| 1:C1:1687:U:C5 | 1:C1:1688:U:C2 | 3.07 | 0.42 |
| 1:C1:1774:G:N7 | 1:C1:1775:U:C4 | 2.87 | 0.42 |
| 4:CC:96:LEU:C | 4:CC:98:ALA:N | 2.74 | 0.42 |
| 5:CD:113:ILE:O | 5:CD:114:ILE:C | 2.61 | 0.42 |
| 6:CE:48:GLN:O | 6:CE:49:LEU:C | 2.62 | 0.42 |
| 6:CE:61:THR:CB | 6:CE:62:ARG:CA | 2.97 | 0.42 |
| 9:CH:103:ARG:O | 9:CH:106:ALA:HB3 | 2.19 | 0.42 |
| 11:CJ:91:ALA:HB3 | 11:CJ:96:TYR:O | 2.19 | 0.42 |
| 29:D1:21:G:H2' | 29:D1:21:G:N3 | 2.33 | 0.42 |
| 29:D1:41:G:H1' | 29:D1:2801:A:N6 | 2.34 | 0.42 |
| 29:D1:62:A:C4 | 29:D1:63:A:N7 | 2.87 | 0.42 |
| 29:D1:80:G:N1 | 29:D1:81:C:C5 | 2.87 | 0.42 |
| 29:D1:118:U:C6 | 29:D1:118:U:C3' | 3.02 | 0.42 |
| 29:D1:189:G:N3 | 29:D1:191:U:C5 | 2.87 | 0.42 |
| 29:D1:307:A:C2' | 29:D1:308:A:H5' | 2.48 | 0.42 |
| 29:D1:345:G:O6 | 29:D1:348:A:OP1 | 2.37 | 0.42 |
| 29:D1:577:C:C5' | 29:D1:577:C:C6 | 3.01 | 0.42 |
| 29:D1:648:C:H5 | 29:D1:2375:G:O5' | 1.97 | 0.42 |
| 29:D1:692:A:C2 | 29:D1:693:A:C1' | 3.01 | 0.42 |
| 29:D1:721:G:H2' | 29:D1:722:G:OP2 | 2.18 | 0.42 |
| 29:D1:759:U:C2 | 29:D1:773:G:C2 | 3.06 | 0.42 |
| 29:D1:871:U:C2 | 29:D1:890:C:H1' | 2.54 | 0.42 |
| 29:D1:880:G:C4 | 29:D1:882:A:C5 | 3.06 | 0.42 |
| 29:D1:896:A:N7 | 29:D1:2134:G:H1' | 2.34 | 0.42 |
| 29:D1:951:A:O2' | 29:D1:952:A:H5" | 2.18 | 0.42 |
| 29:D1:998:A:O2' | 30:D2:103:A:N3 | 2.41 | 0.42 |
| 29:D1:1021:G:N2 | 29:D1:1032:C:H1' | 2.34 | 0.42 |
| 29:D1:1054:A:C2 | 29:D1:1055:A:H1' | 2.54 | 0.42 |
| 29:D1:1099:A:C6 | 29:D1:1100:U:N3 | 2.87 | 0.42 |
| 29:D1:1168:U:O4 | 29:D1:1330:A:C8 | 2.72 | 0.42 |
| 29:D1:1199:C:C6 | 29:D1:2825:C:O5' | 2.72 | 0.42 |
| 29:D1:1245:A:H4' | 29:D1:1246:G:H5" | 2.01 | 0.42 |
| 29:D1:1264:G:H2' | 29:D1:1264:G:P | 2.55 | 0.42 |
| 29:D1:1269:U:O4 | 29:D1:1272:C:C5 | 2.72 | 0.42 |
| 29:D1:1296:C:C2' | 29:D1:1297:C:O5' | 2.66 | 0.42 |
| 29:D1:1298:C:O5' | 29:D1:1298:C:H6 | 2.02 | 0.42 |
| 29:D1:1351:U:O2 | 29:D1:1352:A:C6 | 2.72 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1498:A:H2' | 29:D1:1499:C:H6 | 1.83 | 0.42 |
| 29:D1:1590:G:C6 | 29:D1:1591:G:N7 | 2.87 | 0.42 |
| 29:D1:1644:C:N4 | 74:D1:3526:OHX:N1 | 2.62 | 0.42 |
| 29:D1:1779:C:C5' | 29:D1:1780:G:O4' | 2.66 | 0.42 |
| 29:D1:1913:A:C6 | 29:D1:2120:A:N7 | 2.87 | 0.42 |
| 29:D1:2111:G:H21 | 51:DV:48:ARG:C | 2.27 | 0.42 |
| 29:D1:2229:A:H2' | 29:D1:2230:C:C1' | 2.48 | 0.42 |
| 29:D1:2311:G:OP2 | 74:D1:3408:OHX:N5 | 2.52 | 0.42 |
| 29:D1:2365:C:C2' | 29:D1:2366:C:O5' | 2.67 | 0.42 |
| 29:D1:2383:C:C6 | 29:D1:2384:A:N7 | 2.87 | 0.42 |
| 29:D1:2386:A:N3 | 31:D3:3:A:H2 | 2.17 | 0.42 |
| 29:D1:2430:A:C2' | 29:D1:2431:C:H5' | 2.48 | 0.42 |
| 29:D1:2461:A:C2 | 29:D1:2485:A:H2' | 2.54 | 0.42 |
| 29:D1:2639:G:C2 | 29:D1:2640:A:C4 | 3.07 | 0.42 |
| 29:D1:2717:U:O2' | 29:D1:2718:U:O4' | 2.33 | 0.42 |
| 29:D1:2762:A:N6 | 29:D1:2800:G:H2' | 2.33 | 0.42 |
| 29:D1:2953:U:H2' | 29:D1:2954:U:H2' | 2.01 | 0.42 |
| 29:D1:3011:A:H8 | 29:D1:3012:A:C1' | 2.15 | 0.42 |
| 29:D1:3024:A:C6 | 29:D1:3032:A:N3 | 2.87 | 0.42 |
| 29:D1:3317:U:N3 | 34:DC:123:TYR:HA | 2.24 | 0.42 |
| 29:D1:3320:A:C6 | 29:D1:3321:C:C4 | 3.05 | 0.42 |
| 29:D1:3329:U:O4 | 29:D1:3374:U:C4 | 2.72 | 0.42 |
| 30:D2:33:U:O2' | 30:D2:34:C:O4' | 2.36 | 0.42 |
| 30:D2:55:A:H2 | 30:D2:56:A:N3 | 2.17 | 0.42 |
| 31:D3:106:C:H6 | 31:D3:106:C:O5' | 2.02 | 0.42 |
| 31:D3:138:A:C2 | 31:D3:139:U:N1 | 2.84 | 0.42 |
| 36:DE:156:GLY:HA3 | 36:DE:181:PRO:HA | 2.01 | 0.42 |
| 37:DF:166:LYS:O | 37:DF:167:ASN:O | 2.36 | 0.42 |
| 40:DI:4:ILE:O | 40:DI:5:GLN:CB | 2.67 | 0.42 |
| 40:DI:103:ILE:C | 40:DI:104:VAL:O | 2.61 | 0.42 |
| 73:DM:94:THR:O | 73:DM:98:ASN:N | 2.52 | 0.42 |
| 45:DP:137:THR:C | 45:DP:139:GLY:N | 2.72 | 0.42 |
| 54:DY:90:TYR:O | 54:DY:91:LEU:CB | 2.66 | 0.42 |
| 59:Dd:43:LYS:C | 59:Dd:45:ARG:N | 2.77 | 0.42 |
| 1:A1:96:G:O2' | 1:A1:97:C:H5' | 2.18 | 0.42 |
| 1:A1:228:G:C4 | 1:A1:229:U:C5 | 3.07 | 0.42 |
| 1:A1:340:U:O2 | 1:A1:340:U:H2' | 2.17 | 0.42 |
| 1:A1:518:A:C8 | 1:A1:519:C:H6 | 2.37 | 0.42 |
| 1:A1:629:U:O2 | 1:A1:971:A:N3 | 2.52 | 0.42 |
| 1:A1:714:G:C4 | 1:A1:715:U:H1' | 2.54 | 0.42 |
| 1:A1:718:U:C5' | 1:A1:719:U:OP2 | 2.63 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:737:A:C2 | 1:A1:738:G:C5 | 3.07 | 0.42 |
| 1:A1:749:U:N3 | 1:A1:801:G:C6 | 2.87 | 0.42 |
| 1:A1:795:U:C6 | 1:A1:796:A:C8 | 3.07 | 0.42 |
| 1:A1:857:U:H6 | 1:A1:857:U:H3' | 1.84 | 0.42 |
| 1:A1:1118:G:C2 | 1:A1:1119:G:C5 | 3.06 | 0.42 |
| 1:A1:1118:G:C2 | 1:A1:1119:G:N9 | 2.87 | 0.42 |
| 1:A1:1160:A:C6 | 1:A1:1161:C:N4 | 2.87 | 0.42 |
| 1:A1:1302:U:O2 | 1:A1:1302:U:H2' | 2.18 | 0.42 |
| 1:A1:1305:U:H3' | 1:A1:1306:C:N3 | 2.33 | 0.42 |
| 1:A1:1336:A:N6 | 1:A1:1416:G:O6 | 2.52 | 0.42 |
| 1:A1:1362:U:H3' | 1:A1:1363:U:C4' | 2.49 | 0.42 |
| 1:A1:1444:A:N3 | 1:A1:1444:A:H2' | 2.34 | 0.42 |
| 1:A1:1462:G:C6 | 1:A1:1463:C:C4 | 3.08 | 0.42 |
| 1:A1:1480:G:C2 | 1:A1:1528:U:C2 | 3.07 | 0.42 |
| 1:A1:1494:C:C2' | 1:A1:1495:C:O5' | 2.67 | 0.42 |
| 1:A1:1533:C:H4' | 1:A1:1539:G:C6 | 2.54 | 0.42 |
| 1:A1:1626:U:O2' | 1:A1:1627:U:H5' | 2.19 | 0.42 |
| 1:A1:1683:C:O2 | 1:A1:1720:G:N7 | 2.51 | 0.42 |
| 8:AG:61:THR:O | 8:AG:62:GLN:C | 2.60 | 0.42 |
| 8:AG:86:GLU:C | 8:AG:88:LEU:N | 2.77 | 0.42 |
| 12:AK:33:ARG:C | 12:AK:35:CYS:H | 2.27 | 0.42 |
| 14:AM:134:ARG:O | 14:AM:135:ILE:C | 2.60 | 0.42 |
| 15:AN:54:GLY:O | 15:AN:91:ILE:HA | 2.20 | 0.42 |
| 16:AO:119:LYS:O | 16:AO:120:HIS:C | 2.62 | 0.42 |
| 24:Ac:9:UNK:HA | 24:Ac:64:UNK:CB | 2.50 | 0.42 |
| 29:B1:13:A:C5' | 29:B1:14:U:OP1 | 2.63 | 0.42 |
| 29:B1:23:A:P | 74:B1:3406:OHX:N5 | 2.92 | 0.42 |
| 29:B1:25:U:H2' | 29:B1:26:A:O4' | 2.19 | 0.42 |
| 29:B1:107:A:H8 | 29:B1:107:A:O5' | 2.02 | 0.42 |
| 29:B1:159:A:O2' | 29:B1:160:G:H8 | 2.02 | 0.42 |
| 29:B1:380:U:N1 | 29:B1:381:U:H5 | 2.17 | 0.42 |
| 29:B1:563:U:H3' | 29:B1:564:G:H4' | 1.95 | 0.42 |
| 29:B1:565:U:H2' | 29:B1:566:G:O4' | 2.19 | 0.42 |
| 29:B1:592:A:H3' | 29:B1:593:C:C5' | 2.48 | 0.42 |
| 29:B1:602:A:N1 | 29:B1:603:A:N6 | 2.67 | 0.42 |
| 29:B1:634:C:C4 | 29:B1:635:G:N7 | 2.87 | 0.42 |
| 29:B1:645:A:C6 | 29:B1:2372:A:C2 | 3.06 | 0.42 |
| 29:B1:668:G:H2' | 29:B1:669:U:O4' | 2.19 | 0.42 |
| 29:B1:701:G:C5 | 29:B1:702:C:C4 | 3.07 | 0.42 |
| 29:B1:809:G:H2' | 29:B1:810:A:C8 | 2.54 | 0.42 |
| 29:B1:836:A:N3 | 29:B1:836:A:H2' | 2.34 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:900:G:N2 | 29:B1:1589:A:C5 | 2.87 | 0.42 |
| 29:B1:937:G:OP2 | 54:BY:24:LYS:CB | 2.67 | 0.42 |
| 29:B1:1064:A:C2 | 29:B1:1095:U:C2 | 3.06 | 0.42 |
| 29:B1:1120:A:C2 | 29:B1:1121:U:C5 | 3.07 | 0.42 |
| 29:B1:1174:G:N1 | 29:B1:1318:A:C2 | 2.88 | 0.42 |
| 29:B1:1192:C:O3' | 29:B1:1193:A:C4' | 2.66 | 0.42 |
| 29:B1:1220:U:C1' | 29:B1:1223:A:N3 | 2.82 | 0.42 |
| 29:B1:1236:G:C4' | 29:B1:1246:G:H5" | 2.49 | 0.42 |
| 29:B1:1254:C:C4 | 74:B1:3567:OHX:N5 | 2.87 | 0.42 |
| 29:B1:1315:U:O2' | 29:B1:1316:C:H5' | 2.19 | 0.42 |
| 29:B1:1464:G:H21 | 29:B1:1466:G:H8 | 1.67 | 0.42 |
| 29:B1:1591:G:N7 | 29:B1:1592:G:C5 | 2.87 | 0.42 |
| 29:B1:1673:G:C4 | 29:B1:1775:G:N2 | 2.87 | 0.42 |
| 29:B1:1673:G:C2 | 29:B1:1775:G:N3 | 2.86 | 0.42 |
| 29:B1:1685:C:C6 | 29:B1:1687:U:C4 | 3.07 | 0.42 |
| 29:B1:1757:A:N6 | 29:B1:1769:G:C6 | 2.87 | 0.42 |
| 29:B1:1841:A:C6 | 29:B1:1848:G:C6 | 3.07 | 0.42 |
| 29:B1:1859:A:N3 | 29:B1:1859:A:H2' | 2.34 | 0.42 |
| 29:B1:1899:G:H5' | 50:BU:21:ALA:HA | 2.01 | 0.42 |
| 29:B1:1919:G:O6 | 74:B1:3593:OHX:N5 | 2.52 | 0.42 |
| 29:B1:1934:G:H2' | 29:B1:1935:G:O4' | 2.19 | 0.42 |
| 29:B1:2130:G:O6 | 29:B1:2323:G:C6 | 2.72 | 0.42 |
| 29:B1:2131:A:C3' | 29:B1:2131:A:C8 | 3.02 | 0.42 |
| 29:B1:2309:A:C2 | 29:B1:2961:G:H2' | 2.43 | 0.42 |
| 29:B1:2361:A:H2' | 29:B1:2362:C:H6 | 1.82 | 0.42 |
| 29:B1:2420:C:N4 | 29:B1:2421:U:O4 | 2.51 | 0.42 |
| 29:B1:2443:A:C5 | 29:B1:2444:C:N4 | 2.87 | 0.42 |
| 29:B1:2452:G:O2' | 29:B1:2461:A:H5" | 2.18 | 0.42 |
| 29:B1:2505:U:H2' | 29:B1:2506:U:N1 | 2.34 | 0.42 |
| 29:B1:2510:U:C2 | 29:B1:2511:A:H8 | 2.34 | 0.42 |
| 29:B1:2530:G:OP2 | 29:B1:2530:G:H2' | 2.18 | 0.42 |
| 29:B1:2547:A:C6 | 29:B1:2548:C:N4 | 2.87 | 0.42 |
| 29:B1:2652:U:C2' | 29:B1:2653:C:O5' | 2.66 | 0.42 |
| 29:B1:2654:C:H5' | 29:B1:2657:A:N6 | 2.34 | 0.42 |
| 29:B1:2723:U:H2' | 29:B1:2724:U:H6 | 1.77 | 0.42 |
| 29:B1:2967:A:OP1 | 33:BB:213:GLY:HA3 | 2.19 | 0.42 |
| 29:B1:3335:A:N7 | 29:B1:3336:A:C5 | 2.87 | 0.42 |
| 29:B1:3348:G:C5 | 29:B1:3349:C:C2 | 3.07 | 0.42 |
| 30:B2:20:A:O2' | 30:B2:21:G:H5' | 2.19 | 0.42 |
| 30:B2:37:G:N2 | 30:B2:38:U:C4 | 2.87 | 0.42 |
| 30:B2:77:G:H22 | 30:B2:101:G:C3' | 2.32 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:B3:13:A:C2 | 31:B3:14:C:N3 | 2.88 | 0.42 |
| 31:B3:70:G:H3' | 31:B3:71:A:O4' | 2.18 | 0.42 |
| 31:B3:78:G:C5 | 31:B3:79:A:N7 | 2.88 | 0.42 |
| 31:B3:86:U:O2' | 31:B3:87:G:P | 2.77 | 0.42 |
| 33:BB:124:GLY:O | 33:BB:125:ALA:C | 2.61 | 0.42 |
| 35:BD:190:GLY:O | 35:BD:192:GLY:N | 2.51 | 0.42 |
| 36:BE:279:LYS:C | 36:BE:280:GLU:O | 2.59 | 0.42 |
| 38:BG:74:SER:CB | 38:BG:75:TYR:O | 2.67 | 0.42 |
| 40:BI:21:LYS:C | 40:BI:22:SER:O | 2.63 | 0.42 |
| 43:BN:87:ALA:C | 43:BN:88:ALA:O | 2.62 | 0.42 |
| 44:BO:6:TYR:O | 44:BO:7:LEU:C | 2.62 | 0.42 |
| 45:BP:59:ARG:C | 45:BP:61:ALA:N | 2.74 | 0.42 |
| 47:BR:72:LYS:HA | 47:BR:73:GLN:HA | 1.61 | 0.42 |
| 48:BS:24:LEU:O | 48:BS:25:ASP:C | 2.62 | 0.42 |
| 49:BT:23:GLY:O | 49:BT:24:ALA:HB3 | 2.18 | 0.42 |
| 49:BT:115:LYS:O | 49:BT:118:GLU:N | 2.52 | 0.42 |
| 51:BV:18:GLY:HA3 | 51:BV:32:GLN:HA | 2.01 | 0.42 |
| 53:BX:28:ARG:O | 53:BX:31:LEU:O | 2.37 | 0.42 |
| 56:Ba:14:ILE:CB | 56:Ba:71:LEU:H | 2.32 | 0.42 |
| 57:Bb:39:ASP:O | 57:Bb:40:SER:C | 2.62 | 0.42 |
| 59:Bd:40:PRO:C | 59:Bd:42:ALA:N | 2.77 | 0.42 |
| 61:Bf:15:LYS:C | 61:Bf:17:CYS:N | 2.75 | 0.42 |
| 26:Bj:10:UNK:O | 26:Bj:12:UNK:N | 2.52 | 0.42 |
| 1:C1:10:G:C4 | 1:C1:11:A:C8 | 3.07 | 0.42 |
| 1:C1:13:C:C4 | 1:C1:14:C:C5 | 3.07 | 0.42 |
| 1:C1:14:C:H5' | 3:CB:163:GLY:HA2 | 2.00 | 0.42 |
| 1:C1:125:U:O5' | 1:C1:125:U:C6 | 2.52 | 0.42 |
| 1:C1:235:G:H8 | 1:C1:235:G:OP2 | 2.02 | 0.42 |
| 1:C1:374:U:C2 | 1:C1:375:U:C6 | 3.07 | 0.42 |
| 1:C1:479:C:H2' | 1:C1:480:G:N9 | 2.33 | 0.42 |
| 1:C1:533:U:H2' | 1:C1:534:A:C8 | 2.54 | 0.42 |
| 1:C1:534:A:C2' | 1:C1:535:A:H8 | 2.29 | 0.42 |
| 1:C1:615:A:C2 | 1:C1:616:G:C8 | 3.06 | 0.42 |
| 1:C1:627:C:C2 | 1:C1:973:A:C2 | 3.07 | 0.42 |
| 1:C1:636:A:H2' | 1:C1:637:C:H5' | 2.02 | 0.42 |
| 1:C1:774:A:N1 | 1:C1:775:G:H1' | 2.34 | 0.42 |
| 1:C1:812:A:C6 | 1:C1:859:A:C8 | 3.07 | 0.42 |
| 1:C1:837:G:O6 | 74:C1:1928:OHX:N1 | 2.53 | 0.42 |
| 1:C1:926:A:C5 | 1:C1:927:C:C6 | 3.07 | 0.42 |
| 1:C1:946:U:N3 | 1:C1:947:U:C4 | 2.87 | 0.42 |
| 1:C1:1044:U:O2 | 1:C1:1045:C:C5 | 2.72 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1164:G:C2 | 1:C1:1165:G:C4 | 3.07 | 0.42 |
| 1:C1:1227:A:C8 | 1:C1:1229:G:P | 3.13 | 0.42 |
| 1:C1:1557:U:H5' | 1:C1:1560:U:OP2 | 2.19 | 0.42 |
| 1:C1:1565:C:O2' | 10:CI:15:HIS:HA | 2.18 | 0.42 |
| 1:C1:1570:A:H5" | 1:C1:1571:C:OP2 | 2.19 | 0.42 |
| 1:C1:1585:U:O2' | 1:C1:1586:A:H5' | 2.20 | 0.42 |
| 2:CA:116:LYS:O | 2:CA:117:GLU:CB | 2.66 | 0.42 |
| 8:CG:57:ALA:HB2 | 23:Cb:1:UNK:N | 2.34 | 0.42 |
| 9:CH:64:ALA:O | 9:CH:67:VAL:C | 2.63 | 0.42 |
| 22:Ca:2:UNK:C | 22:Ca:4:UNK:N | 2.82 | 0.42 |
| 29:D1:20:A:N1 | 31:D3:140:G:C6 | 2.87 | 0.42 |
| 29:D1:84:U:C5 | 29:D1:85:A:C5 | 3.07 | 0.42 |
| 29:D1:111:C:C2' | 29:D1:112:U:O5' | 2.67 | 0.42 |
| 29:D1:158:G:C2 | 29:D1:160:G:H5" | 2.54 | 0.42 |
| 29:D1:213:A:H2' | 29:D1:214:G:O5' | 2.19 | 0.42 |
| 29:D1:325:A:C5' | 29:D1:327:A:OP2 | 2.67 | 0.42 |
| 29:D1:398:A:H4' | 29:D1:399:A:C5' | 2.49 | 0.42 |
| 29:D1:527:A:H3' | 29:D1:528:U:H6 | 1.83 | 0.42 |
| 29:D1:543:C:C5 | 29:D1:544:C:C4 | 3.07 | 0.42 |
| 29:D1:564:G:OP2 | 29:D1:565:U:OP1 | 2.36 | 0.42 |
| 29:D1:570:A:C5 | 29:D1:571:U:C5 | 3.07 | 0.42 |
| 29:D1:594:U:O2 | 29:D1:595:G:N9 | 2.50 | 0.42 |
| 29:D1:641:C:HO2' | 29:D1:642:U:P | 2.37 | 0.42 |
| 29:D1:877:C:H2' | 29:D1:878:G:H5' | 2.01 | 0.42 |
| 29:D1:1193:A:H5" | 29:D1:1194:G:OP2 | 2.18 | 0.42 |
| 29:D1:1254:C:C5 | 29:D1:1263:A:OP1 | 2.67 | 0.42 |
| 29:D1:1278:A:O2' | 29:D1:1279:C:C5' | 2.61 | 0.42 |
| 29:D1:1307:G:N2 | 29:D1:1308:A:C2 | 2.87 | 0.42 |
| 29:D1:1416:C:O2 | 29:D1:1417:G:C4 | 2.72 | 0.42 |
| 29:D1:1439:U:C2 | 29:D1:1440:G:C8 | 3.07 | 0.42 |
| 29:D1:1444:G:H2' | 29:D1:1445:U:O4' | 2.18 | 0.42 |
| 29:D1:1489:A:H2' | 29:D1:1490:A:C8 | 2.54 | 0.42 |
| 29:D1:1504:A:H5" | 29:D1:1504:A:H8 | 1.84 | 0.42 |
| 29:D1:1515:A:H2' | 29:D1:1516:C:H6 | 1.84 | 0.42 |
| 29:D1:1789:G:H2' | 29:D1:1790:G:H8 | 1.84 | 0.42 |
| 29:D1:1901:A:O3' | 29:D1:2918:G:C5' | 2.63 | 0.42 |
| 29:D1:1942:U:C1' | 29:D1:3342:A:C2 | 3.02 | 0.42 |
| 29:D1:2178:A:P | 33:DB:126:LEU:HA | 2.58 | 0.42 |
| 29:D1:2218:G:N2 | 29:D1:2228:A:H1' | 2.35 | 0.42 |
| 29:D1:2226:U:O2' | 29:D1:2227:C:C6 | 2.70 | 0.42 |
| 29:D1:2260:U:HO2' | 29:D1:2261:G:H8 | 1.60 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2278:C:N3 | 29:D1:2307:G:N2 | 2.68 | 0.42 |
| 29:D1:2366:C:H1' | 29:D1:2382:G:N2 | 2.33 | 0.42 |
| 29:D1:2416:U:H4' | 29:D1:2967:A:O4' | 2.19 | 0.42 |
| 29:D1:2488:A:N3 | 29:D1:2488:A:H2' | 2.34 | 0.42 |
| 29:D1:2668:U:H5 | 74:D1:3599:OHX:N5 | 2.17 | 0.42 |
| 29:D1:2677:G:H22 | 29:D1:2679:A:C1' | 2.33 | 0.42 |
| 29:D1:2762:A:H1' | 29:D1:2800:G:O6 | 2.20 | 0.42 |
| 29:D1:2776:C:H5' | 29:D1:2777:G:H5' | 2.01 | 0.42 |
| 29:D1:2823:G:C5 | 29:D1:2824:G:N7 | 2.87 | 0.42 |
| 29:D1:2985:C:C2' | 29:D1:2986:U:O5' | 2.67 | 0.42 |
| 29:D1:3088:G:H3' | 29:D1:3089:C:C6 | 2.54 | 0.42 |
| 29:D1:3196:U:H6 | 29:D1:3197:G:C2 | 2.38 | 0.42 |
| 29:D1:3253:G:C5 | 29:D1:3254:G:N7 | 2.87 | 0.42 |
| 29:D1:3303:G:OP1 | 29:D1:3377:G:O3' | 2.37 | 0.42 |
| 29:D1:3377:G:O5' | 74:D1:3452:OHX:N1 | 2.52 | 0.42 |
| 30:D2:20:A:C2 | 30:D2:60:G:C2 | 3.07 | 0.42 |
| 30:D2:30:G:O6 | 30:D2:49:G:N1 | 2.51 | 0.42 |
| 31:D3:86:U:O2' | 31:D3:87:G:P | 2.77 | 0.42 |
| 31:D3:129:C:H2' | 31:D3:130:C:C5 | 2.51 | 0.42 |
| 35:DD:8:VAL:O | 35:DD:9:HIS:C | 2.62 | 0.42 |
| 36:DE:28:THR:O | 36:DE:30:TYR:N | 2.52 | 0.42 |
| 36:DE:85:ARG:C | 36:DE:87:GLY:H | 2.27 | 0.42 |
| 36:DE:130:GLU:CA | 36:DE:131:LEU:CB | 2.95 | 0.42 |
| 37:DF:24:ALA:H | 37:DF:114:LYS:CB | 2.30 | 0.42 |
| 37:DF:134:ARG:C | 37:DF:136:GLU:N | 2.73 | 0.42 |
| 41:DJ:18:PRO:O | 41:DJ:20:SER:N | 2.52 | 0.42 |
| 42:DK:77:GLU:O | 42:DK:81:GLU:N | 2.52 | 0.42 |
| 73:DM:75:LYS:O | 73:DM:79:PHE:N | 2.51 | 0.42 |
| 43:DN:24:LYS:CA | 43:DN:31:LYS:N | 2.82 | 0.42 |
| 52:DW:132:ALA:O | 52:DW:136:ALA:N | 2.52 | 0.42 |
| 56:Da:3:GLY:HA2 | 56:Da:4:LEU:CB | 2.49 | 0.42 |
| 56:Da:14:ILE:CB | 56:Da:71:LEU:H | 2.31 | 0.42 |
| 57:Db:48:GLY:O | 57:Db:49:ASN:CB | 2.67 | 0.42 |
| 63:Dh:45:UNK:O | 63:Dh:47:UNK:N | 2.51 | 0.42 |
| 1:A1:101:U:C2' | 1:A1:102:U:O5' | 2.68 | 0.42 |
| 1:A1:156:A:C6 | 1:A1:157:A:C6 | 3.08 | 0.42 |
| 1:A1:243:G:N1 | 1:A1:251:A:C5 | 2.85 | 0.42 |
| 1:A1:283:U:C5' | 1:A1:284:G:OP2 | 2.67 | 0.42 |
| 1:A1:288:A:O2' | 1:A1:289:U:P | 2.78 | 0.42 |
| 1:A1:311:U:O2' | 1:A1:312:A:O5' | 2.36 | 0.42 |
| 1:A1:333:A:N1 | 1:A1:334:G:N1 | 2.67 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:356:G:C6 | 1:A1:357:G:C5 | 3.07 | 0.42 |
| 1:A1:366:A:H2' | 1:A1:367:A:H8 | 1.84 | 0.42 |
| 1:A1:469:C:H2' | 1:A1:470:A:C6 | 2.54 | 0.42 |
| 1:A1:503:G:C5 | 1:A1:504:U:C6 | 3.07 | 0.42 |
| 1:A1:524:U:C2 | 1:A1:527:A:C2 | 3.07 | 0.42 |
| 1:A1:568:G:C2 | 1:A1:569:C:C5 | 3.07 | 0.42 |
| 1:A1:708:C:H1' | 1:A1:709:C:H5" | 2.00 | 0.42 |
| 1:A1:802:G:C2 | 1:A1:803:A:C2 | 3.07 | 0.42 |
| 1:A1:885:G:C2 | 1:A1:886:U:N3 | 2.86 | 0.42 |
| 1:A1:908:U:C5 | 1:A1:909:U:C5 | 3.07 | 0.42 |
| 1:A1:1065:A:C6 | 1:A1:1066:C:C4 | 3.07 | 0.42 |
| 1:A1:1066:C:N3 | 1:A1:1067:C:C6 | 2.88 | 0.42 |
| 1:A1:1104:U:H6 | 1:A1:1104:U:H3' | 1.84 | 0.42 |
| 1:A1:1168:U:O2' | 1:A1:1169:G:H5' | 2.19 | 0.42 |
| 1:A1:1241:G:C2 | 1:A1:1243:G:O5' | 2.73 | 0.42 |
| 1:A1:1249:U:C2' | 1:A1:1250:U:H5' | 2.50 | 0.42 |
| 1:A1:1428:G:C2 | 1:A1:1429:G:C8 | 3.07 | 0.42 |
| 1:A1:1458:G:C2 | 1:A1:1459:C:C4 | 3.07 | 0.42 |
| 1:A1:1477:G:H2' | 1:A1:1478:G:H5' | 2.02 | 0.42 |
| 1:A1:1486:G:C6 | 1:A1:1487:A:C6 | 3.07 | 0.42 |
| 1:A1:1508:U:C4 | 74:A1:1909:OHX:N6 | 2.87 | 0.42 |
| 1:A1:1521:G:O6 | 74:A1:1943:OHX:N6 | 2.51 | 0.42 |
| 1:A1:1573:A:O4' | 1:A1:1574:G:C2 | 2.72 | 0.42 |
| 1:A1:1575:G:N2 | 1:A1:1576:A:O4' | 2.52 | 0.42 |
| 1:A1:1584:G:C4 | 1:A1:1584:G:C3' | 2.97 | 0.42 |
| 1:A1:1627:U:O2' | 1:A1:1628:U:H6 | 1.94 | 0.42 |
| 1:A1:1779:U:HO2' | 1:A1:1780:G:P | 2.39 | 0.42 |
| 3:AB:124:ALA:O | 3:AB:126:ARG:N | 2.53 | 0.42 |
| 3:AB:174:ARG:C | 3:AB:176:SER:N | 2.77 | 0.42 |
| 4:AC:105:MET:O | 4:AC:106:LYS:C | 2.62 | 0.42 |
| 9:AH:77:THR:O | 9:AH:110:LEU:HA | 2.19 | 0.42 |
| 29:B1:36:C:C5 | 29:B1:37:U:C6 | 3.07 | 0.42 |
| 29:B1:196:G:O6 | 29:B1:199:A:OP2 | 2.36 | 0.42 |
| 29:B1:258:G:H8 | 29:B1:258:G:OP2 | 2.00 | 0.42 |
| 29:B1:372:A:H3' | 29:B1:373:A:H8 | 1.83 | 0.42 |
| 29:B1:393:U:N3 | 29:B1:394:G:C8 | 2.87 | 0.42 |
| 29:B1:520:U:N3 | 37:BF:138:GLN:CB | 2.82 | 0.42 |
| 29:B1:532:A:C2 | 29:B1:533:A:N3 | 2.87 | 0.42 |
| 29:B1:543:C:C5 | 29:B1:544:C:C4 | 3.08 | 0.42 |
| 29:B1:585:A:H2' | 29:B1:586:C:C5 | 2.47 | 0.42 |
| 29:B1:624:G:N2 | 29:B1:625:G:C4 | 2.87 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:642:U:C5' | 29:B1:643:U:OP2 | 2.67 | 0.42 |
| 29:B1:877:C:H2' | 29:B1:878:G:H5' | 2.00 | 0.42 |
| 29:B1:946:U:H2' | 29:B1:946:U:O2 | 2.18 | 0.42 |
| 29:B1:946:U:O2 | 29:B1:947:G:C8 | 2.71 | 0.42 |
| 29:B1:948:C:O2 | 29:B1:948:C:H2' | 2.19 | 0.42 |
| 29:B1:1054:A:C6 | 29:B1:1055:A:C4 | 3.07 | 0.42 |
| 29:B1:1063:G:O2' | 29:B1:1064:A:H5" | 2.18 | 0.42 |
| 29:B1:1107:C:H2' | 29:B1:1108:U:C6 | 2.53 | 0.42 |
| 29:B1:1130:A:C2' | 29:B1:1132:C:H6 | 2.30 | 0.42 |
| 29:B1:1307:G:C2 | 29:B1:1308:A:C2 | 3.07 | 0.42 |
| 29:B1:1375:G:N3 | 29:B1:1407:A:C2 | 2.78 | 0.42 |
| 29:B1:1399:A:C2 | 31:B3:8:C:C1' | 3.03 | 0.42 |
| 29:B1:1449:A:C8 | 29:B1:1450:G:N9 | 2.87 | 0.42 |
| 29:B1:1482:A:OP2 | 29:B1:1858:A:C6 | 2.72 | 0.42 |
| 29:B1:1636:U:H3 | 29:B1:1710:C:H1' | 1.84 | 0.42 |
| 29:B1:1660:C:O2' | 29:B1:1661:G:C8 | 2.58 | 0.42 |
| 29:B1:1668:G:H2' | 29:B1:1669:C:O4' | 2.20 | 0.42 |
| 29:B1:1689:U:N3 | 29:B1:1690:C:C5 | 2.87 | 0.42 |
| 29:B1:1718:G:N2 | 29:B1:1731:A:O2' | 2.37 | 0.42 |
| 29:B1:1731:A:C4 | 29:B1:1732:U:C6 | 3.07 | 0.42 |
| 29:B1:2222:A:C2 | 29:B1:2223:A:C6 | 3.08 | 0.42 |
| 29:B1:2229:A:H2' | 29:B1:2230:C:N1 | 2.34 | 0.42 |
| 29:B1:2252:A:C2 | 29:B1:2265:C:O2 | 2.72 | 0.42 |
| 29:B1:2255:A:C2 | 29:B1:2258:U:OP2 | 2.71 | 0.42 |
| 29:B1:2273:G:H1' | 29:B1:2274:U:H5 | 1.84 | 0.42 |
| 29:B1:2574:G:C2 | 29:B1:2575:G:C8 | 3.07 | 0.42 |
| 29:B1:2608:G:C4 | 29:B1:2609:A:N7 | 2.87 | 0.42 |
| 29:B1:2681:U:OP1 | 42:BK:52:TYR:CA | 2.67 | 0.42 |
| 29:B1:2689:A:H1' | 29:B1:2702:A:H61 | 1.84 | 0.42 |
| 29:B1:2743:A:C6 | 29:B1:2744:U:N3 | 2.87 | 0.42 |
| 29:B1:2743:A:C4 | 29:B1:2744:U:C5 | 3.07 | 0.42 |
| 29:B1:2821:C:H3' | 29:B1:2821:C:C6 | 2.51 | 0.42 |
| 29:B1:2847:A:N7 | 29:B1:2898:G:C4 | 2.87 | 0.42 |
| 29:B1:2931:C:C5 | 29:B1:2932:U:H5 | 2.37 | 0.42 |
| 29:B1:2932:U:N1 | 29:B1:2935:U:C5 | 2.87 | 0.42 |
| 29:B1:2946:A:O5' | 29:B1:2946:A:H8 | 2.02 | 0.42 |
| 29:B1:3012:A:H2' | 29:B1:3013:U:H6 | 1.84 | 0.42 |
| 29:B1:3023:U:C2' | 29:B1:3024:A:C8 | 2.91 | 0.42 |
| 29:B1:3191:G:C6 | 29:B1:3202:G:C2 | 3.07 | 0.42 |
| 29:B1:3196:U:OP2 | 29:B1:3196:U:C4 | 2.73 | 0.42 |
| 29:B1:3292:A:H2' | 29:B1:3293:U:H4' | 2.01 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3302:U:C2' | 29:B1:3303:G:H5" | 2.49 | 0.42 |
| 29:B1:3322:A:C2 | 29:B1:3386:G:C2 | 3.07 | 0.42 |
| 29:B1:3384:U:H2' | 29:B1:3385:U:H6 | 1.79 | 0.42 |
| 29:B1:3394:U:C2' | 29:B1:3395:G:N7 | 2.79 | 0.42 |
| 30:B2:37:G:C2' | 30:B2:38:U:O5' | 2.68 | 0.42 |
| 30:B2:118:A:H2' | 30:B2:119:U:O4' | 2.18 | 0.42 |
| 31:B3:24:G:O2' | 31:B3:25:G:H5' | 2.19 | 0.42 |
| 31:B3:148:G:N2 | 31:B3:149:A:N3 | 2.67 | 0.42 |
| 32:BA:145:TYR:HA | 32:BA:148:VAL:CB | 2.50 | 0.42 |
| 34:BC:59:ASP:HA | 34:BC:70:ARG:O | 2.20 | 0.42 |
| 34:BC:87:VAL:O | 34:BC:88:GLY:C | 2.62 | 0.42 |
| 35:BD:51:ALA:HB3 | 35:BD:104:LYS:HA | 2.01 | 0.42 |
| 35:BD:158:SER:O | 35:BD:159:ILE:CB | 2.66 | 0.42 |
| 36:BE:279:LYS:O | 36:BE:280:GLU:C | 2.63 | 0.42 |
| 38:BG:163:LEU:O | 38:BG:165:ASP:N | 2.52 | 0.42 |
| 39:BH:158:ASP:HA | 39:BH:159:PRO:HA | 1.85 | 0.42 |
| 40:BI:48:VAL:C | 40:BI:50:ASN:N | 2.74 | 0.42 |
| 41:BJ:39:LYS:C | 41:BJ:41:ALA:N | 2.77 | 0.42 |
| 42:BK:133:ARG:CB | 42:BK:153:LYS:O | 2.66 | 0.42 |
| 43:BN:111:ALA:O | 43:BN:114:ASP:N | 2.52 | 0.42 |
| 44:BO:10:LEU:C | 44:BO:12:ARG:H | 2.27 | 0.42 |
| 44:BO:157:LYS:O | 44:BO:159:ARG:N | 2.52 | 0.42 |
| 49:BT:70:SER:C | 49:BT:72:VAL:N | 2.78 | 0.42 |
| 51:BV:27:LYS:C | 51:BV:28:ILE:O | 2.63 | 0.42 |
| 51:BV:28:ILE:O | 51:BV:29:PHE:CB | 2.67 | 0.42 |
| 52:BW:80:ASN:HA | 52:BW:132:ALA:HB2 | 2.01 | 0.42 |
| 53:BX:91:ASN:O | 53:BX:93:ALA:N | 2.52 | 0.42 |
| 57:Bb:61:LYS:C | 57:Bb:63:THR:N | 2.77 | 0.42 |
| 22:Bo:14:UNK:HA | 22:Bo:17:UNK:CB | 2.50 | 0.42 |
| 1:C1:84:A:N7 | 1:C1:85:A:N7 | 2.68 | 0.42 |
| 1:C1:95:G:O2' | 1:C1:460:A:O2' | 2.33 | 0.42 |
| 1:C1:100:A:N3 | 1:C1:101:U:C6 | 2.87 | 0.42 |
| 1:C1:133:U:C1' | 1:C1:134:U:P | 3.07 | 0.42 |
| 1:C1:156:A:C6 | 1:C1:157:A:C6 | 3.08 | 0.42 |
| 1:C1:166:C:H2' | 1:C1:167:U:C6 | 2.55 | 0.42 |
| 1:C1:287:G:N1 | 1:C1:288:A:C6 | 2.87 | 0.42 |
| 1:C1:294:C:C2 | 1:C1:295:A:N7 | 2.87 | 0.42 |
| 1:C1:333:A:N1 | 1:C1:334:G:C2 | 2.87 | 0.42 |
| 1:C1:357:G:N9 | 1:C1:358:U:C5 | 2.85 | 0.42 |
| 1:C1:541:A:OP2 | 1:C1:541:A:N9 | 2.52 | 0.42 |
| 1:C1:720:G:O2' | 1:C1:721:U:OP1 | 2.34 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:755:A:N9 | 1:C1:756:A:C8 | 2.88 | 0.42 |
| 1:C1:806:A:C4 | 1:C1:807:A:N7 | 2.88 | 0.42 |
| 1:C1:809:A:N1 | 1:C1:810:G:N1 | 2.67 | 0.42 |
| 1:C1:809:A:O2' | 1:C1:810:G:H5' | 2.19 | 0.42 |
| 1:C1:811:A:C2 | 1:C1:858:G:H1' | 2.53 | 0.42 |
| 1:C1:1008:G:C2 | 1:C1:1009:U:C1' | 3.01 | 0.42 |
| 1:C1:1030:A:N7 | 1:C1:1792:G:C6 | 2.86 | 0.42 |
| 1:C1:1155:G:C4 | 1:C1:1156:C:C5 | 3.07 | 0.42 |
| 1:C1:1163:A:C6 | 1:C1:1164:G:C5 | 3.07 | 0.42 |
| 1:C1:1208:A:H5" | 1:C1:1209:C:OP2 | 2.19 | 0.42 |
| 1:C1:1209:C:C2 | 1:C1:1210:C:C5 | 3.06 | 0.42 |
| 1:C1:1338:C:O2' | 1:C1:1339:C:H5' | 2.20 | 0.42 |
| 1:C1:1348:A:C8 | 1:C1:1349:G:C5' | 3.01 | 0.42 |
| 1:C1:1350:U:H5 | 1:C1:1351:G:C4 | 2.37 | 0.42 |
| 1:C1:1522:U:C6 | 1:C1:1522:U:OP1 | 2.72 | 0.42 |
| 1:C1:1623:C:C4 | 1:C1:1624:C:C5 | 3.07 | 0.42 |
| 1:C1:1760:G:N1 | 1:C1:1761:U:C5 | 2.87 | 0.42 |
| 1:C1:1791:A:H8 | 1:C1:1791:A:H5' | 1.83 | 0.42 |
| 4:CC:23:GLU:O | 4:CC:24:PHE:C | 2.61 | 0.42 |
| 6:CE:50:SER:O | 6:CE:51:LYS:C | 2.61 | 0.42 |
| 11:CJ:80:ALA:O | 11:CJ:81:ILE:C | 2.62 | 0.42 |
| 16:CO:80:ASN:C | 16:CO:123:GLY:O | 2.62 | 0.42 |
| 21:CT:301:LEU:O | 21:CT:312:VAL:CA | 2.67 | 0.42 |
| 29:D1:31:C:O2 | 29:D1:1546:A:C2 | 2.68 | 0.42 |
| 29:D1:290:G:H4' | 44:DO:69:GLY:O | 2.17 | 0.42 |
| 29:D1:625:G:O2' | 29:D1:626:U:O4' | 2.26 | 0.42 |
| 29:D1:656:A:H5' | 29:D1:657:A:P | 2.59 | 0.42 |
| 29:D1:699:A:C6 | 29:D1:700:C:N3 | 2.88 | 0.42 |
| 29:D1:704:U:H6 | 29:D1:704:U:C3' | 2.24 | 0.42 |
| 29:D1:857:G:C4' | 29:D1:858:A:OP1 | 2.66 | 0.42 |
| 29:D1:861:C:P | 29:D1:862:U:OP2 | 2.77 | 0.42 |
| 29:D1:955:U:C4 | 29:D1:956:U:C4 | 3.07 | 0.42 |
| 29:D1:965:A:N1 | 29:D1:966:U:O2 | 2.52 | 0.42 |
| 29:D1:999:G:H5" | 30:D2:104:A:H1' | 2.01 | 0.42 |
| 29:D1:1019:G:C6 | 29:D1:1020:G:N7 | 2.88 | 0.42 |
| 29:D1:1183:C:H2' | 29:D1:1184:A:H5" | 2.00 | 0.42 |
| 29:D1:1192:C:OP2 | 29:D1:1192:C:O4' | 2.37 | 0.42 |
| 29:D1:1224:C:H6 | 29:D1:1224:C:OP1 | 1.98 | 0.42 |
| 29:D1:1277:C:O2' | 29:D1:1278:A:H8 | 2.03 | 0.42 |
| 29:D1:1303:A:N7 | 29:D1:1304:A:N1 | 2.66 | 0.42 |
| 29:D1:1307:G:HO2' | 29:D1:1308:A:P | 2.35 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1372:C:O2' | 29:D1:1373:A:H5' | 2.20 | 0.42 |
| 29:D1:1378:U:C2' | 29:D1:1379:G:H8 | 2.28 | 0.42 |
| 29:D1:1454:A:N1 | 29:D1:1484:U:O4 | 2.53 | 0.42 |
| 29:D1:1604:G:H2' | 29:D1:1605:A:O4' | 2.20 | 0.42 |
| 29:D1:1680:G:C4 | 29:D1:1681:U:H6 | 2.33 | 0.42 |
| 29:D1:1683:A:H5" | 29:D1:1684:U:OP1 | 2.19 | 0.42 |
| 29:D1:1684:U:H3' | 29:D1:1684:U:C6 | 2.53 | 0.42 |
| 29:D1:1708:C:O2 | 29:D1:1708:C:H2' | 2.20 | 0.42 |
| 29:D1:1763:U:C4 | 29:D1:1764:U:C2 | 3.07 | 0.42 |
| 29:D1:1771:C:N4 | 29:D1:1772:U:C4 | 2.87 | 0.42 |
| 29:D1:1783:U:N3 | 29:D1:1784:G:N7 | 2.67 | 0.42 |
| 29:D1:1816:A:C8 | 29:D1:1816:A:OP2 | 2.72 | 0.42 |
| 29:D1:1900:A:C2 | 29:D1:1906:G:N9 | 2.87 | 0.42 |
| 29:D1:1932:A:H2' | 29:D1:1933:A:O4' | 2.19 | 0.42 |
| 29:D1:2144:A:C5 | 29:D1:2281:A:N1 | 2.87 | 0.42 |
| 29:D1:2169:G:O6 | 74:D1:3492:OHX:N6 | 2.52 | 0.42 |
| 29:D1:2188:A:C2 | 62:Dg:19:GLY:HA2 | 2.55 | 0.42 |
| 29:D1:2266:U:H3 | 29:D1:2267:C:N4 | 2.16 | 0.42 |
| 29:D1:2284:C:N4 | 29:D1:2308:C:OP2 | 2.52 | 0.42 |
| 29:D1:2419:A:C6 | 29:D1:2804:A:N6 | 2.87 | 0.42 |
| 29:D1:2652:U:O2' | 29:D1:2653:C:O5' | 2.37 | 0.42 |
| 29:D1:2654:C:C5' | 29:D1:2657:A:N6 | 2.82 | 0.42 |
| 29:D1:2654:C:H4' | 29:D1:2657:A:C5 | 2.55 | 0.42 |
| 29:D1:2687:G:OP2 | 74:D1:3430:OHX:N1 | 2.52 | 0.42 |
| 29:D1:2823:G:C6 | 29:D1:2824:G:N7 | 2.88 | 0.42 |
| 29:D1:2948:C:C6 | 29:D1:2948:C:C5' | 3.02 | 0.42 |
| 29:D1:3131:U:O2 | 29:D1:3132:C:C6 | 2.72 | 0.42 |
| 29:D1:3171:U:C2' | 29:D1:3172:A:OP2 | 2.67 | 0.42 |
| 29:D1:3183:A:H2' | 29:D1:3184:A:C8 | 2.54 | 0.42 |
| 29:D1:3206:C:O2 | 29:D1:3206:C:O4' | 2.37 | 0.42 |
| 29:D1:3223:A:N3 | 29:D1:3223:A:C2' | 2.83 | 0.42 |
| 29:D1:3242:G:C2 | 29:D1:3244:A:H2' | 2.50 | 0.42 |
| 29:D1:3298:C:C4 | 29:D1:3299:A:N6 | 2.87 | 0.42 |
| 29:D1:3299:A:O5' | 29:D1:3299:A:C2' | 2.66 | 0.42 |
| 30:D2:67:G:O6 | 30:D2:111:U:C5 | 2.72 | 0.42 |
| 30:D2:91:G:O6 | 30:D2:92:A:N6 | 2.52 | 0.42 |
| 31:D3:10:A:C4 | 31:D3:11:C:C6 | 3.07 | 0.42 |
| 31:D3:58:G:C2' | 31:D3:99:C:HO2' | 2.32 | 0.42 |
| 31:D3:72:A:H61 | 31:D3:85:G:H5' | 1.83 | 0.42 |
| 34:DC:159:ARG:CA | 34:DC:181:ILE:O | 2.67 | 0.42 |
| 35:DD:42:VAL:O | 35:DD:44:LYS:N | 2.52 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 35:DD:155:ASP:O | 35:DD:157:GLU:N | 2.52 | 0.42 |
| 36:DE:206:GLN:C | 36:DE:208:MET:H | 2.26 | 0.42 |
| 36:DE:282:ARG:O | 36:DE:283:ALA:HB3 | 2.18 | 0.42 |
| 38:DG:28:ALA:O | 38:DG:29:GLU:C | 2.61 | 0.42 |
| 40:DI:11:GLU:O | 40:DI:12:VAL:C | 2.62 | 0.42 |
| 72:DL:9:GLU:CB | 72:DL:65:GLN:HA | 2.49 | 0.42 |
| 43:DN:33:ALA:CA | 43:DN:48:GLY:N | 2.82 | 0.42 |
| 43:DN:34:ALA:H | 43:DN:47:ASP:C | 2.27 | 0.42 |
| 46:DQ:120:ASN:O | 46:DQ:144:SER:O | 2.37 | 0.42 |
| 47:DR:145:ASN:CB | 47:DR:146:SER:CB | 2.98 | 0.42 |
| 48:DS:133:LYS:O | 48:DS:134:HIS:CB | 2.67 | 0.42 |
| 54:DY:5:PHE:O | 54:DY:6:THR:C | 2.62 | 0.42 |
| 62:Dg:23:ARG:O | 62:Dg:24:ARG:C | 2.61 | 0.42 |
| 1:A1:96:G:C2' | 1:A1:97:C:H5' | 2.49 | 0.42 |
| 1:A1:190:C:H5" | 1:A1:191:C:O2 | 2.20 | 0.42 |
| 1:A1:192:U:H2' | 1:A1:193:U:C4' | 2.48 | 0.42 |
| 1:A1:201:G:C2 | 1:A1:202:A:C2 | 3.07 | 0.42 |
| 1:A1:333:A:O2' | 1:A1:334:G:O5' | 2.30 | 0.42 |
| 1:A1:337:G:O5' | 1:A1:337:G:C8 | 2.72 | 0.42 |
| 1:A1:371:G:C2' | 1:A1:372:G:H5' | 2.49 | 0.42 |
| 1:A1:406:U:H2' | 1:A1:407:A:C8 | 2.54 | 0.42 |
| 1:A1:758:U:C3' | 1:A1:759:U:H6 | 2.33 | 0.42 |
| 1:A1:1032:G:C2 | 1:A1:1033:C:C4 | 3.07 | 0.42 |
| 1:A1:1074:G:N7 | 74:A1:1939:OHX:N1 | 2.67 | 0.42 |
| 1:A1:1109:G:O2' | 1:A1:1110:G:H5" | 2.19 | 0.42 |
| 1:A1:1129:U:H3' | 1:A1:1130:G:H8 | 1.85 | 0.42 |
| 1:A1:1138:A:C2 | 1:A1:1139:A:C4 | 3.07 | 0.42 |
| 1:A1:1170:G:N7 | 1:A1:1574:G:C8 | 2.87 | 0.42 |
| 1:A1:1195:C:N4 | 11:AJ:143:ARG:H | 2.16 | 0.42 |
| 1:A1:1201:G:C3' | 1:A1:1201:G:C4 | 3.00 | 0.42 |
| 1:A1:1209:C:N3 | 1:A1:1210:C:C5 | 2.88 | 0.42 |
| 1:A1:1267:G:C2' | 1:A1:1268:G:H5' | 2.50 | 0.42 |
| 1:A1:1313:A:C2' | 1:A1:1315:U:H5' | 2.37 | 0.42 |
| 1:A1:1382:A:C2 | 1:A1:1383:G:C5 | 3.07 | 0.42 |
| 1:A1:1507:G:N3 | 1:A1:1508:U:H1' | 2.34 | 0.42 |
| 1:A1:1512:G:C5 | 1:A1:1513:G:N7 | 2.87 | 0.42 |
| 1:A1:1765:A:P | 74:A1:1931:OHX:N5 | 2.92 | 0.42 |
| 1:A1:1765:A:C4' | 1:A1:1766:A:OP2 | 2.65 | 0.42 |
| 2:AA:86:VAL:C | 2:AA:88:LYS:N | 2.77 | 0.42 |
| 3:AB:126:ARG:O | 3:AB:127:ALA:C | 2.63 | 0.42 |
| 3:AB:181:SER:O | 3:AB:182:PRO:C | 2.63 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 3:AB:185:LYS:O | 3:AB:187:LEU:N | 2.52 | 0.42 |
| 8:AG:42:ARG:C | 8:AG:44:GLY:N | 2.77 | 0.42 |
| 8:AG:139:TRP:H | 8:AG:142:GLU:CA | 2.32 | 0.42 |
| 12:AK:58:MET:O | 12:AK:62:GLN:HA | 2.19 | 0.42 |
| 14:AM:130:ARG:C | 14:AM:132:LEU:N | 2.72 | 0.42 |
| 28:Ah:2:UNK:O | 28:Ah:4:UNK:N | 2.52 | 0.42 |
| 29:B1:9:U:C2' | 29:B1:10:C:H5' | 2.45 | 0.42 |
| 29:B1:98:G:H5" | 29:B1:99:A:OP1 | 2.19 | 0.42 |
| 29:B1:160:G:C2' | 29:B1:161:G:O5' | 2.68 | 0.42 |
| 29:B1:347:G:O6 | 29:B1:348:A:N6 | 2.52 | 0.42 |
| 29:B1:659:G:H1' | 29:B1:1435:A:H61 | 1.84 | 0.42 |
| 29:B1:725:G:C3' | 29:B1:726:G:H5" | 2.50 | 0.42 |
| 29:B1:777:U:O2' | 29:B1:778:U:P | 2.77 | 0.42 |
| 29:B1:916:G:N7 | 29:B1:924:G:C2 | 2.88 | 0.42 |
| 29:B1:996:A:C2' | 29:B1:997:A:H5' | 2.49 | 0.42 |
| 29:B1:1008:U:C6 | 29:B1:1008:U:H5" | 2.54 | 0.42 |
| 29:B1:1168:U:C2' | 29:B1:1169:A:C5' | 2.97 | 0.42 |
| 29:B1:1260:A:C2 | 29:B1:1279:C:C2 | 3.07 | 0.42 |
| 29:B1:1401:A:H2' | 29:B1:1402:C:O4' | 2.19 | 0.42 |
| 29:B1:1404:G:N2 | 29:B1:1408:G:C4 | 2.87 | 0.42 |
| 29:B1:1449:A:C4 | 29:B1:2356:A:C5 | 3.08 | 0.42 |
| 29:B1:1542:G:N1 | 29:B1:1543:G:C5 | 2.88 | 0.42 |
| 29:B1:1580:A:H5' | 29:B1:1581:C:OP2 | 2.19 | 0.42 |
| 29:B1:1593:A:N3 | 29:B1:1615:C:O2' | 2.45 | 0.42 |
| 29:B1:1633:C:N4 | 29:B1:1634:G:O6 | 2.52 | 0.42 |
| 29:B1:1863:G:N2 | 29:B1:1865:A:H2' | 2.34 | 0.42 |
| 29:B1:1880:U:C2' | 29:B1:1881:A:O5' | 2.67 | 0.42 |
| 29:B1:1895:A:C6 | 29:B1:2335:G:C5 | 3.07 | 0.42 |
| 29:B1:1912:U:O2' | 29:B1:1913:A:P | 2.77 | 0.42 |
| 29:B1:2285:C:C3' | 29:B1:2285:C:C6 | 3.02 | 0.42 |
| 29:B1:2582:C:O2 | 29:B1:2582:C:C2' | 2.64 | 0.42 |
| 29:B1:2630:C:O4' | 29:B1:2758:A:H1' | 2.20 | 0.42 |
| 29:B1:2769:A:C5 | 29:B1:2770:G:C8 | 3.07 | 0.42 |
| 29:B1:2882:U:H2' | 29:B1:2883:U:H5' | 1.99 | 0.42 |
| 29:B1:2980:U:H2' | 29:B1:2981:U:C5' | 2.49 | 0.42 |
| 29:B1:3103:A:C2 | 29:B1:3132:C:C2 | 3.07 | 0.42 |
| 29:B1:3115:C:O2' | 29:B1:3117:C:C5 | 2.72 | 0.42 |
| 29:B1:3141:A:N3 | 29:B1:3143:C:O3' | 2.52 | 0.42 |
| 29:B1:3156:U:O2 | 29:B1:3156:U:H3' | 2.17 | 0.42 |
| 29:B1:3170:A:H2' | 29:B1:3171:U:C6 | 2.54 | 0.42 |
| 29:B1:3215:A:H5" | 29:B1:3218:A:P | 2.59 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3217:C:O2 | 29:B1:3217:C:C2' | 2.67 | 0.42 |
| 29:B1:3373:U:C4 | 29:B1:3374:U:C4 | 3.08 | 0.42 |
| 30:B2:11:A:H5" | 30:B2:13:A:O2' | 2.20 | 0.42 |
| 30:B2:27:A:N1 | 30:B2:54:U:O4 | 2.52 | 0.42 |
| 30:B2:28:C:C2 | 30:B2:29:C:H1' | 2.54 | 0.42 |
| 30:B2:65:G:C2 | 30:B2:66:A:C8 | 3.06 | 0.42 |
| 30:B2:67:G:N3 | 30:B2:67:G:C2' | 2.82 | 0.42 |
| 34:BC:29:VAL:O | 34:BC:30:LYS:C | 2.62 | 0.42 |
| 35:BD:63:GLU:C | 35:BD:75:PRO:HA | 2.40 | 0.42 |
| 35:BD:82:THR:O | 35:BD:84:ARG:N | 2.53 | 0.42 |
| 35:BD:171:ALA:C | 35:BD:173:GLY:N | 2.78 | 0.42 |
| 36:BE:147:ASP:O | 36:BE:148:ILE:O | 2.36 | 0.42 |
| 37:BF:21:THR:O | 37:BF:111:LEU:N | 2.45 | 0.42 |
| 37:BF:159:LEU:O | 37:BF:161:ALA:N | 2.53 | 0.42 |
| 41:BJ:56:GLU:H | 41:BJ:131:ILE:HA | 1.84 | 0.42 |
| 44:BO:144:ARG:C | 44:BO:146:ALA:H | 2.27 | 0.42 |
| 45:BP:168:TYR:O | 45:BP:169:ALA:C | 2.63 | 0.42 |
| 47:BR:59:ARG:O | 47:BR:60:PRO:O | 2.36 | 0.42 |
| 48:BS:106:LEU:O | 48:BS:108:LYS:N | 2.52 | 0.42 |
| 49:BT:16:GLN:CB | 74:BT:201:OHX:N5 | 2.83 | 0.42 |
| 62:Bg:30:GLU:O | 62:Bg:31:ILE:C | 2.60 | 0.42 |
| 62:Bg:30:GLU:C | 62:Bg:32:GLN:N | 2.74 | 0.42 |
| 1:C1:11:A:H8 | 1:C1:11:A:O5' | 2.02 | 0.42 |
| 1:C1:29:U:H2' | 1:C1:30:G:C8 | 2.45 | 0.42 |
| 1:C1:33:U:H3' | 1:C1:33:U:C6 | 2.49 | 0.42 |
| 1:C1:58:U:H5' | 1:C1:456:A:O2' | 2.19 | 0.42 |
| 1:C1:85:A:H2 | 1:C1:148:A:N3 | 2.16 | 0.42 |
| 1:C1:86:A:N3 | 1:C1:147:A:H2 | 2.17 | 0.42 |
| 1:C1:149:C:C2' | 1:C1:150:U:H6 | 2.32 | 0.42 |
| 1:C1:192:U:H2' | 1:C1:193:U:C4' | 2.49 | 0.42 |
| 1:C1:223:U:H2' | 1:C1:224:C:C5 | 2.54 | 0.42 |
| 1:C1:248:U:C1' | 1:C1:249:U:OP1 | 2.68 | 0.42 |
| 1:C1:341:A:N3 | 1:C1:342:C:C5 | 2.86 | 0.42 |
| 1:C1:391:A:O2' | 1:C1:392:G:H5' | 2.20 | 0.42 |
| 1:C1:434:G:N2 | 1:C1:437:A:C2 | 2.86 | 0.42 |
| 1:C1:449:C:C2 | 1:C1:450:U:C5 | 3.07 | 0.42 |
| 1:C1:450:U:H2' | 1:C1:450:U:O2 | 2.19 | 0.42 |
| 1:C1:460:A:H2' | 1:C1:460:A:N3 | 2.33 | 0.42 |
| 1:C1:461:G:C2 | 1:C1:462:G:C5 | 3.08 | 0.42 |
| 1:C1:545:A:N6 | 1:C1:593:U:HO2' | 2.17 | 0.42 |
| 1:C1:552:G:C6 | 1:C1:553:G:N1 | 2.88 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:564:G:H21 | 1:C1:577:G:P | 2.43 | 0.42 |
| 1:C1:721:U:C6 | 1:C1:722:G:O4' | 2.72 | 0.42 |
| 1:C1:818:C:N3 | 1:C1:854:U:C4 | 2.87 | 0.42 |
| 1:C1:836:U:N3 | 1:C1:837:G:C5 | 2.87 | 0.42 |
| 1:C1:889:U:H2' | 1:C1:890:C:O4' | 2.19 | 0.42 |
| 1:C1:912:U:H1' | 1:C1:914:G:C6 | 2.53 | 0.42 |
| 1:C1:974:A:P | 29:D1:848:A:HO2' | 2.40 | 0.42 |
| 1:C1:998:A:H3' | 1:C1:999:U:C5 | 2.54 | 0.42 |
| 1:C1:1168:U:O2' | 1:C1:1169:G:H5' | 2.18 | 0.42 |
| 1:C1:1338:C:C2' | 1:C1:1339:C:H5' | 2.50 | 0.42 |
| 1:C1:1344:A:H1' | 1:C1:1345:A:O5' | 2.19 | 0.42 |
| 1:C1:1345:A:C2' | 1:C1:1346:A:N7 | 2.76 | 0.42 |
| 1:C1:1370:U:C4 | 1:C1:1371:A:C8 | 3.08 | 0.42 |
| 1:C1:1497:U:H2' | 1:C1:1498:G:H8 | 1.85 | 0.42 |
| 1:C1:1632:C:O2' | 1:C1:1633:A:C5' | 2.67 | 0.42 |
| 5:CD:146:THR:HA | 5:CD:159:ALA:HA | 2.00 | 0.42 |
| 7:CF:97:TYR:O | 7:CF:98:ASN:CB | 2.68 | 0.42 |
| 9:CH:30:VAL:N | 9:CH:40:ALA:HB3 | 2.33 | 0.42 |
| 10:CI:36:LEU:CA | 10:CI:37:ALA:HB3 | 2.45 | 0.42 |
| 14:CM:65:ILE:O | 14:CM:66:TYR:C | 2.62 | 0.42 |
| 21:CT:197:SER:O | 21:CT:198:ASN:O | 2.38 | 0.42 |
| 24:Cc:85:UNK:C | 24:Cc:87:UNK:N | 2.82 | 0.42 |
| 29:D1:107:A:C2 | 29:D1:108:A:C2 | 3.08 | 0.42 |
| 29:D1:115:A:C2' | 29:D1:116:A:H2 | 2.27 | 0.42 |
| 29:D1:242:C:C2' | 29:D1:243:G:O5' | 2.67 | 0.42 |
| 29:D1:282:G:C4' | 29:D1:283:G:C8 | 3.02 | 0.42 |
| 29:D1:300:G:C2' | 29:D1:301:G:H5' | 2.49 | 0.42 |
| 29:D1:328:U:C5 | 29:D1:329:U:O4 | 2.73 | 0.42 |
| 29:D1:347:G:H2' | 29:D1:348:A:C8 | 2.54 | 0.42 |
| 29:D1:371:G:H2' | 29:D1:373:A:N7 | 2.34 | 0.42 |
| 29:D1:632:G:C2' | 29:D1:633:C:O5' | 2.66 | 0.42 |
| 29:D1:692:A:N1 | 29:D1:693:A:C4 | 2.87 | 0.42 |
| 29:D1:726:G:H8 | 29:D1:726:G:H5' | 1.84 | 0.42 |
| 29:D1:737:G:C4 | 29:D1:738:A:C8 | 3.07 | 0.42 |
| 29:D1:910:G:C8 | 29:D1:911:C:C5 | 3.08 | 0.42 |
| 29:D1:944:C:C6 | 29:D1:1431:G:C6 | 3.07 | 0.42 |
| 29:D1:957:C:H4' | 29:D1:2799:A:C8 | 2.54 | 0.42 |
| 29:D1:1052:U:C5 | 29:D1:1053:A:N7 | 2.87 | 0.42 |
| 29:D1:1063:G:N9 | 29:D1:1064:A:O4' | 2.53 | 0.42 |
| 29:D1:1224:C:O2 | 29:D1:1224:C:H2' | 2.18 | 0.42 |
| 29:D1:1246:G:O2' | 29:D1:1247:U:H5' | 2.19 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1410:U:H3' | 29:D1:1410:U:C6 | 2.54 | 0.42 |
| 29:D1:1449:A:H4' | 29:D1:2983:C:O2 | 2.18 | 0.42 |
| 29:D1:1476:G:H1 | 29:D1:1877:U:H3 | 1.66 | 0.42 |
| 29:D1:1492:G:O5' | 29:D1:1493:G:N2 | 2.53 | 0.42 |
| 29:D1:1519:G:C3' | 29:D1:1520:G:H5" | 2.49 | 0.42 |
| 29:D1:1526:U:O2' | 29:D1:1595:U:H5' | 2.18 | 0.42 |
| 29:D1:1771:C:C4 | 29:D1:1772:U:C4 | 3.08 | 0.42 |
| 29:D1:1928:G:C5 | 29:D1:1929:G:N7 | 2.87 | 0.42 |
| 29:D1:2105:G:C8 | 29:D1:2105:G:C5' | 2.97 | 0.42 |
| 29:D1:2133:U:O5' | 29:D1:2133:U:H6 | 2.02 | 0.42 |
| 29:D1:2186:U:H2' | 29:D1:2187:G:O4' | 2.19 | 0.42 |
| 29:D1:2212:C:O2' | 29:D1:2233:A:N6 | 2.52 | 0.42 |
| 29:D1:2295:A:C5 | 29:D1:2296:A:C6 | 3.07 | 0.42 |
| 29:D1:2399:A:C6 | 29:D1:2400:G:O6 | 2.72 | 0.42 |
| 29:D1:2421:U:C4 | 29:D1:2422:C:C5 | 3.07 | 0.42 |
| 29:D1:2513:U:H1' | 29:D1:2514:U:P | 2.58 | 0.42 |
| 29:D1:2552:C:H42 | 33:DB:88:ILE:CB | 2.32 | 0.42 |
| 29:D1:2727:A:C2 | 29:D1:2728:G:N1 | 2.87 | 0.42 |
| 29:D1:2912:G:N7 | 29:D1:2913:C:N3 | 2.67 | 0.42 |
| 29:D1:2914:G:C2' | 29:D1:2915:U:H6 | 2.29 | 0.42 |
| 29:D1:3044:G:C6 | 29:D1:3098:G:C6 | 3.08 | 0.42 |
| 29:D1:3090:U:O2' | 29:D1:3091:A:O5' | 2.36 | 0.42 |
| 29:D1:3334:U:O2' | 29:D1:3335:A:H5' | 2.20 | 0.42 |
| 29:D1:3395:G:O2' | 29:D1:3396:U:OP1 | 2.35 | 0.42 |
| 30:D2:66:A:H8 | 30:D2:66:A:P | 2.42 | 0.42 |
| 30:D2:110:G:O6 | 30:D2:111:U:O4 | 2.37 | 0.42 |
| 30:D2:111:U:O3' | 30:D2:112:G:C4' | 2.67 | 0.42 |
| 31:D3:24:G:H8 | 31:D3:24:G:C5' | 2.32 | 0.42 |
| 33:DB:11:GLY:O | 33:DB:12:ALA:C | 2.62 | 0.42 |
| 33:DB:233:GLN:O | 33:DB:234:LYS:O | 2.37 | 0.42 |
| 34:DC:274:SER:O | 34:DC:275:ARG:CB | 2.67 | 0.42 |
| 38:DG:243:MET:O | 38:DG:244:ASN:CB | 2.67 | 0.42 |
| 42:DK:92:ARG:O | 42:DK:100:GLY:O | 2.38 | 0.42 |
| 43:DN:84:LYS:C | 43:DN:86:ALA:N | 2.75 | 0.42 |
| 44:DO:137:PRO:C | 44:DO:139:HIS:N | 2.77 | 0.42 |
| 44:DO:177:GLY:O | 44:DO:178:HIS:C | 2.61 | 0.42 |
| 44:DO:184:LYS:O | 44:DO:186:GLY:N | 2.52 | 0.42 |
| 45:DP:49:ARG:O | 45:DP:52:LEU:N | 2.53 | 0.42 |
| 48:DS:146:LYS:O | 48:DS:147:ALA:C | 2.62 | 0.42 |
| 48:DS:169:ALA:HA | 48:DS:172:ARG:CB | 2.48 | 0.42 |
| 49:DT:20:ARG:O | 49:DT:22:HIS:N | 2.50 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 54:DY:14:HIS:O | 54:DY:15:VAL:CB | 2.67 | 0.42 |
| 58:Dc:4:VAL:HA | 58:Dc:6:ALA:H | 1.83 | 0.42 |
| 1:A1:186:C:H42 | 1:A1:199:G:H1 | 0.63 | 0.42 |
| 1:A1:204:G:C2 | 1:A1:205:U:C2 | 3.07 | 0.42 |
| 1:A1:230:C:C2' | 1:A1:231:U:H5' | 2.49 | 0.42 |
| 1:A1:230:C:O2' | 1:A1:231:U:H5' | 2.19 | 0.42 |
| 1:A1:267:U:OP2 | 1:A1:267:U:C6 | 2.73 | 0.42 |
| 1:A1:319:U:H6 | 1:A1:319:U:C5' | 2.26 | 0.42 |
| 1:A1:405:C:O2 | 1:A1:405:C:H2' | 2.19 | 0.42 |
| 1:A1:434:G:N2 | 1:A1:437:A:C2 | 2.87 | 0.42 |
| 1:A1:487:G:O2' | 1:A1:488:G:H8 | 2.02 | 0.42 |
| 1:A1:632:U:C2' | 1:A1:633:U:O5' | 2.67 | 0.42 |
| 1:A1:727:U:O2' | 1:A1:728:U:H5' | 2.19 | 0.42 |
| 1:A1:743:U:H5 | 1:A1:809:A:C2 | 2.36 | 0.42 |
| 1:A1:945:U:N3 | 1:A1:946:U:H5 | 2.18 | 0.42 |
| 1:A1:1025:A:N7 | 1:A1:1027:A:N9 | 2.68 | 0.42 |
| 1:A1:1142:A:C8 | 1:A1:1142:A:H5' | 2.54 | 0.42 |
| 1:A1:1256:A:H5" | 1:A1:1257:U:O5' | 2.19 | 0.42 |
| 1:A1:1275:A:C6 | 1:A1:1438:G:C6 | 3.08 | 0.42 |
| 1:A1:1306:C:C4 | 1:A1:1319:A:N1 | 2.88 | 0.42 |
| 1:A1:1330:G:H2' | 1:A1:1331:A:O4' | 2.19 | 0.42 |
| 1:A1:1366:U:C4 | 1:A1:1367:G:N7 | 2.87 | 0.42 |
| 1:A1:1378:U:O2 | 1:A1:1378:U:C2' | 2.67 | 0.42 |
| 1:A1:1416:G:C2 | 1:A1:1417:A:H1' | 2.53 | 0.42 |
| 1:A1:1437:U:O2 | 1:A1:1437:U:H2' | 2.16 | 0.42 |
| 1:A1:1543:A:N3 | 1:A1:1543:A:H2' | 2.34 | 0.42 |
| 1:A1:1565:C:O2' | 10:AI:15:HIS:HA | 2.19 | 0.42 |
| 1:A1:1651:A:N1 | 1:A1:1652:C:C4 | 2.87 | 0.42 |
| 5:AD:60:ASP:O | 5:AD:61:TYR:CB | 2.67 | 0.42 |
| 5:AD:199:ILE:C | 5:AD:201:ALA:N | 2.67 | 0.42 |
| 11:AJ:24:ALA:HA | 11:AJ:64:ASP:HA | 2.00 | 0.42 |
| 12:AK:29:GLN:C | 12:AK:31:ASN:N | 2.75 | 0.42 |
| 17:AP:123:LYS:O | 17:AP:124:VAL:C | 2.62 | 0.42 |
| 19:AR:26:THR:HA | 19:AR:37:SER:C | 2.45 | 0.42 |
| 21:AT:139:GLN:O | 21:AT:141:LEU:N | 2.52 | 0.42 |
| 29:B1:32:U:C5 | 29:B1:33:G:N7 | 2.87 | 0.42 |
| 29:B1:102:C:O2' | 29:B1:103:G:H5' | 2.20 | 0.42 |
| 29:B1:156:G:C8 | 29:B1:157:A:N3 | 2.86 | 0.42 |
| 29:B1:211:A:H5' | 29:B1:229:G:C1' | 2.49 | 0.42 |
| 29:B1:307:A:H2' | 29:B1:308:A:O4' | 2.19 | 0.42 |
| 29:B1:307:A:N6 | 29:B1:308:A:C6 | 2.88 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:326:U:OP1 | 29:B1:327:A:OP2 | 2.37 | 0.42 |
| 29:B1:353:G:O2' | 29:B1:354:U:OP2 | 2.37 | 0.42 |
| 29:B1:383:G:O3' | 29:B1:385:A:N7 | 2.53 | 0.42 |
| 29:B1:517:G:O3' | 29:B1:518:G:O4' | 2.38 | 0.42 |
| 29:B1:520:U:H4' | 29:B1:521:A:C5' | 2.50 | 0.42 |
| 29:B1:651:G:C6 | 29:B1:652:G:O6 | 2.73 | 0.42 |
| 29:B1:708:G:C2 | 29:B1:712:G:C6 | 3.08 | 0.42 |
| 29:B1:731:U:OP1 | 47:BR:135:GLN:CB | 2.67 | 0.42 |
| 29:B1:737:G:N3 | 29:B1:738:A:C8 | 2.88 | 0.42 |
| 29:B1:759:U:C5 | 29:B1:773:G:C6 | 3.07 | 0.42 |
| 29:B1:771:A:N6 | 29:B1:772:U:H3 | 2.17 | 0.42 |
| 29:B1:859:G:H21 | 29:B1:861:C:H1' | 1.78 | 0.42 |
| 29:B1:869:G:H2' | 29:B1:869:G:N3 | 2.35 | 0.42 |
| 29:B1:883:A:C5 | 29:B1:921:A:N6 | 2.87 | 0.42 |
| 29:B1:1005:G:H2' | 29:B1:1006:A:O4' | 2.19 | 0.42 |
| 29:B1:1021:G:N2 | 29:B1:1032:C:H1' | 2.35 | 0.42 |
| 29:B1:1063:G:C8 | 29:B1:1064:A:C1' | 3.02 | 0.42 |
| 29:B1:1075:A:H2 | 69:Bp:246:UNK:CA | 2.26 | 0.42 |
| 29:B1:1149:G:H3' | 29:B1:1150:A:C5' | 2.50 | 0.42 |
| 29:B1:1407:A:H5' | 29:B1:1408:G:P | 2.59 | 0.42 |
| 29:B1:1471:U:C1' | 48:BS:3:ASN:HA | 2.49 | 0.42 |
| 29:B1:1704:A:N3 | 29:B1:1741:A:C5 | 2.87 | 0.42 |
| 29:B1:1779:C:C5' | 29:B1:1780:G:O4' | 2.68 | 0.42 |
| 29:B1:1898:G:O3' | 50:BU:21:ALA:CB | 2.68 | 0.42 |
| 29:B1:2108:C:H1' | 29:B1:3342:A:N7 | 2.34 | 0.42 |
| 29:B1:2131:A:H3' | 29:B1:2132:C:H5" | 2.00 | 0.42 |
| 29:B1:2172:A:H1' | 33:BB:10:LYS:C | 2.44 | 0.42 |
| 29:B1:2196:C:C2 | 29:B1:2242:A:N6 | 2.87 | 0.42 |
| 29:B1:2249:G:C4 | 29:B1:2272:G:C5 | 3.07 | 0.42 |
| 29:B1:2259:A:C6 | 29:B1:2260:U:C2 | 3.08 | 0.42 |
| 29:B1:2474:G:H2' | 29:B1:2475:G:C8 | 2.55 | 0.42 |
| 29:B1:2628:A:C6 | 29:B1:2629:U:C6 | 3.08 | 0.42 |
| 29:B1:2631:U:H5' | 29:B1:2757:U:O2 | 2.19 | 0.42 |
| 29:B1:2639:G:N3 | 29:B1:2639:G:H2' | 2.35 | 0.42 |
| 29:B1:2677:G:C2 | 29:B1:2679:A:C4 | 3.06 | 0.42 |
| 29:B1:2762:A:C8 | 29:B1:2763:U:C5 | 3.08 | 0.42 |
| 29:B1:2853:A:C6 | 29:B1:2854:U:C2 | 3.07 | 0.42 |
| 29:B1:2881:C:O2 | 29:B1:2882:U:C6 | 2.73 | 0.42 |
| 29:B1:2971:A:H4' | 29:B1:2972:G:C5' | 2.50 | 0.42 |
| 29:B1:3011:A:H1' | 29:B1:3012:A:H1' | 2.01 | 0.42 |
| 29:B1:3014:U:O2 | 29:B1:3041:U:C2 | 2.73 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3046:A:H2' | 29:B1:3047:U:H5' | 2.02 | 0.42 |
| 29:B1:3083:G:C4 | 29:B1:3084:C:C6 | 3.07 | 0.42 |
| 29:B1:3238:G:C6 | 29:B1:3250:U:N3 | 2.87 | 0.42 |
| 29:B1:3312:U:H5" | 29:B1:3313:U:OP2 | 2.20 | 0.42 |
| 34:BC:27:ALA:HB2 | 34:BC:219:ALA:HA | 2.01 | 0.42 |
| 41:BJ:39:LYS:O | 41:BJ:40:LYS:C | 2.62 | 0.42 |
| 41:BJ:215:GLU:C | 41:BJ:217:PHE:H | 2.27 | 0.42 |
| 43:BN:11:ASN:HA | 43:BN:12:TRP:HA | 1.96 | 0.42 |
| 43:BN:107:GLU:O | 43:BN:110:ALA:HB3 | 2.19 | 0.42 |
| 45:BP:94:ARG:O | 45:BP:97:ALA:HB3 | 2.19 | 0.42 |
| 45:BP:162:VAL:O | 45:BP:163:SER:C | 2.62 | 0.42 |
| 46:BQ:70:THR:O | 46:BQ:71:ALA:O | 2.38 | 0.42 |
| 47:BR:108:ALA:O | 47:BR:109:GLY:C | 2.61 | 0.42 |
| 53:BX:28:ARG:O | 53:BX:31:LEU:C | 2.61 | 0.42 |
| 53:BX:112:ASP:O | 53:BX:113:LYS:C | 2.62 | 0.42 |
| 57:Bb:103:LYS:C | 57:Bb:105:ARG:N | 2.77 | 0.42 |
| 68:Bn:34:UNK:O | 68:Bn:38:UNK:CB | 2.68 | 0.42 |
| 1:C1:23:G:H2' | 1:C1:24:U:O4' | 2.18 | 0.42 |
| 1:C1:60:U:C2' | 1:C1:61:A:H5' | 2.50 | 0.42 |
| 1:C1:123:G:C6 | 1:C1:124:A:C8 | 3.07 | 0.42 |
| 1:C1:192:U:C6 | 1:C1:192:U:C3' | 3.02 | 0.42 |
| 1:C1:192:U:OP1 | 1:C1:192:U:C2 | 2.73 | 0.42 |
| 1:C1:194:U:H5' | 1:C1:195:G:O4' | 2.19 | 0.42 |
| 1:C1:266:A:O3' | 1:C1:267:U:C4' | 2.68 | 0.42 |
| 1:C1:271:A:C2 | 1:C1:285:G:C5 | 3.06 | 0.42 |
| 1:C1:353:A:C6 | 1:C1:354:C:C2 | 3.07 | 0.42 |
| 1:C1:392:G:N2 | 1:C1:406:U:C2 | 2.87 | 0.42 |
| 1:C1:524:U:C2 | 1:C1:527:A:C2 | 3.07 | 0.42 |
| 1:C1:526:A:OP1 | 1:C1:527:A:N6 | 2.53 | 0.42 |
| 1:C1:586:G:C2' | 1:C1:587:C:O5' | 2.68 | 0.42 |
| 1:C1:589:C:H2' | 1:C1:590:C:H6 | 1.83 | 0.42 |
| 1:C1:602:U:H2' | 1:C1:603:U:C6 | 2.54 | 0.42 |
| 1:C1:939:A:C4 | 1:C1:940:A:C8 | 3.07 | 0.42 |
| 1:C1:1087:A:C6 | 1:C1:1088:A:C6 | 3.08 | 0.42 |
| 1:C1:1109:G:C4 | 1:C1:1110:G:N7 | 2.87 | 0.42 |
| 1:C1:1120:U:H2' | 1:C1:1121:C:H6 | 1.85 | 0.42 |
| 1:C1:1133:A:N3 | 1:C1:1133:A:H2' | 2.34 | 0.42 |
| 1:C1:1181:U:C2 | 1:C1:1182:U:C6 | 3.08 | 0.42 |
| 1:C1:1323:C:H5" | 1:C1:1324:G:P | 2.59 | 0.42 |
| 1:C1:1339:C:H2' | 1:C1:1340:U:H5' | 2.00 | 0.42 |
| 1:C1:1408:G:O2' | 1:C1:1409:G:N3 | 2.43 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1480:G:C2 | 1:C1:1528:U:N3 | 2.88 | 0.42 |
| 1:C1:1557:U:H5 | 10:CI:81:ARG:O | 2.03 | 0.42 |
| 1:C1:1563:C:C2 | 1:C1:1564:U:C5 | 3.08 | 0.42 |
| 1:C1:1614:A:H2 | 1:C1:1616:G:P | 2.42 | 0.42 |
| 1:C1:1658:G:OP1 | 1:C1:1659:A:P | 2.77 | 0.42 |
| 1:C1:1667:A:H2' | 1:C1:1668:G:H8 | 1.85 | 0.42 |
| 1:C1:1793:G:N2 | 1:C1:1794:A:H1' | 2.34 | 0.42 |
| 4:CC:92:GLN:O | 4:CC:94:ARG:N | 2.53 | 0.42 |
| 6:CE:96:VAL:C | 6:CE:98:ALA:N | 2.76 | 0.42 |
| 20:CS:39:CYS:O | 20:CS:40:ARG:C | 2.63 | 0.42 |
| 20:CS:39:CYS:O | 20:CS:40:ARG:O | 2.38 | 0.42 |
| 29:D1:197:G:C4 | 29:D1:198:A:C8 | 3.08 | 0.42 |
| 29:D1:263:C:P | 29:D1:264:G:OP2 | 2.78 | 0.42 |
| 29:D1:269:G:C2 | 29:D1:294:U:C6 | 3.06 | 0.42 |
| 29:D1:523:A:C2 | 29:D1:524:U:C1' | 3.02 | 0.42 |
| 29:D1:667:C:H2' | 29:D1:668:G:O5' | 2.20 | 0.42 |
| 29:D1:684:G:C5 | 29:D1:685:G:N7 | 2.88 | 0.42 |
| 29:D1:685:G:H2' | 29:D1:686:G:H5' | 2.02 | 0.42 |
| 29:D1:836:A:C4 | 29:D1:837:A:C8 | 3.07 | 0.42 |
| 29:D1:913:A:H8 | 29:D1:913:A:H5' | 1.84 | 0.42 |
| 29:D1:914:A:P | 29:D1:914:A:H8 | 2.41 | 0.42 |
| 29:D1:919:U:C4 | 29:D1:923:C:C2 | 3.08 | 0.42 |
| 29:D1:943:U:O2' | 29:D1:944:C:C5' | 2.67 | 0.42 |
| 29:D1:954:U:OP1 | 29:D1:954:U:C4' | 2.67 | 0.42 |
| 29:D1:960:U:O3' | 29:D1:961:C:H4' | 2.19 | 0.42 |
| 29:D1:962:A:N6 | 29:D1:2408:U:O2 | 2.52 | 0.42 |
| 29:D1:1256:G:C5 | 29:D1:1257:C:C5 | 3.07 | 0.42 |
| 29:D1:1259:A:N6 | 29:D1:1260:A:N1 | 2.68 | 0.42 |
| 29:D1:1389:G:N3 | 29:D1:1418:A:H2 | 2.17 | 0.42 |
| 29:D1:1404:G:C6 | 29:D1:1408:G:C6 | 3.06 | 0.42 |
| 29:D1:1463:U:C5 | 29:D1:1464:G:N7 | 2.87 | 0.42 |
| 29:D1:1554:U:H4' | 29:D1:1580:A:N6 | 2.34 | 0.42 |
| 29:D1:1618:G:C6 | 29:D1:1619:A:C6 | 3.07 | 0.42 |
| 29:D1:1685:C:C6 | 29:D1:1687:U:C4 | 3.07 | 0.42 |
| 29:D1:1739:U:H2' | 29:D1:1740:U:C4' | 2.50 | 0.42 |
| 29:D1:1793:C:C2' | 29:D1:1794:G:OP1 | 2.67 | 0.42 |
| 29:D1:1860:G:H2' | 29:D1:1861:G:C8 | 2.54 | 0.42 |
| 29:D1:1886:A:C5 | 29:D1:1887:A:C8 | 3.07 | 0.42 |
| 29:D1:2243:A:C2 | 29:D1:2313:A:C5 | 3.08 | 0.42 |
| 29:D1:2247:G:OP1 | 74:D1:3598:OHX:N1 | 2.52 | 0.42 |
| 29:D1:2259:A:C6 | 29:D1:2260:U:O2 | 2.72 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2265:C:O5' | 29:D1:2265:C:H6 | 2.02 | 0.42 |
| 29:D1:2288:G:H2' | 29:D1:2289:U:H6 | 1.78 | 0.42 |
| 29:D1:2349:U:C4 | 29:D1:2350:C:N4 | 2.88 | 0.42 |
| 29:D1:2413:A:N3 | 29:D1:2414:G:N7 | 2.68 | 0.42 |
| 29:D1:2417:U:C4 | 29:D1:2606:G:O6 | 2.72 | 0.42 |
| 29:D1:2469:G:C5 | 29:D1:2477:G:N2 | 2.88 | 0.42 |
| 29:D1:2529:A:C8 | 29:D1:2530:G:N7 | 2.88 | 0.42 |
| 29:D1:2643:A:C6 | 29:D1:2645:G:H1' | 2.54 | 0.42 |
| 29:D1:2652:U:C2' | 29:D1:2653:C:O5' | 2.68 | 0.42 |
| 29:D1:2748:A:C5 | 29:D1:2749:G:H1' | 2.55 | 0.42 |
| 29:D1:2899:C:C2 | 40:DI:171:ASP:O | 2.72 | 0.42 |
| 29:D1:3050:U:C5 | 29:D1:3051:U:C4 | 3.07 | 0.42 |
| 29:D1:3057:U:C5' | 29:D1:3086:A:H61 | 2.29 | 0.42 |
| 29:D1:3074:G:H2' | 29:D1:3075:G:C8 | 2.55 | 0.42 |
| 29:D1:3343:G:C8 | 29:D1:3344:A:C5 | 3.08 | 0.42 |
| 30:D2:11:A:P | 30:D2:13:A:C5 | 3.13 | 0.42 |
| 30:D2:11:A:P | 30:D2:13:A:N7 | 2.92 | 0.42 |
| 30:D2:13:A:N3 | 30:D2:13:A:C4' | 2.82 | 0.42 |
| 30:D2:73:C:C2 | 30:D2:74:C:C5 | 3.06 | 0.42 |
| 30:D2:90:U:H3' | 30:D2:91:G:H8 | 1.85 | 0.42 |
| 31:D3:57:C:H4' | 31:D3:63:G:C5 | 2.55 | 0.42 |
| 31:D3:111:A:C1' | 31:D3:112:U:OP1 | 2.67 | 0.42 |
| 34:DC:90:VAL:CB | 34:DC:103:THR:N | 2.82 | 0.42 |
| 34:DC:335:ILE:O | 34:DC:336:VAL:O | 2.37 | 0.42 |
| 35:DD:8:VAL:O | 35:DD:17:ALA:HB3 | 2.19 | 0.42 |
| 39:DH:111:LYS:HA | 39:DH:112:GLU:HA | 1.48 | 0.42 |
| 41:DJ:170:LYS:CB | 41:DJ:172:GLY:N | 2.82 | 0.42 |
| 42:DK:110:ILE:O | 42:DK:111:ASP:CB | 2.67 | 0.42 |
| 73:DM:29:GLY:N | 73:DM:186:THR:O | 2.53 | 0.42 |
| 43:DN:12:TRP:N | 43:DN:60:LEU:HA | 2.34 | 0.42 |
| 43:DN:23:ILE:CA | 43:DN:32:LEU:HA | 2.50 | 0.42 |
| 44:DO:22:LEU:C | 44:DO:24:ARG:N | 2.77 | 0.42 |
| 44:DO:137:PRO:C | 44:DO:139:HIS:H | 2.26 | 0.42 |
| 45:DP:60:LYS:O | 45:DP:61:ALA:C | 2.61 | 0.42 |
| 49:DT:50:LYS:O | 49:DT:52:MET:N | 2.53 | 0.42 |
| 50:DU:105:PRO:O | 50:DU:106:LYS:C | 2.61 | 0.42 |
| 51:DV:32:GLN:O | 51:DV:33:ASN:CB | 2.68 | 0.42 |
| 52:DW:132:ALA:O | 52:DW:135:ILE:N | 2.53 | 0.42 |
| 57:Db:108:ILE:O | 57:Db:109:LEU:O | 2.38 | 0.42 |
| 65:Dk:14:UNK:O | 65:Dk:17:UNK:CB | 2.68 | 0.42 |
| 1:A1:78:A:OP1 | 1:A1:78:A:C2 | 2.72 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:104:A:N7 | 1:A1:106:U:C5 | 2.88 | 0.42 |
| 1:A1:151:G:C6 | 1:A1:164:A:C6 | 3.07 | 0.42 |
| 1:A1:169:A:O2' | 1:A1:171:A:C8 | 2.67 | 0.42 |
| 1:A1:249:U:C6 | 1:A1:249:U:P | 3.13 | 0.42 |
| 1:A1:273:G:O2' | 1:A1:274:G:P | 2.77 | 0.42 |
| 1:A1:337:G:H5' | 1:A1:338:C:C5 | 2.54 | 0.42 |
| 1:A1:357:G:H2' | 1:A1:357:G:N3 | 2.34 | 0.42 |
| 1:A1:440:U:H3' | 1:A1:441:A:C5' | 2.43 | 0.42 |
| 1:A1:446:A:C6 | 1:A1:447:U:C5 | 3.08 | 0.42 |
| 1:A1:492:A:N7 | 1:A1:494:U:OP2 | 2.53 | 0.42 |
| 1:A1:709:C:H42 | 1:A1:730:G:H1' | 1.83 | 0.42 |
| 1:A1:715:U:N3 | 1:A1:724:C:N4 | 2.68 | 0.42 |
| 1:A1:725:U:C2 | 1:A1:726:C:H1' | 2.54 | 0.42 |
| 1:A1:760:A:C6 | 1:A1:791:A:C6 | 3.08 | 0.42 |
| 1:A1:782:U:C1' | 1:A1:783:G:OP2 | 2.67 | 0.42 |
| 1:A1:853:G:C6 | 1:A1:854:U:O4 | 2.73 | 0.42 |
| 1:A1:871:G:C6 | 1:A1:957:G:N1 | 2.88 | 0.42 |
| 1:A1:938:G:C2 | 1:A1:942:G:C5 | 3.08 | 0.42 |
| 1:A1:940:A:N1 | 1:A1:941:A:C5 | 2.87 | 0.42 |
| 1:A1:1050:G:H2' | 1:A1:1051:G:H4' | 2.00 | 0.42 |
| 1:A1:1109:G:C3' | 1:A1:1110:G:H5" | 2.47 | 0.42 |
| 1:A1:1250:U:C2 | 1:A1:1251:U:C2 | 3.08 | 0.42 |
| 1:A1:1263:G:N2 | 1:A1:1264:G:H1' | 2.32 | 0.42 |
| 1:A1:1282:U:H5" | 1:A1:1283:U:OP2 | 2.19 | 0.42 |
| 1:A1:1348:A:P | 15:AN:12:GLN:O | 2.78 | 0.42 |
| 1:A1:1467:C:H2' | 1:A1:1468:U:H6 | 1.81 | 0.42 |
| 1:A1:1474:G:C4 | 1:A1:1475:A:N7 | 2.88 | 0.42 |
| 1:A1:1484:G:H22 | 1:A1:1605:G:N2 | 2.18 | 0.42 |
| 1:A1:1538:U:C6 | 1:A1:1538:U:C3' | 3.02 | 0.42 |
| 1:A1:1568:C:OP1 | 1:A1:1568:C:H4' | 2.19 | 0.42 |
| 1:A1:1573:A:C4' | 1:A1:1574:G:OP2 | 2.68 | 0.42 |
| 1:A1:1636:C:C4 | 1:A1:1638:G:N3 | 2.88 | 0.42 |
| 1:A1:1716:C:C2' | 1:A1:1717:G:H5' | 2.49 | 0.42 |
| 1:A1:1783:C:N3 | 1:A1:1784:C:C5 | 2.88 | 0.42 |
| 2:AA:65:ALA:C | 2:AA:67:ILE:H | 2.27 | 0.42 |
| 5:AD:134:VAL:C | 5:AD:136:ALA:H | 2.27 | 0.42 |
| 5:AD:176:THR:O | 5:AD:179:ALA:HB3 | 2.18 | 0.42 |
| 6:AE:82:ARG:O | 6:AE:84:GLY:N | 2.50 | 0.42 |
| 6:AE:135:ALA:HB2 | 6:AE:140:ILE:HA | 1.99 | 0.42 |
| 8:AG:123:HIS:O | 8:AG:124:ARG:C | 2.63 | 0.42 |
| 9:AH:85:ALA:HA | 9:AH:86:THR:HA | 1.38 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:AI:32:ASP:C | 10:AI:34:VAL:N | 2.76 | 0.42 |
| 10:AI:85:ILE:O | 10:AI:86:VAL:C | 2.62 | 0.42 |
| 12:AK:62:GLN:O | 12:AK:63:LYS:C | 2.62 | 0.42 |
| 13:AL:24:GLY:O | 13:AL:25:ASN:CB | 2.67 | 0.42 |
| 16:AO:39:GLN:C | 16:AO:41:MET:N | 2.77 | 0.42 |
| 20:AS:42:CYS:O | 20:AS:45:GLU:N | 2.53 | 0.42 |
| 21:AT:21:THR:N | 21:AT:37:SER:HA | 2.25 | 0.42 |
| 29:B1:71:A:H5" | 29:B1:73:C:C4 | 2.54 | 0.42 |
| 29:B1:83:U:C4 | 29:B1:84:U:C2 | 3.07 | 0.42 |
| 29:B1:128:G:C5 | 29:B1:129:U:C4 | 3.08 | 0.42 |
| 29:B1:158:G:C8 | 29:B1:158:G:H3' | 2.55 | 0.42 |
| 29:B1:247:C:N4 | 29:B1:248:U:C2 | 2.88 | 0.42 |
| 29:B1:268:A:N6 | 29:B1:296:A:OP2 | 2.52 | 0.42 |
| 29:B1:377:A:H2' | 29:B1:391:A:H61 | 1.82 | 0.42 |
| 29:B1:394:G:N2 | 29:B1:399:A:C8 | 2.87 | 0.42 |
| 29:B1:574:U:C2' | 29:B1:575:G:C5' | 2.59 | 0.42 |
| 29:B1:756:U:C5' | 29:B1:757:C:OP2 | 2.66 | 0.42 |
| 29:B1:800:G:C4 | 29:B1:933:A:N6 | 2.88 | 0.42 |
| 29:B1:836:A:H3' | 29:B1:837:A:H8 | 1.85 | 0.42 |
| 29:B1:943:U:C3' | 54:BY:10:LYS:HA | 2.46 | 0.42 |
| 29:B1:1064:A:H5" | 29:B1:1095:U:C4 | 2.55 | 0.42 |
| 29:B1:1103:A:O4' | 29:B1:1103:A:OP1 | 2.37 | 0.42 |
| 29:B1:1220:U:H2' | 29:B1:1286:A:N6 | 2.34 | 0.42 |
| 29:B1:1237:G:C2 | 29:B1:1263:A:N1 | 2.88 | 0.42 |
| 29:B1:1257:C:OP2 | 29:B1:1258:U:C2 | 2.72 | 0.42 |
| 29:B1:1279:C:C2 | 29:B1:1280:C:C6 | 3.07 | 0.42 |
| 29:B1:1435:A:C8 | 29:B1:1437:C:C1' | 3.03 | 0.42 |
| 29:B1:1455:U:OP1 | 29:B1:3078:U:C2 | 2.72 | 0.42 |
| 29:B1:1468:A:C6 | 29:B1:1469:C:N4 | 2.88 | 0.42 |
| 29:B1:1648:A:C2' | 29:B1:1649:U:O4' | 2.53 | 0.42 |
| 29:B1:1700:G:C5 | 29:B1:1701:C:C5 | 3.07 | 0.42 |
| 29:B1:1794:G:H5" | 33:BB:186:PHE:CB | 2.49 | 0.42 |
| 29:B1:1814:A:O3' | 29:B1:1816:A:N3 | 2.52 | 0.42 |
| 29:B1:1838:G:C5' | 29:B1:1839:A:O4' | 2.68 | 0.42 |
| 29:B1:2155:G:C6 | 29:B1:2156:C:C4 | 3.08 | 0.42 |
| 29:B1:2255:A:H4' | 29:B1:2256:A:OP1 | 2.12 | 0.42 |
| 29:B1:2328:U:N3 | 29:B1:2329:C:C5 | 2.88 | 0.42 |
| 29:B1:2416:U:H2' | 29:B1:2417:U:C6 | 2.55 | 0.42 |
| 29:B1:2436:U:C5' | 29:B1:2437:G:OP2 | 2.64 | 0.42 |
| 29:B1:2843:U:H3' | 29:B1:2843:U:P | 2.59 | 0.42 |
| 29:B1:2859:U:O2' | 74:B1:3417:OHX:N4 | 2.53 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2917:G:N3 | 29:B1:2918:G:C8 | 2.88 | 0.42 |
| 29:B1:3070:A:C4 | 29:B1:3071:U:C5 | 3.08 | 0.42 |
| 29:B1:3088:G:C5 | 29:B1:3089:C:C4 | 3.07 | 0.42 |
| 29:B1:3113:A:C2 | 29:B1:3122:A:C8 | 3.07 | 0.42 |
| 29:B1:3152:U:H5' | 29:B1:3294:A:C4' | 2.50 | 0.42 |
| 29:B1:3197:G:H2' | 29:B1:3198:U:OP1 | 2.19 | 0.42 |
| 29:B1:3274:A:C1' | 29:B1:3275:U:O5' | 2.57 | 0.42 |
| 29:B1:3323:A:C2 | 29:B1:3324:C:C2 | 3.08 | 0.42 |
| 31:B3:102:U:O4 | 31:B3:103:G:C6 | 2.73 | 0.42 |
| 31:B3:143:U:H2' | 31:B3:144:G:H8 | 1.78 | 0.42 |
| 32:BA:167:VAL:O | 32:BA:168:ALA:HB2 | 2.19 | 0.42 |
| 33:BB:184:ARG:C | 33:BB:186:PHE:N | 2.73 | 0.42 |
| 34:BC:201:LYS:C | 34:BC:203:VAL:H | 2.27 | 0.42 |
| 35:BD:39:PHE:C | 35:BD:41:SER:N | 2.77 | 0.42 |
| 35:BD:251:THR:O | 35:BD:252:GLU:O | 2.37 | 0.42 |
| 37:BF:16:ALA:C | 37:BF:18:LEU:H | 2.27 | 0.42 |
| 37:BF:152:THR:O | 37:BF:153:PRO:C | 2.63 | 0.42 |
| 43:BN:102:LYS:O | 43:BN:104:ALA:N | 2.53 | 0.42 |
| 45:BP:137:THR:C | 45:BP:139:GLY:N | 2.75 | 0.42 |
| 45:BP:184:THR:O | 45:BP:187:GLU:CB | 2.67 | 0.42 |
| 47:BR:51:ALA:O | 47:BR:52:LEU:C | 2.59 | 0.42 |
| 47:BR:123:THR:C | 47:BR:125:ASP:H | 2.26 | 0.42 |
| 48:BS:25:ASP:O | 48:BS:27:ASN:N | 2.51 | 0.42 |
| 48:BS:146:LYS:O | 48:BS:147:ALA:C | 2.62 | 0.42 |
| 49:BT:26:HIS:C | 49:BT:28:SER:H | 2.28 | 0.42 |
| 51:BV:34:SER:O | 51:BV:35:LYS:C | 2.62 | 0.42 |
| 58:Bc:39:PRO:O | 58:Bc:41:LEU:O | 2.37 | 0.42 |
| 59:Bd:26:SER:CB | 59:Bd:35:SER:CB | 2.97 | 0.42 |
| 60:Be:6:SER:O | 60:Be:7:PHE:C | 2.62 | 0.42 |
| 1:C1:8:U:O2' | 74:C1:1953:OHX:N4 | 2.52 | 0.42 |
| 1:C1:14:C:C2 | 1:C1:15:U:C5 | 3.07 | 0.42 |
| 1:C1:93:A:N6 | 1:C1:398:G:C5 | 2.87 | 0.42 |
| 1:C1:234:G:H3' | 1:C1:234:G:N3 | 2.35 | 0.42 |
| 1:C1:321:C:C2' | 1:C1:322:G:C5' | 2.94 | 0.42 |
| 1:C1:335:U:H5' | 1:C1:336:G:OP2 | 2.19 | 0.42 |
| 1:C1:391:A:C2 | 1:C1:392:G:C4 | 3.07 | 0.42 |
| 1:C1:392:G:C2 | 1:C1:406:U:N3 | 2.88 | 0.42 |
| 1:C1:518:A:C3' | 1:C1:519:C:C5' | 2.98 | 0.42 |
| 1:C1:521:A:C5' | 1:C1:522:U:OP1 | 2.68 | 0.42 |
| 1:C1:550:A:O4' | 1:C1:556:A:C2 | 2.73 | 0.42 |
| 1:C1:636:A:C2 | 1:C1:861:U:O2 | 2.72 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:637:C:O2' | 1:C1:638:U:H5' | 2.20 | 0.42 |
| 1:C1:701:U:H2' | 1:C1:702:G:H1' | 2.00 | 0.42 |
| 1:C1:827:C:O2' | 1:C1:828:U:O4' | 2.33 | 0.42 |
| 1:C1:1030:A:C5 | 1:C1:1792:G:C6 | 3.07 | 0.42 |
| 1:C1:1035:G:C2' | 1:C1:1036:A:O4' | 2.67 | 0.42 |
| 1:C1:1050:G:H2' | 1:C1:1051:G:H4' | 2.02 | 0.42 |
| 1:C1:1196:A:C4' | 1:C1:1197:C:O5' | 2.67 | 0.42 |
| 1:C1:1348:A:N3 | 1:C1:1379:C:C6 | 2.87 | 0.42 |
| 1:C1:1348:A:C5 | 1:C1:1349:G:H5' | 2.55 | 0.42 |
| 1:C1:1443:U:O5' | 1:C1:1443:U:H6 | 2.03 | 0.42 |
| 1:C1:1474:G:C2 | 1:C1:1475:A:C4 | 3.07 | 0.42 |
| 1:C1:1528:U:H2' | 1:C1:1529:C:C6 | 2.55 | 0.42 |
| 1:C1:1528:U:H2' | 1:C1:1529:C:H6 | 1.84 | 0.42 |
| 1:C1:1550:A:C4 | 1:C1:1551:U:C5 | 3.08 | 0.42 |
| 1:C1:1566:U:H5" | 13:CL:39:GLY:N | 2.35 | 0.42 |
| 1:C1:1579:U:N3 | 1:C1:1580:C:C5 | 2.87 | 0.42 |
| 1:C1:1595:U:H6 | 1:C1:1596:C:C2 | 2.37 | 0.42 |
| 1:C1:1600:A:O2' | 1:C1:1602:C:N4 | 2.51 | 0.42 |
| 1:C1:1622:G:H3' | 1:C1:1623:C:C6 | 2.45 | 0.42 |
| 1:C1:1643:U:C2 | 1:C1:1644:C:C6 | 3.08 | 0.42 |
| 1:C1:1720:G:C6 | 1:C1:1721:A:N3 | 2.87 | 0.42 |
| 1:C1:1756:A:C8 | 1:C1:1756:A:P | 3.13 | 0.42 |
| 1:C1:1780:G:C5 | 1:C1:1781:A:C5 | 3.07 | 0.42 |
| 2:CA:13:ASP:O | 2:CA:14:ALA:CB | 2.68 | 0.42 |
| 4:CC:10:LYS:O | 4:CC:13:ALA:HB3 | 2.20 | 0.42 |
| 8:CG:42:ARG:C | 8:CG:44:GLY:N | 2.77 | 0.42 |
| 11:CJ:93:HIS:HA | 11:CJ:96:TYR:O | 2.19 | 0.42 |
| 13:CL:31:ALA:C | 13:CL:33:THR:H | 2.28 | 0.42 |
| 14:CM:132:LEU:O | 14:CM:133:ASP:C | 2.61 | 0.42 |
| 16:CO:29:PRO:O | 16:CO:30:SER:CB | 2.67 | 0.42 |
| 17:CP:123:LYS:O | 17:CP:124:VAL:C | 2.62 | 0.42 |
| 19:CR:28:VAL:O | 19:CR:29:ARG:CB | 2.68 | 0.42 |
| 21:CT:182:ASN:C | 21:CT:184:ASN:N | 2.77 | 0.42 |
| 23:Cb:23:UNK:CB | 23:Cb:23:UNK:C | 2.84 | 0.42 |
| 29:D1:22:G:N3 | 29:D1:23:A:C8 | 2.86 | 0.42 |
| 29:D1:30:G:C5 | 29:D1:31:C:C5 | 3.07 | 0.42 |
| 29:D1:166:C:C4 | 29:D1:167:U:C4 | 3.08 | 0.42 |
| 29:D1:197:G:H2' | 29:D1:198:A:C8 | 2.51 | 0.42 |
| 29:D1:250:U:H3' | 29:D1:251:G:C8 | 2.54 | 0.42 |
| 29:D1:315:C:O2 | 29:D1:316:U:C5 | 2.70 | 0.42 |
| 29:D1:340:C:C4 | 31:D3:25:G:C2 | 3.07 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:355:A:N1 | 29:D1:365:A:C4 | 2.88 | 0.42 |
| 29:D1:384:A:C1' | 29:D1:1465:A:C5 | 3.02 | 0.42 |
| 29:D1:405:U:C4 | 29:D1:406:G:C4 | 3.07 | 0.42 |
| 29:D1:424:G:O2' | 29:D1:425:G:OP1 | 2.32 | 0.42 |
| 29:D1:513:G:O2' | 37:DF:147:ALA:HB1 | 2.20 | 0.42 |
| 29:D1:574:U:C6 | 29:D1:574:U:C4' | 3.02 | 0.42 |
| 29:D1:595:G:C6 | 29:D1:596:C:C5 | 3.07 | 0.42 |
| 29:D1:607:A:C2 | 29:D1:608:A:C1' | 3.03 | 0.42 |
| 29:D1:740:G:N3 | 29:D1:740:G:H2' | 2.34 | 0.42 |
| 29:D1:759:U:C2 | 29:D1:773:G:N1 | 2.87 | 0.42 |
| 29:D1:761:A:C2 | 29:D1:762:U:C1' | 3.00 | 0.42 |
| 29:D1:993:G:H1 | 29:D1:1056:U:H3 | 1.66 | 0.42 |
| 29:D1:1024:G:N7 | 29:D1:1025:A:N7 | 2.67 | 0.42 |
| 29:D1:1083:G:O2' | 29:D1:1084:A:O5' | 2.31 | 0.42 |
| 29:D1:1145:G:C5 | 29:D1:1146:C:C6 | 3.08 | 0.42 |
| 29:D1:1150:A:H3' | 29:D1:1151:U:H6 | 1.84 | 0.42 |
| 29:D1:1217:A:C6 | 29:D1:1218:U:C4 | 3.07 | 0.42 |
| 29:D1:1239:C:O3' | 72:DL:97:ASN:O | 2.36 | 0.42 |
| 29:D1:1265:U:O4 | 29:D1:1276:U:C2 | 2.72 | 0.42 |
| 29:D1:1329:U:HO2' | 29:D1:1330:A:P | 2.42 | 0.42 |
| 29:D1:1352:A:C8 | 29:D1:1352:A:OP2 | 2.72 | 0.42 |
| 29:D1:1370:G:OP1 | 54:DY:15:VAL:O | 2.38 | 0.42 |
| 29:D1:1472:U:H2' | 29:D1:1473:G:H8 | 1.85 | 0.42 |
| 29:D1:1506:A:N6 | 29:D1:1513:G:C6 | 2.87 | 0.42 |
| 29:D1:1558:A:H5" | 29:D1:1559:A:O4' | 2.18 | 0.42 |
| 29:D1:1595:U:C2 | 29:D1:1596:C:C5 | 3.07 | 0.42 |
| 29:D1:1636:U:H3 | 29:D1:1710:C:C1' | 2.33 | 0.42 |
| 29:D1:1662:G:C6 | 29:D1:1663:C:N4 | 2.87 | 0.42 |
| 29:D1:1819:U:C4 | 29:D1:1820:U:O4 | 2.72 | 0.42 |
| 29:D1:2193:U:O2' | 29:D1:2194:G:P | 2.78 | 0.42 |
| 29:D1:2194:G:C6 | 29:D1:2195:C:N4 | 2.88 | 0.42 |
| 29:D1:2279:A:C4' | 29:D1:2280:A:C5' | 2.97 | 0.42 |
| 29:D1:2287:C:O2 | 29:D1:2298:U:H5" | 2.19 | 0.42 |
| 29:D1:2582:C:OP1 | 74:D1:3567:OHX:N6 | 2.52 | 0.42 |
| 29:D1:2689:A:N3 | 29:D1:2702:A:N1 | 2.64 | 0.42 |
| 29:D1:2745:G:N2 | 29:D1:2748:A:OP2 | 2.52 | 0.42 |
| 29:D1:2819:A:H5" | 29:D1:2866:U:C5 | 2.54 | 0.42 |
| 29:D1:2836:C:H2' | 29:D1:2837:A:O4' | 2.19 | 0.42 |
| 29:D1:2856:G:N1 | 29:D1:2857:C:C4 | 2.88 | 0.42 |
| 29:D1:2919:A:H2' | 29:D1:2920:U:H5' | 2.02 | 0.42 |
| 29:D1:3012:A:N3 | 29:D1:3013:U:C6 | 2.88 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3023:U:H4' | 29:D1:3024:A:OP2 | 2.19 | 0.42 |
| 29:D1:3054:U:OP2 | 29:D1:3054:U:H6 | 2.03 | 0.42 |
| 29:D1:3159:C:H2' | 29:D1:3160:U:C6 | 2.54 | 0.42 |
| 29:D1:3191:G:C4 | 29:D1:3202:G:C2 | 3.07 | 0.42 |
| 29:D1:3218:A:C4' | 29:D1:3220:G:C8 | 2.98 | 0.42 |
| 29:D1:3244:A:O2' | 29:D1:3245:A:C8 | 2.68 | 0.42 |
| 29:D1:3294:A:N1 | 29:D1:3295:A:C4 | 2.88 | 0.42 |
| 29:D1:3347:A:N6 | 29:D1:3348:G:O6 | 2.52 | 0.42 |
| 29:D1:3355:U:O2' | 29:D1:3356:G:O5' | 2.37 | 0.42 |
| 29:D1:3371:G:C6 | 29:D1:3372:A:C2 | 3.08 | 0.42 |
| 29:D1:3393:U:C4 | 29:D1:3394:U:C4 | 3.07 | 0.42 |
| 74:D1:3408:OHX:N6 | 74:D1:3582:OHX:N6 | 2.68 | 0.42 |
| 30:D2:30:G:C6 | 30:D2:31:U:C2 | 3.07 | 0.42 |
| 30:D2:63:A:N1 | 30:D2:65:G:C6 | 2.88 | 0.42 |
| 30:D2:74:C:C5 | 30:D2:75:G:C4 | 3.08 | 0.42 |
| 31:D3:35:C:H2' | 31:D3:36:G:H8 | 1.85 | 0.42 |
| 35:DD:220:ARG:C | 35:DD:222:VAL:N | 2.76 | 0.42 |
| 36:DE:36:LEU:C | 36:DE:38:THR:H | 2.28 | 0.42 |
| 36:DE:199:ILE:C | 36:DE:201:GLY:HA2 | 2.44 | 0.42 |
| 36:DE:257:GLU:CA | 36:DE:259:LYS:N | 2.76 | 0.42 |
| 36:DE:281:GLU:C | 36:DE:283:ALA:O | 2.63 | 0.42 |
| 40:DI:150:SER:CB | 40:DI:153:ASP:CB | 2.97 | 0.42 |
| 73:DM:11:TYR:C | 73:DM:13:ALA:N | 2.76 | 0.42 |
| 43:DN:49:PRO:O | 43:DN:53:VAL:O | 2.36 | 0.42 |
| 48:DS:140:GLU:O | 48:DS:143:ILE:N | 2.53 | 0.42 |
| 54:DY:134:ALA:O | 54:DY:137:LYS:N | 2.42 | 0.42 |
| 61:Df:80:ARG:O | 61:Df:82:GLN:N | 2.53 | 0.42 |
| 1:A1:86:A:O4' | 1:A1:148:A:O2' | 2.38 | 0.42 |
| 1:A1:102:U:O4 | 1:A1:360:A:C8 | 2.72 | 0.42 |
| 1:A1:149:C:H2' | 1:A1:149:C:O2 | 2.19 | 0.42 |
| 1:A1:195:G:N2 | 1:A1:196:G:C4 | 2.87 | 0.42 |
| 1:A1:200:A:HO2' | 1:A1:201:G:P | 2.42 | 0.42 |
| 1:A1:328:A:C6 | 1:A1:329:G:C5 | 3.07 | 0.42 |
| 1:A1:332:U:H3' | 1:A1:334:G:OP2 | 2.20 | 0.42 |
| 1:A1:433:C:N4 | 1:A1:434:G:C6 | 2.88 | 0.42 |
| 1:A1:492:A:C6 | 1:A1:494:U:H5" | 2.54 | 0.42 |
| 1:A1:514:G:N7 | 1:A1:538:A:C2 | 2.87 | 0.42 |
| 1:A1:549:G:N3 | 1:A1:550:A:C8 | 2.88 | 0.42 |
| 1:A1:606:A:N9 | 1:A1:608:U:C5 | 2.88 | 0.42 |
| 1:A1:713:A:C6 | 1:A1:714:G:C8 | 3.07 | 0.42 |
| 1:A1:741:C:HO2' | 1:A1:742:U:P | 2.37 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1012:U:H2' | 1:A1:1013:A:O4' | 2.18 | 0.42 |
| 1:A1:1028:C:O2' | 1:A1:1029:U:H5" | 2.20 | 0.42 |
| 1:A1:1033:C:H6 | 1:A1:1033:C:O5' | 2.03 | 0.42 |
| 1:A1:1096:C:C2' | 1:A1:1100:G:OP2 | 2.68 | 0.42 |
| 1:A1:1150:G:N3 | 1:A1:1151:A:H1' | 2.34 | 0.42 |
| 1:A1:1257:U:O2' | 1:A1:1258:U:H5" | 2.19 | 0.42 |
| 1:A1:1277:G:H5" | 4:AC:139:SER:O | 2.20 | 0.42 |
| 1:A1:1347:U:H5' | 15:AN:10:GLU:CB | 2.50 | 0.42 |
| 1:A1:1377:U:C3' | 1:A1:1378:U:H4' | 2.49 | 0.42 |
| 1:A1:1401:A:N7 | 1:A1:1402:G:N9 | 2.68 | 0.42 |
| 1:A1:1584:G:C2 | 11:AJ:125:GLU:N | 2.80 | 0.42 |
| 1:A1:1793:G:C4 | 1:A1:1794:A:C8 | 3.07 | 0.42 |
| 2:AA:146:LEU:CA | 2:AA:160:ILE:HA | 2.38 | 0.42 |
| 3:AB:130:ILE:O | 3:AB:133:LYS:CB | 2.68 | 0.42 |
| 5:AD:132:VAL:O | 5:AD:136:ALA:N | 2.53 | 0.42 |
| 6:AE:99:LEU:O | 6:AE:100:LYS:C | 2.62 | 0.42 |
| 8:AG:139:TRP:C | 8:AG:141:TYR:N | 2.78 | 0.42 |
| 10:AI:19:GLY:C | 10:AI:21:ASP:H | 2.28 | 0.42 |
| 17:AP:43:PHE:O | 17:AP:45:GLY:N | 2.53 | 0.42 |
| 21:AT:116:ASP:O | 21:AT:117:LYS:C | 2.62 | 0.42 |
| 29:B1:39:A:H3' | 29:B1:41:G:OP2 | 2.20 | 0.42 |
| 29:B1:41:G:C8 | 29:B1:42:C:H5 | 2.29 | 0.42 |
| 29:B1:66:A:H5" | 29:B1:316:U:OP1 | 2.19 | 0.42 |
| 29:B1:88:A:C4 | 29:B1:89:A:H1' | 2.54 | 0.42 |
| 29:B1:107:A:C2' | 29:B1:108:A:O5' | 2.68 | 0.42 |
| 29:B1:118:U:C6 | 29:B1:118:U:C3' | 3.03 | 0.42 |
| 29:B1:223:U:HO2' | 29:B1:224:C:P | 2.37 | 0.42 |
| 29:B1:282:G:C2 | 29:B1:286:U:C4' | 3.02 | 0.42 |
| 29:B1:295:A:H2' | 29:B1:296:A:O4' | 2.20 | 0.42 |
| 29:B1:307:A:C2' | 29:B1:308:A:H5' | 2.50 | 0.42 |
| 29:B1:522:A:C6 | 29:B1:523:A:C8 | 3.08 | 0.42 |
| 29:B1:591:G:N2 | 29:B1:592:A:N3 | 2.67 | 0.42 |
| 29:B1:667:C:H2' | 29:B1:668:G:O5' | 2.20 | 0.42 |
| 29:B1:888:A:N6 | 29:B1:889:U:H3 | 2.18 | 0.42 |
| 29:B1:895:A:C4 | 29:B1:897:U:C6 | 3.07 | 0.42 |
| 29:B1:901:G:N1 | 29:B1:902:G:C5 | 2.88 | 0.42 |
| 29:B1:1079:A:N1 | 29:B1:1080:A:N1 | 2.68 | 0.42 |
| 29:B1:1129:A:C6 | 29:B1:1130:A:N1 | 2.85 | 0.42 |
| 29:B1:1198:C:OP2 | 29:B1:1200:A:C8 | 2.73 | 0.42 |
| 29:B1:1316:C:H5' | 29:B1:1317:A:H5" | 2.01 | 0.42 |
| 29:B1:1351:U:H2' | 29:B1:1352:A:N7 | 2.34 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1399:A:N1 | 31:B3:8:C:C1’ | 2.83 | 0.42 |
| 29:B1:1440:G:C2 | 29:B1:1441:G:C8 | 3.08 | 0.42 |
| 29:B1:1455:U:H2’ | 29:B1:1456:A:N7 | 2.34 | 0.42 |
| 29:B1:1560:G:OP2 | 29:B1:1560:G:C3’ | 2.61 | 0.42 |
| 29:B1:1843:C:H2’ | 29:B1:1844:C:H6 | 1.84 | 0.42 |
| 29:B1:1869:C:O2 | 29:B1:1869:C:C2’ | 2.65 | 0.42 |
| 29:B1:1922:A:O5’ | 29:B1:1922:A:H8 | 2.03 | 0.42 |
| 29:B1:2284:C:C2 | 29:B1:2308:C:C1’ | 3.02 | 0.42 |
| 29:B1:2308:C:N4 | 29:B1:2309:A:C6 | 2.88 | 0.42 |
| 29:B1:2357:A:C2’ | 29:B1:2358:A:O5’ | 2.68 | 0.42 |
| 29:B1:2376:G:N2 | 29:B1:2377:G:C2 | 2.87 | 0.42 |
| 29:B1:2511:A:H2’ | 29:B1:2511:A:N3 | 2.34 | 0.42 |
| 29:B1:2554:A:C2 | 33:BB:85:GLY:O | 2.72 | 0.42 |
| 29:B1:2590:A:C2 | 29:B1:2591:A:C8 | 3.08 | 0.42 |
| 29:B1:2632:G:H2’ | 29:B1:2633:U:O4’ | 2.20 | 0.42 |
| 29:B1:2701:U:OP1 | 49:BT:23:GLY:HA2 | 2.20 | 0.42 |
| 29:B1:2752:U:O2 | 29:B1:2752:U:C2’ | 2.67 | 0.42 |
| 29:B1:2779:A:C4 | 29:B1:2780:A:C8 | 3.08 | 0.42 |
| 29:B1:2821:C:C6 | 29:B1:2821:C:C3’ | 3.02 | 0.42 |
| 29:B1:2840:C:C4 | 29:B1:2841:G:C5 | 3.08 | 0.42 |
| 29:B1:2883:U:O2 | 29:B1:2940:A:C2 | 2.73 | 0.42 |
| 29:B1:2902:A:H5” | 29:B1:3032:A:O2’ | 2.20 | 0.42 |
| 29:B1:2933:A:N7 | 29:B1:2934:A:C5 | 2.88 | 0.42 |
| 29:B1:3017:A:O2’ | 29:B1:3018:C:H5’ | 2.20 | 0.42 |
| 29:B1:3197:G:C2’ | 29:B1:3197:G:N3 | 2.82 | 0.42 |
| 29:B1:3201:C:N1 | 29:B1:3202:G:C8 | 2.87 | 0.42 |
| 29:B1:3242:G:H5’ | 29:B1:3243:A:OP1 | 2.19 | 0.42 |
| 29:B1:3306:U:HO2’ | 29:B1:3309:G:H1 | 1.64 | 0.42 |
| 29:B1:3331:U:C6 | 29:B1:3331:U:C5’ | 3.02 | 0.42 |
| 29:B1:3378:C:O2 | 29:B1:3378:C:C2’ | 2.50 | 0.42 |
| 30:B2:32:U:H4’ | 30:B2:33:U:OP1 | 2.19 | 0.42 |
| 30:B2:60:G:C2 | 30:B2:61:G:N7 | 2.88 | 0.42 |
| 31:B3:69:U:C3’ | 31:B3:70:G:C4’ | 2.81 | 0.42 |
| 31:B3:72:A:O3’ | 31:B3:73:U:H4’ | 2.20 | 0.42 |
| 31:B3:75:G:O5’ | 31:B3:89:A:O2’ | 2.37 | 0.42 |
| 34:BC:216:ASP:CB | 34:BC:278:ILE:HA | 2.49 | 0.42 |
| 36:BE:80:SER:C | 36:BE:82:GLU:N | 2.77 | 0.42 |
| 36:BE:125:VAL:HA | 36:BE:126:GLU:HA | 1.62 | 0.42 |
| 37:BF:92:SER:O | 37:BF:95:GLY:N | 2.51 | 0.42 |
| 37:BF:121:LEU:C | 37:BF:123:PRO:N | 2.78 | 0.42 |
| 45:BP:150:GLU:O | 45:BP:151:ASP:C | 2.61 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 46:BQ:43:LYS:O | 46:BQ:46:LYS:CB | 2.68 | 0.42 |
| 55:BZ:88:GLY:O | 55:BZ:89:VAL:CB | 2.68 | 0.42 |
| 59:Bd:62:GLY:C | 59:Bd:64:MET:N | 2.77 | 0.42 |
| 1:C1:30:G:C4 | 1:C1:597:G:C6 | 3.08 | 0.42 |
| 1:C1:170:U:O2 | 1:C1:170:U:C2' | 2.67 | 0.42 |
| 1:C1:185:U:C2' | 1:C1:186:C:O4' | 2.67 | 0.42 |
| 1:C1:214:G:H3' | 1:C1:215:A:C5' | 2.50 | 0.42 |
| 1:C1:283:U:C5' | 1:C1:284:G:OP2 | 2.68 | 0.42 |
| 1:C1:328:A:N1 | 1:C1:329:G:C5 | 2.88 | 0.42 |
| 1:C1:420:A:H2' | 1:C1:421:A:O5' | 2.19 | 0.42 |
| 1:C1:440:U:H3' | 1:C1:441:A:C5' | 2.42 | 0.42 |
| 1:C1:445:A:C2 | 1:C1:446:A:C5 | 3.08 | 0.42 |
| 1:C1:687:G:N2 | 1:C1:688:G:C5 | 2.87 | 0.42 |
| 1:C1:926:A:C5 | 1:C1:927:C:C5 | 3.07 | 0.42 |
| 1:C1:937:C:H2' | 1:C1:938:G:O4' | 2.20 | 0.42 |
| 1:C1:1028:C:C5 | 1:C1:1030:A:H1' | 2.55 | 0.42 |
| 1:C1:1066:C:N3 | 1:C1:1067:C:C6 | 2.88 | 0.42 |
| 1:C1:1076:A:C8 | 1:C1:1077:C:C6 | 3.08 | 0.42 |
| 1:C1:1101:G:H8 | 1:C1:1101:G:P | 2.41 | 0.42 |
| 1:C1:1150:G:O2' | 1:C1:1151:A:P | 2.78 | 0.42 |
| 1:C1:1221:A:C2' | 1:C1:1222:C:H5' | 2.50 | 0.42 |
| 1:C1:1250:U:O2 | 1:C1:1251:U:C2 | 2.72 | 0.42 |
| 1:C1:1271:G:H2' | 1:C1:1272:U:H6 | 1.76 | 0.42 |
| 1:C1:1271:G:C6 | 1:C1:1272:U:O4 | 2.73 | 0.42 |
| 1:C1:1279:C:H2' | 1:C1:1280:C:O4' | 2.20 | 0.42 |
| 1:C1:1330:G:C2' | 1:C1:1331:A:H5' | 2.49 | 0.42 |
| 1:C1:1363:U:C2' | 1:C1:1364:G:C1' | 2.87 | 0.42 |
| 1:C1:1391:A:C2 | 1:C1:1392:U:C5 | 3.08 | 0.42 |
| 1:C1:1424:A:C6 | 1:C1:1425:A:C5 | 3.08 | 0.42 |
| 1:C1:1458:G:H5" | 1:C1:1459:C:C5 | 2.45 | 0.42 |
| 1:C1:1492:A:C1' | 1:C1:1493:A:O5' | 2.67 | 0.42 |
| 1:C1:1557:U:O2 | 1:C1:1557:U:C2' | 2.67 | 0.42 |
| 1:C1:1607:G:N3 | 1:C1:1608:U:C6 | 2.88 | 0.42 |
| 1:C1:1636:C:C4' | 1:C1:1637:C:OP2 | 2.59 | 0.42 |
| 1:C1:1708:U:H6 | 1:C1:1708:U:H3' | 1.84 | 0.42 |
| 1:C1:1793:G:C2 | 1:C1:1794:A:H1' | 2.55 | 0.42 |
| 1:C1:1793:G:C5 | 1:C1:1794:A:C8 | 3.08 | 0.42 |
| 2:CA:160:ILE:O | 2:CA:161:PRO:C | 2.62 | 0.42 |
| 2:CA:169:SER:O | 2:CA:173:ILE:CB | 2.68 | 0.42 |
| 8:CG:96:VAL:C | 8:CG:98:VAL:N | 2.76 | 0.42 |
| 8:CG:145:THR:CA | 8:CG:146:ALA:HB2 | 2.40 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 9:CH:65:GLN:C | 9:CH:67:VAL:N | 2.77 | 0.42 |
| 10:CI:85:ILE:O | 10:CI:86:VAL:C | 2.61 | 0.42 |
| 10:CI:116:LEU:C | 10:CI:118:GLU:N | 2.74 | 0.42 |
| 20:CS:51:GLY:O | 20:CS:52:PHE:C | 2.63 | 0.42 |
| 28:Ch:24:UNK:CA | 29:D1:3352:U:OP1 | 2.68 | 0.42 |
| 29:D1:4:U:O2 | 29:D1:4:U:H2' | 2.19 | 0.42 |
| 29:D1:352:A:O4' | 29:D1:354:U:C6 | 2.73 | 0.42 |
| 29:D1:363:G:H3' | 29:D1:364:G:C5' | 2.50 | 0.42 |
| 29:D1:412:G:C5 | 29:D1:413:U:C4 | 3.08 | 0.42 |
| 29:D1:515:C:C6 | 29:D1:515:C:OP2 | 2.73 | 0.42 |
| 29:D1:537:A:OP1 | 29:D1:538:G:H5' | 2.18 | 0.42 |
| 29:D1:538:G:N3 | 29:D1:556:U:H5 | 2.16 | 0.42 |
| 29:D1:540:U:H2' | 29:D1:541:U:H6 | 1.76 | 0.42 |
| 29:D1:594:U:C4 | 29:D1:595:G:N1 | 2.85 | 0.42 |
| 29:D1:665:A:C5 | 29:D1:666:A:N7 | 2.88 | 0.42 |
| 29:D1:667:C:C2' | 29:D1:668:G:O5' | 2.68 | 0.42 |
| 29:D1:865:U:C4 | 29:D1:866:A:C5 | 3.07 | 0.42 |
| 29:D1:1001:G:C8 | 29:D1:1042:U:P | 3.13 | 0.42 |
| 29:D1:1175:C:H3' | 29:D1:1175:C:P | 2.59 | 0.42 |
| 29:D1:1203:A:C2 | 29:D1:2856:G:H1' | 2.55 | 0.42 |
| 29:D1:1262:G:O6 | 29:D1:1264:G:N2 | 2.52 | 0.42 |
| 29:D1:1287:A:C4 | 29:D1:1288:U:C5 | 3.07 | 0.42 |
| 29:D1:1300:G:OP2 | 29:D1:1301:A:O2' | 2.33 | 0.42 |
| 29:D1:1317:A:OP2 | 29:D1:1317:A:H3' | 2.19 | 0.42 |
| 29:D1:1345:G:C6 | 74:D1:3480:OHX:N6 | 2.88 | 0.42 |
| 29:D1:1565:G:C6 | 29:D1:1566:A:H1' | 2.54 | 0.42 |
| 29:D1:1688:U:H3' | 29:D1:1689:U:H5 | 1.83 | 0.42 |
| 29:D1:1901:A:OP2 | 29:D1:1903:U:O4 | 2.38 | 0.42 |
| 29:D1:1921:A:N6 | 29:D1:1930:A:C8 | 2.86 | 0.42 |
| 29:D1:2158:A:N7 | 29:D1:2177:G:C2 | 2.87 | 0.42 |
| 29:D1:2161:G:N3 | 29:D1:2161:G:H2' | 2.35 | 0.42 |
| 29:D1:2505:U:H2' | 29:D1:2506:U:N1 | 2.34 | 0.42 |
| 29:D1:2676:A:H2 | 29:D1:2680:A:C5 | 2.36 | 0.42 |
| 29:D1:2746:A:C6 | 29:D1:2747:A:N3 | 2.87 | 0.42 |
| 29:D1:2747:A:OP1 | 74:D1:3462:OHX:N2 | 2.52 | 0.42 |
| 29:D1:2785:A:C6 | 29:D1:2786:G:C5 | 3.07 | 0.42 |
| 29:D1:2837:A:C8 | 29:D1:2845:A:H2 | 2.37 | 0.42 |
| 29:D1:2903:A:C6 | 29:D1:2904:U:C5 | 3.07 | 0.42 |
| 29:D1:2992:U:C2' | 29:D1:2993:G:C5' | 2.80 | 0.42 |
| 29:D1:3013:U:O2 | 29:D1:3014:U:C6 | 2.72 | 0.42 |
| 29:D1:3112:G:C2 | 29:D1:3121:U:C5 | 3.08 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3196:U:H1' | 29:D1:3197:G:C6 | 2.53 | 0.42 |
| 29:D1:3228:C:C2' | 29:D1:3229:G:H8 | 2.26 | 0.42 |
| 30:D2:110:G:C5 | 30:D2:111:U:N3 | 2.88 | 0.42 |
| 31:D3:109:A:H2' | 31:D3:110:C:O4' | 2.19 | 0.42 |
| 34:DC:83:PRO:CB | 34:DC:204:ALA:CB | 2.97 | 0.42 |
| 34:DC:342:LEU:O | 34:DC:343:TYR:CB | 2.68 | 0.42 |
| 35:DD:70:ALA:O | 35:DD:71:VAL:O | 2.37 | 0.42 |
| 36:DE:53:VAL:HA | 36:DE:62:CYS:HA | 2.00 | 0.42 |
| 36:DE:111:GLN:C | 36:DE:115:LEU:H | 2.27 | 0.42 |
| 36:DE:114:GLY:H | 36:DE:117:GLU:H | 1.68 | 0.42 |
| 37:DF:143:LYS:O | 37:DF:144:ALA:O | 2.37 | 0.42 |
| 40:DI:104:VAL:CB | 40:DI:105:GLU:CB | 2.98 | 0.42 |
| 43:DN:11:ASN:CB | 43:DN:64:VAL:HA | 2.50 | 0.42 |
| 48:DS:84:THR:O | 48:DS:85:ARG:C | 2.62 | 0.42 |
| 54:DY:29:PRO:O | 54:DY:31:GLY:N | 2.52 | 0.42 |
| 54:DY:135:GLU:C | 54:DY:137:LYS:H | 2.28 | 0.42 |
| 57:Db:60:ASN:O | 57:Db:61:LYS:C | 2.62 | 0.42 |
| 61:Df:4:VAL:O | 61:Df:5:PRO:CB | 2.66 | 0.42 |
| 1:A1:142:G:C4 | 1:A1:266:A:N6 | 2.87 | 0.42 |
| 1:A1:148:A:C5' | 1:A1:149:C:OP2 | 2.64 | 0.42 |
| 1:A1:248:U:C1' | 1:A1:249:U:OP1 | 2.68 | 0.42 |
| 1:A1:389:G:C5 | 1:A1:390:G:C6 | 3.07 | 0.42 |
| 1:A1:390:G:H22 | 1:A1:407:A:N6 | 2.10 | 0.42 |
| 1:A1:518:A:C2' | 1:A1:519:C:C5' | 2.92 | 0.42 |
| 1:A1:774:A:C2 | 1:A1:775:G:C1' | 3.02 | 0.42 |
| 1:A1:806:A:C4 | 1:A1:807:A:N7 | 2.88 | 0.42 |
| 1:A1:934:C:O2' | 1:A1:935:U:H5' | 2.20 | 0.42 |
| 1:A1:1075:C:N4 | 1:A1:1076:A:N1 | 2.67 | 0.42 |
| 1:A1:1150:G:C2' | 1:A1:1151:A:O5' | 2.68 | 0.42 |
| 1:A1:1159:C:H5' | 1:A1:1159:C:H6 | 1.84 | 0.42 |
| 1:A1:1179:G:C6 | 1:A1:1180:C:N3 | 2.88 | 0.42 |
| 1:A1:1239:U:H2' | 1:A1:1240:U:OP2 | 2.20 | 0.42 |
| 1:A1:1241:G:N3 | 1:A1:1243:G:C8 | 2.87 | 0.42 |
| 1:A1:1253:U:H2' | 1:A1:1254:U:O2 | 2.19 | 0.42 |
| 1:A1:1297:G:C2 | 1:A1:1301:U:N3 | 2.87 | 0.42 |
| 1:A1:1347:U:O3' | 1:A1:1348:A:N7 | 2.52 | 0.42 |
| 1:A1:1365:C:N4 | 1:A1:1366:U:C5 | 2.88 | 0.42 |
| 1:A1:1390:U:C2' | 1:A1:1391:A:OP2 | 2.67 | 0.42 |
| 1:A1:1400:A:C2 | 1:A1:1401:A:C4 | 3.08 | 0.42 |
| 1:A1:1512:G:C6 | 1:A1:1513:G:C5 | 3.08 | 0.42 |
| 1:A1:1541:G:H2' | 1:A1:1542:G:C8 | 2.54 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1545:A:OP1 | 13:AL:132:ARG:CA | 2.68 | 0.42 |
| 1:A1:1606:C:H2' | 1:A1:1607:G:H8 | 1.85 | 0.42 |
| 1:A1:1645:G:H3' | 1:A1:1645:G:C8 | 2.55 | 0.42 |
| 1:A1:1667:A:C4 | 1:A1:1668:G:N7 | 2.87 | 0.42 |
| 1:A1:1753:A:N3 | 1:A1:1753:A:C2' | 2.83 | 0.42 |
| 1:A1:1779:U:O2' | 1:A1:1780:G:O5' | 2.31 | 0.42 |
| 2:AA:91:ALA:C | 2:AA:93:THR:N | 2.78 | 0.42 |
| 3:AB:128:GLY:O | 3:AB:129:ILE:C | 2.61 | 0.42 |
| 12:AK:19:ARG:O | 12:AK:21:TYR:N | 2.53 | 0.42 |
| 13:AL:27:LYS:HA | 13:AL:57:ARG:CA | 2.48 | 0.42 |
| 13:AL:53:ASP:O | 13:AL:54:LEU:C | 2.62 | 0.42 |
| 29:B1:35:A:O2' | 29:B1:810:A:H1' | 2.20 | 0.42 |
| 29:B1:117:U:C6 | 29:B1:117:U:H3' | 2.55 | 0.42 |
| 29:B1:233:C:H2' | 29:B1:234:G:O4' | 2.20 | 0.42 |
| 29:B1:264:G:N1 | 29:B1:265:A:C5 | 2.88 | 0.42 |
| 29:B1:301:G:C5 | 29:B1:302:U:C5 | 3.07 | 0.42 |
| 29:B1:347:G:C2 | 29:B1:353:G:N7 | 2.88 | 0.42 |
| 29:B1:388:G:O2' | 46:BQ:17:ALA:HB1 | 2.19 | 0.42 |
| 29:B1:541:U:C6 | 29:B1:541:U:OP2 | 2.72 | 0.42 |
| 29:B1:754:G:H1 | 29:B1:778:U:H3 | 1.64 | 0.42 |
| 29:B1:818:C:H2' | 29:B1:819:U:C5' | 2.47 | 0.42 |
| 29:B1:910:G:C5 | 29:B1:911:C:C4 | 3.07 | 0.42 |
| 29:B1:955:U:O2' | 29:B1:2727:A:N6 | 2.53 | 0.42 |
| 29:B1:1145:G:O3' | 57:Bb:46:PHE:HA | 2.20 | 0.42 |
| 29:B1:1313:G:C2 | 29:B1:1314:C:N1 | 2.88 | 0.42 |
| 29:B1:1393:A:H2 | 29:B1:1394:A:C4 | 2.35 | 0.42 |
| 29:B1:1394:A:N7 | 29:B1:1395:G:C5 | 2.88 | 0.42 |
| 29:B1:1504:A:C3' | 29:B1:1505:C:C5' | 2.92 | 0.42 |
| 29:B1:1541:G:C4' | 29:B1:1542:G:OP2 | 2.68 | 0.42 |
| 29:B1:1644:C:N4 | 29:B1:1805:C:OP1 | 2.53 | 0.42 |
| 29:B1:1658:G:C2 | 29:B1:1796:G:O6 | 2.73 | 0.42 |
| 29:B1:1830:G:N3 | 29:B1:1831:U:C6 | 2.88 | 0.42 |
| 29:B1:2137:U:O2 | 29:B1:2137:U:C2' | 2.58 | 0.42 |
| 29:B1:2179:C:O2 | 33:BB:129:ALA:O | 2.38 | 0.42 |
| 29:B1:2213:A:N6 | 29:B1:2232:A:C4 | 2.88 | 0.42 |
| 29:B1:2353:G:N3 | 29:B1:2354:C:H6 | 2.17 | 0.42 |
| 29:B1:2408:U:O2' | 29:B1:2409:G:H5' | 2.19 | 0.42 |
| 29:B1:2602:G:C2' | 29:B1:2603:G:O5' | 2.68 | 0.42 |
| 29:B1:2680:A:H3' | 29:B1:2680:A:H8 | 1.85 | 0.42 |
| 29:B1:2720:G:C4 | 29:B1:2721:A:C8 | 3.08 | 0.42 |
| 29:B1:2850:G:OP1 | 29:B1:2850:G:C4' | 2.53 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2879:C:C4 | 29:B1:2880:U:C4 | 3.06 | 0.42 |
| 29:B1:3244:A:N9 | 29:B1:3245:A:H8 | 2.17 | 0.42 |
| 30:B2:14:U:O2' | 30:B2:15:C:O5' | 2.37 | 0.42 |
| 30:B2:30:G:C6 | 30:B2:49:G:C6 | 3.07 | 0.42 |
| 30:B2:63:A:C6 | 30:B2:65:G:O6 | 2.73 | 0.42 |
| 31:B3:50:C:N4 | 31:B3:79:A:H61 | 2.17 | 0.42 |
| 31:B3:76:C:C4 | 53:BX:75:ARG:CB | 3.03 | 0.42 |
| 31:B3:99:C:C5' | 31:B3:100:U:OP1 | 2.68 | 0.42 |
| 32:BA:101:LYS:O | 32:BA:104:SER:N | 2.52 | 0.42 |
| 34:BC:145:GLU:HA | 34:BC:149:ALA:H | 1.85 | 0.42 |
| 36:BE:111:GLN:O | 36:BE:115:LEU:CB | 2.68 | 0.42 |
| 36:BE:141:PRO:CA | 36:BE:143:LYS:H | 2.32 | 0.42 |
| 39:BH:241:LYS:O | 39:BH:242:ALA:C | 2.61 | 0.42 |
| 40:BI:27:VAL:O | 40:BI:33:THR:HA | 2.20 | 0.42 |
| 42:BK:84:LEU:C | 42:BK:89:TYR:H | 2.25 | 0.42 |
| 42:BK:133:ARG:H | 42:BK:155:THR:HA | 1.84 | 0.42 |
| 42:BK:156:LYS:C | 42:BK:158:ASP:N | 2.75 | 0.42 |
| 45:BP:194:LEU:O | 45:BP:196:ALA:N | 2.53 | 0.42 |
| 48:BS:12:ALA:O | 48:BS:13:SER:C | 2.62 | 0.42 |
| 57:Bb:6:HIS:O | 57:Bb:7:PRO:O | 2.37 | 0.42 |
| 62:Bg:75:ALA:C | 62:Bg:77:ALA:H | 2.28 | 0.42 |
| 65:Bk:11:UNK:HA | 65:Bk:14:UNK:CB | 2.49 | 0.42 |
| 71:Br:15:UNK:O | 71:Br:18:UNK:N | 2.53 | 0.42 |
| 1:C1:28:A:C2 | 1:C1:29:U:C2 | 3.08 | 0.42 |
| 1:C1:93:A:C6 | 1:C1:398:G:C5 | 3.08 | 0.42 |
| 1:C1:95:G:N3 | 1:C1:95:G:H2' | 2.34 | 0.42 |
| 1:C1:225:A:HO2' | 1:C1:226:A:H8 | 1.66 | 0.42 |
| 1:C1:270:C:H2' | 1:C1:270:C:O2 | 2.19 | 0.42 |
| 1:C1:322:G:C5 | 1:C1:337:G:N2 | 2.88 | 0.42 |
| 1:C1:357:G:C2' | 1:C1:358:U:H6 | 2.19 | 0.42 |
| 1:C1:359:A:OP1 | 1:C1:359:A:N3 | 2.52 | 0.42 |
| 1:C1:386:G:O2' | 1:C1:387:A:P | 2.77 | 0.42 |
| 1:C1:469:C:H2' | 1:C1:470:A:C6 | 2.54 | 0.42 |
| 1:C1:545:A:H2 | 1:C1:546:U:C2 | 2.38 | 0.42 |
| 1:C1:572:C:C4 | 1:C1:573:C:C5 | 3.08 | 0.42 |
| 1:C1:599:A:C5 | 1:C1:600:U:C4 | 3.08 | 0.42 |
| 1:C1:714:G:C2 | 1:C1:715:U:N3 | 2.88 | 0.42 |
| 1:C1:813:U:O2' | 1:C1:814:A:P | 2.78 | 0.42 |
| 1:C1:948:G:C6 | 1:C1:949:C:N4 | 2.88 | 0.42 |
| 1:C1:1057:U:H1' | 1:C1:1062:A:H61 | 1.85 | 0.42 |
| 1:C1:1073:G:N1 | 1:C1:1074:G:N1 | 2.68 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1086:A:N7 | 1:C1:1087:A:C5 | 2.88 | 0.42 |
| 1:C1:1102:G:H2' | 1:C1:1103:U:O4' | 2.19 | 0.42 |
| 1:C1:1150:G:N3 | 1:C1:1151:A:H1' | 2.34 | 0.42 |
| 1:C1:1384:A:C4 | 1:C1:1385:G:C8 | 3.07 | 0.42 |
| 1:C1:1467:C:C5' | 1:C1:1602:C:OP1 | 2.58 | 0.42 |
| 1:C1:1508:U:C4 | 74:C1:1903:OHX:N1 | 2.88 | 0.42 |
| 1:C1:1527:C:C2 | 1:C1:1528:U:C5 | 3.07 | 0.42 |
| 1:C1:1558:U:H5 | 1:C1:1559:A:H2' | 1.79 | 0.42 |
| 1:C1:1579:U:O4 | 1:C1:1580:C:N4 | 2.53 | 0.42 |
| 1:C1:1583:A:H2 | 1:C1:1585:U:O4 | 2.01 | 0.42 |
| 74:C1:1924:OHX:N6 | 74:C1:1964:OHX:N6 | 2.67 | 0.42 |
| 3:CB:83:ILE:HA | 3:CB:100:ALA:HB2 | 2.00 | 0.42 |
| 4:CC:164:VAL:C | 4:CC:166:ASP:H | 2.28 | 0.42 |
| 6:CE:98:ALA:O | 6:CE:99:LEU:O | 2.38 | 0.42 |
| 6:CE:181:ALA:C | 6:CE:183:ALA:H | 2.27 | 0.42 |
| 11:CJ:42:GLU:O | 11:CJ:43:ILE:C | 2.63 | 0.42 |
| 23:Cb:54:UNK:O | 23:Cb:56:UNK:N | 2.52 | 0.42 |
| 24:Cc:78:UNK:C | 24:Cc:80:UNK:H | 2.33 | 0.42 |
| 29:D1:66:A:C6 | 29:D1:68:C:C2 | 3.08 | 0.42 |
| 29:D1:104:G:O5' | 29:D1:104:G:H8 | 2.02 | 0.42 |
| 29:D1:198:A:C1' | 29:D1:218:G:N3 | 2.78 | 0.42 |
| 29:D1:204:A:H5' | 29:D1:205:C:OP2 | 2.20 | 0.42 |
| 29:D1:222:A:C4 | 29:D1:223:U:C5 | 3.08 | 0.42 |
| 29:D1:253:A:C6 | 29:D1:254:A:C5 | 3.08 | 0.42 |
| 29:D1:347:G:C6 | 29:D1:348:A:N6 | 2.88 | 0.42 |
| 29:D1:419:G:N7 | 74:D3:201:OHX:N5 | 2.68 | 0.42 |
| 29:D1:500:C:H2' | 29:D1:501:A:O4' | 2.20 | 0.42 |
| 29:D1:523:A:C2 | 29:D1:524:U:O4' | 2.73 | 0.42 |
| 29:D1:595:G:C8 | 29:D1:595:G:C3' | 3.02 | 0.42 |
| 29:D1:701:G:O2' | 29:D1:702:C:H5' | 2.20 | 0.42 |
| 29:D1:760:G:N2 | 29:D1:761:A:N7 | 2.50 | 0.42 |
| 29:D1:857:G:O2' | 29:D1:858:A:P | 2.78 | 0.42 |
| 29:D1:900:G:N2 | 29:D1:1589:A:C5 | 2.88 | 0.42 |
| 29:D1:916:G:C5 | 29:D1:924:G:C4 | 3.08 | 0.42 |
| 29:D1:917:A:C4 | 29:D1:918:C:C5 | 3.07 | 0.42 |
| 29:D1:955:U:C4 | 29:D1:956:U:O4 | 2.73 | 0.42 |
| 29:D1:1031:C:N4 | 29:D1:1032:C:C4 | 2.87 | 0.42 |
| 29:D1:1064:A:O2' | 29:D1:1065:A:O5' | 2.38 | 0.42 |
| 29:D1:1263:A:H4' | 29:D1:1264:G:O5' | 2.18 | 0.42 |
| 29:D1:1302:A:C2' | 29:D1:1303:A:O5' | 2.68 | 0.42 |
| 29:D1:1332:A:H2' | 29:D1:1333:C:C6 | 2.55 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1383:G:N7 | 74:D1:3455:OHX:N6 | 2.67 | 0.42 |
| 29:D1:1394:A:C2' | 29:D1:1395:G:C5' | 2.97 | 0.42 |
| 29:D1:1404:G:N2 | 29:D1:1407:A:C8 | 2.88 | 0.42 |
| 29:D1:1455:U:H2' | 29:D1:1456:A:N7 | 2.34 | 0.42 |
| 29:D1:1553:U:OP1 | 29:D1:1554:U:H5 | 2.03 | 0.42 |
| 29:D1:1580:A:H5' | 29:D1:1581:C:OP2 | 2.19 | 0.42 |
| 29:D1:1624:G:O6 | 74:D1:3559:OHX:N3 | 2.53 | 0.42 |
| 29:D1:1689:U:C2 | 29:D1:1690:C:C6 | 3.08 | 0.42 |
| 29:D1:1703:U:O2 | 29:D1:1703:U:C2' | 2.67 | 0.42 |
| 29:D1:1708:C:OP2 | 29:D1:1708:C:H6 | 2.01 | 0.42 |
| 29:D1:1740:U:C3' | 29:D1:1741:A:C5' | 2.95 | 0.42 |
| 29:D1:1838:G:H3' | 74:D1:3588:OHX:N6 | 2.35 | 0.42 |
| 29:D1:1880:U:H2' | 29:D1:1881:A:O5' | 2.20 | 0.42 |
| 29:D1:2188:A:C2 | 62:Dg:19:GLY:CA | 3.03 | 0.42 |
| 29:D1:2194:G:O2' | 29:D1:2195:C:H5' | 2.20 | 0.42 |
| 29:D1:2223:A:HO2' | 29:D1:2224:A:H8 | 0.64 | 0.42 |
| 29:D1:2249:G:C8 | 74:D1:3464:OHX:N3 | 2.87 | 0.42 |
| 29:D1:2251:G:HO2' | 29:D1:2252:A:H5" | 1.81 | 0.42 |
| 29:D1:2288:G:C2 | 29:D1:2289:U:C5 | 3.07 | 0.42 |
| 29:D1:2313:A:O4' | 29:D1:2315:G:C8 | 2.73 | 0.42 |
| 29:D1:2325:G:C5 | 29:D1:2326:A:N7 | 2.88 | 0.42 |
| 29:D1:2386:A:N7 | 29:D1:2387:A:C8 | 2.87 | 0.42 |
| 29:D1:2654:C:H5' | 29:D1:2657:A:N1 | 2.34 | 0.42 |
| 29:D1:2830:G:H5' | 29:D1:2830:G:H8 | 1.84 | 0.42 |
| 29:D1:2868:U:C6 | 29:D1:2869:U:H5 | 2.38 | 0.42 |
| 29:D1:3087:A:H2' | 29:D1:3088:G:H8 | 1.80 | 0.42 |
| 29:D1:3099:C:C2' | 29:D1:3100:U:C6 | 3.03 | 0.42 |
| 29:D1:3166:C:H2' | 29:D1:3167:A:C8 | 2.54 | 0.42 |
| 29:D1:3191:G:N7 | 29:D1:3192:U:C4 | 2.87 | 0.42 |
| 29:D1:3364:C:C2 | 29:D1:3365:U:C5 | 3.08 | 0.42 |
| 29:D1:3367:C:H2' | 29:D1:3368:U:C6 | 2.54 | 0.42 |
| 30:D2:22:A:N6 | 30:D2:23:A:N6 | 2.67 | 0.42 |
| 30:D2:37:G:C2 | 30:D2:45:A:N1 | 2.88 | 0.42 |
| 30:D2:43:U:O2 | 30:D2:43:U:C2' | 2.67 | 0.42 |
| 31:D3:4:C:N4 | 31:D3:5:U:N3 | 2.67 | 0.42 |
| 31:D3:19:C:N1 | 31:D3:20:U:C5 | 2.88 | 0.42 |
| 31:D3:116:G:H2' | 31:D3:117:C:O5' | 2.20 | 0.42 |
| 31:D3:152:G:N2 | 31:D3:153:U:H1' | 2.35 | 0.42 |
| 34:DC:39:LYS:O | 34:DC:40:PRO:C | 2.63 | 0.42 |
| 34:DC:120:LYS:O | 34:DC:121:ASN:C | 2.62 | 0.42 |
| 34:DC:202:THR:O | 34:DC:204:ALA:N | 2.52 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:DC:289:ASP:H | 34:DC:291:GLU:H | 1.68 | 0.42 |
| 37:DF:13:GLU:HA | 37:DF:113:LYS:CB | 2.49 | 0.42 |
| 37:DF:165:LEU:C | 37:DF:167:ASN:N | 2.73 | 0.42 |
| 39:DH:103:ALA:C | 39:DH:105:LYS:N | 2.75 | 0.42 |
| 41:DJ:27:PRO:O | 41:DJ:28:ASP:O | 2.38 | 0.42 |
| 42:DK:55:ARG:O | 42:DK:56:THR:C | 2.62 | 0.42 |
| 73:DM:14:LYS:HA | 73:DM:17:GLU:CB | 2.50 | 0.42 |
| 48:DS:143:ILE:O | 48:DS:144:GLN:C | 2.63 | 0.42 |
| 48:DS:147:ALA:O | 48:DS:148:ASP:C | 2.62 | 0.42 |
| 51:DV:4:GLU:HA | 51:DV:13:ILE:C | 2.45 | 0.42 |
| 56:Da:37:LYS:O | 56:Da:40:ALA:HB3 | 2.20 | 0.42 |
| 60:De:38:ASN:O | 60:De:40:LYS:N | 2.47 | 0.42 |
| 62:Dg:47:VAL:O | 62:Dg:48:LYS:CB | 2.67 | 0.42 |
| 63:Dh:16:UNK:O | 63:Dh:17:UNK:C | 2.67 | 0.42 |
| 65:Dk:11:UNK:O | 65:Dk:12:UNK:C | 2.68 | 0.42 |
| 1:A1:12:U:C1’ | 1:A1:1300:A:H1’ | 2.44 | 0.42 |
| 1:A1:209:U:C4 | 1:A1:210:A:N7 | 2.88 | 0.42 |
| 1:A1:515:A:N6 | 1:A1:537:G:N1 | 2.54 | 0.42 |
| 1:A1:590:C:C2 | 1:A1:591:A:C8 | 3.07 | 0.42 |
| 1:A1:747:C:C4 | 1:A1:748:U:C4 | 3.07 | 0.42 |
| 1:A1:817:A:C2 | 1:A1:855:A:C2 | 3.00 | 0.42 |
| 1:A1:840:U:O2’ | 1:A1:841:U:H5” | 2.20 | 0.42 |
| 1:A1:929:A:C5 | 1:A1:930:A:C5 | 3.07 | 0.42 |
| 1:A1:934:C:O2 | 1:A1:934:C:C2’ | 2.63 | 0.42 |
| 1:A1:1176:G:N3 | 1:A1:1464:G:C2 | 2.88 | 0.42 |
| 1:A1:1195:C:H5” | 1:A1:1197:C:C6 | 2.55 | 0.42 |
| 1:A1:1334:U:O2 | 1:A1:1334:U:C2’ | 2.67 | 0.42 |
| 1:A1:1381:U:H3’ | 1:A1:1381:U:H6 | 1.85 | 0.42 |
| 1:A1:1486:G:H2’ | 1:A1:1487:A:O4’ | 2.19 | 0.42 |
| 1:A1:1512:G:H2’ | 1:A1:1513:G:O4’ | 2.20 | 0.42 |
| 1:A1:1645:G:C6 | 1:A1:1757:G:C6 | 3.07 | 0.42 |
| 1:A1:1691:A:N6 | 1:A1:1713:G:C4 | 2.88 | 0.42 |
| 1:A1:1708:U:H3’ | 1:A1:1708:U:H6 | 1.84 | 0.42 |
| 1:A1:1780:G:C8 | 29:B1:2263:C:OP1 | 2.72 | 0.42 |
| 8:AG:112:LYS:O | 8:AG:114:ARG:N | 2.53 | 0.42 |
| 10:AI:27:GLU:O | 10:AI:29:SER:N | 2.53 | 0.42 |
| 11:AJ:127:LYS:HA | 11:AJ:134:ALA:N | 2.33 | 0.42 |
| 13:AL:43:SER:O | 13:AL:47:CYS:CB | 2.67 | 0.42 |
| 16:AO:29:PRO:O | 16:AO:57:ARG:O | 2.37 | 0.42 |
| 20:AS:42:CYS:C | 20:AS:44:ARG:N | 2.74 | 0.42 |
| 21:AT:51:ASP:C | 21:AT:53:LYS:H | 2.27 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AT:116:ASP:C | 21:AT:118:LYS:N | 2.76 | 0.42 |
| 25:Ad:107:UNK:HA | 25:Ad:110:UNK:CB | 2.49 | 0.42 |
| 29:B1:5:G:C2 | 31:B3:155:A:N3 | 2.88 | 0.42 |
| 29:B1:60:A:N7 | 29:B1:61:A:N7 | 2.68 | 0.42 |
| 29:B1:178:U:C2 | 29:B1:241:G:O6 | 2.72 | 0.42 |
| 29:B1:209:A:H4' | 29:B1:211:A:N7 | 2.35 | 0.42 |
| 29:B1:383:G:N2 | 29:B1:387:A:C5 | 2.88 | 0.42 |
| 29:B1:404:G:O2' | 29:B1:1417:G:OP1 | 2.35 | 0.42 |
| 29:B1:408:A:C2 | 29:B1:409:A:N3 | 2.88 | 0.42 |
| 29:B1:527:A:H3' | 29:B1:528:U:H6 | 1.84 | 0.42 |
| 29:B1:550:A:OP2 | 29:B1:550:A:H3' | 2.20 | 0.42 |
| 29:B1:559:A:N9 | 29:B1:560:G:N7 | 2.68 | 0.42 |
| 29:B1:660:A:C6 | 29:B1:1435:A:C2 | 3.07 | 0.42 |
| 29:B1:749:C:O2 | 29:B1:749:C:C2' | 2.66 | 0.42 |
| 29:B1:800:G:C8 | 29:B1:933:A:N7 | 2.88 | 0.42 |
| 29:B1:837:A:H4' | 29:B1:837:A:OP1 | 2.20 | 0.42 |
| 29:B1:865:U:C5 | 29:B1:866:A:C5 | 3.08 | 0.42 |
| 29:B1:941:G:H1' | 29:B1:1435:A:N3 | 2.34 | 0.42 |
| 29:B1:969:C:O2 | 29:B1:969:C:C2' | 2.57 | 0.42 |
| 29:B1:1100:U:C4 | 29:B1:1101:G:N7 | 2.88 | 0.42 |
| 29:B1:1168:U:C2' | 29:B1:1169:A:H5" | 2.50 | 0.42 |
| 29:B1:1287:A:C6 | 29:B1:1288:U:O4 | 2.73 | 0.42 |
| 29:B1:1303:A:C8 | 29:B1:1304:A:C2 | 3.08 | 0.42 |
| 29:B1:1393:A:C3' | 29:B1:1394:A:C5' | 2.97 | 0.42 |
| 29:B1:1610:G:O2' | 29:B1:1611:G:H5' | 2.19 | 0.42 |
| 29:B1:1633:C:N4 | 29:B1:1634:G:C5 | 2.87 | 0.42 |
| 29:B1:1687:U:C2' | 29:B1:1688:U:O2' | 2.67 | 0.42 |
| 29:B1:1768:U:N3 | 29:B1:1769:G:C8 | 2.88 | 0.42 |
| 29:B1:2136:C:O2 | 29:B1:2136:C:C2' | 2.63 | 0.42 |
| 29:B1:2175:U:C3' | 29:B1:2176:U:H5' | 2.50 | 0.42 |
| 29:B1:2280:A:H8 | 29:B1:2280:A:H3' | 1.85 | 0.42 |
| 29:B1:2288:G:C6 | 29:B1:2289:U:C4 | 3.08 | 0.42 |
| 29:B1:2511:A:C2 | 29:B1:2512:C:O4' | 2.73 | 0.42 |
| 29:B1:2521:U:H2' | 29:B1:2522:G:O5' | 2.19 | 0.42 |
| 29:B1:2672:G:C4' | 42:BK:104:PHE:O | 2.63 | 0.42 |
| 29:B1:2680:A:N6 | 42:BK:56:THR:C | 2.70 | 0.42 |
| 29:B1:2728:G:N1 | 29:B1:2729:U:C5 | 2.88 | 0.42 |
| 29:B1:2732:G:H2' | 29:B1:2733:A:H8 | 1.85 | 0.42 |
| 29:B1:2834:G:C2 | 29:B1:2835:U:C6 | 3.07 | 0.42 |
| 29:B1:2880:U:C4 | 29:B1:2881:C:N4 | 2.88 | 0.42 |
| 29:B1:2888:U:H6 | 29:B1:2888:U:H2' | 1.63 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2950:G:N2 | 29:B1:2979:U:C6 | 2.88 | 0.42 |
| 29:B1:2972:G:C2' | 29:B1:2973:G:O5' | 2.67 | 0.42 |
| 29:B1:3039:C:H2' | 29:B1:3040:A:C8 | 2.55 | 0.42 |
| 29:B1:3087:A:C2' | 29:B1:3088:G:H8 | 2.33 | 0.42 |
| 29:B1:3102:G:C5' | 29:B1:3102:G:C8 | 2.98 | 0.42 |
| 29:B1:3210:A:C4 | 29:B1:3211:C:C5 | 3.08 | 0.42 |
| 29:B1:3214:U:C2 | 29:B1:3217:C:OP1 | 2.72 | 0.42 |
| 29:B1:3264:G:N2 | 29:B1:3265:C:H1' | 2.35 | 0.42 |
| 29:B1:3327:G:N3 | 29:B1:3327:G:H2' | 2.33 | 0.42 |
| 29:B1:3347:A:N6 | 29:B1:3348:G:O6 | 2.52 | 0.42 |
| 29:B1:3377:G:C5' | 74:B1:3450:OHX:N2 | 2.83 | 0.42 |
| 30:B2:33:U:O2' | 30:B2:34:C:O4' | 2.38 | 0.42 |
| 30:B2:76:A:C4 | 30:B2:78:U:C4 | 3.08 | 0.42 |
| 31:B3:17:A:C5 | 31:B3:18:U:C4 | 3.08 | 0.42 |
| 31:B3:35:C:C6 | 31:B3:36:G:N7 | 2.88 | 0.42 |
| 31:B3:151:C:H6 | 31:B3:151:C:P | 2.43 | 0.42 |
| 34:BC:60:LEU:C | 34:BC:62:ARG:N | 2.75 | 0.42 |
| 34:BC:72:VAL:HA | 50:BU:88:ARG:O | 2.20 | 0.42 |
| 35:BD:253:ALA:O | 35:BD:257:LYS:CB | 2.68 | 0.42 |
| 36:BE:98:ALA:O | 36:BE:162:ALA:HA | 2.19 | 0.42 |
| 36:BE:199:ILE:C | 36:BE:201:GLY:HA2 | 2.45 | 0.42 |
| 42:BK:74:PRO:C | 42:BK:76:ALA:N | 2.73 | 0.42 |
| 43:BN:76:ALA:C | 43:BN:78:THR:N | 2.78 | 0.42 |
| 49:BT:11:THR:O | 49:BT:12:ARG:C | 2.63 | 0.42 |
| 55:BZ:60:ALA:C | 55:BZ:62:LEU:N | 2.75 | 0.42 |
| 59:Bd:5:THR:O | 59:Bd:6:PRO:C | 2.61 | 0.42 |
| 59:Bd:18:LEU:HA | 59:Bd:25:ARG:HA | 2.02 | 0.42 |
| 61:Bf:11:TYR:O | 61:Bf:20:HIS:HA | 2.20 | 0.42 |
| 1:C1:114:C:H4' | 1:C1:115:G:O5' | 2.20 | 0.42 |
| 1:C1:220:A:N6 | 1:C1:221:A:N6 | 2.68 | 0.42 |
| 1:C1:385:A:O2' | 1:C1:386:G:C5' | 2.67 | 0.42 |
| 1:C1:484:C:C5 | 1:C1:485:A:C8 | 3.08 | 0.42 |
| 1:C1:498:G:H1' | 1:C1:499:U:C5 | 2.44 | 0.42 |
| 1:C1:586:G:H2' | 1:C1:587:C:O5' | 2.19 | 0.42 |
| 1:C1:643:G:C2 | 1:C1:692:C:C4 | 3.07 | 0.42 |
| 1:C1:733:A:N1 | 1:C1:734:A:C6 | 2.88 | 0.42 |
| 1:C1:734:A:C5 | 1:C1:735:C:C4 | 3.08 | 0.42 |
| 1:C1:804:A:O5' | 1:C1:804:A:H8 | 2.03 | 0.42 |
| 1:C1:945:U:C2 | 1:C1:946:U:C5 | 3.08 | 0.42 |
| 1:C1:958:U:H2' | 1:C1:960:U:OP1 | 2.20 | 0.42 |
| 1:C1:1008:G:C2 | 1:C1:1009:U:C2 | 3.08 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1138:A:C2 | 1:C1:1139:A:C4 | 3.08 | 0.42 |
| 1:C1:1166:A:N6 | 1:C1:1167:G:C8 | 2.87 | 0.42 |
| 1:C1:1244:A:C2 | 1:C1:1245:G:C1' | 2.86 | 0.42 |
| 1:C1:1245:G:C4 | 1:C1:1246:C:C6 | 3.08 | 0.42 |
| 1:C1:1388:A:C5 | 1:C1:1412:G:C6 | 3.07 | 0.42 |
| 1:C1:1433:G:O2' | 1:C1:1434:U:H6 | 2.03 | 0.42 |
| 1:C1:1513:G:H1' | 1:C1:1518:C:O2 | 2.19 | 0.42 |
| 1:C1:1528:U:O2' | 1:C1:1529:C:H5' | 2.20 | 0.42 |
| 1:C1:1532:U:O2' | 1:C1:1533:C:O5' | 2.34 | 0.42 |
| 1:C1:1659:A:C2 | 1:C1:1660:A:C8 | 3.07 | 0.42 |
| 1:C1:1671:A:H1' | 1:C1:1731:A:N1 | 2.35 | 0.42 |
| 1:C1:1728:A:C6 | 1:C1:1729:C:C4 | 3.08 | 0.42 |
| 3:CB:40:LYS:C | 3:CB:42:GLY:N | 2.77 | 0.42 |
| 4:CC:98:ALA:C | 4:CC:100:ALA:H | 2.27 | 0.42 |
| 5:CD:223:SER:O | 5:CD:225:ARG:N | 2.45 | 0.42 |
| 8:CG:61:THR:O | 8:CG:62:GLN:C | 2.63 | 0.42 |
| 10:CI:32:ASP:C | 10:CI:34:VAL:N | 2.77 | 0.42 |
| 10:CI:80:MET:O | 10:CI:82:ASN:N | 2.52 | 0.42 |
| 12:CK:11:ARG:O | 12:CK:15:ALA:N | 2.51 | 0.42 |
| 19:CR:8:THR:HA | 19:CR:51:ASN:N | 2.34 | 0.42 |
| 21:CT:268:GLN:O | 21:CT:270:LEU:N | 2.52 | 0.42 |
| 25:Cd:93:UNK:C | 25:Cd:95:UNK:N | 2.80 | 0.42 |
| 25:Cd:104:UNK:O | 25:Cd:105:UNK:C | 2.67 | 0.42 |
| 29:D1:63:A:C2 | 29:D1:64:G:C4 | 3.08 | 0.42 |
| 29:D1:187:A:N9 | 29:D1:211:A:C6 | 2.88 | 0.42 |
| 29:D1:191:U:C2 | 29:D1:192:C:C5 | 3.08 | 0.42 |
| 29:D1:263:C:C2 | 29:D1:264:G:N7 | 2.88 | 0.42 |
| 29:D1:337:G:H21 | 35:DD:50:TYR:CB | 2.33 | 0.42 |
| 29:D1:342:A:C6 | 29:D1:349:A:C8 | 3.08 | 0.42 |
| 29:D1:361:A:N1 | 29:D1:927:C:O2' | 2.44 | 0.42 |
| 29:D1:436:A:N1 | 29:D1:624:G:C2 | 2.87 | 0.42 |
| 29:D1:541:U:H2' | 29:D1:542:G:O4' | 2.20 | 0.42 |
| 29:D1:564:G:OP1 | 29:D1:564:G:H4' | 2.19 | 0.42 |
| 29:D1:589:A:C5' | 29:D1:611:A:H2 | 2.33 | 0.42 |
| 29:D1:733:G:N2 | 29:D1:736:A:C2 | 2.88 | 0.42 |
| 29:D1:790:U:H2' | 29:D1:791:A:O5' | 2.20 | 0.42 |
| 29:D1:812:G:N1 | 29:D1:813:G:C5 | 2.88 | 0.42 |
| 29:D1:823:C:N3 | 29:D1:824:C:C5 | 2.88 | 0.42 |
| 29:D1:826:G:C4 | 29:D1:900:G:C6 | 3.08 | 0.42 |
| 29:D1:860:G:O2' | 29:D1:895:A:H5" | 2.20 | 0.42 |
| 29:D1:952:A:H8 | 29:D1:952:A:H3' | 1.84 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:986:U:H2' | 29:D1:986:U:O2 | 2.18 | 0.42 |
| 29:D1:1223:A:OP2 | 73:DM:57:THR:O | 2.38 | 0.42 |
| 29:D1:1248:C:C6 | 29:D1:1248:C:C3' | 3.03 | 0.42 |
| 29:D1:1289:G:N2 | 29:D1:1290:A:C4 | 2.88 | 0.42 |
| 29:D1:1339:C:H1' | 57:Db:56:GLY:HA2 | 2.01 | 0.42 |
| 29:D1:1456:A:H4' | 29:D1:1457:U:O5' | 2.19 | 0.42 |
| 29:D1:1505:C:O2' | 29:D1:1506:A:H5' | 2.20 | 0.42 |
| 29:D1:1596:C:C2 | 29:D1:1597:C:C5 | 3.08 | 0.42 |
| 29:D1:1627:U:C4' | 29:D1:1628:C:OP2 | 2.68 | 0.42 |
| 29:D1:1651:U:HO2' | 29:D1:1652:G:H5' | 1.82 | 0.42 |
| 29:D1:1692:U:H2' | 29:D1:1693:C:C6 | 2.55 | 0.42 |
| 29:D1:1751:G:C6 | 29:D1:1752:A:C5 | 3.08 | 0.42 |
| 29:D1:1906:G:H21 | 29:D1:1909:A:H61 | 1.67 | 0.42 |
| 29:D1:1914:G:C6 | 29:D1:1915:A:C6 | 3.08 | 0.42 |
| 29:D1:1943:C:C4' | 29:D1:3344:A:H5' | 2.50 | 0.42 |
| 29:D1:1951:C:C5 | 29:D1:1952:G:N7 | 2.88 | 0.42 |
| 29:D1:2299:A:H5' | 29:D1:2299:A:C8 | 2.44 | 0.42 |
| 29:D1:2316:G:C2 | 29:D1:2317:A:C8 | 3.08 | 0.42 |
| 29:D1:2369:G:C5 | 29:D1:2370:G:C6 | 3.08 | 0.42 |
| 29:D1:2369:G:C2 | 29:D1:2379:U:N3 | 2.88 | 0.42 |
| 29:D1:2511:A:H2' | 29:D1:2511:A:N3 | 2.34 | 0.42 |
| 29:D1:2511:A:C2 | 29:D1:2512:C:O4' | 2.73 | 0.42 |
| 29:D1:2616:C:H2' | 29:D1:2617:U:C5' | 2.34 | 0.42 |
| 29:D1:2711:C:N3 | 29:D1:2712:U:C5 | 2.88 | 0.42 |
| 29:D1:2831:G:C2 | 29:D1:2832:C:C2 | 3.07 | 0.42 |
| 29:D1:3083:G:C2' | 29:D1:3084:C:O5' | 2.67 | 0.42 |
| 29:D1:3106:A:H2' | 29:D1:3107:U:O5' | 2.20 | 0.42 |
| 29:D1:3126:C:N3 | 29:D1:3127:A:C8 | 2.88 | 0.42 |
| 29:D1:3141:A:N3 | 29:D1:3144:G:OP1 | 2.53 | 0.42 |
| 29:D1:3214:U:C2 | 29:D1:3217:C:OP1 | 2.72 | 0.42 |
| 29:D1:3294:A:C5 | 29:D1:3295:A:C8 | 3.08 | 0.42 |
| 29:D1:3320:A:C2' | 29:D1:3321:C:O4' | 2.67 | 0.42 |
| 29:D1:3324:C:O2' | 29:D1:3325:G:C5' | 2.60 | 0.42 |
| 29:D1:3378:C:O3' | 34:DC:313:HIS:CA | 2.62 | 0.42 |
| 29:D1:3390:G:C4 | 29:D1:3391:A:N9 | 2.88 | 0.42 |
| 30:D2:22:A:C5 | 30:D2:23:A:C5 | 3.08 | 0.42 |
| 31:D3:8:C:C2 | 31:D3:9:A:C8 | 3.08 | 0.42 |
| 31:D3:24:G:C2 | 31:D3:25:G:C4 | 3.08 | 0.42 |
| 31:D3:26:U:H2' | 31:D3:27:U:C6 | 2.55 | 0.42 |
| 31:D3:69:U:H3' | 31:D3:70:G:C4' | 2.47 | 0.42 |
| 33:DB:133:TYR:O | 33:DB:134:VAL:C | 2.63 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 34:DC:89:VAL:HA | 34:DC:160:VAL:HA | 2.01 | 0.42 |
| 34:DC:114:VAL:N | 34:DC:115:LYS:CB | 2.83 | 0.42 |
| 35:DD:63:GLU:O | 35:DD:76:ARG:N | 2.53 | 0.42 |
| 35:DD:171:ALA:C | 35:DD:173:GLY:N | 2.78 | 0.42 |
| 39:DH:190:VAL:O | 39:DH:191:ASN:C | 2.63 | 0.42 |
| 40:DI:21:LYS:C | 40:DI:22:SER:O | 2.59 | 0.42 |
| 73:DM:39:HIS:O | 73:DM:43:LYS:CB | 2.67 | 0.42 |
| 43:DN:93:LYS:O | 43:DN:94:TRP:C | 2.62 | 0.42 |
| 47:DR:38:ARG:O | 47:DR:39:ARG:O | 2.37 | 0.42 |
| 47:DR:123:THR:C | 47:DR:125:ASP:H | 2.28 | 0.42 |
| 56:Da:38:LYS:C | 56:Da:40:ALA:N | 2.77 | 0.42 |
| 57:Db:79:VAL:O | 57:Db:82:LEU:N | 2.53 | 0.42 |
| 63:Dh:8:UNK:O | 63:Dh:9:UNK:C | 2.66 | 0.42 |
| 1:A1:13:C:O2' | 1:A1:1298:U:N3 | 2.51 | 0.42 |
| 1:A1:43:A:C3' | 1:A1:44:U:H5" | 2.50 | 0.42 |
| 1:A1:55:A:C5 | 1:A1:403:G:C2 | 3.08 | 0.42 |
| 1:A1:129:U:C6 | 1:A1:264:G:O6 | 2.72 | 0.42 |
| 1:A1:151:G:C2 | 1:A1:163:G:N2 | 2.85 | 0.42 |
| 1:A1:174:U:N3 | 1:A1:175:G:N3 | 2.67 | 0.42 |
| 1:A1:186:C:N4 | 1:A1:199:G:N1 | 2.27 | 0.42 |
| 1:A1:234:G:H3' | 1:A1:234:G:N3 | 2.35 | 0.42 |
| 1:A1:263:C:H5" | 1:A1:264:G:P | 2.60 | 0.42 |
| 1:A1:288:A:HO2' | 1:A1:289:U:P | 2.43 | 0.42 |
| 1:A1:355:G:C2 | 1:A1:356:G:N9 | 2.88 | 0.42 |
| 1:A1:363:G:C2 | 1:A1:382:C:N3 | 2.88 | 0.42 |
| 1:A1:445:A:C2 | 1:A1:446:A:N7 | 2.88 | 0.42 |
| 1:A1:519:C:C2 | 1:A1:520:A:C8 | 3.08 | 0.42 |
| 1:A1:592:A:H2' | 1:A1:593:U:O5' | 2.20 | 0.42 |
| 1:A1:607:G:H4' | 1:A1:608:U:H5' | 2.02 | 0.42 |
| 1:A1:649:U:C6 | 1:A1:650:U:C5 | 3.08 | 0.42 |
| 1:A1:752:A:C6 | 1:A1:753:A:C6 | 3.08 | 0.42 |
| 1:A1:760:A:C2 | 1:A1:791:A:N3 | 2.88 | 0.42 |
| 1:A1:814:A:H2' | 1:A1:816:G:N2 | 2.34 | 0.42 |
| 1:A1:841:U:C5 | 1:A1:842:C:C5 | 3.07 | 0.42 |
| 1:A1:1097:U:C2' | 1:A1:1097:U:O2 | 2.67 | 0.42 |
| 1:A1:1149:G:N2 | 1:A1:1151:A:C6 | 2.88 | 0.42 |
| 1:A1:1245:G:N7 | 1:A1:1246:C:C5 | 2.88 | 0.42 |
| 1:A1:1498:G:N2 | 1:A1:1499:G:C8 | 2.88 | 0.42 |
| 1:A1:1592:A:C5 | 1:A1:1605:G:N2 | 2.88 | 0.42 |
| 1:A1:1742:U:C2 | 1:A1:1743:U:C6 | 3.07 | 0.42 |
| 6:AE:42:ILE:O | 6:AE:45:ILE:CB | 2.68 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 13:AL:64:GLU:O | 13:AL:65:GLU:O | 2.37 | 0.42 |
| 14:AM:69:LYS:CB | 14:AM:123:ARG:HA | 2.50 | 0.42 |
| 21:AT:37:SER:C | 21:AT:39:ASP:N | 2.76 | 0.42 |
| 24:Ac:42:UNK:O | 24:Ac:43:UNK:C | 2.67 | 0.42 |
| 29:B1:62:A:C5 | 29:B1:63:A:N7 | 2.88 | 0.42 |
| 29:B1:79:U:C2 | 29:B1:325:A:N1 | 2.88 | 0.42 |
| 29:B1:246:U:O2 | 29:B1:246:U:O4' | 2.37 | 0.42 |
| 29:B1:402:A:OP1 | 29:B1:402:A:H4' | 2.19 | 0.42 |
| 29:B1:511:G:H21 | 29:B1:579:G:N2 | 2.18 | 0.42 |
| 29:B1:538:G:N3 | 29:B1:556:U:C5 | 2.88 | 0.42 |
| 29:B1:609:G:OP2 | 29:B1:609:G:H2' | 2.20 | 0.42 |
| 29:B1:681:U:HO2' | 29:B1:682:U:P | 2.42 | 0.42 |
| 29:B1:780:A:C6 | 29:B1:781:G:C5 | 3.08 | 0.42 |
| 29:B1:836:A:C5' | 29:B1:837:A:OP2 | 2.65 | 0.42 |
| 29:B1:1118:C:N3 | 29:B1:1119:C:C5 | 2.88 | 0.42 |
| 29:B1:1160:C:O2' | 29:B1:1161:G:H5" | 2.20 | 0.42 |
| 29:B1:1178:G:C3' | 29:B1:1179:A:H5' | 2.49 | 0.42 |
| 29:B1:1184:A:H5' | 29:B1:1184:A:C8 | 2.44 | 0.42 |
| 29:B1:1204:A:C8 | 29:B1:1205:A:C8 | 3.07 | 0.42 |
| 29:B1:1257:C:O2 | 29:B1:1257:C:H2' | 2.20 | 0.42 |
| 29:B1:1340:G:N2 | 29:B1:1341:U:C2 | 2.88 | 0.42 |
| 29:B1:1340:G:C4 | 29:B1:1341:U:C5 | 3.08 | 0.42 |
| 29:B1:1341:U:C2 | 29:B1:1342:C:C6 | 3.08 | 0.42 |
| 29:B1:1351:U:C2' | 29:B1:1352:A:C8 | 3.02 | 0.42 |
| 29:B1:1372:C:O2' | 29:B1:1373:A:H5' | 2.20 | 0.42 |
| 29:B1:1390:A:C5 | 29:B1:1418:A:C4 | 3.08 | 0.42 |
| 29:B1:1404:G:C6 | 29:B1:1408:G:C6 | 3.08 | 0.42 |
| 29:B1:1447:G:HO2' | 29:B1:2355:G:H1 | 1.65 | 0.42 |
| 29:B1:1461:A:C2' | 29:B1:1462:A:H8 | 2.32 | 0.42 |
| 29:B1:1468:A:O2' | 29:B1:1469:C:C5' | 2.67 | 0.42 |
| 29:B1:1519:G:H2' | 29:B1:1520:G:H5" | 2.01 | 0.42 |
| 29:B1:1550:C:H1' | 29:B1:2166:A:H61 | 1.84 | 0.42 |
| 29:B1:1608:C:N3 | 29:B1:1609:C:C4 | 2.88 | 0.42 |
| 29:B1:1631:C:H3' | 29:B1:1631:C:P | 2.60 | 0.42 |
| 29:B1:1730:G:O6 | 55:BZ:29:SER:N | 2.51 | 0.42 |
| 29:B1:1783:U:C2 | 29:B1:1784:G:N7 | 2.88 | 0.42 |
| 29:B1:1811:G:C5 | 29:B1:1812:G:H8 | 2.38 | 0.42 |
| 29:B1:2111:G:N2 | 51:BV:48:ARG:O | 2.52 | 0.42 |
| 29:B1:2262:A:C2 | 29:B1:2263:C:O4' | 2.72 | 0.42 |
| 29:B1:2279:A:C4' | 29:B1:2280:A:C5' | 2.97 | 0.42 |
| 29:B1:2416:U:H2' | 29:B1:2417:U:C5 | 2.54 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2421:U:C2' | 29:B1:2422:C:O5' | 2.67 | 0.42 |
| 29:B1:2625:C:C2 | 29:B1:2627:C:C5 | 3.08 | 0.42 |
| 29:B1:2640:A:C6 | 29:B1:2641:U:C4 | 3.08 | 0.42 |
| 29:B1:2688:U:O3' | 29:B1:2689:A:N7 | 2.53 | 0.42 |
| 29:B1:2896:A:C2' | 29:B1:2897:A:C5' | 2.98 | 0.42 |
| 29:B1:2897:A:H2' | 29:B1:2899:C:C5' | 2.44 | 0.42 |
| 29:B1:2897:A:C2 | 29:B1:2905:U:N3 | 2.87 | 0.42 |
| 29:B1:2997:G:O2' | 29:B1:2998:U:O5' | 2.35 | 0.42 |
| 29:B1:3048:A:N7 | 29:B1:3090:U:C4 | 2.88 | 0.42 |
| 29:B1:3099:C:O2' | 29:B1:3100:U:C6 | 2.38 | 0.42 |
| 29:B1:3105:U:C6 | 29:B1:3106:A:C8 | 3.08 | 0.42 |
| 29:B1:3363:U:H3' | 29:B1:3364:C:C6 | 2.36 | 0.42 |
| 31:B3:77:A:H61 | 53:BX:81:GLN:CB | 2.33 | 0.42 |
| 32:BA:12:HIS:CB | 32:BA:213:ALA:HB1 | 2.50 | 0.42 |
| 34:BC:67:PHE:O | 34:BC:68:HIS:C | 2.63 | 0.42 |
| 36:BE:159:VAL:C | 36:BE:161:GLY:N | 2.51 | 0.42 |
| 36:BE:192:PRO:O | 36:BE:193:GLU:C | 2.61 | 0.42 |
| 39:BH:212:ALA:O | 39:BH:213:LYS:C | 2.62 | 0.42 |
| 41:BJ:42:THR:C | 41:BJ:44:ASP:N | 2.76 | 0.42 |
| 43:BN:24:LYS:CB | 43:BN:32:LEU:N | 2.83 | 0.42 |
| 44:BO:184:LYS:O | 44:BO:186:GLY:N | 2.53 | 0.42 |
| 53:BX:75:ARG:O | 53:BX:77:LYS:N | 2.53 | 0.42 |
| 58:Bc:15:GLU:HA | 58:Bc:18:ALA:HB2 | 2.02 | 0.42 |
| 1:C1:8:U:O2' | 74:C1:1953:OHX:N2 | 2.53 | 0.42 |
| 1:C1:24:U:HO2' | 1:C1:25:C:H5 | 1.60 | 0.42 |
| 1:C1:41:A:OP1 | 1:C1:379:U:H1' | 2.20 | 0.42 |
| 1:C1:59:C:O2 | 1:C1:452:A:O4' | 2.37 | 0.42 |
| 1:C1:97:C:C2 | 1:C1:98:U:C6 | 3.08 | 0.42 |
| 1:C1:143:G:C2' | 1:C1:144:U:H4' | 2.50 | 0.42 |
| 1:C1:154:G:C5 | 1:C1:155:U:C4 | 3.08 | 0.42 |
| 1:C1:210:A:C4 | 1:C1:211:U:C6 | 3.08 | 0.42 |
| 1:C1:224:C:N4 | 1:C1:838:G:C2 | 2.88 | 0.42 |
| 1:C1:276:C:O2' | 1:C1:277:U:O5' | 2.37 | 0.42 |
| 1:C1:295:A:C2 | 1:C1:296:U:C1' | 3.03 | 0.42 |
| 1:C1:301:A:H5" | 1:C1:302:U:P | 2.60 | 0.42 |
| 1:C1:390:G:O2' | 1:C1:1731:A:H4' | 2.20 | 0.42 |
| 1:C1:472:U:C6 | 1:C1:473:A:C8 | 3.08 | 0.42 |
| 1:C1:629:U:O5' | 1:C1:629:U:H6 | 2.03 | 0.42 |
| 1:C1:689:G:H2' | 1:C1:690:G:O4' | 2.20 | 0.42 |
| 1:C1:816:G:O6 | 1:C1:857:U:O2 | 2.38 | 0.42 |
| 1:C1:867:G:C2 | 1:C1:868:G:C4 | 3.07 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:945:U:N3 | 1:C1:946:U:H5 | 2.18 | 0.42 |
| 1:C1:1107:G:C6 | 1:C1:1108:G:O6 | 2.72 | 0.42 |
| 1:C1:1176:G:H1' | 1:C1:1464:G:N2 | 2.34 | 0.42 |
| 1:C1:1214:U:O5' | 1:C1:1245:G:N2 | 2.53 | 0.42 |
| 1:C1:1241:G:C2 | 1:C1:1243:G:O5' | 2.73 | 0.42 |
| 1:C1:1242:A:N1 | 1:C1:1452:U:H1' | 2.35 | 0.42 |
| 1:C1:1252:C:O2 | 1:C1:1252:C:H2' | 2.20 | 0.42 |
| 1:C1:1299:G:H2' | 1:C1:1300:A:H8 | 1.76 | 0.42 |
| 1:C1:1346:A:N3 | 15:CN:14:GLN:HA | 2.35 | 0.42 |
| 1:C1:1366:U:C2 | 1:C1:1367:G:C8 | 3.08 | 0.42 |
| 1:C1:1444:A:H5" | 1:C1:1445:G:OP1 | 2.20 | 0.42 |
| 1:C1:1557:U:O2 | 1:C1:1558:U:C6 | 2.72 | 0.42 |
| 1:C1:1590:G:C5 | 1:C1:1591:C:N4 | 2.88 | 0.42 |
| 1:C1:1671:A:N6 | 1:C1:1672:G:C2 | 2.88 | 0.42 |
| 1:C1:1683:C:C6 | 1:C1:1719:A:C6 | 3.08 | 0.42 |
| 1:C1:1791:A:C5' | 1:C1:1791:A:C8 | 3.03 | 0.42 |
| 3:CB:217:ALA:C | 3:CB:219:GLY:N | 2.75 | 0.42 |
| 11:CJ:98:ASP:C | 11:CJ:100:GLN:N | 2.77 | 0.42 |
| 12:CK:48:ASN:O | 12:CK:52:GLY:N | 2.45 | 0.42 |
| 17:CP:110:LYS:C | 17:CP:112:LYS:H | 2.27 | 0.42 |
| 22:Ca:14:UNK:C | 22:Ca:16:UNK:N | 2.82 | 0.42 |
| 29:D1:14:U:O2 | 29:D1:14:U:O5' | 2.37 | 0.42 |
| 29:D1:41:G:O4' | 29:D1:2410:U:O2 | 2.37 | 0.42 |
| 29:D1:120:G:N1 | 29:D1:150:A:H5" | 2.35 | 0.42 |
| 29:D1:189:G:H1' | 29:D1:191:U:H5 | 1.84 | 0.42 |
| 29:D1:195:U:C4' | 29:D1:1391:C:H5 | 2.24 | 0.42 |
| 29:D1:280:U:O2 | 29:D1:286:U:N1 | 2.52 | 0.42 |
| 29:D1:431:U:C6 | 29:D1:431:U:C4' | 3.03 | 0.42 |
| 29:D1:431:U:N3 | 29:D1:432:G:N7 | 2.68 | 0.42 |
| 29:D1:499:G:H2' | 29:D1:500:C:O5' | 2.19 | 0.42 |
| 29:D1:575:G:C2' | 29:D1:576:C:O5' | 2.67 | 0.42 |
| 29:D1:666:A:HO2' | 29:D1:667:C:P | 2.40 | 0.42 |
| 29:D1:739:G:C2 | 29:D1:740:G:C4 | 3.08 | 0.42 |
| 29:D1:887:G:O6 | 29:D1:888:A:C6 | 2.73 | 0.42 |
| 29:D1:968:G:C6 | 29:D1:969:C:C4 | 3.08 | 0.42 |
| 29:D1:975:C:C6 | 29:D1:975:C:H5" | 2.54 | 0.42 |
| 29:D1:1150:A:C2 | 29:D1:1151:U:C1' | 3.02 | 0.42 |
| 29:D1:1341:U:C2 | 29:D1:1342:C:C6 | 3.08 | 0.42 |
| 29:D1:1444:G:C6 | 29:D1:1445:U:C2 | 3.07 | 0.42 |
| 29:D1:1445:U:C4 | 29:D1:1446:A:C5 | 3.08 | 0.42 |
| 29:D1:1489:A:C3' | 29:D1:1490:A:H8 | 2.33 | 0.42 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1502:C:OP2 | 74:D1:3407:OHX:N1 | 2.53 | 0.42 |
| 29:D1:1710:C:H5” | 29:D1:1710:C:C6 | 2.50 | 0.42 |
| 29:D1:1799:A:C2 | 29:D1:1800:A:N3 | 2.88 | 0.42 |
| 29:D1:1811:G:H2’ | 29:D1:1812:G:O4’ | 2.20 | 0.42 |
| 29:D1:1912:U:O2’ | 29:D1:1913:A:P | 2.77 | 0.42 |
| 29:D1:2270:A:N1 | 29:D1:2271:A:C2 | 2.87 | 0.42 |
| 29:D1:2286:U:O4 | 29:D1:2288:G:H1’ | 2.17 | 0.42 |
| 29:D1:2374:C:N3 | 29:D1:2941:A:C2 | 2.88 | 0.42 |
| 29:D1:2407:C:N3 | 29:D1:2408:U:C4 | 2.88 | 0.42 |
| 29:D1:2420:C:C3’ | 29:D1:2421:U:H5’ | 2.50 | 0.42 |
| 29:D1:2513:U:H5 | 29:D1:2591:A:N6 | 2.18 | 0.42 |
| 29:D1:2558:U:H4’ | 29:D1:2559:U:OP2 | 2.20 | 0.42 |
| 29:D1:2701:U:O4’ | 29:D1:2705:A:C6 | 2.72 | 0.42 |
| 29:D1:2710:C:H3’ | 29:D1:2710:C:C6 | 2.55 | 0.42 |
| 29:D1:2742:C:C2 | 29:D1:2743:A:C8 | 3.07 | 0.42 |
| 29:D1:2840:C:N4 | 29:D1:2841:G:C5 | 2.88 | 0.42 |
| 29:D1:2895:G:C5 | 29:D1:2907:G:C2 | 3.08 | 0.42 |
| 29:D1:3004:C:C2’ | 29:D1:3005:A:O5’ | 2.68 | 0.42 |
| 29:D1:3072:C:H2’ | 29:D1:3073:A:O5’ | 2.19 | 0.42 |
| 29:D1:3214:U:O2’ | 29:D1:3218:A:H5’ | 2.20 | 0.42 |
| 29:D1:3230:G:C6 | 29:D1:3231:U:C4 | 3.08 | 0.42 |
| 29:D1:3288:G:H2’ | 29:D1:3289:G:H5’ | 2.02 | 0.42 |
| 30:D2:40:C:H5” | 30:D2:41:G:OP2 | 2.20 | 0.42 |
| 30:D2:46:A:C4 | 30:D2:46:A:C3’ | 3.03 | 0.42 |
| 30:D2:88:G:H2’ | 30:D2:89:G:C8 | 2.51 | 0.42 |
| 31:D3:12:A:C5 | 31:D3:13:A:C8 | 3.08 | 0.42 |
| 31:D3:49:G:C8 | 58:Dc:41:LEU:N | 2.88 | 0.42 |
| 31:D3:53:A:N3 | 31:D3:54:A:C8 | 2.88 | 0.42 |
| 33:DB:130:SER:O | 33:DB:131:GLY:C | 2.61 | 0.42 |
| 38:DG:105:LEU:C | 38:DG:107:ARG:N | 2.76 | 0.42 |
| 38:DG:120:THR:O | 38:DG:123:THR:CA | 2.68 | 0.42 |
| 38:DG:193:PRO:O | 38:DG:194:HIS:C | 2.62 | 0.42 |
| 39:DH:230:LYS:N | 39:DH:231:LYS:O | 2.53 | 0.42 |
| 40:DI:110:LYS:O | 40:DI:111:PHE:O | 2.38 | 0.42 |
| 46:DQ:113:TYR:O | 46:DQ:114:VAL:C | 2.63 | 0.42 |
| 52:DW:72:ALA:O | 52:DW:73:MET:C | 2.62 | 0.42 |
| 55:DZ:51:LEU:C | 55:DZ:53:LYS:N | 2.78 | 0.42 |
| 61:Df:18:ARG:O | 61:Df:19:LYS:CB | 2.68 | 0.42 |
| 1:A1:40:A:C2’ | 1:A1:41:A:H8 | 2.15 | 0.41 |
| 1:A1:243:G:H5” | 1:A1:243:G:H8 | 1.84 | 0.41 |
| 1:A1:356:G:C4 | 1:A1:357:G:C8 | 3.08 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:356:G:C5 | 1:A1:357:G:C8 | 3.07 | 0.41 |
| 1:A1:362:G:O6 | 1:A1:363:G:C6 | 2.73 | 0.41 |
| 1:A1:463:U:H2' | 1:A1:464:A:H8 | 1.84 | 0.41 |
| 1:A1:487:G:N2 | 1:A1:488:G:C5 | 2.88 | 0.41 |
| 1:A1:533:U:H2' | 1:A1:534:A:C8 | 2.54 | 0.41 |
| 1:A1:643:G:O2' | 1:A1:644:C:H5' | 2.20 | 0.41 |
| 1:A1:770:A:H2' | 1:A1:771:A:O4' | 2.20 | 0.41 |
| 1:A1:799:A:C2 | 1:A1:800:U:H1' | 2.55 | 0.41 |
| 1:A1:861:U:H5 | 1:A1:862:A:N7 | 2.18 | 0.41 |
| 1:A1:999:U:C2 | 1:A1:1000:C:O2 | 2.72 | 0.41 |
| 1:A1:1045:C:O2' | 1:A1:1046:G:OP1 | 2.37 | 0.41 |
| 1:A1:1161:C:O2 | 1:A1:1161:C:H2' | 2.20 | 0.41 |
| 1:A1:1172:G:C5 | 1:A1:1173:C:N4 | 2.87 | 0.41 |
| 1:A1:1275:A:C8 | 1:A1:1438:G:C2 | 3.08 | 0.41 |
| 1:A1:1282:U:N3 | 1:A1:1283:U:C5 | 2.88 | 0.41 |
| 1:A1:1333:C:C2 | 1:A1:1419:G:C2 | 3.07 | 0.41 |
| 1:A1:1422:A:C2' | 1:A1:1423:U:H5' | 2.50 | 0.41 |
| 1:A1:1442:U:H2' | 1:A1:1443:U:C5 | 2.54 | 0.41 |
| 1:A1:1472:C:O2 | 1:A1:1472:C:C2' | 2.67 | 0.41 |
| 1:A1:1535:U:N3 | 5:AD:186:ASN:O | 2.53 | 0.41 |
| 1:A1:1628:U:C2' | 1:A1:1629:G:C8 | 2.93 | 0.41 |
| 1:A1:1629:G:H2' | 1:A1:1630:U:C6 | 2.56 | 0.41 |
| 1:A1:1632:C:O2' | 1:A1:1633:A:H5" | 2.20 | 0.41 |
| 1:A1:1667:A:N1 | 1:A1:1668:G:C6 | 2.87 | 0.41 |
| 6:AE:33:GLU:O | 6:AE:35:GLY:N | 2.54 | 0.41 |
| 6:AE:56:ALA:O | 6:AE:57:ARG:C | 2.63 | 0.41 |
| 8:AG:121:ARG:C | 8:AG:123:HIS:N | 2.78 | 0.41 |
| 9:AH:6:GLN:O | 9:AH:7:ALA:HB3 | 2.20 | 0.41 |
| 9:AH:65:GLN:C | 9:AH:67:VAL:H | 2.27 | 0.41 |
| 12:AK:10:LYS:HA | 12:AK:13:SER:CB | 2.50 | 0.41 |
| 13:AL:114:GLU:O | 13:AL:115:ARG:C | 2.63 | 0.41 |
| 16:AO:80:ASN:C | 16:AO:123:GLY:O | 2.62 | 0.41 |
| 17:AP:48:HIS:O | 17:AP:49:ALA:CB | 2.68 | 0.41 |
| 21:AT:19:TRP:O | 21:AT:38:ARG:N | 2.34 | 0.41 |
| 23:Ab:131:UNK:O | 23:Ab:132:UNK:CB | 2.68 | 0.41 |
| 24:Ac:3:UNK:CA | 24:Ac:72:UNK:HA | 2.49 | 0.41 |
| 29:B1:23:A:N3 | 29:B1:23:A:C2' | 2.81 | 0.41 |
| 29:B1:49:A:N6 | 29:B1:279:U:O2' | 2.53 | 0.41 |
| 29:B1:154:U:OP1 | 29:B1:156:G:O6 | 2.37 | 0.41 |
| 29:B1:189:G:H2' | 29:B1:224:C:OP1 | 2.20 | 0.41 |
| 29:B1:189:G:H1' | 29:B1:191:U:H5 | 1.85 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:283:G:H3' | 29:B1:285:A:H8 | 1.85 | 0.41 |
| 29:B1:293:C:C2 | 29:B1:294:U:C2 | 3.08 | 0.41 |
| 29:B1:321:C:H2' | 29:B1:322:U:O4' | 2.20 | 0.41 |
| 29:B1:331:G:O6 | 31:B3:33:A:N1 | 2.53 | 0.41 |
| 29:B1:504:A:H2' | 29:B1:505:G:O5' | 2.20 | 0.41 |
| 29:B1:513:G:H8 | 29:B1:513:G:O5' | 2.03 | 0.41 |
| 29:B1:527:A:H2' | 29:B1:527:A:N3 | 2.35 | 0.41 |
| 29:B1:527:A:N6 | 29:B1:566:G:C6 | 2.88 | 0.41 |
| 29:B1:595:G:N3 | 29:B1:596:C:C6 | 2.88 | 0.41 |
| 29:B1:607:A:C6 | 29:B1:608:A:C6 | 3.07 | 0.41 |
| 29:B1:688:G:C4 | 29:B1:690:A:C8 | 3.08 | 0.41 |
| 29:B1:761:A:H3' | 29:B1:762:U:C4' | 2.50 | 0.41 |
| 29:B1:776:U:C6 | 29:B1:777:U:N1 | 2.88 | 0.41 |
| 29:B1:845:G:H21 | 29:B1:848:A:N6 | 2.18 | 0.41 |
| 29:B1:861:C:C4 | 29:B1:862:U:C5 | 3.08 | 0.41 |
| 29:B1:901:G:C5 | 29:B1:902:G:N7 | 2.87 | 0.41 |
| 29:B1:908:G:C5 | 29:B1:925:A:C4 | 3.08 | 0.41 |
| 29:B1:1006:A:C5 | 29:B1:1007:U:C5 | 3.08 | 0.41 |
| 29:B1:1151:U:H5' | 29:B1:2379:U:H4' | 2.01 | 0.41 |
| 29:B1:1218:U:N3 | 29:B1:1219:C:C5 | 2.88 | 0.41 |
| 29:B1:1233:G:HO2' | 29:B1:1234:G:C5' | 2.32 | 0.41 |
| 29:B1:1254:C:N3 | 29:B1:1255:C:C5 | 2.88 | 0.41 |
| 29:B1:1281:G:N1 | 29:B1:1282:G:C4 | 2.88 | 0.41 |
| 29:B1:1403:C:H5' | 29:B1:1404:G:OP2 | 2.20 | 0.41 |
| 29:B1:1485:G:O2' | 29:B1:1874:A:O2' | 2.38 | 0.41 |
| 29:B1:1561:G:H2' | 29:B1:1562:C:C6 | 2.54 | 0.41 |
| 29:B1:1631:C:C2 | 29:B1:1645:U:C5 | 3.08 | 0.41 |
| 29:B1:1819:U:C5 | 29:B1:1820:U:O4 | 2.73 | 0.41 |
| 29:B1:1931:U:O2 | 29:B1:2121:G:C2 | 2.73 | 0.41 |
| 29:B1:2278:C:N3 | 29:B1:2307:G:C2 | 2.88 | 0.41 |
| 29:B1:2370:G:N9 | 29:B1:2371:G:C8 | 2.88 | 0.41 |
| 29:B1:2561:A:O2' | 29:B1:2562:A:O4' | 2.37 | 0.41 |
| 29:B1:2579:G:OP1 | 29:B1:2581:U:H5' | 2.20 | 0.41 |
| 29:B1:2720:G:H2' | 29:B1:2721:A:C8 | 2.50 | 0.41 |
| 29:B1:2727:A:N6 | 29:B1:2728:G:O6 | 2.51 | 0.41 |
| 29:B1:2733:A:C4 | 29:B1:2734:A:C8 | 3.08 | 0.41 |
| 29:B1:2834:G:C2 | 29:B1:2835:U:C5 | 3.08 | 0.41 |
| 29:B1:2876:C:N1 | 29:B1:2952:G:N2 | 2.68 | 0.41 |
| 29:B1:2897:A:C2 | 29:B1:2905:U:O2 | 2.73 | 0.41 |
| 29:B1:2986:U:C2 | 29:B1:2987:A:N7 | 2.88 | 0.41 |
| 29:B1:3062:G:C6 | 29:B1:3063:C:N4 | 2.88 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3114:A:C5 | 29:B1:3115:C:C5 | 3.07 | 0.41 |
| 29:B1:3198:U:O2 | 29:B1:3199:G:C8 | 2.72 | 0.41 |
| 29:B1:3330:A:C5 | 29:B1:3331:U:C5 | 3.08 | 0.41 |
| 29:B1:3344:A:N6 | 29:B1:3362:A:C6 | 2.80 | 0.41 |
| 29:B1:3357:U:H2' | 29:B1:3358:U:H5 | 1.84 | 0.41 |
| 30:B2:44:C:C4 | 30:B2:45:A:C8 | 3.07 | 0.41 |
| 33:BB:121:GLY:O | 33:BB:122:ASP:O | 2.38 | 0.41 |
| 33:BB:175:VAL:O | 33:BB:176:ASP:CB | 2.68 | 0.41 |
| 34:BC:294:GLY:C | 34:BC:305:ILE:H | 2.28 | 0.41 |
| 36:BE:36:LEU:C | 36:BE:38:THR:N | 2.78 | 0.41 |
| 36:BE:193:GLU:O | 36:BE:196:ARG:CB | 2.68 | 0.41 |
| 36:BE:256:THR:O | 36:BE:257:GLU:C | 2.63 | 0.41 |
| 36:BE:257:GLU:CA | 36:BE:259:LYS:N | 2.75 | 0.41 |
| 38:BG:219:LYS:C | 38:BG:221:LYS:H | 2.27 | 0.41 |
| 40:BI:159:ALA:O | 40:BI:162:GLN:N | 2.53 | 0.41 |
| 42:BK:90:GLN:HA | 42:BK:169:ALA:O | 2.19 | 0.41 |
| 44:BO:85:THR:CA | 44:BO:86:ASN:C | 2.92 | 0.41 |
| 48:BS:5:ARG:O | 48:BS:6:THR:C | 2.62 | 0.41 |
| 54:BY:89:GLN:O | 54:BY:90:TYR:CB | 2.68 | 0.41 |
| 1:C1:24:U:H6 | 1:C1:24:U:O5' | 2.03 | 0.41 |
| 1:C1:55:A:C4 | 1:C1:403:G:C2 | 3.07 | 0.41 |
| 1:C1:150:U:H5' | 1:C1:151:G:P | 2.60 | 0.41 |
| 1:C1:237:C:O2' | 1:C1:238:U:P | 2.78 | 0.41 |
| 1:C1:248:U:H4' | 1:C1:249:U:OP1 | 2.20 | 0.41 |
| 1:C1:283:U:O3' | 1:C1:285:G:OP1 | 2.38 | 0.41 |
| 1:C1:389:G:C6 | 1:C1:390:G:C5 | 3.08 | 0.41 |
| 1:C1:396:G:H21 | 1:C1:398:G:H3' | 1.84 | 0.41 |
| 1:C1:446:A:H2' | 1:C1:447:U:H6 | 1.84 | 0.41 |
| 1:C1:529:A:O4' | 1:C1:529:A:OP2 | 2.37 | 0.41 |
| 1:C1:541:A:H2' | 1:C1:541:A:N3 | 2.35 | 0.41 |
| 1:C1:719:U:O2' | 1:C1:720:G:C8 | 2.73 | 0.41 |
| 1:C1:769:A:C2' | 1:C1:770:A:H5' | 2.49 | 0.41 |
| 1:C1:774:A:C2 | 1:C1:775:G:H1' | 2.55 | 0.41 |
| 1:C1:906:A:C6 | 1:C1:907:A:C5 | 3.08 | 0.41 |
| 1:C1:1042:G:C2' | 1:C1:1043:A:O4' | 2.65 | 0.41 |
| 1:C1:1141:G:C5' | 1:C1:1142:A:OP2 | 2.68 | 0.41 |
| 1:C1:1151:A:C2' | 1:C1:1152:A:H5' | 2.50 | 0.41 |
| 1:C1:1237:G:C4 | 1:C1:1238:A:N7 | 2.87 | 0.41 |
| 1:C1:1391:A:C2 | 1:C1:1392:U:C4 | 3.08 | 0.41 |
| 1:C1:1534:G:H4' | 1:C1:1536:G:C5 | 2.55 | 0.41 |
| 1:C1:1667:A:C2 | 1:C1:1668:G:C5 | 3.08 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1774:G:H5” | 1:C1:1775:U:OP2 | 2.20 | 0.41 |
| 2:CA:39:ASN:O | 2:CA:40:ALA:O | 2.38 | 0.41 |
| 2:CA:62:ARG:HA | 2:CA:65:ALA:HB2 | 2.02 | 0.41 |
| 2:CA:82:GLY:HA2 | 2:CA:85:ALA:HB3 | 2.01 | 0.41 |
| 5:CD:117:THR:N | 5:CD:191:ALA:HB1 | 2.35 | 0.41 |
| 5:CD:118:LEU:O | 5:CD:121:ILE:N | 2.52 | 0.41 |
| 10:CI:27:GLU:O | 10:CI:29:SER:N | 2.53 | 0.41 |
| 11:CJ:24:ALA:HA | 11:CJ:64:ASP:HA | 2.01 | 0.41 |
| 11:CJ:106:LYS:O | 11:CJ:107:LYS:C | 2.61 | 0.41 |
| 12:CK:59:LYS:O | 12:CK:60:ARG:C | 2.63 | 0.41 |
| 13:CL:74:GLN:O | 13:CL:78:HIS:CB | 2.68 | 0.41 |
| 17:CP:103:LEU:O | 17:CP:104:LEU:O | 2.38 | 0.41 |
| 21:CT:116:ASP:O | 21:CT:117:LYS:C | 2.62 | 0.41 |
| 29:D1:55:G:O2’ | 29:D1:56:G:O5’ | 2.39 | 0.41 |
| 29:D1:91:G:H2’ | 29:D1:92:G:OP2 | 2.19 | 0.41 |
| 29:D1:189:G:C5 | 29:D1:206:G:C6 | 3.07 | 0.41 |
| 29:D1:264:G:C2 | 29:D1:265:A:C4 | 3.08 | 0.41 |
| 29:D1:340:C:C5’ | 29:D1:340:C:C6 | 3.01 | 0.41 |
| 29:D1:515:C:C2’ | 29:D1:516:A:C4’ | 2.96 | 0.41 |
| 29:D1:788:C:N4 | 29:D1:789:A:H62 | 2.18 | 0.41 |
| 29:D1:835:G:C4 | 29:D1:857:G:C2 | 3.08 | 0.41 |
| 29:D1:1085:A:H3’ | 29:D1:1086:C:C6 | 2.53 | 0.41 |
| 29:D1:1128:U:H5” | 29:D1:1129:A:OP2 | 2.18 | 0.41 |
| 29:D1:1154:A:C8 | 29:D1:1154:A:C3’ | 3.03 | 0.41 |
| 29:D1:1155:C:C5’ | 29:D1:1156:C:OP2 | 2.67 | 0.41 |
| 29:D1:1168:U:C2’ | 29:D1:1169:A:C5’ | 2.98 | 0.41 |
| 29:D1:1178:G:C3’ | 29:D1:1179:A:H5’ | 2.50 | 0.41 |
| 29:D1:1248:C:OP2 | 29:D1:1268:G:O6 | 2.37 | 0.41 |
| 29:D1:1289:G:C2’ | 29:D1:1290:A:O4’ | 2.68 | 0.41 |
| 29:D1:1441:G:C3’ | 29:D1:1442:U:H5” | 2.45 | 0.41 |
| 29:D1:1446:A:C4 | 29:D1:1448:U:O2 | 2.73 | 0.41 |
| 29:D1:1513:G:N7 | 29:D1:1515:A:C5 | 2.88 | 0.41 |
| 29:D1:1602:A:H62 | 29:D1:1603:A:H61 | 1.67 | 0.41 |
| 29:D1:1624:G:C2 | 29:D1:1625:A:N3 | 2.88 | 0.41 |
| 29:D1:1636:U:H3 | 29:D1:1710:C:H1’ | 1.84 | 0.41 |
| 29:D1:1779:C:O5’ | 29:D1:1780:G:O4’ | 2.37 | 0.41 |
| 29:D1:1800:A:H2’ | 29:D1:1801:U:O4’ | 2.19 | 0.41 |
| 29:D1:1801:U:O5’ | 29:D1:1801:U:H6 | 2.03 | 0.41 |
| 29:D1:2137:U:N3 | 29:D1:2141:U:H5 | 2.18 | 0.41 |
| 29:D1:2141:U:H6 | 29:D1:2141:U:H2’ | 1.47 | 0.41 |
| 29:D1:2213:A:N6 | 29:D1:2214:A:N6 | 2.68 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2247:G:C6 | 29:D1:2248:C:N4 | 2.88 | 0.41 |
| 29:D1:2279:A:C3' | 29:D1:2280:A:C5' | 2.97 | 0.41 |
| 29:D1:2280:A:C4 | 29:D1:2282:U:H5 | 2.38 | 0.41 |
| 29:D1:2300:G:N2 | 29:D1:2301:U:C2 | 2.88 | 0.41 |
| 29:D1:2316:G:O2' | 29:D1:2317:A:H5' | 2.19 | 0.41 |
| 29:D1:2527:G:H5" | 29:D1:2528:G:OP2 | 2.20 | 0.41 |
| 29:D1:2562:A:C4 | 29:D1:2563:G:C8 | 3.07 | 0.41 |
| 29:D1:2704:A:C4 | 29:D1:2706:G:C8 | 3.08 | 0.41 |
| 29:D1:2779:A:C5 | 29:D1:2780:A:N7 | 2.88 | 0.41 |
| 29:D1:2834:G:O2' | 29:D1:2835:U:P | 2.78 | 0.41 |
| 29:D1:2872:A:H1' | 29:D1:2873:U:C5' | 2.50 | 0.41 |
| 29:D1:2955:U:C2 | 29:D1:2956:A:C8 | 3.08 | 0.41 |
| 29:D1:3037:U:O2' | 29:D1:3038:U:C5' | 2.50 | 0.41 |
| 29:D1:3045:G:O2' | 29:D1:3046:A:OP1 | 2.33 | 0.41 |
| 29:D1:3141:A:H5' | 29:D1:3143:C:H2' | 2.00 | 0.41 |
| 29:D1:3279:A:C5 | 29:D1:3280:U:C4 | 3.07 | 0.41 |
| 29:D1:3310:A:N6 | 29:D1:3311:C:C4 | 2.88 | 0.41 |
| 29:D1:3322:A:C2 | 29:D1:3386:G:C2 | 3.08 | 0.41 |
| 29:D1:3328:G:O2' | 29:D1:3329:U:O4' | 2.38 | 0.41 |
| 29:D1:3334:U:OP2 | 29:D1:3369:G:N1 | 2.53 | 0.41 |
| 29:D1:3368:U:H3' | 29:D1:3369:G:H5" | 2.02 | 0.41 |
| 30:D2:76:A:C4 | 30:D2:78:U:C4 | 3.08 | 0.41 |
| 30:D2:88:G:C6 | 30:D2:89:G:C6 | 3.08 | 0.41 |
| 31:D3:92:A:N3 | 31:D3:92:A:C2' | 2.74 | 0.41 |
| 33:DB:188:LYS:O | 33:DB:190:ARG:N | 2.50 | 0.41 |
| 34:DC:39:LYS:O | 34:DC:41:VAL:N | 2.53 | 0.41 |
| 41:DJ:62:SER:C | 41:DJ:64:ALA:N | 2.76 | 0.41 |
| 42:DK:97:SER:C | 42:DK:99:THR:N | 2.76 | 0.41 |
| 72:DL:132:ILE:O | 72:DL:133:LEU:C | 2.63 | 0.41 |
| 43:DN:111:ALA:C | 43:DN:113:THR:N | 2.77 | 0.41 |
| 45:DP:25:LYS:C | 45:DP:27:LEU:N | 2.76 | 0.41 |
| 46:DQ:98:ALA:O | 46:DQ:100:ALA:N | 2.52 | 0.41 |
| 47:DR:49:LEU:C | 47:DR:51:ALA:H | 2.28 | 0.41 |
| 50:DU:90:GLY:O | 50:DU:91:VAL:O | 2.38 | 0.41 |
| 56:Da:10:ARG:O | 56:Da:11:GLU:CB | 2.66 | 0.41 |
| 56:Da:56:ASN:O | 56:Da:57:GLN:C | 2.61 | 0.41 |
| 1:A1:47:A:H4' | 1:A1:48:G:C5' | 2.49 | 0.41 |
| 1:A1:53:G:C5 | 1:A1:54:C:C5 | 3.08 | 0.41 |
| 1:A1:105:A:C6 | 74:A1:1910:OHX:N4 | 2.88 | 0.41 |
| 1:A1:121:U:C2 | 1:A1:122:U:H1' | 2.56 | 0.41 |
| 1:A1:130:C:H3' | 1:A1:131:C:C5' | 2.50 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:350:U:O4' | 1:A1:352:A:C5 | 2.73 | 0.41 |
| 1:A1:399:A:O2' | 1:A1:401:A:C8 | 2.65 | 0.41 |
| 1:A1:541:A:H2' | 1:A1:541:A:N3 | 2.35 | 0.41 |
| 1:A1:547:U:H1' | 1:A1:596:C:H1' | 2.01 | 0.41 |
| 1:A1:704:C:O4' | 1:A1:705:U:OP1 | 2.37 | 0.41 |
| 1:A1:707:A:C6 | 1:A1:731:C:H5 | 2.39 | 0.41 |
| 1:A1:757:A:N7 | 1:A1:758:U:C5 | 2.89 | 0.41 |
| 1:A1:759:U:O2 | 1:A1:759:U:H2' | 2.19 | 0.41 |
| 1:A1:856:A:N3 | 1:A1:856:A:C2' | 2.83 | 0.41 |
| 1:A1:1102:G:H2' | 1:A1:1103:U:O4' | 2.20 | 0.41 |
| 1:A1:1109:G:C4 | 1:A1:1137:A:N1 | 2.88 | 0.41 |
| 1:A1:1121:C:N3 | 1:A1:1127:G:C6 | 2.88 | 0.41 |
| 1:A1:1181:U:C2' | 1:A1:1182:U:O5' | 2.68 | 0.41 |
| 1:A1:1231:U:C2 | 1:A1:1258:U:H5' | 2.55 | 0.41 |
| 1:A1:1252:C:H2' | 1:A1:1252:C:O2 | 2.18 | 0.41 |
| 1:A1:1421:A:N3 | 1:A1:1421:A:H2' | 2.35 | 0.41 |
| 1:A1:1591:C:O2' | 1:A1:1592:A:H5' | 2.21 | 0.41 |
| 1:A1:1597:A:N6 | 1:A1:1598:U:H3 | 2.17 | 0.41 |
| 1:A1:1614:A:H2 | 1:A1:1616:G:P | 2.42 | 0.41 |
| 1:A1:1656:U:H5' | 1:A1:1657:U:O5' | 2.18 | 0.41 |
| 1:A1:1657:U:H1' | 1:A1:1658:G:P | 2.59 | 0.41 |
| 1:A1:1662:G:O2' | 1:A1:1663:G:C5' | 2.67 | 0.41 |
| 1:A1:1665:U:O2 | 1:A1:1665:U:H2' | 2.19 | 0.41 |
| 1:A1:1673:G:H2' | 1:A1:1674:C:H6 | 1.85 | 0.41 |
| 2:AA:96:THR:O | 2:AA:97:PRO:O | 2.38 | 0.41 |
| 2:AA:167:LYS:O | 2:AA:168:HIS:CB | 2.67 | 0.41 |
| 6:AE:22:SER:O | 6:AE:26:ALA:HB2 | 2.20 | 0.41 |
| 9:AH:20:TYR:HA | 9:AH:85:ALA:N | 2.36 | 0.41 |
| 19:AR:8:THR:O | 19:AR:9:LEU:C | 2.62 | 0.41 |
| 20:AS:38:ILE:N | 74:AS:101:OHX:N5 | 2.67 | 0.41 |
| 23:Ab:109:UNK:O | 23:Ab:110:UNK:C | 2.68 | 0.41 |
| 29:B1:184:U:N3 | 29:B1:185:C:C5 | 2.88 | 0.41 |
| 29:B1:268:A:O2' | 29:B1:269:G:OP2 | 2.37 | 0.41 |
| 29:B1:296:A:H2' | 29:B1:297:G:O4' | 2.20 | 0.41 |
| 29:B1:306:A:C2 | 29:B1:307:A:C4 | 3.08 | 0.41 |
| 29:B1:331:G:C2 | 29:B1:332:C:C5 | 3.08 | 0.41 |
| 29:B1:380:U:C5 | 74:B1:3539:OHX:N1 | 2.88 | 0.41 |
| 29:B1:420:G:C2 | 29:B1:2384:A:N3 | 2.87 | 0.41 |
| 29:B1:563:U:OP2 | 29:B1:564:G:H5" | 2.19 | 0.41 |
| 29:B1:606:C:C5 | 29:B1:607:A:C6 | 3.08 | 0.41 |
| 29:B1:606:C:N3 | 29:B1:607:A:C2 | 2.88 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:706:A:H2' | 29:B1:707:U:H5' | 2.02 | 0.41 |
| 29:B1:826:G:C4 | 29:B1:900:G:C6 | 3.09 | 0.41 |
| 29:B1:832:G:N1 | 29:B1:863:C:C4 | 2.88 | 0.41 |
| 29:B1:845:G:C2' | 29:B1:846:A:O5' | 2.68 | 0.41 |
| 29:B1:956:U:H6 | 29:B1:956:U:O5' | 2.04 | 0.41 |
| 29:B1:966:U:H2' | 29:B1:967:A:N9 | 2.26 | 0.41 |
| 29:B1:1003:A:N6 | 29:B1:1046:A:H61 | 2.18 | 0.41 |
| 29:B1:1122:U:O2 | 29:B1:1122:U:H2' | 2.19 | 0.41 |
| 29:B1:1147:G:C6 | 29:B1:1157:G:C6 | 3.08 | 0.41 |
| 29:B1:1194:G:N9 | 29:B1:1309:U:O2 | 2.53 | 0.41 |
| 29:B1:1212:A:C5 | 29:B1:1294:A:C2 | 3.08 | 0.41 |
| 29:B1:1215:U:O5' | 29:B1:1215:U:H6 | 2.03 | 0.41 |
| 29:B1:1252:A:N3 | 29:B1:1264:G:OP1 | 2.53 | 0.41 |
| 29:B1:1353:U:O3' | 29:B1:1353:U:OP1 | 2.37 | 0.41 |
| 29:B1:1390:A:C8 | 29:B1:1418:A:N7 | 2.87 | 0.41 |
| 29:B1:1424:C:H2' | 29:B1:1425:U:O4' | 2.20 | 0.41 |
| 29:B1:1461:A:C6 | 29:B1:1462:A:C6 | 3.08 | 0.41 |
| 29:B1:1471:U:N3 | 29:B1:1472:U:C4 | 2.87 | 0.41 |
| 29:B1:1492:G:O5' | 29:B1:1493:G:N2 | 2.53 | 0.41 |
| 29:B1:1730:G:O6 | 55:BZ:27:TYR:N | 2.52 | 0.41 |
| 29:B1:1733:G:H2' | 29:B1:1734:G:C8 | 2.55 | 0.41 |
| 29:B1:2129:U:H2' | 29:B1:2130:G:H8 | 1.78 | 0.41 |
| 29:B1:2276:G:C4 | 29:B1:2277:C:C5 | 3.05 | 0.41 |
| 29:B1:2290:C:O2' | 29:B1:2291:A:O5' | 2.38 | 0.41 |
| 29:B1:2333:C:H2' | 29:B1:2334:U:C1' | 2.50 | 0.41 |
| 29:B1:2383:C:C6 | 29:B1:2384:A:N7 | 2.87 | 0.41 |
| 29:B1:2673:A:N6 | 29:B1:2681:U:N3 | 2.50 | 0.41 |
| 29:B1:2685:C:O2 | 29:B1:2685:C:H2' | 2.19 | 0.41 |
| 29:B1:2694:A:H5' | 29:B1:2695:A:OP2 | 2.20 | 0.41 |
| 29:B1:2700:G:C6 | 29:B1:2701:U:C4 | 3.08 | 0.41 |
| 29:B1:2844:C:N4 | 29:B1:2898:G:H22 | 2.13 | 0.41 |
| 29:B1:2885:C:C2' | 29:B1:2886:U:H5' | 2.50 | 0.41 |
| 29:B1:2992:U:O4 | 29:B1:2993:G:H8 | 2.02 | 0.41 |
| 29:B1:3006:A:C8 | 29:B1:3007:U:C2 | 3.09 | 0.41 |
| 29:B1:3007:U:H2' | 29:B1:3008:A:O4' | 2.20 | 0.41 |
| 29:B1:3107:U:C2 | 29:B1:3108:G:C8 | 3.07 | 0.41 |
| 29:B1:3141:A:O4' | 29:B1:3143:C:C2' | 2.68 | 0.41 |
| 29:B1:3241:G:H2' | 29:B1:3242:G:O5' | 2.20 | 0.41 |
| 29:B1:3278:C:H2' | 29:B1:3279:A:N9 | 2.35 | 0.41 |
| 29:B1:3281:U:H2' | 29:B1:3282:U:N1 | 2.34 | 0.41 |
| 30:B2:44:C:C2 | 30:B2:45:A:C8 | 3.08 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:B2:68:C:HO2' | 30:B2:69:C:P | 2.43 | 0.41 |
| 30:B2:88:G:C6 | 30:B2:89:G:O6 | 2.73 | 0.41 |
| 31:B3:74:U:O2 | 31:B3:74:U:O4' | 2.37 | 0.41 |
| 33:BB:200:ARG:O | 33:BB:202:VAL:N | 2.48 | 0.41 |
| 34:BC:7:GLU:O | 34:BC:8:ALA:HB3 | 2.20 | 0.41 |
| 36:BE:130:GLU:CA | 36:BE:131:LEU:CB | 2.98 | 0.41 |
| 36:BE:199:ILE:O | 36:BE:200:PHE:C | 2.63 | 0.41 |
| 37:BF:155:LEU:C | 37:BF:157:GLN:H | 2.27 | 0.41 |
| 38:BG:98:LYS:C | 38:BG:100:ARG:N | 2.73 | 0.41 |
| 39:BH:124:ASP:C | 39:BH:126:SER:H | 2.27 | 0.41 |
| 44:BO:141:ALA:HA | 44:BO:145:ASP:H | 1.85 | 0.41 |
| 46:BQ:9:THR:HA | 46:BQ:13:LYS:CA | 2.50 | 0.41 |
| 47:BR:85:GLY:C | 47:BR:86:THR:O | 2.63 | 0.41 |
| 49:BT:11:THR:O | 49:BT:13:TYR:N | 2.52 | 0.41 |
| 49:BT:28:SER:O | 49:BT:31:LEU:N | 2.53 | 0.41 |
| 60:Be:7:PHE:C | 60:Be:10:LYS:H | 2.26 | 0.41 |
| 62:Bg:12:GLY:O | 62:Bg:13:LYS:C | 2.59 | 0.41 |
| 62:Bg:84:ARG:O | 62:Bg:87:ARG:CB | 2.68 | 0.41 |
| 1:C1:50:C:O2 | 1:C1:50:C:C2' | 2.68 | 0.41 |
| 1:C1:81:G:H2' | 1:C1:81:G:N3 | 2.35 | 0.41 |
| 1:C1:183:U:O2 | 1:C1:183:U:O4' | 2.38 | 0.41 |
| 1:C1:215:A:O5' | 1:C1:215:A:C8 | 2.64 | 0.41 |
| 1:C1:221:A:C5 | 1:C1:833:U:H5 | 2.38 | 0.41 |
| 1:C1:312:A:C6 | 1:C1:315:A:N7 | 2.89 | 0.41 |
| 1:C1:323:A:O2' | 1:C1:324:U:C5' | 2.68 | 0.41 |
| 1:C1:395:U:O4 | 1:C1:396:G:N1 | 2.53 | 0.41 |
| 1:C1:721:U:C6 | 1:C1:723:G:OP1 | 2.73 | 0.41 |
| 1:C1:733:A:OP1 | 1:C1:733:A:H4' | 2.19 | 0.41 |
| 1:C1:772:G:H8 | 1:C1:772:G:O5' | 2.03 | 0.41 |
| 1:C1:782:U:H4' | 1:C1:783:G:C5' | 2.48 | 0.41 |
| 1:C1:891:A:N6 | 1:C1:922:G:O6 | 2.52 | 0.41 |
| 1:C1:967:A:H2' | 1:C1:968:U:C6 | 2.55 | 0.41 |
| 1:C1:993:A:C5 | 1:C1:1012:U:C2 | 3.07 | 0.41 |
| 1:C1:1021:C:N3 | 1:C1:1022:C:O2 | 2.53 | 0.41 |
| 1:C1:1112:G:C8 | 1:C1:1113:A:N7 | 2.88 | 0.41 |
| 1:C1:1171:A:C2' | 1:C1:1172:G:C8 | 3.00 | 0.41 |
| 1:C1:1235:C:C2' | 1:C1:1236:A:H5' | 2.50 | 0.41 |
| 1:C1:1324:G:C6 | 1:C1:1325:A:C8 | 3.08 | 0.41 |
| 1:C1:1374:C:H2' | 1:C1:1375:A:N9 | 2.35 | 0.41 |
| 1:C1:1385:G:C2 | 1:C1:1386:G:N9 | 2.87 | 0.41 |
| 1:C1:1422:A:C2 | 1:C1:1423:U:C2 | 3.08 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1524:A:C2 | 1:C1:1525:A:C5 | 3.08 | 0.41 |
| 1:C1:1524:A:C2 | 1:C1:1525:A:C6 | 3.09 | 0.41 |
| 1:C1:1650:U:C2 | 1:C1:1651:A:C8 | 3.08 | 0.41 |
| 1:C1:1683:C:C5 | 1:C1:1719:A:N6 | 2.88 | 0.41 |
| 1:C1:1683:C:H5” | 1:C1:1722:A:H2 | 1.86 | 0.41 |
| 1:C1:1717:G:C6 | 1:C1:1718:G:N2 | 2.88 | 0.41 |
| 1:C1:1719:A:H5’ | 1:C1:1720:G:P | 2.60 | 0.41 |
| 2:CA:178:ALA:HA | 2:CA:181:VAL:CB | 2.50 | 0.41 |
| 4:CC:69:LEU:O | 4:CC:71:LEU:N | 2.53 | 0.41 |
| 5:CD:207:THR:HA | 5:CD:208:SER:HA | 1.60 | 0.41 |
| 8:CG:139:TRP:C | 8:CG:141:TYR:N | 2.75 | 0.41 |
| 14:CM:15:ILE:O | 14:CM:18:TYR:N | 2.52 | 0.41 |
| 29:D1:29:C:H4’ | 29:D1:62:A:H4’ | 2.02 | 0.41 |
| 29:D1:75:G:C6 | 29:D1:76:G:C6 | 3.07 | 0.41 |
| 29:D1:124:U:H6 | 29:D1:124:U:O5’ | 2.04 | 0.41 |
| 29:D1:156:G:C5 | 29:D1:158:G:OP2 | 2.73 | 0.41 |
| 29:D1:352:A:H1’ | 29:D1:354:U:C6 | 2.55 | 0.41 |
| 29:D1:361:A:HO2’ | 29:D1:362:U:P | 2.43 | 0.41 |
| 29:D1:411:U:C2 | 31:D3:13:A:C2 | 3.08 | 0.41 |
| 29:D1:414:U:C4 | 29:D1:415:G:N7 | 2.88 | 0.41 |
| 29:D1:429:U:H2’ | 29:D1:430:U:C6 | 2.55 | 0.41 |
| 29:D1:440:A:H5’ | 29:D1:441:U:H5’ | 2.02 | 0.41 |
| 29:D1:542:G:N3 | 29:D1:543:C:C5 | 2.89 | 0.41 |
| 29:D1:561:C:H2’ | 29:D1:562:C:C5 | 2.54 | 0.41 |
| 29:D1:597:G:C5 | 29:D1:598:A:N7 | 2.88 | 0.41 |
| 29:D1:614:C:C2’ | 29:D1:615:U:H5’ | 2.50 | 0.41 |
| 29:D1:637:C:O2’ | 29:D1:638:C:H5” | 2.20 | 0.41 |
| 29:D1:715:A:C3’ | 54:DY:115:LYS:CB | 2.98 | 0.41 |
| 29:D1:816:A:N6 | 29:D1:910:G:O2’ | 2.54 | 0.41 |
| 29:D1:908:G:N7 | 29:D1:925:A:C4 | 2.88 | 0.41 |
| 29:D1:968:G:C5 | 29:D1:969:C:C4 | 3.08 | 0.41 |
| 29:D1:1049:C:C2’ | 29:D1:1050:U:H5’ | 2.49 | 0.41 |
| 29:D1:1081:U:C2’ | 29:D1:1082:U:OP1 | 2.68 | 0.41 |
| 29:D1:1105:A:H2’ | 29:D1:1106:G:O4’ | 2.21 | 0.41 |
| 29:D1:1154:A:H8 | 29:D1:1154:A:H5” | 1.84 | 0.41 |
| 29:D1:1178:G:N7 | 29:D1:1179:A:C2 | 2.88 | 0.41 |
| 29:D1:1225:A:HO2’ | 29:D1:1226:G:P | 2.43 | 0.41 |
| 29:D1:1255:C:O2 | 29:D1:1255:C:C2’ | 2.65 | 0.41 |
| 29:D1:1284:C:C2 | 29:D1:1285:G:C8 | 3.08 | 0.41 |
| 29:D1:1293:U:C2’ | 29:D1:1294:A:O5’ | 2.68 | 0.41 |
| 29:D1:1399:A:C2 | 31:D3:8:C:H1’ | 2.54 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1503:A:H2' | 29:D1:1504:A:O4' | 2.20 | 0.41 |
| 29:D1:1714:A:C2' | 29:D1:1715:A:OP1 | 2.69 | 0.41 |
| 29:D1:1843:C:H2' | 29:D1:1844:C:H6 | 1.85 | 0.41 |
| 29:D1:1923:C:O2' | 29:D1:1924:U:H5' | 2.21 | 0.41 |
| 29:D1:2130:G:O6 | 29:D1:2323:G:O6 | 2.38 | 0.41 |
| 29:D1:2136:C:C5' | 29:D1:2137:U:OP2 | 2.55 | 0.41 |
| 29:D1:2151:C:O2 | 29:D1:2243:A:H2 | 2.04 | 0.41 |
| 29:D1:2221:G:N2 | 29:D1:2225:U:C2 | 2.88 | 0.41 |
| 29:D1:2423:U:O5' | 29:D1:2423:U:H6 | 2.02 | 0.41 |
| 29:D1:2639:G:C4 | 29:D1:2640:A:C8 | 3.07 | 0.41 |
| 29:D1:2725:U:C5 | 29:D1:2727:A:C4 | 3.08 | 0.41 |
| 29:D1:2743:A:N3 | 29:D1:2743:A:H2' | 2.35 | 0.41 |
| 29:D1:2801:A:O2' | 29:D1:2802:A:H2' | 2.19 | 0.41 |
| 29:D1:2927:C:H2' | 29:D1:2928:C:O4' | 2.21 | 0.41 |
| 29:D1:3040:A:N3 | 29:D1:3040:A:H2' | 2.34 | 0.41 |
| 29:D1:3102:G:N2 | 29:D1:3103:A:N3 | 2.68 | 0.41 |
| 29:D1:3120:C:H5' | 29:D1:3121:U:OP2 | 2.20 | 0.41 |
| 29:D1:3141:A:C5' | 29:D1:3143:C:H2' | 2.50 | 0.41 |
| 29:D1:3196:U:H2' | 29:D1:3197:G:C2 | 2.55 | 0.41 |
| 29:D1:3197:G:C2' | 29:D1:3197:G:N3 | 2.83 | 0.41 |
| 29:D1:3218:A:HO2' | 29:D1:3219:G:H3' | 1.61 | 0.41 |
| 29:D1:3354:U:O2' | 29:D1:3355:U:O5' | 2.34 | 0.41 |
| 29:D1:3375:A:OP2 | 29:D1:3375:A:C4' | 2.65 | 0.41 |
| 29:D1:3377:G:C1' | 29:D1:3378:C:P | 3.06 | 0.41 |
| 30:D2:79:A:C1' | 30:D2:102:A:N6 | 2.84 | 0.41 |
| 30:D2:83:U:C2' | 30:D2:84:A:H5' | 2.50 | 0.41 |
| 30:D2:117:A:N6 | 30:D2:118:A:N6 | 2.67 | 0.41 |
| 31:D3:131:A:O2' | 31:D3:132:G:O5' | 2.37 | 0.41 |
| 31:D3:151:C:H6 | 31:D3:151:C:P | 2.43 | 0.41 |
| 34:DC:207:SER:O | 34:DC:208:VAL:O | 2.38 | 0.41 |
| 34:DC:288:GLY:H | 34:DC:291:GLU:CB | 2.32 | 0.41 |
| 35:DD:13:GLY:C | 35:DD:15:ALA:HA | 2.44 | 0.41 |
| 35:DD:163:LYS:C | 35:DD:165:ALA:N | 2.76 | 0.41 |
| 36:DE:245:GLU:C | 36:DE:246:ALA:O | 2.64 | 0.41 |
| 38:DG:37:ASN:O | 38:DG:38:LYS:C | 2.62 | 0.41 |
| 41:DJ:212:GLU:C | 41:DJ:214:PRO:N | 2.77 | 0.41 |
| 45:DP:83:ALA:O | 45:DP:85:ARG:N | 2.53 | 0.41 |
| 45:DP:139:GLY:C | 45:DP:142:SER:H | 2.28 | 0.41 |
| 49:DT:28:SER:O | 49:DT:29:THR:C | 2.64 | 0.41 |
| 51:DV:35:LYS:O | 51:DV:36:SER:C | 2.64 | 0.41 |
| 58:Dc:40:SER:C | 58:Dc:42:PRO:HA | 2.37 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:33:U:C6 | 1:A1:33:U:C3' | 3.03 | 0.41 |
| 1:A1:267:U:O4 | 1:A1:268:C:N3 | 2.53 | 0.41 |
| 1:A1:330:G:C4 | 1:A1:331:A:N7 | 2.88 | 0.41 |
| 1:A1:407:A:C5 | 1:A1:408:C:C5 | 3.08 | 0.41 |
| 1:A1:461:G:C2 | 1:A1:462:G:C5 | 3.08 | 0.41 |
| 1:A1:586:G:C2' | 1:A1:587:C:O5' | 2.68 | 0.41 |
| 1:A1:641:G:C2 | 1:A1:642:G:N7 | 2.88 | 0.41 |
| 1:A1:804:A:C4 | 1:A1:805:U:C5 | 3.08 | 0.41 |
| 1:A1:871:G:O2' | 1:A1:872:G:O4' | 2.33 | 0.41 |
| 1:A1:880:C:C2 | 1:A1:881:A:C8 | 3.07 | 0.41 |
| 1:A1:1048:G:H5" | 1:A1:1049:U:OP2 | 2.20 | 0.41 |
| 1:A1:1073:G:H8 | 1:A1:1073:G:C5' | 2.33 | 0.41 |
| 1:A1:1145:U:H2' | 1:A1:1146:G:H5" | 2.03 | 0.41 |
| 1:A1:1246:C:C5 | 1:A1:1247:U:C4 | 3.08 | 0.41 |
| 1:A1:1252:C:O2' | 1:A1:1253:U:H5' | 2.20 | 0.41 |
| 1:A1:1255:G:O4' | 1:A1:1255:G:P | 2.78 | 0.41 |
| 1:A1:1267:G:C2 | 1:A1:1268:G:C4 | 3.08 | 0.41 |
| 1:A1:1317:C:OP2 | 74:A1:1929:OHX:N6 | 2.53 | 0.41 |
| 1:A1:1325:A:N3 | 1:A1:1326:A:N7 | 2.67 | 0.41 |
| 1:A1:1347:U:C2 | 1:A1:1349:G:O6 | 2.73 | 0.41 |
| 1:A1:1457:C:H6 | 1:A1:1457:C:H2' | 1.61 | 0.41 |
| 1:A1:1553:G:N2 | 1:A1:1555:A:H3' | 2.34 | 0.41 |
| 1:A1:1602:C:C2 | 1:A1:1603:U:C6 | 3.07 | 0.41 |
| 1:A1:1717:G:O6 | 1:A1:1718:G:N2 | 2.53 | 0.41 |
| 1:A1:1719:A:O3' | 1:A1:1720:G:O4' | 2.38 | 0.41 |
| 1:A1:1734:U:H5" | 1:A1:1735:U:OP2 | 2.21 | 0.41 |
| 1:A1:1757:G:H5' | 1:A1:1757:G:H8 | 1.85 | 0.41 |
| 2:AA:56:LYS:O | 2:AA:57:LEU:C | 2.63 | 0.41 |
| 2:AA:183:ARG:C | 2:AA:185:ARG:N | 2.78 | 0.41 |
| 3:AB:153:SER:HA | 3:AB:171:PRO:CB | 2.50 | 0.41 |
| 4:AC:162:GLN:O | 4:AC:163:PRO:C | 2.63 | 0.41 |
| 5:AD:212:LYS:O | 5:AD:213:LYS:C | 2.62 | 0.41 |
| 9:AH:43:THR:O | 9:AH:44:GLY:C | 2.62 | 0.41 |
| 14:AM:17:ALA:O | 14:AM:18:TYR:C | 2.63 | 0.41 |
| 16:AO:96:ALA:O | 16:AO:97:ARG:C | 2.64 | 0.41 |
| 16:AO:105:THR:O | 16:AO:106:THR:O | 2.39 | 0.41 |
| 23:Ab:102:UNK:C | 23:Ab:104:UNK:N | 2.80 | 0.41 |
| 24:Ac:17:UNK:O | 24:Ac:21:UNK:N | 2.54 | 0.41 |
| 29:B1:44:U:H3 | 29:B1:94:G:H1 | 1.66 | 0.41 |
| 29:B1:61:A:C2 | 29:B1:62:A:H1' | 2.55 | 0.41 |
| 29:B1:67:A:C8 | 29:B1:317:A:C1' | 3.01 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:220:G:C5 | 29:B1:1389:G:N2 | 2.88 | 0.41 |
| 29:B1:232:G:H2' | 29:B1:233:C:O4' | 2.20 | 0.41 |
| 29:B1:324:A:H2' | 29:B1:325:A:C8 | 2.56 | 0.41 |
| 29:B1:380:U:H5 | 74:B1:3539:OHX:N1 | 2.19 | 0.41 |
| 29:B1:420:G:N3 | 29:B1:2384:A:N3 | 2.69 | 0.41 |
| 29:B1:420:G:N3 | 29:B1:2385:G:OP2 | 2.53 | 0.41 |
| 29:B1:517:G:C6 | 29:B1:518:G:C6 | 3.09 | 0.41 |
| 29:B1:532:A:N1 | 29:B1:560:G:C2 | 2.88 | 0.41 |
| 29:B1:542:G:O6 | 29:B1:549:U:O4 | 2.38 | 0.41 |
| 29:B1:739:G:C2 | 29:B1:740:G:C5 | 3.08 | 0.41 |
| 29:B1:795:G:H2' | 29:B1:796:U:O5' | 2.21 | 0.41 |
| 29:B1:796:U:C2 | 29:B1:797:U:C5 | 3.09 | 0.41 |
| 29:B1:1001:G:C8 | 29:B1:1041:U:O3' | 2.73 | 0.41 |
| 29:B1:1021:G:N1 | 29:B1:1032:C:C2 | 2.89 | 0.41 |
| 29:B1:1182:A:H2' | 29:B1:1183:C:C6 | 2.56 | 0.41 |
| 29:B1:1187:C:O5' | 29:B1:1187:C:H6 | 2.03 | 0.41 |
| 29:B1:1199:C:O2' | 74:B1:3587:OHX:N3 | 2.53 | 0.41 |
| 29:B1:1212:A:H3' | 29:B1:1213:G:C5' | 2.50 | 0.41 |
| 29:B1:1311:G:O4' | 29:B1:2381:G:H5' | 2.20 | 0.41 |
| 29:B1:1351:U:O2 | 29:B1:1352:A:C6 | 2.73 | 0.41 |
| 29:B1:1457:U:O2 | 29:B1:1457:U:H2' | 2.20 | 0.41 |
| 29:B1:1501:U:C6 | 29:B1:1501:U:OP2 | 2.71 | 0.41 |
| 29:B1:1525:G:H5' | 29:B1:1829:G:O2' | 2.20 | 0.41 |
| 29:B1:1556:C:O2' | 29:B1:1557:A:OP2 | 2.37 | 0.41 |
| 29:B1:1763:U:H2' | 29:B1:1764:U:O4' | 2.19 | 0.41 |
| 29:B1:1899:G:N2 | 29:B1:2334:U:C5 | 2.88 | 0.41 |
| 29:B1:1943:C:H5' | 29:B1:3344:A:H5' | 2.03 | 0.41 |
| 29:B1:2095:G:O2' | 29:B1:2096:A:H5' | 2.19 | 0.41 |
| 29:B1:2203:U:H4' | 33:BB:239:ALA:O | 2.21 | 0.41 |
| 29:B1:2260:U:OP1 | 29:B1:2260:U:C4' | 2.68 | 0.41 |
| 29:B1:2337:C:C2 | 29:B1:2338:C:C5 | 3.08 | 0.41 |
| 29:B1:2598:G:C6 | 29:B1:2599:U:C4 | 3.08 | 0.41 |
| 29:B1:2639:G:N1 | 29:B1:2640:A:C5 | 2.87 | 0.41 |
| 29:B1:2688:U:C2' | 29:B1:2689:A:OP1 | 2.68 | 0.41 |
| 29:B1:2760:C:O2 | 29:B1:2760:C:H2' | 2.19 | 0.41 |
| 29:B1:2762:A:C5 | 29:B1:2763:U:C5 | 3.09 | 0.41 |
| 29:B1:2826:U:C4 | 29:B1:2827:U:C4 | 3.08 | 0.41 |
| 29:B1:2856:G:N1 | 29:B1:2857:C:C4 | 2.89 | 0.41 |
| 29:B1:2909:U:H2' | 29:B1:2910:A:C5' | 2.51 | 0.41 |
| 29:B1:3057:U:O2 | 29:B1:3057:U:H2' | 2.20 | 0.41 |
| 29:B1:3096:C:N3 | 29:B1:3097:C:C5 | 2.89 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3166:C:H2' | 29:B1:3167:A:H8 | 1.86 | 0.41 |
| 29:B1:3182:G:H2' | 29:B1:3183:A:O4' | 2.20 | 0.41 |
| 29:B1:3225:C:C4 | 29:B1:3226:A:N6 | 2.89 | 0.41 |
| 29:B1:3260:G:OP2 | 29:B1:3260:G:C8 | 2.73 | 0.41 |
| 29:B1:3322:A:C4 | 29:B1:3386:G:N2 | 2.88 | 0.41 |
| 29:B1:3377:G:C4 | 74:B1:3450:OHX:N4 | 2.88 | 0.41 |
| 29:B1:3381:U:O2' | 29:B1:3383:G:C4 | 2.73 | 0.41 |
| 30:B2:63:A:C2 | 30:B2:65:G:C6 | 3.08 | 0.41 |
| 30:B2:79:A:H1' | 30:B2:102:A:H61 | 1.80 | 0.41 |
| 30:B2:113:C:O2' | 30:B2:114:U:O5' | 2.39 | 0.41 |
| 31:B3:10:A:C4 | 31:B3:11:C:C6 | 3.08 | 0.41 |
| 31:B3:11:C:C2 | 31:B3:12:A:C8 | 3.08 | 0.41 |
| 31:B3:92:A:C3' | 31:B3:93:U:H5' | 2.50 | 0.41 |
| 34:BC:261:MET:O | 34:BC:262:TRP:C | 2.62 | 0.41 |
| 35:BD:139:GLY:O | 35:BD:140:HIS:C | 2.63 | 0.41 |
| 35:BD:241:GLY:C | 35:BD:243:HIS:N | 2.78 | 0.41 |
| 36:BE:260:PHE:C | 36:BE:262:LYS:N | 2.78 | 0.41 |
| 40:BI:126:VAL:O | 40:BI:127:PRO:C | 2.62 | 0.41 |
| 45:BP:84:LEU:O | 45:BP:87:MET:N | 2.53 | 0.41 |
| 52:BW:54:TYR:O | 52:BW:56:ARG:N | 2.52 | 0.41 |
| 56:Ba:80:ASN:C | 56:Ba:82:GLU:N | 2.77 | 0.41 |
| 58:Bc:40:SER:C | 58:Bc:42:PRO:HA | 2.35 | 0.41 |
| 60:Be:26:TRP:C | 60:Be:28:ARG:H | 2.28 | 0.41 |
| 71:Br:8:UNK:O | 71:Br:9:UNK:C | 2.67 | 0.41 |
| 1:C1:27:U:H2' | 1:C1:28:A:H8 | 1.85 | 0.41 |
| 1:C1:40:A:C2' | 1:C1:41:A:O4' | 2.68 | 0.41 |
| 1:C1:151:G:N2 | 1:C1:163:G:N2 | 2.68 | 0.41 |
| 1:C1:183:U:C5 | 1:C1:184:C:C5 | 3.08 | 0.41 |
| 1:C1:198:A:N3 | 1:C1:199:G:O4' | 2.53 | 0.41 |
| 1:C1:206:A:O2' | 1:C1:207:U:H5' | 2.21 | 0.41 |
| 1:C1:265:A:N7 | 1:C1:290:G:C2 | 2.87 | 0.41 |
| 1:C1:269:G:N3 | 1:C1:270:C:C6 | 2.89 | 0.41 |
| 1:C1:295:A:N1 | 1:C1:296:U:O2 | 2.53 | 0.41 |
| 1:C1:332:U:H5" | 1:C1:333:A:OP2 | 2.20 | 0.41 |
| 1:C1:461:G:O2' | 1:C1:462:G:O5' | 2.36 | 0.41 |
| 1:C1:577:G:H8 | 1:C1:577:G:H2' | 1.71 | 0.41 |
| 1:C1:665:U:H2' | 1:C1:666:U:H5" | 2.02 | 0.41 |
| 1:C1:709:C:OP2 | 1:C1:709:C:H6 | 2.04 | 0.41 |
| 1:C1:733:A:C5 | 1:C1:734:A:C4 | 3.08 | 0.41 |
| 1:C1:884:A:H2' | 1:C1:885:G:H8 | 1.78 | 0.41 |
| 1:C1:1164:G:O2' | 1:C1:1165:G:C5' | 2.69 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1170:G:H22 | 1:C1:1571:C:H4' | 1.80 | 0.41 |
| 1:C1:1302:U:O2 | 1:C1:1302:U:H2' | 2.20 | 0.41 |
| 1:C1:1338:C:C1' | 1:C1:1410:A:C2 | 3.03 | 0.41 |
| 1:C1:1347:U:C4 | 1:C1:1376:C:N4 | 2.88 | 0.41 |
| 1:C1:1368:G:H2' | 1:C1:1368:G:N3 | 2.35 | 0.41 |
| 1:C1:1467:C:N3 | 1:C1:1468:U:C4 | 2.89 | 0.41 |
| 1:C1:1476:C:H2' | 1:C1:1477:G:C8 | 2.55 | 0.41 |
| 1:C1:1525:A:C2 | 1:C1:1526:A:C5 | 3.09 | 0.41 |
| 1:C1:1571:C:C3' | 1:C1:1572:G:H5" | 2.45 | 0.41 |
| 1:C1:1615:C:H2' | 1:C1:1616:G:H4' | 2.02 | 0.41 |
| 1:C1:1725:U:H2' | 1:C1:1726:G:C8 | 2.55 | 0.41 |
| 1:C1:1783:C:N3 | 1:C1:1784:C:C5 | 2.88 | 0.41 |
| 2:CA:56:LYS:O | 2:CA:59:LEU:N | 2.53 | 0.41 |
| 2:CA:107:PHE:HA | 2:CA:117:GLU:CB | 2.50 | 0.41 |
| 2:CA:109:ASN:O | 2:CA:110:TYR:C | 2.63 | 0.41 |
| 6:CE:73:GLY:O | 6:CE:75:ALA:N | 2.52 | 0.41 |
| 11:CJ:82:ARG:O | 11:CJ:83:GLN:C | 2.62 | 0.41 |
| 17:CP:136:TRP:HA | 17:CP:137:LYS:HA | 1.81 | 0.41 |
| 21:CT:216:LYS:O | 21:CT:217:ASP:C | 2.64 | 0.41 |
| 21:CT:219:GLU:HA | 21:CT:236:ALA:H | 1.85 | 0.41 |
| 23:Cb:50:UNK:C | 23:Cb:52:UNK:N | 2.84 | 0.41 |
| 24:Cc:53:UNK:O | 24:Cc:54:UNK:C | 2.68 | 0.41 |
| 29:D1:114:A:N3 | 29:D1:267:G:C2 | 2.89 | 0.41 |
| 29:D1:265:A:H4' | 29:D1:266:A:O5' | 2.19 | 0.41 |
| 29:D1:373:A:C6 | 29:D1:375:A:N6 | 2.88 | 0.41 |
| 29:D1:418:A:H2' | 29:D1:419:G:C8 | 2.56 | 0.41 |
| 29:D1:504:A:C2 | 29:D1:505:G:N1 | 2.89 | 0.41 |
| 29:D1:516:A:C4' | 29:D1:517:G:OP1 | 2.66 | 0.41 |
| 29:D1:535:G:N2 | 29:D1:558:U:O2' | 2.53 | 0.41 |
| 29:D1:550:A:C6 | 29:D1:551:A:C5 | 3.09 | 0.41 |
| 29:D1:592:A:C2 | 29:D1:593:C:N1 | 2.88 | 0.41 |
| 29:D1:624:G:H2' | 29:D1:624:G:N3 | 2.35 | 0.41 |
| 29:D1:642:U:H5' | 29:D1:1116:G:N7 | 2.35 | 0.41 |
| 29:D1:642:U:C5' | 29:D1:643:U:OP2 | 2.68 | 0.41 |
| 29:D1:693:A:C2' | 29:D1:694:C:C6 | 2.99 | 0.41 |
| 29:D1:746:A:O2' | 29:D1:747:A:OP1 | 2.33 | 0.41 |
| 29:D1:759:U:C4 | 29:D1:760:G:C2 | 3.08 | 0.41 |
| 29:D1:776:U:C4' | 29:D1:777:U:H5" | 2.46 | 0.41 |
| 29:D1:776:U:C6 | 29:D1:777:U:O4' | 2.73 | 0.41 |
| 29:D1:845:G:N2 | 29:D1:848:A:N6 | 2.68 | 0.41 |
| 29:D1:946:U:O2 | 29:D1:947:G:C8 | 2.73 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:974:G:C4 | 29:D1:975:C:C6 | 3.09 | 0.41 |
| 29:D1:1074:U:H4' | 29:D1:1075:A:OP2 | 2.20 | 0.41 |
| 29:D1:1128:U:O2 | 29:D1:1129:A:C1' | 2.69 | 0.41 |
| 29:D1:1192:C:O5' | 29:D1:1193:A:OP2 | 2.38 | 0.41 |
| 29:D1:1227:C:H2' | 29:D1:1227:C:O2 | 2.20 | 0.41 |
| 29:D1:1234:G:O5' | 29:D1:1235:U:OP2 | 2.39 | 0.41 |
| 29:D1:1257:C:C2 | 29:D1:1258:U:C6 | 3.08 | 0.41 |
| 29:D1:1257:C:C2 | 29:D1:1261:G:N2 | 2.89 | 0.41 |
| 29:D1:1266:G:C6 | 29:D1:1267:U:C5 | 3.08 | 0.41 |
| 29:D1:1311:G:O5' | 29:D1:1311:G:H8 | 2.03 | 0.41 |
| 29:D1:1440:G:C2 | 29:D1:1441:G:C8 | 3.07 | 0.41 |
| 29:D1:1454:A:C5' | 29:D1:1878:G:C6 | 2.94 | 0.41 |
| 29:D1:1508:C:C2' | 29:D1:1509:A:H5' | 2.51 | 0.41 |
| 29:D1:1627:U:C3' | 29:D1:1628:C:O4' | 2.64 | 0.41 |
| 29:D1:1841:A:C6 | 29:D1:1848:G:C6 | 3.08 | 0.41 |
| 29:D1:1888:U:C4 | 29:D1:1889:G:C8 | 3.08 | 0.41 |
| 29:D1:1913:A:C2 | 29:D1:2120:A:H8 | 2.38 | 0.41 |
| 29:D1:1931:U:O2 | 29:D1:2121:G:C2 | 2.72 | 0.41 |
| 29:D1:2166:A:C6 | 29:D1:2167:A:C6 | 3.08 | 0.41 |
| 29:D1:2196:C:C4 | 29:D1:2242:A:C5 | 3.09 | 0.41 |
| 29:D1:2215:A:N3 | 29:D1:2215:A:C2' | 2.77 | 0.41 |
| 29:D1:2219:A:H2' | 29:D1:2220:A:H5' | 2.01 | 0.41 |
| 29:D1:2250:G:N1 | 29:D1:2267:C:N3 | 2.58 | 0.41 |
| 29:D1:2260:U:C3' | 29:D1:2261:G:C8 | 3.03 | 0.41 |
| 29:D1:2278:C:C2 | 29:D1:2307:G:N2 | 2.89 | 0.41 |
| 29:D1:2339:C:C5 | 29:D1:3093:C:OP1 | 2.69 | 0.41 |
| 29:D1:2409:G:C2 | 29:D1:2411:U:C6 | 3.08 | 0.41 |
| 29:D1:2423:U:HO2' | 29:D1:2424:A:P | 2.43 | 0.41 |
| 29:D1:2511:A:C2' | 29:D1:2512:C:H5' | 2.48 | 0.41 |
| 29:D1:2620:G:H2' | 29:D1:2621:G:H5' | 2.02 | 0.41 |
| 29:D1:2698:G:C2' | 29:D1:2699:G:C5' | 2.83 | 0.41 |
| 29:D1:2852:C:H5 | 29:D1:2853:A:C5 | 2.39 | 0.41 |
| 29:D1:2900:A:N3 | 29:D1:2901:G:N7 | 2.67 | 0.41 |
| 29:D1:2916:U:H2' | 29:D1:2917:G:H8 | 1.85 | 0.41 |
| 29:D1:3012:A:C2' | 29:D1:3013:U:C5' | 2.92 | 0.41 |
| 29:D1:3090:U:OP1 | 29:D1:3090:U:C4' | 2.67 | 0.41 |
| 29:D1:3105:U:C6 | 29:D1:3106:A:C8 | 3.08 | 0.41 |
| 29:D1:3130:A:H5' | 29:D1:3131:U:C5 | 2.55 | 0.41 |
| 29:D1:3139:A:H2' | 29:D1:3140:G:H5" | 2.02 | 0.41 |
| 29:D1:3147:G:C2' | 29:D1:3148:U:O5' | 2.69 | 0.41 |
| 29:D1:3195:U:H2' | 29:D1:3195:U:O2 | 2.21 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3292:A:O3' | 29:D1:3293:U:O3' | 2.39 | 0.41 |
| 29:D1:3296:A:N3 | 29:D1:3297:U:C1' | 2.84 | 0.41 |
| 30:D2:62:U:O2 | 30:D2:62:U:C2' | 2.64 | 0.41 |
| 30:D2:67:G:C5 | 30:D2:68:C:C4 | 3.07 | 0.41 |
| 30:D2:77:G:C2' | 30:D2:78:U:OP2 | 2.68 | 0.41 |
| 31:D3:16:G:C6 | 74:D3:212:OHX:N3 | 2.83 | 0.41 |
| 31:D3:112:U:H3 | 31:D3:114:G:H1' | 1.86 | 0.41 |
| 32:DA:115:VAL:C | 32:DA:117:ILE:H | 2.28 | 0.41 |
| 33:DB:27:ALA:C | 33:DB:29:LEU:H | 2.27 | 0.41 |
| 35:DD:25:VAL:C | 35:DD:27:SER:N | 2.78 | 0.41 |
| 35:DD:115:HIS:O | 35:DD:118:LYS:N | 2.53 | 0.41 |
| 35:DD:152:VAL:O | 35:DD:153:SER:C | 2.64 | 0.41 |
| 35:DD:257:LYS:O | 35:DD:258:LEU:O | 2.38 | 0.41 |
| 36:DE:274:GLN:C | 36:DE:276:LYS:H | 2.27 | 0.41 |
| 37:DF:134:ARG:O | 37:DF:138:GLN:N | 2.54 | 0.41 |
| 38:DG:128:LYS:C | 38:DG:130:ILE:N | 2.77 | 0.41 |
| 39:DH:245:LYS:C | 39:DH:247:ASP:N | 2.78 | 0.41 |
| 41:DJ:209:ASN:O | 41:DJ:210:ILE:C | 2.62 | 0.41 |
| 46:DQ:85:ALA:C | 46:DQ:87:SER:N | 2.77 | 0.41 |
| 52:DW:95:ILE:O | 52:DW:98:ALA:HB3 | 2.21 | 0.41 |
| 60:De:6:SER:O | 60:De:7:PHE:C | 2.63 | 0.41 |
| 1:A1:32:U:H2' | 1:A1:33:U:C5' | 2.50 | 0.41 |
| 1:A1:114:C:H4' | 1:A1:115:G:O5' | 2.21 | 0.41 |
| 1:A1:123:G:N1 | 1:A1:295:A:N6 | 2.68 | 0.41 |
| 1:A1:243:G:HO2' | 1:A1:244:A:H5' | 1.84 | 0.41 |
| 1:A1:251:A:H2' | 1:A1:252:U:C5' | 2.44 | 0.41 |
| 1:A1:323:A:C2' | 1:A1:324:U:H5' | 2.50 | 0.41 |
| 1:A1:381:C:O2' | 1:A1:756:A:C2 | 2.74 | 0.41 |
| 1:A1:439:U:H6 | 1:A1:439:U:H2' | 1.57 | 0.41 |
| 1:A1:460:A:H2' | 1:A1:460:A:N3 | 2.34 | 0.41 |
| 1:A1:545:A:C2 | 1:A1:546:U:C2 | 3.07 | 0.41 |
| 1:A1:755:A:C4 | 1:A1:756:A:C5 | 3.09 | 0.41 |
| 1:A1:787:G:H3' | 1:A1:788:A:H8 | 1.85 | 0.41 |
| 1:A1:946:U:N3 | 1:A1:947:U:C4 | 2.88 | 0.41 |
| 1:A1:1002:G:C5 | 1:A1:1003:A:H2 | 2.38 | 0.41 |
| 1:A1:1084:A:C2' | 1:A1:1085:G:H5' | 2.50 | 0.41 |
| 1:A1:1092:A:C2 | 1:A1:1094:G:C5 | 3.09 | 0.41 |
| 1:A1:1141:G:C4 | 1:A1:1142:A:C8 | 3.08 | 0.41 |
| 1:A1:1232:U:O2' | 1:A1:1233:G:H5' | 2.21 | 0.41 |
| 1:A1:1258:U:H2' | 1:A1:1259:U:C1' | 2.48 | 0.41 |
| 1:A1:1277:G:C6 | 1:A1:1278:G:N3 | 2.88 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1652:C:O2 | 1:A1:1652:C:H2' | 2.19 | 0.41 |
| 1:A1:1662:G:C2 | 1:A1:1663:G:N7 | 2.89 | 0.41 |
| 1:A1:1776:A:C2 | 1:A1:1786:G:C5 | 3.08 | 0.41 |
| 1:A1:1783:C:O2' | 1:A1:1784:C:H5' | 2.20 | 0.41 |
| 2:AA:14:ALA:HA | 2:AA:15:GLN:HA | 1.79 | 0.41 |
| 4:AC:19:ALA:O | 4:AC:20:GLU:C | 2.63 | 0.41 |
| 6:AE:77:ILE:C | 6:AE:79:ARG:N | 2.75 | 0.41 |
| 8:AG:69:ASN:O | 8:AG:71:ILE:N | 2.54 | 0.41 |
| 8:AG:138:ASN:C | 8:AG:140:LYS:N | 2.79 | 0.41 |
| 8:AG:139:TRP:H | 8:AG:142:GLU:HA | 1.83 | 0.41 |
| 14:AM:101:ASN:C | 14:AM:103:LYS:H | 2.28 | 0.41 |
| 16:AO:112:ASP:O | 16:AO:115:GLU:N | 2.52 | 0.41 |
| 17:AP:95:PHE:C | 17:AP:97:ASP:N | 2.77 | 0.41 |
| 17:AP:123:LYS:O | 17:AP:124:VAL:O | 2.38 | 0.41 |
| 17:AP:137:LYS:O | 17:AP:138:GLU:O | 2.38 | 0.41 |
| 18:AQ:80:LEU:C | 18:AQ:82:HIS:H | 2.27 | 0.41 |
| 29:B1:96:G:C8 | 29:B1:96:G:C5' | 3.03 | 0.41 |
| 29:B1:192:C:C2 | 29:B1:193:C:C5 | 3.08 | 0.41 |
| 29:B1:340:C:O2 | 29:B1:344:A:H2 | 2.03 | 0.41 |
| 29:B1:342:A:C6 | 29:B1:368:G:C4 | 3.09 | 0.41 |
| 29:B1:359:U:C2 | 29:B1:920:A:N6 | 2.89 | 0.41 |
| 29:B1:556:U:C4 | 29:B1:557:A:C2 | 3.08 | 0.41 |
| 29:B1:685:G:H2' | 29:B1:686:G:H5' | 2.02 | 0.41 |
| 29:B1:717:C:C6 | 29:B1:721:G:N2 | 2.88 | 0.41 |
| 29:B1:749:C:H2' | 29:B1:749:C:O2 | 2.19 | 0.41 |
| 29:B1:763:G:H8 | 29:B1:763:G:O5' | 2.04 | 0.41 |
| 29:B1:789:A:C2' | 29:B1:790:U:O5' | 2.68 | 0.41 |
| 29:B1:828:A:H5" | 29:B1:829:U:P | 2.59 | 0.41 |
| 29:B1:907:G:C6 | 29:B1:926:A:C8 | 3.08 | 0.41 |
| 29:B1:1029:G:H8 | 29:B1:1029:G:P | 2.44 | 0.41 |
| 29:B1:1172:G:N1 | 29:B1:1173:U:C4 | 2.89 | 0.41 |
| 29:B1:1289:G:C2 | 29:B1:1290:A:C5 | 3.07 | 0.41 |
| 29:B1:1317:A:N7 | 29:B1:1319:G:C6 | 2.88 | 0.41 |
| 29:B1:1410:U:C3' | 29:B1:1410:U:C6 | 3.04 | 0.41 |
| 29:B1:1412:G:N7 | 29:B1:1413:G:N7 | 2.68 | 0.41 |
| 29:B1:1483:G:N7 | 29:B1:1485:G:C4 | 2.88 | 0.41 |
| 29:B1:1562:C:H2' | 29:B1:1563:C:O4' | 2.21 | 0.41 |
| 29:B1:1634:G:O6 | 29:B1:1635:G:O6 | 2.37 | 0.41 |
| 29:B1:1640:G:C5 | 29:B1:1641:U:C5 | 3.07 | 0.41 |
| 29:B1:1657:C:O2' | 29:B1:1797:A:OP2 | 2.22 | 0.41 |
| 29:B1:1658:G:H2' | 29:B1:1659:U:O4' | 2.21 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1683:A:C5 | 29:B1:1684:U:N3 | 2.88 | 0.41 |
| 29:B1:1688:U:H2' | 29:B1:1689:U:C6 | 2.50 | 0.41 |
| 29:B1:1798:A:C6 | 29:B1:1799:A:C6 | 3.08 | 0.41 |
| 29:B1:1936:A:H2' | 29:B1:1937:U:H6 | 1.85 | 0.41 |
| 29:B1:2209:U:C6 | 29:B1:2209:U:H3' | 2.56 | 0.41 |
| 29:B1:2276:G:N7 | 29:B1:2277:C:H5 | 2.19 | 0.41 |
| 29:B1:2309:A:N3 | 29:B1:2962:U:C5' | 2.79 | 0.41 |
| 29:B1:2520:A:C6 | 29:B1:2521:U:O4 | 2.74 | 0.41 |
| 29:B1:2674:A:C8 | 42:BK:108:GLU:CA | 3.03 | 0.41 |
| 29:B1:2785:A:C5 | 29:B1:2786:G:N7 | 2.88 | 0.41 |
| 29:B1:2929:C:C5 | 29:B1:2930:A:C8 | 3.09 | 0.41 |
| 29:B1:2983:C:O2' | 29:B1:2984:C:H5' | 2.21 | 0.41 |
| 29:B1:3046:A:C4 | 29:B1:3047:U:C5 | 3.09 | 0.41 |
| 29:B1:3070:A:C4 | 29:B1:3071:U:C6 | 3.09 | 0.41 |
| 29:B1:3194:C:H3' | 29:B1:3194:C:H6 | 1.82 | 0.41 |
| 29:B1:3225:C:C5 | 74:B1:3420:OHX:N3 | 2.88 | 0.41 |
| 29:B1:3294:A:C6 | 29:B1:3295:A:N7 | 2.89 | 0.41 |
| 29:B1:3325:G:O6 | 74:B1:3456:OHX:N1 | 2.54 | 0.41 |
| 29:B1:3377:G:C4 | 29:B1:3379:C:OP1 | 2.73 | 0.41 |
| 29:B1:3377:G:C6 | 74:B1:3450:OHX:N1 | 2.88 | 0.41 |
| 30:B2:28:C:O2 | 30:B2:28:C:C2' | 2.67 | 0.41 |
| 30:B2:106:U:O2' | 30:B2:107:C:OP2 | 2.34 | 0.41 |
| 31:B3:24:G:C2' | 31:B3:25:G:O5' | 2.68 | 0.41 |
| 31:B3:40:A:N6 | 31:B3:104:A:C4 | 2.89 | 0.41 |
| 31:B3:83:C:H3' | 31:B3:83:C:H6 | 1.85 | 0.41 |
| 32:BA:138:VAL:O | 32:BA:139:SER:C | 2.63 | 0.41 |
| 33:BB:115:ASN:O | 33:BB:125:ALA:HB3 | 2.19 | 0.41 |
| 34:BC:27:ALA:CB | 34:BC:219:ALA:HA | 2.50 | 0.41 |
| 34:BC:251:CYS:O | 34:BC:252:ILE:CB | 2.68 | 0.41 |
| 36:BE:50:ARG:HA | 36:BE:145:PHE:N | 2.35 | 0.41 |
| 36:BE:114:GLY:H | 36:BE:117:GLU:H | 1.67 | 0.41 |
| 36:BE:183:TRP:CB | 36:BE:190:ILE:N | 2.84 | 0.41 |
| 38:BG:84:VAL:C | 38:BG:86:VAL:N | 2.79 | 0.41 |
| 39:BH:231:LYS:HA | 39:BH:232:HIS:C | 2.46 | 0.41 |
| 42:BK:77:GLU:O | 42:BK:81:GLU:N | 2.53 | 0.41 |
| 43:BN:58:ILE:CA | 43:BN:59:ASN:CB | 2.99 | 0.41 |
| 46:BQ:86:LYS:O | 46:BQ:87:SER:C | 2.63 | 0.41 |
| 50:BU:81:GLN:O | 50:BU:82:ALA:CB | 2.68 | 0.41 |
| 50:BU:113:ALA:HB1 | 50:BU:132:ASN:O | 2.20 | 0.41 |
| 51:BV:18:GLY:CA | 51:BV:32:GLN:HA | 2.50 | 0.41 |
| 54:BY:68:PHE:C | 54:BY:110:GLY:HA2 | 2.46 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 70:Bq:10:UNK:C | 70:Bq:12:UNK:N | 2.81 | 0.41 |
| 70:Bq:12:UNK:O | 70:Bq:13:UNK:O | 2.39 | 0.41 |
| 1:C1:113:U:H5" | 1:C1:114:C:C5' | 2.35 | 0.41 |
| 1:C1:158:U:O2' | 1:C1:159:U:O5' | 2.38 | 0.41 |
| 1:C1:223:U:C5' | 1:C1:224:C:OP2 | 2.68 | 0.41 |
| 1:C1:328:A:N3 | 1:C1:329:G:C8 | 2.89 | 0.41 |
| 1:C1:331:A:O3' | 1:C1:1676:U:C5 | 2.73 | 0.41 |
| 1:C1:410:A:N1 | 1:C1:411:C:N3 | 2.68 | 0.41 |
| 1:C1:482:U:C2' | 1:C1:483:A:C8 | 3.00 | 0.41 |
| 1:C1:569:C:H3' | 1:C1:570:A:H8 | 1.85 | 0.41 |
| 1:C1:699:U:O2 | 1:C1:740:A:N1 | 2.54 | 0.41 |
| 1:C1:806:A:H2' | 1:C1:807:A:C8 | 2.46 | 0.41 |
| 1:C1:848:C:C2 | 1:C1:849:C:C5 | 3.09 | 0.41 |
| 1:C1:866:G:C2 | 1:C1:867:G:N7 | 2.89 | 0.41 |
| 1:C1:927:C:H2' | 1:C1:928:U:C6 | 2.56 | 0.41 |
| 1:C1:971:A:H61 | 29:D1:846:A:N6 | 2.17 | 0.41 |
| 1:C1:1006:C:C6 | 1:C1:1007:C:C5 | 2.98 | 0.41 |
| 1:C1:1007:C:C5' | 1:C1:1008:G:OP2 | 2.64 | 0.41 |
| 1:C1:1066:C:H2' | 1:C1:1066:C:O2 | 2.20 | 0.41 |
| 1:C1:1118:G:C2 | 1:C1:1119:G:C5 | 3.08 | 0.41 |
| 1:C1:1159:C:H6 | 1:C1:1159:C:C5' | 2.34 | 0.41 |
| 1:C1:1171:A:C3' | 1:C1:1172:G:H8 | 2.34 | 0.41 |
| 1:C1:1241:G:H3' | 1:C1:1242:A:H5" | 2.02 | 0.41 |
| 1:C1:1282:U:O2 | 1:C1:1282:U:H2' | 2.19 | 0.41 |
| 1:C1:1285:U:C4' | 1:C1:1286:U:OP1 | 2.63 | 0.41 |
| 1:C1:1347:U:C2 | 1:C1:1349:G:O6 | 2.73 | 0.41 |
| 1:C1:1431:C:H4' | 1:C1:1432:U:H5' | 2.01 | 0.41 |
| 1:C1:1477:G:H2' | 1:C1:1478:G:H8 | 1.84 | 0.41 |
| 1:C1:1623:C:C2 | 1:C1:1624:C:C6 | 3.08 | 0.41 |
| 1:C1:1631:A:N6 | 1:C1:1635:A:O2' | 2.52 | 0.41 |
| 1:C1:1717:G:H2' | 1:C1:1717:G:N3 | 2.36 | 0.41 |
| 1:C1:1752:U:C2 | 1:C1:1753:A:C8 | 3.09 | 0.41 |
| 2:CA:68:PRO:C | 2:CA:70:PRO:N | 2.75 | 0.41 |
| 5:CD:198:LEU:C | 5:CD:201:ALA:HB3 | 2.46 | 0.41 |
| 6:CE:142:ASN:O | 6:CE:143:ILE:C | 2.63 | 0.41 |
| 9:CH:89:THR:HA | 9:CH:90:ARG:CB | 2.50 | 0.41 |
| 10:CI:19:GLY:CA | 13:CL:98:TYR:HA | 2.49 | 0.41 |
| 17:CP:118:PRO:O | 17:CP:120:VAL:N | 2.53 | 0.41 |
| 29:D1:14:U:H3' | 29:D1:15:C:H5" | 2.02 | 0.41 |
| 29:D1:25:U:H2' | 29:D1:26:A:H8 | 1.84 | 0.41 |
| 29:D1:107:A:C8 | 29:D1:107:A:O5' | 2.71 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:157:A:O2' | 29:D1:158:G:C5 | 2.71 | 0.41 |
| 29:D1:189:G:H2' | 29:D1:224:C:OP1 | 2.20 | 0.41 |
| 29:D1:292:U:H5" | 29:D1:293:C:OP2 | 2.20 | 0.41 |
| 29:D1:307:A:H2' | 29:D1:308:A:C5' | 2.50 | 0.41 |
| 29:D1:412:G:C6 | 29:D1:413:U:C4 | 3.08 | 0.41 |
| 29:D1:602:A:C2 | 29:D1:603:A:N6 | 2.88 | 0.41 |
| 29:D1:643:U:H2' | 29:D1:644:G:O4' | 2.20 | 0.41 |
| 29:D1:697:A:H8 | 29:D1:698:U:H3' | 1.86 | 0.41 |
| 29:D1:771:A:C6 | 29:D1:772:U:N3 | 2.88 | 0.41 |
| 29:D1:784:A:H2' | 29:D1:784:A:N3 | 2.35 | 0.41 |
| 29:D1:795:G:H2' | 29:D1:796:U:O5' | 2.20 | 0.41 |
| 29:D1:799:G:C2 | 29:D1:801:A:C6 | 3.08 | 0.41 |
| 29:D1:811:U:C2 | 29:D1:812:G:N7 | 2.88 | 0.41 |
| 29:D1:835:G:HO2' | 29:D1:836:A:P | 2.43 | 0.41 |
| 29:D1:947:G:C6 | 29:D1:1373:A:N1 | 2.89 | 0.41 |
| 29:D1:948:C:O2 | 29:D1:948:C:H2' | 2.20 | 0.41 |
| 29:D1:1029:G:C2' | 29:D1:1030:A:H5' | 2.50 | 0.41 |
| 29:D1:1073:U:H5" | 29:D1:1074:U:OP2 | 2.20 | 0.41 |
| 29:D1:1377:G:N2 | 29:D1:1430:U:O2 | 2.40 | 0.41 |
| 29:D1:1445:U:C4 | 29:D1:1446:A:N7 | 2.88 | 0.41 |
| 29:D1:1574:C:H2' | 29:D1:1574:C:O2 | 2.20 | 0.41 |
| 29:D1:1671:C:O2 | 29:D1:1671:C:C2' | 2.68 | 0.41 |
| 29:D1:1679:A:N1 | 29:D1:1680:G:N7 | 2.68 | 0.41 |
| 29:D1:1725:C:C2 | 29:D1:1726:C:C5 | 3.09 | 0.41 |
| 29:D1:1744:G:H2' | 29:D1:1745:C:C6 | 2.55 | 0.41 |
| 29:D1:1797:A:C6 | 29:D1:1798:A:C6 | 3.08 | 0.41 |
| 29:D1:1882:G:C5 | 29:D1:1883:A:N7 | 2.88 | 0.41 |
| 29:D1:1908:A:N7 | 29:D1:1909:A:C5 | 2.89 | 0.41 |
| 29:D1:1928:G:C4 | 29:D1:1929:G:C8 | 3.08 | 0.41 |
| 29:D1:2146:C:C2' | 29:D1:2147:A:H5" | 2.50 | 0.41 |
| 29:D1:2273:G:H1' | 29:D1:2274:U:C5 | 2.53 | 0.41 |
| 29:D1:2355:G:H3' | 29:D1:2355:G:H8 | 1.85 | 0.41 |
| 29:D1:2474:G:H2' | 29:D1:2475:G:C8 | 2.55 | 0.41 |
| 29:D1:2564:G:H2' | 29:D1:2565:U:O4' | 2.20 | 0.41 |
| 29:D1:2614:G:C4 | 29:D1:2797:C:H5 | 2.32 | 0.41 |
| 29:D1:2972:G:C2' | 29:D1:2973:G:O5' | 2.68 | 0.41 |
| 29:D1:3189:G:H2' | 29:D1:3190:C:O4' | 2.20 | 0.41 |
| 29:D1:3194:C:H3' | 29:D1:3195:U:C5' | 2.50 | 0.41 |
| 29:D1:3200:G:N1 | 29:D1:3201:C:N4 | 2.68 | 0.41 |
| 29:D1:3207:U:C3' | 29:D1:3208:G:C5' | 2.98 | 0.41 |
| 29:D1:3210:A:N9 | 29:D1:3211:C:C5 | 2.89 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3250:U:C2' | 29:D1:3251:U:O5' | 2.68 | 0.41 |
| 29:D1:3273:A:C4 | 29:D1:3274:A:C8 | 3.09 | 0.41 |
| 29:D1:3322:A:N6 | 29:D1:3323:A:H62 | 2.18 | 0.41 |
| 30:D2:27:A:N3 | 30:D2:27:A:H2' | 2.35 | 0.41 |
| 30:D2:27:A:N1 | 30:D2:54:U:O4 | 2.53 | 0.41 |
| 30:D2:37:G:H21 | 30:D2:44:C:N4 | 2.18 | 0.41 |
| 30:D2:77:G:N2 | 30:D2:101:G:C5 | 2.88 | 0.41 |
| 33:DB:232:GLY:O | 33:DB:233:GLN:O | 2.38 | 0.41 |
| 34:DC:112:ASP:O | 34:DC:113:GLU:O | 2.38 | 0.41 |
| 37:DF:26:ARG:O | 37:DF:27:PRO:C | 2.63 | 0.41 |
| 40:DI:170:LYS:C | 40:DI:172:ILE:N | 2.75 | 0.41 |
| 45:DP:124:LEU:HA | 45:DP:126:VAL:CB | 2.50 | 0.41 |
| 48:DS:98:ARG:O | 48:DS:101:VAL:N | 2.53 | 0.41 |
| 49:DT:56:PHE:C | 49:DT:58:GLN:N | 2.74 | 0.41 |
| 52:DW:91:ASN:O | 52:DW:92:LYS:CB | 2.68 | 0.41 |
| 54:DY:28:HIS:C | 54:DY:30:GLY:N | 2.78 | 0.41 |
| 1:A1:14:C:H2' | 1:A1:15:U:H6 | 1.85 | 0.41 |
| 1:A1:124:A:H2' | 1:A1:124:A:N3 | 2.36 | 0.41 |
| 1:A1:172:C:C2 | 1:A1:173:A:C8 | 3.09 | 0.41 |
| 1:A1:194:U:C4' | 1:A1:195:G:O5' | 2.60 | 0.41 |
| 1:A1:214:G:N1 | 1:A1:249:U:H4' | 2.35 | 0.41 |
| 1:A1:221:A:N7 | 1:A1:832:U:C4 | 2.88 | 0.41 |
| 1:A1:243:G:N2 | 1:A1:251:A:C4 | 2.88 | 0.41 |
| 1:A1:250:C:O2' | 1:A1:251:A:O4' | 2.37 | 0.41 |
| 1:A1:296:U:C6 | 1:A1:297:U:C5 | 3.09 | 0.41 |
| 1:A1:391:A:C2 | 1:A1:392:G:C4 | 3.08 | 0.41 |
| 1:A1:413:U:N3 | 1:A1:421:A:C2 | 2.88 | 0.41 |
| 1:A1:498:G:C1' | 1:A1:499:U:H5 | 2.28 | 0.41 |
| 1:A1:552:G:C6 | 1:A1:553:G:N1 | 2.89 | 0.41 |
| 1:A1:577:G:H3' | 1:A1:577:G:OP1 | 2.21 | 0.41 |
| 1:A1:737:A:C2 | 1:A1:738:G:C6 | 3.09 | 0.41 |
| 1:A1:812:A:C6 | 1:A1:859:A:C5 | 3.08 | 0.41 |
| 1:A1:823:G:O2' | 1:A1:824:G:P | 2.79 | 0.41 |
| 1:A1:868:G:O6 | 1:A1:960:U:O4 | 2.38 | 0.41 |
| 1:A1:926:A:C5 | 1:A1:927:C:C5 | 3.09 | 0.41 |
| 1:A1:958:U:H2' | 1:A1:960:U:OP1 | 2.19 | 0.41 |
| 1:A1:1000:C:H2' | 1:A1:1000:C:H6 | 1.69 | 0.41 |
| 1:A1:1042:G:C4 | 1:A1:1043:A:C8 | 3.08 | 0.41 |
| 1:A1:1190:C:N3 | 1:A1:1194:A:C2 | 2.89 | 0.41 |
| 1:A1:1207:C:O2 | 1:A1:1455:G:C2 | 2.73 | 0.41 |
| 1:A1:1248:C:O2' | 1:A1:1249:U:H5' | 2.21 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1433:G:HO2' | 1:A1:1434:U:H6 | 1.65 | 0.41 |
| 1:A1:1556:A:C2 | 1:A1:1560:U:H1' | 2.56 | 0.41 |
| 1:A1:1631:A:H5' | 1:A1:1764:C:C1' | 2.48 | 0.41 |
| 1:A1:1742:U:C4 | 1:A1:1743:U:C5 | 3.09 | 0.41 |
| 3:AB:45:VAL:O | 3:AB:46:LYS:CB | 2.68 | 0.41 |
| 3:AB:68:ILE:O | 3:AB:69:ILE:C | 2.63 | 0.41 |
| 4:AC:98:ALA:C | 4:AC:100:ALA:H | 2.28 | 0.41 |
| 4:AC:174:HIS:O | 4:AC:175:VAL:CB | 2.68 | 0.41 |
| 4:AC:191:ASP:C | 4:AC:193:ALA:N | 2.77 | 0.41 |
| 8:AG:42:ARG:O | 8:AG:45:LEU:N | 2.54 | 0.41 |
| 8:AG:150:VAL:O | 8:AG:151:ASN:O | 2.39 | 0.41 |
| 9:AH:88:GLY:HA2 | 9:AH:89:THR:HA | 1.63 | 0.41 |
| 24:Ac:10:UNK:CB | 24:Ac:64:UNK:HA | 2.50 | 0.41 |
| 29:B1:5:G:O6 | 31:B3:154:C:C4 | 2.74 | 0.41 |
| 29:B1:53:G:C4 | 29:B1:54:C:C6 | 3.09 | 0.41 |
| 29:B1:80:G:N3 | 29:B1:81:C:C6 | 2.89 | 0.41 |
| 29:B1:109:A:C5 | 29:B1:323:A:C2 | 3.08 | 0.41 |
| 29:B1:122:A:H1' | 29:B1:150:A:C4' | 2.49 | 0.41 |
| 29:B1:199:A:N1 | 29:B1:201:A:H1' | 2.36 | 0.41 |
| 29:B1:274:G:C5 | 29:B1:275:U:C5 | 3.08 | 0.41 |
| 29:B1:384:A:N7 | 29:B1:385:A:N7 | 2.69 | 0.41 |
| 29:B1:395:A:H2' | 29:B1:396:A:C8 | 2.56 | 0.41 |
| 29:B1:422:A:C1' | 29:B1:423:A:O5' | 2.67 | 0.41 |
| 29:B1:423:A:N6 | 29:B1:637:C:OP1 | 2.51 | 0.41 |
| 29:B1:424:G:H2' | 29:B1:425:G:OP1 | 2.20 | 0.41 |
| 29:B1:440:A:H5' | 29:B1:441:U:H5' | 2.02 | 0.41 |
| 29:B1:597:G:HO2' | 29:B1:598:A:C4' | 2.34 | 0.41 |
| 29:B1:601:U:C2 | 29:B1:602:A:H8 | 2.39 | 0.41 |
| 29:B1:688:G:O5' | 29:B1:688:G:H8 | 2.04 | 0.41 |
| 29:B1:812:G:C4 | 29:B1:813:G:C8 | 3.08 | 0.41 |
| 29:B1:913:A:H8 | 29:B1:913:A:H5' | 1.85 | 0.41 |
| 29:B1:974:G:C2 | 29:B1:975:C:C6 | 3.08 | 0.41 |
| 29:B1:1054:A:H5" | 29:B1:2637:A:N6 | 2.36 | 0.41 |
| 29:B1:1114:U:C5 | 29:B1:1115:G:C2 | 3.09 | 0.41 |
| 29:B1:1130:A:O2' | 29:B1:1132:C:H5' | 2.21 | 0.41 |
| 29:B1:1169:A:H5' | 29:B1:1169:A:C8 | 2.56 | 0.41 |
| 29:B1:1185:C:O5' | 29:B1:1185:C:H6 | 2.04 | 0.41 |
| 29:B1:1246:G:H1' | 29:B1:1264:G:C8 | 2.56 | 0.41 |
| 29:B1:1246:G:N1 | 29:B1:1265:U:C5 | 2.89 | 0.41 |
| 29:B1:1337:A:N3 | 29:B1:1338:C:C6 | 2.88 | 0.41 |
| 29:B1:1410:U:C6 | 29:B1:1410:U:H3' | 2.55 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1551:C:OP1 | 29:B1:1551:C:H6 | 2.04 | 0.41 |
| 29:B1:1602:A:N6 | 29:B1:1603:A:N6 | 2.68 | 0.41 |
| 29:B1:1704:A:N6 | 29:B1:1739:U:H3 | 2.18 | 0.41 |
| 29:B1:1750:A:C2' | 29:B1:1751:G:OP1 | 2.69 | 0.41 |
| 29:B1:1804:A:C6 | 29:B1:1805:C:C4 | 3.08 | 0.41 |
| 29:B1:1812:G:N2 | 29:B1:1813:A:N3 | 2.60 | 0.41 |
| 29:B1:1909:A:H2' | 29:B1:1910:A:O4' | 2.21 | 0.41 |
| 29:B1:1925:U:C5 | 29:B1:2320:A:H1' | 2.56 | 0.41 |
| 29:B1:2144:A:C4 | 29:B1:2281:A:N1 | 2.89 | 0.41 |
| 29:B1:2155:G:C5 | 29:B1:2156:C:C4 | 3.08 | 0.41 |
| 29:B1:2157:G:C2 | 29:B1:2178:A:OP2 | 2.74 | 0.41 |
| 29:B1:2173:U:C6 | 29:B1:2174:G:N7 | 2.88 | 0.41 |
| 29:B1:2178:A:H5' | 33:BB:128:ARG:CB | 2.51 | 0.41 |
| 29:B1:2273:G:O2' | 29:B1:2274:U:P | 2.78 | 0.41 |
| 29:B1:2308:C:OP1 | 29:B1:2309:A:H3' | 2.20 | 0.41 |
| 29:B1:2389:C:O2' | 29:B1:2390:A:H5' | 2.20 | 0.41 |
| 29:B1:2640:A:C5 | 29:B1:2641:U:O4 | 2.74 | 0.41 |
| 29:B1:2706:G:C6 | 29:B1:2707:C:N4 | 2.88 | 0.41 |
| 29:B1:2759:U:H5" | 29:B1:2760:C:OP1 | 2.21 | 0.41 |
| 29:B1:2769:A:C6 | 29:B1:2770:G:N7 | 2.88 | 0.41 |
| 29:B1:2807:U:C2' | 29:B1:2808:A:H5" | 2.47 | 0.41 |
| 29:B1:2809:C:O2' | 29:B1:2810:C:OP1 | 2.36 | 0.41 |
| 29:B1:3005:A:C2' | 29:B1:3140:G:H22 | 2.34 | 0.41 |
| 29:B1:3112:G:C2 | 29:B1:3121:U:C4 | 3.08 | 0.41 |
| 29:B1:3209:A:C5 | 29:B1:3210:A:N6 | 2.89 | 0.41 |
| 29:B1:3278:C:C2 | 29:B1:3279:A:N7 | 2.88 | 0.41 |
| 29:B1:3316:A:N7 | 29:B1:3320:A:C6 | 2.88 | 0.41 |
| 29:B1:3342:A:C3' | 29:B1:3343:G:O4' | 2.69 | 0.41 |
| 30:B2:43:U:N3 | 30:B2:44:C:C6 | 2.88 | 0.41 |
| 31:B3:54:A:N1 | 31:B3:55:U:C2 | 2.88 | 0.41 |
| 31:B3:103:G:C2 | 31:B3:105:A:N6 | 2.88 | 0.41 |
| 32:BA:78:LYS:C | 32:BA:80:CYS:H | 2.28 | 0.41 |
| 34:BC:39:LYS:C | 34:BC:41:VAL:N | 2.76 | 0.41 |
| 34:BC:108:GLU:O | 34:BC:109:HIS:O | 2.39 | 0.41 |
| 34:BC:342:LEU:O | 34:BC:343:TYR:CB | 2.69 | 0.41 |
| 35:BD:23:PRO:O | 35:BD:24:ALA:HB2 | 2.20 | 0.41 |
| 35:BD:169:LEU:O | 35:BD:174:ALA:HB3 | 2.20 | 0.41 |
| 38:BG:45:LEU:C | 38:BG:47:ARG:H | 2.26 | 0.41 |
| 44:BO:82:GLY:HA2 | 44:BO:86:ASN:CB | 2.50 | 0.41 |
| 45:BP:176:LYS:O | 45:BP:179:ALA:C | 2.63 | 0.41 |
| 46:BQ:51:VAL:CB | 46:BQ:57:ALA:HA | 2.51 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 47:BR:82:VAL:O | 47:BR:83:VAL:C | 2.63 | 0.41 |
| 48:BS:121:HIS:O | 48:BS:123:LEU:N | 2.53 | 0.41 |
| 49:BT:48:ILE:O | 49:BT:49:GLN:CB | 2.69 | 0.41 |
| 52:BW:81:ILE:CA | 52:BW:124:VAL:O | 2.69 | 0.41 |
| 59:Bd:59:THR:O | 59:Bd:61:THR:N | 2.51 | 0.41 |
| 1:C1:148:A:H3' | 1:C1:149:C:H6 | 1.86 | 0.41 |
| 1:C1:149:C:C2' | 1:C1:150:U:C6 | 3.03 | 0.41 |
| 1:C1:149:C:N3 | 1:C1:150:U:C4 | 2.88 | 0.41 |
| 1:C1:487:G:O2' | 1:C1:488:G:H8 | 2.03 | 0.41 |
| 1:C1:610:G:C2 | 1:C1:614:C:C4 | 3.08 | 0.41 |
| 1:C1:627:C:H5" | 1:C1:628:G:OP2 | 2.20 | 0.41 |
| 1:C1:721:U:H4' | 1:C1:722:G:OP1 | 2.21 | 0.41 |
| 1:C1:733:A:H5" | 1:C1:734:A:H8 | 1.85 | 0.41 |
| 1:C1:770:A:OP2 | 74:C1:1985:OHX:N3 | 2.54 | 0.41 |
| 1:C1:868:G:O6 | 74:C1:1914:OHX:N3 | 2.53 | 0.41 |
| 1:C1:938:G:C8 | 1:C1:938:G:C3' | 3.03 | 0.41 |
| 1:C1:1077:C:H2' | 1:C1:1078:C:O5' | 2.20 | 0.41 |
| 1:C1:1140:G:N1 | 1:C1:1141:G:N7 | 2.69 | 0.41 |
| 1:C1:1252:C:H2' | 1:C1:1253:U:O5' | 2.20 | 0.41 |
| 1:C1:1310:U:H2' | 1:C1:1311:U:C6 | 2.54 | 0.41 |
| 1:C1:1365:C:C6 | 1:C1:1365:C:H3' | 2.56 | 0.41 |
| 1:C1:1383:G:C6 | 1:C1:1384:A:C6 | 3.08 | 0.41 |
| 1:C1:1428:G:C2 | 1:C1:1429:G:C8 | 3.08 | 0.41 |
| 1:C1:1481:C:H5 | 1:C1:1482:C:O2 | 2.04 | 0.41 |
| 1:C1:1482:C:O2' | 1:C1:1483:A:P | 2.78 | 0.41 |
| 1:C1:1540:G:H2' | 1:C1:1541:G:H5' | 1.98 | 0.41 |
| 1:C1:1585:U:C2' | 1:C1:1586:A:H5' | 2.51 | 0.41 |
| 3:CB:230:TRP:C | 3:CB:232:GLU:N | 2.78 | 0.41 |
| 5:CD:107:LYS:O | 5:CD:108:LEU:O | 2.39 | 0.41 |
| 6:CE:35:GLY:C | 6:CE:37:LYS:N | 2.78 | 0.41 |
| 11:CJ:133:GLY:O | 11:CJ:134:ALA:HB3 | 2.19 | 0.41 |
| 15:CN:49:ASN:O | 15:CN:50:LEU:O | 2.39 | 0.41 |
| 15:CN:101:LYS:C | 15:CN:103:ILE:N | 2.79 | 0.41 |
| 19:CR:8:THR:O | 19:CR:9:LEU:C | 2.63 | 0.41 |
| 29:D1:78:U:H3 | 29:D1:325:A:N6 | 2.12 | 0.41 |
| 29:D1:117:U:H3' | 29:D1:117:U:H6 | 1.85 | 0.41 |
| 29:D1:120:G:O2' | 29:D1:150:A:C6 | 2.73 | 0.41 |
| 29:D1:158:G:C8 | 29:D1:158:G:H3' | 2.54 | 0.41 |
| 29:D1:232:G:H2' | 29:D1:233:C:O4' | 2.20 | 0.41 |
| 29:D1:234:G:N3 | 29:D1:234:G:H2' | 2.35 | 0.41 |
| 29:D1:277:G:C6 | 29:D1:278:U:C4 | 3.08 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:285:A:C2 | 29:D1:305:U:C4’ | 3.03 | 0.41 |
| 29:D1:295:A:N7 | 29:D1:296:A:C4 | 2.88 | 0.41 |
| 29:D1:500:C:H2’ | 29:D1:501:A:H5’ | 2.02 | 0.41 |
| 29:D1:582:G:C6 | 29:D1:583:G:C8 | 3.08 | 0.41 |
| 29:D1:722:G:N7 | 74:D1:3551:OHX:N4 | 2.68 | 0.41 |
| 29:D1:809:G:H2’ | 29:D1:809:G:N3 | 2.36 | 0.41 |
| 29:D1:866:A:C8 | 29:D1:867:G:N7 | 2.86 | 0.41 |
| 29:D1:887:G:C5 | 29:D1:888:A:N7 | 2.89 | 0.41 |
| 29:D1:950:G:H2’ | 29:D1:1367:G:N2 | 2.36 | 0.41 |
| 29:D1:1023:C:O5’ | 29:D1:1024:G:H5” | 2.20 | 0.41 |
| 29:D1:1051:U:O2 | 29:D1:1051:U:C2’ | 2.63 | 0.41 |
| 29:D1:1237:G:P | 29:D1:1237:G:H8 | 2.44 | 0.41 |
| 29:D1:1281:G:C2 | 29:D1:1282:G:N7 | 2.89 | 0.41 |
| 29:D1:1310:G:H5’ | 29:D1:1310:G:C8 | 2.46 | 0.41 |
| 29:D1:1390:A:N6 | 29:D1:1418:A:O2’ | 2.54 | 0.41 |
| 29:D1:1405:U:O2 | 57:Db:55:ILE:N | 2.54 | 0.41 |
| 29:D1:1452:A:N3 | 29:D1:2347:U:C4’ | 2.84 | 0.41 |
| 29:D1:1453:A:H2’ | 29:D1:1878:G:N1 | 2.36 | 0.41 |
| 29:D1:1460:A:C6 | 29:D1:1473:G:C6 | 3.09 | 0.41 |
| 29:D1:1469:C:O2’ | 29:D1:1470:U:OP1 | 2.36 | 0.41 |
| 29:D1:1689:U:O2’ | 29:D1:1690:C:H5’ | 2.21 | 0.41 |
| 29:D1:1921:A:C1’ | 29:D1:1932:A:N6 | 2.84 | 0.41 |
| 29:D1:2102:U:O2’ | 29:D1:2103:U:H5’ | 2.21 | 0.41 |
| 29:D1:2152:A:C1’ | 29:D1:2243:A:C2 | 3.04 | 0.41 |
| 29:D1:2262:A:H5” | 29:D1:2263:C:C5’ | 2.51 | 0.41 |
| 29:D1:2289:U:H2’ | 29:D1:2290:C:C5’ | 2.44 | 0.41 |
| 29:D1:2349:U:O2’ | 29:D1:3307:A:H1’ | 2.21 | 0.41 |
| 29:D1:2383:C:N1 | 29:D1:2384:A:C8 | 2.89 | 0.41 |
| 29:D1:2390:A:C6 | 29:D1:2391:G:C6 | 3.08 | 0.41 |
| 29:D1:2618:G:O4’ | 29:D1:2619:G:OP2 | 2.38 | 0.41 |
| 29:D1:2792:A:O5’ | 29:D1:2792:A:C8 | 2.58 | 0.41 |
| 29:D1:2800:G:OP2 | 29:D1:2801:A:OP1 | 2.39 | 0.41 |
| 29:D1:2846:U:H2’ | 29:D1:2847:A:OP2 | 2.20 | 0.41 |
| 29:D1:2851:A:C8 | 29:D1:2851:A:H5” | 2.56 | 0.41 |
| 29:D1:2893:C:C2’ | 29:D1:2894:C:O5’ | 2.68 | 0.41 |
| 29:D1:2985:C:H2’ | 29:D1:2986:U:O5’ | 2.21 | 0.41 |
| 29:D1:3110:C:C2’ | 29:D1:3111:U:H5’ | 2.50 | 0.41 |
| 29:D1:3219:G:C5 | 29:D1:3257:C:C3’ | 3.02 | 0.41 |
| 29:D1:3221:C:C4 | 29:D1:3222:U:C5 | 3.06 | 0.41 |
| 29:D1:3222:U:H2’ | 29:D1:3223:A:O4’ | 2.21 | 0.41 |
| 29:D1:3235:C:C2’ | 29:D1:3236:U:O5’ | 2.68 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3322:A:C4 | 29:D1:3323:A:C8 | 3.09 | 0.41 |
| 30:D2:26:C:HO2' | 30:D2:27:A:C4' | 2.33 | 0.41 |
| 30:D2:64:A:C2 | 74:D2:205:OHX:N4 | 2.88 | 0.41 |
| 30:D2:90:U:C5 | 30:D2:91:G:N7 | 2.89 | 0.41 |
| 30:D2:104:A:C5 | 30:D2:105:C:C6 | 3.07 | 0.41 |
| 31:D3:71:A:C2 | 31:D3:72:A:H2 | 2.38 | 0.41 |
| 31:D3:106:C:C1' | 31:D3:138:A:C8 | 3.03 | 0.41 |
| 32:DA:153:SER:O | 32:DA:154:THR:O | 2.37 | 0.41 |
| 33:DB:211:HIS:O | 33:DB:212:GLY:C | 2.64 | 0.41 |
| 33:DB:215:ASN:C | 33:DB:216:HIS:O | 2.63 | 0.41 |
| 34:DC:272:TYR:O | 34:DC:273:HIS:O | 2.39 | 0.41 |
| 35:DD:35:VAL:O | 35:DD:36:HIS:C | 2.64 | 0.41 |
| 35:DD:179:LEU:O | 35:DD:180:LYS:C | 2.63 | 0.41 |
| 36:DE:114:GLY:N | 36:DE:117:GLU:H | 2.19 | 0.41 |
| 36:DE:262:LYS:O | 36:DE:264:GLN:N | 2.49 | 0.41 |
| 38:DG:134:VAL:O | 38:DG:135:ALA:HB2 | 2.19 | 0.41 |
| 38:DG:163:LEU:C | 38:DG:165:ASP:H | 2.28 | 0.41 |
| 40:DI:51:GLN:CB | 40:DI:52:LEU:CA | 2.99 | 0.41 |
| 41:DJ:212:GLU:O | 41:DJ:214:PRO:N | 2.53 | 0.41 |
| 42:DK:7:ASN:CA | 42:DK:8:PRO:CB | 2.96 | 0.41 |
| 46:DQ:46:LYS:O | 46:DQ:50:GLN:N | 2.50 | 0.41 |
| 51:DV:5:ILE:O | 51:DV:11:ALA:O | 2.39 | 0.41 |
| 53:DX:112:ASP:O | 53:DX:113:LYS:C | 2.62 | 0.41 |
| 58:Dc:48:ARG:O | 58:Dc:49:LYS:C | 2.62 | 0.41 |
| 61:Df:36:PHE:O | 61:Df:37:ALA:C | 2.64 | 0.41 |
| 62:Dg:25:GLN:O | 62:Dg:27:LYS:N | 2.53 | 0.41 |
| 1:A1:12:U:C2 | 1:A1:1143:A:C2 | 3.09 | 0.41 |
| 1:A1:13:C:C4 | 1:A1:14:C:C5 | 3.09 | 0.41 |
| 1:A1:51:A:C6 | 1:A1:52:U:C2 | 3.09 | 0.41 |
| 1:A1:80:A:C2 | 1:A1:81:G:C5 | 3.08 | 0.41 |
| 1:A1:88:U:H2' | 1:A1:89:G:H5' | 2.03 | 0.41 |
| 1:A1:103:A:N7 | 1:A1:360:A:C6 | 2.89 | 0.41 |
| 1:A1:111:U:O4 | 1:A1:112:A:N6 | 2.53 | 0.41 |
| 1:A1:143:G:H5" | 1:A1:144:U:OP2 | 2.20 | 0.41 |
| 1:A1:144:U:C4 | 1:A1:145:A:C8 | 3.08 | 0.41 |
| 1:A1:198:A:C1' | 1:A1:199:G:OP1 | 2.68 | 0.41 |
| 1:A1:210:A:C6 | 1:A1:256:A:C6 | 3.08 | 0.41 |
| 1:A1:312:A:C6 | 1:A1:315:A:N7 | 2.89 | 0.41 |
| 1:A1:328:A:C2 | 1:A1:329:G:C5 | 3.08 | 0.41 |
| 1:A1:332:U:O2 | 1:A1:332:U:H2' | 2.20 | 0.41 |
| 1:A1:469:C:N3 | 1:A1:469:C:P | 2.93 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:519:C:H2' | 1:A1:520:A:O5' | 2.21 | 0.41 |
| 1:A1:536:C:C4 | 1:A1:537:G:N7 | 2.89 | 0.41 |
| 1:A1:647:G:C2 | 1:A1:648:G:N1 | 2.87 | 0.41 |
| 1:A1:813:U:O2' | 1:A1:814:A:OP1 | 2.38 | 0.41 |
| 1:A1:859:A:C4' | 1:A1:860:U:OP2 | 2.67 | 0.41 |
| 1:A1:1087:A:C5 | 1:A1:1088:A:C5 | 3.08 | 0.41 |
| 1:A1:1101:G:H2' | 1:A1:1102:G:O5' | 2.21 | 0.41 |
| 1:A1:1124:A:H2' | 1:A1:1125:A:O4' | 2.20 | 0.41 |
| 1:A1:1146:G:C6 | 1:A1:1147:A:C6 | 3.09 | 0.41 |
| 1:A1:1287:A:N3 | 1:A1:1288:G:C1' | 2.81 | 0.41 |
| 1:A1:1297:G:N2 | 1:A1:1301:U:C6 | 2.88 | 0.41 |
| 1:A1:1297:G:C8 | 1:A1:1297:G:C3' | 3.03 | 0.41 |
| 1:A1:1308:G:C4 | 1:A1:1309:C:C6 | 3.09 | 0.41 |
| 1:A1:1342:C:O2' | 1:A1:1343:U:H5' | 2.21 | 0.41 |
| 1:A1:1348:A:N3 | 1:A1:1379:C:C6 | 2.88 | 0.41 |
| 1:A1:1486:G:H21 | 1:A1:1592:A:H5" | 1.85 | 0.41 |
| 1:A1:1587:A:C4 | 1:A1:1588:G:C8 | 3.09 | 0.41 |
| 1:A1:1598:U:H2' | 1:A1:1599:C:O5' | 2.20 | 0.41 |
| 1:A1:1623:C:O2 | 1:A1:1623:C:C2' | 2.68 | 0.41 |
| 1:A1:1642:G:H1' | 1:A1:1782:A:O2' | 2.20 | 0.41 |
| 1:A1:1679:G:O6 | 1:A1:1724:U:O2 | 2.38 | 0.41 |
| 1:A1:1750:A:N7 | 1:A1:1751:C:C5 | 2.88 | 0.41 |
| 1:A1:1763:A:C3' | 1:A1:1764:C:C5' | 2.88 | 0.41 |
| 1:A1:1763:A:H3' | 1:A1:1764:C:C5' | 2.43 | 0.41 |
| 1:A1:1780:G:C5 | 1:A1:1781:A:C5 | 3.09 | 0.41 |
| 3:AB:91:ARG:O | 3:AB:92:ALA:HB3 | 2.20 | 0.41 |
| 15:AN:21:LYS:O | 15:AN:95:ALA:HA | 2.21 | 0.41 |
| 21:AT:167:VAL:O | 21:AT:182:ASN:HA | 2.20 | 0.41 |
| 29:B1:18:G:C2 | 29:B1:19:U:O2 | 2.74 | 0.41 |
| 29:B1:20:A:C4' | 29:B1:21:G:OP1 | 2.68 | 0.41 |
| 29:B1:21:G:H2' | 29:B1:21:G:N3 | 2.36 | 0.41 |
| 29:B1:89:A:H8 | 29:B1:89:A:O5' | 2.04 | 0.41 |
| 29:B1:107:A:C2 | 29:B1:108:A:C2 | 3.08 | 0.41 |
| 29:B1:263:C:P | 29:B1:264:G:OP2 | 2.78 | 0.41 |
| 29:B1:296:A:C6 | 29:B1:297:G:N2 | 2.89 | 0.41 |
| 29:B1:370:U:O2 | 29:B1:403:C:C4 | 2.73 | 0.41 |
| 29:B1:401:U:O2 | 29:B1:401:U:O4' | 2.39 | 0.41 |
| 29:B1:571:U:H2' | 29:B1:572:A:H5' | 2.00 | 0.41 |
| 29:B1:649:A:H2' | 29:B1:649:A:N3 | 2.36 | 0.41 |
| 29:B1:723:U:H2' | 29:B1:724:U:O5' | 2.19 | 0.41 |
| 29:B1:733:G:C2 | 29:B1:736:A:N1 | 2.87 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:822:G:C4 | 29:B1:823:C:C5 | 3.08 | 0.41 |
| 29:B1:913:A:H2' | 29:B1:914:A:OP2 | 2.20 | 0.41 |
| 29:B1:1033:U:H2' | 29:B1:1033:U:O2 | 2.21 | 0.41 |
| 29:B1:1063:G:O2' | 29:B1:1064:A:O5' | 2.39 | 0.41 |
| 29:B1:1074:U:H4' | 29:B1:1075:A:OP2 | 2.19 | 0.41 |
| 29:B1:1199:C:N1 | 74:B1:3587:OHX:N6 | 2.68 | 0.41 |
| 29:B1:1246:G:O6 | 29:B1:1266:G:O6 | 2.38 | 0.41 |
| 29:B1:1289:G:C2 | 29:B1:1290:A:C8 | 3.09 | 0.41 |
| 29:B1:1325:U:O4 | 29:B1:1326:A:N6 | 2.54 | 0.41 |
| 29:B1:1330:A:C8 | 29:B1:1330:A:C3' | 3.04 | 0.41 |
| 29:B1:1357:G:N3 | 29:B1:1358:C:C6 | 2.88 | 0.41 |
| 29:B1:1428:A:C5 | 29:B1:1430:U:C5 | 3.09 | 0.41 |
| 29:B1:1471:U:C2 | 29:B1:1472:U:C6 | 3.08 | 0.41 |
| 29:B1:1532:C:C2' | 29:B1:1533:U:C6 | 2.92 | 0.41 |
| 29:B1:1539:A:C3' | 29:B1:1540:U:H5' | 2.51 | 0.41 |
| 29:B1:1542:G:C2 | 29:B1:1543:G:C4 | 3.09 | 0.41 |
| 29:B1:1554:U:H4' | 29:B1:1580:A:N6 | 2.36 | 0.41 |
| 29:B1:1604:G:C8 | 29:B1:1605:A:H5" | 2.47 | 0.41 |
| 29:B1:1629:U:C5 | 29:B1:1630:U:C6 | 3.09 | 0.41 |
| 29:B1:1689:U:HO2' | 29:B1:1690:C:H5' | 1.86 | 0.41 |
| 29:B1:1895:A:N6 | 29:B1:2341:A:N6 | 2.69 | 0.41 |
| 29:B1:1906:G:H21 | 29:B1:1909:A:H61 | 1.67 | 0.41 |
| 29:B1:2143:A:C5 | 29:B1:2145:A:C5 | 3.08 | 0.41 |
| 29:B1:2213:A:C6 | 29:B1:2214:A:N6 | 2.89 | 0.41 |
| 29:B1:2262:A:H5" | 29:B1:2263:C:OP2 | 2.21 | 0.41 |
| 29:B1:2309:A:H8 | 29:B1:2309:A:OP1 | 2.03 | 0.41 |
| 29:B1:2389:C:OP2 | 74:B1:3527:OHX:N5 | 2.53 | 0.41 |
| 29:B1:2649:A:N1 | 29:B1:2650:U:C5 | 2.88 | 0.41 |
| 29:B1:2674:A:N1 | 29:B1:2676:A:N7 | 2.69 | 0.41 |
| 29:B1:2675:C:H5 | 29:B1:2676:A:C5 | 2.37 | 0.41 |
| 29:B1:2707:C:O2' | 29:B1:2708:C:C6 | 2.70 | 0.41 |
| 29:B1:2708:C:C2' | 29:B1:2709:C:O5' | 2.68 | 0.41 |
| 29:B1:2717:U:C6 | 29:B1:2717:U:H5' | 2.55 | 0.41 |
| 29:B1:2856:G:C6 | 29:B1:2857:C:N4 | 2.89 | 0.41 |
| 29:B1:2880:U:O5' | 29:B1:2880:U:H6 | 2.04 | 0.41 |
| 29:B1:3057:U:O2' | 29:B1:3059:G:O5' | 2.38 | 0.41 |
| 29:B1:3090:U:OP1 | 29:B1:3090:U:C4' | 2.63 | 0.41 |
| 29:B1:3099:C:H2' | 29:B1:3100:U:C5 | 2.56 | 0.41 |
| 29:B1:3244:A:O2' | 29:B1:3245:A:P | 2.78 | 0.41 |
| 29:B1:3274:A:O2' | 29:B1:3275:U:H3' | 2.20 | 0.41 |
| 29:B1:3296:A:N3 | 29:B1:3297:U:C1' | 2.84 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3305:A:H1' | 29:B1:3311:C:C2 | 2.55 | 0.41 |
| 30:B2:75:G:H5" | 30:B2:76:A:OP2 | 2.21 | 0.41 |
| 31:B3:42:G:OP1 | 59:Bd:54:LYS:O | 2.39 | 0.41 |
| 31:B3:64:U:C4 | 31:B3:97:A:N1 | 2.89 | 0.41 |
| 34:BC:261:MET:CA | 34:BC:263:SER:O | 2.69 | 0.41 |
| 35:BD:29:PRO:O | 35:BD:124:SER:HA | 2.21 | 0.41 |
| 36:BE:94:ASN:C | 36:BE:96:ALA:N | 2.76 | 0.41 |
| 40:BI:109:ALA:O | 40:BI:110:LYS:O | 2.38 | 0.41 |
| 40:BI:110:LYS:C | 40:BI:111:PHE:O | 2.63 | 0.41 |
| 42:BK:89:TYR:O | 42:BK:168:ASP:CB | 2.69 | 0.41 |
| 44:BO:114:ARG:O | 44:BO:134:LEU:O | 2.39 | 0.41 |
| 45:BP:14:HIS:HA | 45:BP:123:ALA:HA | 2.03 | 0.41 |
| 45:BP:79:ILE:O | 45:BP:80:PHE:C | 2.62 | 0.41 |
| 46:BQ:51:VAL:O | 46:BQ:52:LEU:CB | 2.68 | 0.41 |
| 47:BR:48:VAL:HA | 47:BR:51:ALA:HB3 | 2.03 | 0.41 |
| 48:BS:12:ALA:HB2 | 48:BS:19:LYS:HA | 2.01 | 0.41 |
| 57:Bb:3:SER:O | 57:Bb:4:LEU:C | 2.64 | 0.41 |
| 57:Bb:48:GLY:O | 57:Bb:49:ASN:CB | 2.69 | 0.41 |
| 57:Bb:70:GLY:O | 57:Bb:71:HIS:CB | 2.69 | 0.41 |
| 58:Bc:56:THR:C | 58:Bc:58:ILE:N | 2.78 | 0.41 |
| 1:C1:63:G:C5 | 1:C1:64:U:C6 | 3.08 | 0.41 |
| 1:C1:98:U:O4 | 74:C1:1999:OHX:N3 | 2.54 | 0.41 |
| 1:C1:152:U:C2 | 1:C1:163:G:N2 | 2.89 | 0.41 |
| 1:C1:194:U:C4' | 1:C1:195:G:O5' | 2.62 | 0.41 |
| 1:C1:204:G:C2 | 1:C1:205:U:C2 | 3.09 | 0.41 |
| 1:C1:265:A:C8 | 1:C1:290:G:N2 | 2.89 | 0.41 |
| 1:C1:335:U:C5 | 1:C1:336:G:C6 | 3.08 | 0.41 |
| 1:C1:445:A:C5 | 1:C1:526:A:N6 | 2.88 | 0.41 |
| 1:C1:756:A:H62 | 1:C1:757:A:N6 | 2.18 | 0.41 |
| 1:C1:795:U:C5 | 1:C1:796:A:C4 | 3.08 | 0.41 |
| 1:C1:809:A:N1 | 1:C1:810:G:C6 | 2.89 | 0.41 |
| 1:C1:837:G:C6 | 1:C1:838:G:C5 | 3.08 | 0.41 |
| 1:C1:859:A:C4' | 1:C1:860:U:OP2 | 2.68 | 0.41 |
| 1:C1:913:G:H1' | 1:C1:914:G:OP1 | 2.19 | 0.41 |
| 1:C1:1112:G:C8 | 1:C1:1113:A:C8 | 3.08 | 0.41 |
| 1:C1:1132:A:H2' | 1:C1:1133:A:H8 | 1.86 | 0.41 |
| 1:C1:1242:A:O3' | 1:C1:1243:G:O4' | 2.39 | 0.41 |
| 1:C1:1274:C:C5 | 1:C1:1427:A:N7 | 2.86 | 0.41 |
| 1:C1:1280:C:C2 | 1:C1:1281:G:N7 | 2.88 | 0.41 |
| 1:C1:1285:U:C2 | 1:C1:1286:U:C5 | 3.09 | 0.41 |
| 1:C1:1297:G:C2 | 1:C1:1301:U:C2 | 3.09 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1494:C:C2’ | 1:C1:1495:C:O5’ | 2.69 | 0.41 |
| 1:C1:1501:C:C2’ | 1:C1:1502:G:C5’ | 2.94 | 0.41 |
| 1:C1:1714:A:N1 | 1:C1:1715:G:N2 | 2.69 | 0.41 |
| 1:C1:1720:G:N7 | 1:C1:1721:A:N7 | 2.68 | 0.41 |
| 5:CD:44:ASN:O | 5:CD:45:LYS:CB | 2.68 | 0.41 |
| 6:CE:43:TYR:C | 6:CE:45:ILE:N | 2.78 | 0.41 |
| 7:CF:120:GLY:O | 7:CF:121:ASP:O | 2.39 | 0.41 |
| 8:CG:143:SER:O | 8:CG:146:ALA:CA | 2.69 | 0.41 |
| 13:CL:70:VAL:HA | 13:CL:74:GLN:CB | 2.51 | 0.41 |
| 19:CR:7:VAL:N | 19:CR:51:ASN:C | 2.78 | 0.41 |
| 29:D1:5:G:N2 | 31:D3:155:A:H1’ | 2.33 | 0.41 |
| 29:D1:36:C:C5 | 29:D1:37:U:C6 | 3.08 | 0.41 |
| 29:D1:41:G:C8 | 29:D1:42:C:H5 | 2.33 | 0.41 |
| 29:D1:71:A:C2’ | 29:D1:72:C:OP2 | 2.68 | 0.41 |
| 29:D1:113:C:C2 | 29:D1:319:A:C2 | 3.09 | 0.41 |
| 29:D1:158:G:H3’ | 29:D1:158:G:H8 | 1.85 | 0.41 |
| 29:D1:190:U:C6 | 29:D1:224:C:C1’ | 3.03 | 0.41 |
| 29:D1:192:C:H2’ | 29:D1:193:C:H6 | 1.85 | 0.41 |
| 29:D1:275:U:C2’ | 29:D1:276:U:H5’ | 2.49 | 0.41 |
| 29:D1:293:C:C4 | 29:D1:294:U:C2 | 3.09 | 0.41 |
| 29:D1:339:C:C2’ | 29:D1:340:C:C5’ | 2.98 | 0.41 |
| 29:D1:414:U:C2 | 29:D1:415:G:C8 | 3.08 | 0.41 |
| 29:D1:436:A:H2’ | 29:D1:437:G:O4’ | 2.20 | 0.41 |
| 29:D1:529:A:N6 | 29:D1:564:G:C5 | 2.89 | 0.41 |
| 29:D1:642:U:C6 | 29:D1:642:U:H3’ | 2.56 | 0.41 |
| 29:D1:666:A:C6 | 29:D1:667:C:C4 | 3.08 | 0.41 |
| 29:D1:743:C:C2’ | 29:D1:744:A:C5’ | 2.80 | 0.41 |
| 29:D1:767:U:C3’ | 29:D1:768:C:H4’ | 2.51 | 0.41 |
| 29:D1:955:U:C4 | 29:D1:967:A:C6 | 3.08 | 0.41 |
| 29:D1:1093:A:O2’ | 29:D1:1095:U:H1’ | 2.20 | 0.41 |
| 29:D1:1168:U:C2 | 29:D1:1332:A:H2 | 2.36 | 0.41 |
| 29:D1:1207:G:H5’ | 29:D1:1207:G:C8 | 2.56 | 0.41 |
| 29:D1:1338:C:O2 | 29:D1:1339:C:C6 | 2.73 | 0.41 |
| 29:D1:1543:G:C2 | 29:D1:1544:G:N7 | 2.88 | 0.41 |
| 29:D1:1610:G:C6 | 29:D1:1611:G:C5 | 3.09 | 0.41 |
| 29:D1:1625:A:H3’ | 29:D1:1626:U:O4’ | 2.20 | 0.41 |
| 29:D1:1626:U:C2’ | 29:D1:1627:U:O4’ | 2.69 | 0.41 |
| 29:D1:1707:A:C6 | 29:D1:1708:C:C4 | 3.09 | 0.41 |
| 29:D1:1799:A:N1 | 29:D1:1800:A:C6 | 2.88 | 0.41 |
| 29:D1:2099:A:H2 | 29:D1:2100:A:N7 | 2.19 | 0.41 |
| 29:D1:2158:A:C8 | 29:D1:2177:G:C2 | 3.09 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2172:A:O2' | 33:DB:10:LYS:O | 2.25 | 0.41 |
| 29:D1:2412:G:C4 | 29:D1:2413:A:C8 | 3.08 | 0.41 |
| 29:D1:2523:A:H1' | 29:D1:2524:A:P | 2.61 | 0.41 |
| 29:D1:2610:G:C2 | 29:D1:2611:U:C2 | 3.08 | 0.41 |
| 29:D1:2614:G:N2 | 29:D1:2797:C:O4' | 2.53 | 0.41 |
| 29:D1:2639:G:N3 | 29:D1:2639:G:H2' | 2.36 | 0.41 |
| 29:D1:2723:U:O4 | 74:D1:3585:OHX:N5 | 2.53 | 0.41 |
| 29:D1:2724:U:O4 | 74:D1:3465:OHX:N1 | 2.54 | 0.41 |
| 29:D1:2762:A:C6 | 29:D1:2800:G:C8 | 3.09 | 0.41 |
| 29:D1:2912:G:H2' | 29:D1:2913:C:C5' | 2.51 | 0.41 |
| 29:D1:3044:G:H4' | 34:DC:12:GLY:HA2 | 2.03 | 0.41 |
| 29:D1:3139:A:O2' | 29:D1:3140:G:C4' | 2.69 | 0.41 |
| 29:D1:3141:A:H5' | 29:D1:3143:C:C1' | 2.51 | 0.41 |
| 29:D1:3156:U:O2 | 29:D1:3156:U:C2' | 2.68 | 0.41 |
| 29:D1:3157:U:N3 | 29:D1:3293:U:N1 | 2.67 | 0.41 |
| 29:D1:3276:G:C2' | 29:D1:3277:U:O4' | 2.68 | 0.41 |
| 29:D1:3344:A:C5 | 29:D1:3361:G:O6 | 2.73 | 0.41 |
| 29:D1:3353:G:C6 | 29:D1:3356:G:C6 | 3.09 | 0.41 |
| 30:D2:1:G:N3 | 30:D2:2:G:C8 | 2.89 | 0.41 |
| 30:D2:46:A:O3' | 36:DE:157:ALA:HB1 | 2.20 | 0.41 |
| 30:D2:71:G:O2' | 30:D2:72:A:H5' | 2.19 | 0.41 |
| 31:D3:74:U:HO2' | 31:D3:89:A:C1' | 2.34 | 0.41 |
| 32:DA:73:ASP:C | 32:DA:75:ASP:H | 2.28 | 0.41 |
| 34:DC:67:PHE:O | 34:DC:68:HIS:O | 2.39 | 0.41 |
| 35:DD:22:LEU:O | 35:DD:23:PRO:C | 2.63 | 0.41 |
| 36:DE:38:THR:HA | 36:DE:39:GLN:C | 2.42 | 0.41 |
| 38:DG:43:ILE:O | 38:DG:45:LEU:N | 2.53 | 0.41 |
| 41:DJ:39:LYS:O | 41:DJ:40:LYS:C | 2.64 | 0.41 |
| 41:DJ:210:ILE:C | 41:DJ:212:GLU:N | 2.78 | 0.41 |
| 45:DP:124:LEU:CB | 45:DP:127:LEU:N | 2.84 | 0.41 |
| 46:DQ:127:ARG:CB | 46:DQ:139:TYR:O | 2.68 | 0.41 |
| 47:DR:59:ARG:O | 47:DR:60:PRO:C | 2.64 | 0.41 |
| 47:DR:62:VAL:O | 47:DR:87:VAL:HA | 2.21 | 0.41 |
| 48:DS:97:ARG:O | 48:DS:98:ARG:C | 2.62 | 0.41 |
| 49:DT:15:PHE:O | 49:DT:16:GLN:O | 2.37 | 0.41 |
| 49:DT:77:ASN:CA | 49:DT:87:LYS:O | 2.66 | 0.41 |
| 55:DZ:88:GLY:O | 55:DZ:89:VAL:CB | 2.68 | 0.41 |
| 56:Da:28:ARG:O | 56:Da:29:ALA:C | 2.64 | 0.41 |
| 56:Da:29:ALA:HB2 | 56:Da:64:VAL:O | 2.20 | 0.41 |
| 57:Db:39:ASP:O | 57:Db:40:SER:C | 2.63 | 0.41 |
| 1:A1:16:G:O2' | 1:A1:17:C:O4' | 2.37 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:24:U:H6 | 1:A1:24:U:O5' | 2.03 | 0.41 |
| 1:A1:28:A:C4 | 1:A1:29:U:C5 | 3.08 | 0.41 |
| 1:A1:81:G:N3 | 1:A1:81:G:H2' | 2.36 | 0.41 |
| 1:A1:85:A:C4 | 1:A1:86:A:C8 | 3.09 | 0.41 |
| 1:A1:175:G:C8 | 74:A1:1915:OHX:N2 | 2.88 | 0.41 |
| 1:A1:195:G:C1' | 1:A1:196:G:P | 3.09 | 0.41 |
| 1:A1:212:U:H2' | 1:A1:213:A:H5' | 2.02 | 0.41 |
| 1:A1:265:A:C8 | 1:A1:290:G:N2 | 2.89 | 0.41 |
| 1:A1:287:G:O6 | 1:A1:288:A:N6 | 2.54 | 0.41 |
| 1:A1:341:A:N3 | 1:A1:342:C:C6 | 2.88 | 0.41 |
| 1:A1:425:A:C2' | 1:A1:426:G:OP2 | 2.68 | 0.41 |
| 1:A1:518:A:H8 | 1:A1:519:C:H5' | 1.85 | 0.41 |
| 1:A1:612:U:OP1 | 1:A1:1100:G:N2 | 2.53 | 0.41 |
| 1:A1:647:G:C6 | 1:A1:648:G:O6 | 2.74 | 0.41 |
| 1:A1:706:A:C5 | 1:A1:707:A:C5 | 3.09 | 0.41 |
| 1:A1:760:A:H2' | 1:A1:761:G:C5' | 2.47 | 0.41 |
| 1:A1:807:A:H8 | 1:A1:807:A:C5' | 2.32 | 0.41 |
| 1:A1:820:U:HO2' | 1:A1:821:U:P | 2.42 | 0.41 |
| 1:A1:832:U:C3' | 1:A1:833:U:C5' | 2.97 | 0.41 |
| 1:A1:857:U:H3' | 1:A1:857:U:C6 | 2.56 | 0.41 |
| 1:A1:884:A:H2' | 1:A1:885:G:O4' | 2.21 | 0.41 |
| 1:A1:891:A:N6 | 1:A1:922:G:O6 | 2.53 | 0.41 |
| 1:A1:1123:C:H5 | 1:A1:1124:A:C6 | 2.39 | 0.41 |
| 1:A1:1139:A:OP2 | 74:A1:1976:OHX:N5 | 2.54 | 0.41 |
| 1:A1:1231:U:O2' | 1:A1:1232:U:P | 2.79 | 0.41 |
| 1:A1:1324:G:N3 | 1:A1:1324:G:H2' | 2.35 | 0.41 |
| 1:A1:1515:A:H61 | 15:AN:17:GLN:CB | 2.33 | 0.41 |
| 1:A1:1521:G:N1 | 74:A1:1943:OHX:N6 | 2.67 | 0.41 |
| 1:A1:1631:A:N6 | 1:A1:1632:C:O2 | 2.53 | 0.41 |
| 1:A1:1665:U:H1' | 1:A1:1737:G:N2 | 2.36 | 0.41 |
| 1:A1:1682:U:N3 | 1:A1:1683:C:N4 | 2.69 | 0.41 |
| 1:A1:1687:U:C5 | 1:A1:1688:U:C2 | 3.08 | 0.41 |
| 1:A1:1793:G:C2 | 1:A1:1794:A:H1' | 2.55 | 0.41 |
| 5:AD:107:LYS:O | 5:AD:108:LEU:O | 2.39 | 0.41 |
| 9:AH:96:PRO:O | 9:AH:97:GLY:C | 2.63 | 0.41 |
| 22:Aa:6:UNK:C | 22:Aa:8:UNK:N | 2.82 | 0.41 |
| 29:B1:37:U:O2 | 29:B1:38:U:C5 | 2.74 | 0.41 |
| 29:B1:60:A:C8 | 29:B1:327:A:N1 | 2.89 | 0.41 |
| 29:B1:80:G:C6 | 29:B1:81:C:C5 | 3.08 | 0.41 |
| 29:B1:242:C:C2' | 29:B1:243:G:O5' | 2.68 | 0.41 |
| 29:B1:280:U:O2 | 29:B1:282:G:O2' | 2.30 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:377:A:C6 | 29:B1:400:G:C5 | 3.08 | 0.41 |
| 29:B1:506:U:C2 | 29:B1:507:U:C5 | 3.08 | 0.41 |
| 29:B1:517:G:C8 | 29:B1:517:G:P | 3.08 | 0.41 |
| 29:B1:583:G:C2 | 29:B1:584:G:C8 | 3.09 | 0.41 |
| 29:B1:592:A:C1' | 29:B1:593:C:C1' | 2.98 | 0.41 |
| 29:B1:642:U:H2' | 29:B1:644:G:N7 | 2.35 | 0.41 |
| 29:B1:648:C:C6 | 29:B1:2374:C:O2' | 2.61 | 0.41 |
| 29:B1:728:G:C4 | 29:B1:742:G:O6 | 2.73 | 0.41 |
| 29:B1:825:U:C6 | 29:B1:825:U:OP2 | 2.74 | 0.41 |
| 29:B1:853:G:C6 | 29:B1:854:G:C5 | 3.08 | 0.41 |
| 29:B1:873:C:H4' | 29:B1:1908:A:H5' | 2.02 | 0.41 |
| 29:B1:894:G:H1' | 29:B1:895:A:N7 | 2.35 | 0.41 |
| 29:B1:919:U:OP1 | 29:B1:922:U:OP2 | 2.39 | 0.41 |
| 29:B1:944:C:C5 | 29:B1:1431:G:O6 | 2.73 | 0.41 |
| 29:B1:947:G:C2 | 29:B1:1373:A:C2 | 3.09 | 0.41 |
| 29:B1:948:C:C2 | 29:B1:949:C:C5 | 3.08 | 0.41 |
| 29:B1:1023:C:O5' | 29:B1:1024:G:H5" | 2.21 | 0.41 |
| 29:B1:1075:A:C8 | 29:B1:1076:C:C5 | 3.09 | 0.41 |
| 29:B1:1150:A:H3' | 29:B1:1151:U:C6 | 2.56 | 0.41 |
| 29:B1:1225:A:C2 | 29:B1:1226:G:C1' | 3.03 | 0.41 |
| 29:B1:1260:A:C2 | 29:B1:1278:A:C2 | 3.09 | 0.41 |
| 29:B1:1351:U:C3' | 29:B1:1352:A:C8 | 3.04 | 0.41 |
| 29:B1:1362:G:C2' | 29:B1:1363:A:H5' | 2.48 | 0.41 |
| 29:B1:1383:G:C2' | 29:B1:1384:U:H5' | 2.51 | 0.41 |
| 29:B1:1587:A:C4 | 29:B1:1590:G:C6 | 3.09 | 0.41 |
| 29:B1:1653:G:C2' | 29:B1:1654:A:C5' | 2.93 | 0.41 |
| 29:B1:1684:U:C5 | 29:B1:1685:C:N3 | 2.89 | 0.41 |
| 29:B1:1760:A:H2' | 29:B1:1761:C:H5' | 2.02 | 0.41 |
| 29:B1:2154:U:H4' | 33:BB:239:ALA:CB | 2.50 | 0.41 |
| 29:B1:2173:U:C2' | 29:B1:2174:G:OP1 | 2.69 | 0.41 |
| 29:B1:2191:U:C4 | 29:B1:2192:C:C4 | 3.08 | 0.41 |
| 29:B1:2194:G:N9 | 29:B1:2274:U:O2 | 2.53 | 0.41 |
| 29:B1:2210:G:C5 | 29:B1:2211:U:C5 | 3.08 | 0.41 |
| 29:B1:2213:A:C6 | 29:B1:2214:A:C6 | 3.09 | 0.41 |
| 29:B1:2515:A:C6 | 29:B1:2593:A:C5 | 3.08 | 0.41 |
| 29:B1:2608:G:C4 | 29:B1:2609:A:C8 | 3.08 | 0.41 |
| 29:B1:2608:G:C2 | 29:B1:2609:A:C5 | 3.08 | 0.41 |
| 29:B1:2696:A:N1 | 29:B1:2758:A:C5 | 2.89 | 0.41 |
| 29:B1:3126:C:H2' | 29:B1:3127:A:O5' | 2.21 | 0.41 |
| 29:B1:3152:U:O2' | 29:B1:3153:U:C5 | 2.70 | 0.41 |
| 29:B1:3194:C:H3' | 29:B1:3195:U:C5' | 2.51 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3209:A:H5" | 29:B1:3210:A:OP2 | 2.21 | 0.41 |
| 29:B1:3305:A:C5 | 29:B1:3306:U:C2 | 3.08 | 0.41 |
| 30:B2:69:C:N3 | 30:B2:70:U:C4 | 2.89 | 0.41 |
| 30:B2:74:C:C5 | 30:B2:75:G:N7 | 2.89 | 0.41 |
| 30:B2:79:A:C5 | 30:B2:102:A:N7 | 2.88 | 0.41 |
| 30:B2:93:C:C2 | 30:B2:94:C:C6 | 3.08 | 0.41 |
| 31:B3:8:C:N1 | 31:B3:9:A:C8 | 2.89 | 0.41 |
| 31:B3:71:A:C2 | 31:B3:72:A:H2 | 2.38 | 0.41 |
| 31:B3:90:U:H2' | 31:B3:91:C:H6 | 1.83 | 0.41 |
| 31:B3:113:U:O2' | 31:B3:114:G:OP1 | 2.35 | 0.41 |
| 33:BB:81:GLY:N | 62:Bg:65:ALA:HB2 | 2.35 | 0.41 |
| 34:BC:41:VAL:CB | 34:BC:186:GLY:N | 2.84 | 0.41 |
| 34:BC:218:ILE:HA | 34:BC:276:THR:HA | 2.03 | 0.41 |
| 35:BD:53:SER:O | 35:BD:54:GLU:C | 2.63 | 0.41 |
| 36:BE:217:GLU:HA | 36:BE:220:SER:CB | 2.50 | 0.41 |
| 37:BF:16:ALA:C | 37:BF:18:LEU:N | 2.75 | 0.41 |
| 38:BG:75:TYR:CB | 38:BG:76:TYR:CB | 2.98 | 0.41 |
| 41:BJ:172:GLY:C | 41:BJ:174:THR:H | 2.29 | 0.41 |
| 41:BJ:219:ALA:C | 41:BJ:221:ALA:N | 2.79 | 0.41 |
| 42:BK:64:LYS:O | 42:BK:65:ILE:CB | 2.69 | 0.41 |
| 42:BK:155:THR:O | 42:BK:156:LYS:C | 2.64 | 0.41 |
| 43:BN:24:LYS:CB | 43:BN:31:LYS:C | 2.94 | 0.41 |
| 43:BN:49:PRO:CB | 43:BN:50:LYS:C | 2.94 | 0.41 |
| 43:BN:111:ALA:C | 43:BN:113:THR:N | 2.76 | 0.41 |
| 44:BO:15:GLN:O | 44:BO:20:ARG:N | 2.53 | 0.41 |
| 45:BP:58:LEU:HA | 45:BP:61:ALA:CB | 2.41 | 0.41 |
| 48:BS:133:LYS:O | 48:BS:134:HIS:CB | 2.69 | 0.41 |
| 53:BX:78:PHE:O | 53:BX:79:ALA:CB | 2.65 | 0.41 |
| 56:Ba:60:TRP:C | 56:Ba:62:ARG:H | 2.27 | 0.41 |
| 57:Bb:40:SER:C | 57:Bb:42:VAL:N | 2.79 | 0.41 |
| 57:Bb:89:THR:CB | 57:Bb:90:LYS:CA | 2.99 | 0.41 |
| 1:C1:47:A:H4' | 1:C1:48:G:H5' | 2.02 | 0.41 |
| 1:C1:55:A:C6 | 1:C1:403:G:N3 | 2.89 | 0.41 |
| 1:C1:106:U:C5 | 1:C1:107:C:C4 | 3.08 | 0.41 |
| 1:C1:151:G:OP1 | 1:C1:151:G:H4' | 2.20 | 0.41 |
| 1:C1:190:C:H5" | 1:C1:191:C:O2 | 2.20 | 0.41 |
| 1:C1:210:A:N6 | 1:C1:256:A:N6 | 2.68 | 0.41 |
| 1:C1:281:G:H2' | 1:C1:282:C:C6 | 2.56 | 0.41 |
| 1:C1:357:G:C8 | 1:C1:358:U:H5 | 2.39 | 0.41 |
| 1:C1:428:A:C2 | 1:C1:440:U:O2 | 2.73 | 0.41 |
| 1:C1:443:C:H2' | 1:C1:444:C:O4' | 2.20 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:500:C:C2 | 1:C1:501:U:C5 | 3.09 | 0.41 |
| 1:C1:518:A:C2' | 1:C1:519:C:C5' | 2.96 | 0.41 |
| 1:C1:534:A:H5" | 1:C1:535:A:OP1 | 2.21 | 0.41 |
| 1:C1:563:U:O4 | 1:C1:564:G:C6 | 2.73 | 0.41 |
| 1:C1:824:G:H2' | 1:C1:824:G:N3 | 2.36 | 0.41 |
| 1:C1:824:G:N2 | 1:C1:849:C:H42 | 2.18 | 0.41 |
| 1:C1:916:U:C5 | 1:C1:917:U:N3 | 2.88 | 0.41 |
| 1:C1:926:A:C2 | 9:CH:125:SER:HA | 2.51 | 0.41 |
| 1:C1:1257:U:O2' | 1:C1:1258:U:H5" | 2.20 | 0.41 |
| 1:C1:1348:A:C8 | 1:C1:1348:A:P | 3.14 | 0.41 |
| 1:C1:1422:A:C2' | 1:C1:1423:U:H5' | 2.51 | 0.41 |
| 1:C1:1545:A:O2' | 1:C1:1546:G:H5' | 2.20 | 0.41 |
| 1:C1:1547:A:C6 | 1:C1:1548:G:C5 | 3.08 | 0.41 |
| 1:C1:1565:C:N3 | 1:C1:1566:U:C5 | 2.89 | 0.41 |
| 1:C1:1566:U:H5" | 13:CL:39:GLY:HA3 | 2.03 | 0.41 |
| 1:C1:1585:U:O5' | 1:C1:1585:U:H6 | 2.03 | 0.41 |
| 1:C1:1645:G:N2 | 1:C1:1757:G:C4 | 2.89 | 0.41 |
| 1:C1:1691:A:N6 | 1:C1:1713:G:C5 | 2.88 | 0.41 |
| 2:CA:13:ASP:H | 2:CA:17:LEU:N | 2.18 | 0.41 |
| 2:CA:39:ASN:O | 2:CA:40:ALA:C | 2.62 | 0.41 |
| 2:CA:144:ILE:O | 2:CA:145:ALA:CB | 2.69 | 0.41 |
| 4:CC:96:LEU:O | 4:CC:97:SER:C | 2.63 | 0.41 |
| 11:CJ:106:LYS:C | 11:CJ:108:ALA:N | 2.77 | 0.41 |
| 16:CO:41:MET:O | 16:CO:42:GLN:C | 2.63 | 0.41 |
| 21:CT:111:MET:O | 21:CT:112:SER:CB | 2.69 | 0.41 |
| 21:CT:302:PHE:O | 21:CT:303:ALA:HB2 | 2.20 | 0.41 |
| 29:D1:20:A:HO2' | 29:D1:21:G:P | 2.42 | 0.41 |
| 29:D1:310:U:O2 | 29:D1:2780:A:C2 | 2.73 | 0.41 |
| 29:D1:370:U:OP1 | 74:D1:3625:OHX:N5 | 2.53 | 0.41 |
| 29:D1:379:C:H42 | 29:D1:390:G:H1 | 1.68 | 0.41 |
| 29:D1:382:U:C4 | 29:D1:383:G:C4 | 3.09 | 0.41 |
| 29:D1:423:A:O5' | 29:D1:423:A:H8 | 2.03 | 0.41 |
| 29:D1:507:U:C2 | 29:D1:508:U:C5 | 3.09 | 0.41 |
| 29:D1:515:C:H6 | 29:D1:515:C:O5' | 2.03 | 0.41 |
| 29:D1:517:G:H2' | 29:D1:518:G:C8 | 2.56 | 0.41 |
| 29:D1:527:A:C6 | 29:D1:566:G:C6 | 3.09 | 0.41 |
| 29:D1:571:U:C2' | 29:D1:571:U:O2 | 2.68 | 0.41 |
| 29:D1:583:G:C4 | 29:D1:584:G:C8 | 3.09 | 0.41 |
| 29:D1:720:A:C8 | 29:D1:720:A:OP2 | 2.74 | 0.41 |
| 29:D1:739:G:C2 | 29:D1:740:G:C5 | 3.09 | 0.41 |
| 29:D1:911:C:C2' | 29:D1:912:G:H5' | 2.44 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:943:U:O2' | 29:D1:944:C:OP1 | 2.39 | 0.41 |
| 29:D1:958:C:C4' | 29:D1:2799:A:O2' | 2.69 | 0.41 |
| 29:D1:1005:G:C6 | 29:D1:1006:A:N7 | 2.88 | 0.41 |
| 29:D1:1197:A:HO2' | 29:D1:1198:C:P | 2.44 | 0.41 |
| 29:D1:1353:U:O3' | 29:D1:1353:U:OP1 | 2.39 | 0.41 |
| 29:D1:1498:A:C6 | 29:D1:1519:G:C6 | 3.09 | 0.41 |
| 29:D1:1558:A:H5" | 29:D1:1559:A:O5' | 2.21 | 0.41 |
| 29:D1:1575:A:N6 | 29:D1:1576:G:C6 | 2.89 | 0.41 |
| 29:D1:1590:G:C4 | 29:D1:1591:G:C8 | 3.08 | 0.41 |
| 29:D1:2113:A:N7 | 29:D1:2114:C:N3 | 2.68 | 0.41 |
| 29:D1:2196:C:N4 | 29:D1:2242:A:C8 | 2.87 | 0.41 |
| 29:D1:2255:A:H4' | 29:D1:2256:A:OP1 | 2.08 | 0.41 |
| 29:D1:2291:A:N1 | 29:D1:2292:U:C2 | 2.88 | 0.41 |
| 29:D1:2507:C:C2 | 29:D1:2508:U:C5 | 3.08 | 0.41 |
| 29:D1:2581:U:P | 29:D1:2581:U:C6 | 3.09 | 0.41 |
| 29:D1:2663:G:H2' | 29:D1:2663:G:N3 | 2.36 | 0.41 |
| 29:D1:2677:G:C2 | 29:D1:2678:A:H5' | 2.55 | 0.41 |
| 29:D1:2704:A:C5 | 29:D1:2706:G:N7 | 2.89 | 0.41 |
| 29:D1:2743:A:H2' | 29:D1:2744:U:C6 | 2.56 | 0.41 |
| 29:D1:2761:G:H22 | 29:D1:2795:U:C2' | 2.31 | 0.41 |
| 29:D1:2918:G:N2 | 29:D1:2919:A:C5 | 2.89 | 0.41 |
| 30:D2:11:A:O2' | 30:D2:68:C:C5' | 2.68 | 0.41 |
| 30:D2:67:G:N1 | 30:D2:68:C:N1 | 2.69 | 0.41 |
| 30:D2:67:G:N3 | 30:D2:67:G:C2' | 2.83 | 0.41 |
| 30:D2:69:C:C4 | 30:D2:70:U:C4 | 3.08 | 0.41 |
| 31:D3:50:C:N4 | 31:D3:79:A:H61 | 2.19 | 0.41 |
| 31:D3:134:G:O2' | 31:D3:135:G:H5' | 2.21 | 0.41 |
| 31:D3:147:U:C2 | 31:D3:148:G:C8 | 3.09 | 0.41 |
| 34:DC:306:THR:C | 34:DC:308:MET:N | 2.76 | 0.41 |
| 38:DG:74:SER:CB | 38:DG:75:TYR:O | 2.68 | 0.41 |
| 38:DG:202:LEU:C | 38:DG:204:PRO:N | 2.78 | 0.41 |
| 39:DH:158:ASP:HA | 39:DH:159:PRO:HA | 1.88 | 0.41 |
| 40:DI:126:VAL:O | 40:DI:127:PRO:C | 2.64 | 0.41 |
| 43:DN:71:ALA:C | 43:DN:73:PRO:N | 2.76 | 0.41 |
| 44:DO:10:LEU:C | 44:DO:12:ARG:H | 2.27 | 0.41 |
| 45:DP:45:GLY:HA2 | 45:DP:134:LYS:CB | 2.50 | 0.41 |
| 45:DP:97:ALA:O | 45:DP:99:LEU:N | 2.54 | 0.41 |
| 52:DW:98:ALA:O | 52:DW:99:VAL:C | 2.64 | 0.41 |
| 53:DX:100:HIS:O | 53:DX:102:SER:N | 2.54 | 0.41 |
| 62:Dg:54:ILE:O | 62:Dg:55:TRP:CB | 2.68 | 0.41 |
| 1:A1:15:U:H2' | 1:A1:16:G:H5' | 2.02 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:173:A:N6 | 1:A1:174:U:C5 | 2.88 | 0.41 |
| 1:A1:222:A:OP2 | 1:A1:833:U:C6 | 2.74 | 0.41 |
| 1:A1:401:A:N3 | 1:A1:404:G:N7 | 2.69 | 0.41 |
| 1:A1:428:A:O3' | 1:A1:439:U:H2' | 2.20 | 0.41 |
| 1:A1:531:C:O2 | 1:A1:531:C:H2' | 2.20 | 0.41 |
| 1:A1:556:A:C5' | 1:A1:558:U:OP2 | 2.60 | 0.41 |
| 1:A1:620:A:C5 | 1:A1:621:A:C2 | 3.09 | 0.41 |
| 1:A1:838:G:C2 | 1:A1:839:U:N1 | 2.89 | 0.41 |
| 1:A1:886:U:H5" | 1:A1:887:A:OP2 | 2.21 | 0.41 |
| 1:A1:908:U:H4' | 1:A1:997:G:H4' | 2.03 | 0.41 |
| 1:A1:1047:G:C4 | 1:A1:1048:G:C8 | 3.08 | 0.41 |
| 1:A1:1054:U:C2 | 1:A1:1055:U:C5 | 3.09 | 0.41 |
| 1:A1:1085:G:N7 | 74:A1:1908:OHX:N2 | 2.69 | 0.41 |
| 1:A1:1139:A:C2' | 1:A1:1140:G:C5' | 2.97 | 0.41 |
| 1:A1:1232:U:OP1 | 1:A1:1258:U:O2' | 2.37 | 0.41 |
| 1:A1:1236:A:H3' | 1:A1:1237:G:C8 | 2.51 | 0.41 |
| 1:A1:1269:U:C2 | 1:A1:1432:U:O4' | 2.74 | 0.41 |
| 1:A1:1281:G:H4' | 15:AN:75:GLY:CA | 2.51 | 0.41 |
| 1:A1:1281:G:C2' | 1:A1:1282:U:H6 | 2.09 | 0.41 |
| 1:A1:1306:C:HO2' | 1:A1:1307:U:H5 | 1.61 | 0.41 |
| 1:A1:1339:C:O2' | 1:A1:1340:U:C5' | 2.61 | 0.41 |
| 1:A1:1363:U:N3 | 1:A1:1364:G:C5 | 2.89 | 0.41 |
| 1:A1:1515:A:H3' | 1:A1:1516:A:H5" | 2.01 | 0.41 |
| 1:A1:1529:C:H2' | 1:A1:1530:C:H6 | 1.85 | 0.41 |
| 1:A1:1766:A:H5" | 74:A1:1931:OHX:N6 | 2.36 | 0.41 |
| 2:AA:30:GLN:O | 2:AA:31:VAL:C | 2.63 | 0.41 |
| 3:AB:59:HIS:CB | 3:AB:61:LEU:O | 2.68 | 0.41 |
| 3:AB:210:THR:O | 3:AB:211:LEU:C | 2.64 | 0.41 |
| 5:AD:89:ILE:O | 5:AD:91:GLU:N | 2.53 | 0.41 |
| 5:AD:213:LYS:O | 5:AD:214:LYS:C | 2.63 | 0.41 |
| 11:AJ:43:ILE:C | 11:AJ:45:ARG:H | 2.29 | 0.41 |
| 21:AT:180:ALA:CB | 21:AT:190:ALA:O | 2.53 | 0.41 |
| 21:AT:268:GLN:O | 21:AT:270:LEU:N | 2.53 | 0.41 |
| 23:Ab:62:UNK:C | 23:Ab:64:UNK:N | 2.83 | 0.41 |
| 24:Ac:18:UNK:O | 24:Ac:22:UNK:N | 2.54 | 0.41 |
| 29:B1:84:U:O2' | 29:B1:101:G:O6 | 2.32 | 0.41 |
| 29:B1:137:G:N7 | 29:B1:138:U:C6 | 2.89 | 0.41 |
| 29:B1:170:G:C2 | 29:B1:171:G:H1' | 2.55 | 0.41 |
| 29:B1:219:A:C2 | 29:B1:1390:A:C2' | 3.00 | 0.41 |
| 29:B1:299:G:H8 | 29:B1:299:G:C5' | 2.33 | 0.41 |
| 29:B1:323:A:H2' | 29:B1:324:A:C8 | 2.56 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:537:A:C1' | 29:B1:558:U:O4 | 2.69 | 0.41 |
| 29:B1:588:G:C4' | 29:B1:589:A:N7 | 2.68 | 0.41 |
| 29:B1:637:C:O2' | 29:B1:638:C:OP2 | 2.38 | 0.41 |
| 29:B1:778:U:C2' | 29:B1:779:G:H5' | 2.49 | 0.41 |
| 29:B1:822:G:C2 | 29:B1:823:C:N1 | 2.89 | 0.41 |
| 29:B1:866:A:C8 | 29:B1:867:G:N7 | 2.85 | 0.41 |
| 29:B1:1009:A:O3' | 29:B1:1010:G:O4' | 2.38 | 0.41 |
| 29:B1:1256:G:C6 | 29:B1:1257:C:N4 | 2.88 | 0.41 |
| 29:B1:1275:C:C4 | 29:B1:1276:U:N3 | 2.88 | 0.41 |
| 29:B1:1282:G:H2' | 29:B1:1283:C:C5' | 2.48 | 0.41 |
| 29:B1:1302:A:C5 | 29:B1:2887:A:C6 | 3.09 | 0.41 |
| 29:B1:1383:G:N1 | 29:B1:1424:C:C4 | 2.89 | 0.41 |
| 29:B1:1618:G:N1 | 29:B1:1619:A:C2 | 2.89 | 0.41 |
| 29:B1:1636:U:H3 | 29:B1:1710:C:C1' | 2.33 | 0.41 |
| 29:B1:1736:G:H2' | 29:B1:1736:G:N3 | 2.35 | 0.41 |
| 29:B1:1793:C:H3' | 29:B1:1793:C:P | 2.59 | 0.41 |
| 29:B1:1901:A:OP2 | 29:B1:1903:U:O4 | 2.39 | 0.41 |
| 29:B1:2193:U:H6 | 29:B1:2193:U:H2' | 1.65 | 0.41 |
| 29:B1:2285:C:C6 | 29:B1:2285:C:H3' | 2.56 | 0.41 |
| 29:B1:2299:A:C2' | 29:B1:2300:G:O5' | 2.68 | 0.41 |
| 29:B1:2393:G:C2 | 29:B1:2982:A:C2 | 3.09 | 0.41 |
| 29:B1:2568:C:H2' | 29:B1:2569:A:H4' | 2.02 | 0.41 |
| 29:B1:2610:G:C4 | 29:B1:2611:U:C5 | 3.08 | 0.41 |
| 29:B1:2650:U:H1' | 29:B1:2758:A:H2 | 1.83 | 0.41 |
| 29:B1:2815:G:H5" | 29:B1:2816:G:P | 2.60 | 0.41 |
| 29:B1:2914:G:H2' | 29:B1:2915:U:C6 | 2.52 | 0.41 |
| 29:B1:3060:C:C2' | 29:B1:3061:G:O5' | 2.69 | 0.41 |
| 29:B1:3073:A:C5 | 29:B1:3074:G:C8 | 3.09 | 0.41 |
| 29:B1:3271:G:N3 | 29:B1:3271:G:H3' | 2.35 | 0.41 |
| 29:B1:3381:U:H2' | 29:B1:3383:G:C8 | 2.55 | 0.41 |
| 29:B1:3392:U:O2 | 29:B1:3393:U:N3 | 2.54 | 0.41 |
| 31:B3:117:C:C2 | 31:B3:118:C:C5 | 3.09 | 0.41 |
| 35:BD:17:ALA:O | 35:BD:18:ASN:CB | 2.69 | 0.41 |
| 35:BD:85:SER:C | 35:BD:87:GLN:N | 2.67 | 0.41 |
| 35:BD:189:ALA:O | 35:BD:190:GLY:O | 2.39 | 0.41 |
| 41:BJ:28:ASP:O | 41:BJ:29:SER:O | 2.38 | 0.41 |
| 44:BO:55:ALA:O | 44:BO:56:LYS:CB | 2.68 | 0.41 |
| 44:BO:140:LYS:C | 44:BO:142:ILE:N | 2.77 | 0.41 |
| 59:Bd:42:ALA:O | 59:Bd:43:LYS:C | 2.64 | 0.41 |
| 61:Bf:80:ARG:O | 61:Bf:82:GLN:N | 2.54 | 0.41 |
| 1:C1:51:A:N1 | 1:C1:52:U:C2 | 2.89 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:55:A:N7 | 1:C1:426:G:C6 | 2.88 | 0.41 |
| 1:C1:95:G:C6 | 1:C1:96:G:C5 | 3.09 | 0.41 |
| 1:C1:160:C:H4' | 1:C1:161:U:OP1 | 2.20 | 0.41 |
| 1:C1:223:U:N3 | 1:C1:839:U:C5 | 2.88 | 0.41 |
| 1:C1:250:C:N3 | 1:C1:251:A:C6 | 2.88 | 0.41 |
| 1:C1:340:U:C3' | 1:C1:341:A:C8 | 2.96 | 0.41 |
| 1:C1:371:G:C6 | 1:C1:372:G:C4 | 3.09 | 0.41 |
| 1:C1:371:G:O6 | 1:C1:372:G:N1 | 2.53 | 0.41 |
| 1:C1:400:A:C4' | 1:C1:401:A:C5' | 2.84 | 0.41 |
| 1:C1:452:A:H2 | 1:C1:454:U:O5' | 2.04 | 0.41 |
| 1:C1:453:U:H2' | 1:C1:454:U:H5' | 2.01 | 0.41 |
| 1:C1:486:G:O6 | 1:C1:487:G:C6 | 2.73 | 0.41 |
| 1:C1:522:U:H3' | 1:C1:522:U:C6 | 2.56 | 0.41 |
| 1:C1:589:C:C2 | 1:C1:590:C:C5 | 3.09 | 0.41 |
| 1:C1:665:U:H2' | 1:C1:666:U:C4' | 2.50 | 0.41 |
| 1:C1:747:C:C2 | 1:C1:748:U:C6 | 3.08 | 0.41 |
| 1:C1:869:A:H2' | 1:C1:870:C:H6 | 1.86 | 0.41 |
| 1:C1:1054:U:C2 | 1:C1:1055:U:C5 | 3.09 | 0.41 |
| 1:C1:1149:G:O6 | 1:C1:1629:G:C2 | 2.73 | 0.41 |
| 1:C1:1194:A:H2' | 1:C1:1195:C:H5' | 2.02 | 0.41 |
| 1:C1:1224:A:C2 | 1:C1:1225:U:N3 | 2.88 | 0.41 |
| 1:C1:1246:C:C6 | 1:C1:1247:U:C5 | 3.08 | 0.41 |
| 1:C1:1267:G:N2 | 1:C1:1448:G:H5" | 2.35 | 0.41 |
| 1:C1:1269:U:C2 | 1:C1:1432:U:O4' | 2.73 | 0.41 |
| 1:C1:1277:G:O2' | 1:C1:1278:G:H5' | 2.21 | 0.41 |
| 1:C1:1291:G:H21 | 1:C1:1324:G:H22 | 1.67 | 0.41 |
| 1:C1:1484:G:N2 | 1:C1:1485:C:C2 | 2.89 | 0.41 |
| 1:C1:1512:G:C4 | 1:C1:1513:G:C8 | 3.09 | 0.41 |
| 1:C1:1631:A:N3 | 1:C1:1632:C:H1' | 2.36 | 0.41 |
| 1:C1:1662:G:C2 | 1:C1:1663:G:N7 | 2.88 | 0.41 |
| 3:CB:72:LEU:O | 3:CB:74:PRO:N | 2.54 | 0.41 |
| 3:CB:142:GLY:O | 3:CB:143:TYR:CB | 2.69 | 0.41 |
| 3:CB:243:TYR:O | 3:CB:245:ASP:N | 2.54 | 0.41 |
| 4:CC:102:ALA:O | 4:CC:106:LYS:CB | 2.68 | 0.41 |
| 5:CD:163:SER:O | 5:CD:164:PRO:C | 2.63 | 0.41 |
| 13:CL:121:ALA:O | 13:CL:122:HIS:C | 2.64 | 0.41 |
| 14:CM:68:ARG:C | 14:CM:70:GLN:H | 2.28 | 0.41 |
| 14:CM:103:LYS:C | 14:CM:105:LEU:H | 2.26 | 0.41 |
| 17:CP:87:VAL:O | 17:CP:88:PRO:C | 2.64 | 0.41 |
| 28:Ch:1:UNK:C | 28:Ch:3:UNK:N | 2.84 | 0.41 |
| 29:D1:39:A:C2 | 29:D1:44:U:O4 | 2.73 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:71:A:H5" | 29:D1:73:C:C4 | 2.56 | 0.41 |
| 29:D1:102:C:O4' | 29:D1:103:G:OP1 | 2.38 | 0.41 |
| 29:D1:126:U:N1 | 29:D1:127:G:C8 | 2.89 | 0.41 |
| 29:D1:179:C:H2' | 29:D1:179:C:O2 | 2.20 | 0.41 |
| 29:D1:206:G:C4 | 29:D1:207:U:C6 | 3.09 | 0.41 |
| 29:D1:210:U:N3 | 35:DD:162:THR:N | 2.60 | 0.41 |
| 29:D1:216:G:N2 | 29:D1:225:C:C2 | 2.89 | 0.41 |
| 29:D1:238:A:OP1 | 74:D1:3577:OHX:N1 | 2.53 | 0.41 |
| 29:D1:282:G:C4' | 29:D1:283:G:OP2 | 2.67 | 0.41 |
| 29:D1:301:G:H2' | 29:D1:302:U:C5' | 2.50 | 0.41 |
| 29:D1:321:C:H2' | 29:D1:322:U:O4' | 2.20 | 0.41 |
| 29:D1:327:A:H5' | 29:D1:327:A:C8 | 2.55 | 0.41 |
| 29:D1:344:A:C2 | 29:D1:345:G:N9 | 2.89 | 0.41 |
| 29:D1:370:U:OP1 | 74:D1:3625:OHX:N3 | 2.53 | 0.41 |
| 29:D1:383:G:O3' | 29:D1:385:A:N7 | 2.54 | 0.41 |
| 29:D1:408:A:O2' | 29:D1:409:A:H5' | 2.21 | 0.41 |
| 29:D1:437:G:C5 | 29:D1:438:A:C6 | 3.08 | 0.41 |
| 29:D1:531:G:C2' | 29:D1:532:A:C8 | 2.80 | 0.41 |
| 29:D1:597:G:C5 | 29:D1:598:A:C8 | 3.08 | 0.41 |
| 29:D1:613:G:O2' | 29:D1:614:C:C5' | 2.62 | 0.41 |
| 29:D1:835:G:O2' | 29:D1:836:A:OP2 | 2.36 | 0.41 |
| 29:D1:880:G:C1' | 29:D1:882:A:N7 | 2.84 | 0.41 |
| 29:D1:885:U:C2 | 29:D1:886:C:C5 | 3.08 | 0.41 |
| 29:D1:913:A:H5' | 29:D1:913:A:C8 | 2.56 | 0.41 |
| 29:D1:1220:U:O3' | 29:D1:1221:A:C4' | 2.58 | 0.41 |
| 29:D1:1226:G:C2 | 29:D1:1227:C:C6 | 3.09 | 0.41 |
| 29:D1:1245:A:C8 | 29:D1:1272:C:OP1 | 2.73 | 0.41 |
| 29:D1:1254:C:N3 | 29:D1:1255:C:C5 | 2.89 | 0.41 |
| 29:D1:1279:C:O2' | 29:D1:1280:C:P | 2.78 | 0.41 |
| 29:D1:1393:A:H2 | 29:D1:1394:A:C1' | 2.33 | 0.41 |
| 29:D1:1428:A:C2 | 29:D1:1430:U:C6 | 3.08 | 0.41 |
| 29:D1:1442:U:C5' | 29:D1:1442:U:H6 | 2.20 | 0.41 |
| 29:D1:1445:U:H3' | 29:D1:1446:A:H8 | 1.85 | 0.41 |
| 29:D1:1457:U:O2 | 29:D1:1457:U:H2' | 2.20 | 0.41 |
| 29:D1:1525:G:H2' | 29:D1:1594:A:H2 | 1.85 | 0.41 |
| 29:D1:1532:C:H4' | 29:D1:1800:A:O4' | 2.21 | 0.41 |
| 29:D1:1561:G:C5 | 29:D1:1562:C:C4 | 3.08 | 0.41 |
| 29:D1:1601:U:O2 | 29:D1:1603:A:OP2 | 2.39 | 0.41 |
| 29:D1:1704:A:N3 | 29:D1:1741:A:C5 | 2.88 | 0.41 |
| 29:D1:1869:C:O2 | 29:D1:1869:C:H2' | 2.21 | 0.41 |
| 29:D1:1921:A:C5 | 29:D1:1932:A:C5 | 3.09 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2098:C:H2' | 29:D1:2099:A:H8 | 1.78 | 0.41 |
| 29:D1:2102:U:O2' | 29:D1:2103:U:C5' | 2.68 | 0.41 |
| 29:D1:2199:G:N1 | 29:D1:2200:U:C4 | 2.89 | 0.41 |
| 29:D1:2249:G:N9 | 29:D1:2272:G:C8 | 2.89 | 0.41 |
| 29:D1:2253:G:C3' | 29:D1:2254:U:C6 | 2.98 | 0.41 |
| 29:D1:2256:A:O2' | 29:D1:2257:C:OP1 | 2.39 | 0.41 |
| 29:D1:2414:G:H2' | 29:D1:2415:C:O4' | 2.21 | 0.41 |
| 29:D1:2582:C:OP2 | 29:D1:2582:C:C6 | 2.70 | 0.41 |
| 29:D1:2608:G:C2 | 29:D1:2609:A:C5 | 3.08 | 0.41 |
| 29:D1:2698:G:C5 | 29:D1:2699:G:N7 | 2.88 | 0.41 |
| 29:D1:2760:C:OP1 | 29:D1:2760:C:O4' | 2.39 | 0.41 |
| 29:D1:2917:G:HO2' | 29:D1:2918:G:P | 2.44 | 0.41 |
| 29:D1:2964:G:N2 | 29:D1:2967:A:C8 | 2.88 | 0.41 |
| 29:D1:2997:G:C4' | 29:D1:2998:U:OP2 | 2.68 | 0.41 |
| 29:D1:3040:A:H2' | 29:D1:3041:U:H5' | 2.02 | 0.41 |
| 29:D1:3086:A:C8 | 29:D1:3087:A:N7 | 2.88 | 0.41 |
| 29:D1:3096:C:C4 | 29:D1:3097:C:N4 | 2.89 | 0.41 |
| 29:D1:3212:C:C4 | 29:D1:3213:A:N1 | 2.89 | 0.41 |
| 29:D1:3221:C:H2' | 29:D1:3222:U:C5' | 2.50 | 0.41 |
| 29:D1:3276:G:C3' | 29:D1:3277:U:O4' | 2.69 | 0.41 |
| 29:D1:3281:U:H2' | 29:D1:3282:U:N1 | 2.35 | 0.41 |
| 29:D1:3363:U:O5' | 29:D1:3364:C:H5 | 2.04 | 0.41 |
| 29:D1:3388:C:C2' | 29:D1:3389:U:C6 | 3.04 | 0.41 |
| 30:D2:12:U:C5 | 30:D2:70:U:OP1 | 2.73 | 0.41 |
| 31:D3:11:C:O2' | 46:DQ:3:ARG:O | 2.37 | 0.41 |
| 31:D3:24:G:O2' | 31:D3:25:G:H5' | 2.21 | 0.41 |
| 31:D3:50:C:O2' | 31:D3:51:G:C5' | 2.69 | 0.41 |
| 31:D3:123:G:H3' | 31:D3:124:G:C5' | 2.47 | 0.41 |
| 31:D3:140:G:N1 | 31:D3:141:C:N3 | 2.68 | 0.41 |
| 31:D3:152:G:H2' | 31:D3:153:U:O4' | 2.20 | 0.41 |
| 33:DB:181:LYS:O | 33:DB:182:ALA:O | 2.38 | 0.41 |
| 35:DD:76:ARG:O | 35:DD:85:SER:O | 2.39 | 0.41 |
| 36:DE:271:LYS:HA | 36:DE:278:SER:CB | 2.50 | 0.41 |
| 38:DG:165:ASP:C | 38:DG:167:ALA:N | 2.78 | 0.41 |
| 41:DJ:24:ARG:O | 41:DJ:25:ALA:CB | 2.69 | 0.41 |
| 41:DJ:85:PHE:O | 41:DJ:86:HIS:CB | 2.67 | 0.41 |
| 73:DM:5:ARG:O | 73:DM:7:LYS:N | 2.53 | 0.41 |
| 45:DP:36:VAL:CB | 45:DP:105:PHE:H | 2.34 | 0.41 |
| 45:DP:60:LYS:C | 45:DP:61:ALA:O | 2.63 | 0.41 |
| 46:DQ:9:THR:C | 46:DQ:13:LYS:H | 2.29 | 0.41 |
| 47:DR:29:LEU:O | 47:DR:30:VAL:C | 2.64 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 48:DS:28:GLU:O | 48:DS:29:THR:C | 2.64 | 0.41 |
| 48:DS:134:HIS:O | 48:DS:136:ARG:N | 2.54 | 0.41 |
| 52:DW:61:LYS:CB | 52:DW:62:VAL:CA | 2.98 | 0.41 |
| 53:DX:17:LYS:O | 53:DX:18:ALA:C | 2.61 | 0.41 |
| 58:Dc:56:THR:C | 58:Dc:58:ILE:N | 2.77 | 0.41 |
| 62:Dg:60:CYS:CB | 74:Dg:101:OHX:N3 | 2.84 | 0.41 |
| 1:A1:41:A:OP1 | 1:A1:379:U:H1' | 2.21 | 0.41 |
| 1:A1:50:C:H2' | 1:A1:50:C:O2 | 2.21 | 0.41 |
| 1:A1:70:C:N4 | 1:A1:71:A:N6 | 2.68 | 0.41 |
| 1:A1:72:A:C2 | 1:A1:73:U:N1 | 2.89 | 0.41 |
| 1:A1:81:G:H2' | 1:A1:82:U:O5' | 2.20 | 0.41 |
| 1:A1:95:G:O2' | 1:A1:460:A:O2' | 2.24 | 0.41 |
| 1:A1:138:A:HO2' | 1:A1:139:C:P | 2.42 | 0.41 |
| 1:A1:225:A:N3 | 1:A1:226:A:C8 | 2.88 | 0.41 |
| 1:A1:259:U:O2' | 1:A1:260:U:OP1 | 2.37 | 0.41 |
| 1:A1:287:G:H2' | 1:A1:288:A:O5' | 2.20 | 0.41 |
| 1:A1:295:A:N1 | 1:A1:296:U:O2 | 2.54 | 0.41 |
| 1:A1:405:C:C2 | 1:A1:406:U:C5 | 3.09 | 0.41 |
| 1:A1:492:A:C2 | 1:A1:494:U:H5" | 2.56 | 0.41 |
| 1:A1:507:U:P | 1:A1:540:G:O6 | 2.79 | 0.41 |
| 1:A1:529:A:O4' | 1:A1:529:A:OP2 | 2.39 | 0.41 |
| 1:A1:552:G:C6 | 1:A1:553:G:C6 | 3.09 | 0.41 |
| 1:A1:607:G:N7 | 1:A1:613:G:N9 | 2.69 | 0.41 |
| 1:A1:639:U:O2' | 1:A1:640:U:OP2 | 2.33 | 0.41 |
| 1:A1:704:C:C2 | 1:A1:705:U:C5 | 3.09 | 0.41 |
| 1:A1:718:U:H2' | 1:A1:719:U:C4 | 2.55 | 0.41 |
| 1:A1:741:C:O2' | 1:A1:742:U:O4' | 2.38 | 0.41 |
| 1:A1:747:C:C2 | 1:A1:748:U:C6 | 3.09 | 0.41 |
| 1:A1:827:C:C2 | 1:A1:828:U:N3 | 2.86 | 0.41 |
| 1:A1:827:C:H6 | 1:A1:827:C:H5" | 1.85 | 0.41 |
| 1:A1:827:C:O2 | 1:A1:828:U:O2 | 2.39 | 0.41 |
| 1:A1:827:C:O2' | 1:A1:828:U:OP1 | 2.38 | 0.41 |
| 1:A1:827:C:O2' | 1:A1:828:U:O4' | 2.33 | 0.41 |
| 1:A1:852:C:H2' | 1:A1:853:G:O4' | 2.21 | 0.41 |
| 1:A1:867:G:H2' | 1:A1:868:G:O4' | 2.21 | 0.41 |
| 1:A1:929:A:C1' | 9:AH:123:SER:HA | 2.50 | 0.41 |
| 1:A1:986:G:O5' | 1:A1:986:G:C8 | 2.74 | 0.41 |
| 1:A1:1035:G:N1 | 1:A1:1101:G:C6 | 2.89 | 0.41 |
| 1:A1:1043:A:H5" | 1:A1:1044:U:OP2 | 2.21 | 0.41 |
| 1:A1:1045:C:N4 | 1:A1:1075:C:N3 | 2.69 | 0.41 |
| 1:A1:1151:A:N3 | 1:A1:1152:A:C8 | 2.89 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1185:U:C4' | 1:A1:1186:U:OP2 | 2.68 | 0.41 |
| 1:A1:1201:G:H3' | 1:A1:1201:G:C4 | 2.42 | 0.41 |
| 1:A1:1205:C:OP2 | 1:A1:1455:G:O6 | 2.39 | 0.41 |
| 1:A1:1214:U:C4' | 1:A1:1245:G:H21 | 2.32 | 0.41 |
| 1:A1:1235:C:C2' | 1:A1:1236:A:H5' | 2.51 | 0.41 |
| 1:A1:1291:G:N2 | 1:A1:1324:G:N1 | 2.49 | 0.41 |
| 1:A1:1348:A:C8 | 1:A1:1349:G:C5' | 3.04 | 0.41 |
| 1:A1:1458:G:OP1 | 13:AL:138:THR:O | 2.39 | 0.41 |
| 1:A1:1474:G:N1 | 1:A1:1475:A:C6 | 2.89 | 0.41 |
| 1:A1:1481:C:H5 | 1:A1:1482:C:O2 | 2.04 | 0.41 |
| 1:A1:1483:A:C2 | 1:A1:1607:G:H1' | 2.56 | 0.41 |
| 1:A1:1558:U:P | 1:A1:1559:A:H5' | 2.61 | 0.41 |
| 1:A1:1584:G:N9 | 11:AJ:123:ARG:C | 2.78 | 0.41 |
| 1:A1:1599:C:O2 | 1:A1:1600:A:N1 | 2.54 | 0.41 |
| 1:A1:1607:G:N3 | 1:A1:1608:U:C6 | 2.89 | 0.41 |
| 1:A1:1631:A:N3 | 1:A1:1632:C:C1' | 2.84 | 0.41 |
| 1:A1:1729:C:O2 | 1:A1:1729:C:H2' | 2.20 | 0.41 |
| 1:A1:1744:A:N6 | 1:A1:1745:G:N1 | 2.68 | 0.41 |
| 1:A1:1749:A:C2' | 1:A1:1750:A:O5' | 2.68 | 0.41 |
| 1:A1:1776:A:C2 | 1:A1:1786:G:C6 | 3.08 | 0.41 |
| 2:AA:3:LEU:C | 2:AA:5:ALA:N | 2.79 | 0.41 |
| 2:AA:15:GLN:O | 2:AA:16:LEU:C | 2.64 | 0.41 |
| 2:AA:173:ILE:C | 2:AA:175:TYR:H | 2.28 | 0.41 |
| 3:AB:155:ALA:HB3 | 3:AB:217:ALA:HB1 | 2.02 | 0.41 |
| 4:AC:9:ARG:O | 4:AC:10:LYS:C | 2.63 | 0.41 |
| 4:AC:80:ALA:HA | 4:AC:83:THR:CB | 2.51 | 0.41 |
| 4:AC:119:ALA:O | 4:AC:120:TYR:C | 2.64 | 0.41 |
| 4:AC:128:GLU:C | 4:AC:130:GLY:N | 2.78 | 0.41 |
| 5:AD:204:GLY:C | 5:AD:206:SER:N | 2.66 | 0.41 |
| 6:AE:100:LYS:CA | 6:AE:104:PHE:H | 2.34 | 0.41 |
| 6:AE:128:LEU:O | 6:AE:129:ILE:C | 2.63 | 0.41 |
| 8:AG:145:THR:CA | 8:AG:146:ALA:HB2 | 2.40 | 0.41 |
| 10:AI:52:LYS:HA | 10:AI:53:PRO:HA | 1.73 | 0.41 |
| 11:AJ:48:VAL:C | 11:AJ:50:GLU:N | 2.78 | 0.41 |
| 11:AJ:91:ALA:O | 11:AJ:92:TYR:CB | 2.69 | 0.41 |
| 13:AL:50:ALA:C | 13:AL:52:VAL:H | 2.27 | 0.41 |
| 13:AL:73:MET:C | 13:AL:77:THR:CB | 2.94 | 0.41 |
| 14:AM:28:LEU:C | 14:AM:30:VAL:N | 2.61 | 0.41 |
| 18:AQ:45:GLU:C | 18:AQ:47:TYR:N | 2.78 | 0.41 |
| 23:Ab:77:UNK:O | 23:Ab:81:UNK:N | 2.54 | 0.41 |
| 29:B1:10:C:O2 | 29:B1:11:A:C1' | 2.69 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:20:A:N1 | 31:B3:140:G:C6 | 2.89 | 0.41 |
| 29:B1:48:A:O4' | 29:B1:50:U:C6 | 2.74 | 0.41 |
| 29:B1:72:C:N3 | 29:B1:73:C:O4' | 2.54 | 0.41 |
| 29:B1:92:G:C5 | 29:B1:94:G:N2 | 2.88 | 0.41 |
| 29:B1:112:U:C2 | 29:B1:113:C:C6 | 3.09 | 0.41 |
| 29:B1:128:G:H2' | 29:B1:129:U:C6 | 2.56 | 0.41 |
| 29:B1:158:G:H3' | 29:B1:158:G:H8 | 1.86 | 0.41 |
| 29:B1:216:G:C6 | 29:B1:217:U:N3 | 2.89 | 0.41 |
| 29:B1:237:G:H2' | 29:B1:238:A:H5' | 2.02 | 0.41 |
| 29:B1:280:U:O2 | 29:B1:286:U:N1 | 2.51 | 0.41 |
| 29:B1:317:A:C2 | 29:B1:318:A:C5 | 3.09 | 0.41 |
| 29:B1:338:A:H3' | 29:B1:339:C:H5" | 2.02 | 0.41 |
| 29:B1:351:A:H8 | 31:B3:53:A:C1' | 2.32 | 0.41 |
| 29:B1:355:A:C8 | 29:B1:356:C:C6 | 3.08 | 0.41 |
| 29:B1:362:U:H2' | 29:B1:363:G:O4' | 2.20 | 0.41 |
| 29:B1:408:A:C2 | 29:B1:409:A:C4 | 3.08 | 0.41 |
| 29:B1:509:U:C4 | 29:B1:510:G:N7 | 2.89 | 0.41 |
| 29:B1:518:G:H8 | 29:B1:518:G:H5" | 1.86 | 0.41 |
| 29:B1:542:G:N3 | 29:B1:543:C:C5 | 2.89 | 0.41 |
| 29:B1:542:G:N2 | 29:B1:543:C:C2 | 2.89 | 0.41 |
| 29:B1:548:G:OP2 | 29:B1:548:G:H3' | 2.21 | 0.41 |
| 29:B1:609:G:O4' | 29:B1:610:G:OP1 | 2.39 | 0.41 |
| 29:B1:627:U:H2' | 29:B1:628:A:H8 | 1.83 | 0.41 |
| 29:B1:642:U:H2' | 29:B1:644:G:C8 | 2.56 | 0.41 |
| 29:B1:643:U:C4 | 29:B1:644:G:C4 | 3.09 | 0.41 |
| 29:B1:645:A:C2 | 29:B1:2372:A:C4 | 3.08 | 0.41 |
| 29:B1:650:C:H1' | 29:B1:2871:G:N3 | 2.36 | 0.41 |
| 29:B1:657:A:O2' | 29:B1:658:G:H5' | 2.20 | 0.41 |
| 29:B1:708:G:C6 | 29:B1:712:G:O6 | 2.74 | 0.41 |
| 29:B1:715:A:O2' | 29:B1:716:A:O5' | 2.38 | 0.41 |
| 29:B1:739:G:H2' | 29:B1:739:G:N3 | 2.36 | 0.41 |
| 29:B1:743:C:H6 | 29:B1:743:C:H5' | 1.86 | 0.41 |
| 29:B1:784:A:C2' | 29:B1:785:G:C8 | 2.87 | 0.41 |
| 29:B1:814:U:C2' | 29:B1:815:G:O5' | 2.69 | 0.41 |
| 29:B1:854:G:N3 | 29:B1:854:G:H2' | 2.36 | 0.41 |
| 29:B1:878:G:C1' | 29:B1:880:G:N2 | 2.83 | 0.41 |
| 29:B1:903:U:O3' | 29:B1:1536:G:O2' | 2.38 | 0.41 |
| 29:B1:912:G:H21 | 29:B1:915:A:H62 | 1.69 | 0.41 |
| 29:B1:916:G:N7 | 29:B1:924:G:C4 | 2.89 | 0.41 |
| 29:B1:917:A:N1 | 29:B1:918:C:N3 | 2.69 | 0.41 |
| 29:B1:932:U:C4' | 29:B1:933:A:C5' | 2.98 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1019:G:C6 | 29:B1:1020:G:N7 | 2.89 | 0.41 |
| 29:B1:1021:G:N1 | 29:B1:1032:C:O2 | 2.53 | 0.41 |
| 29:B1:1078:U:O4 | 29:B1:1082:U:C4 | 2.74 | 0.41 |
| 29:B1:1126:G:C2 | 29:B1:1133:A:C2 | 3.09 | 0.41 |
| 29:B1:1154:A:C8 | 29:B1:1154:A:C3' | 3.03 | 0.41 |
| 29:B1:1194:G:O6 | 29:B1:1314:C:C2 | 2.73 | 0.41 |
| 29:B1:1244:A:O2' | 29:B1:1248:C:N4 | 2.54 | 0.41 |
| 29:B1:1255:C:H2' | 29:B1:1256:G:C4' | 2.31 | 0.41 |
| 29:B1:1255:C:O2 | 29:B1:1256:G:O2' | 2.36 | 0.41 |
| 29:B1:1257:C:C6 | 29:B1:1258:U:H1' | 2.56 | 0.41 |
| 29:B1:1273:A:N7 | 29:B1:1274:A:C4 | 2.89 | 0.41 |
| 29:B1:1299:U:H3' | 29:B1:1300:G:H8 | 1.86 | 0.41 |
| 29:B1:1310:G:C8 | 29:B1:1310:G:C3' | 3.04 | 0.41 |
| 29:B1:1321:G:H5" | 29:B1:1322:U:OP2 | 2.21 | 0.41 |
| 29:B1:1329:U:O2' | 29:B1:1330:A:C5' | 2.69 | 0.41 |
| 29:B1:1389:G:O2' | 29:B1:1390:A:P | 2.79 | 0.41 |
| 29:B1:1393:A:H2 | 29:B1:1394:A:O4' | 2.03 | 0.41 |
| 29:B1:1413:G:N1 | 29:B1:1414:G:C5 | 2.89 | 0.41 |
| 29:B1:1433:A:O2' | 29:B1:1434:G:O5' | 2.24 | 0.41 |
| 29:B1:1447:G:O2' | 29:B1:2355:G:N1 | 2.52 | 0.41 |
| 29:B1:1525:G:C8 | 29:B1:1829:G:C6 | 3.08 | 0.41 |
| 29:B1:1573:G:C6 | 29:B1:1574:C:H1' | 2.56 | 0.41 |
| 29:B1:1591:G:H2' | 29:B1:1592:G:H5' | 2.02 | 0.41 |
| 29:B1:1599:G:H2' | 29:B1:1600:U:O4' | 2.21 | 0.41 |
| 29:B1:1627:U:OP1 | 29:B1:1628:C:OP2 | 2.38 | 0.41 |
| 29:B1:1631:C:C2' | 29:B1:1632:A:OP2 | 2.69 | 0.41 |
| 29:B1:1635:G:N2 | 29:B1:1637:A:H3' | 2.36 | 0.41 |
| 29:B1:1664:G:C2 | 29:B1:1786:G:N3 | 2.89 | 0.41 |
| 29:B1:1731:A:C2' | 29:B1:1732:U:H5' | 2.51 | 0.41 |
| 29:B1:1740:U:H5' | 29:B1:1741:A:H2 | 1.86 | 0.41 |
| 29:B1:1741:A:H2' | 29:B1:1742:U:O4' | 2.21 | 0.41 |
| 29:B1:1780:G:O2' | 29:B1:1781:C:C6 | 2.72 | 0.41 |
| 29:B1:1816:A:H2' | 29:B1:1817:G:C8 | 2.55 | 0.41 |
| 29:B1:1878:G:P | 29:B1:1879:A:C2 | 3.14 | 0.41 |
| 29:B1:1894:U:H1' | 29:B1:3054:U:H5" | 2.02 | 0.41 |
| 29:B1:1898:G:N7 | 29:B1:1899:G:C5 | 2.88 | 0.41 |
| 29:B1:1905:G:H22 | 29:B1:1907:C:H5' | 1.84 | 0.41 |
| 29:B1:2130:G:O6 | 29:B1:2323:G:O6 | 2.38 | 0.41 |
| 29:B1:2176:U:OP1 | 33:BB:26:ALA:N | 2.35 | 0.41 |
| 29:B1:2188:A:N6 | 29:B1:2320:A:C6 | 2.89 | 0.41 |
| 29:B1:2224:A:N1 | 29:B1:2783:U:O2' | 2.51 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2249:G:C8 | 29:B1:2272:G:C8 | 3.09 | 0.41 |
| 29:B1:2249:G:C8 | 29:B1:2250:G:C8 | 3.09 | 0.41 |
| 29:B1:2260:U:O2' | 29:B1:2261:G:C8 | 2.71 | 0.41 |
| 29:B1:2276:G:H2' | 29:B1:2277:C:H5' | 2.02 | 0.41 |
| 29:B1:2298:U:O4' | 29:B1:2298:U:O2 | 2.35 | 0.41 |
| 29:B1:2308:C:C4 | 29:B1:2309:A:C6 | 3.09 | 0.41 |
| 29:B1:2325:G:C4 | 29:B1:2326:A:C8 | 3.08 | 0.41 |
| 29:B1:2341:A:H4' | 29:B1:3090:U:O2' | 2.21 | 0.41 |
| 29:B1:2355:G:C3' | 29:B1:2355:G:C8 | 3.04 | 0.41 |
| 29:B1:2469:G:C5 | 29:B1:2477:G:N2 | 2.89 | 0.41 |
| 29:B1:2523:A:H1' | 29:B1:2524:A:P | 2.61 | 0.41 |
| 29:B1:2588:U:O2 | 29:B1:2588:U:C2' | 2.69 | 0.41 |
| 29:B1:2613:U:O2 | 29:B1:2613:U:O4' | 2.38 | 0.41 |
| 29:B1:2680:A:H3' | 29:B1:2680:A:C8 | 2.55 | 0.41 |
| 29:B1:2684:C:C2' | 29:B1:2685:C:H6 | 2.00 | 0.41 |
| 29:B1:2743:A:C3' | 29:B1:2744:U:C6 | 3.00 | 0.41 |
| 29:B1:2750:U:C2 | 29:B1:2751:G:C8 | 3.09 | 0.41 |
| 29:B1:2753:G:C2 | 29:B1:2754:G:C8 | 3.08 | 0.41 |
| 29:B1:2812:C:C2 | 29:B1:2813:A:C8 | 3.09 | 0.41 |
| 29:B1:2828:G:C2' | 29:B1:2829:U:O5' | 2.68 | 0.41 |
| 29:B1:2843:U:H3' | 29:B1:2843:U:OP2 | 2.21 | 0.41 |
| 29:B1:2864:A:C6 | 29:B1:2865:U:N3 | 2.89 | 0.41 |
| 29:B1:2945:G:H8 | 29:B1:2979:U:O2 | 2.03 | 0.41 |
| 29:B1:2948:C:H6 | 29:B1:2948:C:O5' | 2.04 | 0.41 |
| 29:B1:3006:A:C8 | 29:B1:3007:U:N1 | 2.89 | 0.41 |
| 29:B1:3032:A:H3' | 29:B1:3032:A:C8 | 2.56 | 0.41 |
| 29:B1:3048:A:C8 | 29:B1:3090:U:O4 | 2.73 | 0.41 |
| 29:B1:3052:G:C6 | 29:B1:3091:A:N6 | 2.89 | 0.41 |
| 29:B1:3094:A:O2' | 29:B1:3095:U:H5' | 2.21 | 0.41 |
| 29:B1:3142:A:H5' | 29:B1:3143:C:C5 | 2.56 | 0.41 |
| 29:B1:3181:C:C1' | 45:BP:167:TYR:CB | 2.98 | 0.41 |
| 29:B1:3181:C:H42 | 29:B1:3190:C:P | 2.44 | 0.41 |
| 29:B1:3189:G:C2 | 29:B1:3190:C:C6 | 3.09 | 0.41 |
| 29:B1:3218:A:O5' | 29:B1:3220:G:H8 | 2.04 | 0.41 |
| 29:B1:3222:U:O2 | 29:B1:3223:A:C1' | 2.69 | 0.41 |
| 29:B1:3265:C:N4 | 29:B1:3266:G:N7 | 2.68 | 0.41 |
| 29:B1:3294:A:N6 | 29:B1:3295:A:C6 | 2.88 | 0.41 |
| 29:B1:3314:A:H3' | 34:BC:118:PHE:C | 2.45 | 0.41 |
| 29:B1:3322:A:C4 | 29:B1:3323:A:N7 | 2.88 | 0.41 |
| 29:B1:3390:G:C4 | 29:B1:3391:A:N9 | 2.89 | 0.41 |
| 29:B1:3391:A:N1 | 29:B1:3392:U:C4 | 2.88 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:B2:9:C:C6 | 30:B2:10:C:O4' | 2.74 | 0.41 |
| 30:B2:38:U:C5 | 30:B2:41:G:H5" | 2.56 | 0.41 |
| 31:B3:59:A:C8 | 31:B3:61:A:N6 | 2.89 | 0.41 |
| 31:B3:73:U:H2' | 31:B3:89:A:N6 | 2.36 | 0.41 |
| 31:B3:106:C:OP2 | 31:B3:106:C:H3' | 2.20 | 0.41 |
| 31:B3:140:G:C2 | 31:B3:141:C:C2 | 3.09 | 0.41 |
| 34:BC:81:THR:CB | 34:BC:321:PHE:H | 2.34 | 0.41 |
| 34:BC:142:ALA:O | 34:BC:145:GLU:N | 2.53 | 0.41 |
| 36:BE:38:THR:HA | 36:BE:39:GLN:C | 2.45 | 0.41 |
| 36:BE:96:ALA:C | 36:BE:98:ALA:N | 2.75 | 0.41 |
| 36:BE:193:GLU:O | 36:BE:196:ARG:N | 2.54 | 0.41 |
| 36:BE:274:GLN:O | 36:BE:276:LYS:N | 2.48 | 0.41 |
| 37:BF:21:THR:CA | 37:BF:112:THR:N | 2.78 | 0.41 |
| 37:BF:152:THR:O | 37:BF:157:GLN:N | 2.42 | 0.41 |
| 39:BH:224:ASP:O | 39:BH:227:ASP:CB | 2.69 | 0.41 |
| 39:BH:231:LYS:HA | 39:BH:233:TRP:N | 2.35 | 0.41 |
| 40:BI:11:GLU:O | 40:BI:12:VAL:C | 2.64 | 0.41 |
| 40:BI:46:THR:HA | 40:BI:47:LYS:HA | 1.95 | 0.41 |
| 40:BI:63:LYS:CA | 40:BI:66:ALA:HB3 | 2.39 | 0.41 |
| 41:BJ:70:ILE:C | 41:BJ:72:ALA:N | 2.79 | 0.41 |
| 41:BJ:210:ILE:O | 41:BJ:214:PRO:N | 2.54 | 0.41 |
| 41:BJ:217:PHE:O | 41:BJ:220:GLN:N | 2.54 | 0.41 |
| 43:BN:97:SER:O | 43:BN:100:ALA:N | 2.54 | 0.41 |
| 45:BP:62:THR:O | 45:BP:63:ALA:HB3 | 2.21 | 0.41 |
| 45:BP:166:GLU:O | 45:BP:169:ALA:N | 2.54 | 0.41 |
| 48:BS:144:GLN:O | 48:BS:147:ALA:N | 2.53 | 0.41 |
| 50:BU:127:PRO:O | 50:BU:128:ARG:C | 2.63 | 0.41 |
| 51:BV:58:HIS:HA | 51:BV:59:HIS:HA | 1.63 | 0.41 |
| 52:BW:75:LYS:C | 52:BW:77:GLU:N | 2.78 | 0.41 |
| 56:Ba:6:ASP:O | 56:Ba:7:VAL:CB | 2.68 | 0.41 |
| 57:Bb:88:HIS:O | 57:Bb:89:THR:CB | 2.69 | 0.41 |
| 57:Bb:121:ASN:O | 57:Bb:122:PRO:C | 2.63 | 0.41 |
| 59:Bd:42:ALA:C | 59:Bd:44:THR:N | 2.77 | 0.41 |
| 61:Bf:54:THR:O | 61:Bf:56:PRO:N | 2.54 | 0.41 |
| 61:Bf:79:THR:HA | 61:Bf:80:ARG:HA | 1.79 | 0.41 |
| 22:Bo:5:UNK:C | 22:Bo:7:UNK:N | 2.84 | 0.41 |
| 1:C1:10:G:O6 | 1:C1:1144:U:O2 | 2.39 | 0.41 |
| 1:C1:24:U:C6 | 1:C1:24:U:C5' | 3.04 | 0.41 |
| 1:C1:40:A:C2' | 1:C1:41:A:H8 | 2.16 | 0.41 |
| 1:C1:47:A:O2' | 1:C1:100:A:O4' | 2.26 | 0.41 |
| 1:C1:62:A:C1' | 1:C1:63:G:P | 3.08 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:70:C:N4 | 1:C1:71:A:N6 | 2.69 | 0.41 |
| 1:C1:93:A:O4' | 1:C1:399:A:H2 | 2.03 | 0.41 |
| 1:C1:98:U:H2' | 1:C1:99:C:C5 | 2.55 | 0.41 |
| 1:C1:114:C:N4 | 1:C1:250:C:C1' | 2.83 | 0.41 |
| 1:C1:123:G:O6 | 1:C1:124:A:C5 | 2.74 | 0.41 |
| 1:C1:186:C:N4 | 1:C1:199:G:N1 | 2.23 | 0.41 |
| 1:C1:218:A:N6 | 1:C1:844:A:C1' | 2.75 | 0.41 |
| 1:C1:290:G:C2' | 1:C1:291:G:C8 | 3.03 | 0.41 |
| 1:C1:312:A:N1 | 1:C1:315:A:C8 | 2.89 | 0.41 |
| 1:C1:313:U:C5 | 1:C1:1118:G:N3 | 2.88 | 0.41 |
| 1:C1:359:A:P | 1:C1:359:A:H3' | 2.60 | 0.41 |
| 1:C1:366:A:H2' | 1:C1:367:A:H8 | 1.84 | 0.41 |
| 1:C1:380:U:O2' | 1:C1:381:C:O4' | 2.28 | 0.41 |
| 1:C1:383:G:O6 | 74:C1:1999:OHX:N5 | 2.53 | 0.41 |
| 1:C1:385:A:C2' | 1:C1:386:G:O5' | 2.69 | 0.41 |
| 1:C1:406:U:H2' | 1:C1:407:A:C8 | 2.55 | 0.41 |
| 1:C1:407:A:C5 | 1:C1:408:C:C4 | 3.09 | 0.41 |
| 1:C1:408:C:O2' | 1:C1:1732:A:H1' | 2.20 | 0.41 |
| 1:C1:449:C:O2 | 1:C1:449:C:C2' | 2.69 | 0.41 |
| 1:C1:540:G:O4' | 1:C1:541:A:OP1 | 2.39 | 0.41 |
| 1:C1:583:C:O2 | 1:C1:583:C:H2' | 2.21 | 0.41 |
| 1:C1:601:A:H5" | 1:C1:602:U:OP2 | 2.21 | 0.41 |
| 1:C1:643:G:N2 | 1:C1:692:C:N1 | 2.67 | 0.41 |
| 1:C1:719:U:H1' | 1:C1:720:G:C5' | 2.51 | 0.41 |
| 1:C1:727:U:N3 | 1:C1:728:U:H5 | 2.18 | 0.41 |
| 1:C1:755:A:C5 | 1:C1:756:A:C5 | 3.09 | 0.41 |
| 1:C1:824:G:O2' | 1:C1:825:U:C2 | 2.73 | 0.41 |
| 1:C1:860:U:O4 | 1:C1:861:U:C4 | 2.74 | 0.41 |
| 1:C1:959:U:O4' | 1:C1:959:U:P | 2.79 | 0.41 |
| 1:C1:977:A:N6 | 1:C1:1025:A:C4 | 2.89 | 0.41 |
| 1:C1:985:G:C6 | 1:C1:986:G:O6 | 2.74 | 0.41 |
| 1:C1:989:U:O2' | 9:CH:126:THR:CB | 2.69 | 0.41 |
| 1:C1:1021:C:O2 | 1:C1:1021:C:H2' | 2.20 | 0.41 |
| 1:C1:1063:U:H2' | 1:C1:1064:G:H8 | 1.86 | 0.41 |
| 1:C1:1094:G:O2' | 1:C1:1095:U:O5' | 2.38 | 0.41 |
| 1:C1:1111:G:C6 | 1:C1:1112:G:C4 | 3.09 | 0.41 |
| 1:C1:1147:A:C5 | 1:C1:1148:C:C5 | 3.09 | 0.41 |
| 1:C1:1248:C:O2' | 1:C1:1249:U:H5' | 2.20 | 0.41 |
| 1:C1:1255:G:C4' | 1:C1:1256:A:OP1 | 2.46 | 0.41 |
| 1:C1:1297:G:C2 | 1:C1:1300:A:OP2 | 2.74 | 0.41 |
| 1:C1:1329:A:C8 | 1:C1:1330:G:N7 | 2.89 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1359:C:C2 | 1:C1:1360:A:C8 | 3.09 | 0.41 |
| 1:C1:1369:U:O2 | 1:C1:1370:U:N3 | 2.53 | 0.41 |
| 1:C1:1371:A:C2 | 1:C1:1372:U:C6 | 3.08 | 0.41 |
| 1:C1:1378:U:O2 | 1:C1:1378:U:H2' | 2.20 | 0.41 |
| 1:C1:1385:G:C2 | 1:C1:1386:G:C4 | 3.09 | 0.41 |
| 1:C1:1451:C:O2' | 1:C1:1452:U:H5' | 2.21 | 0.41 |
| 1:C1:1467:C:C4 | 1:C1:1468:U:C4 | 3.09 | 0.41 |
| 1:C1:1504:G:O6 | 1:C1:1505:A:C6 | 2.73 | 0.41 |
| 1:C1:1532:U:C2' | 1:C1:1533:C:O5' | 2.69 | 0.41 |
| 1:C1:1543:A:N6 | 1:C1:1568:C:H1' | 2.36 | 0.41 |
| 1:C1:1558:U:H5 | 1:C1:1559:A:C2' | 2.34 | 0.41 |
| 1:C1:1717:G:O6 | 1:C1:1718:G:N2 | 2.54 | 0.41 |
| 1:C1:1764:C:C6 | 1:C1:1767:G:C8 | 3.09 | 0.41 |
| 1:C1:1781:A:H2' | 1:C1:1782:A:O4' | 2.21 | 0.41 |
| 2:CA:59:LEU:C | 2:CA:61:ALA:N | 2.78 | 0.41 |
| 2:CA:101:ARG:O | 2:CA:102:PHE:C | 2.64 | 0.41 |
| 2:CA:183:ARG:C | 2:CA:185:ARG:N | 2.78 | 0.41 |
| 4:CC:14:ASP:O | 4:CC:16:VAL:C | 2.63 | 0.41 |
| 4:CC:30:ALA:C | 4:CC:32:GLU:N | 2.77 | 0.41 |
| 4:CC:80:ALA:HA | 4:CC:83:THR:CB | 2.51 | 0.41 |
| 4:CC:101:GLN:HA | 4:CC:104:SER:CB | 2.51 | 0.41 |
| 4:CC:191:ASP:C | 4:CC:193:ALA:N | 2.78 | 0.41 |
| 5:CD:120:ILE:O | 5:CD:122:ASN:N | 2.48 | 0.41 |
| 5:CD:192:GLU:C | 5:CD:194:LEU:N | 2.78 | 0.41 |
| 6:CE:108:ARG:HA | 6:CE:147:MET:HA | 2.03 | 0.41 |
| 6:CE:156:ILE:O | 6:CE:158:PHE:N | 2.54 | 0.41 |
| 6:CE:157:ASP:O | 6:CE:159:ALA:N | 2.46 | 0.41 |
| 7:CF:85:VAL:O | 7:CF:107:VAL:O | 2.38 | 0.41 |
| 11:CJ:131:GLY:CA | 11:CJ:138:PHE:H | 2.33 | 0.41 |
| 16:CO:8:ALA:O | 16:CO:9:ASP:C | 2.64 | 0.41 |
| 20:CS:42:CYS:C | 20:CS:44:ARG:N | 2.73 | 0.41 |
| 21:CT:74:THR:O | 21:CT:77:GLY:N | 2.51 | 0.41 |
| 21:CT:86:ASP:O | 21:CT:87:LYS:CB | 2.69 | 0.41 |
| 23:Cb:121:UNK:C | 23:Cb:123:UNK:N | 2.84 | 0.41 |
| 24:Cc:88:UNK:O | 24:Cc:90:UNK:N | 2.54 | 0.41 |
| 29:D1:10:C:N4 | 31:D3:148:G:C6 | 2.89 | 0.41 |
| 29:D1:16:A:C6 | 29:D1:17:G:C6 | 3.09 | 0.41 |
| 29:D1:40:A:OP2 | 54:DY:35:ALA:HB1 | 2.21 | 0.41 |
| 29:D1:41:G:H4' | 29:D1:2410:U:H2' | 2.03 | 0.41 |
| 29:D1:45:A:N3 | 29:D1:45:A:H2' | 2.35 | 0.41 |
| 29:D1:53:G:N3 | 29:D1:54:C:C6 | 2.89 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:91:G:N2 | 29:D1:94:G:H3' | 2.36 | 0.41 |
| 29:D1:109:A:N1 | 29:D1:323:A:C4 | 2.89 | 0.41 |
| 29:D1:111:C:H2' | 29:D1:112:U:O5' | 2.21 | 0.41 |
| 29:D1:114:A:O2' | 29:D1:115:A:H5' | 2.20 | 0.41 |
| 29:D1:114:A:H2' | 29:D1:115:A:O4' | 2.21 | 0.41 |
| 29:D1:146:U:O4 | 29:D1:147:U:C2 | 2.73 | 0.41 |
| 29:D1:157:A:O2' | 29:D1:158:G:OP2 | 2.38 | 0.41 |
| 29:D1:170:G:C4 | 29:D1:171:G:C8 | 3.09 | 0.41 |
| 29:D1:177:U:C2 | 29:D1:178:U:C6 | 3.09 | 0.41 |
| 29:D1:257:U:C2' | 29:D1:258:G:O5' | 2.69 | 0.41 |
| 29:D1:277:G:C6 | 29:D1:278:U:N3 | 2.88 | 0.41 |
| 29:D1:306:A:C2 | 29:D1:307:A:N9 | 2.86 | 0.41 |
| 29:D1:314:U:C2 | 29:D1:315:C:C5 | 3.09 | 0.41 |
| 29:D1:407:A:C6 | 31:D3:17:A:N9 | 2.88 | 0.41 |
| 29:D1:409:A:H2' | 29:D1:410:U:O4' | 2.20 | 0.41 |
| 29:D1:431:U:O2' | 29:D1:432:G:O5' | 2.39 | 0.41 |
| 29:D1:576:C:H2' | 29:D1:577:C:H5' | 1.86 | 0.41 |
| 29:D1:597:G:N2 | 29:D1:607:A:C2 | 2.89 | 0.41 |
| 29:D1:598:A:C6 | 29:D1:599:C:C4 | 3.08 | 0.41 |
| 29:D1:636:C:C6 | 29:D1:2377:G:O2' | 2.74 | 0.41 |
| 29:D1:744:A:H2' | 29:D1:745:C:H6 | 1.84 | 0.41 |
| 29:D1:752:C:C2 | 29:D1:753:C:C6 | 3.09 | 0.41 |
| 29:D1:776:U:C5' | 29:D1:777:U:C6 | 2.95 | 0.41 |
| 29:D1:807:A:N6 | 29:D1:934:G:H1 | 2.19 | 0.41 |
| 29:D1:815:G:N1 | 29:D1:906:A:C2 | 2.89 | 0.41 |
| 29:D1:822:G:C2 | 29:D1:823:C:C2 | 3.09 | 0.41 |
| 29:D1:934:G:C2 | 29:D1:935:U:C6 | 3.08 | 0.41 |
| 29:D1:956:U:H4' | 29:D1:2725:U:O2 | 2.20 | 0.41 |
| 29:D1:965:A:P | 74:D1:3568:OHX:N3 | 2.94 | 0.41 |
| 29:D1:967:A:H3' | 29:D1:968:G:C8 | 2.56 | 0.41 |
| 29:D1:1041:U:C2' | 29:D1:1042:U:H5' | 2.48 | 0.41 |
| 29:D1:1063:G:O2' | 29:D1:1064:A:O5' | 2.38 | 0.41 |
| 29:D1:1065:A:H1' | 29:D1:1093:A:N6 | 2.20 | 0.41 |
| 29:D1:1077:U:HO2' | 29:D1:1078:U:P | 2.44 | 0.41 |
| 29:D1:1139:G:H8 | 29:D1:1139:G:H5' | 1.63 | 0.41 |
| 29:D1:1174:G:H2' | 29:D1:1175:C:H6 | 1.86 | 0.41 |
| 29:D1:1184:A:H2' | 29:D1:1185:C:O5' | 2.21 | 0.41 |
| 29:D1:1190:A:C2 | 29:D1:1191:U:C6 | 2.93 | 0.41 |
| 29:D1:1193:A:N7 | 29:D1:1194:G:C6 | 2.85 | 0.41 |
| 29:D1:1196:C:C2 | 30:D2:86:U:N1 | 2.88 | 0.41 |
| 29:D1:1307:G:C2 | 29:D1:1308:A:N1 | 2.89 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1422:G:C6 | 29:D1:1423:C:C4 | 3.09 | 0.41 |
| 29:D1:1460:A:H2' | 29:D1:1461:A:H8 | 1.86 | 0.41 |
| 29:D1:1519:G:N3 | 29:D1:1520:G:C8 | 2.89 | 0.41 |
| 29:D1:1556:C:N4 | 29:D1:2169:G:C8 | 2.76 | 0.41 |
| 29:D1:1560:G:C6 | 29:D1:1579:C:N3 | 2.89 | 0.41 |
| 29:D1:1599:G:H2' | 29:D1:1600:U:O4' | 2.20 | 0.41 |
| 29:D1:1631:C:C2' | 29:D1:1632:A:OP2 | 2.69 | 0.41 |
| 29:D1:1685:C:C6 | 29:D1:1687:U:C5 | 3.09 | 0.41 |
| 29:D1:1692:U:H2' | 29:D1:1693:C:H6 | 1.86 | 0.41 |
| 29:D1:1705:U:O2' | 29:D1:1706:C:H6 | 2.04 | 0.41 |
| 29:D1:1837:U:O2' | 29:D1:1842:A:N7 | 2.46 | 0.41 |
| 29:D1:1852:G:N3 | 29:D1:1852:G:H2' | 2.35 | 0.41 |
| 29:D1:1912:U:O2 | 29:D1:2121:G:C8 | 2.74 | 0.41 |
| 29:D1:1953:G:N2 | 29:D1:2092:A:C5 | 2.89 | 0.41 |
| 29:D1:2155:G:H5" | 33:DB:238:ILE:O | 2.21 | 0.41 |
| 29:D1:2313:A:H4' | 29:D1:2314:U:H5' | 2.02 | 0.41 |
| 29:D1:2374:C:OP2 | 74:D1:3446:OHX:N3 | 2.54 | 0.41 |
| 29:D1:2394:G:O4' | 34:DC:253:GLY:HA3 | 2.21 | 0.41 |
| 29:D1:2430:A:C5 | 29:D1:2431:C:C5 | 3.08 | 0.41 |
| 29:D1:2432:A:H5" | 29:D1:2433:U:OP2 | 2.21 | 0.41 |
| 29:D1:2496:C:O5' | 29:D1:2496:C:H6 | 2.04 | 0.41 |
| 29:D1:2530:G:OP2 | 29:D1:2530:G:H2' | 2.21 | 0.41 |
| 29:D1:2576:G:C4 | 29:D1:2577:C:C6 | 3.08 | 0.41 |
| 29:D1:2590:A:C6 | 29:D1:2591:A:C8 | 3.09 | 0.41 |
| 29:D1:2609:A:C2 | 29:D1:2610:G:C8 | 3.09 | 0.41 |
| 29:D1:2646:C:O5' | 29:D1:2646:C:H6 | 2.04 | 0.41 |
| 29:D1:2672:G:O2' | 42:DK:105:GLY:C | 2.64 | 0.41 |
| 29:D1:2693:C:H5" | 29:D1:2694:A:H5' | 2.03 | 0.41 |
| 29:D1:2706:G:C2 | 29:D1:2707:C:C4 | 3.09 | 0.41 |
| 29:D1:2730:G:N1 | 29:D1:2799:A:N6 | 2.69 | 0.41 |
| 29:D1:2855:U:C4 | 29:D1:2856:G:C8 | 3.09 | 0.41 |
| 29:D1:2931:C:N3 | 29:D1:2932:U:C5 | 2.89 | 0.41 |
| 29:D1:2946:A:H3' | 29:D1:2946:A:C8 | 2.56 | 0.41 |
| 29:D1:2957:G:C6 | 29:D1:2976:A:C2 | 3.09 | 0.41 |
| 29:D1:2965:U:H2' | 29:D1:2966:G:H5' | 2.03 | 0.41 |
| 29:D1:2970:C:C3' | 29:D1:2971:A:C5' | 2.88 | 0.41 |
| 29:D1:2980:U:C2 | 29:D1:2981:U:C6 | 3.09 | 0.41 |
| 29:D1:3056:U:C2 | 29:D1:3079:U:O4 | 2.74 | 0.41 |
| 29:D1:3069:G:C4 | 29:D1:3070:A:C8 | 3.09 | 0.41 |
| 29:D1:3263:G:C2 | 29:D1:3264:G:C4 | 3.09 | 0.41 |
| 29:D1:3294:A:C6 | 29:D1:3295:A:C4 | 3.09 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3296:A:C6 | 29:D1:3297:U:C5 | 3.09 | 0.41 |
| 29:D1:3334:U:O2 | 29:D1:3334:U:H2' | 2.20 | 0.41 |
| 30:D2:1:G:N2 | 30:D2:2:G:C5 | 2.89 | 0.41 |
| 30:D2:15:C:C2 | 30:D2:66:A:C2 | 3.08 | 0.41 |
| 30:D2:20:A:C6 | 30:D2:60:G:N1 | 2.88 | 0.41 |
| 30:D2:37:G:N3 | 30:D2:45:A:N1 | 2.68 | 0.41 |
| 30:D2:38:U:H2' | 30:D2:40:C:H5" | 2.01 | 0.41 |
| 30:D2:90:U:H2' | 30:D2:91:G:O4' | 2.20 | 0.41 |
| 31:D3:52:A:C5 | 31:D3:53:A:C8 | 3.08 | 0.41 |
| 31:D3:64:U:C4 | 31:D3:97:A:C2 | 3.09 | 0.41 |
| 31:D3:70:G:O5' | 31:D3:71:A:OP2 | 2.38 | 0.41 |
| 31:D3:104:A:H8 | 31:D3:105:A:C8 | 2.38 | 0.41 |
| 33:DB:124:GLY:O | 33:DB:125:ALA:C | 2.62 | 0.41 |
| 34:DC:217:ALA:O | 34:DC:218:ILE:CB | 2.68 | 0.41 |
| 34:DC:306:THR:C | 34:DC:308:MET:H | 2.26 | 0.41 |
| 34:DC:339:ARG:O | 34:DC:340:LYS:O | 2.38 | 0.41 |
| 35:DD:12:THR:O | 35:DD:15:ALA:HB1 | 2.21 | 0.41 |
| 35:DD:13:GLY:N | 35:DD:14:GLU:HA | 2.36 | 0.41 |
| 35:DD:101:ALA:O | 35:DD:102:PRO:CB | 2.67 | 0.41 |
| 35:DD:126:ILE:C | 35:DD:128:ALA:H | 2.27 | 0.41 |
| 35:DD:211:GLU:O | 35:DD:212:ASP:CB | 2.69 | 0.41 |
| 36:DE:14:SER:C | 36:DE:16:PHE:H | 2.29 | 0.41 |
| 36:DE:18:THR:CB | 36:DE:19:PRO:CA | 2.90 | 0.41 |
| 36:DE:106:ALA:N | 36:DE:109:THR:CB | 2.84 | 0.41 |
| 36:DE:115:LEU:O | 36:DE:118:THR:C | 2.64 | 0.41 |
| 37:DF:61:ASN:HA | 37:DF:80:ASN:C | 2.43 | 0.41 |
| 38:DG:39:GLU:O | 38:DG:41:ARG:N | 2.53 | 0.41 |
| 39:DH:131:ALA:O | 39:DH:132:VAL:CB | 2.67 | 0.41 |
| 40:DI:139:ASN:HA | 40:DI:140:VAL:CB | 2.51 | 0.41 |
| 41:DJ:99:ILE:O | 41:DJ:120:GLY:HA2 | 2.21 | 0.41 |
| 42:DK:155:THR:O | 42:DK:158:ASP:N | 2.45 | 0.41 |
| 72:DL:140:GLY:O | 72:DL:141:CYS:CB | 2.68 | 0.41 |
| 45:DP:130:LYS:CB | 45:DP:131:PRO:CB | 2.99 | 0.41 |
| 45:DP:176:LYS:O | 45:DP:177:LYS:C | 2.63 | 0.41 |
| 45:DP:187:GLU:O | 45:DP:190:VAL:N | 2.54 | 0.41 |
| 47:DR:72:LYS:HA | 47:DR:73:GLN:HA | 1.58 | 0.41 |
| 50:DU:65:GLY:O | 50:DU:67:PRO:N | 2.53 | 0.41 |
| 50:DU:134:GLY:O | 50:DU:135:VAL:O | 2.38 | 0.41 |
| 56:Da:5:LYS:HA | 56:Da:6:ASP:CB | 2.51 | 0.41 |
| 56:Da:20:LEU:C | 56:Da:22:GLY:N | 2.77 | 0.41 |
| 57:Db:6:HIS:O | 57:Db:7:PRO:C | 2.63 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 57:Db:33:ARG:O | 57:Db:34:LYS:C | 2.64 | 0.41 |
| 57:Db:100:ILE:O | 57:Db:101:SER:O | 2.39 | 0.41 |
| 59:Dd:36:SER:CB | 74:Dd:101:OHX:N6 | 2.84 | 0.41 |
| 60:De:11:GLN:O | 60:De:14:ALA:HB3 | 2.21 | 0.41 |
| 60:De:43:ASN:O | 60:De:45:ARG:N | 2.54 | 0.41 |
| 62:Dg:59:CYS:O | 74:Dg:101:OHX:N5 | 2.54 | 0.41 |
| 1:A1:22:A:C5 | 1:A1:604:A:N1 | 2.89 | 0.41 |
| 1:A1:111:U:C6 | 1:A1:304:U:C4 | 3.09 | 0.41 |
| 1:A1:121:U:H2' | 1:A1:122:U:O5' | 2.20 | 0.41 |
| 1:A1:147:A:C5 | 1:A1:148:A:C5 | 3.09 | 0.41 |
| 1:A1:267:U:OP2 | 1:A1:267:U:H6 | 2.03 | 0.41 |
| 1:A1:340:U:C4 | 1:A1:341:A:N7 | 2.89 | 0.41 |
| 1:A1:359:A:H3' | 1:A1:359:A:N3 | 2.36 | 0.41 |
| 1:A1:571:G:H3' | 1:A1:572:C:H6 | 1.85 | 0.41 |
| 1:A1:602:U:H2' | 1:A1:603:U:C6 | 2.56 | 0.41 |
| 1:A1:922:G:O2' | 1:A1:923:A:C8 | 2.64 | 0.41 |
| 1:A1:930:A:H3' | 1:A1:931:C:C5 | 2.56 | 0.41 |
| 1:A1:945:U:O2 | 1:A1:946:U:C6 | 2.74 | 0.41 |
| 1:A1:1015:U:OP1 | 74:A1:1923:OHX:N5 | 2.54 | 0.41 |
| 1:A1:1050:G:C5 | 1:A1:1051:G:H1' | 2.51 | 0.41 |
| 1:A1:1141:G:C2 | 1:A1:1142:A:C8 | 3.08 | 0.41 |
| 1:A1:1239:U:H2' | 1:A1:1240:U:H5 | 1.86 | 0.41 |
| 1:A1:1345:A:H2' | 1:A1:1346:A:C4 | 2.54 | 0.41 |
| 1:A1:1429:G:C4 | 1:A1:1430:U:C6 | 3.09 | 0.41 |
| 1:A1:1552:U:O2 | 1:A1:1553:G:C1' | 2.69 | 0.41 |
| 1:A1:1559:A:N3 | 1:A1:1559:A:C2' | 2.69 | 0.41 |
| 1:A1:1631:A:H4' | 74:A1:1990:OHX:N5 | 2.36 | 0.41 |
| 1:A1:1672:G:C6 | 1:A1:1673:G:O6 | 2.74 | 0.41 |
| 1:A1:1744:A:C6 | 1:A1:1745:G:C6 | 3.09 | 0.41 |
| 2:AA:32:HIS:C | 2:AA:34:GLU:N | 2.79 | 0.41 |
| 2:AA:52:LYS:O | 2:AA:54:TRP:N | 2.54 | 0.41 |
| 2:AA:181:VAL:C | 2:AA:183:ARG:N | 2.75 | 0.41 |
| 3:AB:203:LYS:C | 3:AB:205:ARG:H | 2.29 | 0.41 |
| 3:AB:228:ASN:HA | 3:AB:229:LEU:HA | 1.66 | 0.41 |
| 4:AC:94:ARG:O | 4:AC:95:GLY:C | 2.64 | 0.41 |
| 5:AD:149:VAL:CB | 5:AD:157:ARG:H | 2.34 | 0.41 |
| 6:AE:23:ARG:O | 6:AE:26:ALA:HB3 | 2.21 | 0.41 |
| 6:AE:58:ASP:O | 6:AE:59:LEU:C | 2.64 | 0.41 |
| 6:AE:61:THR:CB | 6:AE:62:ARG:HA | 2.51 | 0.41 |
| 11:AJ:106:LYS:O | 11:AJ:108:ALA:N | 2.54 | 0.41 |
| 14:AM:17:ALA:C | 14:AM:19:ALA:H | 2.27 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 14:AM:58:ALA:H | 14:AM:60:SER:H | 1.69 | 0.41 |
| 14:AM:113:ILE:HA | 14:AM:125:SER:CB | 2.51 | 0.41 |
| 15:AN:101:LYS:C | 15:AN:103:ILE:N | 2.79 | 0.41 |
| 29:B1:11:A:H4' | 29:B1:1558:A:H2 | 1.84 | 0.41 |
| 29:B1:75:G:C6 | 29:B1:76:G:C6 | 3.09 | 0.41 |
| 29:B1:131:C:O2 | 29:B1:132:C:H1' | 2.21 | 0.41 |
| 29:B1:283:G:N2 | 29:B1:285:A:N6 | 2.69 | 0.41 |
| 29:B1:318:A:C2' | 29:B1:319:A:OP1 | 2.69 | 0.41 |
| 29:B1:379:C:N4 | 29:B1:390:G:H1 | 2.19 | 0.41 |
| 29:B1:396:A:O2' | 29:B1:397:A:O5' | 2.39 | 0.41 |
| 29:B1:504:A:C2' | 29:B1:505:G:C5' | 2.99 | 0.41 |
| 29:B1:515:C:C6 | 29:B1:515:C:OP2 | 2.74 | 0.41 |
| 29:B1:554:A:C3' | 29:B1:555:U:H5" | 2.51 | 0.41 |
| 29:B1:573:C:H2' | 29:B1:574:U:H5 | 1.83 | 0.41 |
| 29:B1:595:G:C2' | 29:B1:596:C:O4' | 2.69 | 0.41 |
| 29:B1:597:G:O2' | 29:B1:598:A:O4' | 2.39 | 0.41 |
| 29:B1:639:G:H2' | 29:B1:640:U:C5' | 2.51 | 0.41 |
| 29:B1:728:G:C2 | 29:B1:742:G:C6 | 3.09 | 0.41 |
| 29:B1:795:G:H1' | 29:B1:1111:U:H5" | 2.02 | 0.41 |
| 29:B1:807:A:H62 | 29:B1:934:G:H1 | 1.69 | 0.41 |
| 29:B1:811:U:O2 | 29:B1:812:G:C8 | 2.74 | 0.41 |
| 29:B1:1029:G:N7 | 29:B1:1030:A:N7 | 2.69 | 0.41 |
| 29:B1:1076:C:C5' | 29:B1:1077:U:OP2 | 2.67 | 0.41 |
| 29:B1:1084:A:N6 | 29:B1:1085:A:C6 | 2.89 | 0.41 |
| 29:B1:1084:A:C8 | 29:B1:1085:A:N7 | 2.89 | 0.41 |
| 29:B1:1090:G:O2' | 29:B1:1091:A:H5' | 2.20 | 0.41 |
| 29:B1:1109:U:O2 | 29:B1:1109:U:H2' | 2.21 | 0.41 |
| 29:B1:1150:A:C4 | 29:B1:1151:U:C6 | 3.09 | 0.41 |
| 29:B1:1152:G:O2' | 29:B1:1153:A:C5' | 2.69 | 0.41 |
| 29:B1:1230:G:H2' | 29:B1:1231:A:C8 | 2.56 | 0.41 |
| 29:B1:1237:G:OP2 | 29:B1:1246:G:H4' | 2.21 | 0.41 |
| 29:B1:1245:A:H5' | 29:B1:1247:U:OP2 | 2.21 | 0.41 |
| 29:B1:1323:G:C3' | 29:B1:1324:U:C5' | 2.87 | 0.41 |
| 29:B1:1401:A:N6 | 29:B1:1411:C:N4 | 2.68 | 0.41 |
| 29:B1:1409:G:H2' | 29:B1:1410:U:H5' | 2.03 | 0.41 |
| 29:B1:1422:G:H2' | 29:B1:1423:C:C6 | 2.49 | 0.41 |
| 29:B1:1588:A:H4' | 29:B1:1589:A:OP2 | 2.19 | 0.41 |
| 29:B1:1868:G:C4 | 29:B1:1869:C:C6 | 3.09 | 0.41 |
| 29:B1:1908:A:N7 | 29:B1:1909:A:C5 | 2.89 | 0.41 |
| 29:B1:1911:A:H3' | 29:B1:1911:A:C8 | 2.56 | 0.41 |
| 29:B1:2144:A:C4 | 29:B1:2281:A:N6 | 2.88 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:2163:C:O2 | 29:B1:2163:C:C2' | 2.68 | 0.41 |
| 29:B1:2173:U:C2 | 29:B1:2174:G:N7 | 2.89 | 0.41 |
| 29:B1:2284:C:C4 | 29:B1:2308:C:OP2 | 2.73 | 0.41 |
| 29:B1:2308:C:C5 | 29:B1:2309:A:C5 | 3.09 | 0.41 |
| 29:B1:2432:A:H5" | 29:B1:2433:U:OP2 | 2.21 | 0.41 |
| 29:B1:2602:G:C5 | 29:B1:2603:G:N7 | 2.89 | 0.41 |
| 29:B1:2626:A:H5' | 29:B1:2627:C:O5' | 2.21 | 0.41 |
| 29:B1:2674:A:H2' | 29:B1:2675:C:H5" | 2.02 | 0.41 |
| 29:B1:2703:A:H3' | 29:B1:2704:A:H5" | 2.02 | 0.41 |
| 29:B1:2717:U:H2' | 29:B1:2718:U:C6 | 2.56 | 0.41 |
| 29:B1:2730:G:N1 | 29:B1:2799:A:N6 | 2.68 | 0.41 |
| 29:B1:2814:G:N1 | 29:B1:2815:G:C5 | 2.89 | 0.41 |
| 29:B1:2857:C:H2' | 29:B1:2858:U:O4' | 2.21 | 0.41 |
| 29:B1:2868:U:C6 | 29:B1:2869:U:H5 | 2.38 | 0.41 |
| 29:B1:2908:G:C6 | 29:B1:2909:U:C5 | 3.09 | 0.41 |
| 29:B1:2984:C:N3 | 29:B1:2985:C:C5 | 2.89 | 0.41 |
| 29:B1:3131:U:O2 | 29:B1:3131:U:C2' | 2.65 | 0.41 |
| 29:B1:3242:G:N2 | 29:B1:3244:A:C8 | 2.63 | 0.41 |
| 29:B1:3253:G:H2' | 29:B1:3254:G:O4' | 2.21 | 0.41 |
| 29:B1:3337:G:H2' | 29:B1:3338:C:O4' | 2.21 | 0.41 |
| 29:B1:3343:G:C5 | 29:B1:3344:A:N6 | 2.89 | 0.41 |
| 30:B2:11:A:H2 | 36:BE:16:PHE:CA | 2.19 | 0.41 |
| 31:B3:24:G:H2' | 31:B3:25:G:C5' | 2.51 | 0.41 |
| 31:B3:147:U:N3 | 31:B3:148:G:N7 | 2.68 | 0.41 |
| 33:BB:91:GLY:O | 33:BB:93:LYS:N | 2.54 | 0.41 |
| 34:BC:12:GLY:O | 34:BC:13:HIS:O | 2.39 | 0.41 |
| 34:BC:160:VAL:C | 34:BC:161:LEU:O | 2.62 | 0.41 |
| 34:BC:283:TYR:O | 34:BC:284:ARG:C | 2.64 | 0.41 |
| 35:BD:121:ALA:O | 35:BD:122:THR:C | 2.64 | 0.41 |
| 40:BI:66:ALA:O | 40:BI:67:ALA:C | 2.64 | 0.41 |
| 40:BI:136:PHE:HA | 40:BI:144:ILE:HA | 2.02 | 0.41 |
| 42:BK:34:SER:O | 42:BK:37:LEU:N | 2.54 | 0.41 |
| 43:BN:101:LYS:C | 43:BN:103:ILE:N | 2.79 | 0.41 |
| 44:BO:136:ASP:O | 44:BO:138:GLN:N | 2.54 | 0.41 |
| 44:BO:185:ALA:C | 44:BO:187:ARG:CA | 2.67 | 0.41 |
| 45:BP:54:TYR:C | 45:BP:56:ASP:N | 2.76 | 0.41 |
| 49:BT:26:HIS:C | 49:BT:28:SER:N | 2.79 | 0.41 |
| 56:Ba:17:HIS:N | 56:Ba:69:TYR:O | 2.52 | 0.41 |
| 57:Bb:66:LEU:HA | 57:Bb:67:SER:O | 2.21 | 0.41 |
| 58:Bc:23:ASP:O | 58:Bc:24:LEU:C | 2.64 | 0.41 |
| 1:C1:32:U:C2' | 1:C1:33:U:H5' | 2.51 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:61:A:N7 | 74:C1:1952:OHX:N2 | 2.69 | 0.41 |
| 1:C1:121:U:H2' | 1:C1:122:U:C4' | 2.50 | 0.41 |
| 1:C1:129:U:O2' | 1:C1:130:C:P | 2.79 | 0.41 |
| 1:C1:150:U:O3' | 1:C1:151:G:O4' | 2.39 | 0.41 |
| 1:C1:196:G:C6 | 1:C1:197:A:C2 | 3.08 | 0.41 |
| 1:C1:198:A:C1' | 1:C1:199:G:OP1 | 2.69 | 0.41 |
| 1:C1:202:A:H3' | 1:C1:202:A:C8 | 2.56 | 0.41 |
| 1:C1:315:A:C5 | 1:C1:350:U:C5 | 3.01 | 0.41 |
| 1:C1:341:A:C6 | 1:C1:342:C:C4 | 3.09 | 0.41 |
| 1:C1:804:A:O2' | 1:C1:805:U:H5' | 2.21 | 0.41 |
| 1:C1:863:A:C8 | 1:C1:865:A:N7 | 2.89 | 0.41 |
| 1:C1:1068:C:C2 | 1:C1:1069:A:C8 | 3.09 | 0.41 |
| 1:C1:1146:G:C4 | 1:C1:1147:A:N7 | 2.88 | 0.41 |
| 1:C1:1178:G:N3 | 1:C1:1462:G:C2 | 2.89 | 0.41 |
| 1:C1:1283:U:H3' | 1:C1:1284:C:C6 | 2.55 | 0.41 |
| 1:C1:1349:G:O4' | 1:C1:1350:U:O5' | 2.39 | 0.41 |
| 1:C1:1365:C:H3' | 1:C1:1365:C:H6 | 1.85 | 0.41 |
| 1:C1:1366:U:C5 | 74:C1:2001:OHX:N3 | 2.89 | 0.41 |
| 1:C1:1370:U:C2 | 1:C1:1371:A:H8 | 2.39 | 0.41 |
| 1:C1:1377:U:O2 | 1:C1:1378:U:H1' | 2.20 | 0.41 |
| 1:C1:1538:U:H5 | 1:C1:1540:G:N7 | 2.19 | 0.41 |
| 1:C1:1540:G:C5 | 1:C1:1541:G:N7 | 2.89 | 0.41 |
| 1:C1:1543:A:C2' | 1:C1:1544:U:H5' | 2.51 | 0.41 |
| 1:C1:1629:G:C2' | 1:C1:1630:U:O4' | 2.66 | 0.41 |
| 1:C1:1671:A:N3 | 1:C1:1671:A:H2' | 2.36 | 0.41 |
| 1:C1:1721:A:O3' | 1:C1:1722:A:H4' | 2.16 | 0.41 |
| 1:C1:1756:A:C8 | 1:C1:1756:A:C3' | 3.05 | 0.41 |
| 2:CA:93:THR:O | 2:CA:95:ALA:N | 2.54 | 0.41 |
| 4:CC:9:ARG:O | 4:CC:10:LYS:C | 2.64 | 0.41 |
| 5:CD:164:PRO:O | 5:CD:166:ARG:N | 2.54 | 0.41 |
| 13:CL:72:ILE:C | 13:CL:74:GLN:H | 2.27 | 0.41 |
| 29:D1:60:A:C5 | 29:D1:328:U:N3 | 2.89 | 0.41 |
| 29:D1:130:A:C6 | 29:D1:132:C:N4 | 2.89 | 0.41 |
| 29:D1:209:A:H4' | 29:D1:211:A:N7 | 2.35 | 0.41 |
| 29:D1:245:U:O4 | 74:D1:3495:OHX:N1 | 2.53 | 0.41 |
| 29:D1:258:G:N2 | 29:D1:259:C:N1 | 2.69 | 0.41 |
| 29:D1:264:G:C5 | 29:D1:265:A:C5 | 3.09 | 0.41 |
| 29:D1:408:A:C2 | 29:D1:409:A:N3 | 2.89 | 0.41 |
| 29:D1:563:U:N1 | 29:D1:564:G:O4' | 2.54 | 0.41 |
| 29:D1:608:A:N6 | 29:D1:609:G:C5 | 2.88 | 0.41 |
| 29:D1:667:C:O2 | 29:D1:667:C:C2' | 2.68 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:716:A:O3' | 29:D1:717:C:H4' | 2.18 | 0.41 |
| 29:D1:739:G:C2' | 29:D1:740:G:C8 | 2.99 | 0.41 |
| 29:D1:763:G:N7 | 29:D1:764:U:C2 | 2.89 | 0.41 |
| 29:D1:771:A:N6 | 29:D1:772:U:H3 | 2.19 | 0.41 |
| 29:D1:873:C:H4' | 29:D1:1908:A:H5' | 2.03 | 0.41 |
| 29:D1:919:U:C4 | 29:D1:923:C:N3 | 2.89 | 0.41 |
| 29:D1:939:U:C2' | 29:D1:940:G:O5' | 2.68 | 0.41 |
| 29:D1:953:G:C1' | 29:D1:1115:G:H4' | 2.51 | 0.41 |
| 29:D1:959:C:OP1 | 29:D1:2800:G:OP2 | 2.39 | 0.41 |
| 29:D1:1021:G:N1 | 29:D1:1032:C:C2 | 2.89 | 0.41 |
| 29:D1:1042:U:C2' | 29:D1:1043:C:O5' | 2.69 | 0.41 |
| 29:D1:1127:G:N1 | 29:D1:1129:A:H5" | 2.36 | 0.41 |
| 29:D1:1184:A:C6 | 29:D1:1323:G:C6 | 3.09 | 0.41 |
| 29:D1:1251:A:H3' | 74:D1:3557:OHX:N2 | 2.36 | 0.41 |
| 29:D1:1317:A:C5 | 29:D1:1319:G:C8 | 3.09 | 0.41 |
| 29:D1:1330:A:C2' | 29:D1:1331:U:O5' | 2.68 | 0.41 |
| 29:D1:1524:A:N9 | 29:D1:1607:U:O2 | 2.53 | 0.41 |
| 29:D1:1605:A:OP1 | 29:D1:1835:A:H5" | 2.21 | 0.41 |
| 29:D1:1684:U:C6 | 29:D1:1684:U:C3' | 3.04 | 0.41 |
| 29:D1:1777:U:H3' | 29:D1:1777:U:H6 | 1.85 | 0.41 |
| 29:D1:1851:G:OP1 | 74:D1:3576:OHX:N2 | 2.54 | 0.41 |
| 29:D1:1916:U:C4 | 29:D1:1917:C:N4 | 2.89 | 0.41 |
| 29:D1:1921:A:N9 | 29:D1:1932:A:N6 | 2.69 | 0.41 |
| 29:D1:2151:C:O2' | 29:D1:2243:A:N6 | 2.54 | 0.41 |
| 29:D1:2167:A:H3' | 29:D1:2168:A:C8 | 2.51 | 0.41 |
| 29:D1:2170:U:O2 | 29:D1:2170:U:C2' | 2.67 | 0.41 |
| 29:D1:2181:C:N3 | 29:D1:2182:A:N7 | 2.69 | 0.41 |
| 29:D1:2193:U:C4' | 29:D1:2194:G:OP2 | 2.69 | 0.41 |
| 29:D1:2234:G:C5 | 29:D1:2235:C:C5 | 3.09 | 0.41 |
| 29:D1:2337:C:C2 | 29:D1:2338:C:C5 | 3.09 | 0.41 |
| 29:D1:2352:A:O3' | 46:DQ:85:ALA:HB3 | 2.21 | 0.41 |
| 29:D1:2417:U:O4 | 29:D1:2804:A:N1 | 2.54 | 0.41 |
| 29:D1:2422:C:C2 | 29:D1:2423:U:C5 | 3.09 | 0.41 |
| 29:D1:2649:A:N1 | 29:D1:2650:U:C5 | 2.89 | 0.41 |
| 29:D1:2665:U:C2 | 29:D1:2706:G:N1 | 2.89 | 0.41 |
| 29:D1:2681:U:O2' | 29:D1:2682:C:O5' | 2.38 | 0.41 |
| 29:D1:2716:U:N3 | 29:D1:2717:U:H5 | 2.19 | 0.41 |
| 29:D1:2852:C:H5 | 29:D1:2853:A:C4 | 2.36 | 0.41 |
| 29:D1:2925:C:C5 | 29:D1:2926:A:N7 | 2.88 | 0.41 |
| 29:D1:2946:A:H2' | 29:D1:2982:A:N7 | 2.36 | 0.41 |
| 29:D1:2966:G:H8 | 29:D1:2966:G:O5' | 2.04 | 0.41 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3102:G:C8 | 29:D1:3102:G:C3' | 3.04 | 0.41 |
| 29:D1:3144:G:O6 | 74:D1:3431:OHX:N1 | 2.54 | 0.41 |
| 29:D1:3150:A:C4 | 29:D1:3151:U:H5" | 2.56 | 0.41 |
| 29:D1:3169:U:O4 | 29:D1:3170:A:N6 | 2.54 | 0.41 |
| 29:D1:3196:U:C6 | 29:D1:3197:G:C2 | 3.08 | 0.41 |
| 29:D1:3196:U:H6 | 29:D1:3197:G:N2 | 2.16 | 0.41 |
| 29:D1:3328:G:HO2' | 29:D1:3329:U:C4' | 2.32 | 0.41 |
| 30:D2:9:C:C6 | 30:D2:9:C:OP2 | 2.73 | 0.41 |
| 30:D2:113:C:C2' | 30:D2:114:U:H6 | 2.34 | 0.41 |
| 31:D3:37:A:H2 | 31:D3:106:C:N4 | 2.13 | 0.41 |
| 31:D3:56:G:C4 | 31:D3:57:C:C6 | 3.09 | 0.41 |
| 31:D3:75:G:OP1 | 31:D3:90:U:O5' | 2.39 | 0.41 |
| 31:D3:81:U:C2' | 31:D3:82:U:H5" | 2.51 | 0.41 |
| 31:D3:99:C:C5' | 31:D3:100:U:OP1 | 2.69 | 0.41 |
| 32:DA:118:LYS:HA | 32:DA:136:THR:N | 2.36 | 0.41 |
| 34:DC:1:MET:C | 34:DC:2:SER:O | 2.63 | 0.41 |
| 35:DD:8:VAL:H | 35:DD:19:ALA:HA | 1.86 | 0.41 |
| 36:DE:92:LEU:O | 36:DE:93:THR:CB | 2.69 | 0.41 |
| 36:DE:194:LEU:C | 36:DE:196:ARG:H | 2.28 | 0.41 |
| 36:DE:226:TYR:CB | 36:DE:232:ASP:H | 2.33 | 0.41 |
| 37:DF:41:ILE:O | 37:DF:84:VAL:C | 2.64 | 0.41 |
| 37:DF:121:LEU:C | 37:DF:123:PRO:N | 2.79 | 0.41 |
| 38:DG:98:LYS:C | 38:DG:100:ARG:N | 2.77 | 0.41 |
| 41:DJ:66:GLU:C | 41:DJ:68:ALA:N | 2.79 | 0.41 |
| 41:DJ:121:LYS:O | 41:DJ:122:PRO:O | 2.39 | 0.41 |
| 73:DM:198:PRO:C | 73:DM:200:SER:H | 2.28 | 0.41 |
| 44:DO:144:ARG:C | 44:DO:146:ALA:N | 2.78 | 0.41 |
| 45:DP:166:GLU:O | 45:DP:167:TYR:C | 2.64 | 0.41 |
| 47:DR:49:LEU:O | 47:DR:52:LEU:N | 2.54 | 0.41 |
| 47:DR:111:ARG:O | 47:DR:112:ALA:HB2 | 2.21 | 0.41 |
| 53:DX:78:PHE:O | 53:DX:79:ALA:CB | 2.69 | 0.41 |
| 59:Dd:5:THR:O | 59:Dd:7:SER:N | 2.54 | 0.41 |
| 60:De:6:SER:O | 60:De:10:LYS:N | 2.52 | 0.41 |
| 65:Dk:6:UNK:O | 65:Dk:9:UNK:N | 2.54 | 0.41 |
| 1:A1:43:A:O2' | 1:A1:44:U:H5" | 2.18 | 0.40 |
| 1:A1:94:U:O2 | 1:A1:94:U:O4' | 2.38 | 0.40 |
| 1:A1:121:U:C2' | 1:A1:122:U:O5' | 2.69 | 0.40 |
| 1:A1:228:G:C2 | 1:A1:229:U:O2 | 2.74 | 0.40 |
| 1:A1:268:C:C4 | 1:A1:288:A:C2 | 3.09 | 0.40 |
| 1:A1:303:U:H2' | 1:A1:304:U:H6 | 1.85 | 0.40 |
| 1:A1:341:A:C6 | 1:A1:342:C:N4 | 2.89 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:343:C:H2' | 1:A1:344:A:C8 | 2.55 | 0.40 |
| 1:A1:519:C:N4 | 1:A1:534:A:N1 | 2.69 | 0.40 |
| 1:A1:551:G:C2 | 1:A1:552:G:C4 | 3.10 | 0.40 |
| 1:A1:648:G:C2 | 1:A1:649:U:C6 | 3.09 | 0.40 |
| 1:A1:683:C:H2' | 1:A1:684:A:O5' | 2.21 | 0.40 |
| 1:A1:886:U:H2' | 1:A1:887:A:C1' | 2.52 | 0.40 |
| 1:A1:1207:C:H4' | 1:A1:1208:A:O5' | 2.21 | 0.40 |
| 1:A1:1224:A:C2 | 1:A1:1225:U:N3 | 2.89 | 0.40 |
| 1:A1:1241:G:C4 | 1:A1:1243:G:OP2 | 2.73 | 0.40 |
| 1:A1:1317:C:C4 | 1:A1:1318:G:C5 | 3.10 | 0.40 |
| 1:A1:1381:U:H3' | 1:A1:1381:U:C6 | 2.56 | 0.40 |
| 1:A1:1401:A:N7 | 1:A1:1402:G:C8 | 2.89 | 0.40 |
| 1:A1:1414:U:O2 | 1:A1:1414:U:O4' | 2.39 | 0.40 |
| 1:A1:1425:A:O2' | 1:A1:1426:C:H5' | 2.22 | 0.40 |
| 1:A1:1534:G:H4' | 1:A1:1536:G:C5 | 2.56 | 0.40 |
| 1:A1:1540:G:C6 | 1:A1:1541:G:C4 | 3.09 | 0.40 |
| 1:A1:1560:U:O5' | 1:A1:1560:U:N1 | 2.55 | 0.40 |
| 1:A1:1608:U:H2' | 1:A1:1609:U:H6 | 1.85 | 0.40 |
| 1:A1:1676:U:C3' | 1:A1:1677:C:H5' | 2.51 | 0.40 |
| 1:A1:1683:C:H3' | 1:A1:1683:C:P | 2.62 | 0.40 |
| 1:A1:1705:C:C5 | 1:A1:1706:C:C5 | 3.09 | 0.40 |
| 1:A1:1717:G:N3 | 1:A1:1717:G:H2' | 2.36 | 0.40 |
| 1:A1:1764:C:OP2 | 1:A1:1771:U:C5' | 2.70 | 0.40 |
| 2:AA:6:THR:C | 2:AA:8:ASP:N | 2.79 | 0.40 |
| 3:AB:188:LEU:O | 3:AB:190:LEU:N | 2.54 | 0.40 |
| 5:AD:58:LEU:O | 5:AD:59:VAL:C | 2.64 | 0.40 |
| 6:AE:179:ARG:C | 6:AE:181:ALA:N | 2.79 | 0.40 |
| 8:AG:139:TRP:N | 8:AG:142:GLU:H | 2.19 | 0.40 |
| 9:AH:89:THR:CA | 9:AH:90:ARG:C | 2.91 | 0.40 |
| 11:AJ:18:ALA:HB1 | 11:AJ:84:ALA:HB2 | 2.02 | 0.40 |
| 16:AO:52:TYR:CA | 23:Ab:5:UNK:O | 2.69 | 0.40 |
| 19:AR:8:THR:HA | 19:AR:51:ASN:N | 2.35 | 0.40 |
| 21:AT:85:TRP:C | 21:AT:87:LYS:N | 2.78 | 0.40 |
| 21:AT:218:GLY:O | 21:AT:236:ALA:HB3 | 2.21 | 0.40 |
| 21:AT:224:ASN:O | 21:AT:228:LYS:N | 2.54 | 0.40 |
| 29:B1:11:A:C2 | 31:B3:148:G:C5 | 3.09 | 0.40 |
| 29:B1:87:U:O2 | 29:B1:87:U:C2' | 2.65 | 0.40 |
| 29:B1:107:A:H2' | 29:B1:108:A:O5' | 2.21 | 0.40 |
| 29:B1:166:C:N4 | 29:B1:167:U:O4 | 2.55 | 0.40 |
| 29:B1:189:G:C4 | 29:B1:191:U:O4 | 2.74 | 0.40 |
| 29:B1:195:U:O2 | 29:B1:196:G:C1' | 2.69 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:235:A:H2' | 29:B1:236:G:H8 | 1.80 | 0.40 |
| 29:B1:268:A:C8 | 29:B1:270:U:O2 | 2.74 | 0.40 |
| 29:B1:342:A:O4' | 29:B1:344:A:N6 | 2.54 | 0.40 |
| 29:B1:359:U:O2' | 29:B1:360:G:H5' | 2.21 | 0.40 |
| 29:B1:505:G:C8 | 29:B1:506:U:C5 | 3.09 | 0.40 |
| 29:B1:545:U:C2 | 29:B1:546:C:N3 | 2.90 | 0.40 |
| 29:B1:546:C:C5 | 29:B1:547:G:C4 | 3.09 | 0.40 |
| 29:B1:561:C:C2' | 29:B1:562:C:OP2 | 2.68 | 0.40 |
| 29:B1:597:G:N3 | 29:B1:598:A:N9 | 2.68 | 0.40 |
| 29:B1:697:A:N6 | 29:B1:699:A:C2 | 2.89 | 0.40 |
| 29:B1:734:C:H5" | 29:B1:735:A:N1 | 2.35 | 0.40 |
| 29:B1:792:G:H2' | 29:B1:793:C:C5 | 2.56 | 0.40 |
| 29:B1:841:A:H5" | 48:BS:126:GLU:HA | 2.02 | 0.40 |
| 29:B1:847:A:N3 | 29:B1:848:A:C8 | 2.89 | 0.40 |
| 29:B1:856:G:C5 | 29:B1:857:G:N1 | 2.89 | 0.40 |
| 29:B1:957:C:H4' | 29:B1:2799:A:C8 | 2.56 | 0.40 |
| 29:B1:1167:U:C6 | 29:B1:1167:U:C5' | 2.92 | 0.40 |
| 29:B1:1168:U:O4 | 29:B1:1330:A:C8 | 2.73 | 0.40 |
| 29:B1:1319:G:N3 | 29:B1:1320:C:C6 | 2.89 | 0.40 |
| 29:B1:1464:G:N2 | 29:B1:1466:G:O5' | 2.53 | 0.40 |
| 29:B1:1638:A:C2 | 29:B1:1736:G:N2 | 2.85 | 0.40 |
| 29:B1:1688:U:C2' | 29:B1:1689:U:H5 | 2.29 | 0.40 |
| 29:B1:1753:G:H2' | 29:B1:1754:G:H8 | 1.86 | 0.40 |
| 29:B1:1771:C:C4 | 29:B1:1772:U:C4 | 3.09 | 0.40 |
| 29:B1:1794:G:C6 | 33:BB:185:ALA:HB1 | 2.56 | 0.40 |
| 29:B1:1797:A:N6 | 29:B1:1798:A:C6 | 2.90 | 0.40 |
| 29:B1:1806:A:C2 | 29:B1:1807:G:H1' | 2.57 | 0.40 |
| 29:B1:1849:C:H4' | 29:B1:1850:A:OP2 | 2.20 | 0.40 |
| 29:B1:2146:C:N4 | 29:B1:2147:A:N6 | 2.68 | 0.40 |
| 29:B1:2234:G:O6 | 74:B1:3599:OHX:N3 | 2.54 | 0.40 |
| 29:B1:2274:U:C5 | 29:B1:2311:G:N2 | 2.89 | 0.40 |
| 29:B1:2278:C:C4 | 29:B1:2305:G:N7 | 2.89 | 0.40 |
| 29:B1:2413:A:C2' | 29:B1:2414:G:O5' | 2.69 | 0.40 |
| 29:B1:2515:A:N6 | 29:B1:2592:G:O2' | 2.54 | 0.40 |
| 29:B1:2603:G:N2 | 29:B1:2604:U:H1' | 2.36 | 0.40 |
| 29:B1:2676:A:H4' | 29:B1:2677:G:N9 | 2.36 | 0.40 |
| 29:B1:2831:G:C5 | 29:B1:2832:C:C5 | 3.08 | 0.40 |
| 29:B1:2886:U:C4 | 29:B1:2911:A:C6 | 3.09 | 0.40 |
| 29:B1:2886:U:C2 | 29:B1:2911:A:N6 | 2.89 | 0.40 |
| 29:B1:2888:U:C2 | 29:B1:2911:A:C6 | 3.09 | 0.40 |
| 29:B1:2891:U:H6 | 29:B1:2891:U:O5' | 2.04 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3057:U:O2' | 29:B1:3058:U:C4' | 2.66 | 0.40 |
| 29:B1:3092:C:O3' | 29:B1:3093:C:H3' | 2.21 | 0.40 |
| 29:B1:3153:U:O4 | 29:B1:3160:U:H1' | 2.21 | 0.40 |
| 29:B1:3163:A:OP2 | 29:B1:3163:A:C8 | 2.69 | 0.40 |
| 29:B1:3237:U:H2' | 29:B1:3238:G:N7 | 2.34 | 0.40 |
| 29:B1:3323:A:C5 | 29:B1:3324:C:C5 | 3.09 | 0.40 |
| 30:B2:1:G:N3 | 30:B2:1:G:C2' | 2.73 | 0.40 |
| 31:B3:9:A:H2' | 31:B3:9:A:N3 | 2.36 | 0.40 |
| 31:B3:19:C:C4 | 31:B3:20:U:O4 | 2.74 | 0.40 |
| 31:B3:74:U:O4 | 31:B3:77:A:C5' | 2.69 | 0.40 |
| 31:B3:99:C:H5" | 31:B3:100:U:OP1 | 2.20 | 0.40 |
| 31:B3:141:C:H2' | 31:B3:142:C:C6 | 2.51 | 0.40 |
| 31:B3:142:C:H3' | 31:B3:143:U:C6 | 2.56 | 0.40 |
| 33:BB:231:SER:C | 33:BB:233:GLN:N | 2.78 | 0.40 |
| 34:BC:296:THR:N | 34:BC:297:SER:HA | 2.36 | 0.40 |
| 36:BE:32:GLN:O | 36:BE:33:ARG:C | 2.64 | 0.40 |
| 36:BE:124:GLU:O | 36:BE:169:GLY:HA2 | 2.22 | 0.40 |
| 36:BE:141:PRO:HA | 36:BE:143:LYS:H | 1.86 | 0.40 |
| 37:BF:10:TYR:O | 37:BF:11:PRO:CB | 2.70 | 0.40 |
| 38:BG:144:ILE:O | 38:BG:145:ARG:O | 2.40 | 0.40 |
| 39:BH:206:GLU:C | 39:BH:208:GLU:N | 2.79 | 0.40 |
| 39:BH:211:LEU:O | 39:BH:215:VAL:CB | 2.69 | 0.40 |
| 39:BH:230:LYS:N | 39:BH:231:LYS:O | 2.54 | 0.40 |
| 42:BK:155:THR:HA | 42:BK:159:THR:CB | 2.51 | 0.40 |
| 43:BN:34:ALA:O | 43:BN:47:ASP:N | 2.54 | 0.40 |
| 44:BO:79:ALA:HA | 44:BO:80:THR:O | 2.21 | 0.40 |
| 46:BQ:127:ARG:CB | 46:BQ:139:TYR:O | 2.69 | 0.40 |
| 47:BR:113:LYS:C | 47:BR:115:VAL:N | 2.78 | 0.40 |
| 48:BS:12:ALA:C | 48:BS:14:VAL:N | 2.75 | 0.40 |
| 52:BW:69:SER:O | 52:BW:70:GLU:C | 2.64 | 0.40 |
| 54:BY:27:LYS:C | 54:BY:29:PRO:N | 2.79 | 0.40 |
| 54:BY:131:SER:CB | 54:BY:134:ALA:CB | 2.99 | 0.40 |
| 61:Bf:20:HIS:O | 61:Bf:21:THR:CB | 2.69 | 0.40 |
| 61:Bf:47:GLN:H | 61:Bf:48:SER:CA | 2.26 | 0.40 |
| 62:Bg:86:LEU:C | 62:Bg:88:GLU:N | 2.77 | 0.40 |
| 63:Bh:39:UNK:C | 63:Bh:42:UNK:N | 2.84 | 0.40 |
| 1:C1:46:A:H8 | 1:C1:46:A:OP1 | 2.04 | 0.40 |
| 1:C1:139:C:C5 | 1:C1:176:C:C2 | 3.09 | 0.40 |
| 1:C1:331:A:C2 | 1:C1:332:U:N1 | 2.89 | 0.40 |
| 1:C1:454:U:O2' | 1:C1:455:C:C5' | 2.70 | 0.40 |
| 1:C1:511:A:H4' | 1:C1:511:A:OP1 | 2.21 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:640:U:H3' | 1:C1:641:G:H8 | 1.85 | 0.40 |
| 1:C1:649:U:C2 | 1:C1:650:U:C6 | 3.09 | 0.40 |
| 1:C1:714:G:C6 | 1:C1:715:U:O4 | 2.74 | 0.40 |
| 1:C1:749:U:C2 | 1:C1:801:G:C2 | 3.09 | 0.40 |
| 1:C1:752:A:N6 | 1:C1:753:A:N6 | 2.68 | 0.40 |
| 1:C1:766:U:C5 | 1:C1:769:A:OP2 | 2.71 | 0.40 |
| 1:C1:819:G:N1 | 1:C1:854:U:N3 | 2.67 | 0.40 |
| 1:C1:827:C:O2' | 1:C1:828:U:OP1 | 2.39 | 0.40 |
| 1:C1:865:A:C4 | 1:C1:866:G:C8 | 3.09 | 0.40 |
| 1:C1:1146:G:C6 | 1:C1:1633:A:N6 | 2.88 | 0.40 |
| 1:C1:1207:C:O2 | 1:C1:1455:G:N1 | 2.54 | 0.40 |
| 1:C1:1382:A:H5" | 15:CN:60:THR:N | 2.36 | 0.40 |
| 1:C1:1396:U:H6 | 1:C1:1396:U:H2' | 1.69 | 0.40 |
| 1:C1:1416:G:O5' | 1:C1:1416:G:H8 | 2.04 | 0.40 |
| 1:C1:1425:A:H2' | 1:C1:1426:C:H5' | 2.02 | 0.40 |
| 1:C1:1478:G:O2' | 1:C1:1479:A:O4' | 2.39 | 0.40 |
| 1:C1:1606:C:H2' | 1:C1:1607:G:H8 | 1.83 | 0.40 |
| 1:C1:1607:G:N1 | 1:C1:1608:U:C4 | 2.89 | 0.40 |
| 1:C1:1660:A:O2' | 1:C1:1661:U:H5' | 2.21 | 0.40 |
| 2:CA:30:GLN:O | 2:CA:31:VAL:C | 2.65 | 0.40 |
| 3:CB:51:THR:HA | 3:CB:52:THR:HA | 1.75 | 0.40 |
| 4:CC:117:ARG:HA | 4:CC:120:TYR:CB | 2.51 | 0.40 |
| 4:CC:130:GLY:O | 4:CC:131:ALA:HB2 | 2.22 | 0.40 |
| 4:CC:151:LYS:O | 4:CC:152:PHE:CB | 2.69 | 0.40 |
| 5:CD:169:ASN:C | 5:CD:171:ALA:N | 2.77 | 0.40 |
| 8:CG:96:VAL:O | 8:CG:97:SER:C | 2.63 | 0.40 |
| 9:CH:8:ARG:HA | 9:CH:9:ASP:HA | 1.96 | 0.40 |
| 12:CK:53:TYR:O | 12:CK:54:THR:C | 2.62 | 0.40 |
| 14:CM:65:ILE:C | 14:CM:67:MET:N | 2.73 | 0.40 |
| 20:CS:46:LYS:O | 20:CS:49:ASP:N | 2.54 | 0.40 |
| 23:Cb:75:UNK:O | 23:Cb:78:UNK:N | 2.54 | 0.40 |
| 24:Cc:30:UNK:O | 24:Cc:33:UNK:N | 2.54 | 0.40 |
| 24:Cc:88:UNK:O | 24:Cc:90:UNK:C | 2.68 | 0.40 |
| 29:D1:12:A:C2' | 29:D1:13:A:O5' | 2.69 | 0.40 |
| 29:D1:22:G:H2' | 29:D1:23:A:C8 | 2.54 | 0.40 |
| 29:D1:130:A:C2 | 29:D1:139:G:C4 | 3.09 | 0.40 |
| 29:D1:155:G:C1' | 29:D1:156:G:O5' | 2.69 | 0.40 |
| 29:D1:196:G:H21 | 29:D1:219:A:H62 | 1.65 | 0.40 |
| 29:D1:197:G:C5 | 29:D1:198:A:N7 | 2.89 | 0.40 |
| 29:D1:247:C:N4 | 29:D1:248:U:C2 | 2.89 | 0.40 |
| 29:D1:284:A:N6 | 29:D1:2785:A:C1' | 2.84 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:342:A:C5 | 29:D1:368:G:C5 | 3.10 | 0.40 |
| 29:D1:347:G:N1 | 29:D1:353:G:N7 | 2.69 | 0.40 |
| 29:D1:562:C:C2 | 29:D1:563:U:C4 | 3.09 | 0.40 |
| 29:D1:563:U:C2' | 29:D1:564:G:C4' | 2.96 | 0.40 |
| 29:D1:594:U:O5' | 29:D1:609:G:N2 | 2.49 | 0.40 |
| 29:D1:596:C:C5' | 29:D1:597:G:OP1 | 2.69 | 0.40 |
| 29:D1:612:U:O2 | 29:D1:613:G:C5 | 2.74 | 0.40 |
| 29:D1:637:C:C4 | 29:D1:638:C:C4 | 3.05 | 0.40 |
| 29:D1:637:C:C6 | 29:D1:638:C:H5 | 2.38 | 0.40 |
| 29:D1:744:A:N1 | 29:D1:745:C:C2 | 2.88 | 0.40 |
| 29:D1:752:C:H6 | 29:D1:752:C:H2' | 1.71 | 0.40 |
| 29:D1:757:C:H41 | 29:D1:758:C:N4 | 2.19 | 0.40 |
| 29:D1:760:G:C2 | 29:D1:761:A:C8 | 3.09 | 0.40 |
| 29:D1:774:G:C6 | 29:D1:775:A:C8 | 3.09 | 0.40 |
| 29:D1:816:A:H1' | 29:D1:819:U:O4 | 2.21 | 0.40 |
| 29:D1:937:G:N3 | 29:D1:963:G:H1' | 2.36 | 0.40 |
| 29:D1:994:G:H22 | 29:D1:1053:A:H3' | 1.84 | 0.40 |
| 29:D1:998:A:C2' | 29:D1:999:G:C5' | 2.97 | 0.40 |
| 29:D1:1218:U:C5' | 29:D1:1219:C:OP2 | 2.55 | 0.40 |
| 29:D1:1269:U:O4 | 29:D1:1271:A:C5 | 2.73 | 0.40 |
| 29:D1:1383:G:C6 | 29:D1:1384:U:C4 | 3.09 | 0.40 |
| 29:D1:1507:G:H3' | 29:D1:1508:C:H5' | 2.03 | 0.40 |
| 29:D1:1539:A:C6 | 29:D1:1540:U:C5 | 3.09 | 0.40 |
| 29:D1:1556:C:N4 | 29:D1:2169:G:N7 | 2.69 | 0.40 |
| 29:D1:1593:A:C2' | 29:D1:1594:A:C8 | 2.86 | 0.40 |
| 29:D1:1740:U:OP1 | 29:D1:1740:U:H4' | 2.17 | 0.40 |
| 29:D1:1799:A:N1 | 29:D1:1800:A:N1 | 2.68 | 0.40 |
| 29:D1:1831:U:O2 | 29:D1:1831:U:H2' | 2.22 | 0.40 |
| 29:D1:1852:G:C5 | 29:D1:1853:U:C5 | 3.10 | 0.40 |
| 29:D1:1889:G:N3 | 29:D1:1889:G:H2' | 2.36 | 0.40 |
| 29:D1:2162:U:H2' | 29:D1:2163:C:O4' | 2.21 | 0.40 |
| 29:D1:2163:C:H5' | 33:DB:230:VAL:CB | 2.50 | 0.40 |
| 29:D1:2196:C:C5' | 29:D1:2197:C:OP2 | 2.70 | 0.40 |
| 29:D1:2309:A:C8 | 29:D1:2309:A:OP1 | 2.74 | 0.40 |
| 29:D1:2364:G:OP2 | 29:D1:2364:G:C8 | 2.71 | 0.40 |
| 29:D1:2376:G:O2' | 29:D1:2377:G:P | 2.78 | 0.40 |
| 29:D1:2393:G:C2 | 29:D1:2982:A:C2 | 3.08 | 0.40 |
| 29:D1:2395:G:C8 | 29:D1:2946:A:N6 | 2.71 | 0.40 |
| 29:D1:2407:C:HO2' | 29:D1:2818:U:H3 | 1.68 | 0.40 |
| 29:D1:2424:A:C5' | 29:D1:2425:G:OP2 | 2.65 | 0.40 |
| 29:D1:2429:G:H2' | 29:D1:2430:A:C8 | 2.56 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2631:U:H5' | 29:D1:2757:U:O2 | 2.20 | 0.40 |
| 29:D1:2777:G:H4' | 29:D1:2778:G:H5" | 2.04 | 0.40 |
| 29:D1:2919:A:C2' | 29:D1:2920:U:C5' | 2.99 | 0.40 |
| 29:D1:2932:U:C2' | 29:D1:2933:A:O5' | 2.69 | 0.40 |
| 29:D1:3094:A:C4 | 29:D1:3095:U:C5 | 3.09 | 0.40 |
| 29:D1:3160:U:N3 | 29:D1:3161:C:C4 | 2.90 | 0.40 |
| 29:D1:3198:U:C2 | 29:D1:3199:G:N7 | 2.89 | 0.40 |
| 29:D1:3273:A:N6 | 29:D1:3274:A:N7 | 2.68 | 0.40 |
| 29:D1:3309:G:C8 | 29:D1:3310:A:H1' | 2.55 | 0.40 |
| 29:D1:3314:A:C3' | 34:DC:119:TYR:N | 2.84 | 0.40 |
| 29:D1:3315:G:H5" | 29:D1:3319:U:O3' | 2.20 | 0.40 |
| 29:D1:3327:G:N3 | 29:D1:3327:G:H2' | 2.35 | 0.40 |
| 29:D1:3344:A:O3' | 29:D1:3345:G:C8 | 2.74 | 0.40 |
| 30:D2:37:G:C2' | 30:D2:38:U:O5' | 2.69 | 0.40 |
| 31:D3:92:A:C3' | 31:D3:93:U:H5' | 2.51 | 0.40 |
| 31:D3:93:U:HO2' | 31:D3:94:C:C4' | 2.34 | 0.40 |
| 31:D3:100:U:H2' | 31:D3:101:U:H6 | 1.87 | 0.40 |
| 31:D3:105:A:O3' | 31:D3:106:C:H2' | 2.21 | 0.40 |
| 34:DC:67:PHE:O | 34:DC:68:HIS:C | 2.63 | 0.40 |
| 35:DD:251:THR:O | 35:DD:254:ALA:HB3 | 2.21 | 0.40 |
| 35:DD:273:GLY:C | 35:DD:275:THR:N | 2.79 | 0.40 |
| 36:DE:118:THR:O | 36:DE:120:LYS:N | 2.54 | 0.40 |
| 36:DE:246:ALA:O | 36:DE:249:ALA:HB2 | 2.21 | 0.40 |
| 38:DG:41:ARG:O | 38:DG:42:ALA:C | 2.62 | 0.40 |
| 41:DJ:155:ALA:O | 41:DJ:156:ARG:C | 2.64 | 0.40 |
| 42:DK:120:ILE:O | 42:DK:121:GLY:C | 2.63 | 0.40 |
| 43:DN:58:ILE:N | 43:DN:59:ASN:CB | 2.85 | 0.40 |
| 43:DN:125:LYS:O | 43:DN:126:GLN:CB | 2.69 | 0.40 |
| 44:DO:24:ARG:O | 44:DO:25:VAL:C | 2.63 | 0.40 |
| 44:DO:46:ASP:C | 44:DO:48:ALA:N | 2.78 | 0.40 |
| 45:DP:58:LEU:C | 45:DP:60:LYS:H | 2.29 | 0.40 |
| 46:DQ:31:GLU:O | 46:DQ:35:ALA:N | 2.55 | 0.40 |
| 46:DQ:51:VAL:CB | 46:DQ:57:ALA:HA | 2.51 | 0.40 |
| 47:DR:98:LYS:H | 47:DR:117:ALA:HB1 | 1.86 | 0.40 |
| 48:DS:66:HIS:O | 48:DS:68:GLN:N | 2.54 | 0.40 |
| 49:DT:115:LYS:O | 49:DT:118:GLU:N | 2.55 | 0.40 |
| 51:DV:45:ASN:C | 51:DV:47:ARG:N | 2.78 | 0.40 |
| 54:DY:74:ASN:C | 54:DY:76:ASP:N | 2.77 | 0.40 |
| 57:Db:8:LYS:C | 57:Db:10:VAL:N | 2.77 | 0.40 |
| 59:Dd:40:PRO:C | 59:Dd:42:ALA:N | 2.75 | 0.40 |
| 62:Dg:67:GLY:N | 62:Dg:71:VAL:HA | 2.36 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:43:A:H4' | 1:A1:99:C:OP2 | 2.20 | 0.40 |
| 1:A1:77:U:O2' | 1:A1:78:A:P | 2.80 | 0.40 |
| 1:A1:90:C:O2' | 1:A1:451:A:H5' | 2.21 | 0.40 |
| 1:A1:97:C:C2 | 1:A1:98:U:C6 | 3.10 | 0.40 |
| 1:A1:103:A:C5 | 1:A1:360:A:N1 | 2.89 | 0.40 |
| 1:A1:195:G:O4' | 1:A1:196:G:OP1 | 2.40 | 0.40 |
| 1:A1:263:C:O3' | 1:A1:264:G:O4' | 2.38 | 0.40 |
| 1:A1:265:A:H2 | 1:A1:267:U:H5 | 1.69 | 0.40 |
| 1:A1:295:A:C2 | 1:A1:296:U:C1' | 3.04 | 0.40 |
| 1:A1:310:C:H6 | 1:A1:310:C:C4' | 2.34 | 0.40 |
| 1:A1:420:A:H2' | 1:A1:421:A:O5' | 2.21 | 0.40 |
| 1:A1:445:A:N6 | 1:A1:461:G:H22 | 2.19 | 0.40 |
| 1:A1:456:A:C6 | 1:A1:457:G:C5 | 3.09 | 0.40 |
| 1:A1:461:G:C2 | 1:A1:462:G:C4 | 3.09 | 0.40 |
| 1:A1:542:A:O2' | 1:A1:544:A:C5' | 2.70 | 0.40 |
| 1:A1:567:A:C6 | 1:A1:568:G:C4 | 3.09 | 0.40 |
| 1:A1:572:C:C5' | 1:A1:573:C:OP2 | 2.66 | 0.40 |
| 1:A1:647:G:C2 | 1:A1:648:G:C5 | 3.09 | 0.40 |
| 1:A1:819:G:O2' | 1:A1:820:U:P | 2.79 | 0.40 |
| 1:A1:824:G:N2 | 1:A1:849:C:H42 | 2.20 | 0.40 |
| 1:A1:872:G:N2 | 1:A1:873:U:H1' | 2.36 | 0.40 |
| 1:A1:1146:G:C8 | 1:A1:1635:A:C2 | 2.96 | 0.40 |
| 1:A1:1291:G:N2 | 1:A1:1324:G:N2 | 2.69 | 0.40 |
| 1:A1:1549:C:H2' | 1:A1:1550:A:O4' | 2.22 | 0.40 |
| 1:A1:1554:U:C5' | 1:A1:1555:A:OP2 | 2.68 | 0.40 |
| 1:A1:1584:G:H1 | 11:AJ:125:GLU:C | 2.27 | 0.40 |
| 1:A1:1658:G:N1 | 1:A1:1659:A:C5 | 2.89 | 0.40 |
| 2:AA:13:ASP:H | 2:AA:17:LEU:H | 1.69 | 0.40 |
| 2:AA:68:PRO:O | 2:AA:69:ASN:C | 2.63 | 0.40 |
| 3:AB:106:ASP:C | 3:AB:108:ASN:N | 2.74 | 0.40 |
| 3:AB:153:SER:O | 3:AB:170:ILE:HA | 2.21 | 0.40 |
| 3:AB:203:LYS:C | 3:AB:205:ARG:N | 2.79 | 0.40 |
| 3:AB:233:GLN:O | 3:AB:234:PRO:C | 2.65 | 0.40 |
| 4:AC:134:CYS:CB | 4:AC:187:LYS:O | 2.70 | 0.40 |
| 7:AF:110:HIS:CB | 7:AF:111:VAL:CB | 2.99 | 0.40 |
| 8:AG:105:ASN:C | 8:AG:107:LYS:H | 2.28 | 0.40 |
| 9:AH:75:GLY:O | 9:AH:76:ILE:C | 2.64 | 0.40 |
| 11:AJ:93:HIS:CB | 11:AJ:98:ASP:H | 2.34 | 0.40 |
| 13:AL:121:ALA:O | 13:AL:122:HIS:C | 2.65 | 0.40 |
| 17:AP:73:ARG:HA | 17:AP:84:THR:HA | 2.02 | 0.40 |
| 17:AP:110:LYS:C | 17:AP:112:LYS:N | 2.79 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 21:AT:68:VAL:HA | 21:AT:84:SER:CB | 2.51 | 0.40 |
| 29:B1:29:C:H4' | 29:B1:62:A:H4' | 2.03 | 0.40 |
| 29:B1:46:U:H3' | 29:B1:46:U:C6 | 2.57 | 0.40 |
| 29:B1:60:A:C6 | 29:B1:328:U:C2 | 3.09 | 0.40 |
| 29:B1:69:C:O2 | 29:B1:69:C:C2' | 2.61 | 0.40 |
| 29:B1:112:U:O4 | 29:B1:320:G:C6 | 2.74 | 0.40 |
| 29:B1:208:C:C2' | 29:B1:209:A:H5' | 2.30 | 0.40 |
| 29:B1:214:G:H2' | 29:B1:215:G:C1' | 2.51 | 0.40 |
| 29:B1:250:U:H3' | 29:B1:251:G:C8 | 2.56 | 0.40 |
| 29:B1:253:A:C6 | 29:B1:254:A:C5 | 3.09 | 0.40 |
| 29:B1:395:A:C5 | 29:B1:396:A:N6 | 2.90 | 0.40 |
| 29:B1:533:A:C2' | 29:B1:534:U:C6 | 3.04 | 0.40 |
| 29:B1:563:U:N3 | 29:B1:564:G:O4' | 2.54 | 0.40 |
| 29:B1:597:G:C2 | 29:B1:598:A:N9 | 2.90 | 0.40 |
| 29:B1:609:G:O2' | 29:B1:611:A:OP2 | 2.39 | 0.40 |
| 29:B1:618:C:HO2' | 29:B1:619:A:H5' | 1.86 | 0.40 |
| 29:B1:637:C:C6 | 29:B1:2361:A:C2 | 3.10 | 0.40 |
| 29:B1:663:C:C4 | 29:B1:664:U:C4 | 3.09 | 0.40 |
| 29:B1:774:G:C5 | 29:B1:775:A:C8 | 3.09 | 0.40 |
| 29:B1:790:U:H2' | 29:B1:791:A:O5' | 2.21 | 0.40 |
| 29:B1:884:A:N7 | 29:B1:2139:A:C2 | 2.86 | 0.40 |
| 29:B1:994:G:HO2' | 29:B1:1053:A:N6 | 2.18 | 0.40 |
| 29:B1:1102:A:H5" | 29:B1:1102:A:C8 | 2.57 | 0.40 |
| 29:B1:1145:G:N3 | 29:B1:1160:C:N3 | 2.69 | 0.40 |
| 29:B1:1216:C:C5' | 29:B1:1217:A:OP2 | 2.69 | 0.40 |
| 29:B1:1317:A:N9 | 29:B1:1319:G:N7 | 2.69 | 0.40 |
| 29:B1:1621:A:C4 | 29:B1:1622:U:C5 | 3.09 | 0.40 |
| 29:B1:1631:C:H3' | 29:B1:1631:C:H6 | 1.86 | 0.40 |
| 29:B1:1887:A:C2 | 29:B1:1888:U:H1' | 2.56 | 0.40 |
| 29:B1:1887:A:N3 | 29:B1:1887:A:H2' | 2.36 | 0.40 |
| 29:B1:1921:A:C4 | 29:B1:1932:A:C6 | 3.09 | 0.40 |
| 29:B1:2158:A:N7 | 29:B1:2177:G:C2 | 2.89 | 0.40 |
| 29:B1:2294:U:O2 | 29:B1:2294:U:C2' | 2.64 | 0.40 |
| 29:B1:2416:U:O2' | 29:B1:2966:G:N3 | 2.53 | 0.40 |
| 29:B1:2522:G:N3 | 29:B1:2522:G:C2' | 2.84 | 0.40 |
| 29:B1:2626:A:H5' | 29:B1:2627:C:C5' | 2.51 | 0.40 |
| 29:B1:2646:C:H2' | 29:B1:2647:A:H5' | 2.03 | 0.40 |
| 29:B1:2804:A:C2 | 29:B1:2805:G:C8 | 3.09 | 0.40 |
| 29:B1:2839:G:O6 | 29:B1:2845:A:O2' | 2.34 | 0.40 |
| 29:B1:2937:G:N7 | 34:BC:5:LYS:CB | 2.84 | 0.40 |
| 29:B1:3109:G:C2' | 29:B1:3110:C:H5' | 2.52 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:3137:C:H3' | 29:B1:3138:U:C6 | 2.55 | 0.40 |
| 29:B1:3143:C:H5' | 29:B1:3143:C:H6 | 1.86 | 0.40 |
| 29:B1:3169:U:C4 | 29:B1:3170:A:C6 | 3.09 | 0.40 |
| 29:B1:3281:U:N3 | 29:B1:3282:U:N3 | 2.69 | 0.40 |
| 29:B1:3289:G:C6 | 74:B1:3581:OHX:N3 | 2.89 | 0.40 |
| 29:B1:3289:G:O6 | 74:B1:3581:OHX:N4 | 2.54 | 0.40 |
| 29:B1:3297:U:N3 | 29:B1:3298:C:C4 | 2.89 | 0.40 |
| 29:B1:3324:C:O2' | 29:B1:3325:G:C5' | 2.59 | 0.40 |
| 31:B3:24:G:C2 | 31:B3:25:G:H1' | 2.55 | 0.40 |
| 31:B3:56:G:C6 | 31:B3:57:C:C4 | 3.09 | 0.40 |
| 33:BB:198:LYS:O | 33:BB:199:THR:C | 2.63 | 0.40 |
| 34:BC:217:ALA:O | 34:BC:218:ILE:CB | 2.69 | 0.40 |
| 35:BD:42:VAL:C | 35:BD:44:LYS:N | 2.78 | 0.40 |
| 36:BE:99:TYR:O | 36:BE:102:GLY:HA3 | 2.21 | 0.40 |
| 37:BF:26:ARG:O | 37:BF:27:PRO:C | 2.64 | 0.40 |
| 38:BG:84:VAL:C | 38:BG:86:VAL:H | 2.29 | 0.40 |
| 38:BG:85:PHE:O | 38:BG:87:VAL:N | 2.54 | 0.40 |
| 41:BJ:142:ASP:O | 41:BJ:144:ASN:N | 2.55 | 0.40 |
| 41:BJ:217:PHE:C | 41:BJ:219:ALA:N | 2.77 | 0.40 |
| 43:BN:71:ALA:C | 43:BN:73:PRO:N | 2.77 | 0.40 |
| 44:BO:99:ARG:O | 44:BO:100:ALA:C | 2.65 | 0.40 |
| 49:BT:63:VAL:H | 49:BT:76:ILE:CB | 2.35 | 0.40 |
| 49:BT:63:VAL:N | 49:BT:76:ILE:CB | 2.84 | 0.40 |
| 52:BW:127:THR:C | 52:BW:129:ASP:N | 2.78 | 0.40 |
| 55:BZ:24:THR:O | 55:BZ:25:LEU:O | 2.39 | 0.40 |
| 57:Bb:40:SER:C | 57:Bb:42:VAL:H | 2.28 | 0.40 |
| 60:Be:12:LYS:O | 60:Be:13:MET:C | 2.65 | 0.40 |
| 60:Be:38:ASN:C | 60:Be:40:LYS:H | 2.27 | 0.40 |
| 1:C1:23:G:H2' | 1:C1:24:U:H6 | 1.83 | 0.40 |
| 1:C1:28:A:C6 | 1:C1:599:A:C6 | 3.09 | 0.40 |
| 1:C1:47:A:C5 | 1:C1:425:A:C2 | 3.08 | 0.40 |
| 1:C1:100:A:OP2 | 1:C1:361:C:OP2 | 2.39 | 0.40 |
| 1:C1:106:U:C4 | 1:C1:107:C:N3 | 2.89 | 0.40 |
| 1:C1:293:U:C2 | 1:C1:294:C:C5 | 3.08 | 0.40 |
| 1:C1:319:U:H6 | 1:C1:319:U:C5' | 2.32 | 0.40 |
| 1:C1:327:U:C4 | 1:C1:328:A:N7 | 2.89 | 0.40 |
| 1:C1:515:A:N6 | 1:C1:537:G:N1 | 2.56 | 0.40 |
| 1:C1:518:A:H3' | 1:C1:519:C:C5' | 2.51 | 0.40 |
| 1:C1:525:A:OP1 | 1:C1:527:A:H2 | 2.03 | 0.40 |
| 1:C1:802:G:C2 | 1:C1:803:A:C2 | 3.10 | 0.40 |
| 1:C1:861:U:H2' | 1:C1:862:A:H5' | 2.03 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:868:G:O6 | 1:C1:960:U:O4 | 2.39 | 0.40 |
| 1:C1:1141:G:C2' | 1:C1:1142:A:H5" | 2.49 | 0.40 |
| 1:C1:1151:A:C4 | 1:C1:1152:A:C8 | 3.10 | 0.40 |
| 1:C1:1179:G:C6 | 1:C1:1180:C:N3 | 2.89 | 0.40 |
| 1:C1:1235:C:C2 | 1:C1:1236:A:C8 | 3.09 | 0.40 |
| 1:C1:1268:G:N2 | 1:C1:1270:G:C5 | 2.89 | 0.40 |
| 1:C1:1275:A:C5 | 1:C1:1438:G:C2 | 3.09 | 0.40 |
| 1:C1:1304:G:OP2 | 1:C1:1305:U:O2' | 2.39 | 0.40 |
| 1:C1:1314:U:O2' | 1:C1:1314:U:O2 | 2.40 | 0.40 |
| 1:C1:1322:A:C5 | 1:C1:1323:C:C5 | 3.09 | 0.40 |
| 1:C1:1323:C:O2 | 1:C1:1323:C:C2' | 2.64 | 0.40 |
| 1:C1:1326:A:C8 | 1:C1:1326:A:OP2 | 2.74 | 0.40 |
| 1:C1:1348:A:H2 | 1:C1:1378:U:C6 | 2.36 | 0.40 |
| 1:C1:1363:U:N3 | 1:C1:1364:G:C5 | 2.89 | 0.40 |
| 1:C1:1365:C:H2' | 1:C1:1366:U:O5' | 2.21 | 0.40 |
| 1:C1:1504:G:O6 | 1:C1:1505:A:N1 | 2.55 | 0.40 |
| 1:C1:1560:U:O5' | 1:C1:1560:U:N1 | 2.54 | 0.40 |
| 1:C1:1596:C:HO2' | 1:C1:1597:A:P | 2.45 | 0.40 |
| 1:C1:1605:G:C2' | 1:C1:1606:C:H5' | 2.51 | 0.40 |
| 1:C1:1753:A:C2 | 1:C1:1754:A:N1 | 2.89 | 0.40 |
| 1:C1:1790:A:C3' | 1:C1:1791:A:H5" | 2.51 | 0.40 |
| 2:CA:168:HIS:C | 2:CA:170:ILE:N | 2.79 | 0.40 |
| 2:CA:178:ALA:C | 2:CA:180:GLU:N | 2.78 | 0.40 |
| 3:CB:217:ALA:O | 3:CB:219:GLY:C | 2.64 | 0.40 |
| 6:CE:75:ALA:O | 6:CE:78:ARG:N | 2.55 | 0.40 |
| 10:CI:115:TYR:O | 10:CI:118:GLU:N | 2.49 | 0.40 |
| 16:CO:30:SER:O | 16:CO:31:SER:O | 2.38 | 0.40 |
| 29:D1:113:C:O2' | 29:D1:114:A:H5' | 2.21 | 0.40 |
| 29:D1:270:U:H3' | 29:D1:270:U:C6 | 2.56 | 0.40 |
| 29:D1:271:C:O2 | 29:D1:271:C:C2' | 2.70 | 0.40 |
| 29:D1:365:A:N1 | 29:D1:366:A:N3 | 2.69 | 0.40 |
| 29:D1:374:A:C4' | 29:D1:375:A:H5' | 2.51 | 0.40 |
| 29:D1:404:G:N1 | 29:D1:405:U:C2 | 2.89 | 0.40 |
| 29:D1:412:G:C4 | 29:D1:413:U:C6 | 3.09 | 0.40 |
| 29:D1:437:G:C6 | 29:D1:438:A:N1 | 2.89 | 0.40 |
| 29:D1:510:G:C2 | 29:D1:511:G:C1' | 3.04 | 0.40 |
| 29:D1:558:U:O2' | 29:D1:559:A:P | 2.79 | 0.40 |
| 29:D1:576:C:HO2' | 29:D1:577:C:P | 2.42 | 0.40 |
| 29:D1:636:C:H6 | 29:D1:2378:C:H5' | 1.86 | 0.40 |
| 29:D1:662:U:H1' | 35:DD:101:ALA:HB2 | 2.02 | 0.40 |
| 29:D1:692:A:C3' | 29:D1:693:A:H8 | 2.35 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:716:A:OP2 | 29:D1:716:A:O4' | 2.39 | 0.40 |
| 29:D1:901:G:N3 | 29:D1:902:G:C8 | 2.89 | 0.40 |
| 29:D1:1005:G:H2' | 29:D1:1006:A:O4' | 2.21 | 0.40 |
| 29:D1:1175:C:HO2' | 29:D1:1176:C:C5' | 2.23 | 0.40 |
| 29:D1:1178:G:H2' | 29:D1:1179:A:C5' | 2.39 | 0.40 |
| 29:D1:1192:C:OP1 | 29:D1:1192:C:O2 | 2.40 | 0.40 |
| 29:D1:1218:U:C3' | 29:D1:1219:C:O4' | 2.69 | 0.40 |
| 29:D1:1218:U:H3' | 29:D1:1219:C:O4' | 2.21 | 0.40 |
| 29:D1:1225:A:C5 | 29:D1:1226:G:N7 | 2.89 | 0.40 |
| 29:D1:1295:G:O2' | 29:D1:1296:C:H5' | 2.21 | 0.40 |
| 29:D1:1326:A:C4 | 29:D1:1327:C:C6 | 3.08 | 0.40 |
| 29:D1:1384:U:O2' | 29:D1:1385:C:P | 2.79 | 0.40 |
| 29:D1:1449:A:H4' | 29:D1:2983:C:N3 | 2.37 | 0.40 |
| 29:D1:1465:A:C2' | 29:D1:1466:G:H5' | 2.51 | 0.40 |
| 29:D1:1538:G:H5' | 29:D1:1539:A:OP1 | 2.21 | 0.40 |
| 29:D1:1580:A:H3' | 29:D1:1581:C:H5" | 1.99 | 0.40 |
| 29:D1:1614:C:O2' | 29:D1:1615:C:H5' | 2.20 | 0.40 |
| 29:D1:1703:U:H1' | 29:D1:1743:G:C6 | 2.56 | 0.40 |
| 29:D1:1704:A:N3 | 29:D1:1741:A:C6 | 2.89 | 0.40 |
| 29:D1:1749:A:O4' | 29:D1:1751:G:C2 | 2.74 | 0.40 |
| 29:D1:1806:A:C2' | 29:D1:1807:G:O5' | 2.69 | 0.40 |
| 29:D1:1808:G:H2' | 29:D1:1809:A:H8 | 1.85 | 0.40 |
| 29:D1:1881:A:N6 | 29:D1:2352:A:N6 | 2.69 | 0.40 |
| 29:D1:1923:C:C2' | 29:D1:1924:U:H5' | 2.50 | 0.40 |
| 29:D1:2355:G:C3' | 29:D1:2355:G:C8 | 3.04 | 0.40 |
| 29:D1:2370:G:N9 | 29:D1:2371:G:C8 | 2.89 | 0.40 |
| 29:D1:2395:G:OP2 | 29:D1:2946:A:N6 | 2.48 | 0.40 |
| 29:D1:2423:U:C2' | 29:D1:2424:A:C8 | 3.00 | 0.40 |
| 29:D1:2443:A:C5 | 29:D1:2444:C:N4 | 2.89 | 0.40 |
| 29:D1:2591:A:C2' | 29:D1:2592:G:H5' | 2.51 | 0.40 |
| 29:D1:2688:U:O3' | 29:D1:2689:A:N7 | 2.52 | 0.40 |
| 29:D1:3000:A:H2' | 29:D1:3001:C:C5 | 2.54 | 0.40 |
| 29:D1:3036:G:H2' | 29:D1:3037:U:O5' | 2.21 | 0.40 |
| 29:D1:3057:U:O2' | 29:D1:3059:G:P | 2.79 | 0.40 |
| 29:D1:3062:G:C5 | 29:D1:3063:C:C5 | 3.10 | 0.40 |
| 29:D1:3113:A:C6 | 29:D1:3114:A:C2 | 3.10 | 0.40 |
| 29:D1:3211:C:H2' | 29:D1:3211:C:O2 | 2.17 | 0.40 |
| 29:D1:3220:G:C2 | 29:D1:3221:C:C5 | 3.09 | 0.40 |
| 29:D1:3320:A:C2 | 29:D1:3321:C:N3 | 2.89 | 0.40 |
| 29:D1:3392:U:C6 | 29:D1:3392:U:C4' | 3.02 | 0.40 |
| 31:D3:110:C:H4' | 31:D3:112:U:H5 | 1.86 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:D3:128:U:C5' | 31:D3:129:C:OP2 | 2.69 | 0.40 |
| 31:D3:140:G:O6 | 31:D3:141:C:N4 | 2.54 | 0.40 |
| 33:DB:183:GLY:C | 33:DB:186:PHE:H | 2.29 | 0.40 |
| 34:DC:87:VAL:O | 34:DC:88:GLY:O | 2.38 | 0.40 |
| 36:DE:103:LEU:HA | 36:DE:107:ARG:CB | 2.51 | 0.40 |
| 36:DE:257:GLU:C | 36:DE:260:PHE:H | 2.29 | 0.40 |
| 36:DE:289:LYS:C | 36:DE:291:ALA:H | 2.29 | 0.40 |
| 37:DF:152:THR:HA | 37:DF:156:LYS:CA | 2.51 | 0.40 |
| 38:DG:124:LEU:O | 38:DG:125:GLU:C | 2.63 | 0.40 |
| 41:DJ:178:ARG:O | 41:DJ:179:PRO:C | 2.63 | 0.40 |
| 42:DK:76:ALA:O | 42:DK:77:GLU:C | 2.64 | 0.40 |
| 43:DN:114:ASP:C | 43:DN:116:GLU:N | 2.79 | 0.40 |
| 45:DP:185:ALA:O | 45:DP:186:ALA:CB | 2.68 | 0.40 |
| 46:DQ:122:ALA:HB2 | 46:DQ:143:PRO:C | 2.46 | 0.40 |
| 47:DR:131:ALA:C | 47:DR:133:LYS:N | 2.79 | 0.40 |
| 50:DU:127:PRO:O | 50:DU:130:ALA:N | 2.40 | 0.40 |
| 56:Da:85:ALA:CB | 56:Da:86:LYS:CA | 2.95 | 0.40 |
| 1:A1:12:U:O2 | 1:A1:12:U:H2' | 2.22 | 0.40 |
| 1:A1:13:C:C4' | 3:AB:161:LYS:O | 2.70 | 0.40 |
| 1:A1:33:U:H3' | 1:A1:33:U:C6 | 2.51 | 0.40 |
| 1:A1:50:C:C5 | 1:A1:424:C:C5 | 3.09 | 0.40 |
| 1:A1:62:A:H2 | 1:A1:63:G:C5 | 2.37 | 0.40 |
| 1:A1:63:G:O4' | 1:A1:170:U:N3 | 2.54 | 0.40 |
| 1:A1:139:C:H4' | 1:A1:140:A:O5' | 2.22 | 0.40 |
| 1:A1:295:A:C2 | 1:A1:296:U:O4' | 2.75 | 0.40 |
| 1:A1:416:A:N3 | 1:A1:416:A:O4' | 2.54 | 0.40 |
| 1:A1:539:G:H5" | 1:A1:543:C:H41 | 1.87 | 0.40 |
| 1:A1:577:G:OP1 | 1:A1:578:U:OP1 | 2.39 | 0.40 |
| 1:A1:665:U:H2' | 1:A1:666:U:C4' | 2.52 | 0.40 |
| 1:A1:679:U:H2' | 1:A1:680:U:C6 | 2.56 | 0.40 |
| 1:A1:692:C:H5" | 1:A1:693:U:OP2 | 2.22 | 0.40 |
| 1:A1:707:A:C4 | 1:A1:731:C:N4 | 2.88 | 0.40 |
| 1:A1:733:A:N3 | 1:A1:733:A:C2' | 2.83 | 0.40 |
| 1:A1:734:A:OP1 | 1:A1:734:A:C8 | 2.75 | 0.40 |
| 1:A1:870:C:H2' | 1:A1:871:G:H8 | 1.86 | 0.40 |
| 1:A1:916:U:C5 | 1:A1:917:U:N3 | 2.89 | 0.40 |
| 1:A1:925:G:N3 | 1:A1:988:A:H1' | 2.36 | 0.40 |
| 1:A1:945:U:C2 | 1:A1:946:U:C5 | 3.10 | 0.40 |
| 1:A1:988:A:C2 | 1:A1:989:U:N1 | 2.89 | 0.40 |
| 1:A1:1073:G:O6 | 1:A1:1074:G:O6 | 2.37 | 0.40 |
| 1:A1:1109:G:C4 | 1:A1:1110:G:N7 | 2.89 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:1146:G:C2' | 1:A1:1147:A:O5' | 2.70 | 0.40 |
| 1:A1:1176:G:H1' | 1:A1:1464:G:N2 | 2.36 | 0.40 |
| 1:A1:1181:U:N3 | 1:A1:1182:U:C5 | 2.89 | 0.40 |
| 1:A1:1335:U:N3 | 1:A1:1336:A:N7 | 2.69 | 0.40 |
| 1:A1:1354:G:O6 | 74:A1:1959:OHX:N5 | 2.55 | 0.40 |
| 1:A1:1358:G:O2' | 14:AM:129:GLN:O | 2.26 | 0.40 |
| 1:A1:1466:G:C5 | 1:A1:1467:C:C5 | 3.09 | 0.40 |
| 1:A1:1470:C:C2' | 1:A1:1471:A:OP1 | 2.69 | 0.40 |
| 1:A1:1485:C:H1' | 1:A1:1606:C:H4' | 2.03 | 0.40 |
| 1:A1:1486:G:C6 | 1:A1:1520:U:O2 | 2.74 | 0.40 |
| 1:A1:1497:U:N3 | 1:A1:1511:U:O2 | 2.55 | 0.40 |
| 1:A1:1529:C:N4 | 1:A1:1530:C:N4 | 2.69 | 0.40 |
| 1:A1:1542:G:C2 | 1:A1:1568:C:C6 | 3.10 | 0.40 |
| 1:A1:1658:G:OP1 | 1:A1:1659:A:P | 2.79 | 0.40 |
| 1:A1:1671:A:N3 | 1:A1:1731:A:C2 | 2.89 | 0.40 |
| 1:A1:1722:A:N7 | 1:A1:1723:U:C1' | 2.84 | 0.40 |
| 1:A1:1761:U:H1' | 1:A1:1762:A:OP2 | 2.22 | 0.40 |
| 1:A1:1776:A:N1 | 1:A1:1786:G:C6 | 2.89 | 0.40 |
| 2:AA:50:VAL:O | 2:AA:51:GLY:C | 2.64 | 0.40 |
| 3:AB:230:TRP:C | 3:AB:232:GLU:N | 2.79 | 0.40 |
| 5:AD:146:THR:HA | 5:AD:159:ALA:HA | 2.03 | 0.40 |
| 6:AE:28:LEU:O | 6:AE:29:LYS:C | 2.64 | 0.40 |
| 6:AE:181:ALA:C | 6:AE:183:ALA:H | 2.29 | 0.40 |
| 9:AH:44:GLY:O | 9:AH:45:GLY:C | 2.65 | 0.40 |
| 16:AO:106:THR:HA | 16:AO:122:SER:O | 2.21 | 0.40 |
| 28:Ah:21:UNK:HA | 28:Ah:24:UNK:C | 2.52 | 0.40 |
| 29:B1:32:U:C4 | 29:B1:33:G:N7 | 2.90 | 0.40 |
| 29:B1:60:A:C8 | 29:B1:61:A:C8 | 3.10 | 0.40 |
| 29:B1:155:G:N7 | 29:B1:157:A:N3 | 2.69 | 0.40 |
| 29:B1:197:G:H2' | 29:B1:198:A:C8 | 2.55 | 0.40 |
| 29:B1:264:G:C6 | 29:B1:265:A:N1 | 2.87 | 0.40 |
| 29:B1:368:G:C5 | 29:B1:369:A:N7 | 2.89 | 0.40 |
| 29:B1:382:U:C4 | 29:B1:383:G:C4 | 3.10 | 0.40 |
| 29:B1:559:A:O2' | 29:B1:560:G:C5' | 2.70 | 0.40 |
| 29:B1:589:A:O5' | 29:B1:589:A:C8 | 2.75 | 0.40 |
| 29:B1:739:G:C6 | 29:B1:740:G:C6 | 3.09 | 0.40 |
| 29:B1:783:A:H2' | 29:B1:784:A:O5' | 2.21 | 0.40 |
| 29:B1:822:G:N3 | 29:B1:823:C:C6 | 2.89 | 0.40 |
| 29:B1:952:A:C8 | 29:B1:952:A:C4' | 3.04 | 0.40 |
| 29:B1:1064:A:N3 | 29:B1:1095:U:N3 | 2.63 | 0.40 |
| 29:B1:1093:A:O2' | 29:B1:1095:U:H1' | 2.22 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1130:A:C8 | 29:B1:1130:A:C5' | 3.04 | 0.40 |
| 29:B1:1133:A:C2 | 29:B1:1134:G:C8 | 3.09 | 0.40 |
| 29:B1:1154:A:C4' | 29:B1:1155:C:OP2 | 2.40 | 0.40 |
| 29:B1:1164:G:C4 | 29:B1:1165:A:N7 | 2.89 | 0.40 |
| 29:B1:1199:C:C6 | 29:B1:2825:C:O5' | 2.75 | 0.40 |
| 29:B1:1377:G:H5' | 29:B1:1408:G:O3' | 2.21 | 0.40 |
| 29:B1:1394:A:N7 | 29:B1:1395:G:N7 | 2.69 | 0.40 |
| 29:B1:1455:U:O2 | 29:B1:3078:U:H5 | 2.05 | 0.40 |
| 29:B1:1519:G:C3' | 29:B1:1520:G:H5" | 2.50 | 0.40 |
| 29:B1:1608:C:N4 | 29:B1:1609:C:N4 | 2.69 | 0.40 |
| 29:B1:1739:U:C6 | 29:B1:1739:U:C3' | 3.04 | 0.40 |
| 29:B1:1748:G:C4 | 29:B1:1749:A:N7 | 2.89 | 0.40 |
| 29:B1:1931:U:O2' | 29:B1:2121:G:N2 | 2.53 | 0.40 |
| 29:B1:2150:G:C5 | 29:B1:2151:C:C5 | 3.09 | 0.40 |
| 29:B1:2196:C:C5' | 29:B1:2197:C:OP2 | 2.69 | 0.40 |
| 29:B1:2291:A:C6 | 29:B1:2292:U:N3 | 2.90 | 0.40 |
| 29:B1:2348:A:OP2 | 29:B1:2349:U:C5 | 2.71 | 0.40 |
| 29:B1:2650:U:C1' | 29:B1:2758:A:H2 | 2.34 | 0.40 |
| 29:B1:2688:U:H5' | 29:B1:2689:A:N7 | 2.36 | 0.40 |
| 29:B1:2696:A:C8 | 29:B1:2697:A:C8 | 3.08 | 0.40 |
| 29:B1:2696:A:H2' | 29:B1:2697:A:O5' | 2.21 | 0.40 |
| 29:B1:2801:A:O2' | 29:B1:2802:A:C2' | 2.70 | 0.40 |
| 29:B1:2840:C:H6 | 29:B1:2840:C:H5" | 1.86 | 0.40 |
| 29:B1:2872:A:H1' | 29:B1:2873:U:C5' | 2.50 | 0.40 |
| 29:B1:3117:C:C5 | 29:B1:3118:C:C5 | 3.10 | 0.40 |
| 29:B1:3136:G:O6 | 29:B1:3137:C:N4 | 2.54 | 0.40 |
| 29:B1:3224:G:O6 | 29:B1:3225:C:N4 | 2.55 | 0.40 |
| 29:B1:3244:A:N9 | 29:B1:3245:A:C8 | 2.88 | 0.40 |
| 29:B1:3290:G:C2' | 29:B1:3291:G:C8 | 3.01 | 0.40 |
| 29:B1:3352:U:H5' | 29:B1:3354:U:OP1 | 2.21 | 0.40 |
| 30:B2:2:G:N3 | 30:B2:2:G:C2' | 2.84 | 0.40 |
| 30:B2:74:C:C2' | 30:B2:75:G:C5' | 2.80 | 0.40 |
| 30:B2:102:A:H2' | 30:B2:103:A:C8 | 2.54 | 0.40 |
| 30:B2:107:C:C2 | 30:B2:108:A:C8 | 3.10 | 0.40 |
| 31:B3:80:A:H2' | 31:B3:81:U:C4 | 2.56 | 0.40 |
| 31:B3:81:U:C2' | 31:B3:82:U:H5" | 2.51 | 0.40 |
| 35:BD:8:VAL:O | 35:BD:18:ASN:O | 2.39 | 0.40 |
| 36:BE:121:GLY:O | 36:BE:122:VAL:C | 2.63 | 0.40 |
| 36:BE:271:LYS:N | 36:BE:272:TYR:HA | 2.37 | 0.40 |
| 38:BG:148:VAL:O | 38:BG:149:TYR:C | 2.65 | 0.40 |
| 38:BG:227:GLY:O | 38:BG:228:SER:CB | 2.69 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 43:BN:93:LYS:C | 43:BN:95:ALA:N | 2.78 | 0.40 |
| 45:BP:60:LYS:C | 45:BP:61:ALA:O | 2.64 | 0.40 |
| 46:BQ:25:SER:O | 46:BQ:27:LYS:N | 2.55 | 0.40 |
| 46:BQ:100:ALA:C | 46:BQ:102:ALA:H | 2.29 | 0.40 |
| 47:BR:149:ALA:HB2 | 47:BR:157:PRO:CB | 2.51 | 0.40 |
| 49:BT:66:ASN:O | 49:BT:67:VAL:C | 2.64 | 0.40 |
| 50:BU:87:ARG:O | 50:BU:89:ASP:N | 2.55 | 0.40 |
| 59:Bd:39:TYR:HA | 59:Bd:40:PRO:HA | 1.52 | 0.40 |
| 1:C1:14:C:OP1 | 3:CB:163:GLY:N | 2.55 | 0.40 |
| 1:C1:145:A:C2 | 1:C1:146:U:C1' | 3.03 | 0.40 |
| 1:C1:153:G:C2 | 1:C1:162:A:C5 | 3.09 | 0.40 |
| 1:C1:186:C:N4 | 1:C1:187:G:C2 | 2.90 | 0.40 |
| 1:C1:215:A:C5 | 1:C1:216:U:C4 | 3.09 | 0.40 |
| 1:C1:461:G:C2 | 1:C1:462:G:C4 | 3.09 | 0.40 |
| 1:C1:544:A:H2 | 1:C1:545:A:H8 | 1.64 | 0.40 |
| 1:C1:624:G:C8 | 1:C1:1027:A:C6 | 3.10 | 0.40 |
| 1:C1:720:G:C3' | 1:C1:721:U:H5" | 2.51 | 0.40 |
| 1:C1:757:A:C2 | 1:C1:758:U:C1' | 3.05 | 0.40 |
| 1:C1:828:U:C5 | 1:C1:829:A:N6 | 2.89 | 0.40 |
| 1:C1:887:A:H5" | 1:C1:888:U:OP2 | 2.21 | 0.40 |
| 1:C1:910:C:N4 | 1:C1:911:U:C4 | 2.89 | 0.40 |
| 1:C1:998:A:C8 | 1:C1:999:U:C5 | 3.09 | 0.40 |
| 1:C1:1066:C:C5 | 1:C1:1067:C:C5 | 3.09 | 0.40 |
| 1:C1:1094:G:N3 | 1:C1:1095:U:C5 | 2.89 | 0.40 |
| 1:C1:1112:G:C5 | 1:C1:1113:A:N7 | 2.89 | 0.40 |
| 1:C1:1185:U:C4' | 1:C1:1186:U:OP2 | 2.69 | 0.40 |
| 1:C1:1367:G:C2 | 1:C1:1368:G:C5 | 3.09 | 0.40 |
| 1:C1:1540:G:C6 | 1:C1:1541:G:C4 | 3.08 | 0.40 |
| 1:C1:1549:C:OP1 | 10:CI:45:PHE:CB | 2.70 | 0.40 |
| 1:C1:1577:A:C6 | 1:C1:1578:U:N3 | 2.90 | 0.40 |
| 1:C1:1584:G:C8 | 11:CJ:123:ARG:C | 2.99 | 0.40 |
| 1:C1:1584:G:C8 | 11:CJ:123:ARG:N | 2.75 | 0.40 |
| 1:C1:1602:C:H2' | 1:C1:1603:U:C6 | 2.56 | 0.40 |
| 1:C1:1753:A:C3' | 1:C1:1754:A:H5" | 2.42 | 0.40 |
| 1:C1:1780:G:C6 | 1:C1:1781:A:C5 | 3.09 | 0.40 |
| 2:CA:32:HIS:C | 2:CA:34:GLU:N | 2.79 | 0.40 |
| 4:CC:75:LYS:O | 4:CC:76:ARG:O | 2.38 | 0.40 |
| 5:CD:136:ALA:C | 5:CD:138:THR:N | 2.78 | 0.40 |
| 5:CD:153:GLY:H | 5:CD:154:ALA:C | 2.29 | 0.40 |
| 5:CD:199:ILE:O | 5:CD:203:LYS:N | 2.54 | 0.40 |
| 10:CI:9:LYS:HA | 10:CI:10:ARG:HA | 1.71 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 10:CI:25:LEU:C | 10:CI:27:GLU:N | 2.78 | 0.40 |
| 13:CL:121:ALA:O | 13:CL:123:ARG:N | 2.53 | 0.40 |
| 14:CM:1:MET:N | 14:CM:2:PRO:HA | 2.35 | 0.40 |
| 24:Cc:54:UNK:HA | 24:Cc:62:UNK:CA | 2.52 | 0.40 |
| 29:D1:109:A:H1' | 29:D1:110:G:C1' | 2.51 | 0.40 |
| 29:D1:157:A:C2' | 29:D1:158:G:C8 | 3.03 | 0.40 |
| 29:D1:206:G:N1 | 29:D1:207:U:C2 | 2.89 | 0.40 |
| 29:D1:206:G:C2' | 29:D1:207:U:H5' | 2.51 | 0.40 |
| 29:D1:220:G:C6 | 29:D1:1389:G:N2 | 2.89 | 0.40 |
| 29:D1:279:U:N3 | 29:D1:286:U:O4 | 2.54 | 0.40 |
| 29:D1:295:A:O2' | 29:D1:296:A:H5' | 2.22 | 0.40 |
| 29:D1:307:A:N6 | 29:D1:308:A:C6 | 2.89 | 0.40 |
| 29:D1:325:A:C3' | 29:D1:327:A:OP2 | 2.62 | 0.40 |
| 29:D1:359:U:O2' | 59:Dd:15:SER:CB | 2.70 | 0.40 |
| 29:D1:556:U:C2 | 29:D1:557:A:H1' | 2.57 | 0.40 |
| 29:D1:604:G:H2' | 29:D1:605:U:C6 | 2.56 | 0.40 |
| 29:D1:641:C:C3' | 29:D1:641:C:C6 | 3.04 | 0.40 |
| 29:D1:750:G:C2 | 29:D1:783:A:C2 | 3.09 | 0.40 |
| 29:D1:819:U:H4' | 29:D1:2138:A:C2 | 2.55 | 0.40 |
| 29:D1:910:G:C6 | 29:D1:911:C:C4 | 3.09 | 0.40 |
| 29:D1:957:C:H4' | 29:D1:2799:A:N7 | 2.37 | 0.40 |
| 29:D1:974:G:O6 | 29:D1:975:C:N4 | 2.53 | 0.40 |
| 29:D1:1021:G:C4 | 29:D1:1022:U:C5 | 3.10 | 0.40 |
| 29:D1:1143:A:C8 | 29:D1:1368:U:C2 | 3.08 | 0.40 |
| 29:D1:1218:U:C4 | 29:D1:1219:C:C4 | 3.10 | 0.40 |
| 29:D1:1323:G:H5' | 29:D1:1324:U:OP2 | 2.20 | 0.40 |
| 29:D1:1463:U:C2 | 29:D1:1464:G:C8 | 3.10 | 0.40 |
| 29:D1:1526:U:C6 | 29:D1:1594:A:C2 | 3.09 | 0.40 |
| 29:D1:1544:G:N3 | 29:D1:1544:G:H2' | 2.36 | 0.40 |
| 29:D1:1658:G:H2' | 29:D1:1659:U:O4' | 2.21 | 0.40 |
| 29:D1:1878:G:OP1 | 29:D1:1879:A:C4 | 2.74 | 0.40 |
| 29:D1:1931:U:O4 | 29:D1:2121:G:O4' | 2.40 | 0.40 |
| 29:D1:2192:C:C2' | 29:D1:2193:U:C5' | 2.99 | 0.40 |
| 29:D1:2409:G:H4' | 29:D1:2410:U:OP2 | 2.21 | 0.40 |
| 29:D1:2603:G:C2 | 29:D1:2604:U:H1' | 2.56 | 0.40 |
| 29:D1:2656:A:H2' | 29:D1:2656:A:N3 | 2.36 | 0.40 |
| 29:D1:2681:U:O2' | 29:D1:2682:C:OP2 | 2.39 | 0.40 |
| 29:D1:2717:U:H2' | 29:D1:2718:U:H6 | 1.85 | 0.40 |
| 29:D1:2779:A:C6 | 29:D1:2780:A:N7 | 2.89 | 0.40 |
| 29:D1:2912:G:H2' | 29:D1:2913:C:H5' | 2.04 | 0.40 |
| 29:D1:3000:A:N3 | 29:D1:3149:G:C2 | 2.89 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:3012:A:C2 | 29:D1:3013:U:C6 | 3.09 | 0.40 |
| 29:D1:3068:U:OP1 | 48:DS:58:HIS:CA | 2.65 | 0.40 |
| 29:D1:3087:A:C4 | 29:D1:3088:G:C8 | 3.10 | 0.40 |
| 29:D1:3115:C:O2 | 29:D1:3115:C:O4' | 2.39 | 0.40 |
| 29:D1:3205:G:O2' | 29:D1:3206:C:C4 | 2.46 | 0.40 |
| 29:D1:3322:A:C6 | 29:D1:3323:A:C5 | 3.10 | 0.40 |
| 29:D1:3330:A:C5 | 29:D1:3331:U:C4 | 3.09 | 0.40 |
| 29:D1:3343:G:N7 | 29:D1:3344:A:N6 | 2.69 | 0.40 |
| 30:D2:2:G:N2 | 30:D2:3:U:C2 | 2.89 | 0.40 |
| 30:D2:9:C:C3' | 30:D2:10:C:H4' | 2.48 | 0.40 |
| 30:D2:23:A:C8 | 30:D2:24:A:C8 | 3.08 | 0.40 |
| 30:D2:42:A:C2 | 30:D2:47:C:N4 | 2.90 | 0.40 |
| 31:D3:116:G:N3 | 31:D3:117:C:C6 | 2.90 | 0.40 |
| 33:DB:95:SER:O | 33:DB:96:LEU:CB | 2.68 | 0.40 |
| 33:DB:121:GLY:O | 33:DB:122:ASP:O | 2.40 | 0.40 |
| 34:DC:178:LEU:O | 34:DC:179:ALA:O | 2.39 | 0.40 |
| 35:DD:158:SER:O | 35:DD:159:ILE:CB | 2.69 | 0.40 |
| 35:DD:169:LEU:O | 35:DD:174:ALA:HB3 | 2.21 | 0.40 |
| 36:DE:80:SER:C | 36:DE:82:GLU:N | 2.79 | 0.40 |
| 36:DE:272:TYR:N | 36:DE:275:THR:HA | 2.37 | 0.40 |
| 37:DF:144:ALA:O | 37:DF:146:ILE:CB | 2.69 | 0.40 |
| 38:DG:63:ILE:C | 38:DG:65:ALA:N | 2.79 | 0.40 |
| 46:DQ:6:ALA:C | 46:DQ:8:SER:N | 2.79 | 0.40 |
| 48:DS:54:ALA:HB1 | 48:DS:55:VAL:H | 1.71 | 0.40 |
| 49:DT:56:PHE:O | 49:DT:58:GLN:N | 2.55 | 0.40 |
| 50:DU:113:ALA:HB1 | 50:DU:132:ASN:O | 2.21 | 0.40 |
| 59:Dd:31:LYS:O | 59:Dd:32:LYS:CB | 2.69 | 0.40 |
| 62:Dg:78:THR:O | 62:Dg:82:THR:N | 2.54 | 0.40 |
| 63:Dh:39:UNK:O | 63:Dh:40:UNK:C | 2.69 | 0.40 |
| 1:A1:26:A:OP2 | 1:A1:26:A:C8 | 2.72 | 0.40 |
| 1:A1:143:G:O3' | 1:A1:144:U:H4' | 2.21 | 0.40 |
| 1:A1:198:A:N3 | 1:A1:199:G:O4' | 2.54 | 0.40 |
| 1:A1:218:A:N6 | 1:A1:844:A:H1' | 2.32 | 0.40 |
| 1:A1:327:U:C4 | 1:A1:328:A:N7 | 2.89 | 0.40 |
| 1:A1:343:C:O2' | 1:A1:344:A:H5' | 2.21 | 0.40 |
| 1:A1:483:A:C2 | 1:A1:484:C:C5 | 3.09 | 0.40 |
| 1:A1:500:C:O2 | 1:A1:501:U:C5 | 2.74 | 0.40 |
| 1:A1:525:A:P | 1:A1:526:A:N7 | 2.95 | 0.40 |
| 1:A1:691:C:HO2' | 1:A1:692:C:P | 2.45 | 0.40 |
| 1:A1:837:G:O6 | 74:A1:1917:OHX:N5 | 2.54 | 0.40 |
| 1:A1:860:U:O2 | 1:A1:861:U:O4' | 2.39 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:898:A:N6 | 1:A1:912:U:C2 | 2.87 | 0.40 |
| 1:A1:922:G:N2 | 1:A1:923:A:C4 | 2.90 | 0.40 |
| 1:A1:974:A:C2 | 1:A1:975:C:C6 | 3.10 | 0.40 |
| 1:A1:986:G:O2' | 1:A1:987:G:C5' | 2.69 | 0.40 |
| 1:A1:998:A:H3' | 1:A1:999:U:C5 | 2.56 | 0.40 |
| 1:A1:1094:G:N3 | 1:A1:1095:U:C5 | 2.89 | 0.40 |
| 1:A1:1142:A:C5' | 1:A1:1142:A:C8 | 3.05 | 0.40 |
| 1:A1:1144:U:H5' | 1:A1:1300:A:N1 | 2.37 | 0.40 |
| 1:A1:1161:C:C2' | 1:A1:1162:C:H5' | 2.52 | 0.40 |
| 1:A1:1183:A:N3 | 1:A1:1210:C:O2' | 2.50 | 0.40 |
| 1:A1:1305:U:H5" | 1:A1:1306:C:C4 | 2.57 | 0.40 |
| 1:A1:1306:C:H5 | 1:A1:1318:G:H1 | 1.69 | 0.40 |
| 1:A1:1331:A:H2' | 1:A1:1332:C:H5' | 2.03 | 0.40 |
| 1:A1:1366:U:C2 | 1:A1:1367:G:C8 | 3.10 | 0.40 |
| 1:A1:1417:A:OP1 | 74:A1:1989:OHX:N1 | 2.54 | 0.40 |
| 1:A1:1497:U:C4 | 1:A1:1498:G:C5 | 3.09 | 0.40 |
| 1:A1:1594:G:C2' | 1:A1:1595:U:H5' | 2.51 | 0.40 |
| 1:A1:1666:U:C4 | 1:A1:1736:G:C2 | 3.09 | 0.40 |
| 2:AA:171:GLY:C | 2:AA:173:ILE:N | 2.79 | 0.40 |
| 6:AE:125:ALA:O | 6:AE:126:ARG:C | 2.63 | 0.40 |
| 14:AM:113:ILE:CB | 14:AM:125:SER:N | 2.85 | 0.40 |
| 15:AN:32:LYS:O | 15:AN:34:LEU:N | 2.52 | 0.40 |
| 16:AO:114:GLU:O | 16:AO:117:ARG:N | 2.55 | 0.40 |
| 29:B1:24:G:N3 | 29:B1:24:G:H2' | 2.36 | 0.40 |
| 29:B1:37:U:O2 | 29:B1:38:U:C6 | 2.75 | 0.40 |
| 29:B1:191:U:O2 | 29:B1:192:C:C6 | 2.74 | 0.40 |
| 29:B1:332:C:C5' | 29:B1:332:C:H6 | 2.33 | 0.40 |
| 29:B1:376:G:C5 | 29:B1:401:U:N3 | 2.89 | 0.40 |
| 29:B1:419:G:N1 | 31:B3:5:U:O2 | 2.53 | 0.40 |
| 29:B1:440:A:N3 | 29:B1:440:A:C2' | 2.84 | 0.40 |
| 29:B1:577:C:H6 | 29:B1:577:C:H3' | 1.86 | 0.40 |
| 29:B1:595:G:N1 | 29:B1:596:C:C5 | 2.89 | 0.40 |
| 29:B1:600:G:O6 | 74:B1:3620:OHX:N2 | 2.54 | 0.40 |
| 29:B1:619:A:C2' | 29:B1:620:U:OP2 | 2.69 | 0.40 |
| 29:B1:880:G:O2' | 29:B1:881:C:C5 | 2.75 | 0.40 |
| 29:B1:932:U:C4 | 29:B1:934:G:H1' | 2.56 | 0.40 |
| 29:B1:986:U:O2' | 29:B1:987:U:O5' | 2.39 | 0.40 |
| 29:B1:1035:G:C2 | 29:B1:1036:A:C8 | 3.10 | 0.40 |
| 29:B1:1144:U:H6 | 29:B1:1144:U:C5' | 2.33 | 0.40 |
| 29:B1:1200:A:C5' | 29:B1:1201:C:O5' | 2.69 | 0.40 |
| 29:B1:1200:A:H5' | 29:B1:1201:C:O5' | 2.21 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:1212:A:N6 | 29:B1:1294:A:N1 | 2.68 | 0.40 |
| 29:B1:1234:G:C3' | 29:B1:1235:U:H5" | 2.49 | 0.40 |
| 29:B1:1246:G:C2 | 29:B1:1247:U:O2' | 2.71 | 0.40 |
| 29:B1:1281:G:C2 | 29:B1:1282:G:H1' | 2.57 | 0.40 |
| 29:B1:1302:A:H2' | 29:B1:1303:A:O5' | 2.21 | 0.40 |
| 29:B1:1374:G:H2' | 29:B1:1375:G:O4' | 2.22 | 0.40 |
| 29:B1:1413:G:C2 | 29:B1:1414:G:C5 | 3.10 | 0.40 |
| 29:B1:1488:G:C6 | 29:B1:1855:U:C4 | 3.10 | 0.40 |
| 29:B1:1498:A:H2' | 29:B1:1499:C:H6 | 1.85 | 0.40 |
| 29:B1:1546:A:N7 | 29:B1:1547:G:N7 | 2.70 | 0.40 |
| 29:B1:1604:G:C6 | 29:B1:1605:A:N7 | 2.90 | 0.40 |
| 29:B1:1627:U:C4' | 29:B1:1628:C:OP2 | 2.70 | 0.40 |
| 29:B1:1633:C:C4 | 29:B1:1634:G:C5 | 3.10 | 0.40 |
| 29:B1:1640:G:N3 | 29:B1:1641:U:C5 | 2.89 | 0.40 |
| 29:B1:1651:U:H2' | 29:B1:1652:G:H8 | 1.84 | 0.40 |
| 29:B1:1713:G:C5 | 29:B1:1730:G:N3 | 2.90 | 0.40 |
| 29:B1:1844:C:C2 | 29:B1:1845:G:H8 | 2.30 | 0.40 |
| 29:B1:1887:A:O3' | 34:BC:228:GLY:N | 2.55 | 0.40 |
| 29:B1:1948:G:N3 | 29:B1:1949:G:C8 | 2.89 | 0.40 |
| 29:B1:2229:A:H2' | 29:B1:2230:C:C1' | 2.52 | 0.40 |
| 29:B1:2305:G:O2' | 29:B1:2306:C:P | 2.79 | 0.40 |
| 29:B1:2366:C:H1' | 29:B1:2382:G:N2 | 2.35 | 0.40 |
| 29:B1:2625:C:H6 | 29:B1:2625:C:O5' | 2.04 | 0.40 |
| 29:B1:2675:C:OP2 | 29:B1:2676:A:H5" | 2.22 | 0.40 |
| 29:B1:2702:A:H8 | 29:B1:2704:A:H62 | 1.62 | 0.40 |
| 29:B1:2725:U:OP2 | 29:B1:2726:C:OP2 | 2.39 | 0.40 |
| 29:B1:2732:G:O6 | 29:B1:2733:A:C6 | 2.75 | 0.40 |
| 29:B1:2781:U:H2' | 29:B1:2782:U:C6 | 2.56 | 0.40 |
| 29:B1:2830:G:H5' | 29:B1:2830:G:H8 | 1.87 | 0.40 |
| 29:B1:2887:A:N3 | 29:B1:2887:A:H5' | 2.36 | 0.40 |
| 29:B1:2900:A:O2' | 29:B1:2901:G:P | 2.80 | 0.40 |
| 29:B1:2992:U:C3' | 29:B1:2992:U:C6 | 3.04 | 0.40 |
| 29:B1:3020:U:C2' | 29:B1:3021:A:OP1 | 2.69 | 0.40 |
| 29:B1:3036:G:H2' | 29:B1:3037:U:O5' | 2.21 | 0.40 |
| 29:B1:3069:G:C4 | 29:B1:3070:A:N7 | 2.90 | 0.40 |
| 29:B1:3150:A:OP2 | 29:B1:3151:U:H2' | 2.22 | 0.40 |
| 29:B1:3153:U:C1' | 29:B1:3395:G:N2 | 2.84 | 0.40 |
| 29:B1:3320:A:C2' | 29:B1:3321:C:O4' | 2.70 | 0.40 |
| 29:B1:3381:U:O2' | 29:B1:3383:G:N3 | 2.42 | 0.40 |
| 30:B2:88:G:C2 | 30:B2:89:G:N7 | 2.90 | 0.40 |
| 31:B3:30:C:O2 | 31:B3:30:C:C2' | 2.68 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 31:B3:74:U:OP2 | 31:B3:76:C:N1 | 2.53 | 0.40 |
| 31:B3:81:U:C5 | 31:B3:82:U:C6 | 3.10 | 0.40 |
| 31:B3:150:G:N7 | 74:B3:212:OHX:N4 | 2.69 | 0.40 |
| 34:BC:24:SER:C | 34:BC:26:ARG:N | 2.80 | 0.40 |
| 34:BC:120:LYS:O | 34:BC:121:ASN:C | 2.64 | 0.40 |
| 35:BD:216:VAL:C | 35:BD:218:ALA:N | 2.79 | 0.40 |
| 36:BE:43:LYS:H | 49:BT:69:LYS:CA | 2.33 | 0.40 |
| 40:BI:4:ILE:O | 40:BI:5:GLN:CB | 2.70 | 0.40 |
| 41:BJ:169:LYS:CB | 41:BJ:177:ASP:O | 2.69 | 0.40 |
| 41:BJ:215:GLU:O | 41:BJ:217:PHE:N | 2.54 | 0.40 |
| 42:BK:80:LEU:C | 42:BK:83:GLY:H | 2.29 | 0.40 |
| 45:BP:162:VAL:C | 45:BP:164:SER:N | 2.79 | 0.40 |
| 47:BR:145:ASN:CB | 47:BR:146:SER:CB | 2.99 | 0.40 |
| 48:BS:147:ALA:O | 48:BS:148:ASP:C | 2.64 | 0.40 |
| 1:C1:129:U:C5 | 74:C1:1915:OHX:N6 | 2.90 | 0.40 |
| 1:C1:287:G:H2' | 1:C1:288:A:O5' | 2.21 | 0.40 |
| 1:C1:315:A:H4' | 1:C1:316:A:OP1 | 2.20 | 0.40 |
| 1:C1:365:G:C6 | 1:C1:377:G:N1 | 2.89 | 0.40 |
| 1:C1:409:C:H5' | 1:C1:1732:A:O2' | 2.20 | 0.40 |
| 1:C1:413:U:C2 | 1:C1:421:A:H2 | 2.38 | 0.40 |
| 1:C1:593:U:H4' | 1:C1:595:G:C4' | 2.42 | 0.40 |
| 1:C1:612:U:C5 | 1:C1:613:G:C4 | 3.09 | 0.40 |
| 1:C1:719:U:O2 | 1:C1:720:G:N3 | 2.54 | 0.40 |
| 1:C1:802:G:H21 | 16:CO:107:SER:CB | 2.34 | 0.40 |
| 1:C1:1032:G:C2 | 1:C1:1033:C:C6 | 3.10 | 0.40 |
| 1:C1:1091:A:C4' | 1:C1:1092:A:O5' | 2.64 | 0.40 |
| 1:C1:1232:U:P | 1:C1:1258:U:O2' | 2.79 | 0.40 |
| 1:C1:1269:U:C1' | 1:C1:1270:G:OP2 | 2.69 | 0.40 |
| 1:C1:1280:C:C2 | 1:C1:1281:G:C8 | 3.09 | 0.40 |
| 1:C1:1453:G:C5 | 1:C1:1454:G:N7 | 2.90 | 0.40 |
| 1:C1:1507:G:N3 | 1:C1:1508:U:H1' | 2.37 | 0.40 |
| 1:C1:1514:U:O2 | 1:C1:1514:U:O4' | 2.38 | 0.40 |
| 1:C1:1565:C:H5" | 1:C1:1566:U:OP2 | 2.21 | 0.40 |
| 1:C1:1734:U:C2' | 1:C1:1735:U:H6 | 2.26 | 0.40 |
| 1:C1:1777:G:C6 | 1:C1:1778:G:N7 | 2.89 | 0.40 |
| 4:CC:80:ALA:O | 4:CC:82:GLY:N | 2.54 | 0.40 |
| 5:CD:122:ASN:O | 5:CD:123:VAL:C | 2.63 | 0.40 |
| 11:CJ:43:ILE:C | 11:CJ:45:ARG:N | 2.80 | 0.40 |
| 14:CM:31:PRO:C | 14:CM:33:TYR:N | 2.78 | 0.40 |
| 18:CQ:76:ALA:C | 18:CQ:78:ILE:N | 2.78 | 0.40 |
| 21:CT:51:ASP:C | 21:CT:53:LYS:H | 2.29 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 23:Cb:65:UNK:C | 23:Cb:67:UNK:N | 2.77 | 0.40 |
| 24:Cc:38:UNK:O | 24:Cc:39:UNK:C | 2.68 | 0.40 |
| 25:Cd:112:UNK:O | 25:Cd:114:UNK:N | 2.53 | 0.40 |
| 29:D1:47:C:H3' | 29:D1:48:A:H2' | 2.03 | 0.40 |
| 29:D1:62:A:N3 | 29:D1:63:A:C8 | 2.89 | 0.40 |
| 29:D1:88:A:N6 | 29:D1:98:G:O2' | 2.51 | 0.40 |
| 29:D1:118:U:C6 | 29:D1:118:U:H3' | 2.56 | 0.40 |
| 29:D1:123:A:C2 | 29:D1:146:U:C2 | 3.09 | 0.40 |
| 29:D1:191:U:O2 | 29:D1:191:U:H2' | 2.20 | 0.40 |
| 29:D1:347:G:C2 | 29:D1:348:A:C4 | 3.10 | 0.40 |
| 29:D1:420:G:C6 | 29:D1:2384:A:C2 | 3.10 | 0.40 |
| 29:D1:502:U:C2' | 29:D1:503:C:H5' | 2.51 | 0.40 |
| 29:D1:538:G:C8 | 29:D1:539:C:H5 | 2.38 | 0.40 |
| 29:D1:572:A:H2' | 29:D1:573:C:O4' | 2.22 | 0.40 |
| 29:D1:598:A:H2' | 29:D1:598:A:N3 | 2.36 | 0.40 |
| 29:D1:614:C:H2' | 29:D1:615:U:C6 | 2.57 | 0.40 |
| 29:D1:725:G:H2' | 29:D1:726:G:C5' | 2.28 | 0.40 |
| 29:D1:734:C:H5" | 29:D1:735:A:N1 | 2.36 | 0.40 |
| 29:D1:752:C:O2' | 29:D1:753:C:P | 2.79 | 0.40 |
| 29:D1:954:U:O2 | 29:D1:954:U:H2' | 2.21 | 0.40 |
| 29:D1:994:G:OP2 | 29:D1:994:G:C8 | 2.74 | 0.40 |
| 29:D1:1150:A:H3' | 29:D1:1151:U:C6 | 2.57 | 0.40 |
| 29:D1:1316:C:H5' | 29:D1:1317:A:C5' | 2.51 | 0.40 |
| 29:D1:1375:G:N3 | 29:D1:1407:A:C2 | 2.77 | 0.40 |
| 29:D1:1393:A:N1 | 29:D1:1394:A:C4 | 2.89 | 0.40 |
| 29:D1:1410:U:C6 | 29:D1:1410:U:C3' | 3.04 | 0.40 |
| 29:D1:1455:U:O2 | 29:D1:3078:U:H5 | 2.04 | 0.40 |
| 29:D1:1561:G:H2' | 29:D1:1562:C:H6 | 1.86 | 0.40 |
| 29:D1:1561:G:C5 | 29:D1:1562:C:C5 | 3.09 | 0.40 |
| 29:D1:1602:A:N6 | 29:D1:1603:A:H61 | 2.17 | 0.40 |
| 29:D1:1640:G:O2' | 29:D1:1641:U:O5' | 2.40 | 0.40 |
| 29:D1:1736:G:H2' | 29:D1:1736:G:N3 | 2.36 | 0.40 |
| 29:D1:1752:A:C4 | 29:D1:1753:G:C8 | 3.09 | 0.40 |
| 29:D1:1853:U:O2 | 29:D1:1853:U:H2' | 2.21 | 0.40 |
| 29:D1:1951:C:C2 | 29:D1:2096:A:C2 | 3.09 | 0.40 |
| 29:D1:2117:A:H3' | 29:D1:2118:C:C6 | 2.56 | 0.40 |
| 29:D1:2137:U:O2 | 29:D1:2137:U:C2' | 2.69 | 0.40 |
| 29:D1:2137:U:O2 | 29:D1:2141:U:H5 | 2.04 | 0.40 |
| 29:D1:2193:U:H5" | 29:D1:2312:A:N1 | 2.36 | 0.40 |
| 29:D1:2515:A:N6 | 29:D1:2593:A:C5 | 2.89 | 0.40 |
| 29:D1:2655:U:H1' | 29:D1:2656:A:C2 | 2.57 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:2701:U:H1' | 29:D1:2705:A:C5 | 2.56 | 0.40 |
| 29:D1:2749:G:C6 | 29:D1:2750:U:N3 | 2.90 | 0.40 |
| 29:D1:2814:G:N3 | 29:D1:2815:G:C8 | 2.90 | 0.40 |
| 29:D1:2888:U:C6 | 29:D1:2910:A:C6 | 3.10 | 0.40 |
| 29:D1:2901:G:H2' | 29:D1:2902:A:C8 | 2.56 | 0.40 |
| 29:D1:2932:U:C6 | 29:D1:2935:U:C5 | 2.88 | 0.40 |
| 29:D1:3032:A:C8 | 29:D1:3032:A:C3' | 3.04 | 0.40 |
| 29:D1:3273:A:N3 | 29:D1:3273:A:C2' | 2.83 | 0.40 |
| 29:D1:3391:A:C2 | 29:D1:3392:U:N1 | 2.88 | 0.40 |
| 30:D2:31:U:C5 | 30:D2:32:U:H5 | 2.38 | 0.40 |
| 31:D3:56:G:C5 | 31:D3:62:C:C4 | 3.09 | 0.40 |
| 31:D3:123:G:N1 | 31:D3:131:A:N6 | 2.68 | 0.40 |
| 33:DB:188:LYS:O | 33:DB:189:TYR:C | 2.64 | 0.40 |
| 34:DC:221:THR:CB | 34:DC:273:HIS:O | 2.70 | 0.40 |
| 36:DE:30:TYR:C | 36:DE:32:GLN:H | 2.27 | 0.40 |
| 36:DE:134:ALA:HB3 | 36:DE:135:VAL:HA | 2.03 | 0.40 |
| 36:DE:141:PRO:CA | 36:DE:143:LYS:N | 2.82 | 0.40 |
| 36:DE:269:SER:HA | 36:DE:270:LYS:HA | 1.73 | 0.40 |
| 37:DF:16:ALA:C | 37:DF:18:LEU:H | 2.29 | 0.40 |
| 37:DF:32:ALA:O | 37:DF:33:SER:O | 2.39 | 0.40 |
| 37:DF:92:SER:C | 37:DF:94:GLU:N | 2.78 | 0.40 |
| 39:DH:153:ILE:O | 39:DH:180:VAL:N | 2.54 | 0.40 |
| 41:DJ:135:ILE:O | 41:DJ:136:PHE:C | 2.64 | 0.40 |
| 41:DJ:169:LYS:CB | 41:DJ:177:ASP:O | 2.69 | 0.40 |
| 42:DK:52:TYR:O | 42:DK:60:ARG:O | 2.39 | 0.40 |
| 72:DL:28:LEU:HA | 72:DL:42:VAL:CB | 2.51 | 0.40 |
| 43:DN:43:LYS:O | 43:DN:44:VAL:O | 2.39 | 0.40 |
| 44:DO:97:SER:O | 44:DO:98:LEU:C | 2.64 | 0.40 |
| 47:DR:126:GLN:C | 47:DR:128:ALA:N | 2.79 | 0.40 |
| 48:DS:164:LEU:C | 48:DS:166:ASN:H | 2.29 | 0.40 |
| 49:DT:112:ASN:C | 49:DT:114:ALA:H | 2.30 | 0.40 |
| 53:DX:24:SER:C | 53:DX:26:GLN:N | 2.78 | 0.40 |
| 55:DZ:42:ILE:HA | 55:DZ:90:VAL:O | 2.22 | 0.40 |
| 65:Dk:9:UNK:HA | 65:Dk:12:UNK:CB | 2.51 | 0.40 |
| 65:Dk:14:UNK:O | 65:Dk:18:UNK:N | 2.55 | 0.40 |
| 1:A1:9:U:H2' | 1:A1:11:A:N7 | 2.37 | 0.40 |
| 1:A1:122:U:O4 | 1:A1:123:G:O6 | 2.39 | 0.40 |
| 1:A1:164:A:H2' | 1:A1:165:G:H8 | 1.86 | 0.40 |
| 1:A1:304:U:C2 | 1:A1:305:C:C6 | 3.10 | 0.40 |
| 1:A1:351:C:C2 | 7:AF:102:LYS:O | 2.75 | 0.40 |
| 1:A1:399:A:C5 | 1:A1:401:A:C6 | 3.10 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:A1:444:C:N4 | 1:A1:460:A:H62 | 2.03 | 0.40 |
| 1:A1:469:C:O2' | 1:A1:470:A:C2 | 2.73 | 0.40 |
| 1:A1:484:C:C5 | 1:A1:485:A:C8 | 3.10 | 0.40 |
| 1:A1:614:C:N3 | 1:A1:615:A:N7 | 2.69 | 0.40 |
| 1:A1:690:G:O6 | 1:A1:691:C:N4 | 2.55 | 0.40 |
| 1:A1:709:C:O2' | 1:A1:710:U:C4' | 2.70 | 0.40 |
| 1:A1:802:G:C6 | 1:A1:803:A:C2 | 3.09 | 0.40 |
| 1:A1:952:A:H2' | 1:A1:952:A:N3 | 2.36 | 0.40 |
| 1:A1:959:U:O4' | 1:A1:959:U:P | 2.79 | 0.40 |
| 1:A1:960:U:H2' | 1:A1:961:U:H6 | 1.83 | 0.40 |
| 1:A1:1036:A:H3' | 1:A1:1037:C:C6 | 2.56 | 0.40 |
| 1:A1:1203:A:C2 | 1:A1:1556:A:N3 | 2.89 | 0.40 |
| 1:A1:1264:G:N2 | 1:A1:1265:G:C4 | 2.89 | 0.40 |
| 1:A1:1365:C:OP2 | 1:A1:1366:U:OP2 | 2.40 | 0.40 |
| 1:A1:1644:C:OP2 | 1:A1:1644:C:H3' | 2.21 | 0.40 |
| 1:A1:1671:A:H2' | 1:A1:1672:G:O4' | 2.22 | 0.40 |
| 1:A1:1714:A:N1 | 1:A1:1715:G:N2 | 2.69 | 0.40 |
| 1:A1:1742:U:C4 | 1:A1:1743:U:C4 | 3.09 | 0.40 |
| 2:AA:11:PRO:C | 2:AA:13:ASP:N | 2.80 | 0.40 |
| 2:AA:160:ILE:O | 2:AA:161:PRO:C | 2.64 | 0.40 |
| 2:AA:178:ALA:C | 2:AA:180:GLU:N | 2.78 | 0.40 |
| 3:AB:40:LYS:C | 3:AB:42:GLY:N | 2.78 | 0.40 |
| 3:AB:209:ASN:O | 3:AB:210:THR:C | 2.64 | 0.40 |
| 4:AC:79:TYR:O | 4:AC:81:PRO:N | 2.54 | 0.40 |
| 6:AE:109:LEU:O | 6:AE:110:GLN:C | 2.64 | 0.40 |
| 19:AR:8:THR:HA | 19:AR:50:GLU:HA | 2.04 | 0.40 |
| 21:AT:284:ALA:C | 21:AT:286:GLU:H | 2.29 | 0.40 |
| 25:Ad:95:UNK:O | 25:Ad:96:UNK:C | 2.65 | 0.40 |
| 26:Ae:8:UNK:C | 26:Ae:10:UNK:N | 2.80 | 0.40 |
| 29:B1:45:A:OP1 | 61:Bf:47:GLN:CB | 2.70 | 0.40 |
| 29:B1:46:U:O4 | 29:B1:47:C:C4 | 2.74 | 0.40 |
| 29:B1:51:A:H2' | 29:B1:52:A:C5' | 2.51 | 0.40 |
| 29:B1:187:A:H1' | 29:B1:211:A:H61 | 1.80 | 0.40 |
| 29:B1:272:G:C6 | 29:B1:273:A:C5 | 3.10 | 0.40 |
| 29:B1:310:U:N3 | 29:B1:2780:A:C6 | 2.87 | 0.40 |
| 29:B1:391:A:H2' | 29:B1:392:G:OP1 | 2.22 | 0.40 |
| 29:B1:400:G:C5' | 29:B1:403:C:O2' | 2.62 | 0.40 |
| 29:B1:407:A:O5' | 29:B1:407:A:H8 | 2.04 | 0.40 |
| 29:B1:512:U:H1' | 29:B1:579:G:N2 | 2.36 | 0.40 |
| 29:B1:523:A:C6 | 29:B1:524:U:C5 | 3.09 | 0.40 |
| 29:B1:537:A:H1' | 29:B1:558:U:O4 | 2.21 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:B1:593:C:C3’ | 29:B1:609:G:H22 | 2.34 | 0.40 |
| 29:B1:595:G:N1 | 29:B1:596:C:H5 | 2.19 | 0.40 |
| 29:B1:866:A:H3’ | 29:B1:867:G:C8 | 2.48 | 0.40 |
| 29:B1:1004:U:C2 | 29:B1:1005:G:C8 | 3.09 | 0.40 |
| 29:B1:1054:A:N3 | 29:B1:1054:A:C2’ | 2.71 | 0.40 |
| 29:B1:1116:G:N2 | 29:B1:2817:A:C8 | 2.89 | 0.40 |
| 29:B1:1211:U:O2’ | 29:B1:1212:A:O4’ | 2.32 | 0.40 |
| 29:B1:1245:A:H5’ | 29:B1:1246:G:O3’ | 2.21 | 0.40 |
| 29:B1:1270:A:N7 | 29:B1:1271:A:H1’ | 2.36 | 0.40 |
| 29:B1:1306:G:N9 | 45:BP:62:THR:CB | 2.84 | 0.40 |
| 29:B1:1543:G:N1 | 29:B1:1544:G:N7 | 2.70 | 0.40 |
| 29:B1:1574:C:O2 | 29:B1:1574:C:H2’ | 2.21 | 0.40 |
| 29:B1:1713:G:O6 | 29:B1:1730:G:O2’ | 2.28 | 0.40 |
| 29:B1:1778:G:O3’ | 29:B1:1779:C:C2 | 2.75 | 0.40 |
| 29:B1:1798:A:C2 | 29:B1:1799:A:N3 | 2.88 | 0.40 |
| 29:B1:1876:U:C5’ | 29:B1:1876:U:H6 | 2.34 | 0.40 |
| 29:B1:1913:A:C2 | 29:B1:2120:A:H8 | 2.37 | 0.40 |
| 29:B1:1921:A:C5 | 29:B1:1932:A:C5 | 3.09 | 0.40 |
| 29:B1:2112:U:O2 | 29:B1:2113:A:C2 | 2.75 | 0.40 |
| 29:B1:2156:C:H2’ | 29:B1:2178:A:H61 | 1.86 | 0.40 |
| 29:B1:2240:G:O2’ | 29:B1:2241:U:H5’ | 2.22 | 0.40 |
| 29:B1:2278:C:N4 | 29:B1:2305:G:C5 | 2.89 | 0.40 |
| 29:B1:2313:A:O4’ | 29:B1:2315:G:C8 | 2.75 | 0.40 |
| 29:B1:2365:C:H2’ | 29:B1:2366:C:O5’ | 2.21 | 0.40 |
| 29:B1:2677:G:N2 | 29:B1:2679:A:O4’ | 2.54 | 0.40 |
| 29:B1:2681:U:O3’ | 42:BK:50:ALA:HA | 2.22 | 0.40 |
| 29:B1:2684:C:C2’ | 29:B1:2685:C:O5’ | 2.70 | 0.40 |
| 29:B1:2704:A:O2’ | 29:B1:2705:A:H2’ | 2.21 | 0.40 |
| 29:B1:3060:C:H1’ | 29:B1:3331:U:C1’ | 2.30 | 0.40 |
| 29:B1:3120:C:H5’ | 29:B1:3121:U:OP2 | 2.22 | 0.40 |
| 29:B1:3153:U:C5’ | 29:B1:3293:U:C6 | 3.04 | 0.40 |
| 29:B1:3202:G:C5 | 29:B1:3203:U:C4 | 3.10 | 0.40 |
| 29:B1:3235:C:C4 | 29:B1:3236:U:C4 | 3.09 | 0.40 |
| 29:B1:3288:G:O6 | 74:B1:3581:OHX:N3 | 2.55 | 0.40 |
| 29:B1:3295:A:C4 | 29:B1:3296:A:C8 | 3.09 | 0.40 |
| 29:B1:3327:G:N2 | 29:B1:3379:C:C2 | 2.89 | 0.40 |
| 29:B1:3332:U:H2’ | 29:B1:3333:G:OP2 | 2.21 | 0.40 |
| 29:B1:3344:A:O3’ | 29:B1:3345:G:C8 | 2.75 | 0.40 |
| 29:B1:3363:U:H6 | 29:B1:3364:C:O4’ | 2.04 | 0.40 |
| 29:B1:3371:G:H8 | 29:B1:3371:G:H5” | 1.85 | 0.40 |
| 29:B1:3390:G:C5 | 29:B1:3391:A:C5 | 3.10 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 30:B2:74:C:C5 | 30:B2:75:G:C4 | 3.09 | 0.40 |
| 30:B2:94:C:H2' | 30:B2:95:A:C8 | 2.49 | 0.40 |
| 31:B3:91:C:H2' | 31:B3:92:A:H8 | 1.84 | 0.40 |
| 31:B3:147:U:C2 | 31:B3:148:G:C8 | 3.10 | 0.40 |
| 33:BB:225:ILE:O | 33:BB:226:SER:C | 2.65 | 0.40 |
| 34:BC:53:MET:HA | 34:BC:77:THR:HA | 2.03 | 0.40 |
| 34:BC:157:VAL:O | 34:BC:158:VAL:CB | 2.69 | 0.40 |
| 34:BC:187:SER:O | 34:BC:188:ILE:O | 2.39 | 0.40 |
| 35:BD:257:LYS:C | 35:BD:258:LEU:O | 2.62 | 0.40 |
| 38:BG:193:PRO:O | 38:BG:195:PHE:N | 2.55 | 0.40 |
| 42:BK:82:ARG:O | 42:BK:86:VAL:CB | 2.69 | 0.40 |
| 43:BN:109:ARG:O | 43:BN:113:THR:CB | 2.70 | 0.40 |
| 44:BO:46:ASP:C | 44:BO:48:ALA:N | 2.80 | 0.40 |
| 44:BO:177:GLY:O | 44:BO:178:HIS:C | 2.64 | 0.40 |
| 46:BQ:14:SER:CB | 46:BQ:151:THR:HA | 2.52 | 0.40 |
| 46:BQ:30:ARG:O | 46:BQ:33:ALA:N | 2.54 | 0.40 |
| 46:BQ:83:TRP:O | 46:BQ:84:PRO:C | 2.65 | 0.40 |
| 47:BR:117:ALA:HB3 | 47:BR:118:GLY:CA | 2.35 | 0.40 |
| 51:BV:5:ILE:N | 51:BV:13:ILE:H | 2.19 | 0.40 |
| 55:BZ:42:ILE:HA | 55:BZ:90:VAL:O | 2.22 | 0.40 |
| 58:Bc:10:ARG:CA | 58:Bc:11:THR:CB | 3.00 | 0.40 |
| 59:Bd:64:MET:O | 59:Bd:65:ARG:C | 2.64 | 0.40 |
| 63:Bh:5:UNK:O | 63:Bh:6:UNK:O | 2.39 | 0.40 |
| 1:C1:9:U:C2 | 1:C1:11:A:OP2 | 2.74 | 0.40 |
| 1:C1:21:U:N3 | 1:C1:605:A:H2 | 2.20 | 0.40 |
| 1:C1:34:G:C4 | 1:C1:35:U:C5 | 3.09 | 0.40 |
| 1:C1:40:A:H62 | 1:C1:467:G:N2 | 2.19 | 0.40 |
| 1:C1:55:A:C4 | 1:C1:403:G:N1 | 2.89 | 0.40 |
| 1:C1:112:A:O2' | 1:C1:113:U:C6 | 2.71 | 0.40 |
| 1:C1:310:C:H2' | 1:C1:311:U:C5' | 2.51 | 0.40 |
| 1:C1:362:G:O6 | 1:C1:363:G:C6 | 2.74 | 0.40 |
| 1:C1:450:U:C2' | 1:C1:451:A:H8 | 2.31 | 0.40 |
| 1:C1:465:G:H2' | 1:C1:466:U:O4' | 2.22 | 0.40 |
| 1:C1:623:A:C2' | 1:C1:624:G:H5" | 2.52 | 0.40 |
| 1:C1:627:C:O2 | 1:C1:627:C:C2' | 2.68 | 0.40 |
| 1:C1:703:G:C5 | 1:C1:704:C:C4 | 3.09 | 0.40 |
| 1:C1:745:U:H2' | 1:C1:746:A:H5' | 2.04 | 0.40 |
| 1:C1:816:G:C6 | 1:C1:817:A:C6 | 3.10 | 0.40 |
| 1:C1:870:C:N3 | 1:C1:871:G:N7 | 2.70 | 0.40 |
| 1:C1:1125:A:N7 | 1:C1:1126:G:C1' | 2.85 | 0.40 |
| 1:C1:1198:G:C8 | 1:C1:1199:G:O4' | 2.75 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 1:C1:1308:G:C4 | 1:C1:1309:C:C6 | 3.09 | 0.40 |
| 1:C1:1334:U:C5' | 1:C1:1335:U:OP2 | 2.65 | 0.40 |
| 1:C1:1456:C:H3' | 1:C1:1457:C:C5' | 2.52 | 0.40 |
| 1:C1:1529:C:H2' | 1:C1:1530:C:H6 | 1.86 | 0.40 |
| 1:C1:1540:G:H2' | 1:C1:1541:G:C8 | 2.55 | 0.40 |
| 1:C1:1575:G:N2 | 1:C1:1576:A:O4' | 2.54 | 0.40 |
| 1:C1:1584:G:H1 | 11:CJ:125:GLU:C | 2.23 | 0.40 |
| 1:C1:1682:U:H6 | 1:C1:1682:U:H2' | 1.74 | 0.40 |
| 5:CD:141:GLY:HA2 | 5:CD:171:ALA:CB | 2.45 | 0.40 |
| 5:CD:197:GLU:HA | 5:CD:210:ALA:CB | 2.52 | 0.40 |
| 5:CD:212:LYS:O | 5:CD:213:LYS:C | 2.64 | 0.40 |
| 6:CE:109:LEU:O | 6:CE:110:GLN:C | 2.64 | 0.40 |
| 6:CE:128:LEU:O | 6:CE:129:ILE:C | 2.64 | 0.40 |
| 6:CE:175:ARG:C | 6:CE:177:ALA:N | 2.80 | 0.40 |
| 21:CT:1:MET:O | 21:CT:2:ALA:HB2 | 2.22 | 0.40 |
| 21:CT:53:LYS:O | 21:CT:55:GLY:N | 2.50 | 0.40 |
| 21:CT:182:ASN:C | 21:CT:184:ASN:H | 2.29 | 0.40 |
| 21:CT:256:THR:O | 21:CT:259:GLY:N | 2.52 | 0.40 |
| 29:D1:40:A:C8 | 29:D1:937:G:C6 | 3.10 | 0.40 |
| 29:D1:68:C:N3 | 29:D1:76:G:N2 | 2.70 | 0.40 |
| 29:D1:199:A:C4 | 29:D1:201:A:N7 | 2.89 | 0.40 |
| 29:D1:315:C:N3 | 29:D1:316:U:C4 | 2.89 | 0.40 |
| 29:D1:516:A:C2 | 29:D1:574:U:N3 | 2.82 | 0.40 |
| 29:D1:516:A:O3' | 29:D1:517:G:C8 | 2.75 | 0.40 |
| 29:D1:608:A:H2' | 29:D1:609:G:C5' | 2.51 | 0.40 |
| 29:D1:763:G:C5 | 29:D1:764:U:C2 | 3.09 | 0.40 |
| 29:D1:829:U:C4' | 29:D1:866:A:C2 | 2.89 | 0.40 |
| 29:D1:835:G:C2' | 29:D1:857:G:H22 | 2.35 | 0.40 |
| 29:D1:931:C:N3 | 29:D1:932:U:C5 | 2.90 | 0.40 |
| 29:D1:955:U:C2 | 29:D1:956:U:C6 | 3.09 | 0.40 |
| 29:D1:1038:C:O2' | 29:D1:1039:U:H5' | 2.22 | 0.40 |
| 29:D1:1081:U:O2 | 29:D1:1081:U:C2' | 2.70 | 0.40 |
| 29:D1:1168:U:C2' | 29:D1:1169:A:H5" | 2.52 | 0.40 |
| 29:D1:1246:G:N2 | 29:D1:1247:U:O2 | 2.55 | 0.40 |
| 29:D1:1445:U:C5 | 29:D1:1446:A:C5 | 3.10 | 0.40 |
| 29:D1:1455:U:OP1 | 29:D1:3078:U:C2 | 2.75 | 0.40 |
| 29:D1:1624:G:N2 | 29:D1:1625:A:C2 | 2.88 | 0.40 |
| 29:D1:1635:G:N2 | 29:D1:1637:A:H3' | 2.36 | 0.40 |
| 29:D1:1684:U:C5 | 29:D1:1685:C:N3 | 2.90 | 0.40 |
| 29:D1:1765:U:N3 | 29:D1:1766:G:C8 | 2.89 | 0.40 |
| 29:D1:1838:G:H4' | 29:D1:1839:A:N9 | 2.36 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 29:D1:1841:A:C2 | 29:D1:1848:G:C5 | 3.09 | 0.40 |
| 29:D1:1847:A:C2 | 29:D1:1849:C:O4' | 2.66 | 0.40 |
| 29:D1:1943:C:H5' | 29:D1:3344:A:H5' | 2.02 | 0.40 |
| 29:D1:2095:G:O2' | 29:D1:2096:A:H5' | 2.21 | 0.40 |
| 29:D1:2119:A:C8 | 29:D1:2119:A:H3' | 2.57 | 0.40 |
| 29:D1:2148:U:H2' | 29:D1:2149:A:C4 | 2.55 | 0.40 |
| 29:D1:2218:G:C2 | 29:D1:2228:A:C4 | 3.09 | 0.40 |
| 29:D1:2289:U:C2' | 29:D1:2289:U:O2 | 2.66 | 0.40 |
| 29:D1:2311:G:O5' | 29:D1:2311:G:H8 | 2.04 | 0.40 |
| 29:D1:2313:A:C4 | 29:D1:2315:G:N7 | 2.90 | 0.40 |
| 29:D1:2361:A:C2' | 29:D1:2362:C:O5' | 2.70 | 0.40 |
| 29:D1:2522:G:C6 | 29:D1:2587:U:C5 | 3.10 | 0.40 |
| 29:D1:2587:U:H2' | 29:D1:2588:U:H6 | 1.85 | 0.40 |
| 29:D1:2674:A:H2 | 29:D1:2675:C:C6 | 2.40 | 0.40 |
| 29:D1:2680:A:C8 | 29:D1:2680:A:C3' | 3.04 | 0.40 |
| 29:D1:2752:U:P | 29:D1:2752:U:O4' | 2.79 | 0.40 |
| 29:D1:2767:U:OP1 | 61:Df:33:ALA:HB2 | 2.20 | 0.40 |
| 29:D1:2860:U:C4 | 29:D1:2938:G:C5' | 3.04 | 0.40 |
| 29:D1:2895:G:H2' | 29:D1:2896:A:C8 | 2.55 | 0.40 |
| 29:D1:2897:A:N7 | 29:D1:2899:C:H1' | 2.37 | 0.40 |
| 29:D1:2919:A:C2' | 29:D1:2920:U:H5' | 2.51 | 0.40 |
| 29:D1:3108:G:C2' | 29:D1:3109:G:O5' | 2.70 | 0.40 |
| 29:D1:3296:A:H2' | 29:D1:3297:U:O4' | 2.22 | 0.40 |
| 29:D1:3381:U:C2 | 29:D1:3383:G:C6 | 3.10 | 0.40 |
| 30:D2:3:U:N3 | 30:D2:4:U:C4 | 2.90 | 0.40 |
| 30:D2:37:G:H2' | 30:D2:38:U:O5' | 2.21 | 0.40 |
| 31:D3:70:G:C5' | 31:D3:71:A:N7 | 2.85 | 0.40 |
| 31:D3:74:U:OP1 | 31:D3:76:C:C4 | 2.74 | 0.40 |
| 31:D3:75:G:P | 31:D3:89:A:H2' | 2.61 | 0.40 |
| 34:DC:297:SER:O | 34:DC:299:ASP:CB | 2.70 | 0.40 |
| 35:DD:250:TRP:O | 35:DD:251:THR:CB | 2.68 | 0.40 |
| 36:DE:106:ALA:O | 36:DE:109:THR:N | 2.55 | 0.40 |
| 37:DF:126:GLN:O | 37:DF:128:LYS:N | 2.46 | 0.40 |
| 38:DG:48:ASN:O | 38:DG:49:ALA:O | 2.39 | 0.40 |
| 39:DH:211:LEU:O | 39:DH:212:ALA:O | 2.39 | 0.40 |
| 42:DK:84:LEU:HA | 42:DK:89:TYR:N | 2.35 | 0.40 |
| 72:DL:130:LYS:O | 72:DL:131:GLU:C | 2.64 | 0.40 |
| 43:DN:33:ALA:HA | 43:DN:48:GLY:HA3 | 2.03 | 0.40 |
| 45:DP:53:LYS:O | 45:DP:54:TYR:C | 2.65 | 0.40 |
| 47:DR:149:ALA:HB2 | 47:DR:157:PRO:CB | 2.52 | 0.40 |
| 48:DS:8:LYS:O | 48:DS:11:ALA:N | 2.55 | 0.40 |

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| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|---|---|---|---|
| 52:DW:90:ALA:C | 52:DW:92:LYS:N | 2.79 | 0.40 |
| 54:DY:10:LYS:O | 54:DY:11:HIS:C | 2.65 | 0.40 |
| 54:DY:70:LYS:O | 54:DY:112:ILE:HA | 2.21 | 0.40 |

There are no symmetry-related clashes.

## 5.3 Torsion angles (i)

### 5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|---|---|---|---|---|---|---|---|
| 2 | AA | 218/252 (86%) | 75 (34%) | 68 (31%) | 75 (34%) | 0 | 0 |
| 2 | CA | 218/252 (86%) | 78 (36%) | 63 (29%) | 77 (35%) | 0 | 0 |
| 3 | AB | 217/254 (85%) | 85 (39%) | 54 (25%) | 78 (36%) | 0 | 0 |
| 3 | CB | 217/254 (85%) | 81 (37%) | 62 (29%) | 74 (34%) | 0 | 0 |
| 4 | AC | 187/240 (78%) | 72 (38%) | 56 (30%) | 59 (32%) | 0 | 0 |
| 4 | CC | 187/240 (78%) | 69 (37%) | 55 (29%) | 63 (34%) | 0 | 0 |
| 5 | AD | 165/225 (73%) | 55 (33%) | 46 (28%) | 64 (39%) | 0 | 0 |
| 5 | CD | 165/225 (73%) | 58 (35%) | 44 (27%) | 63 (38%) | 0 | 0 |
| 6 | AE | 153/197 (78%) | 48 (31%) | 54 (35%) | 51 (33%) | 0 | 0 |
| 6 | CE | 153/197 (78%) | 48 (31%) | 49 (32%) | 56 (37%) | 0 | 0 |
| 7 | AF | 75/156 (48%) | 32 (43%) | 18 (24%) | 25 (33%) | 0 | 0 |
| 7 | CF | 75/156 (48%) | 31 (41%) | 20 (27%) | 24 (32%) | 0 | 0 |
| 8 | AG | 115/151 (76%) | 46 (40%) | 38 (33%) | 31 (27%) | 0 | 0 |
| 8 | CG | 115/151 (76%) | 49 (43%) | 33 (29%) | 33 (29%) | 0 | 0 |
| 9 | AH | 126/137 (92%) | 52 (41%) | 38 (30%) | 36 (29%) | 0 | 0 |
| 9 | CH | 126/137 (92%) | 51 (40%) | 39 (31%) | 36 (29%) | 0 | 0 |
| 10 | AI | 119/142 (84%) | 38 (32%) | 40 (34%) | 41 (34%) | 0 | 0 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|---|---|---|---|---|---|---|---|
| 10 | CI | 119/142 (84%) | 43 (36%) | 35 (29%) | 41 (34%) | 0 | 0 |
| 11 | AJ | 132/143 (92%) | 57 (43%) | 33 (25%) | 42 (32%) | 0 | 0 |
| 11 | CJ | 132/143 (92%) | 52 (39%) | 37 (28%) | 43 (33%) | 0 | 0 |
| 12 | AK | 65/136 (48%) | 27 (42%) | 16 (25%) | 22 (34%) | 0 | 0 |
| 12 | CK | 65/136 (48%) | 28 (43%) | 16 (25%) | 21 (32%) | 0 | 0 |
| 13 | AL | 116/146 (80%) | 48 (41%) | 34 (29%) | 34 (29%) | 0 | 0 |
| 13 | CL | 116/146 (80%) | 48 (41%) | 33 (28%) | 35 (30%) | 0 | 0 |
| 14 | AM | 100/144 (69%) | 38 (38%) | 28 (28%) | 34 (34%) | 0 | 0 |
| 14 | CM | 100/144 (69%) | 36 (36%) | 27 (27%) | 37 (37%) | 0 | 0 |
| 15 | AN | 109/121 (90%) | 49 (45%) | 30 (28%) | 30 (28%) | 0 | 0 |
| 15 | CN | 109/121 (90%) | 49 (45%) | 29 (27%) | 31 (28%) | 0 | 0 |
| 16 | AO | 125/130 (96%) | 48 (38%) | 40 (32%) | 37 (30%) | 0 | 0 |
| 16 | CO | 125/130 (96%) | 49 (39%) | 36 (29%) | 40 (32%) | 0 | 0 |
| 17 | AP | 114/145 (79%) | 48 (42%) | 24 (21%) | 42 (37%) | 0 | 0 |
| 17 | CP | 114/145 (79%) | 45 (40%) | 28 (25%) | 41 (36%) | 0 | 0 |
| 18 | AQ | 65/108 (60%) | 28 (43%) | 21 (32%) | 16 (25%) | 0 | 1 |
| 18 | CQ | 61/108 (56%) | 28 (46%) | 18 (30%) | 15 (25%) | 0 | 1 |
| 19 | AR | 45/67 (67%) | 17 (38%) | 12 (27%) | 16 (36%) | 0 | 0 |
| 19 | CR | 45/67 (67%) | 17 (38%) | 11 (24%) | 17 (38%) | 0 | 0 |
| 20 | AS | 37/56 (66%) | 8 (22%) | 14 (38%) | 15 (40%) | 0 | 0 |
| 20 | CS | 37/56 (66%) | 8 (22%) | 13 (35%) | 16 (43%) | 0 | 0 |
| 21 | AT | 309/319 (97%) | 180 (58%) | 71 (23%) | 58 (19%) | 0 | 2 |
| 21 | CT | 309/319 (97%) | 184 (60%) | 66 (21%) | 59 (19%) | 0 | 2 |
| 32 | BA | 211/217 (97%) | 76 (36%) | 67 (32%) | 68 (32%) | 0 | 0 |
| 32 | DA | 211/217 (97%) | 76 (36%) | 79 (37%) | 56 (26%) | 0 | 0 |
| 33 | BB | 228/254 (90%) | 80 (35%) | 55 (24%) | 93 (41%) | 0 | 0 |
| 33 | DB | 228/254 (90%) | 83 (36%) | 55 (24%) | 90 (40%) | 0 | 0 |
| 34 | BC | 362/387 (94%) | 112 (31%) | 100 (28%) | 150 (41%) | 0 | 0 |
| 34 | DC | 362/387 (94%) | 109 (30%) | 102 (28%) | 151 (42%) | 0 | 0 |
| 35 | BD | 266/362 (74%) | 111 (42%) | 79 (30%) | 76 (29%) | 0 | 0 |
| 35 | DD | 266/362 (74%) | 109 (41%) | 78 (29%) | 79 (30%) | 0 | 0 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|---|---|---|---|---|---|---|---|
| 36 | BE | 285/297 (96%) | 108 (38%) | 82 (29%) | 95 (33%) | 0 | 0 |
| 36 | DE | 285/297 (96%) | 105 (37%) | 79 (28%) | 101 (35%) | 0 | 0 |
| 37 | BF | 174/176 (99%) | 44 (25%) | 62 (36%) | 68 (39%) | 0 | 0 |
| 37 | DF | 174/176 (99%) | 43 (25%) | 61 (35%) | 70 (40%) | 0 | 0 |
| 38 | BG | 211/244 (86%) | 85 (40%) | 62 (29%) | 64 (30%) | 0 | 0 |
| 38 | DG | 211/244 (86%) | 89 (42%) | 60 (28%) | 62 (29%) | 0 | 0 |
| 39 | BH | 171/256 (67%) | 59 (34%) | 58 (34%) | 54 (32%) | 0 | 0 |
| 39 | DH | 171/256 (67%) | 60 (35%) | 62 (36%) | 49 (29%) | 0 | 0 |
| 40 | BI | 189/191 (99%) | 76 (40%) | 60 (32%) | 53 (28%) | 0 | 0 |
| 40 | DI | 189/191 (99%) | 79 (42%) | 57 (30%) | 53 (28%) | 0 | 0 |
| 41 | BJ | 204/221 (92%) | 80 (39%) | 52 (26%) | 72 (35%) | 0 | 0 |
| 41 | DJ | 204/221 (92%) | 75 (37%) | 55 (27%) | 74 (36%) | 0 | 0 |
| 42 | BK | 163/174 (94%) | 57 (35%) | 42 (26%) | 64 (39%) | 0 | 0 |
| 42 | DK | 163/174 (94%) | 56 (34%) | 46 (28%) | 61 (37%) | 0 | 0 |
| 43 | BN | 118/138 (86%) | 27 (23%) | 44 (37%) | 47 (40%) | 0 | 0 |
| 43 | DN | 118/138 (86%) | 28 (24%) | 39 (33%) | 51 (43%) | 0 | 0 |
| 44 | BO | 185/204 (91%) | 77 (42%) | 49 (26%) | 59 (32%) | 0 | 0 |
| 44 | DO | 185/204 (91%) | 76 (41%) | 53 (29%) | 56 (30%) | 0 | 0 |
| 45 | BP | 194/199 (98%) | 81 (42%) | 56 (29%) | 57 (29%) | 0 | 0 |
| 45 | DP | 194/199 (98%) | 77 (40%) | 62 (32%) | 55 (28%) | 0 | 0 |
| 46 | BQ | 152/184 (83%) | 62 (41%) | 44 (29%) | 46 (30%) | 0 | 0 |
| 46 | DQ | 152/184 (83%) | 62 (41%) | 45 (30%) | 45 (30%) | 0 | 0 |
| 47 | BR | 141/186 (76%) | 63 (45%) | 28 (20%) | 50 (36%) | 0 | 0 |
| 47 | DR | 141/186 (76%) | 59 (42%) | 32 (23%) | 50 (36%) | 0 | 0 |
| 48 | BS | 186/189 (98%) | 104 (56%) | 57 (31%) | 25 (13%) | 0 | 3 |
| 48 | DS | 186/189 (98%) | 101 (54%) | 60 (32%) | 25 (13%) | 0 | 3 |
| 49 | BT | 117/160 (73%) | 53 (45%) | 18 (15%) | 46 (39%) | 0 | 0 |
| 49 | DT | 117/160 (73%) | 50 (43%) | 23 (20%) | 44 (38%) | 0 | 0 |
| 50 | BU | 127/137 (93%) | 64 (50%) | 28 (22%) | 35 (28%) | 0 | 0 |
| 50 | DU | 127/137 (93%) | 70 (55%) | 21 (16%) | 36 (28%) | 0 | 0 |
| 51 | BV | 57/155 (37%) | 14 (25%) | 19 (33%) | 24 (42%) | 0 | 0 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|---|---|---|---|---|---|---|---|
| 51 | DV | 57/155 (37%) | 15 (26%) | 16 (28%) | 26 (46%) | 0 | 0 |
| 52 | BW | 92/142 (65%) | 30 (33%) | 30 (33%) | 32 (35%) | 0 | 0 |
| 52 | DW | 92/142 (65%) | 32 (35%) | 28 (30%) | 32 (35%) | 0 | 0 |
| 53 | BX | 105/127 (83%) | 53 (50%) | 28 (27%) | 24 (23%) | 0 | 1 |
| 53 | DX | 105/127 (83%) | 55 (52%) | 30 (29%) | 20 (19%) | 0 | 2 |
| 54 | BY | 147/149 (99%) | 37 (25%) | 47 (32%) | 63 (43%) | 0 | 0 |
| 54 | DY | 147/149 (99%) | 36 (24%) | 51 (35%) | 60 (41%) | 0 | 0 |
| 55 | BZ | 96/105 (91%) | 48 (50%) | 28 (29%) | 20 (21%) | 0 | 1 |
| 55 | DZ | 96/105 (91%) | 51 (53%) | 28 (29%) | 17 (18%) | 0 | 2 |
| 56 | Ba | 84/113 (74%) | 27 (32%) | 27 (32%) | 30 (36%) | 0 | 0 |
| 56 | Da | 84/113 (74%) | 25 (30%) | 28 (33%) | 31 (37%) | 0 | 0 |
| 57 | Bb | 123/130 (95%) | 39 (32%) | 28 (23%) | 56 (46%) | 0 | 0 |
| 57 | Db | 123/130 (95%) | 41 (33%) | 31 (25%) | 51 (42%) | 0 | 0 |
| 58 | Bc | 66/120 (55%) | 28 (42%) | 23 (35%) | 15 (23%) | 0 | 1 |
| 58 | Dc | 66/120 (55%) | 28 (42%) | 26 (39%) | 12 (18%) | 0 | 2 |
| 59 | Bd | 70/88 (80%) | 19 (27%) | 20 (29%) | 31 (44%) | 0 | 0 |
| 59 | Dd | 70/88 (80%) | 17 (24%) | 24 (34%) | 29 (41%) | 0 | 0 |
| 60 | Be | 46/51 (90%) | 25 (54%) | 8 (17%) | 13 (28%) | 0 | 0 |
| 60 | De | 46/51 (90%) | 22 (48%) | 12 (26%) | 12 (26%) | 0 | 1 |
| 61 | Bf | 93/106 (88%) | 37 (40%) | 28 (30%) | 28 (30%) | 0 | 0 |
| 61 | Df | 93/106 (88%) | 37 (40%) | 28 (30%) | 28 (30%) | 0 | 0 |
| 62 | Bg | 81/92 (88%) | 31 (38%) | 27 (33%) | 23 (28%) | 0 | 0 |
| 62 | Dg | 81/92 (88%) | 32 (40%) | 24 (30%) | 25 (31%) | 0 | 0 |
| 72 | DL | 136/165 (82%) | 42 (31%) | 42 (31%) | 52 (38%) | 0 | 0 |
| 73 | DM | 126/312 (40%) | 48 (38%) | 31 (25%) | 47 (37%) | 0 | 0 |
| All | All | 14930/18123 (82%) | 5798 (39%) | 4273 (29%) | 4859 (32%) | 0 | 0 |

All (4859) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 11 | PRO |
| 2 | AA | 13 | ASP |
| 2 | AA | 14 | ALA |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 21 | ASN |
| 2 | AA | 24 | LEU |
| 2 | AA | 36 | TYR |
| 2 | AA | 40 | ALA |
| 2 | AA | 41 | ARG |
| 2 | AA | 42 | PRO |
| 2 | AA | 43 | ASP |
| 2 | AA | 45 | VAL |
| 2 | AA | 49 | ASN |
| 2 | AA | 65 | ALA |
| 2 | AA | 70 | PRO |
| 2 | AA | 71 | GLU |
| 2 | AA | 94 | GLY |
| 2 | AA | 97 | PRO |
| 2 | AA | 113 | ARG |
| 2 | AA | 117 | GLU |
| 2 | AA | 118 | PRO |
| 2 | AA | 121 | VAL |
| 2 | AA | 124 | THR |
| 2 | AA | 126 | PRO |
| 2 | AA | 140 | ASN |
| 2 | AA | 143 | VAL |
| 2 | AA | 159 | ALA |
| 2 | AA | 160 | ILE |
| 2 | AA | 161 | PRO |
| 2 | AA | 163 | ASN |
| 2 | AA | 172 | LEU |
| 2 | AA | 187 | ALA |
| 2 | AA | 193 | GLN |
| 2 | AA | 194 | PRO |
| 2 | AA | 202 | TYR |
| 2 | AA | 204 | TYR |
| 2 | AA | 220 | THR |
| 3 | AB | 37 | PRO |
| 3 | AB | 38 | VAL |
| 3 | AB | 59 | HIS |
| 3 | AB | 62 | PRO |
| 3 | AB | 66 | PHE |
| 3 | AB | 68 | ILE |
| 3 | AB | 73 | LEU |
| 3 | AB | 74 | PRO |
| 3 | AB | 84 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | AB | 85 | PRO |
| 3 | AB | 125 | ILE |
| 3 | AB | 126 | ARG |
| 3 | AB | 133 | LYS |
| 3 | AB | 134 | LEU |
| 3 | AB | 135 | SER |
| 3 | AB | 136 | VAL |
| 3 | AB | 139 | ILE |
| 3 | AB | 140 | ARG |
| 3 | AB | 143 | TYR |
| 3 | AB | 147 | ASN |
| 3 | AB | 151 | PRO |
| 3 | AB | 159 | THR |
| 3 | AB | 164 | SER |
| 3 | AB | 165 | VAL |
| 3 | AB | 166 | THR |
| 3 | AB | 189 | GLN |
| 3 | AB | 193 | VAL |
| 3 | AB | 196 | VAL |
| 3 | AB | 209 | ASN |
| 3 | AB | 220 | ASN |
| 3 | AB | 225 | LEU |
| 3 | AB | 234 | PRO |
| 3 | AB | 235 | LEU |
| 3 | AB | 236 | PRO |
| 3 | AB | 237 | VAL |
| 3 | AB | 238 | SER |
| 3 | AB | 239 | PRO |
| 3 | AB | 240 | LEU |
| 3 | AB | 243 | TYR |
| 4 | AC | 8 | LYS |
| 4 | AC | 9 | ARG |
| 4 | AC | 16 | VAL |
| 4 | AC | 22 | ASN |
| 4 | AC | 28 | GLU |
| 4 | AC | 37 | VAL |
| 4 | AC | 43 | PRO |
| 4 | AC | 66 | ILE |
| 4 | AC | 69 | LEU |
| 4 | AC | 70 | THR |
| 4 | AC | 76 | ARG |
| 4 | AC | 79 | TYR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 4 | AC | 80 | ALA |
| 4 | AC | 81 | PRO |
| 4 | AC | 94 | ARG |
| 4 | AC | 96 | LEU |
| 4 | AC | 98 | ALA |
| 4 | AC | 100 | ALA |
| 4 | AC | 131 | ALA |
| 4 | AC | 136 | VAL |
| 4 | AC | 145 | ALA |
| 4 | AC | 152 | PHE |
| 4 | AC | 157 | LEU |
| 4 | AC | 162 | GLN |
| 4 | AC | 163 | PRO |
| 4 | AC | 167 | PHE |
| 4 | AC | 168 | ILE |
| 4 | AC | 174 | HIS |
| 4 | AC | 175 | VAL |
| 5 | AD | 40 | ILE |
| 5 | AD | 46 | TRP |
| 5 | AD | 53 | VAL |
| 5 | AD | 57 | SER |
| 5 | AD | 61 | TYR |
| 5 | AD | 66 | GLN |
| 5 | AD | 87 | CYS |
| 5 | AD | 88 | PRO |
| 5 | AD | 90 | ILE |
| 5 | AD | 91 | GLU |
| 5 | AD | 92 | ARG |
| 5 | AD | 93 | LEU |
| 5 | AD | 94 | THR |
| 5 | AD | 128 | ASN |
| 5 | AD | 129 | PRO |
| 5 | AD | 160 | VAL |
| 5 | AD | 162 | VAL |
| 5 | AD | 163 | SER |
| 5 | AD | 164 | PRO |
| 5 | AD | 182 | ALA |
| 5 | AD | 184 | PHE |
| 5 | AD | 187 | ILE |
| 5 | AD | 195 | ALA |
| 5 | AD | 216 | GLU |
| 6 | AE | 39 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 6 | AE | 41 | GLU |
| 6 | AE | 55 | ALA |
| 6 | AE | 56 | ALA |
| 6 | AE | 64 | GLU |
| 6 | AE | 67 | PRO |
| 6 | AE | 81 | VAL |
| 6 | AE | 82 | ARG |
| 6 | AE | 83 | VAL |
| 6 | AE | 85 | VAL |
| 6 | AE | 99 | LEU |
| 6 | AE | 100 | LYS |
| 6 | AE | 106 | GLU |
| 6 | AE | 112 | GLN |
| 6 | AE | 121 | SER |
| 6 | AE | 122 | VAL |
| 6 | AE | 124 | HIS |
| 6 | AE | 130 | THR |
| 6 | AE | 131 | GLN |
| 6 | AE | 132 | ARG |
| 6 | AE | 140 | ILE |
| 6 | AE | 141 | VAL |
| 6 | AE | 143 | ILE |
| 6 | AE | 146 | PHE |
| 6 | AE | 152 | SER |
| 6 | AE | 153 | GLU |
| 6 | AE | 169 | PRO |
| 6 | AE | 174 | ARG |
| 7 | AF | 70 | ILE |
| 7 | AF | 80 | MET |
| 7 | AF | 83 | THR |
| 7 | AF | 86 | ILE |
| 7 | AF | 90 | TYR |
| 7 | AF | 94 | ILE |
| 7 | AF | 95 | PRO |
| 7 | AF | 98 | ASN |
| 7 | AF | 111 | VAL |
| 7 | AF | 112 | SER |
| 7 | AF | 113 | PRO |
| 7 | AF | 125 | VAL |
| 7 | AF | 130 | PRO |
| 7 | AF | 133 | LYS |
| 8 | AG | 46 | THR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 8 | AG | 47 | PRO |
| 8 | AG | 50 | ILE |
| 8 | AG | 62 | GLN |
| 8 | AG | 65 | VAL |
| 8 | AG | 69 | ASN |
| 8 | AG | 71 | ILE |
| 8 | AG | 82 | PRO |
| 8 | AG | 84 | ILE |
| 8 | AG | 85 | PRO |
| 8 | AG | 86 | GLU |
| 8 | AG | 126 | ALA |
| 8 | AG | 132 | VAL |
| 8 | AG | 135 | LEU |
| 8 | AG | 136 | PRO |
| 8 | AG | 137 | PRO |
| 9 | AH | 4 | VAL |
| 9 | AH | 23 | PHE |
| 9 | AH | 26 | THR |
| 9 | AH | 40 | ALA |
| 9 | AH | 42 | VAL |
| 9 | AH | 43 | THR |
| 9 | AH | 50 | ALA |
| 9 | AH | 64 | ALA |
| 9 | AH | 65 | GLN |
| 9 | AH | 67 | VAL |
| 9 | AH | 79 | VAL |
| 9 | AH | 94 | PRO |
| 9 | AH | 96 | PRO |
| 9 | AH | 101 | ALA |
| 9 | AH | 122 | PRO |
| 9 | AH | 128 | LYS |
| 10 | AI | 11 | VAL |
| 10 | AI | 13 | LYS |
| 10 | AI | 23 | GLU |
| 10 | AI | 38 | PRO |
| 10 | AI | 51 | SER |
| 10 | AI | 53 | PRO |
| 10 | AI | 61 | ARG |
| 10 | AI | 68 | PRO |
| 10 | AI | 73 | PRO |
| 10 | AI | 75 | PRO |
| 10 | AI | 80 | MET |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 10 | AI | 85 | ILE |
| 10 | AI | 86 | VAL |
| 10 | AI | 121 | ILE |
| 10 | AI | 125 | PRO |
| 11 | AJ | 34 | SER |
| 11 | AJ | 35 | PRO |
| 11 | AJ | 36 | ILE |
| 11 | AJ | 38 | LEU |
| 11 | AJ | 42 | GLU |
| 11 | AJ | 57 | LEU |
| 11 | AJ | 61 | SER |
| 11 | AJ | 63 | ILE |
| 11 | AJ | 70 | THR |
| 11 | AJ | 74 | HIS |
| 11 | AJ | 85 | ILE |
| 11 | AJ | 97 | VAL |
| 11 | AJ | 105 | LEU |
| 11 | AJ | 118 | ILE |
| 11 | AJ | 126 | PRO |
| 11 | AJ | 136 | SER |
| 12 | AK | 22 | PRO |
| 12 | AK | 26 | LEU |
| 12 | AK | 29 | GLN |
| 12 | AK | 38 | ILE |
| 12 | AK | 39 | ALA |
| 12 | AK | 44 | LYS |
| 12 | AK | 60 | ARG |
| 12 | AK | 65 | PRO |
| 12 | AK | 69 | ILE |
| 13 | AL | 18 | LEU |
| 13 | AL | 27 | LYS |
| 13 | AL | 65 | GLU |
| 13 | AL | 66 | LEU |
| 13 | AL | 71 | GLN |
| 13 | AL | 72 | ILE |
| 13 | AL | 74 | GLN |
| 13 | AL | 75 | ASN |
| 13 | AL | 79 | TYR |
| 13 | AL | 80 | LYS |
| 13 | AL | 81 | ILE |
| 13 | AL | 98 | TYR |
| 13 | AL | 99 | HIS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 13 | AL | 102 | ALA |
| 13 | AL | 117 | LYS |
| 13 | AL | 118 | LYS |
| 14 | AM | 2 | PRO |
| 14 | AM | 4 | VAL |
| 14 | AM | 8 | ASP |
| 14 | AM | 9 | VAL |
| 14 | AM | 25 | GLN |
| 14 | AM | 36 | ILE |
| 14 | AM | 68 | ARG |
| 14 | AM | 110 | LYS |
| 14 | AM | 111 | ILE |
| 14 | AM | 113 | ILE |
| 14 | AM | 117 | SER |
| 14 | AM | 119 | LYS |
| 14 | AM | 125 | SER |
| 14 | AM | 126 | GLU |
| 14 | AM | 127 | ASN |
| 14 | AM | 129 | GLN |
| 15 | AN | 13 | GLU |
| 15 | AN | 14 | GLN |
| 15 | AN | 15 | GLN |
| 15 | AN | 24 | ILE |
| 15 | AN | 31 | VAL |
| 15 | AN | 45 | ALA |
| 15 | AN | 50 | LEU |
| 15 | AN | 55 | PRO |
| 15 | AN | 59 | PRO |
| 15 | AN | 72 | ASN |
| 15 | AN | 76 | SER |
| 15 | AN | 93 | LEU |
| 15 | AN | 96 | PRO |
| 15 | AN | 108 | ILE |
| 15 | AN | 113 | ASP |
| 15 | AN | 117 | VAL |
| 16 | AO | 5 | SER |
| 16 | AO | 24 | GLN |
| 16 | AO | 27 | ILE |
| 16 | AO | 28 | ARG |
| 16 | AO | 29 | PRO |
| 16 | AO | 30 | SER |
| 16 | AO | 31 | SER |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 16 | AO | 38 | LEU |
| 16 | AO | 63 | VAL |
| 16 | AO | 76 | SER |
| 16 | AO | 77 | PRO |
| 16 | AO | 79 | PHE |
| 16 | AO | 85 | ASP |
| 16 | AO | 86 | ILE |
| 16 | AO | 95 | PRO |
| 16 | AO | 97 | ARG |
| 16 | AO | 99 | PHE |
| 16 | AO | 100 | GLY |
| 16 | AO | 103 | ILE |
| 16 | AO | 106 | THR |
| 16 | AO | 118 | ARG |
| 16 | AO | 120 | HIS |
| 16 | AO | 126 | LEU |
| 17 | AP | 37 | ALA |
| 17 | AP | 48 | HIS |
| 17 | AP | 49 | ALA |
| 17 | AP | 59 | ILE |
| 17 | AP | 64 | PRO |
| 17 | AP | 70 | LYS |
| 17 | AP | 78 | LYS |
| 17 | AP | 87 | VAL |
| 17 | AP | 90 | ASP |
| 17 | AP | 104 | LEU |
| 17 | AP | 105 | ALA |
| 17 | AP | 108 | GLY |
| 17 | AP | 119 | GLY |
| 17 | AP | 124 | VAL |
| 17 | AP | 127 | VAL |
| 17 | AP | 130 | VAL |
| 17 | AP | 135 | LEU |
| 17 | AP | 138 | GLU |
| 18 | AQ | 42 | LEU |
| 18 | AQ | 57 | TYR |
| 18 | AQ | 71 | ILE |
| 18 | AQ | 85 | LYS |
| 18 | AQ | 88 | ILE |
| 18 | AQ | 90 | LYS |
| 18 | AQ | 91 | PRO |
| 18 | AQ | 97 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 19 | AR | 10 | ALA |
| 19 | AR | 14 | LYS |
| 19 | AR | 15 | VAL |
| 19 | AR | 34 | GLU |
| 19 | AR | 39 | THR |
| 19 | AR | 44 | VAL |
| 20 | AS | 20 | GLN |
| 20 | AS | 24 | CYS |
| 20 | AS | 26 | SER |
| 20 | AS | 27 | HIS |
| 20 | AS | 34 | TYR |
| 20 | AS | 43 | PHE |
| 20 | AS | 48 | ASN |
| 21 | AT | 2 | ALA |
| 21 | AT | 48 | THR |
| 21 | AT | 66 | HIS |
| 21 | AT | 100 | TYR |
| 21 | AT | 119 | ALA |
| 21 | AT | 189 | GLU |
| 21 | AT | 195 | HIS |
| 21 | AT | 198 | ASN |
| 21 | AT | 241 | PHE |
| 21 | AT | 247 | PRO |
| 21 | AT | 269 | TYR |
| 21 | AT | 281 | TYR |
| 21 | AT | 295 | SER |
| 32 | BA | 24 | LYS |
| 32 | BA | 36 | VAL |
| 32 | BA | 39 | LYS |
| 32 | BA | 42 | ASP |
| 32 | BA | 43 | PRO |
| 32 | BA | 55 | LEU |
| 32 | BA | 56 | PRO |
| 32 | BA | 58 | CYS |
| 32 | BA | 59 | PRO |
| 32 | BA | 60 | ARG |
| 32 | BA | 61 | PRO |
| 32 | BA | 109 | ALA |
| 32 | BA | 115 | VAL |
| 32 | BA | 120 | VAL |
| 32 | BA | 122 | ARG |
| 32 | BA | 124 | LEU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 32 | BA | 126 | PRO |
| 32 | BA | 127 | GLN |
| 32 | BA | 128 | LEU |
| 32 | BA | 129 | SER |
| 32 | BA | 135 | PRO |
| 32 | BA | 143 | ASP |
| 32 | BA | 151 | VAL |
| 32 | BA | 174 | MET |
| 32 | BA | 201 | VAL |
| 32 | BA | 207 | LYS |
| 32 | BA | 208 | SER |
| 32 | BA | 209 | SER |
| 32 | BA | 210 | MET |
| 32 | BA | 212 | PRO |
| 33 | BB | 5 | ILE |
| 33 | BB | 13 | GLY |
| 33 | BB | 14 | SER |
| 33 | BB | 16 | PHE |
| 33 | BB | 24 | GLN |
| 33 | BB | 26 | ALA |
| 33 | BB | 38 | HIS |
| 33 | BB | 50 | HIS |
| 33 | BB | 61 | VAL |
| 33 | BB | 65 | ASP |
| 33 | BB | 79 | ASN |
| 33 | BB | 83 | HIS |
| 33 | BB | 84 | THR |
| 33 | BB | 90 | ALA |
| 33 | BB | 98 | VAL |
| 33 | BB | 107 | VAL |
| 33 | BB | 108 | PRO |
| 33 | BB | 110 | GLY |
| 33 | BB | 111 | THR |
| 33 | BB | 120 | PRO |
| 33 | BB | 136 | ILE |
| 33 | BB | 137 | ILE |
| 33 | BB | 139 | HIS |
| 33 | BB | 141 | PRO |
| 33 | BB | 148 | VAL |
| 33 | BB | 149 | ARG |
| 33 | BB | 152 | SER |
| 33 | BB | 166 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 33 | BB | 176 | ASP |
| 33 | BB | 178 | PRO |
| 33 | BB | 182 | ALA |
| 33 | BB | 188 | LYS |
| 33 | BB | 197 | PRO |
| 33 | BB | 199 | THR |
| 33 | BB | 207 | VAL |
| 33 | BB | 208 | ASP |
| 33 | BB | 210 | PRO |
| 33 | BB | 211 | HIS |
| 33 | BB | 217 | GLN |
| 33 | BB | 219 | ILE |
| 33 | BB | 220 | GLY |
| 33 | BB | 222 | ALA |
| 33 | BB | 230 | VAL |
| 33 | BB | 233 | GLN |
| 33 | BB | 234 | LYS |
| 33 | BB | 235 | ALA |
| 33 | BB | 237 | LEU |
| 33 | BB | 241 | ARG |
| 33 | BB | 242 | ARG |
| 33 | BB | 243 | THR |
| 34 | BC | 3 | HIS |
| 34 | BC | 12 | GLY |
| 34 | BC | 21 | ARG |
| 34 | BC | 23 | ALA |
| 34 | BC | 33 | PRO |
| 34 | BC | 40 | PRO |
| 34 | BC | 41 | VAL |
| 34 | BC | 42 | ALA |
| 34 | BC | 43 | LEU |
| 34 | BC | 44 | THR |
| 34 | BC | 47 | LEU |
| 34 | BC | 61 | ASP |
| 34 | BC | 63 | PRO |
| 34 | BC | 68 | HIS |
| 34 | BC | 71 | GLU |
| 34 | BC | 81 | THR |
| 34 | BC | 83 | PRO |
| 34 | BC | 86 | VAL |
| 34 | BC | 89 | VAL |
| 34 | BC | 93 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BC | 94 | GLU |
| 34 | BC | 97 | ARG |
| 34 | BC | 104 | THR |
| 34 | BC | 105 | VAL |
| 34 | BC | 106 | TRP |
| 34 | BC | 109 | HIS |
| 34 | BC | 113 | GLU |
| 34 | BC | 117 | ARG |
| 34 | BC | 122 | TRP |
| 34 | BC | 123 | TYR |
| 34 | BC | 131 | THR |
| 34 | BC | 132 | LYS |
| 34 | BC | 137 | TYR |
| 34 | BC | 139 | GLN |
| 34 | BC | 143 | GLY |
| 34 | BC | 153 | LYS |
| 34 | BC | 158 | VAL |
| 34 | BC | 160 | VAL |
| 34 | BC | 165 | GLN |
| 34 | BC | 166 | ILE |
| 34 | BC | 167 | ARG |
| 34 | BC | 170 | PRO |
| 34 | BC | 173 | GLN |
| 34 | BC | 174 | LYS |
| 34 | BC | 175 | LYS |
| 34 | BC | 176 | ALA |
| 34 | BC | 187 | SER |
| 34 | BC | 188 | ILE |
| 34 | BC | 192 | VAL |
| 34 | BC | 197 | GLU |
| 34 | BC | 200 | GLU |
| 34 | BC | 209 | PHE |
| 34 | BC | 220 | VAL |
| 34 | BC | 221 | THR |
| 34 | BC | 238 | LEU |
| 34 | BC | 239 | PRO |
| 34 | BC | 244 | ARG |
| 34 | BC | 248 | LYS |
| 34 | BC | 257 | PRO |
| 34 | BC | 259 | HIS |
| 34 | BC | 264 | VAL |
| 34 | BC | 270 | ARG |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BC | 272 | TYR |
| 34 | BC | 274 | SER |
| 34 | BC | 275 | ARG |
| 34 | BC | 279 | ASN |
| 34 | BC | 284 | ARG |
| 34 | BC | 296 | THR |
| 34 | BC | 301 | THR |
| 34 | BC | 306 | THR |
| 34 | BC | 307 | PRO |
| 34 | BC | 317 | ILE |
| 34 | BC | 318 | LYS |
| 34 | BC | 320 | ASP |
| 34 | BC | 324 | VAL |
| 34 | BC | 327 | CYS |
| 34 | BC | 331 | ASN |
| 34 | BC | 333 | LYS |
| 34 | BC | 335 | ILE |
| 34 | BC | 346 | THR |
| 34 | BC | 351 | LEU |
| 34 | BC | 359 | ILE |
| 35 | BD | 8 | VAL |
| 35 | BD | 19 | ALA |
| 35 | BD | 21 | PRO |
| 35 | BD | 23 | PRO |
| 35 | BD | 24 | ALA |
| 35 | BD | 28 | ALA |
| 35 | BD | 54 | GLU |
| 35 | BD | 69 | ARG |
| 35 | BD | 77 | VAL |
| 35 | BD | 90 | PHE |
| 35 | BD | 98 | ARG |
| 35 | BD | 100 | PHE |
| 35 | BD | 102 | PRO |
| 35 | BD | 107 | ARG |
| 35 | BD | 116 | ASN |
| 35 | BD | 131 | VAL |
| 35 | BD | 140 | HIS |
| 35 | BD | 149 | PRO |
| 35 | BD | 150 | LEU |
| 35 | BD | 159 | ILE |
| 35 | BD | 160 | GLN |
| 35 | BD | 166 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 35 | BD | 182 | LEU |
| 35 | BD | 194 | TYR |
| 35 | BD | 212 | ASP |
| 35 | BD | 239 | ALA |
| 35 | BD | 252 | GLU |
| 35 | BD | 254 | ALA |
| 35 | BD | 257 | LYS |
| 35 | BD | 258 | LEU |
| 35 | BD | 261 | VAL |
| 35 | BD | 265 | GLU |
| 35 | BD | 266 | THR |
| 35 | BD | 267 | VAL |
| 35 | BD | 274 | TYR |
| 36 | BE | 12 | TYR |
| 36 | BE | 13 | SER |
| 36 | BE | 17 | GLN |
| 36 | BE | 18 | THR |
| 36 | BE | 19 | PRO |
| 36 | BE | 21 | ARG |
| 36 | BE | 32 | GLN |
| 36 | BE | 46 | THR |
| 36 | BE | 47 | PRO |
| 36 | BE | 48 | LYS |
| 36 | BE | 49 | TYR |
| 36 | BE | 50 | ARG |
| 36 | BE | 68 | THR |
| 36 | BE | 69 | ILE |
| 36 | BE | 78 | ALA |
| 36 | BE | 83 | LEU |
| 36 | BE | 84 | PRO |
| 36 | BE | 88 | ILE |
| 36 | BE | 100 | ALA |
| 36 | BE | 101 | THR |
| 36 | BE | 139 | PRO |
| 36 | BE | 148 | ILE |
| 36 | BE | 151 | GLN |
| 36 | BE | 159 | VAL |
| 36 | BE | 160 | PHE |
| 36 | BE | 171 | LEU |
| 36 | BE | 174 | PRO |
| 36 | BE | 178 | ASN |
| 36 | BE | 185 | PHE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 36 | BE | 191 | ASP |
| 36 | BE | 200 | PHE |
| 36 | BE | 211 | LEU |
| 36 | BE | 214 | ASP |
| 36 | BE | 231 | ILE |
| 36 | BE | 234 | ASP |
| 36 | BE | 238 | ASP |
| 36 | BE | 239 | ILE |
| 36 | BE | 246 | ALA |
| 36 | BE | 256 | THR |
| 36 | BE | 271 | LYS |
| 36 | BE | 293 | LEU |
| 37 | BF | 4 | GLN |
| 37 | BF | 6 | ALA |
| 37 | BF | 7 | PRO |
| 37 | BF | 10 | TYR |
| 37 | BF | 11 | PRO |
| 37 | BF | 13 | GLU |
| 37 | BF | 16 | ALA |
| 37 | BF | 26 | ARG |
| 37 | BF | 27 | PRO |
| 37 | BF | 28 | GLN |
| 37 | BF | 32 | ALA |
| 37 | BF | 33 | SER |
| 37 | BF | 34 | LEU |
| 37 | BF | 39 | VAL |
| 37 | BF | 44 | ALA |
| 37 | BF | 47 | PHE |
| 37 | BF | 52 | VAL |
| 37 | BF | 53 | VAL |
| 37 | BF | 68 | PRO |
| 37 | BF | 70 | LYS |
| 37 | BF | 71 | VAL |
| 37 | BF | 85 | ILE |
| 37 | BF | 86 | ALA |
| 37 | BF | 90 | LYS |
| 37 | BF | 92 | SER |
| 37 | BF | 93 | VAL |
| 37 | BF | 99 | GLU |
| 37 | BF | 106 | PHE |
| 37 | BF | 109 | GLU |
| 37 | BF | 110 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 37 | BF | 116 | LYS |
| 37 | BF | 118 | GLU |
| 37 | BF | 121 | LEU |
| 37 | BF | 122 | PHE |
| 37 | BF | 126 | GLN |
| 37 | BF | 137 | ASP |
| 37 | BF | 144 | ALA |
| 37 | BF | 146 | ILE |
| 37 | BF | 150 | LYS |
| 37 | BF | 151 | LYS |
| 37 | BF | 167 | ASN |
| 37 | BF | 172 | HIS |
| 37 | BF | 174 | LEU |
| 38 | BG | 32 | ALA |
| 38 | BG | 49 | ALA |
| 38 | BG | 50 | ALA |
| 38 | BG | 74 | SER |
| 38 | BG | 81 | HIS |
| 38 | BG | 82 | LYS |
| 38 | BG | 84 | VAL |
| 38 | BG | 85 | PHE |
| 38 | BG | 86 | VAL |
| 38 | BG | 96 | PRO |
| 38 | BG | 97 | PRO |
| 38 | BG | 112 | ASN |
| 38 | BG | 136 | TYR |
| 38 | BG | 138 | TYR |
| 38 | BG | 148 | VAL |
| 38 | BG | 149 | TYR |
| 38 | BG | 156 | ILE |
| 38 | BG | 160 | ARG |
| 38 | BG | 162 | PRO |
| 38 | BG | 177 | GLY |
| 38 | BG | 180 | SER |
| 38 | BG | 188 | ILE |
| 38 | BG | 193 | PRO |
| 38 | BG | 195 | PHE |
| 38 | BG | 202 | LEU |
| 38 | BG | 204 | PRO |
| 38 | BG | 206 | LYS |
| 38 | BG | 210 | PRO |
| 38 | BG | 217 | PRO |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 38 | BG | 223 | PHE |
| 38 | BG | 224 | ILE |
| 38 | BG | 228 | SER |
| 38 | BG | 229 | PHE |
| 38 | BG | 232 | ARG |
| 38 | BG | 233 | GLU |
| 38 | BG | 234 | GLU |
| 39 | BH | 96 | LYS |
| 39 | BH | 98 | ARG |
| 39 | BH | 99 | PRO |
| 39 | BH | 109 | LEU |
| 39 | BH | 110 | THR |
| 39 | BH | 128 | LYS |
| 39 | BH | 131 | ALA |
| 39 | BH | 132 | VAL |
| 39 | BH | 151 | VAL |
| 39 | BH | 181 | LYS |
| 39 | BH | 194 | THR |
| 39 | BH | 201 | THR |
| 39 | BH | 203 | VAL |
| 39 | BH | 209 | ALA |
| 39 | BH | 210 | ALA |
| 39 | BH | 212 | ALA |
| 39 | BH | 214 | LEU |
| 39 | BH | 227 | ASP |
| 39 | BH | 233 | TRP |
| 39 | BH | 238 | LEU |
| 39 | BH | 245 | LYS |
| 39 | BH | 249 | ARG |
| 40 | BI | 2 | LYS |
| 40 | BI | 5 | GLN |
| 40 | BI | 22 | SER |
| 40 | BI | 30 | PRO |
| 40 | BI | 41 | ILE |
| 40 | BI | 43 | VAL |
| 40 | BI | 46 | THR |
| 40 | BI | 53 | ILE |
| 40 | BI | 86 | TYR |
| 40 | BI | 104 | VAL |
| 40 | BI | 110 | LYS |
| 40 | BI | 122 | LYS |
| 40 | BI | 127 | PRO |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 40 | BI | 138 | THR |
| 40 | BI | 140 | VAL |
| 40 | BI | 141 | LYS |
| 40 | BI | 142 | ASP |
| 40 | BI | 167 | VAL |
| 40 | BI | 169 | ASN |
| 40 | BI | 170 | LYS |
| 40 | BI | 172 | ILE |
| 40 | BI | 186 | PHE |
| 40 | BI | 189 | GLU |
| 41 | BJ | 5 | PRO |
| 41 | BJ | 11 | TYR |
| 41 | BJ | 13 | LYS |
| 41 | BJ | 14 | ASN |
| 41 | BJ | 16 | PRO |
| 41 | BJ | 17 | TYR |
| 41 | BJ | 25 | ALA |
| 41 | BJ | 29 | SER |
| 41 | BJ | 34 | TYR |
| 41 | BJ | 39 | LYS |
| 41 | BJ | 43 | VAL |
| 41 | BJ | 46 | PHE |
| 41 | BJ | 48 | LEU |
| 41 | BJ | 57 | LEU |
| 41 | BJ | 61 | SER |
| 41 | BJ | 70 | ILE |
| 41 | BJ | 92 | HIS |
| 41 | BJ | 115 | MET |
| 41 | BJ | 136 | PHE |
| 41 | BJ | 145 | LYS |
| 41 | BJ | 147 | VAL |
| 41 | BJ | 160 | PRO |
| 41 | BJ | 162 | GLN |
| 41 | BJ | 169 | LYS |
| 41 | BJ | 178 | ARG |
| 41 | BJ | 190 | VAL |
| 41 | BJ | 201 | SER |
| 41 | BJ | 208 | ASN |
| 42 | BK | 8 | PRO |
| 42 | BK | 15 | GLU |
| 42 | BK | 18 | VAL |
| 42 | BK | 23 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 42 | BK | 32 | ARG |
| 42 | BK | 34 | SER |
| 42 | BK | 45 | PRO |
| 42 | BK | 47 | GLN |
| 42 | BK | 49 | LYS |
| 42 | BK | 50 | ALA |
| 42 | BK | 52 | TYR |
| 42 | BK | 54 | VAL |
| 42 | BK | 55 | ARG |
| 42 | BK | 56 | THR |
| 42 | BK | 62 | ASN |
| 42 | BK | 65 | ILE |
| 42 | BK | 66 | ALA |
| 42 | BK | 69 | VAL |
| 42 | BK | 76 | ALA |
| 42 | BK | 85 | LYS |
| 42 | BK | 86 | VAL |
| 42 | BK | 88 | GLU |
| 42 | BK | 102 | PHE |
| 42 | BK | 108 | GLU |
| 42 | BK | 110 | ILE |
| 42 | BK | 115 | LYS |
| 42 | BK | 118 | PRO |
| 42 | BK | 120 | ILE |
| 42 | BK | 122 | ILE |
| 42 | BK | 129 | VAL |
| 42 | BK | 132 | ASN |
| 42 | BK | 133 | ARG |
| 42 | BK | 134 | PRO |
| 42 | BK | 143 | ARG |
| 42 | BK | 148 | VAL |
| 42 | BK | 154 | THR |
| 43 | BN | 10 | SER |
| 43 | BN | 15 | VAL |
| 43 | BN | 19 | ARG |
| 43 | BN | 20 | VAL |
| 43 | BN | 23 | ILE |
| 43 | BN | 24 | LYS |
| 43 | BN | 25 | LYS |
| 43 | BN | 27 | GLN |
| 43 | BN | 29 | ALA |
| 43 | BN | 43 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 43 | BN | 54 | PRO |
| 43 | BN | 55 | ARG |
| 43 | BN | 59 | ASN |
| 43 | BN | 60 | LEU |
| 43 | BN | 62 | GLN |
| 43 | BN | 63 | VAL |
| 43 | BN | 64 | VAL |
| 43 | BN | 66 | THR |
| 43 | BN | 67 | PRO |
| 43 | BN | 70 | PHE |
| 43 | BN | 81 | VAL |
| 43 | BN | 82 | SER |
| 43 | BN | 90 | VAL |
| 43 | BN | 103 | ILE |
| 43 | BN | 111 | ALA |
| 43 | BN | 126 | GLN |
| 43 | BN | 127 | LYS |
| 44 | BO | 17 | ASP |
| 44 | BO | 30 | TYR |
| 44 | BO | 35 | VAL |
| 44 | BO | 39 | ALA |
| 44 | BO | 42 | PRO |
| 44 | BO | 46 | ASP |
| 44 | BO | 53 | TYR |
| 44 | BO | 54 | LYS |
| 44 | BO | 55 | ALA |
| 44 | BO | 60 | VAL |
| 44 | BO | 75 | VAL |
| 44 | BO | 76 | PRO |
| 44 | BO | 79 | ALA |
| 44 | BO | 80 | THR |
| 44 | BO | 83 | LYS |
| 44 | BO | 84 | PRO |
| 44 | BO | 96 | ARG |
| 44 | BO | 97 | SER |
| 44 | BO | 98 | LEU |
| 44 | BO | 121 | VAL |
| 44 | BO | 127 | TYR |
| 44 | BO | 136 | ASP |
| 44 | BO | 156 | HIS |
| 44 | BO | 161 | ALA |
| 45 | BP | 5 | PRO |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 45 | BP | 12 | LYS |
| 45 | BP | 16 | VAL |
| 45 | BP | 23 | VAL |
| 45 | BP | 37 | ARG |
| 45 | BP | 38 | ALA |
| 45 | BP | 61 | ALA |
| 45 | BP | 66 | LYS |
| 45 | BP | 70 | PRO |
| 45 | BP | 75 | ALA |
| 45 | BP | 76 | PRO |
| 45 | BP | 83 | ALA |
| 45 | BP | 100 | GLU |
| 45 | BP | 108 | ILE |
| 45 | BP | 109 | PRO |
| 45 | BP | 110 | PRO |
| 45 | BP | 112 | TYR |
| 45 | BP | 115 | LYS |
| 45 | BP | 120 | VAL |
| 45 | BP | 121 | PRO |
| 45 | BP | 125 | ARG |
| 45 | BP | 126 | VAL |
| 45 | BP | 128 | ARG |
| 45 | BP | 131 | PRO |
| 45 | BP | 134 | LYS |
| 45 | BP | 147 | TRP |
| 45 | BP | 188 | SER |
| 46 | BQ | 9 | THR |
| 46 | BQ | 10 | ASN |
| 46 | BQ | 12 | ALA |
| 46 | BQ | 20 | SER |
| 46 | BQ | 30 | ARG |
| 46 | BQ | 33 | ALA |
| 46 | BQ | 52 | LEU |
| 46 | BQ | 56 | ARG |
| 46 | BQ | 69 | ARG |
| 46 | BQ | 71 | ALA |
| 46 | BQ | 75 | GLU |
| 46 | BQ | 83 | TRP |
| 46 | BQ | 84 | PRO |
| 46 | BQ | 106 | GLY |
| 46 | BQ | 110 | THR |
| 46 | BQ | 114 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 46 | BQ | 118 | GLN |
| 46 | BQ | 122 | ALA |
| 46 | BQ | 123 | PRO |
| 46 | BQ | 142 | SER |
| 47 | BR | 18 | ALA |
| 47 | BR | 19 | PRO |
| 47 | BR | 22 | ASP |
| 47 | BR | 39 | ARG |
| 47 | BR | 42 | ALA |
| 47 | BR | 43 | PRO |
| 47 | BR | 60 | PRO |
| 47 | BR | 61 | PRO |
| 47 | BR | 76 | ALA |
| 47 | BR | 93 | ILE |
| 47 | BR | 94 | PHE |
| 47 | BR | 97 | PRO |
| 47 | BR | 103 | ALA |
| 47 | BR | 104 | LEU |
| 47 | BR | 108 | ALA |
| 47 | BR | 110 | ALA |
| 47 | BR | 111 | ARG |
| 47 | BR | 112 | ALA |
| 47 | BR | 117 | ALA |
| 47 | BR | 123 | THR |
| 47 | BR | 143 | PRO |
| 47 | BR | 145 | ASN |
| 47 | BR | 153 | PHE |
| 48 | BS | 19 | LYS |
| 48 | BS | 60 | LYS |
| 48 | BS | 104 | ARG |
| 48 | BS | 106 | LEU |
| 48 | BS | 130 | ASN |
| 48 | BS | 133 | LYS |
| 48 | BS | 134 | HIS |
| 48 | BS | 135 | LYS |
| 48 | BS | 143 | ILE |
| 49 | BT | 9 | SER |
| 49 | BT | 15 | PHE |
| 49 | BT | 16 | GLN |
| 49 | BT | 31 | LEU |
| 49 | BT | 32 | LYS |
| 49 | BT | 34 | TYR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 49 | BT | 35 | LYS |
| 49 | BT | 43 | LYS |
| 49 | BT | 46 | GLY |
| 49 | BT | 49 | GLN |
| 49 | BT | 54 | HIS |
| 49 | BT | 64 | VAL |
| 49 | BT | 66 | ASN |
| 49 | BT | 67 | VAL |
| 49 | BT | 69 | LYS |
| 49 | BT | 70 | SER |
| 49 | BT | 75 | ILE |
| 49 | BT | 76 | ILE |
| 49 | BT | 79 | MET |
| 49 | BT | 81 | GLY |
| 49 | BT | 85 | LEU |
| 49 | BT | 98 | HIS |
| 49 | BT | 110 | LYS |
| 50 | BU | 19 | VAL |
| 50 | BU | 31 | ALA |
| 50 | BU | 40 | LYS |
| 50 | BU | 46 | LEU |
| 50 | BU | 47 | ASN |
| 50 | BU | 66 | LYS |
| 50 | BU | 81 | GLN |
| 50 | BU | 94 | TYR |
| 50 | BU | 95 | PHE |
| 50 | BU | 97 | ASP |
| 50 | BU | 105 | PRO |
| 50 | BU | 112 | SER |
| 50 | BU | 131 | SER |
| 50 | BU | 134 | GLY |
| 50 | BU | 135 | VAL |
| 51 | BV | 3 | VAL |
| 51 | BV | 4 | GLU |
| 51 | BV | 5 | ILE |
| 51 | BV | 6 | ASP |
| 51 | BV | 8 | PHE |
| 51 | BV | 22 | VAL |
| 51 | BV | 23 | ARG |
| 51 | BV | 25 | ASP |
| 51 | BV | 28 | ILE |
| 51 | BV | 29 | PHE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 51 | BV | 33 | ASN |
| 51 | BV | 34 | SER |
| 51 | BV | 52 | THR |
| 51 | BV | 57 | LYS |
| 52 | BW | 49 | LYS |
| 52 | BW | 51 | VAL |
| 52 | BW | 52 | PRO |
| 52 | BW | 53 | HIS |
| 52 | BW | 58 | ASP |
| 52 | BW | 61 | LYS |
| 52 | BW | 62 | VAL |
| 52 | BW | 64 | GLU |
| 52 | BW | 66 | PRO |
| 52 | BW | 67 | ILE |
| 52 | BW | 70 | GLU |
| 52 | BW | 84 | PHE |
| 52 | BW | 102 | LEU |
| 52 | BW | 106 | ASP |
| 52 | BW | 129 | ASP |
| 52 | BW | 130 | TYR |
| 53 | BX | 19 | TYR |
| 53 | BX | 20 | PHE |
| 53 | BX | 58 | VAL |
| 53 | BX | 59 | VAL |
| 53 | BX | 79 | ALA |
| 53 | BX | 100 | HIS |
| 53 | BX | 101 | PRO |
| 54 | BY | 2 | PRO |
| 54 | BY | 3 | SER |
| 54 | BY | 9 | ARG |
| 54 | BY | 10 | LYS |
| 54 | BY | 12 | ARG |
| 54 | BY | 21 | ARG |
| 54 | BY | 22 | ILE |
| 54 | BY | 27 | LYS |
| 54 | BY | 30 | GLY |
| 54 | BY | 34 | MET |
| 54 | BY | 36 | GLY |
| 54 | BY | 40 | HIS |
| 54 | BY | 43 | ILE |
| 54 | BY | 44 | ASN |
| 54 | BY | 50 | PRO |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 54 | BY | 56 | VAL |
| 54 | BY | 60 | TYR |
| 54 | BY | 61 | PHE |
| 54 | BY | 69 | TRP |
| 54 | BY | 74 | ASN |
| 54 | BY | 78 | LEU |
| 54 | BY | 79 | TRP |
| 54 | BY | 85 | ASP |
| 54 | BY | 88 | ASP |
| 54 | BY | 90 | TYR |
| 54 | BY | 91 | LEU |
| 54 | BY | 94 | ALA |
| 54 | BY | 98 | THR |
| 54 | BY | 102 | ILE |
| 54 | BY | 112 | ILE |
| 54 | BY | 114 | GLY |
| 54 | BY | 117 | ARG |
| 54 | BY | 118 | ILE |
| 54 | BY | 119 | PRO |
| 54 | BY | 130 | VAL |
| 54 | BY | 132 | LYS |
| 54 | BY | 148 | ILE |
| 55 | BZ | 27 | TYR |
| 55 | BZ | 63 | SER |
| 55 | BZ | 83 | LYS |
| 55 | BZ | 86 | ARG |
| 55 | BZ | 89 | VAL |
| 56 | Ba | 6 | ASP |
| 56 | Ba | 7 | VAL |
| 56 | Ba | 14 | ILE |
| 56 | Ba | 15 | ASN |
| 56 | Ba | 16 | LEU |
| 56 | Ba | 25 | PHE |
| 56 | Ba | 29 | ALA |
| 56 | Ba | 44 | MET |
| 56 | Ba | 47 | ASP |
| 56 | Ba | 59 | ILE |
| 56 | Ba | 60 | TRP |
| 56 | Ba | 61 | LYS |
| 56 | Ba | 79 | ARG |
| 56 | Ba | 85 | ALA |
| 57 | Bb | 6 | HIS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 57 | Bb | 7 | PRO |
| 57 | Bb | 12 | LYS |
| 57 | Bb | 20 | HIS |
| 57 | Bb | 22 | SER |
| 57 | Bb | 30 | GLU |
| 57 | Bb | 33 | ARG |
| 57 | Bb | 50 | ILE |
| 57 | Bb | 52 | GLN |
| 57 | Bb | 53 | PRO |
| 57 | Bb | 55 | ILE |
| 57 | Bb | 56 | GLY |
| 57 | Bb | 61 | LYS |
| 57 | Bb | 64 | LYS |
| 57 | Bb | 68 | PRO |
| 57 | Bb | 69 | SER |
| 57 | Bb | 79 | VAL |
| 57 | Bb | 84 | THR |
| 57 | Bb | 96 | ILE |
| 57 | Bb | 101 | SER |
| 57 | Bb | 109 | LEU |
| 57 | Bb | 110 | ALA |
| 57 | Bb | 121 | ASN |
| 58 | Bc | 18 | ALA |
| 58 | Bc | 38 | ARG |
| 58 | Bc | 40 | SER |
| 59 | Bd | 5 | THR |
| 59 | Bd | 8 | PHE |
| 59 | Bd | 28 | HIS |
| 59 | Bd | 29 | VAL |
| 59 | Bd | 35 | SER |
| 59 | Bd | 42 | ALA |
| 59 | Bd | 47 | TYR |
| 59 | Bd | 64 | MET |
| 59 | Bd | 65 | ARG |
| 59 | Bd | 67 | LEU |
| 59 | Bd | 68 | LYS |
| 59 | Bd | 71 | SER |
| 60 | Be | 27 | ILE |
| 60 | Be | 44 | TRP |
| 60 | Be | 45 | ARG |
| 61 | Bf | 5 | PRO |
| 61 | Bf | 13 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 61 | Bf | 34 | SER |
| 61 | Bf | 47 | GLN |
| 61 | Bf | 53 | GLN |
| 61 | Bf | 66 | LYS |
| 61 | Bf | 93 | LEU |
| 62 | Bg | 16 | VAL |
| 62 | Bg | 18 | TYR |
| 62 | Bg | 34 | HIS |
| 62 | Bg | 35 | ALA |
| 62 | Bg | 37 | TYR |
| 62 | Bg | 48 | LYS |
| 62 | Bg | 49 | ARG |
| 62 | Bg | 53 | GLY |
| 62 | Bg | 54 | ILE |
| 62 | Bg | 55 | TRP |
| 62 | Bg | 71 | VAL |
| 62 | Bg | 81 | SER |
| 62 | Bg | 83 | ILE |
| 2 | CA | 11 | PRO |
| 2 | CA | 13 | ASP |
| 2 | CA | 14 | ALA |
| 2 | CA | 24 | LEU |
| 2 | CA | 36 | TYR |
| 2 | CA | 40 | ALA |
| 2 | CA | 41 | ARG |
| 2 | CA | 42 | PRO |
| 2 | CA | 43 | ASP |
| 2 | CA | 45 | VAL |
| 2 | CA | 49 | ASN |
| 2 | CA | 65 | ALA |
| 2 | CA | 70 | PRO |
| 2 | CA | 71 | GLU |
| 2 | CA | 89 | PHE |
| 2 | CA | 94 | GLY |
| 2 | CA | 97 | PRO |
| 2 | CA | 113 | ARG |
| 2 | CA | 117 | GLU |
| 2 | CA | 118 | PRO |
| 2 | CA | 126 | PRO |
| 2 | CA | 140 | ASN |
| 2 | CA | 143 | VAL |
| 2 | CA | 159 | ALA |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | CA | 161 | PRO |
| 2 | CA | 163 | ASN |
| 2 | CA | 172 | LEU |
| 2 | CA | 193 | GLN |
| 2 | CA | 194 | PRO |
| 2 | CA | 202 | TYR |
| 2 | CA | 204 | TYR |
| 2 | CA | 220 | THR |
| 3 | CB | 37 | PRO |
| 3 | CB | 59 | HIS |
| 3 | CB | 62 | PRO |
| 3 | CB | 63 | VAL |
| 3 | CB | 66 | PHE |
| 3 | CB | 68 | ILE |
| 3 | CB | 73 | LEU |
| 3 | CB | 74 | PRO |
| 3 | CB | 84 | LYS |
| 3 | CB | 85 | PRO |
| 3 | CB | 125 | ILE |
| 3 | CB | 126 | ARG |
| 3 | CB | 133 | LYS |
| 3 | CB | 135 | SER |
| 3 | CB | 136 | VAL |
| 3 | CB | 139 | ILE |
| 3 | CB | 140 | ARG |
| 3 | CB | 143 | TYR |
| 3 | CB | 147 | ASN |
| 3 | CB | 151 | PRO |
| 3 | CB | 159 | THR |
| 3 | CB | 161 | LYS |
| 3 | CB | 164 | SER |
| 3 | CB | 165 | VAL |
| 3 | CB | 166 | THR |
| 3 | CB | 186 | LYS |
| 3 | CB | 189 | GLN |
| 3 | CB | 193 | VAL |
| 3 | CB | 196 | VAL |
| 3 | CB | 204 | THR |
| 3 | CB | 209 | ASN |
| 3 | CB | 220 | ASN |
| 3 | CB | 225 | LEU |
| 3 | CB | 234 | PRO |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | CB | 235 | LEU |
| 3 | CB | 236 | PRO |
| 3 | CB | 237 | VAL |
| 3 | CB | 238 | SER |
| 3 | CB | 239 | PRO |
| 3 | CB | 243 | TYR |
| 4 | CC | 8 | LYS |
| 4 | CC | 9 | ARG |
| 4 | CC | 16 | VAL |
| 4 | CC | 17 | PHE |
| 4 | CC | 22 | ASN |
| 4 | CC | 28 | GLU |
| 4 | CC | 37 | VAL |
| 4 | CC | 43 | PRO |
| 4 | CC | 66 | ILE |
| 4 | CC | 69 | LEU |
| 4 | CC | 70 | THR |
| 4 | CC | 74 | GLN |
| 4 | CC | 76 | ARG |
| 4 | CC | 79 | TYR |
| 4 | CC | 80 | ALA |
| 4 | CC | 81 | PRO |
| 4 | CC | 94 | ARG |
| 4 | CC | 96 | LEU |
| 4 | CC | 100 | ALA |
| 4 | CC | 131 | ALA |
| 4 | CC | 136 | VAL |
| 4 | CC | 145 | ALA |
| 4 | CC | 152 | PHE |
| 4 | CC | 157 | LEU |
| 4 | CC | 162 | GLN |
| 4 | CC | 163 | PRO |
| 4 | CC | 167 | PHE |
| 4 | CC | 168 | ILE |
| 4 | CC | 174 | HIS |
| 4 | CC | 175 | VAL |
| 4 | CC | 193 | ALA |
| 5 | CD | 40 | ILE |
| 5 | CD | 42 | LEU |
| 5 | CD | 47 | SER |
| 5 | CD | 56 | ALA |
| 5 | CD | 57 | SER |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 5 | CD | 64 | VAL |
| 5 | CD | 65 | ARG |
| 5 | CD | 66 | GLN |
| 5 | CD | 88 | PRO |
| 5 | CD | 89 | ILE |
| 5 | CD | 92 | ARG |
| 5 | CD | 108 | LEU |
| 5 | CD | 129 | PRO |
| 5 | CD | 140 | THR |
| 5 | CD | 160 | VAL |
| 5 | CD | 162 | VAL |
| 5 | CD | 163 | SER |
| 5 | CD | 164 | PRO |
| 5 | CD | 166 | ARG |
| 5 | CD | 167 | ARG |
| 5 | CD | 182 | ALA |
| 5 | CD | 184 | PHE |
| 5 | CD | 187 | ILE |
| 5 | CD | 216 | GLU |
| 6 | CE | 39 | LYS |
| 6 | CE | 41 | GLU |
| 6 | CE | 55 | ALA |
| 6 | CE | 56 | ALA |
| 6 | CE | 64 | GLU |
| 6 | CE | 66 | ASP |
| 6 | CE | 67 | PRO |
| 6 | CE | 81 | VAL |
| 6 | CE | 82 | ARG |
| 6 | CE | 83 | VAL |
| 6 | CE | 99 | LEU |
| 6 | CE | 100 | LYS |
| 6 | CE | 106 | GLU |
| 6 | CE | 112 | GLN |
| 6 | CE | 121 | SER |
| 6 | CE | 122 | VAL |
| 6 | CE | 124 | HIS |
| 6 | CE | 130 | THR |
| 6 | CE | 131 | GLN |
| 6 | CE | 132 | ARG |
| 6 | CE | 140 | ILE |
| 6 | CE | 141 | VAL |
| 6 | CE | 143 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 6 | CE | 152 | SER |
| 6 | CE | 153 | GLU |
| 6 | CE | 169 | PRO |
| 6 | CE | 174 | ARG |
| 7 | CF | 70 | ILE |
| 7 | CF | 80 | MET |
| 7 | CF | 83 | THR |
| 7 | CF | 86 | ILE |
| 7 | CF | 90 | TYR |
| 7 | CF | 94 | ILE |
| 7 | CF | 95 | PRO |
| 7 | CF | 98 | ASN |
| 7 | CF | 111 | VAL |
| 7 | CF | 112 | SER |
| 7 | CF | 113 | PRO |
| 7 | CF | 125 | VAL |
| 7 | CF | 130 | PRO |
| 7 | CF | 133 | LYS |
| 8 | CG | 46 | THR |
| 8 | CG | 47 | PRO |
| 8 | CG | 50 | ILE |
| 8 | CG | 58 | HIS |
| 8 | CG | 62 | GLN |
| 8 | CG | 65 | VAL |
| 8 | CG | 69 | ASN |
| 8 | CG | 71 | ILE |
| 8 | CG | 82 | PRO |
| 8 | CG | 84 | ILE |
| 8 | CG | 85 | PRO |
| 8 | CG | 86 | GLU |
| 8 | CG | 126 | ALA |
| 8 | CG | 132 | VAL |
| 8 | CG | 135 | LEU |
| 8 | CG | 136 | PRO |
| 8 | CG | 137 | PRO |
| 9 | CH | 4 | VAL |
| 9 | CH | 23 | PHE |
| 9 | CH | 26 | THR |
| 9 | CH | 40 | ALA |
| 9 | CH | 42 | VAL |
| 9 | CH | 43 | THR |
| 9 | CH | 50 | ALA |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 9 | CH | 65 | GLN |
| 9 | CH | 67 | VAL |
| 9 | CH | 79 | VAL |
| 9 | CH | 94 | PRO |
| 9 | CH | 96 | PRO |
| 9 | CH | 101 | ALA |
| 9 | CH | 122 | PRO |
| 10 | CI | 11 | VAL |
| 10 | CI | 13 | LYS |
| 10 | CI | 23 | GLU |
| 10 | CI | 34 | VAL |
| 10 | CI | 38 | PRO |
| 10 | CI | 45 | PHE |
| 10 | CI | 51 | SER |
| 10 | CI | 53 | PRO |
| 10 | CI | 61 | ARG |
| 10 | CI | 68 | PRO |
| 10 | CI | 73 | PRO |
| 10 | CI | 75 | PRO |
| 10 | CI | 80 | MET |
| 10 | CI | 85 | ILE |
| 10 | CI | 86 | VAL |
| 10 | CI | 121 | ILE |
| 10 | CI | 125 | PRO |
| 11 | CJ | 34 | SER |
| 11 | CJ | 35 | PRO |
| 11 | CJ | 36 | ILE |
| 11 | CJ | 38 | LEU |
| 11 | CJ | 42 | GLU |
| 11 | CJ | 57 | LEU |
| 11 | CJ | 61 | SER |
| 11 | CJ | 63 | ILE |
| 11 | CJ | 70 | THR |
| 11 | CJ | 85 | ILE |
| 11 | CJ | 90 | VAL |
| 11 | CJ | 97 | VAL |
| 11 | CJ | 105 | LEU |
| 11 | CJ | 118 | ILE |
| 11 | CJ | 126 | PRO |
| 12 | CK | 22 | PRO |
| 12 | CK | 26 | LEU |
| 12 | CK | 29 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 12 | CK | 38 | ILE |
| 12 | CK | 39 | ALA |
| 12 | CK | 44 | LYS |
| 12 | CK | 60 | ARG |
| 12 | CK | 65 | PRO |
| 12 | CK | 69 | ILE |
| 13 | CL | 18 | LEU |
| 13 | CL | 27 | LYS |
| 13 | CL | 47 | CYS |
| 13 | CL | 65 | GLU |
| 13 | CL | 66 | LEU |
| 13 | CL | 71 | GLN |
| 13 | CL | 72 | ILE |
| 13 | CL | 74 | GLN |
| 13 | CL | 75 | ASN |
| 13 | CL | 79 | TYR |
| 13 | CL | 80 | LYS |
| 13 | CL | 81 | ILE |
| 13 | CL | 98 | TYR |
| 13 | CL | 99 | HIS |
| 13 | CL | 102 | ALA |
| 13 | CL | 117 | LYS |
| 13 | CL | 118 | LYS |
| 14 | CM | 2 | PRO |
| 14 | CM | 8 | ASP |
| 14 | CM | 9 | VAL |
| 14 | CM | 25 | GLN |
| 14 | CM | 28 | LEU |
| 14 | CM | 29 | GLU |
| 14 | CM | 36 | ILE |
| 14 | CM | 68 | ARG |
| 14 | CM | 103 | LYS |
| 14 | CM | 110 | LYS |
| 14 | CM | 111 | ILE |
| 14 | CM | 113 | ILE |
| 14 | CM | 119 | LYS |
| 14 | CM | 125 | SER |
| 14 | CM | 126 | GLU |
| 14 | CM | 127 | ASN |
| 14 | CM | 129 | GLN |
| 15 | CN | 14 | GLN |
| 15 | CN | 15 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 15 | CN | 24 | ILE |
| 15 | CN | 31 | VAL |
| 15 | CN | 45 | ALA |
| 15 | CN | 50 | LEU |
| 15 | CN | 55 | PRO |
| 15 | CN | 59 | PRO |
| 15 | CN | 72 | ASN |
| 15 | CN | 76 | SER |
| 15 | CN | 84 | MET |
| 15 | CN | 93 | LEU |
| 15 | CN | 96 | PRO |
| 15 | CN | 108 | ILE |
| 15 | CN | 117 | VAL |
| 16 | CO | 5 | SER |
| 16 | CO | 24 | GLN |
| 16 | CO | 27 | ILE |
| 16 | CO | 28 | ARG |
| 16 | CO | 29 | PRO |
| 16 | CO | 30 | SER |
| 16 | CO | 31 | SER |
| 16 | CO | 38 | LEU |
| 16 | CO | 63 | VAL |
| 16 | CO | 76 | SER |
| 16 | CO | 77 | PRO |
| 16 | CO | 79 | PHE |
| 16 | CO | 85 | ASP |
| 16 | CO | 86 | ILE |
| 16 | CO | 95 | PRO |
| 16 | CO | 97 | ARG |
| 16 | CO | 99 | PHE |
| 16 | CO | 103 | ILE |
| 16 | CO | 106 | THR |
| 16 | CO | 118 | ARG |
| 16 | CO | 120 | HIS |
| 16 | CO | 126 | LEU |
| 17 | CP | 32 | ARG |
| 17 | CP | 33 | LEU |
| 17 | CP | 48 | HIS |
| 17 | CP | 49 | ALA |
| 17 | CP | 59 | ILE |
| 17 | CP | 64 | PRO |
| 17 | CP | 78 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 17 | CP | 87 | VAL |
| 17 | CP | 90 | ASP |
| 17 | CP | 104 | LEU |
| 17 | CP | 105 | ALA |
| 17 | CP | 108 | GLY |
| 17 | CP | 119 | GLY |
| 17 | CP | 124 | VAL |
| 17 | CP | 127 | VAL |
| 17 | CP | 130 | VAL |
| 17 | CP | 135 | LEU |
| 17 | CP | 138 | GLU |
| 18 | CQ | 57 | TYR |
| 18 | CQ | 71 | ILE |
| 18 | CQ | 85 | LYS |
| 18 | CQ | 88 | ILE |
| 18 | CQ | 90 | LYS |
| 18 | CQ | 91 | PRO |
| 18 | CQ | 97 | LYS |
| 19 | CR | 10 | ALA |
| 19 | CR | 14 | LYS |
| 19 | CR | 15 | VAL |
| 19 | CR | 34 | GLU |
| 19 | CR | 39 | THR |
| 19 | CR | 44 | VAL |
| 20 | CS | 20 | GLN |
| 20 | CS | 24 | CYS |
| 20 | CS | 26 | SER |
| 20 | CS | 34 | TYR |
| 20 | CS | 40 | ARG |
| 20 | CS | 43 | PHE |
| 20 | CS | 48 | ASN |
| 20 | CS | 52 | PHE |
| 21 | CT | 2 | ALA |
| 21 | CT | 48 | THR |
| 21 | CT | 66 | HIS |
| 21 | CT | 100 | TYR |
| 21 | CT | 119 | ALA |
| 21 | CT | 189 | GLU |
| 21 | CT | 195 | HIS |
| 21 | CT | 198 | ASN |
| 21 | CT | 231 | MET |
| 21 | CT | 237 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 21 | CT | 241 | PHE |
| 21 | CT | 269 | TYR |
| 21 | CT | 270 | LEU |
| 21 | CT | 281 | TYR |
| 21 | CT | 295 | SER |
| 32 | DA | 28 | PHE |
| 32 | DA | 31 | THR |
| 32 | DA | 36 | VAL |
| 32 | DA | 41 | TYR |
| 32 | DA | 43 | PRO |
| 32 | DA | 56 | PRO |
| 32 | DA | 57 | ASN |
| 32 | DA | 60 | ARG |
| 32 | DA | 111 | ILE |
| 32 | DA | 120 | VAL |
| 32 | DA | 121 | PRO |
| 32 | DA | 131 | ALA |
| 32 | DA | 134 | PHE |
| 32 | DA | 138 | VAL |
| 32 | DA | 142 | ASP |
| 32 | DA | 153 | SER |
| 32 | DA | 167 | VAL |
| 32 | DA | 169 | VAL |
| 32 | DA | 171 | ASN |
| 32 | DA | 173 | GLU |
| 32 | DA | 201 | VAL |
| 32 | DA | 205 | VAL |
| 32 | DA | 212 | PRO |
| 33 | DB | 5 | ILE |
| 33 | DB | 9 | ARG |
| 33 | DB | 13 | GLY |
| 33 | DB | 14 | SER |
| 33 | DB | 16 | PHE |
| 33 | DB | 24 | GLN |
| 33 | DB | 26 | ALA |
| 33 | DB | 38 | HIS |
| 33 | DB | 50 | HIS |
| 33 | DB | 61 | VAL |
| 33 | DB | 65 | ASP |
| 33 | DB | 79 | ASN |
| 33 | DB | 83 | HIS |
| 33 | DB | 84 | THR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 33 | DB | 90 | ALA |
| 33 | DB | 92 | LYS |
| 33 | DB | 98 | VAL |
| 33 | DB | 107 | VAL |
| 33 | DB | 108 | PRO |
| 33 | DB | 110 | GLY |
| 33 | DB | 111 | THR |
| 33 | DB | 120 | PRO |
| 33 | DB | 137 | ILE |
| 33 | DB | 139 | HIS |
| 33 | DB | 141 | PRO |
| 33 | DB | 149 | ARG |
| 33 | DB | 152 | SER |
| 33 | DB | 157 | VAL |
| 33 | DB | 163 | ARG |
| 33 | DB | 166 | ILE |
| 33 | DB | 176 | ASP |
| 33 | DB | 178 | PRO |
| 33 | DB | 182 | ALA |
| 33 | DB | 188 | LYS |
| 33 | DB | 197 | PRO |
| 33 | DB | 199 | THR |
| 33 | DB | 208 | ASP |
| 33 | DB | 210 | PRO |
| 33 | DB | 211 | HIS |
| 33 | DB | 216 | HIS |
| 33 | DB | 217 | GLN |
| 33 | DB | 219 | ILE |
| 33 | DB | 222 | ALA |
| 33 | DB | 230 | VAL |
| 33 | DB | 233 | GLN |
| 33 | DB | 234 | LYS |
| 33 | DB | 235 | ALA |
| 33 | DB | 237 | LEU |
| 33 | DB | 241 | ARG |
| 33 | DB | 242 | ARG |
| 33 | DB | 243 | THR |
| 34 | DC | 21 | ARG |
| 34 | DC | 23 | ALA |
| 34 | DC | 40 | PRO |
| 34 | DC | 41 | VAL |
| 34 | DC | 42 | ALA |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | DC | 43 | LEU |
| 34 | DC | 44 | THR |
| 34 | DC | 47 | LEU |
| 34 | DC | 51 | ALA |
| 34 | DC | 61 | ASP |
| 34 | DC | 63 | PRO |
| 34 | DC | 71 | GLU |
| 34 | DC | 81 | THR |
| 34 | DC | 82 | PRO |
| 34 | DC | 83 | PRO |
| 34 | DC | 86 | VAL |
| 34 | DC | 89 | VAL |
| 34 | DC | 93 | VAL |
| 34 | DC | 94 | GLU |
| 34 | DC | 97 | ARG |
| 34 | DC | 105 | VAL |
| 34 | DC | 106 | TRP |
| 34 | DC | 109 | HIS |
| 34 | DC | 110 | LEU |
| 34 | DC | 113 | GLU |
| 34 | DC | 117 | ARG |
| 34 | DC | 122 | TRP |
| 34 | DC | 123 | TYR |
| 34 | DC | 131 | THR |
| 34 | DC | 132 | LYS |
| 34 | DC | 137 | TYR |
| 34 | DC | 139 | GLN |
| 34 | DC | 143 | GLY |
| 34 | DC | 153 | LYS |
| 34 | DC | 157 | VAL |
| 34 | DC | 158 | VAL |
| 34 | DC | 160 | VAL |
| 34 | DC | 165 | GLN |
| 34 | DC | 166 | ILE |
| 34 | DC | 167 | ARG |
| 34 | DC | 170 | PRO |
| 34 | DC | 173 | GLN |
| 34 | DC | 174 | LYS |
| 34 | DC | 175 | LYS |
| 34 | DC | 176 | ALA |
| 34 | DC | 179 | ALA |
| 34 | DC | 181 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | DC | 187 | SER |
| 34 | DC | 188 | ILE |
| 34 | DC | 197 | GLU |
| 34 | DC | 199 | PHE |
| 34 | DC | 200 | GLU |
| 34 | DC | 209 | PHE |
| 34 | DC | 220 | VAL |
| 34 | DC | 221 | THR |
| 34 | DC | 238 | LEU |
| 34 | DC | 239 | PRO |
| 34 | DC | 244 | ARG |
| 34 | DC | 248 | LYS |
| 34 | DC | 251 | CYS |
| 34 | DC | 259 | HIS |
| 34 | DC | 261 | MET |
| 34 | DC | 264 | VAL |
| 34 | DC | 270 | ARG |
| 34 | DC | 272 | TYR |
| 34 | DC | 274 | SER |
| 34 | DC | 279 | ASN |
| 34 | DC | 284 | ARG |
| 34 | DC | 286 | GLY |
| 34 | DC | 296 | THR |
| 34 | DC | 301 | THR |
| 34 | DC | 303 | LYS |
| 34 | DC | 306 | THR |
| 34 | DC | 307 | PRO |
| 34 | DC | 317 | ILE |
| 34 | DC | 318 | LYS |
| 34 | DC | 320 | ASP |
| 34 | DC | 324 | VAL |
| 34 | DC | 327 | CYS |
| 34 | DC | 331 | ASN |
| 34 | DC | 333 | LYS |
| 34 | DC | 335 | ILE |
| 34 | DC | 340 | LYS |
| 34 | DC | 346 | THR |
| 34 | DC | 351 | LEU |
| 34 | DC | 359 | ILE |
| 35 | DD | 19 | ALA |
| 35 | DD | 21 | PRO |
| 35 | DD | 23 | PRO |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 35 | DD | 28 | ALA |
| 35 | DD | 54 | GLU |
| 35 | DD | 69 | ARG |
| 35 | DD | 77 | VAL |
| 35 | DD | 90 | PHE |
| 35 | DD | 100 | PHE |
| 35 | DD | 102 | PRO |
| 35 | DD | 107 | ARG |
| 35 | DD | 116 | ASN |
| 35 | DD | 131 | VAL |
| 35 | DD | 140 | HIS |
| 35 | DD | 149 | PRO |
| 35 | DD | 150 | LEU |
| 35 | DD | 154 | THR |
| 35 | DD | 159 | ILE |
| 35 | DD | 166 | VAL |
| 35 | DD | 182 | LEU |
| 35 | DD | 194 | TYR |
| 35 | DD | 239 | ALA |
| 35 | DD | 252 | GLU |
| 35 | DD | 254 | ALA |
| 35 | DD | 257 | LYS |
| 35 | DD | 258 | LEU |
| 35 | DD | 261 | VAL |
| 35 | DD | 266 | THR |
| 35 | DD | 267 | VAL |
| 36 | DE | 12 | TYR |
| 36 | DE | 13 | SER |
| 36 | DE | 17 | GLN |
| 36 | DE | 18 | THR |
| 36 | DE | 19 | PRO |
| 36 | DE | 21 | ARG |
| 36 | DE | 32 | GLN |
| 36 | DE | 42 | ALA |
| 36 | DE | 43 | LYS |
| 36 | DE | 46 | THR |
| 36 | DE | 47 | PRO |
| 36 | DE | 48 | LYS |
| 36 | DE | 49 | TYR |
| 36 | DE | 50 | ARG |
| 36 | DE | 68 | THR |
| 36 | DE | 69 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 36 | DE | 78 | ALA |
| 36 | DE | 83 | LEU |
| 36 | DE | 84 | PRO |
| 36 | DE | 88 | ILE |
| 36 | DE | 101 | THR |
| 36 | DE | 122 | VAL |
| 36 | DE | 139 | PRO |
| 36 | DE | 148 | ILE |
| 36 | DE | 151 | GLN |
| 36 | DE | 159 | VAL |
| 36 | DE | 160 | PHE |
| 36 | DE | 171 | LEU |
| 36 | DE | 174 | PRO |
| 36 | DE | 178 | ASN |
| 36 | DE | 185 | PHE |
| 36 | DE | 191 | ASP |
| 36 | DE | 200 | PHE |
| 36 | DE | 211 | LEU |
| 36 | DE | 214 | ASP |
| 36 | DE | 231 | ILE |
| 36 | DE | 234 | ASP |
| 36 | DE | 235 | SER |
| 36 | DE | 238 | ASP |
| 36 | DE | 239 | ILE |
| 36 | DE | 242 | SER |
| 36 | DE | 246 | ALA |
| 36 | DE | 256 | THR |
| 36 | DE | 271 | LYS |
| 36 | DE | 293 | LEU |
| 37 | DF | 4 | GLN |
| 37 | DF | 6 | ALA |
| 37 | DF | 7 | PRO |
| 37 | DF | 10 | TYR |
| 37 | DF | 11 | PRO |
| 37 | DF | 13 | GLU |
| 37 | DF | 21 | THR |
| 37 | DF | 27 | PRO |
| 37 | DF | 28 | GLN |
| 37 | DF | 32 | ALA |
| 37 | DF | 33 | SER |
| 37 | DF | 34 | LEU |
| 37 | DF | 39 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 37 | DF | 44 | ALA |
| 37 | DF | 47 | PHE |
| 37 | DF | 52 | VAL |
| 37 | DF | 53 | VAL |
| 37 | DF | 58 | LEU |
| 37 | DF | 68 | PRO |
| 37 | DF | 70 | LYS |
| 37 | DF | 71 | VAL |
| 37 | DF | 85 | ILE |
| 37 | DF | 90 | LYS |
| 37 | DF | 92 | SER |
| 37 | DF | 93 | VAL |
| 37 | DF | 99 | GLU |
| 37 | DF | 106 | PHE |
| 37 | DF | 109 | GLU |
| 37 | DF | 110 | LYS |
| 37 | DF | 116 | LYS |
| 37 | DF | 118 | GLU |
| 37 | DF | 122 | PHE |
| 37 | DF | 126 | GLN |
| 37 | DF | 137 | ASP |
| 37 | DF | 144 | ALA |
| 37 | DF | 146 | ILE |
| 37 | DF | 150 | LYS |
| 37 | DF | 151 | LYS |
| 37 | DF | 167 | ASN |
| 37 | DF | 172 | HIS |
| 37 | DF | 174 | LEU |
| 38 | DG | 32 | ALA |
| 38 | DG | 49 | ALA |
| 38 | DG | 50 | ALA |
| 38 | DG | 70 | LYS |
| 38 | DG | 81 | HIS |
| 38 | DG | 82 | LYS |
| 38 | DG | 84 | VAL |
| 38 | DG | 85 | PHE |
| 38 | DG | 86 | VAL |
| 38 | DG | 96 | PRO |
| 38 | DG | 97 | PRO |
| 38 | DG | 112 | ASN |
| 38 | DG | 136 | TYR |
| 38 | DG | 138 | TYR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 38 | DG | 148 | VAL |
| 38 | DG | 149 | TYR |
| 38 | DG | 156 | ILE |
| 38 | DG | 160 | ARG |
| 38 | DG | 162 | PRO |
| 38 | DG | 177 | GLY |
| 38 | DG | 180 | SER |
| 38 | DG | 188 | ILE |
| 38 | DG | 193 | PRO |
| 38 | DG | 195 | PHE |
| 38 | DG | 202 | LEU |
| 38 | DG | 204 | PRO |
| 38 | DG | 206 | LYS |
| 38 | DG | 210 | PRO |
| 38 | DG | 217 | PRO |
| 38 | DG | 220 | PHE |
| 38 | DG | 223 | PHE |
| 38 | DG | 224 | ILE |
| 38 | DG | 228 | SER |
| 38 | DG | 229 | PHE |
| 38 | DG | 232 | ARG |
| 39 | DH | 96 | LYS |
| 39 | DH | 99 | PRO |
| 39 | DH | 109 | LEU |
| 39 | DH | 110 | THR |
| 39 | DH | 128 | LYS |
| 39 | DH | 131 | ALA |
| 39 | DH | 132 | VAL |
| 39 | DH | 151 | VAL |
| 39 | DH | 179 | ILE |
| 39 | DH | 181 | LYS |
| 39 | DH | 194 | THR |
| 39 | DH | 201 | THR |
| 39 | DH | 203 | VAL |
| 39 | DH | 210 | ALA |
| 39 | DH | 212 | ALA |
| 39 | DH | 214 | LEU |
| 39 | DH | 227 | ASP |
| 39 | DH | 233 | TRP |
| 39 | DH | 245 | LYS |
| 39 | DH | 249 | ARG |
| 40 | DI | 2 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 40 | DI | 5 | GLN |
| 40 | DI | 22 | SER |
| 40 | DI | 30 | PRO |
| 40 | DI | 41 | ILE |
| 40 | DI | 43 | VAL |
| 40 | DI | 46 | THR |
| 40 | DI | 53 | ILE |
| 40 | DI | 86 | TYR |
| 40 | DI | 104 | VAL |
| 40 | DI | 110 | LYS |
| 40 | DI | 122 | LYS |
| 40 | DI | 127 | PRO |
| 40 | DI | 138 | THR |
| 40 | DI | 140 | VAL |
| 40 | DI | 141 | LYS |
| 40 | DI | 142 | ASP |
| 40 | DI | 167 | VAL |
| 40 | DI | 169 | ASN |
| 40 | DI | 170 | LYS |
| 40 | DI | 171 | ASP |
| 40 | DI | 172 | ILE |
| 40 | DI | 186 | PHE |
| 40 | DI | 189 | GLU |
| 41 | DJ | 5 | PRO |
| 41 | DJ | 11 | TYR |
| 41 | DJ | 13 | LYS |
| 41 | DJ | 14 | ASN |
| 41 | DJ | 16 | PRO |
| 41 | DJ | 17 | TYR |
| 41 | DJ | 25 | ALA |
| 41 | DJ | 29 | SER |
| 41 | DJ | 34 | TYR |
| 41 | DJ | 39 | LYS |
| 41 | DJ | 43 | VAL |
| 41 | DJ | 46 | PHE |
| 41 | DJ | 48 | LEU |
| 41 | DJ | 56 | GLU |
| 41 | DJ | 57 | LEU |
| 41 | DJ | 70 | ILE |
| 41 | DJ | 92 | HIS |
| 41 | DJ | 115 | MET |
| 41 | DJ | 136 | PHE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 41 | DJ | 145 | LYS |
| 41 | DJ | 160 | PRO |
| 41 | DJ | 162 | GLN |
| 41 | DJ | 169 | LYS |
| 41 | DJ | 175 | ASN |
| 41 | DJ | 178 | ARG |
| 41 | DJ | 190 | VAL |
| 41 | DJ | 201 | SER |
| 41 | DJ | 208 | ASN |
| 42 | DK | 8 | PRO |
| 42 | DK | 18 | VAL |
| 42 | DK | 23 | VAL |
| 42 | DK | 32 | ARG |
| 42 | DK | 34 | SER |
| 42 | DK | 45 | PRO |
| 42 | DK | 49 | LYS |
| 42 | DK | 50 | ALA |
| 42 | DK | 54 | VAL |
| 42 | DK | 55 | ARG |
| 42 | DK | 56 | THR |
| 42 | DK | 62 | ASN |
| 42 | DK | 65 | ILE |
| 42 | DK | 66 | ALA |
| 42 | DK | 69 | VAL |
| 42 | DK | 76 | ALA |
| 42 | DK | 77 | GLU |
| 42 | DK | 82 | ARG |
| 42 | DK | 85 | LYS |
| 42 | DK | 86 | VAL |
| 42 | DK | 88 | GLU |
| 42 | DK | 102 | PHE |
| 42 | DK | 108 | GLU |
| 42 | DK | 110 | ILE |
| 42 | DK | 115 | LYS |
| 42 | DK | 118 | PRO |
| 42 | DK | 120 | ILE |
| 42 | DK | 122 | ILE |
| 42 | DK | 129 | VAL |
| 42 | DK | 132 | ASN |
| 42 | DK | 133 | ARG |
| 42 | DK | 134 | PRO |
| 42 | DK | 143 | ARG |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 42 | DK | 148 | VAL |
| 42 | DK | 154 | THR |
| 72 | DL | 10 | VAL |
| 72 | DL | 17 | ALA |
| 72 | DL | 18 | VAL |
| 72 | DL | 25 | SER |
| 72 | DL | 31 | LYS |
| 72 | DL | 35 | LEU |
| 72 | DL | 38 | SER |
| 72 | DL | 39 | PRO |
| 72 | DL | 49 | ALA |
| 72 | DL | 56 | ILE |
| 72 | DL | 58 | VAL |
| 72 | DL | 75 | PRO |
| 72 | DL | 77 | ALA |
| 72 | DL | 78 | SER |
| 72 | DL | 88 | PRO |
| 72 | DL | 90 | ARG |
| 72 | DL | 104 | ILE |
| 72 | DL | 106 | LEU |
| 72 | DL | 112 | ILE |
| 72 | DL | 113 | ALA |
| 72 | DL | 124 | THR |
| 72 | DL | 141 | CYS |
| 73 | DM | 28 | VAL |
| 73 | DM | 30 | VAL |
| 73 | DM | 32 | ASN |
| 73 | DM | 33 | VAL |
| 73 | DM | 34 | SER |
| 73 | DM | 46 | ARG |
| 73 | DM | 60 | ARG |
| 73 | DM | 62 | ALA |
| 73 | DM | 70 | LEU |
| 73 | DM | 76 | LEU |
| 73 | DM | 77 | LEU |
| 73 | DM | 86 | PHE |
| 73 | DM | 91 | GLU |
| 73 | DM | 92 | PRO |
| 73 | DM | 100 | ILE |
| 73 | DM | 102 | SER |
| 73 | DM | 187 | VAL |
| 73 | DM | 188 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 73 | DM | 189 | GLN |
| 73 | DM | 191 | TYR |
| 73 | DM | 192 | ASP |
| 73 | DM | 198 | PRO |
| 43 | DN | 10 | SER |
| 43 | DN | 15 | VAL |
| 43 | DN | 19 | ARG |
| 43 | DN | 20 | VAL |
| 43 | DN | 23 | ILE |
| 43 | DN | 24 | LYS |
| 43 | DN | 25 | LYS |
| 43 | DN | 27 | GLN |
| 43 | DN | 29 | ALA |
| 43 | DN | 32 | LEU |
| 43 | DN | 43 | LYS |
| 43 | DN | 44 | VAL |
| 43 | DN | 54 | PRO |
| 43 | DN | 55 | ARG |
| 43 | DN | 60 | LEU |
| 43 | DN | 62 | GLN |
| 43 | DN | 63 | VAL |
| 43 | DN | 64 | VAL |
| 43 | DN | 66 | THR |
| 43 | DN | 67 | PRO |
| 43 | DN | 70 | PHE |
| 43 | DN | 74 | ARG |
| 43 | DN | 81 | VAL |
| 43 | DN | 82 | SER |
| 43 | DN | 90 | VAL |
| 43 | DN | 103 | ILE |
| 43 | DN | 111 | ALA |
| 43 | DN | 126 | GLN |
| 43 | DN | 127 | LYS |
| 44 | DO | 17 | ASP |
| 44 | DO | 30 | TYR |
| 44 | DO | 35 | VAL |
| 44 | DO | 39 | ALA |
| 44 | DO | 42 | PRO |
| 44 | DO | 46 | ASP |
| 44 | DO | 53 | TYR |
| 44 | DO | 54 | LYS |
| 44 | DO | 55 | ALA |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 44 | DO | 60 | VAL |
| 44 | DO | 75 | VAL |
| 44 | DO | 76 | PRO |
| 44 | DO | 79 | ALA |
| 44 | DO | 83 | LYS |
| 44 | DO | 84 | PRO |
| 44 | DO | 96 | ARG |
| 44 | DO | 97 | SER |
| 44 | DO | 98 | LEU |
| 44 | DO | 121 | VAL |
| 44 | DO | 127 | TYR |
| 44 | DO | 136 | ASP |
| 44 | DO | 156 | HIS |
| 44 | DO | 160 | GLU |
| 44 | DO | 161 | ALA |
| 45 | DP | 5 | PRO |
| 45 | DP | 12 | LYS |
| 45 | DP | 19 | LEU |
| 45 | DP | 37 | ARG |
| 45 | DP | 61 | ALA |
| 45 | DP | 66 | LYS |
| 45 | DP | 69 | GLY |
| 45 | DP | 70 | PRO |
| 45 | DP | 75 | ALA |
| 45 | DP | 76 | PRO |
| 45 | DP | 77 | SER |
| 45 | DP | 100 | GLU |
| 45 | DP | 108 | ILE |
| 45 | DP | 109 | PRO |
| 45 | DP | 110 | PRO |
| 45 | DP | 112 | TYR |
| 45 | DP | 115 | LYS |
| 45 | DP | 116 | LYS |
| 45 | DP | 120 | VAL |
| 45 | DP | 121 | PRO |
| 45 | DP | 125 | ARG |
| 45 | DP | 126 | VAL |
| 45 | DP | 128 | ARG |
| 45 | DP | 131 | PRO |
| 45 | DP | 134 | LYS |
| 45 | DP | 138 | LEU |
| 45 | DP | 147 | TRP |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 45 | DP | 188 | SER |
| 46 | DQ | 9 | THR |
| 46 | DQ | 10 | ASN |
| 46 | DQ | 12 | ALA |
| 46 | DQ | 20 | SER |
| 46 | DQ | 30 | ARG |
| 46 | DQ | 31 | GLU |
| 46 | DQ | 33 | ALA |
| 46 | DQ | 48 | LEU |
| 46 | DQ | 52 | LEU |
| 46 | DQ | 56 | ARG |
| 46 | DQ | 69 | ARG |
| 46 | DQ | 71 | ALA |
| 46 | DQ | 75 | GLU |
| 46 | DQ | 83 | TRP |
| 46 | DQ | 84 | PRO |
| 46 | DQ | 106 | GLY |
| 46 | DQ | 110 | THR |
| 46 | DQ | 114 | VAL |
| 46 | DQ | 118 | GLN |
| 46 | DQ | 122 | ALA |
| 46 | DQ | 123 | PRO |
| 46 | DQ | 142 | SER |
| 47 | DR | 18 | ALA |
| 47 | DR | 19 | PRO |
| 47 | DR | 22 | ASP |
| 47 | DR | 39 | ARG |
| 47 | DR | 42 | ALA |
| 47 | DR | 43 | PRO |
| 47 | DR | 60 | PRO |
| 47 | DR | 61 | PRO |
| 47 | DR | 76 | ALA |
| 47 | DR | 93 | ILE |
| 47 | DR | 97 | PRO |
| 47 | DR | 103 | ALA |
| 47 | DR | 104 | LEU |
| 47 | DR | 108 | ALA |
| 47 | DR | 110 | ALA |
| 47 | DR | 111 | ARG |
| 47 | DR | 112 | ALA |
| 47 | DR | 117 | ALA |
| 47 | DR | 123 | THR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 47 | DR | 143 | PRO |
| 47 | DR | 145 | ASN |
| 47 | DR | 146 | SER |
| 47 | DR | 153 | PHE |
| 48 | DS | 3 | ASN |
| 48 | DS | 12 | ALA |
| 48 | DS | 19 | LYS |
| 48 | DS | 130 | ASN |
| 48 | DS | 133 | LYS |
| 48 | DS | 134 | HIS |
| 48 | DS | 143 | ILE |
| 49 | DT | 16 | GLN |
| 49 | DT | 31 | LEU |
| 49 | DT | 32 | LYS |
| 49 | DT | 34 | TYR |
| 49 | DT | 35 | LYS |
| 49 | DT | 49 | GLN |
| 49 | DT | 54 | HIS |
| 49 | DT | 64 | VAL |
| 49 | DT | 66 | ASN |
| 49 | DT | 67 | VAL |
| 49 | DT | 70 | SER |
| 49 | DT | 75 | ILE |
| 49 | DT | 76 | ILE |
| 49 | DT | 79 | MET |
| 49 | DT | 81 | GLY |
| 49 | DT | 85 | LEU |
| 49 | DT | 98 | HIS |
| 49 | DT | 99 | SER |
| 49 | DT | 110 | LYS |
| 50 | DU | 19 | VAL |
| 50 | DU | 40 | LYS |
| 50 | DU | 46 | LEU |
| 50 | DU | 47 | ASN |
| 50 | DU | 54 | LEU |
| 50 | DU | 66 | LYS |
| 50 | DU | 80 | ARG |
| 50 | DU | 81 | GLN |
| 50 | DU | 82 | ALA |
| 50 | DU | 94 | TYR |
| 50 | DU | 95 | PHE |
| 50 | DU | 97 | ASP |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 50 | DU | 98 | ASN |
| 50 | DU | 112 | SER |
| 50 | DU | 131 | SER |
| 50 | DU | 134 | GLY |
| 50 | DU | 135 | VAL |
| 51 | DV | 4 | GLU |
| 51 | DV | 5 | ILE |
| 51 | DV | 6 | ASP |
| 51 | DV | 8 | PHE |
| 51 | DV | 22 | VAL |
| 51 | DV | 23 | ARG |
| 51 | DV | 25 | ASP |
| 51 | DV | 28 | ILE |
| 51 | DV | 29 | PHE |
| 51 | DV | 33 | ASN |
| 51 | DV | 34 | SER |
| 51 | DV | 35 | LYS |
| 51 | DV | 52 | THR |
| 51 | DV | 57 | LYS |
| 52 | DW | 51 | VAL |
| 52 | DW | 52 | PRO |
| 52 | DW | 53 | HIS |
| 52 | DW | 58 | ASP |
| 52 | DW | 60 | TYR |
| 52 | DW | 61 | LYS |
| 52 | DW | 62 | VAL |
| 52 | DW | 64 | GLU |
| 52 | DW | 66 | PRO |
| 52 | DW | 67 | ILE |
| 52 | DW | 70 | GLU |
| 52 | DW | 84 | PHE |
| 52 | DW | 102 | LEU |
| 52 | DW | 104 | GLU |
| 52 | DW | 106 | ASP |
| 52 | DW | 129 | ASP |
| 53 | DX | 15 | ALA |
| 53 | DX | 19 | TYR |
| 53 | DX | 20 | PHE |
| 53 | DX | 58 | VAL |
| 53 | DX | 59 | VAL |
| 53 | DX | 101 | PRO |
| 54 | DY | 3 | SER |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 54 | DY | 9 | ARG |
| 54 | DY | 10 | LYS |
| 54 | DY | 12 | ARG |
| 54 | DY | 21 | ARG |
| 54 | DY | 22 | ILE |
| 54 | DY | 27 | LYS |
| 54 | DY | 30 | GLY |
| 54 | DY | 36 | GLY |
| 54 | DY | 40 | HIS |
| 54 | DY | 43 | ILE |
| 54 | DY | 44 | ASN |
| 54 | DY | 50 | PRO |
| 54 | DY | 56 | VAL |
| 54 | DY | 60 | TYR |
| 54 | DY | 61 | PHE |
| 54 | DY | 62 | HIS |
| 54 | DY | 69 | TRP |
| 54 | DY | 74 | ASN |
| 54 | DY | 78 | LEU |
| 54 | DY | 79 | TRP |
| 54 | DY | 85 | ASP |
| 54 | DY | 88 | ASP |
| 54 | DY | 90 | TYR |
| 54 | DY | 91 | LEU |
| 54 | DY | 94 | ALA |
| 54 | DY | 98 | THR |
| 54 | DY | 102 | ILE |
| 54 | DY | 112 | ILE |
| 54 | DY | 114 | GLY |
| 54 | DY | 117 | ARG |
| 54 | DY | 118 | ILE |
| 54 | DY | 119 | PRO |
| 54 | DY | 127 | ALA |
| 54 | DY | 130 | VAL |
| 54 | DY | 132 | LYS |
| 54 | DY | 148 | ILE |
| 55 | DZ | 25 | LEU |
| 55 | DZ | 27 | TYR |
| 55 | DZ | 50 | VAL |
| 55 | DZ | 63 | SER |
| 55 | DZ | 83 | LYS |
| 55 | DZ | 86 | ARG |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 55 | DZ | 89 | VAL |
| 56 | Da | 6 | ASP |
| 56 | Da | 7 | VAL |
| 56 | Da | 14 | ILE |
| 56 | Da | 15 | ASN |
| 56 | Da | 16 | LEU |
| 56 | Da | 25 | PHE |
| 56 | Da | 29 | ALA |
| 56 | Da | 44 | MET |
| 56 | Da | 47 | ASP |
| 56 | Da | 59 | ILE |
| 56 | Da | 60 | TRP |
| 56 | Da | 79 | ARG |
| 56 | Da | 85 | ALA |
| 57 | Db | 6 | HIS |
| 57 | Db | 7 | PRO |
| 57 | Db | 20 | HIS |
| 57 | Db | 22 | SER |
| 57 | Db | 24 | ARG |
| 57 | Db | 30 | GLU |
| 57 | Db | 33 | ARG |
| 57 | Db | 50 | ILE |
| 57 | Db | 52 | GLN |
| 57 | Db | 53 | PRO |
| 57 | Db | 56 | GLY |
| 57 | Db | 61 | LYS |
| 57 | Db | 64 | LYS |
| 57 | Db | 68 | PRO |
| 57 | Db | 69 | SER |
| 57 | Db | 79 | VAL |
| 57 | Db | 96 | ILE |
| 57 | Db | 101 | SER |
| 57 | Db | 109 | LEU |
| 57 | Db | 110 | ALA |
| 57 | Db | 121 | ASN |
| 58 | Dc | 11 | THR |
| 58 | Dc | 38 | ARG |
| 58 | Dc | 40 | SER |
| 59 | Dd | 5 | THR |
| 59 | Dd | 38 | GLY |
| 59 | Dd | 42 | ALA |
| 59 | Dd | 47 | TYR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 59 | Dd | 64 | MET |
| 59 | Dd | 65 | ARG |
| 59 | Dd | 67 | LEU |
| 59 | Dd | 68 | LYS |
| 59 | Dd | 71 | SER |
| 60 | De | 27 | ILE |
| 60 | De | 33 | ASN |
| 60 | De | 35 | ILE |
| 60 | De | 45 | ARG |
| 61 | Df | 5 | PRO |
| 61 | Df | 9 | LYS |
| 61 | Df | 13 | LYS |
| 61 | Df | 34 | SER |
| 61 | Df | 53 | GLN |
| 61 | Df | 66 | LYS |
| 61 | Df | 88 | CYS |
| 61 | Df | 93 | LEU |
| 62 | Dg | 16 | VAL |
| 62 | Dg | 18 | TYR |
| 62 | Dg | 34 | HIS |
| 62 | Dg | 35 | ALA |
| 62 | Dg | 37 | TYR |
| 62 | Dg | 48 | LYS |
| 62 | Dg | 49 | ARG |
| 62 | Dg | 53 | GLY |
| 62 | Dg | 55 | TRP |
| 62 | Dg | 66 | GLY |
| 62 | Dg | 81 | SER |
| 62 | Dg | 82 | THR |
| 62 | Dg | 83 | ILE |
| 2 | AA | 26 | ALA |
| 2 | AA | 85 | ALA |
| 2 | AA | 89 | PHE |
| 2 | AA | 116 | LYS |
| 2 | AA | 128 | SER |
| 2 | AA | 131 | GLN |
| 2 | AA | 148 | ASP |
| 2 | AA | 164 | ASN |
| 2 | AA | 171 | GLY |
| 2 | AA | 177 | LEU |
| 2 | AA | 189 | VAL |
| 2 | AA | 192 | THR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 198 | MET |
| 2 | AA | 207 | PRO |
| 2 | AA | 211 | GLU |
| 2 | AA | 212 | GLN |
| 3 | AB | 40 | LYS |
| 3 | AB | 63 | VAL |
| 3 | AB | 69 | ILE |
| 3 | AB | 75 | GLY |
| 3 | AB | 124 | ALA |
| 3 | AB | 127 | ALA |
| 3 | AB | 150 | GLN |
| 3 | AB | 154 | LEU |
| 3 | AB | 161 | LYS |
| 3 | AB | 167 | VAL |
| 3 | AB | 185 | LYS |
| 3 | AB | 186 | LYS |
| 3 | AB | 213 | ALA |
| 3 | AB | 214 | ALA |
| 3 | AB | 224 | PHE |
| 4 | AC | 17 | PHE |
| 4 | AC | 18 | TYR |
| 4 | AC | 55 | THR |
| 4 | AC | 61 | GLU |
| 4 | AC | 65 | ARG |
| 4 | AC | 74 | GLN |
| 4 | AC | 77 | PHE |
| 4 | AC | 95 | GLY |
| 4 | AC | 99 | VAL |
| 4 | AC | 130 | GLY |
| 4 | AC | 142 | LEU |
| 4 | AC | 143 | ARG |
| 4 | AC | 153 | ALA |
| 4 | AC | 159 | HIS |
| 4 | AC | 193 | ALA |
| 5 | AD | 43 | PHE |
| 5 | AD | 56 | ALA |
| 5 | AD | 60 | ASP |
| 5 | AD | 64 | VAL |
| 5 | AD | 89 | ILE |
| 5 | AD | 108 | LEU |
| 5 | AD | 113 | ILE |
| 5 | AD | 122 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 5 | AD | 140 | THR |
| 5 | AD | 144 | GLU |
| 5 | AD | 153 | GLY |
| 5 | AD | 166 | ARG |
| 5 | AD | 167 | ARG |
| 5 | AD | 181 | GLU |
| 5 | AD | 183 | ALA |
| 5 | AD | 197 | GLU |
| 5 | AD | 211 | ILE |
| 5 | AD | 215 | ASP |
| 6 | AE | 38 | ASN |
| 6 | AE | 63 | ASP |
| 6 | AE | 66 | ASP |
| 6 | AE | 88 | GLU |
| 6 | AE | 113 | VAL |
| 6 | AE | 133 | HIS |
| 6 | AE | 137 | GLY |
| 6 | AE | 139 | GLN |
| 6 | AE | 170 | GLY |
| 7 | AF | 96 | LYS |
| 7 | AF | 109 | VAL |
| 7 | AF | 121 | ASP |
| 7 | AF | 127 | GLN |
| 8 | AG | 52 | VAL |
| 8 | AG | 54 | LEU |
| 8 | AG | 58 | HIS |
| 8 | AG | 128 | TYR |
| 9 | AH | 6 | GLN |
| 9 | AH | 19 | ILE |
| 9 | AH | 25 | ASP |
| 9 | AH | 28 | VAL |
| 9 | AH | 45 | GLY |
| 9 | AH | 97 | GLY |
| 9 | AH | 124 | ASP |
| 10 | AI | 22 | LEU |
| 10 | AI | 28 | MET |
| 10 | AI | 32 | ASP |
| 10 | AI | 34 | VAL |
| 10 | AI | 35 | LYS |
| 10 | AI | 45 | PHE |
| 10 | AI | 65 | LEU |
| 10 | AI | 113 | GLY |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 11 | AJ | 43 | ILE |
| 11 | AJ | 62 | ASN |
| 11 | AJ | 92 | TYR |
| 11 | AJ | 98 | ASP |
| 11 | AJ | 104 | GLU |
| 11 | AJ | 107 | LYS |
| 11 | AJ | 129 | PHE |
| 12 | AK | 33 | ARG |
| 12 | AK | 47 | ARG |
| 12 | AK | 56 | HIS |
| 12 | AK | 63 | LYS |
| 12 | AK | 68 | GLY |
| 13 | AL | 47 | CYS |
| 13 | AL | 84 | TRP |
| 13 | AL | 101 | LEU |
| 14 | AM | 28 | LEU |
| 14 | AM | 29 | GLU |
| 14 | AM | 51 | GLU |
| 14 | AM | 54 | PHE |
| 14 | AM | 58 | ALA |
| 14 | AM | 102 | ARG |
| 14 | AM | 103 | LYS |
| 14 | AM | 121 | GLY |
| 14 | AM | 122 | ARG |
| 15 | AN | 33 | GLN |
| 15 | AN | 37 | VAL |
| 15 | AN | 84 | MET |
| 15 | AN | 116 | VAL |
| 16 | AO | 22 | LYS |
| 16 | AO | 56 | HIS |
| 16 | AO | 62 | VAL |
| 16 | AO | 68 | ARG |
| 16 | AO | 72 | CYS |
| 16 | AO | 113 | HIS |
| 17 | AP | 32 | ARG |
| 17 | AP | 33 | LEU |
| 17 | AP | 41 | SER |
| 17 | AP | 42 | PRO |
| 17 | AP | 100 | ASP |
| 17 | AP | 114 | LYS |
| 17 | AP | 122 | PHE |
| 17 | AP | 129 | GLY |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 17 | AP | 139 | LYS |
| 18 | AQ | 41 | ILE |
| 18 | AQ | 66 | VAL |
| 18 | AQ | 86 | GLU |
| 19 | AR | 28 | VAL |
| 19 | AR | 29 | ARG |
| 19 | AR | 41 | VAL |
| 19 | AR | 45 | LYS |
| 20 | AS | 16 | LYS |
| 20 | AS | 39 | CYS |
| 20 | AS | 40 | ARG |
| 20 | AS | 44 | ARG |
| 20 | AS | 47 | ALA |
| 20 | AS | 49 | ASP |
| 20 | AS | 52 | PHE |
| 21 | AT | 21 | THR |
| 21 | AT | 28 | GLY |
| 21 | AT | 49 | GLY |
| 21 | AT | 59 | ARG |
| 21 | AT | 95 | ALA |
| 21 | AT | 108 | SER |
| 21 | AT | 112 | SER |
| 21 | AT | 140 | CYS |
| 21 | AT | 149 | ASP |
| 21 | AT | 176 | LYS |
| 21 | AT | 186 | PHE |
| 21 | AT | 188 | ILE |
| 21 | AT | 196 | ASN |
| 21 | AT | 202 | LEU |
| 21 | AT | 203 | THR |
| 21 | AT | 231 | MET |
| 21 | AT | 237 | GLN |
| 21 | AT | 244 | ALA |
| 21 | AT | 270 | LEU |
| 21 | AT | 283 | LYS |
| 21 | AT | 298 | GLY |
| 32 | BA | 25 | LYS |
| 32 | BA | 26 | ARG |
| 32 | BA | 41 | TYR |
| 32 | BA | 44 | GLN |
| 32 | BA | 47 | LYS |
| 32 | BA | 67 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 32 | BA | 77 | ALA |
| 32 | BA | 96 | ASN |
| 32 | BA | 117 | ILE |
| 32 | BA | 123 | LEU |
| 32 | BA | 169 | VAL |
| 32 | BA | 193 | LEU |
| 32 | BA | 194 | LEU |
| 32 | BA | 196 | LYS |
| 32 | BA | 197 | ASN |
| 32 | BA | 204 | LEU |
| 32 | BA | 206 | VAL |
| 33 | BB | 9 | ARG |
| 33 | BB | 19 | HIS |
| 33 | BB | 54 | ARG |
| 33 | BB | 92 | LYS |
| 33 | BB | 103 | PRO |
| 33 | BB | 118 | GLU |
| 33 | BB | 121 | GLY |
| 33 | BB | 122 | ASP |
| 33 | BB | 134 | VAL |
| 33 | BB | 151 | PRO |
| 33 | BB | 163 | ARG |
| 33 | BB | 165 | VAL |
| 33 | BB | 169 | ILE |
| 33 | BB | 171 | GLY |
| 33 | BB | 183 | GLY |
| 33 | BB | 212 | GLY |
| 33 | BB | 216 | HIS |
| 33 | BB | 227 | ARG |
| 33 | BB | 231 | SER |
| 34 | BC | 2 | SER |
| 34 | BC | 7 | GLU |
| 34 | BC | 30 | LYS |
| 34 | BC | 37 | ARG |
| 34 | BC | 45 | SER |
| 34 | BC | 51 | ALA |
| 34 | BC | 69 | LYS |
| 34 | BC | 82 | PRO |
| 34 | BC | 92 | TYR |
| 34 | BC | 101 | SER |
| 34 | BC | 107 | ALA |
| 34 | BC | 134 | SER |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | BC | 148 | LEU |
| 34 | BC | 157 | VAL |
| 34 | BC | 179 | ALA |
| 34 | BC | 181 | ILE |
| 34 | BC | 194 | TRP |
| 34 | BC | 198 | HIS |
| 34 | BC | 203 | VAL |
| 34 | BC | 208 | VAL |
| 34 | BC | 224 | HIS |
| 34 | BC | 241 | LYS |
| 34 | BC | 251 | CYS |
| 34 | BC | 260 | VAL |
| 34 | BC | 286 | GLY |
| 34 | BC | 294 | GLY |
| 34 | BC | 305 | ILE |
| 34 | BC | 340 | LYS |
| 34 | BC | 343 | TYR |
| 34 | BC | 348 | ARG |
| 34 | BC | 361 | THR |
| 35 | BD | 16 | THR |
| 35 | BD | 33 | ASP |
| 35 | BD | 55 | LYS |
| 35 | BD | 66 | GLY |
| 35 | BD | 68 | GLY |
| 35 | BD | 83 | GLY |
| 35 | BD | 135 | VAL |
| 35 | BD | 154 | THR |
| 35 | BD | 181 | VAL |
| 35 | BD | 189 | ALA |
| 35 | BD | 190 | GLY |
| 35 | BD | 193 | LYS |
| 35 | BD | 204 | GLY |
| 35 | BD | 238 | LEU |
| 36 | BE | 10 | SER |
| 36 | BE | 20 | PHE |
| 36 | BE | 29 | ASP |
| 36 | BE | 40 | HIS |
| 36 | BE | 42 | ALA |
| 36 | BE | 43 | LYS |
| 36 | BE | 45 | ASN |
| 36 | BE | 95 | TRP |
| 36 | BE | 111 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 36 | BE | 120 | LYS |
| 36 | BE | 122 | VAL |
| 36 | BE | 131 | LEU |
| 36 | BE | 140 | ARG |
| 36 | BE | 158 | ARG |
| 36 | BE | 195 | LEU |
| 36 | BE | 209 | GLU |
| 36 | BE | 216 | GLU |
| 36 | BE | 223 | PHE |
| 36 | BE | 227 | LEU |
| 36 | BE | 235 | SER |
| 36 | BE | 240 | TYR |
| 36 | BE | 242 | SER |
| 36 | BE | 249 | ALA |
| 36 | BE | 268 | GLU |
| 36 | BE | 282 | ARG |
| 37 | BF | 18 | LEU |
| 37 | BF | 21 | THR |
| 37 | BF | 58 | LEU |
| 37 | BF | 147 | ALA |
| 38 | BG | 34 | LYS |
| 38 | BG | 70 | LYS |
| 38 | BG | 154 | GLY |
| 38 | BG | 219 | LYS |
| 39 | BH | 86 | THR |
| 39 | BH | 94 | PHE |
| 39 | BH | 100 | GLU |
| 39 | BH | 129 | PRO |
| 39 | BH | 157 | VAL |
| 39 | BH | 179 | ILE |
| 39 | BH | 208 | GLU |
| 39 | BH | 228 | GLU |
| 39 | BH | 229 | VAL |
| 39 | BH | 247 | ASP |
| 39 | BH | 248 | LYS |
| 40 | BI | 48 | VAL |
| 40 | BI | 52 | LEU |
| 40 | BI | 62 | ARG |
| 40 | BI | 64 | HIS |
| 40 | BI | 98 | PRO |
| 40 | BI | 129 | ARG |
| 40 | BI | 162 | GLN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 40 | BI | 171 | ASP |
| 41 | BJ | 12 | GLN |
| 41 | BJ | 21 | ARG |
| 41 | BJ | 28 | ASP |
| 41 | BJ | 35 | ASP |
| 41 | BJ | 36 | LEU |
| 41 | BJ | 78 | THR |
| 41 | BJ | 84 | ALA |
| 41 | BJ | 86 | HIS |
| 41 | BJ | 93 | PRO |
| 41 | BJ | 95 | HIS |
| 41 | BJ | 143 | SER |
| 41 | BJ | 175 | ASN |
| 41 | BJ | 177 | ASP |
| 41 | BJ | 185 | ARG |
| 41 | BJ | 189 | GLU |
| 41 | BJ | 196 | PHE |
| 41 | BJ | 207 | GLU |
| 42 | BK | 11 | ASP |
| 42 | BK | 31 | THR |
| 42 | BK | 77 | GLU |
| 42 | BK | 82 | ARG |
| 42 | BK | 83 | GLY |
| 42 | BK | 92 | ARG |
| 42 | BK | 94 | ARG |
| 42 | BK | 112 | LEU |
| 42 | BK | 121 | GLY |
| 42 | BK | 123 | PHE |
| 42 | BK | 127 | PHE |
| 42 | BK | 141 | ARG |
| 42 | BK | 170 | ASP |
| 43 | BN | 32 | LEU |
| 43 | BN | 44 | VAL |
| 43 | BN | 56 | GLN |
| 43 | BN | 65 | LEU |
| 43 | BN | 73 | PRO |
| 43 | BN | 74 | ARG |
| 43 | BN | 77 | ARG |
| 43 | BN | 96 | ALA |
| 43 | BN | 104 | ALA |
| 43 | BN | 107 | GLU |
| 43 | BN | 118 | PHE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 43 | BN | 125 | LYS |
| 44 | BO | 16 | SER |
| 44 | BO | 21 | PHE |
| 44 | BO | 33 | LYS |
| 44 | BO | 52 | GLY |
| 44 | BO | 56 | LYS |
| 44 | BO | 78 | GLY |
| 44 | BO | 81 | TYR |
| 44 | BO | 110 | ALA |
| 44 | BO | 120 | TRP |
| 44 | BO | 149 | ASN |
| 44 | BO | 160 | GLU |
| 44 | BO | 164 | LEU |
| 44 | BO | 166 | ALA |
| 44 | BO | 176 | LYS |
| 45 | BP | 6 | VAL |
| 45 | BP | 19 | LEU |
| 45 | BP | 32 | LYS |
| 45 | BP | 58 | LEU |
| 45 | BP | 62 | THR |
| 45 | BP | 69 | GLY |
| 45 | BP | 93 | ALA |
| 45 | BP | 96 | LYS |
| 45 | BP | 116 | LYS |
| 45 | BP | 129 | LEU |
| 45 | BP | 138 | LEU |
| 45 | BP | 163 | SER |
| 46 | BQ | 4 | TYR |
| 46 | BQ | 7 | THR |
| 46 | BQ | 13 | LYS |
| 46 | BQ | 26 | PHE |
| 46 | BQ | 48 | LEU |
| 46 | BQ | 70 | THR |
| 46 | BQ | 78 | VAL |
| 46 | BQ | 105 | LYS |
| 46 | BQ | 109 | ALA |
| 46 | BQ | 111 | LYS |
| 46 | BQ | 112 | LEU |
| 46 | BQ | 126 | ARG |
| 46 | BQ | 133 | HIS |
| 46 | BQ | 154 | GLU |
| 47 | BR | 20 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 47 | BR | 23 | ASN |
| 47 | BR | 24 | VAL |
| 47 | BR | 44 | PHE |
| 47 | BR | 67 | ILE |
| 47 | BR | 87 | VAL |
| 47 | BR | 98 | LYS |
| 47 | BR | 124 | LEU |
| 47 | BR | 127 | LEU |
| 47 | BR | 131 | ALA |
| 47 | BR | 146 | SER |
| 47 | BR | 154 | GLY |
| 48 | BS | 3 | ASN |
| 48 | BS | 55 | VAL |
| 48 | BS | 67 | ALA |
| 48 | BS | 128 | LYS |
| 48 | BS | 140 | GLU |
| 49 | BT | 19 | PHE |
| 49 | BT | 36 | VAL |
| 49 | BT | 48 | ILE |
| 49 | BT | 55 | LYS |
| 49 | BT | 59 | GLY |
| 49 | BT | 72 | VAL |
| 49 | BT | 77 | ASN |
| 49 | BT | 99 | SER |
| 50 | BU | 28 | ASN |
| 50 | BU | 44 | SER |
| 50 | BU | 54 | LEU |
| 50 | BU | 79 | VAL |
| 50 | BU | 80 | ARG |
| 50 | BU | 82 | ALA |
| 50 | BU | 88 | ARG |
| 50 | BU | 98 | ASN |
| 50 | BU | 109 | MET |
| 51 | BV | 2 | LYS |
| 51 | BV | 42 | GLN |
| 51 | BV | 44 | LYS |
| 51 | BV | 53 | VAL |
| 52 | BW | 55 | ASN |
| 52 | BW | 60 | TYR |
| 52 | BW | 86 | VAL |
| 52 | BW | 89 | LYS |
| 52 | BW | 92 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 52 | BW | 95 | ILE |
| 52 | BW | 104 | GLU |
| 52 | BW | 138 | ARG |
| 53 | BX | 15 | ALA |
| 53 | BX | 25 | SER |
| 53 | BX | 50 | ILE |
| 53 | BX | 71 | SER |
| 53 | BX | 83 | ASP |
| 53 | BX | 92 | GLY |
| 53 | BX | 113 | LYS |
| 53 | BX | 116 | LYS |
| 54 | BY | 14 | HIS |
| 54 | BY | 37 | GLY |
| 54 | BY | 53 | PHE |
| 54 | BY | 62 | HIS |
| 54 | BY | 81 | LEU |
| 54 | BY | 127 | ALA |
| 54 | BY | 131 | SER |
| 55 | BZ | 25 | LEU |
| 55 | BZ | 42 | ILE |
| 55 | BZ | 50 | VAL |
| 55 | BZ | 53 | LYS |
| 56 | Ba | 17 | HIS |
| 56 | Ba | 50 | ARG |
| 57 | Bb | 15 | LYS |
| 57 | Bb | 24 | ARG |
| 57 | Bb | 41 | VAL |
| 57 | Bb | 43 | ARG |
| 57 | Bb | 45 | ARG |
| 57 | Bb | 58 | GLY |
| 57 | Bb | 62 | LYS |
| 57 | Bb | 63 | THR |
| 57 | Bb | 89 | THR |
| 57 | Bb | 107 | VAL |
| 57 | Bb | 123 | LYS |
| 58 | Bc | 11 | THR |
| 58 | Bc | 27 | GLU |
| 58 | Bc | 37 | SER |
| 59 | Bd | 7 | SER |
| 59 | Bd | 9 | GLY |
| 59 | Bd | 12 | HIS |
| 59 | Bd | 20 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 59 | Bd | 26 | SER |
| 59 | Bd | 38 | GLY |
| 59 | Bd | 50 | GLY |
| 59 | Bd | 66 | TYR |
| 60 | Be | 26 | TRP |
| 60 | Be | 31 | THR |
| 60 | Be | 33 | ASN |
| 60 | Be | 34 | THR |
| 60 | Be | 35 | ILE |
| 61 | Bf | 6 | LYS |
| 61 | Bf | 9 | LYS |
| 61 | Bf | 11 | TYR |
| 61 | Bf | 21 | THR |
| 61 | Bf | 41 | ARG |
| 61 | Bf | 46 | LYS |
| 61 | Bf | 57 | VAL |
| 61 | Bf | 58 | PHE |
| 61 | Bf | 81 | ALA |
| 61 | Bf | 88 | CYS |
| 62 | Bg | 15 | GLY |
| 62 | Bg | 66 | GLY |
| 62 | Bg | 67 | GLY |
| 62 | Bg | 82 | THR |
| 2 | CA | 12 | GLU |
| 2 | CA | 26 | ALA |
| 2 | CA | 88 | LYS |
| 2 | CA | 116 | LYS |
| 2 | CA | 121 | VAL |
| 2 | CA | 124 | THR |
| 2 | CA | 128 | SER |
| 2 | CA | 131 | GLN |
| 2 | CA | 148 | ASP |
| 2 | CA | 164 | ASN |
| 2 | CA | 171 | GLY |
| 2 | CA | 177 | LEU |
| 2 | CA | 187 | ALA |
| 2 | CA | 189 | VAL |
| 2 | CA | 207 | PRO |
| 2 | CA | 211 | GLU |
| 2 | CA | 212 | GLN |
| 3 | CB | 38 | VAL |
| 3 | CB | 75 | GLY |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | CB | 98 | PHE |
| 3 | CB | 124 | ALA |
| 3 | CB | 127 | ALA |
| 3 | CB | 134 | LEU |
| 3 | CB | 146 | THR |
| 3 | CB | 154 | LEU |
| 3 | CB | 167 | VAL |
| 3 | CB | 169 | LEU |
| 3 | CB | 185 | LYS |
| 3 | CB | 202 | GLY |
| 3 | CB | 224 | PHE |
| 3 | CB | 228 | ASN |
| 3 | CB | 233 | GLN |
| 3 | CB | 240 | LEU |
| 4 | CC | 18 | TYR |
| 4 | CC | 42 | THR |
| 4 | CC | 55 | THR |
| 4 | CC | 65 | ARG |
| 4 | CC | 77 | PHE |
| 4 | CC | 95 | GLY |
| 4 | CC | 97 | SER |
| 4 | CC | 98 | ALA |
| 4 | CC | 99 | VAL |
| 4 | CC | 115 | ILE |
| 4 | CC | 130 | GLY |
| 4 | CC | 132 | LYS |
| 4 | CC | 142 | LEU |
| 4 | CC | 153 | ALA |
| 5 | CD | 48 | PHE |
| 5 | CD | 58 | LEU |
| 5 | CD | 93 | LEU |
| 5 | CD | 94 | THR |
| 5 | CD | 113 | ILE |
| 5 | CD | 122 | ASN |
| 5 | CD | 135 | ASP |
| 5 | CD | 183 | ALA |
| 5 | CD | 195 | ALA |
| 5 | CD | 197 | GLU |
| 6 | CE | 63 | ASP |
| 6 | CE | 85 | VAL |
| 6 | CE | 88 | GLU |
| 6 | CE | 113 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 6 | CE | 133 | HIS |
| 6 | CE | 137 | GLY |
| 6 | CE | 139 | GLN |
| 6 | CE | 146 | PHE |
| 7 | CF | 96 | LYS |
| 7 | CF | 109 | VAL |
| 7 | CF | 119 | VAL |
| 7 | CF | 121 | ASP |
| 7 | CF | 127 | GLN |
| 7 | CF | 140 | VAL |
| 8 | CG | 54 | LEU |
| 8 | CG | 128 | TYR |
| 8 | CG | 138 | ASN |
| 9 | CH | 3 | ASN |
| 9 | CH | 6 | GLN |
| 9 | CH | 19 | ILE |
| 9 | CH | 25 | ASP |
| 9 | CH | 28 | VAL |
| 9 | CH | 45 | GLY |
| 9 | CH | 64 | ALA |
| 9 | CH | 73 | GLU |
| 9 | CH | 97 | GLY |
| 9 | CH | 124 | ASP |
| 9 | CH | 128 | LYS |
| 10 | CI | 12 | PHE |
| 10 | CI | 18 | ARG |
| 10 | CI | 22 | LEU |
| 10 | CI | 28 | MET |
| 10 | CI | 35 | LYS |
| 10 | CI | 65 | LEU |
| 10 | CI | 70 | ASN |
| 10 | CI | 81 | ARG |
| 10 | CI | 113 | GLY |
| 10 | CI | 116 | LEU |
| 11 | CJ | 43 | ILE |
| 11 | CJ | 62 | ASN |
| 11 | CJ | 74 | HIS |
| 11 | CJ | 82 | ARG |
| 11 | CJ | 92 | TYR |
| 11 | CJ | 104 | GLU |
| 11 | CJ | 106 | LYS |
| 11 | CJ | 110 | THR |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 11 | CJ | 125 | GLU |
| 11 | CJ | 129 | PHE |
| 11 | CJ | 136 | SER |
| 12 | CK | 56 | HIS |
| 12 | CK | 63 | LYS |
| 12 | CK | 68 | GLY |
| 13 | CL | 44 | ASN |
| 13 | CL | 46 | VAL |
| 13 | CL | 84 | TRP |
| 14 | CM | 4 | VAL |
| 14 | CM | 51 | GLU |
| 14 | CM | 54 | PHE |
| 14 | CM | 58 | ALA |
| 14 | CM | 102 | ARG |
| 14 | CM | 117 | SER |
| 15 | CN | 13 | GLU |
| 15 | CN | 33 | GLN |
| 15 | CN | 37 | VAL |
| 15 | CN | 97 | VAL |
| 15 | CN | 101 | LYS |
| 15 | CN | 113 | ASP |
| 15 | CN | 116 | VAL |
| 16 | CO | 22 | LYS |
| 16 | CO | 56 | HIS |
| 16 | CO | 62 | VAL |
| 16 | CO | 68 | ARG |
| 16 | CO | 72 | CYS |
| 16 | CO | 81 | VAL |
| 16 | CO | 94 | LEU |
| 16 | CO | 100 | GLY |
| 16 | CO | 113 | HIS |
| 17 | CP | 37 | ALA |
| 17 | CP | 42 | PRO |
| 17 | CP | 70 | LYS |
| 17 | CP | 81 | LYS |
| 17 | CP | 100 | ASP |
| 17 | CP | 114 | LYS |
| 17 | CP | 128 | SER |
| 17 | CP | 129 | GLY |
| 17 | CP | 139 | LYS |
| 18 | CQ | 42 | LEU |
| 18 | CQ | 66 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 18 | CQ | 75 | LEU |
| 19 | CR | 28 | VAL |
| 19 | CR | 29 | ARG |
| 19 | CR | 41 | VAL |
| 19 | CR | 43 | ASN |
| 19 | CR | 45 | LYS |
| 20 | CS | 27 | HIS |
| 20 | CS | 39 | CYS |
| 20 | CS | 44 | ARG |
| 20 | CS | 47 | ALA |
| 20 | CS | 49 | ASP |
| 21 | CT | 21 | THR |
| 21 | CT | 28 | GLY |
| 21 | CT | 49 | GLY |
| 21 | CT | 59 | ARG |
| 21 | CT | 94 | VAL |
| 21 | CT | 95 | ALA |
| 21 | CT | 108 | SER |
| 21 | CT | 112 | SER |
| 21 | CT | 136 | ILE |
| 21 | CT | 140 | CYS |
| 21 | CT | 149 | ASP |
| 21 | CT | 188 | ILE |
| 21 | CT | 196 | ASN |
| 21 | CT | 202 | LEU |
| 21 | CT | 203 | THR |
| 21 | CT | 244 | ALA |
| 21 | CT | 247 | PRO |
| 21 | CT | 268 | GLN |
| 21 | CT | 283 | LYS |
| 21 | CT | 298 | GLY |
| 21 | CT | 318 | ALA |
| 32 | DA | 15 | GLU |
| 32 | DA | 22 | GLU |
| 32 | DA | 73 | ASP |
| 32 | DA | 82 | VAL |
| 32 | DA | 93 | LEU |
| 32 | DA | 104 | SER |
| 32 | DA | 109 | ALA |
| 32 | DA | 130 | LYS |
| 32 | DA | 141 | ASN |
| 32 | DA | 160 | LYS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 32 | DA | 170 | GLY |
| 32 | DA | 172 | VAL |
| 32 | DA | 193 | LEU |
| 32 | DA | 200 | ASN |
| 33 | DB | 19 | HIS |
| 33 | DB | 118 | GLU |
| 33 | DB | 121 | GLY |
| 33 | DB | 122 | ASP |
| 33 | DB | 128 | ARG |
| 33 | DB | 136 | ILE |
| 33 | DB | 148 | VAL |
| 33 | DB | 165 | VAL |
| 33 | DB | 169 | ILE |
| 33 | DB | 171 | GLY |
| 33 | DB | 173 | GLY |
| 33 | DB | 183 | GLY |
| 33 | DB | 207 | VAL |
| 33 | DB | 212 | GLY |
| 33 | DB | 214 | GLY |
| 33 | DB | 220 | GLY |
| 33 | DB | 224 | THR |
| 33 | DB | 231 | SER |
| 34 | DC | 3 | HIS |
| 34 | DC | 7 | GLU |
| 34 | DC | 12 | GLY |
| 34 | DC | 30 | LYS |
| 34 | DC | 45 | SER |
| 34 | DC | 49 | TYR |
| 34 | DC | 57 | VAL |
| 34 | DC | 101 | SER |
| 34 | DC | 104 | THR |
| 34 | DC | 107 | ALA |
| 34 | DC | 134 | SER |
| 34 | DC | 146 | ARG |
| 34 | DC | 148 | LEU |
| 34 | DC | 194 | TRP |
| 34 | DC | 198 | HIS |
| 34 | DC | 203 | VAL |
| 34 | DC | 208 | VAL |
| 34 | DC | 224 | HIS |
| 34 | DC | 257 | PRO |
| 34 | DC | 273 | HIS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | DC | 275 | ARG |
| 34 | DC | 278 | ILE |
| 34 | DC | 290 | ASP |
| 34 | DC | 294 | GLY |
| 34 | DC | 305 | ILE |
| 34 | DC | 319 | ASN |
| 34 | DC | 336 | VAL |
| 34 | DC | 343 | TYR |
| 34 | DC | 361 | THR |
| 35 | DD | 8 | VAL |
| 35 | DD | 24 | ALA |
| 35 | DD | 33 | ASP |
| 35 | DD | 66 | GLY |
| 35 | DD | 68 | GLY |
| 35 | DD | 71 | VAL |
| 35 | DD | 83 | GLY |
| 35 | DD | 135 | VAL |
| 35 | DD | 160 | GLN |
| 35 | DD | 181 | VAL |
| 35 | DD | 189 | ALA |
| 35 | DD | 190 | GLY |
| 35 | DD | 193 | LYS |
| 35 | DD | 204 | GLY |
| 35 | DD | 212 | ASP |
| 35 | DD | 232 | SER |
| 35 | DD | 265 | GLU |
| 35 | DD | 274 | TYR |
| 36 | DE | 10 | SER |
| 36 | DE | 20 | PHE |
| 36 | DE | 29 | ASP |
| 36 | DE | 45 | ASN |
| 36 | DE | 79 | TYR |
| 36 | DE | 95 | TRP |
| 36 | DE | 100 | ALA |
| 36 | DE | 111 | GLN |
| 36 | DE | 120 | LYS |
| 36 | DE | 131 | LEU |
| 36 | DE | 132 | THR |
| 36 | DE | 140 | ARG |
| 36 | DE | 177 | GLU |
| 36 | DE | 195 | LEU |
| 36 | DE | 209 | GLU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 36 | DE | 216 | GLU |
| 36 | DE | 227 | LEU |
| 36 | DE | 240 | TYR |
| 36 | DE | 249 | ALA |
| 36 | DE | 268 | GLU |
| 36 | DE | 282 | ARG |
| 37 | DF | 16 | ALA |
| 37 | DF | 18 | LEU |
| 37 | DF | 26 | ARG |
| 37 | DF | 86 | ALA |
| 37 | DF | 98 | VAL |
| 37 | DF | 121 | LEU |
| 37 | DF | 123 | PRO |
| 37 | DF | 127 | ASN |
| 37 | DF | 147 | ALA |
| 38 | DG | 30 | ARG |
| 38 | DG | 34 | LYS |
| 38 | DG | 69 | ALA |
| 38 | DG | 150 | LYS |
| 38 | DG | 154 | GLY |
| 38 | DG | 222 | HIS |
| 38 | DG | 233 | GLU |
| 38 | DG | 234 | GLU |
| 39 | DH | 94 | PHE |
| 39 | DH | 98 | ARG |
| 39 | DH | 100 | GLU |
| 39 | DH | 129 | PRO |
| 39 | DH | 157 | VAL |
| 39 | DH | 196 | ALA |
| 39 | DH | 209 | ALA |
| 39 | DH | 228 | GLU |
| 39 | DH | 229 | VAL |
| 39 | DH | 238 | LEU |
| 39 | DH | 247 | ASP |
| 39 | DH | 248 | LYS |
| 40 | DI | 48 | VAL |
| 40 | DI | 52 | LEU |
| 40 | DI | 59 | ASN |
| 40 | DI | 98 | PRO |
| 40 | DI | 116 | ASN |
| 40 | DI | 129 | ARG |
| 40 | DI | 130 | ASP |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 40 | DI | 162 | GLN |
| 41 | DJ | 12 | GLN |
| 41 | DJ | 21 | ARG |
| 41 | DJ | 28 | ASP |
| 41 | DJ | 35 | ASP |
| 41 | DJ | 36 | LEU |
| 41 | DJ | 41 | ALA |
| 41 | DJ | 61 | SER |
| 41 | DJ | 78 | THR |
| 41 | DJ | 84 | ALA |
| 41 | DJ | 85 | PHE |
| 41 | DJ | 86 | HIS |
| 41 | DJ | 93 | PRO |
| 41 | DJ | 94 | PHE |
| 41 | DJ | 95 | HIS |
| 41 | DJ | 143 | SER |
| 41 | DJ | 177 | ASP |
| 41 | DJ | 185 | ARG |
| 41 | DJ | 189 | GLU |
| 41 | DJ | 196 | PHE |
| 41 | DJ | 212 | GLU |
| 42 | DK | 11 | ASP |
| 42 | DK | 15 | GLU |
| 42 | DK | 31 | THR |
| 42 | DK | 47 | GLN |
| 42 | DK | 52 | TYR |
| 42 | DK | 83 | GLY |
| 42 | DK | 92 | ARG |
| 42 | DK | 94 | ARG |
| 42 | DK | 98 | ALA |
| 42 | DK | 112 | LEU |
| 42 | DK | 121 | GLY |
| 42 | DK | 127 | PHE |
| 42 | DK | 141 | ARG |
| 42 | DK | 167 | TYR |
| 42 | DK | 170 | ASP |
| 72 | DL | 14 | TYR |
| 72 | DL | 21 | GLU |
| 72 | DL | 41 | LYS |
| 72 | DL | 55 | GLY |
| 72 | DL | 60 | VAL |
| 72 | DL | 66 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 72 | DL | 69 | ALA |
| 72 | DL | 71 | ALA |
| 72 | DL | 91 | ASP |
| 72 | DL | 117 | ARG |
| 72 | DL | 127 | SER |
| 72 | DL | 140 | GLY |
| 73 | DM | 4 | ILE |
| 73 | DM | 13 | ALA |
| 73 | DM | 35 | SER |
| 73 | DM | 37 | GLN |
| 73 | DM | 38 | MET |
| 73 | DM | 50 | VAL |
| 73 | DM | 53 | MET |
| 73 | DM | 66 | PHE |
| 73 | DM | 190 | VAL |
| 73 | DM | 201 | ILE |
| 43 | DN | 56 | GLN |
| 43 | DN | 59 | ASN |
| 43 | DN | 65 | LEU |
| 43 | DN | 71 | ALA |
| 43 | DN | 73 | PRO |
| 43 | DN | 89 | ALA |
| 43 | DN | 100 | ALA |
| 43 | DN | 104 | ALA |
| 43 | DN | 118 | PHE |
| 43 | DN | 125 | LYS |
| 44 | DO | 16 | SER |
| 44 | DO | 21 | PHE |
| 44 | DO | 33 | LYS |
| 44 | DO | 52 | GLY |
| 44 | DO | 56 | LYS |
| 44 | DO | 80 | THR |
| 44 | DO | 110 | ALA |
| 44 | DO | 135 | VAL |
| 44 | DO | 142 | ILE |
| 44 | DO | 149 | ASN |
| 44 | DO | 166 | ALA |
| 44 | DO | 176 | LYS |
| 45 | DP | 6 | VAL |
| 45 | DP | 16 | VAL |
| 45 | DP | 32 | LYS |
| 45 | DP | 38 | ALA |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 45 | DP | 58 | LEU |
| 45 | DP | 62 | THR |
| 45 | DP | 78 | ARG |
| 45 | DP | 83 | ALA |
| 45 | DP | 93 | ALA |
| 45 | DP | 129 | LEU |
| 45 | DP | 163 | SER |
| 45 | DP | 166 | GLU |
| 45 | DP | 167 | TYR |
| 46 | DQ | 26 | PHE |
| 46 | DQ | 34 | GLN |
| 46 | DQ | 70 | THR |
| 46 | DQ | 78 | VAL |
| 46 | DQ | 86 | LYS |
| 46 | DQ | 87 | SER |
| 46 | DQ | 111 | LYS |
| 46 | DQ | 112 | LEU |
| 46 | DQ | 126 | ARG |
| 47 | DR | 20 | LYS |
| 47 | DR | 23 | ASN |
| 47 | DR | 24 | VAL |
| 47 | DR | 37 | ALA |
| 47 | DR | 44 | PHE |
| 47 | DR | 72 | LYS |
| 47 | DR | 87 | VAL |
| 47 | DR | 94 | PHE |
| 47 | DR | 98 | LYS |
| 47 | DR | 124 | LEU |
| 48 | DS | 55 | VAL |
| 48 | DS | 60 | LYS |
| 48 | DS | 72 | GLU |
| 48 | DS | 106 | LEU |
| 48 | DS | 128 | LYS |
| 48 | DS | 135 | LYS |
| 48 | DS | 140 | GLU |
| 49 | DT | 19 | PHE |
| 49 | DT | 43 | LYS |
| 49 | DT | 46 | GLY |
| 49 | DT | 48 | ILE |
| 49 | DT | 59 | GLY |
| 49 | DT | 69 | LYS |
| 49 | DT | 72 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 49 | DT | 73 | GLY |
| 50 | DU | 11 | PHE |
| 50 | DU | 28 | ASN |
| 50 | DU | 31 | ALA |
| 50 | DU | 56 | ASP |
| 50 | DU | 88 | ARG |
| 50 | DU | 105 | PRO |
| 51 | DV | 3 | VAL |
| 51 | DV | 36 | SER |
| 51 | DV | 42 | GLN |
| 51 | DV | 44 | LYS |
| 51 | DV | 46 | PRO |
| 52 | DW | 49 | LYS |
| 52 | DW | 55 | ASN |
| 52 | DW | 86 | VAL |
| 52 | DW | 88 | MET |
| 52 | DW | 92 | LYS |
| 52 | DW | 98 | ALA |
| 52 | DW | 130 | TYR |
| 52 | DW | 138 | ARG |
| 53 | DX | 65 | GLY |
| 53 | DX | 71 | SER |
| 53 | DX | 79 | ALA |
| 53 | DX | 83 | ASP |
| 53 | DX | 92 | GLY |
| 53 | DX | 100 | HIS |
| 53 | DX | 116 | LYS |
| 54 | DY | 14 | HIS |
| 54 | DY | 34 | MET |
| 54 | DY | 37 | GLY |
| 54 | DY | 53 | PHE |
| 54 | DY | 65 | GLN |
| 55 | DZ | 42 | ILE |
| 55 | DZ | 53 | LYS |
| 56 | Da | 20 | LEU |
| 56 | Da | 26 | LYS |
| 56 | Da | 49 | VAL |
| 56 | Da | 61 | LYS |
| 56 | Da | 64 | VAL |
| 57 | Db | 12 | LYS |
| 57 | Db | 15 | LYS |
| 57 | Db | 43 | ARG |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 57 | Db | 55 | ILE |
| 57 | Db | 58 | GLY |
| 57 | Db | 62 | LYS |
| 57 | Db | 63 | THR |
| 57 | Db | 75 | LEU |
| 57 | Db | 84 | THR |
| 57 | Db | 89 | THR |
| 57 | Db | 123 | LYS |
| 58 | Dc | 18 | ALA |
| 58 | Dc | 37 | SER |
| 59 | Dd | 7 | SER |
| 59 | Dd | 8 | PHE |
| 59 | Dd | 9 | GLY |
| 59 | Dd | 20 | ASN |
| 59 | Dd | 25 | ARG |
| 59 | Dd | 26 | SER |
| 59 | Dd | 28 | HIS |
| 59 | Dd | 29 | VAL |
| 59 | Dd | 35 | SER |
| 59 | Dd | 36 | SER |
| 59 | Dd | 37 | CYS |
| 59 | Dd | 50 | GLY |
| 59 | Dd | 66 | TYR |
| 60 | De | 31 | THR |
| 60 | De | 34 | THR |
| 60 | De | 44 | TRP |
| 60 | De | 49 | MET |
| 61 | Df | 6 | LYS |
| 61 | Df | 11 | TYR |
| 61 | Df | 17 | CYS |
| 61 | Df | 21 | THR |
| 61 | Df | 41 | ARG |
| 61 | Df | 46 | LYS |
| 61 | Df | 47 | GLN |
| 61 | Df | 57 | VAL |
| 61 | Df | 58 | PHE |
| 61 | Df | 81 | ALA |
| 62 | Dg | 15 | GLY |
| 62 | Dg | 54 | ILE |
| 62 | Dg | 67 | GLY |
| 62 | Dg | 71 | VAL |
| 2 | AA | 12 | GLU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 2 | AA | 38 | PHE |
| 2 | AA | 88 | LYS |
| 2 | AA | 153 | SER |
| 2 | AA | 165 | ARG |
| 2 | AA | 168 | HIS |
| 2 | AA | 203 | PHE |
| 3 | AB | 97 | ARG |
| 3 | AB | 98 | PHE |
| 3 | AB | 158 | THR |
| 3 | AB | 182 | PRO |
| 3 | AB | 195 | ASP |
| 3 | AB | 202 | GLY |
| 3 | AB | 228 | ASN |
| 3 | AB | 244 | SER |
| 4 | AC | 42 | THR |
| 4 | AC | 60 | GLY |
| 4 | AC | 67 | ASN |
| 4 | AC | 82 | GLY |
| 4 | AC | 104 | SER |
| 4 | AC | 134 | CYS |
| 5 | AD | 55 | ASP |
| 5 | AD | 125 | THR |
| 5 | AD | 165 | LEU |
| 5 | AD | 205 | SER |
| 5 | AD | 207 | THR |
| 6 | AE | 87 | SER |
| 6 | AE | 91 | LYS |
| 6 | AE | 107 | ARG |
| 6 | AE | 134 | ILE |
| 7 | AF | 81 | HIS |
| 8 | AG | 55 | ARG |
| 8 | AG | 63 | ALA |
| 8 | AG | 89 | TYR |
| 8 | AG | 108 | ASP |
| 8 | AG | 138 | ASN |
| 9 | AH | 3 | ASN |
| 9 | AH | 34 | SER |
| 9 | AH | 38 | THR |
| 9 | AH | 48 | VAL |
| 9 | AH | 73 | GLU |
| 10 | AI | 17 | TYR |
| 10 | AI | 18 | ARG |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 10 | AI | 92 | SER |
| 10 | AI | 116 | LEU |
| 11 | AJ | 47 | LYS |
| 11 | AJ | 56 | GLY |
| 11 | AJ | 88 | GLY |
| 11 | AJ | 110 | THR |
| 11 | AJ | 114 | ARG |
| 11 | AJ | 125 | GLU |
| 11 | AJ | 138 | PHE |
| 12 | AK | 28 | PHE |
| 13 | AL | 36 | LYS |
| 13 | AL | 46 | VAL |
| 14 | AM | 120 | GLY |
| 15 | AN | 97 | VAL |
| 15 | AN | 101 | LYS |
| 16 | AO | 41 | MET |
| 16 | AO | 94 | LEU |
| 16 | AO | 107 | SER |
| 17 | AP | 28 | ASN |
| 17 | AP | 81 | LYS |
| 17 | AP | 128 | SER |
| 18 | AQ | 59 | TYR |
| 18 | AQ | 75 | LEU |
| 18 | AQ | 80 | LEU |
| 19 | AR | 8 | THR |
| 19 | AR | 25 | VAL |
| 19 | AR | 43 | ASN |
| 20 | AS | 22 | ARG |
| 21 | AT | 10 | ARG |
| 21 | AT | 54 | PHE |
| 21 | AT | 90 | ARG |
| 21 | AT | 91 | LEU |
| 21 | AT | 117 | LYS |
| 21 | AT | 129 | LYS |
| 21 | AT | 139 | GLN |
| 21 | AT | 200 | ASN |
| 21 | AT | 217 | ASP |
| 21 | AT | 265 | LEU |
| 21 | AT | 268 | GLN |
| 21 | AT | 289 | ALA |
| 21 | AT | 318 | ALA |
| 32 | BA | 22 | GLU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 32 | BA | 49 | PHE |
| 32 | BA | 57 | ASN |
| 32 | BA | 101 | LYS |
| 32 | BA | 102 | LYS |
| 32 | BA | 152 | ARG |
| 32 | BA | 202 | GLY |
| 33 | BB | 20 | THR |
| 33 | BB | 96 | LEU |
| 33 | BB | 128 | ARG |
| 33 | BB | 157 | VAL |
| 33 | BB | 173 | GLY |
| 33 | BB | 187 | HIS |
| 33 | BB | 214 | GLY |
| 34 | BC | 13 | HIS |
| 34 | BC | 49 | TYR |
| 34 | BC | 65 | SER |
| 34 | BC | 72 | VAL |
| 34 | BC | 88 | GLY |
| 34 | BC | 110 | LEU |
| 34 | BC | 121 | ASN |
| 34 | BC | 129 | ALA |
| 34 | BC | 146 | ARG |
| 34 | BC | 211 | GLN |
| 34 | BC | 261 | MET |
| 34 | BC | 290 | ASP |
| 34 | BC | 303 | LYS |
| 34 | BC | 308 | MET |
| 34 | BC | 319 | ASN |
| 34 | BC | 336 | VAL |
| 34 | BC | 354 | VAL |
| 35 | BD | 18 | ASN |
| 35 | BD | 29 | PRO |
| 35 | BD | 40 | THR |
| 35 | BD | 41 | SER |
| 35 | BD | 115 | HIS |
| 35 | BD | 127 | ALA |
| 35 | BD | 156 | LEU |
| 35 | BD | 232 | SER |
| 35 | BD | 233 | LEU |
| 35 | BD | 242 | ALA |
| 35 | BD | 251 | THR |
| 35 | BD | 262 | TRP |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 36 | BE | 79 | TYR |
| 36 | BE | 124 | GLU |
| 36 | BE | 132 | THR |
| 36 | BE | 143 | LYS |
| 36 | BE | 163 | LEU |
| 36 | BE | 184 | ASP |
| 36 | BE | 187 | THR |
| 36 | BE | 188 | GLU |
| 36 | BE | 230 | ASP |
| 37 | BF | 8 | LYS |
| 37 | BF | 50 | LYS |
| 37 | BF | 55 | LEU |
| 37 | BF | 66 | SER |
| 37 | BF | 123 | PRO |
| 37 | BF | 127 | ASN |
| 37 | BF | 132 | ALA |
| 37 | BF | 155 | LEU |
| 37 | BF | 158 | TYR |
| 38 | BG | 69 | ALA |
| 38 | BG | 72 | ALA |
| 38 | BG | 139 | PRO |
| 38 | BG | 150 | LYS |
| 38 | BG | 164 | SER |
| 38 | BG | 220 | PHE |
| 38 | BG | 222 | HIS |
| 39 | BH | 82 | LEU |
| 39 | BH | 95 | ASN |
| 39 | BH | 105 | LYS |
| 39 | BH | 123 | GLN |
| 39 | BH | 190 | VAL |
| 39 | BH | 196 | ALA |
| 39 | BH | 237 | ILE |
| 40 | BI | 42 | ASP |
| 40 | BI | 56 | ALA |
| 40 | BI | 59 | ASN |
| 40 | BI | 83 | THR |
| 40 | BI | 106 | LYS |
| 40 | BI | 116 | ASN |
| 40 | BI | 118 | LEU |
| 40 | BI | 137 | SER |
| 40 | BI | 155 | SER |
| 40 | BI | 179 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 41 | BJ | 15 | LYS |
| 41 | BJ | 47 | PRO |
| 41 | BJ | 56 | GLU |
| 41 | BJ | 85 | PHE |
| 41 | BJ | 94 | PHE |
| 41 | BJ | 181 | TYR |
| 41 | BJ | 205 | SER |
| 41 | BJ | 214 | PRO |
| 42 | BK | 35 | LYS |
| 42 | BK | 119 | SER |
| 42 | BK | 156 | LYS |
| 42 | BK | 167 | TYR |
| 43 | BN | 71 | ALA |
| 43 | BN | 85 | TRP |
| 43 | BN | 89 | ALA |
| 43 | BN | 94 | TRP |
| 44 | BO | 34 | ASN |
| 44 | BO | 41 | ARG |
| 44 | BO | 59 | PHE |
| 44 | BO | 122 | ASN |
| 44 | BO | 135 | VAL |
| 44 | BO | 138 | GLN |
| 44 | BO | 154 | PRO |
| 44 | BO | 158 | HIS |
| 44 | BO | 159 | ARG |
| 44 | BO | 172 | ARG |
| 45 | BP | 39 | GLU |
| 45 | BP | 42 | ASN |
| 45 | BP | 46 | GLU |
| 45 | BP | 82 | LYS |
| 45 | BP | 149 | TYR |
| 45 | BP | 189 | ASP |
| 45 | BP | 193 | GLN |
| 46 | BQ | 29 | THR |
| 46 | BQ | 66 | SER |
| 46 | BQ | 85 | ALA |
| 46 | BQ | 86 | LYS |
| 46 | BQ | 121 | GLN |
| 47 | BR | 25 | TYR |
| 47 | BR | 54 | LEU |
| 47 | BR | 72 | LYS |
| 47 | BR | 83 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 47 | BR | 109 | GLY |
| 47 | BR | 121 | CYS |
| 48 | BS | 71 | ARG |
| 49 | BT | 10 | ARG |
| 49 | BT | 14 | MET |
| 49 | BT | 73 | GLY |
| 49 | BT | 74 | VAL |
| 49 | BT | 78 | LYS |
| 50 | BU | 16 | GLY |
| 51 | BV | 36 | SER |
| 51 | BV | 43 | ARG |
| 52 | BW | 88 | MET |
| 52 | BW | 98 | ALA |
| 52 | BW | 111 | ASN |
| 53 | BX | 65 | GLY |
| 53 | BX | 76 | LEU |
| 53 | BX | 102 | SER |
| 54 | BY | 29 | PRO |
| 54 | BY | 83 | PRO |
| 54 | BY | 95 | SER |
| 54 | BY | 126 | LYS |
| 55 | BZ | 9 | SER |
| 55 | BZ | 38 | LYS |
| 56 | Ba | 5 | LYS |
| 56 | Ba | 20 | LEU |
| 56 | Ba | 26 | LYS |
| 56 | Ba | 31 | ARG |
| 56 | Ba | 63 | GLY |
| 56 | Ba | 64 | VAL |
| 56 | Ba | 68 | GLU |
| 57 | Bb | 23 | ASP |
| 57 | Bb | 34 | LYS |
| 57 | Bb | 70 | GLY |
| 57 | Bb | 78 | ASN |
| 58 | Bc | 5 | LYS |
| 58 | Bc | 65 | ALA |
| 59 | Bd | 19 | CYS |
| 59 | Bd | 25 | ARG |
| 59 | Bd | 36 | SER |
| 59 | Bd | 37 | CYS |
| 59 | Bd | 52 | LYS |
| 60 | Be | 49 | MET |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 61 | Bf | 17 | CYS |
| 61 | Bf | 19 | LYS |
| 61 | Bf | 56 | PRO |
| 62 | Bg | 65 | ALA |
| 2 | CA | 21 | ASN |
| 2 | CA | 38 | PHE |
| 2 | CA | 83 | GLN |
| 2 | CA | 85 | ALA |
| 2 | CA | 87 | LEU |
| 2 | CA | 112 | THR |
| 2 | CA | 165 | ARG |
| 2 | CA | 176 | LEU |
| 2 | CA | 192 | THR |
| 2 | CA | 198 | MET |
| 2 | CA | 203 | PHE |
| 3 | CB | 40 | LYS |
| 3 | CB | 46 | LYS |
| 3 | CB | 97 | ARG |
| 3 | CB | 150 | GLN |
| 3 | CB | 195 | ASP |
| 3 | CB | 213 | ALA |
| 3 | CB | 214 | ALA |
| 4 | CC | 23 | GLU |
| 4 | CC | 60 | GLY |
| 4 | CC | 61 | GLU |
| 4 | CC | 67 | ASN |
| 4 | CC | 82 | GLY |
| 4 | CC | 143 | ARG |
| 4 | CC | 158 | ILE |
| 5 | CD | 44 | ASN |
| 5 | CD | 45 | LYS |
| 5 | CD | 121 | ILE |
| 5 | CD | 128 | ASN |
| 5 | CD | 138 | THR |
| 5 | CD | 144 | GLU |
| 5 | CD | 153 | GLY |
| 5 | CD | 186 | ASN |
| 5 | CD | 207 | THR |
| 5 | CD | 213 | LYS |
| 5 | CD | 215 | ASP |
| 6 | CE | 38 | ASN |
| 6 | CE | 87 | SER |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 6 | CE | 107 | ARG |
| 6 | CE | 108 | ARG |
| 6 | CE | 123 | HIS |
| 6 | CE | 134 | ILE |
| 7 | CF | 81 | HIS |
| 7 | CF | 137 | PHE |
| 8 | CG | 52 | VAL |
| 8 | CG | 63 | ALA |
| 8 | CG | 70 | LYS |
| 8 | CG | 89 | TYR |
| 8 | CG | 110 | ASP |
| 8 | CG | 139 | TRP |
| 9 | CH | 34 | SER |
| 9 | CH | 48 | VAL |
| 10 | CI | 20 | VAL |
| 10 | CI | 32 | ASP |
| 10 | CI | 74 | ALA |
| 10 | CI | 92 | SER |
| 11 | CJ | 15 | SER |
| 11 | CJ | 28 | LEU |
| 11 | CJ | 47 | LYS |
| 11 | CJ | 98 | ASP |
| 11 | CJ | 107 | LYS |
| 12 | CK | 40 | THR |
| 13 | CL | 36 | LYS |
| 13 | CL | 101 | LEU |
| 13 | CL | 136 | GLN |
| 13 | CL | 139 | LYS |
| 14 | CM | 7 | ARG |
| 14 | CM | 18 | TYR |
| 14 | CM | 120 | GLY |
| 14 | CM | 122 | ARG |
| 15 | CN | 34 | LEU |
| 15 | CN | 103 | ILE |
| 16 | CO | 41 | MET |
| 16 | CO | 46 | TYR |
| 16 | CO | 104 | LEU |
| 17 | CP | 28 | ASN |
| 17 | CP | 41 | SER |
| 17 | CP | 95 | PHE |
| 18 | CQ | 59 | TYR |
| 18 | CQ | 86 | GLU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 19 | CR | 8 | THR |
| 19 | CR | 38 | ARG |
| 20 | CS | 16 | LYS |
| 20 | CS | 22 | ARG |
| 21 | CT | 10 | ARG |
| 21 | CT | 54 | PHE |
| 21 | CT | 90 | ARG |
| 21 | CT | 91 | LEU |
| 21 | CT | 129 | LYS |
| 21 | CT | 139 | GLN |
| 21 | CT | 176 | LYS |
| 21 | CT | 186 | PHE |
| 21 | CT | 200 | ASN |
| 21 | CT | 217 | ASP |
| 21 | CT | 265 | LEU |
| 21 | CT | 289 | ALA |
| 32 | DA | 24 | LYS |
| 32 | DA | 94 | ASN |
| 32 | DA | 96 | ASN |
| 32 | DA | 194 | LEU |
| 32 | DA | 203 | SER |
| 33 | DB | 20 | THR |
| 33 | DB | 54 | ARG |
| 33 | DB | 103 | PRO |
| 33 | DB | 134 | VAL |
| 33 | DB | 151 | PRO |
| 33 | DB | 187 | HIS |
| 33 | DB | 215 | ASN |
| 33 | DB | 227 | ARG |
| 34 | DC | 2 | SER |
| 34 | DC | 13 | HIS |
| 34 | DC | 37 | ARG |
| 34 | DC | 68 | HIS |
| 34 | DC | 69 | LYS |
| 34 | DC | 92 | TYR |
| 34 | DC | 129 | ALA |
| 34 | DC | 130 | PHE |
| 34 | DC | 138 | ALA |
| 34 | DC | 216 | ASP |
| 34 | DC | 235 | THR |
| 34 | DC | 241 | LYS |
| 34 | DC | 255 | TRP |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 34 | DC | 295 | ALA |
| 34 | DC | 354 | VAL |
| 34 | DC | 364 | LYS |
| 35 | DD | 16 | THR |
| 35 | DD | 26 | PHE |
| 35 | DD | 29 | PRO |
| 35 | DD | 32 | PRO |
| 35 | DD | 127 | ALA |
| 35 | DD | 233 | LEU |
| 35 | DD | 238 | LEU |
| 35 | DD | 242 | ALA |
| 35 | DD | 250 | TRP |
| 35 | DD | 251 | THR |
| 35 | DD | 269 | SER |
| 35 | DD | 272 | VAL |
| 36 | DE | 40 | HIS |
| 36 | DE | 41 | LYS |
| 36 | DE | 72 | ASP |
| 36 | DE | 143 | LYS |
| 36 | DE | 158 | ARG |
| 36 | DE | 188 | GLU |
| 36 | DE | 213 | ASP |
| 36 | DE | 223 | PHE |
| 36 | DE | 230 | ASP |
| 36 | DE | 263 | GLU |
| 37 | DF | 8 | LYS |
| 37 | DF | 50 | LYS |
| 37 | DF | 107 | ALA |
| 37 | DF | 132 | ALA |
| 38 | DG | 74 | SER |
| 38 | DG | 139 | PRO |
| 38 | DG | 145 | ARG |
| 38 | DG | 190 | THR |
| 38 | DG | 194 | HIS |
| 38 | DG | 209 | ASN |
| 38 | DG | 219 | LYS |
| 38 | DG | 243 | MET |
| 39 | DH | 95 | ASN |
| 39 | DH | 105 | LYS |
| 39 | DH | 106 | LYS |
| 39 | DH | 208 | GLU |
| 39 | DH | 221 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 40 | DI | 42 | ASP |
| 40 | DI | 64 | HIS |
| 40 | DI | 83 | THR |
| 40 | DI | 106 | LYS |
| 40 | DI | 118 | LEU |
| 40 | DI | 155 | SER |
| 40 | DI | 179 | ILE |
| 41 | DJ | 15 | LYS |
| 41 | DJ | 20 | SER |
| 41 | DJ | 47 | PRO |
| 41 | DJ | 67 | ALA |
| 41 | DJ | 171 | TRP |
| 41 | DJ | 198 | LYS |
| 41 | DJ | 205 | SER |
| 42 | DK | 144 | CYS |
| 42 | DK | 152 | HIS |
| 42 | DK | 156 | LYS |
| 72 | DL | 15 | LEU |
| 72 | DL | 54 | LYS |
| 72 | DL | 70 | ALA |
| 72 | DL | 86 | LYS |
| 72 | DL | 95 | ASP |
| 72 | DL | 131 | GLU |
| 73 | DM | 5 | ARG |
| 73 | DM | 6 | GLU |
| 73 | DM | 61 | ARG |
| 73 | DM | 68 | SER |
| 73 | DM | 103 | ASN |
| 43 | DN | 40 | ASP |
| 43 | DN | 77 | ARG |
| 43 | DN | 85 | TRP |
| 43 | DN | 88 | ALA |
| 43 | DN | 96 | ALA |
| 44 | DO | 34 | ASN |
| 44 | DO | 38 | ARG |
| 44 | DO | 59 | PHE |
| 44 | DO | 78 | GLY |
| 44 | DO | 81 | TYR |
| 44 | DO | 120 | TRP |
| 44 | DO | 144 | ARG |
| 44 | DO | 154 | PRO |
| 44 | DO | 158 | HIS |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 44 | DO | 164 | LEU |
| 44 | DO | 172 | ARG |
| 44 | DO | 185 | ALA |
| 45 | DP | 14 | HIS |
| 45 | DP | 82 | LYS |
| 45 | DP | 94 | ARG |
| 45 | DP | 96 | LYS |
| 45 | DP | 98 | ALA |
| 45 | DP | 149 | TYR |
| 45 | DP | 195 | ALA |
| 46 | DQ | 8 | SER |
| 46 | DQ | 13 | LYS |
| 46 | DQ | 29 | THR |
| 46 | DQ | 66 | SER |
| 46 | DQ | 105 | LYS |
| 46 | DQ | 109 | ALA |
| 46 | DQ | 145 | HIS |
| 46 | DQ | 154 | GLU |
| 47 | DR | 77 | ALA |
| 47 | DR | 121 | CYS |
| 47 | DR | 127 | LEU |
| 47 | DR | 154 | GLY |
| 48 | DS | 20 | ARG |
| 48 | DS | 71 | ARG |
| 48 | DS | 104 | ARG |
| 48 | DS | 121 | HIS |
| 49 | DT | 15 | PHE |
| 49 | DT | 29 | THR |
| 49 | DT | 55 | LYS |
| 49 | DT | 74 | VAL |
| 49 | DT | 77 | ASN |
| 49 | DT | 108 | ARG |
| 50 | DU | 16 | GLY |
| 50 | DU | 42 | SER |
| 50 | DU | 70 | ARG |
| 50 | DU | 86 | ARG |
| 50 | DU | 91 | VAL |
| 50 | DU | 103 | ALA |
| 51 | DV | 2 | LYS |
| 51 | DV | 7 | SER |
| 51 | DV | 53 | VAL |
| 52 | DW | 111 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 53 | DX | 25 | SER |
| 53 | DX | 50 | ILE |
| 53 | DX | 113 | LYS |
| 54 | DY | 63 | LYS |
| 54 | DY | 81 | LEU |
| 54 | DY | 83 | PRO |
| 54 | DY | 95 | SER |
| 55 | DZ | 9 | SER |
| 55 | DZ | 38 | LYS |
| 55 | DZ | 84 | LEU |
| 56 | Da | 9 | THR |
| 56 | Da | 17 | HIS |
| 56 | Da | 31 | ARG |
| 56 | Da | 50 | ARG |
| 56 | Da | 68 | GLU |
| 57 | Db | 45 | ARG |
| 57 | Db | 70 | GLY |
| 57 | Db | 78 | ASN |
| 57 | Db | 83 | GLU |
| 57 | Db | 103 | LYS |
| 57 | Db | 104 | ASN |
| 57 | Db | 115 | LEU |
| 57 | Db | 122 | PRO |
| 58 | Dc | 5 | LYS |
| 59 | Dd | 12 | HIS |
| 59 | Dd | 19 | CYS |
| 59 | Dd | 52 | LYS |
| 60 | De | 32 | ASN |
| 61 | Df | 19 | LYS |
| 61 | Df | 56 | PRO |
| 61 | Df | 62 | ALA |
| 62 | Dg | 50 | GLY |
| 62 | Dg | 65 | ALA |
| 2 | AA | 53 | THR |
| 2 | AA | 68 | PRO |
| 2 | AA | 82 | GLY |
| 2 | AA | 83 | GLN |
| 2 | AA | 107 | PHE |
| 2 | AA | 145 | ALA |
| 2 | AA | 158 | VAL |
| 2 | AA | 199 | PRO |
| 3 | AB | 45 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | AB | 46 | LYS |
| 3 | AB | 71 | THR |
| 3 | AB | 169 | LEU |
| 3 | AB | 206 | THR |
| 3 | AB | 233 | GLN |
| 4 | AC | 68 | GLU |
| 4 | AC | 97 | SER |
| 4 | AC | 115 | ILE |
| 4 | AC | 125 | TYR |
| 4 | AC | 158 | ILE |
| 5 | AD | 58 | LEU |
| 5 | AD | 138 | THR |
| 5 | AD | 148 | ARG |
| 5 | AD | 157 | ARG |
| 5 | AD | 186 | ASN |
| 5 | AD | 196 | GLU |
| 5 | AD | 212 | LYS |
| 5 | AD | 219 | ARG |
| 6 | AE | 52 | ILE |
| 6 | AE | 60 | LEU |
| 6 | AE | 180 | LYS |
| 7 | AF | 119 | VAL |
| 7 | AF | 140 | VAL |
| 8 | AG | 70 | LYS |
| 8 | AG | 81 | ALA |
| 8 | AG | 110 | ASP |
| 9 | AH | 32 | ASP |
| 9 | AH | 80 | HIS |
| 9 | AH | 110 | LEU |
| 9 | AH | 117 | ASP |
| 10 | AI | 12 | PHE |
| 10 | AI | 36 | LEU |
| 10 | AI | 52 | LYS |
| 10 | AI | 55 | GLY |
| 10 | AI | 63 | ALA |
| 10 | AI | 67 | ALA |
| 10 | AI | 70 | ASN |
| 10 | AI | 90 | ILE |
| 11 | AJ | 28 | LEU |
| 11 | AJ | 46 | PHE |
| 11 | AJ | 51 | PRO |
| 11 | AJ | 90 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 11 | AJ | 99 | GLU |
| 11 | AJ | 106 | LYS |
| 11 | AJ | 134 | ALA |
| 12 | AK | 11 | ARG |
| 12 | AK | 40 | THR |
| 12 | AK | 67 | ARG |
| 13 | AL | 29 | VAL |
| 13 | AL | 44 | ASN |
| 13 | AL | 58 | ALA |
| 13 | AL | 76 | PRO |
| 13 | AL | 82 | PRO |
| 13 | AL | 83 | ALA |
| 13 | AL | 136 | GLN |
| 14 | AM | 5 | SER |
| 14 | AM | 52 | GLY |
| 14 | AM | 70 | GLN |
| 14 | AM | 134 | ARG |
| 15 | AN | 34 | LEU |
| 15 | AN | 41 | ILE |
| 15 | AN | 49 | ASN |
| 15 | AN | 70 | THR |
| 15 | AN | 103 | ILE |
| 16 | AO | 46 | TYR |
| 16 | AO | 81 | VAL |
| 16 | AO | 83 | ILE |
| 17 | AP | 95 | PHE |
| 17 | AP | 137 | LYS |
| 17 | AP | 141 | GLU |
| 18 | AQ | 84 | GLU |
| 19 | AR | 32 | PHE |
| 19 | AR | 38 | ARG |
| 21 | AT | 57 | PRO |
| 21 | AT | 63 | GLY |
| 21 | AT | 94 | VAL |
| 21 | AT | 105 | GLY |
| 21 | AT | 243 | LEU |
| 21 | AT | 291 | SER |
| 32 | BA | 27 | ASN |
| 32 | BA | 107 | TYR |
| 32 | BA | 132 | GLY |
| 32 | BA | 155 | ILE |
| 32 | BA | 165 | LEU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 32 | BA | 189 | PHE |
| 32 | BA | 213 | ALA |
| 33 | BB | 29 | LEU |
| 33 | BB | 52 | SER |
| 33 | BB | 53 | GLY |
| 33 | BB | 131 | GLY |
| 33 | BB | 224 | THR |
| 34 | BC | 57 | VAL |
| 34 | BC | 90 | VAL |
| 34 | BC | 164 | THR |
| 34 | BC | 183 | LEU |
| 34 | BC | 193 | ASP |
| 34 | BC | 199 | PHE |
| 34 | BC | 216 | ASP |
| 34 | BC | 255 | TRP |
| 34 | BC | 256 | HIS |
| 34 | BC | 273 | HIS |
| 34 | BC | 295 | ALA |
| 34 | BC | 364 | LYS |
| 35 | BD | 39 | PHE |
| 35 | BD | 45 | ASN |
| 35 | BD | 78 | GLY |
| 35 | BD | 272 | VAL |
| 36 | BE | 41 | LYS |
| 36 | BE | 72 | ASP |
| 36 | BE | 123 | GLU |
| 36 | BE | 136 | GLU |
| 36 | BE | 177 | GLU |
| 36 | BE | 257 | GLU |
| 36 | BE | 263 | GLU |
| 36 | BE | 294 | ALA |
| 37 | BF | 61 | ASN |
| 37 | BF | 73 | GLY |
| 37 | BF | 107 | ALA |
| 37 | BF | 128 | LYS |
| 38 | BG | 28 | ALA |
| 38 | BG | 33 | ARG |
| 38 | BG | 55 | TYR |
| 38 | BG | 135 | ALA |
| 38 | BG | 161 | VAL |
| 38 | BG | 216 | VAL |
| 39 | BH | 88 | ALA |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 39 | BH | 106 | LYS |
| 39 | BH | 155 | ASN |
| 39 | BH | 169 | LEU |
| 39 | BH | 221 | ASN |
| 39 | BH | 235 | GLY |
| 40 | BI | 17 | THR |
| 40 | BI | 38 | LEU |
| 40 | BI | 105 | GLU |
| 40 | BI | 111 | PHE |
| 40 | BI | 185 | GLY |
| 41 | BJ | 20 | SER |
| 41 | BJ | 60 | LEU |
| 41 | BJ | 66 | GLU |
| 41 | BJ | 67 | ALA |
| 41 | BJ | 91 | VAL |
| 41 | BJ | 154 | ARG |
| 41 | BJ | 163 | GLN |
| 42 | BK | 98 | ALA |
| 42 | BK | 106 | ILE |
| 42 | BK | 144 | CYS |
| 43 | BN | 40 | ASP |
| 44 | BO | 47 | LYS |
| 44 | BO | 74 | PRO |
| 44 | BO | 137 | PRO |
| 44 | BO | 142 | ILE |
| 44 | BO | 175 | ASN |
| 45 | BP | 14 | HIS |
| 45 | BP | 77 | SER |
| 46 | BQ | 8 | SER |
| 46 | BQ | 31 | GLU |
| 46 | BQ | 34 | GLN |
| 46 | BQ | 87 | SER |
| 46 | BQ | 132 | ALA |
| 47 | BR | 21 | SER |
| 47 | BR | 37 | ALA |
| 47 | BR | 41 | ASP |
| 47 | BR | 46 | LYS |
| 47 | BR | 86 | THR |
| 47 | BR | 96 | PHE |
| 48 | BS | 12 | ALA |
| 48 | BS | 20 | ARG |
| 48 | BS | 72 | GLU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 48 | BS | 97 | ARG |
| 48 | BS | 121 | HIS |
| 49 | BT | 29 | THR |
| 49 | BT | 42 | ILE |
| 49 | BT | 57 | TYR |
| 50 | BU | 42 | SER |
| 50 | BU | 70 | ARG |
| 50 | BU | 91 | VAL |
| 50 | BU | 103 | ALA |
| 51 | BV | 9 | SER |
| 51 | BV | 35 | LYS |
| 51 | BV | 46 | PRO |
| 53 | BX | 21 | THR |
| 53 | BX | 42 | GLN |
| 53 | BX | 96 | PRO |
| 53 | BX | 119 | ILE |
| 54 | BY | 46 | ASP |
| 54 | BY | 51 | GLY |
| 54 | BY | 63 | LYS |
| 54 | BY | 65 | GLN |
| 54 | BY | 66 | ALA |
| 54 | BY | 129 | PHE |
| 54 | BY | 136 | GLU |
| 55 | BZ | 69 | TYR |
| 55 | BZ | 77 | LEU |
| 55 | BZ | 84 | LEU |
| 56 | Ba | 49 | VAL |
| 56 | Ba | 72 | ARG |
| 56 | Ba | 77 | ARG |
| 57 | Bb | 17 | PHE |
| 57 | Bb | 35 | GLN |
| 57 | Bb | 49 | ASN |
| 57 | Bb | 83 | GLU |
| 57 | Bb | 92 | TYR |
| 57 | Bb | 103 | LYS |
| 57 | Bb | 108 | ILE |
| 57 | Bb | 115 | LEU |
| 58 | Bc | 28 | LEU |
| 58 | Bc | 35 | LYS |
| 59 | Bd | 22 | CYS |
| 59 | Bd | 33 | THR |
| 60 | Be | 32 | ASN |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 61 | Bf | 12 | CYS |
| 61 | Bf | 59 | HIS |
| 62 | Bg | 14 | TYR |
| 62 | Bg | 68 | ALA |
| 2 | CA | 18 | LEU |
| 2 | CA | 68 | PRO |
| 2 | CA | 82 | GLY |
| 2 | CA | 99 | ALA |
| 2 | CA | 153 | SER |
| 2 | CA | 158 | VAL |
| 2 | CA | 168 | HIS |
| 3 | CB | 69 | ILE |
| 3 | CB | 153 | SER |
| 3 | CB | 182 | PRO |
| 4 | CC | 93 | ASP |
| 4 | CC | 104 | SER |
| 4 | CC | 134 | CYS |
| 4 | CC | 146 | ARG |
| 4 | CC | 159 | HIS |
| 5 | CD | 125 | THR |
| 5 | CD | 134 | VAL |
| 5 | CD | 148 | ARG |
| 5 | CD | 170 | GLN |
| 5 | CD | 181 | GLU |
| 5 | CD | 196 | GLU |
| 5 | CD | 205 | SER |
| 5 | CD | 211 | ILE |
| 5 | CD | 212 | LYS |
| 5 | CD | 219 | ARG |
| 6 | CE | 27 | GLU |
| 6 | CE | 46 | SER |
| 6 | CE | 91 | LYS |
| 6 | CE | 101 | VAL |
| 6 | CE | 180 | LYS |
| 7 | CF | 101 | GLU |
| 7 | CF | 135 | VAL |
| 8 | CG | 55 | ARG |
| 8 | CG | 75 | LEU |
| 8 | CG | 81 | ALA |
| 9 | CH | 32 | ASP |
| 9 | CH | 38 | THR |
| 9 | CH | 110 | LEU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 10 | CI | 36 | LEU |
| 10 | CI | 52 | LYS |
| 10 | CI | 55 | GLY |
| 10 | CI | 67 | ALA |
| 10 | CI | 90 | ILE |
| 10 | CI | 126 | VAL |
| 11 | CJ | 23 | LYS |
| 11 | CJ | 44 | LEU |
| 11 | CJ | 46 | PHE |
| 11 | CJ | 51 | PRO |
| 11 | CJ | 56 | GLY |
| 11 | CJ | 88 | GLY |
| 11 | CJ | 114 | ARG |
| 11 | CJ | 134 | ALA |
| 12 | CK | 11 | ARG |
| 12 | CK | 27 | ASP |
| 12 | CK | 28 | PHE |
| 12 | CK | 47 | ARG |
| 13 | CL | 56 | LYS |
| 13 | CL | 58 | ALA |
| 13 | CL | 61 | LEU |
| 13 | CL | 73 | MET |
| 13 | CL | 83 | ALA |
| 13 | CL | 135 | GLY |
| 13 | CL | 140 | THR |
| 14 | CM | 5 | SER |
| 14 | CM | 64 | HIS |
| 14 | CM | 70 | GLN |
| 15 | CN | 70 | THR |
| 16 | CO | 50 | PHE |
| 16 | CO | 60 | LYS |
| 16 | CO | 83 | ILE |
| 16 | CO | 107 | SER |
| 17 | CP | 122 | PHE |
| 17 | CP | 137 | LYS |
| 17 | CP | 141 | GLU |
| 18 | CQ | 80 | LEU |
| 18 | CQ | 84 | GLU |
| 19 | CR | 25 | VAL |
| 19 | CR | 32 | PHE |
| 19 | CR | 33 | LEU |
| 19 | CR | 37 | SER |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 21 | CT | 57 | PRO |
| 21 | CT | 63 | GLY |
| 21 | CT | 105 | GLY |
| 21 | CT | 117 | LYS |
| 21 | CT | 192 | PHE |
| 21 | CT | 243 | LEU |
| 32 | DA | 6 | SER |
| 32 | DA | 25 | LYS |
| 32 | DA | 44 | GLN |
| 32 | DA | 47 | LYS |
| 32 | DA | 58 | CYS |
| 32 | DA | 80 | CYS |
| 32 | DA | 86 | SER |
| 32 | DA | 154 | THR |
| 33 | DB | 46 | LYS |
| 33 | DB | 52 | SER |
| 33 | DB | 53 | GLY |
| 33 | DB | 130 | SER |
| 33 | DB | 131 | GLY |
| 34 | DC | 65 | SER |
| 34 | DC | 72 | VAL |
| 34 | DC | 90 | VAL |
| 34 | DC | 96 | PRO |
| 34 | DC | 121 | ASN |
| 34 | DC | 142 | ALA |
| 34 | DC | 183 | LEU |
| 34 | DC | 192 | VAL |
| 34 | DC | 222 | LYS |
| 34 | DC | 260 | VAL |
| 34 | DC | 308 | MET |
| 34 | DC | 348 | ARG |
| 35 | DD | 18 | ASN |
| 35 | DD | 55 | LYS |
| 35 | DD | 87 | GLN |
| 35 | DD | 94 | CYS |
| 35 | DD | 98 | ARG |
| 35 | DD | 106 | TRP |
| 35 | DD | 115 | HIS |
| 35 | DD | 156 | LEU |
| 35 | DD | 178 | LEU |
| 35 | DD | 262 | TRP |
| 35 | DD | 268 | ALA |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 36 | DE | 30 | TYR |
| 36 | DE | 44 | TYR |
| 36 | DE | 184 | ASP |
| 36 | DE | 187 | THR |
| 37 | DF | 55 | LEU |
| 37 | DF | 66 | SER |
| 37 | DF | 76 | LEU |
| 37 | DF | 140 | VAL |
| 37 | DF | 155 | LEU |
| 37 | DF | 158 | TYR |
| 37 | DF | 160 | SER |
| 38 | DG | 33 | ARG |
| 38 | DG | 135 | ALA |
| 38 | DG | 153 | PHE |
| 38 | DG | 164 | SER |
| 38 | DG | 216 | VAL |
| 39 | DH | 82 | LEU |
| 39 | DH | 84 | ARG |
| 39 | DH | 86 | THR |
| 39 | DH | 97 | TYR |
| 39 | DH | 169 | LEU |
| 39 | DH | 186 | LEU |
| 39 | DH | 190 | VAL |
| 39 | DH | 235 | GLY |
| 39 | DH | 237 | ILE |
| 40 | DI | 17 | THR |
| 40 | DI | 56 | ALA |
| 40 | DI | 62 | ARG |
| 40 | DI | 73 | SER |
| 40 | DI | 105 | GLU |
| 40 | DI | 111 | PHE |
| 40 | DI | 137 | SER |
| 40 | DI | 175 | PHE |
| 41 | DJ | 18 | PRO |
| 41 | DJ | 19 | LYS |
| 41 | DJ | 163 | GLN |
| 41 | DJ | 181 | TYR |
| 41 | DJ | 207 | GLU |
| 42 | DK | 119 | SER |
| 42 | DK | 123 | PHE |
| 42 | DK | 157 | GLU |
| 72 | DL | 89 | PRO |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 72 | DL | 92 | ARG |
| 72 | DL | 120 | SER |
| 72 | DL | 128 | VAL |
| 73 | DM | 64 | ARG |
| 73 | DM | 197 | PHE |
| 43 | DN | 112 | LEU |
| 44 | DO | 41 | ARG |
| 44 | DO | 43 | THR |
| 44 | DO | 122 | ASN |
| 44 | DO | 173 | GLY |
| 45 | DP | 39 | GLU |
| 46 | DQ | 63 | PHE |
| 46 | DQ | 132 | ALA |
| 47 | DR | 96 | PHE |
| 47 | DR | 128 | ALA |
| 47 | DR | 132 | PRO |
| 47 | DR | 157 | PRO |
| 48 | DS | 38 | ARG |
| 49 | DT | 9 | SER |
| 49 | DT | 36 | VAL |
| 49 | DT | 71 | SER |
| 49 | DT | 78 | LYS |
| 50 | DU | 14 | SER |
| 50 | DU | 79 | VAL |
| 50 | DU | 85 | TRP |
| 51 | DV | 43 | ARG |
| 51 | DV | 50 | ALA |
| 52 | DW | 89 | LYS |
| 52 | DW | 128 | ALA |
| 53 | DX | 102 | SER |
| 54 | DY | 19 | LYS |
| 54 | DY | 29 | PRO |
| 54 | DY | 51 | GLY |
| 54 | DY | 66 | ALA |
| 54 | DY | 96 | LYS |
| 54 | DY | 126 | LYS |
| 54 | DY | 131 | SER |
| 55 | DZ | 52 | ARG |
| 55 | DZ | 69 | TYR |
| 56 | Da | 5 | LYS |
| 56 | Da | 43 | HIS |
| 56 | Da | 63 | GLY |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 57 | Db | 17 | PHE |
| 57 | Db | 23 | ASP |
| 57 | Db | 34 | LYS |
| 57 | Db | 86 | THR |
| 58 | Dc | 27 | GLU |
| 58 | Dc | 65 | ALA |
| 59 | Dd | 22 | CYS |
| 59 | Dd | 33 | THR |
| 61 | Df | 3 | ASN |
| 61 | Df | 12 | CYS |
| 62 | Dg | 14 | TYR |
| 62 | Dg | 26 | VAL |
| 62 | Dg | 46 | THR |
| 2 | AA | 25 | GLY |
| 2 | AA | 81 | PHE |
| 2 | AA | 119 | ARG |
| 2 | AA | 195 | TRP |
| 3 | AB | 61 | LEU |
| 3 | AB | 95 | ARG |
| 3 | AB | 138 | PRO |
| 3 | AB | 146 | THR |
| 3 | AB | 153 | SER |
| 4 | AC | 93 | ASP |
| 4 | AC | 164 | VAL |
| 5 | AD | 45 | LYS |
| 5 | AD | 65 | ARG |
| 5 | AD | 213 | LYS |
| 5 | AD | 214 | LYS |
| 5 | AD | 221 | ALA |
| 6 | AE | 34 | PHE |
| 6 | AE | 101 | VAL |
| 6 | AE | 123 | HIS |
| 7 | AF | 101 | GLU |
| 7 | AF | 115 | PHE |
| 7 | AF | 135 | VAL |
| 7 | AF | 137 | PHE |
| 8 | AG | 77 | SER |
| 8 | AG | 142 | GLU |
| 8 | AG | 150 | VAL |
| 10 | AI | 20 | VAL |
| 10 | AI | 74 | ALA |
| 11 | AJ | 15 | SER |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 12 | AK | 21 | TYR |
| 12 | AK | 43 | SER |
| 12 | AK | 66 | VAL |
| 13 | AL | 16 | ARG |
| 13 | AL | 56 | LYS |
| 13 | AL | 61 | LEU |
| 13 | AL | 120 | ARG |
| 13 | AL | 135 | GLY |
| 16 | AO | 104 | LEU |
| 17 | AP | 91 | GLY |
| 21 | AT | 158 | PRO |
| 21 | AT | 286 | GLU |
| 32 | BA | 5 | THR |
| 32 | BA | 45 | ARG |
| 32 | BA | 92 | LYS |
| 32 | BA | 108 | ASN |
| 32 | BA | 154 | THR |
| 33 | BB | 17 | THR |
| 33 | BB | 27 | ALA |
| 33 | BB | 46 | LYS |
| 33 | BB | 99 | GLY |
| 33 | BB | 177 | LYS |
| 34 | BC | 111 | SER |
| 34 | BC | 130 | PHE |
| 34 | BC | 218 | ILE |
| 34 | BC | 347 | SER |
| 35 | BD | 250 | TRP |
| 35 | BD | 269 | SER |
| 36 | BE | 64 | ILE |
| 36 | BE | 226 | TYR |
| 36 | BE | 286 | VAL |
| 37 | BF | 30 | LEU |
| 37 | BF | 36 | PRO |
| 37 | BF | 67 | GLY |
| 37 | BF | 98 | VAL |
| 37 | BF | 140 | VAL |
| 38 | BG | 30 | ARG |
| 38 | BG | 83 | LEU |
| 38 | BG | 123 | THR |
| 38 | BG | 134 | VAL |
| 38 | BG | 145 | ARG |
| 38 | BG | 153 | PHE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 38 | BG | 211 | SER |
| 39 | BH | 97 | TYR |
| 39 | BH | 134 | TYR |
| 39 | BH | 241 | LYS |
| 40 | BI | 130 | ASP |
| 40 | BI | 175 | PHE |
| 41 | BJ | 8 | CYS |
| 41 | BJ | 41 | ALA |
| 41 | BJ | 171 | TRP |
| 41 | BJ | 212 | GLU |
| 42 | BK | 12 | LEU |
| 42 | BK | 44 | THR |
| 42 | BK | 130 | VAL |
| 43 | BN | 36 | VAL |
| 44 | BO | 31 | ARG |
| 45 | BP | 24 | ALA |
| 45 | BP | 94 | ARG |
| 45 | BP | 98 | ALA |
| 45 | BP | 166 | GLU |
| 45 | BP | 177 | LYS |
| 45 | BP | 195 | ALA |
| 47 | BR | 77 | ALA |
| 47 | BR | 101 | VAL |
| 48 | BS | 8 | LYS |
| 48 | BS | 25 | ASP |
| 49 | BT | 27 | LEU |
| 49 | BT | 108 | ARG |
| 50 | BU | 11 | PHE |
| 50 | BU | 13 | ILE |
| 50 | BU | 56 | ASP |
| 50 | BU | 86 | ARG |
| 52 | BW | 96 | LYS |
| 52 | BW | 115 | ARG |
| 52 | BW | 128 | ALA |
| 54 | BY | 15 | VAL |
| 54 | BY | 19 | LYS |
| 54 | BY | 25 | HIS |
| 54 | BY | 28 | HIS |
| 54 | BY | 49 | HIS |
| 54 | BY | 70 | LYS |
| 54 | BY | 128 | ARG |
| 55 | BZ | 52 | ARG |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 56 | Ba | 23 | VAL |
| 56 | Ba | 57 | GLN |
| 56 | Ba | 82 | GLU |
| 57 | Bb | 16 | LYS |
| 57 | Bb | 32 | TRP |
| 57 | Bb | 75 | LEU |
| 57 | Bb | 86 | THR |
| 59 | Bd | 34 | CYS |
| 60 | Be | 37 | TYR |
| 60 | Be | 39 | ALA |
| 61 | Bf | 3 | ASN |
| 61 | Bf | 39 | GLY |
| 61 | Bf | 45 | ARG |
| 61 | Bf | 55 | LYS |
| 61 | Bf | 62 | ALA |
| 62 | Bg | 26 | VAL |
| 62 | Bg | 74 | ALA |
| 2 | CA | 93 | THR |
| 2 | CA | 145 | ALA |
| 2 | CA | 152 | PRO |
| 2 | CA | 160 | ILE |
| 2 | CA | 195 | TRP |
| 2 | CA | 199 | PRO |
| 3 | CB | 45 | VAL |
| 3 | CB | 71 | THR |
| 3 | CB | 138 | PRO |
| 4 | CC | 164 | VAL |
| 5 | CD | 60 | ASP |
| 5 | CD | 157 | ARG |
| 5 | CD | 165 | LEU |
| 5 | CD | 221 | ALA |
| 6 | CE | 60 | LEU |
| 6 | CE | 74 | ASN |
| 6 | CE | 75 | ALA |
| 6 | CE | 125 | ALA |
| 6 | CE | 170 | GLY |
| 6 | CE | 183 | ALA |
| 8 | CG | 77 | SER |
| 8 | CG | 150 | VAL |
| 10 | CI | 16 | SER |
| 10 | CI | 63 | ALA |
| 10 | CI | 117 | GLY |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 11 | CJ | 55 | VAL |
| 12 | CK | 21 | TYR |
| 12 | CK | 59 | LYS |
| 12 | CK | 66 | VAL |
| 13 | CL | 82 | PRO |
| 13 | CL | 120 | ARG |
| 14 | CM | 15 | ILE |
| 14 | CM | 114 | VAL |
| 14 | CM | 121 | GLY |
| 14 | CM | 124 | ILE |
| 15 | CN | 12 | GLN |
| 17 | CP | 102 | VAL |
| 17 | CP | 118 | PRO |
| 18 | CQ | 96 | SER |
| 21 | CT | 158 | PRO |
| 21 | CT | 286 | GLU |
| 32 | DA | 74 | VAL |
| 32 | DA | 88 | ASP |
| 33 | DB | 10 | LYS |
| 33 | DB | 177 | LYS |
| 34 | DC | 88 | GLY |
| 34 | DC | 218 | ILE |
| 34 | DC | 256 | HIS |
| 35 | DD | 12 | THR |
| 35 | DD | 40 | THR |
| 35 | DD | 41 | SER |
| 36 | DE | 103 | LEU |
| 36 | DE | 142 | PHE |
| 36 | DE | 156 | GLY |
| 36 | DE | 192 | PRO |
| 36 | DE | 202 | GLY |
| 36 | DE | 226 | TYR |
| 36 | DE | 248 | ARG |
| 36 | DE | 294 | ALA |
| 37 | DF | 36 | PRO |
| 37 | DF | 73 | GLY |
| 37 | DF | 81 | ALA |
| 38 | DG | 72 | ALA |
| 38 | DG | 83 | LEU |
| 38 | DG | 111 | ILE |
| 38 | DG | 134 | VAL |
| 38 | DG | 161 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 39 | DH | 165 | PHE |
| 39 | DH | 176 | PRO |
| 39 | DH | 243 | GLN |
| 40 | DI | 38 | LEU |
| 40 | DI | 51 | GLN |
| 40 | DI | 185 | GLY |
| 41 | DJ | 66 | GLU |
| 41 | DJ | 147 | VAL |
| 41 | DJ | 194 | GLY |
| 41 | DJ | 214 | PRO |
| 42 | DK | 130 | VAL |
| 72 | DL | 121 | PHE |
| 72 | DL | 136 | ALA |
| 73 | DM | 69 | ASP |
| 73 | DM | 96 | ILE |
| 44 | DO | 74 | PRO |
| 45 | DP | 180 | SER |
| 45 | DP | 191 | ALA |
| 46 | DQ | 4 | TYR |
| 46 | DQ | 85 | ALA |
| 47 | DR | 21 | SER |
| 47 | DR | 41 | ASP |
| 47 | DR | 46 | LYS |
| 48 | DS | 17 | VAL |
| 48 | DS | 27 | ASN |
| 49 | DT | 10 | ARG |
| 49 | DT | 24 | ALA |
| 49 | DT | 53 | PRO |
| 49 | DT | 57 | TYR |
| 49 | DT | 102 | ARG |
| 50 | DU | 13 | ILE |
| 52 | DW | 95 | ILE |
| 52 | DW | 110 | VAL |
| 53 | DX | 42 | GLN |
| 54 | DY | 25 | HIS |
| 54 | DY | 70 | LYS |
| 55 | DZ | 77 | LEU |
| 56 | Da | 42 | LEU |
| 56 | Da | 72 | ARG |
| 57 | Db | 9 | ILE |
| 57 | Db | 21 | HIS |
| 60 | De | 26 | TRP |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 60 | De | 39 | ALA |
| 61 | Df | 45 | ARG |
| 61 | Df | 48 | SER |
| 61 | Df | 59 | HIS |
| 62 | Dg | 74 | ALA |
| 3 | AB | 123 | GLY |
| 4 | AC | 29 | LEU |
| 4 | AC | 146 | ARG |
| 5 | AD | 170 | GLN |
| 9 | AH | 87 | GLY |
| 10 | AI | 76 | VAL |
| 11 | AJ | 33 | GLY |
| 11 | AJ | 84 | ALA |
| 12 | AK | 20 | TYR |
| 14 | AM | 61 | VAL |
| 14 | AM | 114 | VAL |
| 15 | AN | 118 | VAL |
| 17 | AP | 69 | ARG |
| 17 | AP | 88 | PRO |
| 17 | AP | 118 | PRO |
| 19 | AR | 37 | SER |
| 21 | AT | 136 | ILE |
| 21 | AT | 138 | GLY |
| 33 | BB | 10 | LYS |
| 33 | BB | 62 | VAL |
| 34 | BC | 268 | GLY |
| 35 | BD | 32 | PRO |
| 35 | BD | 87 | GLN |
| 35 | BD | 94 | CYS |
| 35 | BD | 101 | ALA |
| 36 | BE | 141 | PRO |
| 36 | BE | 156 | GLY |
| 36 | BE | 183 | TRP |
| 36 | BE | 269 | SER |
| 37 | BF | 65 | ILE |
| 37 | BF | 125 | GLN |
| 38 | BG | 38 | LYS |
| 38 | BG | 243 | MET |
| 39 | BH | 136 | LEU |
| 40 | BI | 51 | GLN |
| 40 | BI | 158 | ALA |
| 42 | BK | 36 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 42 | BK | 75 | LYS |
| 42 | BK | 157 | GLU |
| 44 | BO | 38 | ARG |
| 44 | BO | 144 | ARG |
| 44 | BO | 153 | ASP |
| 44 | BO | 173 | GLY |
| 45 | BP | 164 | SER |
| 46 | BQ | 54 | HIS |
| 48 | BS | 33 | ALA |
| 49 | BT | 12 | ARG |
| 49 | BT | 24 | ALA |
| 49 | BT | 51 | GLY |
| 49 | BT | 53 | PRO |
| 50 | BU | 55 | GLY |
| 51 | BV | 50 | ALA |
| 55 | BZ | 57 | GLU |
| 55 | BZ | 92 | ILE |
| 57 | Bb | 60 | ASN |
| 57 | Bb | 71 | HIS |
| 57 | Bb | 122 | PRO |
| 58 | Bc | 4 | VAL |
| 58 | Bc | 16 | GLN |
| 58 | Bc | 34 | GLN |
| 59 | Bd | 58 | THR |
| 60 | Be | 10 | LYS |
| 61 | Bf | 48 | SER |
| 62 | Bg | 50 | GLY |
| 2 | CA | 104 | PRO |
| 3 | CB | 56 | ILE |
| 3 | CB | 65 | GLU |
| 4 | CC | 15 | GLY |
| 4 | CC | 91 | VAL |
| 5 | CD | 200 | ASN |
| 8 | CG | 108 | ASP |
| 8 | CG | 143 | SER |
| 9 | CH | 58 | TYR |
| 9 | CH | 87 | GLY |
| 9 | CH | 115 | ILE |
| 11 | CJ | 33 | GLY |
| 12 | CK | 67 | ARG |
| 13 | CL | 29 | VAL |
| 13 | CL | 76 | PRO |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 15 | CN | 118 | VAL |
| 16 | CO | 7 | LEU |
| 17 | CP | 38 | PHE |
| 20 | CS | 25 | SER |
| 21 | CT | 138 | GLY |
| 21 | CT | 291 | SER |
| 32 | DA | 135 | PRO |
| 32 | DA | 137 | PRO |
| 32 | DA | 209 | SER |
| 33 | DB | 6 | ARG |
| 33 | DB | 62 | VAL |
| 33 | DB | 91 | GLY |
| 33 | DB | 113 | VAL |
| 34 | DC | 133 | TYR |
| 34 | DC | 161 | LEU |
| 34 | DC | 204 | ALA |
| 35 | DD | 169 | LEU |
| 36 | DE | 64 | ILE |
| 36 | DE | 123 | GLU |
| 36 | DE | 136 | GLU |
| 36 | DE | 141 | PRO |
| 36 | DE | 257 | GLU |
| 36 | DE | 265 | TYR |
| 36 | DE | 269 | SER |
| 36 | DE | 286 | VAL |
| 36 | DE | 291 | ALA |
| 37 | DF | 65 | ILE |
| 37 | DF | 67 | GLY |
| 37 | DF | 128 | LYS |
| 38 | DG | 37 | ASN |
| 40 | DI | 55 | VAL |
| 41 | DJ | 197 | VAL |
| 41 | DJ | 216 | TYR |
| 42 | DK | 35 | LYS |
| 42 | DK | 64 | LYS |
| 72 | DL | 85 | LEU |
| 72 | DL | 98 | VAL |
| 73 | DM | 47 | GLY |
| 73 | DM | 97 | LYS |
| 43 | DN | 61 | GLY |
| 45 | DP | 23 | VAL |
| 45 | DP | 84 | LEU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 45 | DP | 95 | GLY |
| 45 | DP | 165 | ALA |
| 46 | DQ | 121 | GLN |
| 47 | DR | 40 | THR |
| 47 | DR | 131 | ALA |
| 48 | DS | 13 | SER |
| 48 | DS | 25 | ASP |
| 48 | DS | 147 | ALA |
| 50 | DU | 17 | LEU |
| 50 | DU | 44 | SER |
| 51 | DV | 9 | SER |
| 52 | DW | 115 | ARG |
| 53 | DX | 78 | PHE |
| 54 | DY | 15 | VAL |
| 54 | DY | 46 | ASP |
| 54 | DY | 49 | HIS |
| 54 | DY | 93 | SER |
| 55 | DZ | 92 | ILE |
| 56 | Da | 82 | GLU |
| 57 | Db | 107 | VAL |
| 58 | Dc | 4 | VAL |
| 59 | Dd | 32 | LYS |
| 59 | Dd | 60 | GLY |
| 60 | De | 37 | TYR |
| 61 | Df | 39 | GLY |
| 62 | Dg | 13 | LYS |
| 62 | Dg | 68 | ALA |
| 3 | AB | 160 | GLY |
| 6 | AE | 35 | GLY |
| 6 | AE | 144 | PRO |
| 9 | AH | 115 | ILE |
| 10 | AI | 105 | VAL |
| 11 | AJ | 39 | VAL |
| 14 | AM | 124 | ILE |
| 15 | AN | 58 | LEU |
| 17 | AP | 44 | GLY |
| 33 | BB | 91 | GLY |
| 34 | BC | 8 | ALA |
| 34 | BC | 96 | PRO |
| 38 | BG | 203 | TRP |
| 40 | BI | 55 | VAL |
| 41 | BJ | 4 | ARG |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 41 | BJ | 172 | GLY |
| 41 | BJ | 194 | GLY |
| 48 | BS | 77 | GLY |
| 52 | BW | 110 | VAL |
| 53 | BX | 106 | ILE |
| 57 | Bb | 9 | ILE |
| 3 | CB | 160 | GLY |
| 3 | CB | 216 | VAL |
| 10 | CI | 76 | VAL |
| 11 | CJ | 39 | VAL |
| 14 | CM | 52 | GLY |
| 14 | CM | 61 | VAL |
| 15 | CN | 41 | ILE |
| 15 | CN | 58 | LEU |
| 17 | CP | 96 | VAL |
| 34 | DC | 8 | ALA |
| 34 | DC | 33 | PRO |
| 35 | DD | 22 | LEU |
| 35 | DD | 52 | VAL |
| 35 | DD | 101 | ALA |
| 37 | DF | 79 | VAL |
| 41 | DJ | 27 | PRO |
| 41 | DJ | 91 | VAL |
| 42 | DK | 106 | ILE |
| 72 | DL | 23 | GLY |
| 73 | DM | 82 | GLY |
| 73 | DM | 101 | VAL |
| 43 | DN | 36 | VAL |
| 43 | DN | 38 | ILE |
| 44 | DO | 137 | PRO |
| 44 | DO | 153 | ASP |
| 46 | DQ | 24 | VAL |
| 47 | DR | 67 | ILE |
| 55 | DZ | 81 | VAL |
| 56 | Da | 8 | VAL |
| 57 | Db | 67 | SER |
| 61 | Df | 55 | LYS |
| 2 | AA | 104 | PRO |
| 5 | AD | 114 | ILE |
| 9 | AH | 13 | VAL |
| 9 | AH | 74 | VAL |
| 10 | AI | 126 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 16 | AO | 25 | VAL |
| 17 | AP | 96 | VAL |
| 17 | AP | 102 | VAL |
| 18 | AQ | 40 | VAL |
| 32 | BA | 69 | GLY |
| 33 | BB | 113 | VAL |
| 33 | BB | 135 | ILE |
| 33 | BB | 196 | TRP |
| 35 | BD | 52 | VAL |
| 35 | BD | 71 | VAL |
| 36 | BE | 26 | GLY |
| 36 | BE | 254 | LYS |
| 39 | BH | 176 | PRO |
| 39 | BH | 182 | GLY |
| 44 | BO | 89 | VAL |
| 56 | Ba | 8 | VAL |
| 2 | CA | 25 | GLY |
| 5 | CD | 123 | VAL |
| 6 | CE | 52 | ILE |
| 6 | CE | 144 | PRO |
| 9 | CH | 13 | VAL |
| 9 | CH | 74 | VAL |
| 15 | CN | 73 | GLY |
| 17 | CP | 88 | PRO |
| 17 | CP | 91 | GLY |
| 35 | DD | 216 | VAL |
| 36 | DE | 254 | LYS |
| 41 | DJ | 172 | GLY |
| 42 | DK | 44 | THR |
| 72 | DL | 64 | ILE |
| 72 | DL | 102 | GLY |
| 72 | DL | 132 | ILE |
| 73 | DM | 80 | VAL |
| 43 | DN | 120 | VAL |
| 44 | DO | 89 | VAL |
| 47 | DR | 83 | VAL |
| 47 | DR | 109 | GLY |
| 53 | DX | 119 | ILE |
| 56 | Da | 23 | VAL |
| 57 | Db | 108 | ILE |
| 2 | AA | 144 | ILE |
| 3 | AB | 56 | ILE |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 3 | AB | 171 | PRO |
| 3 | AB | 216 | VAL |
| 5 | AD | 121 | ILE |
| 5 | AD | 152 | GLY |
| 21 | AT | 20 | VAL |
| 32 | BA | 65 | ILE |
| 33 | BB | 85 | GLY |
| 34 | BC | 278 | ILE |
| 36 | BE | 202 | GLY |
| 38 | BG | 102 | VAL |
| 39 | BH | 127 | PRO |
| 39 | BH | 135 | GLY |
| 41 | BJ | 18 | PRO |
| 49 | BT | 109 | VAL |
| 53 | BX | 105 | VAL |
| 54 | BY | 57 | GLY |
| 55 | BZ | 81 | VAL |
| 59 | Bd | 60 | GLY |
| 2 | CA | 37 | VAL |
| 4 | CC | 112 | GLY |
| 4 | CC | 123 | VAL |
| 5 | CD | 120 | ILE |
| 5 | CD | 152 | GLY |
| 6 | CE | 42 | ILE |
| 15 | CN | 42 | VAL |
| 16 | CO | 25 | VAL |
| 36 | DE | 201 | GLY |
| 37 | DF | 152 | THR |
| 41 | DJ | 4 | ARG |
| 41 | DJ | 89 | VAL |
| 43 | DN | 46 | ILE |
| 47 | DR | 101 | VAL |
| 48 | DS | 96 | ILE |
| 51 | DV | 45 | ASN |
| 54 | DY | 28 | HIS |
| 57 | Db | 100 | ILE |
| 58 | Dc | 33 | VAL |
| 2 | AA | 37 | VAL |
| 6 | AE | 73 | GLY |
| 11 | AJ | 50 | GLU |
| 13 | AL | 105 | VAL |
| 17 | AP | 125 | VAL |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 36 | BE | 192 | PRO |
| 36 | BE | 201 | GLY |
| 37 | BF | 84 | VAL |
| 41 | BJ | 117 | GLY |
| 41 | BJ | 131 | ILE |
| 42 | BK | 105 | GLY |
| 42 | BK | 117 | ASP |
| 43 | BN | 38 | ILE |
| 45 | BP | 95 | GLY |
| 45 | BP | 190 | VAL |
| 46 | BQ | 24 | VAL |
| 48 | BS | 17 | VAL |
| 50 | BU | 17 | LEU |
| 52 | BW | 83 | VAL |
| 55 | BZ | 18 | ILE |
| 2 | CA | 144 | ILE |
| 3 | CB | 123 | GLY |
| 4 | CC | 12 | VAL |
| 6 | CE | 73 | GLY |
| 9 | CH | 44 | GLY |
| 14 | CM | 112 | GLY |
| 17 | CP | 125 | VAL |
| 21 | CT | 15 | GLY |
| 32 | DA | 55 | LEU |
| 33 | DB | 135 | ILE |
| 36 | DE | 26 | GLY |
| 37 | DF | 75 | PRO |
| 40 | DI | 28 | VAL |
| 41 | DJ | 122 | PRO |
| 43 | DN | 18 | GLY |
| 49 | DT | 51 | GLY |
| 50 | DU | 55 | GLY |
| 52 | DW | 81 | ILE |
| 52 | DW | 83 | VAL |
| 57 | Db | 41 | VAL |
| 2 | AA | 152 | PRO |
| 6 | AE | 42 | ILE |
| 10 | AI | 117 | GLY |
| 14 | AM | 26 | GLY |
| 15 | AN | 42 | VAL |
| 17 | AP | 77 | ILE |
| 35 | BD | 22 | LEU |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 35 | BD | 86 | GLY |
| 35 | BD | 216 | VAL |
| 40 | BI | 28 | VAL |
| 40 | BI | 101 | VAL |
| 41 | BJ | 27 | PRO |
| 41 | BJ | 89 | VAL |
| 43 | BN | 72 | LEU |
| 47 | BR | 132 | PRO |
| 55 | BZ | 88 | GLY |
| 57 | Bb | 5 | PRO |
| 57 | Bb | 67 | SER |
| 58 | Bc | 42 | PRO |
| 11 | CJ | 50 | GLU |
| 17 | CP | 117 | ILE |
| 33 | DB | 99 | GLY |
| 35 | DD | 192 | GLY |
| 36 | DE | 138 | GLY |
| 40 | DI | 24 | ILE |
| 41 | DJ | 117 | GLY |
| 41 | DJ | 131 | ILE |
| 73 | DM | 51 | VAL |
| 49 | DT | 80 | VAL |
| 58 | Dc | 42 | PRO |
| 58 | Bc | 39 | PRO |
| 59 | Bd | 40 | PRO |
| 58 | Dc | 39 | PRO |

### 5.3.2 Protein sidechains (i)

There are no protein residues with a non-rotameric sidechain to report in this entry.

### 5.3.3 RNA (i)

| Mol | Chain | Analysed | Backbone Outliers | Pucker Outliers |
|---|---|---|---|---|
| 1 | A1 | 1787/1800 (99%) | 1004 (56%) | 148 (8%) |
| 1 | C1 | 1787/1800 (99%) | 993 (55%) | 150 (8%) |
| 29 | B1 | 3203/3396 (94%) | 1734 (54%) | 259 (8%) |
| 29 | D1 | 3203/3396 (94%) | 1726 (53%) | 257 (8%) |
| 30 | B2 | 120/121 (99%) | 70 (58%) | 12 (10%) |
| 30 | D2 | 120/121 (99%) | 66 (55%) | 12 (10%) |
| 31 | B3 | 157/158 (99%) | 80 (50%) | 9 (5%) |

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| Mol | Chain | Analysed | Backbone Outliers | Pucker Outliers |
|---|---|---|---|---|
| 31 | D3 | 157/158 (99%) | 79 (50%) | 9 (5%) |
| All | All | 10534/10950 (96%) | 5752 (54%) | 856 (8%) |

All (5752) RNA backbone outliers are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 2 | A |
| 1 | A1 | 3 | U |
| 1 | A1 | 4 | C |
| 1 | A1 | 7 | G |
| 1 | A1 | 8 | U |
| 1 | A1 | 13 | C |
| 1 | A1 | 17 | C |
| 1 | A1 | 20 | G |
| 1 | A1 | 21 | U |
| 1 | A1 | 22 | A |
| 1 | A1 | 24 | U |
| 1 | A1 | 25 | C |
| 1 | A1 | 26 | A |
| 1 | A1 | 27 | U |
| 1 | A1 | 31 | C |
| 1 | A1 | 34 | G |
| 1 | A1 | 35 | U |
| 1 | A1 | 40 | A |
| 1 | A1 | 41 | A |
| 1 | A1 | 42 | G |
| 1 | A1 | 45 | U |
| 1 | A1 | 46 | A |
| 1 | A1 | 47 | A |
| 1 | A1 | 48 | G |
| 1 | A1 | 50 | C |
| 1 | A1 | 51 | A |
| 1 | A1 | 54 | C |
| 1 | A1 | 56 | U |
| 1 | A1 | 57 | G |
| 1 | A1 | 58 | U |
| 1 | A1 | 59 | C |
| 1 | A1 | 60 | U |
| 1 | A1 | 61 | A |
| 1 | A1 | 62 | A |
| 1 | A1 | 63 | G |
| 1 | A1 | 64 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 65 | A |
| 1 | A1 | 66 | U |
| 1 | A1 | 67 | A |
| 1 | A1 | 68 | A |
| 1 | A1 | 69 | G |
| 1 | A1 | 70 | C |
| 1 | A1 | 71 | A |
| 1 | A1 | 72 | A |
| 1 | A1 | 75 | U |
| 1 | A1 | 76 | A |
| 1 | A1 | 77 | U |
| 1 | A1 | 78 | A |
| 1 | A1 | 79 | C |
| 1 | A1 | 80 | A |
| 1 | A1 | 81 | G |
| 1 | A1 | 82 | U |
| 1 | A1 | 83 | G |
| 1 | A1 | 86 | A |
| 1 | A1 | 88 | U |
| 1 | A1 | 99 | C |
| 1 | A1 | 100 | A |
| 1 | A1 | 102 | U |
| 1 | A1 | 104 | A |
| 1 | A1 | 105 | A |
| 1 | A1 | 106 | U |
| 1 | A1 | 111 | U |
| 1 | A1 | 112 | A |
| 1 | A1 | 113 | U |
| 1 | A1 | 114 | C |
| 1 | A1 | 115 | G |
| 1 | A1 | 117 | U |
| 1 | A1 | 119 | A |
| 1 | A1 | 120 | U |
| 1 | A1 | 121 | U |
| 1 | A1 | 122 | U |
| 1 | A1 | 123 | G |
| 1 | A1 | 124 | A |
| 1 | A1 | 125 | U |
| 1 | A1 | 126 | A |
| 1 | A1 | 128 | U |
| 1 | A1 | 129 | U |
| 1 | A1 | 130 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 131 | C |
| 1 | A1 | 132 | U |
| 1 | A1 | 133 | U |
| 1 | A1 | 134 | U |
| 1 | A1 | 135 | A |
| 1 | A1 | 136 | C |
| 1 | A1 | 137 | U |
| 1 | A1 | 138 | A |
| 1 | A1 | 139 | C |
| 1 | A1 | 140 | A |
| 1 | A1 | 141 | U |
| 1 | A1 | 143 | G |
| 1 | A1 | 144 | U |
| 1 | A1 | 145 | A |
| 1 | A1 | 146 | U |
| 1 | A1 | 147 | A |
| 1 | A1 | 148 | A |
| 1 | A1 | 149 | C |
| 1 | A1 | 150 | U |
| 1 | A1 | 151 | G |
| 1 | A1 | 156 | A |
| 1 | A1 | 158 | U |
| 1 | A1 | 159 | U |
| 1 | A1 | 160 | C |
| 1 | A1 | 161 | U |
| 1 | A1 | 162 | A |
| 1 | A1 | 166 | C |
| 1 | A1 | 167 | U |
| 1 | A1 | 168 | A |
| 1 | A1 | 169 | A |
| 1 | A1 | 170 | U |
| 1 | A1 | 171 | A |
| 1 | A1 | 172 | C |
| 1 | A1 | 173 | A |
| 1 | A1 | 174 | U |
| 1 | A1 | 177 | U |
| 1 | A1 | 178 | U |
| 1 | A1 | 179 | A |
| 1 | A1 | 180 | A |
| 1 | A1 | 181 | A |
| 1 | A1 | 184 | C |
| 1 | A1 | 187 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 191 | C |
| 1 | A1 | 192 | U |
| 1 | A1 | 193 | U |
| 1 | A1 | 194 | U |
| 1 | A1 | 195 | G |
| 1 | A1 | 196 | G |
| 1 | A1 | 197 | A |
| 1 | A1 | 198 | A |
| 1 | A1 | 199 | G |
| 1 | A1 | 200 | A |
| 1 | A1 | 201 | G |
| 1 | A1 | 204 | G |
| 1 | A1 | 208 | U |
| 1 | A1 | 209 | U |
| 1 | A1 | 211 | U |
| 1 | A1 | 212 | U |
| 1 | A1 | 213 | A |
| 1 | A1 | 215 | A |
| 1 | A1 | 218 | A |
| 1 | A1 | 219 | A |
| 1 | A1 | 220 | A |
| 1 | A1 | 224 | C |
| 1 | A1 | 226 | A |
| 1 | A1 | 227 | U |
| 1 | A1 | 228 | G |
| 1 | A1 | 229 | U |
| 1 | A1 | 233 | C |
| 1 | A1 | 234 | G |
| 1 | A1 | 238 | U |
| 1 | A1 | 241 | U |
| 1 | A1 | 242 | U |
| 1 | A1 | 243 | G |
| 1 | A1 | 244 | A |
| 1 | A1 | 245 | U |
| 1 | A1 | 246 | G |
| 1 | A1 | 249 | U |
| 1 | A1 | 250 | C |
| 1 | A1 | 252 | U |
| 1 | A1 | 253 | A |
| 1 | A1 | 254 | A |
| 1 | A1 | 255 | U |
| 1 | A1 | 256 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 257 | A |
| 1 | A1 | 259 | U |
| 1 | A1 | 260 | U |
| 1 | A1 | 261 | U |
| 1 | A1 | 262 | U |
| 1 | A1 | 263 | C |
| 1 | A1 | 264 | G |
| 1 | A1 | 265 | A |
| 1 | A1 | 266 | A |
| 1 | A1 | 267 | U |
| 1 | A1 | 270 | C |
| 1 | A1 | 271 | A |
| 1 | A1 | 272 | U |
| 1 | A1 | 273 | G |
| 1 | A1 | 274 | G |
| 1 | A1 | 276 | C |
| 1 | A1 | 277 | U |
| 1 | A1 | 278 | U |
| 1 | A1 | 280 | U |
| 1 | A1 | 282 | C |
| 1 | A1 | 283 | U |
| 1 | A1 | 284 | G |
| 1 | A1 | 285 | G |
| 1 | A1 | 289 | U |
| 1 | A1 | 295 | A |
| 1 | A1 | 296 | U |
| 1 | A1 | 297 | U |
| 1 | A1 | 298 | C |
| 1 | A1 | 299 | A |
| 1 | A1 | 302 | U |
| 1 | A1 | 308 | C |
| 1 | A1 | 309 | C |
| 1 | A1 | 310 | C |
| 1 | A1 | 311 | U |
| 1 | A1 | 312 | A |
| 1 | A1 | 314 | C |
| 1 | A1 | 316 | A |
| 1 | A1 | 320 | U |
| 1 | A1 | 321 | C |
| 1 | A1 | 322 | G |
| 1 | A1 | 323 | A |
| 1 | A1 | 324 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 327 | U |
| 1 | A1 | 330 | G |
| 1 | A1 | 331 | A |
| 1 | A1 | 332 | U |
| 1 | A1 | 333 | A |
| 1 | A1 | 334 | G |
| 1 | A1 | 335 | U |
| 1 | A1 | 337 | G |
| 1 | A1 | 338 | C |
| 1 | A1 | 340 | U |
| 1 | A1 | 341 | A |
| 1 | A1 | 350 | U |
| 1 | A1 | 351 | C |
| 1 | A1 | 352 | A |
| 1 | A1 | 354 | C |
| 1 | A1 | 359 | A |
| 1 | A1 | 360 | A |
| 1 | A1 | 361 | C |
| 1 | A1 | 365 | G |
| 1 | A1 | 366 | A |
| 1 | A1 | 368 | U |
| 1 | A1 | 369 | A |
| 1 | A1 | 370 | A |
| 1 | A1 | 373 | G |
| 1 | A1 | 374 | U |
| 1 | A1 | 375 | U |
| 1 | A1 | 376 | C |
| 1 | A1 | 378 | A |
| 1 | A1 | 379 | U |
| 1 | A1 | 380 | U |
| 1 | A1 | 381 | C |
| 1 | A1 | 382 | C |
| 1 | A1 | 383 | G |
| 1 | A1 | 385 | A |
| 1 | A1 | 387 | A |
| 1 | A1 | 390 | G |
| 1 | A1 | 393 | C |
| 1 | A1 | 394 | C |
| 1 | A1 | 395 | U |
| 1 | A1 | 396 | G |
| 1 | A1 | 399 | A |
| 1 | A1 | 400 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 401 | A |
| 1 | A1 | 402 | C |
| 1 | A1 | 403 | G |
| 1 | A1 | 404 | G |
| 1 | A1 | 406 | U |
| 1 | A1 | 411 | C |
| 1 | A1 | 415 | C |
| 1 | A1 | 416 | A |
| 1 | A1 | 417 | A |
| 1 | A1 | 418 | G |
| 1 | A1 | 419 | G |
| 1 | A1 | 421 | A |
| 1 | A1 | 424 | C |
| 1 | A1 | 425 | A |
| 1 | A1 | 426 | G |
| 1 | A1 | 427 | C |
| 1 | A1 | 428 | A |
| 1 | A1 | 434 | G |
| 1 | A1 | 437 | A |
| 1 | A1 | 438 | A |
| 1 | A1 | 439 | U |
| 1 | A1 | 440 | U |
| 1 | A1 | 441 | A |
| 1 | A1 | 444 | C |
| 1 | A1 | 445 | A |
| 1 | A1 | 446 | A |
| 1 | A1 | 447 | U |
| 1 | A1 | 448 | C |
| 1 | A1 | 449 | C |
| 1 | A1 | 451 | A |
| 1 | A1 | 452 | A |
| 1 | A1 | 453 | U |
| 1 | A1 | 454 | U |
| 1 | A1 | 455 | C |
| 1 | A1 | 458 | G |
| 1 | A1 | 459 | G |
| 1 | A1 | 462 | G |
| 1 | A1 | 464 | A |
| 1 | A1 | 467 | G |
| 1 | A1 | 468 | A |
| 1 | A1 | 469 | C |
| 1 | A1 | 470 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 475 | A |
| 1 | A1 | 477 | A |
| 1 | A1 | 482 | U |
| 1 | A1 | 485 | A |
| 1 | A1 | 486 | G |
| 1 | A1 | 487 | G |
| 1 | A1 | 488 | G |
| 1 | A1 | 489 | C |
| 1 | A1 | 490 | C |
| 1 | A1 | 493 | U |
| 1 | A1 | 494 | U |
| 1 | A1 | 495 | C |
| 1 | A1 | 496 | G |
| 1 | A1 | 498 | G |
| 1 | A1 | 500 | C |
| 1 | A1 | 504 | U |
| 1 | A1 | 505 | A |
| 1 | A1 | 506 | A |
| 1 | A1 | 510 | G |
| 1 | A1 | 511 | A |
| 1 | A1 | 512 | A |
| 1 | A1 | 513 | U |
| 1 | A1 | 514 | G |
| 1 | A1 | 515 | A |
| 1 | A1 | 516 | G |
| 1 | A1 | 517 | U |
| 1 | A1 | 519 | C |
| 1 | A1 | 521 | A |
| 1 | A1 | 522 | U |
| 1 | A1 | 523 | G |
| 1 | A1 | 524 | U |
| 1 | A1 | 526 | A |
| 1 | A1 | 527 | A |
| 1 | A1 | 528 | U |
| 1 | A1 | 529 | A |
| 1 | A1 | 530 | C |
| 1 | A1 | 531 | C |
| 1 | A1 | 533 | U |
| 1 | A1 | 535 | A |
| 1 | A1 | 537 | G |
| 1 | A1 | 538 | A |
| 1 | A1 | 539 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 540 | G |
| 1 | A1 | 541 | A |
| 1 | A1 | 542 | A |
| 1 | A1 | 543 | C |
| 1 | A1 | 544 | A |
| 1 | A1 | 545 | A |
| 1 | A1 | 546 | U |
| 1 | A1 | 548 | G |
| 1 | A1 | 550 | A |
| 1 | A1 | 551 | G |
| 1 | A1 | 554 | C |
| 1 | A1 | 555 | A |
| 1 | A1 | 556 | A |
| 1 | A1 | 557 | G |
| 1 | A1 | 558 | U |
| 1 | A1 | 560 | U |
| 1 | A1 | 561 | G |
| 1 | A1 | 563 | U |
| 1 | A1 | 564 | G |
| 1 | A1 | 565 | C |
| 1 | A1 | 568 | G |
| 1 | A1 | 570 | A |
| 1 | A1 | 572 | C |
| 1 | A1 | 574 | G |
| 1 | A1 | 578 | U |
| 1 | A1 | 579 | A |
| 1 | A1 | 580 | A |
| 1 | A1 | 585 | A |
| 1 | A1 | 594 | A |
| 1 | A1 | 595 | G |
| 1 | A1 | 596 | C |
| 1 | A1 | 599 | A |
| 1 | A1 | 601 | A |
| 1 | A1 | 602 | U |
| 1 | A1 | 605 | A |
| 1 | A1 | 607 | G |
| 1 | A1 | 608 | U |
| 1 | A1 | 609 | U |
| 1 | A1 | 610 | G |
| 1 | A1 | 611 | U |
| 1 | A1 | 612 | U |
| 1 | A1 | 614 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 615 | A |
| 1 | A1 | 616 | G |
| 1 | A1 | 619 | A |
| 1 | A1 | 620 | A |
| 1 | A1 | 622 | A |
| 1 | A1 | 623 | A |
| 1 | A1 | 624 | G |
| 1 | A1 | 626 | U |
| 1 | A1 | 630 | A |
| 1 | A1 | 633 | U |
| 1 | A1 | 635 | A |
| 1 | A1 | 638 | U |
| 1 | A1 | 639 | U |
| 1 | A1 | 640 | U |
| 1 | A1 | 647 | G |
| 1 | A1 | 649 | U |
| 1 | A1 | 650 | U |
| 1 | A1 | 653 | C |
| 1 | A1 | 656 | G |
| 1 | A1 | 659 | C |
| 1 | A1 | 660 | G |
| 1 | A1 | 662 | U |
| 1 | A1 | 663 | U |
| 1 | A1 | 665 | U |
| 1 | A1 | 666 | U |
| 1 | A1 | 667 | U |
| 1 | A1 | 681 | U |
| 1 | A1 | 682 | C |
| 1 | A1 | 683 | C |
| 1 | A1 | 685 | A |
| 1 | A1 | 686 | C |
| 1 | A1 | 691 | C |
| 1 | A1 | 692 | C |
| 1 | A1 | 693 | U |
| 1 | A1 | 694 | U |
| 1 | A1 | 696 | C |
| 1 | A1 | 697 | C |
| 1 | A1 | 698 | U |
| 1 | A1 | 700 | C |
| 1 | A1 | 702 | G |
| 1 | A1 | 703 | G |
| 1 | A1 | 705 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 708 | C |
| 1 | A1 | 709 | C |
| 1 | A1 | 710 | U |
| 1 | A1 | 713 | A |
| 1 | A1 | 714 | G |
| 1 | A1 | 715 | U |
| 1 | A1 | 718 | U |
| 1 | A1 | 719 | U |
| 1 | A1 | 720 | G |
| 1 | A1 | 721 | U |
| 1 | A1 | 722 | G |
| 1 | A1 | 725 | U |
| 1 | A1 | 726 | C |
| 1 | A1 | 727 | U |
| 1 | A1 | 728 | U |
| 1 | A1 | 729 | G |
| 1 | A1 | 731 | C |
| 1 | A1 | 732 | G |
| 1 | A1 | 733 | A |
| 1 | A1 | 734 | A |
| 1 | A1 | 735 | C |
| 1 | A1 | 736 | C |
| 1 | A1 | 737 | A |
| 1 | A1 | 738 | G |
| 1 | A1 | 739 | G |
| 1 | A1 | 742 | U |
| 1 | A1 | 743 | U |
| 1 | A1 | 744 | U |
| 1 | A1 | 750 | U |
| 1 | A1 | 751 | G |
| 1 | A1 | 754 | A |
| 1 | A1 | 756 | A |
| 1 | A1 | 765 | G |
| 1 | A1 | 766 | U |
| 1 | A1 | 767 | U |
| 1 | A1 | 774 | A |
| 1 | A1 | 775 | G |
| 1 | A1 | 778 | G |
| 1 | A1 | 779 | U |
| 1 | A1 | 780 | A |
| 1 | A1 | 781 | U |
| 1 | A1 | 782 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 783 | G |
| 1 | A1 | 787 | G |
| 1 | A1 | 789 | A |
| 1 | A1 | 790 | U |
| 1 | A1 | 793 | A |
| 1 | A1 | 794 | U |
| 1 | A1 | 803 | A |
| 1 | A1 | 808 | U |
| 1 | A1 | 811 | A |
| 1 | A1 | 812 | A |
| 1 | A1 | 813 | U |
| 1 | A1 | 814 | A |
| 1 | A1 | 815 | G |
| 1 | A1 | 816 | G |
| 1 | A1 | 818 | C |
| 1 | A1 | 819 | G |
| 1 | A1 | 820 | U |
| 1 | A1 | 821 | U |
| 1 | A1 | 822 | U |
| 1 | A1 | 823 | G |
| 1 | A1 | 824 | G |
| 1 | A1 | 825 | U |
| 1 | A1 | 826 | U |
| 1 | A1 | 828 | U |
| 1 | A1 | 829 | A |
| 1 | A1 | 830 | U |
| 1 | A1 | 831 | U |
| 1 | A1 | 832 | U |
| 1 | A1 | 834 | G |
| 1 | A1 | 839 | U |
| 1 | A1 | 840 | U |
| 1 | A1 | 841 | U |
| 1 | A1 | 842 | C |
| 1 | A1 | 844 | A |
| 1 | A1 | 847 | A |
| 1 | A1 | 848 | C |
| 1 | A1 | 850 | A |
| 1 | A1 | 856 | A |
| 1 | A1 | 857 | U |
| 1 | A1 | 858 | G |
| 1 | A1 | 860 | U |
| 1 | A1 | 861 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 862 | A |
| 1 | A1 | 863 | A |
| 1 | A1 | 864 | U |
| 1 | A1 | 865 | A |
| 1 | A1 | 872 | G |
| 1 | A1 | 873 | U |
| 1 | A1 | 876 | G |
| 1 | A1 | 880 | C |
| 1 | A1 | 881 | A |
| 1 | A1 | 883 | C |
| 1 | A1 | 886 | U |
| 1 | A1 | 888 | U |
| 1 | A1 | 891 | A |
| 1 | A1 | 893 | U |
| 1 | A1 | 894 | U |
| 1 | A1 | 896 | U |
| 1 | A1 | 897 | C |
| 1 | A1 | 899 | G |
| 1 | A1 | 901 | G |
| 1 | A1 | 902 | G |
| 1 | A1 | 903 | U |
| 1 | A1 | 904 | G |
| 1 | A1 | 905 | A |
| 1 | A1 | 906 | A |
| 1 | A1 | 909 | U |
| 1 | A1 | 910 | C |
| 1 | A1 | 911 | U |
| 1 | A1 | 912 | U |
| 1 | A1 | 913 | G |
| 1 | A1 | 914 | G |
| 1 | A1 | 915 | A |
| 1 | A1 | 916 | U |
| 1 | A1 | 920 | U |
| 1 | A1 | 922 | G |
| 1 | A1 | 923 | A |
| 1 | A1 | 927 | C |
| 1 | A1 | 929 | A |
| 1 | A1 | 932 | U |
| 1 | A1 | 933 | A |
| 1 | A1 | 934 | C |
| 1 | A1 | 935 | U |
| 1 | A1 | 938 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 939 | A |
| 1 | A1 | 942 | G |
| 1 | A1 | 943 | C |
| 1 | A1 | 944 | A |
| 1 | A1 | 952 | A |
| 1 | A1 | 959 | U |
| 1 | A1 | 960 | U |
| 1 | A1 | 961 | U |
| 1 | A1 | 964 | U |
| 1 | A1 | 965 | U |
| 1 | A1 | 966 | A |
| 1 | A1 | 967 | A |
| 1 | A1 | 975 | C |
| 1 | A1 | 976 | G |
| 1 | A1 | 977 | A |
| 1 | A1 | 978 | A |
| 1 | A1 | 979 | A |
| 1 | A1 | 981 | U |
| 1 | A1 | 987 | G |
| 1 | A1 | 988 | A |
| 1 | A1 | 992 | A |
| 1 | A1 | 993 | A |
| 1 | A1 | 995 | A |
| 1 | A1 | 996 | U |
| 1 | A1 | 998 | A |
| 1 | A1 | 1000 | C |
| 1 | A1 | 1003 | A |
| 1 | A1 | 1004 | U |
| 1 | A1 | 1005 | A |
| 1 | A1 | 1007 | C |
| 1 | A1 | 1008 | G |
| 1 | A1 | 1010 | C |
| 1 | A1 | 1019 | A |
| 1 | A1 | 1027 | A |
| 1 | A1 | 1028 | C |
| 1 | A1 | 1029 | U |
| 1 | A1 | 1030 | A |
| 1 | A1 | 1032 | G |
| 1 | A1 | 1033 | C |
| 1 | A1 | 1036 | A |
| 1 | A1 | 1039 | A |
| 1 | A1 | 1040 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 1044 | U |
| 1 | A1 | 1045 | C |
| 1 | A1 | 1046 | G |
| 1 | A1 | 1048 | G |
| 1 | A1 | 1049 | U |
| 1 | A1 | 1057 | U |
| 1 | A1 | 1058 | U |
| 1 | A1 | 1059 | U |
| 1 | A1 | 1060 | U |
| 1 | A1 | 1066 | C |
| 1 | A1 | 1071 | U |
| 1 | A1 | 1072 | C |
| 1 | A1 | 1073 | G |
| 1 | A1 | 1074 | G |
| 1 | A1 | 1075 | C |
| 1 | A1 | 1077 | C |
| 1 | A1 | 1079 | U |
| 1 | A1 | 1080 | U |
| 1 | A1 | 1082 | C |
| 1 | A1 | 1087 | A |
| 1 | A1 | 1089 | U |
| 1 | A1 | 1090 | C |
| 1 | A1 | 1091 | A |
| 1 | A1 | 1092 | A |
| 1 | A1 | 1093 | A |
| 1 | A1 | 1094 | G |
| 1 | A1 | 1095 | U |
| 1 | A1 | 1096 | C |
| 1 | A1 | 1097 | U |
| 1 | A1 | 1098 | U |
| 1 | A1 | 1099 | U |
| 1 | A1 | 1100 | G |
| 1 | A1 | 1101 | G |
| 1 | A1 | 1103 | U |
| 1 | A1 | 1107 | G |
| 1 | A1 | 1108 | G |
| 1 | A1 | 1109 | G |
| 1 | A1 | 1110 | G |
| 1 | A1 | 1111 | G |
| 1 | A1 | 1112 | G |
| 1 | A1 | 1113 | A |
| 1 | A1 | 1114 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 1115 | U |
| 1 | A1 | 1119 | G |
| 1 | A1 | 1123 | C |
| 1 | A1 | 1124 | A |
| 1 | A1 | 1126 | G |
| 1 | A1 | 1129 | U |
| 1 | A1 | 1136 | U |
| 1 | A1 | 1137 | A |
| 1 | A1 | 1138 | A |
| 1 | A1 | 1139 | A |
| 1 | A1 | 1140 | G |
| 1 | A1 | 1141 | G |
| 1 | A1 | 1142 | A |
| 1 | A1 | 1143 | A |
| 1 | A1 | 1145 | U |
| 1 | A1 | 1146 | G |
| 1 | A1 | 1147 | A |
| 1 | A1 | 1149 | G |
| 1 | A1 | 1150 | G |
| 1 | A1 | 1151 | A |
| 1 | A1 | 1152 | A |
| 1 | A1 | 1153 | G |
| 1 | A1 | 1154 | G |
| 1 | A1 | 1158 | C |
| 1 | A1 | 1160 | A |
| 1 | A1 | 1161 | C |
| 1 | A1 | 1162 | C |
| 1 | A1 | 1166 | A |
| 1 | A1 | 1167 | G |
| 1 | A1 | 1168 | U |
| 1 | A1 | 1178 | G |
| 1 | A1 | 1179 | G |
| 1 | A1 | 1181 | U |
| 1 | A1 | 1185 | U |
| 1 | A1 | 1186 | U |
| 1 | A1 | 1189 | A |
| 1 | A1 | 1190 | C |
| 1 | A1 | 1191 | U |
| 1 | A1 | 1193 | A |
| 1 | A1 | 1194 | A |
| 1 | A1 | 1196 | A |
| 1 | A1 | 1197 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 1198 | G |
| 1 | A1 | 1199 | G |
| 1 | A1 | 1200 | G |
| 1 | A1 | 1201 | G |
| 1 | A1 | 1202 | A |
| 1 | A1 | 1203 | A |
| 1 | A1 | 1204 | A |
| 1 | A1 | 1205 | C |
| 1 | A1 | 1206 | U |
| 1 | A1 | 1207 | C |
| 1 | A1 | 1208 | A |
| 1 | A1 | 1211 | A |
| 1 | A1 | 1217 | A |
| 1 | A1 | 1218 | G |
| 1 | A1 | 1219 | A |
| 1 | A1 | 1220 | C |
| 1 | A1 | 1222 | C |
| 1 | A1 | 1225 | U |
| 1 | A1 | 1228 | G |
| 1 | A1 | 1229 | G |
| 1 | A1 | 1230 | A |
| 1 | A1 | 1231 | U |
| 1 | A1 | 1232 | U |
| 1 | A1 | 1234 | A |
| 1 | A1 | 1235 | C |
| 1 | A1 | 1238 | A |
| 1 | A1 | 1239 | U |
| 1 | A1 | 1240 | U |
| 1 | A1 | 1242 | A |
| 1 | A1 | 1243 | G |
| 1 | A1 | 1244 | A |
| 1 | A1 | 1245 | G |
| 1 | A1 | 1248 | C |
| 1 | A1 | 1254 | U |
| 1 | A1 | 1255 | G |
| 1 | A1 | 1256 | A |
| 1 | A1 | 1257 | U |
| 1 | A1 | 1258 | U |
| 1 | A1 | 1259 | U |
| 1 | A1 | 1260 | U |
| 1 | A1 | 1264 | G |
| 1 | A1 | 1266 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 1268 | G |
| 1 | A1 | 1270 | G |
| 1 | A1 | 1273 | G |
| 1 | A1 | 1274 | C |
| 1 | A1 | 1275 | A |
| 1 | A1 | 1276 | U |
| 1 | A1 | 1280 | C |
| 1 | A1 | 1283 | U |
| 1 | A1 | 1284 | C |
| 1 | A1 | 1286 | U |
| 1 | A1 | 1287 | A |
| 1 | A1 | 1288 | G |
| 1 | A1 | 1290 | U |
| 1 | A1 | 1297 | G |
| 1 | A1 | 1302 | U |
| 1 | A1 | 1306 | C |
| 1 | A1 | 1310 | U |
| 1 | A1 | 1311 | U |
| 1 | A1 | 1312 | A |
| 1 | A1 | 1314 | U |
| 1 | A1 | 1315 | U |
| 1 | A1 | 1316 | G |
| 1 | A1 | 1321 | A |
| 1 | A1 | 1324 | G |
| 1 | A1 | 1325 | A |
| 1 | A1 | 1326 | A |
| 1 | A1 | 1331 | A |
| 1 | A1 | 1332 | C |
| 1 | A1 | 1333 | C |
| 1 | A1 | 1335 | U |
| 1 | A1 | 1336 | A |
| 1 | A1 | 1337 | A |
| 1 | A1 | 1340 | U |
| 1 | A1 | 1341 | A |
| 1 | A1 | 1342 | C |
| 1 | A1 | 1345 | A |
| 1 | A1 | 1346 | A |
| 1 | A1 | 1347 | U |
| 1 | A1 | 1349 | G |
| 1 | A1 | 1350 | U |
| 1 | A1 | 1351 | G |
| 1 | A1 | 1352 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 1353 | U |
| 1 | A1 | 1354 | G |
| 1 | A1 | 1355 | C |
| 1 | A1 | 1358 | G |
| 1 | A1 | 1359 | C |
| 1 | A1 | 1360 | A |
| 1 | A1 | 1361 | U |
| 1 | A1 | 1362 | U |
| 1 | A1 | 1363 | U |
| 1 | A1 | 1364 | G |
| 1 | A1 | 1365 | C |
| 1 | A1 | 1366 | U |
| 1 | A1 | 1367 | G |
| 1 | A1 | 1368 | G |
| 1 | A1 | 1369 | U |
| 1 | A1 | 1371 | A |
| 1 | A1 | 1373 | C |
| 1 | A1 | 1374 | C |
| 1 | A1 | 1378 | U |
| 1 | A1 | 1379 | C |
| 1 | A1 | 1380 | U |
| 1 | A1 | 1383 | G |
| 1 | A1 | 1384 | A |
| 1 | A1 | 1388 | A |
| 1 | A1 | 1390 | U |
| 1 | A1 | 1391 | A |
| 1 | A1 | 1392 | U |
| 1 | A1 | 1397 | U |
| 1 | A1 | 1398 | U |
| 1 | A1 | 1399 | C |
| 1 | A1 | 1400 | A |
| 1 | A1 | 1401 | A |
| 1 | A1 | 1402 | G |
| 1 | A1 | 1407 | U |
| 1 | A1 | 1408 | G |
| 1 | A1 | 1409 | G |
| 1 | A1 | 1410 | A |
| 1 | A1 | 1412 | G |
| 1 | A1 | 1413 | U |
| 1 | A1 | 1414 | U |
| 1 | A1 | 1415 | U |
| 1 | A1 | 1418 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 1419 | G |
| 1 | A1 | 1420 | C |
| 1 | A1 | 1422 | A |
| 1 | A1 | 1427 | A |
| 1 | A1 | 1428 | G |
| 1 | A1 | 1429 | G |
| 1 | A1 | 1431 | C |
| 1 | A1 | 1432 | U |
| 1 | A1 | 1433 | G |
| 1 | A1 | 1434 | U |
| 1 | A1 | 1435 | G |
| 1 | A1 | 1436 | A |
| 1 | A1 | 1438 | G |
| 1 | A1 | 1443 | U |
| 1 | A1 | 1445 | G |
| 1 | A1 | 1446 | A |
| 1 | A1 | 1447 | C |
| 1 | A1 | 1448 | G |
| 1 | A1 | 1449 | U |
| 1 | A1 | 1450 | U |
| 1 | A1 | 1453 | G |
| 1 | A1 | 1454 | G |
| 1 | A1 | 1455 | G |
| 1 | A1 | 1456 | C |
| 1 | A1 | 1458 | G |
| 1 | A1 | 1459 | C |
| 1 | A1 | 1460 | A |
| 1 | A1 | 1461 | C |
| 1 | A1 | 1466 | G |
| 1 | A1 | 1467 | C |
| 1 | A1 | 1468 | U |
| 1 | A1 | 1469 | A |
| 1 | A1 | 1471 | A |
| 1 | A1 | 1472 | C |
| 1 | A1 | 1473 | U |
| 1 | A1 | 1474 | G |
| 1 | A1 | 1477 | G |
| 1 | A1 | 1478 | G |
| 1 | A1 | 1479 | A |
| 1 | A1 | 1481 | C |
| 1 | A1 | 1482 | C |
| 1 | A1 | 1483 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 1484 | G |
| 1 | A1 | 1485 | C |
| 1 | A1 | 1486 | G |
| 1 | A1 | 1490 | C |
| 1 | A1 | 1491 | U |
| 1 | A1 | 1492 | A |
| 1 | A1 | 1493 | A |
| 1 | A1 | 1494 | C |
| 1 | A1 | 1503 | A |
| 1 | A1 | 1505 | A |
| 1 | A1 | 1506 | G |
| 1 | A1 | 1509 | C |
| 1 | A1 | 1510 | U |
| 1 | A1 | 1514 | U |
| 1 | A1 | 1515 | A |
| 1 | A1 | 1516 | A |
| 1 | A1 | 1517 | U |
| 1 | A1 | 1518 | C |
| 1 | A1 | 1519 | U |
| 1 | A1 | 1521 | G |
| 1 | A1 | 1522 | U |
| 1 | A1 | 1523 | G |
| 1 | A1 | 1524 | A |
| 1 | A1 | 1533 | C |
| 1 | A1 | 1534 | G |
| 1 | A1 | 1535 | U |
| 1 | A1 | 1536 | G |
| 1 | A1 | 1537 | C |
| 1 | A1 | 1538 | U |
| 1 | A1 | 1539 | G |
| 1 | A1 | 1540 | G |
| 1 | A1 | 1541 | G |
| 1 | A1 | 1542 | G |
| 1 | A1 | 1545 | A |
| 1 | A1 | 1547 | A |
| 1 | A1 | 1548 | G |
| 1 | A1 | 1550 | A |
| 1 | A1 | 1551 | U |
| 1 | A1 | 1553 | G |
| 1 | A1 | 1554 | U |
| 1 | A1 | 1555 | A |
| 1 | A1 | 1556 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 1557 | U |
| 1 | A1 | 1558 | U |
| 1 | A1 | 1559 | A |
| 1 | A1 | 1560 | U |
| 1 | A1 | 1565 | C |
| 1 | A1 | 1568 | C |
| 1 | A1 | 1570 | A |
| 1 | A1 | 1572 | G |
| 1 | A1 | 1573 | A |
| 1 | A1 | 1574 | G |
| 1 | A1 | 1575 | G |
| 1 | A1 | 1576 | A |
| 1 | A1 | 1581 | C |
| 1 | A1 | 1583 | A |
| 1 | A1 | 1584 | G |
| 1 | A1 | 1587 | A |
| 1 | A1 | 1590 | G |
| 1 | A1 | 1591 | C |
| 1 | A1 | 1592 | A |
| 1 | A1 | 1599 | C |
| 1 | A1 | 1600 | A |
| 1 | A1 | 1601 | G |
| 1 | A1 | 1602 | C |
| 1 | A1 | 1605 | G |
| 1 | A1 | 1607 | G |
| 1 | A1 | 1609 | U |
| 1 | A1 | 1610 | G |
| 1 | A1 | 1611 | A |
| 1 | A1 | 1613 | U |
| 1 | A1 | 1614 | A |
| 1 | A1 | 1615 | C |
| 1 | A1 | 1616 | G |
| 1 | A1 | 1618 | C |
| 1 | A1 | 1623 | C |
| 1 | A1 | 1624 | C |
| 1 | A1 | 1625 | C |
| 1 | A1 | 1627 | U |
| 1 | A1 | 1628 | U |
| 1 | A1 | 1630 | U |
| 1 | A1 | 1631 | A |
| 1 | A1 | 1632 | C |
| 1 | A1 | 1633 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 1634 | C |
| 1 | A1 | 1635 | A |
| 1 | A1 | 1636 | C |
| 1 | A1 | 1637 | C |
| 1 | A1 | 1638 | G |
| 1 | A1 | 1639 | C |
| 1 | A1 | 1642 | G |
| 1 | A1 | 1644 | C |
| 1 | A1 | 1645 | G |
| 1 | A1 | 1646 | C |
| 1 | A1 | 1650 | U |
| 1 | A1 | 1654 | G |
| 1 | A1 | 1656 | U |
| 1 | A1 | 1657 | U |
| 1 | A1 | 1658 | G |
| 1 | A1 | 1659 | A |
| 1 | A1 | 1664 | C |
| 1 | A1 | 1665 | U |
| 1 | A1 | 1667 | A |
| 1 | A1 | 1668 | G |
| 1 | A1 | 1673 | G |
| 1 | A1 | 1674 | C |
| 1 | A1 | 1675 | C |
| 1 | A1 | 1676 | U |
| 1 | A1 | 1677 | C |
| 1 | A1 | 1678 | A |
| 1 | A1 | 1680 | G |
| 1 | A1 | 1681 | A |
| 1 | A1 | 1682 | U |
| 1 | A1 | 1683 | C |
| 1 | A1 | 1684 | U |
| 1 | A1 | 1685 | G |
| 1 | A1 | 1688 | U |
| 1 | A1 | 1689 | A |
| 1 | A1 | 1691 | A |
| 1 | A1 | 1692 | G |
| 1 | A1 | 1693 | A |
| 1 | A1 | 1695 | G |
| 1 | A1 | 1696 | G |
| 1 | A1 | 1698 | G |
| 1 | A1 | 1700 | C |
| 1 | A1 | 1701 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 1706 | C |
| 1 | A1 | 1707 | A |
| 1 | A1 | 1710 | U |
| 1 | A1 | 1711 | C |
| 1 | A1 | 1716 | C |
| 1 | A1 | 1719 | A |
| 1 | A1 | 1720 | G |
| 1 | A1 | 1722 | A |
| 1 | A1 | 1728 | A |
| 1 | A1 | 1731 | A |
| 1 | A1 | 1739 | C |
| 1 | A1 | 1742 | U |
| 1 | A1 | 1744 | A |
| 1 | A1 | 1746 | A |
| 1 | A1 | 1748 | G |
| 1 | A1 | 1754 | A |
| 1 | A1 | 1755 | A |
| 1 | A1 | 1757 | G |
| 1 | A1 | 1758 | U |
| 1 | A1 | 1759 | C |
| 1 | A1 | 1760 | G |
| 1 | A1 | 1762 | A |
| 1 | A1 | 1763 | A |
| 1 | A1 | 1764 | C |
| 1 | A1 | 1766 | A |
| 1 | A1 | 1767 | G |
| 1 | A1 | 1768 | G |
| 1 | A1 | 1769 | U |
| 1 | A1 | 1770 | U |
| 1 | A1 | 1772 | C |
| 1 | A1 | 1773 | C |
| 1 | A1 | 1774 | G |
| 1 | A1 | 1777 | G |
| 1 | A1 | 1779 | U |
| 1 | A1 | 1780 | G |
| 1 | A1 | 1782 | A |
| 1 | A1 | 1783 | C |
| 1 | A1 | 1788 | G |
| 1 | A1 | 1792 | G |
| 1 | A1 | 1793 | G |
| 1 | A1 | 1794 | A |
| 1 | A1 | 1795 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 1797 | A |
| 1 | A1 | 1798 | U |
| 29 | B1 | 6 | A |
| 29 | B1 | 9 | U |
| 29 | B1 | 12 | A |
| 29 | B1 | 14 | U |
| 29 | B1 | 15 | C |
| 29 | B1 | 16 | A |
| 29 | B1 | 20 | A |
| 29 | B1 | 21 | G |
| 29 | B1 | 25 | U |
| 29 | B1 | 29 | C |
| 29 | B1 | 32 | U |
| 29 | B1 | 35 | A |
| 29 | B1 | 38 | U |
| 29 | B1 | 40 | A |
| 29 | B1 | 43 | A |
| 29 | B1 | 44 | U |
| 29 | B1 | 47 | C |
| 29 | B1 | 50 | U |
| 29 | B1 | 53 | G |
| 29 | B1 | 56 | G |
| 29 | B1 | 58 | G |
| 29 | B1 | 59 | G |
| 29 | B1 | 60 | A |
| 29 | B1 | 62 | A |
| 29 | B1 | 65 | A |
| 29 | B1 | 66 | A |
| 29 | B1 | 68 | C |
| 29 | B1 | 69 | C |
| 29 | B1 | 70 | A |
| 29 | B1 | 71 | A |
| 29 | B1 | 72 | C |
| 29 | B1 | 73 | C |
| 29 | B1 | 74 | G |
| 29 | B1 | 76 | G |
| 29 | B1 | 77 | A |
| 29 | B1 | 81 | C |
| 29 | B1 | 83 | U |
| 29 | B1 | 85 | A |
| 29 | B1 | 87 | U |
| 29 | B1 | 88 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 89 | A |
| 29 | B1 | 92 | G |
| 29 | B1 | 93 | C |
| 29 | B1 | 94 | G |
| 29 | B1 | 96 | G |
| 29 | B1 | 97 | U |
| 29 | B1 | 98 | G |
| 29 | B1 | 99 | A |
| 29 | B1 | 100 | A |
| 29 | B1 | 102 | C |
| 29 | B1 | 103 | G |
| 29 | B1 | 105 | C |
| 29 | B1 | 106 | A |
| 29 | B1 | 108 | A |
| 29 | B1 | 109 | A |
| 29 | B1 | 110 | G |
| 29 | B1 | 113 | C |
| 29 | B1 | 114 | A |
| 29 | B1 | 117 | U |
| 29 | B1 | 118 | U |
| 29 | B1 | 119 | U |
| 29 | B1 | 120 | G |
| 29 | B1 | 121 | A |
| 29 | B1 | 125 | C |
| 29 | B1 | 126 | U |
| 29 | B1 | 127 | G |
| 29 | B1 | 131 | C |
| 29 | B1 | 133 | U |
| 29 | B1 | 134 | U |
| 29 | B1 | 136 | G |
| 29 | B1 | 138 | U |
| 29 | B1 | 140 | C |
| 29 | B1 | 141 | C |
| 29 | B1 | 144 | A |
| 29 | B1 | 145 | G |
| 29 | B1 | 146 | U |
| 29 | B1 | 147 | U |
| 29 | B1 | 148 | G |
| 29 | B1 | 149 | U |
| 29 | B1 | 150 | A |
| 29 | B1 | 152 | U |
| 29 | B1 | 154 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 155 | G |
| 29 | B1 | 156 | G |
| 29 | B1 | 157 | A |
| 29 | B1 | 158 | G |
| 29 | B1 | 159 | A |
| 29 | B1 | 160 | G |
| 29 | B1 | 161 | G |
| 29 | B1 | 164 | A |
| 29 | B1 | 167 | U |
| 29 | B1 | 169 | U |
| 29 | B1 | 170 | G |
| 29 | B1 | 171 | G |
| 29 | B1 | 172 | G |
| 29 | B1 | 173 | G |
| 29 | B1 | 175 | C |
| 29 | B1 | 176 | G |
| 29 | B1 | 177 | U |
| 29 | B1 | 178 | U |
| 29 | B1 | 179 | C |
| 29 | B1 | 182 | U |
| 29 | B1 | 187 | A |
| 29 | B1 | 188 | U |
| 29 | B1 | 190 | U |
| 29 | B1 | 191 | U |
| 29 | B1 | 196 | G |
| 29 | B1 | 197 | G |
| 29 | B1 | 199 | A |
| 29 | B1 | 201 | A |
| 29 | B1 | 204 | A |
| 29 | B1 | 205 | C |
| 29 | B1 | 209 | A |
| 29 | B1 | 210 | U |
| 29 | B1 | 211 | A |
| 29 | B1 | 214 | G |
| 29 | B1 | 215 | G |
| 29 | B1 | 217 | U |
| 29 | B1 | 218 | G |
| 29 | B1 | 219 | A |
| 29 | B1 | 220 | G |
| 29 | B1 | 221 | A |
| 29 | B1 | 223 | U |
| 29 | B1 | 224 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 225 | C |
| 29 | B1 | 227 | G |
| 29 | B1 | 230 | U |
| 29 | B1 | 231 | G |
| 29 | B1 | 237 | G |
| 29 | B1 | 238 | A |
| 29 | B1 | 239 | G |
| 29 | B1 | 240 | U |
| 29 | B1 | 241 | G |
| 29 | B1 | 242 | C |
| 29 | B1 | 244 | G |
| 29 | B1 | 245 | U |
| 29 | B1 | 246 | U |
| 29 | B1 | 247 | C |
| 29 | B1 | 248 | U |
| 29 | B1 | 249 | U |
| 29 | B1 | 250 | U |
| 29 | B1 | 251 | G |
| 29 | B1 | 252 | U |
| 29 | B1 | 253 | A |
| 29 | B1 | 255 | A |
| 29 | B1 | 256 | G |
| 29 | B1 | 257 | U |
| 29 | B1 | 258 | G |
| 29 | B1 | 259 | C |
| 29 | B1 | 260 | C |
| 29 | B1 | 262 | U |
| 29 | B1 | 263 | C |
| 29 | B1 | 264 | G |
| 29 | B1 | 265 | A |
| 29 | B1 | 266 | A |
| 29 | B1 | 267 | G |
| 29 | B1 | 269 | G |
| 29 | B1 | 282 | G |
| 29 | B1 | 283 | G |
| 29 | B1 | 284 | A |
| 29 | B1 | 285 | A |
| 29 | B1 | 289 | A |
| 29 | B1 | 292 | U |
| 29 | B1 | 293 | C |
| 29 | B1 | 295 | A |
| 29 | B1 | 297 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 298 | U |
| 29 | B1 | 301 | G |
| 29 | B1 | 304 | G |
| 29 | B1 | 305 | U |
| 29 | B1 | 306 | A |
| 29 | B1 | 307 | A |
| 29 | B1 | 311 | C |
| 29 | B1 | 315 | C |
| 29 | B1 | 316 | U |
| 29 | B1 | 317 | A |
| 29 | B1 | 318 | A |
| 29 | B1 | 319 | A |
| 29 | B1 | 323 | A |
| 29 | B1 | 324 | A |
| 29 | B1 | 325 | A |
| 29 | B1 | 326 | U |
| 29 | B1 | 327 | A |
| 29 | B1 | 328 | U |
| 29 | B1 | 329 | U |
| 29 | B1 | 330 | G |
| 29 | B1 | 331 | G |
| 29 | B1 | 332 | C |
| 29 | B1 | 333 | G |
| 29 | B1 | 335 | G |
| 29 | B1 | 338 | A |
| 29 | B1 | 339 | C |
| 29 | B1 | 340 | C |
| 29 | B1 | 341 | G |
| 29 | B1 | 342 | A |
| 29 | B1 | 345 | G |
| 29 | B1 | 346 | C |
| 29 | B1 | 349 | A |
| 29 | B1 | 350 | C |
| 29 | B1 | 351 | A |
| 29 | B1 | 352 | A |
| 29 | B1 | 354 | U |
| 29 | B1 | 362 | U |
| 29 | B1 | 364 | G |
| 29 | B1 | 368 | G |
| 29 | B1 | 371 | G |
| 29 | B1 | 374 | A |
| 29 | B1 | 375 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 376 | G |
| 29 | B1 | 377 | A |
| 29 | B1 | 378 | A |
| 29 | B1 | 379 | C |
| 29 | B1 | 380 | U |
| 29 | B1 | 381 | U |
| 29 | B1 | 382 | U |
| 29 | B1 | 383 | G |
| 29 | B1 | 384 | A |
| 29 | B1 | 385 | A |
| 29 | B1 | 386 | A |
| 29 | B1 | 387 | A |
| 29 | B1 | 390 | G |
| 29 | B1 | 391 | A |
| 29 | B1 | 392 | G |
| 29 | B1 | 395 | A |
| 29 | B1 | 396 | A |
| 29 | B1 | 397 | A |
| 29 | B1 | 398 | A |
| 29 | B1 | 399 | A |
| 29 | B1 | 400 | G |
| 29 | B1 | 401 | U |
| 29 | B1 | 402 | A |
| 29 | B1 | 403 | C |
| 29 | B1 | 404 | G |
| 29 | B1 | 419 | G |
| 29 | B1 | 421 | G |
| 29 | B1 | 422 | A |
| 29 | B1 | 423 | A |
| 29 | B1 | 424 | G |
| 29 | B1 | 425 | G |
| 29 | B1 | 428 | A |
| 29 | B1 | 429 | U |
| 29 | B1 | 431 | U |
| 29 | B1 | 432 | G |
| 29 | B1 | 439 | C |
| 29 | B1 | 493 | G |
| 29 | B1 | 495 | G |
| 29 | B1 | 500 | C |
| 29 | B1 | 504 | A |
| 29 | B1 | 509 | U |
| 29 | B1 | 510 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 511 | G |
| 29 | B1 | 514 | G |
| 29 | B1 | 515 | C |
| 29 | B1 | 516 | A |
| 29 | B1 | 517 | G |
| 29 | B1 | 518 | G |
| 29 | B1 | 519 | A |
| 29 | B1 | 520 | U |
| 29 | B1 | 521 | A |
| 29 | B1 | 523 | A |
| 29 | B1 | 524 | U |
| 29 | B1 | 525 | C |
| 29 | B1 | 528 | U |
| 29 | B1 | 529 | A |
| 29 | B1 | 533 | A |
| 29 | B1 | 536 | U |
| 29 | B1 | 537 | A |
| 29 | B1 | 538 | G |
| 29 | B1 | 539 | C |
| 29 | B1 | 540 | U |
| 29 | B1 | 541 | U |
| 29 | B1 | 544 | C |
| 29 | B1 | 546 | C |
| 29 | B1 | 547 | G |
| 29 | B1 | 548 | G |
| 29 | B1 | 549 | U |
| 29 | B1 | 550 | A |
| 29 | B1 | 556 | U |
| 29 | B1 | 559 | A |
| 29 | B1 | 560 | G |
| 29 | B1 | 561 | C |
| 29 | B1 | 562 | C |
| 29 | B1 | 563 | U |
| 29 | B1 | 564 | G |
| 29 | B1 | 565 | U |
| 29 | B1 | 566 | G |
| 29 | B1 | 571 | U |
| 29 | B1 | 574 | U |
| 29 | B1 | 575 | G |
| 29 | B1 | 576 | C |
| 29 | B1 | 577 | C |
| 29 | B1 | 578 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 579 | G |
| 29 | B1 | 580 | C |
| 29 | B1 | 584 | G |
| 29 | B1 | 586 | C |
| 29 | B1 | 588 | G |
| 29 | B1 | 590 | G |
| 29 | B1 | 591 | G |
| 29 | B1 | 592 | A |
| 29 | B1 | 593 | C |
| 29 | B1 | 594 | U |
| 29 | B1 | 595 | G |
| 29 | B1 | 597 | G |
| 29 | B1 | 603 | A |
| 29 | B1 | 604 | G |
| 29 | B1 | 605 | U |
| 29 | B1 | 606 | C |
| 29 | B1 | 607 | A |
| 29 | B1 | 608 | A |
| 29 | B1 | 609 | G |
| 29 | B1 | 610 | G |
| 29 | B1 | 611 | A |
| 29 | B1 | 612 | U |
| 29 | B1 | 618 | C |
| 29 | B1 | 619 | A |
| 29 | B1 | 620 | U |
| 29 | B1 | 621 | A |
| 29 | B1 | 622 | A |
| 29 | B1 | 624 | G |
| 29 | B1 | 625 | G |
| 29 | B1 | 626 | U |
| 29 | B1 | 628 | A |
| 29 | B1 | 630 | A |
| 29 | B1 | 632 | G |
| 29 | B1 | 636 | C |
| 29 | B1 | 637 | C |
| 29 | B1 | 642 | U |
| 29 | B1 | 645 | A |
| 29 | B1 | 646 | A |
| 29 | B1 | 647 | A |
| 29 | B1 | 648 | C |
| 29 | B1 | 649 | A |
| 29 | B1 | 650 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 651 | G |
| 29 | B1 | 656 | A |
| 29 | B1 | 657 | A |
| 29 | B1 | 661 | G |
| 29 | B1 | 666 | A |
| 29 | B1 | 667 | C |
| 29 | B1 | 668 | G |
| 29 | B1 | 669 | U |
| 29 | B1 | 674 | G |
| 29 | B1 | 675 | C |
| 29 | B1 | 677 | A |
| 29 | B1 | 679 | U |
| 29 | B1 | 680 | G |
| 29 | B1 | 681 | U |
| 29 | B1 | 682 | U |
| 29 | B1 | 683 | U |
| 29 | B1 | 685 | G |
| 29 | B1 | 691 | A |
| 29 | B1 | 692 | A |
| 29 | B1 | 694 | C |
| 29 | B1 | 697 | A |
| 29 | B1 | 698 | U |
| 29 | B1 | 699 | A |
| 29 | B1 | 705 | A |
| 29 | B1 | 706 | A |
| 29 | B1 | 712 | G |
| 29 | B1 | 714 | G |
| 29 | B1 | 715 | A |
| 29 | B1 | 716 | A |
| 29 | B1 | 717 | C |
| 29 | B1 | 718 | G |
| 29 | B1 | 719 | U |
| 29 | B1 | 720 | A |
| 29 | B1 | 721 | G |
| 29 | B1 | 722 | G |
| 29 | B1 | 723 | U |
| 29 | B1 | 724 | U |
| 29 | B1 | 725 | G |
| 29 | B1 | 726 | G |
| 29 | B1 | 727 | G |
| 29 | B1 | 728 | G |
| 29 | B1 | 731 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 732 | C |
| 29 | B1 | 733 | G |
| 29 | B1 | 734 | C |
| 29 | B1 | 735 | A |
| 29 | B1 | 736 | A |
| 29 | B1 | 738 | A |
| 29 | B1 | 741 | U |
| 29 | B1 | 743 | C |
| 29 | B1 | 744 | A |
| 29 | B1 | 745 | C |
| 29 | B1 | 746 | A |
| 29 | B1 | 747 | A |
| 29 | B1 | 748 | U |
| 29 | B1 | 749 | C |
| 29 | B1 | 751 | A |
| 29 | B1 | 752 | C |
| 29 | B1 | 753 | C |
| 29 | B1 | 756 | U |
| 29 | B1 | 757 | C |
| 29 | B1 | 758 | C |
| 29 | B1 | 759 | U |
| 29 | B1 | 761 | A |
| 29 | B1 | 762 | U |
| 29 | B1 | 764 | U |
| 29 | B1 | 765 | C |
| 29 | B1 | 766 | U |
| 29 | B1 | 767 | U |
| 29 | B1 | 768 | C |
| 29 | B1 | 769 | G |
| 29 | B1 | 770 | G |
| 29 | B1 | 771 | A |
| 29 | B1 | 772 | U |
| 29 | B1 | 774 | G |
| 29 | B1 | 776 | U |
| 29 | B1 | 777 | U |
| 29 | B1 | 778 | U |
| 29 | B1 | 779 | G |
| 29 | B1 | 781 | G |
| 29 | B1 | 782 | U |
| 29 | B1 | 784 | A |
| 29 | B1 | 785 | G |
| 29 | B1 | 786 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 787 | G |
| 29 | B1 | 788 | C |
| 29 | B1 | 791 | A |
| 29 | B1 | 794 | U |
| 29 | B1 | 798 | G |
| 29 | B1 | 802 | C |
| 29 | B1 | 803 | C |
| 29 | B1 | 805 | G |
| 29 | B1 | 806 | A |
| 29 | B1 | 807 | A |
| 29 | B1 | 808 | A |
| 29 | B1 | 809 | G |
| 29 | B1 | 810 | A |
| 29 | B1 | 815 | G |
| 29 | B1 | 817 | A |
| 29 | B1 | 822 | G |
| 29 | B1 | 825 | U |
| 29 | B1 | 826 | G |
| 29 | B1 | 828 | A |
| 29 | B1 | 830 | A |
| 29 | B1 | 831 | G |
| 29 | B1 | 834 | U |
| 29 | B1 | 835 | G |
| 29 | B1 | 836 | A |
| 29 | B1 | 837 | A |
| 29 | B1 | 838 | G |
| 29 | B1 | 841 | A |
| 29 | B1 | 845 | G |
| 29 | B1 | 846 | A |
| 29 | B1 | 847 | A |
| 29 | B1 | 857 | G |
| 29 | B1 | 858 | A |
| 29 | B1 | 859 | G |
| 29 | B1 | 860 | G |
| 29 | B1 | 861 | C |
| 29 | B1 | 863 | C |
| 29 | B1 | 870 | G |
| 29 | B1 | 871 | U |
| 29 | B1 | 874 | U |
| 29 | B1 | 875 | G |
| 29 | B1 | 879 | U |
| 29 | B1 | 880 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 882 | A |
| 29 | B1 | 884 | A |
| 29 | B1 | 886 | C |
| 29 | B1 | 887 | G |
| 29 | B1 | 888 | A |
| 29 | B1 | 892 | U |
| 29 | B1 | 894 | G |
| 29 | B1 | 895 | A |
| 29 | B1 | 896 | A |
| 29 | B1 | 897 | U |
| 29 | B1 | 901 | G |
| 29 | B1 | 903 | U |
| 29 | B1 | 907 | G |
| 29 | B1 | 908 | G |
| 29 | B1 | 909 | G |
| 29 | B1 | 911 | C |
| 29 | B1 | 913 | A |
| 29 | B1 | 914 | A |
| 29 | B1 | 915 | A |
| 29 | B1 | 916 | G |
| 29 | B1 | 917 | A |
| 29 | B1 | 920 | A |
| 29 | B1 | 921 | A |
| 29 | B1 | 922 | U |
| 29 | B1 | 924 | G |
| 29 | B1 | 933 | A |
| 29 | B1 | 934 | G |
| 29 | B1 | 937 | G |
| 29 | B1 | 939 | U |
| 29 | B1 | 941 | G |
| 29 | B1 | 943 | U |
| 29 | B1 | 944 | C |
| 29 | B1 | 945 | C |
| 29 | B1 | 947 | G |
| 29 | B1 | 949 | C |
| 29 | B1 | 952 | A |
| 29 | B1 | 953 | G |
| 29 | B1 | 954 | U |
| 29 | B1 | 957 | C |
| 29 | B1 | 958 | C |
| 29 | B1 | 960 | U |
| 29 | B1 | 961 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 962 | A |
| 29 | B1 | 963 | G |
| 29 | B1 | 967 | A |
| 29 | B1 | 970 | A |
| 29 | B1 | 971 | G |
| 29 | B1 | 974 | G |
| 29 | B1 | 975 | C |
| 29 | B1 | 978 | G |
| 29 | B1 | 979 | U |
| 29 | B1 | 980 | A |
| 29 | B1 | 981 | U |
| 29 | B1 | 984 | G |
| 29 | B1 | 987 | U |
| 29 | B1 | 994 | G |
| 29 | B1 | 995 | U |
| 29 | B1 | 996 | A |
| 29 | B1 | 1000 | C |
| 29 | B1 | 1002 | A |
| 29 | B1 | 1006 | A |
| 29 | B1 | 1007 | U |
| 29 | B1 | 1010 | G |
| 29 | B1 | 1011 | A |
| 29 | B1 | 1013 | G |
| 29 | B1 | 1014 | U |
| 29 | B1 | 1015 | U |
| 29 | B1 | 1017 | C |
| 29 | B1 | 1019 | G |
| 29 | B1 | 1024 | G |
| 29 | B1 | 1026 | A |
| 29 | B1 | 1027 | A |
| 29 | B1 | 1030 | A |
| 29 | B1 | 1033 | U |
| 29 | B1 | 1036 | A |
| 29 | B1 | 1038 | C |
| 29 | B1 | 1039 | U |
| 29 | B1 | 1041 | U |
| 29 | B1 | 1042 | U |
| 29 | B1 | 1043 | C |
| 29 | B1 | 1047 | A |
| 29 | B1 | 1048 | A |
| 29 | B1 | 1049 | C |
| 29 | B1 | 1053 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 1060 | U |
| 29 | B1 | 1061 | A |
| 29 | B1 | 1063 | G |
| 29 | B1 | 1064 | A |
| 29 | B1 | 1065 | A |
| 29 | B1 | 1066 | G |
| 29 | B1 | 1067 | U |
| 29 | B1 | 1068 | C |
| 29 | B1 | 1071 | U |
| 29 | B1 | 1073 | U |
| 29 | B1 | 1074 | U |
| 29 | B1 | 1075 | A |
| 29 | B1 | 1077 | U |
| 29 | B1 | 1078 | U |
| 29 | B1 | 1079 | A |
| 29 | B1 | 1080 | A |
| 29 | B1 | 1081 | U |
| 29 | B1 | 1082 | U |
| 29 | B1 | 1085 | A |
| 29 | B1 | 1086 | C |
| 29 | B1 | 1093 | A |
| 29 | B1 | 1094 | U |
| 29 | B1 | 1095 | U |
| 29 | B1 | 1096 | U |
| 29 | B1 | 1097 | G |
| 29 | B1 | 1098 | A |
| 29 | B1 | 1100 | U |
| 29 | B1 | 1101 | G |
| 29 | B1 | 1102 | A |
| 29 | B1 | 1103 | A |
| 29 | B1 | 1104 | G |
| 29 | B1 | 1105 | A |
| 29 | B1 | 1109 | U |
| 29 | B1 | 1110 | U |
| 29 | B1 | 1113 | G |
| 29 | B1 | 1115 | G |
| 29 | B1 | 1116 | G |
| 29 | B1 | 1117 | G |
| 29 | B1 | 1119 | C |
| 29 | B1 | 1120 | A |
| 29 | B1 | 1123 | U |
| 29 | B1 | 1124 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 1128 | U |
| 29 | B1 | 1129 | A |
| 29 | B1 | 1130 | A |
| 29 | B1 | 1131 | G |
| 29 | B1 | 1132 | C |
| 29 | B1 | 1133 | A |
| 29 | B1 | 1136 | A |
| 29 | B1 | 1139 | G |
| 29 | B1 | 1140 | G |
| 29 | B1 | 1142 | G |
| 29 | B1 | 1143 | A |
| 29 | B1 | 1144 | U |
| 29 | B1 | 1145 | G |
| 29 | B1 | 1149 | G |
| 29 | B1 | 1151 | U |
| 29 | B1 | 1152 | G |
| 29 | B1 | 1153 | A |
| 29 | B1 | 1154 | A |
| 29 | B1 | 1155 | C |
| 29 | B1 | 1157 | G |
| 29 | B1 | 1158 | A |
| 29 | B1 | 1159 | A |
| 29 | B1 | 1160 | C |
| 29 | B1 | 1162 | U |
| 29 | B1 | 1163 | A |
| 29 | B1 | 1168 | U |
| 29 | B1 | 1169 | A |
| 29 | B1 | 1175 | C |
| 29 | B1 | 1176 | C |
| 29 | B1 | 1177 | G |
| 29 | B1 | 1178 | G |
| 29 | B1 | 1179 | A |
| 29 | B1 | 1180 | A |
| 29 | B1 | 1181 | U |
| 29 | B1 | 1184 | A |
| 29 | B1 | 1187 | C |
| 29 | B1 | 1190 | A |
| 29 | B1 | 1191 | U |
| 29 | B1 | 1192 | C |
| 29 | B1 | 1193 | A |
| 29 | B1 | 1194 | G |
| 29 | B1 | 1195 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 1196 | C |
| 29 | B1 | 1197 | A |
| 29 | B1 | 1198 | C |
| 29 | B1 | 1199 | C |
| 29 | B1 | 1200 | A |
| 29 | B1 | 1201 | C |
| 29 | B1 | 1202 | A |
| 29 | B1 | 1203 | A |
| 29 | B1 | 1205 | A |
| 29 | B1 | 1207 | G |
| 29 | B1 | 1208 | U |
| 29 | B1 | 1209 | G |
| 29 | B1 | 1211 | U |
| 29 | B1 | 1212 | A |
| 29 | B1 | 1213 | G |
| 29 | B1 | 1214 | U |
| 29 | B1 | 1217 | A |
| 29 | B1 | 1218 | U |
| 29 | B1 | 1219 | C |
| 29 | B1 | 1220 | U |
| 29 | B1 | 1222 | G |
| 29 | B1 | 1223 | A |
| 29 | B1 | 1224 | C |
| 29 | B1 | 1225 | A |
| 29 | B1 | 1226 | G |
| 29 | B1 | 1231 | A |
| 29 | B1 | 1232 | C |
| 29 | B1 | 1233 | G |
| 29 | B1 | 1234 | G |
| 29 | B1 | 1235 | U |
| 29 | B1 | 1236 | G |
| 29 | B1 | 1237 | G |
| 29 | B1 | 1238 | C |
| 29 | B1 | 1242 | G |
| 29 | B1 | 1243 | G |
| 29 | B1 | 1244 | A |
| 29 | B1 | 1245 | A |
| 29 | B1 | 1246 | G |
| 29 | B1 | 1247 | U |
| 29 | B1 | 1248 | C |
| 29 | B1 | 1250 | G |
| 29 | B1 | 1252 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 1253 | U |
| 29 | B1 | 1254 | C |
| 29 | B1 | 1256 | G |
| 29 | B1 | 1257 | C |
| 29 | B1 | 1258 | U |
| 29 | B1 | 1259 | A |
| 29 | B1 | 1260 | A |
| 29 | B1 | 1261 | G |
| 29 | B1 | 1262 | G |
| 29 | B1 | 1263 | A |
| 29 | B1 | 1264 | G |
| 29 | B1 | 1265 | U |
| 29 | B1 | 1267 | U |
| 29 | B1 | 1269 | U |
| 29 | B1 | 1270 | A |
| 29 | B1 | 1272 | C |
| 29 | B1 | 1273 | A |
| 29 | B1 | 1277 | C |
| 29 | B1 | 1278 | A |
| 29 | B1 | 1279 | C |
| 29 | B1 | 1281 | G |
| 29 | B1 | 1285 | G |
| 29 | B1 | 1286 | A |
| 29 | B1 | 1287 | A |
| 29 | B1 | 1288 | U |
| 29 | B1 | 1289 | G |
| 29 | B1 | 1290 | A |
| 29 | B1 | 1291 | A |
| 29 | B1 | 1292 | C |
| 29 | B1 | 1294 | A |
| 29 | B1 | 1295 | G |
| 29 | B1 | 1296 | C |
| 29 | B1 | 1297 | C |
| 29 | B1 | 1299 | U |
| 29 | B1 | 1303 | A |
| 29 | B1 | 1305 | U |
| 29 | B1 | 1307 | G |
| 29 | B1 | 1308 | A |
| 29 | B1 | 1309 | U |
| 29 | B1 | 1310 | G |
| 29 | B1 | 1313 | G |
| 29 | B1 | 1314 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 1315 | U |
| 29 | B1 | 1316 | C |
| 29 | B1 | 1317 | A |
| 29 | B1 | 1318 | A |
| 29 | B1 | 1320 | C |
| 29 | B1 | 1323 | G |
| 29 | B1 | 1324 | U |
| 29 | B1 | 1325 | U |
| 29 | B1 | 1326 | A |
| 29 | B1 | 1330 | A |
| 29 | B1 | 1331 | U |
| 29 | B1 | 1332 | A |
| 29 | B1 | 1342 | C |
| 29 | B1 | 1348 | U |
| 29 | B1 | 1349 | G |
| 29 | B1 | 1350 | A |
| 29 | B1 | 1351 | U |
| 29 | B1 | 1353 | U |
| 29 | B1 | 1354 | G |
| 29 | B1 | 1355 | A |
| 29 | B1 | 1356 | U |
| 29 | B1 | 1365 | G |
| 29 | B1 | 1367 | G |
| 29 | B1 | 1368 | U |
| 29 | B1 | 1370 | G |
| 29 | B1 | 1371 | G |
| 29 | B1 | 1378 | U |
| 29 | B1 | 1379 | G |
| 29 | B1 | 1380 | G |
| 29 | B1 | 1384 | U |
| 29 | B1 | 1385 | C |
| 29 | B1 | 1386 | A |
| 29 | B1 | 1389 | G |
| 29 | B1 | 1390 | A |
| 29 | B1 | 1392 | G |
| 29 | B1 | 1394 | A |
| 29 | B1 | 1395 | G |
| 29 | B1 | 1398 | U |
| 29 | B1 | 1399 | A |
| 29 | B1 | 1400 | G |
| 29 | B1 | 1404 | G |
| 29 | B1 | 1405 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 1406 | A |
| 29 | B1 | 1407 | A |
| 29 | B1 | 1408 | G |
| 29 | B1 | 1410 | U |
| 29 | B1 | 1411 | C |
| 29 | B1 | 1412 | G |
| 29 | B1 | 1416 | C |
| 29 | B1 | 1418 | A |
| 29 | B1 | 1419 | A |
| 29 | B1 | 1429 | G |
| 29 | B1 | 1430 | U |
| 29 | B1 | 1431 | G |
| 29 | B1 | 1434 | G |
| 29 | B1 | 1435 | A |
| 29 | B1 | 1437 | C |
| 29 | B1 | 1440 | G |
| 29 | B1 | 1441 | G |
| 29 | B1 | 1442 | U |
| 29 | B1 | 1445 | U |
| 29 | B1 | 1446 | A |
| 29 | B1 | 1450 | G |
| 29 | B1 | 1453 | A |
| 29 | B1 | 1455 | U |
| 29 | B1 | 1456 | A |
| 29 | B1 | 1460 | A |
| 29 | B1 | 1462 | A |
| 29 | B1 | 1465 | A |
| 29 | B1 | 1467 | A |
| 29 | B1 | 1468 | A |
| 29 | B1 | 1469 | C |
| 29 | B1 | 1470 | U |
| 29 | B1 | 1478 | C |
| 29 | B1 | 1479 | U |
| 29 | B1 | 1480 | G |
| 29 | B1 | 1481 | A |
| 29 | B1 | 1482 | A |
| 29 | B1 | 1483 | G |
| 29 | B1 | 1484 | U |
| 29 | B1 | 1485 | G |
| 29 | B1 | 1488 | G |
| 29 | B1 | 1493 | G |
| 29 | B1 | 1495 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 1496 | C |
| 29 | B1 | 1497 | C |
| 29 | B1 | 1501 | U |
| 29 | B1 | 1503 | A |
| 29 | B1 | 1504 | A |
| 29 | B1 | 1505 | C |
| 29 | B1 | 1506 | A |
| 29 | B1 | 1507 | G |
| 29 | B1 | 1508 | C |
| 29 | B1 | 1509 | A |
| 29 | B1 | 1510 | G |
| 29 | B1 | 1511 | U |
| 29 | B1 | 1520 | G |
| 29 | B1 | 1521 | G |
| 29 | B1 | 1524 | A |
| 29 | B1 | 1525 | G |
| 29 | B1 | 1527 | C |
| 29 | B1 | 1530 | U |
| 29 | B1 | 1531 | C |
| 29 | B1 | 1533 | U |
| 29 | B1 | 1535 | A |
| 29 | B1 | 1536 | G |
| 29 | B1 | 1539 | A |
| 29 | B1 | 1540 | U |
| 29 | B1 | 1542 | G |
| 29 | B1 | 1548 | C |
| 29 | B1 | 1549 | U |
| 29 | B1 | 1551 | C |
| 29 | B1 | 1552 | G |
| 29 | B1 | 1553 | U |
| 29 | B1 | 1554 | U |
| 29 | B1 | 1556 | C |
| 29 | B1 | 1557 | A |
| 29 | B1 | 1558 | A |
| 29 | B1 | 1559 | A |
| 29 | B1 | 1560 | G |
| 29 | B1 | 1567 | U |
| 29 | B1 | 1568 | U |
| 29 | B1 | 1572 | U |
| 29 | B1 | 1575 | A |
| 29 | B1 | 1579 | C |
| 29 | B1 | 1580 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 1581 | C |
| 29 | B1 | 1582 | C |
| 29 | B1 | 1583 | A |
| 29 | B1 | 1584 | U |
| 29 | B1 | 1587 | A |
| 29 | B1 | 1589 | A |
| 29 | B1 | 1593 | A |
| 29 | B1 | 1595 | U |
| 29 | B1 | 1596 | C |
| 29 | B1 | 1601 | U |
| 29 | B1 | 1602 | A |
| 29 | B1 | 1605 | A |
| 29 | B1 | 1606 | U |
| 29 | B1 | 1607 | U |
| 29 | B1 | 1608 | C |
| 29 | B1 | 1609 | C |
| 29 | B1 | 1610 | G |
| 29 | B1 | 1620 | U |
| 29 | B1 | 1622 | U |
| 29 | B1 | 1626 | U |
| 29 | B1 | 1627 | U |
| 29 | B1 | 1628 | C |
| 29 | B1 | 1629 | U |
| 29 | B1 | 1630 | U |
| 29 | B1 | 1631 | C |
| 29 | B1 | 1632 | A |
| 29 | B1 | 1633 | C |
| 29 | B1 | 1634 | G |
| 29 | B1 | 1635 | G |
| 29 | B1 | 1636 | U |
| 29 | B1 | 1638 | A |
| 29 | B1 | 1639 | C |
| 29 | B1 | 1641 | U |
| 29 | B1 | 1642 | A |
| 29 | B1 | 1643 | A |
| 29 | B1 | 1644 | C |
| 29 | B1 | 1645 | U |
| 29 | B1 | 1646 | G |
| 29 | B1 | 1652 | G |
| 29 | B1 | 1653 | G |
| 29 | B1 | 1654 | A |
| 29 | B1 | 1655 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 1656 | A |
| 29 | B1 | 1657 | C |
| 29 | B1 | 1661 | G |
| 29 | B1 | 1667 | A |
| 29 | B1 | 1668 | G |
| 29 | B1 | 1671 | C |
| 29 | B1 | 1672 | U |
| 29 | B1 | 1678 | G |
| 29 | B1 | 1681 | U |
| 29 | B1 | 1682 | U |
| 29 | B1 | 1683 | A |
| 29 | B1 | 1684 | U |
| 29 | B1 | 1685 | C |
| 29 | B1 | 1686 | U |
| 29 | B1 | 1687 | U |
| 29 | B1 | 1688 | U |
| 29 | B1 | 1689 | U |
| 29 | B1 | 1692 | U |
| 29 | B1 | 1694 | U |
| 29 | B1 | 1698 | C |
| 29 | B1 | 1699 | A |
| 29 | B1 | 1701 | C |
| 29 | B1 | 1703 | U |
| 29 | B1 | 1704 | A |
| 29 | B1 | 1706 | C |
| 29 | B1 | 1708 | C |
| 29 | B1 | 1710 | C |
| 29 | B1 | 1713 | G |
| 29 | B1 | 1714 | A |
| 29 | B1 | 1716 | U |
| 29 | B1 | 1717 | U |
| 29 | B1 | 1724 | U |
| 29 | B1 | 1725 | C |
| 29 | B1 | 1726 | C |
| 29 | B1 | 1727 | G |
| 29 | B1 | 1728 | G |
| 29 | B1 | 1729 | A |
| 29 | B1 | 1730 | G |
| 29 | B1 | 1734 | G |
| 29 | B1 | 1735 | G |
| 29 | B1 | 1736 | G |
| 29 | B1 | 1739 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 1740 | U |
| 29 | B1 | 1744 | G |
| 29 | B1 | 1750 | A |
| 29 | B1 | 1754 | G |
| 29 | B1 | 1756 | C |
| 29 | B1 | 1760 | A |
| 29 | B1 | 1762 | C |
| 29 | B1 | 1766 | G |
| 29 | B1 | 1769 | G |
| 29 | B1 | 1773 | C |
| 29 | B1 | 1774 | C |
| 29 | B1 | 1775 | G |
| 29 | B1 | 1779 | C |
| 29 | B1 | 1780 | G |
| 29 | B1 | 1781 | C |
| 29 | B1 | 1782 | U |
| 29 | B1 | 1783 | U |
| 29 | B1 | 1786 | G |
| 29 | B1 | 1787 | A |
| 29 | B1 | 1788 | C |
| 29 | B1 | 1792 | C |
| 29 | B1 | 1793 | C |
| 29 | B1 | 1794 | G |
| 29 | B1 | 1795 | U |
| 29 | B1 | 1796 | G |
| 29 | B1 | 1797 | A |
| 29 | B1 | 1802 | C |
| 29 | B1 | 1803 | C |
| 29 | B1 | 1806 | A |
| 29 | B1 | 1807 | G |
| 29 | B1 | 1808 | G |
| 29 | B1 | 1809 | A |
| 29 | B1 | 1810 | A |
| 29 | B1 | 1812 | G |
| 29 | B1 | 1813 | A |
| 29 | B1 | 1814 | A |
| 29 | B1 | 1815 | U |
| 29 | B1 | 1816 | A |
| 29 | B1 | 1820 | U |
| 29 | B1 | 1821 | U |
| 29 | B1 | 1822 | C |
| 29 | B1 | 1830 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 1834 | U |
| 29 | B1 | 1835 | A |
| 29 | B1 | 1839 | A |
| 29 | B1 | 1840 | U |
| 29 | B1 | 1841 | A |
| 29 | B1 | 1842 | A |
| 29 | B1 | 1844 | C |
| 29 | B1 | 1846 | C |
| 29 | B1 | 1847 | A |
| 29 | B1 | 1849 | C |
| 29 | B1 | 1852 | G |
| 29 | B1 | 1853 | U |
| 29 | B1 | 1855 | U |
| 29 | B1 | 1857 | C |
| 29 | B1 | 1858 | A |
| 29 | B1 | 1859 | A |
| 29 | B1 | 1860 | G |
| 29 | B1 | 1864 | A |
| 29 | B1 | 1871 | U |
| 29 | B1 | 1875 | G |
| 29 | B1 | 1876 | U |
| 29 | B1 | 1877 | U |
| 29 | B1 | 1878 | G |
| 29 | B1 | 1879 | A |
| 29 | B1 | 1880 | U |
| 29 | B1 | 1881 | A |
| 29 | B1 | 1885 | U |
| 29 | B1 | 1886 | A |
| 29 | B1 | 1889 | G |
| 29 | B1 | 1891 | A |
| 29 | B1 | 1895 | A |
| 29 | B1 | 1901 | A |
| 29 | B1 | 1905 | G |
| 29 | B1 | 1906 | G |
| 29 | B1 | 1907 | C |
| 29 | B1 | 1913 | A |
| 29 | B1 | 1914 | G |
| 29 | B1 | 1920 | U |
| 29 | B1 | 1921 | A |
| 29 | B1 | 1925 | U |
| 29 | B1 | 1926 | C |
| 29 | B1 | 1927 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 1928 | G |
| 29 | B1 | 1930 | A |
| 29 | B1 | 1931 | U |
| 29 | B1 | 1932 | A |
| 29 | B1 | 1933 | A |
| 29 | B1 | 1935 | G |
| 29 | B1 | 1941 | C |
| 29 | B1 | 1946 | A |
| 29 | B1 | 1947 | G |
| 29 | B1 | 1948 | G |
| 29 | B1 | 1950 | U |
| 29 | B1 | 2093 | A |
| 29 | B1 | 2095 | G |
| 29 | B1 | 2096 | A |
| 29 | B1 | 2102 | U |
| 29 | B1 | 2105 | G |
| 29 | B1 | 2106 | A |
| 29 | B1 | 2111 | G |
| 29 | B1 | 2112 | U |
| 29 | B1 | 2113 | A |
| 29 | B1 | 2114 | C |
| 29 | B1 | 2115 | G |
| 29 | B1 | 2117 | A |
| 29 | B1 | 2121 | G |
| 29 | B1 | 2122 | G |
| 29 | B1 | 2126 | A |
| 29 | B1 | 2129 | U |
| 29 | B1 | 2130 | G |
| 29 | B1 | 2131 | A |
| 29 | B1 | 2132 | C |
| 29 | B1 | 2137 | U |
| 29 | B1 | 2138 | A |
| 29 | B1 | 2139 | A |
| 29 | B1 | 2144 | A |
| 29 | B1 | 2147 | A |
| 29 | B1 | 2148 | U |
| 29 | B1 | 2149 | A |
| 29 | B1 | 2150 | G |
| 29 | B1 | 2151 | C |
| 29 | B1 | 2152 | A |
| 29 | B1 | 2158 | A |
| 29 | B1 | 2161 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 2168 | A |
| 29 | B1 | 2169 | G |
| 29 | B1 | 2172 | A |
| 29 | B1 | 2173 | U |
| 29 | B1 | 2174 | G |
| 29 | B1 | 2176 | U |
| 29 | B1 | 2178 | A |
| 29 | B1 | 2185 | G |
| 29 | B1 | 2187 | G |
| 29 | B1 | 2188 | A |
| 29 | B1 | 2191 | U |
| 29 | B1 | 2193 | U |
| 29 | B1 | 2194 | G |
| 29 | B1 | 2195 | C |
| 29 | B1 | 2201 | G |
| 29 | B1 | 2205 | U |
| 29 | B1 | 2206 | G |
| 29 | B1 | 2207 | A |
| 29 | B1 | 2208 | A |
| 29 | B1 | 2209 | U |
| 29 | B1 | 2210 | G |
| 29 | B1 | 2211 | U |
| 29 | B1 | 2215 | A |
| 29 | B1 | 2222 | A |
| 29 | B1 | 2223 | A |
| 29 | B1 | 2224 | A |
| 29 | B1 | 2227 | C |
| 29 | B1 | 2237 | C |
| 29 | B1 | 2244 | A |
| 29 | B1 | 2247 | G |
| 29 | B1 | 2248 | C |
| 29 | B1 | 2249 | G |
| 29 | B1 | 2250 | G |
| 29 | B1 | 2252 | A |
| 29 | B1 | 2254 | U |
| 29 | B1 | 2255 | A |
| 29 | B1 | 2256 | A |
| 29 | B1 | 2257 | C |
| 29 | B1 | 2259 | A |
| 29 | B1 | 2260 | U |
| 29 | B1 | 2261 | G |
| 29 | B1 | 2262 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 2263 | C |
| 29 | B1 | 2264 | U |
| 29 | B1 | 2266 | U |
| 29 | B1 | 2270 | A |
| 29 | B1 | 2271 | A |
| 29 | B1 | 2272 | G |
| 29 | B1 | 2273 | G |
| 29 | B1 | 2275 | A |
| 29 | B1 | 2276 | G |
| 29 | B1 | 2277 | C |
| 29 | B1 | 2280 | A |
| 29 | B1 | 2281 | A |
| 29 | B1 | 2282 | U |
| 29 | B1 | 2283 | G |
| 29 | B1 | 2286 | U |
| 29 | B1 | 2288 | G |
| 29 | B1 | 2290 | C |
| 29 | B1 | 2291 | A |
| 29 | B1 | 2292 | U |
| 29 | B1 | 2295 | A |
| 29 | B1 | 2296 | A |
| 29 | B1 | 2297 | U |
| 29 | B1 | 2298 | U |
| 29 | B1 | 2299 | A |
| 29 | B1 | 2300 | G |
| 29 | B1 | 2303 | A |
| 29 | B1 | 2306 | C |
| 29 | B1 | 2307 | G |
| 29 | B1 | 2308 | C |
| 29 | B1 | 2309 | A |
| 29 | B1 | 2310 | U |
| 29 | B1 | 2311 | G |
| 29 | B1 | 2313 | A |
| 29 | B1 | 2314 | U |
| 29 | B1 | 2315 | G |
| 29 | B1 | 2320 | A |
| 29 | B1 | 2324 | A |
| 29 | B1 | 2325 | G |
| 29 | B1 | 2326 | A |
| 29 | B1 | 2327 | U |
| 29 | B1 | 2329 | C |
| 29 | B1 | 2330 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 2334 | U |
| 29 | B1 | 2335 | G |
| 29 | B1 | 2336 | U |
| 29 | B1 | 2339 | C |
| 29 | B1 | 2341 | A |
| 29 | B1 | 2342 | U |
| 29 | B1 | 2344 | U |
| 29 | B1 | 2345 | A |
| 29 | B1 | 2360 | C |
| 29 | B1 | 2361 | A |
| 29 | B1 | 2363 | A |
| 29 | B1 | 2364 | G |
| 29 | B1 | 2365 | C |
| 29 | B1 | 2371 | G |
| 29 | B1 | 2372 | A |
| 29 | B1 | 2373 | A |
| 29 | B1 | 2374 | C |
| 29 | B1 | 2375 | G |
| 29 | B1 | 2377 | G |
| 29 | B1 | 2379 | U |
| 29 | B1 | 2380 | U |
| 29 | B1 | 2383 | C |
| 29 | B1 | 2384 | A |
| 29 | B1 | 2385 | G |
| 29 | B1 | 2386 | A |
| 29 | B1 | 2390 | A |
| 29 | B1 | 2393 | G |
| 29 | B1 | 2397 | A |
| 29 | B1 | 2401 | A |
| 29 | B1 | 2402 | A |
| 29 | B1 | 2403 | G |
| 29 | B1 | 2404 | A |
| 29 | B1 | 2405 | C |
| 29 | B1 | 2410 | U |
| 29 | B1 | 2411 | U |
| 29 | B1 | 2412 | G |
| 29 | B1 | 2414 | G |
| 29 | B1 | 2415 | C |
| 29 | B1 | 2417 | U |
| 29 | B1 | 2421 | U |
| 29 | B1 | 2422 | C |
| 29 | B1 | 2423 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 2424 | A |
| 29 | B1 | 2432 | A |
| 29 | B1 | 2433 | U |
| 29 | B1 | 2434 | U |
| 29 | B1 | 2436 | U |
| 29 | B1 | 2437 | G |
| 29 | B1 | 2439 | A |
| 29 | B1 | 2443 | A |
| 29 | B1 | 2445 | A |
| 29 | B1 | 2446 | U |
| 29 | B1 | 2449 | A |
| 29 | B1 | 2450 | G |
| 29 | B1 | 2451 | G |
| 29 | B1 | 2452 | G |
| 29 | B1 | 2453 | U |
| 29 | B1 | 2454 | G |
| 29 | B1 | 2458 | A |
| 29 | B1 | 2459 | A |
| 29 | B1 | 2461 | A |
| 29 | B1 | 2462 | A |
| 29 | B1 | 2463 | G |
| 29 | B1 | 2468 | A |
| 29 | B1 | 2472 | U |
| 29 | B1 | 2473 | C |
| 29 | B1 | 2474 | G |
| 29 | B1 | 2479 | C |
| 29 | B1 | 2484 | A |
| 29 | B1 | 2485 | A |
| 29 | B1 | 2486 | A |
| 29 | B1 | 2487 | U |
| 29 | B1 | 2488 | A |
| 29 | B1 | 2491 | A |
| 29 | B1 | 2492 | C |
| 29 | B1 | 2493 | U |
| 29 | B1 | 2499 | U |
| 29 | B1 | 2500 | A |
| 29 | B1 | 2501 | U |
| 29 | B1 | 2502 | A |
| 29 | B1 | 2503 | G |
| 29 | B1 | 2504 | U |
| 29 | B1 | 2508 | U |
| 29 | B1 | 2511 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 2512 | C |
| 29 | B1 | 2513 | U |
| 29 | B1 | 2514 | U |
| 29 | B1 | 2515 | A |
| 29 | B1 | 2516 | U |
| 29 | B1 | 2517 | U |
| 29 | B1 | 2520 | A |
| 29 | B1 | 2521 | U |
| 29 | B1 | 2522 | G |
| 29 | B1 | 2523 | A |
| 29 | B1 | 2524 | A |
| 29 | B1 | 2525 | G |
| 29 | B1 | 2526 | C |
| 29 | B1 | 2528 | G |
| 29 | B1 | 2530 | G |
| 29 | B1 | 2531 | C |
| 29 | B1 | 2536 | A |
| 29 | B1 | 2539 | C |
| 29 | B1 | 2540 | A |
| 29 | B1 | 2541 | U |
| 29 | B1 | 2542 | U |
| 29 | B1 | 2543 | U |
| 29 | B1 | 2547 | A |
| 29 | B1 | 2548 | C |
| 29 | B1 | 2549 | G |
| 29 | B1 | 2550 | U |
| 29 | B1 | 2552 | C |
| 29 | B1 | 2553 | U |
| 29 | B1 | 2554 | A |
| 29 | B1 | 2555 | G |
| 29 | B1 | 2556 | C |
| 29 | B1 | 2557 | A |
| 29 | B1 | 2558 | U |
| 29 | B1 | 2559 | U |
| 29 | B1 | 2560 | C |
| 29 | B1 | 2561 | A |
| 29 | B1 | 2569 | A |
| 29 | B1 | 2572 | C |
| 29 | B1 | 2574 | G |
| 29 | B1 | 2580 | A |
| 29 | B1 | 2581 | U |
| 29 | B1 | 2582 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 2583 | C |
| 29 | B1 | 2584 | G |
| 29 | B1 | 2585 | G |
| 29 | B1 | 2586 | G |
| 29 | B1 | 2587 | U |
| 29 | B1 | 2589 | G |
| 29 | B1 | 2593 | A |
| 29 | B1 | 2594 | C |
| 29 | B1 | 2598 | G |
| 29 | B1 | 2600 | C |
| 29 | B1 | 2603 | G |
| 29 | B1 | 2605 | G |
| 29 | B1 | 2606 | G |
| 29 | B1 | 2607 | G |
| 29 | B1 | 2612 | U |
| 29 | B1 | 2613 | U |
| 29 | B1 | 2614 | G |
| 29 | B1 | 2618 | G |
| 29 | B1 | 2619 | G |
| 29 | B1 | 2624 | G |
| 29 | B1 | 2626 | A |
| 29 | B1 | 2627 | C |
| 29 | B1 | 2628 | A |
| 29 | B1 | 2629 | U |
| 29 | B1 | 2631 | U |
| 29 | B1 | 2636 | A |
| 29 | B1 | 2637 | A |
| 29 | B1 | 2638 | C |
| 29 | B1 | 2639 | G |
| 29 | B1 | 2642 | A |
| 29 | B1 | 2643 | A |
| 29 | B1 | 2644 | C |
| 29 | B1 | 2648 | G |
| 29 | B1 | 2649 | A |
| 29 | B1 | 2650 | U |
| 29 | B1 | 2651 | G |
| 29 | B1 | 2652 | U |
| 29 | B1 | 2653 | C |
| 29 | B1 | 2655 | U |
| 29 | B1 | 2656 | A |
| 29 | B1 | 2657 | A |
| 29 | B1 | 2658 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 2662 | G |
| 29 | B1 | 2663 | G |
| 29 | B1 | 2664 | C |
| 29 | B1 | 2666 | C |
| 29 | B1 | 2667 | A |
| 29 | B1 | 2668 | U |
| 29 | B1 | 2671 | A |
| 29 | B1 | 2672 | G |
| 29 | B1 | 2675 | C |
| 29 | B1 | 2676 | A |
| 29 | B1 | 2677 | G |
| 29 | B1 | 2678 | A |
| 29 | B1 | 2679 | A |
| 29 | B1 | 2681 | U |
| 29 | B1 | 2682 | C |
| 29 | B1 | 2683 | U |
| 29 | B1 | 2684 | C |
| 29 | B1 | 2685 | C |
| 29 | B1 | 2686 | A |
| 29 | B1 | 2687 | G |
| 29 | B1 | 2688 | U |
| 29 | B1 | 2689 | A |
| 29 | B1 | 2690 | G |
| 29 | B1 | 2691 | A |
| 29 | B1 | 2693 | C |
| 29 | B1 | 2694 | A |
| 29 | B1 | 2695 | A |
| 29 | B1 | 2696 | A |
| 29 | B1 | 2697 | A |
| 29 | B1 | 2699 | G |
| 29 | B1 | 2700 | G |
| 29 | B1 | 2702 | A |
| 29 | B1 | 2703 | A |
| 29 | B1 | 2704 | A |
| 29 | B1 | 2707 | C |
| 29 | B1 | 2708 | C |
| 29 | B1 | 2709 | C |
| 29 | B1 | 2710 | C |
| 29 | B1 | 2712 | U |
| 29 | B1 | 2713 | U |
| 29 | B1 | 2714 | G |
| 29 | B1 | 2715 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 2716 | U |
| 29 | B1 | 2717 | U |
| 29 | B1 | 2718 | U |
| 29 | B1 | 2719 | U |
| 29 | B1 | 2725 | U |
| 29 | B1 | 2726 | C |
| 29 | B1 | 2727 | A |
| 29 | B1 | 2728 | G |
| 29 | B1 | 2729 | U |
| 29 | B1 | 2730 | G |
| 29 | B1 | 2731 | U |
| 29 | B1 | 2733 | A |
| 29 | B1 | 2735 | U |
| 29 | B1 | 2740 | A |
| 29 | B1 | 2742 | C |
| 29 | B1 | 2743 | A |
| 29 | B1 | 2746 | A |
| 29 | B1 | 2751 | G |
| 29 | B1 | 2752 | U |
| 29 | B1 | 2753 | G |
| 29 | B1 | 2755 | C |
| 29 | B1 | 2756 | C |
| 29 | B1 | 2760 | C |
| 29 | B1 | 2762 | A |
| 29 | B1 | 2764 | C |
| 29 | B1 | 2766 | U |
| 29 | B1 | 2769 | A |
| 29 | B1 | 2771 | U |
| 29 | B1 | 2772 | C |
| 29 | B1 | 2776 | C |
| 29 | B1 | 2777 | G |
| 29 | B1 | 2778 | G |
| 29 | B1 | 2779 | A |
| 29 | B1 | 2780 | A |
| 29 | B1 | 2782 | U |
| 29 | B1 | 2783 | U |
| 29 | B1 | 2784 | G |
| 29 | B1 | 2787 | G |
| 29 | B1 | 2790 | A |
| 29 | B1 | 2796 | G |
| 29 | B1 | 2798 | C |
| 29 | B1 | 2799 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 2800 | G |
| 29 | B1 | 2801 | A |
| 29 | B1 | 2802 | A |
| 29 | B1 | 2804 | A |
| 29 | B1 | 2805 | G |
| 29 | B1 | 2807 | U |
| 29 | B1 | 2809 | C |
| 29 | B1 | 2810 | C |
| 29 | B1 | 2814 | G |
| 29 | B1 | 2816 | G |
| 29 | B1 | 2817 | A |
| 29 | B1 | 2818 | U |
| 29 | B1 | 2822 | U |
| 29 | B1 | 2823 | G |
| 29 | B1 | 2825 | C |
| 29 | B1 | 2826 | U |
| 29 | B1 | 2828 | G |
| 29 | B1 | 2829 | U |
| 29 | B1 | 2830 | G |
| 29 | B1 | 2833 | A |
| 29 | B1 | 2834 | G |
| 29 | B1 | 2835 | U |
| 29 | B1 | 2836 | C |
| 29 | B1 | 2838 | A |
| 29 | B1 | 2839 | G |
| 29 | B1 | 2840 | C |
| 29 | B1 | 2842 | U |
| 29 | B1 | 2843 | U |
| 29 | B1 | 2844 | C |
| 29 | B1 | 2845 | A |
| 29 | B1 | 2846 | U |
| 29 | B1 | 2847 | A |
| 29 | B1 | 2849 | C |
| 29 | B1 | 2850 | G |
| 29 | B1 | 2851 | A |
| 29 | B1 | 2852 | C |
| 29 | B1 | 2859 | U |
| 29 | B1 | 2860 | U |
| 29 | B1 | 2867 | C |
| 29 | B1 | 2870 | C |
| 29 | B1 | 2871 | G |
| 29 | B1 | 2872 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 2873 | U |
| 29 | B1 | 2874 | G |
| 29 | B1 | 2875 | U |
| 29 | B1 | 2878 | G |
| 29 | B1 | 2881 | C |
| 29 | B1 | 2882 | U |
| 29 | B1 | 2883 | U |
| 29 | B1 | 2884 | C |
| 29 | B1 | 2886 | U |
| 29 | B1 | 2887 | A |
| 29 | B1 | 2888 | U |
| 29 | B1 | 2894 | C |
| 29 | B1 | 2896 | A |
| 29 | B1 | 2897 | A |
| 29 | B1 | 2898 | G |
| 29 | B1 | 2899 | C |
| 29 | B1 | 2900 | A |
| 29 | B1 | 2901 | G |
| 29 | B1 | 2905 | U |
| 29 | B1 | 2911 | A |
| 29 | B1 | 2912 | G |
| 29 | B1 | 2914 | G |
| 29 | B1 | 2915 | U |
| 29 | B1 | 2916 | U |
| 29 | B1 | 2918 | G |
| 29 | B1 | 2919 | A |
| 29 | B1 | 2920 | U |
| 29 | B1 | 2922 | G |
| 29 | B1 | 2923 | U |
| 29 | B1 | 2928 | C |
| 29 | B1 | 2929 | C |
| 29 | B1 | 2932 | U |
| 29 | B1 | 2935 | U |
| 29 | B1 | 2936 | A |
| 29 | B1 | 2939 | G |
| 29 | B1 | 2941 | A |
| 29 | B1 | 2942 | C |
| 29 | B1 | 2943 | G |
| 29 | B1 | 2944 | U |
| 29 | B1 | 2945 | G |
| 29 | B1 | 2947 | G |
| 29 | B1 | 2954 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 2957 | G |
| 29 | B1 | 2960 | C |
| 29 | B1 | 2961 | G |
| 29 | B1 | 2962 | U |
| 29 | B1 | 2965 | U |
| 29 | B1 | 2968 | G |
| 29 | B1 | 2971 | A |
| 29 | B1 | 2972 | G |
| 29 | B1 | 2973 | G |
| 29 | B1 | 2978 | U |
| 29 | B1 | 2979 | U |
| 29 | B1 | 2983 | C |
| 29 | B1 | 2984 | C |
| 29 | B1 | 2986 | U |
| 29 | B1 | 2988 | C |
| 29 | B1 | 2989 | U |
| 29 | B1 | 2990 | G |
| 29 | B1 | 2993 | G |
| 29 | B1 | 2996 | U |
| 29 | B1 | 2997 | G |
| 29 | B1 | 2998 | U |
| 29 | B1 | 2999 | U |
| 29 | B1 | 3000 | A |
| 29 | B1 | 3003 | G |
| 29 | B1 | 3005 | A |
| 29 | B1 | 3006 | A |
| 29 | B1 | 3011 | A |
| 29 | B1 | 3012 | A |
| 29 | B1 | 3013 | U |
| 29 | B1 | 3014 | U |
| 29 | B1 | 3019 | U |
| 29 | B1 | 3020 | U |
| 29 | B1 | 3023 | U |
| 29 | B1 | 3024 | A |
| 29 | B1 | 3025 | C |
| 29 | B1 | 3028 | G |
| 29 | B1 | 3030 | G |
| 29 | B1 | 3031 | G |
| 29 | B1 | 3033 | A |
| 29 | B1 | 3039 | C |
| 29 | B1 | 3040 | A |
| 29 | B1 | 3041 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 3045 | G |
| 29 | B1 | 3046 | A |
| 29 | B1 | 3047 | U |
| 29 | B1 | 3048 | A |
| 29 | B1 | 3049 | A |
| 29 | B1 | 3052 | G |
| 29 | B1 | 3054 | U |
| 29 | B1 | 3056 | U |
| 29 | B1 | 3057 | U |
| 29 | B1 | 3058 | U |
| 29 | B1 | 3059 | G |
| 29 | B1 | 3060 | C |
| 29 | B1 | 3061 | G |
| 29 | B1 | 3064 | U |
| 29 | B1 | 3066 | U |
| 29 | B1 | 3071 | U |
| 29 | B1 | 3072 | C |
| 29 | B1 | 3074 | G |
| 29 | B1 | 3075 | G |
| 29 | B1 | 3077 | A |
| 29 | B1 | 3078 | U |
| 29 | B1 | 3079 | U |
| 29 | B1 | 3080 | G |
| 29 | B1 | 3090 | U |
| 29 | B1 | 3091 | A |
| 29 | B1 | 3092 | C |
| 29 | B1 | 3093 | C |
| 29 | B1 | 3094 | A |
| 29 | B1 | 3096 | C |
| 29 | B1 | 3097 | C |
| 29 | B1 | 3098 | G |
| 29 | B1 | 3099 | C |
| 29 | B1 | 3100 | U |
| 29 | B1 | 3101 | G |
| 29 | B1 | 3102 | G |
| 29 | B1 | 3103 | A |
| 29 | B1 | 3104 | U |
| 29 | B1 | 3105 | U |
| 29 | B1 | 3113 | A |
| 29 | B1 | 3115 | C |
| 29 | B1 | 3120 | C |
| 29 | B1 | 3121 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 3122 | A |
| 29 | B1 | 3123 | A |
| 29 | B1 | 3126 | C |
| 29 | B1 | 3127 | A |
| 29 | B1 | 3128 | G |
| 29 | B1 | 3129 | A |
| 29 | B1 | 3130 | A |
| 29 | B1 | 3131 | U |
| 29 | B1 | 3133 | C |
| 29 | B1 | 3134 | A |
| 29 | B1 | 3136 | G |
| 29 | B1 | 3137 | C |
| 29 | B1 | 3138 | U |
| 29 | B1 | 3139 | A |
| 29 | B1 | 3140 | G |
| 29 | B1 | 3141 | A |
| 29 | B1 | 3142 | A |
| 29 | B1 | 3143 | C |
| 29 | B1 | 3144 | G |
| 29 | B1 | 3145 | C |
| 29 | B1 | 3149 | G |
| 29 | B1 | 3151 | U |
| 29 | B1 | 3152 | U |
| 29 | B1 | 3153 | U |
| 29 | B1 | 3154 | C |
| 29 | B1 | 3157 | U |
| 29 | B1 | 3159 | C |
| 29 | B1 | 3160 | U |
| 29 | B1 | 3161 | C |
| 29 | B1 | 3162 | C |
| 29 | B1 | 3163 | A |
| 29 | B1 | 3164 | C |
| 29 | B1 | 3166 | C |
| 29 | B1 | 3168 | A |
| 29 | B1 | 3169 | U |
| 29 | B1 | 3170 | A |
| 29 | B1 | 3171 | U |
| 29 | B1 | 3172 | A |
| 29 | B1 | 3173 | G |
| 29 | B1 | 3174 | A |
| 29 | B1 | 3175 | U |
| 29 | B1 | 3176 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 3177 | G |
| 29 | B1 | 3178 | A |
| 29 | B1 | 3179 | U |
| 29 | B1 | 3180 | A |
| 29 | B1 | 3181 | C |
| 29 | B1 | 3184 | A |
| 29 | B1 | 3185 | U |
| 29 | B1 | 3187 | A |
| 29 | B1 | 3191 | G |
| 29 | B1 | 3195 | U |
| 29 | B1 | 3196 | U |
| 29 | B1 | 3198 | U |
| 29 | B1 | 3199 | G |
| 29 | B1 | 3200 | G |
| 29 | B1 | 3201 | C |
| 29 | B1 | 3202 | G |
| 29 | B1 | 3203 | U |
| 29 | B1 | 3204 | C |
| 29 | B1 | 3205 | G |
| 29 | B1 | 3206 | C |
| 29 | B1 | 3207 | U |
| 29 | B1 | 3208 | G |
| 29 | B1 | 3209 | A |
| 29 | B1 | 3210 | A |
| 29 | B1 | 3211 | C |
| 29 | B1 | 3212 | C |
| 29 | B1 | 3214 | U |
| 29 | B1 | 3215 | A |
| 29 | B1 | 3216 | G |
| 29 | B1 | 3217 | C |
| 29 | B1 | 3218 | A |
| 29 | B1 | 3219 | G |
| 29 | B1 | 3220 | G |
| 29 | B1 | 3223 | A |
| 29 | B1 | 3225 | C |
| 29 | B1 | 3227 | A |
| 29 | B1 | 3228 | C |
| 29 | B1 | 3229 | G |
| 29 | B1 | 3237 | U |
| 29 | B1 | 3238 | G |
| 29 | B1 | 3243 | A |
| 29 | B1 | 3244 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 3245 | A |
| 29 | B1 | 3246 | G |
| 29 | B1 | 3254 | G |
| 29 | B1 | 3257 | C |
| 29 | B1 | 3258 | U |
| 29 | B1 | 3259 | U |
| 29 | B1 | 3260 | G |
| 29 | B1 | 3261 | C |
| 29 | B1 | 3262 | U |
| 29 | B1 | 3263 | G |
| 29 | B1 | 3265 | C |
| 29 | B1 | 3267 | A |
| 29 | B1 | 3268 | A |
| 29 | B1 | 3269 | U |
| 29 | B1 | 3270 | U |
| 29 | B1 | 3271 | G |
| 29 | B1 | 3272 | C |
| 29 | B1 | 3273 | A |
| 29 | B1 | 3274 | A |
| 29 | B1 | 3275 | U |
| 29 | B1 | 3276 | G |
| 29 | B1 | 3277 | U |
| 29 | B1 | 3279 | A |
| 29 | B1 | 3280 | U |
| 29 | B1 | 3281 | U |
| 29 | B1 | 3282 | U |
| 29 | B1 | 3283 | U |
| 29 | B1 | 3285 | C |
| 29 | B1 | 3287 | U |
| 29 | B1 | 3288 | G |
| 29 | B1 | 3290 | G |
| 29 | B1 | 3291 | G |
| 29 | B1 | 3292 | A |
| 29 | B1 | 3293 | U |
| 29 | B1 | 3294 | A |
| 29 | B1 | 3299 | A |
| 29 | B1 | 3300 | U |
| 29 | B1 | 3301 | U |
| 29 | B1 | 3302 | U |
| 29 | B1 | 3303 | G |
| 29 | B1 | 3304 | U |
| 29 | B1 | 3305 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 3306 | U |
| 29 | B1 | 3312 | U |
| 29 | B1 | 3313 | U |
| 29 | B1 | 3314 | A |
| 29 | B1 | 3315 | G |
| 29 | B1 | 3316 | A |
| 29 | B1 | 3317 | U |
| 29 | B1 | 3318 | G |
| 29 | B1 | 3319 | U |
| 29 | B1 | 3320 | A |
| 29 | B1 | 3321 | C |
| 29 | B1 | 3322 | A |
| 29 | B1 | 3324 | C |
| 29 | B1 | 3329 | U |
| 29 | B1 | 3331 | U |
| 29 | B1 | 3332 | U |
| 29 | B1 | 3333 | G |
| 29 | B1 | 3334 | U |
| 29 | B1 | 3339 | A |
| 29 | B1 | 3341 | U |
| 29 | B1 | 3342 | A |
| 29 | B1 | 3343 | G |
| 29 | B1 | 3344 | A |
| 29 | B1 | 3350 | C |
| 29 | B1 | 3351 | U |
| 29 | B1 | 3352 | U |
| 29 | B1 | 3353 | G |
| 29 | B1 | 3354 | U |
| 29 | B1 | 3355 | U |
| 29 | B1 | 3356 | G |
| 29 | B1 | 3357 | U |
| 29 | B1 | 3358 | U |
| 29 | B1 | 3360 | C |
| 29 | B1 | 3361 | G |
| 29 | B1 | 3362 | A |
| 29 | B1 | 3363 | U |
| 29 | B1 | 3369 | G |
| 29 | B1 | 3370 | A |
| 29 | B1 | 3371 | G |
| 29 | B1 | 3372 | A |
| 29 | B1 | 3375 | A |
| 29 | B1 | 3376 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 3377 | G |
| 29 | B1 | 3378 | C |
| 29 | B1 | 3379 | C |
| 29 | B1 | 3381 | U |
| 29 | B1 | 3382 | U |
| 29 | B1 | 3383 | G |
| 29 | B1 | 3384 | U |
| 29 | B1 | 3387 | U |
| 29 | B1 | 3389 | U |
| 29 | B1 | 3390 | G |
| 29 | B1 | 3392 | U |
| 29 | B1 | 3394 | U |
| 29 | B1 | 3395 | G |
| 29 | B1 | 3396 | U |
| 30 | B2 | 2 | G |
| 30 | B2 | 3 | U |
| 30 | B2 | 5 | G |
| 30 | B2 | 6 | C |
| 30 | B2 | 9 | C |
| 30 | B2 | 10 | C |
| 30 | B2 | 11 | A |
| 30 | B2 | 12 | U |
| 30 | B2 | 13 | A |
| 30 | B2 | 14 | U |
| 30 | B2 | 15 | C |
| 30 | B2 | 19 | C |
| 30 | B2 | 22 | A |
| 30 | B2 | 27 | A |
| 30 | B2 | 29 | C |
| 30 | B2 | 30 | G |
| 30 | B2 | 31 | U |
| 30 | B2 | 33 | U |
| 30 | B2 | 34 | C |
| 30 | B2 | 35 | C |
| 30 | B2 | 36 | C |
| 30 | B2 | 38 | U |
| 30 | B2 | 39 | C |
| 30 | B2 | 40 | C |
| 30 | B2 | 41 | G |
| 30 | B2 | 42 | A |
| 30 | B2 | 43 | U |
| 30 | B2 | 44 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 30 | B2 | 47 | C |
| 30 | B2 | 48 | U |
| 30 | B2 | 49 | G |
| 30 | B2 | 50 | U |
| 30 | B2 | 51 | A |
| 30 | B2 | 54 | U |
| 30 | B2 | 55 | A |
| 30 | B2 | 56 | A |
| 30 | B2 | 58 | C |
| 30 | B2 | 61 | G |
| 30 | B2 | 63 | A |
| 30 | B2 | 64 | A |
| 30 | B2 | 65 | G |
| 30 | B2 | 66 | A |
| 30 | B2 | 68 | C |
| 30 | B2 | 70 | U |
| 30 | B2 | 75 | G |
| 30 | B2 | 76 | A |
| 30 | B2 | 78 | U |
| 30 | B2 | 79 | A |
| 30 | B2 | 81 | U |
| 30 | B2 | 83 | U |
| 30 | B2 | 84 | A |
| 30 | B2 | 87 | G |
| 30 | B2 | 89 | G |
| 30 | B2 | 92 | A |
| 30 | B2 | 93 | C |
| 30 | B2 | 96 | U |
| 30 | B2 | 97 | A |
| 30 | B2 | 98 | C |
| 30 | B2 | 99 | G |
| 30 | B2 | 102 | A |
| 30 | B2 | 103 | A |
| 30 | B2 | 105 | C |
| 30 | B2 | 107 | C |
| 30 | B2 | 109 | G |
| 30 | B2 | 110 | G |
| 30 | B2 | 112 | G |
| 30 | B2 | 115 | G |
| 30 | B2 | 118 | A |
| 30 | B2 | 120 | C |
| 30 | B2 | 121 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 31 | B3 | 2 | A |
| 31 | B3 | 6 | U |
| 31 | B3 | 10 | A |
| 31 | B3 | 12 | A |
| 31 | B3 | 14 | C |
| 31 | B3 | 15 | G |
| 31 | B3 | 23 | U |
| 31 | B3 | 24 | G |
| 31 | B3 | 25 | G |
| 31 | B3 | 30 | C |
| 31 | B3 | 34 | U |
| 31 | B3 | 38 | U |
| 31 | B3 | 40 | A |
| 31 | B3 | 41 | A |
| 31 | B3 | 45 | C |
| 31 | B3 | 49 | G |
| 31 | B3 | 50 | C |
| 31 | B3 | 51 | G |
| 31 | B3 | 55 | U |
| 31 | B3 | 59 | A |
| 31 | B3 | 60 | U |
| 31 | B3 | 61 | A |
| 31 | B3 | 62 | C |
| 31 | B3 | 63 | G |
| 31 | B3 | 65 | A |
| 31 | B3 | 67 | U |
| 31 | B3 | 68 | G |
| 31 | B3 | 70 | G |
| 31 | B3 | 71 | A |
| 31 | B3 | 72 | A |
| 31 | B3 | 73 | U |
| 31 | B3 | 75 | G |
| 31 | B3 | 76 | C |
| 31 | B3 | 77 | A |
| 31 | B3 | 78 | G |
| 31 | B3 | 80 | A |
| 31 | B3 | 82 | U |
| 31 | B3 | 83 | C |
| 31 | B3 | 85 | G |
| 31 | B3 | 86 | U |
| 31 | B3 | 87 | G |
| 31 | B3 | 88 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 31 | B3 | 89 | A |
| 31 | B3 | 90 | U |
| 31 | B3 | 93 | U |
| 31 | B3 | 94 | C |
| 31 | B3 | 95 | G |
| 31 | B3 | 96 | A |
| 31 | B3 | 97 | A |
| 31 | B3 | 99 | C |
| 31 | B3 | 101 | U |
| 31 | B3 | 104 | A |
| 31 | B3 | 105 | A |
| 31 | B3 | 106 | C |
| 31 | B3 | 107 | G |
| 31 | B3 | 108 | C |
| 31 | B3 | 110 | C |
| 31 | B3 | 111 | A |
| 31 | B3 | 112 | U |
| 31 | B3 | 113 | U |
| 31 | B3 | 114 | G |
| 31 | B3 | 117 | C |
| 31 | B3 | 124 | G |
| 31 | B3 | 125 | U |
| 31 | B3 | 126 | A |
| 31 | B3 | 127 | U |
| 31 | B3 | 128 | U |
| 31 | B3 | 129 | C |
| 31 | B3 | 130 | C |
| 31 | B3 | 132 | G |
| 31 | B3 | 137 | C |
| 31 | B3 | 138 | A |
| 31 | B3 | 141 | C |
| 31 | B3 | 145 | U |
| 31 | B3 | 147 | U |
| 31 | B3 | 149 | A |
| 31 | B3 | 151 | C |
| 31 | B3 | 152 | G |
| 31 | B3 | 157 | U |
| 31 | B3 | 158 | U |
| 1 | C1 | 2 | A |
| 1 | C1 | 3 | U |
| 1 | C1 | 4 | C |
| 1 | C1 | 7 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 8 | U |
| 1 | C1 | 13 | C |
| 1 | C1 | 17 | C |
| 1 | C1 | 20 | G |
| 1 | C1 | 21 | U |
| 1 | C1 | 22 | A |
| 1 | C1 | 24 | U |
| 1 | C1 | 25 | C |
| 1 | C1 | 26 | A |
| 1 | C1 | 27 | U |
| 1 | C1 | 31 | C |
| 1 | C1 | 34 | G |
| 1 | C1 | 35 | U |
| 1 | C1 | 40 | A |
| 1 | C1 | 41 | A |
| 1 | C1 | 42 | G |
| 1 | C1 | 45 | U |
| 1 | C1 | 46 | A |
| 1 | C1 | 47 | A |
| 1 | C1 | 48 | G |
| 1 | C1 | 50 | C |
| 1 | C1 | 51 | A |
| 1 | C1 | 54 | C |
| 1 | C1 | 56 | U |
| 1 | C1 | 57 | G |
| 1 | C1 | 58 | U |
| 1 | C1 | 59 | C |
| 1 | C1 | 60 | U |
| 1 | C1 | 61 | A |
| 1 | C1 | 62 | A |
| 1 | C1 | 63 | G |
| 1 | C1 | 64 | U |
| 1 | C1 | 65 | A |
| 1 | C1 | 66 | U |
| 1 | C1 | 67 | A |
| 1 | C1 | 68 | A |
| 1 | C1 | 69 | G |
| 1 | C1 | 70 | C |
| 1 | C1 | 71 | A |
| 1 | C1 | 72 | A |
| 1 | C1 | 75 | U |
| 1 | C1 | 76 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 77 | U |
| 1 | C1 | 78 | A |
| 1 | C1 | 79 | C |
| 1 | C1 | 80 | A |
| 1 | C1 | 81 | G |
| 1 | C1 | 82 | U |
| 1 | C1 | 83 | G |
| 1 | C1 | 86 | A |
| 1 | C1 | 88 | U |
| 1 | C1 | 95 | G |
| 1 | C1 | 99 | C |
| 1 | C1 | 102 | U |
| 1 | C1 | 104 | A |
| 1 | C1 | 105 | A |
| 1 | C1 | 106 | U |
| 1 | C1 | 111 | U |
| 1 | C1 | 112 | A |
| 1 | C1 | 113 | U |
| 1 | C1 | 114 | C |
| 1 | C1 | 115 | G |
| 1 | C1 | 117 | U |
| 1 | C1 | 119 | A |
| 1 | C1 | 120 | U |
| 1 | C1 | 121 | U |
| 1 | C1 | 122 | U |
| 1 | C1 | 123 | G |
| 1 | C1 | 124 | A |
| 1 | C1 | 125 | U |
| 1 | C1 | 126 | A |
| 1 | C1 | 128 | U |
| 1 | C1 | 129 | U |
| 1 | C1 | 130 | C |
| 1 | C1 | 131 | C |
| 1 | C1 | 132 | U |
| 1 | C1 | 133 | U |
| 1 | C1 | 134 | U |
| 1 | C1 | 135 | A |
| 1 | C1 | 136 | C |
| 1 | C1 | 137 | U |
| 1 | C1 | 138 | A |
| 1 | C1 | 139 | C |
| 1 | C1 | 140 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 141 | U |
| 1 | C1 | 144 | U |
| 1 | C1 | 145 | A |
| 1 | C1 | 146 | U |
| 1 | C1 | 147 | A |
| 1 | C1 | 148 | A |
| 1 | C1 | 149 | C |
| 1 | C1 | 150 | U |
| 1 | C1 | 151 | G |
| 1 | C1 | 154 | G |
| 1 | C1 | 156 | A |
| 1 | C1 | 158 | U |
| 1 | C1 | 159 | U |
| 1 | C1 | 160 | C |
| 1 | C1 | 161 | U |
| 1 | C1 | 162 | A |
| 1 | C1 | 166 | C |
| 1 | C1 | 167 | U |
| 1 | C1 | 168 | A |
| 1 | C1 | 169 | A |
| 1 | C1 | 170 | U |
| 1 | C1 | 171 | A |
| 1 | C1 | 172 | C |
| 1 | C1 | 174 | U |
| 1 | C1 | 176 | C |
| 1 | C1 | 177 | U |
| 1 | C1 | 178 | U |
| 1 | C1 | 179 | A |
| 1 | C1 | 180 | A |
| 1 | C1 | 181 | A |
| 1 | C1 | 184 | C |
| 1 | C1 | 187 | G |
| 1 | C1 | 190 | C |
| 1 | C1 | 191 | C |
| 1 | C1 | 192 | U |
| 1 | C1 | 193 | U |
| 1 | C1 | 194 | U |
| 1 | C1 | 195 | G |
| 1 | C1 | 196 | G |
| 1 | C1 | 197 | A |
| 1 | C1 | 198 | A |
| 1 | C1 | 199 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 200 | A |
| 1 | C1 | 201 | G |
| 1 | C1 | 204 | G |
| 1 | C1 | 208 | U |
| 1 | C1 | 209 | U |
| 1 | C1 | 211 | U |
| 1 | C1 | 212 | U |
| 1 | C1 | 213 | A |
| 1 | C1 | 215 | A |
| 1 | C1 | 218 | A |
| 1 | C1 | 219 | A |
| 1 | C1 | 220 | A |
| 1 | C1 | 224 | C |
| 1 | C1 | 226 | A |
| 1 | C1 | 227 | U |
| 1 | C1 | 228 | G |
| 1 | C1 | 229 | U |
| 1 | C1 | 233 | C |
| 1 | C1 | 234 | G |
| 1 | C1 | 238 | U |
| 1 | C1 | 241 | U |
| 1 | C1 | 242 | U |
| 1 | C1 | 243 | G |
| 1 | C1 | 244 | A |
| 1 | C1 | 245 | U |
| 1 | C1 | 246 | G |
| 1 | C1 | 249 | U |
| 1 | C1 | 250 | C |
| 1 | C1 | 251 | A |
| 1 | C1 | 252 | U |
| 1 | C1 | 253 | A |
| 1 | C1 | 254 | A |
| 1 | C1 | 255 | U |
| 1 | C1 | 256 | A |
| 1 | C1 | 257 | A |
| 1 | C1 | 259 | U |
| 1 | C1 | 260 | U |
| 1 | C1 | 261 | U |
| 1 | C1 | 262 | U |
| 1 | C1 | 263 | C |
| 1 | C1 | 264 | G |
| 1 | C1 | 265 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 267 | U |
| 1 | C1 | 270 | C |
| 1 | C1 | 271 | A |
| 1 | C1 | 272 | U |
| 1 | C1 | 273 | G |
| 1 | C1 | 274 | G |
| 1 | C1 | 276 | C |
| 1 | C1 | 277 | U |
| 1 | C1 | 278 | U |
| 1 | C1 | 280 | U |
| 1 | C1 | 282 | C |
| 1 | C1 | 283 | U |
| 1 | C1 | 284 | G |
| 1 | C1 | 285 | G |
| 1 | C1 | 289 | U |
| 1 | C1 | 295 | A |
| 1 | C1 | 296 | U |
| 1 | C1 | 297 | U |
| 1 | C1 | 298 | C |
| 1 | C1 | 299 | A |
| 1 | C1 | 302 | U |
| 1 | C1 | 309 | C |
| 1 | C1 | 310 | C |
| 1 | C1 | 311 | U |
| 1 | C1 | 312 | A |
| 1 | C1 | 314 | C |
| 1 | C1 | 316 | A |
| 1 | C1 | 320 | U |
| 1 | C1 | 321 | C |
| 1 | C1 | 322 | G |
| 1 | C1 | 323 | A |
| 1 | C1 | 324 | U |
| 1 | C1 | 327 | U |
| 1 | C1 | 330 | G |
| 1 | C1 | 331 | A |
| 1 | C1 | 332 | U |
| 1 | C1 | 333 | A |
| 1 | C1 | 334 | G |
| 1 | C1 | 335 | U |
| 1 | C1 | 337 | G |
| 1 | C1 | 338 | C |
| 1 | C1 | 340 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 341 | A |
| 1 | C1 | 350 | U |
| 1 | C1 | 351 | C |
| 1 | C1 | 352 | A |
| 1 | C1 | 354 | C |
| 1 | C1 | 357 | G |
| 1 | C1 | 359 | A |
| 1 | C1 | 360 | A |
| 1 | C1 | 361 | C |
| 1 | C1 | 365 | G |
| 1 | C1 | 366 | A |
| 1 | C1 | 368 | U |
| 1 | C1 | 369 | A |
| 1 | C1 | 370 | A |
| 1 | C1 | 373 | G |
| 1 | C1 | 374 | U |
| 1 | C1 | 375 | U |
| 1 | C1 | 376 | C |
| 1 | C1 | 378 | A |
| 1 | C1 | 379 | U |
| 1 | C1 | 380 | U |
| 1 | C1 | 381 | C |
| 1 | C1 | 382 | C |
| 1 | C1 | 383 | G |
| 1 | C1 | 385 | A |
| 1 | C1 | 387 | A |
| 1 | C1 | 390 | G |
| 1 | C1 | 393 | C |
| 1 | C1 | 394 | C |
| 1 | C1 | 395 | U |
| 1 | C1 | 396 | G |
| 1 | C1 | 397 | A |
| 1 | C1 | 399 | A |
| 1 | C1 | 400 | A |
| 1 | C1 | 401 | A |
| 1 | C1 | 402 | C |
| 1 | C1 | 403 | G |
| 1 | C1 | 404 | G |
| 1 | C1 | 406 | U |
| 1 | C1 | 411 | C |
| 1 | C1 | 415 | C |
| 1 | C1 | 416 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 417 | A |
| 1 | C1 | 418 | G |
| 1 | C1 | 419 | G |
| 1 | C1 | 421 | A |
| 1 | C1 | 424 | C |
| 1 | C1 | 425 | A |
| 1 | C1 | 426 | G |
| 1 | C1 | 427 | C |
| 1 | C1 | 428 | A |
| 1 | C1 | 434 | G |
| 1 | C1 | 436 | A |
| 1 | C1 | 437 | A |
| 1 | C1 | 438 | A |
| 1 | C1 | 439 | U |
| 1 | C1 | 440 | U |
| 1 | C1 | 441 | A |
| 1 | C1 | 444 | C |
| 1 | C1 | 445 | A |
| 1 | C1 | 446 | A |
| 1 | C1 | 447 | U |
| 1 | C1 | 448 | C |
| 1 | C1 | 449 | C |
| 1 | C1 | 451 | A |
| 1 | C1 | 452 | A |
| 1 | C1 | 453 | U |
| 1 | C1 | 454 | U |
| 1 | C1 | 455 | C |
| 1 | C1 | 458 | G |
| 1 | C1 | 459 | G |
| 1 | C1 | 462 | G |
| 1 | C1 | 464 | A |
| 1 | C1 | 467 | G |
| 1 | C1 | 468 | A |
| 1 | C1 | 469 | C |
| 1 | C1 | 470 | A |
| 1 | C1 | 475 | A |
| 1 | C1 | 477 | A |
| 1 | C1 | 480 | G |
| 1 | C1 | 482 | U |
| 1 | C1 | 485 | A |
| 1 | C1 | 486 | G |
| 1 | C1 | 487 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 488 | G |
| 1 | C1 | 489 | C |
| 1 | C1 | 490 | C |
| 1 | C1 | 493 | U |
| 1 | C1 | 494 | U |
| 1 | C1 | 495 | C |
| 1 | C1 | 496 | G |
| 1 | C1 | 498 | G |
| 1 | C1 | 500 | C |
| 1 | C1 | 504 | U |
| 1 | C1 | 505 | A |
| 1 | C1 | 506 | A |
| 1 | C1 | 510 | G |
| 1 | C1 | 511 | A |
| 1 | C1 | 512 | A |
| 1 | C1 | 513 | U |
| 1 | C1 | 514 | G |
| 1 | C1 | 515 | A |
| 1 | C1 | 516 | G |
| 1 | C1 | 517 | U |
| 1 | C1 | 519 | C |
| 1 | C1 | 522 | U |
| 1 | C1 | 523 | G |
| 1 | C1 | 524 | U |
| 1 | C1 | 526 | A |
| 1 | C1 | 527 | A |
| 1 | C1 | 528 | U |
| 1 | C1 | 529 | A |
| 1 | C1 | 530 | C |
| 1 | C1 | 531 | C |
| 1 | C1 | 535 | A |
| 1 | C1 | 537 | G |
| 1 | C1 | 538 | A |
| 1 | C1 | 539 | G |
| 1 | C1 | 540 | G |
| 1 | C1 | 541 | A |
| 1 | C1 | 542 | A |
| 1 | C1 | 543 | C |
| 1 | C1 | 544 | A |
| 1 | C1 | 545 | A |
| 1 | C1 | 546 | U |
| 1 | C1 | 548 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 550 | A |
| 1 | C1 | 551 | G |
| 1 | C1 | 554 | C |
| 1 | C1 | 555 | A |
| 1 | C1 | 556 | A |
| 1 | C1 | 557 | G |
| 1 | C1 | 558 | U |
| 1 | C1 | 560 | U |
| 1 | C1 | 561 | G |
| 1 | C1 | 563 | U |
| 1 | C1 | 564 | G |
| 1 | C1 | 565 | C |
| 1 | C1 | 568 | G |
| 1 | C1 | 570 | A |
| 1 | C1 | 572 | C |
| 1 | C1 | 574 | G |
| 1 | C1 | 578 | U |
| 1 | C1 | 579 | A |
| 1 | C1 | 580 | A |
| 1 | C1 | 585 | A |
| 1 | C1 | 594 | A |
| 1 | C1 | 595 | G |
| 1 | C1 | 596 | C |
| 1 | C1 | 599 | A |
| 1 | C1 | 601 | A |
| 1 | C1 | 602 | U |
| 1 | C1 | 605 | A |
| 1 | C1 | 607 | G |
| 1 | C1 | 608 | U |
| 1 | C1 | 609 | U |
| 1 | C1 | 610 | G |
| 1 | C1 | 611 | U |
| 1 | C1 | 612 | U |
| 1 | C1 | 614 | C |
| 1 | C1 | 615 | A |
| 1 | C1 | 616 | G |
| 1 | C1 | 619 | A |
| 1 | C1 | 620 | A |
| 1 | C1 | 622 | A |
| 1 | C1 | 623 | A |
| 1 | C1 | 624 | G |
| 1 | C1 | 626 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 630 | A |
| 1 | C1 | 633 | U |
| 1 | C1 | 638 | U |
| 1 | C1 | 639 | U |
| 1 | C1 | 640 | U |
| 1 | C1 | 646 | C |
| 1 | C1 | 647 | G |
| 1 | C1 | 649 | U |
| 1 | C1 | 650 | U |
| 1 | C1 | 653 | C |
| 1 | C1 | 656 | G |
| 1 | C1 | 659 | C |
| 1 | C1 | 660 | G |
| 1 | C1 | 662 | U |
| 1 | C1 | 663 | U |
| 1 | C1 | 665 | U |
| 1 | C1 | 666 | U |
| 1 | C1 | 667 | U |
| 1 | C1 | 681 | U |
| 1 | C1 | 682 | C |
| 1 | C1 | 683 | C |
| 1 | C1 | 685 | A |
| 1 | C1 | 686 | C |
| 1 | C1 | 691 | C |
| 1 | C1 | 692 | C |
| 1 | C1 | 693 | U |
| 1 | C1 | 694 | U |
| 1 | C1 | 695 | U |
| 1 | C1 | 696 | C |
| 1 | C1 | 697 | C |
| 1 | C1 | 698 | U |
| 1 | C1 | 699 | U |
| 1 | C1 | 702 | G |
| 1 | C1 | 703 | G |
| 1 | C1 | 706 | A |
| 1 | C1 | 707 | A |
| 1 | C1 | 708 | C |
| 1 | C1 | 710 | U |
| 1 | C1 | 714 | G |
| 1 | C1 | 715 | U |
| 1 | C1 | 718 | U |
| 1 | C1 | 719 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 720 | G |
| 1 | C1 | 721 | U |
| 1 | C1 | 722 | G |
| 1 | C1 | 723 | G |
| 1 | C1 | 729 | G |
| 1 | C1 | 730 | G |
| 1 | C1 | 731 | C |
| 1 | C1 | 733 | A |
| 1 | C1 | 736 | C |
| 1 | C1 | 739 | G |
| 1 | C1 | 741 | C |
| 1 | C1 | 742 | U |
| 1 | C1 | 743 | U |
| 1 | C1 | 744 | U |
| 1 | C1 | 750 | U |
| 1 | C1 | 751 | G |
| 1 | C1 | 754 | A |
| 1 | C1 | 756 | A |
| 1 | C1 | 765 | G |
| 1 | C1 | 766 | U |
| 1 | C1 | 767 | U |
| 1 | C1 | 774 | A |
| 1 | C1 | 775 | G |
| 1 | C1 | 778 | G |
| 1 | C1 | 779 | U |
| 1 | C1 | 780 | A |
| 1 | C1 | 781 | U |
| 1 | C1 | 782 | U |
| 1 | C1 | 783 | G |
| 1 | C1 | 787 | G |
| 1 | C1 | 789 | A |
| 1 | C1 | 790 | U |
| 1 | C1 | 793 | A |
| 1 | C1 | 794 | U |
| 1 | C1 | 803 | A |
| 1 | C1 | 808 | U |
| 1 | C1 | 811 | A |
| 1 | C1 | 812 | A |
| 1 | C1 | 813 | U |
| 1 | C1 | 814 | A |
| 1 | C1 | 815 | G |
| 1 | C1 | 816 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 818 | C |
| 1 | C1 | 819 | G |
| 1 | C1 | 820 | U |
| 1 | C1 | 821 | U |
| 1 | C1 | 822 | U |
| 1 | C1 | 823 | G |
| 1 | C1 | 824 | G |
| 1 | C1 | 825 | U |
| 1 | C1 | 826 | U |
| 1 | C1 | 828 | U |
| 1 | C1 | 829 | A |
| 1 | C1 | 830 | U |
| 1 | C1 | 831 | U |
| 1 | C1 | 832 | U |
| 1 | C1 | 834 | G |
| 1 | C1 | 839 | U |
| 1 | C1 | 840 | U |
| 1 | C1 | 841 | U |
| 1 | C1 | 842 | C |
| 1 | C1 | 844 | A |
| 1 | C1 | 847 | A |
| 1 | C1 | 848 | C |
| 1 | C1 | 850 | A |
| 1 | C1 | 856 | A |
| 1 | C1 | 857 | U |
| 1 | C1 | 858 | G |
| 1 | C1 | 860 | U |
| 1 | C1 | 861 | U |
| 1 | C1 | 862 | A |
| 1 | C1 | 863 | A |
| 1 | C1 | 864 | U |
| 1 | C1 | 865 | A |
| 1 | C1 | 872 | G |
| 1 | C1 | 873 | U |
| 1 | C1 | 876 | G |
| 1 | C1 | 880 | C |
| 1 | C1 | 881 | A |
| 1 | C1 | 883 | C |
| 1 | C1 | 886 | U |
| 1 | C1 | 888 | U |
| 1 | C1 | 891 | A |
| 1 | C1 | 893 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 894 | U |
| 1 | C1 | 896 | U |
| 1 | C1 | 897 | C |
| 1 | C1 | 899 | G |
| 1 | C1 | 901 | G |
| 1 | C1 | 902 | G |
| 1 | C1 | 903 | U |
| 1 | C1 | 904 | G |
| 1 | C1 | 905 | A |
| 1 | C1 | 906 | A |
| 1 | C1 | 909 | U |
| 1 | C1 | 910 | C |
| 1 | C1 | 911 | U |
| 1 | C1 | 912 | U |
| 1 | C1 | 913 | G |
| 1 | C1 | 914 | G |
| 1 | C1 | 915 | A |
| 1 | C1 | 916 | U |
| 1 | C1 | 920 | U |
| 1 | C1 | 922 | G |
| 1 | C1 | 923 | A |
| 1 | C1 | 927 | C |
| 1 | C1 | 929 | A |
| 1 | C1 | 932 | U |
| 1 | C1 | 933 | A |
| 1 | C1 | 934 | C |
| 1 | C1 | 938 | G |
| 1 | C1 | 939 | A |
| 1 | C1 | 942 | G |
| 1 | C1 | 943 | C |
| 1 | C1 | 944 | A |
| 1 | C1 | 952 | A |
| 1 | C1 | 959 | U |
| 1 | C1 | 960 | U |
| 1 | C1 | 961 | U |
| 1 | C1 | 964 | U |
| 1 | C1 | 965 | U |
| 1 | C1 | 966 | A |
| 1 | C1 | 967 | A |
| 1 | C1 | 973 | A |
| 1 | C1 | 975 | C |
| 1 | C1 | 976 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 977 | A |
| 1 | C1 | 978 | A |
| 1 | C1 | 981 | U |
| 1 | C1 | 987 | G |
| 1 | C1 | 988 | A |
| 1 | C1 | 992 | A |
| 1 | C1 | 993 | A |
| 1 | C1 | 995 | A |
| 1 | C1 | 996 | U |
| 1 | C1 | 998 | A |
| 1 | C1 | 1000 | C |
| 1 | C1 | 1003 | A |
| 1 | C1 | 1004 | U |
| 1 | C1 | 1005 | A |
| 1 | C1 | 1007 | C |
| 1 | C1 | 1008 | G |
| 1 | C1 | 1010 | C |
| 1 | C1 | 1019 | A |
| 1 | C1 | 1027 | A |
| 1 | C1 | 1028 | C |
| 1 | C1 | 1029 | U |
| 1 | C1 | 1030 | A |
| 1 | C1 | 1032 | G |
| 1 | C1 | 1036 | A |
| 1 | C1 | 1039 | A |
| 1 | C1 | 1040 | G |
| 1 | C1 | 1044 | U |
| 1 | C1 | 1045 | C |
| 1 | C1 | 1046 | G |
| 1 | C1 | 1048 | G |
| 1 | C1 | 1049 | U |
| 1 | C1 | 1057 | U |
| 1 | C1 | 1058 | U |
| 1 | C1 | 1059 | U |
| 1 | C1 | 1060 | U |
| 1 | C1 | 1066 | C |
| 1 | C1 | 1071 | U |
| 1 | C1 | 1072 | C |
| 1 | C1 | 1073 | G |
| 1 | C1 | 1074 | G |
| 1 | C1 | 1075 | C |
| 1 | C1 | 1077 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 1079 | U |
| 1 | C1 | 1080 | U |
| 1 | C1 | 1082 | C |
| 1 | C1 | 1087 | A |
| 1 | C1 | 1090 | C |
| 1 | C1 | 1091 | A |
| 1 | C1 | 1092 | A |
| 1 | C1 | 1093 | A |
| 1 | C1 | 1094 | G |
| 1 | C1 | 1095 | U |
| 1 | C1 | 1096 | C |
| 1 | C1 | 1097 | U |
| 1 | C1 | 1098 | U |
| 1 | C1 | 1099 | U |
| 1 | C1 | 1100 | G |
| 1 | C1 | 1101 | G |
| 1 | C1 | 1103 | U |
| 1 | C1 | 1107 | G |
| 1 | C1 | 1108 | G |
| 1 | C1 | 1109 | G |
| 1 | C1 | 1110 | G |
| 1 | C1 | 1111 | G |
| 1 | C1 | 1112 | G |
| 1 | C1 | 1113 | A |
| 1 | C1 | 1114 | G |
| 1 | C1 | 1115 | U |
| 1 | C1 | 1119 | G |
| 1 | C1 | 1124 | A |
| 1 | C1 | 1126 | G |
| 1 | C1 | 1129 | U |
| 1 | C1 | 1136 | U |
| 1 | C1 | 1137 | A |
| 1 | C1 | 1138 | A |
| 1 | C1 | 1139 | A |
| 1 | C1 | 1140 | G |
| 1 | C1 | 1141 | G |
| 1 | C1 | 1142 | A |
| 1 | C1 | 1143 | A |
| 1 | C1 | 1145 | U |
| 1 | C1 | 1146 | G |
| 1 | C1 | 1147 | A |
| 1 | C1 | 1149 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 1150 | G |
| 1 | C1 | 1151 | A |
| 1 | C1 | 1152 | A |
| 1 | C1 | 1153 | G |
| 1 | C1 | 1154 | G |
| 1 | C1 | 1158 | C |
| 1 | C1 | 1160 | A |
| 1 | C1 | 1161 | C |
| 1 | C1 | 1162 | C |
| 1 | C1 | 1166 | A |
| 1 | C1 | 1167 | G |
| 1 | C1 | 1168 | U |
| 1 | C1 | 1178 | G |
| 1 | C1 | 1179 | G |
| 1 | C1 | 1185 | U |
| 1 | C1 | 1186 | U |
| 1 | C1 | 1189 | A |
| 1 | C1 | 1190 | C |
| 1 | C1 | 1191 | U |
| 1 | C1 | 1193 | A |
| 1 | C1 | 1194 | A |
| 1 | C1 | 1196 | A |
| 1 | C1 | 1197 | C |
| 1 | C1 | 1198 | G |
| 1 | C1 | 1199 | G |
| 1 | C1 | 1200 | G |
| 1 | C1 | 1201 | G |
| 1 | C1 | 1202 | A |
| 1 | C1 | 1203 | A |
| 1 | C1 | 1204 | A |
| 1 | C1 | 1205 | C |
| 1 | C1 | 1206 | U |
| 1 | C1 | 1207 | C |
| 1 | C1 | 1208 | A |
| 1 | C1 | 1209 | C |
| 1 | C1 | 1211 | A |
| 1 | C1 | 1217 | A |
| 1 | C1 | 1218 | G |
| 1 | C1 | 1219 | A |
| 1 | C1 | 1220 | C |
| 1 | C1 | 1222 | C |
| 1 | C1 | 1225 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 1228 | G |
| 1 | C1 | 1229 | G |
| 1 | C1 | 1230 | A |
| 1 | C1 | 1231 | U |
| 1 | C1 | 1232 | U |
| 1 | C1 | 1234 | A |
| 1 | C1 | 1235 | C |
| 1 | C1 | 1238 | A |
| 1 | C1 | 1239 | U |
| 1 | C1 | 1240 | U |
| 1 | C1 | 1242 | A |
| 1 | C1 | 1243 | G |
| 1 | C1 | 1244 | A |
| 1 | C1 | 1245 | G |
| 1 | C1 | 1246 | C |
| 1 | C1 | 1248 | C |
| 1 | C1 | 1254 | U |
| 1 | C1 | 1255 | G |
| 1 | C1 | 1256 | A |
| 1 | C1 | 1257 | U |
| 1 | C1 | 1258 | U |
| 1 | C1 | 1259 | U |
| 1 | C1 | 1260 | U |
| 1 | C1 | 1264 | G |
| 1 | C1 | 1266 | U |
| 1 | C1 | 1268 | G |
| 1 | C1 | 1270 | G |
| 1 | C1 | 1273 | G |
| 1 | C1 | 1274 | C |
| 1 | C1 | 1275 | A |
| 1 | C1 | 1276 | U |
| 1 | C1 | 1280 | C |
| 1 | C1 | 1283 | U |
| 1 | C1 | 1284 | C |
| 1 | C1 | 1286 | U |
| 1 | C1 | 1287 | A |
| 1 | C1 | 1288 | G |
| 1 | C1 | 1290 | U |
| 1 | C1 | 1297 | G |
| 1 | C1 | 1299 | G |
| 1 | C1 | 1302 | U |
| 1 | C1 | 1303 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 1306 | C |
| 1 | C1 | 1310 | U |
| 1 | C1 | 1311 | U |
| 1 | C1 | 1312 | A |
| 1 | C1 | 1314 | U |
| 1 | C1 | 1315 | U |
| 1 | C1 | 1316 | G |
| 1 | C1 | 1321 | A |
| 1 | C1 | 1324 | G |
| 1 | C1 | 1325 | A |
| 1 | C1 | 1326 | A |
| 1 | C1 | 1331 | A |
| 1 | C1 | 1332 | C |
| 1 | C1 | 1333 | C |
| 1 | C1 | 1335 | U |
| 1 | C1 | 1336 | A |
| 1 | C1 | 1337 | A |
| 1 | C1 | 1340 | U |
| 1 | C1 | 1341 | A |
| 1 | C1 | 1342 | C |
| 1 | C1 | 1345 | A |
| 1 | C1 | 1346 | A |
| 1 | C1 | 1347 | U |
| 1 | C1 | 1348 | A |
| 1 | C1 | 1349 | G |
| 1 | C1 | 1350 | U |
| 1 | C1 | 1351 | G |
| 1 | C1 | 1353 | U |
| 1 | C1 | 1354 | G |
| 1 | C1 | 1355 | C |
| 1 | C1 | 1358 | G |
| 1 | C1 | 1359 | C |
| 1 | C1 | 1360 | A |
| 1 | C1 | 1361 | U |
| 1 | C1 | 1362 | U |
| 1 | C1 | 1363 | U |
| 1 | C1 | 1364 | G |
| 1 | C1 | 1365 | C |
| 1 | C1 | 1366 | U |
| 1 | C1 | 1367 | G |
| 1 | C1 | 1368 | G |
| 1 | C1 | 1369 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 1371 | A |
| 1 | C1 | 1373 | C |
| 1 | C1 | 1374 | C |
| 1 | C1 | 1378 | U |
| 1 | C1 | 1379 | C |
| 1 | C1 | 1380 | U |
| 1 | C1 | 1383 | G |
| 1 | C1 | 1384 | A |
| 1 | C1 | 1388 | A |
| 1 | C1 | 1390 | U |
| 1 | C1 | 1391 | A |
| 1 | C1 | 1392 | U |
| 1 | C1 | 1397 | U |
| 1 | C1 | 1398 | U |
| 1 | C1 | 1399 | C |
| 1 | C1 | 1400 | A |
| 1 | C1 | 1401 | A |
| 1 | C1 | 1402 | G |
| 1 | C1 | 1407 | U |
| 1 | C1 | 1408 | G |
| 1 | C1 | 1409 | G |
| 1 | C1 | 1410 | A |
| 1 | C1 | 1412 | G |
| 1 | C1 | 1413 | U |
| 1 | C1 | 1414 | U |
| 1 | C1 | 1415 | U |
| 1 | C1 | 1418 | G |
| 1 | C1 | 1419 | G |
| 1 | C1 | 1420 | C |
| 1 | C1 | 1422 | A |
| 1 | C1 | 1427 | A |
| 1 | C1 | 1428 | G |
| 1 | C1 | 1429 | G |
| 1 | C1 | 1431 | C |
| 1 | C1 | 1432 | U |
| 1 | C1 | 1433 | G |
| 1 | C1 | 1434 | U |
| 1 | C1 | 1435 | G |
| 1 | C1 | 1436 | A |
| 1 | C1 | 1438 | G |
| 1 | C1 | 1443 | U |
| 1 | C1 | 1445 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 1446 | A |
| 1 | C1 | 1447 | C |
| 1 | C1 | 1448 | G |
| 1 | C1 | 1449 | U |
| 1 | C1 | 1450 | U |
| 1 | C1 | 1454 | G |
| 1 | C1 | 1455 | G |
| 1 | C1 | 1456 | C |
| 1 | C1 | 1458 | G |
| 1 | C1 | 1459 | C |
| 1 | C1 | 1460 | A |
| 1 | C1 | 1466 | G |
| 1 | C1 | 1467 | C |
| 1 | C1 | 1468 | U |
| 1 | C1 | 1469 | A |
| 1 | C1 | 1471 | A |
| 1 | C1 | 1472 | C |
| 1 | C1 | 1473 | U |
| 1 | C1 | 1474 | G |
| 1 | C1 | 1477 | G |
| 1 | C1 | 1478 | G |
| 1 | C1 | 1479 | A |
| 1 | C1 | 1481 | C |
| 1 | C1 | 1482 | C |
| 1 | C1 | 1483 | A |
| 1 | C1 | 1484 | G |
| 1 | C1 | 1485 | C |
| 1 | C1 | 1486 | G |
| 1 | C1 | 1490 | C |
| 1 | C1 | 1491 | U |
| 1 | C1 | 1492 | A |
| 1 | C1 | 1493 | A |
| 1 | C1 | 1494 | C |
| 1 | C1 | 1499 | G |
| 1 | C1 | 1503 | A |
| 1 | C1 | 1505 | A |
| 1 | C1 | 1506 | G |
| 1 | C1 | 1509 | C |
| 1 | C1 | 1510 | U |
| 1 | C1 | 1514 | U |
| 1 | C1 | 1515 | A |
| 1 | C1 | 1516 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 1517 | U |
| 1 | C1 | 1519 | U |
| 1 | C1 | 1521 | G |
| 1 | C1 | 1522 | U |
| 1 | C1 | 1523 | G |
| 1 | C1 | 1524 | A |
| 1 | C1 | 1533 | C |
| 1 | C1 | 1534 | G |
| 1 | C1 | 1535 | U |
| 1 | C1 | 1536 | G |
| 1 | C1 | 1538 | U |
| 1 | C1 | 1539 | G |
| 1 | C1 | 1540 | G |
| 1 | C1 | 1541 | G |
| 1 | C1 | 1542 | G |
| 1 | C1 | 1545 | A |
| 1 | C1 | 1547 | A |
| 1 | C1 | 1548 | G |
| 1 | C1 | 1550 | A |
| 1 | C1 | 1551 | U |
| 1 | C1 | 1553 | G |
| 1 | C1 | 1554 | U |
| 1 | C1 | 1555 | A |
| 1 | C1 | 1556 | A |
| 1 | C1 | 1557 | U |
| 1 | C1 | 1558 | U |
| 1 | C1 | 1559 | A |
| 1 | C1 | 1560 | U |
| 1 | C1 | 1568 | C |
| 1 | C1 | 1570 | A |
| 1 | C1 | 1572 | G |
| 1 | C1 | 1573 | A |
| 1 | C1 | 1574 | G |
| 1 | C1 | 1575 | G |
| 1 | C1 | 1576 | A |
| 1 | C1 | 1581 | C |
| 1 | C1 | 1583 | A |
| 1 | C1 | 1584 | G |
| 1 | C1 | 1587 | A |
| 1 | C1 | 1590 | G |
| 1 | C1 | 1591 | C |
| 1 | C1 | 1592 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 1598 | U |
| 1 | C1 | 1599 | C |
| 1 | C1 | 1600 | A |
| 1 | C1 | 1601 | G |
| 1 | C1 | 1602 | C |
| 1 | C1 | 1605 | G |
| 1 | C1 | 1607 | G |
| 1 | C1 | 1609 | U |
| 1 | C1 | 1610 | G |
| 1 | C1 | 1611 | A |
| 1 | C1 | 1613 | U |
| 1 | C1 | 1614 | A |
| 1 | C1 | 1615 | C |
| 1 | C1 | 1616 | G |
| 1 | C1 | 1618 | C |
| 1 | C1 | 1623 | C |
| 1 | C1 | 1624 | C |
| 1 | C1 | 1625 | C |
| 1 | C1 | 1627 | U |
| 1 | C1 | 1628 | U |
| 1 | C1 | 1630 | U |
| 1 | C1 | 1631 | A |
| 1 | C1 | 1632 | C |
| 1 | C1 | 1633 | A |
| 1 | C1 | 1634 | C |
| 1 | C1 | 1635 | A |
| 1 | C1 | 1636 | C |
| 1 | C1 | 1637 | C |
| 1 | C1 | 1638 | G |
| 1 | C1 | 1639 | C |
| 1 | C1 | 1644 | C |
| 1 | C1 | 1645 | G |
| 1 | C1 | 1646 | C |
| 1 | C1 | 1650 | U |
| 1 | C1 | 1656 | U |
| 1 | C1 | 1657 | U |
| 1 | C1 | 1658 | G |
| 1 | C1 | 1659 | A |
| 1 | C1 | 1664 | C |
| 1 | C1 | 1665 | U |
| 1 | C1 | 1667 | A |
| 1 | C1 | 1668 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 1673 | G |
| 1 | C1 | 1674 | C |
| 1 | C1 | 1675 | C |
| 1 | C1 | 1676 | U |
| 1 | C1 | 1677 | C |
| 1 | C1 | 1678 | A |
| 1 | C1 | 1680 | G |
| 1 | C1 | 1681 | A |
| 1 | C1 | 1682 | U |
| 1 | C1 | 1683 | C |
| 1 | C1 | 1684 | U |
| 1 | C1 | 1685 | G |
| 1 | C1 | 1688 | U |
| 1 | C1 | 1689 | A |
| 1 | C1 | 1691 | A |
| 1 | C1 | 1692 | G |
| 1 | C1 | 1693 | A |
| 1 | C1 | 1695 | G |
| 1 | C1 | 1696 | G |
| 1 | C1 | 1698 | G |
| 1 | C1 | 1700 | C |
| 1 | C1 | 1701 | A |
| 1 | C1 | 1706 | C |
| 1 | C1 | 1707 | A |
| 1 | C1 | 1710 | U |
| 1 | C1 | 1711 | C |
| 1 | C1 | 1716 | C |
| 1 | C1 | 1719 | A |
| 1 | C1 | 1720 | G |
| 1 | C1 | 1722 | A |
| 1 | C1 | 1728 | A |
| 1 | C1 | 1731 | A |
| 1 | C1 | 1739 | C |
| 1 | C1 | 1740 | A |
| 1 | C1 | 1744 | A |
| 1 | C1 | 1746 | A |
| 1 | C1 | 1748 | G |
| 1 | C1 | 1754 | A |
| 1 | C1 | 1755 | A |
| 1 | C1 | 1756 | A |
| 1 | C1 | 1757 | G |
| 1 | C1 | 1760 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 1762 | A |
| 1 | C1 | 1764 | C |
| 1 | C1 | 1766 | A |
| 1 | C1 | 1767 | G |
| 1 | C1 | 1768 | G |
| 1 | C1 | 1769 | U |
| 1 | C1 | 1770 | U |
| 1 | C1 | 1772 | C |
| 1 | C1 | 1773 | C |
| 1 | C1 | 1774 | G |
| 1 | C1 | 1777 | G |
| 1 | C1 | 1779 | U |
| 1 | C1 | 1780 | G |
| 1 | C1 | 1782 | A |
| 1 | C1 | 1783 | C |
| 1 | C1 | 1788 | G |
| 1 | C1 | 1791 | A |
| 1 | C1 | 1792 | G |
| 1 | C1 | 1793 | G |
| 1 | C1 | 1794 | A |
| 1 | C1 | 1795 | U |
| 1 | C1 | 1797 | A |
| 1 | C1 | 1798 | U |
| 29 | D1 | 6 | A |
| 29 | D1 | 9 | U |
| 29 | D1 | 10 | C |
| 29 | D1 | 12 | A |
| 29 | D1 | 14 | U |
| 29 | D1 | 15 | C |
| 29 | D1 | 16 | A |
| 29 | D1 | 20 | A |
| 29 | D1 | 21 | G |
| 29 | D1 | 22 | G |
| 29 | D1 | 25 | U |
| 29 | D1 | 32 | U |
| 29 | D1 | 35 | A |
| 29 | D1 | 38 | U |
| 29 | D1 | 40 | A |
| 29 | D1 | 43 | A |
| 29 | D1 | 44 | U |
| 29 | D1 | 47 | C |
| 29 | D1 | 50 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 53 | G |
| 29 | D1 | 56 | G |
| 29 | D1 | 58 | G |
| 29 | D1 | 59 | G |
| 29 | D1 | 60 | A |
| 29 | D1 | 62 | A |
| 29 | D1 | 65 | A |
| 29 | D1 | 66 | A |
| 29 | D1 | 68 | C |
| 29 | D1 | 70 | A |
| 29 | D1 | 71 | A |
| 29 | D1 | 72 | C |
| 29 | D1 | 73 | C |
| 29 | D1 | 74 | G |
| 29 | D1 | 76 | G |
| 29 | D1 | 77 | A |
| 29 | D1 | 81 | C |
| 29 | D1 | 83 | U |
| 29 | D1 | 85 | A |
| 29 | D1 | 87 | U |
| 29 | D1 | 88 | A |
| 29 | D1 | 89 | A |
| 29 | D1 | 92 | G |
| 29 | D1 | 93 | C |
| 29 | D1 | 94 | G |
| 29 | D1 | 96 | G |
| 29 | D1 | 97 | U |
| 29 | D1 | 98 | G |
| 29 | D1 | 99 | A |
| 29 | D1 | 102 | C |
| 29 | D1 | 103 | G |
| 29 | D1 | 105 | C |
| 29 | D1 | 106 | A |
| 29 | D1 | 108 | A |
| 29 | D1 | 109 | A |
| 29 | D1 | 110 | G |
| 29 | D1 | 113 | C |
| 29 | D1 | 114 | A |
| 29 | D1 | 117 | U |
| 29 | D1 | 118 | U |
| 29 | D1 | 119 | U |
| 29 | D1 | 120 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 121 | A |
| 29 | D1 | 122 | A |
| 29 | D1 | 125 | C |
| 29 | D1 | 126 | U |
| 29 | D1 | 127 | G |
| 29 | D1 | 131 | C |
| 29 | D1 | 133 | U |
| 29 | D1 | 134 | U |
| 29 | D1 | 136 | G |
| 29 | D1 | 138 | U |
| 29 | D1 | 141 | C |
| 29 | D1 | 144 | A |
| 29 | D1 | 145 | G |
| 29 | D1 | 146 | U |
| 29 | D1 | 147 | U |
| 29 | D1 | 148 | G |
| 29 | D1 | 149 | U |
| 29 | D1 | 150 | A |
| 29 | D1 | 152 | U |
| 29 | D1 | 155 | G |
| 29 | D1 | 156 | G |
| 29 | D1 | 157 | A |
| 29 | D1 | 158 | G |
| 29 | D1 | 159 | A |
| 29 | D1 | 160 | G |
| 29 | D1 | 161 | G |
| 29 | D1 | 164 | A |
| 29 | D1 | 167 | U |
| 29 | D1 | 169 | U |
| 29 | D1 | 170 | G |
| 29 | D1 | 171 | G |
| 29 | D1 | 172 | G |
| 29 | D1 | 173 | G |
| 29 | D1 | 175 | C |
| 29 | D1 | 176 | G |
| 29 | D1 | 177 | U |
| 29 | D1 | 178 | U |
| 29 | D1 | 179 | C |
| 29 | D1 | 182 | U |
| 29 | D1 | 187 | A |
| 29 | D1 | 188 | U |
| 29 | D1 | 190 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 191 | U |
| 29 | D1 | 196 | G |
| 29 | D1 | 197 | G |
| 29 | D1 | 199 | A |
| 29 | D1 | 200 | C |
| 29 | D1 | 201 | A |
| 29 | D1 | 204 | A |
| 29 | D1 | 205 | C |
| 29 | D1 | 209 | A |
| 29 | D1 | 210 | U |
| 29 | D1 | 211 | A |
| 29 | D1 | 214 | G |
| 29 | D1 | 215 | G |
| 29 | D1 | 218 | G |
| 29 | D1 | 219 | A |
| 29 | D1 | 220 | G |
| 29 | D1 | 221 | A |
| 29 | D1 | 223 | U |
| 29 | D1 | 224 | C |
| 29 | D1 | 225 | C |
| 29 | D1 | 227 | G |
| 29 | D1 | 230 | U |
| 29 | D1 | 231 | G |
| 29 | D1 | 237 | G |
| 29 | D1 | 238 | A |
| 29 | D1 | 239 | G |
| 29 | D1 | 240 | U |
| 29 | D1 | 241 | G |
| 29 | D1 | 242 | C |
| 29 | D1 | 244 | G |
| 29 | D1 | 245 | U |
| 29 | D1 | 246 | U |
| 29 | D1 | 247 | C |
| 29 | D1 | 248 | U |
| 29 | D1 | 249 | U |
| 29 | D1 | 250 | U |
| 29 | D1 | 251 | G |
| 29 | D1 | 252 | U |
| 29 | D1 | 253 | A |
| 29 | D1 | 255 | A |
| 29 | D1 | 256 | G |
| 29 | D1 | 257 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 258 | G |
| 29 | D1 | 259 | C |
| 29 | D1 | 260 | C |
| 29 | D1 | 261 | U |
| 29 | D1 | 262 | U |
| 29 | D1 | 263 | C |
| 29 | D1 | 264 | G |
| 29 | D1 | 265 | A |
| 29 | D1 | 266 | A |
| 29 | D1 | 267 | G |
| 29 | D1 | 269 | G |
| 29 | D1 | 277 | G |
| 29 | D1 | 282 | G |
| 29 | D1 | 283 | G |
| 29 | D1 | 284 | A |
| 29 | D1 | 285 | A |
| 29 | D1 | 288 | C |
| 29 | D1 | 289 | A |
| 29 | D1 | 290 | G |
| 29 | D1 | 292 | U |
| 29 | D1 | 293 | C |
| 29 | D1 | 295 | A |
| 29 | D1 | 297 | G |
| 29 | D1 | 298 | U |
| 29 | D1 | 301 | G |
| 29 | D1 | 304 | G |
| 29 | D1 | 305 | U |
| 29 | D1 | 306 | A |
| 29 | D1 | 307 | A |
| 29 | D1 | 311 | C |
| 29 | D1 | 315 | C |
| 29 | D1 | 316 | U |
| 29 | D1 | 317 | A |
| 29 | D1 | 318 | A |
| 29 | D1 | 319 | A |
| 29 | D1 | 323 | A |
| 29 | D1 | 324 | A |
| 29 | D1 | 325 | A |
| 29 | D1 | 326 | U |
| 29 | D1 | 327 | A |
| 29 | D1 | 328 | U |
| 29 | D1 | 329 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 330 | G |
| 29 | D1 | 331 | G |
| 29 | D1 | 332 | C |
| 29 | D1 | 333 | G |
| 29 | D1 | 335 | G |
| 29 | D1 | 338 | A |
| 29 | D1 | 339 | C |
| 29 | D1 | 340 | C |
| 29 | D1 | 341 | G |
| 29 | D1 | 342 | A |
| 29 | D1 | 345 | G |
| 29 | D1 | 346 | C |
| 29 | D1 | 349 | A |
| 29 | D1 | 350 | C |
| 29 | D1 | 351 | A |
| 29 | D1 | 352 | A |
| 29 | D1 | 354 | U |
| 29 | D1 | 362 | U |
| 29 | D1 | 364 | G |
| 29 | D1 | 368 | G |
| 29 | D1 | 369 | A |
| 29 | D1 | 370 | U |
| 29 | D1 | 371 | G |
| 29 | D1 | 374 | A |
| 29 | D1 | 375 | A |
| 29 | D1 | 376 | G |
| 29 | D1 | 377 | A |
| 29 | D1 | 378 | A |
| 29 | D1 | 379 | C |
| 29 | D1 | 380 | U |
| 29 | D1 | 381 | U |
| 29 | D1 | 382 | U |
| 29 | D1 | 383 | G |
| 29 | D1 | 384 | A |
| 29 | D1 | 385 | A |
| 29 | D1 | 386 | A |
| 29 | D1 | 387 | A |
| 29 | D1 | 390 | G |
| 29 | D1 | 391 | A |
| 29 | D1 | 392 | G |
| 29 | D1 | 395 | A |
| 29 | D1 | 396 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 397 | A |
| 29 | D1 | 398 | A |
| 29 | D1 | 399 | A |
| 29 | D1 | 400 | G |
| 29 | D1 | 401 | U |
| 29 | D1 | 402 | A |
| 29 | D1 | 403 | C |
| 29 | D1 | 404 | G |
| 29 | D1 | 419 | G |
| 29 | D1 | 421 | G |
| 29 | D1 | 422 | A |
| 29 | D1 | 423 | A |
| 29 | D1 | 424 | G |
| 29 | D1 | 425 | G |
| 29 | D1 | 428 | A |
| 29 | D1 | 429 | U |
| 29 | D1 | 431 | U |
| 29 | D1 | 432 | G |
| 29 | D1 | 439 | C |
| 29 | D1 | 493 | G |
| 29 | D1 | 495 | G |
| 29 | D1 | 499 | G |
| 29 | D1 | 500 | C |
| 29 | D1 | 502 | U |
| 29 | D1 | 504 | A |
| 29 | D1 | 509 | U |
| 29 | D1 | 511 | G |
| 29 | D1 | 514 | G |
| 29 | D1 | 515 | C |
| 29 | D1 | 516 | A |
| 29 | D1 | 517 | G |
| 29 | D1 | 518 | G |
| 29 | D1 | 519 | A |
| 29 | D1 | 520 | U |
| 29 | D1 | 521 | A |
| 29 | D1 | 523 | A |
| 29 | D1 | 524 | U |
| 29 | D1 | 525 | C |
| 29 | D1 | 528 | U |
| 29 | D1 | 529 | A |
| 29 | D1 | 533 | A |
| 29 | D1 | 536 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 537 | A |
| 29 | D1 | 538 | G |
| 29 | D1 | 539 | C |
| 29 | D1 | 540 | U |
| 29 | D1 | 541 | U |
| 29 | D1 | 544 | C |
| 29 | D1 | 546 | C |
| 29 | D1 | 547 | G |
| 29 | D1 | 548 | G |
| 29 | D1 | 549 | U |
| 29 | D1 | 550 | A |
| 29 | D1 | 556 | U |
| 29 | D1 | 559 | A |
| 29 | D1 | 560 | G |
| 29 | D1 | 561 | C |
| 29 | D1 | 562 | C |
| 29 | D1 | 563 | U |
| 29 | D1 | 564 | G |
| 29 | D1 | 565 | U |
| 29 | D1 | 566 | G |
| 29 | D1 | 571 | U |
| 29 | D1 | 574 | U |
| 29 | D1 | 575 | G |
| 29 | D1 | 576 | C |
| 29 | D1 | 577 | C |
| 29 | D1 | 578 | A |
| 29 | D1 | 579 | G |
| 29 | D1 | 580 | C |
| 29 | D1 | 586 | C |
| 29 | D1 | 588 | G |
| 29 | D1 | 590 | G |
| 29 | D1 | 591 | G |
| 29 | D1 | 592 | A |
| 29 | D1 | 593 | C |
| 29 | D1 | 594 | U |
| 29 | D1 | 595 | G |
| 29 | D1 | 597 | G |
| 29 | D1 | 602 | A |
| 29 | D1 | 603 | A |
| 29 | D1 | 604 | G |
| 29 | D1 | 605 | U |
| 29 | D1 | 606 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 607 | A |
| 29 | D1 | 608 | A |
| 29 | D1 | 609 | G |
| 29 | D1 | 610 | G |
| 29 | D1 | 611 | A |
| 29 | D1 | 612 | U |
| 29 | D1 | 619 | A |
| 29 | D1 | 620 | U |
| 29 | D1 | 621 | A |
| 29 | D1 | 622 | A |
| 29 | D1 | 624 | G |
| 29 | D1 | 625 | G |
| 29 | D1 | 626 | U |
| 29 | D1 | 628 | A |
| 29 | D1 | 630 | A |
| 29 | D1 | 632 | G |
| 29 | D1 | 636 | C |
| 29 | D1 | 637 | C |
| 29 | D1 | 641 | C |
| 29 | D1 | 642 | U |
| 29 | D1 | 645 | A |
| 29 | D1 | 647 | A |
| 29 | D1 | 648 | C |
| 29 | D1 | 649 | A |
| 29 | D1 | 650 | C |
| 29 | D1 | 651 | G |
| 29 | D1 | 656 | A |
| 29 | D1 | 657 | A |
| 29 | D1 | 661 | G |
| 29 | D1 | 666 | A |
| 29 | D1 | 667 | C |
| 29 | D1 | 669 | U |
| 29 | D1 | 674 | G |
| 29 | D1 | 675 | C |
| 29 | D1 | 677 | A |
| 29 | D1 | 679 | U |
| 29 | D1 | 680 | G |
| 29 | D1 | 681 | U |
| 29 | D1 | 682 | U |
| 29 | D1 | 683 | U |
| 29 | D1 | 691 | A |
| 29 | D1 | 692 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 694 | C |
| 29 | D1 | 697 | A |
| 29 | D1 | 699 | A |
| 29 | D1 | 705 | A |
| 29 | D1 | 706 | A |
| 29 | D1 | 712 | G |
| 29 | D1 | 714 | G |
| 29 | D1 | 715 | A |
| 29 | D1 | 716 | A |
| 29 | D1 | 717 | C |
| 29 | D1 | 718 | G |
| 29 | D1 | 719 | U |
| 29 | D1 | 720 | A |
| 29 | D1 | 721 | G |
| 29 | D1 | 722 | G |
| 29 | D1 | 723 | U |
| 29 | D1 | 724 | U |
| 29 | D1 | 725 | G |
| 29 | D1 | 726 | G |
| 29 | D1 | 727 | G |
| 29 | D1 | 728 | G |
| 29 | D1 | 731 | U |
| 29 | D1 | 732 | C |
| 29 | D1 | 733 | G |
| 29 | D1 | 734 | C |
| 29 | D1 | 735 | A |
| 29 | D1 | 736 | A |
| 29 | D1 | 738 | A |
| 29 | D1 | 741 | U |
| 29 | D1 | 743 | C |
| 29 | D1 | 744 | A |
| 29 | D1 | 745 | C |
| 29 | D1 | 746 | A |
| 29 | D1 | 747 | A |
| 29 | D1 | 748 | U |
| 29 | D1 | 749 | C |
| 29 | D1 | 751 | A |
| 29 | D1 | 752 | C |
| 29 | D1 | 753 | C |
| 29 | D1 | 756 | U |
| 29 | D1 | 757 | C |
| 29 | D1 | 758 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 759 | U |
| 29 | D1 | 761 | A |
| 29 | D1 | 762 | U |
| 29 | D1 | 764 | U |
| 29 | D1 | 765 | C |
| 29 | D1 | 766 | U |
| 29 | D1 | 767 | U |
| 29 | D1 | 768 | C |
| 29 | D1 | 769 | G |
| 29 | D1 | 770 | G |
| 29 | D1 | 771 | A |
| 29 | D1 | 772 | U |
| 29 | D1 | 776 | U |
| 29 | D1 | 777 | U |
| 29 | D1 | 778 | U |
| 29 | D1 | 779 | G |
| 29 | D1 | 781 | G |
| 29 | D1 | 782 | U |
| 29 | D1 | 784 | A |
| 29 | D1 | 785 | G |
| 29 | D1 | 786 | A |
| 29 | D1 | 787 | G |
| 29 | D1 | 788 | C |
| 29 | D1 | 791 | A |
| 29 | D1 | 794 | U |
| 29 | D1 | 799 | G |
| 29 | D1 | 802 | C |
| 29 | D1 | 803 | C |
| 29 | D1 | 805 | G |
| 29 | D1 | 806 | A |
| 29 | D1 | 807 | A |
| 29 | D1 | 808 | A |
| 29 | D1 | 809 | G |
| 29 | D1 | 815 | G |
| 29 | D1 | 817 | A |
| 29 | D1 | 822 | G |
| 29 | D1 | 825 | U |
| 29 | D1 | 826 | G |
| 29 | D1 | 828 | A |
| 29 | D1 | 830 | A |
| 29 | D1 | 831 | G |
| 29 | D1 | 834 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 835 | G |
| 29 | D1 | 836 | A |
| 29 | D1 | 837 | A |
| 29 | D1 | 838 | G |
| 29 | D1 | 841 | A |
| 29 | D1 | 845 | G |
| 29 | D1 | 846 | A |
| 29 | D1 | 847 | A |
| 29 | D1 | 857 | G |
| 29 | D1 | 858 | A |
| 29 | D1 | 859 | G |
| 29 | D1 | 860 | G |
| 29 | D1 | 861 | C |
| 29 | D1 | 870 | G |
| 29 | D1 | 871 | U |
| 29 | D1 | 874 | U |
| 29 | D1 | 875 | G |
| 29 | D1 | 879 | U |
| 29 | D1 | 880 | G |
| 29 | D1 | 882 | A |
| 29 | D1 | 884 | A |
| 29 | D1 | 886 | C |
| 29 | D1 | 887 | G |
| 29 | D1 | 888 | A |
| 29 | D1 | 894 | G |
| 29 | D1 | 895 | A |
| 29 | D1 | 896 | A |
| 29 | D1 | 897 | U |
| 29 | D1 | 901 | G |
| 29 | D1 | 903 | U |
| 29 | D1 | 904 | A |
| 29 | D1 | 907 | G |
| 29 | D1 | 908 | G |
| 29 | D1 | 909 | G |
| 29 | D1 | 911 | C |
| 29 | D1 | 913 | A |
| 29 | D1 | 914 | A |
| 29 | D1 | 915 | A |
| 29 | D1 | 916 | G |
| 29 | D1 | 917 | A |
| 29 | D1 | 920 | A |
| 29 | D1 | 921 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 922 | U |
| 29 | D1 | 923 | C |
| 29 | D1 | 924 | G |
| 29 | D1 | 933 | A |
| 29 | D1 | 934 | G |
| 29 | D1 | 935 | U |
| 29 | D1 | 937 | G |
| 29 | D1 | 939 | U |
| 29 | D1 | 943 | U |
| 29 | D1 | 944 | C |
| 29 | D1 | 945 | C |
| 29 | D1 | 949 | C |
| 29 | D1 | 952 | A |
| 29 | D1 | 953 | G |
| 29 | D1 | 954 | U |
| 29 | D1 | 957 | C |
| 29 | D1 | 958 | C |
| 29 | D1 | 960 | U |
| 29 | D1 | 961 | C |
| 29 | D1 | 962 | A |
| 29 | D1 | 963 | G |
| 29 | D1 | 967 | A |
| 29 | D1 | 970 | A |
| 29 | D1 | 971 | G |
| 29 | D1 | 973 | A |
| 29 | D1 | 974 | G |
| 29 | D1 | 975 | C |
| 29 | D1 | 978 | G |
| 29 | D1 | 979 | U |
| 29 | D1 | 980 | A |
| 29 | D1 | 981 | U |
| 29 | D1 | 984 | G |
| 29 | D1 | 987 | U |
| 29 | D1 | 994 | G |
| 29 | D1 | 995 | U |
| 29 | D1 | 996 | A |
| 29 | D1 | 1000 | C |
| 29 | D1 | 1002 | A |
| 29 | D1 | 1006 | A |
| 29 | D1 | 1007 | U |
| 29 | D1 | 1010 | G |
| 29 | D1 | 1011 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 1013 | G |
| 29 | D1 | 1014 | U |
| 29 | D1 | 1015 | U |
| 29 | D1 | 1017 | C |
| 29 | D1 | 1019 | G |
| 29 | D1 | 1024 | G |
| 29 | D1 | 1026 | A |
| 29 | D1 | 1027 | A |
| 29 | D1 | 1030 | A |
| 29 | D1 | 1033 | U |
| 29 | D1 | 1036 | A |
| 29 | D1 | 1038 | C |
| 29 | D1 | 1039 | U |
| 29 | D1 | 1041 | U |
| 29 | D1 | 1042 | U |
| 29 | D1 | 1047 | A |
| 29 | D1 | 1048 | A |
| 29 | D1 | 1049 | C |
| 29 | D1 | 1051 | U |
| 29 | D1 | 1053 | A |
| 29 | D1 | 1060 | U |
| 29 | D1 | 1061 | A |
| 29 | D1 | 1063 | G |
| 29 | D1 | 1064 | A |
| 29 | D1 | 1065 | A |
| 29 | D1 | 1066 | G |
| 29 | D1 | 1067 | U |
| 29 | D1 | 1068 | C |
| 29 | D1 | 1071 | U |
| 29 | D1 | 1074 | U |
| 29 | D1 | 1075 | A |
| 29 | D1 | 1077 | U |
| 29 | D1 | 1078 | U |
| 29 | D1 | 1079 | A |
| 29 | D1 | 1080 | A |
| 29 | D1 | 1081 | U |
| 29 | D1 | 1082 | U |
| 29 | D1 | 1085 | A |
| 29 | D1 | 1093 | A |
| 29 | D1 | 1094 | U |
| 29 | D1 | 1095 | U |
| 29 | D1 | 1096 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 1097 | G |
| 29 | D1 | 1098 | A |
| 29 | D1 | 1100 | U |
| 29 | D1 | 1101 | G |
| 29 | D1 | 1102 | A |
| 29 | D1 | 1103 | A |
| 29 | D1 | 1104 | G |
| 29 | D1 | 1109 | U |
| 29 | D1 | 1113 | G |
| 29 | D1 | 1115 | G |
| 29 | D1 | 1116 | G |
| 29 | D1 | 1117 | G |
| 29 | D1 | 1119 | C |
| 29 | D1 | 1120 | A |
| 29 | D1 | 1123 | U |
| 29 | D1 | 1124 | U |
| 29 | D1 | 1128 | U |
| 29 | D1 | 1129 | A |
| 29 | D1 | 1130 | A |
| 29 | D1 | 1131 | G |
| 29 | D1 | 1132 | C |
| 29 | D1 | 1133 | A |
| 29 | D1 | 1136 | A |
| 29 | D1 | 1139 | G |
| 29 | D1 | 1140 | G |
| 29 | D1 | 1143 | A |
| 29 | D1 | 1144 | U |
| 29 | D1 | 1145 | G |
| 29 | D1 | 1149 | G |
| 29 | D1 | 1151 | U |
| 29 | D1 | 1152 | G |
| 29 | D1 | 1153 | A |
| 29 | D1 | 1154 | A |
| 29 | D1 | 1155 | C |
| 29 | D1 | 1157 | G |
| 29 | D1 | 1158 | A |
| 29 | D1 | 1159 | A |
| 29 | D1 | 1160 | C |
| 29 | D1 | 1162 | U |
| 29 | D1 | 1163 | A |
| 29 | D1 | 1168 | U |
| 29 | D1 | 1169 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 1174 | G |
| 29 | D1 | 1175 | C |
| 29 | D1 | 1176 | C |
| 29 | D1 | 1177 | G |
| 29 | D1 | 1178 | G |
| 29 | D1 | 1179 | A |
| 29 | D1 | 1180 | A |
| 29 | D1 | 1181 | U |
| 29 | D1 | 1184 | A |
| 29 | D1 | 1187 | C |
| 29 | D1 | 1189 | C |
| 29 | D1 | 1190 | A |
| 29 | D1 | 1191 | U |
| 29 | D1 | 1192 | C |
| 29 | D1 | 1193 | A |
| 29 | D1 | 1194 | G |
| 29 | D1 | 1195 | A |
| 29 | D1 | 1196 | C |
| 29 | D1 | 1197 | A |
| 29 | D1 | 1198 | C |
| 29 | D1 | 1199 | C |
| 29 | D1 | 1200 | A |
| 29 | D1 | 1201 | C |
| 29 | D1 | 1202 | A |
| 29 | D1 | 1205 | A |
| 29 | D1 | 1206 | G |
| 29 | D1 | 1207 | G |
| 29 | D1 | 1208 | U |
| 29 | D1 | 1209 | G |
| 29 | D1 | 1211 | U |
| 29 | D1 | 1212 | A |
| 29 | D1 | 1213 | G |
| 29 | D1 | 1214 | U |
| 29 | D1 | 1217 | A |
| 29 | D1 | 1218 | U |
| 29 | D1 | 1219 | C |
| 29 | D1 | 1220 | U |
| 29 | D1 | 1221 | A |
| 29 | D1 | 1222 | G |
| 29 | D1 | 1223 | A |
| 29 | D1 | 1224 | C |
| 29 | D1 | 1225 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 1226 | G |
| 29 | D1 | 1227 | C |
| 29 | D1 | 1228 | C |
| 29 | D1 | 1229 | G |
| 29 | D1 | 1235 | U |
| 29 | D1 | 1236 | G |
| 29 | D1 | 1237 | G |
| 29 | D1 | 1239 | C |
| 29 | D1 | 1240 | A |
| 29 | D1 | 1241 | U |
| 29 | D1 | 1242 | G |
| 29 | D1 | 1244 | A |
| 29 | D1 | 1245 | A |
| 29 | D1 | 1246 | G |
| 29 | D1 | 1248 | C |
| 29 | D1 | 1249 | G |
| 29 | D1 | 1251 | A |
| 29 | D1 | 1253 | U |
| 29 | D1 | 1254 | C |
| 29 | D1 | 1256 | G |
| 29 | D1 | 1257 | C |
| 29 | D1 | 1258 | U |
| 29 | D1 | 1259 | A |
| 29 | D1 | 1261 | G |
| 29 | D1 | 1262 | G |
| 29 | D1 | 1263 | A |
| 29 | D1 | 1264 | G |
| 29 | D1 | 1265 | U |
| 29 | D1 | 1268 | G |
| 29 | D1 | 1269 | U |
| 29 | D1 | 1270 | A |
| 29 | D1 | 1272 | C |
| 29 | D1 | 1273 | A |
| 29 | D1 | 1274 | A |
| 29 | D1 | 1275 | C |
| 29 | D1 | 1277 | C |
| 29 | D1 | 1278 | A |
| 29 | D1 | 1279 | C |
| 29 | D1 | 1280 | C |
| 29 | D1 | 1284 | C |
| 29 | D1 | 1286 | A |
| 29 | D1 | 1287 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 1288 | U |
| 29 | D1 | 1289 | G |
| 29 | D1 | 1290 | A |
| 29 | D1 | 1291 | A |
| 29 | D1 | 1292 | C |
| 29 | D1 | 1294 | A |
| 29 | D1 | 1295 | G |
| 29 | D1 | 1296 | C |
| 29 | D1 | 1297 | C |
| 29 | D1 | 1298 | C |
| 29 | D1 | 1299 | U |
| 29 | D1 | 1303 | A |
| 29 | D1 | 1305 | U |
| 29 | D1 | 1307 | G |
| 29 | D1 | 1308 | A |
| 29 | D1 | 1309 | U |
| 29 | D1 | 1310 | G |
| 29 | D1 | 1313 | G |
| 29 | D1 | 1314 | C |
| 29 | D1 | 1315 | U |
| 29 | D1 | 1316 | C |
| 29 | D1 | 1317 | A |
| 29 | D1 | 1318 | A |
| 29 | D1 | 1320 | C |
| 29 | D1 | 1324 | U |
| 29 | D1 | 1325 | U |
| 29 | D1 | 1326 | A |
| 29 | D1 | 1330 | A |
| 29 | D1 | 1331 | U |
| 29 | D1 | 1332 | A |
| 29 | D1 | 1338 | C |
| 29 | D1 | 1341 | U |
| 29 | D1 | 1342 | C |
| 29 | D1 | 1348 | U |
| 29 | D1 | 1349 | G |
| 29 | D1 | 1350 | A |
| 29 | D1 | 1351 | U |
| 29 | D1 | 1352 | A |
| 29 | D1 | 1353 | U |
| 29 | D1 | 1354 | G |
| 29 | D1 | 1355 | A |
| 29 | D1 | 1356 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 1365 | G |
| 29 | D1 | 1367 | G |
| 29 | D1 | 1368 | U |
| 29 | D1 | 1370 | G |
| 29 | D1 | 1371 | G |
| 29 | D1 | 1373 | A |
| 29 | D1 | 1378 | U |
| 29 | D1 | 1379 | G |
| 29 | D1 | 1380 | G |
| 29 | D1 | 1384 | U |
| 29 | D1 | 1385 | C |
| 29 | D1 | 1386 | A |
| 29 | D1 | 1389 | G |
| 29 | D1 | 1390 | A |
| 29 | D1 | 1392 | G |
| 29 | D1 | 1394 | A |
| 29 | D1 | 1395 | G |
| 29 | D1 | 1398 | U |
| 29 | D1 | 1399 | A |
| 29 | D1 | 1400 | G |
| 29 | D1 | 1404 | G |
| 29 | D1 | 1405 | U |
| 29 | D1 | 1406 | A |
| 29 | D1 | 1407 | A |
| 29 | D1 | 1408 | G |
| 29 | D1 | 1410 | U |
| 29 | D1 | 1412 | G |
| 29 | D1 | 1416 | C |
| 29 | D1 | 1418 | A |
| 29 | D1 | 1419 | A |
| 29 | D1 | 1428 | A |
| 29 | D1 | 1429 | G |
| 29 | D1 | 1430 | U |
| 29 | D1 | 1431 | G |
| 29 | D1 | 1434 | G |
| 29 | D1 | 1435 | A |
| 29 | D1 | 1437 | C |
| 29 | D1 | 1440 | G |
| 29 | D1 | 1441 | G |
| 29 | D1 | 1442 | U |
| 29 | D1 | 1443 | G |
| 29 | D1 | 1445 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 1446 | A |
| 29 | D1 | 1450 | G |
| 29 | D1 | 1453 | A |
| 29 | D1 | 1455 | U |
| 29 | D1 | 1456 | A |
| 29 | D1 | 1460 | A |
| 29 | D1 | 1462 | A |
| 29 | D1 | 1465 | A |
| 29 | D1 | 1467 | A |
| 29 | D1 | 1468 | A |
| 29 | D1 | 1469 | C |
| 29 | D1 | 1470 | U |
| 29 | D1 | 1478 | C |
| 29 | D1 | 1479 | U |
| 29 | D1 | 1480 | G |
| 29 | D1 | 1481 | A |
| 29 | D1 | 1482 | A |
| 29 | D1 | 1483 | G |
| 29 | D1 | 1484 | U |
| 29 | D1 | 1485 | G |
| 29 | D1 | 1488 | G |
| 29 | D1 | 1493 | G |
| 29 | D1 | 1495 | U |
| 29 | D1 | 1496 | C |
| 29 | D1 | 1497 | C |
| 29 | D1 | 1501 | U |
| 29 | D1 | 1503 | A |
| 29 | D1 | 1504 | A |
| 29 | D1 | 1505 | C |
| 29 | D1 | 1506 | A |
| 29 | D1 | 1507 | G |
| 29 | D1 | 1508 | C |
| 29 | D1 | 1510 | G |
| 29 | D1 | 1511 | U |
| 29 | D1 | 1512 | U |
| 29 | D1 | 1520 | G |
| 29 | D1 | 1521 | G |
| 29 | D1 | 1524 | A |
| 29 | D1 | 1525 | G |
| 29 | D1 | 1527 | C |
| 29 | D1 | 1530 | U |
| 29 | D1 | 1531 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 1533 | U |
| 29 | D1 | 1536 | G |
| 29 | D1 | 1539 | A |
| 29 | D1 | 1540 | U |
| 29 | D1 | 1542 | G |
| 29 | D1 | 1548 | C |
| 29 | D1 | 1549 | U |
| 29 | D1 | 1551 | C |
| 29 | D1 | 1552 | G |
| 29 | D1 | 1553 | U |
| 29 | D1 | 1554 | U |
| 29 | D1 | 1556 | C |
| 29 | D1 | 1557 | A |
| 29 | D1 | 1558 | A |
| 29 | D1 | 1559 | A |
| 29 | D1 | 1560 | G |
| 29 | D1 | 1567 | U |
| 29 | D1 | 1568 | U |
| 29 | D1 | 1572 | U |
| 29 | D1 | 1575 | A |
| 29 | D1 | 1579 | C |
| 29 | D1 | 1580 | A |
| 29 | D1 | 1581 | C |
| 29 | D1 | 1582 | C |
| 29 | D1 | 1583 | A |
| 29 | D1 | 1584 | U |
| 29 | D1 | 1587 | A |
| 29 | D1 | 1589 | A |
| 29 | D1 | 1593 | A |
| 29 | D1 | 1595 | U |
| 29 | D1 | 1596 | C |
| 29 | D1 | 1601 | U |
| 29 | D1 | 1602 | A |
| 29 | D1 | 1605 | A |
| 29 | D1 | 1606 | U |
| 29 | D1 | 1607 | U |
| 29 | D1 | 1608 | C |
| 29 | D1 | 1609 | C |
| 29 | D1 | 1610 | G |
| 29 | D1 | 1620 | U |
| 29 | D1 | 1622 | U |
| 29 | D1 | 1626 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 1627 | U |
| 29 | D1 | 1628 | C |
| 29 | D1 | 1629 | U |
| 29 | D1 | 1630 | U |
| 29 | D1 | 1631 | C |
| 29 | D1 | 1632 | A |
| 29 | D1 | 1633 | C |
| 29 | D1 | 1634 | G |
| 29 | D1 | 1635 | G |
| 29 | D1 | 1636 | U |
| 29 | D1 | 1638 | A |
| 29 | D1 | 1639 | C |
| 29 | D1 | 1641 | U |
| 29 | D1 | 1643 | A |
| 29 | D1 | 1644 | C |
| 29 | D1 | 1645 | U |
| 29 | D1 | 1646 | G |
| 29 | D1 | 1647 | A |
| 29 | D1 | 1652 | G |
| 29 | D1 | 1653 | G |
| 29 | D1 | 1654 | A |
| 29 | D1 | 1655 | G |
| 29 | D1 | 1656 | A |
| 29 | D1 | 1661 | G |
| 29 | D1 | 1667 | A |
| 29 | D1 | 1668 | G |
| 29 | D1 | 1671 | C |
| 29 | D1 | 1672 | U |
| 29 | D1 | 1678 | G |
| 29 | D1 | 1681 | U |
| 29 | D1 | 1682 | U |
| 29 | D1 | 1683 | A |
| 29 | D1 | 1684 | U |
| 29 | D1 | 1685 | C |
| 29 | D1 | 1686 | U |
| 29 | D1 | 1687 | U |
| 29 | D1 | 1688 | U |
| 29 | D1 | 1689 | U |
| 29 | D1 | 1692 | U |
| 29 | D1 | 1694 | U |
| 29 | D1 | 1698 | C |
| 29 | D1 | 1699 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 1701 | C |
| 29 | D1 | 1703 | U |
| 29 | D1 | 1704 | A |
| 29 | D1 | 1706 | C |
| 29 | D1 | 1708 | C |
| 29 | D1 | 1710 | C |
| 29 | D1 | 1713 | G |
| 29 | D1 | 1714 | A |
| 29 | D1 | 1716 | U |
| 29 | D1 | 1717 | U |
| 29 | D1 | 1724 | U |
| 29 | D1 | 1725 | C |
| 29 | D1 | 1726 | C |
| 29 | D1 | 1727 | G |
| 29 | D1 | 1728 | G |
| 29 | D1 | 1729 | A |
| 29 | D1 | 1730 | G |
| 29 | D1 | 1734 | G |
| 29 | D1 | 1735 | G |
| 29 | D1 | 1736 | G |
| 29 | D1 | 1739 | U |
| 29 | D1 | 1740 | U |
| 29 | D1 | 1744 | G |
| 29 | D1 | 1750 | A |
| 29 | D1 | 1754 | G |
| 29 | D1 | 1756 | C |
| 29 | D1 | 1760 | A |
| 29 | D1 | 1762 | C |
| 29 | D1 | 1766 | G |
| 29 | D1 | 1769 | G |
| 29 | D1 | 1773 | C |
| 29 | D1 | 1774 | C |
| 29 | D1 | 1775 | G |
| 29 | D1 | 1779 | C |
| 29 | D1 | 1780 | G |
| 29 | D1 | 1781 | C |
| 29 | D1 | 1782 | U |
| 29 | D1 | 1783 | U |
| 29 | D1 | 1786 | G |
| 29 | D1 | 1787 | A |
| 29 | D1 | 1788 | C |
| 29 | D1 | 1792 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 1793 | C |
| 29 | D1 | 1794 | G |
| 29 | D1 | 1795 | U |
| 29 | D1 | 1796 | G |
| 29 | D1 | 1797 | A |
| 29 | D1 | 1802 | C |
| 29 | D1 | 1803 | C |
| 29 | D1 | 1806 | A |
| 29 | D1 | 1807 | G |
| 29 | D1 | 1808 | G |
| 29 | D1 | 1809 | A |
| 29 | D1 | 1810 | A |
| 29 | D1 | 1812 | G |
| 29 | D1 | 1813 | A |
| 29 | D1 | 1814 | A |
| 29 | D1 | 1815 | U |
| 29 | D1 | 1816 | A |
| 29 | D1 | 1820 | U |
| 29 | D1 | 1821 | U |
| 29 | D1 | 1822 | C |
| 29 | D1 | 1830 | G |
| 29 | D1 | 1834 | U |
| 29 | D1 | 1839 | A |
| 29 | D1 | 1840 | U |
| 29 | D1 | 1841 | A |
| 29 | D1 | 1842 | A |
| 29 | D1 | 1844 | C |
| 29 | D1 | 1845 | G |
| 29 | D1 | 1846 | C |
| 29 | D1 | 1847 | A |
| 29 | D1 | 1849 | C |
| 29 | D1 | 1852 | G |
| 29 | D1 | 1853 | U |
| 29 | D1 | 1855 | U |
| 29 | D1 | 1857 | C |
| 29 | D1 | 1858 | A |
| 29 | D1 | 1859 | A |
| 29 | D1 | 1864 | A |
| 29 | D1 | 1871 | U |
| 29 | D1 | 1875 | G |
| 29 | D1 | 1876 | U |
| 29 | D1 | 1877 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 1878 | G |
| 29 | D1 | 1879 | A |
| 29 | D1 | 1880 | U |
| 29 | D1 | 1882 | G |
| 29 | D1 | 1885 | U |
| 29 | D1 | 1886 | A |
| 29 | D1 | 1888 | U |
| 29 | D1 | 1889 | G |
| 29 | D1 | 1891 | A |
| 29 | D1 | 1901 | A |
| 29 | D1 | 1905 | G |
| 29 | D1 | 1906 | G |
| 29 | D1 | 1907 | C |
| 29 | D1 | 1913 | A |
| 29 | D1 | 1914 | G |
| 29 | D1 | 1920 | U |
| 29 | D1 | 1921 | A |
| 29 | D1 | 1925 | U |
| 29 | D1 | 1926 | C |
| 29 | D1 | 1927 | G |
| 29 | D1 | 1928 | G |
| 29 | D1 | 1931 | U |
| 29 | D1 | 1932 | A |
| 29 | D1 | 1933 | A |
| 29 | D1 | 1935 | G |
| 29 | D1 | 1941 | C |
| 29 | D1 | 1946 | A |
| 29 | D1 | 1947 | G |
| 29 | D1 | 1948 | G |
| 29 | D1 | 1950 | U |
| 29 | D1 | 2093 | A |
| 29 | D1 | 2095 | G |
| 29 | D1 | 2096 | A |
| 29 | D1 | 2102 | U |
| 29 | D1 | 2105 | G |
| 29 | D1 | 2106 | A |
| 29 | D1 | 2111 | G |
| 29 | D1 | 2112 | U |
| 29 | D1 | 2113 | A |
| 29 | D1 | 2114 | C |
| 29 | D1 | 2115 | G |
| 29 | D1 | 2117 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 2121 | G |
| 29 | D1 | 2122 | G |
| 29 | D1 | 2126 | A |
| 29 | D1 | 2129 | U |
| 29 | D1 | 2131 | A |
| 29 | D1 | 2132 | C |
| 29 | D1 | 2133 | U |
| 29 | D1 | 2137 | U |
| 29 | D1 | 2138 | A |
| 29 | D1 | 2139 | A |
| 29 | D1 | 2141 | U |
| 29 | D1 | 2144 | A |
| 29 | D1 | 2147 | A |
| 29 | D1 | 2148 | U |
| 29 | D1 | 2149 | A |
| 29 | D1 | 2150 | G |
| 29 | D1 | 2151 | C |
| 29 | D1 | 2152 | A |
| 29 | D1 | 2158 | A |
| 29 | D1 | 2161 | G |
| 29 | D1 | 2168 | A |
| 29 | D1 | 2169 | G |
| 29 | D1 | 2172 | A |
| 29 | D1 | 2173 | U |
| 29 | D1 | 2174 | G |
| 29 | D1 | 2176 | U |
| 29 | D1 | 2178 | A |
| 29 | D1 | 2185 | G |
| 29 | D1 | 2187 | G |
| 29 | D1 | 2191 | U |
| 29 | D1 | 2193 | U |
| 29 | D1 | 2194 | G |
| 29 | D1 | 2195 | C |
| 29 | D1 | 2201 | G |
| 29 | D1 | 2205 | U |
| 29 | D1 | 2206 | G |
| 29 | D1 | 2207 | A |
| 29 | D1 | 2208 | A |
| 29 | D1 | 2209 | U |
| 29 | D1 | 2210 | G |
| 29 | D1 | 2211 | U |
| 29 | D1 | 2215 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 2222 | A |
| 29 | D1 | 2223 | A |
| 29 | D1 | 2224 | A |
| 29 | D1 | 2227 | C |
| 29 | D1 | 2244 | A |
| 29 | D1 | 2247 | G |
| 29 | D1 | 2248 | C |
| 29 | D1 | 2249 | G |
| 29 | D1 | 2250 | G |
| 29 | D1 | 2252 | A |
| 29 | D1 | 2254 | U |
| 29 | D1 | 2255 | A |
| 29 | D1 | 2256 | A |
| 29 | D1 | 2257 | C |
| 29 | D1 | 2259 | A |
| 29 | D1 | 2260 | U |
| 29 | D1 | 2261 | G |
| 29 | D1 | 2262 | A |
| 29 | D1 | 2263 | C |
| 29 | D1 | 2266 | U |
| 29 | D1 | 2270 | A |
| 29 | D1 | 2271 | A |
| 29 | D1 | 2272 | G |
| 29 | D1 | 2273 | G |
| 29 | D1 | 2275 | A |
| 29 | D1 | 2276 | G |
| 29 | D1 | 2277 | C |
| 29 | D1 | 2280 | A |
| 29 | D1 | 2281 | A |
| 29 | D1 | 2282 | U |
| 29 | D1 | 2283 | G |
| 29 | D1 | 2286 | U |
| 29 | D1 | 2288 | G |
| 29 | D1 | 2290 | C |
| 29 | D1 | 2291 | A |
| 29 | D1 | 2292 | U |
| 29 | D1 | 2295 | A |
| 29 | D1 | 2296 | A |
| 29 | D1 | 2297 | U |
| 29 | D1 | 2298 | U |
| 29 | D1 | 2299 | A |
| 29 | D1 | 2303 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 2306 | C |
| 29 | D1 | 2307 | G |
| 29 | D1 | 2308 | C |
| 29 | D1 | 2309 | A |
| 29 | D1 | 2310 | U |
| 29 | D1 | 2311 | G |
| 29 | D1 | 2313 | A |
| 29 | D1 | 2314 | U |
| 29 | D1 | 2315 | G |
| 29 | D1 | 2320 | A |
| 29 | D1 | 2324 | A |
| 29 | D1 | 2326 | A |
| 29 | D1 | 2327 | U |
| 29 | D1 | 2329 | C |
| 29 | D1 | 2330 | C |
| 29 | D1 | 2334 | U |
| 29 | D1 | 2335 | G |
| 29 | D1 | 2336 | U |
| 29 | D1 | 2339 | C |
| 29 | D1 | 2341 | A |
| 29 | D1 | 2342 | U |
| 29 | D1 | 2344 | U |
| 29 | D1 | 2345 | A |
| 29 | D1 | 2360 | C |
| 29 | D1 | 2361 | A |
| 29 | D1 | 2362 | C |
| 29 | D1 | 2363 | A |
| 29 | D1 | 2364 | G |
| 29 | D1 | 2365 | C |
| 29 | D1 | 2371 | G |
| 29 | D1 | 2372 | A |
| 29 | D1 | 2373 | A |
| 29 | D1 | 2374 | C |
| 29 | D1 | 2375 | G |
| 29 | D1 | 2377 | G |
| 29 | D1 | 2379 | U |
| 29 | D1 | 2383 | C |
| 29 | D1 | 2384 | A |
| 29 | D1 | 2385 | G |
| 29 | D1 | 2386 | A |
| 29 | D1 | 2393 | G |
| 29 | D1 | 2397 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 2401 | A |
| 29 | D1 | 2402 | A |
| 29 | D1 | 2403 | G |
| 29 | D1 | 2404 | A |
| 29 | D1 | 2405 | C |
| 29 | D1 | 2411 | U |
| 29 | D1 | 2412 | G |
| 29 | D1 | 2414 | G |
| 29 | D1 | 2415 | C |
| 29 | D1 | 2417 | U |
| 29 | D1 | 2421 | U |
| 29 | D1 | 2422 | C |
| 29 | D1 | 2423 | U |
| 29 | D1 | 2424 | A |
| 29 | D1 | 2432 | A |
| 29 | D1 | 2434 | U |
| 29 | D1 | 2436 | U |
| 29 | D1 | 2437 | G |
| 29 | D1 | 2439 | A |
| 29 | D1 | 2443 | A |
| 29 | D1 | 2445 | A |
| 29 | D1 | 2446 | U |
| 29 | D1 | 2449 | A |
| 29 | D1 | 2450 | G |
| 29 | D1 | 2451 | G |
| 29 | D1 | 2452 | G |
| 29 | D1 | 2453 | U |
| 29 | D1 | 2454 | G |
| 29 | D1 | 2458 | A |
| 29 | D1 | 2459 | A |
| 29 | D1 | 2461 | A |
| 29 | D1 | 2462 | A |
| 29 | D1 | 2463 | G |
| 29 | D1 | 2468 | A |
| 29 | D1 | 2472 | U |
| 29 | D1 | 2473 | C |
| 29 | D1 | 2474 | G |
| 29 | D1 | 2479 | C |
| 29 | D1 | 2484 | A |
| 29 | D1 | 2485 | A |
| 29 | D1 | 2486 | A |
| 29 | D1 | 2487 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 2488 | A |
| 29 | D1 | 2491 | A |
| 29 | D1 | 2492 | C |
| 29 | D1 | 2493 | U |
| 29 | D1 | 2499 | U |
| 29 | D1 | 2500 | A |
| 29 | D1 | 2501 | U |
| 29 | D1 | 2502 | A |
| 29 | D1 | 2503 | G |
| 29 | D1 | 2504 | U |
| 29 | D1 | 2508 | U |
| 29 | D1 | 2511 | A |
| 29 | D1 | 2512 | C |
| 29 | D1 | 2513 | U |
| 29 | D1 | 2514 | U |
| 29 | D1 | 2515 | A |
| 29 | D1 | 2516 | U |
| 29 | D1 | 2517 | U |
| 29 | D1 | 2520 | A |
| 29 | D1 | 2521 | U |
| 29 | D1 | 2522 | G |
| 29 | D1 | 2523 | A |
| 29 | D1 | 2524 | A |
| 29 | D1 | 2525 | G |
| 29 | D1 | 2526 | C |
| 29 | D1 | 2528 | G |
| 29 | D1 | 2530 | G |
| 29 | D1 | 2531 | C |
| 29 | D1 | 2536 | A |
| 29 | D1 | 2539 | C |
| 29 | D1 | 2540 | A |
| 29 | D1 | 2541 | U |
| 29 | D1 | 2542 | U |
| 29 | D1 | 2543 | U |
| 29 | D1 | 2547 | A |
| 29 | D1 | 2548 | C |
| 29 | D1 | 2549 | G |
| 29 | D1 | 2550 | U |
| 29 | D1 | 2552 | C |
| 29 | D1 | 2553 | U |
| 29 | D1 | 2554 | A |
| 29 | D1 | 2555 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 2556 | C |
| 29 | D1 | 2557 | A |
| 29 | D1 | 2558 | U |
| 29 | D1 | 2559 | U |
| 29 | D1 | 2560 | C |
| 29 | D1 | 2561 | A |
| 29 | D1 | 2569 | A |
| 29 | D1 | 2572 | C |
| 29 | D1 | 2574 | G |
| 29 | D1 | 2580 | A |
| 29 | D1 | 2581 | U |
| 29 | D1 | 2582 | C |
| 29 | D1 | 2583 | C |
| 29 | D1 | 2584 | G |
| 29 | D1 | 2585 | G |
| 29 | D1 | 2586 | G |
| 29 | D1 | 2587 | U |
| 29 | D1 | 2589 | G |
| 29 | D1 | 2593 | A |
| 29 | D1 | 2594 | C |
| 29 | D1 | 2598 | G |
| 29 | D1 | 2600 | C |
| 29 | D1 | 2603 | G |
| 29 | D1 | 2605 | G |
| 29 | D1 | 2606 | G |
| 29 | D1 | 2607 | G |
| 29 | D1 | 2612 | U |
| 29 | D1 | 2613 | U |
| 29 | D1 | 2614 | G |
| 29 | D1 | 2618 | G |
| 29 | D1 | 2619 | G |
| 29 | D1 | 2624 | G |
| 29 | D1 | 2626 | A |
| 29 | D1 | 2627 | C |
| 29 | D1 | 2628 | A |
| 29 | D1 | 2629 | U |
| 29 | D1 | 2631 | U |
| 29 | D1 | 2636 | A |
| 29 | D1 | 2637 | A |
| 29 | D1 | 2638 | C |
| 29 | D1 | 2639 | G |
| 29 | D1 | 2642 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 2643 | A |
| 29 | D1 | 2644 | C |
| 29 | D1 | 2648 | G |
| 29 | D1 | 2649 | A |
| 29 | D1 | 2650 | U |
| 29 | D1 | 2651 | G |
| 29 | D1 | 2652 | U |
| 29 | D1 | 2653 | C |
| 29 | D1 | 2655 | U |
| 29 | D1 | 2656 | A |
| 29 | D1 | 2657 | A |
| 29 | D1 | 2658 | G |
| 29 | D1 | 2662 | G |
| 29 | D1 | 2663 | G |
| 29 | D1 | 2664 | C |
| 29 | D1 | 2666 | C |
| 29 | D1 | 2667 | A |
| 29 | D1 | 2668 | U |
| 29 | D1 | 2671 | A |
| 29 | D1 | 2672 | G |
| 29 | D1 | 2675 | C |
| 29 | D1 | 2676 | A |
| 29 | D1 | 2677 | G |
| 29 | D1 | 2678 | A |
| 29 | D1 | 2679 | A |
| 29 | D1 | 2681 | U |
| 29 | D1 | 2682 | C |
| 29 | D1 | 2683 | U |
| 29 | D1 | 2684 | C |
| 29 | D1 | 2685 | C |
| 29 | D1 | 2686 | A |
| 29 | D1 | 2687 | G |
| 29 | D1 | 2688 | U |
| 29 | D1 | 2689 | A |
| 29 | D1 | 2690 | G |
| 29 | D1 | 2691 | A |
| 29 | D1 | 2693 | C |
| 29 | D1 | 2694 | A |
| 29 | D1 | 2695 | A |
| 29 | D1 | 2696 | A |
| 29 | D1 | 2697 | A |
| 29 | D1 | 2699 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 2700 | G |
| 29 | D1 | 2702 | A |
| 29 | D1 | 2703 | A |
| 29 | D1 | 2704 | A |
| 29 | D1 | 2707 | C |
| 29 | D1 | 2708 | C |
| 29 | D1 | 2709 | C |
| 29 | D1 | 2710 | C |
| 29 | D1 | 2712 | U |
| 29 | D1 | 2713 | U |
| 29 | D1 | 2714 | G |
| 29 | D1 | 2715 | A |
| 29 | D1 | 2716 | U |
| 29 | D1 | 2717 | U |
| 29 | D1 | 2718 | U |
| 29 | D1 | 2719 | U |
| 29 | D1 | 2725 | U |
| 29 | D1 | 2726 | C |
| 29 | D1 | 2727 | A |
| 29 | D1 | 2728 | G |
| 29 | D1 | 2729 | U |
| 29 | D1 | 2730 | G |
| 29 | D1 | 2731 | U |
| 29 | D1 | 2733 | A |
| 29 | D1 | 2735 | U |
| 29 | D1 | 2738 | A |
| 29 | D1 | 2740 | A |
| 29 | D1 | 2742 | C |
| 29 | D1 | 2743 | A |
| 29 | D1 | 2746 | A |
| 29 | D1 | 2751 | G |
| 29 | D1 | 2752 | U |
| 29 | D1 | 2753 | G |
| 29 | D1 | 2755 | C |
| 29 | D1 | 2760 | C |
| 29 | D1 | 2762 | A |
| 29 | D1 | 2764 | C |
| 29 | D1 | 2766 | U |
| 29 | D1 | 2769 | A |
| 29 | D1 | 2771 | U |
| 29 | D1 | 2772 | C |
| 29 | D1 | 2776 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 2777 | G |
| 29 | D1 | 2778 | G |
| 29 | D1 | 2779 | A |
| 29 | D1 | 2780 | A |
| 29 | D1 | 2782 | U |
| 29 | D1 | 2784 | G |
| 29 | D1 | 2786 | G |
| 29 | D1 | 2787 | G |
| 29 | D1 | 2790 | A |
| 29 | D1 | 2796 | G |
| 29 | D1 | 2798 | C |
| 29 | D1 | 2799 | A |
| 29 | D1 | 2801 | A |
| 29 | D1 | 2802 | A |
| 29 | D1 | 2804 | A |
| 29 | D1 | 2805 | G |
| 29 | D1 | 2807 | U |
| 29 | D1 | 2809 | C |
| 29 | D1 | 2810 | C |
| 29 | D1 | 2814 | G |
| 29 | D1 | 2816 | G |
| 29 | D1 | 2817 | A |
| 29 | D1 | 2818 | U |
| 29 | D1 | 2822 | U |
| 29 | D1 | 2825 | C |
| 29 | D1 | 2826 | U |
| 29 | D1 | 2828 | G |
| 29 | D1 | 2829 | U |
| 29 | D1 | 2830 | G |
| 29 | D1 | 2833 | A |
| 29 | D1 | 2834 | G |
| 29 | D1 | 2835 | U |
| 29 | D1 | 2836 | C |
| 29 | D1 | 2838 | A |
| 29 | D1 | 2839 | G |
| 29 | D1 | 2840 | C |
| 29 | D1 | 2842 | U |
| 29 | D1 | 2843 | U |
| 29 | D1 | 2844 | C |
| 29 | D1 | 2845 | A |
| 29 | D1 | 2846 | U |
| 29 | D1 | 2847 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 2850 | G |
| 29 | D1 | 2851 | A |
| 29 | D1 | 2852 | C |
| 29 | D1 | 2859 | U |
| 29 | D1 | 2860 | U |
| 29 | D1 | 2867 | C |
| 29 | D1 | 2870 | C |
| 29 | D1 | 2871 | G |
| 29 | D1 | 2872 | A |
| 29 | D1 | 2873 | U |
| 29 | D1 | 2874 | G |
| 29 | D1 | 2875 | U |
| 29 | D1 | 2881 | C |
| 29 | D1 | 2883 | U |
| 29 | D1 | 2884 | C |
| 29 | D1 | 2886 | U |
| 29 | D1 | 2887 | A |
| 29 | D1 | 2888 | U |
| 29 | D1 | 2894 | C |
| 29 | D1 | 2896 | A |
| 29 | D1 | 2897 | A |
| 29 | D1 | 2898 | G |
| 29 | D1 | 2899 | C |
| 29 | D1 | 2900 | A |
| 29 | D1 | 2901 | G |
| 29 | D1 | 2905 | U |
| 29 | D1 | 2911 | A |
| 29 | D1 | 2912 | G |
| 29 | D1 | 2914 | G |
| 29 | D1 | 2915 | U |
| 29 | D1 | 2916 | U |
| 29 | D1 | 2918 | G |
| 29 | D1 | 2919 | A |
| 29 | D1 | 2920 | U |
| 29 | D1 | 2922 | G |
| 29 | D1 | 2923 | U |
| 29 | D1 | 2928 | C |
| 29 | D1 | 2929 | C |
| 29 | D1 | 2930 | A |
| 29 | D1 | 2932 | U |
| 29 | D1 | 2935 | U |
| 29 | D1 | 2936 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 2939 | G |
| 29 | D1 | 2941 | A |
| 29 | D1 | 2942 | C |
| 29 | D1 | 2943 | G |
| 29 | D1 | 2944 | U |
| 29 | D1 | 2945 | G |
| 29 | D1 | 2947 | G |
| 29 | D1 | 2954 | U |
| 29 | D1 | 2956 | A |
| 29 | D1 | 2957 | G |
| 29 | D1 | 2960 | C |
| 29 | D1 | 2961 | G |
| 29 | D1 | 2962 | U |
| 29 | D1 | 2965 | U |
| 29 | D1 | 2968 | G |
| 29 | D1 | 2971 | A |
| 29 | D1 | 2972 | G |
| 29 | D1 | 2973 | G |
| 29 | D1 | 2978 | U |
| 29 | D1 | 2979 | U |
| 29 | D1 | 2983 | C |
| 29 | D1 | 2984 | C |
| 29 | D1 | 2986 | U |
| 29 | D1 | 2987 | A |
| 29 | D1 | 2988 | C |
| 29 | D1 | 2989 | U |
| 29 | D1 | 2990 | G |
| 29 | D1 | 2993 | G |
| 29 | D1 | 2996 | U |
| 29 | D1 | 2997 | G |
| 29 | D1 | 2998 | U |
| 29 | D1 | 2999 | U |
| 29 | D1 | 3000 | A |
| 29 | D1 | 3003 | G |
| 29 | D1 | 3004 | C |
| 29 | D1 | 3005 | A |
| 29 | D1 | 3006 | A |
| 29 | D1 | 3007 | U |
| 29 | D1 | 3010 | U |
| 29 | D1 | 3011 | A |
| 29 | D1 | 3012 | A |
| 29 | D1 | 3013 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 3014 | U |
| 29 | D1 | 3019 | U |
| 29 | D1 | 3020 | U |
| 29 | D1 | 3023 | U |
| 29 | D1 | 3024 | A |
| 29 | D1 | 3030 | G |
| 29 | D1 | 3031 | G |
| 29 | D1 | 3033 | A |
| 29 | D1 | 3038 | U |
| 29 | D1 | 3039 | C |
| 29 | D1 | 3040 | A |
| 29 | D1 | 3041 | U |
| 29 | D1 | 3045 | G |
| 29 | D1 | 3046 | A |
| 29 | D1 | 3047 | U |
| 29 | D1 | 3048 | A |
| 29 | D1 | 3049 | A |
| 29 | D1 | 3052 | G |
| 29 | D1 | 3054 | U |
| 29 | D1 | 3056 | U |
| 29 | D1 | 3057 | U |
| 29 | D1 | 3058 | U |
| 29 | D1 | 3059 | G |
| 29 | D1 | 3060 | C |
| 29 | D1 | 3061 | G |
| 29 | D1 | 3064 | U |
| 29 | D1 | 3066 | U |
| 29 | D1 | 3071 | U |
| 29 | D1 | 3072 | C |
| 29 | D1 | 3074 | G |
| 29 | D1 | 3075 | G |
| 29 | D1 | 3077 | A |
| 29 | D1 | 3078 | U |
| 29 | D1 | 3079 | U |
| 29 | D1 | 3080 | G |
| 29 | D1 | 3090 | U |
| 29 | D1 | 3091 | A |
| 29 | D1 | 3092 | C |
| 29 | D1 | 3093 | C |
| 29 | D1 | 3094 | A |
| 29 | D1 | 3096 | C |
| 29 | D1 | 3097 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 3098 | G |
| 29 | D1 | 3099 | C |
| 29 | D1 | 3100 | U |
| 29 | D1 | 3101 | G |
| 29 | D1 | 3102 | G |
| 29 | D1 | 3103 | A |
| 29 | D1 | 3104 | U |
| 29 | D1 | 3105 | U |
| 29 | D1 | 3107 | U |
| 29 | D1 | 3115 | C |
| 29 | D1 | 3116 | G |
| 29 | D1 | 3120 | C |
| 29 | D1 | 3121 | U |
| 29 | D1 | 3122 | A |
| 29 | D1 | 3123 | A |
| 29 | D1 | 3126 | C |
| 29 | D1 | 3127 | A |
| 29 | D1 | 3128 | G |
| 29 | D1 | 3129 | A |
| 29 | D1 | 3130 | A |
| 29 | D1 | 3131 | U |
| 29 | D1 | 3133 | C |
| 29 | D1 | 3134 | A |
| 29 | D1 | 3136 | G |
| 29 | D1 | 3137 | C |
| 29 | D1 | 3138 | U |
| 29 | D1 | 3139 | A |
| 29 | D1 | 3140 | G |
| 29 | D1 | 3141 | A |
| 29 | D1 | 3142 | A |
| 29 | D1 | 3143 | C |
| 29 | D1 | 3144 | G |
| 29 | D1 | 3145 | C |
| 29 | D1 | 3149 | G |
| 29 | D1 | 3151 | U |
| 29 | D1 | 3152 | U |
| 29 | D1 | 3153 | U |
| 29 | D1 | 3154 | C |
| 29 | D1 | 3157 | U |
| 29 | D1 | 3159 | C |
| 29 | D1 | 3160 | U |
| 29 | D1 | 3161 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 3162 | C |
| 29 | D1 | 3163 | A |
| 29 | D1 | 3164 | C |
| 29 | D1 | 3166 | C |
| 29 | D1 | 3168 | A |
| 29 | D1 | 3169 | U |
| 29 | D1 | 3170 | A |
| 29 | D1 | 3171 | U |
| 29 | D1 | 3172 | A |
| 29 | D1 | 3173 | G |
| 29 | D1 | 3174 | A |
| 29 | D1 | 3175 | U |
| 29 | D1 | 3176 | G |
| 29 | D1 | 3177 | G |
| 29 | D1 | 3178 | A |
| 29 | D1 | 3179 | U |
| 29 | D1 | 3180 | A |
| 29 | D1 | 3181 | C |
| 29 | D1 | 3184 | A |
| 29 | D1 | 3185 | U |
| 29 | D1 | 3187 | A |
| 29 | D1 | 3191 | G |
| 29 | D1 | 3195 | U |
| 29 | D1 | 3196 | U |
| 29 | D1 | 3198 | U |
| 29 | D1 | 3200 | G |
| 29 | D1 | 3201 | C |
| 29 | D1 | 3202 | G |
| 29 | D1 | 3203 | U |
| 29 | D1 | 3204 | C |
| 29 | D1 | 3205 | G |
| 29 | D1 | 3206 | C |
| 29 | D1 | 3207 | U |
| 29 | D1 | 3208 | G |
| 29 | D1 | 3209 | A |
| 29 | D1 | 3210 | A |
| 29 | D1 | 3211 | C |
| 29 | D1 | 3212 | C |
| 29 | D1 | 3213 | A |
| 29 | D1 | 3214 | U |
| 29 | D1 | 3215 | A |
| 29 | D1 | 3216 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 3217 | C |
| 29 | D1 | 3218 | A |
| 29 | D1 | 3219 | G |
| 29 | D1 | 3220 | G |
| 29 | D1 | 3223 | A |
| 29 | D1 | 3225 | C |
| 29 | D1 | 3227 | A |
| 29 | D1 | 3228 | C |
| 29 | D1 | 3229 | G |
| 29 | D1 | 3237 | U |
| 29 | D1 | 3238 | G |
| 29 | D1 | 3242 | G |
| 29 | D1 | 3243 | A |
| 29 | D1 | 3244 | A |
| 29 | D1 | 3245 | A |
| 29 | D1 | 3246 | G |
| 29 | D1 | 3254 | G |
| 29 | D1 | 3257 | C |
| 29 | D1 | 3258 | U |
| 29 | D1 | 3259 | U |
| 29 | D1 | 3260 | G |
| 29 | D1 | 3261 | C |
| 29 | D1 | 3262 | U |
| 29 | D1 | 3263 | G |
| 29 | D1 | 3265 | C |
| 29 | D1 | 3267 | A |
| 29 | D1 | 3268 | A |
| 29 | D1 | 3269 | U |
| 29 | D1 | 3270 | U |
| 29 | D1 | 3271 | G |
| 29 | D1 | 3272 | C |
| 29 | D1 | 3273 | A |
| 29 | D1 | 3274 | A |
| 29 | D1 | 3275 | U |
| 29 | D1 | 3276 | G |
| 29 | D1 | 3277 | U |
| 29 | D1 | 3279 | A |
| 29 | D1 | 3280 | U |
| 29 | D1 | 3281 | U |
| 29 | D1 | 3282 | U |
| 29 | D1 | 3283 | U |
| 29 | D1 | 3285 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 3287 | U |
| 29 | D1 | 3288 | G |
| 29 | D1 | 3290 | G |
| 29 | D1 | 3291 | G |
| 29 | D1 | 3292 | A |
| 29 | D1 | 3293 | U |
| 29 | D1 | 3294 | A |
| 29 | D1 | 3300 | U |
| 29 | D1 | 3301 | U |
| 29 | D1 | 3302 | U |
| 29 | D1 | 3303 | G |
| 29 | D1 | 3304 | U |
| 29 | D1 | 3305 | A |
| 29 | D1 | 3306 | U |
| 29 | D1 | 3312 | U |
| 29 | D1 | 3313 | U |
| 29 | D1 | 3314 | A |
| 29 | D1 | 3315 | G |
| 29 | D1 | 3316 | A |
| 29 | D1 | 3317 | U |
| 29 | D1 | 3318 | G |
| 29 | D1 | 3319 | U |
| 29 | D1 | 3320 | A |
| 29 | D1 | 3321 | C |
| 29 | D1 | 3322 | A |
| 29 | D1 | 3324 | C |
| 29 | D1 | 3329 | U |
| 29 | D1 | 3331 | U |
| 29 | D1 | 3332 | U |
| 29 | D1 | 3333 | G |
| 29 | D1 | 3334 | U |
| 29 | D1 | 3339 | A |
| 29 | D1 | 3341 | U |
| 29 | D1 | 3342 | A |
| 29 | D1 | 3343 | G |
| 29 | D1 | 3344 | A |
| 29 | D1 | 3350 | C |
| 29 | D1 | 3351 | U |
| 29 | D1 | 3352 | U |
| 29 | D1 | 3353 | G |
| 29 | D1 | 3354 | U |
| 29 | D1 | 3355 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 3356 | G |
| 29 | D1 | 3357 | U |
| 29 | D1 | 3358 | U |
| 29 | D1 | 3359 | A |
| 29 | D1 | 3360 | C |
| 29 | D1 | 3361 | G |
| 29 | D1 | 3362 | A |
| 29 | D1 | 3363 | U |
| 29 | D1 | 3369 | G |
| 29 | D1 | 3370 | A |
| 29 | D1 | 3371 | G |
| 29 | D1 | 3375 | A |
| 29 | D1 | 3376 | A |
| 29 | D1 | 3377 | G |
| 29 | D1 | 3378 | C |
| 29 | D1 | 3379 | C |
| 29 | D1 | 3381 | U |
| 29 | D1 | 3382 | U |
| 29 | D1 | 3383 | G |
| 29 | D1 | 3384 | U |
| 29 | D1 | 3387 | U |
| 29 | D1 | 3389 | U |
| 29 | D1 | 3390 | G |
| 29 | D1 | 3392 | U |
| 29 | D1 | 3394 | U |
| 29 | D1 | 3395 | G |
| 29 | D1 | 3396 | U |
| 30 | D2 | 2 | G |
| 30 | D2 | 5 | G |
| 30 | D2 | 6 | C |
| 30 | D2 | 9 | C |
| 30 | D2 | 10 | C |
| 30 | D2 | 11 | A |
| 30 | D2 | 12 | U |
| 30 | D2 | 13 | A |
| 30 | D2 | 14 | U |
| 30 | D2 | 15 | C |
| 30 | D2 | 19 | C |
| 30 | D2 | 22 | A |
| 30 | D2 | 27 | A |
| 30 | D2 | 29 | C |
| 30 | D2 | 30 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 30 | D2 | 31 | U |
| 30 | D2 | 33 | U |
| 30 | D2 | 34 | C |
| 30 | D2 | 35 | C |
| 30 | D2 | 36 | C |
| 30 | D2 | 38 | U |
| 30 | D2 | 39 | C |
| 30 | D2 | 40 | C |
| 30 | D2 | 41 | G |
| 30 | D2 | 42 | A |
| 30 | D2 | 43 | U |
| 30 | D2 | 44 | C |
| 30 | D2 | 47 | C |
| 30 | D2 | 48 | U |
| 30 | D2 | 49 | G |
| 30 | D2 | 50 | U |
| 30 | D2 | 51 | A |
| 30 | D2 | 54 | U |
| 30 | D2 | 55 | A |
| 30 | D2 | 56 | A |
| 30 | D2 | 58 | C |
| 30 | D2 | 63 | A |
| 30 | D2 | 64 | A |
| 30 | D2 | 65 | G |
| 30 | D2 | 66 | A |
| 30 | D2 | 68 | C |
| 30 | D2 | 70 | U |
| 30 | D2 | 75 | G |
| 30 | D2 | 76 | A |
| 30 | D2 | 78 | U |
| 30 | D2 | 79 | A |
| 30 | D2 | 81 | U |
| 30 | D2 | 83 | U |
| 30 | D2 | 87 | G |
| 30 | D2 | 89 | G |
| 30 | D2 | 92 | A |
| 30 | D2 | 93 | C |
| 30 | D2 | 96 | U |
| 30 | D2 | 97 | A |
| 30 | D2 | 98 | C |
| 30 | D2 | 99 | G |
| 30 | D2 | 103 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 30 | D2 | 105 | C |
| 30 | D2 | 107 | C |
| 30 | D2 | 109 | G |
| 30 | D2 | 110 | G |
| 30 | D2 | 112 | G |
| 30 | D2 | 115 | G |
| 30 | D2 | 118 | A |
| 30 | D2 | 120 | C |
| 30 | D2 | 121 | U |
| 31 | D3 | 2 | A |
| 31 | D3 | 6 | U |
| 31 | D3 | 10 | A |
| 31 | D3 | 12 | A |
| 31 | D3 | 14 | C |
| 31 | D3 | 23 | U |
| 31 | D3 | 24 | G |
| 31 | D3 | 25 | G |
| 31 | D3 | 30 | C |
| 31 | D3 | 33 | A |
| 31 | D3 | 34 | U |
| 31 | D3 | 38 | U |
| 31 | D3 | 40 | A |
| 31 | D3 | 41 | A |
| 31 | D3 | 45 | C |
| 31 | D3 | 49 | G |
| 31 | D3 | 50 | C |
| 31 | D3 | 51 | G |
| 31 | D3 | 55 | U |
| 31 | D3 | 59 | A |
| 31 | D3 | 60 | U |
| 31 | D3 | 61 | A |
| 31 | D3 | 62 | C |
| 31 | D3 | 63 | G |
| 31 | D3 | 65 | A |
| 31 | D3 | 67 | U |
| 31 | D3 | 68 | G |
| 31 | D3 | 70 | G |
| 31 | D3 | 71 | A |
| 31 | D3 | 72 | A |
| 31 | D3 | 73 | U |
| 31 | D3 | 75 | G |
| 31 | D3 | 76 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 31 | D3 | 77 | A |
| 31 | D3 | 78 | G |
| 31 | D3 | 80 | A |
| 31 | D3 | 82 | U |
| 31 | D3 | 83 | C |
| 31 | D3 | 85 | G |
| 31 | D3 | 86 | U |
| 31 | D3 | 87 | G |
| 31 | D3 | 88 | A |
| 31 | D3 | 89 | A |
| 31 | D3 | 90 | U |
| 31 | D3 | 93 | U |
| 31 | D3 | 94 | C |
| 31 | D3 | 95 | G |
| 31 | D3 | 96 | A |
| 31 | D3 | 97 | A |
| 31 | D3 | 99 | C |
| 31 | D3 | 101 | U |
| 31 | D3 | 104 | A |
| 31 | D3 | 105 | A |
| 31 | D3 | 106 | C |
| 31 | D3 | 107 | G |
| 31 | D3 | 108 | C |
| 31 | D3 | 110 | C |
| 31 | D3 | 111 | A |
| 31 | D3 | 112 | U |
| 31 | D3 | 113 | U |
| 31 | D3 | 114 | G |
| 31 | D3 | 117 | C |
| 31 | D3 | 124 | G |
| 31 | D3 | 125 | U |
| 31 | D3 | 126 | A |
| 31 | D3 | 127 | U |
| 31 | D3 | 128 | U |
| 31 | D3 | 129 | C |
| 31 | D3 | 130 | C |
| 31 | D3 | 132 | G |
| 31 | D3 | 138 | A |
| 31 | D3 | 141 | C |
| 31 | D3 | 145 | U |
| 31 | D3 | 147 | U |
| 31 | D3 | 149 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 31 | D3 | 151 | C |
| 31 | D3 | 152 | G |
| 31 | D3 | 157 | U |
| 31 | D3 | 158 | U |

All (856) RNA pucker outliers are listed below:

| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 24 | U |
| 1 | A1 | 40 | A |
| 1 | A1 | 45 | U |
| 1 | A1 | 61 | A |
| 1 | A1 | 62 | A |
| 1 | A1 | 65 | A |
| 1 | A1 | 67 | A |
| 1 | A1 | 68 | A |
| 1 | A1 | 71 | A |
| 1 | A1 | 78 | A |
| 1 | A1 | 80 | A |
| 1 | A1 | 103 | A |
| 1 | A1 | 112 | A |
| 1 | A1 | 114 | C |
| 1 | A1 | 121 | U |
| 1 | A1 | 125 | U |
| 1 | A1 | 133 | U |
| 1 | A1 | 135 | A |
| 1 | A1 | 137 | U |
| 1 | A1 | 139 | C |
| 1 | A1 | 150 | U |
| 1 | A1 | 160 | C |
| 1 | A1 | 167 | U |
| 1 | A1 | 183 | U |
| 1 | A1 | 191 | C |
| 1 | A1 | 195 | G |
| 1 | A1 | 198 | A |
| 1 | A1 | 203 | U |
| 1 | A1 | 211 | U |
| 1 | A1 | 217 | A |
| 1 | A1 | 241 | U |
| 1 | A1 | 243 | G |
| 1 | A1 | 248 | U |
| 1 | A1 | 254 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 262 | U |
| 1 | A1 | 263 | C |
| 1 | A1 | 270 | C |
| 1 | A1 | 272 | U |
| 1 | A1 | 284 | G |
| 1 | A1 | 290 | G |
| 1 | A1 | 295 | A |
| 1 | A1 | 310 | C |
| 1 | A1 | 320 | U |
| 1 | A1 | 322 | G |
| 1 | A1 | 351 | C |
| 1 | A1 | 358 | U |
| 1 | A1 | 380 | U |
| 1 | A1 | 386 | G |
| 1 | A1 | 399 | A |
| 1 | A1 | 400 | A |
| 1 | A1 | 416 | A |
| 1 | A1 | 417 | A |
| 1 | A1 | 427 | C |
| 1 | A1 | 438 | A |
| 1 | A1 | 439 | U |
| 1 | A1 | 447 | U |
| 1 | A1 | 511 | A |
| 1 | A1 | 515 | A |
| 1 | A1 | 521 | A |
| 1 | A1 | 525 | A |
| 1 | A1 | 528 | U |
| 1 | A1 | 540 | G |
| 1 | A1 | 541 | A |
| 1 | A1 | 555 | A |
| 1 | A1 | 577 | G |
| 1 | A1 | 594 | A |
| 1 | A1 | 607 | G |
| 1 | A1 | 622 | A |
| 1 | A1 | 659 | C |
| 1 | A1 | 699 | U |
| 1 | A1 | 704 | C |
| 1 | A1 | 720 | G |
| 1 | A1 | 721 | U |
| 1 | A1 | 750 | U |
| 1 | A1 | 755 | A |
| 1 | A1 | 765 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 782 | U |
| 1 | A1 | 807 | A |
| 1 | A1 | 820 | U |
| 1 | A1 | 827 | C |
| 1 | A1 | 829 | A |
| 1 | A1 | 842 | C |
| 1 | A1 | 846 | G |
| 1 | A1 | 859 | A |
| 1 | A1 | 913 | G |
| 1 | A1 | 914 | G |
| 1 | A1 | 932 | U |
| 1 | A1 | 959 | U |
| 1 | A1 | 963 | A |
| 1 | A1 | 964 | U |
| 1 | A1 | 986 | G |
| 1 | A1 | 1003 | A |
| 1 | A1 | 1045 | C |
| 1 | A1 | 1091 | A |
| 1 | A1 | 1094 | G |
| 1 | A1 | 1097 | U |
| 1 | A1 | 1100 | G |
| 1 | A1 | 1107 | G |
| 1 | A1 | 1110 | G |
| 1 | A1 | 1139 | A |
| 1 | A1 | 1142 | A |
| 1 | A1 | 1149 | G |
| 1 | A1 | 1150 | G |
| 1 | A1 | 1185 | U |
| 1 | A1 | 1190 | C |
| 1 | A1 | 1196 | A |
| 1 | A1 | 1200 | G |
| 1 | A1 | 1202 | A |
| 1 | A1 | 1203 | A |
| 1 | A1 | 1204 | A |
| 1 | A1 | 1207 | C |
| 1 | A1 | 1255 | G |
| 1 | A1 | 1269 | U |
| 1 | A1 | 1274 | C |
| 1 | A1 | 1285 | U |
| 1 | A1 | 1305 | U |
| 1 | A1 | 1344 | A |
| 1 | A1 | 1349 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | A1 | 1392 | U |
| 1 | A1 | 1435 | G |
| 1 | A1 | 1458 | G |
| 1 | A1 | 1472 | C |
| 1 | A1 | 1478 | G |
| 1 | A1 | 1480 | G |
| 1 | A1 | 1481 | C |
| 1 | A1 | 1492 | A |
| 1 | A1 | 1513 | G |
| 1 | A1 | 1522 | U |
| 1 | A1 | 1539 | G |
| 1 | A1 | 1560 | U |
| 1 | A1 | 1567 | U |
| 1 | A1 | 1573 | A |
| 1 | A1 | 1574 | G |
| 1 | A1 | 1580 | C |
| 1 | A1 | 1591 | C |
| 1 | A1 | 1609 | U |
| 1 | A1 | 1633 | A |
| 1 | A1 | 1634 | C |
| 1 | A1 | 1636 | C |
| 1 | A1 | 1645 | G |
| 1 | A1 | 1657 | U |
| 1 | A1 | 1694 | A |
| 1 | A1 | 1754 | A |
| 1 | A1 | 1761 | U |
| 1 | A1 | 1764 | C |
| 1 | A1 | 1779 | U |
| 1 | A1 | 1791 | A |
| 1 | A1 | 1793 | G |
| 29 | B1 | 14 | U |
| 29 | B1 | 15 | C |
| 29 | B1 | 20 | A |
| 29 | B1 | 42 | C |
| 29 | B1 | 48 | A |
| 29 | B1 | 65 | A |
| 29 | B1 | 88 | A |
| 29 | B1 | 92 | G |
| 29 | B1 | 97 | U |
| 29 | B1 | 102 | C |
| 29 | B1 | 120 | G |
| 29 | B1 | 152 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 154 | U |
| 29 | B1 | 155 | G |
| 29 | B1 | 156 | G |
| 29 | B1 | 157 | A |
| 29 | B1 | 191 | U |
| 29 | B1 | 200 | C |
| 29 | B1 | 209 | A |
| 29 | B1 | 210 | U |
| 29 | B1 | 249 | U |
| 29 | B1 | 251 | G |
| 29 | B1 | 265 | A |
| 29 | B1 | 282 | G |
| 29 | B1 | 304 | G |
| 29 | B1 | 326 | U |
| 29 | B1 | 327 | A |
| 29 | B1 | 329 | U |
| 29 | B1 | 330 | G |
| 29 | B1 | 332 | C |
| 29 | B1 | 340 | C |
| 29 | B1 | 344 | A |
| 29 | B1 | 369 | A |
| 29 | B1 | 379 | C |
| 29 | B1 | 396 | A |
| 29 | B1 | 400 | G |
| 29 | B1 | 422 | A |
| 29 | B1 | 423 | A |
| 29 | B1 | 424 | G |
| 29 | B1 | 425 | G |
| 29 | B1 | 431 | U |
| 29 | B1 | 516 | A |
| 29 | B1 | 520 | U |
| 29 | B1 | 524 | U |
| 29 | B1 | 536 | U |
| 29 | B1 | 560 | G |
| 29 | B1 | 561 | C |
| 29 | B1 | 574 | U |
| 29 | B1 | 575 | G |
| 29 | B1 | 576 | C |
| 29 | B1 | 577 | C |
| 29 | B1 | 590 | G |
| 29 | B1 | 603 | A |
| 29 | B1 | 604 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 605 | U |
| 29 | B1 | 609 | G |
| 29 | B1 | 620 | U |
| 29 | B1 | 625 | G |
| 29 | B1 | 641 | C |
| 29 | B1 | 647 | A |
| 29 | B1 | 666 | A |
| 29 | B1 | 674 | G |
| 29 | B1 | 698 | U |
| 29 | B1 | 705 | A |
| 29 | B1 | 715 | A |
| 29 | B1 | 718 | G |
| 29 | B1 | 720 | A |
| 29 | B1 | 746 | A |
| 29 | B1 | 747 | A |
| 29 | B1 | 758 | C |
| 29 | B1 | 769 | G |
| 29 | B1 | 806 | A |
| 29 | B1 | 834 | U |
| 29 | B1 | 845 | G |
| 29 | B1 | 857 | G |
| 29 | B1 | 858 | A |
| 29 | B1 | 908 | G |
| 29 | B1 | 914 | A |
| 29 | B1 | 943 | U |
| 29 | B1 | 953 | G |
| 29 | B1 | 975 | C |
| 29 | B1 | 979 | U |
| 29 | B1 | 1005 | G |
| 29 | B1 | 1026 | A |
| 29 | B1 | 1038 | C |
| 29 | B1 | 1062 | A |
| 29 | B1 | 1063 | G |
| 29 | B1 | 1076 | C |
| 29 | B1 | 1102 | A |
| 29 | B1 | 1103 | A |
| 29 | B1 | 1130 | A |
| 29 | B1 | 1139 | G |
| 29 | B1 | 1143 | A |
| 29 | B1 | 1144 | U |
| 29 | B1 | 1152 | G |
| 29 | B1 | 1154 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 1157 | G |
| 29 | B1 | 1159 | A |
| 29 | B1 | 1167 | U |
| 29 | B1 | 1177 | G |
| 29 | B1 | 1197 | A |
| 29 | B1 | 1202 | A |
| 29 | B1 | 1207 | G |
| 29 | B1 | 1211 | U |
| 29 | B1 | 1260 | A |
| 29 | B1 | 1286 | A |
| 29 | B1 | 1289 | G |
| 29 | B1 | 1291 | A |
| 29 | B1 | 1294 | A |
| 29 | B1 | 1296 | C |
| 29 | B1 | 1306 | G |
| 29 | B1 | 1307 | G |
| 29 | B1 | 1317 | A |
| 29 | B1 | 1329 | U |
| 29 | B1 | 1331 | U |
| 29 | B1 | 1367 | G |
| 29 | B1 | 1389 | G |
| 29 | B1 | 1398 | U |
| 29 | B1 | 1428 | A |
| 29 | B1 | 1454 | A |
| 29 | B1 | 1468 | A |
| 29 | B1 | 1469 | C |
| 29 | B1 | 1478 | C |
| 29 | B1 | 1482 | A |
| 29 | B1 | 1483 | G |
| 29 | B1 | 1484 | U |
| 29 | B1 | 1503 | A |
| 29 | B1 | 1504 | A |
| 29 | B1 | 1505 | C |
| 29 | B1 | 1520 | G |
| 29 | B1 | 1524 | A |
| 29 | B1 | 1588 | A |
| 29 | B1 | 1607 | U |
| 29 | B1 | 1627 | U |
| 29 | B1 | 1640 | G |
| 29 | B1 | 1641 | U |
| 29 | B1 | 1654 | A |
| 29 | B1 | 1685 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 1686 | U |
| 29 | B1 | 1716 | U |
| 29 | B1 | 1728 | G |
| 29 | B1 | 1779 | C |
| 29 | B1 | 1780 | G |
| 29 | B1 | 1792 | C |
| 29 | B1 | 1793 | C |
| 29 | B1 | 1795 | U |
| 29 | B1 | 1808 | G |
| 29 | B1 | 1841 | A |
| 29 | B1 | 1876 | U |
| 29 | B1 | 1877 | U |
| 29 | B1 | 1912 | U |
| 29 | B1 | 2105 | G |
| 29 | B1 | 2112 | U |
| 29 | B1 | 2147 | A |
| 29 | B1 | 2148 | U |
| 29 | B1 | 2151 | C |
| 29 | B1 | 2193 | U |
| 29 | B1 | 2211 | U |
| 29 | B1 | 2251 | G |
| 29 | B1 | 2254 | U |
| 29 | B1 | 2255 | A |
| 29 | B1 | 2270 | A |
| 29 | B1 | 2280 | A |
| 29 | B1 | 2281 | A |
| 29 | B1 | 2290 | C |
| 29 | B1 | 2297 | U |
| 29 | B1 | 2372 | A |
| 29 | B1 | 2385 | G |
| 29 | B1 | 2400 | G |
| 29 | B1 | 2403 | G |
| 29 | B1 | 2414 | G |
| 29 | B1 | 2423 | U |
| 29 | B1 | 2487 | U |
| 29 | B1 | 2501 | U |
| 29 | B1 | 2513 | U |
| 29 | B1 | 2516 | U |
| 29 | B1 | 2522 | G |
| 29 | B1 | 2523 | A |
| 29 | B1 | 2549 | G |
| 29 | B1 | 2555 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 2580 | A |
| 29 | B1 | 2593 | A |
| 29 | B1 | 2618 | G |
| 29 | B1 | 2652 | U |
| 29 | B1 | 2656 | A |
| 29 | B1 | 2684 | C |
| 29 | B1 | 2688 | U |
| 29 | B1 | 2699 | G |
| 29 | B1 | 2707 | C |
| 29 | B1 | 2717 | U |
| 29 | B1 | 2727 | A |
| 29 | B1 | 2728 | G |
| 29 | B1 | 2775 | U |
| 29 | B1 | 2779 | A |
| 29 | B1 | 2799 | A |
| 29 | B1 | 2804 | A |
| 29 | B1 | 2805 | G |
| 29 | B1 | 2808 | A |
| 29 | B1 | 2817 | A |
| 29 | B1 | 2834 | G |
| 29 | B1 | 2850 | G |
| 29 | B1 | 2851 | A |
| 29 | B1 | 2859 | U |
| 29 | B1 | 2872 | A |
| 29 | B1 | 2896 | A |
| 29 | B1 | 2898 | G |
| 29 | B1 | 2900 | A |
| 29 | B1 | 2948 | C |
| 29 | B1 | 2996 | U |
| 29 | B1 | 2997 | G |
| 29 | B1 | 2998 | U |
| 29 | B1 | 2999 | U |
| 29 | B1 | 3002 | C |
| 29 | B1 | 3013 | U |
| 29 | B1 | 3023 | U |
| 29 | B1 | 3024 | A |
| 29 | B1 | 3030 | G |
| 29 | B1 | 3045 | G |
| 29 | B1 | 3047 | U |
| 29 | B1 | 3058 | U |
| 29 | B1 | 3059 | G |
| 29 | B1 | 3071 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | B1 | 3078 | U |
| 29 | B1 | 3090 | U |
| 29 | B1 | 3093 | C |
| 29 | B1 | 3097 | C |
| 29 | B1 | 3098 | G |
| 29 | B1 | 3099 | C |
| 29 | B1 | 3102 | G |
| 29 | B1 | 3121 | U |
| 29 | B1 | 3137 | C |
| 29 | B1 | 3139 | A |
| 29 | B1 | 3143 | C |
| 29 | B1 | 3144 | G |
| 29 | B1 | 3151 | U |
| 29 | B1 | 3152 | U |
| 29 | B1 | 3168 | A |
| 29 | B1 | 3171 | U |
| 29 | B1 | 3173 | G |
| 29 | B1 | 3179 | U |
| 29 | B1 | 3180 | A |
| 29 | B1 | 3204 | C |
| 29 | B1 | 3205 | G |
| 29 | B1 | 3211 | C |
| 29 | B1 | 3257 | C |
| 29 | B1 | 3268 | A |
| 29 | B1 | 3274 | A |
| 29 | B1 | 3290 | G |
| 29 | B1 | 3291 | G |
| 29 | B1 | 3299 | A |
| 29 | B1 | 3303 | G |
| 29 | B1 | 3313 | U |
| 29 | B1 | 3316 | A |
| 29 | B1 | 3328 | G |
| 29 | B1 | 3331 | U |
| 29 | B1 | 3351 | U |
| 29 | B1 | 3356 | G |
| 29 | B1 | 3377 | G |
| 29 | B1 | 3386 | G |
| 30 | B2 | 12 | U |
| 30 | B2 | 13 | A |
| 30 | B2 | 14 | U |
| 30 | B2 | 26 | C |
| 30 | B2 | 35 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 30 | B2 | 38 | U |
| 30 | B2 | 55 | A |
| 30 | B2 | 62 | U |
| 30 | B2 | 64 | A |
| 30 | B2 | 77 | G |
| 30 | B2 | 92 | A |
| 30 | B2 | 109 | G |
| 31 | B3 | 22 | U |
| 31 | B3 | 40 | A |
| 31 | B3 | 70 | G |
| 31 | B3 | 71 | A |
| 31 | B3 | 76 | C |
| 31 | B3 | 94 | C |
| 31 | B3 | 106 | C |
| 31 | B3 | 111 | A |
| 31 | B3 | 113 | U |
| 1 | C1 | 24 | U |
| 1 | C1 | 40 | A |
| 1 | C1 | 44 | U |
| 1 | C1 | 45 | U |
| 1 | C1 | 61 | A |
| 1 | C1 | 62 | A |
| 1 | C1 | 65 | A |
| 1 | C1 | 67 | A |
| 1 | C1 | 68 | A |
| 1 | C1 | 71 | A |
| 1 | C1 | 78 | A |
| 1 | C1 | 80 | A |
| 1 | C1 | 103 | A |
| 1 | C1 | 112 | A |
| 1 | C1 | 114 | C |
| 1 | C1 | 125 | U |
| 1 | C1 | 133 | U |
| 1 | C1 | 135 | A |
| 1 | C1 | 137 | U |
| 1 | C1 | 139 | C |
| 1 | C1 | 150 | U |
| 1 | C1 | 160 | C |
| 1 | C1 | 167 | U |
| 1 | C1 | 175 | G |
| 1 | C1 | 183 | U |
| 1 | C1 | 191 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 195 | G |
| 1 | C1 | 198 | A |
| 1 | C1 | 203 | U |
| 1 | C1 | 211 | U |
| 1 | C1 | 217 | A |
| 1 | C1 | 241 | U |
| 1 | C1 | 243 | G |
| 1 | C1 | 248 | U |
| 1 | C1 | 254 | A |
| 1 | C1 | 262 | U |
| 1 | C1 | 263 | C |
| 1 | C1 | 270 | C |
| 1 | C1 | 272 | U |
| 1 | C1 | 284 | G |
| 1 | C1 | 290 | G |
| 1 | C1 | 295 | A |
| 1 | C1 | 310 | C |
| 1 | C1 | 320 | U |
| 1 | C1 | 322 | G |
| 1 | C1 | 351 | C |
| 1 | C1 | 358 | U |
| 1 | C1 | 373 | G |
| 1 | C1 | 380 | U |
| 1 | C1 | 386 | G |
| 1 | C1 | 399 | A |
| 1 | C1 | 400 | A |
| 1 | C1 | 416 | A |
| 1 | C1 | 417 | A |
| 1 | C1 | 427 | C |
| 1 | C1 | 438 | A |
| 1 | C1 | 439 | U |
| 1 | C1 | 447 | U |
| 1 | C1 | 453 | U |
| 1 | C1 | 511 | A |
| 1 | C1 | 515 | A |
| 1 | C1 | 521 | A |
| 1 | C1 | 525 | A |
| 1 | C1 | 528 | U |
| 1 | C1 | 540 | G |
| 1 | C1 | 541 | A |
| 1 | C1 | 555 | A |
| 1 | C1 | 577 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 594 | A |
| 1 | C1 | 607 | G |
| 1 | C1 | 622 | A |
| 1 | C1 | 659 | C |
| 1 | C1 | 717 | C |
| 1 | C1 | 718 | U |
| 1 | C1 | 719 | U |
| 1 | C1 | 721 | U |
| 1 | C1 | 722 | G |
| 1 | C1 | 750 | U |
| 1 | C1 | 755 | A |
| 1 | C1 | 765 | G |
| 1 | C1 | 782 | U |
| 1 | C1 | 807 | A |
| 1 | C1 | 820 | U |
| 1 | C1 | 827 | C |
| 1 | C1 | 829 | A |
| 1 | C1 | 842 | C |
| 1 | C1 | 846 | G |
| 1 | C1 | 859 | A |
| 1 | C1 | 913 | G |
| 1 | C1 | 914 | G |
| 1 | C1 | 932 | U |
| 1 | C1 | 959 | U |
| 1 | C1 | 963 | A |
| 1 | C1 | 964 | U |
| 1 | C1 | 986 | G |
| 1 | C1 | 1003 | A |
| 1 | C1 | 1045 | C |
| 1 | C1 | 1091 | A |
| 1 | C1 | 1094 | G |
| 1 | C1 | 1097 | U |
| 1 | C1 | 1100 | G |
| 1 | C1 | 1107 | G |
| 1 | C1 | 1110 | G |
| 1 | C1 | 1139 | A |
| 1 | C1 | 1142 | A |
| 1 | C1 | 1149 | G |
| 1 | C1 | 1150 | G |
| 1 | C1 | 1185 | U |
| 1 | C1 | 1190 | C |
| 1 | C1 | 1196 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 1 | C1 | 1200 | G |
| 1 | C1 | 1202 | A |
| 1 | C1 | 1203 | A |
| 1 | C1 | 1204 | A |
| 1 | C1 | 1207 | C |
| 1 | C1 | 1255 | G |
| 1 | C1 | 1269 | U |
| 1 | C1 | 1285 | U |
| 1 | C1 | 1305 | U |
| 1 | C1 | 1344 | A |
| 1 | C1 | 1349 | G |
| 1 | C1 | 1392 | U |
| 1 | C1 | 1435 | G |
| 1 | C1 | 1458 | G |
| 1 | C1 | 1472 | C |
| 1 | C1 | 1478 | G |
| 1 | C1 | 1480 | G |
| 1 | C1 | 1481 | C |
| 1 | C1 | 1492 | A |
| 1 | C1 | 1513 | G |
| 1 | C1 | 1522 | U |
| 1 | C1 | 1539 | G |
| 1 | C1 | 1560 | U |
| 1 | C1 | 1567 | U |
| 1 | C1 | 1573 | A |
| 1 | C1 | 1574 | G |
| 1 | C1 | 1580 | C |
| 1 | C1 | 1591 | C |
| 1 | C1 | 1609 | U |
| 1 | C1 | 1633 | A |
| 1 | C1 | 1634 | C |
| 1 | C1 | 1636 | C |
| 1 | C1 | 1657 | U |
| 1 | C1 | 1694 | A |
| 1 | C1 | 1754 | A |
| 1 | C1 | 1761 | U |
| 1 | C1 | 1764 | C |
| 1 | C1 | 1779 | U |
| 1 | C1 | 1791 | A |
| 1 | C1 | 1793 | G |
| 29 | D1 | 14 | U |
| 29 | D1 | 15 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 20 | A |
| 29 | D1 | 42 | C |
| 29 | D1 | 48 | A |
| 29 | D1 | 65 | A |
| 29 | D1 | 88 | A |
| 29 | D1 | 92 | G |
| 29 | D1 | 102 | C |
| 29 | D1 | 120 | G |
| 29 | D1 | 152 | U |
| 29 | D1 | 154 | U |
| 29 | D1 | 155 | G |
| 29 | D1 | 156 | G |
| 29 | D1 | 157 | A |
| 29 | D1 | 191 | U |
| 29 | D1 | 200 | C |
| 29 | D1 | 210 | U |
| 29 | D1 | 249 | U |
| 29 | D1 | 251 | G |
| 29 | D1 | 265 | A |
| 29 | D1 | 282 | G |
| 29 | D1 | 304 | G |
| 29 | D1 | 326 | U |
| 29 | D1 | 327 | A |
| 29 | D1 | 332 | C |
| 29 | D1 | 340 | C |
| 29 | D1 | 369 | A |
| 29 | D1 | 379 | C |
| 29 | D1 | 396 | A |
| 29 | D1 | 400 | G |
| 29 | D1 | 422 | A |
| 29 | D1 | 423 | A |
| 29 | D1 | 424 | G |
| 29 | D1 | 425 | G |
| 29 | D1 | 431 | U |
| 29 | D1 | 516 | A |
| 29 | D1 | 520 | U |
| 29 | D1 | 524 | U |
| 29 | D1 | 536 | U |
| 29 | D1 | 560 | G |
| 29 | D1 | 561 | C |
| 29 | D1 | 574 | U |
| 29 | D1 | 575 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 576 | C |
| 29 | D1 | 577 | C |
| 29 | D1 | 590 | G |
| 29 | D1 | 603 | A |
| 29 | D1 | 604 | G |
| 29 | D1 | 605 | U |
| 29 | D1 | 609 | G |
| 29 | D1 | 620 | U |
| 29 | D1 | 625 | G |
| 29 | D1 | 641 | C |
| 29 | D1 | 647 | A |
| 29 | D1 | 666 | A |
| 29 | D1 | 674 | G |
| 29 | D1 | 698 | U |
| 29 | D1 | 705 | A |
| 29 | D1 | 715 | A |
| 29 | D1 | 718 | G |
| 29 | D1 | 720 | A |
| 29 | D1 | 746 | A |
| 29 | D1 | 747 | A |
| 29 | D1 | 758 | C |
| 29 | D1 | 769 | G |
| 29 | D1 | 806 | A |
| 29 | D1 | 834 | U |
| 29 | D1 | 845 | G |
| 29 | D1 | 857 | G |
| 29 | D1 | 858 | A |
| 29 | D1 | 896 | A |
| 29 | D1 | 943 | U |
| 29 | D1 | 953 | G |
| 29 | D1 | 975 | C |
| 29 | D1 | 979 | U |
| 29 | D1 | 1005 | G |
| 29 | D1 | 1026 | A |
| 29 | D1 | 1038 | C |
| 29 | D1 | 1062 | A |
| 29 | D1 | 1063 | G |
| 29 | D1 | 1076 | C |
| 29 | D1 | 1102 | A |
| 29 | D1 | 1103 | A |
| 29 | D1 | 1130 | A |
| 29 | D1 | 1139 | G |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 1143 | A |
| 29 | D1 | 1144 | U |
| 29 | D1 | 1152 | G |
| 29 | D1 | 1154 | A |
| 29 | D1 | 1157 | G |
| 29 | D1 | 1159 | A |
| 29 | D1 | 1167 | U |
| 29 | D1 | 1197 | A |
| 29 | D1 | 1207 | G |
| 29 | D1 | 1213 | G |
| 29 | D1 | 1221 | A |
| 29 | D1 | 1225 | A |
| 29 | D1 | 1226 | G |
| 29 | D1 | 1235 | U |
| 29 | D1 | 1264 | G |
| 29 | D1 | 1272 | C |
| 29 | D1 | 1286 | A |
| 29 | D1 | 1288 | U |
| 29 | D1 | 1289 | G |
| 29 | D1 | 1291 | A |
| 29 | D1 | 1294 | A |
| 29 | D1 | 1296 | C |
| 29 | D1 | 1306 | G |
| 29 | D1 | 1307 | G |
| 29 | D1 | 1317 | A |
| 29 | D1 | 1329 | U |
| 29 | D1 | 1331 | U |
| 29 | D1 | 1367 | G |
| 29 | D1 | 1389 | G |
| 29 | D1 | 1398 | U |
| 29 | D1 | 1428 | A |
| 29 | D1 | 1442 | U |
| 29 | D1 | 1454 | A |
| 29 | D1 | 1468 | A |
| 29 | D1 | 1469 | C |
| 29 | D1 | 1478 | C |
| 29 | D1 | 1482 | A |
| 29 | D1 | 1483 | G |
| 29 | D1 | 1484 | U |
| 29 | D1 | 1503 | A |
| 29 | D1 | 1504 | A |
| 29 | D1 | 1505 | C |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 1520 | G |
| 29 | D1 | 1524 | A |
| 29 | D1 | 1588 | A |
| 29 | D1 | 1607 | U |
| 29 | D1 | 1627 | U |
| 29 | D1 | 1640 | G |
| 29 | D1 | 1646 | G |
| 29 | D1 | 1654 | A |
| 29 | D1 | 1685 | C |
| 29 | D1 | 1686 | U |
| 29 | D1 | 1716 | U |
| 29 | D1 | 1728 | G |
| 29 | D1 | 1779 | C |
| 29 | D1 | 1780 | G |
| 29 | D1 | 1793 | C |
| 29 | D1 | 1795 | U |
| 29 | D1 | 1808 | G |
| 29 | D1 | 1876 | U |
| 29 | D1 | 1877 | U |
| 29 | D1 | 1912 | U |
| 29 | D1 | 2105 | G |
| 29 | D1 | 2112 | U |
| 29 | D1 | 2147 | A |
| 29 | D1 | 2148 | U |
| 29 | D1 | 2151 | C |
| 29 | D1 | 2193 | U |
| 29 | D1 | 2211 | U |
| 29 | D1 | 2251 | G |
| 29 | D1 | 2254 | U |
| 29 | D1 | 2255 | A |
| 29 | D1 | 2270 | A |
| 29 | D1 | 2280 | A |
| 29 | D1 | 2281 | A |
| 29 | D1 | 2290 | C |
| 29 | D1 | 2297 | U |
| 29 | D1 | 2372 | A |
| 29 | D1 | 2385 | G |
| 29 | D1 | 2400 | G |
| 29 | D1 | 2403 | G |
| 29 | D1 | 2404 | A |
| 29 | D1 | 2414 | G |
| 29 | D1 | 2423 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 2487 | U |
| 29 | D1 | 2501 | U |
| 29 | D1 | 2513 | U |
| 29 | D1 | 2516 | U |
| 29 | D1 | 2522 | G |
| 29 | D1 | 2523 | A |
| 29 | D1 | 2549 | G |
| 29 | D1 | 2555 | G |
| 29 | D1 | 2580 | A |
| 29 | D1 | 2593 | A |
| 29 | D1 | 2618 | G |
| 29 | D1 | 2652 | U |
| 29 | D1 | 2684 | C |
| 29 | D1 | 2699 | G |
| 29 | D1 | 2707 | C |
| 29 | D1 | 2717 | U |
| 29 | D1 | 2727 | A |
| 29 | D1 | 2728 | G |
| 29 | D1 | 2779 | A |
| 29 | D1 | 2799 | A |
| 29 | D1 | 2804 | A |
| 29 | D1 | 2805 | G |
| 29 | D1 | 2817 | A |
| 29 | D1 | 2834 | G |
| 29 | D1 | 2850 | G |
| 29 | D1 | 2851 | A |
| 29 | D1 | 2859 | U |
| 29 | D1 | 2872 | A |
| 29 | D1 | 2896 | A |
| 29 | D1 | 2898 | G |
| 29 | D1 | 2900 | A |
| 29 | D1 | 2917 | G |
| 29 | D1 | 2948 | C |
| 29 | D1 | 2987 | A |
| 29 | D1 | 2996 | U |
| 29 | D1 | 2997 | G |
| 29 | D1 | 2998 | U |
| 29 | D1 | 2999 | U |
| 29 | D1 | 3002 | C |
| 29 | D1 | 3013 | U |
| 29 | D1 | 3023 | U |
| 29 | D1 | 3024 | A |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 3030 | G |
| 29 | D1 | 3038 | U |
| 29 | D1 | 3045 | G |
| 29 | D1 | 3047 | U |
| 29 | D1 | 3058 | U |
| 29 | D1 | 3059 | G |
| 29 | D1 | 3071 | U |
| 29 | D1 | 3078 | U |
| 29 | D1 | 3090 | U |
| 29 | D1 | 3093 | C |
| 29 | D1 | 3097 | C |
| 29 | D1 | 3098 | G |
| 29 | D1 | 3099 | C |
| 29 | D1 | 3102 | G |
| 29 | D1 | 3108 | G |
| 29 | D1 | 3121 | U |
| 29 | D1 | 3137 | C |
| 29 | D1 | 3139 | A |
| 29 | D1 | 3143 | C |
| 29 | D1 | 3144 | G |
| 29 | D1 | 3151 | U |
| 29 | D1 | 3152 | U |
| 29 | D1 | 3168 | A |
| 29 | D1 | 3171 | U |
| 29 | D1 | 3173 | G |
| 29 | D1 | 3179 | U |
| 29 | D1 | 3180 | A |
| 29 | D1 | 3204 | C |
| 29 | D1 | 3205 | G |
| 29 | D1 | 3211 | C |
| 29 | D1 | 3257 | C |
| 29 | D1 | 3268 | A |
| 29 | D1 | 3274 | A |
| 29 | D1 | 3290 | G |
| 29 | D1 | 3291 | G |
| 29 | D1 | 3299 | A |
| 29 | D1 | 3303 | G |
| 29 | D1 | 3313 | U |
| 29 | D1 | 3316 | A |
| 29 | D1 | 3328 | G |
| 29 | D1 | 3331 | U |
| 29 | D1 | 3332 | U |

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| Mol | Chain | Res | Type |
|---|---|---|---|
| 29 | D1 | 3351 | U |
| 29 | D1 | 3356 | G |
| 29 | D1 | 3377 | G |
| 30 | D2 | 12 | U |
| 30 | D2 | 13 | A |
| 30 | D2 | 14 | U |
| 30 | D2 | 26 | C |
| 30 | D2 | 35 | C |
| 30 | D2 | 38 | U |
| 30 | D2 | 55 | A |
| 30 | D2 | 62 | U |
| 30 | D2 | 64 | A |
| 30 | D2 | 77 | G |
| 30 | D2 | 92 | A |
| 30 | D2 | 109 | G |
| 31 | D3 | 22 | U |
| 31 | D3 | 40 | A |
| 31 | D3 | 70 | G |
| 31 | D3 | 71 | A |
| 31 | D3 | 76 | C |
| 31 | D3 | 94 | C |
| 31 | D3 | 106 | C |
| 31 | D3 | 111 | A |
| 31 | D3 | 113 | U |

## 5.4 Non-standard residues in protein, DNA, RNA chains

There are no non-standard protein/DNA/RNA residues in this entry.

## 5.5 Carbohydrates

There are no oligosaccharides in this entry.

## 5.6 Ligand geometry

715 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond

length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\| > 2$ | Counts | RMSZ | $\#\|Z\| > 2$ |
| 74 | OHX | B3 | 205 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3464 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1983 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3594 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | CT | 401 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3602 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3493 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1978 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1905 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3470 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1920 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3571 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3615 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1946 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3444 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3608 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1975 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3480 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1927 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3408 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3572 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3484 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1924 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1962 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3510 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1954 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D3 | 210 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3477 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 2001 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3519 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3459 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1921 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1984 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3534 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3448 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1946 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3410 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3415 | 29 | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1957 | - | 0,6,6 | - | - | - | | |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\|>2$ | Counts | RMSZ | $\#\|Z\|>2$ |
| 74 | OHX | D1 | 3483 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3536 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3589 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3465 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1935 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3473 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3463 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1981 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B3 | 207 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3503 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3413 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3495 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3434 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3488 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3407 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1986 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B3 | 201 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | AL | 201 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3587 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1951 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1999 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3449 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3496 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D2 | 201 | 30 | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3559 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3514 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3606 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3422 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1904 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3423 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3431 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3579 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1923 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1945 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1943 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3573 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3432 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3500 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1916 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3433 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3447 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D3 | 202 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3528 | - | 0,6,6 | - | - | - | | |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\| > 2$ | Counts | RMSZ | $\#\|Z\| > 2$ |
| 74 | OHX | A1 | 1986 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3509 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3524 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1951 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | Dg | 101 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3466 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1964 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3415 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1915 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3549 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3520 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3436 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3478 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3578 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1985 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3618 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3403 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3426 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | CS | 101 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3418 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3468 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3525 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3604 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3576 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1994 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3437 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3601 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3454 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | Bd | 101 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3429 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1992 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1913 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3420 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3443 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3424 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1907 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3461 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3583 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3499 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3508 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3427 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1926 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3527 | - | 0,6,6 | - | - | - | | |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\| > 2$ | Counts | RMSZ | $\#\|Z\| > 2$ |
| 74 | OHX | C1 | 1940 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3521 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1939 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B3 | 206 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3597 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1979 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1901 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B3 | 208 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1956 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1976 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1937 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1995 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3455 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3430 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1987 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3599 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3490 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3402 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D2 | 207 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3458 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1988 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | Bd | 102 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B2 | 209 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3532 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1966 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3547 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3595 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1960 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3538 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3439 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D2 | 203 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1952 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3421 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3560 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | DE | 301 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3593 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1974 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3409 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3517 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3578 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1926 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3404 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3491 | - | 0,6,6 | - | - | - | | |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\| > 2$ | Counts | RMSZ | $\#\|Z\| > 2$ |
| 74 | OHX | D1 | 3529 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3471 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3556 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1958 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3505 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3405 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3590 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1996 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3403 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3504 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3535 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3567 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3441 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3425 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1911 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3598 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3575 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3563 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B2 | 201 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1950 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1914 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3548 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1903 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1910 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3581 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B3 | 202 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3540 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3469 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1977 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3618 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3585 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B3 | 203 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3555 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1936 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3477 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3497 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1965 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3401 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3507 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3518 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1989 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1959 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3541 | - | 0,6,6 | - | - | - | | |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\| > 2$ | Counts | RMSZ | $\#\|Z\| > 2$ |
| 74 | OHX | D1 | 3596 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1912 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | BC | 401 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3484 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1953 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3522 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3537 | 29 | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1936 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3526 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3605 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3545 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | DT | 201 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1931 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1999 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3607 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3486 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3419 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1949 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1961 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3546 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1971 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3447 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3428 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3406 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3570 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3469 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D3 | 209 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3582 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | BO | 301 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1911 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1990 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3435 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3485 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3442 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1944 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3565 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3435 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3603 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3574 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3475 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 2002 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3414 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1972 | - | 0,6,6 | - | - | - | | |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\| > 2$ | Counts | RMSZ | $\#\|Z\| > 2$ |
| 74 | OHX | C1 | 1985 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3610 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3613 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3600 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1981 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3573 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3557 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3445 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3501 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B2 | 202 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3496 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3531 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3602 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3562 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3476 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1988 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3569 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3513 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3572 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3438 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3486 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3617 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | Bg | 101 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3568 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B2 | 208 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1932 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3600 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1934 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3448 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3530 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3551 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | AT | 401 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1970 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3588 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1998 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3482 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3467 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3566 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3558 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1913 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3424 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3589 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1943 | - | 0,6,6 | - | - | - | | |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\| > 2$ | Counts | RMSZ | $\#\|Z\| > 2$ |
| 74 | OHX | D1 | 3537 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3612 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3594 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1980 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1982 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3495 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3531 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3533 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3508 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3502 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3571 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3446 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3444 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3615 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3608 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3462 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D2 | 205 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3564 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3577 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1994 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3559 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3554 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3491 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1997 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1950 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3459 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1997 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1947 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3432 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3500 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D2 | 208 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1940 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1968 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | DO | 301 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3536 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1963 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3616 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3457 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1901 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1904 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3511 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3474 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1937 | - | 0,6,6 | - | - | - | | |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\| > 2$ | Counts | RMSZ | $\#\|Z\| > 2$ |
| 74 | OHX | B1 | 3411 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3434 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3407 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3532 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1953 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 2000 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3523 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1947 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3417 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1948 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3585 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1963 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3437 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1928 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3567 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3604 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3580 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1952 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B3 | 212 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3453 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | Dd | 101 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B2 | 207 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3450 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3579 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1919 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1959 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1978 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3561 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3460 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3489 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3433 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3542 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3528 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3487 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3412 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3509 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3524 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1909 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1935 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3553 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3472 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3591 | 29 | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1996 | - | 0,6,6 | - | - | - | | |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\| > 2$ | Counts | RMSZ | $\#\|Z\| > 2$ |
| 74 | OHX | B1 | 3592 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1954 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1992 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3452 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3420 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3430 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D2 | 202 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | DC | 401 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3494 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3614 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3426 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3581 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | Dd | 102 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1975 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B2 | 203 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1942 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | DJ | 301 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1982 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D3 | 201 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3498 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3473 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3439 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | BT | 201 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3619 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3429 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3443 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3560 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3461 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3550 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1957 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3552 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1973 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3620 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3534 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3440 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3410 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3517 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3544 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D2 | 204 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D3 | 207 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1993 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3405 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1906 | - | 0,6,6 | - | - | - | | |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\| > 2$ | Counts | RMSZ | $\#\|Z\| > 2$ |
| 74 | OHX | A1 | 1973 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3621 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1976 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3467 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3599 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B2 | 204 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3575 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3451 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1991 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3543 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3416 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3481 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1929 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D2 | 209 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1969 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3456 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3478 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1938 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3595 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D3 | 205 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1961 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3557 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3530 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3562 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3493 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1979 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1969 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3409 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3555 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3497 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3609 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3505 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3586 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3480 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3479 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3512 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3518 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3586 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3611 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1929 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3519 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1965 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3598 | - | 0,6,6 | - | - | - | | |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\|>2$ | Counts | RMSZ | $\#\|Z\|>2$ |
| 74 | OHX | B1 | 3539 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1958 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3623 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3516 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3458 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1920 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1977 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B2 | 210 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3570 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3503 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3506 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1962 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1918 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1934 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3565 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3421 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3408 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3475 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1924 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3613 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3510 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3541 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3514 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | Ac | 100 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3422 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3436 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3423 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3611 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1921 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3504 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1974 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3545 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1910 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3474 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3425 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1960 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1930 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1955 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3466 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1983 | 1 | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3568 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1989 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3485 | - | 0,6,6 | - | - | - | | |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\| > 2$ | Counts | RMSZ | $\#\|Z\| > 2$ |
| 74 | OHX | D1 | 3622 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3525 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3603 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3574 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3588 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3506 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3482 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3449 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3576 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1931 | 1 | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3601 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3583 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3464 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1955 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3515 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3529 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D3 | 204 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D3 | 211 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3502 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1998 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1914 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1991 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3499 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1925 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1903 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1917 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3569 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3619 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3513 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3553 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1906 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B2 | 205 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3492 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1925 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1972 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3549 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1905 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3414 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3490 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3404 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3465 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3498 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3551 | - | 0,6,6 | - | - | - | | |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\| > 2$ | Counts | RMSZ | $\#\|Z\| > 2$ |
| 74 | OHX | D1 | 3501 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3463 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3624 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3441 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1909 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3587 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3558 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3470 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3616 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3483 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3454 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B3 | 211 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1916 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1915 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | AS | 101 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3556 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3533 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3507 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1993 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3521 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1923 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3446 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3593 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3445 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3462 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3564 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 2001 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3577 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3412 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D3 | 208 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1942 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | DO | 302 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3554 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3580 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1918 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3597 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3625 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1956 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3535 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1990 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1928 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1944 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3402 | - | 0,6,6 | - | - | - | | |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\| > 2$ | Counts | RMSZ | $\#\|Z\| > 2$ |
| 74 | OHX | B1 | 3544 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3563 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3428 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B3 | 209 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1984 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3472 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1907 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3511 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3538 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1902 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3411 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3455 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1939 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1967 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3413 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1930 | 1 | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1971 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3610 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3523 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3494 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3614 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1941 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1932 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3417 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3512 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3401 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3515 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1908 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3584 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3590 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3418 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1945 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3596 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1902 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3450 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1941 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3451 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3516 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3527 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1987 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3460 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3489 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1968 | - | 0,6,6 | - | - | - | | |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\|>2$ | Counts | RMSZ | $\#\|Z\|>2$ |
| 74 | OHX | D1 | 3542 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3522 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3546 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3487 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1967 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3592 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3526 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3431 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3605 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3540 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1966 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1980 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3548 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1927 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3419 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3547 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1948 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3591 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D2 | 206 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1933 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3582 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3520 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3416 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3440 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | CI | 201 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3456 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3452 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3471 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1938 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1970 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3561 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3457 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3488 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B2 | 206 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1922 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1949 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1964 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1995 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3550 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3468 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D3 | 212 | 31 | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3476 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3584 | - | 0,6,6 | - | - | - | | |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Counts | RMSZ | $\#\|Z\| > 2$ | Counts | RMSZ | $\#\|Z\| > 2$ |
| 74 | OHX | B3 | 204 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3620 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3612 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3453 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1933 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 2000 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1922 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3609 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3427 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B3 | 210 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1917 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3607 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3479 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3552 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | A1 | 1908 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3438 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1912 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3617 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3621 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3566 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3406 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D3 | 203 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3543 | 38 | 0,6,6 | - | - | - | | |
| 74 | OHX | CS | 102 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3442 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | C1 | 1919 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D3 | 206 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3539 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3481 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | B1 | 3492 | - | 0,6,6 | - | - | - | | |
| 74 | OHX | D1 | 3606 | - | 0,6,6 | - | - | - | | |

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

220 monomers are involved in 719 short contacts:

| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|---|---|---|---|---|---|
| 74 | B3 | 205 | OHX | 2 | 0 |
| 74 | D1 | 3464 | OHX | 2 | 0 |
| 74 | A1 | 1978 | OHX | 1 | 0 |
| 74 | C1 | 1905 | OHX | 1 | 0 |
| 74 | A1 | 1975 | OHX | 4 | 0 |
| 74 | D1 | 3480 | OHX | 4 | 0 |
| 74 | D1 | 3408 | OHX | 8 | 0 |
| 74 | C1 | 1924 | OHX | 8 | 0 |
| 74 | C1 | 2001 | OHX | 2 | 0 |
| 74 | D1 | 3415 | OHX | 13 | 0 |
| 74 | B1 | 3536 | OHX | 9 | 0 |
| 74 | D1 | 3473 | OHX | 5 | 0 |
| 74 | D1 | 3413 | OHX | 3 | 0 |
| 74 | D1 | 3495 | OHX | 2 | 0 |
| 74 | B1 | 3434 | OHX | 2 | 0 |
| 74 | B1 | 3587 | OHX | 7 | 0 |
| 74 | B1 | 3449 | OHX | 7 | 0 |
| 74 | D2 | 201 | OHX | 8 | 0 |
| 74 | B1 | 3559 | OHX | 1 | 0 |
| 74 | D1 | 3514 | OHX | 3 | 0 |
| 74 | D1 | 3431 | OHX | 7 | 0 |
| 74 | A1 | 1923 | OHX | 2 | 0 |
| 74 | A1 | 1943 | OHX | 5 | 0 |
| 74 | A1 | 1916 | OHX | 5 | 0 |
| 74 | B1 | 3433 | OHX | 1 | 0 |
| 74 | D1 | 3447 | OHX | 3 | 0 |
| 74 | D3 | 202 | OHX | 7 | 0 |
| 74 | A1 | 1986 | OHX | 6 | 0 |
| 74 | C1 | 1951 | OHX | 2 | 0 |
| 74 | Dg | 101 | OHX | 11 | 0 |
| 74 | B1 | 3415 | OHX | 2 | 0 |
| 74 | A1 | 1915 | OHX | 5 | 0 |
| 74 | B1 | 3478 | OHX | 1 | 0 |
| 74 | D1 | 3578 | OHX | 1 | 0 |
| 74 | CS | 101 | OHX | 16 | 0 |
| 74 | D1 | 3576 | OHX | 2 | 0 |
| 74 | C1 | 1994 | OHX | 1 | 0 |
| 74 | D1 | 3454 | OHX | 1 | 0 |
| 74 | Bd | 101 | OHX | 10 | 0 |
| 74 | B1 | 3429 | OHX | 2 | 0 |
| 74 | A1 | 1913 | OHX | 6 | 0 |
| 74 | B1 | 3420 | OHX | 2 | 0 |
| 74 | C1 | 1907 | OHX | 1 | 0 |

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| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|---|---|---|---|---|---|
| 74 | B1 | 3527 | OHX | 1 | 0 |
| 74 | A1 | 1939 | OHX | 1 | 0 |
| 74 | B3 | 206 | OHX | 8 | 0 |
| 74 | C1 | 1901 | OHX | 3 | 0 |
| 74 | C1 | 1995 | OHX | 3 | 0 |
| 74 | D1 | 3455 | OHX | 1 | 0 |
| 74 | B1 | 3599 | OHX | 4 | 0 |
| 74 | D2 | 207 | OHX | 6 | 0 |
| 74 | B2 | 209 | OHX | 3 | 0 |
| 74 | D1 | 3547 | OHX | 1 | 0 |
| 74 | B1 | 3595 | OHX | 1 | 0 |
| 74 | C1 | 1952 | OHX | 1 | 0 |
| 74 | B1 | 3404 | OHX | 2 | 0 |
| 74 | B1 | 3471 | OHX | 1 | 0 |
| 74 | D1 | 3556 | OHX | 3 | 0 |
| 74 | A1 | 1958 | OHX | 3 | 0 |
| 74 | B1 | 3505 | OHX | 4 | 0 |
| 74 | B1 | 3405 | OHX | 2 | 0 |
| 74 | B1 | 3567 | OHX | 7 | 0 |
| 74 | B2 | 201 | OHX | 7 | 0 |
| 74 | C1 | 1914 | OHX | 1 | 0 |
| 74 | C1 | 1903 | OHX | 2 | 0 |
| 74 | C1 | 1910 | OHX | 1 | 0 |
| 74 | B1 | 3581 | OHX | 7 | 0 |
| 74 | B3 | 202 | OHX | 1 | 0 |
| 74 | B1 | 3469 | OHX | 2 | 0 |
| 74 | D1 | 3585 | OHX | 2 | 0 |
| 74 | A1 | 1936 | OHX | 3 | 0 |
| 74 | A1 | 1959 | OHX | 3 | 0 |
| 74 | BC | 401 | OHX | 1 | 0 |
| 74 | B1 | 3537 | OHX | 8 | 0 |
| 74 | D1 | 3526 | OHX | 1 | 0 |
| 74 | C1 | 1999 | OHX | 3 | 0 |
| 74 | D1 | 3419 | OHX | 1 | 0 |
| 74 | C1 | 1961 | OHX | 2 | 0 |
| 74 | B1 | 3447 | OHX | 1 | 0 |
| 74 | D1 | 3428 | OHX | 2 | 0 |
| 74 | B1 | 3406 | OHX | 2 | 0 |
| 74 | D3 | 209 | OHX | 1 | 0 |
| 74 | D1 | 3582 | OHX | 10 | 0 |
| 74 | B1 | 3485 | OHX | 1 | 0 |
| 74 | C1 | 1944 | OHX | 1 | 0 |

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| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|---|---|---|---|---|---|
| 74 | B1 | 3574 | OHX | 1 | 0 |
| 74 | C1 | 1985 | OHX | 1 | 0 |
| 74 | D1 | 3557 | OHX | 3 | 0 |
| 74 | B1 | 3496 | OHX | 3 | 0 |
| 74 | B1 | 3513 | OHX | 3 | 0 |
| 74 | Bg | 101 | OHX | 10 | 0 |
| 74 | B1 | 3568 | OHX | 2 | 0 |
| 74 | A1 | 1932 | OHX | 2 | 0 |
| 74 | D1 | 3448 | OHX | 2 | 0 |
| 74 | D1 | 3530 | OHX | 2 | 0 |
| 74 | AT | 401 | OHX | 1 | 0 |
| 74 | A1 | 1970 | OHX | 1 | 0 |
| 74 | B1 | 3558 | OHX | 6 | 0 |
| 74 | D1 | 3589 | OHX | 1 | 0 |
| 74 | D1 | 3537 | OHX | 3 | 0 |
| 74 | D1 | 3608 | OHX | 1 | 0 |
| 74 | D2 | 205 | OHX | 1 | 0 |
| 74 | D1 | 3559 | OHX | 3 | 0 |
| 74 | C1 | 1997 | OHX | 1 | 0 |
| 74 | A1 | 1950 | OHX | 2 | 0 |
| 74 | DO | 301 | OHX | 6 | 0 |
| 74 | A1 | 1901 | OHX | 6 | 0 |
| 74 | A1 | 1937 | OHX | 2 | 0 |
| 74 | D1 | 3434 | OHX | 1 | 0 |
| 74 | D1 | 3407 | OHX | 1 | 0 |
| 74 | C1 | 1953 | OHX | 3 | 0 |
| 74 | B1 | 3523 | OHX | 1 | 0 |
| 74 | B1 | 3417 | OHX | 3 | 0 |
| 74 | C1 | 1928 | OHX | 5 | 0 |
| 74 | D1 | 3567 | OHX | 5 | 0 |
| 74 | A1 | 1952 | OHX | 2 | 0 |
| 74 | B3 | 212 | OHX | 2 | 0 |
| 74 | Dd | 101 | OHX | 11 | 0 |
| 74 | B1 | 3450 | OHX | 17 | 0 |
| 74 | B1 | 3561 | OHX | 1 | 0 |
| 74 | B1 | 3460 | OHX | 1 | 0 |
| 74 | B1 | 3489 | OHX | 3 | 0 |
| 74 | D1 | 3524 | OHX | 2 | 0 |
| 74 | A1 | 1935 | OHX | 2 | 0 |
| 74 | D1 | 3591 | OHX | 3 | 0 |
| 74 | B1 | 3592 | OHX | 1 | 0 |
| 74 | D1 | 3430 | OHX | 4 | 0 |

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| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|---|---|---|---|---|---|
| 74 | D3 | 201 | OHX | 3 | 0 |
| 74 | BT | 201 | OHX | 2 | 0 |
| 74 | D1 | 3619 | OHX | 1 | 0 |
| 74 | B1 | 3620 | OHX | 4 | 0 |
| 74 | B1 | 3440 | OHX | 1 | 0 |
| 74 | D2 | 204 | OHX | 1 | 0 |
| 74 | A1 | 1976 | OHX | 5 | 0 |
| 74 | D1 | 3599 | OHX | 3 | 0 |
| 74 | B2 | 204 | OHX | 2 | 0 |
| 74 | D1 | 3416 | OHX | 1 | 0 |
| 74 | B1 | 3481 | OHX | 1 | 0 |
| 74 | C1 | 1929 | OHX | 1 | 0 |
| 74 | A1 | 1969 | OHX | 2 | 0 |
| 74 | B1 | 3456 | OHX | 2 | 0 |
| 74 | D3 | 205 | OHX | 4 | 0 |
| 74 | B1 | 3479 | OHX | 10 | 0 |
| 74 | A1 | 1929 | OHX | 1 | 0 |
| 74 | D1 | 3598 | OHX | 1 | 0 |
| 74 | B1 | 3539 | OHX | 2 | 0 |
| 74 | D1 | 3570 | OHX | 1 | 0 |
| 74 | B1 | 3503 | OHX | 1 | 0 |
| 74 | A1 | 1910 | OHX | 5 | 0 |
| 74 | C1 | 1955 | OHX | 5 | 0 |
| 74 | C1 | 1983 | OHX | 4 | 0 |
| 74 | D1 | 3568 | OHX | 4 | 0 |
| 74 | A1 | 1989 | OHX | 2 | 0 |
| 74 | D1 | 3574 | OHX | 7 | 0 |
| 74 | D1 | 3588 | OHX | 5 | 0 |
| 74 | B1 | 3506 | OHX | 1 | 0 |
| 74 | A1 | 1931 | OHX | 7 | 0 |
| 74 | D1 | 3583 | OHX | 6 | 0 |
| 74 | B1 | 3464 | OHX | 1 | 0 |
| 74 | B1 | 3529 | OHX | 4 | 0 |
| 74 | D3 | 204 | OHX | 1 | 0 |
| 74 | D1 | 3502 | OHX | 5 | 0 |
| 74 | C1 | 1991 | OHX | 1 | 0 |
| 74 | A1 | 1903 | OHX | 1 | 0 |
| 74 | C1 | 1917 | OHX | 6 | 0 |
| 74 | B1 | 3553 | OHX | 1 | 0 |
| 74 | D1 | 3492 | OHX | 3 | 0 |
| 74 | A1 | 1972 | OHX | 1 | 0 |
| 74 | A1 | 1905 | OHX | 1 | 0 |

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| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|---|---|---|---|---|---|
| 74 | B1 | 3490 | OHX | 1 | 0 |
| 74 | D1 | 3465 | OHX | 1 | 0 |
| 74 | D1 | 3551 | OHX | 1 | 0 |
| 74 | D1 | 3463 | OHX | 6 | 0 |
| 74 | A1 | 1909 | OHX | 3 | 0 |
| 74 | D1 | 3470 | OHX | 2 | 0 |
| 74 | B1 | 3483 | OHX | 3 | 0 |
| 74 | B3 | 211 | OHX | 1 | 0 |
| 74 | C1 | 1916 | OHX | 4 | 0 |
| 74 | C1 | 1915 | OHX | 1 | 0 |
| 74 | AS | 101 | OHX | 18 | 0 |
| 74 | C1 | 1993 | OHX | 3 | 0 |
| 74 | D1 | 3446 | OHX | 1 | 0 |
| 74 | B1 | 3593 | OHX | 1 | 0 |
| 74 | D1 | 3462 | OHX | 1 | 0 |
| 74 | D1 | 3577 | OHX | 1 | 0 |
| 74 | C1 | 1918 | OHX | 2 | 0 |
| 74 | D1 | 3597 | OHX | 3 | 0 |
| 74 | D1 | 3625 | OHX | 3 | 0 |
| 74 | A1 | 1990 | OHX | 3 | 0 |
| 74 | D1 | 3402 | OHX | 3 | 0 |
| 74 | B1 | 3544 | OHX | 1 | 0 |
| 74 | B1 | 3563 | OHX | 5 | 0 |
| 74 | B1 | 3428 | OHX | 8 | 0 |
| 74 | A1 | 1902 | OHX | 1 | 0 |
| 74 | C1 | 1939 | OHX | 1 | 0 |
| 74 | B1 | 3413 | OHX | 1 | 0 |
| 74 | C1 | 1930 | OHX | 10 | 0 |
| 74 | D1 | 3523 | OHX | 3 | 0 |
| 74 | A1 | 1941 | OHX | 1 | 0 |
| 74 | C1 | 1908 | OHX | 2 | 0 |
| 74 | C1 | 1902 | OHX | 1 | 0 |
| 74 | D1 | 3489 | OHX | 2 | 0 |
| 74 | B1 | 3540 | OHX | 1 | 0 |
| 74 | C1 | 1927 | OHX | 3 | 0 |
| 74 | C1 | 1933 | OHX | 7 | 0 |
| 74 | D1 | 3456 | OHX | 1 | 0 |
| 74 | D1 | 3452 | OHX | 12 | 0 |
| 74 | C1 | 1970 | OHX | 6 | 0 |
| 74 | A1 | 1949 | OHX | 4 | 0 |
| 74 | C1 | 1964 | OHX | 6 | 0 |
| 74 | D3 | 212 | OHX | 12 | 0 |

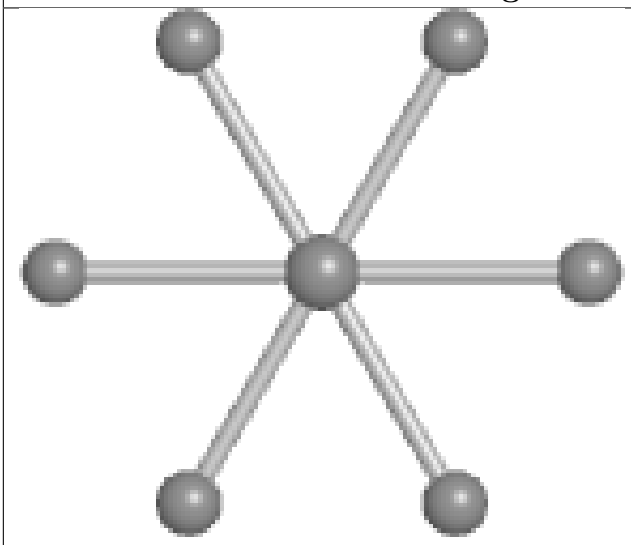
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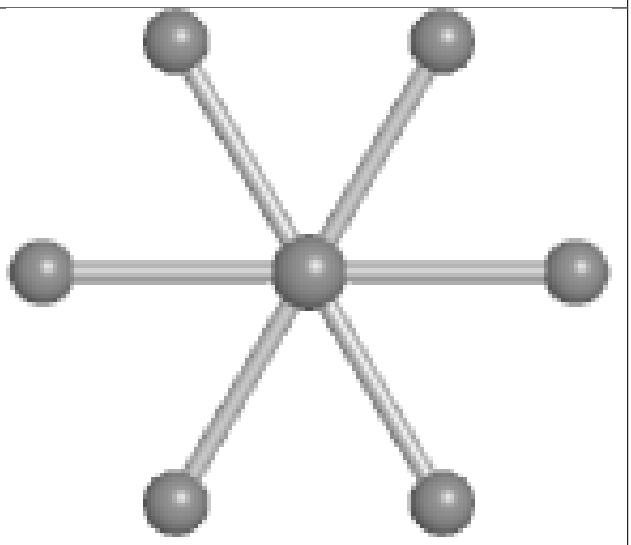
| Mol | Chain | Res | Type | Clashes | Symm-Clashes |
|---|---|---|---|---|---|
| 74 | A1 | 1917 | OHX | 4 | 0 |
| 74 | A1 | 1908 | OHX | 1 | 0 |
| 74 | B1 | 3438 | OHX | 12 | 0 |
| 74 | C1 | 1912 | OHX | 1 | 0 |
| 74 | D1 | 3406 | OHX | 1 | 0 |
| 74 | D1 | 3543 | OHX | 7 | 0 |
| 74 | B1 | 3442 | OHX | 1 | 0 |
| 74 | D1 | 3539 | OHX | 1 | 0 |
| 74 | B1 | 3492 | OHX | 10 | 0 |

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight $> 250$ and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

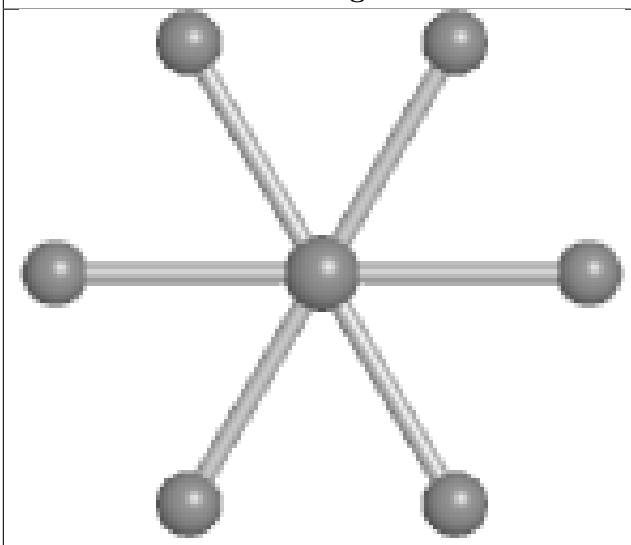
**Ligand OHX A1 1983**



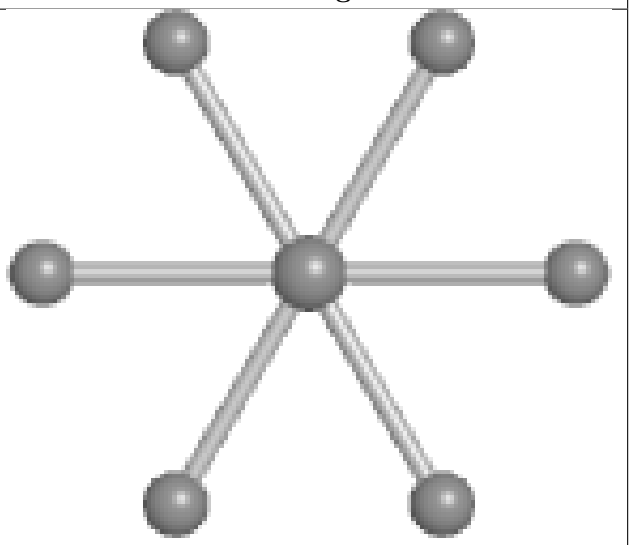
**Bond lengths**



**Bond angles**

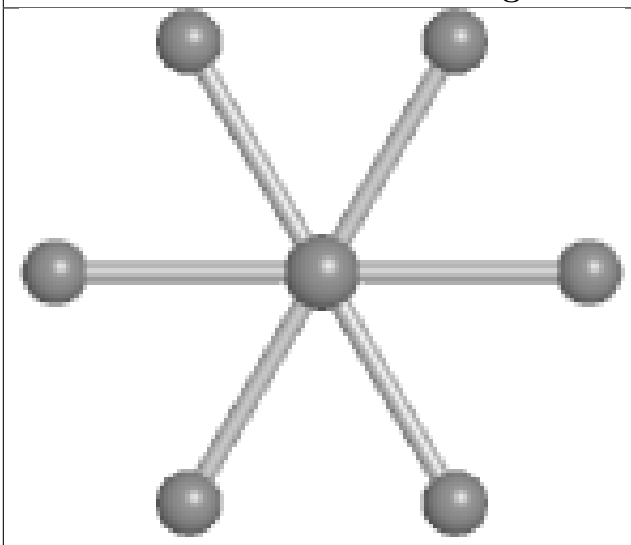


**Torsions**

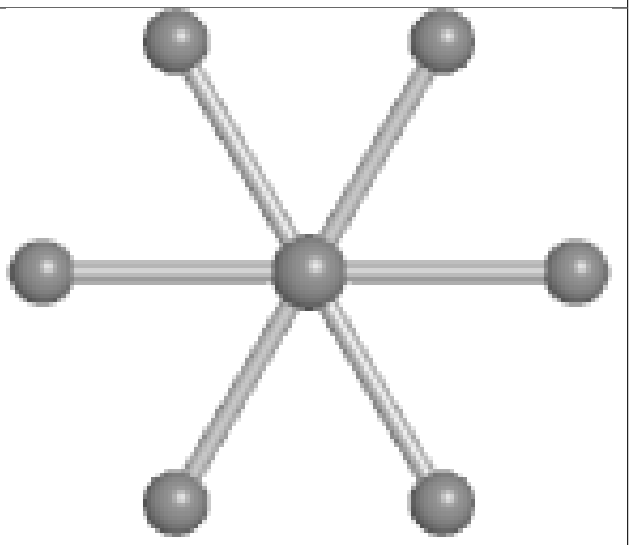


**Rings**

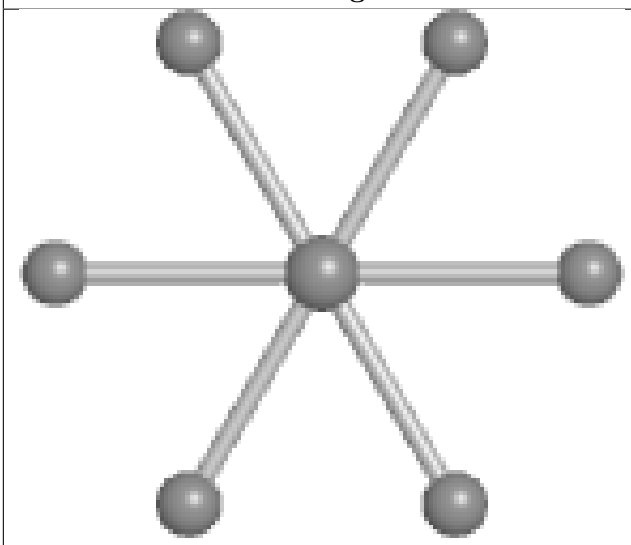
**Ligand OHX B1 3602**



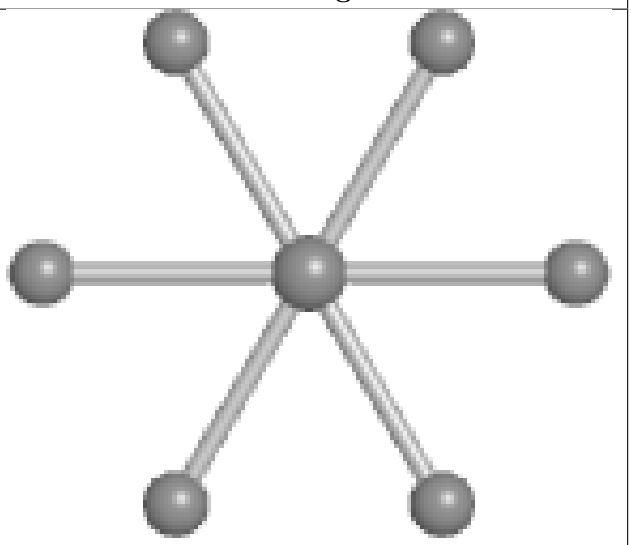
**Bond lengths**



**Bond angles**

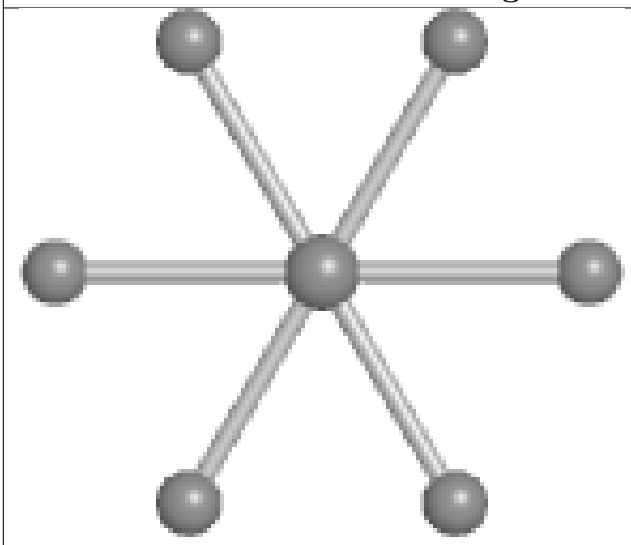


**Torsions**

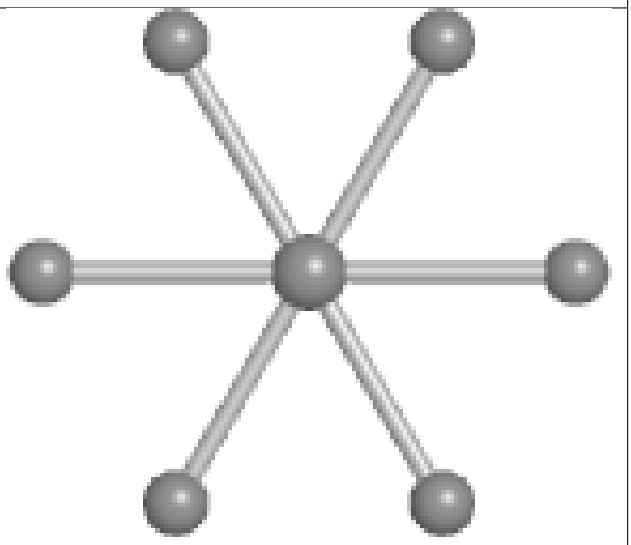


**Rings**

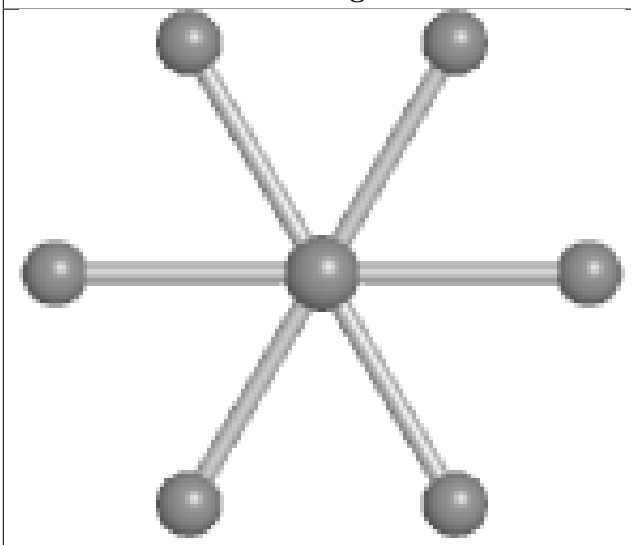
**Ligand OHX A1 1978**



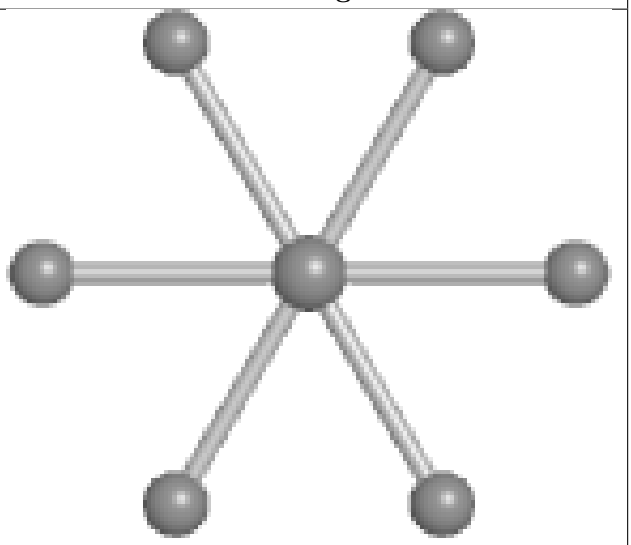
**Bond lengths**



**Bond angles**

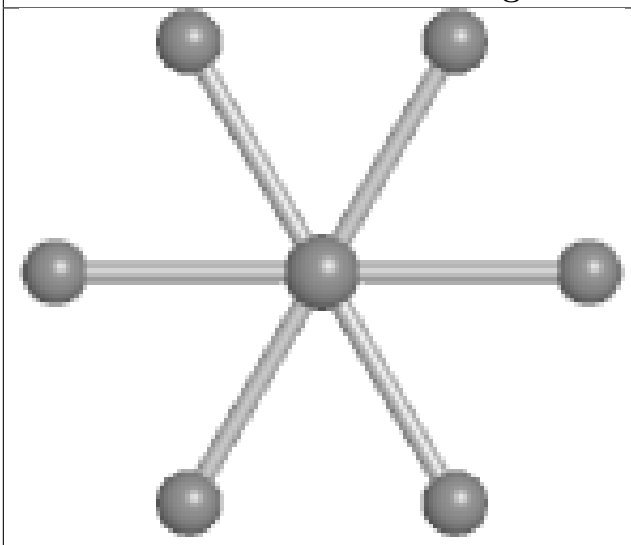


**Torsions**

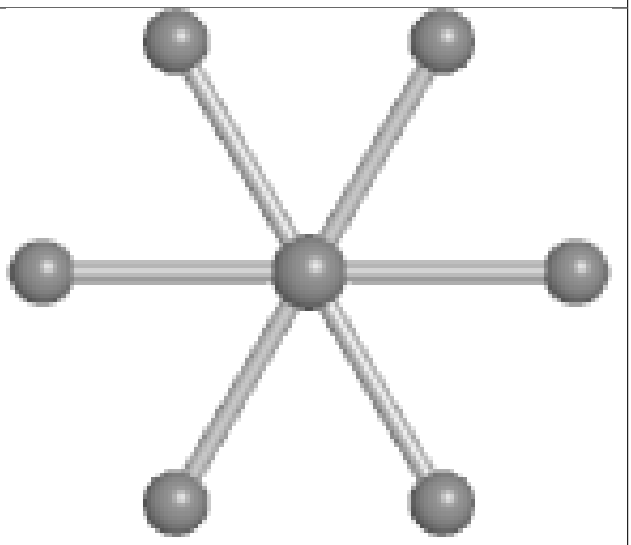


**Rings**

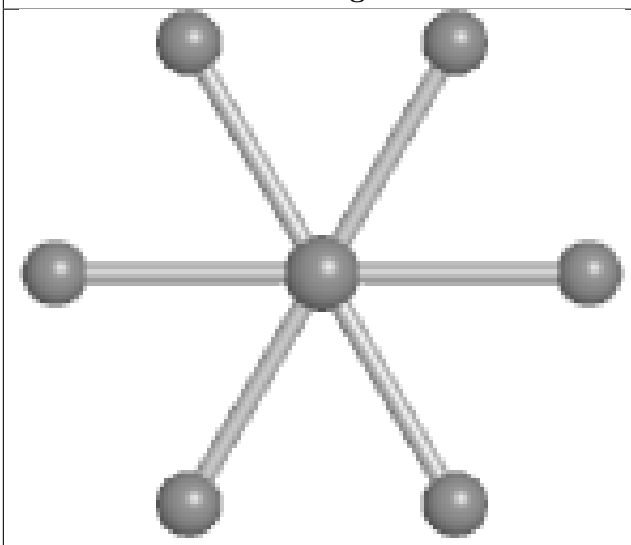
**Ligand OHX B1 3608**



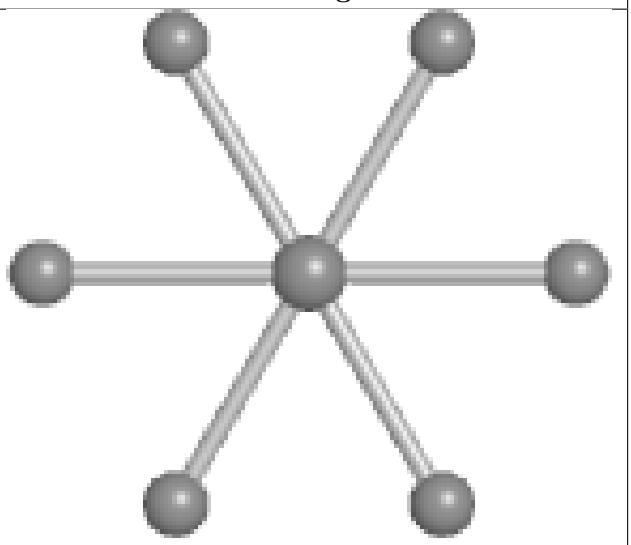
**Bond lengths**



**Bond angles**

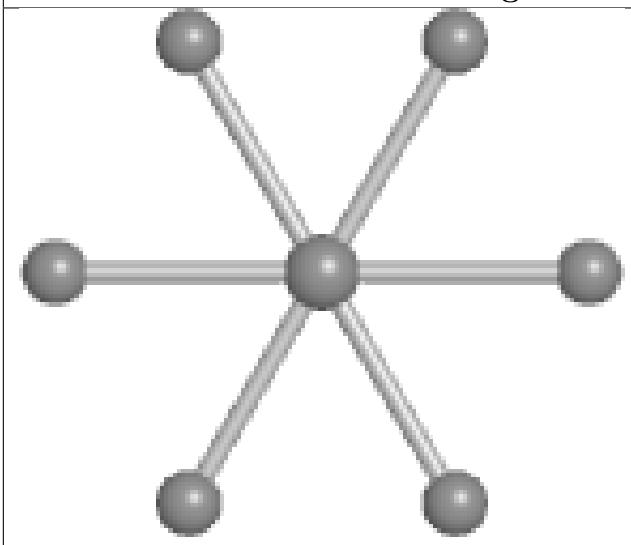


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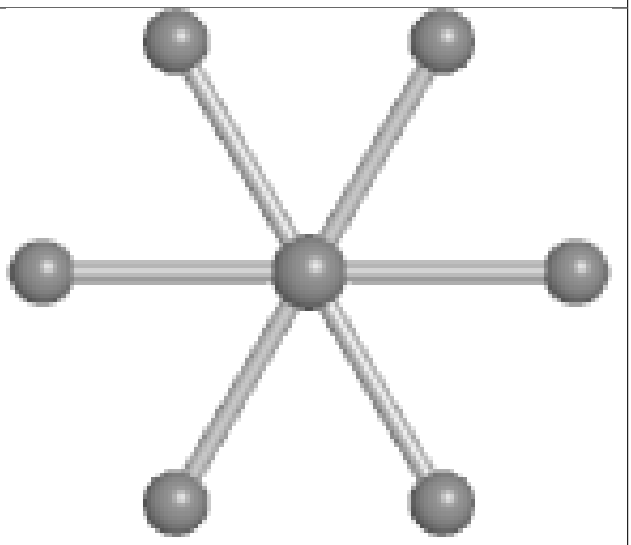


**Rings**

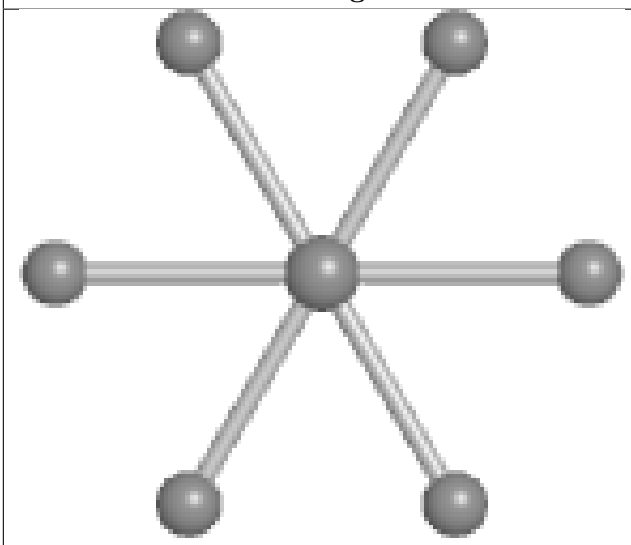
**Ligand OHX D1 3519**



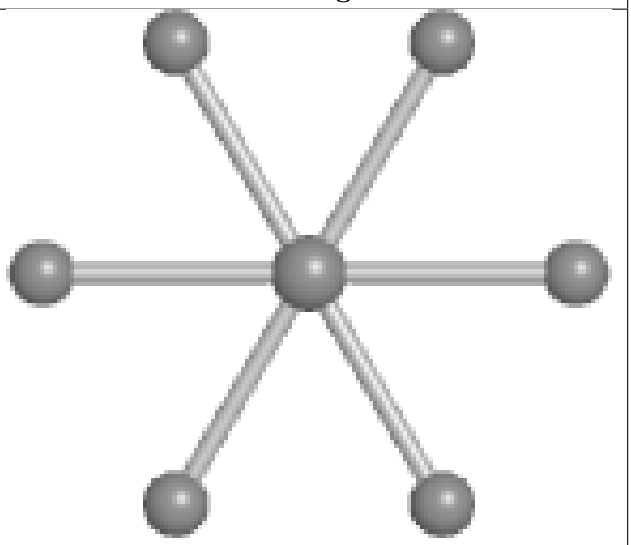
**Bond lengths**



**Bond angles**

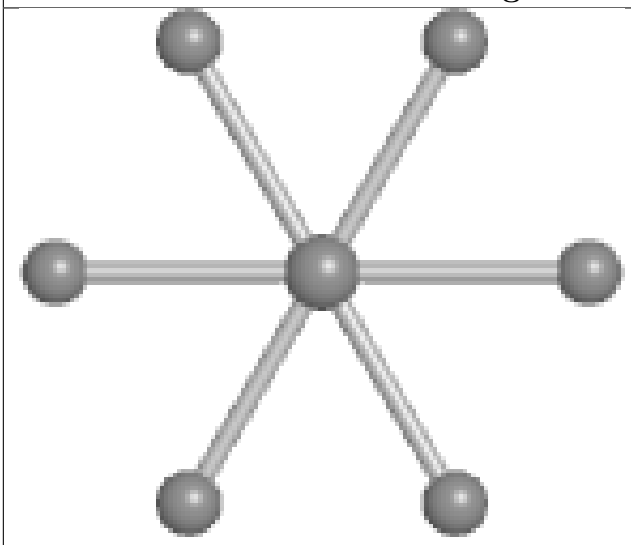


**Torsions**

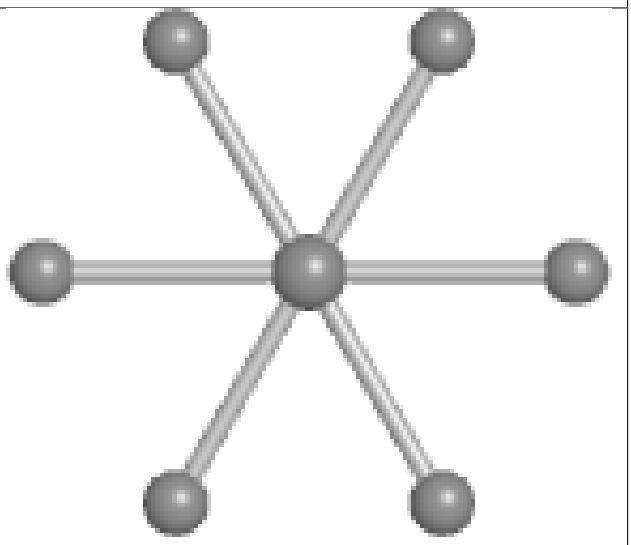


**Rings**

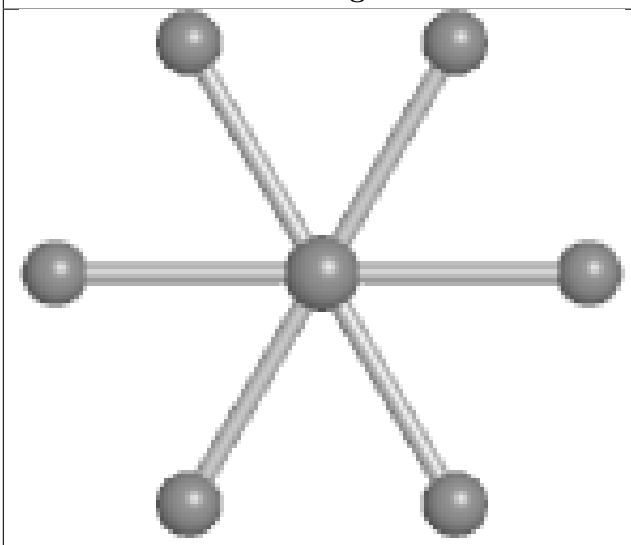
**Ligand OHX C1 1957**



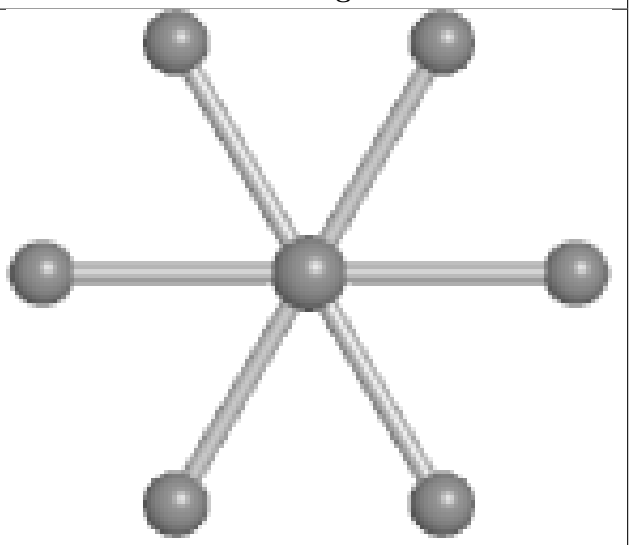
**Bond lengths**



**Bond angles**

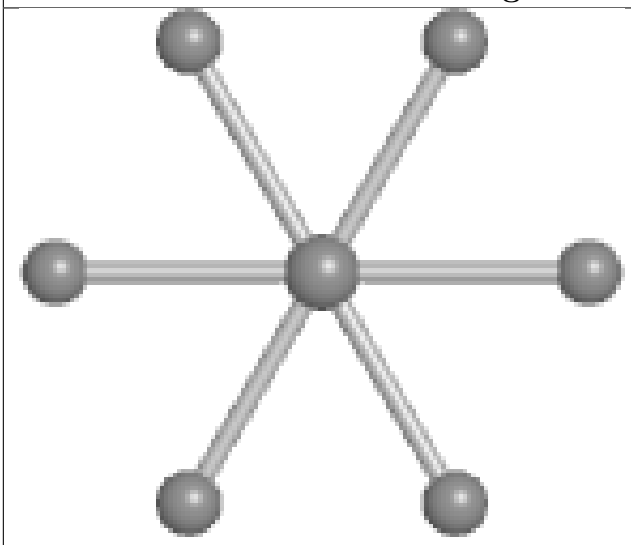


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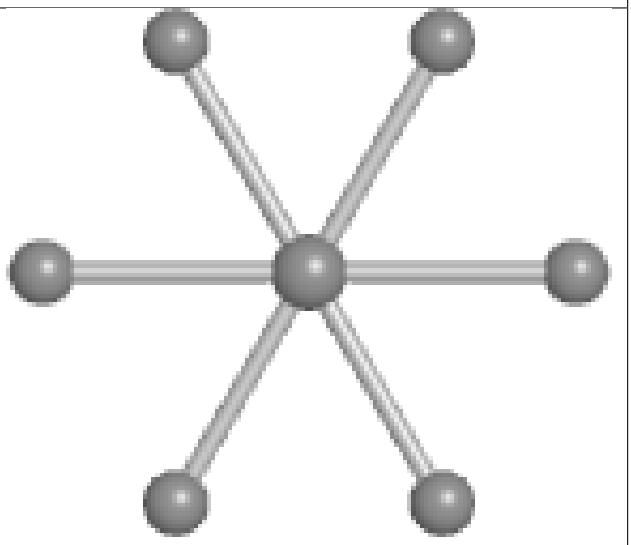


**Rings**

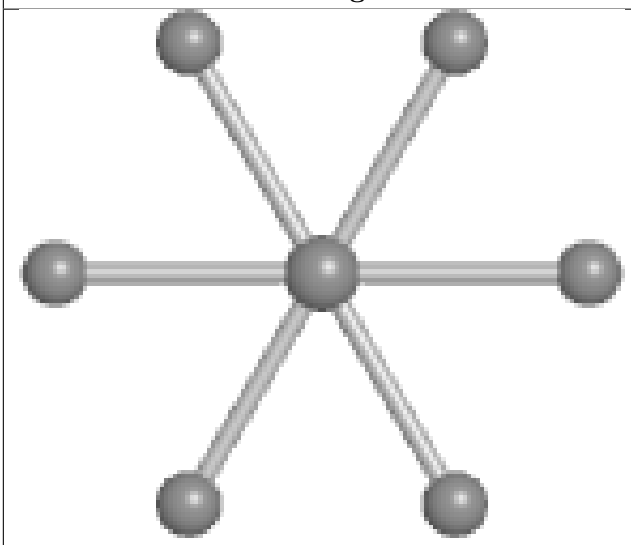
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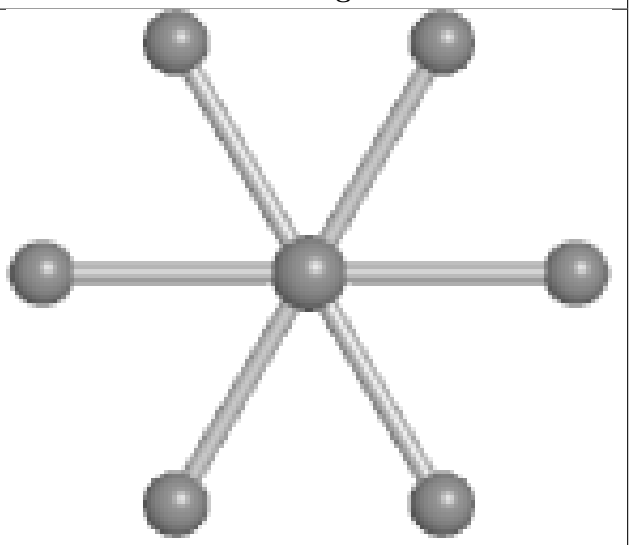
**Bond lengths**



**Bond angles**

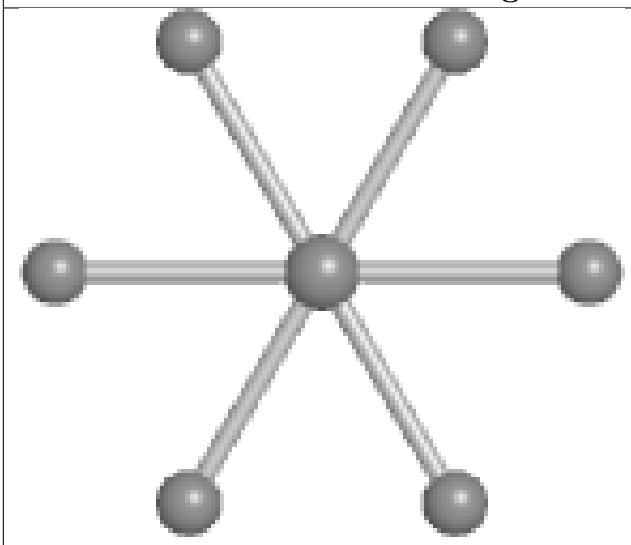


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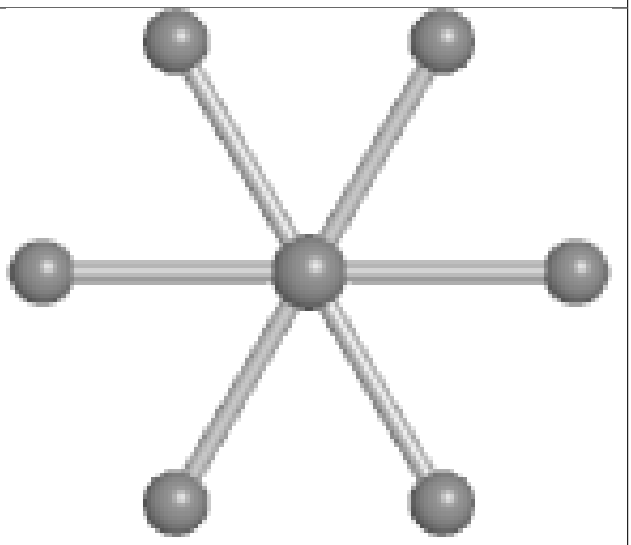


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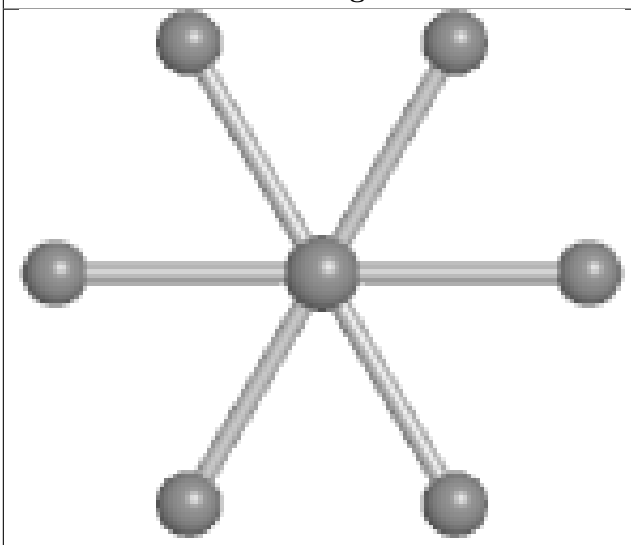
**Ligand OHX D1 3578**



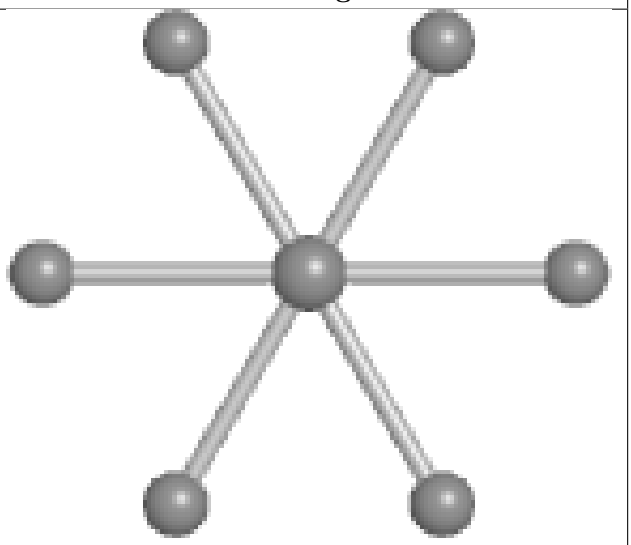
**Bond lengths**



**Bond angles**

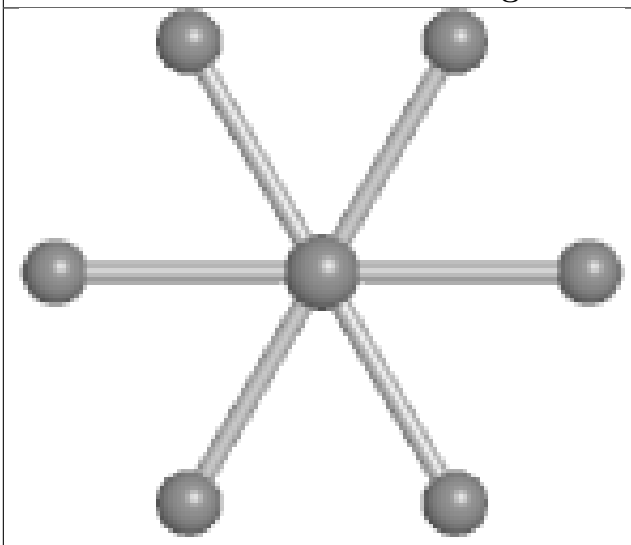


**Torsions**

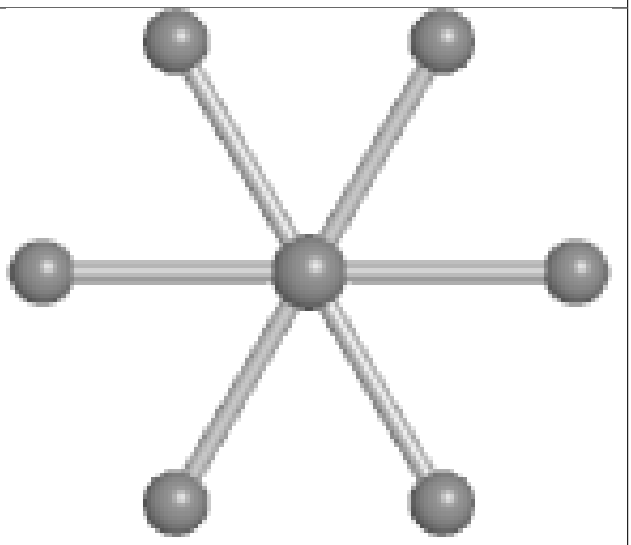


**Rings**

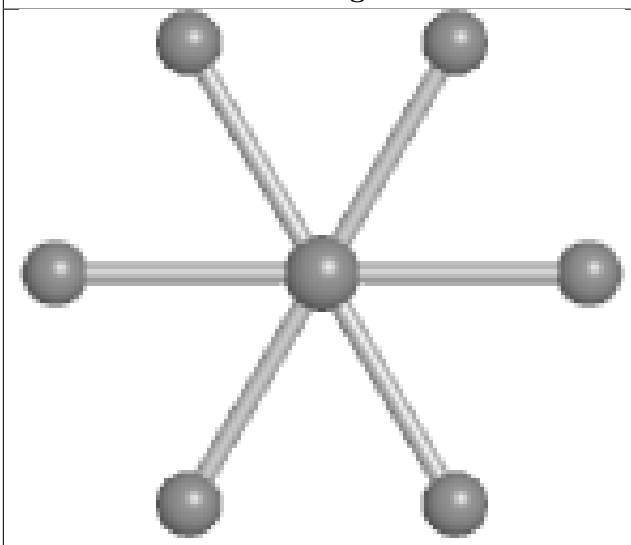
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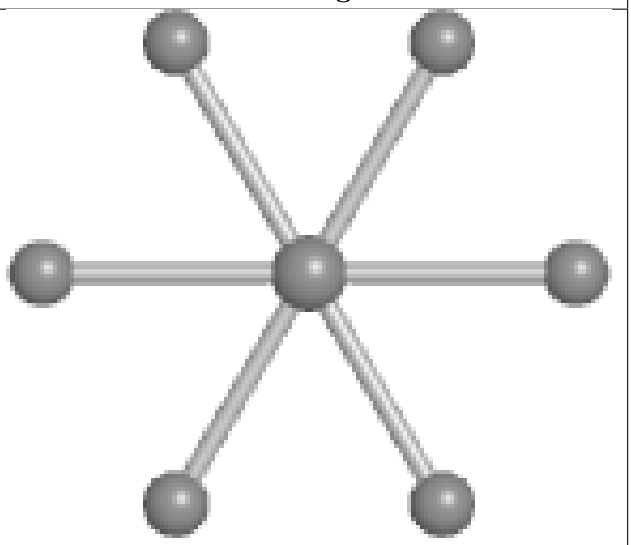
**Bond lengths**



**Bond angles**

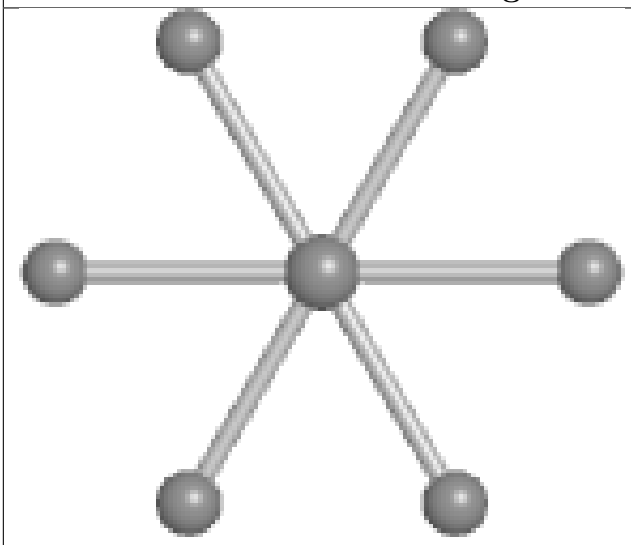


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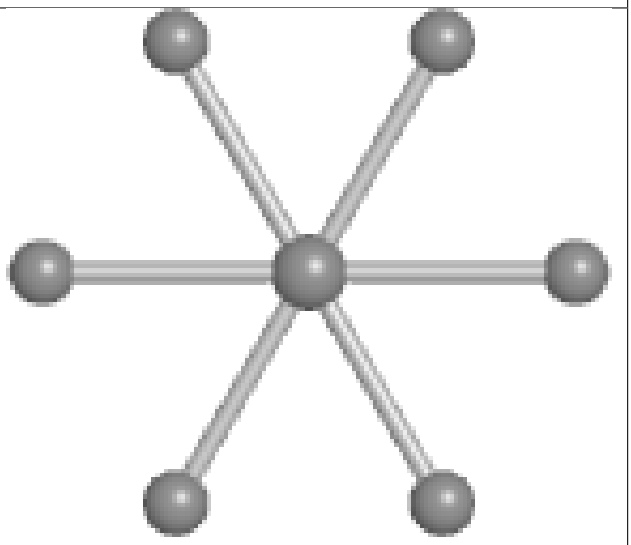


**Rings**

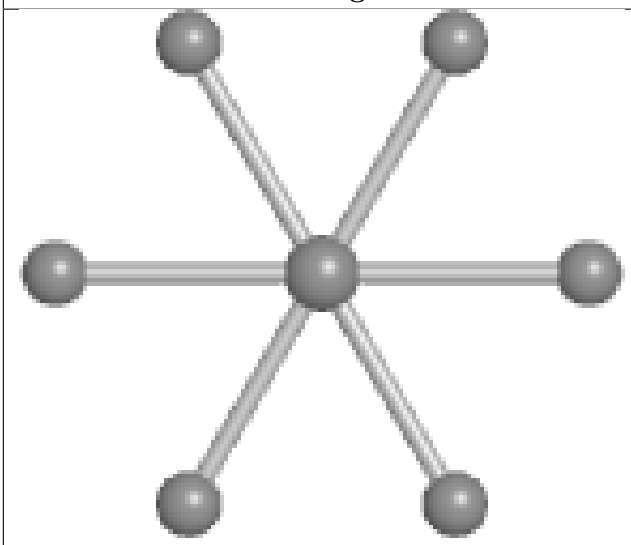
**Ligand OHX C1 1976**



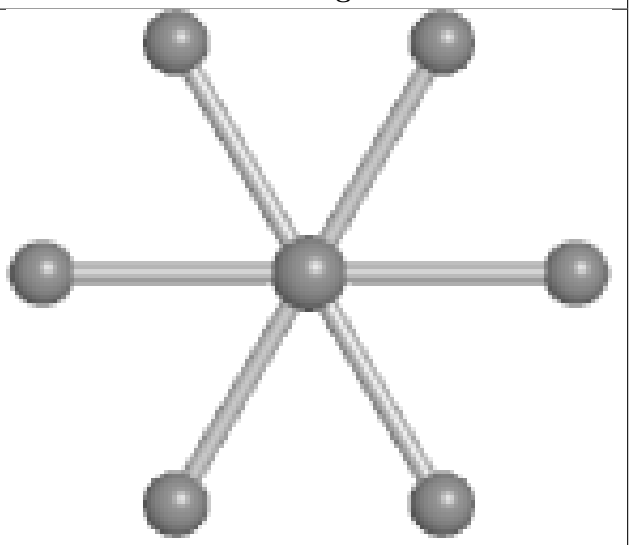
**Bond lengths**



**Bond angles**

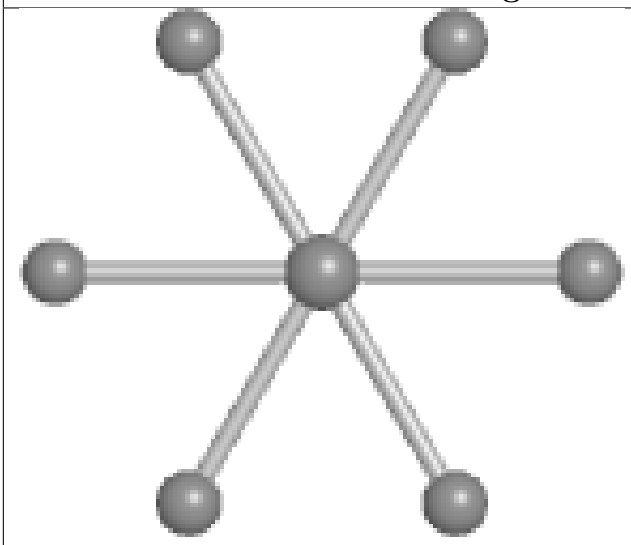


**Torsions**

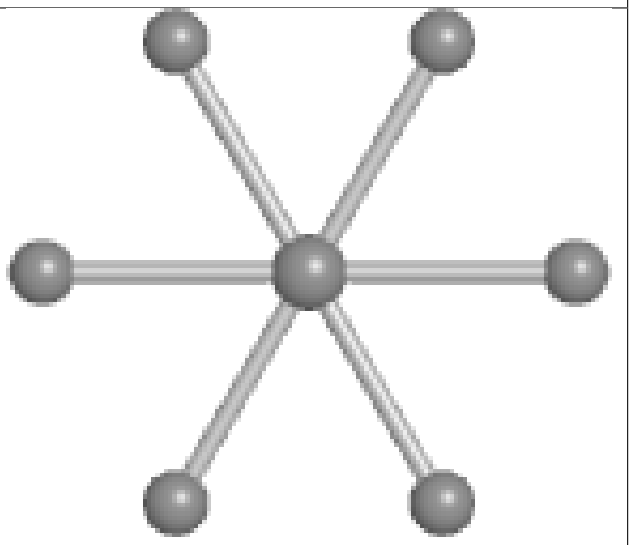


**Rings**

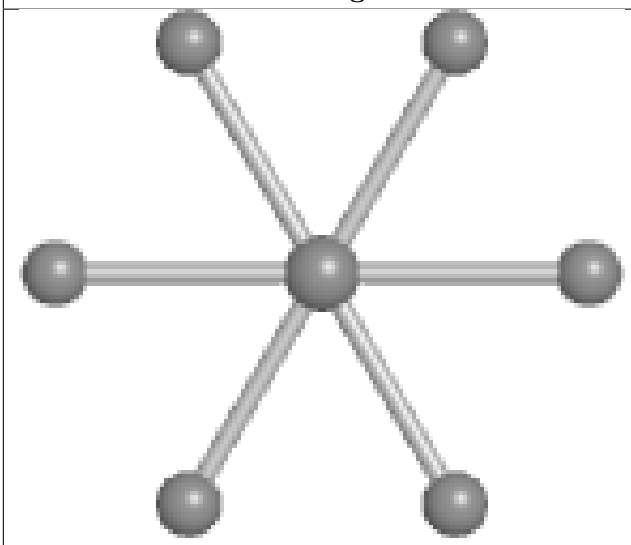
**Ligand OHX C1 1995**



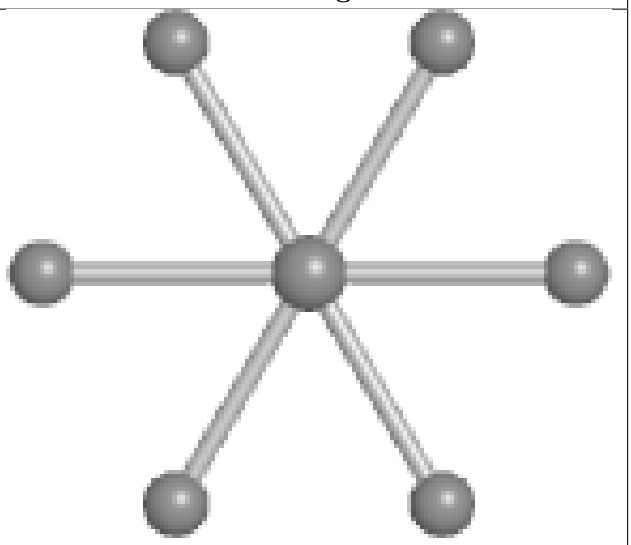
**Bond lengths**



**Bond angles**

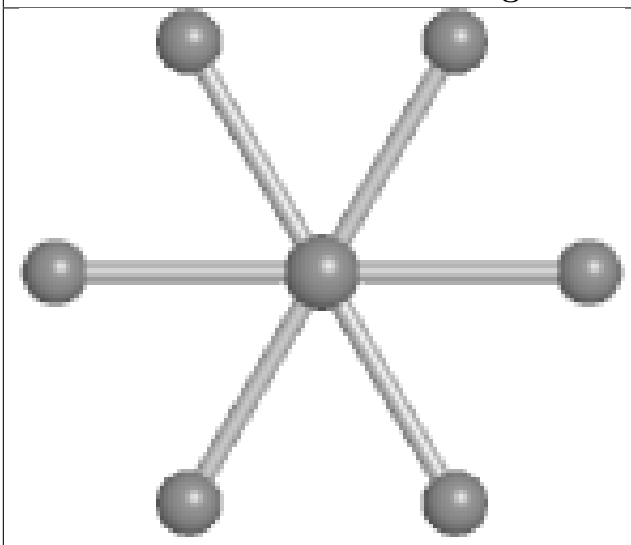


**Torsions**

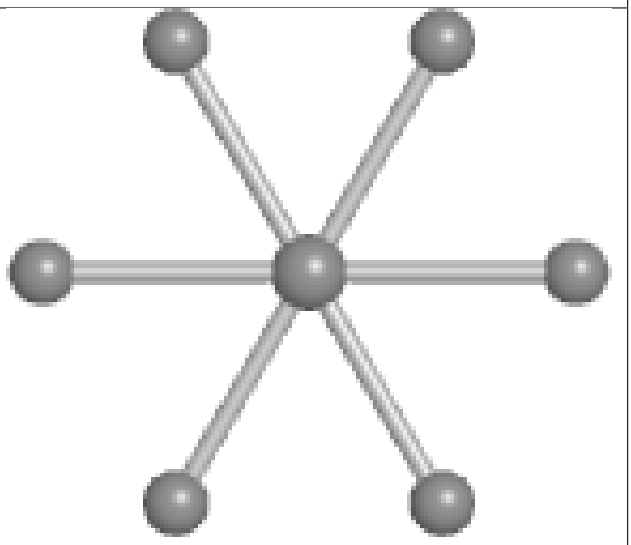


**Rings**

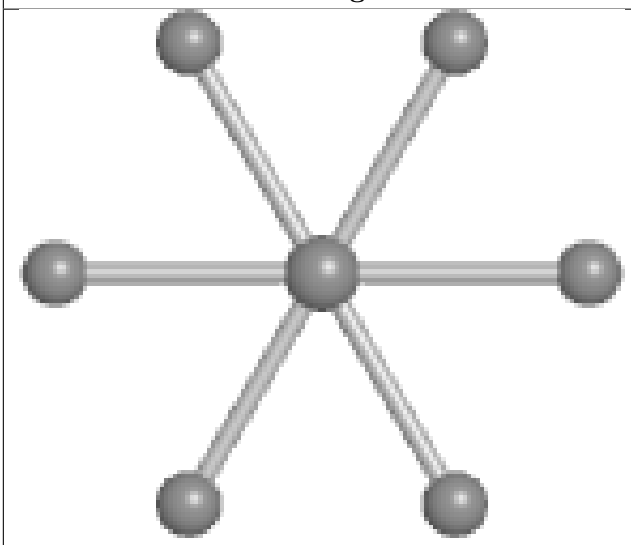
**Ligand OHX A1 1988**



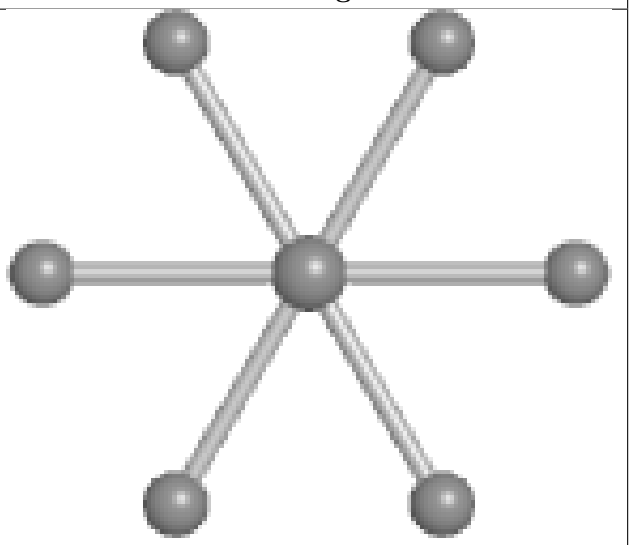
**Bond lengths**



**Bond angles**

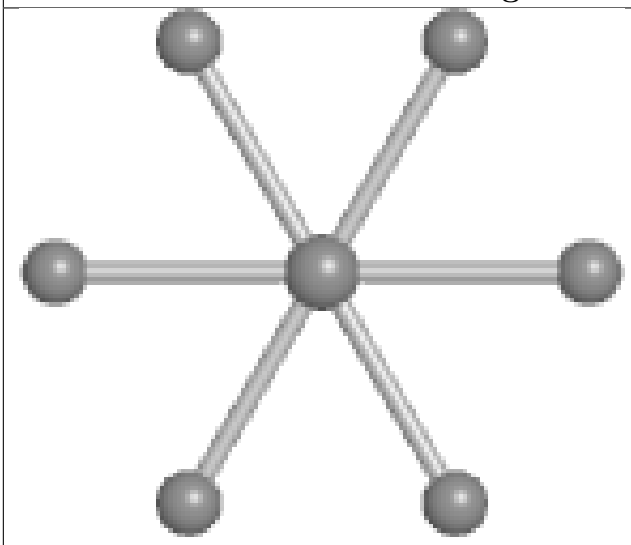


**Torsions**

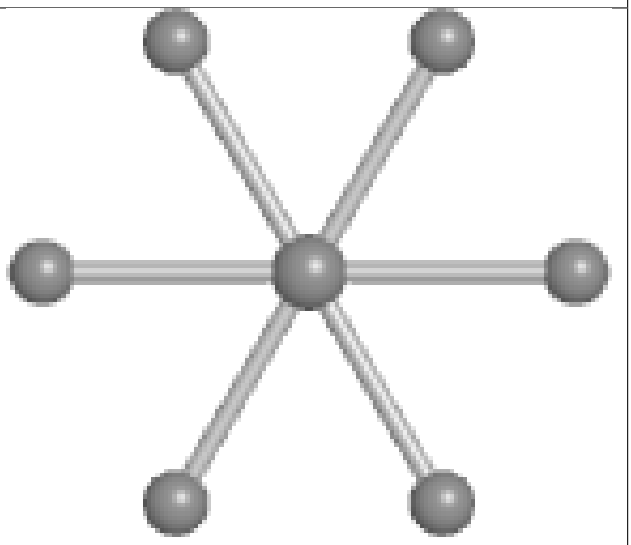


**Rings**

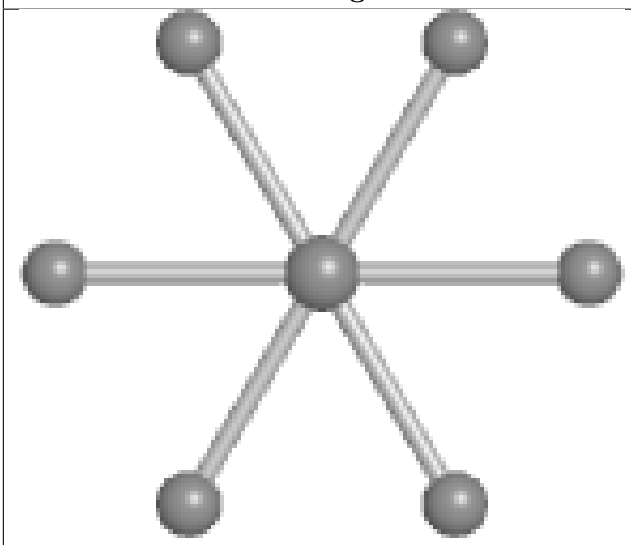
**Ligand OHX A1 1966**



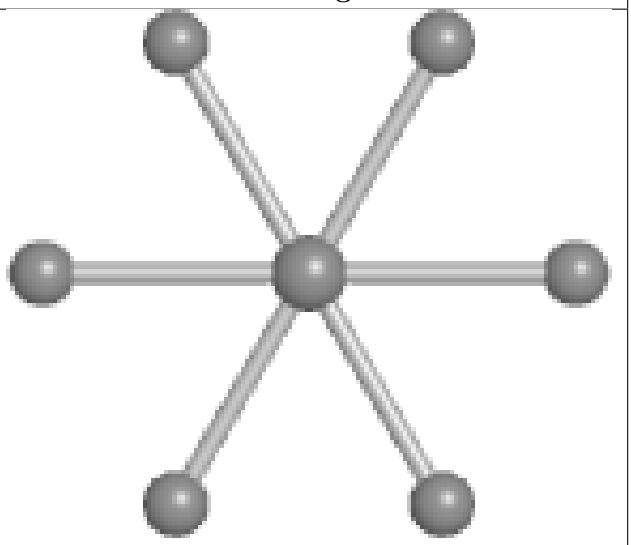
**Bond lengths**



**Bond angles**

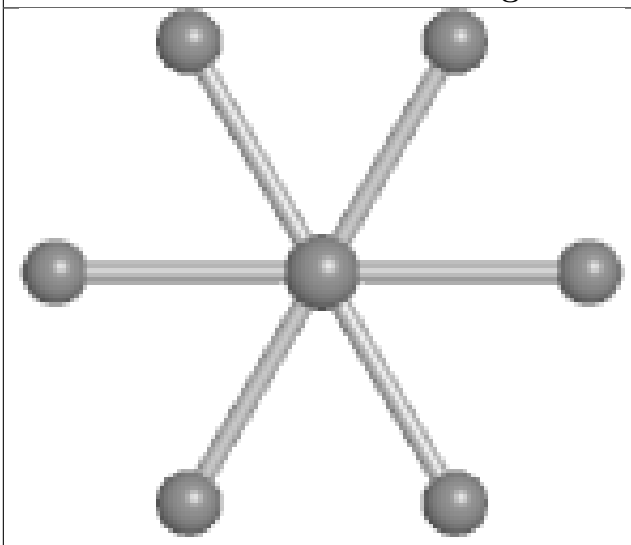


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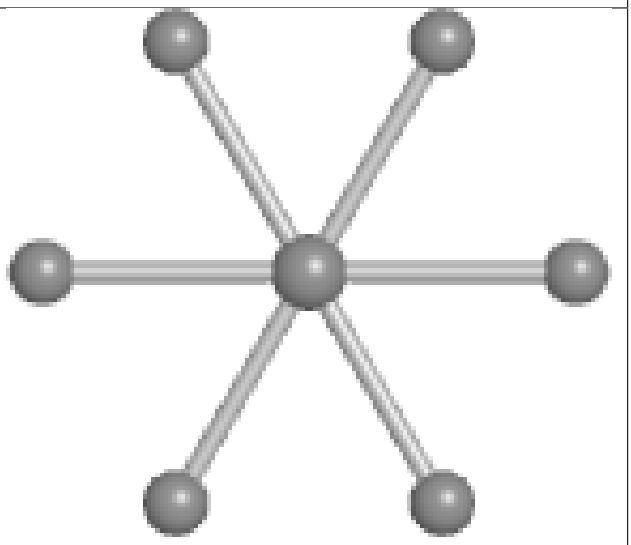


**Rings**

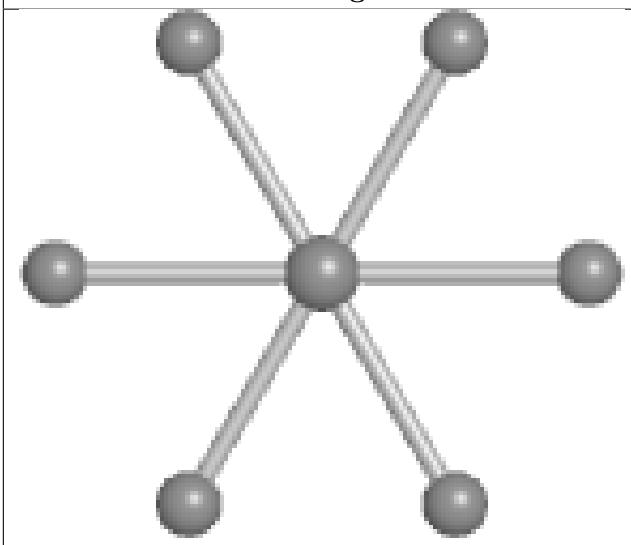
**Ligand OHX D1 3593**



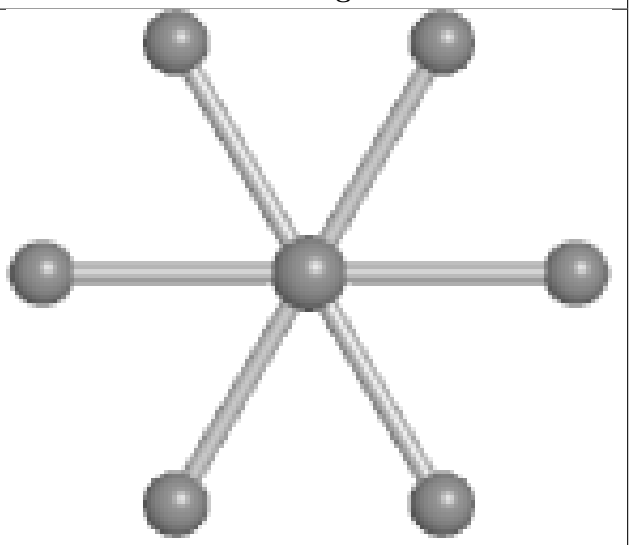
**Bond lengths**



**Bond angles**

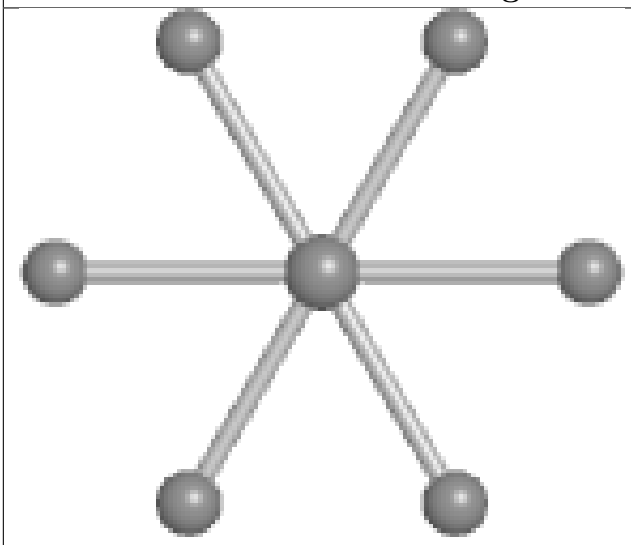


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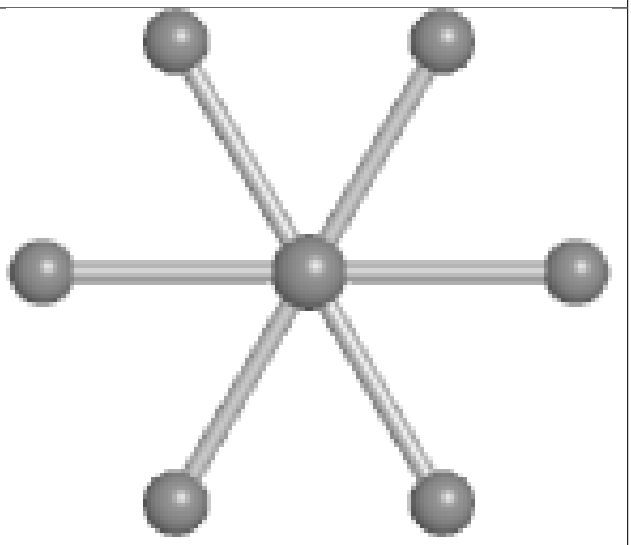


**Rings**

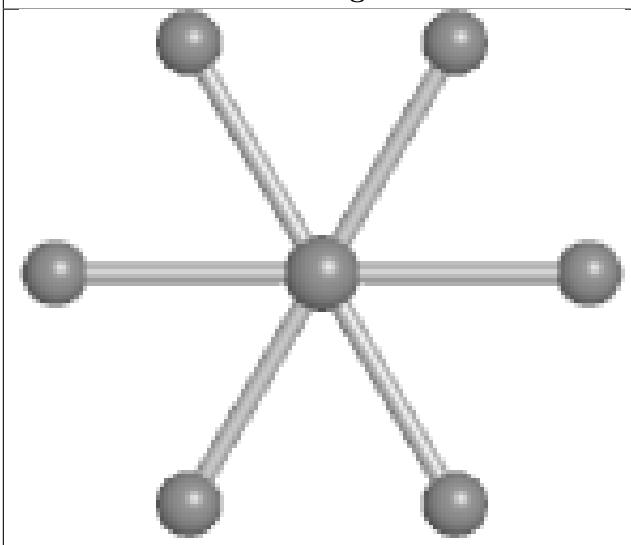
**Ligand OHX A1 1974**



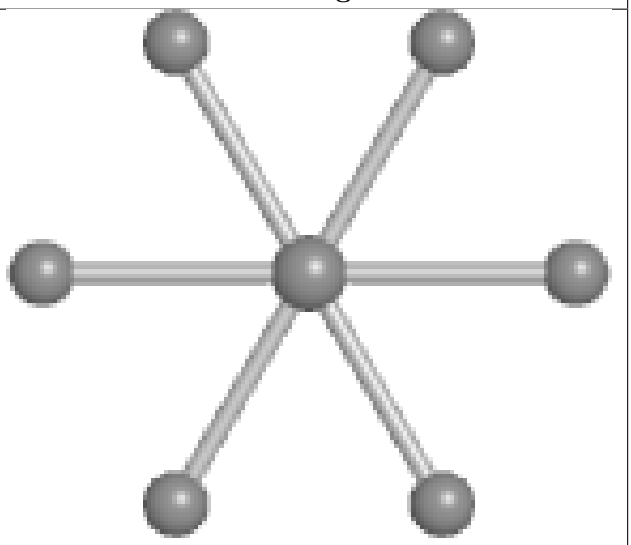
**Bond lengths**



**Bond angles**

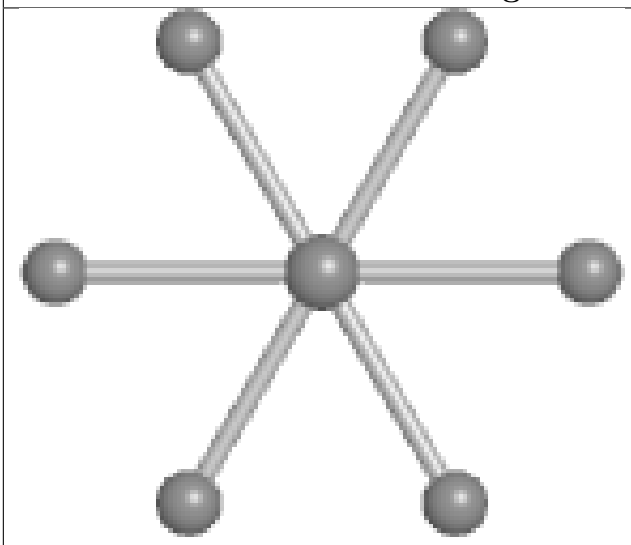


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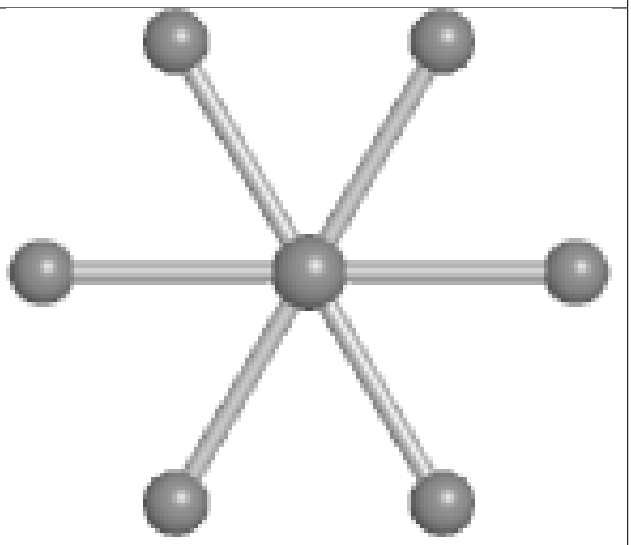


**Rings**

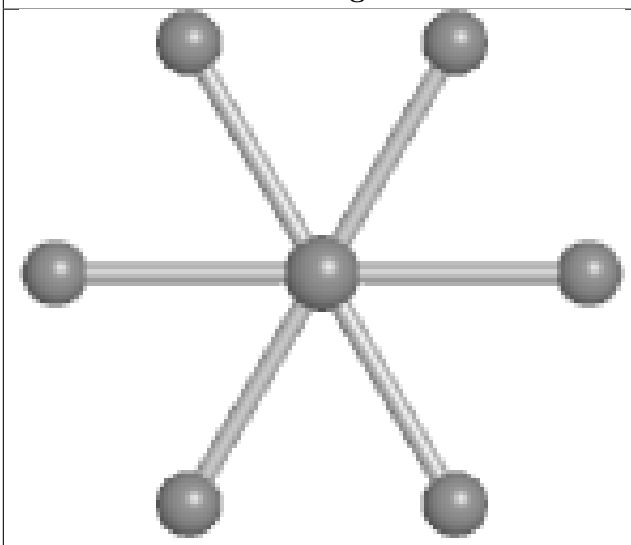
**Ligand OHX C1 1996**



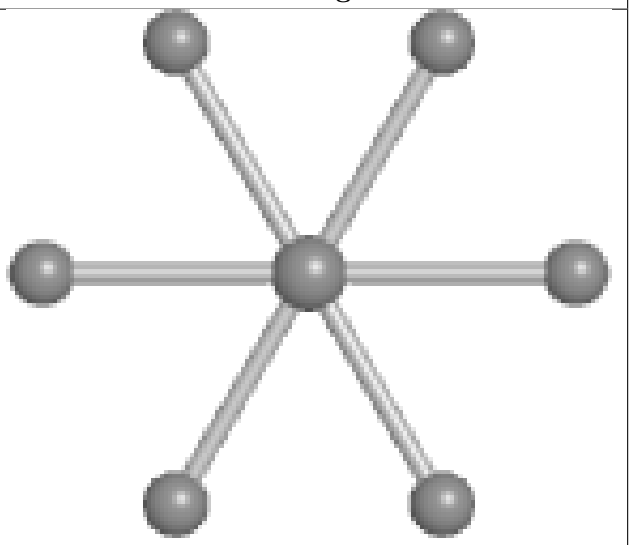
**Bond lengths**



**Bond angles**

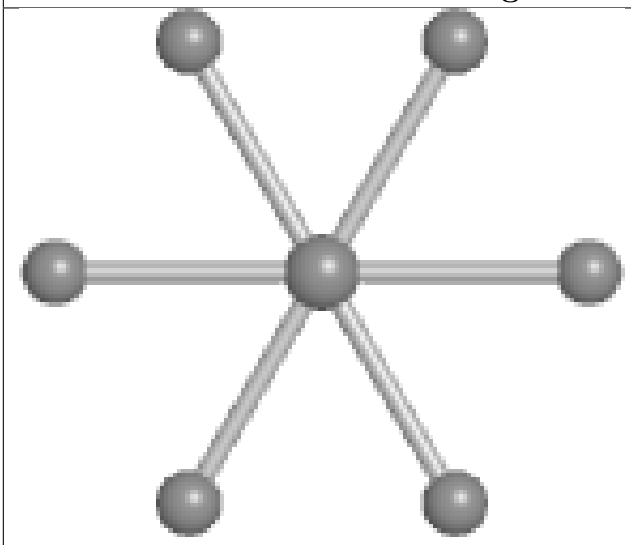


**Torsions**

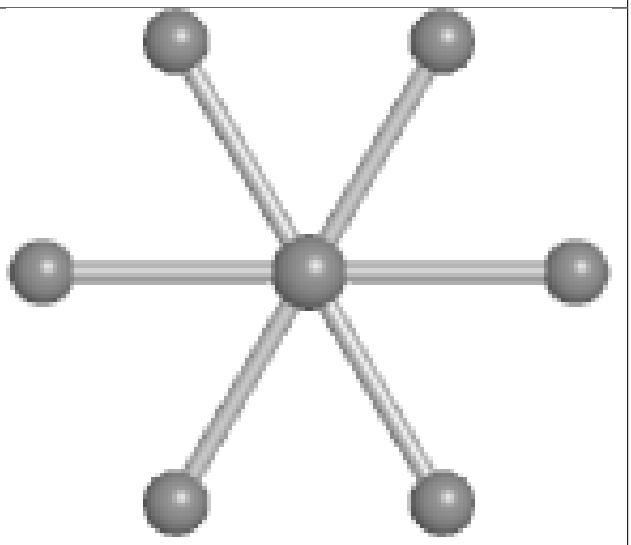


**Rings**

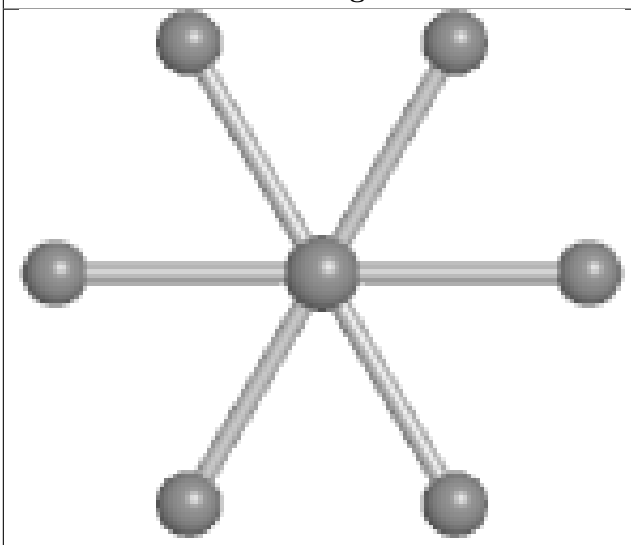
**Ligand OHX D1 3535**



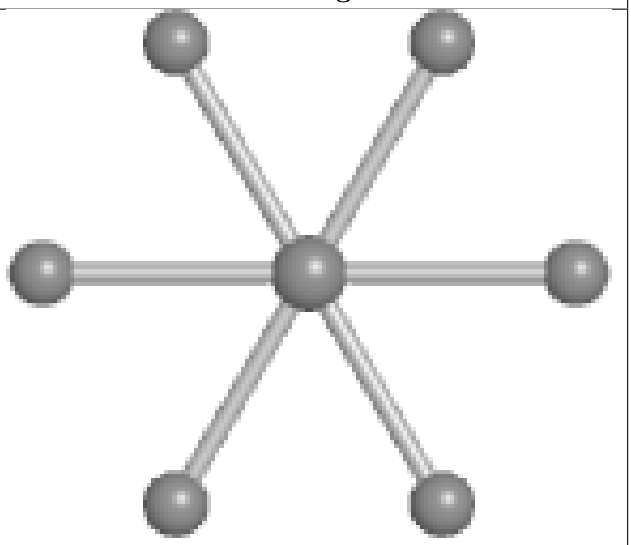
**Bond lengths**



**Bond angles**

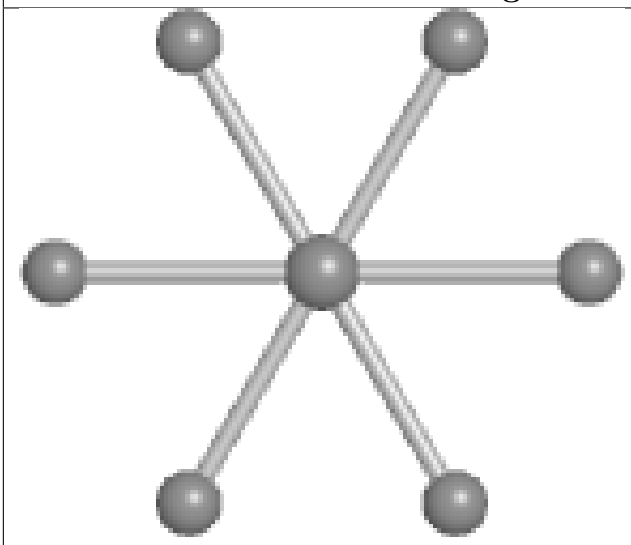


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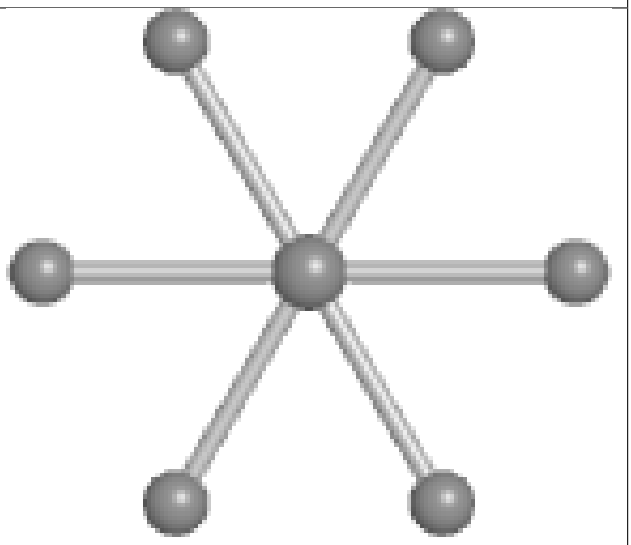


**Rings**

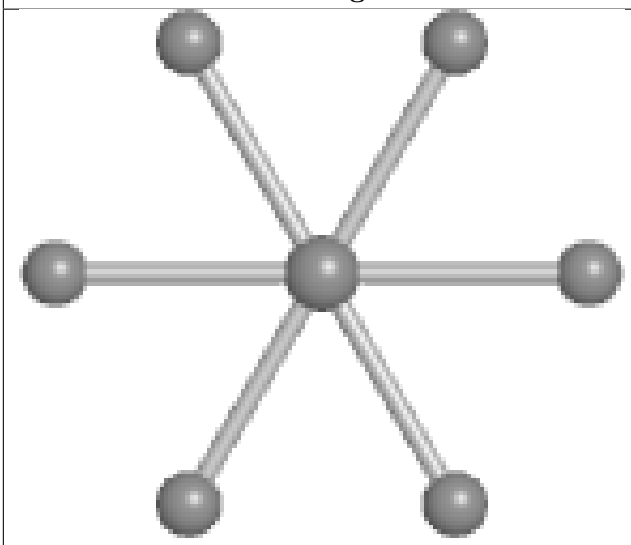
**Ligand OHX B1 3548**



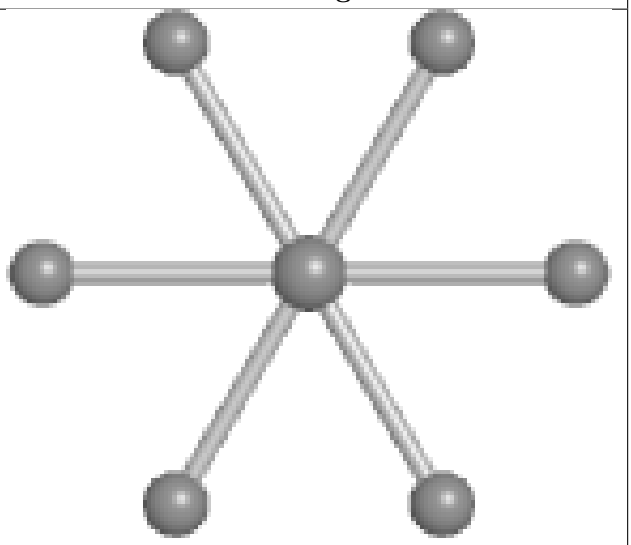
**Bond lengths**



**Bond angles**

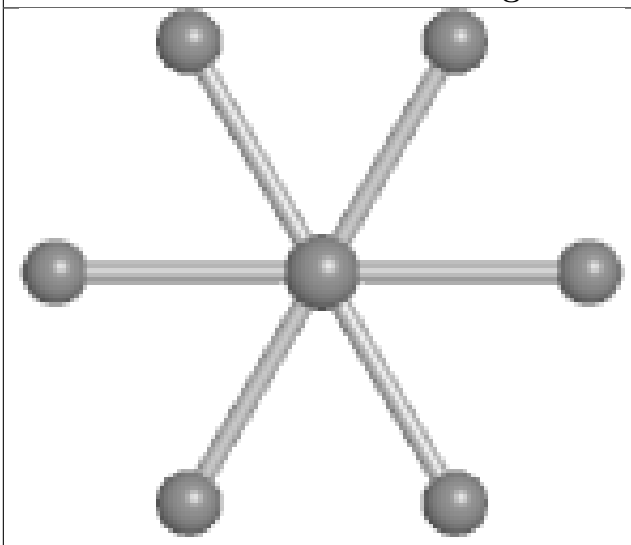


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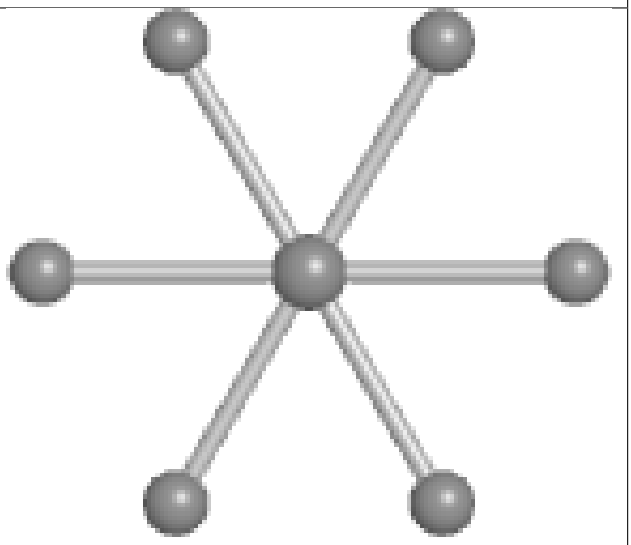


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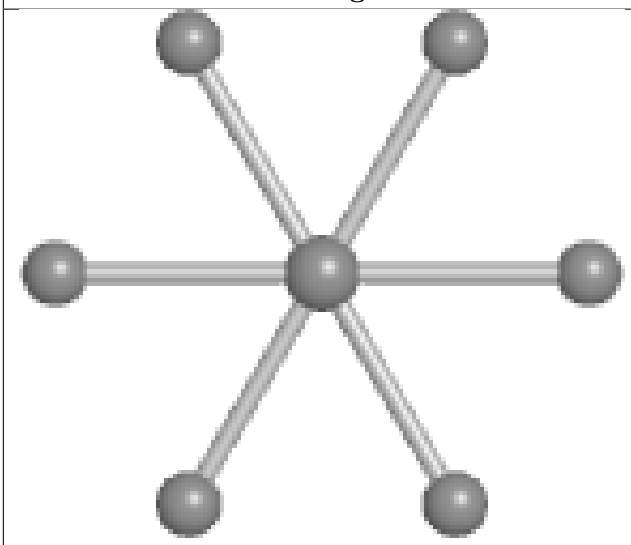
**Ligand OHX B1 3555**



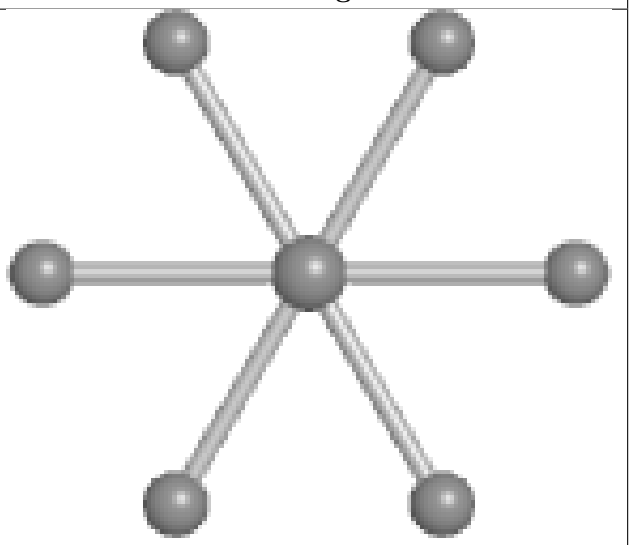
**Bond lengths**



**Bond angles**

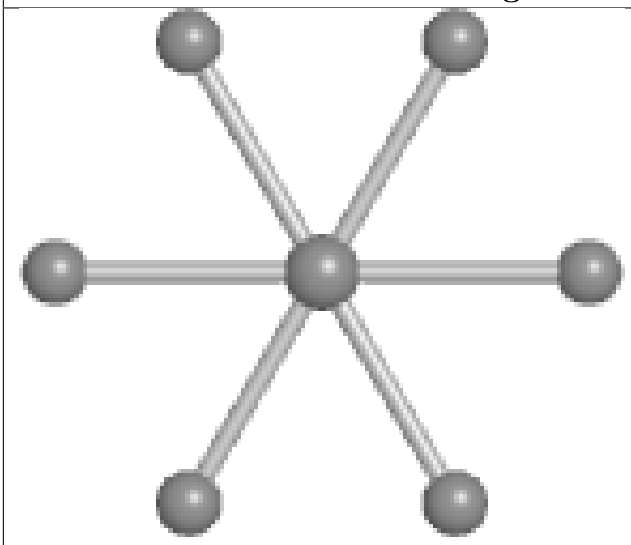


**Torsions**

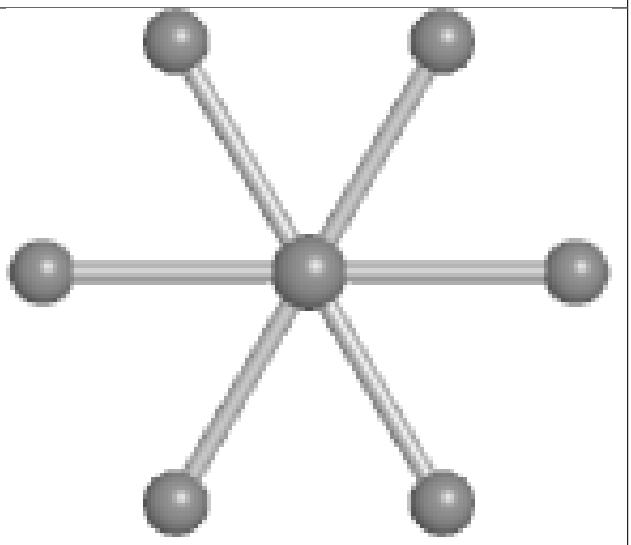


**Rings**

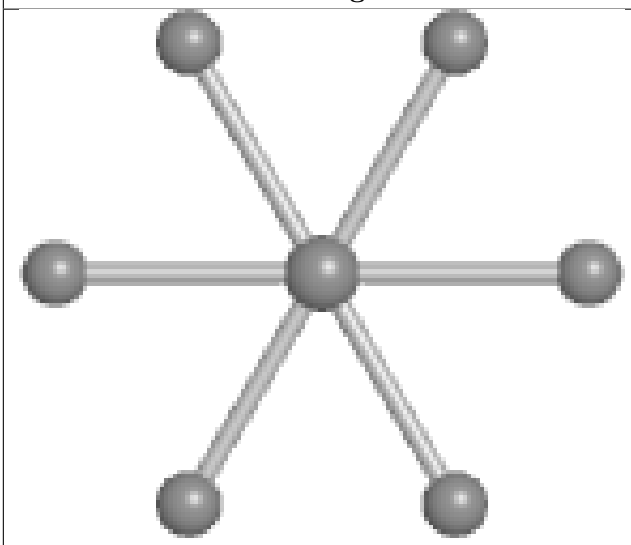
**Ligand OHX C1 1989**



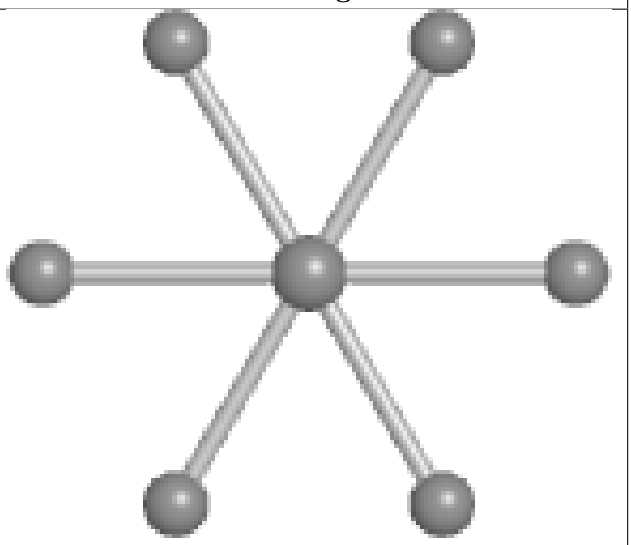
**Bond lengths**



**Bond angles**

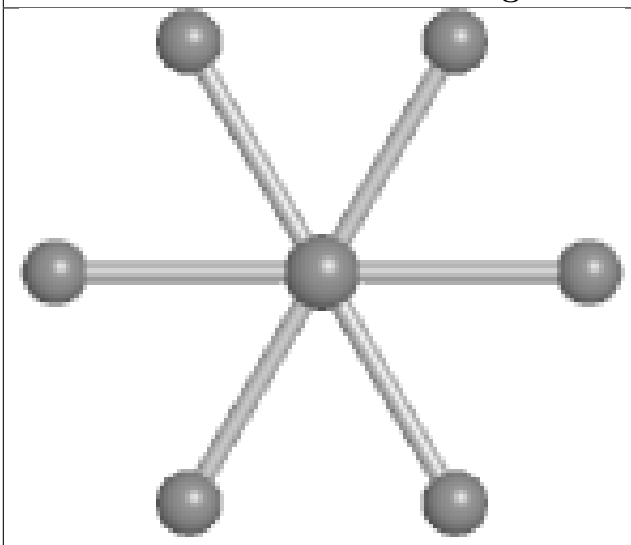


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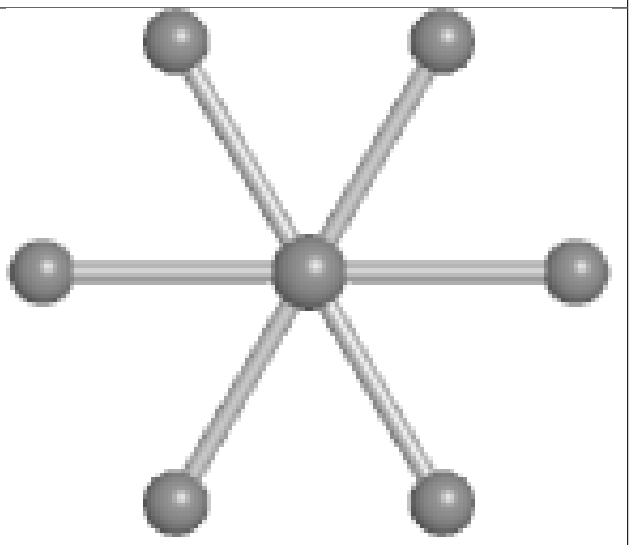


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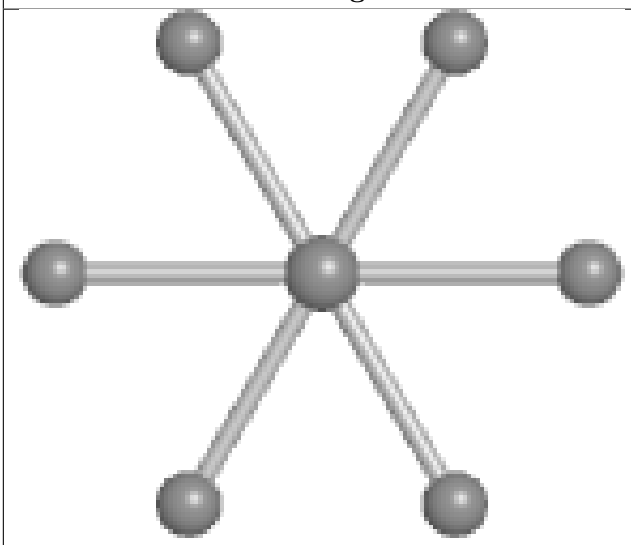
**Ligand OHX A1 1953**



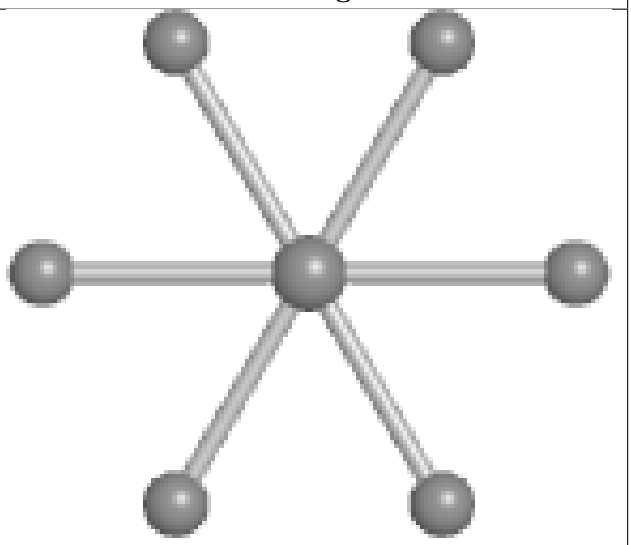
**Bond lengths**



**Bond angles**

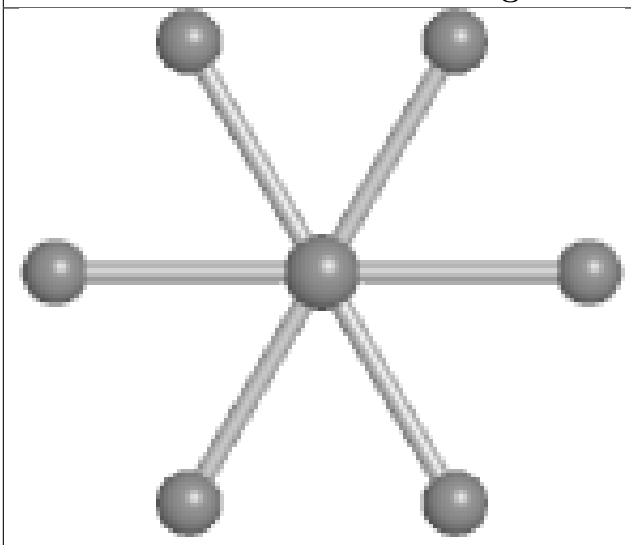


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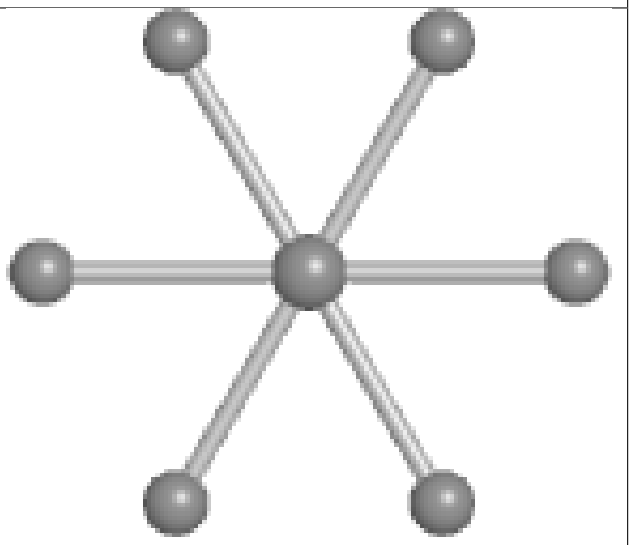


**Rings**

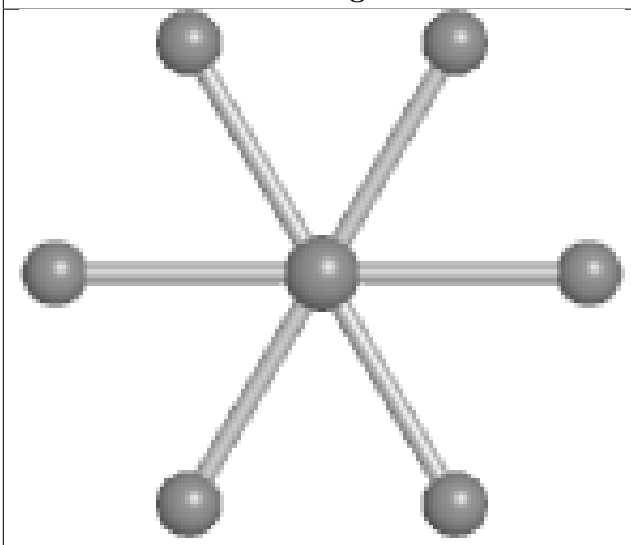
**Ligand OHX D1 3522**



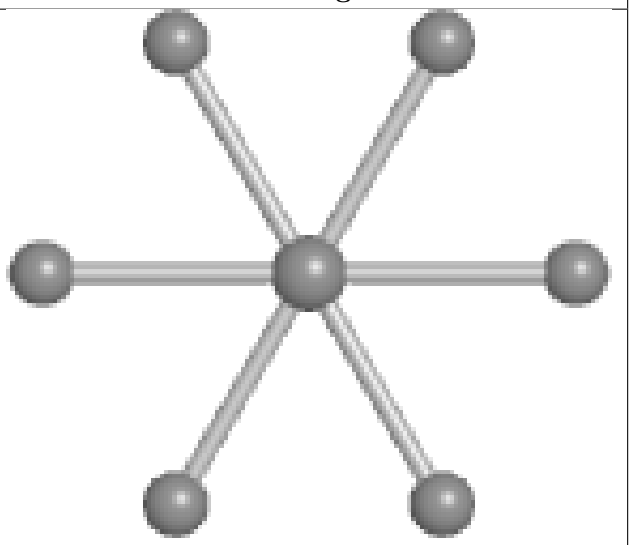
**Bond lengths**



**Bond angles**

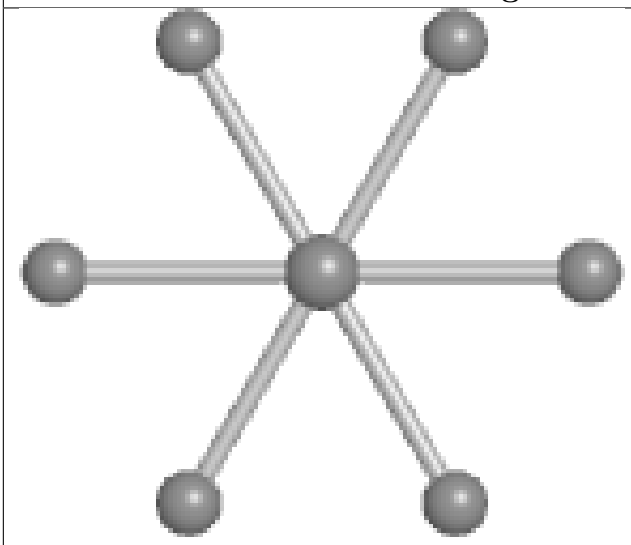


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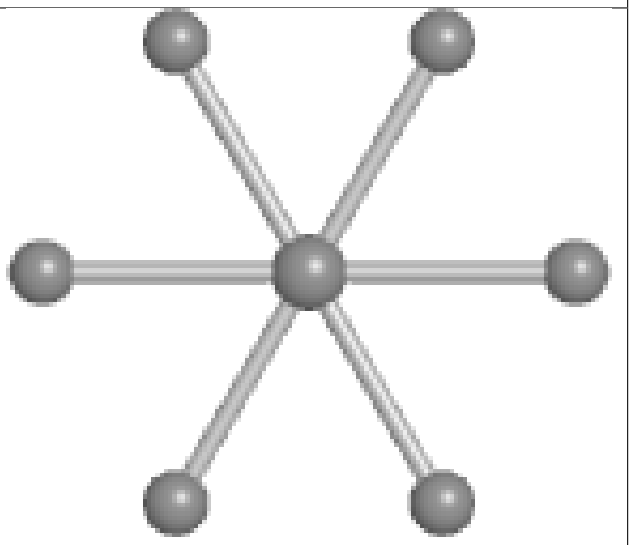


**Rings**

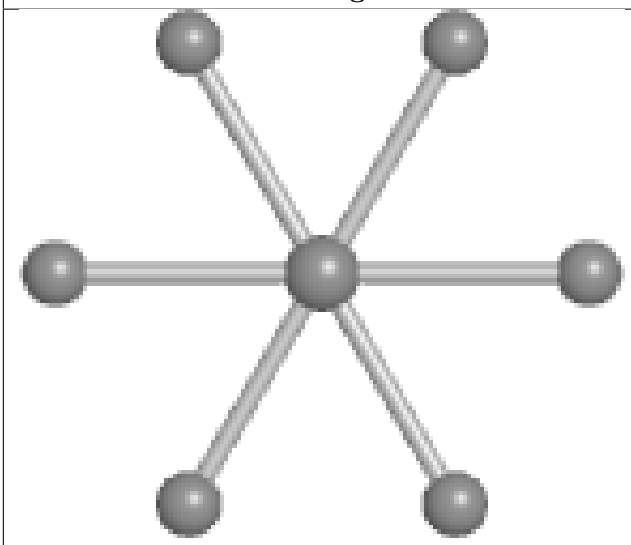
**Ligand OHX D1 3605**



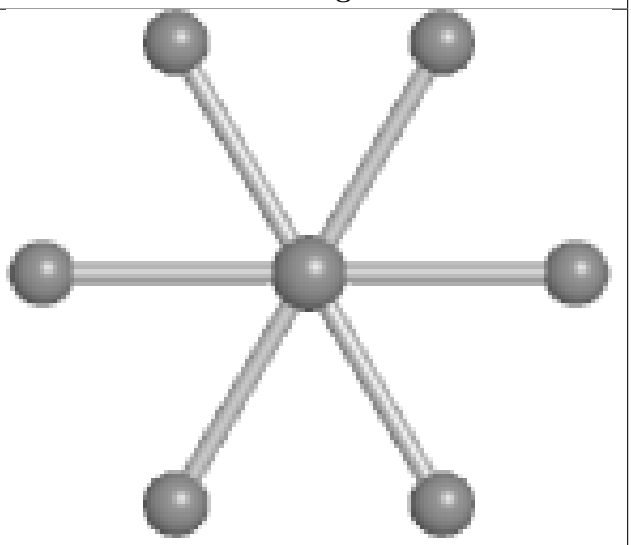
**Bond lengths**



**Bond angles**

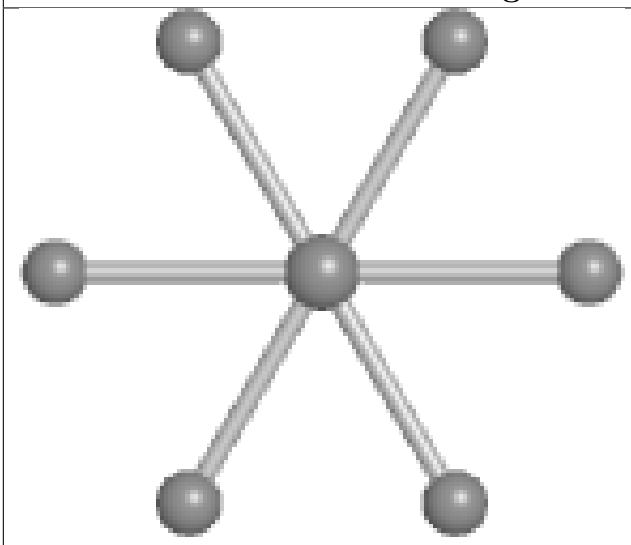


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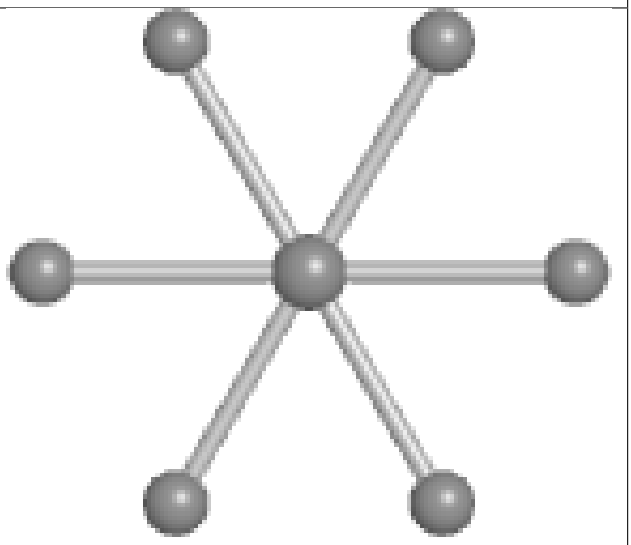


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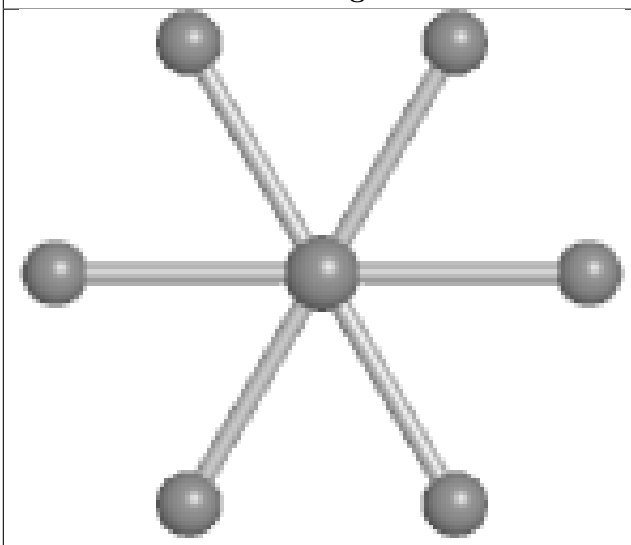
**Ligand OHX B1 3545**



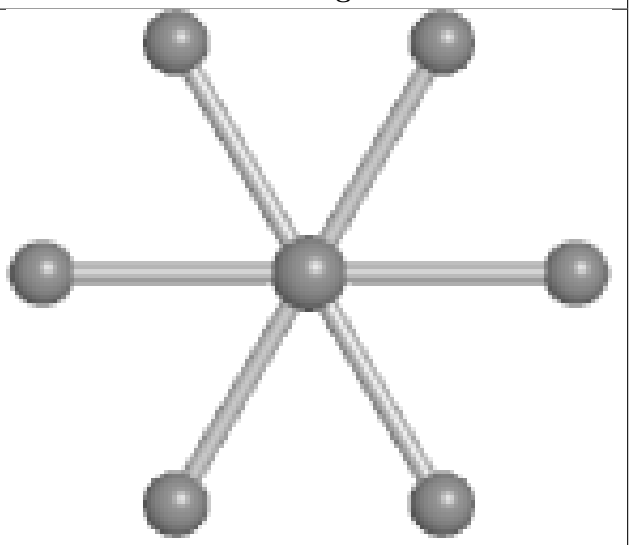
**Bond lengths**



**Bond angles**

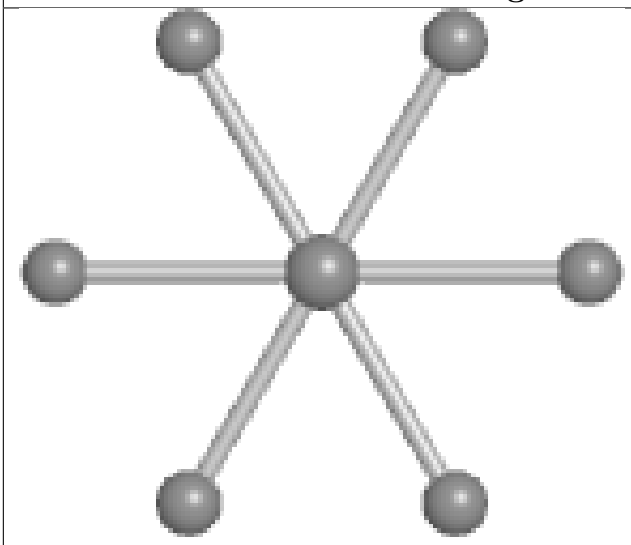


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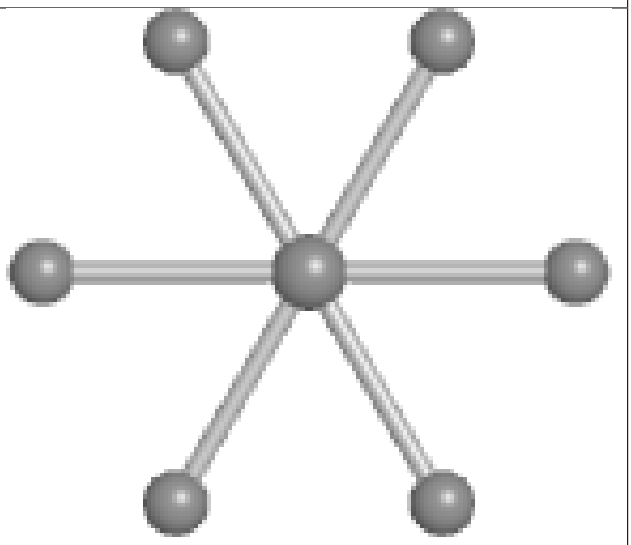


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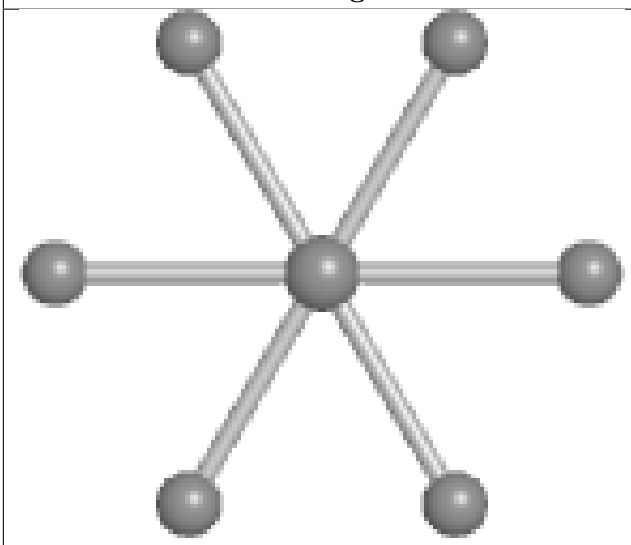
**Ligand OHX BO 301**



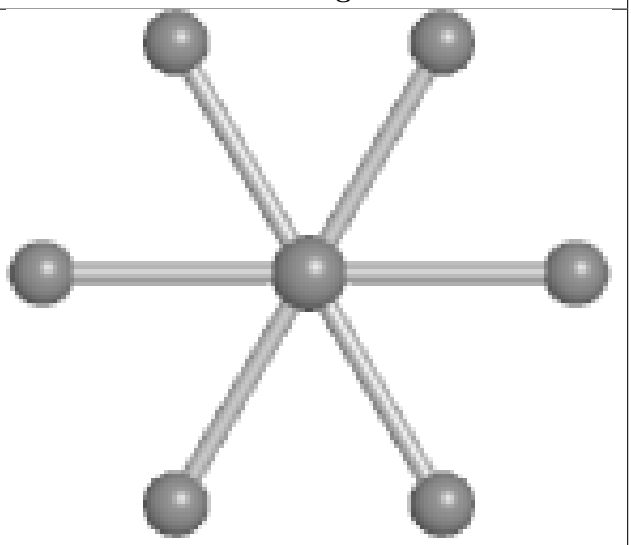
**Bond lengths**



**Bond angles**

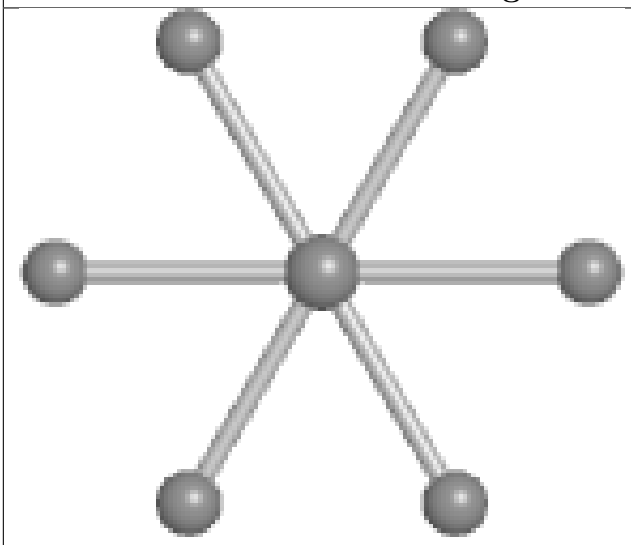


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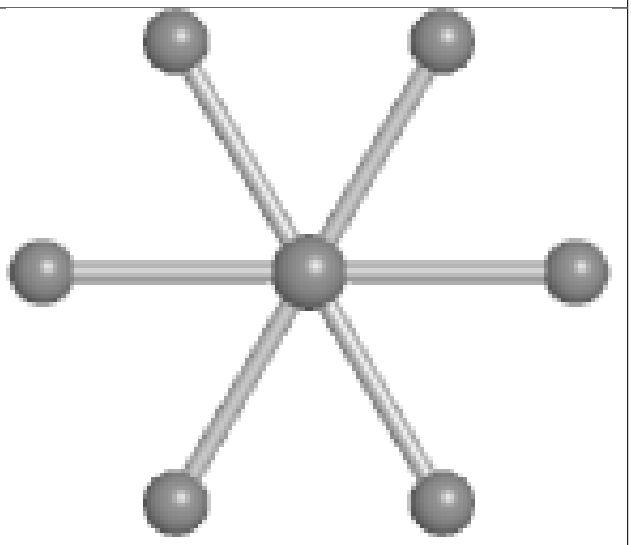


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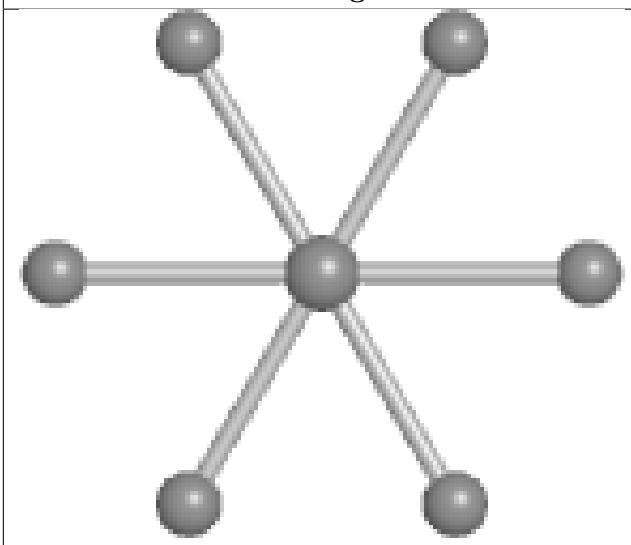
**Ligand OHX C1 1985**



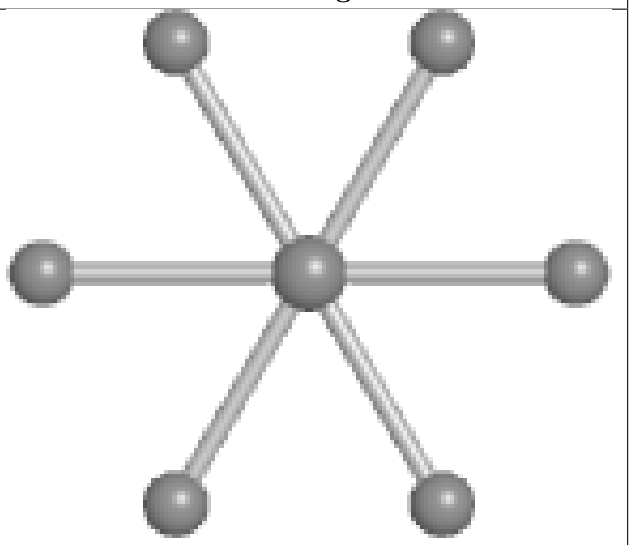
**Bond lengths**



**Bond angles**

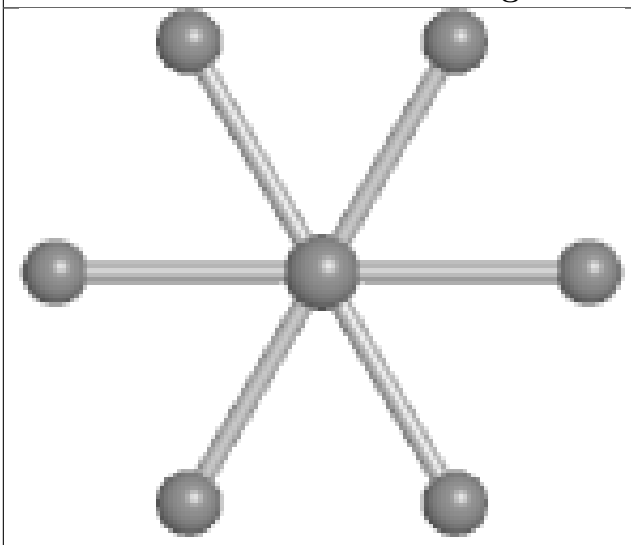


**Torsions**

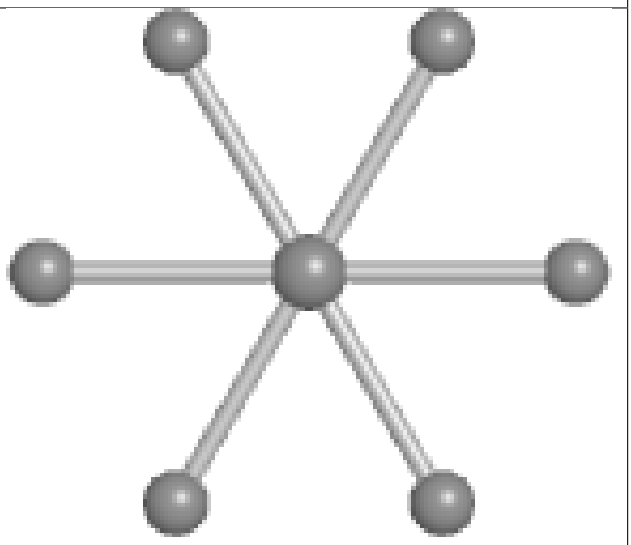


**Rings**

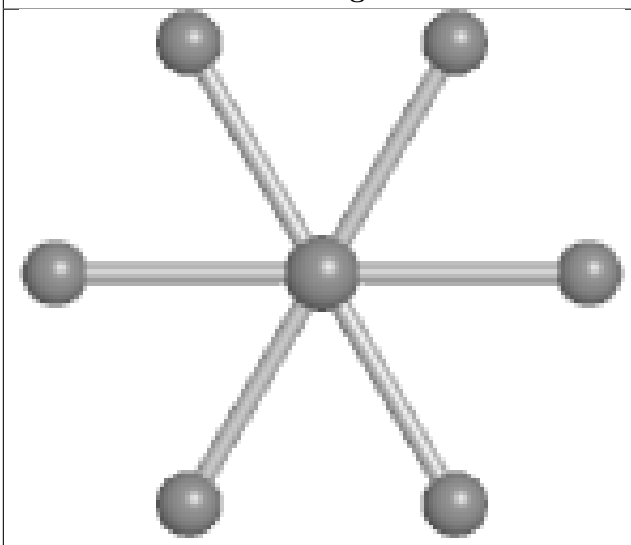
**Ligand OHX D1 3610**



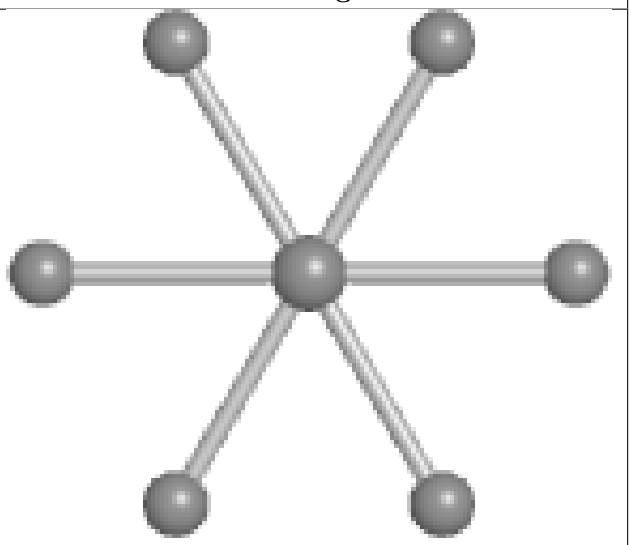
**Bond lengths**



**Bond angles**

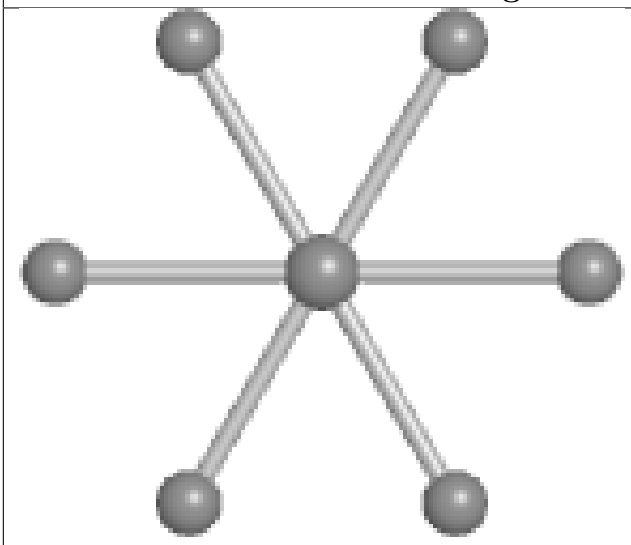


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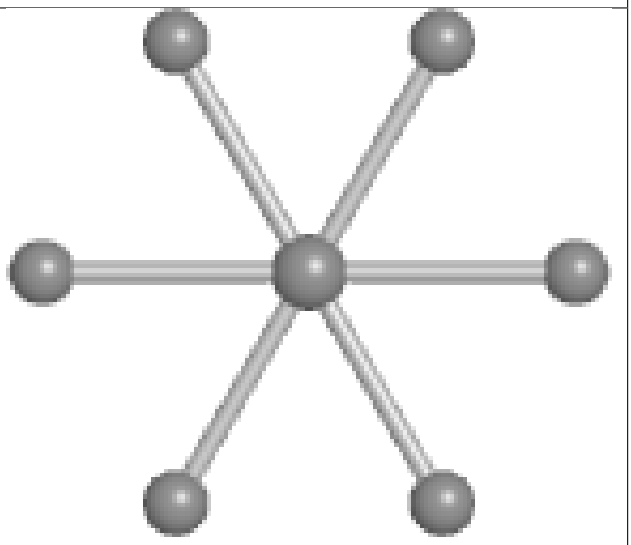


**Rings**

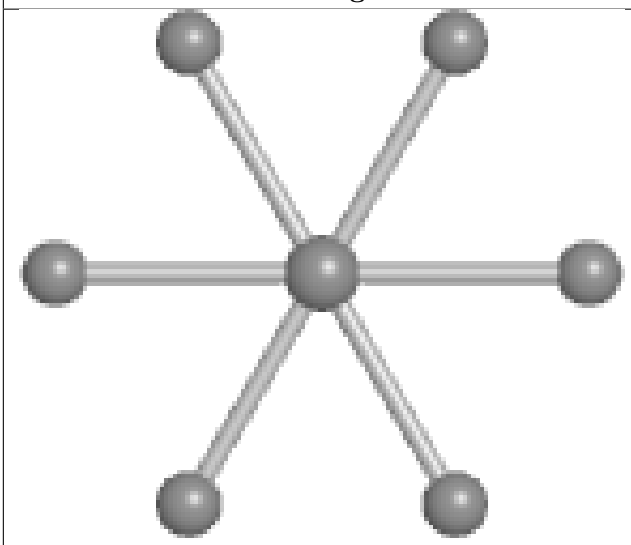
**Ligand OHX B1 3613**



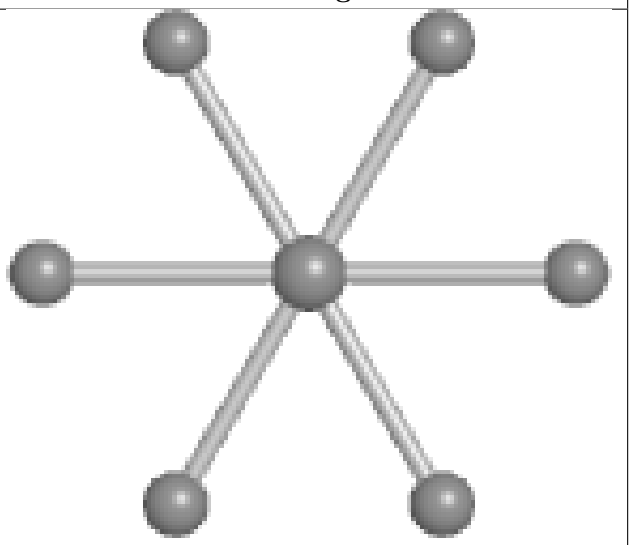
**Bond lengths**



**Bond angles**

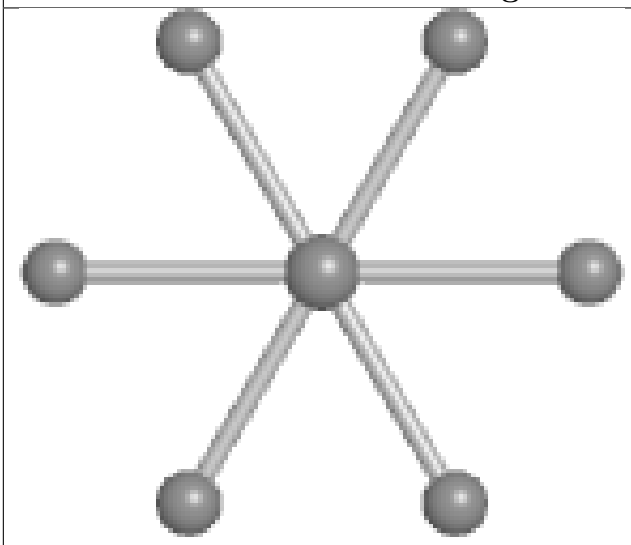


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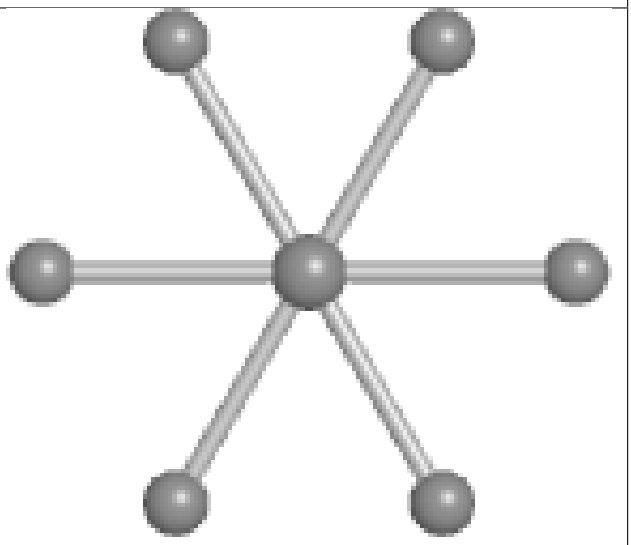


**Rings**

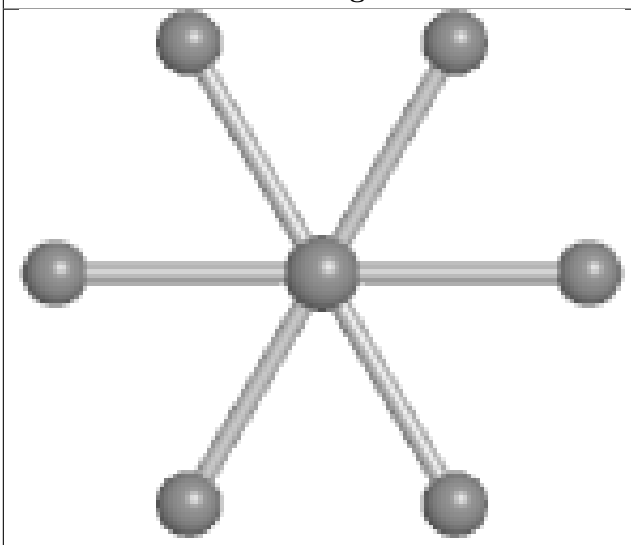
**Ligand OHX D1 3573**



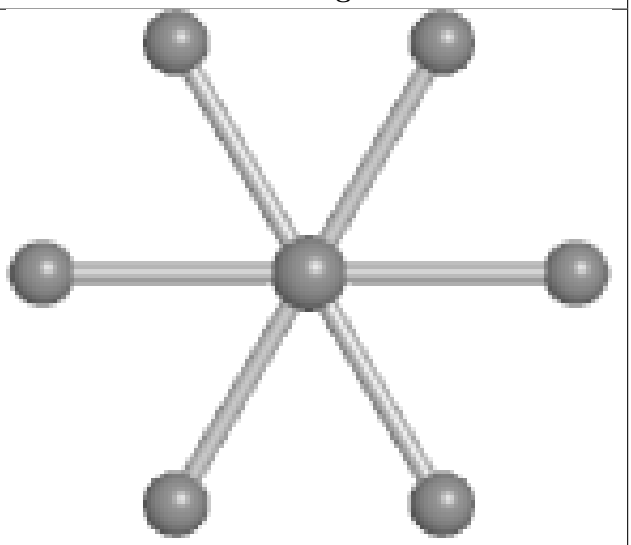
**Bond lengths**



**Bond angles**

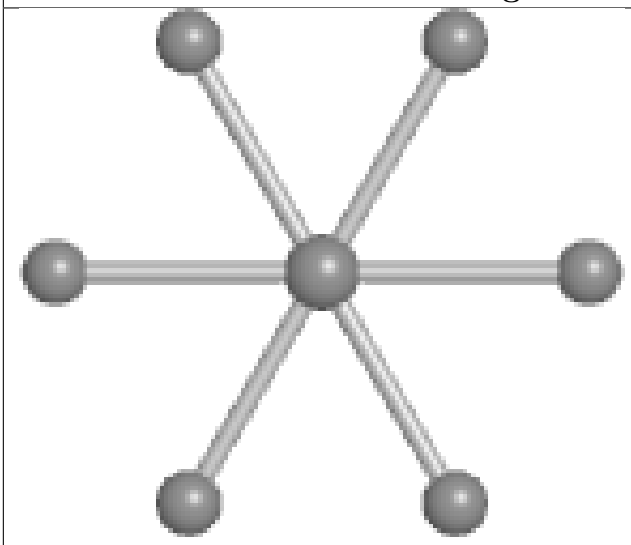


**Torsions**

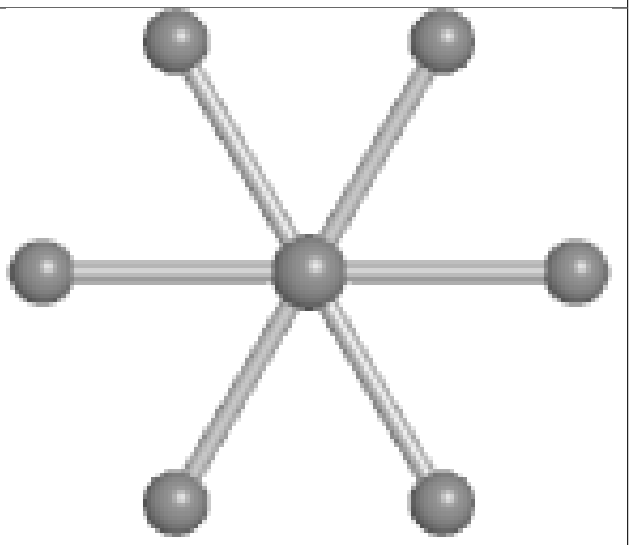


**Rings**

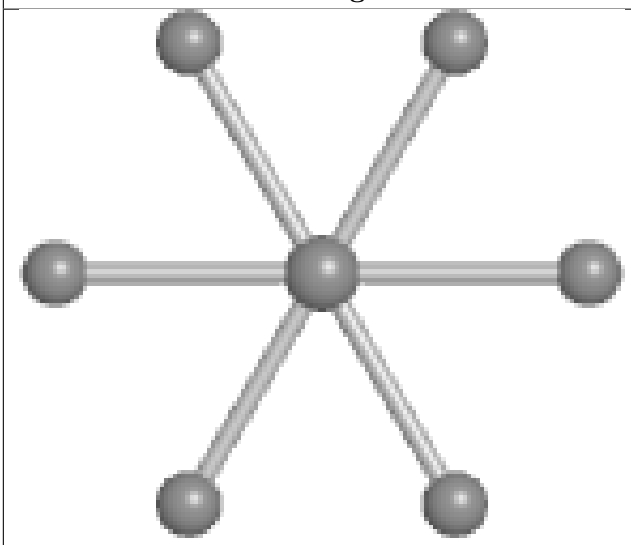
**Ligand OHX C1 1988**



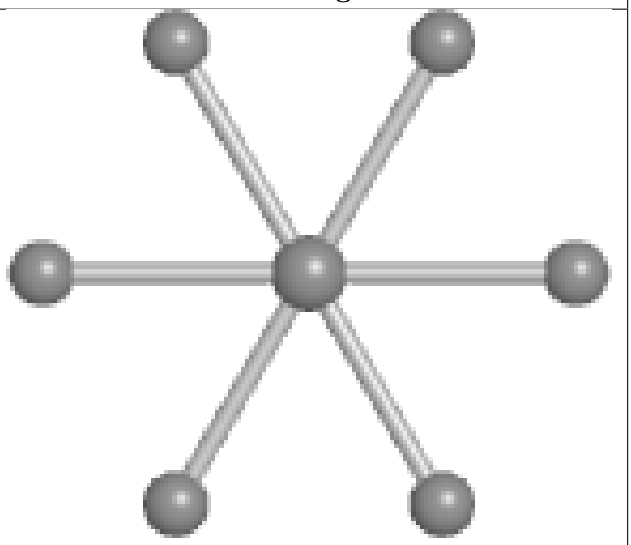
**Bond lengths**



**Bond angles**

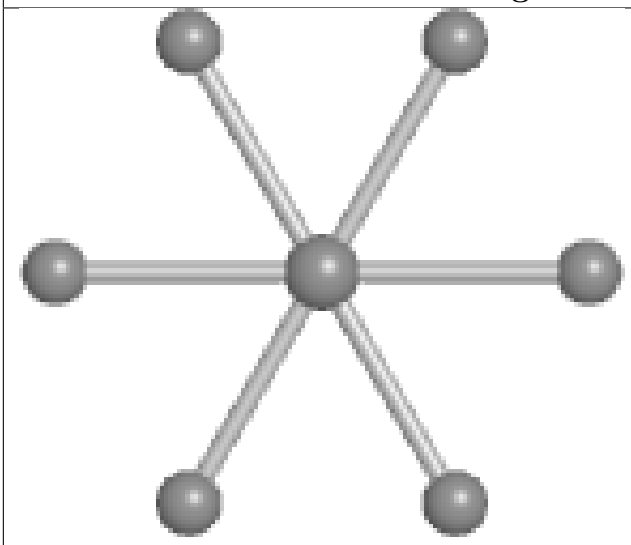


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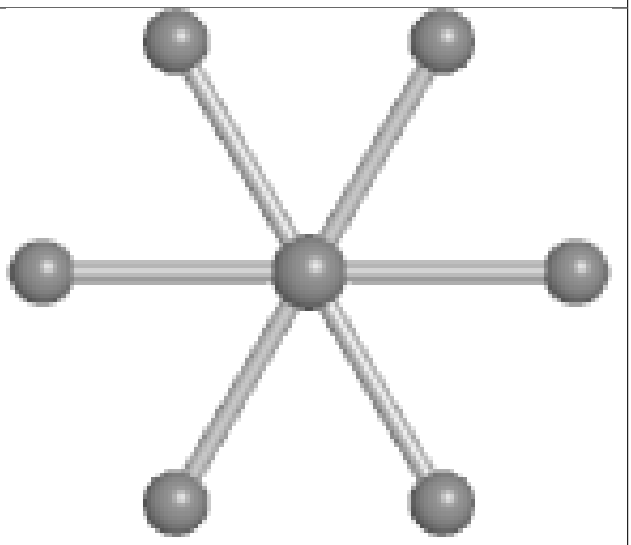


**Rings**

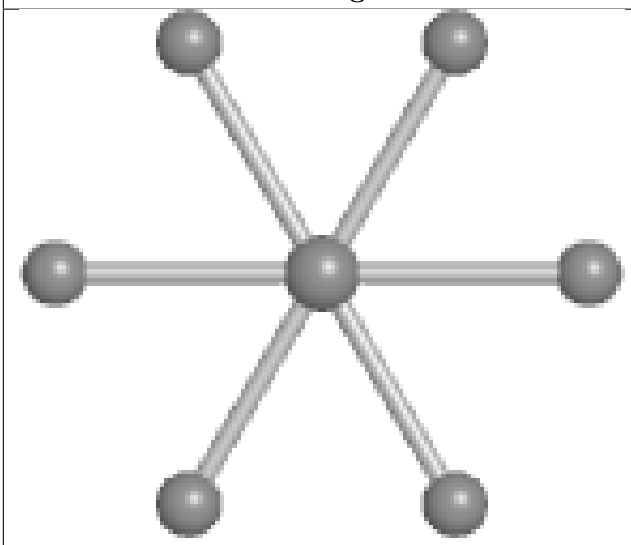
**Ligand OHX B2 208**



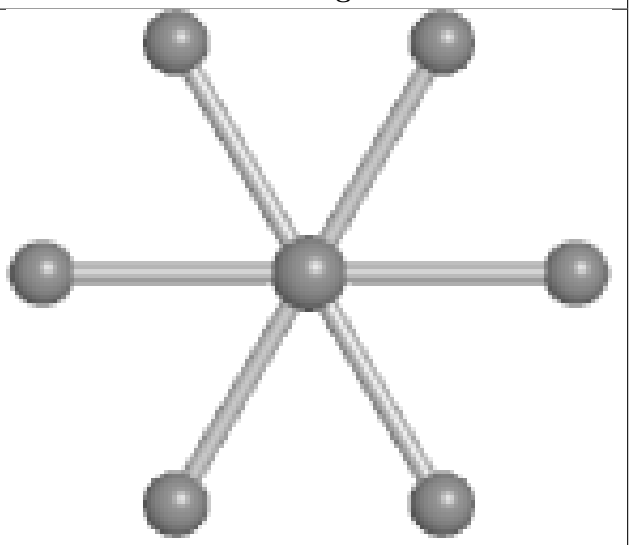
**Bond lengths**



**Bond angles**

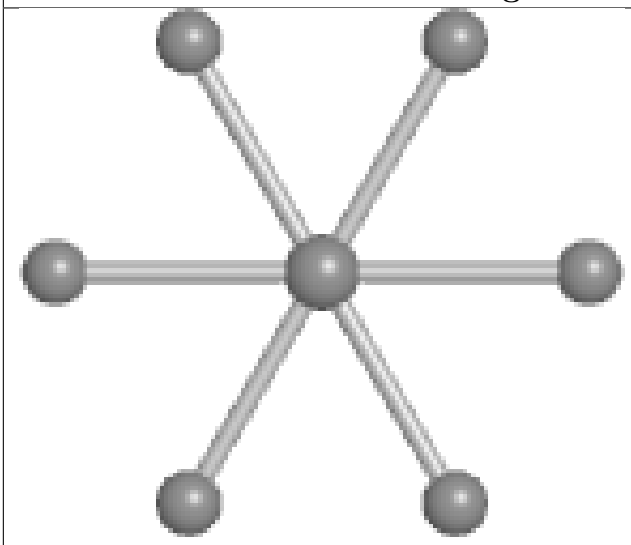


**Torsions**

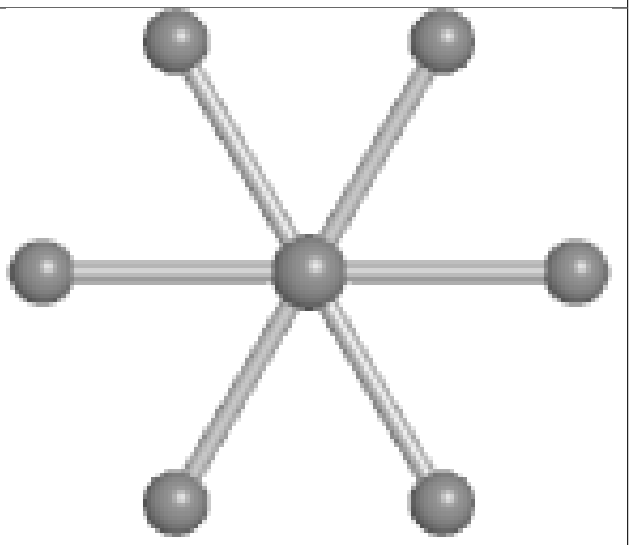


**Rings**

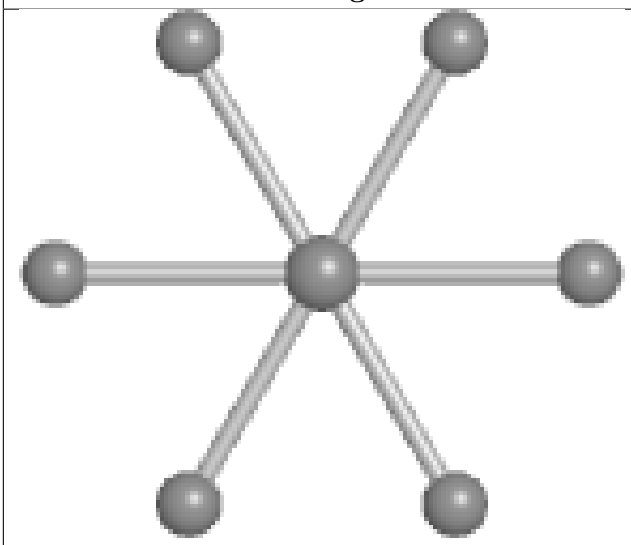
**Ligand OHX B1 3551**



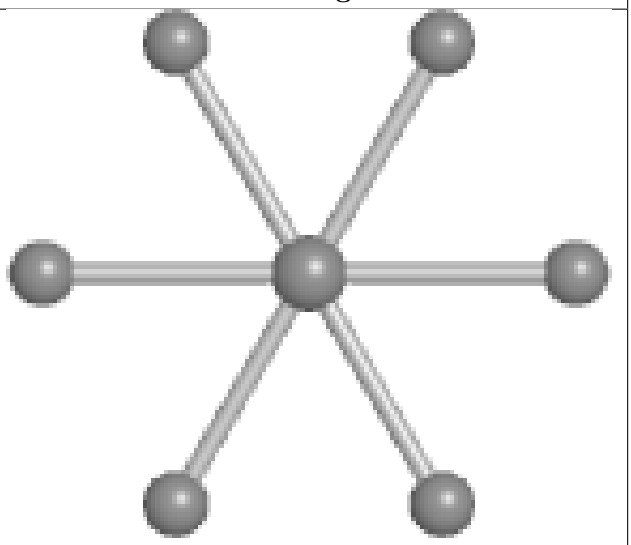
**Bond lengths**



**Bond angles**

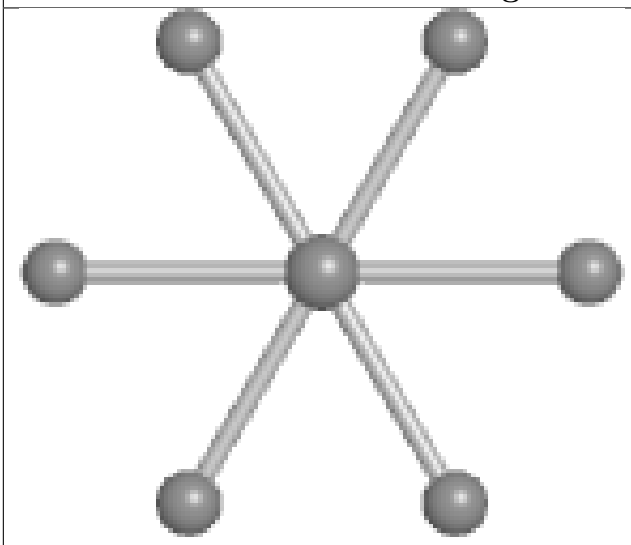


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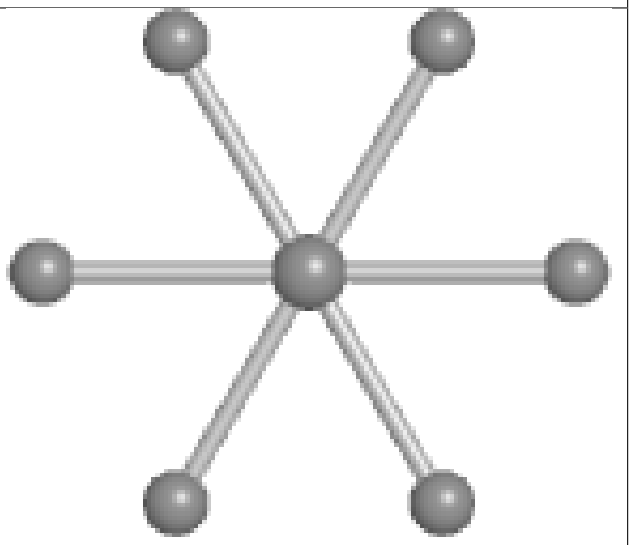


**Rings**

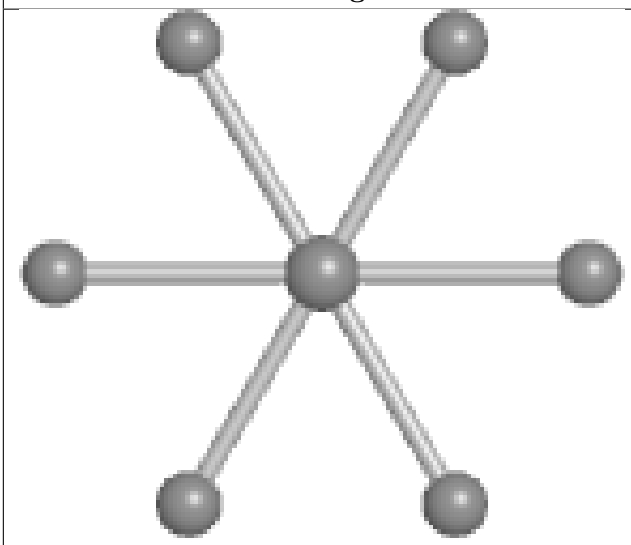
**Ligand OHX A1 1998**



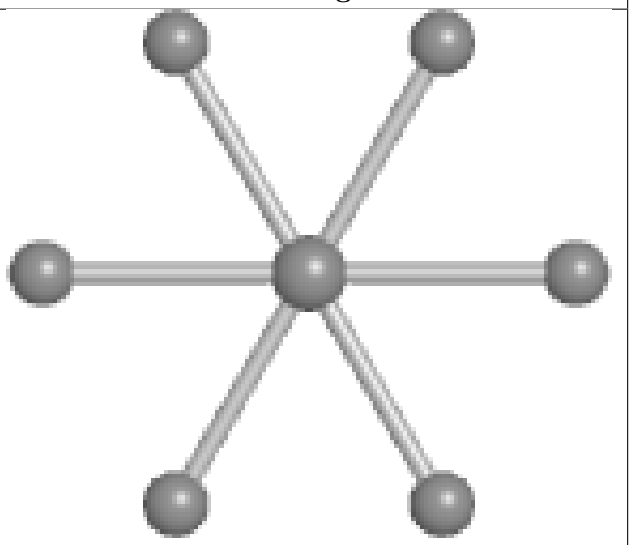
**Bond lengths**



**Bond angles**

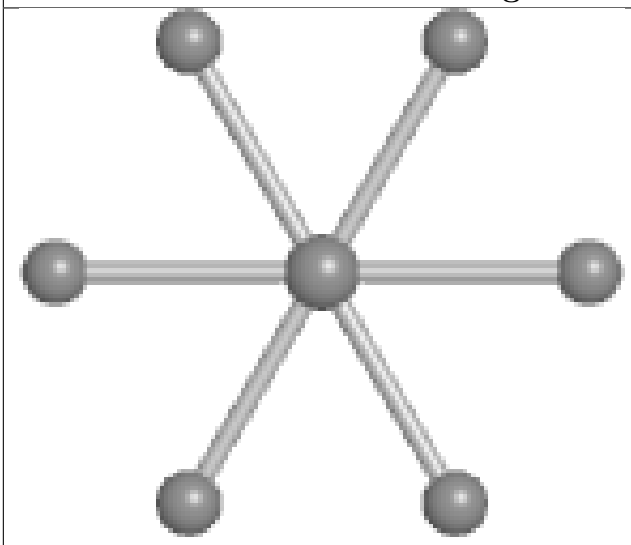


**Torsions**

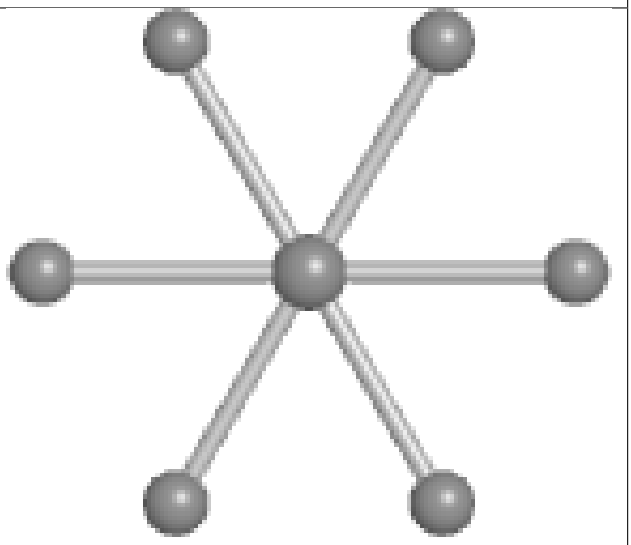


**Rings**

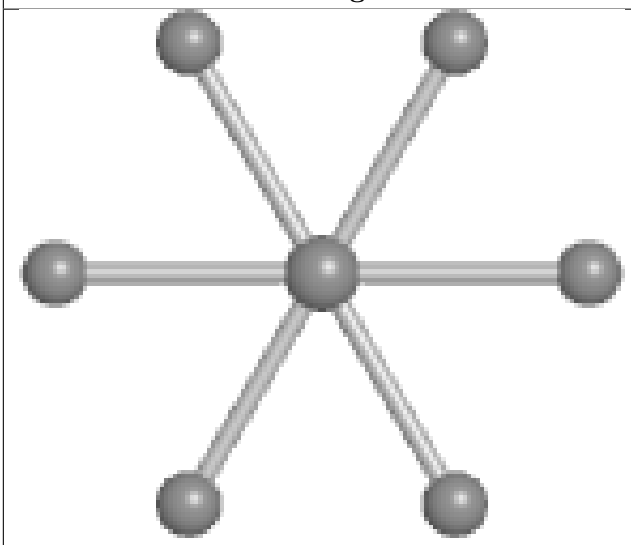
**Ligand OHX C1 1980**



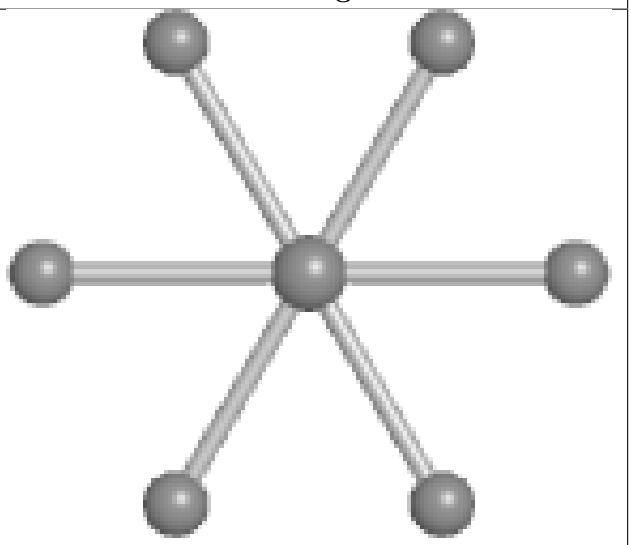
**Bond lengths**



**Bond angles**

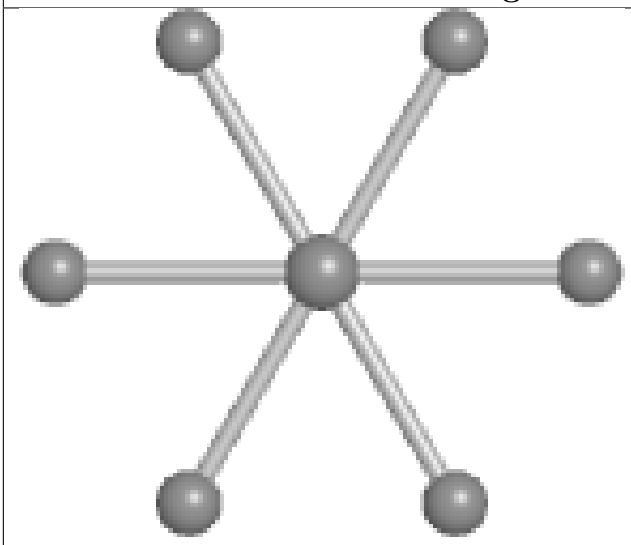


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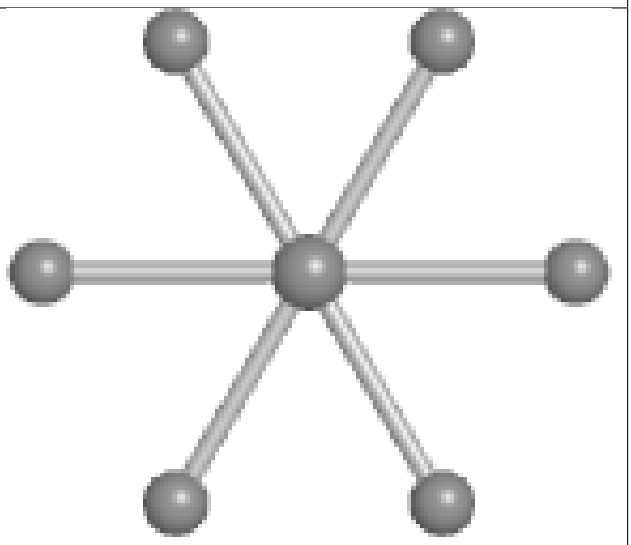


**Rings**

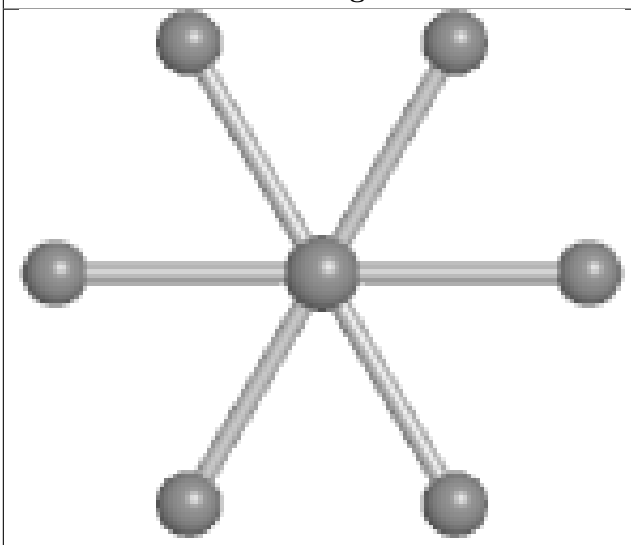
**Ligand OHX B1 3533**



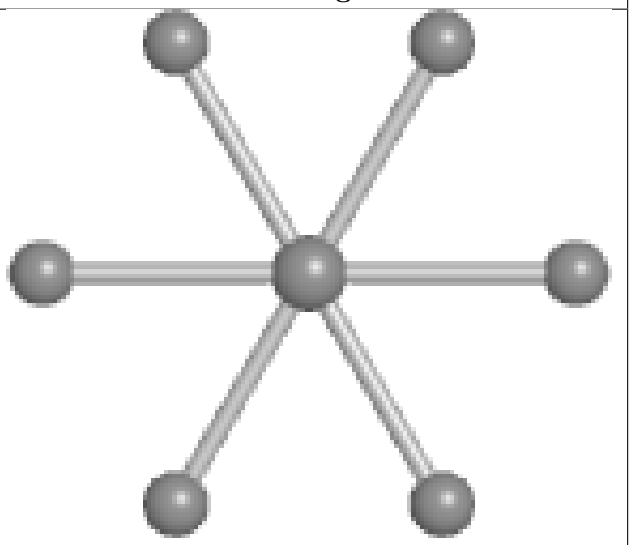
**Bond lengths**



**Bond angles**

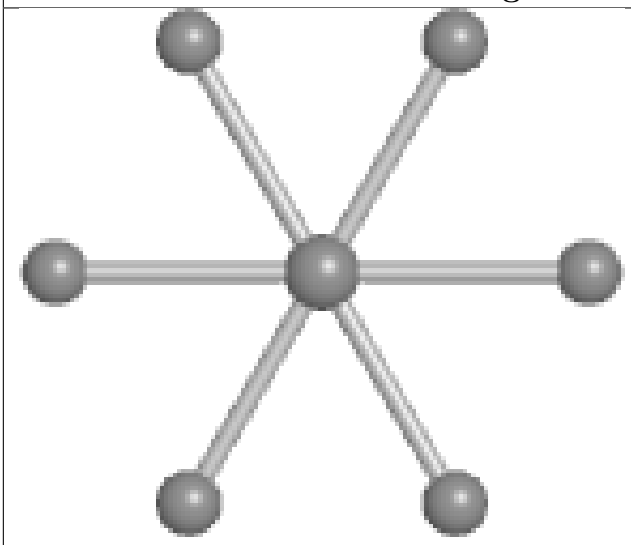


**Torsions**

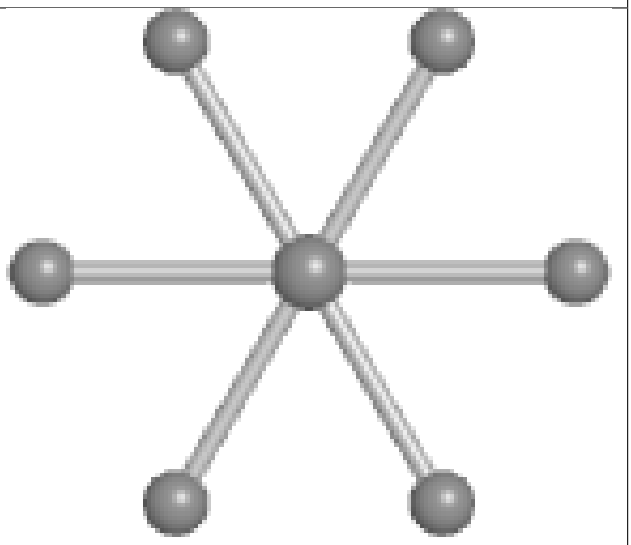


**Rings**

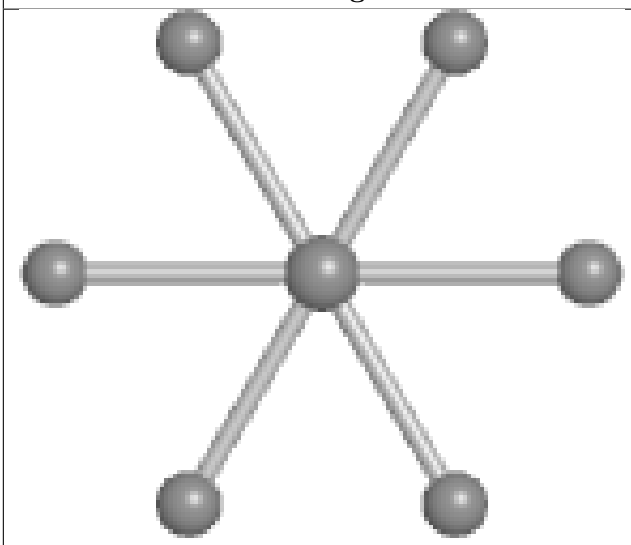
**Ligand OHX B1 3577**



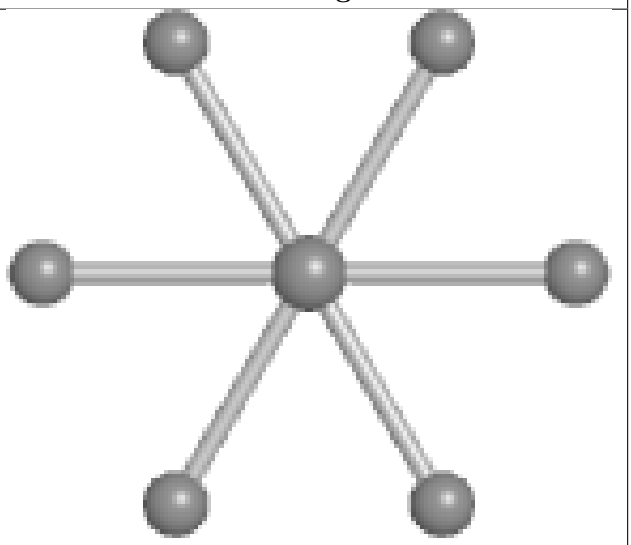
**Bond lengths**



**Bond angles**

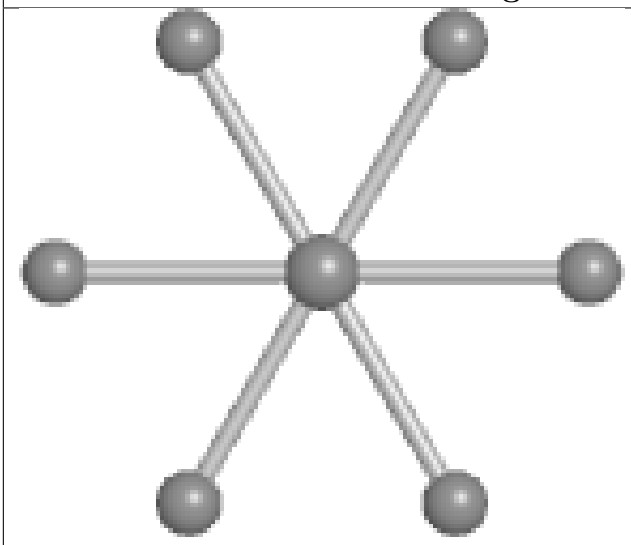


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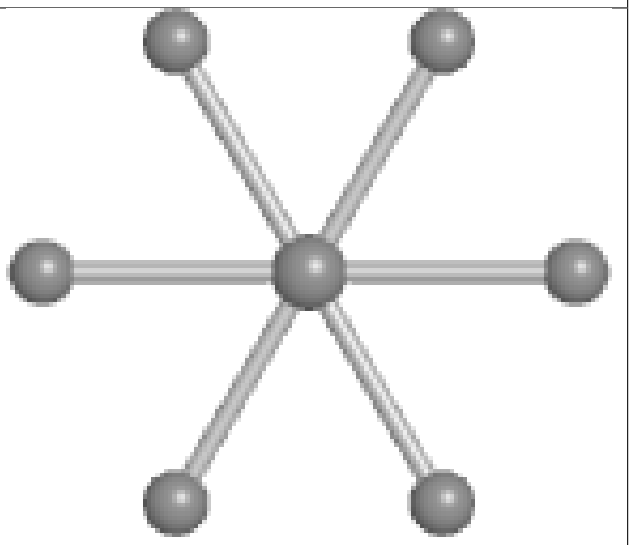


**Rings**

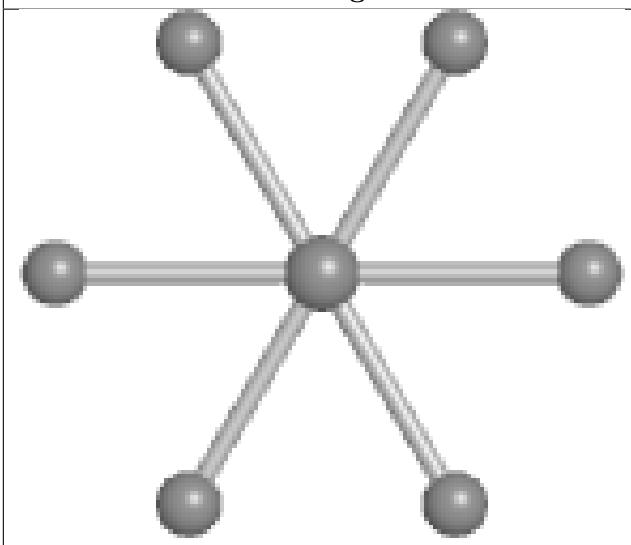
**Ligand OHX B1 3554**



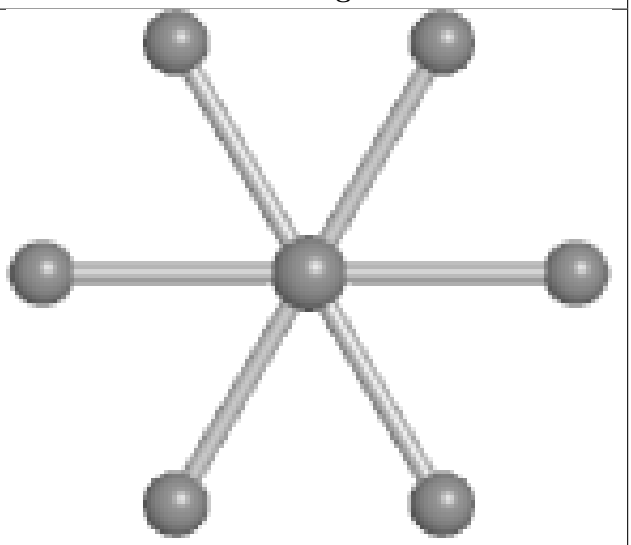
**Bond lengths**



**Bond angles**

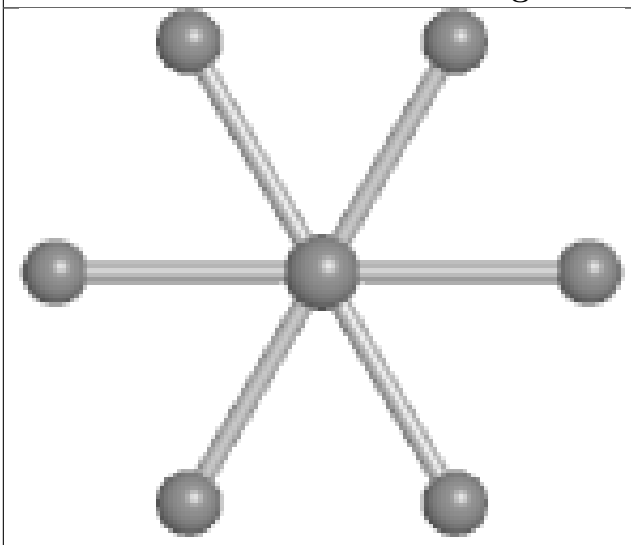


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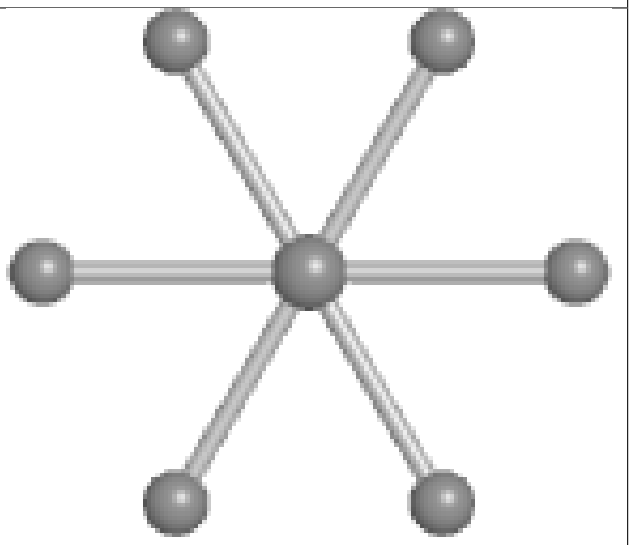


**Rings**

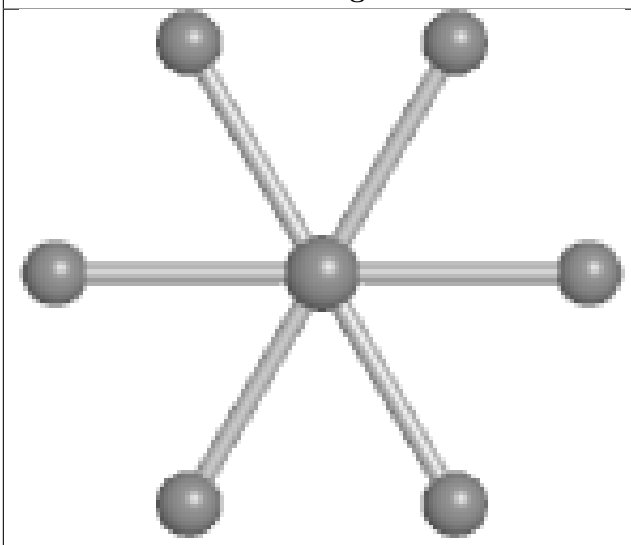
**Ligand OHX B2 207**



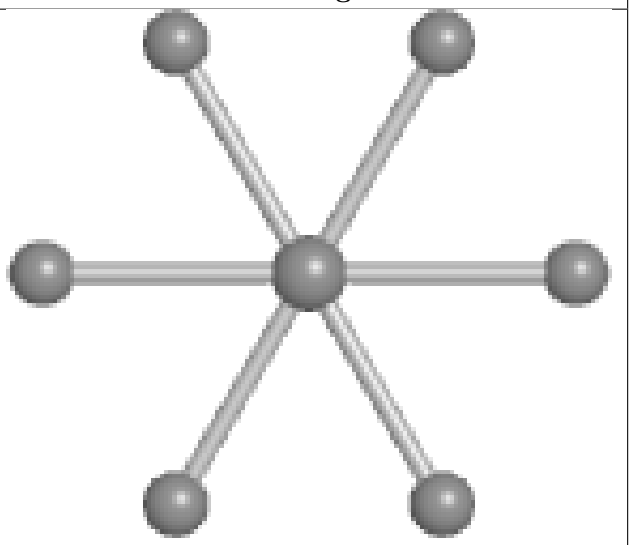
**Bond lengths**



**Bond angles**

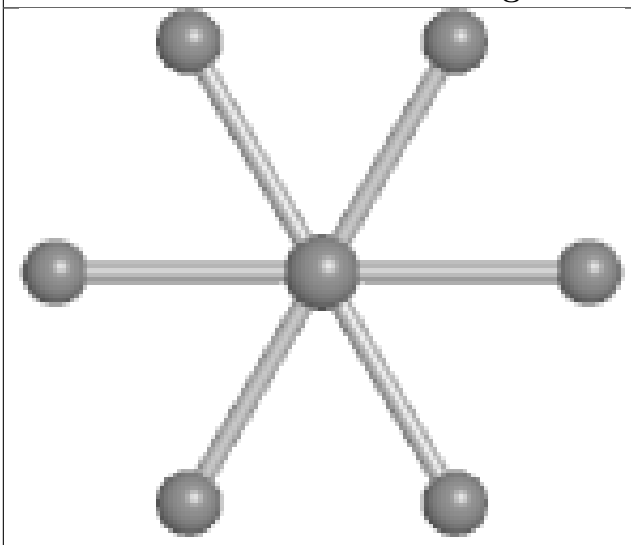


**Torsions**

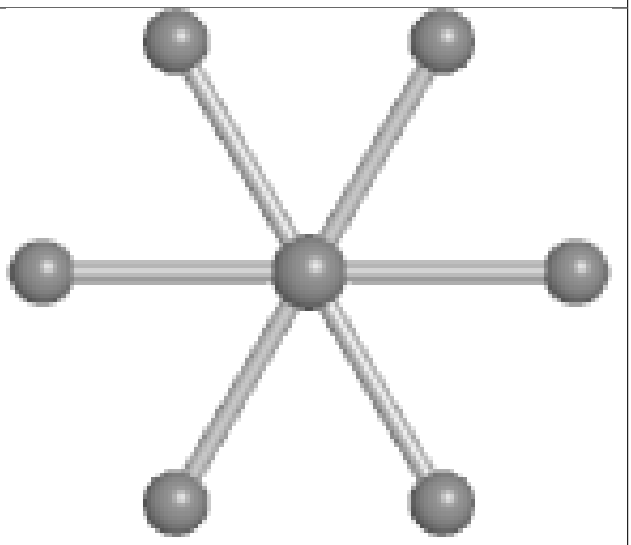


**Rings**

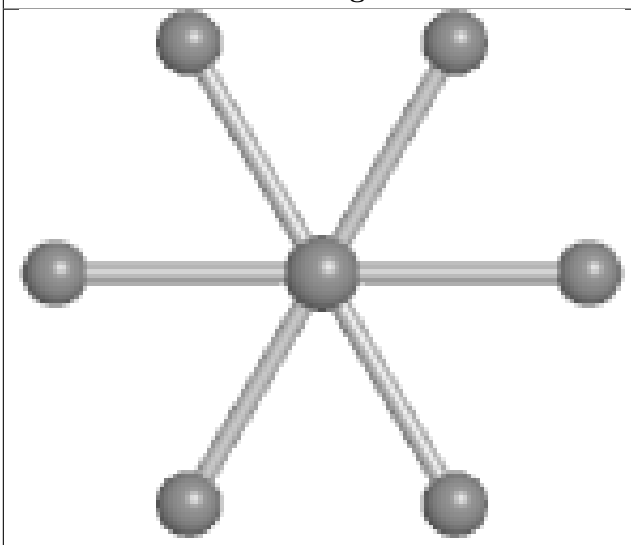
**Ligand OHX C1 1978**



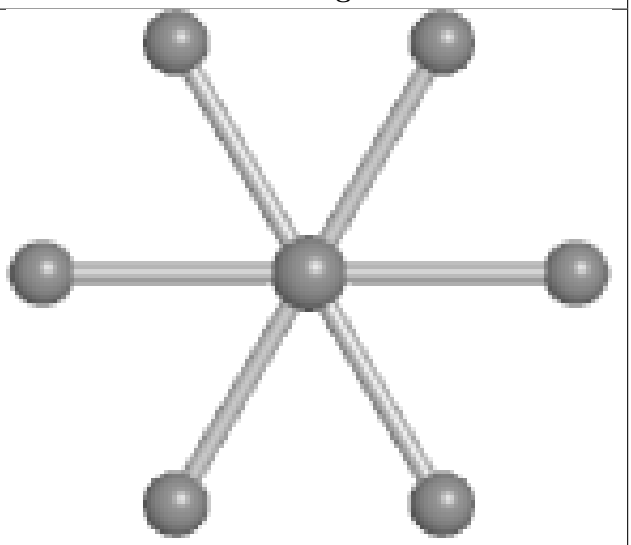
**Bond lengths**



**Bond angles**

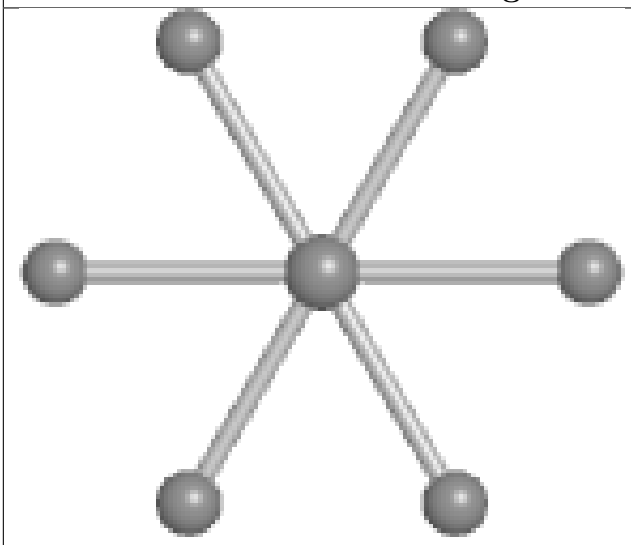


**Torsions**

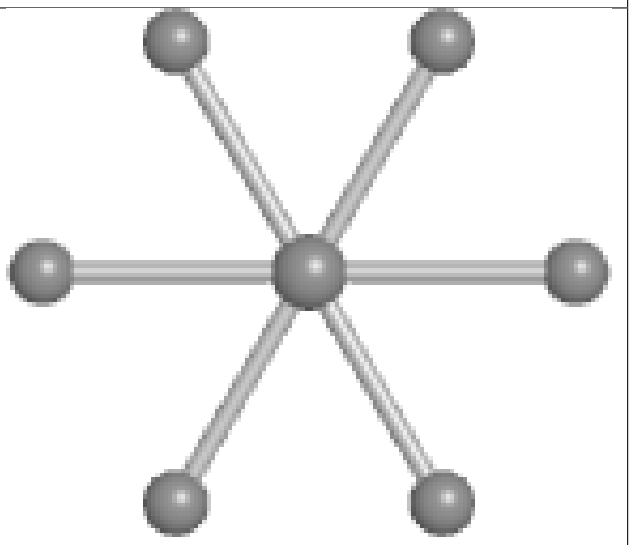


**Rings**

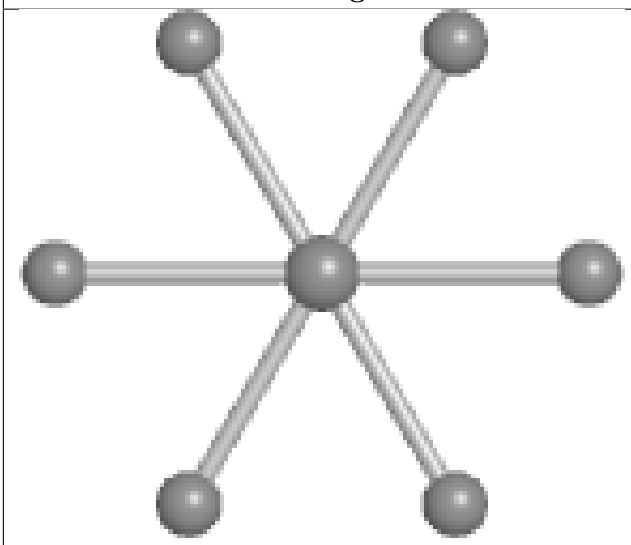
**Ligand OHX B1 3542**



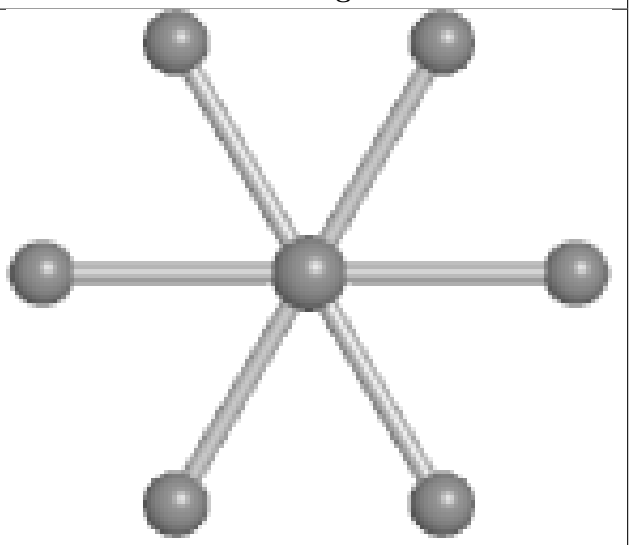
**Bond lengths**



**Bond angles**

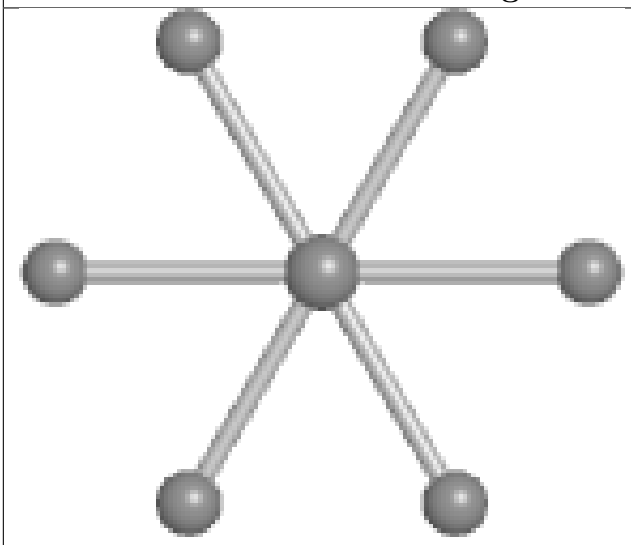


**Torsions**

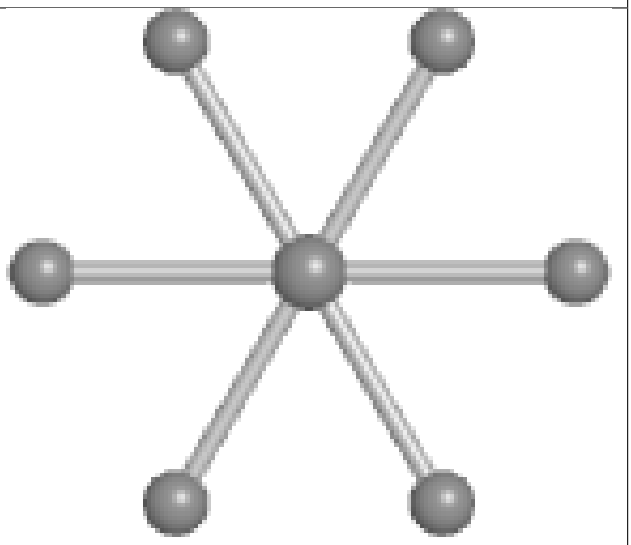


**Rings**

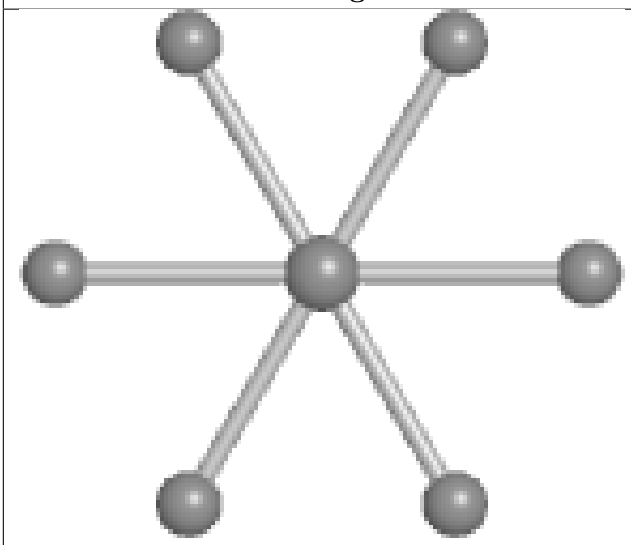
**Ligand OHX D1 3509**



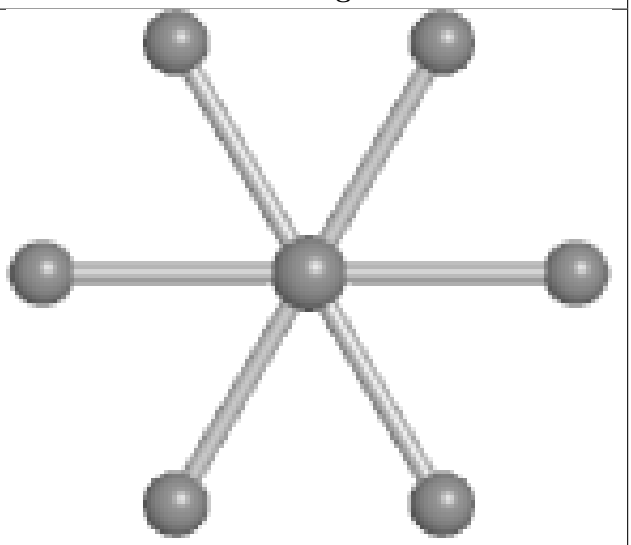
**Bond lengths**



**Bond angles**

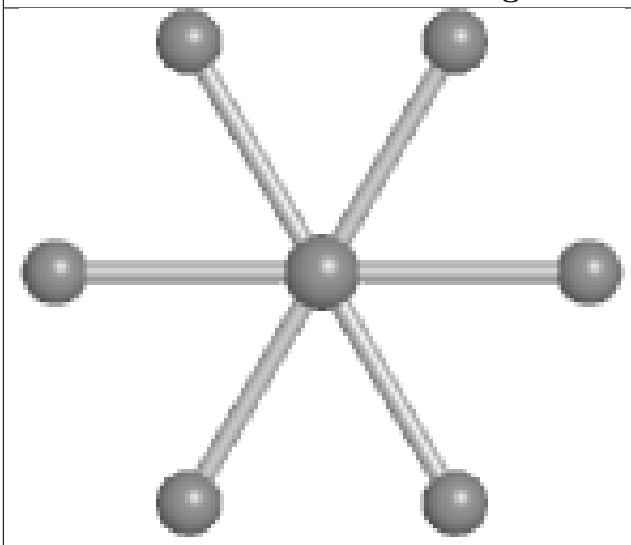


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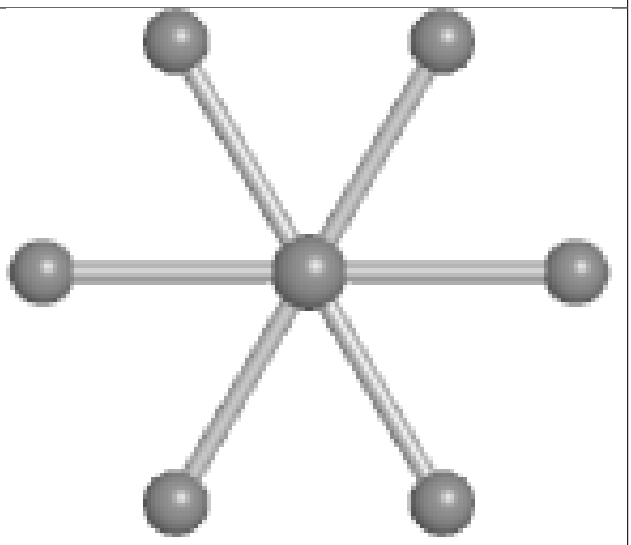


**Rings**

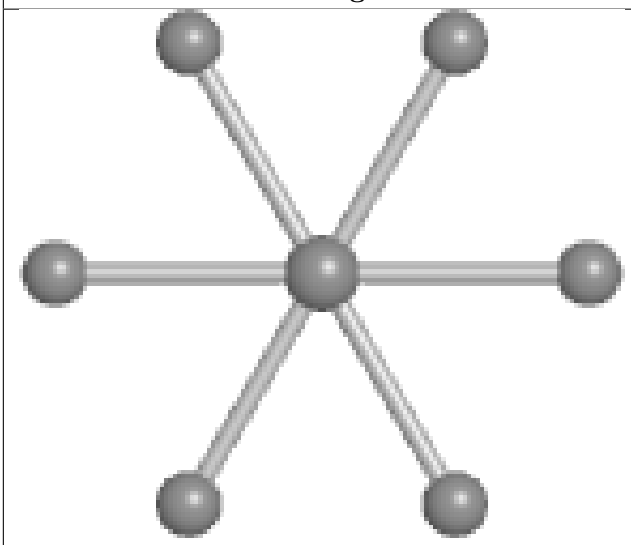
**Ligand OHX A1 1996**



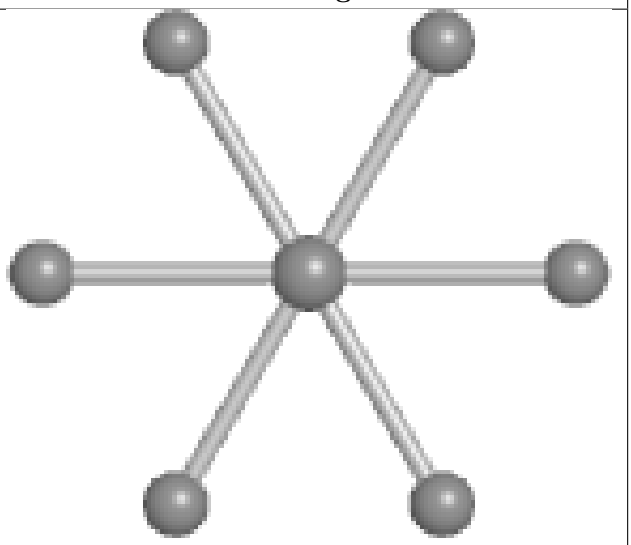
**Bond lengths**



**Bond angles**

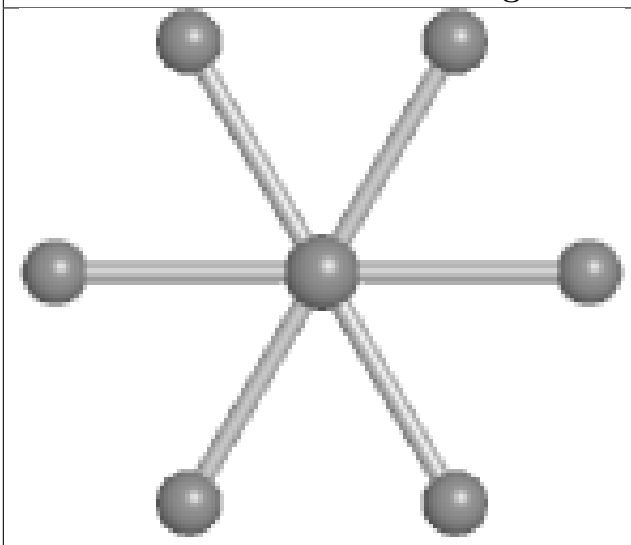


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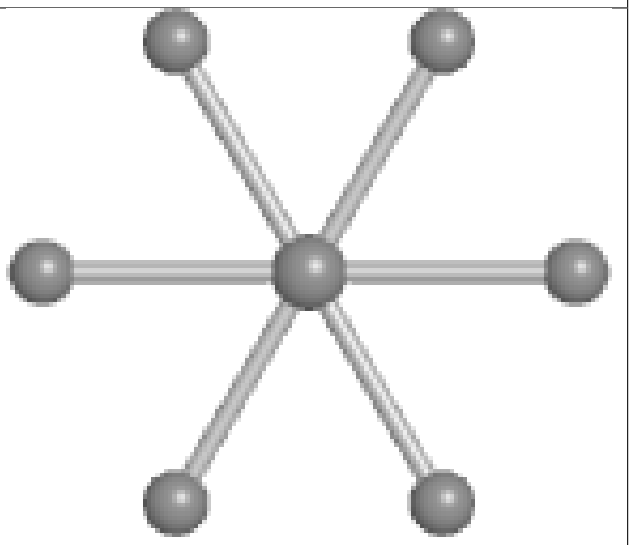


**Rings**

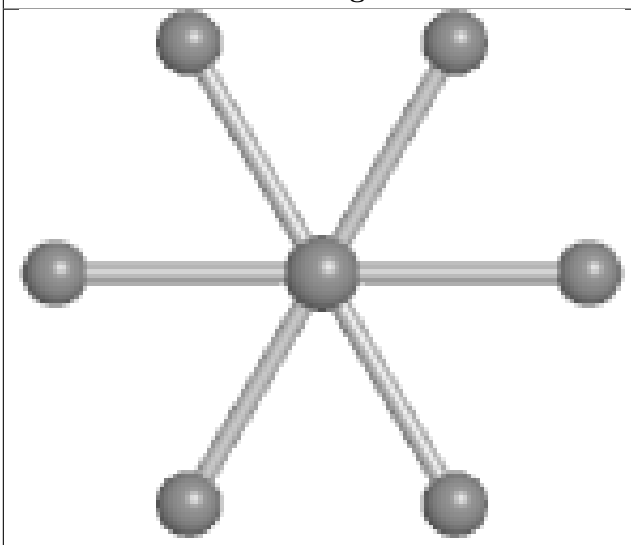
**Ligand OHX B1 3592**



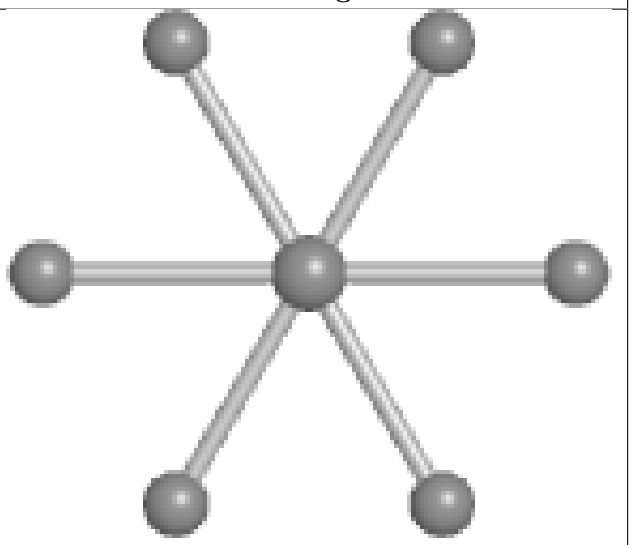
**Bond lengths**



**Bond angles**

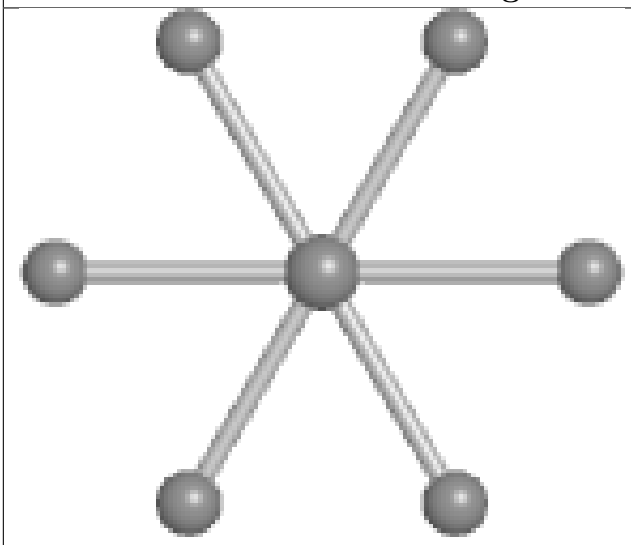


**Torsions**

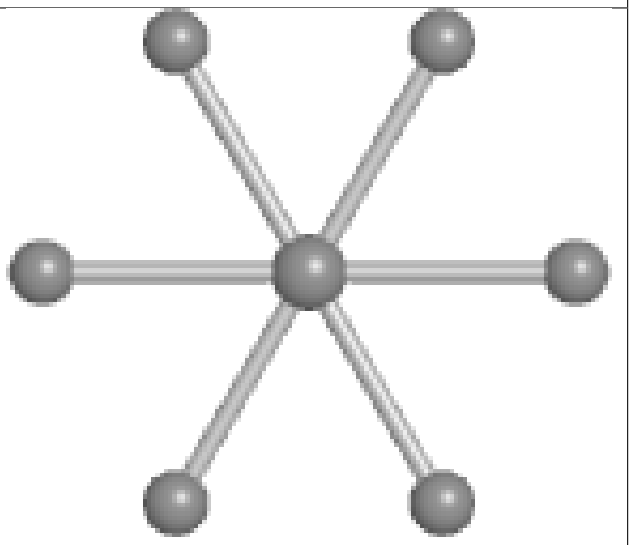


**Rings**

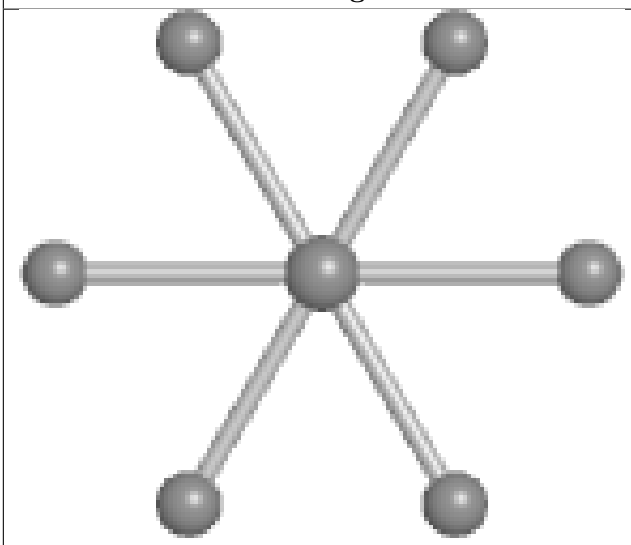
**Ligand OHX A1 1993**



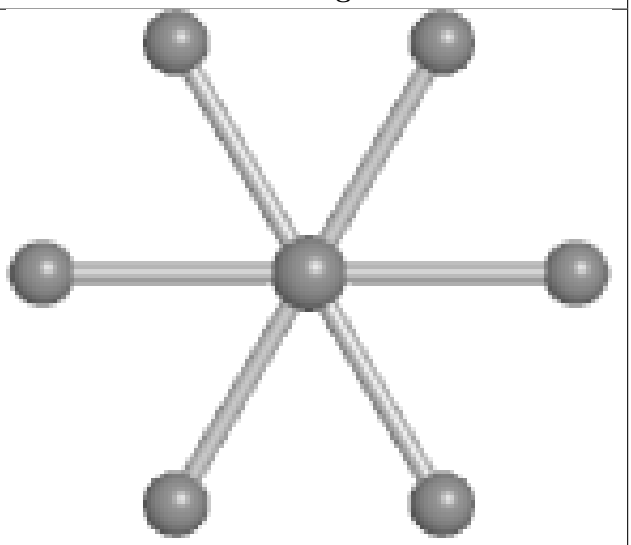
**Bond lengths**



**Bond angles**

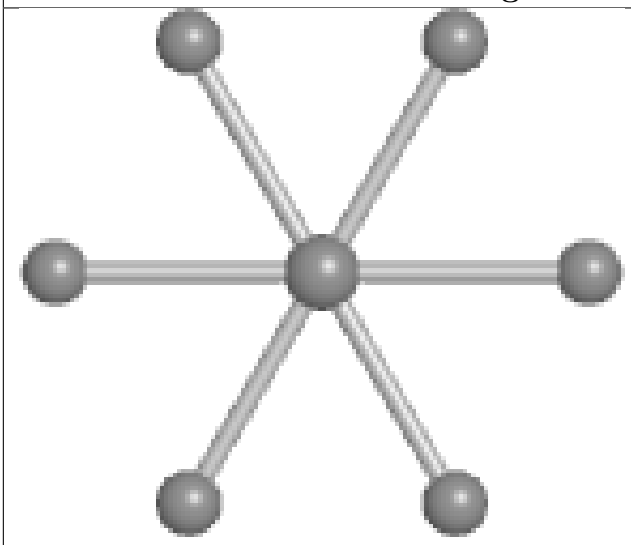


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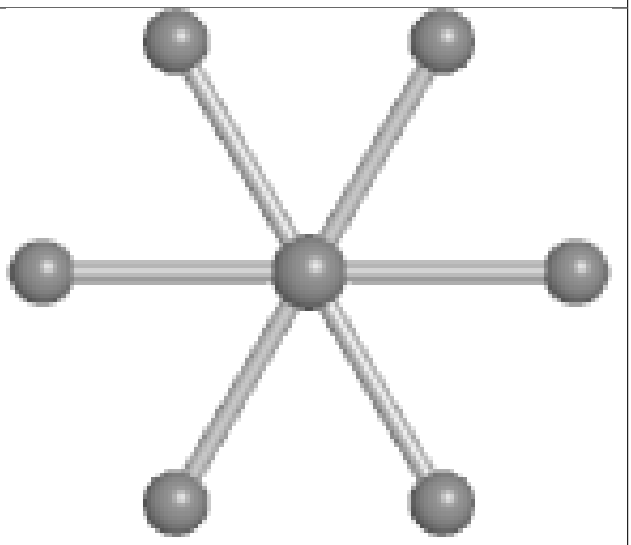


**Rings**

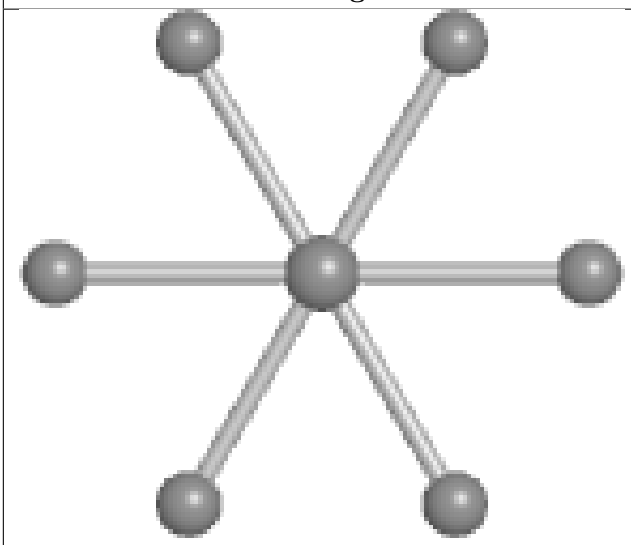
**Ligand OHX D1 3595**



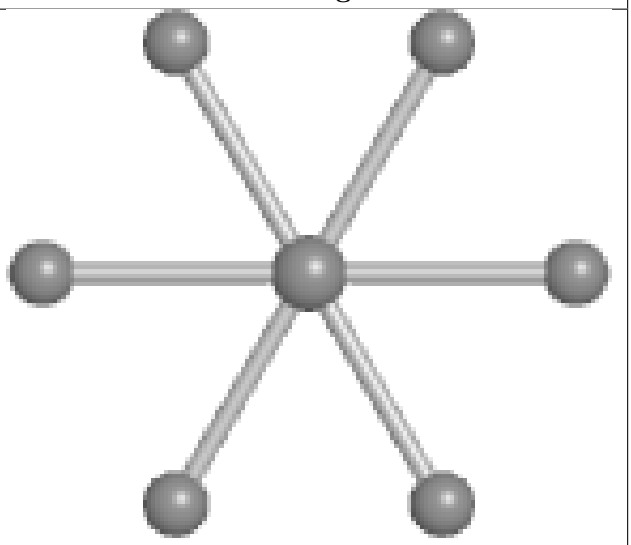
**Bond lengths**



**Bond angles**

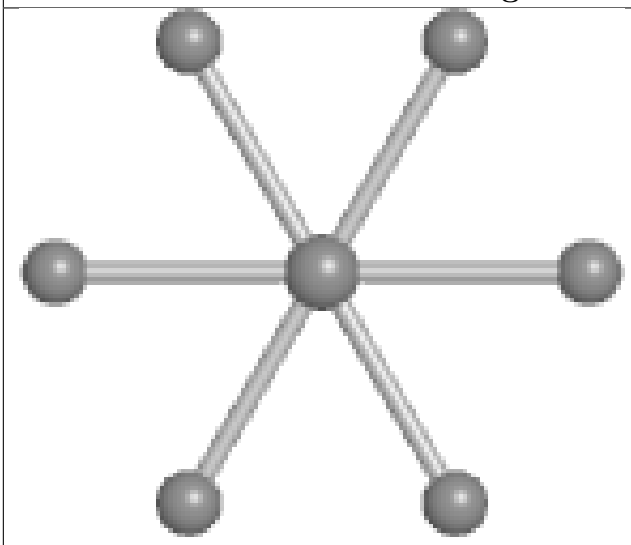


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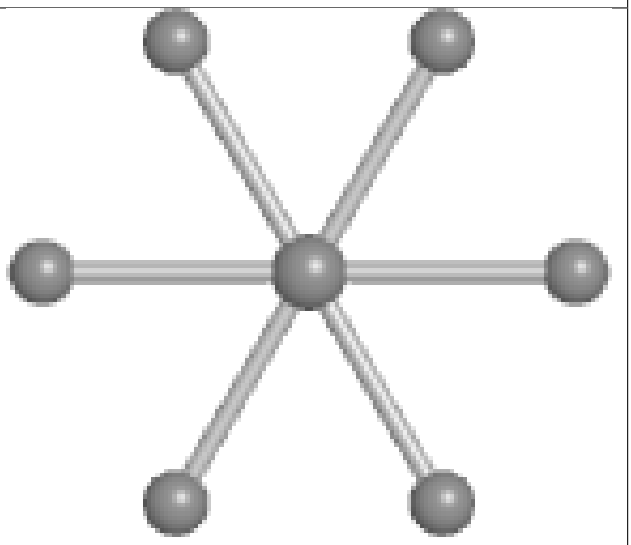


**Rings**

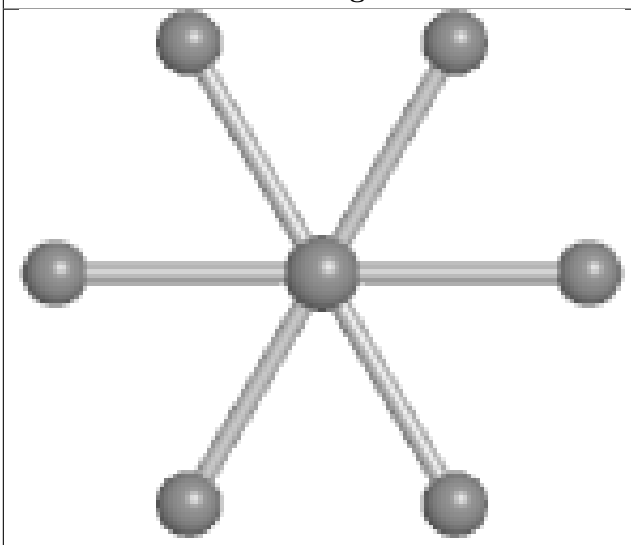
**Ligand OHX D1 3555**



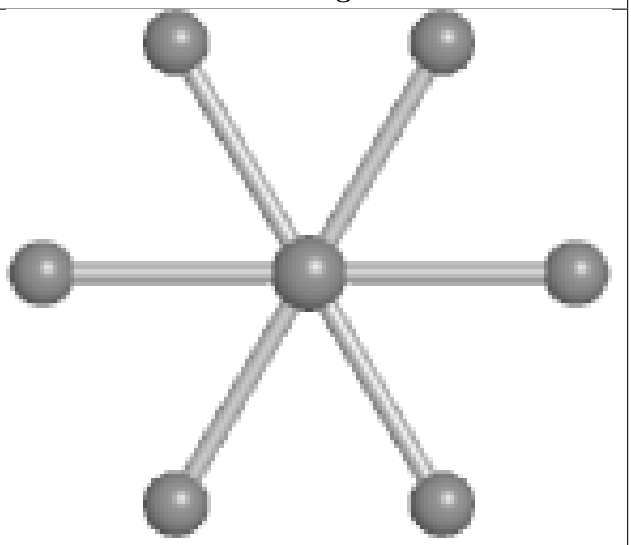
**Bond lengths**



**Bond angles**

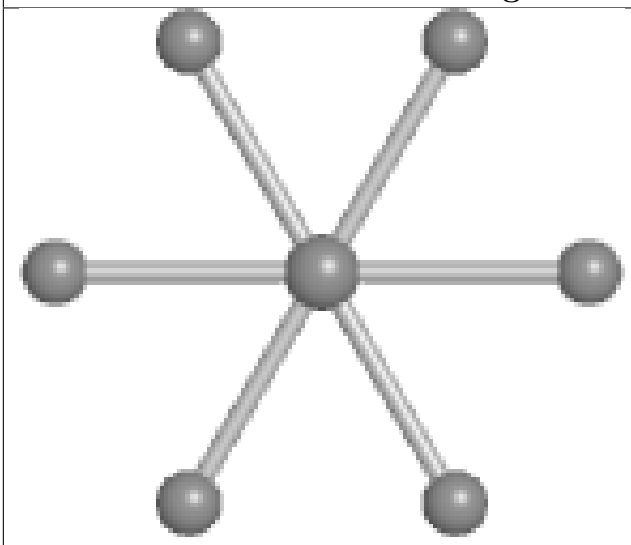


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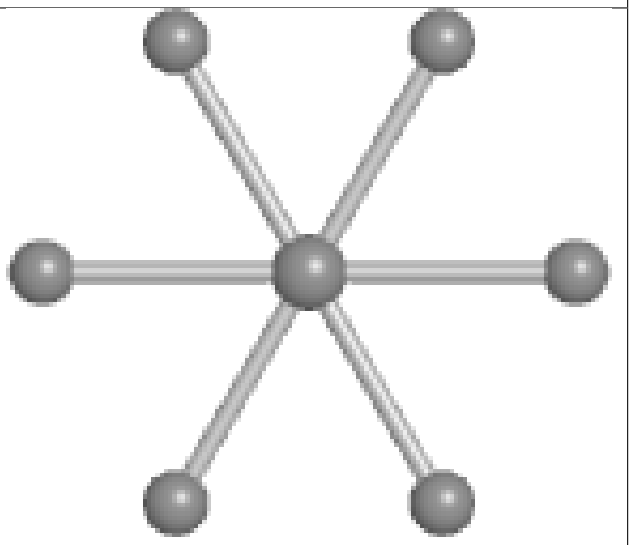


**Rings**

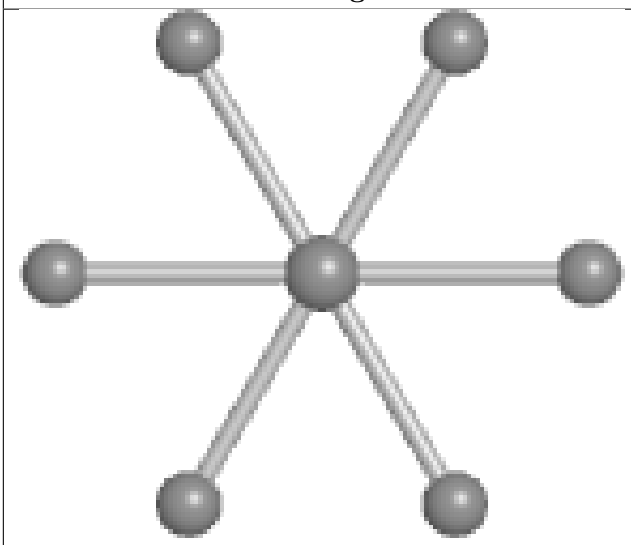
**Ligand OHX B1 3609**



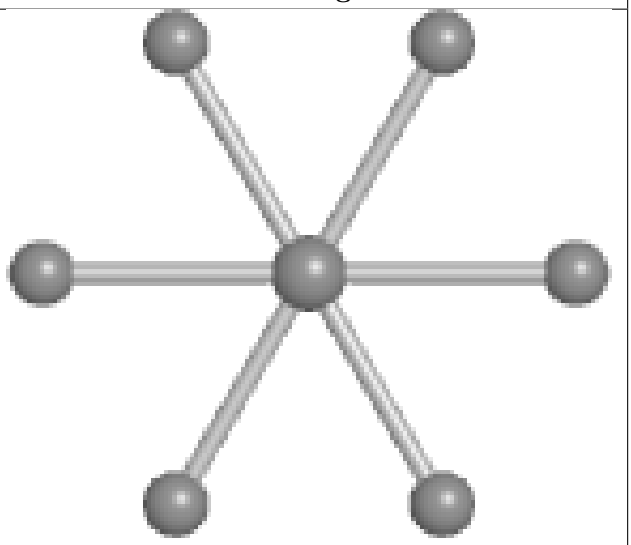
**Bond lengths**



**Bond angles**

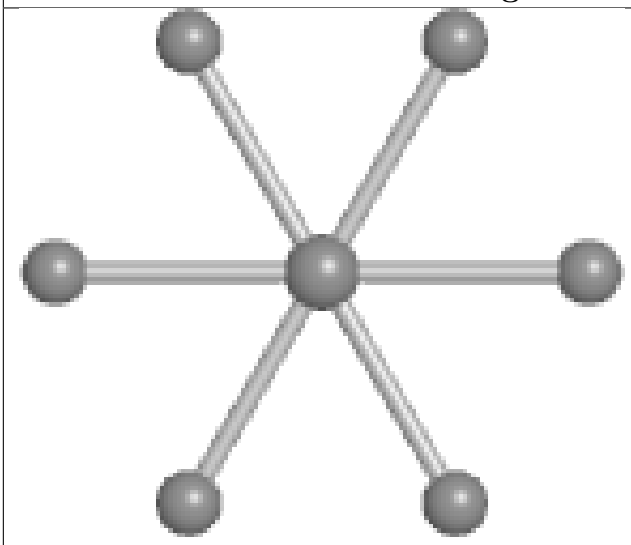


**Torsions**

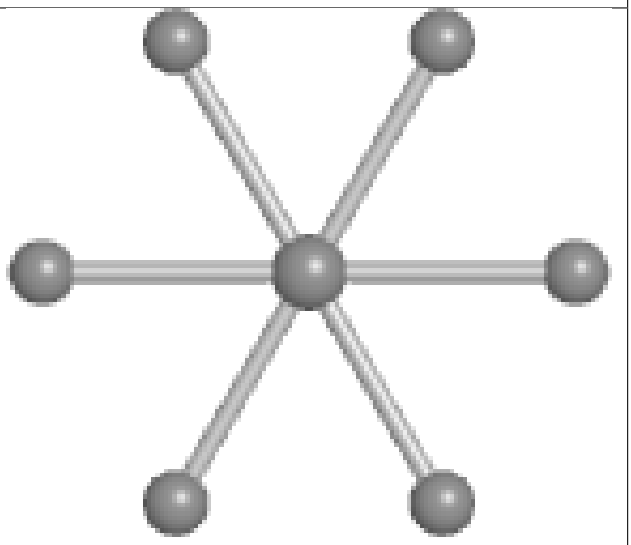


**Rings**

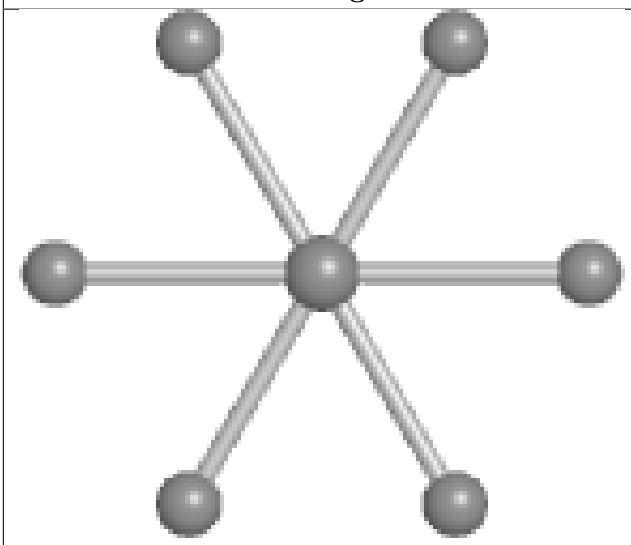
**Ligand OHX D1 3586**



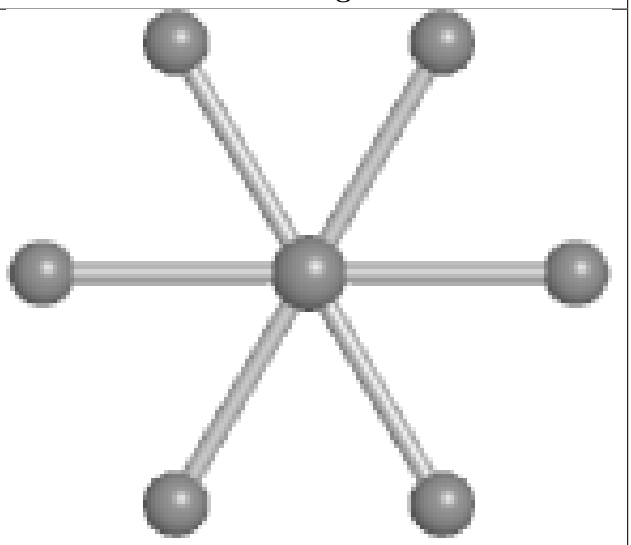
**Bond lengths**



**Bond angles**

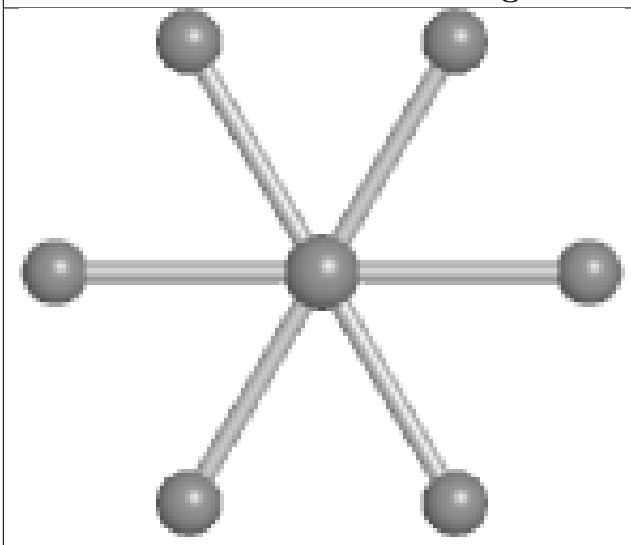


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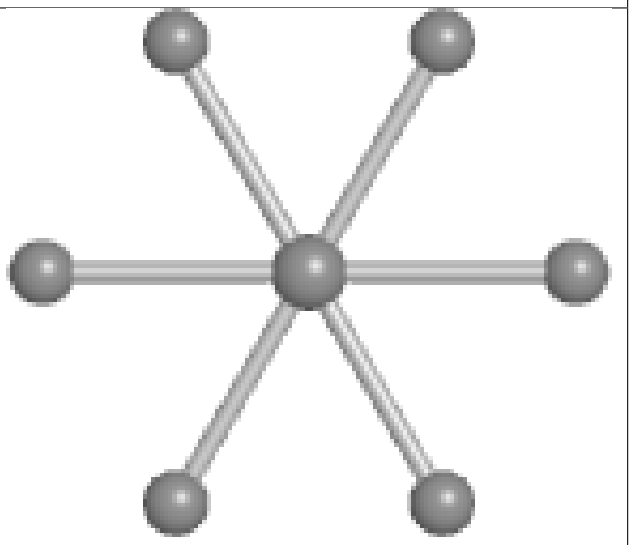


**Rings**

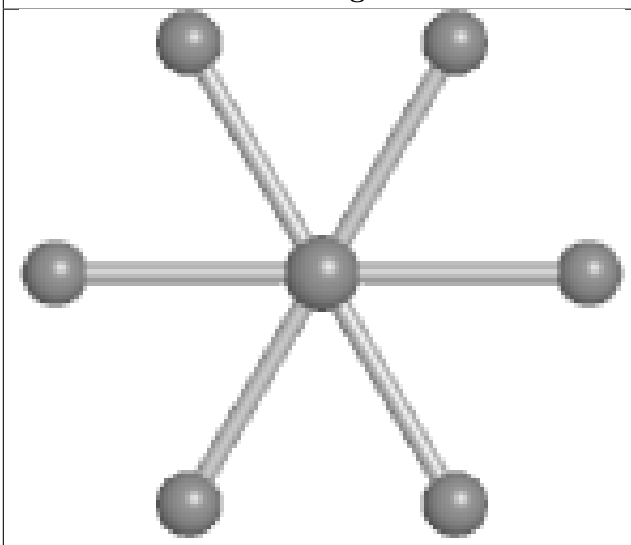
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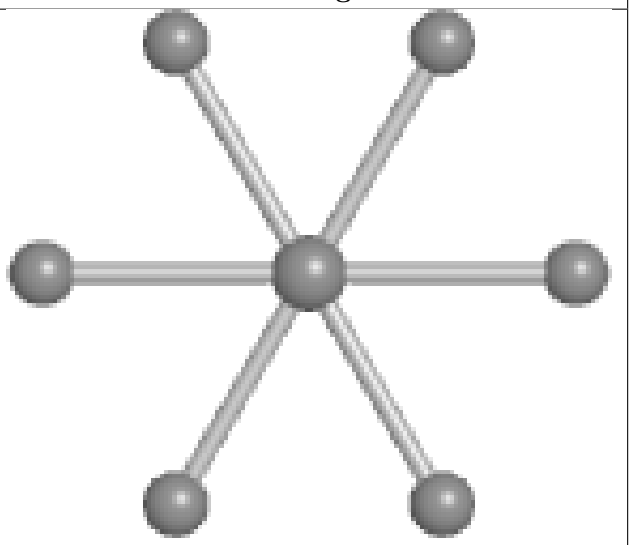
**Bond lengths**



**Bond angles**

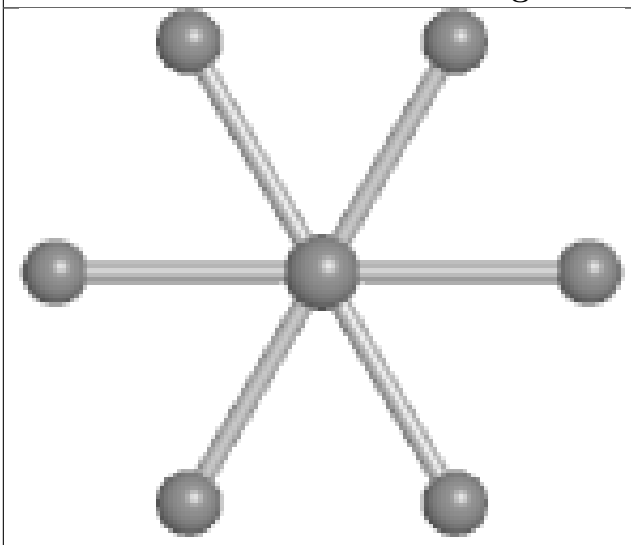


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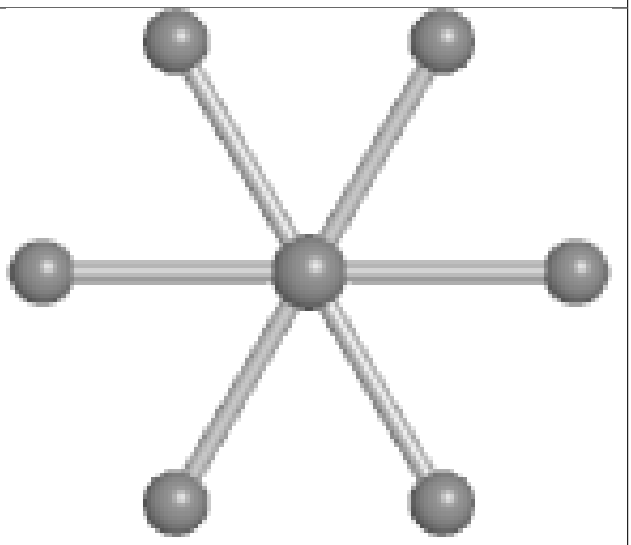


**Rings**

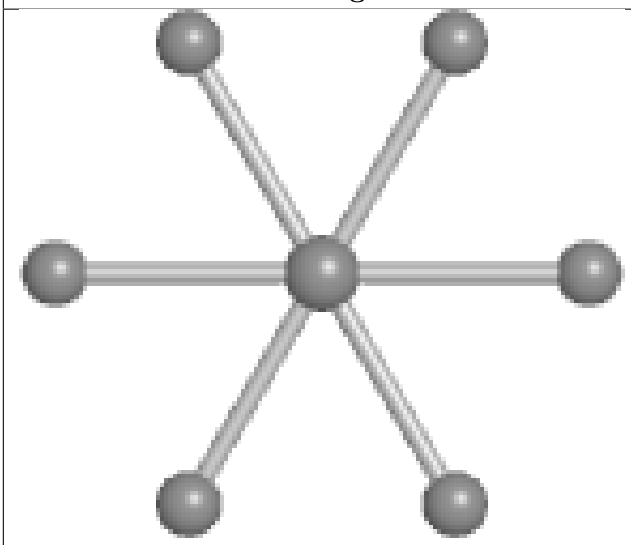
**Ligand OHX B2 210**



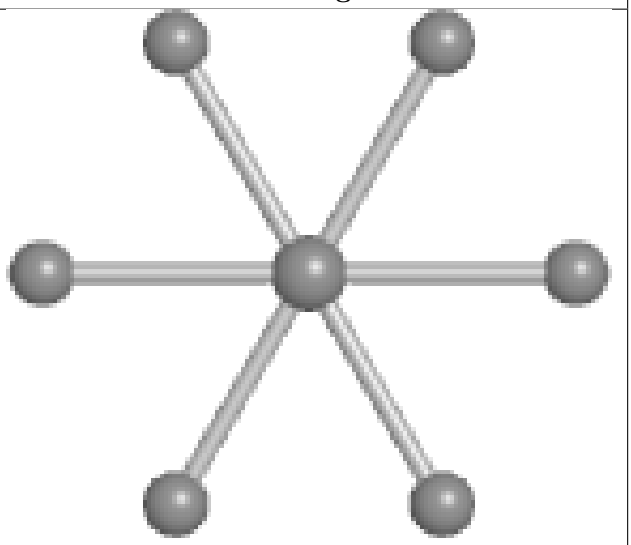
**Bond lengths**



**Bond angles**

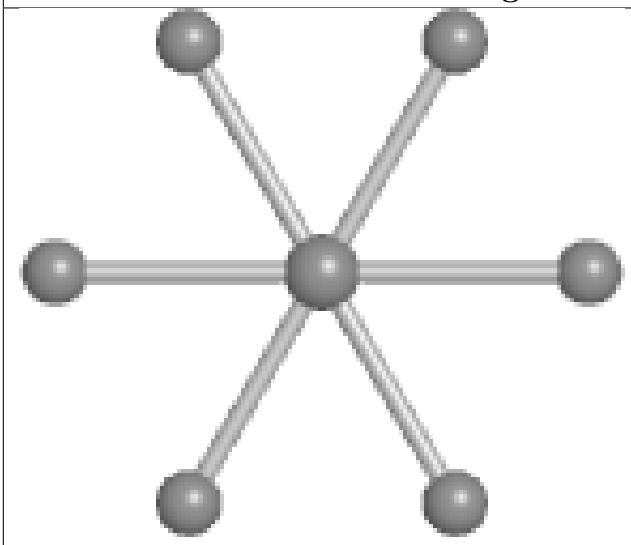


**Torsions**

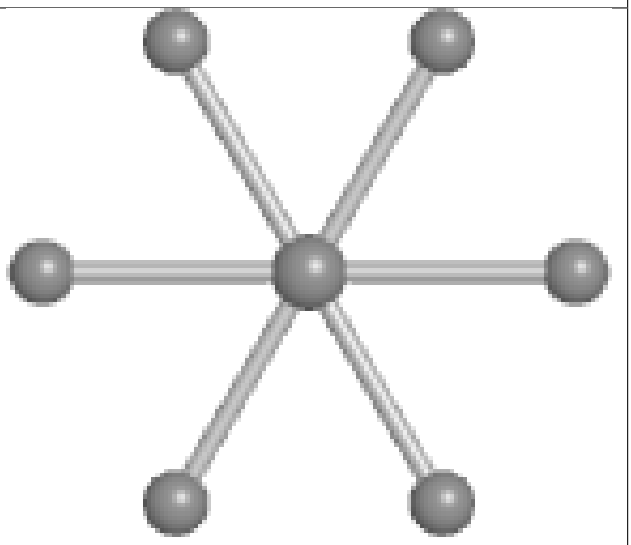


**Rings**

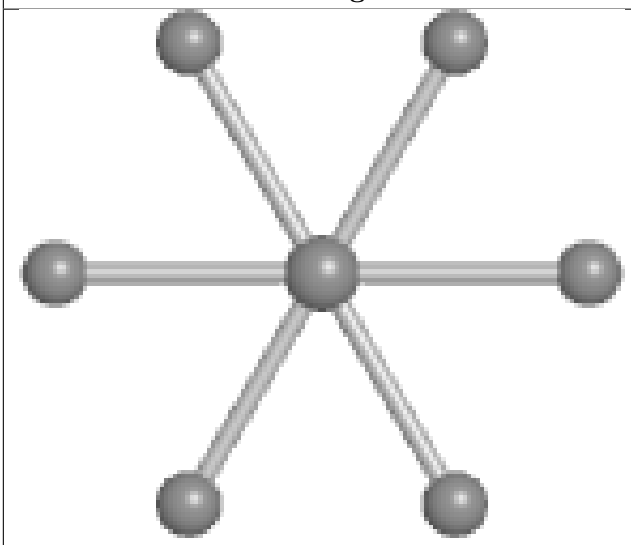
**Ligand OHX D1 3506**



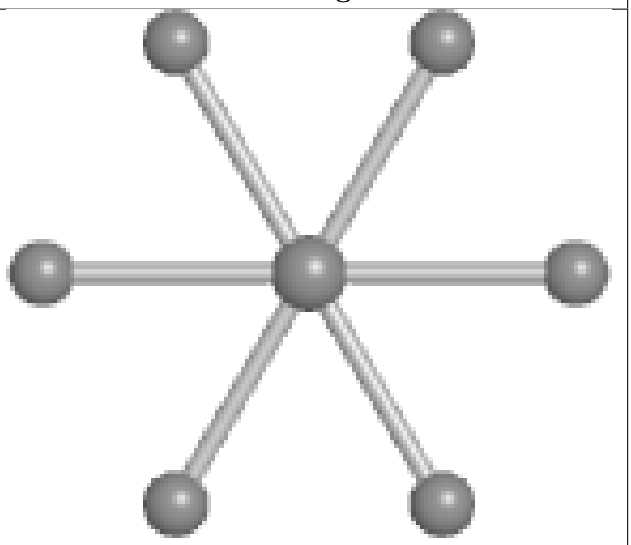
**Bond lengths**



**Bond angles**

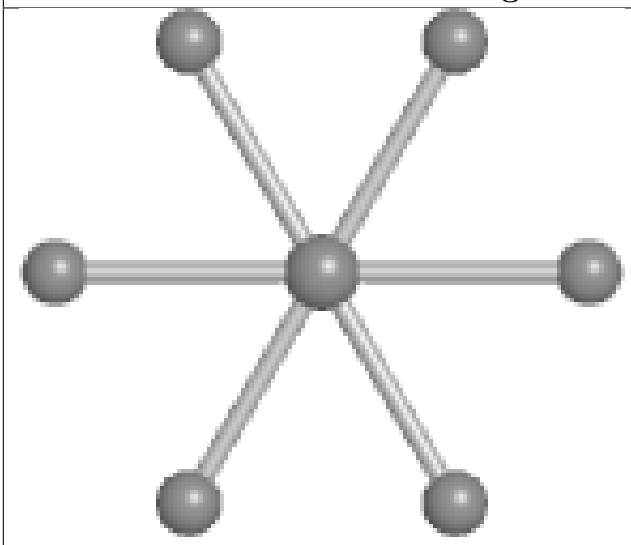


**Torsions**

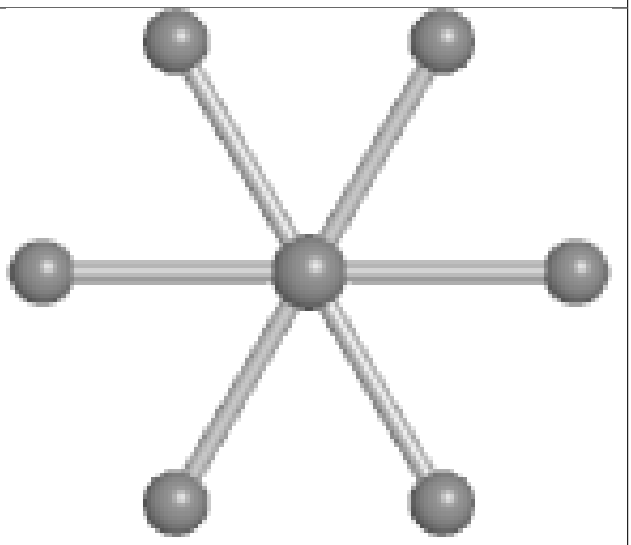


**Rings**

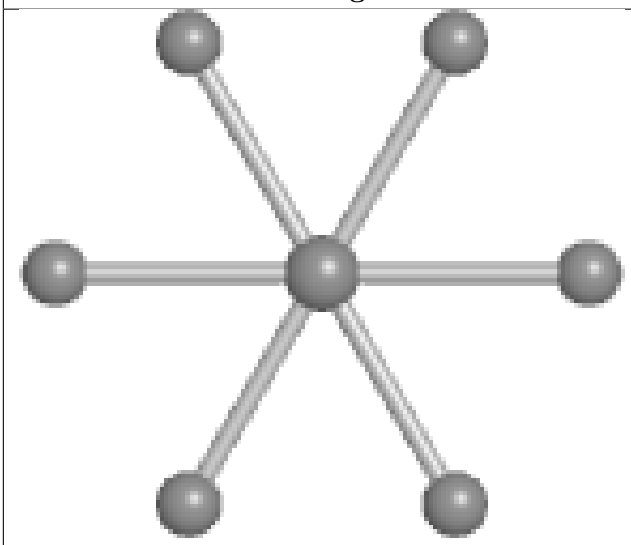
**Ligand OHX D1 3541**



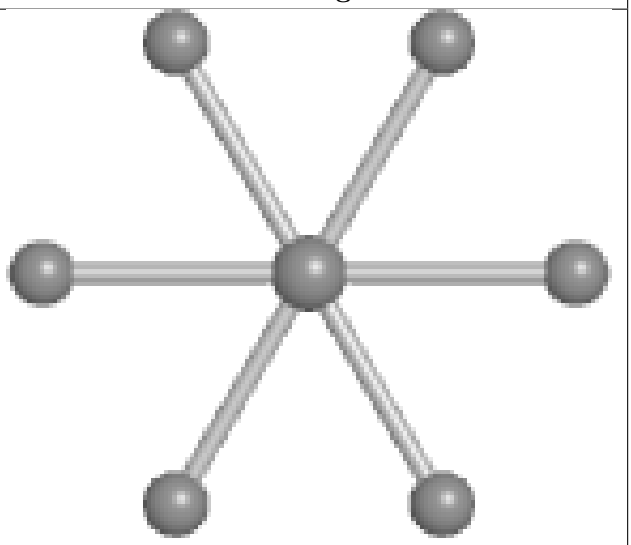
**Bond lengths**



**Bond angles**

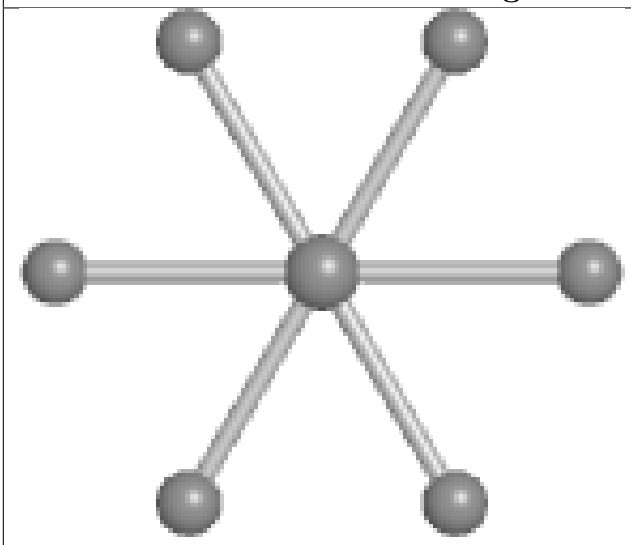


**Torsions**

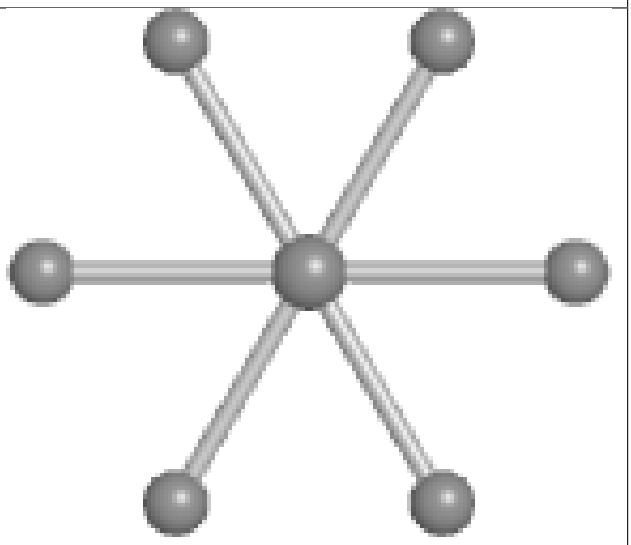


**Rings**

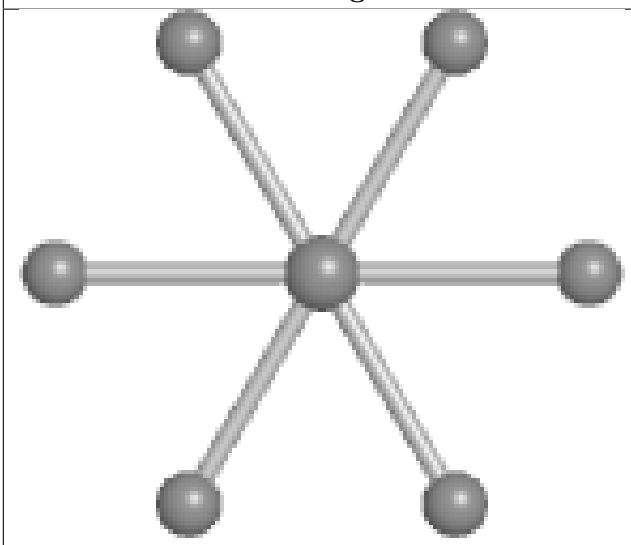
**Ligand OHX C1 1974**



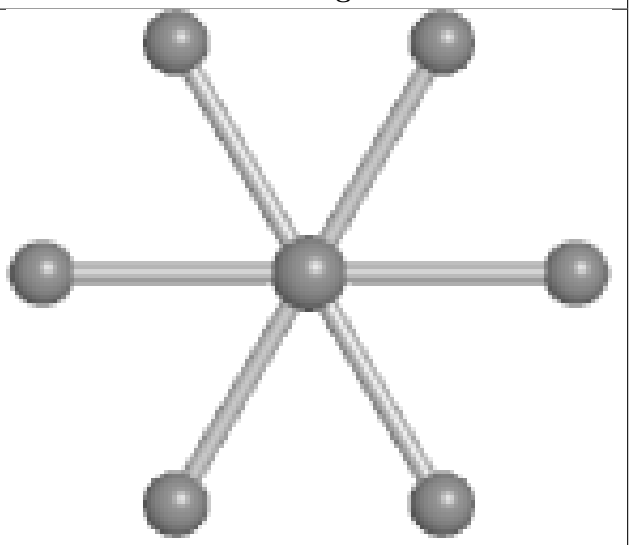
**Bond lengths**



**Bond angles**

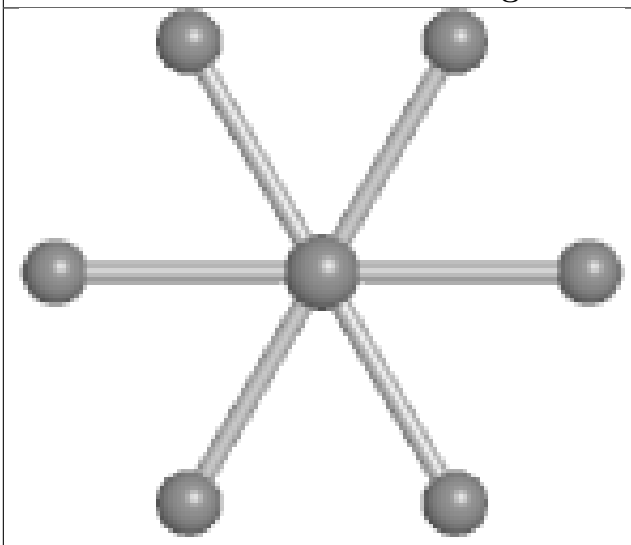


**Torsions**

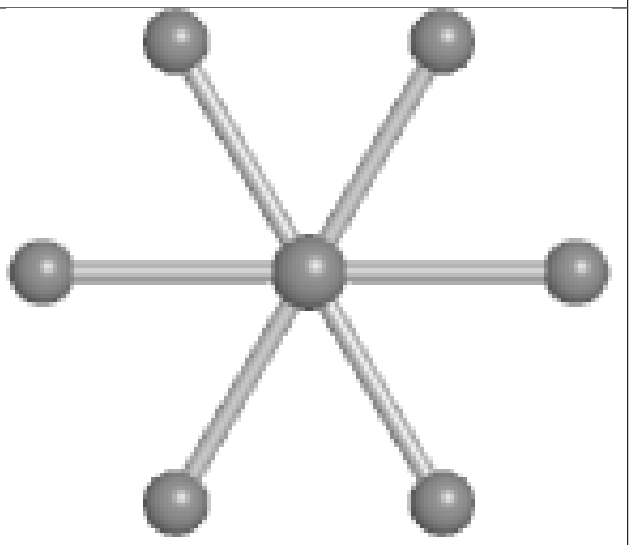


**Rings**

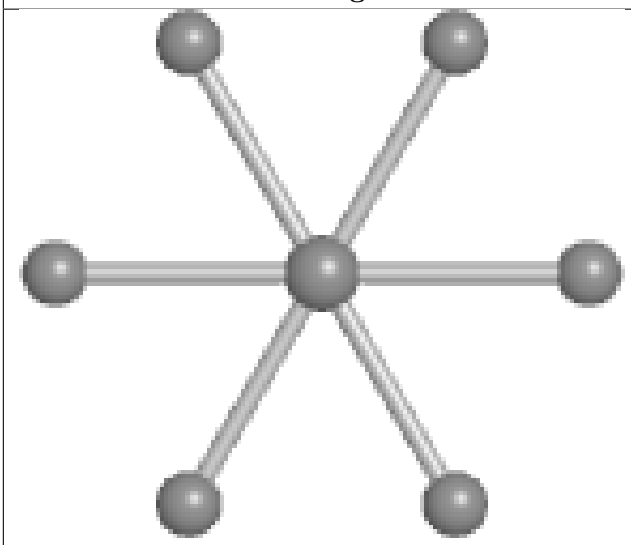
**Ligand OHX D1 3545**



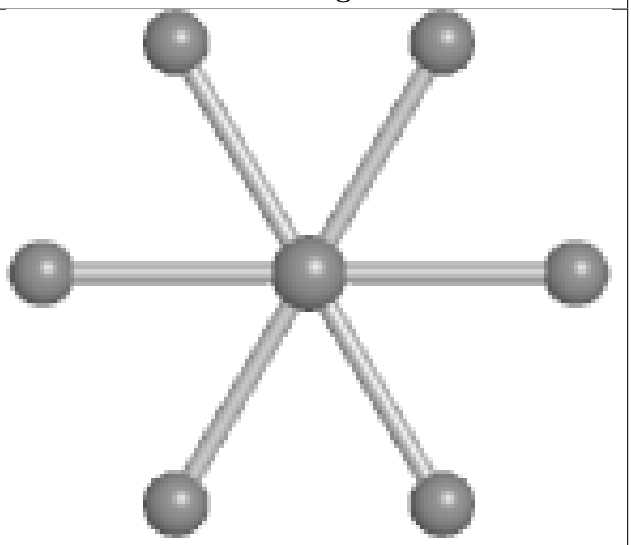
**Bond lengths**



**Bond angles**

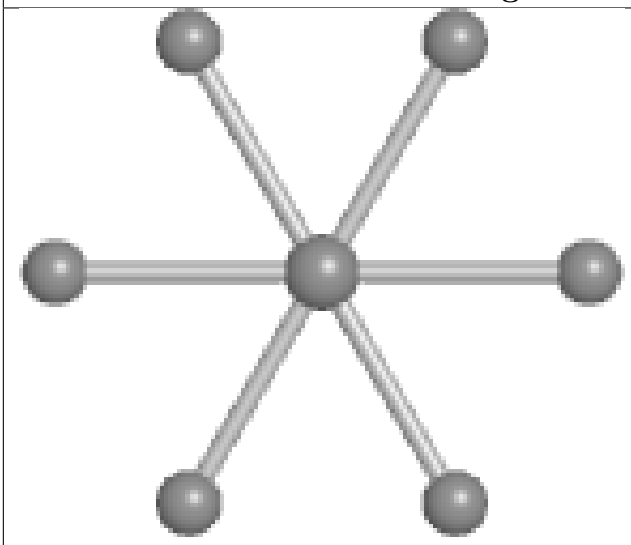


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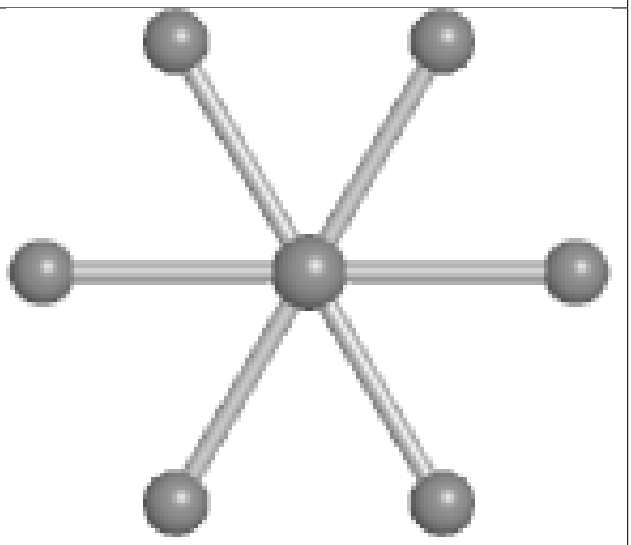


**Rings**

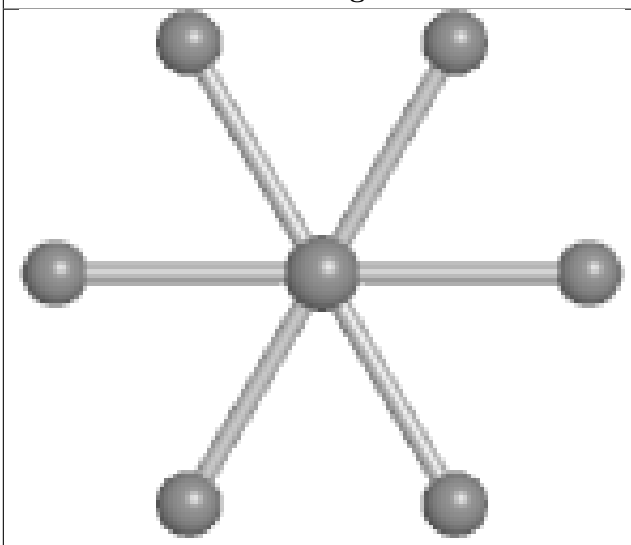
**Ligand OHX D1 3568**



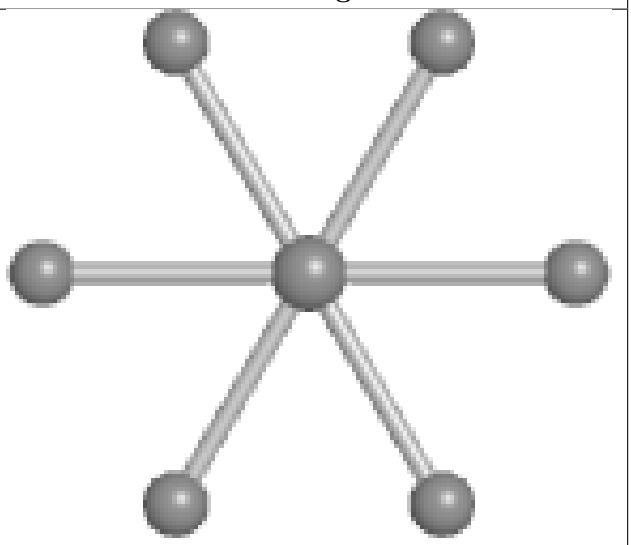
**Bond lengths**



**Bond angles**

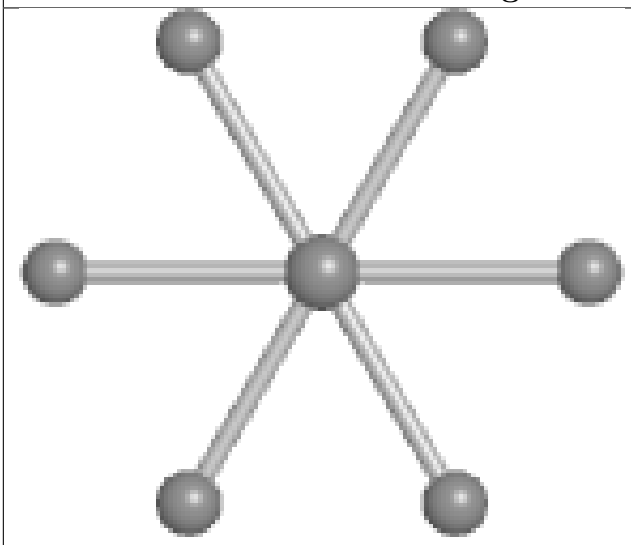


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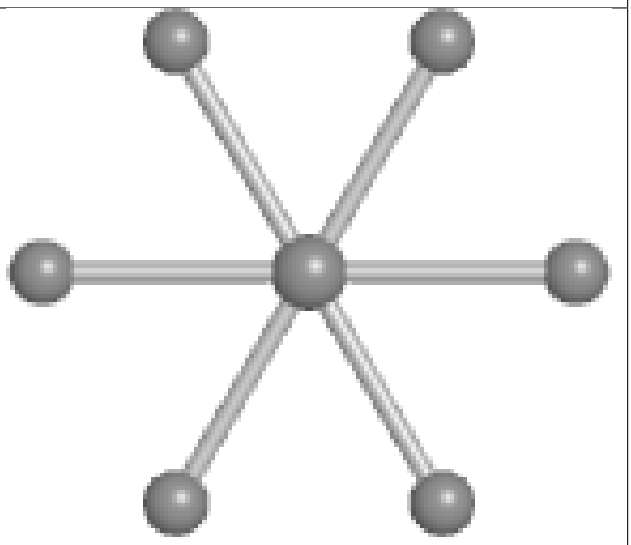


**Rings**

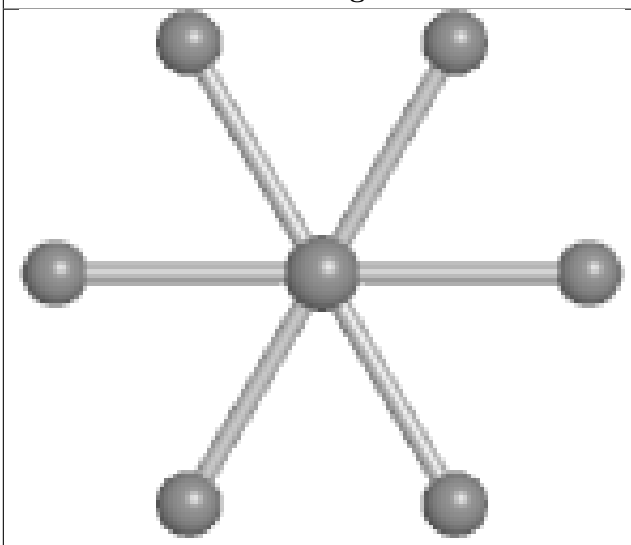
**Ligand OHX D1 3603**



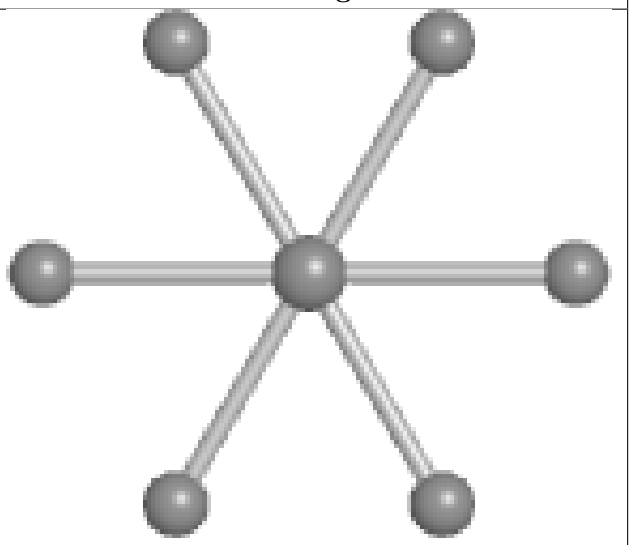
**Bond lengths**



**Bond angles**

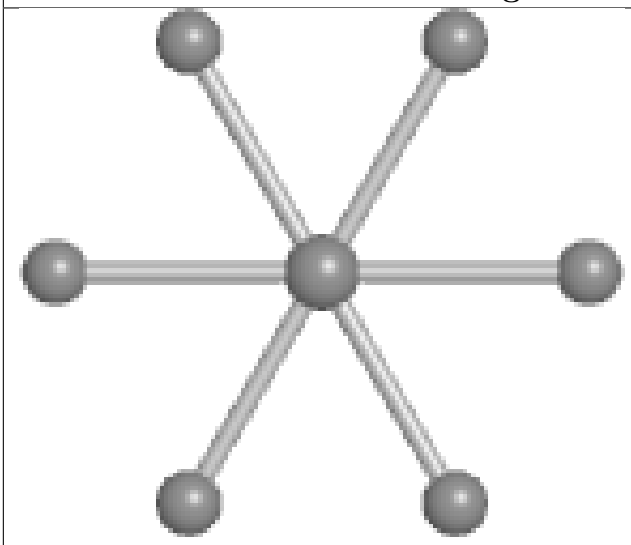


**Torsions**

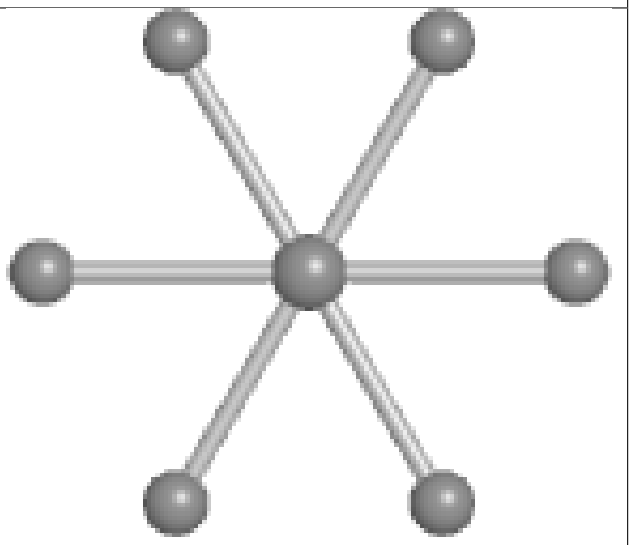


**Rings**

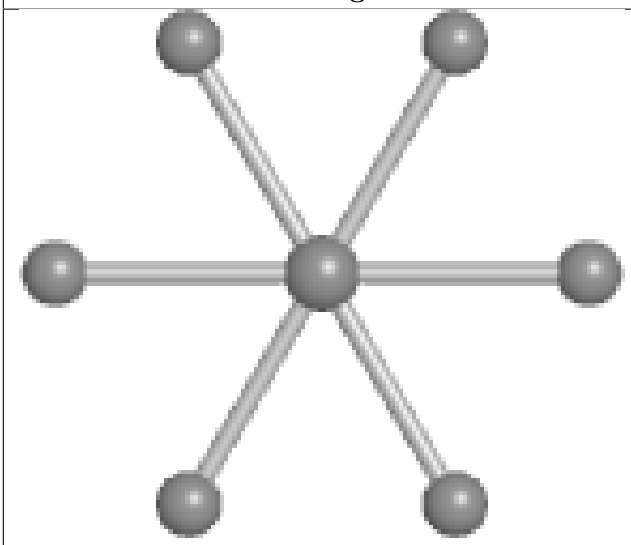
**Ligand OHX B1 3515**



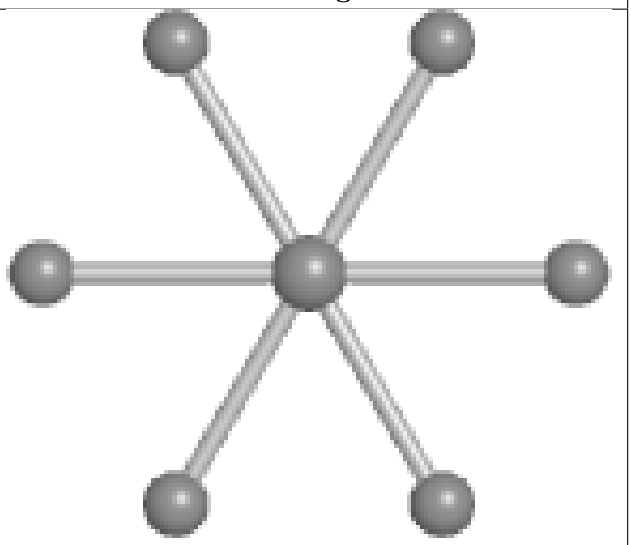
**Bond lengths**



**Bond angles**

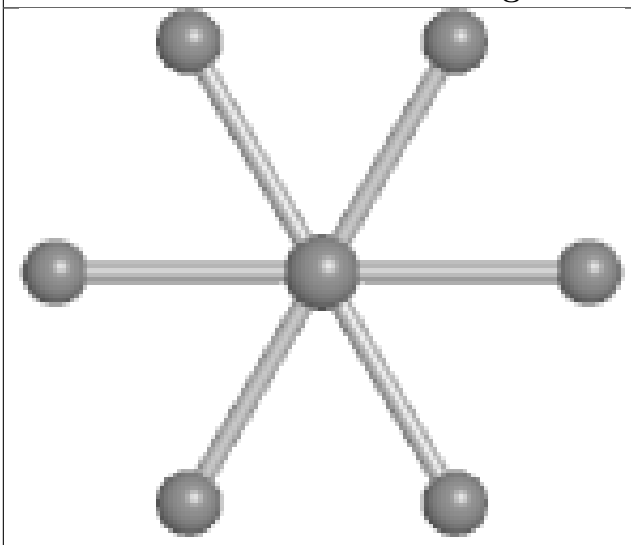


**Torsions**

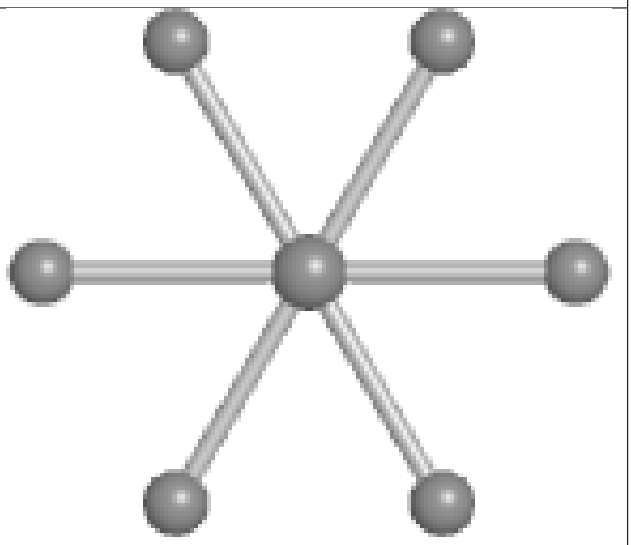


**Rings**

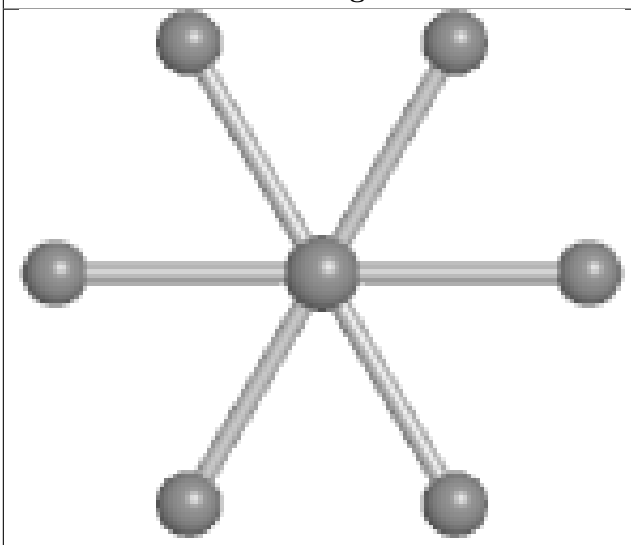
**Ligand OHX C1 1998**



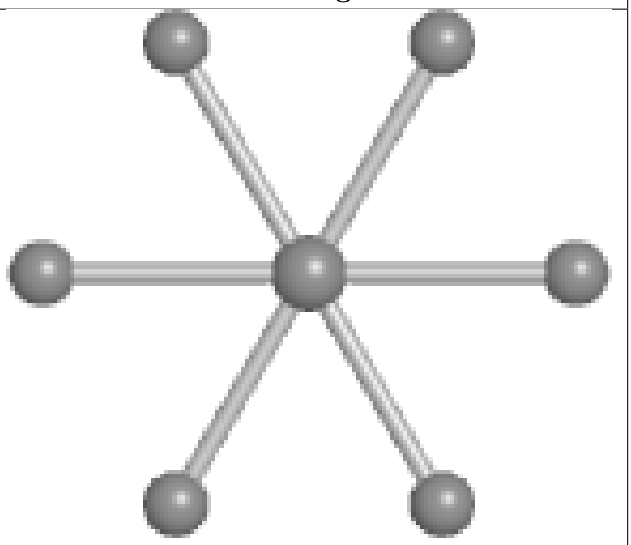
**Bond lengths**



**Bond angles**

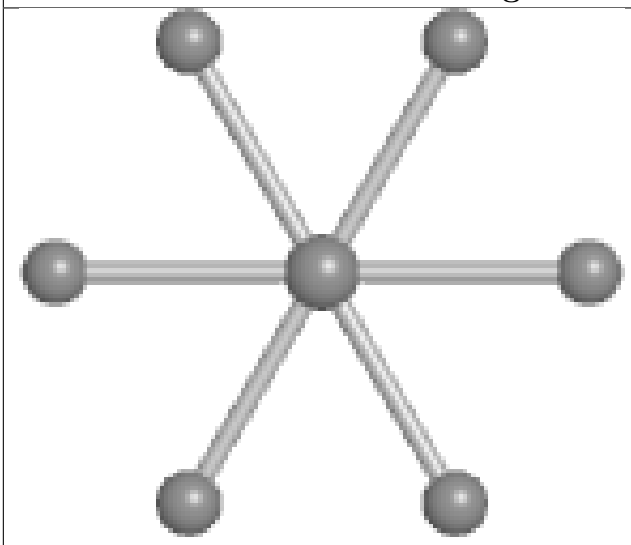


**Torsions**

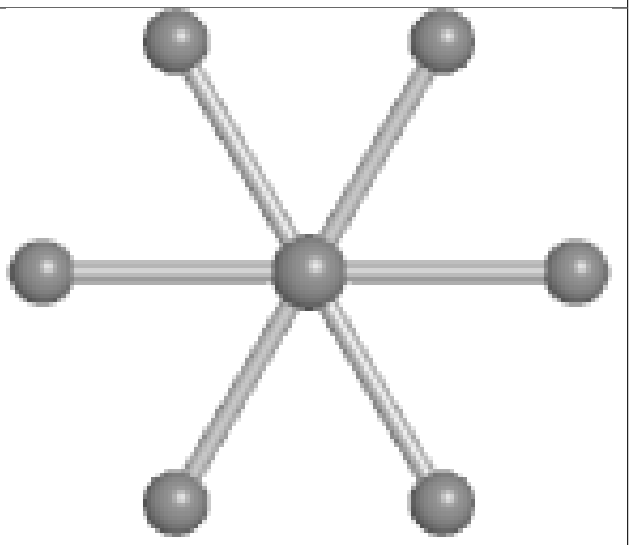


**Rings**

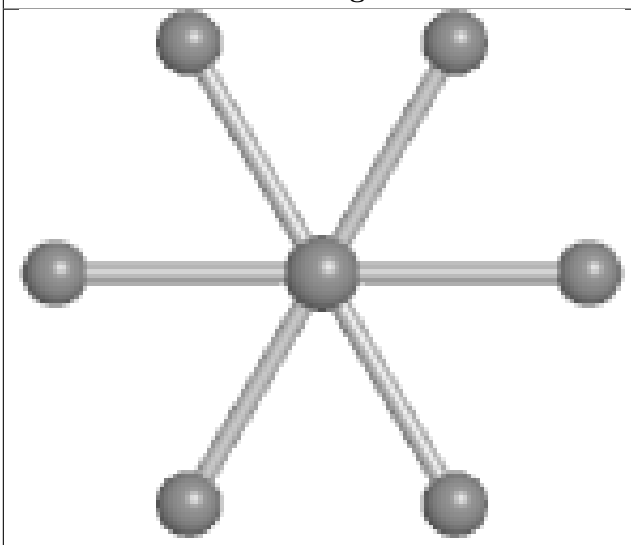
**Ligand OHX C1 1991**



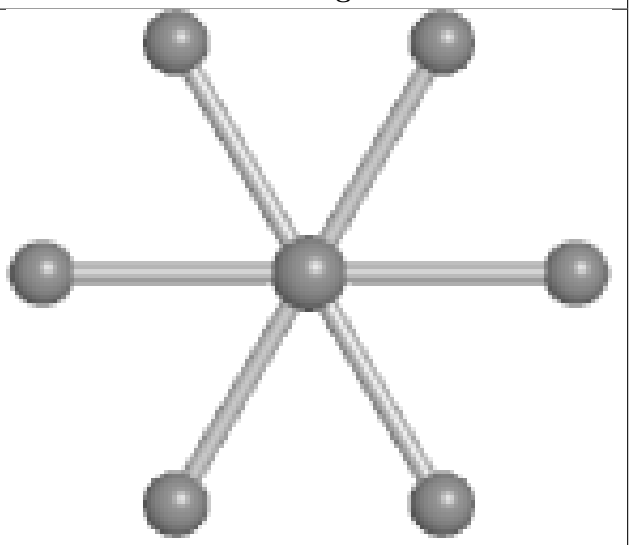
**Bond lengths**



**Bond angles**

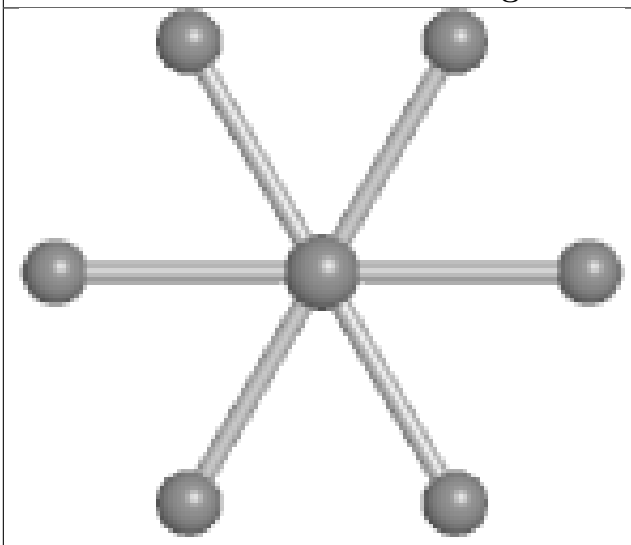


**Torsions**

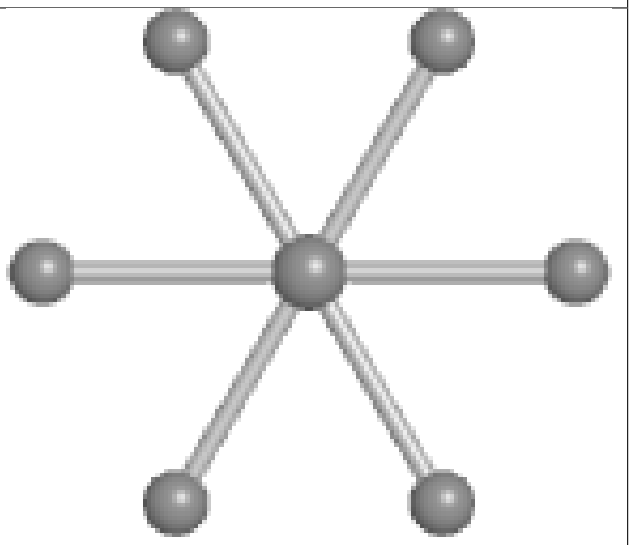


**Rings**

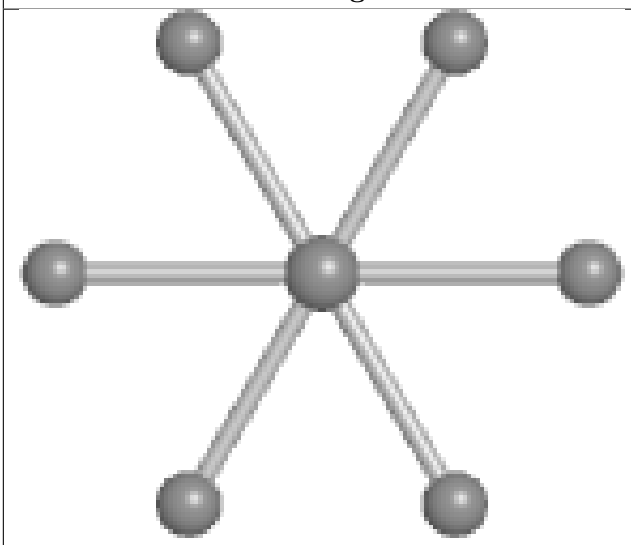
**Ligand OHX D1 3587**



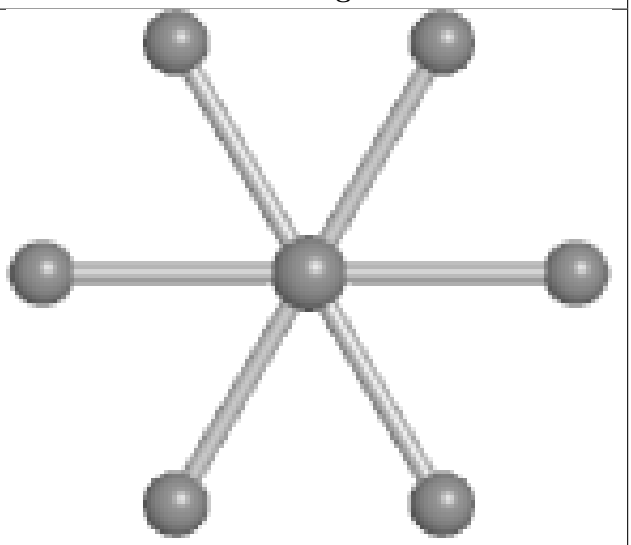
**Bond lengths**



**Bond angles**

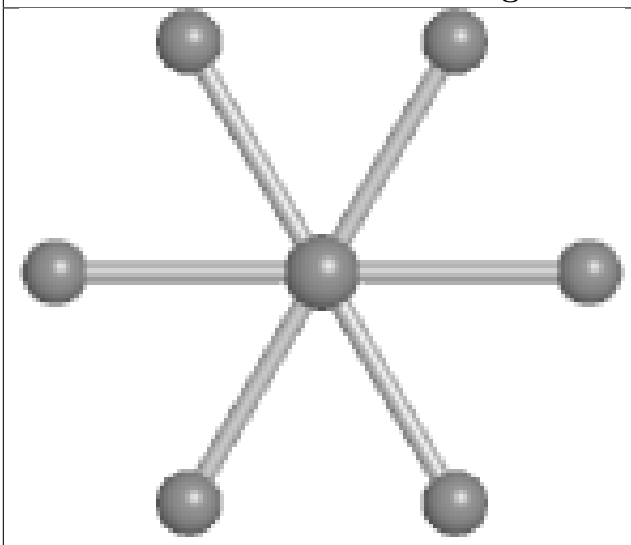


**Torsions**

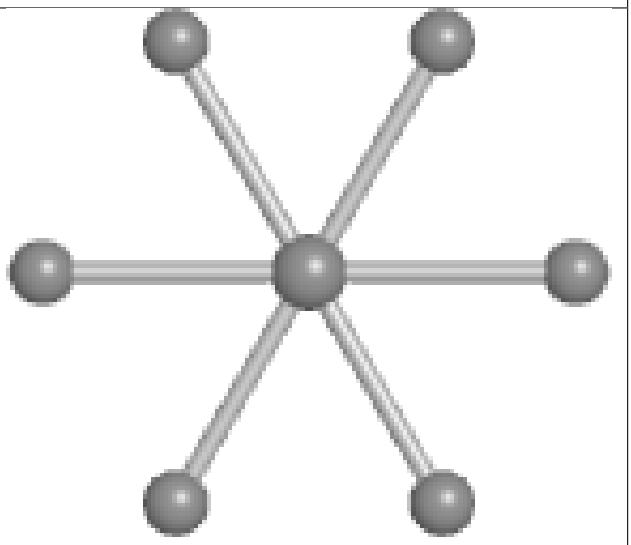


**Rings**

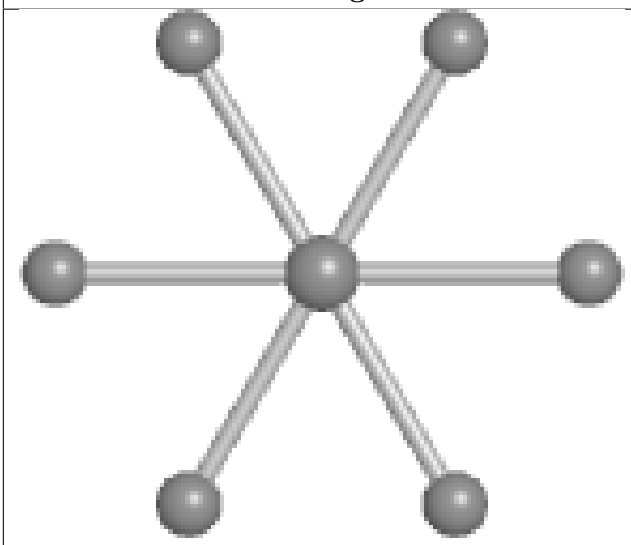
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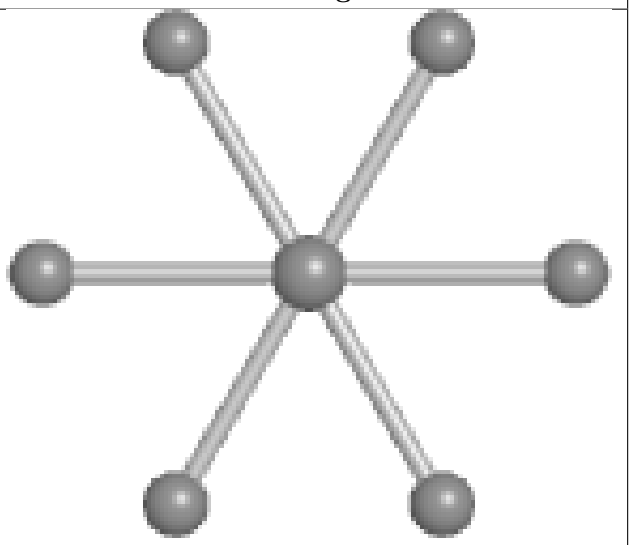
**Bond lengths**



**Bond angles**

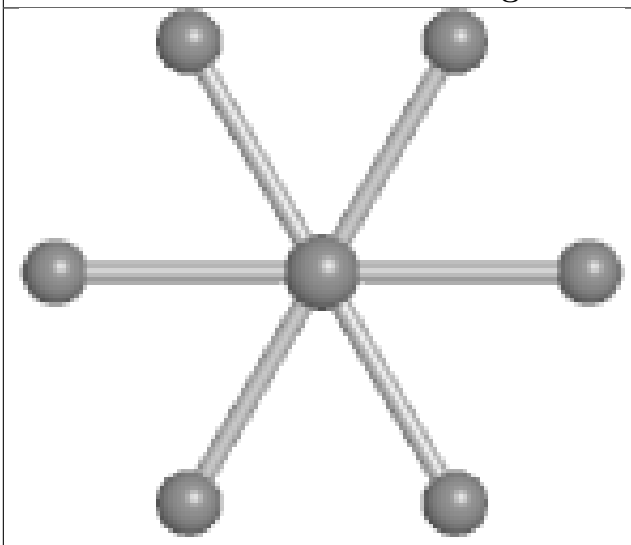


**Torsions**

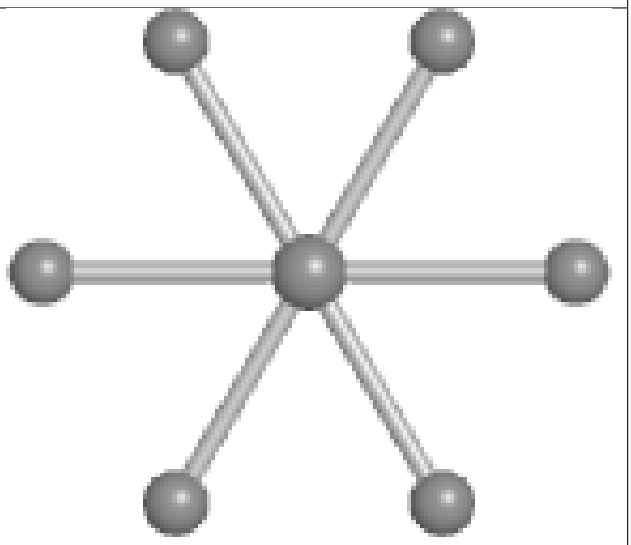


**Rings**

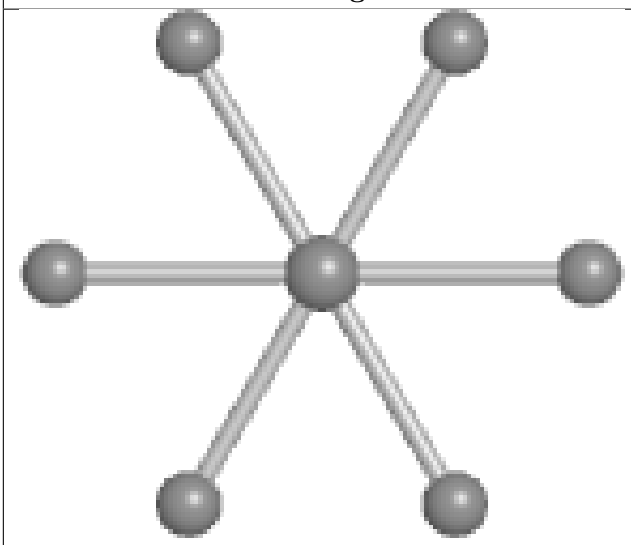
**Ligand OHX D1 3516**



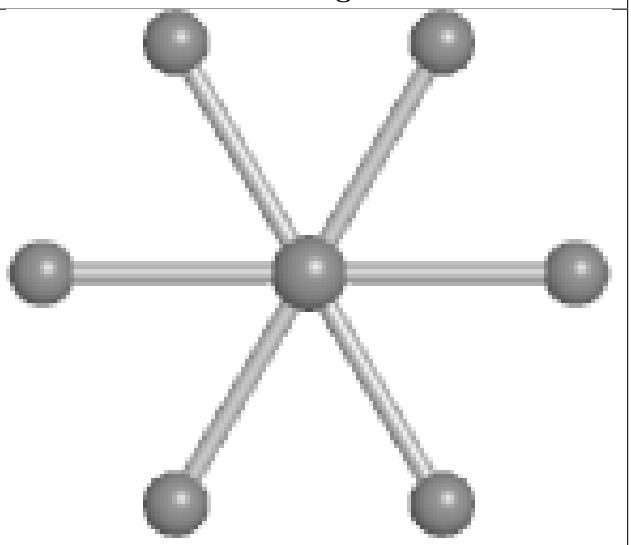
**Bond lengths**



**Bond angles**

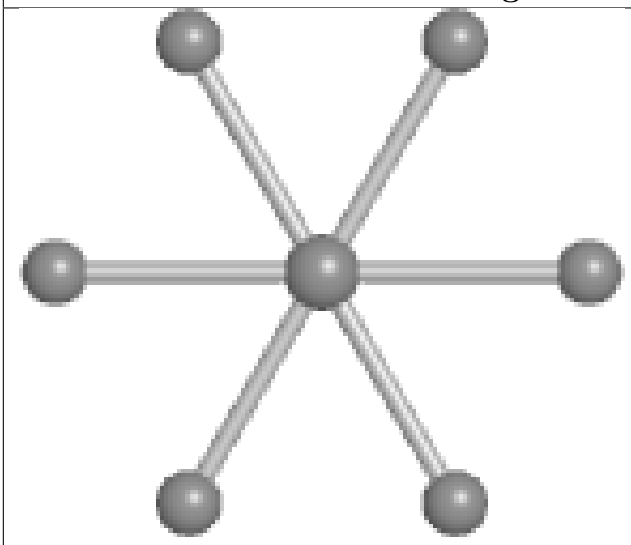


**Torsions**

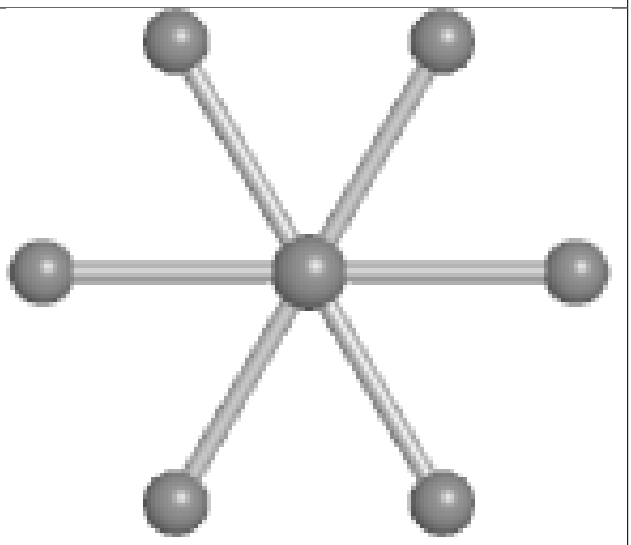


**Rings**

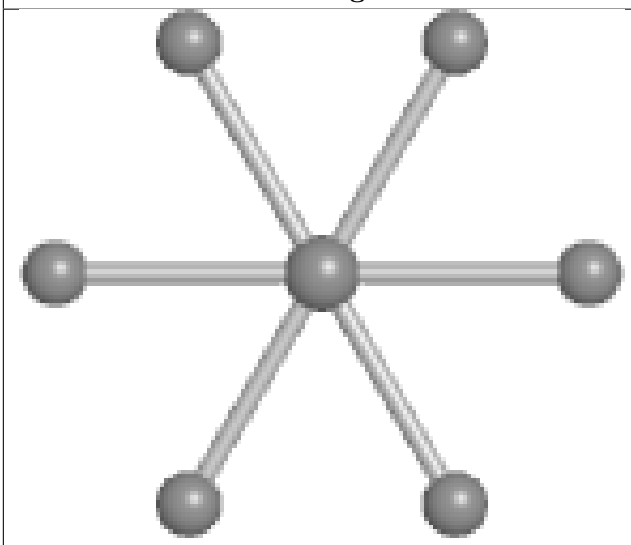
**Ligand OHX A1 1995**



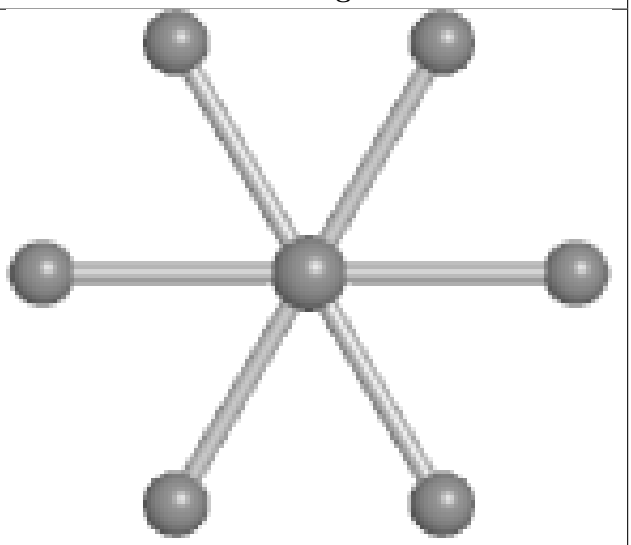
**Bond lengths**



**Bond angles**

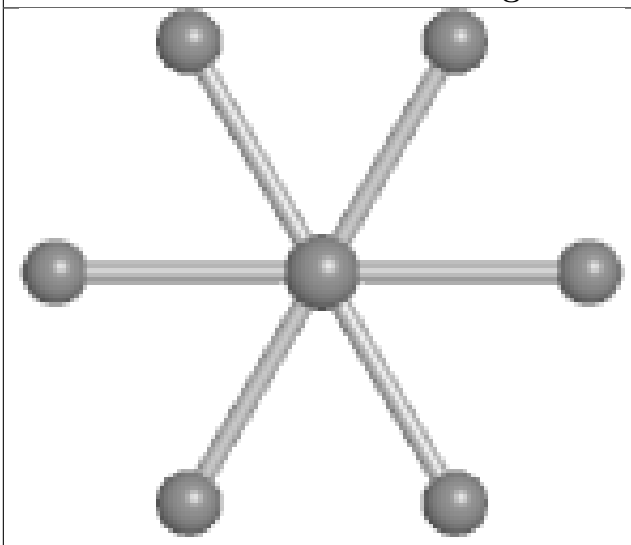


**Torsions**

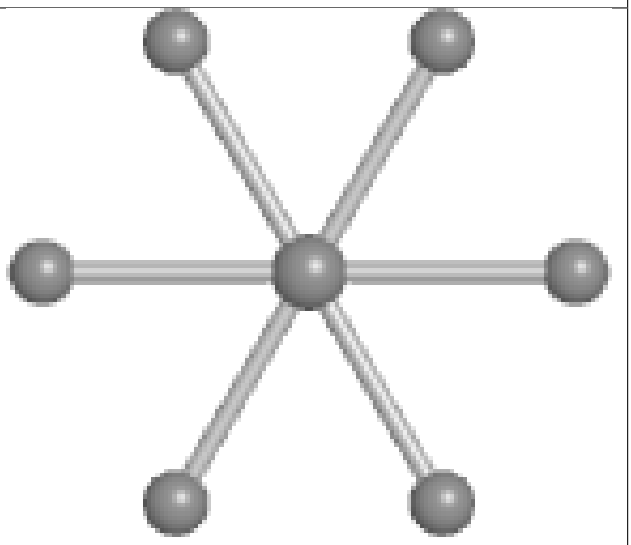


**Rings**

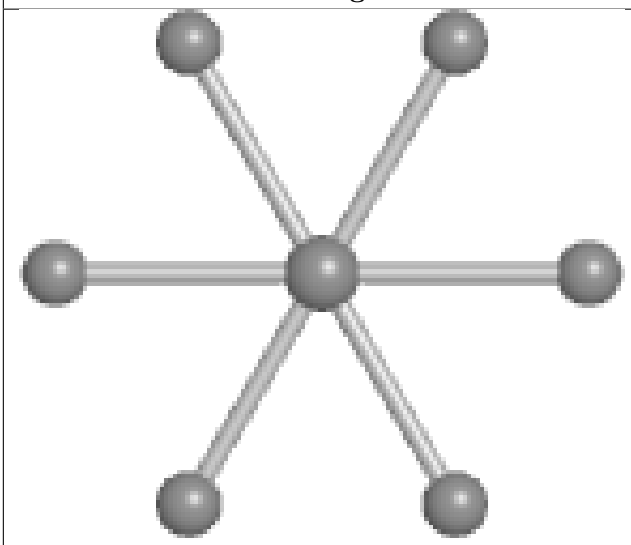
**Ligand OHX B1 3584**



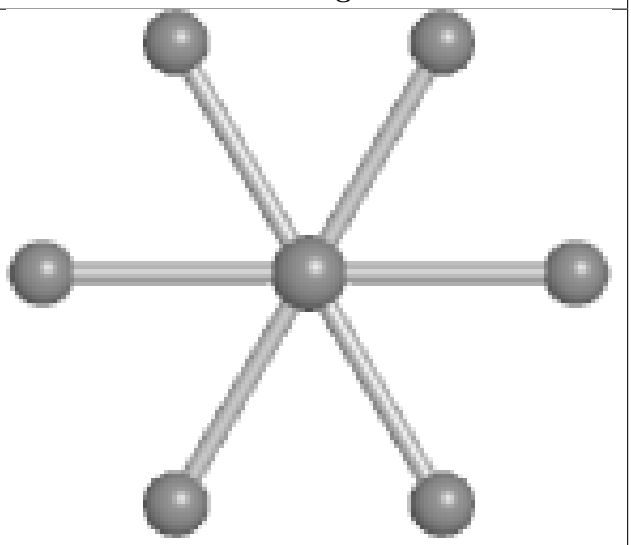
**Bond lengths**



**Bond angles**

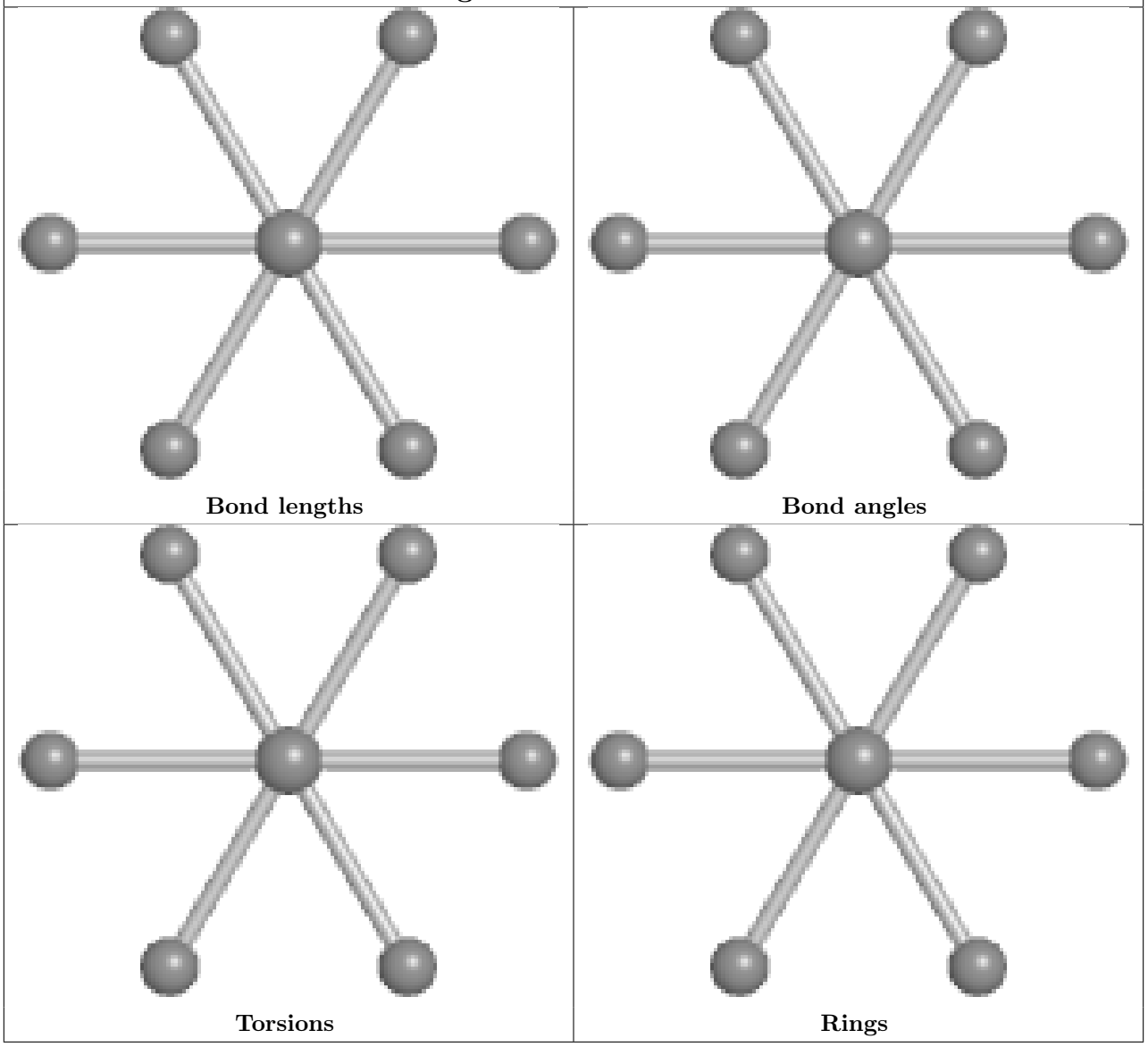


**Torsions**



**Rings**

**Ligand OHX D3 206**




## 5.7 Other polymers (i)

There are no such residues in this entry.

## 5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

| Mol | Chain | Number of breaks |
|---|---|---|
| 23 | Ab | 4 |
| 23 | Cb | 4 |
| 63 | Bh | 1 |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Number of breaks |
|---|---|---|
| 63 | Dh | 1 |
| 28 | Ch | 1 |
| 68 | Bn | 1 |
| 28 | Ah | 1 |
| 24 | Cc | 1 |
| 24 | Ac | 1 |

All chain breaks are listed below:

| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|---|---|---|---|---|---|---|
| 1 | Bh | 23:UNK | C | 34:UNK | N | 29.25 |
| 1 | Dh | 23:UNK | C | 34:UNK | N | 28.80 |
| 1 | Ch | 25:UNK | C | 50:UNK | N | 22.77 |
| 1 | Ab | 19:UNK | C | 21:UNK | N | 20.41 |
| 1 | Bn | 19:UNK | C | 27:UNK | N | 20.28 |
| 1 | Cb | 19:UNK | C | 21:UNK | N | 19.97 |
| 1 | Cb | 30:UNK | C | 45:UNK | N | 19.12 |
| 1 | Ah | 25:UNK | C | 50:UNK | N | 19.01 |
| 1 | Cb | 86:UNK | C | 101:UNK | N | 15.94 |
| 1 | Ab | 68:UNK | C | 71:UNK | N | 15.61 |
| 1 | Ab | 86:UNK | C | 101:UNK | N | 13.12 |
| 1 | Cb | 68:UNK | C | 71:UNK | N | 10.71 |
| 1 | Ab | 30:UNK | C | 45:UNK | N | 9.43 |
| 1 | Cc | 54:UNK | C | 61:UNK | N | 5.78 |
| 1 | Ac | 54:UNK | C | 61:UNK | N | 4.90 |

# 6 Fit of model and data

## 6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, $95^{th}$ percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | | | OWAB(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 1 | A1 | 1789/1800 (99%) | 0.64 | 135 (7%) | 20 | 20 | 45, 138, 429, 753 | 0 |
| 1 | C1 | 1789/1800 (99%) | 0.68 | 135 (7%) | 20 | 20 | 42, 120, 419, 674 | 0 |
| 2 | AA | 220/252 (87%) | 1.20 | 51 (23%) | 2 | 4 | 64, 150, 323, 474 | 0 |
| 2 | CA | 220/252 (87%) | 1.04 | 42 (19%) | 3 | 6 | 66, 119, 336, 538 | 0 |
| 3 | AB | 219/254 (86%) | 0.90 | 35 (15%) | 5 | 8 | 42, 117, 298, 500 | 0 |
| 3 | CB | 219/254 (86%) | 0.93 | 41 (18%) | 3 | 6 | 50, 108, 288, 386 | 0 |
| 4 | AC | 189/240 (78%) | 0.96 | 35 (18%) | 3 | 6 | 52, 120, 278, 403 | 0 |
| 4 | CC | 189/240 (78%) | 0.74 | 26 (13%) | 6 | 10 | 41, 120, 262, 460 | 0 |
| 5 | AD | 169/225 (75%) | 0.95 | 33 (19%) | 3 | 6 | 58, 150, 355, 516 | 0 |
| 5 | CD | 169/225 (75%) | 1.27 | 46 (27%) | 1 | 3 | 33, 108, 269, 383 | 0 |
| 6 | AE | 157/197 (79%) | 1.11 | 30 (19%) | 3 | 6 | 44, 140, 362, 438 | 0 |
| 6 | CE | 157/197 (79%) | 0.95 | 30 (19%) | 3 | 6 | 31, 99, 330, 482 | 0 |
| 7 | AF | 77/156 (49%) | 1.17 | 19 (24%) | 2 | 4 | 45, 95, 205, 412 | 0 |
| 7 | CF | 77/156 (49%) | 1.96 | 30 (38%) | 1 | 2 | 56, 91, 267, 342 | 0 |
| 8 | AG | 117/151 (77%) | 0.68 | 23 (19%) | 3 | 5 | 35, 108, 284, 362 | 0 |
| 8 | CG | 117/151 (77%) | 1.01 | 25 (21%) | 2 | 5 | 46, 97, 263, 458 | 0 |
| 9 | AH | 128/137 (93%) | 1.35 | 38 (29%) | 1 | 3 | 53, 186, 349, 436 | 0 |
| 9 | CH | 128/137 (93%) | 1.18 | 36 (28%) | 1 | 3 | 39, 132, 354, 482 | 0 |
| 10 | AI | 121/142 (85%) | 1.07 | 30 (24%) | 2 | 4 | 55, 140, 329, 419 | 0 |
| 10 | CI | 121/142 (85%) | 1.61 | 43 (35%) | 1 | 2 | 46, 116, 273, 447 | 0 |
| 11 | AJ | 134/143 (93%) | 1.08 | 32 (23%) | 2 | 4 | 74, 144, 302, 340 | 0 |
| 11 | CJ | 134/143 (93%) | 1.37 | 36 (26%) | 1 | 3 | 44, 99, 288, 381 | 0 |
| 12 | AK | 67/136 (49%) | 0.96 | 11 (16%) | 4 | 8 | 52, 142, 319, 407 | 0 |
| 12 | CK | 67/136 (49%) | 1.97 | 28 (41%) | 0 | 1 | 64, 199, 350, 401 | 0 |

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| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | | | OWAB(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 13 | AL | 120/146 (82%) | 1.07 | 28 (23%) | 2 | 4 | 55, 146, 298, 514 | 0 |
| 13 | CL | 120/146 (82%) | 0.94 | 24 (20%) | 3 | 5 | 52, 96, 293, 519 | 0 |
| 14 | AM | 106/144 (73%) | 0.75 | 16 (15%) | 5 | 9 | 71, 138, 348, 425 | 0 |
| 14 | CM | 106/144 (73%) | 0.97 | 21 (19%) | 3 | 5 | 42, 81, 260, 338 | 0 |
| 15 | AN | 111/121 (91%) | 1.75 | 39 (35%) | 1 | 2 | 68, 129, 336, 412 | 0 |
| 15 | CN | 111/121 (91%) | 1.19 | 30 (27%) | 1 | 3 | 32, 111, 286, 424 | 0 |
| 16 | AO | 127/130 (97%) | 0.75 | 20 (15%) | 5 | 9 | 53, 95, 256, 411 | 0 |
| 16 | CO | 127/130 (97%) | 0.90 | 20 (15%) | 5 | 9 | 54, 91, 229, 441 | 0 |
| 17 | AP | 116/145 (80%) | 1.10 | 26 (22%) | 2 | 4 | 29, 95, 247, 384 | 0 |
| 17 | CP | 116/145 (80%) | 1.08 | 23 (19%) | 3 | 5 | 29, 71, 190, 418 | 0 |
| 18 | AQ | 67/108 (62%) | 1.13 | 11 (16%) | 4 | 8 | 94, 210, 332, 355 | 0 |
| 18 | CQ | 63/108 (58%) | 1.74 | 25 (39%) | 1 | 1 | 68, 150, 282, 307 | 0 |
| 19 | AR | 47/67 (70%) | 1.27 | 11 (23%) | 2 | 4 | 107, 245, 393, 457 | 0 |
| 19 | CR | 47/67 (70%) | 1.75 | 14 (29%) | 1 | 3 | 51, 221, 381, 425 | 0 |
| 20 | AS | 39/56 (69%) | 1.45 | 11 (28%) | 1 | 3 | 58, 108, 181, 260 | 0 |
| 20 | CS | 39/56 (69%) | 0.99 | 4 (10%) | 12 | 14 | 37, 95, 140, 292 | 0 |
| 21 | AT | 313/319 (98%) | 1.33 | 76 (24%) | 2 | 4 | 106, 195, 286, 348 | 0 |
| 21 | CT | 313/319 (98%) | 1.53 | 90 (28%) | 1 | 3 | 67, 158, 257, 328 | 0 |
| 22 | Aa | 0/20 | - | - | | | - | - |
| 22 | Bo | 0/20 | - | - | | | - | - |
| 22 | Ca | 0/20 | - | - | | | - | - |
| 23 | Ab | 0/105 | - | - | | | - | - |
| 23 | Cb | 0/105 | - | - | | | - | - |
| 24 | Ac | 0/93 | - | - | | | - | - |
| 24 | Cc | 0/93 | - | - | | | - | - |
| 25 | Ad | 0/35 | - | - | | | - | - |
| 25 | Cd | 0/35 | - | - | | | - | - |
| 26 | Ae | 0/21 | - | - | | | - | - |
| 26 | Bj | 0/21 | - | - | | | - | - |
| 26 | Dj | 0/21 | - | - | | | - | - |
| 27 | Af | 0/11 | - | - | | | - | - |
| 28 | Ah | 0/41 | - | - | | | - | - |
| 28 | Ch | 0/41 | - | - | | | - | - |
| 29 | B1 | 3206/3396 (94%) | 0.48 | 178 (5%) | 30 | 26 | 33, 86, 395, 634 | 0 |
| 29 | D1 | 3206/3396 (94%) | 0.53 | 224 (6%) | 22 | 21 | 30, 94, 427, 674 | 0 |

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| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | OWAB(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|
| 30 | B2 | 121/121 (100%) | 0.56 | 8 (6%) 24 22 | 46, 118, 189, 323 | 0 |
| 30 | D2 | 121/121 (100%) | 0.61 | 11 (9%) 15 17 | 36, 95, 180, 349 | 0 |
| 31 | B3 | 158/158 (100%) | 0.46 | 10 (6%) 26 23 | 46, 108, 258, 619 | 0 |
| 31 | D3 | 158/158 (100%) | 0.71 | 16 (10%) 12 14 | 59, 136, 358, 586 | 0 |
| 32 | BA | 213/217 (98%) | 1.14 | 40 (18%) 3 6 | 137, 327, 441, 483 | 0 |
| 32 | DA | 213/217 (98%) | 1.14 | 43 (20%) 3 5 | 159, 354, 442, 484 | 0 |
| 33 | BB | 234/254 (92%) | 1.45 | 70 (29%) 1 3 | 25, 83, 246, 419 | 0 |
| 33 | DB | 234/254 (92%) | 1.52 | 80 (34%) 1 2 | 54, 108, 254, 417 | 0 |
| 34 | BC | 364/387 (94%) | 1.03 | 77 (21%) 2 5 | 20, 66, 216, 560 | 0 |
| 34 | DC | 364/387 (94%) | 0.95 | 67 (18%) 3 6 | 29, 58, 208, 543 | 0 |
| 35 | BD | 268/362 (74%) | 0.90 | 45 (16%) 4 7 | 34, 70, 207, 500 | 0 |
| 35 | DD | 268/362 (74%) | 1.30 | 64 (23%) 2 4 | 50, 102, 274, 463 | 0 |
| 36 | BE | 287/297 (96%) | 1.39 | 82 (28%) 1 3 | 58, 119, 355, 497 | 0 |
| 36 | DE | 287/297 (96%) | 1.09 | 64 (22%) 2 4 | 38, 91, 302, 478 | 0 |
| 37 | BF | 176/176 (100%) | 1.02 | 38 (21%) 2 4 | 25, 81, 305, 519 | 0 |
| 37 | DF | 176/176 (100%) | 1.29 | 46 (26%) 1 4 | 31, 69, 342, 518 | 0 |
| 38 | BG | 215/244 (88%) | 0.39 | 20 (9%) 14 16 | 21, 59, 226, 486 | 0 |
| 38 | DG | 215/244 (88%) | 0.45 | 15 (6%) 22 21 | 25, 49, 167, 330 | 0 |
| 39 | BH | 173/256 (67%) | 1.07 | 41 (23%) 2 4 | 45, 110, 297, 429 | 0 |
| 39 | DH | 173/256 (67%) | 1.30 | 45 (26%) 1 4 | 70, 146, 316, 422 | 0 |
| 40 | BI | 191/191 (100%) | 1.08 | 38 (19%) 3 5 | 27, 83, 237, 347 | 0 |
| 40 | DI | 191/191 (100%) | 0.18 | 11 (5%) 29 25 | 22, 49, 164, 286 | 0 |
| 41 | BJ | 208/221 (94%) | 1.34 | 56 (26%) 1 3 | 39, 93, 251, 452 | 0 |
| 41 | DJ | 208/221 (94%) | 0.96 | 41 (19%) 3 5 | 25, 64, 257, 456 | 0 |
| 42 | BK | 165/174 (94%) | 1.50 | 45 (27%) 1 3 | 56, 125, 348, 497 | 0 |
| 42 | DK | 165/174 (94%) | 1.32 | 41 (24%) 2 4 | 45, 97, 330, 532 | 0 |
| 43 | BN | 120/138 (86%) | 1.07 | 29 (24%) 2 4 | 34, 77, 260, 387 | 0 |
| 43 | DN | 120/138 (86%) | 0.96 | 21 (17%) 4 7 | 33, 60, 262, 325 | 0 |
| 44 | BO | 187/204 (91%) | 1.26 | 48 (25%) 1 4 | 38, 86, 178, 383 | 0 |
| 44 | DO | 187/204 (91%) | 1.72 | 72 (38%) 1 2 | 57, 119, 255, 327 | 0 |
| 45 | BP | 196/199 (98%) | 0.37 | 18 (9%) 14 17 | 23, 48, 152, 409 | 0 |

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| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | OWAB(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|
| 45 | DP | 196/199 (98%) | 0.51 | 14 (7%) 22 21 | 23, 45, 111, 424 | 0 |
| 46 | BQ | 154/184 (83%) | 0.81 | 23 (14%) 5 9 | 30, 55, 144, 337 | 0 |
| 46 | DQ | 154/184 (83%) | 0.90 | 32 (20%) 2 5 | 37, 77, 243, 373 | 0 |
| 47 | BR | 143/186 (76%) | 0.75 | 20 (13%) 6 10 | 38, 70, 200, 421 | 0 |
| 47 | DR | 143/186 (76%) | 1.36 | 37 (25%) 1 4 | 60, 87, 244, 378 | 0 |
| 48 | BS | 188/189 (99%) | 1.02 | 42 (22%) 2 4 | 52, 101, 419, 569 | 0 |
| 48 | DS | 188/189 (99%) | 1.49 | 59 (31%) 1 3 | 59, 109, 589, 657 | 0 |
| 49 | BT | 119/160 (74%) | 1.12 | 27 (22%) 2 4 | 42, 73, 221, 310 | 0 |
| 49 | DT | 119/160 (74%) | 1.12 | 24 (20%) 3 5 | 36, 72, 184, 282 | 0 |
| 50 | BU | 129/137 (94%) | 1.02 | 23 (17%) 4 6 | 27, 70, 208, 391 | 0 |
| 50 | DU | 129/137 (94%) | 0.60 | 13 (10%) 12 14 | 20, 48, 151, 235 | 0 |
| 51 | BV | 59/155 (38%) | 1.08 | 14 (23%) 2 4 | 29, 84, 259, 363 | 0 |
| 51 | DV | 59/155 (38%) | 0.85 | 6 (10%) 12 14 | 53, 73, 197, 320 | 0 |
| 52 | BW | 94/142 (66%) | 1.33 | 25 (26%) 1 4 | 53, 91, 211, 312 | 0 |
| 52 | DW | 94/142 (66%) | 1.36 | 24 (25%) 1 4 | 64, 124, 247, 337 | 0 |
| 53 | BX | 107/127 (84%) | 0.69 | 16 (14%) 5 9 | 58, 91, 182, 233 | 0 |
| 53 | DX | 107/127 (84%) | 1.19 | 21 (19%) 3 5 | 56, 106, 248, 361 | 0 |
| 54 | BY | 149/149 (100%) | 1.57 | 45 (30%) 1 3 | 30, 76, 331, 456 | 0 |
| 54 | DY | 149/149 (100%) | 1.56 | 47 (31%) 1 3 | 49, 95, 277, 409 | 0 |
| 55 | BZ | 98/105 (93%) | 0.96 | 16 (16%) 4 8 | 52, 128, 269, 360 | 0 |
| 55 | DZ | 98/105 (93%) | 0.93 | 18 (18%) 3 6 | 56, 134, 272, 365 | 0 |
| 56 | Ba | 86/113 (76%) | 0.95 | 19 (22%) 2 4 | 38, 83, 232, 396 | 0 |
| 56 | Da | 86/113 (76%) | 1.19 | 25 (29%) 1 3 | 51, 82, 274, 430 | 0 |
| 57 | Bb | 125/130 (96%) | 0.82 | 22 (17%) 4 7 | 26, 54, 138, 435 | 0 |
| 57 | Db | 125/130 (96%) | 1.12 | 27 (21%) 2 4 | 39, 77, 168, 380 | 0 |
| 58 | Bc | 68/120 (56%) | 0.70 | 10 (14%) 6 9 | 46, 89, 202, 381 | 0 |
| 58 | Dc | 68/120 (56%) | 0.66 | 8 (11%) 9 12 | 50, 123, 270, 348 | 0 |
| 59 | Bd | 72/88 (81%) | 1.53 | 22 (30%) 1 3 | 36, 79, 322, 434 | 0 |
| 59 | Dd | 72/88 (81%) | 1.51 | 24 (33%) 1 2 | 30, 103, 268, 336 | 0 |
| 60 | Be | 48/51 (94%) | 0.93 | 10 (20%) 2 5 | 30, 72, 159, 290 | 0 |
| 60 | De | 48/51 (94%) | 1.44 | 13 (27%) 1 3 | 40, 118, 222, 333 | 0 |

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| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | OWAB(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|
| 61 | Bf | 95/106 (89%) | 1.63 | 28 (29%) 1 3 | 57, 145, 363, 475 | 0 |
| 61 | Df | 95/106 (89%) | 2.15 | 40 (42%) 0 1 | 62, 195, 389, 486 | 0 |
| 62 | Bg | 83/92 (90%) | 1.13 | 19 (22%) 2 4 | 35, 98, 311, 431 | 0 |
| 62 | Dg | 83/92 (90%) | 1.06 | 19 (22%) 2 4 | 42, 103, 241, 369 | 0 |
| 63 | Bh | 0/44 | - | - | - | - |
| 63 | Dh | 0/44 | - | - | - | - |
| 64 | Bi | 0/12 | - | - | - | - |
| 64 | Di | 0/12 | - | - | - | - |
| 65 | Bk | 0/16 | - | - | - | - |
| 65 | Dk | 0/16 | - | - | - | - |
| 66 | Bl | 0/19 | - | - | - | - |
| 67 | Bm | 0/9 | - | - | - | - |
| 68 | Bn | 0/27 | - | - | - | - |
| 69 | Bp | 0/8 | - | - | - | - |
| 70 | Bq | 0/17 | - | - | - | - |
| 71 | Br | 0/23 | - | - | - | - |
| 72 | DL | 138/165 (83%) | 1.00 | 27 (19%) 3 5 | 84, 172, 387, 465 | 0 |
| 73 | DM | 130/312 (41%) | 1.02 | 22 (16%) 4 7 | 47, 121, 305, 409 | 0 |
| All | All | 25728/30002 (85%) | 0.88 | 4064 (15%) 5 9 | 20, 105, 353, 753 | 0 |

All (4064) RSRZ outliers are listed below:

| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 29 | B1 | 136 | G | 15.9 |
| 14 | CM | 31 | PRO | 11.8 |
| 42 | BK | 154 | THR | 11.4 |
| 21 | CT | 212 | ALA | 11.2 |
| 42 | DK | 152 | HIS | 10.8 |
| 2 | AA | 49 | ASN | 10.8 |
| 12 | CK | 35 | CYS | 10.7 |
| 43 | DN | 28 | SER | 10.5 |
| 21 | AT | 44 | SER | 10.5 |
| 7 | CF | 113 | PRO | 10.1 |
| 5 | CD | 104 | ASN | 10.1 |
| 37 | DF | 68 | PRO | 10.0 |
| 42 | DK | 154 | THR | 10.0 |
| 35 | DD | 67 | THR | 9.8 |
| 58 | Bc | 3 | GLY | 9.8 |
| 2 | AA | 157 | ASP | 9.8 |
| 41 | DJ | 113 | GLN | 9.7 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 42 | BK | 135 | GLY | 9.6 |
| 61 | Df | 48 | SER | 9.6 |
| 11 | CJ | 143 | ARG | 9.5 |
| 34 | BC | 125 | SER | 9.5 |
| 21 | AT | 80 | ALA | 9.5 |
| 61 | Df | 56 | PRO | 9.4 |
| 73 | DM | 72 | ASP | 9.4 |
| 61 | Df | 34 | SER | 9.3 |
| 30 | D2 | 39 | C | 9.3 |
| 37 | BF | 68 | PRO | 9.2 |
| 42 | DK | 136 | ALA | 9.1 |
| 36 | BE | 9 | SER | 9.0 |
| 21 | CT | 51 | ASP | 9.0 |
| 42 | BK | 152 | HIS | 8.9 |
| 42 | BK | 130 | VAL | 8.9 |
| 15 | AN | 85 | ARG | 8.8 |
| 29 | B1 | 1644 | C | 8.7 |
| 5 | CD | 184 | PHE | 8.7 |
| 41 | BJ | 116 | ARG | 8.7 |
| 17 | CP | 40 | SER | 8.7 |
| 1 | C1 | 1700 | C | 8.7 |
| 61 | Df | 22 | GLN | 8.7 |
| 10 | CI | 124 | THR | 8.6 |
| 15 | AN | 33 | GLN | 8.6 |
| 54 | DY | 48 | TYR | 8.6 |
| 7 | CF | 141 | LYS | 8.5 |
| 42 | DK | 130 | VAL | 8.5 |
| 39 | BH | 205 | ALA | 8.5 |
| 53 | DX | 44 | GLY | 8.5 |
| 57 | Db | 115 | LEU | 8.5 |
| 7 | CF | 116 | ARG | 8.5 |
| 12 | CK | 31 | ASN | 8.4 |
| 39 | DH | 210 | ALA | 8.4 |
| 21 | CT | 113 | VAL | 8.4 |
| 72 | DL | 103 | ASN | 8.4 |
| 61 | Bf | 34 | SER | 8.4 |
| 42 | BK | 136 | ALA | 8.4 |
| 29 | D1 | 2418 | G | 8.3 |
| 36 | DE | 232 | ASP | 8.3 |
| 37 | DF | 147 | ALA | 8.3 |
| 54 | DY | 50 | PRO | 8.3 |
| 57 | Bb | 8 | LYS | 8.2 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 21 | AT | 59 | ARG | 8.2 |
| 18 | CQ | 99 | ALA | 8.2 |
| 11 | CJ | 142 | TYR | 8.1 |
| 1 | C1 | 1795 | U | 8.1 |
| 40 | BI | 171 | ASP | 8.1 |
| 10 | CI | 101 | ALA | 8.0 |
| 37 | DF | 28 | GLN | 8.0 |
| 43 | BN | 66 | THR | 7.9 |
| 8 | CG | 80 | LEU | 7.9 |
| 21 | CT | 213 | SER | 7.9 |
| 47 | DR | 152 | HIS | 7.9 |
| 21 | AT | 25 | THR | 7.9 |
| 1 | A1 | 1795 | U | 7.9 |
| 29 | D1 | 2726 | C | 7.9 |
| 36 | DE | 214 | ASP | 7.9 |
| 51 | DV | 56 | ARG | 7.9 |
| 42 | BK | 128 | TYR | 7.8 |
| 60 | De | 45 | ARG | 7.8 |
| 1 | C1 | 1677 | C | 7.8 |
| 44 | DO | 123 | GLN | 7.7 |
| 54 | BY | 104 | THR | 7.7 |
| 33 | BB | 20 | THR | 7.7 |
| 21 | CT | 172 | ALA | 7.7 |
| 6 | AE | 101 | VAL | 7.7 |
| 2 | CA | 154 | GLU | 7.7 |
| 15 | CN | 11 | GLU | 7.7 |
| 47 | DR | 90 | ASP | 7.7 |
| 34 | BC | 45 | SER | 7.6 |
| 48 | DS | 160 | GLU | 7.6 |
| 42 | BK | 150 | ASN | 7.6 |
| 41 | BJ | 114 | GLY | 7.6 |
| 7 | AF | 113 | PRO | 7.6 |
| 29 | B1 | 2494 | A | 7.6 |
| 48 | BS | 53 | LYS | 7.5 |
| 36 | DE | 216 | GLU | 7.5 |
| 45 | DP | 61 | ALA | 7.5 |
| 33 | DB | 152 | SER | 7.5 |
| 72 | DL | 33 | GLY | 7.5 |
| 59 | Dd | 40 | PRO | 7.5 |
| 41 | DJ | 120 | GLY | 7.5 |
| 7 | CF | 140 | VAL | 7.5 |
| 49 | DT | 101 | CYS | 7.5 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 54 | DY | 29 | PRO | 7.5 |
| 37 | BF | 35 | VAL | 7.5 |
| 29 | B1 | 2688 | U | 7.4 |
| 5 | AD | 161 | ASP | 7.4 |
| 42 | BK | 132 | ASN | 7.3 |
| 19 | CR | 34 | GLU | 7.3 |
| 33 | BB | 139 | HIS | 7.3 |
| 2 | CA | 213 | GLN | 7.3 |
| 32 | DA | 192 | SER | 7.3 |
| 37 | DF | 86 | ALA | 7.3 |
| 33 | BB | 65 | ASP | 7.3 |
| 7 | CF | 99 | ARG | 7.3 |
| 29 | D1 | 2688 | U | 7.2 |
| 11 | AJ | 141 | SER | 7.2 |
| 41 | BJ | 196 | PHE | 7.2 |
| 54 | BY | 52 | TYR | 7.2 |
| 29 | B1 | 119 | U | 7.2 |
| 40 | BI | 41 | ILE | 7.2 |
| 35 | DD | 96 | GLY | 7.2 |
| 21 | CT | 52 | GLN | 7.2 |
| 48 | DS | 163 | ARG | 7.2 |
| 44 | BO | 57 | GLN | 7.1 |
| 4 | CC | 159 | HIS | 7.1 |
| 52 | BW | 53 | HIS | 7.1 |
| 48 | DS | 159 | ALA | 7.1 |
| 7 | AF | 116 | ARG | 7.0 |
| 34 | BC | 115 | LYS | 7.0 |
| 36 | DE | 222 | LEU | 7.0 |
| 2 | AA | 156 | VAL | 7.0 |
| 54 | BY | 38 | GLU | 7.0 |
| 56 | Ba | 24 | SER | 7.0 |
| 42 | DK | 119 | SER | 7.0 |
| 44 | DO | 40 | ALA | 7.0 |
| 12 | AK | 10 | LYS | 7.0 |
| 2 | CA | 169 | SER | 6.9 |
| 41 | DJ | 8 | CYS | 6.9 |
| 29 | D1 | 326 | U | 6.9 |
| 6 | CE | 174 | ARG | 6.9 |
| 5 | AD | 147 | THR | 6.9 |
| 1 | C1 | 662 | U | 6.9 |
| 41 | DJ | 3 | ARG | 6.8 |
| 33 | DB | 20 | THR | 6.8 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 47 | DR | 149 | ALA | 6.8 |
| 2 | CA | 101 | ARG | 6.8 |
| 36 | BE | 273 | ARG | 6.8 |
| 29 | B1 | 2418 | G | 6.8 |
| 10 | CI | 53 | PRO | 6.8 |
| 61 | Bf | 10 | THR | 6.8 |
| 61 | Df | 21 | THR | 6.8 |
| 21 | AT | 96 | THR | 6.7 |
| 5 | AD | 104 | ASN | 6.7 |
| 11 | CJ | 20 | ALA | 6.7 |
| 54 | BY | 48 | TYR | 6.7 |
| 16 | CO | 62 | VAL | 6.7 |
| 57 | Db | 116 | GLY | 6.7 |
| 18 | AQ | 78 | ILE | 6.7 |
| 50 | BU | 9 | THR | 6.7 |
| 47 | BR | 153 | PHE | 6.7 |
| 35 | DD | 66 | GLY | 6.7 |
| 29 | D1 | 2473 | C | 6.7 |
| 33 | DB | 7 | ASN | 6.7 |
| 19 | AR | 20 | GLY | 6.6 |
| 47 | DR | 95 | GLU | 6.6 |
| 47 | DR | 140 | LEU | 6.6 |
| 41 | BJ | 175 | ASN | 6.6 |
| 3 | AB | 159 | THR | 6.6 |
| 48 | DS | 165 | LYS | 6.6 |
| 58 | Dc | 10 | ARG | 6.6 |
| 6 | CE | 22 | SER | 6.6 |
| 34 | DC | 179 | ALA | 6.6 |
| 45 | DP | 198 | GLY | 6.6 |
| 61 | Bf | 12 | CYS | 6.6 |
| 4 | AC | 187 | LYS | 6.6 |
| 36 | BE | 40 | HIS | 6.6 |
| 29 | D1 | 1644 | C | 6.6 |
| 21 | CT | 50 | ASP | 6.6 |
| 1 | A1 | 1255 | G | 6.6 |
| 37 | DF | 36 | PRO | 6.6 |
| 15 | AN | 11 | GLU | 6.5 |
| 42 | DK | 62 | ASN | 6.5 |
| 54 | BY | 23 | GLY | 6.5 |
| 3 | CB | 238 | SER | 6.5 |
| 61 | Bf | 56 | PRO | 6.5 |
| 33 | BB | 140 | ASN | 6.5 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 35 | BD | 72 | ALA | 6.5 |
| 61 | Df | 53 | GLN | 6.5 |
| 35 | DD | 194 | TYR | 6.4 |
| 47 | BR | 90 | ASP | 6.4 |
| 42 | BK | 159 | THR | 6.4 |
| 52 | DW | 88 | MET | 6.4 |
| 48 | DS | 158 | GLU | 6.4 |
| 5 | CD | 183 | ALA | 6.4 |
| 29 | D1 | 437 | G | 6.4 |
| 37 | BF | 115 | GLU | 6.4 |
| 61 | Bf | 59 | HIS | 6.4 |
| 37 | DF | 153 | PRO | 6.4 |
| 12 | CK | 28 | PHE | 6.4 |
| 61 | Df | 25 | VAL | 6.4 |
| 39 | DH | 213 | LYS | 6.3 |
| 46 | BQ | 11 | PRO | 6.3 |
| 1 | C1 | 1676 | U | 6.3 |
| 42 | BK | 27 | GLY | 6.3 |
| 2 | AA | 127 | ARG | 6.3 |
| 16 | CO | 19 | LYS | 6.3 |
| 43 | BN | 41 | GLN | 6.3 |
| 36 | BE | 178 | ASN | 6.3 |
| 54 | BY | 106 | ALA | 6.3 |
| 48 | DS | 173 | ARG | 6.3 |
| 49 | DT | 21 | LYS | 6.2 |
| 6 | AE | 22 | SER | 6.2 |
| 33 | BB | 215 | ASN | 6.2 |
| 54 | BY | 108 | GLY | 6.2 |
| 42 | DK | 41 | SER | 6.2 |
| 1 | A1 | 69 | G | 6.2 |
| 36 | BE | 214 | ASP | 6.2 |
| 59 | Bd | 54 | LYS | 6.2 |
| 38 | BG | 215 | GLY | 6.2 |
| 58 | Dc | 3 | GLY | 6.2 |
| 15 | AN | 118 | VAL | 6.2 |
| 42 | DK | 145 | LYS | 6.2 |
| 2 | CA | 172 | LEU | 6.2 |
| 18 | CQ | 76 | ALA | 6.2 |
| 47 | BR | 155 | MET | 6.2 |
| 39 | BH | 189 | LEU | 6.2 |
| 1 | C1 | 1699 | G | 6.2 |
| 35 | DD | 263 | GLY | 6.2 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 7 | CF | 100 | TYR | 6.2 |
| 10 | AI | 9 | LYS | 6.2 |
| 20 | AS | 43 | PHE | 6.2 |
| 54 | DY | 108 | GLY | 6.2 |
| 36 | BE | 176 | SER | 6.1 |
| 50 | DU | 43 | GLY | 6.1 |
| 9 | CH | 86 | THR | 6.1 |
| 21 | CT | 203 | THR | 6.1 |
| 15 | AN | 51 | VAL | 6.1 |
| 42 | BK | 79 | ILE | 6.1 |
| 41 | DJ | 5 | PRO | 6.1 |
| 44 | BO | 150 | TRP | 6.1 |
| 1 | C1 | 1800 | A | 6.1 |
| 17 | AP | 28 | ASN | 6.1 |
| 36 | DE | 40 | HIS | 6.1 |
| 54 | BY | 79 | TRP | 6.1 |
| 3 | AB | 94 | GLN | 6.1 |
| 36 | DE | 220 | SER | 6.1 |
| 29 | B1 | 137 | G | 6.1 |
| 37 | BF | 83 | TYR | 6.1 |
| 13 | AL | 17 | LEU | 6.1 |
| 4 | AC | 191 | ASP | 6.1 |
| 54 | DY | 54 | GLY | 6.0 |
| 44 | BO | 59 | PHE | 6.0 |
| 33 | DB | 24 | GLN | 6.0 |
| 41 | DJ | 101 | LYS | 6.0 |
| 61 | Df | 41 | ARG | 6.0 |
| 12 | AK | 36 | ASP | 6.0 |
| 42 | DK | 132 | ASN | 6.0 |
| 35 | DD | 69 | ARG | 6.0 |
| 48 | DS | 166 | ASN | 6.0 |
| 55 | DZ | 11 | ASN | 6.0 |
| 35 | DD | 85 | SER | 6.0 |
| 7 | AF | 94 | ILE | 5.9 |
| 39 | DH | 209 | ALA | 5.9 |
| 47 | DR | 58 | ASN | 5.9 |
| 54 | DY | 62 | HIS | 5.9 |
| 42 | DK | 125 | MET | 5.9 |
| 32 | BA | 197 | ASN | 5.9 |
| 35 | DD | 83 | GLY | 5.9 |
| 40 | BI | 190 | ASP | 5.9 |
| 54 | BY | 51 | GLY | 5.9 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 12 | CK | 22 | PRO | 5.9 |
| 35 | BD | 82 | THR | 5.9 |
| 52 | BW | 122 | ALA | 5.9 |
| 36 | BE | 268 | GLU | 5.9 |
| 33 | BB | 201 | GLY | 5.9 |
| 33 | DB | 86 | GLN | 5.9 |
| 29 | B1 | 2402 | A | 5.9 |
| 45 | DP | 125 | ARG | 5.9 |
| 3 | AB | 156 | THR | 5.8 |
| 13 | CL | 97 | ASP | 5.8 |
| 43 | BN | 69 | THR | 5.8 |
| 59 | Dd | 54 | LYS | 5.8 |
| 52 | BW | 91 | ASN | 5.8 |
| 29 | D1 | 3273 | A | 5.8 |
| 34 | BC | 243 | HIS | 5.8 |
| 48 | DS | 164 | LEU | 5.8 |
| 60 | De | 36 | ARG | 5.8 |
| 11 | AJ | 140 | LYS | 5.8 |
| 6 | AE | 169 | PRO | 5.8 |
| 72 | DL | 102 | GLY | 5.8 |
| 21 | AT | 207 | ASP | 5.8 |
| 29 | B1 | 2726 | C | 5.8 |
| 17 | AP | 27 | ASN | 5.8 |
| 36 | DE | 230 | ASP | 5.7 |
| 34 | DC | 114 | VAL | 5.7 |
| 13 | CL | 73 | MET | 5.7 |
| 44 | DO | 110 | ALA | 5.7 |
| 29 | B1 | 1199 | C | 5.7 |
| 21 | CT | 49 | GLY | 5.7 |
| 14 | AM | 68 | ARG | 5.7 |
| 61 | Bf | 57 | VAL | 5.7 |
| 2 | AA | 28 | ASN | 5.7 |
| 35 | BD | 83 | GLY | 5.7 |
| 35 | BD | 51 | ALA | 5.7 |
| 36 | DE | 219 | PHE | 5.7 |
| 9 | CH | 112 | ILE | 5.7 |
| 54 | BY | 89 | GLN | 5.7 |
| 41 | BJ | 117 | GLY | 5.7 |
| 43 | DN | 52 | GLY | 5.7 |
| 38 | BG | 155 | LYS | 5.7 |
| 16 | AO | 52 | TYR | 5.7 |
| 61 | Df | 54 | THR | 5.7 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 7 | CF | 118 | GLN | 5.7 |
| 1 | A1 | 1 | U | 5.6 |
| 29 | B1 | 326 | U | 5.6 |
| 12 | AK | 35 | CYS | 5.6 |
| 15 | AN | 81 | THR | 5.6 |
| 32 | BA | 188 | ASN | 5.6 |
| 29 | D1 | 847 | A | 5.6 |
| 32 | DA | 49 | PHE | 5.6 |
| 1 | C1 | 137 | U | 5.6 |
| 46 | BQ | 95 | LEU | 5.6 |
| 15 | AN | 76 | SER | 5.6 |
| 73 | DM | 193 | ASN | 5.6 |
| 44 | DO | 105 | ARG | 5.6 |
| 2 | AA | 152 | PRO | 5.6 |
| 10 | AI | 53 | PRO | 5.6 |
| 44 | BO | 94 | TYR | 5.6 |
| 42 | BK | 149 | GLY | 5.6 |
| 55 | BZ | 84 | LEU | 5.6 |
| 10 | CI | 128 | HIS | 5.6 |
| 40 | BI | 184 | LYS | 5.6 |
| 42 | DK | 146 | GLY | 5.6 |
| 29 | B1 | 133 | U | 5.6 |
| 9 | AH | 17 | ALA | 5.5 |
| 42 | BK | 148 | VAL | 5.5 |
| 34 | DC | 154 | TYR | 5.5 |
| 44 | DO | 179 | LYS | 5.5 |
| 59 | Bd | 73 | ARG | 5.5 |
| 9 | AH | 117 | ASP | 5.5 |
| 32 | DA | 193 | LEU | 5.5 |
| 33 | BB | 82 | VAL | 5.5 |
| 13 | CL | 59 | GLY | 5.5 |
| 52 | DW | 46 | TYR | 5.5 |
| 29 | B1 | 3314 | A | 5.5 |
| 73 | DM | 74 | GLU | 5.5 |
| 6 | CE | 121 | SER | 5.5 |
| 14 | AM | 71 | VAL | 5.5 |
| 48 | DS | 161 | ALA | 5.5 |
| 39 | DH | 199 | ALA | 5.5 |
| 33 | DB | 118 | GLU | 5.5 |
| 47 | DR | 41 | ASP | 5.5 |
| 34 | DC | 133 | TYR | 5.5 |
| 51 | BV | 19 | THR | 5.5 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 8 | CG | 53 | LEU | 5.4 |
| 1 | C1 | 1192 | C | 5.4 |
| 37 | DF | 164 | SER | 5.4 |
| 48 | DS | 169 | ALA | 5.4 |
| 19 | CR | 36 | THR | 5.4 |
| 33 | BB | 29 | LEU | 5.4 |
| 39 | DH | 127 | PRO | 5.4 |
| 29 | B1 | 1027 | A | 5.4 |
| 14 | CM | 37 | VAL | 5.4 |
| 3 | AB | 93 | GLY | 5.4 |
| 4 | CC | 15 | GLY | 5.4 |
| 62 | Bg | 43 | GLY | 5.4 |
| 53 | DX | 62 | SER | 5.4 |
| 14 | AM | 28 | LEU | 5.4 |
| 15 | AN | 63 | LEU | 5.4 |
| 44 | BO | 15 | GLN | 5.4 |
| 54 | DY | 117 | ARG | 5.4 |
| 41 | BJ | 170 | LYS | 5.4 |
| 2 | CA | 145 | ALA | 5.4 |
| 29 | B1 | 285 | A | 5.4 |
| 1 | A1 | 379 | U | 5.4 |
| 40 | BI | 90 | MET | 5.4 |
| 33 | BB | 138 | GLY | 5.4 |
| 44 | DO | 3 | ALA | 5.4 |
| 47 | DR | 103 | ALA | 5.4 |
| 6 | AE | 110 | GLN | 5.4 |
| 43 | DN | 78 | THR | 5.3 |
| 54 | BY | 54 | GLY | 5.4 |
| 32 | DA | 194 | LEU | 5.3 |
| 4 | AC | 153 | ALA | 5.3 |
| 33 | DB | 121 | GLY | 5.3 |
| 42 | DK | 42 | GLY | 5.3 |
| 5 | CD | 185 | ARG | 5.3 |
| 6 | AE | 23 | ARG | 5.3 |
| 37 | BF | 78 | ARG | 5.3 |
| 18 | AQ | 54 | VAL | 5.3 |
| 50 | BU | 135 | VAL | 5.3 |
| 2 | AA | 30 | GLN | 5.3 |
| 59 | Bd | 30 | GLN | 5.3 |
| 40 | BI | 148 | GLY | 5.3 |
| 55 | DZ | 88 | GLY | 5.3 |
| 34 | BC | 1 | MET | 5.3 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 41 | BJ | 40 | LYS | 5.3 |
| 34 | BC | 328 | ILE | 5.3 |
| 39 | DH | 207 | ASP | 5.3 |
| 14 | CM | 3 | GLY | 5.3 |
| 35 | DD | 174 | ALA | 5.3 |
| 35 | DD | 198 | ARG | 5.3 |
| 62 | Bg | 59 | CYS | 5.3 |
| 20 | CS | 44 | ARG | 5.3 |
| 21 | AT | 79 | TYR | 5.3 |
| 17 | AP | 40 | SER | 5.3 |
| 33 | DB | 19 | HIS | 5.3 |
| 37 | DF | 57 | HIS | 5.3 |
| 29 | B1 | 1198 | C | 5.3 |
| 33 | BB | 25 | GLY | 5.3 |
| 34 | DC | 1 | MET | 5.3 |
| 34 | DC | 63 | PRO | 5.3 |
| 54 | BY | 24 | LYS | 5.3 |
| 44 | BO | 139 | HIS | 5.3 |
| 33 | DB | 153 | GLY | 5.2 |
| 57 | Db | 8 | LYS | 5.2 |
| 13 | AL | 73 | MET | 5.2 |
| 44 | DO | 41 | ARG | 5.2 |
| 56 | Ba | 78 | LYS | 5.2 |
| 15 | AN | 62 | VAL | 5.2 |
| 35 | DD | 261 | VAL | 5.2 |
| 52 | DW | 64 | GLU | 5.2 |
| 16 | CO | 84 | GLY | 5.2 |
| 41 | BJ | 120 | GLY | 5.2 |
| 43 | BN | 23 | ILE | 5.2 |
| 19 | CR | 35 | ASP | 5.2 |
| 21 | AT | 46 | LYS | 5.2 |
| 44 | DO | 153 | ASP | 5.2 |
| 31 | B3 | 86 | U | 5.2 |
| 2 | CA | 173 | ILE | 5.2 |
| 45 | DP | 62 | THR | 5.2 |
| 34 | DC | 115 | LYS | 5.2 |
| 35 | BD | 69 | ARG | 5.2 |
| 47 | BR | 152 | HIS | 5.2 |
| 39 | DH | 236 | GLY | 5.2 |
| 50 | BU | 76 | ALA | 5.2 |
| 29 | B1 | 3390 | G | 5.2 |
| 54 | DY | 104 | THR | 5.2 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 6 | AE | 21 | SER | 5.2 |
| 15 | CN | 20 | ILE | 5.2 |
| 1 | A1 | 1794 | A | 5.1 |
| 41 | DJ | 10 | ARG | 5.1 |
| 1 | C1 | 1632 | C | 5.1 |
| 13 | AL | 74 | GLN | 5.1 |
| 1 | A1 | 1701 | A | 5.1 |
| 14 | CM | 69 | LYS | 5.1 |
| 47 | BR | 72 | LYS | 5.1 |
| 1 | C1 | 1201 | G | 5.1 |
| 48 | DS | 172 | ARG | 5.1 |
| 10 | CI | 100 | LYS | 5.1 |
| 36 | BE | 57 | ASN | 5.1 |
| 37 | DF | 61 | ASN | 5.1 |
| 2 | AA | 154 | GLU | 5.1 |
| 39 | DH | 202 | GLU | 5.1 |
| 2 | AA | 201 | LEU | 5.1 |
| 4 | AC | 142 | LEU | 5.1 |
| 12 | CK | 36 | ASP | 5.1 |
| 29 | D1 | 175 | C | 5.1 |
| 53 | DX | 66 | GLN | 5.1 |
| 5 | AD | 152 | GLY | 5.1 |
| 58 | Dc | 49 | LYS | 5.1 |
| 20 | AS | 39 | CYS | 5.1 |
| 73 | DM | 195 | GLN | 5.1 |
| 29 | D1 | 3353 | G | 5.1 |
| 21 | AT | 55 | GLY | 5.1 |
| 11 | CJ | 121 | SER | 5.1 |
| 32 | BA | 192 | SER | 5.1 |
| 46 | DQ | 6 | ALA | 5.1 |
| 35 | BD | 66 | GLY | 5.1 |
| 32 | BA | 36 | VAL | 5.1 |
| 61 | Df | 46 | LYS | 5.0 |
| 36 | DE | 245 | GLU | 5.0 |
| 43 | DN | 66 | THR | 5.0 |
| 29 | D1 | 72 | C | 5.0 |
| 9 | CH | 105 | LEU | 5.0 |
| 34 | BC | 360 | ASP | 5.0 |
| 29 | D1 | 2451 | G | 5.0 |
| 3 | AB | 130 | ILE | 5.0 |
| 36 | BE | 200 | PHE | 5.0 |
| 1 | A1 | 1240 | U | 5.0 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 8 | AG | 104 | ARG | 5.0 |
| 33 | DB | 216 | HIS | 5.0 |
| 39 | DH | 157 | VAL | 5.0 |
| 36 | BE | 10 | SER | 5.0 |
| 57 | Bb | 13 | HIS | 5.0 |
| 3 | AB | 92 | ALA | 5.0 |
| 41 | DJ | 11 | TYR | 5.0 |
| 44 | BO | 4 | TYR | 5.0 |
| 57 | Db | 21 | HIS | 5.0 |
| 6 | AE | 105 | LEU | 5.0 |
| 38 | BG | 235 | PHE | 5.0 |
| 41 | DJ | 175 | ASN | 5.0 |
| 5 | CD | 63 | GLN | 5.0 |
| 52 | DW | 120 | LYS | 5.0 |
| 18 | CQ | 50 | ILE | 5.0 |
| 33 | DB | 187 | HIS | 5.0 |
| 40 | DI | 49 | ASN | 5.0 |
| 38 | DG | 161 | VAL | 5.0 |
| 34 | BC | 128 | LYS | 5.0 |
| 9 | CH | 11 | SER | 4.9 |
| 29 | D1 | 2402 | A | 4.9 |
| 49 | DT | 38 | ASP | 4.9 |
| 43 | DN | 41 | GLN | 4.9 |
| 52 | DW | 78 | ASP | 4.9 |
| 54 | BY | 85 | ASP | 4.9 |
| 4 | CC | 143 | ARG | 4.9 |
| 4 | CC | 73 | VAL | 4.9 |
| 9 | AH | 10 | ASN | 4.9 |
| 3 | CB | 50 | ILE | 4.9 |
| 9 | AH | 80 | HIS | 4.9 |
| 17 | AP | 48 | HIS | 4.9 |
| 54 | BY | 16 | SER | 4.9 |
| 36 | DE | 38 | THR | 4.9 |
| 53 | DX | 45 | ILE | 4.9 |
| 33 | DB | 62 | VAL | 4.9 |
| 53 | DX | 53 | ASP | 4.9 |
| 10 | CI | 129 | GLY | 4.9 |
| 60 | De | 32 | ASN | 4.9 |
| 61 | Bf | 11 | TYR | 4.9 |
| 73 | DM | 71 | PRO | 4.9 |
| 34 | BC | 7 | GLU | 4.9 |
| 61 | Df | 81 | ALA | 4.9 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 33 | BB | 160 | SER | 4.9 |
| 11 | AJ | 41 | PRO | 4.9 |
| 14 | CM | 9 | VAL | 4.9 |
| 8 | CG | 54 | LEU | 4.9 |
| 33 | BB | 19 | HIS | 4.9 |
| 41 | BJ | 45 | GLU | 4.9 |
| 33 | BB | 232 | GLY | 4.9 |
| 56 | Da | 61 | LYS | 4.9 |
| 56 | Ba | 71 | LEU | 4.9 |
| 17 | CP | 55 | GLU | 4.8 |
| 36 | BE | 295 | GLY | 4.8 |
| 41 | DJ | 114 | GLY | 4.8 |
| 4 | CC | 191 | ASP | 4.8 |
| 45 | DP | 199 | TYR | 4.8 |
| 48 | BS | 19 | LYS | 4.8 |
| 33 | DB | 96 | LEU | 4.8 |
| 37 | DF | 140 | VAL | 4.8 |
| 1 | C1 | 272 | U | 4.8 |
| 9 | AH | 39 | ILE | 4.8 |
| 3 | CB | 175 | GLY | 4.8 |
| 73 | DM | 6 | GLU | 4.8 |
| 73 | DM | 69 | ASP | 4.8 |
| 34 | BC | 337 | THR | 4.8 |
| 51 | DV | 24 | GLY | 4.8 |
| 5 | CD | 163 | SER | 4.8 |
| 49 | BT | 101 | CYS | 4.8 |
| 51 | BV | 42 | GLN | 4.8 |
| 33 | DB | 53 | GLY | 4.8 |
| 46 | DQ | 116 | HIS | 4.8 |
| 36 | BE | 79 | TYR | 4.8 |
| 29 | B1 | 3353 | G | 4.8 |
| 53 | DX | 102 | SER | 4.8 |
| 59 | Dd | 30 | GLN | 4.8 |
| 19 | AR | 39 | THR | 4.8 |
| 54 | DY | 38 | GLU | 4.8 |
| 2 | AA | 158 | VAL | 4.8 |
| 30 | B2 | 39 | C | 4.8 |
| 10 | AI | 117 | GLY | 4.8 |
| 29 | D1 | 2403 | G | 4.8 |
| 15 | CN | 95 | ALA | 4.8 |
| 21 | AT | 66 | HIS | 4.8 |
| 33 | DB | 97 | ASN | 4.8 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 21 | CT | 214 | ALA | 4.7 |
| 29 | B1 | 2397 | A | 4.7 |
| 9 | AH | 15 | GLY | 4.7 |
| 52 | DW | 106 | ASP | 4.7 |
| 57 | Db | 39 | ASP | 4.7 |
| 59 | Dd | 65 | ARG | 4.7 |
| 8 | CG | 46 | THR | 4.7 |
| 4 | CC | 20 | GLU | 4.7 |
| 41 | DJ | 115 | MET | 4.7 |
| 41 | DJ | 195 | ALA | 4.7 |
| 46 | BQ | 77 | GLY | 4.7 |
| 50 | BU | 85 | TRP | 4.7 |
| 48 | DS | 49 | THR | 4.7 |
| 4 | AC | 170 | THR | 4.7 |
| 33 | DB | 218 | HIS | 4.7 |
| 1 | A1 | 1631 | A | 4.7 |
| 11 | AJ | 143 | ARG | 4.7 |
| 61 | Df | 52 | GLY | 4.7 |
| 48 | BS | 92 | GLN | 4.7 |
| 5 | AD | 162 | VAL | 4.7 |
| 44 | BO | 127 | TYR | 4.7 |
| 8 | CG | 140 | LYS | 4.7 |
| 5 | CD | 148 | ARG | 4.7 |
| 41 | DJ | 204 | GLY | 4.7 |
| 1 | A1 | 1200 | G | 4.7 |
| 29 | B1 | 781 | G | 4.7 |
| 11 | AJ | 132 | LYS | 4.7 |
| 54 | BY | 109 | TYR | 4.7 |
| 29 | B1 | 682 | U | 4.7 |
| 19 | CR | 28 | VAL | 4.7 |
| 38 | DG | 208 | SER | 4.7 |
| 48 | DS | 168 | ALA | 4.7 |
| 53 | DX | 58 | VAL | 4.6 |
| 21 | AT | 140 | CYS | 4.6 |
| 29 | D1 | 718 | G | 4.6 |
| 45 | BP | 58 | LEU | 4.6 |
| 6 | CE | 171 | ARG | 4.6 |
| 1 | A1 | 369 | A | 4.6 |
| 14 | CM | 112 | GLY | 4.6 |
| 21 | CT | 310 | ILE | 4.6 |
| 6 | AE | 100 | LYS | 4.6 |
| 29 | D1 | 1555 | U | 4.6 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 34 | BC | 363 | SER | 4.6 |
| 35 | BD | 73 | ARG | 4.6 |
| 48 | DS | 13 | SER | 4.6 |
| 12 | CK | 52 | GLY | 4.6 |
| 36 | DE | 210 | GLU | 4.6 |
| 41 | DJ | 117 | GLY | 4.6 |
| 61 | Df | 7 | THR | 4.6 |
| 3 | CB | 150 | GLN | 4.6 |
| 6 | AE | 38 | ASN | 4.6 |
| 1 | A1 | 1720 | G | 4.6 |
| 33 | BB | 52 | SER | 4.6 |
| 35 | DD | 64 | SER | 4.6 |
| 42 | BK | 161 | SER | 4.6 |
| 52 | BW | 139 | ILE | 4.6 |
| 35 | DD | 63 | GLU | 4.6 |
| 35 | BD | 187 | LEU | 4.6 |
| 5 | AD | 103 | ASN | 4.6 |
| 21 | AT | 69 | GLN | 4.6 |
| 17 | AP | 67 | ALA | 4.6 |
| 34 | BC | 31 | ALA | 4.6 |
| 15 | AN | 13 | GLU | 4.6 |
| 18 | CQ | 74 | SER | 4.6 |
| 37 | DF | 115 | GLU | 4.6 |
| 47 | DR | 153 | PHE | 4.6 |
| 56 | Ba | 76 | SER | 4.6 |
| 38 | DG | 215 | GLY | 4.6 |
| 43 | DN | 25 | LYS | 4.6 |
| 16 | AO | 76 | SER | 4.6 |
| 20 | CS | 26 | SER | 4.6 |
| 1 | A1 | 191 | C | 4.6 |
| 44 | BO | 145 | ASP | 4.6 |
| 13 | CL | 20 | THR | 4.6 |
| 11 | CJ | 100 | GLN | 4.6 |
| 21 | AT | 45 | TRP | 4.6 |
| 1 | C1 | 1150 | G | 4.6 |
| 34 | DC | 170 | PRO | 4.6 |
| 33 | DB | 117 | GLU | 4.6 |
| 8 | CG | 67 | THR | 4.5 |
| 42 | DK | 147 | THR | 4.5 |
| 33 | DB | 22 | LEU | 4.5 |
| 34 | BC | 23 | ALA | 4.5 |
| 1 | A1 | 126 | A | 4.5 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 45 | BP | 125 | ARG | 4.5 |
| 15 | CN | 112 | VAL | 4.5 |
| 33 | BB | 142 | ASP | 4.5 |
| 37 | DF | 145 | LEU | 4.5 |
| 39 | BH | 198 | ALA | 4.5 |
| 42 | BK | 28 | ASP | 4.5 |
| 72 | DL | 137 | GLN | 4.5 |
| 32 | BA | 190 | PHE | 4.5 |
| 29 | B1 | 3287 | U | 4.5 |
| 29 | B1 | 2403 | G | 4.5 |
| 29 | D1 | 137 | G | 4.5 |
| 44 | BO | 178 | HIS | 4.5 |
| 44 | DO | 178 | HIS | 4.5 |
| 48 | BS | 151 | ARG | 4.5 |
| 20 | AS | 34 | TYR | 4.5 |
| 37 | DF | 83 | TYR | 4.5 |
| 7 | CF | 144 | ALA | 4.5 |
| 32 | DA | 158 | GLN | 4.5 |
| 35 | DD | 5 | GLN | 4.5 |
| 1 | A1 | 503 | G | 4.5 |
| 1 | A1 | 70 | C | 4.5 |
| 10 | CI | 9 | LYS | 4.5 |
| 34 | BC | 114 | VAL | 4.5 |
| 36 | BE | 39 | GLN | 4.5 |
| 11 | CJ | 131 | GLY | 4.5 |
| 39 | DH | 182 | GLY | 4.5 |
| 10 | CI | 51 | SER | 4.5 |
| 44 | DO | 125 | SER | 4.5 |
| 43 | BN | 48 | GLY | 4.5 |
| 5 | AD | 185 | ARG | 4.5 |
| 34 | DC | 47 | LEU | 4.5 |
| 42 | BK | 60 | ARG | 4.5 |
| 45 | DP | 182 | ASN | 4.5 |
| 1 | C1 | 1 | U | 4.5 |
| 36 | BE | 294 | ALA | 4.5 |
| 49 | BT | 121 | ALA | 4.5 |
| 48 | BS | 76 | SER | 4.5 |
| 3 | AB | 144 | TRP | 4.5 |
| 36 | DE | 149 | GLY | 4.5 |
| 37 | BF | 36 | PRO | 4.5 |
| 9 | CH | 52 | ARG | 4.5 |
| 21 | AT | 130 | THR | 4.5 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 33 | DB | 60 | LYS | 4.5 |
| 40 | DI | 171 | ASP | 4.5 |
| 43 | BN | 90 | VAL | 4.5 |
| 2 | AA | 21 | ASN | 4.5 |
| 1 | C1 | 695 | U | 4.5 |
| 11 | CJ | 104 | GLU | 4.5 |
| 14 | CM | 29 | GLU | 4.5 |
| 44 | DO | 81 | TYR | 4.5 |
| 33 | DB | 173 | GLY | 4.5 |
| 29 | B1 | 2404 | A | 4.4 |
| 29 | D1 | 2404 | A | 4.4 |
| 48 | BS | 90 | PRO | 4.4 |
| 37 | BF | 139 | LYS | 4.4 |
| 44 | DO | 63 | ARG | 4.4 |
| 35 | BD | 71 | VAL | 4.4 |
| 1 | C1 | 1796 | C | 4.4 |
| 42 | DK | 102 | PHE | 4.4 |
| 1 | C1 | 823 | G | 4.4 |
| 38 | DG | 78 | GLU | 4.4 |
| 14 | AM | 26 | GLY | 4.4 |
| 32 | BA | 37 | GLY | 4.4 |
| 14 | CM | 129 | GLN | 4.4 |
| 7 | CF | 86 | ILE | 4.4 |
| 16 | AO | 61 | ILE | 4.4 |
| 36 | BE | 122 | VAL | 4.4 |
| 43 | DN | 63 | VAL | 4.4 |
| 44 | DO | 115 | VAL | 4.4 |
| 21 | CT | 177 | MET | 4.4 |
| 33 | BB | 162 | ALA | 4.4 |
| 47 | BR | 149 | ALA | 4.4 |
| 46 | DQ | 55 | GLN | 4.4 |
| 48 | BS | 132 | PHE | 4.4 |
| 34 | DC | 3 | HIS | 4.4 |
| 13 | CL | 141 | THR | 4.4 |
| 33 | BB | 199 | THR | 4.4 |
| 37 | BF | 119 | ALA | 4.4 |
| 42 | DK | 128 | TYR | 4.4 |
| 49 | DT | 54 | HIS | 4.4 |
| 49 | DT | 67 | VAL | 4.4 |
| 34 | BC | 327 | CYS | 4.4 |
| 1 | A1 | 1096 | C | 4.4 |
| 48 | BS | 13 | SER | 4.4 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 43 | DN | 29 | ALA | 4.4 |
| 72 | DL | 106 | LEU | 4.4 |
| 9 | AH | 124 | ASP | 4.4 |
| 5 | CD | 152 | GLY | 4.4 |
| 33 | BB | 74 | GLU | 4.4 |
| 2 | CA | 152 | PRO | 4.4 |
| 29 | B1 | 747 | A | 4.4 |
| 29 | D1 | 25 | U | 4.4 |
| 6 | AE | 39 | LYS | 4.4 |
| 13 | CL | 86 | LEU | 4.4 |
| 29 | B1 | 132 | C | 4.4 |
| 10 | CI | 54 | ALA | 4.4 |
| 62 | Bg | 40 | SER | 4.4 |
| 3 | CB | 146 | THR | 4.4 |
| 35 | BD | 96 | GLY | 4.4 |
| 36 | BE | 184 | ASP | 4.4 |
| 43 | DN | 48 | GLY | 4.4 |
| 1 | C1 | 453 | U | 4.4 |
| 8 | AG | 52 | VAL | 4.4 |
| 48 | BS | 3 | ASN | 4.4 |
| 61 | Df | 82 | GLN | 4.4 |
| 35 | BD | 214 | GLY | 4.3 |
| 33 | BB | 31 | THR | 4.3 |
| 58 | Dc | 1 | MET | 4.3 |
| 1 | C1 | 62 | A | 4.3 |
| 45 | DP | 70 | PRO | 4.3 |
| 42 | BK | 151 | SER | 4.3 |
| 13 | AL | 70 | VAL | 4.3 |
| 14 | CM | 121 | GLY | 4.3 |
| 3 | CB | 96 | THR | 4.3 |
| 34 | DC | 304 | THR | 4.3 |
| 36 | DE | 223 | PHE | 4.3 |
| 40 | BI | 143 | GLU | 4.3 |
| 48 | DS | 157 | GLU | 4.3 |
| 2 | CA | 218 | ALA | 4.3 |
| 35 | DD | 92 | ASN | 4.3 |
| 1 | A1 | 137 | U | 4.3 |
| 15 | AN | 19 | ILE | 4.3 |
| 34 | BC | 21 | ARG | 4.3 |
| 59 | Dd | 24 | ARG | 4.3 |
| 32 | DA | 162 | VAL | 4.3 |
| 34 | DC | 87 | VAL | 4.3 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 37 | DF | 37 | GLY | 4.3 |
| 42 | BK | 125 | MET | 4.3 |
| 11 | CJ | 124 | PRO | 4.3 |
| 57 | Bb | 21 | HIS | 4.3 |
| 21 | CT | 277 | GLU | 4.3 |
| 41 | BJ | 189 | GLU | 4.3 |
| 48 | DS | 19 | LYS | 4.3 |
| 1 | A1 | 522 | U | 4.3 |
| 1 | A1 | 1796 | C | 4.3 |
| 36 | BE | 134 | ALA | 4.3 |
| 46 | DQ | 132 | ALA | 4.3 |
| 29 | D1 | 119 | U | 4.3 |
| 3 | CB | 165 | VAL | 4.3 |
| 10 | AI | 128 | HIS | 4.3 |
| 7 | AF | 134 | THR | 4.3 |
| 56 | Ba | 11 | GLU | 4.3 |
| 12 | AK | 17 | ILE | 4.3 |
| 48 | DS | 176 | ARG | 4.3 |
| 46 | DQ | 130 | TYR | 4.3 |
| 47 | DR | 62 | VAL | 4.3 |
| 34 | DC | 185 | GLY | 4.3 |
| 58 | Bc | 1 | MET | 4.3 |
| 13 | AL | 18 | LEU | 4.3 |
| 33 | DB | 29 | LEU | 4.3 |
| 60 | Be | 29 | LEU | 4.3 |
| 29 | D1 | 2494 | A | 4.3 |
| 1 | C1 | 1285 | U | 4.3 |
| 33 | BB | 200 | ARG | 4.3 |
| 35 | BD | 70 | ALA | 4.3 |
| 1 | C1 | 1200 | G | 4.3 |
| 54 | DY | 64 | GLN | 4.3 |
| 5 | CD | 42 | LEU | 4.3 |
| 1 | A1 | 453 | U | 4.3 |
| 34 | BC | 3 | HIS | 4.3 |
| 73 | DM | 21 | GLU | 4.3 |
| 19 | CR | 29 | ARG | 4.3 |
| 34 | DC | 23 | ALA | 4.3 |
| 48 | BS | 23 | TRP | 4.3 |
| 19 | CR | 30 | VAL | 4.3 |
| 36 | BE | 144 | VAL | 4.3 |
| 15 | AN | 84 | MET | 4.3 |
| 29 | D1 | 1198 | C | 4.3 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 6 | AE | 97 | LEU | 4.3 |
| 44 | DO | 23 | GLN | 4.3 |
| 34 | DC | 128 | LYS | 4.3 |
| 33 | BB | 218 | HIS | 4.2 |
| 19 | CR | 50 | GLU | 4.2 |
| 3 | AB | 121 | VAL | 4.2 |
| 52 | BW | 112 | THR | 4.2 |
| 21 | AT | 93 | ASP | 4.2 |
| 29 | D1 | 3271 | G | 4.2 |
| 33 | DB | 124 | GLY | 4.2 |
| 72 | DL | 141 | CYS | 4.2 |
| 41 | BJ | 208 | ASN | 4.2 |
| 47 | DR | 78 | ASN | 4.2 |
| 30 | B2 | 11 | A | 4.2 |
| 2 | AA | 47 | VAL | 4.2 |
| 3 | AB | 60 | SER | 4.2 |
| 46 | BQ | 94 | LEU | 4.2 |
| 52 | BW | 60 | TYR | 4.2 |
| 2 | AA | 33 | GLN | 4.2 |
| 29 | B1 | 118 | U | 4.2 |
| 14 | CM | 16 | ASN | 4.2 |
| 43 | BN | 128 | ARG | 4.2 |
| 7 | CF | 117 | VAL | 4.2 |
| 11 | CJ | 18 | ALA | 4.2 |
| 44 | BO | 134 | LEU | 4.2 |
| 47 | DR | 120 | GLU | 4.2 |
| 49 | BT | 51 | GLY | 4.2 |
| 1 | C1 | 105 | A | 4.2 |
| 34 | DC | 178 | LEU | 4.2 |
| 44 | DO | 106 | VAL | 4.2 |
| 4 | AC | 119 | ALA | 4.2 |
| 21 | CT | 284 | ALA | 4.2 |
| 62 | Dg | 59 | CYS | 4.2 |
| 49 | BT | 98 | HIS | 4.2 |
| 15 | AN | 10 | GLU | 4.2 |
| 72 | DL | 120 | SER | 4.2 |
| 37 | BF | 28 | GLN | 4.2 |
| 44 | DO | 165 | THR | 4.2 |
| 1 | C1 | 69 | G | 4.2 |
| 29 | D1 | 1573 | G | 4.2 |
| 59 | Bd | 24 | ARG | 4.2 |
| 29 | D1 | 1643 | A | 4.2 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 33 | BB | 143 | GLU | 4.2 |
| 11 | AJ | 131 | GLY | 4.2 |
| 43 | BN | 28 | SER | 4.2 |
| 50 | BU | 111 | GLY | 4.2 |
| 7 | AF | 142 | VAL | 4.2 |
| 12 | CK | 49 | LYS | 4.2 |
| 20 | AS | 16 | LYS | 4.2 |
| 41 | BJ | 101 | LYS | 4.2 |
| 62 | Bg | 41 | PHE | 4.2 |
| 62 | Dg | 77 | ALA | 4.2 |
| 34 | BC | 147 | GLU | 4.2 |
| 34 | BC | 253 | GLY | 4.2 |
| 52 | DW | 79 | GLY | 4.2 |
| 6 | AE | 175 | ARG | 4.2 |
| 61 | Bf | 41 | ARG | 4.2 |
| 42 | DK | 8 | PRO | 4.2 |
| 29 | B1 | 981 | U | 4.1 |
| 2 | CA | 110 | TYR | 4.1 |
| 10 | CI | 97 | TYR | 4.1 |
| 29 | D1 | 102 | C | 4.1 |
| 35 | DD | 79 | GLY | 4.1 |
| 56 | Da | 11 | GLU | 4.1 |
| 72 | DL | 122 | GLY | 4.1 |
| 48 | DS | 62 | ARG | 4.1 |
| 36 | BE | 187 | THR | 4.1 |
| 2 | AA | 218 | ALA | 4.1 |
| 55 | BZ | 37 | GLY | 4.1 |
| 10 | CI | 82 | ASN | 4.1 |
| 44 | BO | 181 | ASN | 4.1 |
| 37 | DF | 46 | ARG | 4.1 |
| 42 | DK | 137 | ARG | 4.1 |
| 62 | Dg | 49 | ARG | 4.1 |
| 37 | DF | 35 | VAL | 4.1 |
| 50 | BU | 91 | VAL | 4.1 |
| 10 | CI | 30 | THR | 4.1 |
| 37 | DF | 119 | ALA | 4.1 |
| 29 | D1 | 682 | U | 4.1 |
| 9 | CH | 15 | GLY | 4.1 |
| 35 | BD | 224 | GLY | 4.1 |
| 41 | DJ | 123 | HIS | 4.1 |
| 3 | CB | 228 | ASN | 4.1 |
| 11 | CJ | 95 | LYS | 4.1 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 33 | BB | 109 | GLU | 4.1 |
| 49 | DT | 83 | ARG | 4.1 |
| 43 | BN | 21 | VAL | 4.1 |
| 47 | DR | 23 | ASN | 4.1 |
| 17 | AP | 43 | PHE | 4.1 |
| 50 | BU | 95 | PHE | 4.1 |
| 31 | B3 | 77 | A | 4.1 |
| 32 | DA | 139 | SER | 4.1 |
| 33 | BB | 127 | ALA | 4.1 |
| 59 | Bd | 44 | THR | 4.1 |
| 2 | AA | 172 | LEU | 4.1 |
| 33 | BB | 234 | LYS | 4.1 |
| 35 | BD | 188 | ARG | 4.1 |
| 58 | Dc | 4 | VAL | 4.1 |
| 17 | AP | 61 | SER | 4.1 |
| 17 | AP | 66 | SER | 4.1 |
| 37 | BF | 164 | SER | 4.1 |
| 39 | DH | 198 | ALA | 4.1 |
| 46 | BQ | 6 | ALA | 4.1 |
| 46 | BQ | 65 | SER | 4.1 |
| 29 | D1 | 136 | G | 4.1 |
| 34 | BC | 174 | LYS | 4.1 |
| 62 | Dg | 19 | GLY | 4.1 |
| 44 | DO | 31 | ARG | 4.1 |
| 62 | Dg | 64 | VAL | 4.1 |
| 52 | BW | 80 | ASN | 4.1 |
| 29 | B1 | 2872 | A | 4.1 |
| 34 | BC | 173 | GLN | 4.1 |
| 40 | BI | 137 | SER | 4.1 |
| 54 | DY | 78 | LEU | 4.1 |
| 61 | Df | 32 | LYS | 4.1 |
| 3 | CB | 163 | GLY | 4.1 |
| 16 | AO | 84 | GLY | 4.1 |
| 29 | B1 | 2871 | G | 4.1 |
| 33 | BB | 62 | VAL | 4.1 |
| 17 | AP | 141 | GLU | 4.1 |
| 45 | BP | 138 | LEU | 4.1 |
| 52 | BW | 128 | ALA | 4.1 |
| 61 | Bf | 30 | ALA | 4.1 |
| 12 | CK | 29 | GLN | 4.1 |
| 2 | AA | 196 | SER | 4.1 |
| 15 | CN | 120 | SER | 4.1 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 39 | DH | 193 | LYS | 4.1 |
| 8 | CG | 130 | ARG | 4.1 |
| 16 | CO | 52 | TYR | 4.1 |
| 29 | B1 | 1349 | G | 4.1 |
| 53 | DX | 100 | HIS | 4.0 |
| 36 | BE | 245 | GLU | 4.0 |
| 6 | CE | 36 | LEU | 4.0 |
| 44 | DO | 57 | GLN | 4.0 |
| 61 | Df | 87 | ARG | 4.0 |
| 37 | DF | 45 | GLY | 4.0 |
| 44 | DO | 127 | TYR | 4.0 |
| 61 | Bf | 91 | PHE | 4.0 |
| 1 | C1 | 1096 | C | 4.0 |
| 10 | CI | 15 | HIS | 4.0 |
| 11 | CJ | 74 | HIS | 4.0 |
| 13 | AL | 131 | LEU | 4.0 |
| 12 | CK | 44 | LYS | 4.0 |
| 36 | DE | 231 | ILE | 4.0 |
| 57 | Db | 19 | ARG | 4.0 |
| 5 | AD | 105 | GLY | 4.0 |
| 39 | DH | 140 | VAL | 4.0 |
| 47 | DR | 119 | GLY | 4.0 |
| 36 | BE | 242 | SER | 4.0 |
| 45 | BP | 180 | SER | 4.0 |
| 2 | AA | 48 | ILE | 4.0 |
| 15 | AN | 86 | ILE | 4.0 |
| 33 | BB | 235 | ALA | 4.0 |
| 29 | B1 | 1195 | A | 4.0 |
| 33 | BB | 190 | ARG | 4.0 |
| 36 | BE | 53 | VAL | 4.0 |
| 3 | AB | 114 | GLY | 4.0 |
| 5 | CD | 61 | TYR | 4.0 |
| 32 | DA | 197 | ASN | 4.0 |
| 15 | CN | 70 | THR | 4.0 |
| 62 | Bg | 73 | THR | 4.0 |
| 15 | AN | 119 | ALA | 4.0 |
| 40 | BI | 64 | HIS | 4.0 |
| 29 | B1 | 1643 | A | 4.0 |
| 32 | DA | 43 | PRO | 4.0 |
| 33 | BB | 73 | GLU | 4.0 |
| 53 | DX | 67 | GLU | 4.0 |
| 55 | BZ | 52 | ARG | 4.0 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 29 | D1 | 2873 | U | 4.0 |
| 34 | DC | 309 | GLY | 4.0 |
| 41 | BJ | 194 | GLY | 4.0 |
| 43 | DN | 27 | GLN | 4.0 |
| 50 | DU | 65 | GLY | 4.0 |
| 44 | BO | 182 | ASN | 4.0 |
| 59 | Dd | 47 | TYR | 4.0 |
| 52 | DW | 61 | LYS | 4.0 |
| 56 | Da | 24 | SER | 4.0 |
| 57 | Db | 62 | LYS | 4.0 |
| 1 | C1 | 1435 | G | 4.0 |
| 48 | DS | 174 | ALA | 4.0 |
| 54 | DY | 32 | ARG | 4.0 |
| 8 | CG | 44 | GLY | 4.0 |
| 2 | AA | 202 | TYR | 4.0 |
| 21 | CT | 69 | GLN | 4.0 |
| 29 | B1 | 3360 | C | 4.0 |
| 21 | CT | 124 | SER | 4.0 |
| 13 | CL | 123 | ARG | 4.0 |
| 3 | CB | 237 | VAL | 4.0 |
| 42 | DK | 157 | GLU | 4.0 |
| 39 | BH | 235 | GLY | 4.0 |
| 59 | Dd | 60 | GLY | 4.0 |
| 39 | DH | 147 | LYS | 4.0 |
| 44 | BO | 133 | ILE | 4.0 |
| 29 | D1 | 172 | G | 4.0 |
| 54 | DY | 53 | PHE | 4.0 |
| 36 | BE | 210 | GLU | 3.9 |
| 9 | CH | 87 | GLY | 3.9 |
| 62 | Bg | 19 | GLY | 3.9 |
| 37 | DF | 117 | LYS | 3.9 |
| 43 | BN | 25 | LYS | 3.9 |
| 34 | BC | 22 | ALA | 3.9 |
| 2 | CA | 214 | VAL | 3.9 |
| 5 | CD | 96 | SER | 3.9 |
| 33 | BB | 202 | VAL | 3.9 |
| 36 | BE | 62 | CYS | 3.9 |
| 55 | BZ | 67 | VAL | 3.9 |
| 21 | AT | 103 | PHE | 3.9 |
| 33 | BB | 124 | GLY | 3.9 |
| 48 | DS | 152 | GLU | 3.9 |
| 44 | BO | 72 | LYS | 3.9 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 8 | AG | 128 | TYR | 3.9 |
| 10 | AI | 104 | GLN | 3.9 |
| 57 | Bb | 38 | ILE | 3.9 |
| 10 | AI | 54 | ALA | 3.9 |
| 36 | DE | 178 | ASN | 3.9 |
| 36 | DE | 9 | SER | 3.9 |
| 9 | AH | 29 | HIS | 3.9 |
| 37 | BF | 57 | HIS | 3.9 |
| 1 | C1 | 1364 | G | 3.9 |
| 73 | DM | 83 | TYR | 3.9 |
| 8 | CG | 110 | ASP | 3.9 |
| 35 | DD | 188 | ARG | 3.9 |
| 34 | BC | 53 | MET | 3.9 |
| 21 | AT | 158 | PRO | 3.9 |
| 29 | B1 | 2462 | A | 3.9 |
| 36 | DE | 255 | PRO | 3.9 |
| 50 | BU | 53 | SER | 3.9 |
| 29 | D1 | 781 | G | 3.9 |
| 36 | BE | 25 | GLU | 3.9 |
| 34 | DC | 181 | ILE | 3.9 |
| 1 | A1 | 402 | C | 3.9 |
| 29 | B1 | 765 | C | 3.9 |
| 35 | DD | 73 | ARG | 3.9 |
| 36 | DE | 147 | ASP | 3.9 |
| 49 | BT | 24 | ALA | 3.9 |
| 13 | AL | 84 | TRP | 3.9 |
| 3 | AB | 163 | GLY | 3.9 |
| 47 | BR | 78 | ASN | 3.9 |
| 21 | AT | 115 | ILE | 3.9 |
| 21 | CT | 170 | ILE | 3.9 |
| 44 | DO | 16 | SER | 3.9 |
| 29 | B1 | 2528 | G | 3.9 |
| 35 | BD | 54 | GLU | 3.9 |
| 12 | AK | 54 | THR | 3.9 |
| 36 | DE | 187 | THR | 3.9 |
| 54 | BY | 80 | THR | 3.9 |
| 29 | D1 | 1017 | C | 3.9 |
| 48 | BS | 147 | ALA | 3.9 |
| 4 | CC | 141 | LYS | 3.9 |
| 21 | AT | 85 | TRP | 3.9 |
| 34 | DC | 112 | ASP | 3.9 |
| 44 | BO | 179 | LYS | 3.9 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 19 | AR | 17 | GLY | 3.9 |
| 40 | BI | 178 | GLY | 3.9 |
| 44 | BO | 175 | ASN | 3.9 |
| 4 | CC | 34 | TYR | 3.9 |
| 49 | BT | 22 | HIS | 3.9 |
| 16 | AO | 4 | SER | 3.9 |
| 34 | DC | 147 | GLU | 3.9 |
| 54 | BY | 95 | SER | 3.9 |
| 29 | D1 | 3216 | G | 3.9 |
| 36 | BE | 18 | THR | 3.9 |
| 7 | AF | 96 | LYS | 3.9 |
| 18 | CQ | 46 | LYS | 3.9 |
| 34 | DC | 124 | LYS | 3.9 |
| 1 | A1 | 1676 | U | 3.9 |
| 31 | D3 | 113 | U | 3.9 |
| 5 | CD | 200 | ASN | 3.9 |
| 21 | AT | 17 | ASN | 3.9 |
| 56 | Da | 15 | ASN | 3.9 |
| 46 | DQ | 8 | SER | 3.9 |
| 46 | DQ | 66 | SER | 3.9 |
| 48 | DS | 155 | LEU | 3.9 |
| 10 | AI | 56 | PHE | 3.8 |
| 59 | Bd | 29 | VAL | 3.9 |
| 36 | DE | 11 | ALA | 3.8 |
| 37 | DF | 89 | THR | 3.8 |
| 41 | BJ | 115 | MET | 3.8 |
| 44 | DO | 39 | ALA | 3.8 |
| 3 | CB | 87 | GLN | 3.8 |
| 29 | D1 | 2817 | A | 3.8 |
| 39 | BH | 129 | PRO | 3.8 |
| 15 | AN | 65 | ILE | 3.8 |
| 1 | C1 | 694 | U | 3.8 |
| 1 | C1 | 1378 | U | 3.8 |
| 15 | CN | 54 | GLY | 3.8 |
| 32 | BA | 88 | ASP | 3.8 |
| 56 | Da | 75 | ILE | 3.8 |
| 10 | AI | 15 | HIS | 3.8 |
| 48 | BS | 89 | LEU | 3.8 |
| 42 | BK | 63 | GLU | 3.8 |
| 13 | CL | 117 | LYS | 3.8 |
| 15 | CN | 77 | LYS | 3.8 |
| 35 | DD | 133 | SER | 3.8 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 49 | BT | 52 | MET | 3.8 |
| 54 | DY | 93 | SER | 3.8 |
| 3 | AB | 96 | THR | 3.8 |
| 1 | C1 | 1798 | U | 3.8 |
| 29 | D1 | 2978 | U | 3.8 |
| 35 | DD | 68 | GLY | 3.8 |
| 11 | CJ | 22 | VAL | 3.8 |
| 54 | DY | 52 | TYR | 3.8 |
| 61 | Df | 2 | VAL | 3.8 |
| 3 | CB | 212 | LYS | 3.8 |
| 17 | CP | 39 | LYS | 3.8 |
| 42 | BK | 62 | ASN | 3.8 |
| 59 | Bd | 71 | SER | 3.8 |
| 2 | AA | 131 | GLN | 3.8 |
| 36 | BE | 274 | GLN | 3.8 |
| 3 | AB | 202 | GLY | 3.8 |
| 6 | CE | 97 | LEU | 3.8 |
| 43 | DN | 34 | ALA | 3.8 |
| 44 | DO | 34 | ASN | 3.8 |
| 1 | C1 | 284 | G | 3.8 |
| 34 | DC | 125 | SER | 3.8 |
| 40 | BI | 144 | ILE | 3.8 |
| 38 | BG | 179 | LEU | 3.8 |
| 54 | DY | 119 | PRO | 3.8 |
| 3 | CB | 140 | ARG | 3.8 |
| 44 | DO | 64 | VAL | 3.8 |
| 17 | CP | 71 | CYS | 3.8 |
| 4 | CC | 28 | GLU | 3.8 |
| 30 | B2 | 10 | C | 3.8 |
| 42 | BK | 15 | GLU | 3.8 |
| 35 | DD | 45 | ASN | 3.8 |
| 1 | C1 | 1114 | G | 3.8 |
| 2 | AA | 188 | LEU | 3.8 |
| 13 | AL | 32 | LEU | 3.8 |
| 5 | CD | 67 | PRO | 3.8 |
| 29 | B1 | 2401 | A | 3.8 |
| 33 | DB | 138 | GLY | 3.8 |
| 33 | DB | 199 | THR | 3.8 |
| 53 | BX | 92 | GLY | 3.8 |
| 54 | BY | 37 | GLY | 3.8 |
| 59 | Bd | 2 | GLY | 3.8 |
| 35 | BD | 203 | ARG | 3.8 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 36 | BE | 145 | PHE | 3.8 |
| 37 | BF | 90 | LYS | 3.8 |
| 38 | BG | 161 | VAL | 3.8 |
| 29 | B1 | 262 | U | 3.8 |
| 29 | B1 | 1455 | U | 3.8 |
| 60 | De | 20 | ASN | 3.8 |
| 1 | A1 | 557 | G | 3.8 |
| 29 | D1 | 2450 | G | 3.8 |
| 31 | B3 | 75 | G | 3.8 |
| 44 | DO | 107 | GLY | 3.8 |
| 60 | Be | 28 | ARG | 3.8 |
| 73 | DM | 68 | SER | 3.8 |
| 33 | DB | 243 | THR | 3.8 |
| 36 | DE | 135 | VAL | 3.8 |
| 61 | Bf | 60 | LYS | 3.8 |
| 39 | BH | 134 | TYR | 3.8 |
| 29 | D1 | 252 | U | 3.8 |
| 9 | CH | 9 | ASP | 3.8 |
| 9 | CH | 102 | LEU | 3.8 |
| 36 | DE | 189 | GLU | 3.8 |
| 17 | AP | 119 | GLY | 3.7 |
| 42 | BK | 73 | GLY | 3.7 |
| 53 | DX | 61 | GLY | 3.7 |
| 62 | Bg | 17 | ARG | 3.8 |
| 9 | CH | 55 | SER | 3.7 |
| 29 | B1 | 845 | G | 3.7 |
| 37 | BF | 86 | ALA | 3.7 |
| 62 | Bg | 92 | ALA | 3.7 |
| 33 | DB | 139 | HIS | 3.7 |
| 15 | AN | 46 | GLU | 3.7 |
| 34 | DC | 213 | GLU | 3.7 |
| 55 | DZ | 8 | GLU | 3.7 |
| 11 | CJ | 27 | GLY | 3.7 |
| 34 | BC | 208 | VAL | 3.7 |
| 34 | BC | 212 | ASN | 3.7 |
| 30 | B2 | 9 | C | 3.7 |
| 49 | DT | 32 | LYS | 3.7 |
| 33 | DB | 220 | GLY | 3.7 |
| 42 | BK | 126 | ASP | 3.7 |
| 46 | BQ | 76 | PHE | 3.7 |
| 21 | CT | 140 | CYS | 3.7 |
| 37 | BF | 87 | THR | 3.7 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 44 | DO | 111 | ALA | 3.7 |
| 59 | Dd | 69 | HIS | 3.7 |
| 21 | CT | 194 | GLY | 3.7 |
| 51 | BV | 24 | GLY | 3.7 |
| 12 | CK | 27 | ASP | 3.7 |
| 9 | CH | 6 | GLN | 3.7 |
| 39 | DH | 123 | GLN | 3.7 |
| 1 | A1 | 279 | G | 3.7 |
| 1 | C1 | 1130 | G | 3.7 |
| 12 | AK | 46 | LEU | 3.7 |
| 29 | D1 | 1560 | G | 3.7 |
| 59 | Dd | 20 | ASN | 3.7 |
| 72 | DL | 104 | ILE | 3.7 |
| 7 | CF | 145 | ALA | 3.7 |
| 35 | DD | 28 | ALA | 3.7 |
| 43 | DN | 9 | ALA | 3.7 |
| 49 | DT | 44 | ALA | 3.7 |
| 3 | AB | 162 | CYS | 3.7 |
| 59 | Bd | 22 | CYS | 3.7 |
| 30 | D2 | 69 | C | 3.7 |
| 33 | BB | 173 | GLY | 3.7 |
| 35 | DD | 80 | GLY | 3.7 |
| 29 | B1 | 2524 | A | 3.7 |
| 29 | D1 | 2397 | A | 3.7 |
| 1 | C1 | 679 | U | 3.7 |
| 29 | D1 | 610 | G | 3.7 |
| 46 | DQ | 71 | ALA | 3.7 |
| 15 | CN | 104 | THR | 3.7 |
| 39 | BH | 190 | VAL | 3.7 |
| 59 | Bd | 37 | CYS | 3.7 |
| 1 | C1 | 1399 | C | 3.7 |
| 54 | BY | 31 | GLY | 3.7 |
| 29 | D1 | 2872 | A | 3.7 |
| 7 | CF | 136 | ARG | 3.7 |
| 11 | CJ | 101 | SER | 3.7 |
| 46 | DQ | 20 | SER | 3.7 |
| 5 | AD | 94 | THR | 3.7 |
| 14 | AM | 3 | GLY | 3.7 |
| 54 | DY | 51 | GLY | 3.7 |
| 29 | B1 | 2208 | A | 3.7 |
| 21 | AT | 310 | ILE | 3.7 |
| 36 | BE | 86 | TYR | 3.7 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 37 | DF | 125 | GLN | 3.7 |
| 51 | DV | 41 | LYS | 3.7 |
| 21 | CT | 266 | ASP | 3.7 |
| 2 | CA | 62 | ARG | 3.6 |
| 30 | D2 | 50 | U | 3.6 |
| 9 | CH | 33 | LEU | 3.6 |
| 11 | CJ | 11 | GLY | 3.6 |
| 16 | AO | 100 | GLY | 3.6 |
| 38 | BG | 226 | GLY | 3.6 |
| 61 | Bf | 64 | THR | 3.6 |
| 58 | Bc | 43 | LYS | 3.6 |
| 42 | DK | 116 | TYR | 3.6 |
| 9 | AH | 6 | GLN | 3.6 |
| 52 | DW | 90 | ALA | 3.6 |
| 5 | CD | 180 | ARG | 3.6 |
| 19 | CR | 41 | VAL | 3.6 |
| 34 | DC | 116 | ARG | 3.6 |
| 1 | C1 | 1111 | G | 3.6 |
| 3 | AB | 113 | LEU | 3.6 |
| 5 | CD | 97 | LEU | 3.6 |
| 35 | BD | 85 | SER | 3.6 |
| 56 | Ba | 4 | LEU | 3.6 |
| 38 | DG | 213 | GLY | 3.6 |
| 72 | DL | 76 | SER | 3.6 |
| 73 | DM | 200 | SER | 3.6 |
| 29 | B1 | 1580 | A | 3.6 |
| 52 | BW | 67 | ILE | 3.6 |
| 33 | BB | 209 | HIS | 3.6 |
| 53 | DX | 63 | LYS | 3.6 |
| 13 | CL | 50 | ALA | 3.6 |
| 6 | CE | 110 | GLN | 3.6 |
| 7 | CF | 115 | PHE | 3.6 |
| 39 | BH | 175 | VAL | 3.6 |
| 44 | BO | 31 | ARG | 3.6 |
| 14 | AM | 67 | MET | 3.6 |
| 48 | DS | 182 | ASP | 3.6 |
| 35 | DD | 235 | LEU | 3.6 |
| 49 | BT | 62 | GLY | 3.6 |
| 34 | BC | 63 | PRO | 3.6 |
| 9 | CH | 104 | ALA | 3.6 |
| 36 | BE | 189 | GLU | 3.6 |
| 34 | BC | 167 | ARG | 3.6 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 48 | DS | 40 | ALA | 3.6 |
| 21 | CT | 125 | GLY | 3.6 |
| 43 | BN | 103 | ILE | 3.6 |
| 48 | BS | 16 | GLY | 3.6 |
| 17 | CP | 28 | ASN | 3.6 |
| 30 | B2 | 64 | A | 3.6 |
| 51 | DV | 59 | HIS | 3.6 |
| 39 | BH | 212 | ALA | 3.6 |
| 1 | A1 | 94 | U | 3.6 |
| 31 | D3 | 146 | U | 3.6 |
| 55 | DZ | 89 | VAL | 3.6 |
| 21 | CT | 121 | MET | 3.6 |
| 40 | BI | 162 | GLN | 3.6 |
| 59 | Dd | 37 | CYS | 3.6 |
| 5 | AD | 153 | GLY | 3.6 |
| 44 | DO | 72 | LYS | 3.6 |
| 41 | BJ | 23 | ASN | 3.6 |
| 9 | AH | 85 | ALA | 3.6 |
| 9 | AH | 93 | THR | 3.6 |
| 34 | BC | 209 | PHE | 3.6 |
| 34 | DC | 217 | ALA | 3.6 |
| 35 | BD | 261 | VAL | 3.6 |
| 42 | BK | 167 | TYR | 3.6 |
| 54 | BY | 35 | ALA | 3.6 |
| 72 | DL | 17 | ALA | 3.6 |
| 15 | AN | 34 | LEU | 3.6 |
| 32 | BA | 194 | LEU | 3.6 |
| 36 | BE | 95 | TRP | 3.6 |
| 8 | CG | 84 | ILE | 3.6 |
| 43 | DN | 127 | LYS | 3.6 |
| 21 | AT | 97 | GLY | 3.6 |
| 50 | BU | 65 | GLY | 3.6 |
| 29 | B1 | 102 | C | 3.6 |
| 29 | D1 | 2495 | C | 3.6 |
| 13 | AL | 23 | ASP | 3.6 |
| 50 | BU | 97 | ASP | 3.6 |
| 55 | DZ | 99 | ASP | 3.6 |
| 29 | B1 | 538 | G | 3.6 |
| 29 | B1 | 718 | G | 3.6 |
| 41 | BJ | 27 | PRO | 3.6 |
| 5 | CD | 123 | VAL | 3.6 |
| 10 | AI | 10 | ARG | 3.6 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 33 | BB | 157 | VAL | 3.6 |
| 39 | BH | 197 | VAL | 3.6 |
| 41 | DJ | 4 | ARG | 3.6 |
| 44 | DO | 96 | ARG | 3.6 |
| 5 | CD | 209 | TYR | 3.6 |
| 11 | AJ | 32 | ASN | 3.6 |
| 36 | DE | 12 | TYR | 3.6 |
| 41 | DJ | 9 | TYR | 3.6 |
| 48 | BS | 57 | VAL | 3.6 |
| 57 | Db | 20 | HIS | 3.6 |
| 2 | AA | 12 | GLU | 3.6 |
| 17 | AP | 140 | LYS | 3.6 |
| 34 | BC | 252 | ILE | 3.6 |
| 47 | DR | 67 | ILE | 3.6 |
| 49 | DT | 100 | LYS | 3.6 |
| 5 | AD | 150 | GLY | 3.6 |
| 29 | D1 | 1582 | C | 3.6 |
| 49 | DT | 41 | ASP | 3.5 |
| 61 | Df | 72 | LEU | 3.5 |
| 7 | AF | 100 | TYR | 3.5 |
| 32 | BA | 166 | ALA | 3.5 |
| 42 | BK | 119 | SER | 3.5 |
| 48 | BS | 58 | HIS | 3.5 |
| 8 | AG | 140 | LYS | 3.5 |
| 35 | BD | 67 | THR | 3.5 |
| 46 | DQ | 74 | LYS | 3.5 |
| 50 | BU | 96 | GLU | 3.5 |
| 59 | Dd | 61 | THR | 3.5 |
| 14 | CM | 53 | TRP | 3.5 |
| 55 | DZ | 18 | ILE | 3.5 |
| 36 | DE | 39 | GLN | 3.5 |
| 10 | CI | 10 | ARG | 3.5 |
| 35 | DD | 197 | ARG | 3.5 |
| 48 | BS | 24 | LEU | 3.5 |
| 56 | Ba | 50 | ARG | 3.5 |
| 1 | C1 | 1523 | G | 3.5 |
| 2 | CA | 129 | ASP | 3.5 |
| 54 | DY | 85 | ASP | 3.5 |
| 15 | AN | 82 | TYR | 3.5 |
| 17 | AP | 92 | CYS | 3.5 |
| 61 | Bf | 88 | CYS | 3.5 |
| 5 | CD | 188 | LYS | 3.5 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 53 | DX | 71 | SER | 3.5 |
| 58 | Bc | 14 | LYS | 3.5 |
| 2 | AA | 173 | ILE | 3.5 |
| 9 | CH | 99 | GLN | 3.5 |
| 7 | CF | 142 | VAL | 3.5 |
| 60 | Be | 16 | ALA | 3.5 |
| 72 | DL | 126 | ALA | 3.5 |
| 1 | A1 | 1241 | G | 3.5 |
| 29 | B1 | 3315 | G | 3.5 |
| 5 | CD | 211 | ILE | 3.5 |
| 34 | BC | 304 | THR | 3.5 |
| 57 | Bb | 70 | GLY | 3.5 |
| 6 | AE | 86 | LEU | 3.5 |
| 73 | DM | 60 | ARG | 3.5 |
| 33 | DB | 206 | PRO | 3.5 |
| 39 | BH | 199 | ALA | 3.5 |
| 1 | C1 | 1720 | G | 3.5 |
| 5 | CD | 151 | GLY | 3.5 |
| 6 | AE | 64 | GLU | 3.5 |
| 21 | CT | 112 | SER | 3.5 |
| 29 | D1 | 240 | U | 3.5 |
| 35 | BD | 10 | SER | 3.5 |
| 36 | BE | 63 | GLN | 3.5 |
| 50 | BU | 101 | VAL | 3.5 |
| 61 | Bf | 58 | PHE | 3.5 |
| 29 | D1 | 1842 | A | 3.5 |
| 31 | B3 | 51 | G | 3.5 |
| 40 | DI | 118 | LEU | 3.5 |
| 54 | DY | 69 | TRP | 3.5 |
| 6 | CE | 172 | VAL | 3.5 |
| 10 | CI | 50 | THR | 3.5 |
| 14 | AM | 129 | GLN | 3.5 |
| 60 | De | 31 | THR | 3.5 |
| 8 | AG | 81 | ALA | 3.5 |
| 36 | DE | 181 | PRO | 3.5 |
| 40 | BI | 158 | ALA | 3.5 |
| 34 | BC | 6 | TYR | 3.5 |
| 44 | DO | 174 | ILE | 3.5 |
| 1 | C1 | 660 | G | 3.5 |
| 1 | C1 | 1350 | U | 3.5 |
| 30 | B2 | 14 | U | 3.5 |
| 61 | Df | 83 | LEU | 3.5 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 6 | CE | 63 | ASP | 3.5 |
| 21 | CT | 105 | GLY | 3.5 |
| 34 | BC | 185 | GLY | 3.5 |
| 41 | BJ | 177 | ASP | 3.5 |
| 42 | DK | 168 | ASP | 3.5 |
| 49 | DT | 62 | GLY | 3.5 |
| 61 | Bf | 14 | GLY | 3.5 |
| 9 | AH | 18 | ARG | 3.5 |
| 9 | AH | 79 | VAL | 3.5 |
| 1 | C1 | 217 | A | 3.5 |
| 5 | CD | 186 | ASN | 3.5 |
| 6 | CE | 65 | LYS | 3.5 |
| 56 | Da | 76 | SER | 3.5 |
| 13 | AL | 19 | ASN | 3.5 |
| 34 | BC | 346 | THR | 3.5 |
| 35 | DD | 213 | ASN | 3.5 |
| 36 | BE | 212 | ALA | 3.5 |
| 43 | BN | 9 | ALA | 3.5 |
| 38 | DG | 149 | TYR | 3.5 |
| 2 | CA | 25 | GLY | 3.4 |
| 2 | CA | 46 | HIS | 3.4 |
| 4 | AC | 190 | ARG | 3.4 |
| 17 | AP | 109 | ARG | 3.4 |
| 33 | DB | 148 | VAL | 3.4 |
| 37 | DF | 48 | ARG | 3.4 |
| 57 | Bb | 39 | ASP | 3.4 |
| 1 | A1 | 78 | A | 3.4 |
| 1 | C1 | 1797 | A | 3.4 |
| 42 | DK | 43 | GLN | 3.4 |
| 49 | BT | 71 | SER | 3.4 |
| 2 | CA | 197 | ILE | 3.4 |
| 62 | Dg | 33 | GLN | 3.4 |
| 35 | DD | 75 | PRO | 3.4 |
| 41 | BJ | 221 | ALA | 3.4 |
| 42 | BK | 98 | ALA | 3.4 |
| 45 | DP | 181 | ALA | 3.4 |
| 53 | DX | 18 | ALA | 3.4 |
| 54 | DY | 106 | ALA | 3.4 |
| 29 | B1 | 1555 | U | 3.4 |
| 29 | D1 | 1821 | U | 3.4 |
| 21 | AT | 311 | ARG | 3.4 |
| 37 | BF | 37 | GLY | 3.4 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 37 | BF | 45 | GLY | 3.4 |
| 37 | BF | 71 | VAL | 3.4 |
| 29 | D1 | 2475 | G | 3.4 |
| 5 | AD | 181 | GLU | 3.4 |
| 15 | AN | 103 | ILE | 3.4 |
| 35 | DD | 205 | PRO | 3.4 |
| 1 | A1 | 1191 | U | 3.4 |
| 13 | AL | 25 | ASN | 3.4 |
| 21 | CT | 201 | THR | 3.4 |
| 54 | BY | 81 | LEU | 3.4 |
| 61 | Df | 10 | THR | 3.4 |
| 18 | CQ | 68 | ARG | 3.4 |
| 32 | DA | 164 | CYS | 3.4 |
| 44 | DO | 38 | ARG | 3.4 |
| 2 | AA | 76 | ILE | 3.4 |
| 4 | CC | 115 | ILE | 3.4 |
| 14 | CM | 8 | ASP | 3.4 |
| 15 | CN | 13 | GLU | 3.4 |
| 1 | A1 | 80 | A | 3.4 |
| 29 | B1 | 1026 | A | 3.4 |
| 37 | DF | 137 | ASP | 3.4 |
| 39 | BH | 125 | ALA | 3.4 |
| 53 | BX | 18 | ALA | 3.4 |
| 18 | CQ | 75 | LEU | 3.4 |
| 39 | BH | 109 | LEU | 3.4 |
| 48 | BS | 91 | SER | 3.4 |
| 59 | Dd | 39 | TYR | 3.4 |
| 34 | BC | 66 | LYS | 3.4 |
| 49 | DT | 102 | ARG | 3.4 |
| 10 | AI | 48 | GLY | 3.4 |
| 61 | Df | 74 | CYS | 3.4 |
| 1 | A1 | 320 | U | 3.4 |
| 5 | CD | 173 | ALA | 3.4 |
| 29 | B1 | 2817 | A | 3.4 |
| 5 | AD | 100 | ASN | 3.4 |
| 11 | AJ | 60 | PHE | 3.4 |
| 34 | BC | 126 | LYS | 3.4 |
| 36 | BE | 89 | THR | 3.4 |
| 11 | CJ | 19 | VAL | 3.4 |
| 21 | CT | 178 | VAL | 3.4 |
| 52 | DW | 97 | LYS | 3.4 |
| 54 | BY | 132 | LYS | 3.4 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 15 | AN | 99 | ILE | 3.4 |
| 42 | BK | 59 | ILE | 3.4 |
| 21 | AT | 223 | TRP | 3.4 |
| 35 | DD | 58 | HIS | 3.4 |
| 35 | DD | 140 | HIS | 3.4 |
| 43 | BN | 12 | TRP | 3.4 |
| 1 | C1 | 1341 | A | 3.4 |
| 21 | AT | 212 | ALA | 3.4 |
| 21 | AT | 257 | ALA | 3.4 |
| 33 | DB | 59 | ALA | 3.4 |
| 37 | BF | 148 | GLU | 3.4 |
| 37 | BF | 137 | ASP | 3.4 |
| 9 | CH | 8 | ARG | 3.4 |
| 34 | BC | 4 | ARG | 3.4 |
| 36 | BE | 269 | SER | 3.4 |
| 40 | BI | 23 | ARG | 3.4 |
| 46 | DQ | 56 | ARG | 3.4 |
| 61 | Bf | 46 | LYS | 3.4 |
| 42 | BK | 97 | SER | 3.4 |
| 37 | DF | 62 | THR | 3.4 |
| 4 | CC | 36 | GLY | 3.4 |
| 42 | DK | 73 | GLY | 3.4 |
| 45 | DP | 69 | GLY | 3.4 |
| 55 | DZ | 75 | ASN | 3.4 |
| 58 | Bc | 59 | ASN | 3.4 |
| 62 | Dg | 83 | ILE | 3.4 |
| 12 | CK | 46 | LEU | 3.4 |
| 20 | CS | 27 | HIS | 3.4 |
| 29 | D1 | 2971 | A | 3.4 |
| 60 | De | 16 | ALA | 3.4 |
| 33 | BB | 197 | PRO | 3.4 |
| 6 | CE | 39 | LYS | 3.4 |
| 17 | CP | 140 | LYS | 3.4 |
| 14 | CM | 68 | ARG | 3.4 |
| 36 | DE | 29 | ASP | 3.4 |
| 42 | DK | 111 | ASP | 3.4 |
| 13 | CL | 107 | SER | 3.4 |
| 45 | BP | 198 | GLY | 3.4 |
| 46 | BQ | 8 | SER | 3.4 |
| 1 | C1 | 229 | U | 3.4 |
| 39 | DH | 162 | LEU | 3.4 |
| 41 | BJ | 195 | ALA | 3.3 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 29 | B1 | 72 | C | 3.3 |
| 29 | B1 | 2580 | A | 3.3 |
| 2 | AA | 194 | PRO | 3.3 |
| 36 | BE | 255 | PRO | 3.3 |
| 16 | AO | 74 | VAL | 3.3 |
| 42 | DK | 72 | ARG | 3.3 |
| 44 | DO | 35 | VAL | 3.3 |
| 46 | BQ | 131 | ARG | 3.3 |
| 3 | AB | 207 | LEU | 3.3 |
| 21 | CT | 246 | SER | 3.3 |
| 29 | D1 | 2460 | U | 3.3 |
| 32 | DA | 50 | SER | 3.3 |
| 4 | AC | 70 | THR | 3.3 |
| 50 | DU | 31 | ALA | 3.3 |
| 29 | B1 | 2458 | A | 3.3 |
| 31 | B3 | 84 | C | 3.3 |
| 41 | DJ | 19 | LYS | 3.3 |
| 9 | CH | 79 | VAL | 3.3 |
| 17 | CP | 121 | ARG | 3.3 |
| 42 | DK | 104 | PHE | 3.3 |
| 21 | AT | 113 | VAL | 3.3 |
| 21 | CT | 305 | TYR | 3.3 |
| 17 | CP | 35 | GLY | 3.3 |
| 21 | AT | 191 | ASP | 3.3 |
| 29 | D1 | 2349 | U | 3.3 |
| 36 | BE | 232 | ASP | 3.3 |
| 37 | DF | 87 | THR | 3.3 |
| 5 | AD | 191 | ALA | 3.3 |
| 32 | DA | 141 | ASN | 3.3 |
| 48 | DS | 47 | ASN | 3.3 |
| 1 | C1 | 239 | C | 3.3 |
| 13 | AL | 115 | ARG | 3.3 |
| 18 | CQ | 58 | ARG | 3.3 |
| 41 | BJ | 3 | ARG | 3.3 |
| 48 | DS | 74 | ARG | 3.3 |
| 49 | DT | 26 | HIS | 3.3 |
| 57 | Db | 98 | HIS | 3.3 |
| 9 | AH | 33 | LEU | 3.3 |
| 14 | CM | 70 | GLN | 3.3 |
| 18 | CQ | 71 | ILE | 3.3 |
| 36 | DE | 75 | LEU | 3.3 |
| 9 | CH | 109 | GLY | 3.3 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 17 | CP | 115 | GLY | 3.3 |
| 17 | CP | 119 | GLY | 3.3 |
| 21 | CT | 15 | GLY | 3.3 |
| 35 | BD | 80 | GLY | 3.3 |
| 32 | DA | 142 | ASP | 3.3 |
| 32 | DA | 143 | ASP | 3.3 |
| 3 | CB | 248 | SER | 3.3 |
| 6 | CE | 152 | SER | 3.3 |
| 48 | DS | 76 | SER | 3.3 |
| 62 | Dg | 58 | SER | 3.3 |
| 40 | BI | 188 | THR | 3.3 |
| 1 | A1 | 505 | A | 3.3 |
| 5 | AD | 186 | ASN | 3.3 |
| 1 | C1 | 934 | C | 3.3 |
| 6 | CE | 168 | ARG | 3.3 |
| 29 | D1 | 2143 | A | 3.3 |
| 34 | BC | 46 | PHE | 3.3 |
| 55 | BZ | 11 | ASN | 3.3 |
| 12 | CK | 56 | HIS | 3.3 |
| 34 | BC | 260 | VAL | 3.3 |
| 7 | AF | 93 | TYR | 3.3 |
| 1 | C1 | 240 | U | 3.3 |
| 18 | CQ | 100 | ILE | 3.3 |
| 36 | BE | 195 | LEU | 3.3 |
| 1 | C1 | 772 | G | 3.3 |
| 17 | AP | 63 | GLN | 3.3 |
| 29 | D1 | 2474 | G | 3.3 |
| 34 | DC | 173 | GLN | 3.3 |
| 41 | BJ | 13 | LYS | 3.3 |
| 53 | DX | 114 | ASP | 3.3 |
| 5 | AD | 184 | PHE | 3.3 |
| 8 | AG | 113 | PHE | 3.3 |
| 9 | CH | 106 | ALA | 3.3 |
| 40 | BI | 83 | THR | 3.3 |
| 41 | DJ | 201 | SER | 3.3 |
| 49 | DT | 47 | SER | 3.3 |
| 72 | DL | 24 | ALA | 3.3 |
| 3 | AB | 108 | ASN | 3.3 |
| 17 | CP | 94 | ASN | 3.3 |
| 29 | D1 | 786 | A | 3.3 |
| 29 | D1 | 1707 | A | 3.3 |
| 59 | Dd | 44 | THR | 3.3 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 11 | AJ | 92 | TYR | 3.3 |
| 1 | A1 | 175 | G | 3.3 |
| 4 | AC | 161 | GLY | 3.3 |
| 5 | AD | 86 | GLN | 3.3 |
| 29 | D1 | 1878 | G | 3.3 |
| 44 | BO | 82 | GLY | 3.3 |
| 48 | BS | 60 | LYS | 3.3 |
| 2 | AA | 72 | ASP | 3.3 |
| 33 | DB | 142 | ASP | 3.3 |
| 37 | BF | 147 | ALA | 3.3 |
| 42 | DK | 28 | ASP | 3.3 |
| 52 | DW | 122 | ALA | 3.3 |
| 54 | DY | 68 | PHE | 3.3 |
| 2 | CA | 113 | ARG | 3.3 |
| 47 | DR | 83 | VAL | 3.3 |
| 48 | DS | 167 | ARG | 3.3 |
| 12 | CK | 54 | THR | 3.3 |
| 29 | D1 | 1705 | U | 3.3 |
| 34 | DC | 96 | PRO | 3.3 |
| 41 | BJ | 176 | LEU | 3.3 |
| 46 | DQ | 79 | THR | 3.3 |
| 33 | DB | 140 | ASN | 3.3 |
| 35 | BD | 50 | TYR | 3.3 |
| 35 | DD | 173 | GLY | 3.3 |
| 44 | BO | 58 | GLY | 3.3 |
| 59 | Bd | 9 | GLY | 3.3 |
| 15 | AN | 32 | LYS | 3.3 |
| 35 | DD | 208 | VAL | 3.3 |
| 35 | DD | 246 | ARG | 3.3 |
| 41 | DJ | 193 | ASP | 3.3 |
| 54 | BY | 75 | LEU | 3.3 |
| 1 | A1 | 959 | U | 3.3 |
| 29 | D1 | 249 | U | 3.3 |
| 42 | BK | 74 | PRO | 3.3 |
| 32 | BA | 96 | ASN | 3.2 |
| 45 | BP | 65 | ASN | 3.2 |
| 11 | CJ | 125 | GLU | 3.2 |
| 44 | DO | 15 | GLN | 3.2 |
| 48 | DS | 175 | GLN | 3.2 |
| 29 | B1 | 3260 | G | 3.2 |
| 4 | AC | 76 | ARG | 3.2 |
| 11 | AJ | 20 | ALA | 3.2 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 36 | BE | 85 | ARG | 3.2 |
| 48 | BS | 110 | ARG | 3.2 |
| 50 | BU | 52 | ALA | 3.2 |
| 59 | Dd | 11 | ARG | 3.2 |
| 73 | DM | 84 | VAL | 3.2 |
| 10 | CI | 111 | MET | 3.2 |
| 29 | D1 | 1094 | U | 3.2 |
| 2 | AA | 125 | ASP | 3.2 |
| 19 | AR | 52 | ASP | 3.2 |
| 42 | DK | 45 | PRO | 3.2 |
| 51 | BV | 36 | SER | 3.2 |
| 57 | Db | 69 | SER | 3.2 |
| 51 | BV | 59 | HIS | 3.2 |
| 59 | Dd | 57 | HIS | 3.2 |
| 55 | BZ | 73 | GLY | 3.2 |
| 60 | De | 33 | ASN | 3.2 |
| 3 | CB | 208 | GLU | 3.2 |
| 17 | AP | 138 | GLU | 3.2 |
| 34 | BC | 213 | GLU | 3.2 |
| 34 | DC | 46 | PHE | 3.2 |
| 1 | C1 | 872 | G | 3.2 |
| 2 | CA | 26 | ALA | 3.2 |
| 21 | CT | 254 | ALA | 3.2 |
| 34 | DC | 161 | LEU | 3.2 |
| 61 | Bf | 35 | LEU | 3.2 |
| 1 | C1 | 61 | A | 3.2 |
| 29 | D1 | 1580 | A | 3.2 |
| 29 | D1 | 2192 | C | 3.2 |
| 54 | BY | 50 | PRO | 3.2 |
| 40 | BI | 89 | LYS | 3.2 |
| 48 | BS | 148 | ASP | 3.2 |
| 48 | DS | 171 | ASP | 3.2 |
| 55 | BZ | 97 | ASP | 3.2 |
| 6 | AE | 87 | SER | 3.2 |
| 15 | AN | 60 | THR | 3.2 |
| 21 | CT | 37 | SER | 3.2 |
| 34 | BC | 245 | GLY | 3.2 |
| 34 | BC | 315 | GLY | 3.2 |
| 36 | BE | 56 | THR | 3.2 |
| 48 | DS | 118 | HIS | 3.2 |
| 12 | AK | 31 | ASN | 3.2 |
| 21 | CT | 311 | ARG | 3.2 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 4 | AC | 144 | ALA | 3.2 |
| 34 | DC | 295 | ALA | 3.2 |
| 29 | D1 | 2575 | G | 3.2 |
| 43 | DN | 103 | ILE | 3.2 |
| 1 | A1 | 67 | A | 3.2 |
| 48 | DS | 186 | LYS | 3.2 |
| 34 | DC | 48 | GLY | 3.2 |
| 39 | BH | 144 | GLU | 3.2 |
| 39 | DH | 186 | LEU | 3.2 |
| 40 | BI | 146 | LEU | 3.2 |
| 8 | CG | 150 | VAL | 3.2 |
| 13 | CL | 46 | VAL | 3.2 |
| 49 | BT | 40 | VAL | 3.2 |
| 52 | BW | 70 | GLU | 3.2 |
| 1 | A1 | 730 | G | 3.2 |
| 29 | D1 | 1018 | G | 3.2 |
| 1 | C1 | 659 | C | 3.2 |
| 13 | CL | 84 | TRP | 3.2 |
| 35 | DD | 190 | GLY | 3.2 |
| 41 | DJ | 194 | GLY | 3.2 |
| 8 | AG | 80 | LEU | 3.2 |
| 32 | DA | 157 | PHE | 3.2 |
| 33 | BB | 22 | LEU | 3.2 |
| 3 | CB | 39 | THR | 3.2 |
| 17 | CP | 69 | ARG | 3.2 |
| 29 | B1 | 2493 | U | 3.2 |
| 34 | DC | 2 | SER | 3.2 |
| 57 | Db | 3 | SER | 3.2 |
| 59 | Bd | 70 | VAL | 3.2 |
| 60 | Be | 30 | ARG | 3.2 |
| 5 | AD | 39 | GLU | 3.2 |
| 19 | CR | 31 | GLU | 3.2 |
| 14 | CM | 127 | ASN | 3.2 |
| 21 | CT | 119 | ALA | 3.2 |
| 29 | B1 | 2398 | A | 3.2 |
| 29 | D1 | 1195 | A | 3.2 |
| 29 | D1 | 3260 | G | 3.2 |
| 1 | C1 | 70 | C | 3.2 |
| 29 | D1 | 1866 | C | 3.2 |
| 34 | BC | 170 | PRO | 3.2 |
| 9 | AH | 102 | LEU | 3.2 |
| 1 | C1 | 1522 | U | 3.2 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 18 | CQ | 62 | VAL | 3.2 |
| 29 | B1 | 248 | U | 3.2 |
| 31 | D3 | 86 | U | 3.2 |
| 33 | BB | 208 | ASP | 3.2 |
| 33 | DB | 49 | VAL | 3.2 |
| 56 | Da | 70 | ARG | 3.2 |
| 15 | AN | 120 | SER | 3.2 |
| 5 | CD | 107 | LYS | 3.2 |
| 46 | DQ | 137 | ASN | 3.2 |
| 60 | De | 50 | ASN | 3.2 |
| 29 | D1 | 285 | A | 3.2 |
| 29 | D1 | 2256 | A | 3.2 |
| 11 | AJ | 142 | TYR | 3.2 |
| 29 | D1 | 1581 | C | 3.2 |
| 38 | BG | 75 | TYR | 3.2 |
| 32 | BA | 72 | PHE | 3.2 |
| 47 | BR | 35 | PHE | 3.2 |
| 44 | DO | 114 | ARG | 3.2 |
| 48 | DS | 162 | ARG | 3.2 |
| 10 | CI | 46 | ALA | 3.2 |
| 21 | AT | 227 | ALA | 3.2 |
| 46 | DQ | 53 | ASP | 3.2 |
| 56 | Da | 58 | ALA | 3.2 |
| 21 | AT | 277 | GLU | 3.1 |
| 34 | DC | 77 | THR | 3.1 |
| 44 | BO | 43 | THR | 3.1 |
| 11 | CJ | 139 | GLN | 3.1 |
| 1 | A1 | 22 | A | 3.1 |
| 35 | DD | 43 | ASN | 3.1 |
| 59 | Dd | 48 | ASN | 3.1 |
| 29 | D1 | 2267 | C | 3.1 |
| 29 | D1 | 2871 | G | 3.1 |
| 33 | DB | 30 | ARG | 3.1 |
| 33 | DB | 64 | ARG | 3.1 |
| 34 | DC | 245 | GLY | 3.1 |
| 55 | BZ | 35 | ARG | 3.1 |
| 8 | CG | 41 | ALA | 3.1 |
| 14 | CM | 119 | LYS | 3.1 |
| 21 | CT | 78 | ALA | 3.1 |
| 21 | CT | 303 | ALA | 3.1 |
| 58 | Bc | 2 | ALA | 3.1 |
| 72 | DL | 31 | LYS | 3.1 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 52 | BW | 106 | ASP | 3.1 |
| 1 | A1 | 2 | A | 3.1 |
| 1 | C1 | 661 | A | 3.1 |
| 29 | B1 | 1103 | A | 3.1 |
| 29 | D1 | 1558 | A | 3.1 |
| 1 | C1 | 653 | C | 3.1 |
| 2 | AA | 138 | TYR | 3.1 |
| 62 | Dg | 41 | PHE | 3.1 |
| 1 | A1 | 1699 | G | 3.1 |
| 29 | D1 | 805 | G | 3.1 |
| 4 | AC | 50 | ILE | 3.1 |
| 11 | AJ | 36 | ILE | 3.1 |
| 44 | DO | 151 | ILE | 3.1 |
| 57 | Bb | 11 | LYS | 3.1 |
| 21 | AT | 190 | ALA | 3.1 |
| 41 | BJ | 92 | HIS | 3.1 |
| 51 | BV | 11 | ALA | 3.1 |
| 3 | CB | 232 | GLU | 3.1 |
| 1 | A1 | 135 | A | 3.1 |
| 29 | D1 | 71 | A | 3.1 |
| 33 | BB | 86 | GLN | 3.1 |
| 36 | BE | 38 | THR | 3.1 |
| 39 | DH | 79 | GLN | 3.1 |
| 56 | Da | 46 | THR | 3.1 |
| 1 | A1 | 1677 | C | 3.1 |
| 18 | CQ | 49 | ARG | 3.1 |
| 21 | AT | 10 | ARG | 3.1 |
| 29 | B1 | 135 | C | 3.1 |
| 29 | D1 | 2257 | C | 3.1 |
| 36 | BE | 54 | ARG | 3.1 |
| 37 | BF | 46 | ARG | 3.1 |
| 37 | DF | 82 | ARG | 3.1 |
| 46 | DQ | 62 | ARG | 3.1 |
| 52 | BW | 51 | VAL | 3.1 |
| 55 | BZ | 59 | TYR | 3.1 |
| 9 | CH | 35 | GLY | 3.1 |
| 21 | CT | 173 | GLY | 3.1 |
| 54 | DY | 37 | GLY | 3.1 |
| 1 | C1 | 246 | G | 3.1 |
| 34 | BC | 179 | ALA | 3.1 |
| 39 | BH | 131 | ALA | 3.1 |
| 72 | DL | 26 | ALA | 3.1 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 33 | BB | 104 | LEU | 3.1 |
| 33 | BB | 180 | LEU | 3.1 |
| 29 | B1 | 1356 | U | 3.1 |
| 43 | BN | 16 | GLU | 3.1 |
| 1 | A1 | 1151 | A | 3.1 |
| 4 | CC | 97 | SER | 3.1 |
| 6 | AE | 104 | PHE | 3.1 |
| 9 | AH | 55 | SER | 3.1 |
| 20 | AS | 41 | GLN | 3.1 |
| 21 | CT | 207 | ASP | 3.1 |
| 34 | BC | 216 | ASP | 3.1 |
| 10 | CI | 78 | THR | 3.1 |
| 2 | AA | 29 | VAL | 3.1 |
| 6 | AE | 126 | ARG | 3.1 |
| 6 | CE | 132 | ARG | 3.1 |
| 6 | CE | 169 | PRO | 3.1 |
| 19 | AR | 19 | THR | 3.1 |
| 41 | DJ | 196 | PHE | 3.1 |
| 36 | DE | 139 | PRO | 3.1 |
| 37 | DF | 91 | VAL | 3.1 |
| 42 | BK | 138 | VAL | 3.1 |
| 34 | DC | 120 | LYS | 3.1 |
| 35 | DD | 204 | GLY | 3.1 |
| 11 | CJ | 62 | ASN | 3.1 |
| 52 | DW | 111 | ASN | 3.1 |
| 54 | DY | 148 | ILE | 3.1 |
| 56 | Da | 87 | ASN | 3.1 |
| 1 | A1 | 127 | G | 3.1 |
| 29 | D1 | 3390 | G | 3.1 |
| 16 | CO | 116 | ALA | 3.1 |
| 36 | DE | 294 | ALA | 3.1 |
| 7 | CF | 81 | HIS | 3.1 |
| 54 | BY | 25 | HIS | 3.1 |
| 29 | D1 | 1554 | U | 3.1 |
| 29 | D1 | 3270 | U | 3.1 |
| 39 | DH | 144 | GLU | 3.1 |
| 40 | BI | 11 | GLU | 3.1 |
| 6 | CE | 82 | ARG | 3.1 |
| 29 | D1 | 2673 | A | 3.1 |
| 34 | DC | 327 | CYS | 3.1 |
| 12 | AK | 13 | SER | 3.1 |
| 16 | AO | 5 | SER | 3.1 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 21 | CT | 82 | SER | 3.1 |
| 43 | BN | 74 | ARG | 3.1 |
| 47 | DR | 89 | ASP | 3.1 |
| 48 | BS | 81 | ARG | 3.1 |
| 56 | Ba | 84 | ASP | 3.1 |
| 56 | Da | 31 | ARG | 3.1 |
| 8 | AG | 51 | GLY | 3.1 |
| 29 | D1 | 2263 | C | 3.1 |
| 60 | De | 49 | MET | 3.1 |
| 62 | Bg | 11 | THR | 3.1 |
| 42 | DK | 20 | ASN | 3.1 |
| 1 | A1 | 1793 | G | 3.1 |
| 29 | D1 | 304 | G | 3.1 |
| 31 | D3 | 85 | G | 3.1 |
| 1 | C1 | 681 | U | 3.1 |
| 29 | B1 | 1094 | U | 3.1 |
| 29 | D1 | 2570 | U | 3.1 |
| 2 | CA | 221 | GLU | 3.1 |
| 17 | AP | 121 | ARG | 3.1 |
| 15 | CN | 98 | GLN | 3.1 |
| 40 | BI | 88 | TYR | 3.1 |
| 41 | BJ | 113 | GLN | 3.1 |
| 48 | BS | 52 | LYS | 3.1 |
| 52 | BW | 109 | LYS | 3.1 |
| 11 | AJ | 64 | ASP | 3.1 |
| 18 | AQ | 74 | SER | 3.1 |
| 33 | BB | 243 | THR | 3.1 |
| 42 | DK | 34 | SER | 3.1 |
| 32 | BA | 198 | TRP | 3.1 |
| 4 | AC | 118 | ALA | 3.1 |
| 38 | BG | 147 | LEU | 3.1 |
| 11 | CJ | 32 | ASN | 3.1 |
| 21 | CT | 17 | ASN | 3.1 |
| 42 | BK | 7 | ASN | 3.1 |
| 58 | Bc | 6 | ALA | 3.1 |
| 29 | B1 | 3293 | U | 3.1 |
| 29 | D1 | 1035 | G | 3.1 |
| 29 | D1 | 2979 | U | 3.1 |
| 44 | BO | 158 | HIS | 3.1 |
| 4 | AC | 186 | VAL | 3.1 |
| 34 | DC | 79 | VAL | 3.1 |
| 36 | DE | 254 | LYS | 3.1 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 39 | BH | 106 | LYS | 3.1 |
| 48 | BS | 133 | LYS | 3.1 |
| 49 | BT | 50 | LYS | 3.1 |
| 54 | BY | 32 | ARG | 3.1 |
| 1 | A1 | 525 | A | 3.1 |
| 32 | DA | 33 | GLU | 3.1 |
| 11 | CJ | 73 | GLY | 3.0 |
| 35 | DD | 21 | PRO | 3.0 |
| 44 | DO | 76 | PRO | 3.0 |
| 46 | DQ | 5 | GLY | 3.0 |
| 49 | BT | 65 | TYR | 3.0 |
| 54 | BY | 33 | GLY | 3.0 |
| 13 | CL | 45 | LEU | 3.0 |
| 15 | AN | 107 | THR | 3.0 |
| 21 | CT | 72 | THR | 3.0 |
| 32 | DA | 42 | ASP | 3.0 |
| 49 | DT | 61 | THR | 3.0 |
| 57 | Db | 84 | THR | 3.0 |
| 14 | AM | 19 | ALA | 3.0 |
| 21 | AT | 24 | ALA | 3.0 |
| 34 | BC | 233 | TRP | 3.0 |
| 29 | B1 | 120 | G | 3.0 |
| 4 | AC | 8 | LYS | 3.0 |
| 13 | AL | 123 | ARG | 3.0 |
| 32 | DA | 54 | LYS | 3.0 |
| 44 | DO | 158 | HIS | 3.0 |
| 51 | BV | 48 | ARG | 3.0 |
| 21 | CT | 269 | TYR | 3.0 |
| 50 | BU | 43 | GLY | 3.0 |
| 57 | Bb | 7 | PRO | 3.0 |
| 37 | DF | 64 | LEU | 3.0 |
| 48 | DS | 185 | LEU | 3.0 |
| 56 | Da | 4 | LEU | 3.0 |
| 5 | AD | 96 | SER | 3.0 |
| 9 | CH | 56 | SER | 3.0 |
| 31 | D3 | 128 | U | 3.0 |
| 34 | BC | 361 | THR | 3.0 |
| 45 | BP | 184 | THR | 3.0 |
| 53 | BX | 53 | ASP | 3.0 |
| 56 | Da | 39 | PHE | 3.0 |
| 5 | CD | 92 | ARG | 3.0 |
| 8 | AG | 107 | LYS | 3.0 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 9 | CH | 103 | ARG | 3.0 |
| 10 | AI | 76 | VAL | 3.0 |
| 10 | CI | 98 | ASN | 3.0 |
| 48 | BS | 15 | VAL | 3.0 |
| 49 | BT | 112 | ASN | 3.0 |
| 61 | Bf | 42 | ARG | 3.0 |
| 4 | AC | 159 | HIS | 3.0 |
| 57 | Bb | 9 | ILE | 3.0 |
| 1 | C1 | 67 | A | 3.0 |
| 31 | D3 | 126 | A | 3.0 |
| 32 | BA | 121 | PRO | 3.0 |
| 33 | DB | 120 | PRO | 3.0 |
| 13 | CL | 136 | GLN | 3.0 |
| 29 | B1 | 633 | C | 3.0 |
| 29 | D1 | 2675 | C | 3.0 |
| 72 | DL | 35 | LEU | 3.0 |
| 38 | DG | 225 | GLN | 3.0 |
| 3 | AB | 248 | SER | 3.0 |
| 40 | BI | 19 | SER | 3.0 |
| 53 | BX | 83 | ASP | 3.0 |
| 61 | Df | 15 | LYS | 3.0 |
| 10 | CI | 34 | VAL | 3.0 |
| 53 | BX | 51 | ARG | 3.0 |
| 29 | B1 | 2442 | G | 3.0 |
| 29 | B1 | 3216 | G | 3.0 |
| 29 | D1 | 2481 | G | 3.0 |
| 37 | BF | 154 | LEU | 3.0 |
| 35 | DD | 23 | PRO | 3.0 |
| 1 | A1 | 1192 | C | 3.0 |
| 1 | C1 | 394 | C | 3.0 |
| 10 | CI | 110 | GLU | 3.0 |
| 32 | DA | 22 | GLU | 3.0 |
| 61 | Df | 92 | GLU | 3.0 |
| 35 | BD | 28 | ALA | 3.0 |
| 50 | BU | 60 | ALA | 3.0 |
| 2 | AA | 129 | ASP | 3.0 |
| 12 | CK | 55 | THR | 3.0 |
| 16 | CO | 5 | SER | 3.0 |
| 35 | DD | 186 | LYS | 3.0 |
| 38 | DG | 150 | LYS | 3.0 |
| 10 | AI | 89 | MET | 3.0 |
| 35 | BD | 215 | ILE | 3.0 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 36 | BE | 293 | LEU | 3.0 |
| 42 | BK | 12 | LEU | 3.0 |
| 1 | A1 | 76 | A | 3.0 |
| 29 | D1 | 783 | A | 3.0 |
| 44 | DO | 175 | ASN | 3.0 |
| 3 | AB | 112 | GLY | 3.0 |
| 33 | DB | 232 | GLY | 3.0 |
| 54 | BY | 28 | HIS | 3.0 |
| 3 | CB | 236 | PRO | 3.0 |
| 17 | AP | 64 | PRO | 3.0 |
| 29 | D1 | 1199 | C | 3.0 |
| 39 | BH | 107 | GLU | 3.0 |
| 5 | CD | 170 | GLN | 3.0 |
| 9 | CH | 101 | ALA | 3.0 |
| 39 | DH | 192 | GLN | 3.0 |
| 15 | AN | 61 | LYS | 3.0 |
| 34 | DC | 126 | LYS | 3.0 |
| 44 | DO | 170 | LYS | 3.0 |
| 61 | Df | 13 | LYS | 3.0 |
| 50 | BU | 126 | TRP | 3.0 |
| 4 | AC | 39 | VAL | 3.0 |
| 34 | DC | 361 | THR | 3.0 |
| 36 | BE | 191 | ASP | 3.0 |
| 1 | A1 | 6 | G | 3.0 |
| 1 | A1 | 1101 | G | 3.0 |
| 1 | C1 | 828 | U | 3.0 |
| 1 | C1 | 913 | G | 3.0 |
| 21 | AT | 105 | GLY | 3.0 |
| 29 | B1 | 1078 | U | 3.0 |
| 4 | CC | 22 | ASN | 3.0 |
| 29 | D1 | 2253 | G | 3.0 |
| 35 | BD | 36 | HIS | 3.0 |
| 35 | BD | 68 | GLY | 3.0 |
| 39 | BH | 130 | TYR | 3.0 |
| 48 | DS | 129 | GLY | 3.0 |
| 29 | D1 | 961 | C | 3.0 |
| 29 | D1 | 1562 | C | 3.0 |
| 31 | D3 | 94 | C | 3.0 |
| 35 | DD | 164 | GLU | 3.0 |
| 40 | DI | 51 | GLN | 3.0 |
| 43 | BN | 50 | LYS | 3.0 |
| 51 | BV | 30 | ARG | 3.0 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 53 | DX | 83 | ASP | 3.0 |
| 56 | Da | 47 | ASP | 3.0 |
| 18 | AQ | 73 | GLY | 3.0 |
| 21 | CT | 77 | GLY | 3.0 |
| 33 | BB | 13 | GLY | 3.0 |
| 38 | DG | 226 | GLY | 3.0 |
| 41 | BJ | 124 | GLY | 3.0 |
| 54 | BY | 36 | GLY | 3.0 |
| 1 | C1 | 486 | G | 3.0 |
| 7 | AF | 104 | HIS | 3.0 |
| 31 | D3 | 95 | G | 3.0 |
| 36 | BE | 175 | HIS | 3.0 |
| 55 | BZ | 68 | TYR | 3.0 |
| 13 | CL | 25 | ASN | 3.0 |
| 29 | B1 | 175 | C | 3.0 |
| 49 | DT | 43 | LYS | 3.0 |
| 47 | BR | 120 | GLU | 3.0 |
| 47 | DR | 74 | GLU | 3.0 |
| 48 | DS | 170 | ARG | 3.0 |
| 54 | DY | 65 | GLN | 3.0 |
| 72 | DL | 105 | GLN | 3.0 |
| 10 | CI | 121 | ILE | 2.9 |
| 21 | CT | 19 | TRP | 2.9 |
| 33 | DB | 137 | ILE | 2.9 |
| 54 | BY | 22 | ILE | 2.9 |
| 32 | DA | 159 | LEU | 2.9 |
| 30 | D2 | 14 | U | 2.9 |
| 5 | CD | 161 | ASP | 2.9 |
| 15 | CN | 76 | SER | 2.9 |
| 29 | D1 | 2449 | A | 2.9 |
| 32 | BA | 42 | ASP | 2.9 |
| 34 | BC | 44 | THR | 2.9 |
| 33 | BB | 53 | GLY | 2.9 |
| 40 | DI | 81 | GLY | 2.9 |
| 48 | DS | 16 | GLY | 2.9 |
| 29 | D1 | 1565 | G | 2.9 |
| 32 | DA | 160 | LYS | 2.9 |
| 35 | DD | 191 | LYS | 2.9 |
| 29 | D1 | 1574 | C | 2.9 |
| 8 | CG | 52 | VAL | 2.9 |
| 14 | CM | 122 | ARG | 2.9 |
| 35 | DD | 42 | VAL | 2.9 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 42 | DK | 10 | ARG | 2.9 |
| 50 | BU | 137 | VAL | 2.9 |
| 11 | AJ | 100 | GLN | 2.9 |
| 36 | BE | 51 | LEU | 2.9 |
| 1 | A1 | 1370 | U | 2.9 |
| 1 | C1 | 935 | U | 2.9 |
| 1 | C1 | 959 | U | 2.9 |
| 29 | B1 | 2873 | U | 2.9 |
| 1 | A1 | 1256 | A | 2.9 |
| 1 | C1 | 135 | A | 2.9 |
| 30 | D2 | 11 | A | 2.9 |
| 34 | BC | 230 | THR | 2.9 |
| 36 | BE | 120 | LYS | 2.9 |
| 36 | DE | 59 | ASP | 2.9 |
| 41 | BJ | 19 | LYS | 2.9 |
| 48 | DS | 73 | GLY | 2.9 |
| 32 | DA | 19 | TYR | 2.9 |
| 57 | Bb | 90 | LYS | 2.9 |
| 59 | Dd | 17 | THR | 2.9 |
| 1 | A1 | 573 | C | 2.9 |
| 2 | AA | 159 | ALA | 2.9 |
| 21 | AT | 104 | VAL | 2.9 |
| 29 | D1 | 1021 | G | 2.9 |
| 39 | BH | 203 | VAL | 2.9 |
| 39 | DH | 163 | VAL | 2.9 |
| 39 | DH | 212 | ALA | 2.9 |
| 4 | AC | 59 | LEU | 2.9 |
| 7 | CF | 80 | MET | 2.9 |
| 11 | AJ | 40 | GLU | 2.9 |
| 11 | AJ | 116 | LEU | 2.9 |
| 32 | DA | 40 | ASN | 2.9 |
| 33 | DB | 41 | ILE | 2.9 |
| 36 | DE | 188 | GLU | 2.9 |
| 39 | DH | 211 | LEU | 2.9 |
| 57 | Db | 35 | GLN | 2.9 |
| 60 | Be | 25 | GLN | 2.9 |
| 10 | CI | 48 | GLY | 2.9 |
| 29 | B1 | 1221 | A | 2.9 |
| 29 | D1 | 1559 | A | 2.9 |
| 35 | BD | 78 | GLY | 2.9 |
| 39 | BH | 234 | GLY | 2.9 |
| 40 | BI | 122 | LYS | 2.9 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 47 | DR | 142 | GLY | 2.9 |
| 49 | BT | 73 | GLY | 2.9 |
| 52 | DW | 121 | LYS | 2.9 |
| 2 | CA | 147 | THR | 2.9 |
| 3 | CB | 153 | SER | 2.9 |
| 7 | CF | 78 | THR | 2.9 |
| 32 | BA | 79 | SER | 2.9 |
| 32 | DA | 23 | THR | 2.9 |
| 39 | BH | 110 | THR | 2.9 |
| 41 | BJ | 17 | TYR | 2.9 |
| 46 | BQ | 60 | PHE | 2.9 |
| 50 | BU | 35 | TYR | 2.9 |
| 2 | CA | 146 | LEU | 2.9 |
| 50 | DU | 32 | ARG | 2.9 |
| 51 | BV | 20 | LEU | 2.9 |
| 5 | AD | 63 | GLN | 2.9 |
| 62 | Bg | 33 | GLN | 2.9 |
| 72 | DL | 11 | LYS | 2.9 |
| 1 | A1 | 604 | A | 2.9 |
| 42 | DK | 144 | CYS | 2.9 |
| 59 | Bd | 4 | GLY | 2.9 |
| 37 | BF | 27 | PRO | 2.9 |
| 43 | DN | 49 | PRO | 2.9 |
| 61 | Df | 43 | TYR | 2.9 |
| 1 | A1 | 1376 | C | 2.9 |
| 11 | CJ | 98 | ASP | 2.9 |
| 18 | CQ | 78 | ILE | 2.9 |
| 34 | BC | 176 | ALA | 2.9 |
| 40 | DI | 41 | ILE | 2.9 |
| 43 | BN | 29 | ALA | 2.9 |
| 44 | DO | 67 | ARG | 2.9 |
| 47 | DR | 104 | LEU | 2.9 |
| 48 | BS | 40 | ALA | 2.9 |
| 52 | BW | 47 | ALA | 2.9 |
| 52 | BW | 110 | VAL | 2.9 |
| 52 | DW | 114 | VAL | 2.9 |
| 21 | CT | 273 | ASP | 2.9 |
| 58 | Bc | 40 | SER | 2.9 |
| 29 | D1 | 170 | G | 2.9 |
| 29 | D1 | 1507 | G | 2.9 |
| 29 | D1 | 1766 | G | 2.9 |
| 29 | D1 | 3275 | U | 2.9 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 11 | CJ | 40 | GLU | 2.9 |
| 19 | AR | 50 | GLU | 2.9 |
| 21 | CT | 14 | GLU | 2.9 |
| 5 | AD | 139 | ASN | 2.9 |
| 15 | AN | 98 | GLN | 2.9 |
| 57 | Bb | 31 | ASN | 2.9 |
| 57 | Db | 78 | ASN | 2.9 |
| 29 | D1 | 2324 | A | 2.9 |
| 33 | DB | 43 | GLY | 2.9 |
| 35 | BD | 204 | GLY | 2.9 |
| 56 | Ba | 66 | GLY | 2.9 |
| 59 | Dd | 23 | GLY | 2.9 |
| 13 | AL | 133 | VAL | 2.9 |
| 38 | BG | 23 | ALA | 2.9 |
| 39 | BH | 132 | VAL | 2.9 |
| 31 | B3 | 76 | C | 2.9 |
| 39 | DH | 246 | MET | 2.9 |
| 41 | DJ | 221 | ALA | 2.9 |
| 2 | CA | 77 | SER | 2.9 |
| 31 | D3 | 34 | U | 2.9 |
| 59 | Bd | 33 | THR | 2.9 |
| 44 | DO | 156 | HIS | 2.9 |
| 29 | D1 | 725 | G | 2.9 |
| 29 | D1 | 3345 | G | 2.9 |
| 20 | AS | 20 | GLN | 2.9 |
| 1 | C1 | 1081 | A | 2.9 |
| 6 | CE | 30 | LEU | 2.9 |
| 29 | D1 | 1027 | A | 2.9 |
| 35 | DD | 78 | GLY | 2.9 |
| 42 | BK | 17 | LEU | 2.9 |
| 54 | DY | 143 | GLY | 2.9 |
| 16 | AO | 25 | VAL | 2.9 |
| 17 | CP | 109 | ARG | 2.9 |
| 33 | BB | 210 | PRO | 2.9 |
| 6 | AE | 159 | ALA | 2.9 |
| 29 | D1 | 245 | U | 2.9 |
| 13 | CL | 77 | THR | 2.9 |
| 19 | CR | 8 | THR | 2.9 |
| 34 | DC | 104 | THR | 2.9 |
| 53 | DX | 86 | THR | 2.9 |
| 54 | BY | 41 | HIS | 2.9 |
| 59 | Bd | 17 | THR | 2.9 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 3 | AB | 251 | LYS | 2.9 |
| 15 | CN | 52 | LYS | 2.9 |
| 61 | Df | 66 | LYS | 2.9 |
| 1 | A1 | 1584 | G | 2.9 |
| 29 | D1 | 264 | G | 2.9 |
| 29 | D1 | 1020 | G | 2.9 |
| 29 | D1 | 2452 | G | 2.9 |
| 3 | CB | 230 | TRP | 2.9 |
| 21 | AT | 52 | GLN | 2.9 |
| 35 | BD | 109 | TRP | 2.9 |
| 7 | CF | 111 | VAL | 2.8 |
| 9 | CH | 74 | VAL | 2.8 |
| 16 | AO | 14 | ILE | 2.8 |
| 3 | CB | 239 | PRO | 2.8 |
| 29 | D1 | 1556 | C | 2.8 |
| 5 | CD | 206 | SER | 2.8 |
| 32 | DA | 5 | THR | 2.8 |
| 36 | DE | 18 | THR | 2.8 |
| 44 | DO | 128 | LYS | 2.8 |
| 33 | BB | 106 | SER | 2.8 |
| 57 | Bb | 14 | THR | 2.8 |
| 2 | CA | 43 | ASP | 2.8 |
| 8 | AG | 142 | GLU | 2.8 |
| 15 | AN | 94 | GLU | 2.8 |
| 36 | BE | 142 | PHE | 2.8 |
| 36 | BE | 188 | GLU | 2.8 |
| 73 | DM | 10 | GLU | 2.8 |
| 13 | CL | 74 | GLN | 2.8 |
| 35 | DD | 65 | TRP | 2.8 |
| 10 | AI | 113 | GLY | 2.8 |
| 33 | DB | 213 | GLY | 2.8 |
| 1 | C1 | 260 | U | 2.8 |
| 31 | D3 | 77 | A | 2.8 |
| 34 | BC | 181 | ILE | 2.8 |
| 52 | BW | 95 | ILE | 2.8 |
| 34 | BC | 307 | PRO | 2.8 |
| 45 | BP | 165 | ALA | 2.8 |
| 21 | AT | 117 | LYS | 2.8 |
| 29 | B1 | 174 | C | 2.8 |
| 30 | D2 | 9 | C | 2.8 |
| 34 | DC | 127 | LYS | 2.8 |
| 57 | Db | 80 | LYS | 2.8 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 34 | DC | 313 | HIS | 2.8 |
| 4 | AC | 86 | LEU | 2.8 |
| 44 | DO | 180 | PHE | 2.8 |
| 1 | A1 | 1201 | G | 2.8 |
| 5 | CD | 91 | GLU | 2.8 |
| 36 | DE | 281 | GLU | 2.8 |
| 4 | CC | 101 | GLN | 2.8 |
| 21 | CT | 151 | VAL | 2.8 |
| 39 | DH | 139 | VAL | 2.8 |
| 42 | BK | 113 | GLY | 2.8 |
| 29 | D1 | 2946 | A | 2.8 |
| 5 | CD | 95 | ASN | 2.8 |
| 7 | CF | 106 | ASN | 2.8 |
| 12 | CK | 51 | ALA | 2.8 |
| 40 | BI | 139 | ASN | 2.8 |
| 11 | CJ | 129 | PHE | 2.8 |
| 36 | BE | 83 | LEU | 2.8 |
| 1 | A1 | 1129 | U | 2.8 |
| 7 | AF | 99 | ARG | 2.8 |
| 21 | CT | 97 | GLY | 2.8 |
| 29 | B1 | 2319 | U | 2.8 |
| 29 | D1 | 2493 | U | 2.8 |
| 31 | D3 | 75 | G | 2.8 |
| 34 | BC | 112 | ASP | 2.8 |
| 41 | BJ | 98 | ARG | 2.8 |
| 61 | Df | 27 | GLN | 2.8 |
| 1 | A1 | 266 | A | 2.8 |
| 15 | AN | 43 | LYS | 2.8 |
| 21 | AT | 83 | ALA | 2.8 |
| 21 | AT | 253 | ALA | 2.8 |
| 33 | BB | 12 | ALA | 2.8 |
| 48 | DS | 12 | ALA | 2.8 |
| 15 | AN | 49 | ASN | 2.8 |
| 40 | BI | 149 | ASN | 2.8 |
| 44 | BO | 70 | ASN | 2.8 |
| 29 | B1 | 2495 | C | 2.8 |
| 7 | AF | 81 | HIS | 2.8 |
| 34 | DC | 224 | HIS | 2.8 |
| 1 | C1 | 782 | U | 2.8 |
| 29 | D1 | 1564 | U | 2.8 |
| 3 | CB | 210 | THR | 2.8 |
| 50 | BU | 48 | ARG | 2.8 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 59 | Bd | 55 | ARG | 2.8 |
| 15 | CN | 94 | GLU | 2.8 |
| 18 | AQ | 61 | SER | 2.8 |
| 33 | DB | 114 | SER | 2.8 |
| 44 | BO | 120 | TRP | 2.8 |
| 51 | DV | 9 | SER | 2.8 |
| 1 | C1 | 142 | G | 2.8 |
| 1 | C1 | 1371 | A | 2.8 |
| 17 | AP | 114 | LYS | 2.8 |
| 29 | D1 | 830 | A | 2.8 |
| 29 | D1 | 2677 | G | 2.8 |
| 6 | AE | 138 | LYS | 2.8 |
| 9 | AH | 40 | ALA | 2.8 |
| 32 | BA | 145 | TYR | 2.8 |
| 33 | BB | 133 | TYR | 2.8 |
| 55 | BZ | 60 | ALA | 2.8 |
| 62 | Bg | 60 | CYS | 2.8 |
| 1 | C1 | 874 | C | 2.8 |
| 10 | AI | 60 | LEU | 2.8 |
| 38 | BG | 244 | ASN | 2.8 |
| 1 | A1 | 267 | U | 2.8 |
| 1 | C1 | 650 | U | 2.8 |
| 2 | CA | 47 | VAL | 2.8 |
| 9 | AH | 81 | VAL | 2.8 |
| 10 | CI | 44 | ARG | 2.8 |
| 15 | CN | 108 | ILE | 2.8 |
| 33 | BB | 216 | HIS | 2.8 |
| 33 | DB | 219 | ILE | 2.8 |
| 41 | BJ | 210 | ILE | 2.8 |
| 46 | DQ | 127 | ARG | 2.8 |
| 52 | DW | 139 | ILE | 2.8 |
| 41 | BJ | 161 | GLY | 2.8 |
| 1 | A1 | 1689 | A | 2.8 |
| 7 | CF | 112 | SER | 2.8 |
| 21 | CT | 99 | THR | 2.8 |
| 21 | CT | 306 | THR | 2.8 |
| 35 | DD | 106 | TRP | 2.8 |
| 8 | AG | 49 | GLN | 2.8 |
| 37 | DF | 139 | LYS | 2.8 |
| 37 | DF | 160 | SER | 2.8 |
| 37 | DF | 170 | LYS | 2.8 |
| 1 | C1 | 127 | G | 2.8 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 3 | CB | 143 | TYR | 2.8 |
| 39 | DH | 131 | ALA | 2.8 |
| 44 | BO | 102 | ALA | 2.8 |
| 14 | CM | 2 | PRO | 2.8 |
| 42 | DK | 118 | PRO | 2.8 |
| 48 | DS | 25 | ASP | 2.8 |
| 13 | AL | 66 | LEU | 2.8 |
| 37 | DF | 174 | LEU | 2.8 |
| 49 | DT | 89 | LEU | 2.8 |
| 62 | Dg | 22 | LEU | 2.8 |
| 1 | A1 | 1426 | C | 2.8 |
| 29 | D1 | 135 | C | 2.8 |
| 29 | B1 | 3156 | U | 2.8 |
| 3 | AB | 83 | ILE | 2.8 |
| 6 | AE | 168 | ARG | 2.8 |
| 12 | CK | 33 | ARG | 2.8 |
| 13 | AL | 69 | ILE | 2.8 |
| 21 | CT | 90 | ARG | 2.8 |
| 38 | BG | 26 | VAL | 2.8 |
| 41 | BJ | 24 | ARG | 2.8 |
| 47 | DR | 139 | ILE | 2.8 |
| 54 | BY | 117 | ARG | 2.8 |
| 17 | CP | 70 | LYS | 2.8 |
| 37 | DF | 166 | LYS | 2.8 |
| 3 | AB | 232 | GLU | 2.8 |
| 9 | AH | 54 | GLU | 2.8 |
| 8 | CG | 77 | SER | 2.8 |
| 34 | BC | 65 | SER | 2.8 |
| 37 | BF | 21 | THR | 2.8 |
| 49 | BT | 4 | SER | 2.8 |
| 50 | DU | 131 | SER | 2.8 |
| 52 | BW | 50 | ALA | 2.8 |
| 35 | BD | 146 | PRO | 2.8 |
| 53 | BX | 25 | SER | 2.8 |
| 1 | C1 | 523 | G | 2.8 |
| 46 | BQ | 53 | ASP | 2.8 |
| 29 | B1 | 546 | C | 2.8 |
| 29 | B1 | 1579 | C | 2.8 |
| 29 | D1 | 2616 | C | 2.8 |
| 1 | A1 | 1665 | U | 2.7 |
| 16 | CO | 61 | ILE | 2.7 |
| 8 | AG | 130 | ARG | 2.7 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 36 | BE | 24 | ARG | 2.7 |
| 38 | BG | 110 | ARG | 2.7 |
| 61 | Bf | 69 | VAL | 2.7 |
| 62 | Bg | 26 | VAL | 2.7 |
| 6 | CE | 100 | LYS | 2.7 |
| 32 | BA | 170 | GLY | 2.7 |
| 54 | DY | 28 | HIS | 2.7 |
| 8 | AG | 103 | GLU | 2.7 |
| 35 | BD | 189 | ALA | 2.7 |
| 36 | DE | 133 | GLU | 2.7 |
| 40 | BI | 189 | GLU | 2.7 |
| 44 | DO | 104 | GLU | 2.7 |
| 7 | AF | 143 | SER | 2.7 |
| 10 | AI | 124 | THR | 2.7 |
| 14 | AM | 5 | SER | 2.7 |
| 21 | AT | 295 | SER | 2.7 |
| 21 | CT | 171 | SER | 2.7 |
| 59 | Bd | 6 | PRO | 2.7 |
| 43 | DN | 47 | ASP | 2.7 |
| 48 | DS | 111 | ASP | 2.7 |
| 18 | AQ | 81 | ARG | 2.7 |
| 34 | BC | 336 | VAL | 2.7 |
| 6 | AE | 74 | ASN | 2.7 |
| 73 | DM | 58 | MET | 2.7 |
| 7 | CF | 96 | LYS | 2.7 |
| 61 | Bf | 13 | LYS | 2.7 |
| 33 | BB | 131 | GLY | 2.7 |
| 43 | BN | 30 | GLY | 2.7 |
| 50 | DU | 55 | GLY | 2.7 |
| 34 | BC | 338 | LEU | 2.7 |
| 37 | BF | 9 | TRP | 2.7 |
| 43 | DN | 51 | ALA | 2.7 |
| 57 | Bb | 2 | ALA | 2.7 |
| 36 | DE | 274 | GLN | 2.7 |
| 39 | BH | 123 | GLN | 2.7 |
| 42 | BK | 102 | PHE | 2.7 |
| 47 | BR | 61 | PRO | 2.7 |
| 10 | AI | 50 | THR | 2.7 |
| 29 | B1 | 2549 | G | 2.7 |
| 15 | CN | 51 | VAL | 2.7 |
| 17 | CP | 83 | VAL | 2.7 |
| 33 | DB | 51 | ASP | 2.7 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 36 | BE | 72 | ASP | 2.7 |
| 54 | DY | 22 | ILE | 2.7 |
| 47 | DR | 151 | ARG | 2.7 |
| 15 | CN | 21 | LYS | 2.7 |
| 21 | CT | 118 | LYS | 2.7 |
| 44 | BO | 93 | LYS | 2.7 |
| 44 | DO | 33 | LYS | 2.7 |
| 15 | CN | 73 | GLY | 2.7 |
| 39 | DH | 145 | ASN | 2.7 |
| 33 | BB | 50 | HIS | 2.7 |
| 56 | Ba | 17 | HIS | 2.7 |
| 1 | A1 | 529 | A | 2.7 |
| 1 | C1 | 39 | A | 2.7 |
| 12 | CK | 53 | TYR | 2.7 |
| 37 | DF | 158 | TYR | 2.7 |
| 39 | BH | 141 | ALA | 2.7 |
| 43 | DN | 85 | TRP | 2.7 |
| 1 | A1 | 278 | U | 2.7 |
| 1 | C1 | 379 | U | 2.7 |
| 2 | CA | 194 | PRO | 2.7 |
| 29 | B1 | 3302 | U | 2.7 |
| 33 | BB | 36 | GLU | 2.7 |
| 47 | DR | 148 | GLU | 2.7 |
| 62 | Dg | 91 | GLU | 2.7 |
| 43 | BN | 58 | ILE | 2.7 |
| 1 | C1 | 228 | G | 2.7 |
| 4 | CC | 85 | VAL | 2.7 |
| 47 | BR | 99 | THR | 2.7 |
| 15 | CN | 39 | SER | 2.7 |
| 21 | CT | 316 | MET | 2.7 |
| 29 | B1 | 3220 | G | 2.7 |
| 50 | DU | 128 | ARG | 2.7 |
| 72 | DL | 101 | SER | 2.7 |
| 40 | BI | 177 | ASP | 2.7 |
| 41 | BJ | 193 | ASP | 2.7 |
| 50 | DU | 27 | ASP | 2.7 |
| 3 | AB | 134 | LEU | 2.7 |
| 11 | AJ | 52 | LEU | 2.7 |
| 20 | AS | 17 | GLY | 2.7 |
| 21 | CT | 202 | LEU | 2.7 |
| 34 | DC | 225 | GLY | 2.7 |
| 41 | BJ | 125 | LEU | 2.7 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 49 | DT | 91 | LEU | 2.7 |
| 54 | DY | 36 | GLY | 2.7 |
| 21 | CT | 200 | ASN | 2.7 |
| 44 | BO | 117 | ASN | 2.7 |
| 1 | A1 | 1425 | A | 2.7 |
| 1 | C1 | 369 | A | 2.7 |
| 3 | AB | 124 | ALA | 2.7 |
| 34 | BC | 273 | HIS | 2.7 |
| 34 | DC | 258 | ALA | 2.7 |
| 29 | B1 | 240 | U | 2.7 |
| 29 | D1 | 1740 | U | 2.7 |
| 54 | DY | 79 | TRP | 2.7 |
| 59 | Bd | 49 | TRP | 2.7 |
| 32 | DA | 137 | PRO | 2.7 |
| 41 | DJ | 189 | GLU | 2.7 |
| 1 | A1 | 1709 | C | 2.7 |
| 9 | AH | 111 | ARG | 2.7 |
| 21 | CT | 309 | VAL | 2.7 |
| 34 | BC | 300 | ARG | 2.7 |
| 35 | DD | 93 | MET | 2.7 |
| 39 | BH | 147 | LYS | 2.7 |
| 46 | BQ | 127 | ARG | 2.7 |
| 48 | BS | 51 | VAL | 2.7 |
| 56 | Da | 5 | LYS | 2.7 |
| 2 | AA | 169 | SER | 2.7 |
| 29 | D1 | 173 | G | 2.7 |
| 3 | AB | 78 | ASP | 2.7 |
| 21 | AT | 225 | LEU | 2.7 |
| 21 | CT | 93 | ASP | 2.7 |
| 36 | BE | 171 | LEU | 2.7 |
| 44 | DO | 145 | ASP | 2.7 |
| 12 | CK | 68 | GLY | 2.7 |
| 39 | BH | 148 | ALA | 2.7 |
| 21 | CT | 174 | ASN | 2.7 |
| 29 | B1 | 3163 | A | 2.7 |
| 29 | D1 | 159 | A | 2.7 |
| 32 | DA | 41 | TYR | 2.7 |
| 40 | BI | 37 | ASN | 2.7 |
| 50 | BU | 33 | ASN | 2.7 |
| 57 | Bb | 92 | TYR | 2.7 |
| 35 | DD | 109 | TRP | 2.7 |
| 36 | BE | 139 | PRO | 2.7 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 11 | AJ | 22 | VAL | 2.7 |
| 17 | CP | 141 | GLU | 2.7 |
| 33 | DB | 42 | ARG | 2.7 |
| 34 | DC | 260 | VAL | 2.7 |
| 36 | DE | 270 | LYS | 2.7 |
| 44 | DO | 32 | GLN | 2.7 |
| 46 | BQ | 3 | ARG | 2.7 |
| 52 | BW | 56 | ARG | 2.7 |
| 54 | DY | 126 | LYS | 2.7 |
| 61 | Df | 76 | LYS | 2.7 |
| 12 | CK | 30 | THR | 2.7 |
| 56 | Da | 20 | LEU | 2.7 |
| 1 | A1 | 1364 | G | 2.7 |
| 1 | A1 | 1523 | G | 2.7 |
| 29 | B1 | 3361 | G | 2.7 |
| 21 | AT | 208 | GLY | 2.7 |
| 59 | Dd | 62 | GLY | 2.7 |
| 61 | Bf | 51 | GLY | 2.7 |
| 1 | A1 | 260 | U | 2.7 |
| 1 | C1 | 1687 | U | 2.7 |
| 29 | B1 | 3283 | U | 2.7 |
| 29 | D1 | 2818 | U | 2.7 |
| 4 | AC | 114 | ALA | 2.7 |
| 8 | AG | 63 | ALA | 2.7 |
| 33 | BB | 222 | ALA | 2.7 |
| 35 | BD | 218 | ALA | 2.7 |
| 45 | DP | 183 | ALA | 2.7 |
| 29 | D1 | 747 | A | 2.7 |
| 29 | D1 | 2144 | A | 2.7 |
| 2 | AA | 170 | ILE | 2.7 |
| 33 | DB | 215 | ASN | 2.7 |
| 35 | DD | 196 | ASN | 2.7 |
| 57 | Bb | 6 | HIS | 2.7 |
| 3 | CB | 91 | ARG | 2.7 |
| 39 | BH | 139 | VAL | 2.7 |
| 52 | BW | 99 | VAL | 2.7 |
| 9 | CH | 61 | MET | 2.7 |
| 36 | DE | 123 | GLU | 2.7 |
| 41 | DJ | 56 | GLU | 2.7 |
| 56 | Ba | 81 | GLU | 2.7 |
| 3 | CB | 198 | THR | 2.7 |
| 4 | CC | 44 | THR | 2.7 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 1 | A1 | 272 | U | 2.7 |
| 1 | A1 | 1228 | G | 2.7 |
| 21 | AT | 41 | THR | 2.7 |
| 36 | DE | 28 | THR | 2.7 |
| 7 | CF | 143 | SER | 2.7 |
| 11 | AJ | 73 | GLY | 2.7 |
| 16 | CO | 59 | GLY | 2.7 |
| 29 | B1 | 149 | U | 2.7 |
| 33 | DB | 160 | SER | 2.7 |
| 35 | BD | 269 | SER | 2.7 |
| 41 | BJ | 201 | SER | 2.7 |
| 41 | DJ | 205 | SER | 2.7 |
| 52 | DW | 118 | GLY | 2.7 |
| 53 | DX | 94 | SER | 2.7 |
| 10 | CI | 56 | PHE | 2.7 |
| 11 | AJ | 120 | ASP | 2.6 |
| 21 | CT | 226 | ALA | 2.6 |
| 44 | BO | 55 | ALA | 2.6 |
| 1 | A1 | 1193 | A | 2.6 |
| 5 | CD | 89 | ILE | 2.6 |
| 18 | CQ | 90 | LYS | 2.6 |
| 18 | CQ | 97 | LYS | 2.6 |
| 29 | D1 | 3314 | A | 2.6 |
| 42 | DK | 18 | VAL | 2.6 |
| 43 | DN | 31 | LYS | 2.6 |
| 36 | BE | 107 | ARG | 2.6 |
| 44 | DO | 60 | VAL | 2.6 |
| 6 | CE | 64 | GLU | 2.6 |
| 8 | CG | 45 | LEU | 2.6 |
| 9 | CH | 110 | LEU | 2.6 |
| 39 | BH | 202 | GLU | 2.6 |
| 46 | DQ | 118 | GLN | 2.6 |
| 29 | B1 | 2996 | U | 2.6 |
| 29 | D1 | 2264 | U | 2.6 |
| 2 | AA | 128 | SER | 2.6 |
| 4 | AC | 17 | PHE | 2.6 |
| 15 | CN | 107 | THR | 2.6 |
| 8 | CG | 143 | SER | 2.6 |
| 17 | CP | 43 | PHE | 2.6 |
| 29 | D1 | 2615 | G | 2.6 |
| 30 | D2 | 91 | G | 2.6 |
| 34 | BC | 251 | CYS | 2.6 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 57 | Db | 67 | SER | 2.6 |
| 4 | CC | 148 | LYS | 2.6 |
| 11 | CJ | 120 | ASP | 2.6 |
| 29 | B1 | 2803 | A | 2.6 |
| 36 | BE | 229 | ASP | 2.6 |
| 51 | BV | 57 | LYS | 2.6 |
| 33 | DB | 193 | ARG | 2.6 |
| 36 | BE | 50 | ARG | 2.6 |
| 44 | BO | 60 | VAL | 2.6 |
| 39 | DH | 129 | PRO | 2.6 |
| 41 | BJ | 171 | TRP | 2.6 |
| 50 | DU | 126 | TRP | 2.6 |
| 36 | DE | 57 | ASN | 2.6 |
| 56 | Da | 80 | ASN | 2.6 |
| 41 | DJ | 215 | GLU | 2.6 |
| 42 | DK | 78 | GLU | 2.6 |
| 48 | DS | 179 | GLU | 2.6 |
| 36 | DE | 182 | GLY | 2.6 |
| 37 | DF | 163 | PHE | 2.6 |
| 10 | AI | 59 | LYS | 2.6 |
| 29 | D1 | 2618 | G | 2.6 |
| 29 | D1 | 2874 | G | 2.6 |
| 33 | BB | 203 | ALA | 2.6 |
| 37 | BF | 89 | THR | 2.6 |
| 41 | BJ | 143 | SER | 2.6 |
| 1 | A1 | 61 | A | 2.6 |
| 1 | C1 | 1193 | A | 2.6 |
| 34 | BC | 324 | VAL | 2.6 |
| 46 | BQ | 91 | VAL | 2.6 |
| 6 | CE | 76 | LEU | 2.6 |
| 38 | DG | 239 | LEU | 2.6 |
| 54 | DY | 39 | HIS | 2.6 |
| 60 | De | 44 | TRP | 2.6 |
| 1 | C1 | 522 | U | 2.6 |
| 1 | C1 | 1491 | U | 2.6 |
| 3 | CB | 94 | GLN | 2.6 |
| 12 | CK | 37 | GLU | 2.6 |
| 15 | AN | 83 | GLU | 2.6 |
| 17 | AP | 99 | ASN | 2.6 |
| 30 | D2 | 74 | C | 2.6 |
| 43 | DN | 16 | GLU | 2.6 |
| 49 | BT | 45 | ASN | 2.6 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 44 | DO | 58 | GLY | 2.6 |
| 46 | BQ | 38 | GLY | 2.6 |
| 51 | BV | 18 | GLY | 2.6 |
| 53 | BX | 65 | GLY | 2.6 |
| 61 | Df | 14 | GLY | 2.6 |
| 8 | CG | 76 | LYS | 2.6 |
| 11 | AJ | 14 | LYS | 2.6 |
| 21 | CT | 283 | LYS | 2.6 |
| 41 | DJ | 126 | ALA | 2.6 |
| 54 | DY | 66 | ALA | 2.6 |
| 1 | A1 | 142 | G | 2.6 |
| 1 | C1 | 810 | G | 2.6 |
| 1 | A1 | 1081 | A | 2.6 |
| 5 | CD | 156 | ARG | 2.6 |
| 16 | AO | 129 | VAL | 2.6 |
| 9 | AH | 2 | SER | 2.6 |
| 18 | AQ | 69 | LEU | 2.6 |
| 29 | B1 | 1573 | G | 2.6 |
| 34 | BC | 104 | THR | 2.6 |
| 29 | B1 | 121 | A | 2.6 |
| 29 | B1 | 962 | A | 2.6 |
| 41 | BJ | 21 | ARG | 2.6 |
| 41 | DJ | 76 | MET | 2.6 |
| 41 | BJ | 35 | ASP | 2.6 |
| 54 | BY | 88 | ASP | 2.6 |
| 29 | D1 | 1078 | U | 2.6 |
| 6 | AE | 27 | GLU | 2.6 |
| 8 | CG | 142 | GLU | 2.6 |
| 29 | D1 | 2136 | C | 2.6 |
| 16 | CO | 64 | GLN | 2.6 |
| 21 | CT | 299 | GLN | 2.6 |
| 72 | DL | 9 | GLU | 2.6 |
| 47 | DR | 72 | LYS | 2.6 |
| 48 | BS | 128 | LYS | 2.6 |
| 73 | DM | 184 | GLY | 2.6 |
| 34 | DC | 335 | ILE | 2.6 |
| 10 | AI | 46 | ALA | 2.6 |
| 12 | CK | 47 | ARG | 2.6 |
| 18 | CQ | 40 | VAL | 2.6 |
| 46 | BQ | 17 | ALA | 2.6 |
| 48 | BS | 154 | ALA | 2.6 |
| 35 | DD | 187 | LEU | 2.6 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 37 | DF | 134 | ARG | 2.6 |
| 1 | A1 | 656 | G | 2.6 |
| 1 | A1 | 1108 | G | 2.6 |
| 1 | C1 | 1493 | A | 2.6 |
| 54 | DY | 34 | MET | 2.6 |
| 7 | CF | 72 | THR | 2.6 |
| 10 | AI | 30 | THR | 2.6 |
| 36 | DE | 261 | THR | 2.6 |
| 34 | DC | 277 | SER | 2.6 |
| 36 | DE | 13 | SER | 2.6 |
| 29 | B1 | 766 | U | 2.6 |
| 33 | BB | 196 | TRP | 2.6 |
| 21 | AT | 76 | ASP | 2.6 |
| 36 | BE | 29 | ASP | 2.6 |
| 57 | Db | 88 | HIS | 2.6 |
| 4 | AC | 92 | GLN | 2.6 |
| 11 | CJ | 83 | GLN | 2.6 |
| 12 | CK | 7 | LYS | 2.6 |
| 18 | CQ | 98 | GLN | 2.6 |
| 37 | BF | 129 | GLU | 2.6 |
| 42 | DK | 77 | GLU | 2.6 |
| 61 | Df | 24 | LYS | 2.6 |
| 34 | BC | 87 | VAL | 2.6 |
| 35 | DD | 72 | ALA | 2.6 |
| 47 | DR | 101 | VAL | 2.6 |
| 10 | CI | 89 | MET | 2.6 |
| 47 | DR | 111 | ARG | 2.6 |
| 48 | BS | 88 | ARG | 2.6 |
| 29 | D1 | 846 | A | 2.6 |
| 1 | A1 | 1558 | U | 2.6 |
| 1 | C1 | 539 | G | 2.6 |
| 21 | CT | 317 | THR | 2.6 |
| 29 | B1 | 1687 | U | 2.6 |
| 29 | D1 | 2446 | U | 2.6 |
| 29 | D1 | 2522 | G | 2.6 |
| 36 | DE | 70 | THR | 2.6 |
| 6 | CE | 87 | SER | 2.6 |
| 9 | CH | 125 | SER | 2.6 |
| 21 | AT | 166 | SER | 2.6 |
| 51 | BV | 38 | SER | 2.6 |
| 1 | C1 | 883 | C | 2.6 |
| 29 | D1 | 1563 | C | 2.6 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 31 | B3 | 151 | C | 2.6 |
| 39 | BH | 83 | ASP | 2.6 |
| 44 | DO | 130 | PHE | 2.6 |
| 72 | DL | 144 | ASP | 2.6 |
| 21 | CT | 286 | GLU | 2.6 |
| 35 | BD | 190 | GLY | 2.6 |
| 54 | DY | 20 | GLY | 2.6 |
| 36 | BE | 113 | LEU | 2.6 |
| 53 | BX | 118 | LEU | 2.6 |
| 56 | Da | 82 | GLU | 2.6 |
| 4 | CC | 122 | VAL | 2.6 |
| 6 | AE | 176 | ASN | 2.6 |
| 10 | CI | 86 | VAL | 2.6 |
| 10 | AI | 49 | MET | 2.6 |
| 20 | AS | 44 | ARG | 2.6 |
| 21 | AT | 31 | ASN | 2.6 |
| 36 | BE | 292 | ALA | 2.6 |
| 44 | BO | 144 | ARG | 2.6 |
| 46 | DQ | 81 | ALA | 2.6 |
| 48 | DS | 130 | ASN | 2.6 |
| 49 | DT | 90 | ASN | 2.6 |
| 50 | DU | 33 | ASN | 2.6 |
| 60 | De | 13 | MET | 2.6 |
| 1 | C1 | 515 | A | 2.6 |
| 6 | AE | 95 | TYR | 2.6 |
| 29 | B1 | 3273 | A | 2.6 |
| 29 | B1 | 3274 | A | 2.6 |
| 29 | D1 | 1455 | U | 2.6 |
| 29 | D1 | 1760 | A | 2.6 |
| 10 | CI | 14 | THR | 2.6 |
| 16 | CO | 20 | THR | 2.6 |
| 21 | AT | 247 | PRO | 2.6 |
| 21 | CT | 168 | THR | 2.6 |
| 29 | B1 | 3288 | G | 2.6 |
| 36 | BE | 132 | THR | 2.6 |
| 57 | Db | 5 | PRO | 2.6 |
| 18 | AQ | 97 | LYS | 2.5 |
| 44 | BO | 28 | TRP | 2.5 |
| 53 | BX | 14 | LYS | 2.5 |
| 29 | B1 | 1562 | C | 2.5 |
| 29 | B1 | 2489 | C | 2.5 |
| 29 | D1 | 2265 | C | 2.5 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 3 | AB | 241 | ASP | 2.5 |
| 36 | BE | 64 | ILE | 2.5 |
| 37 | DF | 63 | LEU | 2.5 |
| 41 | BJ | 99 | ILE | 2.5 |
| 16 | AO | 59 | GLY | 2.5 |
| 33 | BB | 81 | GLY | 2.5 |
| 72 | DL | 134 | GLY | 2.5 |
| 18 | CQ | 45 | GLU | 2.5 |
| 33 | DB | 116 | VAL | 2.5 |
| 37 | BF | 94 | GLU | 2.5 |
| 44 | BO | 63 | ARG | 2.5 |
| 44 | DO | 95 | GLN | 2.5 |
| 46 | DQ | 126 | ARG | 2.5 |
| 52 | BW | 107 | VAL | 2.5 |
| 52 | DW | 72 | ALA | 2.5 |
| 58 | Bc | 15 | GLU | 2.5 |
| 29 | D1 | 2398 | A | 2.5 |
| 29 | D1 | 2500 | A | 2.5 |
| 62 | Dg | 37 | TYR | 2.5 |
| 2 | CA | 107 | PHE | 2.5 |
| 11 | AJ | 115 | THR | 2.5 |
| 11 | CJ | 26 | LYS | 2.5 |
| 29 | B1 | 1878 | G | 2.5 |
| 47 | BR | 123 | THR | 2.5 |
| 4 | AC | 84 | ILE | 2.5 |
| 13 | AL | 101 | LEU | 2.5 |
| 20 | CS | 50 | ILE | 2.5 |
| 33 | DB | 52 | SER | 2.5 |
| 38 | BG | 83 | LEU | 2.5 |
| 45 | BP | 43 | ILE | 2.5 |
| 54 | DY | 81 | LEU | 2.5 |
| 41 | BJ | 53 | VAL | 2.5 |
| 5 | AD | 210 | ALA | 2.5 |
| 8 | AG | 57 | ALA | 2.5 |
| 33 | BB | 239 | ALA | 2.5 |
| 39 | DH | 83 | ASP | 2.5 |
| 43 | BN | 51 | ALA | 2.5 |
| 46 | DQ | 128 | ARG | 2.5 |
| 49 | BT | 94 | GLU | 2.5 |
| 52 | BW | 88 | MET | 2.5 |
| 61 | Bf | 87 | ARG | 2.5 |
| 32 | BA | 11 | GLU | 2.5 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 72 | DL | 95 | ASP | 2.5 |
| 1 | A1 | 1798 | U | 2.5 |
| 1 | A1 | 1797 | A | 2.5 |
| 5 | CD | 103 | ASN | 2.5 |
| 29 | B1 | 2727 | A | 2.5 |
| 56 | Ba | 80 | ASN | 2.5 |
| 57 | Db | 57 | TYR | 2.5 |
| 10 | CI | 52 | LYS | 2.5 |
| 10 | CI | 72 | LYS | 2.5 |
| 11 | CJ | 12 | LYS | 2.5 |
| 14 | CM | 118 | PRO | 2.5 |
| 48 | BS | 180 | LYS | 2.5 |
| 37 | DF | 112 | THR | 2.5 |
| 44 | DO | 80 | THR | 2.5 |
| 48 | BS | 4 | LEU | 2.5 |
| 10 | AI | 41 | VAL | 2.5 |
| 10 | AI | 120 | SER | 2.5 |
| 29 | D1 | 132 | C | 2.5 |
| 29 | D1 | 2350 | C | 2.5 |
| 30 | D2 | 10 | C | 2.5 |
| 19 | AR | 18 | ARG | 2.5 |
| 34 | BC | 284 | ARG | 2.5 |
| 35 | DD | 10 | SER | 2.5 |
| 37 | BF | 82 | ARG | 2.5 |
| 37 | BF | 140 | VAL | 2.5 |
| 41 | BJ | 69 | ARG | 2.5 |
| 41 | BJ | 197 | VAL | 2.5 |
| 47 | BR | 62 | VAL | 2.5 |
| 48 | DS | 20 | ARG | 2.5 |
| 54 | DY | 16 | SER | 2.5 |
| 36 | DE | 287 | ALA | 2.5 |
| 1 | A1 | 504 | U | 2.5 |
| 2 | AA | 148 | ASP | 2.5 |
| 16 | AO | 87 | GLU | 2.5 |
| 29 | D1 | 118 | U | 2.5 |
| 49 | DT | 86 | GLU | 2.5 |
| 51 | BV | 32 | GLN | 2.5 |
| 1 | A1 | 1219 | A | 2.5 |
| 29 | D1 | 2554 | A | 2.5 |
| 19 | AR | 43 | ASN | 2.5 |
| 44 | DO | 47 | LYS | 2.5 |
| 32 | BA | 66 | CYS | 2.5 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 21 | AT | 7 | LEU | 2.5 |
| 34 | BC | 215 | ILE | 2.5 |
| 56 | Da | 71 | LEU | 2.5 |
| 1 | C1 | 393 | C | 2.5 |
| 29 | B1 | 247 | C | 2.5 |
| 29 | B1 | 779 | G | 2.5 |
| 29 | B1 | 2466 | G | 2.5 |
| 29 | D1 | 236 | G | 2.5 |
| 35 | DD | 250 | TRP | 2.5 |
| 59 | Dd | 49 | TRP | 2.5 |
| 38 | DG | 154 | GLY | 2.5 |
| 45 | BP | 175 | THR | 2.5 |
| 48 | BS | 9 | ARG | 2.5 |
| 4 | CC | 171 | ALA | 2.5 |
| 9 | AH | 101 | ALA | 2.5 |
| 9 | CH | 2 | SER | 2.5 |
| 37 | BF | 81 | ALA | 2.5 |
| 41 | BJ | 205 | SER | 2.5 |
| 48 | DS | 37 | SER | 2.5 |
| 52 | BW | 90 | ALA | 2.5 |
| 33 | DB | 73 | GLU | 2.5 |
| 36 | BE | 136 | GLU | 2.5 |
| 10 | AI | 72 | LYS | 2.5 |
| 40 | DI | 177 | ASP | 2.5 |
| 29 | B1 | 2680 | A | 2.5 |
| 29 | D1 | 848 | A | 2.5 |
| 29 | D1 | 2259 | A | 2.5 |
| 42 | BK | 52 | TYR | 2.5 |
| 52 | DW | 96 | LYS | 2.5 |
| 15 | CN | 103 | ILE | 2.5 |
| 21 | CT | 115 | ILE | 2.5 |
| 33 | BB | 144 | ASN | 2.5 |
| 35 | BD | 221 | ASN | 2.5 |
| 46 | DQ | 120 | ASN | 2.5 |
| 16 | CO | 109 | GLY | 2.5 |
| 21 | CT | 181 | TRP | 2.5 |
| 35 | BD | 65 | TRP | 2.5 |
| 39 | DH | 180 | VAL | 2.5 |
| 50 | DU | 136 | VAL | 2.5 |
| 39 | BH | 236 | GLY | 2.5 |
| 61 | Df | 42 | ARG | 2.5 |
| 1 | A1 | 239 | C | 2.5 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 29 | B1 | 1764 | U | 2.5 |
| 29 | B1 | 2675 | C | 2.5 |
| 29 | D1 | 2159 | U | 2.5 |
| 36 | DE | 203 | HIS | 2.5 |
| 53 | BX | 47 | ALA | 2.5 |
| 9 | AH | 11 | SER | 2.5 |
| 2 | CA | 217 | GLU | 2.5 |
| 11 | CJ | 99 | GLU | 2.5 |
| 15 | AN | 115 | GLU | 2.5 |
| 32 | BA | 196 | LYS | 2.5 |
| 35 | DD | 157 | GLU | 2.5 |
| 45 | BP | 122 | GLN | 2.5 |
| 6 | CE | 59 | LEU | 2.5 |
| 12 | CK | 34 | LEU | 2.5 |
| 21 | AT | 183 | LEU | 2.5 |
| 29 | D1 | 3322 | A | 2.5 |
| 33 | DB | 176 | ASP | 2.5 |
| 59 | Bd | 47 | TYR | 2.5 |
| 39 | BH | 150 | LEU | 2.5 |
| 47 | DR | 138 | LEU | 2.5 |
| 2 | CA | 160 | ILE | 2.5 |
| 10 | CI | 84 | ILE | 2.5 |
| 7 | AF | 117 | VAL | 2.5 |
| 7 | CF | 139 | VAL | 2.5 |
| 21 | AT | 248 | ASN | 2.5 |
| 32 | DA | 138 | VAL | 2.5 |
| 33 | DB | 230 | VAL | 2.5 |
| 47 | BR | 58 | ASN | 2.5 |
| 54 | DY | 44 | ASN | 2.5 |
| 60 | Be | 33 | ASN | 2.5 |
| 62 | Bg | 49 | ARG | 2.5 |
| 1 | A1 | 183 | U | 2.5 |
| 29 | B1 | 3319 | U | 2.5 |
| 33 | DB | 228 | GLY | 2.5 |
| 50 | DU | 134 | GLY | 2.5 |
| 7 | AF | 92 | HIS | 2.5 |
| 29 | D1 | 5 | G | 2.5 |
| 39 | DH | 148 | ALA | 2.5 |
| 48 | BS | 11 | ALA | 2.5 |
| 49 | BT | 119 | ALA | 2.5 |
| 39 | BH | 128 | LYS | 2.5 |
| 41 | BJ | 202 | LYS | 2.5 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 44 | DO | 77 | LYS | 2.5 |
| 54 | DY | 63 | LYS | 2.5 |
| 17 | AP | 47 | SER | 2.5 |
| 21 | CT | 166 | SER | 2.5 |
| 32 | DA | 20 | SER | 2.5 |
| 10 | CI | 27 | GLU | 2.5 |
| 10 | CI | 116 | LEU | 2.5 |
| 13 | AL | 15 | LEU | 2.5 |
| 18 | CQ | 51 | LEU | 2.5 |
| 32 | BA | 199 | GLN | 2.5 |
| 33 | DB | 217 | GLN | 2.5 |
| 35 | DD | 233 | LEU | 2.5 |
| 36 | BE | 237 | GLU | 2.5 |
| 46 | BQ | 139 | TYR | 2.5 |
| 61 | Bf | 82 | GLN | 2.5 |
| 21 | CT | 220 | ILE | 2.5 |
| 29 | B1 | 1251 | A | 2.5 |
| 29 | B1 | 1454 | A | 2.5 |
| 29 | D1 | 2569 | A | 2.5 |
| 36 | DE | 190 | ILE | 2.5 |
| 8 | CG | 137 | PRO | 2.5 |
| 5 | CD | 133 | VAL | 2.5 |
| 1 | A1 | 380 | U | 2.5 |
| 7 | CF | 87 | ARG | 2.5 |
| 9 | AH | 90 | ARG | 2.5 |
| 33 | DB | 113 | VAL | 2.5 |
| 61 | Df | 57 | VAL | 2.5 |
| 29 | B1 | 1801 | U | 2.5 |
| 8 | CG | 139 | TRP | 2.5 |
| 2 | AA | 60 | ALA | 2.5 |
| 7 | AF | 144 | ALA | 2.5 |
| 29 | D1 | 2306 | C | 2.5 |
| 33 | DB | 229 | ALA | 2.5 |
| 1 | A1 | 284 | G | 2.5 |
| 1 | C1 | 845 | G | 2.5 |
| 5 | AD | 41 | LYS | 2.5 |
| 9 | AH | 129 | LYS | 2.5 |
| 13 | AL | 137 | HIS | 2.5 |
| 29 | B1 | 170 | G | 2.5 |
| 41 | DJ | 13 | LYS | 2.5 |
| 47 | DR | 20 | LYS | 2.5 |
| 49 | DT | 98 | HIS | 2.5 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 57 | Bb | 71 | HIS | 2.5 |
| 12 | AK | 24 | LEU | 2.4 |
| 13 | AL | 140 | THR | 2.4 |
| 35 | DD | 256 | THR | 2.4 |
| 4 | AC | 195 | SER | 2.4 |
| 43 | DN | 105 | GLN | 2.4 |
| 44 | DO | 119 | TYR | 2.4 |
| 29 | B1 | 1559 | A | 2.4 |
| 29 | B1 | 1588 | A | 2.4 |
| 2 | AA | 27 | ARG | 2.4 |
| 5 | AD | 98 | MET | 2.4 |
| 8 | AG | 108 | ASP | 2.4 |
| 13 | AL | 16 | ARG | 2.4 |
| 16 | CO | 129 | VAL | 2.4 |
| 17 | CP | 120 | VAL | 2.4 |
| 41 | BJ | 93 | PRO | 2.4 |
| 44 | DO | 109 | ARG | 2.4 |
| 48 | DS | 188 | ASP | 2.4 |
| 50 | BU | 58 | VAL | 2.4 |
| 42 | DK | 27 | GLY | 2.4 |
| 29 | D1 | 2476 | C | 2.4 |
| 31 | D3 | 35 | C | 2.4 |
| 33 | BB | 7 | ASN | 2.4 |
| 34 | DC | 287 | LYS | 2.4 |
| 46 | BQ | 120 | ASN | 2.4 |
| 46 | DQ | 64 | ASN | 2.4 |
| 56 | Ba | 15 | ASN | 2.4 |
| 57 | Db | 104 | ASN | 2.4 |
| 56 | Da | 73 | LEU | 2.4 |
| 13 | CL | 140 | THR | 2.4 |
| 32 | BA | 5 | THR | 2.4 |
| 36 | BE | 155 | THR | 2.4 |
| 29 | B1 | 1025 | A | 2.4 |
| 35 | BD | 143 | GLU | 2.4 |
| 1 | A1 | 134 | U | 2.4 |
| 1 | A1 | 1052 | U | 2.4 |
| 6 | AE | 67 | PRO | 2.4 |
| 11 | AJ | 122 | ARG | 2.4 |
| 11 | AJ | 98 | ASP | 2.4 |
| 14 | AM | 143 | ASP | 2.4 |
| 9 | AH | 113 | GLY | 2.4 |
| 14 | AM | 120 | GLY | 2.4 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 36 | BE | 165 | GLY | 2.4 |
| 39 | DH | 120 | LYS | 2.4 |
| 44 | BO | 186 | GLY | 2.4 |
| 52 | DW | 100 | LYS | 2.4 |
| 1 | C1 | 184 | C | 2.4 |
| 29 | B1 | 1802 | C | 2.4 |
| 29 | D1 | 1761 | C | 2.4 |
| 33 | DB | 239 | ALA | 2.4 |
| 34 | DC | 106 | TRP | 2.4 |
| 59 | Bd | 53 | ALA | 2.4 |
| 40 | BI | 118 | LEU | 2.4 |
| 48 | DS | 24 | LEU | 2.4 |
| 4 | CC | 17 | PHE | 2.4 |
| 10 | CI | 70 | ASN | 2.4 |
| 21 | CT | 159 | ASN | 2.4 |
| 1 | A1 | 1130 | G | 2.4 |
| 12 | AK | 41 | ILE | 2.4 |
| 11 | CJ | 49 | TYR | 2.4 |
| 1 | C1 | 71 | A | 2.4 |
| 4 | AC | 85 | VAL | 2.4 |
| 29 | B1 | 783 | A | 2.4 |
| 15 | CN | 46 | GLU | 2.4 |
| 29 | D1 | 558 | U | 2.4 |
| 29 | D1 | 1075 | A | 2.4 |
| 29 | D1 | 2458 | A | 2.4 |
| 47 | BR | 100 | THR | 2.4 |
| 7 | AF | 136 | ARG | 2.4 |
| 41 | BJ | 4 | ARG | 2.4 |
| 44 | DO | 172 | ARG | 2.4 |
| 45 | BP | 4 | GLU | 2.4 |
| 2 | AA | 26 | ALA | 2.4 |
| 9 | AH | 53 | ASP | 2.4 |
| 10 | AI | 55 | GLY | 2.4 |
| 13 | CL | 96 | LYS | 2.4 |
| 33 | DB | 244 | GLY | 2.4 |
| 34 | DC | 294 | GLY | 2.4 |
| 39 | DH | 124 | ASP | 2.4 |
| 29 | D1 | 3272 | C | 2.4 |
| 56 | Ba | 20 | LEU | 2.4 |
| 34 | DC | 358 | TRP | 2.4 |
| 2 | CA | 69 | ASN | 2.4 |
| 3 | CB | 108 | ASN | 2.4 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 40 | BI | 50 | ASN | 2.4 |
| 47 | BR | 23 | ASN | 2.4 |
| 1 | C1 | 821 | U | 2.4 |
| 1 | C1 | 824 | G | 2.4 |
| 29 | D1 | 735 | A | 2.4 |
| 29 | D1 | 2095 | G | 2.4 |
| 29 | D1 | 2687 | G | 2.4 |
| 29 | D1 | 3302 | U | 2.4 |
| 34 | DC | 324 | VAL | 2.4 |
| 52 | BW | 86 | VAL | 2.4 |
| 2 | CA | 219 | THR | 2.4 |
| 32 | DA | 63 | MET | 2.4 |
| 44 | BO | 126 | THR | 2.4 |
| 56 | Da | 19 | ARG | 2.4 |
| 39 | DH | 208 | GLU | 2.4 |
| 44 | BO | 56 | LYS | 2.4 |
| 16 | AO | 45 | GLY | 2.4 |
| 33 | DB | 212 | GLY | 2.4 |
| 36 | BE | 149 | GLY | 2.4 |
| 38 | BG | 239 | LEU | 2.4 |
| 54 | DY | 31 | GLY | 2.4 |
| 45 | DP | 24 | ALA | 2.4 |
| 4 | AC | 166 | ASP | 2.4 |
| 8 | AG | 110 | ASP | 2.4 |
| 21 | CT | 192 | PHE | 2.4 |
| 29 | B1 | 3272 | C | 2.4 |
| 44 | BO | 136 | ASP | 2.4 |
| 73 | DM | 197 | PHE | 2.4 |
| 13 | CL | 42 | TYR | 2.4 |
| 32 | BA | 21 | ASN | 2.4 |
| 35 | BD | 43 | ASN | 2.4 |
| 44 | BO | 122 | ASN | 2.4 |
| 57 | Bb | 78 | ASN | 2.4 |
| 1 | A1 | 23 | G | 2.4 |
| 1 | A1 | 1351 | G | 2.4 |
| 1 | C1 | 525 | A | 2.4 |
| 21 | AT | 316 | MET | 2.4 |
| 29 | B1 | 1282 | G | 2.4 |
| 29 | B1 | 1750 | A | 2.4 |
| 29 | D1 | 1200 | A | 2.4 |
| 29 | D1 | 2503 | G | 2.4 |
| 29 | D1 | 2619 | G | 2.4 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 31 | D3 | 124 | G | 2.4 |
| 32 | BA | 122 | ARG | 2.4 |
| 32 | DA | 48 | ARG | 2.4 |
| 52 | DW | 73 | MET | 2.4 |
| 2 | CA | 216 | GLU | 2.4 |
| 4 | AC | 128 | GLU | 2.4 |
| 8 | CG | 47 | PRO | 2.4 |
| 16 | AO | 18 | GLU | 2.4 |
| 59 | Dd | 33 | THR | 2.4 |
| 61 | Df | 55 | LYS | 2.4 |
| 8 | AG | 54 | LEU | 2.4 |
| 47 | BR | 32 | LEU | 2.4 |
| 56 | Da | 16 | LEU | 2.4 |
| 4 | AC | 130 | GLY | 2.4 |
| 56 | Ba | 3 | GLY | 2.4 |
| 11 | AJ | 109 | PHE | 2.4 |
| 47 | DR | 44 | PHE | 2.4 |
| 55 | DZ | 95 | ALA | 2.4 |
| 3 | CB | 144 | TRP | 2.4 |
| 41 | BJ | 31 | ILE | 2.4 |
| 29 | D1 | 2472 | U | 2.4 |
| 29 | D1 | 2617 | U | 2.4 |
| 2 | AA | 113 | ARG | 2.4 |
| 3 | AB | 143 | TYR | 2.4 |
| 4 | AC | 37 | VAL | 2.4 |
| 11 | AJ | 79 | TYR | 2.4 |
| 32 | BA | 87 | VAL | 2.4 |
| 47 | DR | 81 | VAL | 2.4 |
| 47 | DR | 155 | MET | 2.4 |
| 54 | BY | 87 | ARG | 2.4 |
| 1 | A1 | 217 | A | 2.4 |
| 29 | B1 | 2441 | A | 2.4 |
| 56 | Da | 21 | HIS | 2.4 |
| 29 | B1 | 2463 | G | 2.4 |
| 31 | B3 | 85 | G | 2.4 |
| 3 | AB | 120 | GLU | 2.4 |
| 11 | AJ | 104 | GLU | 2.4 |
| 14 | AM | 25 | GLN | 2.4 |
| 21 | CT | 153 | GLN | 2.4 |
| 42 | BK | 134 | PRO | 2.4 |
| 43 | BN | 65 | LEU | 2.4 |
| 53 | BX | 23 | PRO | 2.4 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 57 | Bb | 35 | GLN | 2.4 |
| 12 | CK | 40 | THR | 2.4 |
| 36 | DE | 71 | GLY | 2.4 |
| 45 | BP | 45 | GLY | 2.4 |
| 61 | Df | 65 | THR | 2.4 |
| 2 | CA | 106 | SER | 2.4 |
| 5 | CD | 208 | SER | 2.4 |
| 21 | AT | 235 | SER | 2.4 |
| 21 | CT | 83 | ALA | 2.4 |
| 48 | DS | 67 | ALA | 2.4 |
| 7 | AF | 70 | ILE | 2.4 |
| 21 | AT | 211 | ILE | 2.4 |
| 31 | D3 | 106 | C | 2.4 |
| 34 | DC | 144 | ILE | 2.4 |
| 36 | BE | 60 | ILE | 2.4 |
| 3 | AB | 86 | VAL | 2.4 |
| 4 | AC | 164 | VAL | 2.4 |
| 8 | AG | 150 | VAL | 2.4 |
| 17 | AP | 100 | ASP | 2.4 |
| 33 | DB | 241 | ARG | 2.4 |
| 37 | DF | 93 | VAL | 2.4 |
| 55 | DZ | 97 | ASP | 2.4 |
| 45 | BP | 85 | ARG | 2.4 |
| 58 | Bc | 4 | VAL | 2.4 |
| 1 | C1 | 1217 | A | 2.4 |
| 29 | B1 | 735 | A | 2.4 |
| 29 | D1 | 980 | A | 2.4 |
| 2 | AA | 35 | PRO | 2.3 |
| 10 | AI | 103 | ASN | 2.4 |
| 16 | CO | 38 | LEU | 2.4 |
| 33 | DB | 191 | LEU | 2.4 |
| 36 | DE | 81 | HIS | 2.4 |
| 47 | DR | 136 | ASN | 2.4 |
| 61 | Bf | 85 | LEU | 2.4 |
| 9 | CH | 12 | GLN | 2.3 |
| 29 | B1 | 1018 | G | 2.3 |
| 29 | B1 | 2121 | G | 2.3 |
| 53 | BX | 34 | PRO | 2.3 |
| 17 | AP | 129 | GLY | 2.3 |
| 19 | CR | 20 | GLY | 2.3 |
| 35 | DD | 88 | GLY | 2.3 |
| 36 | BE | 151 | GLN | 2.3 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 21 | AT | 192 | PHE | 2.3 |
| 21 | AT | 284 | ALA | 2.3 |
| 37 | DF | 21 | THR | 2.3 |
| 53 | BX | 15 | ALA | 2.3 |
| 1 | A1 | 1379 | C | 2.3 |
| 12 | CK | 70 | SER | 2.3 |
| 29 | B1 | 3164 | C | 2.3 |
| 19 | AR | 48 | VAL | 2.3 |
| 21 | AT | 19 | TRP | 2.3 |
| 5 | AD | 112 | ARG | 2.3 |
| 13 | AL | 110 | ARG | 2.3 |
| 14 | AM | 123 | ARG | 2.3 |
| 47 | BR | 150 | VAL | 2.3 |
| 55 | DZ | 90 | VAL | 2.3 |
| 21 | CT | 191 | ASP | 2.3 |
| 34 | DC | 360 | ASP | 2.3 |
| 36 | BE | 147 | ASP | 2.3 |
| 44 | DO | 189 | LYS | 2.3 |
| 48 | BS | 182 | ASP | 2.3 |
| 1 | C1 | 811 | A | 2.3 |
| 6 | AE | 128 | LEU | 2.3 |
| 49 | DT | 34 | TYR | 2.3 |
| 4 | AC | 174 | HIS | 2.3 |
| 29 | B1 | 2667 | A | 2.3 |
| 30 | D2 | 64 | A | 2.3 |
| 37 | BF | 172 | HIS | 2.3 |
| 38 | BG | 186 | HIS | 2.3 |
| 3 | CB | 62 | PRO | 2.3 |
| 6 | AE | 144 | PRO | 2.3 |
| 10 | CI | 109 | PRO | 2.3 |
| 32 | DA | 62 | ASN | 2.3 |
| 5 | AD | 66 | GLN | 2.3 |
| 11 | AJ | 125 | GLU | 2.3 |
| 29 | D1 | 1354 | G | 2.3 |
| 29 | D1 | 2448 | G | 2.3 |
| 34 | BC | 141 | GLY | 2.3 |
| 38 | BG | 159 | GLN | 2.3 |
| 48 | DS | 113 | GLY | 2.3 |
| 1 | C1 | 227 | U | 2.3 |
| 32 | BA | 71 | ALA | 2.3 |
| 32 | DA | 168 | ALA | 2.3 |
| 50 | BU | 51 | ALA | 2.3 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 60 | Be | 27 | ILE | 2.3 |
| 5 | CD | 220 | VAL | 2.3 |
| 21 | CT | 295 | SER | 2.3 |
| 32 | DA | 6 | SER | 2.3 |
| 44 | DO | 118 | SER | 2.3 |
| 32 | BA | 97 | LYS | 2.3 |
| 33 | BB | 193 | ARG | 2.3 |
| 37 | DF | 9 | TRP | 2.3 |
| 37 | DF | 173 | MET | 2.3 |
| 59 | Bd | 18 | LEU | 2.3 |
| 1 | A1 | 26 | A | 2.3 |
| 29 | B1 | 980 | A | 2.3 |
| 29 | D1 | 1026 | A | 2.3 |
| 54 | BY | 103 | ASP | 2.3 |
| 72 | DL | 107 | ASP | 2.3 |
| 10 | AI | 87 | PRO | 2.3 |
| 10 | CI | 85 | ILE | 2.3 |
| 1 | A1 | 552 | G | 2.3 |
| 1 | A1 | 650 | U | 2.3 |
| 20 | AS | 15 | GLY | 2.3 |
| 21 | CT | 55 | GLY | 2.3 |
| 1 | A1 | 1690 | G | 2.3 |
| 2 | CA | 60 | ALA | 2.3 |
| 15 | AN | 17 | GLN | 2.3 |
| 29 | B1 | 264 | G | 2.3 |
| 29 | B1 | 1029 | G | 2.3 |
| 29 | B1 | 2555 | G | 2.3 |
| 29 | D1 | 133 | U | 2.3 |
| 29 | D1 | 1356 | U | 2.3 |
| 29 | D1 | 2266 | U | 2.3 |
| 29 | D1 | 3340 | G | 2.3 |
| 31 | D3 | 23 | U | 2.3 |
| 39 | DH | 174 | GLY | 2.3 |
| 54 | BY | 20 | GLY | 2.3 |
| 36 | DE | 111 | GLN | 2.3 |
| 39 | DH | 155 | ASN | 2.3 |
| 41 | DJ | 219 | ALA | 2.3 |
| 48 | BS | 2 | ALA | 2.3 |
| 58 | Dc | 59 | ASN | 2.3 |
| 62 | Bg | 91 | GLU | 2.3 |
| 9 | AH | 91 | THR | 2.3 |
| 17 | CP | 32 | ARG | 2.3 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 29 | D1 | 140 | C | 2.3 |
| 33 | DB | 101 | VAL | 2.3 |
| 48 | BS | 100 | ARG | 2.3 |
| 53 | DX | 90 | VAL | 2.3 |
| 56 | Da | 23 | VAL | 2.3 |
| 18 | CQ | 63 | SER | 2.3 |
| 33 | BB | 18 | SER | 2.3 |
| 35 | DD | 156 | LEU | 2.3 |
| 54 | DY | 75 | LEU | 2.3 |
| 36 | DE | 129 | TYR | 2.3 |
| 29 | B1 | 2484 | A | 2.3 |
| 29 | B1 | 2673 | A | 2.3 |
| 16 | CO | 113 | HIS | 2.3 |
| 34 | DC | 11 | HIS | 2.3 |
| 39 | DH | 78 | PHE | 2.3 |
| 49 | BT | 18 | ASP | 2.3 |
| 61 | Df | 58 | PHE | 2.3 |
| 61 | Df | 59 | HIS | 2.3 |
| 13 | AL | 59 | GLY | 2.3 |
| 40 | BI | 10 | ILE | 2.3 |
| 46 | DQ | 77 | GLY | 2.3 |
| 61 | Df | 47 | GLN | 2.3 |
| 62 | Dg | 35 | ALA | 2.3 |
| 1 | C1 | 1521 | G | 2.3 |
| 5 | CD | 102 | ARG | 2.3 |
| 9 | AH | 92 | LYS | 2.3 |
| 29 | B1 | 1063 | G | 2.3 |
| 29 | B1 | 3383 | G | 2.3 |
| 29 | D1 | 58 | G | 2.3 |
| 29 | D1 | 1019 | G | 2.3 |
| 34 | BC | 279 | ASN | 2.3 |
| 35 | DD | 221 | ASN | 2.3 |
| 41 | BJ | 186 | GLU | 2.3 |
| 44 | DO | 122 | ASN | 2.3 |
| 2 | AA | 80 | THR | 2.3 |
| 13 | AL | 86 | LEU | 2.3 |
| 21 | CT | 81 | LEU | 2.3 |
| 29 | B1 | 2572 | C | 2.3 |
| 29 | D1 | 2531 | C | 2.3 |
| 39 | DH | 150 | LEU | 2.3 |
| 53 | DX | 60 | ARG | 2.3 |
| 54 | BY | 34 | MET | 2.3 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 2 | CA | 138 | TYR | 2.3 |
| 34 | DC | 92 | TYR | 2.3 |
| 49 | BT | 47 | SER | 2.3 |
| 52 | DW | 130 | TYR | 2.3 |
| 1 | C1 | 1559 | A | 2.3 |
| 29 | B1 | 786 | A | 2.3 |
| 29 | B1 | 1490 | A | 2.3 |
| 29 | D1 | 607 | A | 2.3 |
| 1 | A1 | 238 | U | 2.3 |
| 51 | BV | 40 | PHE | 2.3 |
| 40 | DI | 98 | PRO | 2.3 |
| 3 | AB | 177 | GLY | 2.3 |
| 13 | AL | 97 | ASP | 2.3 |
| 15 | AN | 54 | GLY | 2.3 |
| 34 | DC | 310 | GLY | 2.3 |
| 36 | DE | 127 | GLY | 2.3 |
| 48 | DS | 66 | HIS | 2.3 |
| 62 | Dg | 92 | ALA | 2.3 |
| 15 | CN | 69 | LYS | 2.3 |
| 39 | BH | 133 | LYS | 2.3 |
| 43 | BN | 20 | VAL | 2.3 |
| 44 | BO | 11 | GLN | 2.3 |
| 2 | AA | 109 | ASN | 2.3 |
| 21 | CT | 265 | LEU | 2.3 |
| 29 | B1 | 304 | G | 2.3 |
| 29 | B1 | 2465 | G | 2.3 |
| 44 | BO | 96 | ARG | 2.3 |
| 44 | DO | 19 | LEU | 2.3 |
| 53 | DX | 98 | ASN | 2.3 |
| 55 | BZ | 25 | LEU | 2.3 |
| 13 | CL | 129 | TRP | 2.3 |
| 7 | CF | 77 | SER | 2.3 |
| 14 | CM | 5 | SER | 2.3 |
| 16 | AO | 122 | SER | 2.3 |
| 29 | D1 | 2100 | A | 2.3 |
| 29 | D1 | 2401 | A | 2.3 |
| 32 | BA | 50 | SER | 2.3 |
| 1 | A1 | 292 | U | 2.3 |
| 1 | C1 | 664 | U | 2.3 |
| 9 | CH | 23 | PHE | 2.3 |
| 18 | CQ | 92 | ILE | 2.3 |
| 54 | BY | 148 | ILE | 2.3 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 2 | CA | 166 | GLY | 2.3 |
| 5 | AD | 188 | LYS | 2.3 |
| 18 | AQ | 99 | ALA | 2.3 |
| 44 | DO | 79 | ALA | 2.3 |
| 44 | DO | 166 | ALA | 2.3 |
| 62 | Bg | 34 | HIS | 2.3 |
| 4 | CC | 137 | VAL | 2.3 |
| 11 | AJ | 78 | VAL | 2.3 |
| 18 | CQ | 43 | ASP | 2.3 |
| 21 | CT | 114 | ASP | 2.3 |
| 37 | BF | 116 | LYS | 2.3 |
| 41 | BJ | 198 | LYS | 2.3 |
| 43 | BN | 84 | LYS | 2.3 |
| 4 | CC | 54 | ARG | 2.3 |
| 6 | AE | 174 | ARG | 2.3 |
| 6 | CE | 57 | ARG | 2.3 |
| 33 | BB | 8 | GLN | 2.3 |
| 33 | BB | 123 | ARG | 2.3 |
| 33 | BB | 163 | ARG | 2.3 |
| 34 | BC | 323 | MET | 2.3 |
| 41 | DJ | 7 | ARG | 2.3 |
| 46 | DQ | 147 | GLU | 2.3 |
| 2 | AA | 69 | ASN | 2.3 |
| 29 | B1 | 1016 | C | 2.3 |
| 29 | B1 | 1780 | G | 2.3 |
| 29 | D1 | 1023 | C | 2.3 |
| 29 | D1 | 1633 | C | 2.3 |
| 29 | D1 | 2573 | G | 2.3 |
| 47 | BR | 121 | CYS | 2.3 |
| 12 | CK | 21 | TYR | 2.3 |
| 1 | A1 | 1657 | U | 2.3 |
| 1 | C1 | 499 | U | 2.3 |
| 1 | C1 | 505 | A | 2.3 |
| 29 | D1 | 1593 | A | 2.3 |
| 29 | D1 | 2875 | U | 2.3 |
| 36 | DE | 200 | PHE | 2.3 |
| 62 | Bg | 78 | THR | 2.3 |
| 34 | BC | 2 | SER | 2.3 |
| 36 | DE | 197 | SER | 2.3 |
| 59 | Bd | 36 | SER | 2.3 |
| 72 | DL | 38 | SER | 2.3 |
| 2 | CA | 161 | PRO | 2.3 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 5 | AD | 101 | GLY | 2.3 |
| 44 | BO | 76 | PRO | 2.3 |
| 3 | CB | 211 | LEU | 2.3 |
| 8 | CG | 81 | ALA | 2.3 |
| 11 | CJ | 102 | LYS | 2.3 |
| 13 | AL | 102 | ALA | 2.3 |
| 21 | AT | 62 | LYS | 2.3 |
| 32 | BA | 78 | LYS | 2.3 |
| 34 | BC | 217 | ALA | 2.3 |
| 36 | BE | 131 | LEU | 2.3 |
| 39 | BH | 114 | ALA | 2.3 |
| 46 | DQ | 149 | VAL | 2.3 |
| 48 | BS | 12 | ALA | 2.3 |
| 60 | De | 18 | LYS | 2.3 |
| 17 | CP | 96 | VAL | 2.3 |
| 21 | AT | 141 | LEU | 2.3 |
| 32 | DA | 163 | LEU | 2.3 |
| 43 | BN | 60 | LEU | 2.3 |
| 57 | Db | 26 | HIS | 2.3 |
| 2 | AA | 13 | ASP | 2.3 |
| 5 | CD | 98 | MET | 2.3 |
| 17 | CP | 116 | ASP | 2.3 |
| 21 | CT | 59 | ARG | 2.3 |
| 33 | DB | 1 | MET | 2.3 |
| 39 | BH | 124 | ASP | 2.3 |
| 42 | BK | 11 | ASP | 2.3 |
| 35 | BD | 87 | GLN | 2.3 |
| 55 | DZ | 36 | GLN | 2.3 |
| 1 | C1 | 1045 | C | 2.2 |
| 29 | D1 | 2470 | C | 2.2 |
| 1 | A1 | 642 | G | 2.2 |
| 1 | A1 | 1692 | G | 2.2 |
| 1 | C1 | 56 | U | 2.2 |
| 1 | C1 | 680 | U | 2.2 |
| 5 | CD | 44 | ASN | 2.2 |
| 29 | D1 | 1544 | G | 2.2 |
| 3 | AB | 66 | PHE | 2.2 |
| 29 | D1 | 2553 | U | 2.2 |
| 38 | DG | 93 | ASN | 2.2 |
| 44 | DO | 30 | TYR | 2.2 |
| 12 | CK | 25 | THR | 2.2 |
| 29 | B1 | 711 | A | 2.2 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 29 | B1 | 1558 | A | 2.2 |
| 29 | B1 | 2456 | A | 2.2 |
| 29 | D1 | 1575 | A | 2.2 |
| 8 | AG | 76 | LYS | 2.2 |
| 11 | AJ | 47 | LYS | 2.2 |
| 19 | AR | 24 | GLY | 2.2 |
| 38 | BG | 152 | GLY | 2.2 |
| 39 | BH | 213 | LYS | 2.2 |
| 5 | AD | 149 | VAL | 2.2 |
| 6 | CE | 141 | VAL | 2.2 |
| 21 | AT | 27 | ALA | 2.2 |
| 21 | AT | 81 | LEU | 2.2 |
| 35 | BD | 242 | ALA | 2.2 |
| 39 | DH | 214 | LEU | 2.2 |
| 52 | DW | 116 | PRO | 2.2 |
| 21 | AT | 262 | VAL | 2.2 |
| 41 | DJ | 127 | ALA | 2.2 |
| 42 | DK | 33 | ALA | 2.2 |
| 48 | BS | 131 | ALA | 2.2 |
| 58 | Dc | 66 | VAL | 2.2 |
| 9 | AH | 84 | ARG | 2.2 |
| 16 | AO | 78 | ARG | 2.2 |
| 72 | DL | 100 | HIS | 2.2 |
| 1 | C1 | 1379 | C | 2.2 |
| 6 | CE | 153 | GLU | 2.2 |
| 9 | AH | 12 | GLN | 2.2 |
| 12 | CK | 42 | GLN | 2.2 |
| 16 | CO | 115 | GLU | 2.2 |
| 32 | DA | 199 | GLN | 2.2 |
| 1 | A1 | 602 | U | 2.2 |
| 1 | A1 | 710 | U | 2.2 |
| 30 | B2 | 50 | U | 2.2 |
| 11 | CJ | 92 | TYR | 2.2 |
| 29 | B1 | 156 | G | 2.2 |
| 29 | B1 | 173 | G | 2.2 |
| 29 | B1 | 2475 | G | 2.2 |
| 32 | BA | 27 | ASN | 2.2 |
| 32 | BA | 94 | ASN | 2.2 |
| 44 | BO | 90 | ASN | 2.2 |
| 29 | D1 | 1858 | A | 2.2 |
| 33 | BB | 224 | THR | 2.2 |
| 34 | BC | 235 | THR | 2.2 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 44 | DO | 14 | LYS | 2.2 |
| 54 | DY | 6 | THR | 2.2 |
| 61 | Df | 60 | LYS | 2.2 |
| 21 | AT | 280 | GLY | 2.2 |
| 33 | DB | 131 | GLY | 2.2 |
| 33 | DB | 159 | SER | 2.2 |
| 39 | DH | 141 | ALA | 2.2 |
| 41 | BJ | 190 | VAL | 2.2 |
| 54 | DY | 30 | GLY | 2.2 |
| 5 | AD | 163 | SER | 2.2 |
| 40 | BI | 168 | ARG | 2.2 |
| 56 | Da | 72 | ARG | 2.2 |
| 1 | A1 | 321 | C | 2.2 |
| 1 | C1 | 625 | C | 2.2 |
| 15 | AN | 80 | GLU | 2.2 |
| 29 | B1 | 1442 | U | 2.2 |
| 29 | D1 | 1759 | C | 2.2 |
| 31 | D3 | 84 | C | 2.2 |
| 39 | DH | 158 | ASP | 2.2 |
| 42 | BK | 165 | GLN | 2.2 |
| 21 | AT | 278 | PHE | 2.2 |
| 36 | BE | 30 | TYR | 2.2 |
| 36 | DE | 119 | TYR | 2.2 |
| 41 | DJ | 17 | TYR | 2.2 |
| 43 | BN | 35 | ILE | 2.2 |
| 46 | DQ | 36 | ILE | 2.2 |
| 54 | BY | 129 | PHE | 2.2 |
| 1 | A1 | 1601 | G | 2.2 |
| 1 | C1 | 1245 | G | 2.2 |
| 21 | CT | 179 | LYS | 2.2 |
| 38 | BG | 206 | LYS | 2.2 |
| 48 | DS | 53 | LYS | 2.2 |
| 2 | CA | 9 | LEU | 2.2 |
| 3 | CB | 82 | ASN | 2.2 |
| 33 | BB | 97 | ASN | 2.2 |
| 2 | AA | 42 | PRO | 2.2 |
| 2 | CA | 112 | THR | 2.2 |
| 3 | CB | 166 | THR | 2.2 |
| 33 | DB | 27 | ALA | 2.2 |
| 33 | DB | 240 | ALA | 2.2 |
| 34 | BC | 250 | ALA | 2.2 |
| 35 | DD | 227 | THR | 2.2 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 40 | BI | 109 | ALA | 2.2 |
| 47 | DR | 141 | ARG | 2.2 |
| 56 | Ba | 85 | ALA | 2.2 |
| 62 | Bg | 51 | ALA | 2.2 |
| 36 | BE | 80 | SER | 2.2 |
| 42 | BK | 26 | SER | 2.2 |
| 48 | DS | 30 | SER | 2.2 |
| 62 | Dg | 21 | SER | 2.2 |
| 6 | CE | 124 | HIS | 2.2 |
| 1 | C1 | 1231 | U | 2.2 |
| 1 | C1 | 1615 | C | 2.2 |
| 4 | CC | 184 | ILE | 2.2 |
| 11 | CJ | 63 | ILE | 2.2 |
| 29 | D1 | 1706 | C | 2.2 |
| 14 | AM | 142 | GLU | 2.2 |
| 15 | CN | 10 | GLU | 2.2 |
| 35 | DD | 145 | ILE | 2.2 |
| 55 | DZ | 57 | GLU | 2.2 |
| 5 | CD | 45 | LYS | 2.2 |
| 45 | BP | 199 | TYR | 2.2 |
| 45 | DP | 130 | LYS | 2.2 |
| 35 | DD | 236 | LEU | 2.2 |
| 1 | A1 | 1341 | A | 2.2 |
| 29 | D1 | 6 | A | 2.2 |
| 29 | D1 | 1065 | A | 2.2 |
| 29 | D1 | 1116 | G | 2.2 |
| 29 | D1 | 2727 | A | 2.2 |
| 36 | DE | 95 | TRP | 2.2 |
| 2 | AA | 51 | GLY | 2.2 |
| 2 | AA | 185 | ARG | 2.2 |
| 3 | AB | 175 | GLY | 2.2 |
| 4 | AC | 143 | ARG | 2.2 |
| 11 | CJ | 123 | ARG | 2.2 |
| 14 | AM | 118 | PRO | 2.2 |
| 16 | CO | 80 | ASN | 2.2 |
| 42 | BK | 171 | VAL | 2.2 |
| 17 | AP | 113 | ALA | 2.2 |
| 18 | CQ | 79 | ALA | 2.2 |
| 32 | BA | 10 | ARG | 2.2 |
| 33 | DB | 210 | PRO | 2.2 |
| 38 | DG | 96 | PRO | 2.2 |
| 44 | DO | 182 | ASN | 2.2 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 53 | DX | 117 | ALA | 2.2 |
| 61 | Bf | 95 | GLY | 2.2 |
| 62 | Dg | 74 | ALA | 2.2 |
| 8 | CG | 61 | THR | 2.2 |
| 46 | BQ | 87 | SER | 2.2 |
| 52 | DW | 53 | HIS | 2.2 |
| 61 | Bf | 48 | SER | 2.2 |
| 1 | C1 | 321 | C | 2.2 |
| 15 | AN | 20 | ILE | 2.2 |
| 16 | AO | 27 | ILE | 2.2 |
| 19 | CR | 40 | ILE | 2.2 |
| 45 | BP | 64 | PHE | 2.2 |
| 45 | DP | 73 | PHE | 2.2 |
| 2 | CA | 212 | GLN | 2.2 |
| 5 | CD | 41 | LYS | 2.2 |
| 10 | AI | 52 | LYS | 2.2 |
| 29 | B1 | 1238 | C | 2.2 |
| 29 | D1 | 2489 | C | 2.2 |
| 42 | BK | 156 | LYS | 2.2 |
| 43 | BN | 42 | LYS | 2.2 |
| 44 | DO | 11 | GLN | 2.2 |
| 3 | CB | 243 | TYR | 2.2 |
| 8 | CG | 56 | ASP | 2.2 |
| 10 | CI | 123 | TYR | 2.2 |
| 36 | BE | 216 | GLU | 2.2 |
| 45 | DP | 150 | GLU | 2.2 |
| 56 | Ba | 51 | LEU | 2.2 |
| 33 | DB | 208 | ASP | 2.2 |
| 1 | C1 | 92 | A | 2.2 |
| 1 | A1 | 1100 | G | 2.2 |
| 1 | C1 | 487 | G | 2.2 |
| 3 | CB | 179 | VAL | 2.2 |
| 29 | D1 | 1454 | A | 2.2 |
| 29 | D1 | 1482 | A | 2.2 |
| 29 | D1 | 1913 | A | 2.2 |
| 34 | BC | 122 | TRP | 2.2 |
| 35 | BD | 106 | TRP | 2.2 |
| 3 | CB | 168 | ARG | 2.2 |
| 9 | CH | 90 | ARG | 2.2 |
| 29 | B1 | 94 | G | 2.2 |
| 29 | D1 | 538 | G | 2.2 |
| 31 | B3 | 70 | G | 2.2 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 39 | BH | 196 | ALA | 2.2 |
| 41 | BJ | 76 | MET | 2.2 |
| 44 | DO | 44 | ARG | 2.2 |
| 56 | Ba | 45 | GLY | 2.2 |
| 60 | Be | 46 | ARG | 2.2 |
| 10 | CI | 67 | ALA | 2.2 |
| 21 | AT | 172 | ALA | 2.2 |
| 21 | CT | 27 | ALA | 2.2 |
| 33 | BB | 66 | PRO | 2.2 |
| 49 | BT | 53 | PRO | 2.2 |
| 1 | A1 | 1579 | U | 2.2 |
| 2 | AA | 219 | THR | 2.2 |
| 7 | CF | 134 | THR | 2.2 |
| 29 | B1 | 1353 | U | 2.2 |
| 29 | B1 | 1549 | U | 2.2 |
| 29 | B1 | 1724 | U | 2.2 |
| 29 | D1 | 2506 | U | 2.2 |
| 38 | DG | 143 | THR | 2.2 |
| 3 | AB | 107 | SER | 2.2 |
| 15 | AN | 77 | LYS | 2.2 |
| 15 | CN | 22 | ILE | 2.2 |
| 21 | CT | 235 | SER | 2.2 |
| 32 | DA | 111 | ILE | 2.2 |
| 33 | DB | 106 | SER | 2.2 |
| 48 | DS | 134 | HIS | 2.2 |
| 7 | AF | 91 | LEU | 2.2 |
| 29 | B1 | 3217 | C | 2.2 |
| 36 | BE | 104 | LEU | 2.2 |
| 54 | DY | 70 | LYS | 2.2 |
| 38 | BG | 25 | GLN | 2.2 |
| 42 | BK | 39 | GLN | 2.2 |
| 6 | CE | 102 | GLU | 2.2 |
| 21 | CT | 5 | GLU | 2.2 |
| 49 | BT | 118 | GLU | 2.2 |
| 1 | A1 | 1244 | A | 2.2 |
| 29 | D1 | 736 | A | 2.2 |
| 41 | DJ | 190 | VAL | 2.2 |
| 46 | BQ | 114 | VAL | 2.2 |
| 36 | DE | 72 | ASP | 2.2 |
| 41 | BJ | 83 | ASP | 2.2 |
| 44 | BO | 159 | ARG | 2.2 |
| 57 | Bb | 1 | MET | 2.2 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 60 | Be | 44 | TRP | 2.2 |
| 1 | A1 | 1435 | G | 2.2 |
| 10 | AI | 67 | ALA | 2.2 |
| 10 | AI | 99 | GLY | 2.2 |
| 21 | CT | 298 | GLY | 2.2 |
| 36 | DE | 266 | ALA | 2.2 |
| 41 | DJ | 6 | ALA | 2.2 |
| 48 | BS | 54 | ALA | 2.2 |
| 48 | DS | 183 | ALA | 2.2 |
| 49 | BT | 23 | GLY | 2.2 |
| 53 | BX | 79 | ALA | 2.2 |
| 56 | Ba | 88 | PRO | 2.2 |
| 29 | D1 | 2328 | U | 2.2 |
| 21 | AT | 159 | ASN | 2.2 |
| 34 | DC | 331 | ASN | 2.2 |
| 42 | DK | 150 | ASN | 2.2 |
| 10 | CI | 33 | PHE | 2.2 |
| 9 | CH | 70 | LYS | 2.2 |
| 47 | DR | 86 | THR | 2.2 |
| 61 | Df | 84 | THR | 2.2 |
| 21 | AT | 33 | LEU | 2.2 |
| 32 | BA | 90 | LEU | 2.2 |
| 55 | DZ | 104 | LEU | 2.2 |
| 6 | CE | 21 | SER | 2.2 |
| 34 | DC | 45 | SER | 2.2 |
| 54 | BY | 93 | SER | 2.2 |
| 9 | AH | 99 | GLN | 2.2 |
| 12 | AK | 42 | GLN | 2.2 |
| 16 | CO | 25 | VAL | 2.2 |
| 33 | BB | 217 | GLN | 2.2 |
| 36 | BE | 198 | TYR | 2.2 |
| 39 | BH | 151 | VAL | 2.2 |
| 42 | DK | 15 | GLU | 2.2 |
| 43 | BN | 15 | VAL | 2.2 |
| 1 | A1 | 515 | A | 2.2 |
| 1 | A1 | 1691 | A | 2.2 |
| 1 | C1 | 41 | A | 2.2 |
| 1 | C1 | 856 | A | 2.2 |
| 4 | CC | 90 | ARG | 2.2 |
| 21 | AT | 92 | TRP | 2.2 |
| 29 | D1 | 2456 | A | 2.2 |
| 38 | BG | 243 | MET | 2.2 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 39 | BH | 249 | ARG | 2.2 |
| 44 | DO | 28 | TRP | 2.2 |
| 2 | AA | 200 | ASP | 2.1 |
| 6 | CE | 181 | ALA | 2.1 |
| 11 | CJ | 86 | ALA | 2.1 |
| 29 | B1 | 2860 | U | 2.1 |
| 32 | BA | 131 | ALA | 2.1 |
| 33 | DB | 162 | ALA | 2.1 |
| 36 | DE | 284 | ALA | 2.1 |
| 41 | DJ | 118 | ALA | 2.1 |
| 57 | Bb | 5 | PRO | 2.1 |
| 1 | C1 | 557 | G | 2.1 |
| 29 | B1 | 1560 | G | 2.1 |
| 14 | AM | 21 | PHE | 2.1 |
| 17 | AP | 39 | LYS | 2.1 |
| 41 | DJ | 203 | LYS | 2.1 |
| 46 | DQ | 76 | PHE | 2.1 |
| 48 | DS | 180 | LYS | 2.1 |
| 34 | DC | 95 | THR | 2.1 |
| 62 | Dg | 46 | THR | 2.1 |
| 1 | A1 | 658 | C | 2.1 |
| 19 | CR | 37 | SER | 2.1 |
| 32 | DA | 64 | SER | 2.1 |
| 13 | CL | 98 | TYR | 2.1 |
| 33 | BB | 148 | VAL | 2.1 |
| 41 | DJ | 53 | VAL | 2.1 |
| 1 | A1 | 104 | A | 2.1 |
| 1 | A1 | 1421 | A | 2.1 |
| 6 | AE | 31 | ALA | 2.1 |
| 21 | AT | 119 | ALA | 2.1 |
| 29 | D1 | 262 | U | 2.1 |
| 33 | BB | 26 | ALA | 2.1 |
| 39 | BH | 244 | ALA | 2.1 |
| 39 | DH | 135 | GLY | 2.1 |
| 41 | DJ | 218 | ALA | 2.1 |
| 55 | DZ | 21 | GLY | 2.1 |
| 62 | Dg | 53 | GLY | 2.1 |
| 18 | AQ | 67 | ASP | 2.1 |
| 33 | DB | 65 | ASP | 2.1 |
| 29 | B1 | 3318 | G | 2.1 |
| 29 | B1 | 3345 | G | 2.1 |
| 29 | D1 | 609 | G | 2.1 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 29 | D1 | 1758 | G | 2.1 |
| 29 | D1 | 2574 | G | 2.1 |
| 34 | BC | 47 | LEU | 2.1 |
| 36 | BE | 92 | LEU | 2.1 |
| 36 | BE | 254 | LYS | 2.1 |
| 57 | Db | 34 | LYS | 2.1 |
| 57 | Db | 72 | LYS | 2.1 |
| 9 | AH | 3 | ASN | 2.1 |
| 32 | BA | 40 | ASN | 2.1 |
| 4 | AC | 41 | VAL | 2.1 |
| 16 | CO | 121 | VAL | 2.1 |
| 32 | BA | 9 | VAL | 2.1 |
| 32 | DA | 140 | HIS | 2.1 |
| 33 | DB | 61 | VAL | 2.1 |
| 34 | DC | 243 | HIS | 2.1 |
| 35 | DD | 272 | VAL | 2.1 |
| 44 | BO | 121 | VAL | 2.1 |
| 46 | DQ | 133 | HIS | 2.1 |
| 48 | DS | 17 | VAL | 2.1 |
| 33 | BB | 159 | SER | 2.1 |
| 35 | BD | 195 | ARG | 2.1 |
| 41 | BJ | 157 | TYR | 2.1 |
| 55 | BZ | 23 | TYR | 2.1 |
| 55 | DZ | 98 | SER | 2.1 |
| 1 | A1 | 125 | U | 2.1 |
| 1 | A1 | 603 | U | 2.1 |
| 1 | A1 | 754 | A | 2.1 |
| 1 | C1 | 1240 | U | 2.1 |
| 1 | C1 | 1558 | U | 2.1 |
| 3 | CB | 246 | GLU | 2.1 |
| 5 | AD | 183 | ALA | 2.1 |
| 5 | CD | 52 | GLU | 2.1 |
| 29 | B1 | 2460 | U | 2.1 |
| 29 | B1 | 2464 | U | 2.1 |
| 29 | D1 | 2626 | A | 2.1 |
| 31 | B3 | 74 | U | 2.1 |
| 5 | CD | 154 | ALA | 2.1 |
| 6 | CE | 185 | GLY | 2.1 |
| 35 | BD | 250 | TRP | 2.1 |
| 57 | Bb | 37 | GLY | 2.1 |
| 2 | AA | 111 | ILE | 2.1 |
| 3 | AB | 88 | LYS | 2.1 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 4 | AC | 78 | LYS | 2.1 |
| 15 | CN | 19 | ILE | 2.1 |
| 15 | CN | 41 | ILE | 2.1 |
| 20 | AS | 30 | LEU | 2.1 |
| 40 | BI | 187 | ILE | 2.1 |
| 54 | DY | 118 | ILE | 2.1 |
| 9 | CH | 124 | ASP | 2.1 |
| 1 | A1 | 1212 | G | 2.1 |
| 29 | B1 | 2584 | G | 2.1 |
| 29 | B1 | 2922 | G | 2.1 |
| 29 | B1 | 3144 | G | 2.1 |
| 29 | D1 | 2534 | G | 2.1 |
| 7 | CF | 138 | ASN | 2.1 |
| 8 | AG | 151 | ASN | 2.1 |
| 5 | CD | 125 | THR | 2.1 |
| 29 | B1 | 2560 | C | 2.1 |
| 30 | B2 | 40 | C | 2.1 |
| 40 | BI | 16 | VAL | 2.1 |
| 41 | BJ | 96 | VAL | 2.1 |
| 53 | BX | 90 | VAL | 2.1 |
| 54 | DY | 101 | VAL | 2.1 |
| 60 | Be | 43 | ASN | 2.1 |
| 1 | A1 | 1059 | U | 2.1 |
| 1 | C1 | 781 | U | 2.1 |
| 1 | C1 | 873 | U | 2.1 |
| 9 | AH | 58 | TYR | 2.1 |
| 36 | DE | 153 | THR | 2.1 |
| 37 | DF | 152 | THR | 2.1 |
| 73 | DM | 16 | ARG | 2.1 |
| 29 | B1 | 2617 | U | 2.1 |
| 29 | B1 | 3352 | U | 2.1 |
| 3 | CB | 60 | SER | 2.1 |
| 11 | AJ | 61 | SER | 2.1 |
| 15 | CN | 38 | SER | 2.1 |
| 10 | AI | 71 | GLU | 2.1 |
| 13 | AL | 83 | ALA | 2.1 |
| 16 | CO | 21 | GLY | 2.1 |
| 18 | AQ | 76 | ALA | 2.1 |
| 34 | DC | 107 | ALA | 2.1 |
| 36 | BE | 130 | GLU | 2.1 |
| 44 | DO | 55 | ALA | 2.1 |
| 44 | BO | 128 | LYS | 2.1 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 48 | DS | 187 | GLU | 2.1 |
| 55 | BZ | 105 | ALA | 2.1 |
| 57 | Bb | 58 | GLY | 2.1 |
| 21 | CT | 223 | TRP | 2.1 |
| 3 | CB | 234 | PRO | 2.1 |
| 34 | BC | 96 | PRO | 2.1 |
| 34 | DC | 25 | ILE | 2.1 |
| 39 | DH | 82 | LEU | 2.1 |
| 46 | DQ | 63 | PHE | 2.1 |
| 1 | A1 | 96 | G | 2.1 |
| 1 | A1 | 853 | G | 2.1 |
| 1 | A1 | 1548 | G | 2.1 |
| 1 | C1 | 290 | G | 2.1 |
| 1 | C1 | 1299 | G | 2.1 |
| 29 | B1 | 547 | G | 2.1 |
| 40 | DI | 12 | VAL | 2.1 |
| 73 | DM | 41 | VAL | 2.1 |
| 1 | C1 | 191 | C | 2.1 |
| 1 | C1 | 559 | C | 2.1 |
| 1 | C1 | 1413 | U | 2.1 |
| 5 | CD | 157 | ARG | 2.1 |
| 9 | CH | 107 | ARG | 2.1 |
| 10 | CI | 49 | MET | 2.1 |
| 13 | AL | 120 | ARG | 2.1 |
| 29 | B1 | 2821 | C | 2.1 |
| 15 | AN | 48 | HIS | 2.1 |
| 29 | B1 | 134 | U | 2.1 |
| 29 | B1 | 1014 | U | 2.1 |
| 43 | BN | 77 | ARG | 2.1 |
| 44 | BO | 38 | ARG | 2.1 |
| 61 | Df | 80 | ARG | 2.1 |
| 36 | DE | 45 | ASN | 2.1 |
| 57 | Db | 31 | ASN | 2.1 |
| 43 | BN | 78 | THR | 2.1 |
| 62 | Bg | 37 | TYR | 2.1 |
| 1 | A1 | 425 | A | 2.1 |
| 3 | CB | 164 | SER | 2.1 |
| 5 | AD | 155 | ALA | 2.1 |
| 5 | CD | 158 | GLN | 2.1 |
| 9 | CH | 97 | GLY | 2.1 |
| 4 | AC | 115 | ILE | 2.1 |
| 5 | CD | 223 | SER | 2.1 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 6 | AE | 177 | ALA | 2.1 |
| 11 | CJ | 132 | LYS | 2.1 |
| 13 | CL | 95 | GLY | 2.1 |
| 21 | CT | 204 | ALA | 2.1 |
| 29 | D1 | 1557 | A | 2.1 |
| 36 | BE | 138 | GLY | 2.1 |
| 34 | DC | 24 | SER | 2.1 |
| 36 | BE | 13 | SER | 2.1 |
| 36 | DE | 32 | GLN | 2.1 |
| 37 | BF | 144 | ALA | 2.1 |
| 47 | DR | 118 | GLY | 2.1 |
| 47 | DR | 146 | SER | 2.1 |
| 55 | DZ | 54 | SER | 2.1 |
| 17 | AP | 118 | PRO | 2.1 |
| 34 | BC | 18 | PRO | 2.1 |
| 9 | AH | 4 | VAL | 2.1 |
| 1 | C1 | 501 | U | 2.1 |
| 1 | C1 | 656 | G | 2.1 |
| 29 | B1 | 774 | G | 2.1 |
| 29 | B1 | 2752 | U | 2.1 |
| 29 | D1 | 916 | G | 2.1 |
| 36 | BE | 213 | ASP | 2.1 |
| 40 | BI | 12 | VAL | 2.1 |
| 42 | DK | 69 | VAL | 2.1 |
| 44 | DO | 124 | ASP | 2.1 |
| 49 | BT | 33 | VAL | 2.1 |
| 30 | D2 | 90 | U | 2.1 |
| 40 | DI | 1 | MET | 2.1 |
| 8 | CG | 151 | ASN | 2.1 |
| 10 | CI | 114 | HIS | 2.1 |
| 37 | DF | 54 | TYR | 2.1 |
| 19 | CR | 51 | ASN | 2.1 |
| 21 | AT | 198 | ASN | 2.1 |
| 33 | DB | 132 | ASN | 2.1 |
| 34 | BC | 295 | ALA | 2.1 |
| 36 | DE | 227 | LEU | 2.1 |
| 37 | BF | 145 | LEU | 2.1 |
| 37 | DF | 72 | ASN | 2.1 |
| 54 | DY | 41 | HIS | 2.1 |
| 45 | BP | 197 | LEU | 2.1 |
| 49 | DT | 85 | LEU | 2.1 |
| 55 | DZ | 64 | LYS | 2.1 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 59 | Dd | 13 | ASN | 2.1 |
| 2 | CA | 100 | GLY | 2.1 |
| 8 | AG | 41 | ALA | 2.1 |
| 9 | AH | 75 | GLY | 2.1 |
| 29 | B1 | 913 | A | 2.1 |
| 39 | DH | 125 | ALA | 2.1 |
| 40 | BI | 95 | ALA | 2.1 |
| 50 | BU | 100 | GLY | 2.1 |
| 50 | DU | 100 | GLY | 2.1 |
| 15 | CN | 17 | GLN | 2.1 |
| 48 | BS | 50 | ILE | 2.1 |
| 61 | Bf | 53 | GLN | 2.1 |
| 3 | AB | 85 | PRO | 2.1 |
| 33 | DB | 36 | GLU | 2.1 |
| 52 | DW | 87 | SER | 2.1 |
| 54 | BY | 131 | SER | 2.1 |
| 1 | A1 | 657 | U | 2.1 |
| 29 | D1 | 2269 | U | 2.1 |
| 38 | DG | 26 | VAL | 2.1 |
| 40 | BI | 82 | VAL | 2.1 |
| 32 | BA | 26 | ARG | 2.1 |
| 42 | BK | 10 | ARG | 2.1 |
| 60 | De | 42 | ARG | 2.1 |
| 1 | A1 | 574 | G | 2.1 |
| 4 | CC | 166 | ASP | 2.1 |
| 32 | BA | 46 | ASP | 2.1 |
| 48 | DS | 116 | ASP | 2.1 |
| 1 | C1 | 455 | C | 2.1 |
| 9 | CH | 49 | LYS | 2.1 |
| 11 | AJ | 49 | TYR | 2.1 |
| 29 | D1 | 2568 | C | 2.1 |
| 36 | DE | 198 | TYR | 2.1 |
| 40 | DI | 2 | LYS | 2.1 |
| 44 | DO | 139 | HIS | 2.1 |
| 52 | BW | 108 | LEU | 2.1 |
| 59 | Dd | 68 | LYS | 2.1 |
| 7 | CF | 104 | HIS | 2.1 |
| 1 | A1 | 793 | A | 2.1 |
| 9 | AH | 23 | PHE | 2.1 |
| 16 | AO | 96 | ALA | 2.1 |
| 17 | CP | 129 | GLY | 2.1 |
| 20 | AS | 27 | HIS | 2.1 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 10 | CI | 74 | ALA | 2.1 |
| 21 | AT | 138 | GLY | 2.1 |
| 21 | CT | 296 | ALA | 2.1 |
| 29 | B1 | 3347 | A | 2.1 |
| 17 | CP | 36 | THR | 2.1 |
| 32 | BA | 62 | ASN | 2.1 |
| 39 | DH | 184 | ALA | 2.1 |
| 44 | BO | 69 | GLY | 2.1 |
| 33 | DB | 17 | THR | 2.1 |
| 34 | DC | 54 | THR | 2.1 |
| 37 | BF | 152 | THR | 2.1 |
| 40 | BI | 77 | ASN | 2.1 |
| 45 | BP | 30 | GLY | 2.1 |
| 73 | DM | 181 | PHE | 2.1 |
| 2 | AA | 207 | PRO | 2.1 |
| 16 | CO | 18 | GLU | 2.1 |
| 18 | CQ | 53 | GLU | 2.1 |
| 21 | CT | 276 | PRO | 2.1 |
| 54 | BY | 65 | GLN | 2.1 |
| 54 | BY | 83 | PRO | 2.1 |
| 34 | BC | 156 | SER | 2.1 |
| 41 | DJ | 54 | SER | 2.1 |
| 1 | A1 | 1491 | U | 2.1 |
| 19 | AR | 15 | VAL | 2.1 |
| 29 | D1 | 2268 | U | 2.1 |
| 47 | DR | 66 | ARG | 2.0 |
| 48 | BS | 74 | ARG | 2.0 |
| 1 | A1 | 516 | G | 2.0 |
| 1 | A1 | 1521 | G | 2.0 |
| 1 | C1 | 131 | C | 2.0 |
| 1 | C1 | 987 | G | 2.0 |
| 1 | C1 | 1698 | G | 2.0 |
| 13 | CL | 94 | ASP | 2.0 |
| 16 | AO | 101 | TYR | 2.0 |
| 29 | B1 | 176 | G | 2.0 |
| 35 | DD | 169 | LEU | 2.0 |
| 49 | BT | 120 | LYS | 2.0 |
| 1 | A1 | 62 | A | 2.0 |
| 2 | AA | 85 | ALA | 2.0 |
| 7 | AF | 126 | GLY | 2.0 |
| 14 | CM | 98 | GLY | 2.0 |
| 21 | AT | 11 | GLY | 2.0 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 33 | DB | 50 | HIS | 2.0 |
| 39 | BH | 210 | ALA | 2.0 |
| 41 | BJ | 95 | HIS | 2.0 |
| 42 | BK | 105 | GLY | 2.0 |
| 44 | BO | 174 | ILE | 2.0 |
| 46 | BQ | 5 | GLY | 2.0 |
| 46 | BQ | 26 | PHE | 2.0 |
| 46 | DQ | 67 | ILE | 2.0 |
| 49 | DT | 81 | GLY | 2.0 |
| 54 | BY | 110 | GLY | 2.0 |
| 54 | DY | 67 | HIS | 2.0 |
| 3 | CB | 204 | THR | 2.0 |
| 32 | DA | 188 | ASN | 2.0 |
| 32 | DA | 200 | ASN | 2.0 |
| 21 | AT | 313 | TRP | 2.0 |
| 21 | CT | 300 | THR | 2.0 |
| 35 | BD | 213 | ASN | 2.0 |
| 44 | DO | 126 | THR | 2.0 |
| 46 | DQ | 125 | GLN | 2.0 |
| 48 | DS | 23 | TRP | 2.0 |
| 58 | Dc | 8 | GLU | 2.0 |
| 3 | CB | 121 | VAL | 2.0 |
| 15 | AN | 38 | SER | 2.0 |
| 21 | AT | 82 | SER | 2.0 |
| 29 | B1 | 1241 | U | 2.0 |
| 29 | D1 | 2137 | U | 2.0 |
| 29 | D1 | 3283 | U | 2.0 |
| 35 | DD | 267 | VAL | 2.0 |
| 49 | BT | 99 | SER | 2.0 |
| 52 | BW | 48 | SER | 2.0 |
| 55 | BZ | 9 | SER | 2.0 |
| 15 | CN | 68 | ARG | 2.0 |
| 5 | AD | 45 | LYS | 2.0 |
| 21 | AT | 179 | LYS | 2.0 |
| 47 | BR | 52 | LEU | 2.0 |
| 54 | BY | 91 | LEU | 2.0 |
| 1 | A1 | 653 | C | 2.0 |
| 1 | C1 | 405 | C | 2.0 |
| 29 | D1 | 3154 | C | 2.0 |
| 29 | D1 | 383 | G | 2.0 |
| 29 | D1 | 2465 | G | 2.0 |
| 29 | D1 | 3197 | G | 2.0 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 46 | BQ | 113 | TYR | 2.0 |
| 49 | BT | 34 | TYR | 2.0 |
| 55 | DZ | 23 | TYR | 2.0 |
| 9 | CH | 88 | GLY | 2.0 |
| 18 | CQ | 73 | GLY | 2.0 |
| 32 | DA | 37 | GLY | 2.0 |
| 33 | DB | 105 | GLY | 2.0 |
| 41 | BJ | 172 | GLY | 2.0 |
| 29 | D1 | 3274 | A | 2.0 |
| 57 | Db | 29 | ALA | 2.0 |
| 10 | CI | 68 | PRO | 2.0 |
| 2 | CA | 74 | VAL | 2.0 |
| 4 | CC | 26 | THR | 2.0 |
| 21 | AT | 203 | THR | 2.0 |
| 29 | B1 | 698 | U | 2.0 |
| 34 | BC | 345 | ASN | 2.0 |
| 35 | BD | 40 | THR | 2.0 |
| 53 | BX | 98 | ASN | 2.0 |
| 57 | Db | 86 | THR | 2.0 |
| 61 | Bf | 22 | GLN | 2.0 |
| 62 | Bg | 90 | VAL | 2.0 |
| 72 | DL | 129 | THR | 2.0 |
| 8 | AG | 55 | ARG | 2.0 |
| 51 | DV | 1 | MET | 2.0 |
| 7 | CF | 79 | LYS | 2.0 |
| 32 | DA | 147 | LYS | 2.0 |
| 33 | DB | 223 | SER | 2.0 |
| 44 | BO | 77 | LYS | 2.0 |
| 59 | Dd | 36 | SER | 2.0 |
| 62 | Dg | 40 | SER | 2.0 |
| 1 | C1 | 186 | C | 2.0 |
| 1 | C1 | 682 | C | 2.0 |
| 2 | CA | 144 | ILE | 2.0 |
| 57 | Db | 117 | ILE | 2.0 |
| 9 | AH | 69 | ALA | 2.0 |
| 1 | A1 | 623 | A | 2.0 |
| 1 | A1 | 732 | G | 2.0 |
| 1 | C1 | 1228 | G | 2.0 |
| 21 | CT | 75 | ALA | 2.0 |
| 29 | B1 | 330 | G | 2.0 |
| 34 | DC | 250 | ALA | 2.0 |
| 17 | AP | 97 | ASP | 2.0 |

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| Mol | Chain | Res | Type | RSRZ |
|---|---|---|---|---|
| 29 | D1 | 438 | A | 2.0 |
| 48 | BS | 111 | ASP | 2.0 |
| 48 | DS | 121 | HIS | 2.0 |
| 73 | DM | 31 | ASP | 2.0 |
| 1 | C1 | 292 | U | 2.0 |
| 29 | B1 | 2521 | U | 2.0 |
| 37 | BF | 153 | PRO | 2.0 |
| 21 | AT | 181 | TRP | 2.0 |
| 32 | BA | 8 | GLN | 2.0 |
| 37 | DF | 94 | GLU | 2.0 |
| 42 | DK | 38 | GLU | 2.0 |
| 44 | DO | 112 | ASN | 2.0 |
| 55 | BZ | 14 | LEU | 2.0 |
| 37 | BF | 162 | SER | 2.0 |
| 73 | DM | 199 | SER | 2.0 |

## 6.2 Non-standard residues in protein, DNA, RNA chains (i)

There are no non-standard protein/DNA/RNA residues in this entry.

## 6.3 Carbohydrates (i)

There are no oligosaccharides in this entry.

## 6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, $95^{th}$ percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | C1 | 1998 | 7/7 | 0.26 | 0.63 | 129,129,129,129 | 7 |
| 74 | OHX | A1 | 1983 | 7/7 | 0.30 | 0.69 | 122,122,122,122 | 7 |
| 74 | OHX | B1 | 3554 | 7/7 | 0.44 | 0.50 | 156,156,156,156 | 7 |
| 74 | OHX | B1 | 3548 | 7/7 | 0.46 | 0.47 | 153,153,153,153 | 7 |
| 74 | OHX | D1 | 3586 | 7/7 | 0.46 | 0.64 | 115,115,115,115 | 7 |
| 74 | OHX | C1 | 1989 | 7/7 | 0.48 | 0.53 | 114,114,114,114 | 7 |
| 74 | OHX | B1 | 3613 | 7/7 | 0.51 | 0.55 | 93,93,93,93 | 7 |
| 74 | OHX | B1 | 3608 | 7/7 | 0.56 | 0.53 | 75,75,75,75 | 7 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | B1 | 3599 | 7/7 | 0.58 | 0.40 | 87,87,87,87 | 7 |
| 74 | OHX | D1 | 3535 | 7/7 | 0.59 | 0.58 | 142,142,142,142 | 7 |
| 74 | OHX | B1 | 3592 | 7/7 | 0.60 | 0.66 | 106,106,106,106 | 7 |
| 74 | OHX | A1 | 1993 | 7/7 | 0.60 | 0.43 | 108,108,108,108 | 7 |
| 74 | OHX | B1 | 3577 | 7/7 | 0.62 | 0.57 | 148,148,148,148 | 7 |
| 74 | OHX | D1 | 3564 | 7/7 | 0.62 | 0.40 | 85,85,85,85 | 7 |
| 74 | OHX | D1 | 3490 | 7/7 | 0.62 | 0.39 | 167,167,167,167 | 7 |
| 74 | OHX | D1 | 3616 | 7/7 | 0.62 | 0.43 | 150,150,150,150 | 7 |
| 74 | OHX | D1 | 3601 | 7/7 | 0.63 | 0.67 | 99,99,99,99 | 7 |
| 74 | OHX | A1 | 1964 | 7/7 | 0.63 | 0.40 | 85,85,85,85 | 7 |
| 74 | OHX | B1 | 3552 | 7/7 | 0.64 | 0.39 | 138,138,138,138 | 7 |
| 74 | OHX | D1 | 3605 | 7/7 | 0.64 | 0.52 | 93,93,93,93 | 7 |
| 74 | OHX | B1 | 3600 | 7/7 | 0.64 | 0.36 | 135,135,135,135 | 7 |
| 74 | OHX | C1 | 1974 | 7/7 | 0.65 | 0.45 | 118,118,118,118 | 7 |
| 74 | OHX | A1 | 1966 | 7/7 | 0.65 | 0.43 | 120,120,120,120 | 7 |
| 74 | OHX | D1 | 3541 | 7/7 | 0.66 | 0.47 | 141,141,141,141 | 7 |
| 74 | OHX | A1 | 1925 | 7/7 | 0.66 | 0.38 | 165,165,165,165 | 7 |
| 74 | OHX | C1 | 1991 | 7/7 | 0.66 | 0.49 | 77,77,77,77 | 7 |
| 74 | OHX | B1 | 3535 | 7/7 | 0.66 | 0.38 | 170,170,170,170 | 7 |
| 74 | OHX | C1 | 1956 | 7/7 | 0.66 | 0.37 | 170,170,170,170 | 7 |
| 74 | OHX | B1 | 3589 | 7/7 | 0.66 | 0.71 | 85,85,85,85 | 7 |
| 74 | OHX | C1 | 1950 | 7/7 | 0.67 | 0.28 | 215,215,215,215 | 7 |
| 74 | OHX | D1 | 3609 | 7/7 | 0.67 | 0.36 | 73,73,73,73 | 7 |
| 74 | OHX | A1 | 1954 | 7/7 | 0.67 | 0.30 | 153,153,153,153 | 7 |
| 74 | OHX | D3 | 206 | 7/7 | 0.67 | 0.42 | 77,77,77,77 | 7 |
| 74 | OHX | B2 | 208 | 7/7 | 0.68 | 0.59 | 152,152,152,152 | 7 |
| 74 | OHX | C1 | 1978 | 7/7 | 0.68 | 0.41 | 145,145,145,145 | 7 |
| 74 | OHX | B2 | 210 | 7/7 | 0.68 | 0.56 | 131,131,131,131 | 7 |
| 74 | OHX | B1 | 3574 | 7/7 | 0.69 | 0.34 | 136,136,136,136 | 7 |
| 74 | OHX | C1 | 1985 | 7/7 | 0.70 | 0.42 | 153,153,153,153 | 7 |
| 74 | OHX | D1 | 3550 | 7/7 | 0.70 | 0.39 | 100,100,100,100 | 7 |
| 74 | OHX | C1 | 1988 | 7/7 | 0.70 | 0.42 | 146,146,146,146 | 7 |
| 74 | OHX | B1 | 3502 | 7/7 | 0.70 | 0.39 | 166,166,166,166 | 7 |
| 74 | OHX | D1 | 3599 | 7/7 | 0.70 | 0.32 | 93,93,93,93 | 7 |
| 74 | OHX | B2 | 207 | 7/7 | 0.70 | 0.46 | 104,104,104,104 | 7 |
| 74 | OHX | A1 | 1953 | 7/7 | 0.70 | 0.49 | 122,122,122,122 | 7 |
| 74 | OHX | C1 | 1976 | 7/7 | 0.70 | 0.44 | 118,118,118,118 | 7 |
| 74 | OHX | D1 | 3610 | 7/7 | 0.70 | 0.63 | 94,94,94,94 | 7 |
| 74 | OHX | D1 | 3519 | 7/7 | 0.70 | 0.45 | 111,111,111,111 | 7 |
| 74 | OHX | A1 | 1974 | 7/7 | 0.70 | 0.54 | 136,136,136,136 | 7 |
| 74 | OHX | D1 | 3544 | 7/7 | 0.71 | 0.36 | 127,127,127,127 | 7 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | B1 | 3544 | 7/7 | 0.71 | 0.35 | 130,130,130,130 | 7 |
| 74 | OHX | D1 | 3525 | 7/7 | 0.71 | 0.31 | 106,106,106,106 | 7 |
| 74 | OHX | D1 | 3622 | 7/7 | 0.71 | 0.32 | 142,142,142,142 | 7 |
| 74 | OHX | D1 | 3568 | 7/7 | 0.71 | 0.55 | 92,92,92,92 | 7 |
| 74 | OHX | C1 | 1965 | 7/7 | 0.72 | 0.37 | 101,101,101,101 | 7 |
| 74 | OHX | C1 | 1966 | 7/7 | 0.72 | 0.38 | 127,127,127,127 | 7 |
| 74 | OHX | B1 | 3534 | 7/7 | 0.72 | 0.32 | 128,128,128,128 | 7 |
| 74 | OHX | D1 | 3623 | 7/7 | 0.72 | 0.57 | 23,23,23,23 | 7 |
| 74 | OHX | D1 | 3524 | 7/7 | 0.72 | 0.38 | 162,162,162,162 | 7 |
| 74 | OHX | A1 | 1995 | 7/7 | 0.73 | 0.40 | 80,80,80,80 | 7 |
| 74 | OHX | B1 | 3581 | 7/7 | 0.73 | 0.35 | 106,106,106,106 | 7 |
| 74 | OHX | D1 | 3603 | 7/7 | 0.73 | 0.41 | 114,114,114,114 | 7 |
| 74 | OHX | D1 | 3542 | 7/7 | 0.73 | 0.28 | 198,198,198,198 | 7 |
| 74 | OHX | D1 | 3507 | 7/7 | 0.73 | 0.39 | 133,133,133,133 | 7 |
| 74 | OHX | A1 | 1997 | 7/7 | 0.74 | 0.35 | 100,100,100,100 | 7 |
| 74 | OHX | B3 | 206 | 7/7 | 0.74 | 0.22 | 201,201,201,201 | 7 |
| 74 | OHX | D1 | 3522 | 7/7 | 0.74 | 0.41 | 133,133,133,133 | 7 |
| 74 | OHX | D1 | 3555 | 7/7 | 0.74 | 0.46 | 150,150,150,150 | 7 |
| 74 | OHX | A1 | 1978 | 7/7 | 0.74 | 0.49 | 139,139,139,139 | 7 |
| 74 | OHX | A1 | 1958 | 7/7 | 0.74 | 0.31 | 116,116,116,116 | 7 |
| 74 | OHX | D1 | 3578 | 7/7 | 0.74 | 0.46 | 222,222,222,222 | 7 |
| 74 | OHX | B1 | 3603 | 7/7 | 0.74 | 0.23 | 63,63,63,63 | 7 |
| 74 | OHX | D1 | 3506 | 7/7 | 0.74 | 0.47 | 131,131,131,131 | 7 |
| 74 | OHX | D3 | 211 | 7/7 | 0.74 | 0.34 | 137,137,137,137 | 7 |
| 74 | OHX | D1 | 3593 | 7/7 | 0.75 | 0.48 | 99,99,99,99 | 7 |
| 74 | OHX | B1 | 3523 | 7/7 | 0.75 | 0.31 | 150,150,150,150 | 7 |
| 74 | OHX | B1 | 3557 | 7/7 | 0.75 | 0.37 | 46,46,46,46 | 7 |
| 74 | OHX | B1 | 3545 | 7/7 | 0.75 | 0.42 | 82,82,82,82 | 7 |
| 74 | OHX | D1 | 3587 | 7/7 | 0.76 | 0.62 | 111,111,111,111 | 7 |
| 74 | OHX | B1 | 3533 | 7/7 | 0.76 | 0.45 | 149,149,149,149 | 7 |
| 74 | OHX | BO | 301 | 7/7 | 0.76 | 0.47 | 110,110,110,110 | 7 |
| 74 | OHX | D1 | 3505 | 7/7 | 0.76 | 0.35 | 160,160,160,160 | 7 |
| 74 | OHX | A1 | 1996 | 7/7 | 0.76 | 0.45 | 100,100,100,100 | 7 |
| 74 | OHX | B1 | 3515 | 7/7 | 0.76 | 0.43 | 119,119,119,119 | 7 |
| 74 | OHX | C1 | 1957 | 7/7 | 0.76 | 0.41 | 226,226,226,226 | 7 |
| 74 | OHX | D1 | 3559 | 7/7 | 0.76 | 0.29 | 116,116,116,116 | 7 |
| 74 | OHX | A1 | 1998 | 7/7 | 0.76 | 0.58 | 125,125,125,125 | 7 |
| 74 | OHX | D1 | 3566 | 7/7 | 0.76 | 0.32 | 88,88,88,88 | 7 |
| 74 | OHX | B1 | 3584 | 7/7 | 0.76 | 0.44 | 99,99,99,99 | 7 |
| 74 | OHX | C1 | 1996 | 7/7 | 0.76 | 0.45 | 86,86,86,86 | 7 |
| 74 | OHX | D1 | 3529 | 7/7 | 0.76 | 0.35 | 130,130,130,130 | 7 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | DJ | 301 | 7/7 | 0.76 | 0.26 | 138,138,138,138 | 7 |
| 74 | OHX | A1 | 1988 | 7/7 | 0.77 | 0.47 | 25,25,25,25 | 7 |
| 74 | OHX | A1 | 1970 | 7/7 | 0.77 | 0.29 | 66,66,66,66 | 7 |
| 74 | OHX | B1 | 3546 | 7/7 | 0.77 | 0.32 | 148,148,148,148 | 7 |
| 74 | OHX | B1 | 3602 | 7/7 | 0.77 | 0.40 | 75,75,75,75 | 7 |
| 74 | OHX | A1 | 1963 | 7/7 | 0.77 | 0.38 | 137,137,137,137 | 7 |
| 74 | OHX | D1 | 3595 | 7/7 | 0.77 | 0.41 | 90,90,90,90 | 7 |
| 74 | OHX | D2 | 208 | 7/7 | 0.77 | 0.39 | 105,105,105,105 | 7 |
| 74 | OHX | D3 | 205 | 7/7 | 0.77 | 0.23 | 199,199,199,199 | 7 |
| 74 | OHX | D1 | 3475 | 7/7 | 0.77 | 0.37 | 142,142,142,142 | 7 |
| 74 | OHX | B1 | 3539 | 7/7 | 0.77 | 0.32 | 137,137,137,137 | 7 |
| 74 | OHX | B1 | 3542 | 7/7 | 0.77 | 0.47 | 64,64,64,64 | 7 |
| 74 | OHX | D1 | 3611 | 7/7 | 0.78 | 0.30 | 82,82,82,82 | 7 |
| 74 | OHX | D1 | 3556 | 7/7 | 0.78 | 0.37 | 146,146,146,146 | 7 |
| 74 | OHX | D1 | 3618 | 7/7 | 0.78 | 0.26 | 62,62,62,62 | 7 |
| 74 | OHX | C1 | 1980 | 7/7 | 0.78 | 0.47 | 162,162,162,162 | 7 |
| 74 | OHX | B1 | 3609 | 7/7 | 0.78 | 0.49 | 80,80,80,80 | 7 |
| 74 | OHX | B1 | 3510 | 7/7 | 0.78 | 0.36 | 153,153,153,153 | 7 |
| 74 | OHX | B2 | 203 | 7/7 | 0.78 | 0.40 | 174,174,174,174 | 7 |
| 74 | OHX | D1 | 3545 | 7/7 | 0.78 | 0.47 | 77,77,77,77 | 7 |
| 74 | OHX | A1 | 2002 | 7/7 | 0.78 | 0.39 | 185,185,185,185 | 7 |
| 74 | OHX | C1 | 1995 | 7/7 | 0.78 | 0.43 | 51,51,51,51 | 7 |
| 74 | OHX | B1 | 3568 | 7/7 | 0.79 | 0.26 | 94,94,94,94 | 7 |
| 74 | OHX | B1 | 3555 | 7/7 | 0.79 | 0.41 | 103,103,103,103 | 7 |
| 74 | OHX | B2 | 209 | 7/7 | 0.79 | 0.34 | 148,148,148,148 | 7 |
| 74 | OHX | B1 | 3551 | 7/7 | 0.79 | 0.54 | 84,84,84,84 | 7 |
| 74 | OHX | C1 | 1962 | 7/7 | 0.79 | 0.31 | 180,180,180,180 | 7 |
| 74 | OHX | D1 | 3509 | 7/7 | 0.79 | 0.44 | 120,120,120,120 | 7 |
| 74 | OHX | B2 | 205 | 7/7 | 0.79 | 0.30 | 159,159,159,159 | 7 |
| 74 | OHX | D1 | 3573 | 7/7 | 0.79 | 0.46 | 135,135,135,135 | 7 |
| 74 | OHX | D3 | 208 | 7/7 | 0.79 | 0.33 | 135,135,135,135 | 7 |
| 74 | OHX | C1 | 2000 | 7/7 | 0.79 | 0.40 | 82,82,82,82 | 7 |
| 74 | OHX | D1 | 3585 | 7/7 | 0.79 | 0.28 | 102,102,102,102 | 7 |
| 74 | OHX | A1 | 1991 | 7/7 | 0.80 | 0.40 | 98,98,98,98 | 7 |
| 74 | OHX | B1 | 3511 | 7/7 | 0.80 | 0.31 | 160,160,160,160 | 7 |
| 74 | OHX | D1 | 3516 | 7/7 | 0.80 | 0.43 | 138,138,138,138 | 7 |
| 74 | OHX | B1 | 3611 | 7/7 | 0.80 | 0.34 | 68,68,68,68 | 7 |
| 74 | OHX | A1 | 1999 | 7/7 | 0.80 | 0.27 | 99,99,99,99 | 7 |
| 74 | OHX | D2 | 207 | 7/7 | 0.80 | 0.30 | 111,111,111,111 | 7 |
| 74 | OHX | C1 | 1975 | 7/7 | 0.80 | 0.35 | 119,119,119,119 | 7 |
| 74 | OHX | B3 | 209 | 7/7 | 0.80 | 0.34 | 99,99,99,99 | 7 |
| 74 | OHX | B1 | 3621 | 7/7 | 0.80 | 0.29 | 83,83,83,83 | 7 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | B1 | 3504 | 7/7 | 0.80 | 0.35 | 140,140,140,140 | 7 |
| 74 | OHX | D3 | 210 | 7/7 | 0.80 | 0.28 | 74,74,74,74 | 7 |
| 74 | OHX | B1 | 3528 | 7/7 | 0.80 | 0.35 | 158,158,158,158 | 7 |
| 74 | OHX | B1 | 3506 | 7/7 | 0.80 | 0.41 | 53,53,53,53 | 7 |
| 74 | OHX | D1 | 3569 | 7/7 | 0.81 | 0.35 | 88,88,88,88 | 7 |
| 74 | OHX | A1 | 1930 | 7/7 | 0.81 | 0.38 | 228,228,228,228 | 7 |
| 74 | OHX | B3 | 210 | 7/7 | 0.81 | 0.38 | 64,64,64,64 | 7 |
| 74 | OHX | B1 | 3570 | 7/7 | 0.81 | 0.37 | 91,91,91,91 | 7 |
| 74 | OHX | B1 | 3594 | 7/7 | 0.81 | 0.36 | 100,100,100,100 | 7 |
| 74 | OHX | B1 | 3532 | 7/7 | 0.81 | 0.31 | 172,172,172,172 | 7 |
| 74 | OHX | D1 | 3590 | 7/7 | 0.81 | 0.47 | 55,55,55,55 | 7 |
| 74 | OHX | B1 | 3575 | 7/7 | 0.81 | 0.36 | 123,123,123,123 | 7 |
| 74 | OHX | B1 | 3601 | 7/7 | 0.81 | 0.69 | 158,158,158,158 | 7 |
| 74 | OHX | B1 | 3520 | 7/7 | 0.81 | 0.39 | 109,109,109,109 | 7 |
| 74 | OHX | A1 | 1947 | 7/7 | 0.81 | 0.34 | 143,143,143,143 | 7 |
| 74 | OHX | B1 | 3582 | 7/7 | 0.81 | 0.40 | 83,83,83,83 | 7 |
| 74 | OHX | B1 | 3560 | 7/7 | 0.81 | 0.40 | 105,105,105,105 | 7 |
| 74 | OHX | D1 | 3471 | 7/7 | 0.81 | 0.31 | 260,260,260,260 | 7 |
| 74 | OHX | B1 | 3617 | 7/7 | 0.82 | 0.32 | 90,90,90,90 | 7 |
| 74 | OHX | C1 | 1981 | 7/7 | 0.82 | 0.25 | 87,87,87,87 | 7 |
| 74 | OHX | A1 | 1940 | 7/7 | 0.82 | 0.34 | 166,166,166,166 | 7 |
| 74 | OHX | C1 | 1987 | 7/7 | 0.82 | 0.24 | 108,108,108,108 | 7 |
| 74 | OHX | B1 | 3514 | 7/7 | 0.82 | 0.26 | 123,123,123,123 | 7 |
| 74 | OHX | D1 | 3614 | 7/7 | 0.82 | 0.48 | 83,83,83,83 | 7 |
| 74 | OHX | D1 | 3574 | 7/7 | 0.82 | 0.37 | 114,114,114,114 | 7 |
| 74 | OHX | A1 | 1989 | 7/7 | 0.82 | 0.43 | 70,70,70,70 | 7 |
| 74 | OHX | D1 | 3580 | 7/7 | 0.82 | 0.36 | 114,114,114,114 | 7 |
| 74 | OHX | B1 | 3610 | 7/7 | 0.82 | 0.32 | 68,68,68,68 | 7 |
| 74 | OHX | D2 | 204 | 7/7 | 0.82 | 0.30 | 116,116,116,116 | 7 |
| 74 | OHX | B1 | 3530 | 7/7 | 0.82 | 0.34 | 138,138,138,138 | 7 |
| 74 | OHX | D1 | 3549 | 7/7 | 0.82 | 0.25 | 127,127,127,127 | 7 |
| 74 | OHX | D1 | 3513 | 7/7 | 0.82 | 0.35 | 160,160,160,160 | 7 |
| 74 | OHX | D1 | 3552 | 7/7 | 0.82 | 0.41 | 115,115,115,115 | 7 |
| 74 | OHX | C1 | 1952 | 7/7 | 0.82 | 0.28 | 239,239,239,239 | 7 |
| 74 | OHX | B1 | 3565 | 7/7 | 0.82 | 0.30 | 120,120,120,120 | 7 |
| 74 | OHX | D1 | 3600 | 7/7 | 0.82 | 0.25 | 96,96,96,96 | 7 |
| 74 | OHX | C1 | 1999 | 7/7 | 0.82 | 0.32 | 41,41,41,41 | 7 |
| 74 | OHX | A1 | 1977 | 7/7 | 0.83 | 0.34 | 119,119,119,119 | 7 |
| 74 | OHX | CT | 401 | 7/7 | 0.83 | 0.27 | 117,117,117,117 | 7 |
| 74 | OHX | D1 | 3548 | 7/7 | 0.83 | 0.36 | 77,77,77,77 | 7 |
| 74 | OHX | D2 | 209 | 7/7 | 0.83 | 0.38 | 74,74,74,74 | 7 |
| 74 | OHX | D1 | 3457 | 7/7 | 0.83 | 0.31 | 130,130,130,130 | 7 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | C1 | 1959 | 7/7 | 0.83 | 0.32 | 166,166,166,166 | 7 |
| 74 | OHX | A1 | 1965 | 7/7 | 0.83 | 0.30 | 114,114,114,114 | 7 |
| 74 | OHX | D1 | 3538 | 7/7 | 0.83 | 0.37 | 87,87,87,87 | 7 |
| 74 | OHX | B1 | 3616 | 7/7 | 0.83 | 0.41 | 103,103,103,103 | 7 |
| 74 | OHX | D1 | 3498 | 7/7 | 0.83 | 0.35 | 103,103,103,103 | 7 |
| 74 | OHX | Dd | 102 | 7/7 | 0.83 | 0.29 | 118,118,118,118 | 7 |
| 74 | OHX | B1 | 3580 | 7/7 | 0.84 | 0.34 | 84,84,84,84 | 7 |
| 74 | OHX | B1 | 3619 | 7/7 | 0.84 | 0.34 | 85,85,85,85 | 7 |
| 74 | OHX | A1 | 1973 | 7/7 | 0.84 | 0.29 | 101,101,101,101 | 7 |
| 74 | OHX | D1 | 3558 | 7/7 | 0.84 | 0.34 | 127,127,127,127 | 7 |
| 74 | OHX | C1 | 1919 | 7/7 | 0.84 | 0.34 | 159,159,159,159 | 7 |
| 74 | OHX | D1 | 3521 | 7/7 | 0.84 | 0.20 | 163,163,163,163 | 7 |
| 74 | OHX | C1 | 1940 | 7/7 | 0.84 | 0.31 | 139,139,139,139 | 7 |
| 74 | OHX | B1 | 3481 | 7/7 | 0.84 | 0.34 | 133,133,133,133 | 7 |
| 74 | OHX | D1 | 3466 | 7/7 | 0.84 | 0.27 | 103,103,103,103 | 7 |
| 74 | OHX | B1 | 3490 | 7/7 | 0.84 | 0.31 | 109,109,109,109 | 7 |
| 74 | OHX | D1 | 3534 | 7/7 | 0.84 | 0.32 | 142,142,142,142 | 7 |
| 74 | OHX | B1 | 3493 | 7/7 | 0.84 | 0.25 | 135,135,135,135 | 7 |
| 74 | OHX | D1 | 3579 | 7/7 | 0.84 | 0.41 | 44,44,44,44 | 7 |
| 74 | OHX | D1 | 3481 | 7/7 | 0.84 | 0.27 | 137,137,137,137 | 7 |
| 74 | OHX | A1 | 1967 | 7/7 | 0.84 | 0.42 | 96,96,96,96 | 7 |
| 74 | OHX | D1 | 3497 | 7/7 | 0.84 | 0.36 | 99,99,99,99 | 7 |
| 74 | OHX | C1 | 1958 | 7/7 | 0.84 | 0.30 | 153,153,153,153 | 7 |
| 74 | OHX | D1 | 3500 | 7/7 | 0.84 | 0.36 | 139,139,139,139 | 7 |
| 74 | OHX | D1 | 3546 | 7/7 | 0.84 | 0.30 | 105,105,105,105 | 7 |
| 74 | OHX | B1 | 3538 | 7/7 | 0.84 | 0.36 | 93,93,93,93 | 7 |
| 74 | OHX | A1 | 1984 | 7/7 | 0.84 | 0.20 | 65,65,65,65 | 7 |
| 74 | OHX | A1 | 1952 | 7/7 | 0.84 | 0.36 | 110,110,110,110 | 7 |
| 74 | OHX | D1 | 3613 | 7/7 | 0.85 | 0.38 | 57,57,57,57 | 7 |
| 74 | OHX | B1 | 3472 | 7/7 | 0.85 | 0.34 | 132,132,132,132 | 7 |
| 74 | OHX | D1 | 3526 | 7/7 | 0.85 | 0.26 | 158,158,158,158 | 7 |
| 74 | OHX | B1 | 3556 | 7/7 | 0.85 | 0.43 | 104,104,104,104 | 7 |
| 74 | OHX | B1 | 3571 | 7/7 | 0.85 | 0.37 | 176,176,176,176 | 7 |
| 74 | OHX | D1 | 3592 | 7/7 | 0.85 | 0.36 | 118,118,118,118 | 7 |
| 74 | OHX | D1 | 3625 | 7/7 | 0.85 | 0.40 | 100,100,100,100 | 7 |
| 74 | OHX | C1 | 2001 | 7/7 | 0.85 | 0.29 | 130,130,130,130 | 7 |
| 74 | OHX | C1 | 1986 | 7/7 | 0.85 | 0.23 | 169,169,169,169 | 7 |
| 74 | OHX | D1 | 3596 | 7/7 | 0.85 | 0.32 | 114,114,114,114 | 7 |
| 74 | OHX | A1 | 2000 | 7/7 | 0.85 | 0.35 | 75,75,75,75 | 7 |
| 74 | OHX | C1 | 1972 | 7/7 | 0.85 | 0.41 | 216,216,216,216 | 7 |
| 74 | OHX | D1 | 3515 | 7/7 | 0.85 | 0.20 | 173,173,173,173 | 7 |
| 74 | OHX | B1 | 3558 | 7/7 | 0.85 | 0.27 | 130,130,130,130 | 7 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | B1 | 3620 | 7/7 | 0.85 | 0.27 | 58,58,58,58 | 7 |
| 74 | OHX | A1 | 1946 | 7/7 | 0.85 | 0.30 | 153,153,153,153 | 7 |
| 74 | OHX | B1 | 3541 | 7/7 | 0.85 | 0.39 | 117,117,117,117 | 7 |
| 74 | OHX | C1 | 1997 | 7/7 | 0.85 | 0.26 | 36,36,36,36 | 7 |
| 74 | OHX | A1 | 1982 | 7/7 | 0.86 | 0.34 | 148,148,148,148 | 7 |
| 74 | OHX | B3 | 212 | 7/7 | 0.86 | 0.27 | 98,98,98,98 | 7 |
| 74 | OHX | B1 | 3618 | 7/7 | 0.86 | 0.36 | 109,109,109,109 | 7 |
| 74 | OHX | D1 | 3602 | 7/7 | 0.86 | 0.45 | 109,109,109,109 | 7 |
| 74 | OHX | D1 | 3517 | 7/7 | 0.86 | 0.31 | 126,126,126,126 | 7 |
| 74 | OHX | D1 | 3557 | 7/7 | 0.86 | 0.22 | 148,148,148,148 | 7 |
| 74 | OHX | A1 | 1935 | 7/7 | 0.86 | 0.24 | 156,156,156,156 | 7 |
| 74 | OHX | B1 | 3579 | 7/7 | 0.86 | 0.31 | 47,47,47,47 | 7 |
| 74 | OHX | D1 | 3563 | 7/7 | 0.86 | 0.36 | 99,99,99,99 | 7 |
| 74 | OHX | C1 | 1979 | 7/7 | 0.86 | 0.19 | 190,190,190,190 | 7 |
| 74 | OHX | C1 | 1945 | 7/7 | 0.86 | 0.27 | 122,122,122,122 | 7 |
| 74 | OHX | D1 | 3615 | 7/7 | 0.86 | 0.35 | 73,73,73,73 | 7 |
| 74 | OHX | C1 | 1947 | 7/7 | 0.86 | 0.33 | 70,70,70,70 | 7 |
| 74 | OHX | B1 | 3495 | 7/7 | 0.86 | 0.39 | 108,108,108,108 | 7 |
| 74 | OHX | D1 | 3528 | 7/7 | 0.86 | 0.39 | 96,96,96,96 | 7 |
| 74 | OHX | B1 | 3566 | 7/7 | 0.86 | 0.35 | 107,107,107,107 | 7 |
| 74 | OHX | D1 | 3532 | 7/7 | 0.86 | 0.24 | 102,102,102,102 | 7 |
| 74 | OHX | D1 | 3485 | 7/7 | 0.86 | 0.29 | 90,90,90,90 | 7 |
| 74 | OHX | B1 | 3501 | 7/7 | 0.86 | 0.40 | 99,99,99,99 | 7 |
| 74 | OHX | D1 | 3494 | 7/7 | 0.86 | 0.34 | 105,105,105,105 | 7 |
| 74 | OHX | A1 | 1921 | 7/7 | 0.86 | 0.27 | 148,148,148,148 | 7 |
| 74 | OHX | B1 | 3588 | 7/7 | 0.86 | 0.27 | 78,78,78,78 | 7 |
| 74 | OHX | B1 | 3517 | 7/7 | 0.86 | 0.22 | 111,111,111,111 | 7 |
| 74 | OHX | C1 | 1992 | 7/7 | 0.86 | 0.34 | 76,76,76,76 | 7 |
| 74 | OHX | B1 | 3573 | 7/7 | 0.86 | 0.33 | 111,111,111,111 | 7 |
| 74 | OHX | D1 | 3594 | 7/7 | 0.86 | 0.19 | 30,30,30,30 | 7 |
| 74 | OHX | DE | 301 | 7/7 | 0.86 | 0.17 | 302,302,302,302 | 7 |
| 74 | OHX | B1 | 3614 | 7/7 | 0.86 | 0.52 | 163,163,163,163 | 7 |
| 74 | OHX | A1 | 1934 | 7/7 | 0.86 | 0.41 | 122,122,122,122 | 7 |
| 74 | OHX | B1 | 3469 | 7/7 | 0.87 | 0.27 | 169,169,169,169 | 7 |
| 74 | OHX | C1 | 1982 | 7/7 | 0.87 | 0.31 | 106,106,106,106 | 7 |
| 74 | OHX | D1 | 3476 | 7/7 | 0.87 | 0.31 | 100,100,100,100 | 7 |
| 74 | OHX | B1 | 3586 | 7/7 | 0.87 | 0.36 | 116,116,116,116 | 7 |
| 74 | OHX | A1 | 1992 | 7/7 | 0.87 | 0.34 | 45,45,45,45 | 7 |
| 74 | OHX | D1 | 3489 | 7/7 | 0.87 | 0.28 | 75,75,75,75 | 7 |
| 74 | OHX | B1 | 3612 | 7/7 | 0.87 | 0.33 | 45,45,45,45 | 7 |
| 74 | OHX | D1 | 3493 | 7/7 | 0.87 | 0.26 | 126,126,126,126 | 7 |
| 74 | OHX | B1 | 3547 | 7/7 | 0.87 | 0.37 | 117,117,117,117 | 7 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | C1 | 1960 | 7/7 | 0.87 | 0.29 | 111,111,111,111 | 7 |
| 74 | OHX | D1 | 3606 | 7/7 | 0.87 | 0.24 | 63,63,63,63 | 7 |
| 74 | OHX | D1 | 3551 | 7/7 | 0.87 | 0.25 | 120,120,120,120 | 7 |
| 74 | OHX | C1 | 1990 | 7/7 | 0.87 | 0.27 | 105,105,105,105 | 7 |
| 74 | OHX | A1 | 1922 | 7/7 | 0.87 | 0.31 | 133,133,133,133 | 7 |
| 74 | OHX | A1 | 1942 | 7/7 | 0.87 | 0.22 | 97,97,97,97 | 7 |
| 74 | OHX | D1 | 3467 | 7/7 | 0.87 | 0.26 | 129,129,129,129 | 7 |
| 74 | OHX | D1 | 3469 | 7/7 | 0.87 | 0.32 | 152,152,152,152 | 7 |
| 74 | OHX | B1 | 3519 | 7/7 | 0.88 | 0.31 | 115,115,115,115 | 7 |
| 74 | OHX | D1 | 3518 | 7/7 | 0.88 | 0.36 | 108,108,108,108 | 7 |
| 74 | OHX | D1 | 3474 | 7/7 | 0.88 | 0.31 | 118,118,118,118 | 7 |
| 74 | OHX | CI | 201 | 7/7 | 0.88 | 0.22 | 143,143,143,143 | 7 |
| 74 | OHX | D1 | 3499 | 7/7 | 0.88 | 0.21 | 114,114,114,114 | 7 |
| 74 | OHX | A1 | 1985 | 7/7 | 0.88 | 0.44 | 86,86,86,86 | 7 |
| 74 | OHX | D1 | 3480 | 7/7 | 0.88 | 0.26 | 127,127,127,127 | 7 |
| 74 | OHX | B1 | 3564 | 7/7 | 0.88 | 0.32 | 126,126,126,126 | 7 |
| 74 | OHX | D1 | 3527 | 7/7 | 0.88 | 0.26 | 146,146,146,146 | 7 |
| 74 | OHX | D1 | 3460 | 7/7 | 0.88 | 0.23 | 138,138,138,138 | 7 |
| 74 | OHX | D1 | 3584 | 7/7 | 0.88 | 0.40 | 47,47,47,47 | 7 |
| 74 | OHX | D1 | 3487 | 7/7 | 0.88 | 0.33 | 103,103,103,103 | 7 |
| 74 | OHX | D1 | 3511 | 7/7 | 0.88 | 0.36 | 85,85,85,85 | 7 |
| 74 | OHX | A1 | 1944 | 7/7 | 0.88 | 0.33 | 108,108,108,108 | 7 |
| 74 | OHX | D1 | 3589 | 7/7 | 0.88 | 0.34 | 56,56,56,56 | 7 |
| 74 | OHX | B1 | 3604 | 7/7 | 0.88 | 0.28 | 53,53,53,53 | 7 |
| 74 | OHX | B1 | 3572 | 7/7 | 0.88 | 0.24 | 56,56,56,56 | 7 |
| 74 | OHX | CS | 102 | 7/7 | 0.89 | 0.35 | 184,184,184,184 | 7 |
| 74 | OHX | D1 | 3533 | 7/7 | 0.89 | 0.23 | 92,92,92,92 | 7 |
| 74 | OHX | A1 | 1981 | 7/7 | 0.89 | 0.36 | 128,128,128,128 | 7 |
| 74 | OHX | B1 | 3531 | 7/7 | 0.89 | 0.30 | 65,65,65,65 | 7 |
| 74 | OHX | D1 | 3575 | 7/7 | 0.89 | 0.34 | 84,84,84,84 | 7 |
| 74 | OHX | D1 | 3577 | 7/7 | 0.89 | 0.23 | 198,198,198,198 | 7 |
| 74 | OHX | B1 | 3583 | 7/7 | 0.89 | 0.36 | 126,126,126,126 | 7 |
| 74 | OHX | C1 | 1984 | 7/7 | 0.89 | 0.29 | 78,78,78,78 | 7 |
| 74 | OHX | B2 | 206 | 7/7 | 0.89 | 0.24 | 128,128,128,128 | 7 |
| 74 | OHX | B1 | 3491 | 7/7 | 0.89 | 0.32 | 99,99,99,99 | 7 |
| 74 | OHX | B1 | 3437 | 7/7 | 0.89 | 0.29 | 156,156,156,156 | 7 |
| 74 | OHX | A1 | 1919 | 7/7 | 0.89 | 0.31 | 141,141,141,141 | 7 |
| 74 | OHX | B1 | 3516 | 7/7 | 0.89 | 0.31 | 136,136,136,136 | 7 |
| 74 | OHX | D2 | 203 | 7/7 | 0.89 | 0.28 | 94,94,94,94 | 7 |
| 74 | OHX | B1 | 3497 | 7/7 | 0.89 | 0.21 | 103,103,103,103 | 7 |
| 74 | OHX | A1 | 1962 | 7/7 | 0.89 | 0.32 | 193,193,193,193 | 7 |
| 74 | OHX | B1 | 3597 | 7/7 | 0.89 | 0.41 | 137,137,137,137 | 7 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | B1 | 3479 | 7/7 | 0.89 | 0.33 | 145,145,145,145 | 7 |
| 74 | OHX | C1 | 1971 | 7/7 | 0.89 | 0.28 | 131,131,131,131 | 7 |
| 74 | OHX | A1 | 1933 | 7/7 | 0.89 | 0.20 | 152,152,152,152 | 7 |
| 74 | OHX | B1 | 3525 | 7/7 | 0.89 | 0.33 | 54,54,54,54 | 7 |
| 74 | OHX | C1 | 1931 | 7/7 | 0.89 | 0.29 | 130,130,130,130 | 7 |
| 74 | OHX | C1 | 1933 | 7/7 | 0.89 | 0.23 | 111,111,111,111 | 7 |
| 74 | OHX | DC | 401 | 7/7 | 0.89 | 0.25 | 93,93,93,93 | 7 |
| 74 | OHX | C1 | 1938 | 7/7 | 0.89 | 0.34 | 191,191,191,191 | 7 |
| 74 | OHX | B1 | 3487 | 7/7 | 0.89 | 0.28 | 116,116,116,116 | 7 |
| 74 | OHX | D1 | 3531 | 7/7 | 0.89 | 0.24 | 136,136,136,136 | 7 |
| 74 | OHX | D1 | 3488 | 7/7 | 0.90 | 0.23 | 141,141,141,141 | 7 |
| 74 | OHX | C1 | 1954 | 7/7 | 0.90 | 0.25 | 116,116,116,116 | 7 |
| 74 | OHX | B1 | 3513 | 7/7 | 0.90 | 0.23 | 171,171,171,171 | 7 |
| 74 | OHX | B1 | 3595 | 7/7 | 0.90 | 0.25 | 73,73,73,73 | 7 |
| 74 | OHX | A1 | 1990 | 7/7 | 0.90 | 0.37 | 117,117,117,117 | 7 |
| 74 | OHX | A1 | 1968 | 7/7 | 0.90 | 0.36 | 180,180,180,180 | 7 |
| 74 | OHX | A1 | 1969 | 7/7 | 0.90 | 0.23 | 87,87,87,87 | 7 |
| 74 | OHX | AT | 401 | 7/7 | 0.90 | 0.30 | 207,207,207,207 | 7 |
| 74 | OHX | B1 | 3518 | 7/7 | 0.90 | 0.31 | 105,105,105,105 | 7 |
| 74 | OHX | B1 | 3435 | 7/7 | 0.90 | 0.30 | 130,130,130,130 | 7 |
| 74 | OHX | C1 | 1968 | 7/7 | 0.90 | 0.26 | 103,103,103,103 | 7 |
| 74 | OHX | A1 | 1941 | 7/7 | 0.90 | 0.22 | 124,124,124,124 | 7 |
| 74 | OHX | D1 | 3554 | 7/7 | 0.90 | 0.23 | 122,122,122,122 | 7 |
| 74 | OHX | B1 | 3606 | 7/7 | 0.90 | 0.24 | 74,74,74,74 | 7 |
| 74 | OHX | D1 | 3510 | 7/7 | 0.90 | 0.25 | 108,108,108,108 | 7 |
| 74 | OHX | B1 | 3521 | 7/7 | 0.90 | 0.29 | 107,107,107,107 | 7 |
| 74 | OHX | D1 | 3433 | 7/7 | 0.90 | 0.25 | 128,128,128,128 | 7 |
| 74 | OHX | D1 | 3514 | 7/7 | 0.90 | 0.26 | 173,173,173,173 | 7 |
| 74 | OHX | D1 | 3453 | 7/7 | 0.90 | 0.25 | 124,124,124,124 | 7 |
| 74 | OHX | B1 | 3549 | 7/7 | 0.90 | 0.33 | 86,86,86,86 | 7 |
| 74 | OHX | D1 | 3565 | 7/7 | 0.90 | 0.23 | 60,60,60,60 | 7 |
| 74 | OHX | D1 | 3620 | 7/7 | 0.90 | 0.32 | 78,78,78,78 | 7 |
| 74 | OHX | D1 | 3621 | 7/7 | 0.90 | 0.25 | 67,67,67,67 | 7 |
| 74 | OHX | B1 | 3498 | 7/7 | 0.90 | 0.30 | 83,83,83,83 | 7 |
| 74 | OHX | B1 | 3454 | 7/7 | 0.90 | 0.29 | 123,123,123,123 | 7 |
| 74 | OHX | A1 | 1939 | 7/7 | 0.90 | 0.20 | 100,100,100,100 | 7 |
| 74 | OHX | D2 | 202 | 7/7 | 0.90 | 0.23 | 106,106,106,106 | 7 |
| 74 | OHX | D1 | 3570 | 7/7 | 0.90 | 0.32 | 49,49,49,49 | 7 |
| 74 | OHX | D1 | 3572 | 7/7 | 0.90 | 0.23 | 91,91,91,91 | 7 |
| 74 | OHX | B1 | 3503 | 7/7 | 0.90 | 0.29 | 86,86,86,86 | 7 |
| 74 | OHX | C1 | 1936 | 7/7 | 0.90 | 0.30 | 126,126,126,126 | 7 |
| 74 | OHX | A1 | 1948 | 7/7 | 0.90 | 0.27 | 106,106,106,106 | 7 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | A1 | 1960 | 7/7 | 0.90 | 0.29 | 70,70,70,70 | 7 |
| 74 | OHX | C1 | 1943 | 7/7 | 0.90 | 0.25 | 141,141,141,141 | 7 |
| 74 | OHX | B1 | 3509 | 7/7 | 0.90 | 0.26 | 124,124,124,124 | 7 |
| 74 | OHX | A1 | 1936 | 7/7 | 0.90 | 0.26 | 129,129,129,129 | 7 |
| 74 | OHX | D1 | 3482 | 7/7 | 0.90 | 0.24 | 107,107,107,107 | 7 |
| 74 | OHX | D3 | 212 | 7/7 | 0.90 | 0.31 | 71,71,71,71 | 7 |
| 74 | OHX | D1 | 3483 | 7/7 | 0.90 | 0.27 | 98,98,98,98 | 7 |
| 74 | OHX | B1 | 3562 | 7/7 | 0.90 | 0.40 | 130,130,130,130 | 7 |
| 74 | OHX | D1 | 3486 | 7/7 | 0.90 | 0.28 | 143,143,143,143 | 7 |
| 74 | OHX | DO | 301 | 7/7 | 0.90 | 0.33 | 285,285,285,285 | 7 |
| 74 | OHX | B1 | 3483 | 7/7 | 0.90 | 0.29 | 71,71,71,71 | 7 |
| 74 | OHX | B1 | 3596 | 7/7 | 0.91 | 0.32 | 56,56,56,56 | 7 |
| 74 | OHX | B1 | 3550 | 7/7 | 0.91 | 0.22 | 137,137,137,137 | 7 |
| 74 | OHX | B1 | 3482 | 7/7 | 0.91 | 0.27 | 111,111,111,111 | 7 |
| 74 | OHX | Ac | 100 | 7/7 | 0.91 | 0.32 | 131,131,131,131 | 7 |
| 74 | OHX | B1 | 3553 | 7/7 | 0.91 | 0.26 | 66,66,66,66 | 7 |
| 74 | OHX | A1 | 1927 | 7/7 | 0.91 | 0.26 | 139,139,139,139 | 7 |
| 74 | OHX | D1 | 3503 | 7/7 | 0.91 | 0.31 | 120,120,120,120 | 7 |
| 74 | OHX | D1 | 3461 | 7/7 | 0.91 | 0.28 | 128,128,128,128 | 7 |
| 74 | OHX | D1 | 3536 | 7/7 | 0.91 | 0.29 | 140,140,140,140 | 7 |
| 74 | OHX | B1 | 3578 | 7/7 | 0.91 | 0.28 | 112,112,112,112 | 7 |
| 74 | OHX | D1 | 3619 | 7/7 | 0.91 | 0.26 | 86,86,86,86 | 7 |
| 74 | OHX | D1 | 3576 | 7/7 | 0.91 | 0.20 | 76,76,76,76 | 7 |
| 74 | OHX | D1 | 3539 | 7/7 | 0.91 | 0.23 | 69,69,69,69 | 7 |
| 74 | OHX | A1 | 1955 | 7/7 | 0.91 | 0.27 | 110,110,110,110 | 7 |
| 74 | OHX | B1 | 3605 | 7/7 | 0.91 | 0.28 | 52,52,52,52 | 7 |
| 74 | OHX | B1 | 3536 | 7/7 | 0.91 | 0.30 | 324,324,324,324 | 7 |
| 74 | OHX | A1 | 1957 | 7/7 | 0.91 | 0.27 | 129,129,129,129 | 7 |
| 74 | OHX | B1 | 3459 | 7/7 | 0.91 | 0.23 | 160,160,160,160 | 7 |
| 74 | OHX | D1 | 3547 | 7/7 | 0.91 | 0.22 | 64,64,64,64 | 7 |
| 74 | OHX | B1 | 3522 | 7/7 | 0.91 | 0.24 | 129,129,129,129 | 7 |
| 74 | OHX | A1 | 1949 | 7/7 | 0.91 | 0.23 | 101,101,101,101 | 7 |
| 74 | OHX | C1 | 1994 | 7/7 | 0.91 | 0.20 | 47,47,47,47 | 7 |
| 74 | OHX | B1 | 3512 | 7/7 | 0.91 | 0.31 | 113,113,113,113 | 7 |
| 74 | OHX | C1 | 1910 | 7/7 | 0.91 | 0.22 | 138,138,138,138 | 7 |
| 74 | OHX | D1 | 3553 | 7/7 | 0.91 | 0.33 | 145,145,145,145 | 7 |
| 74 | OHX | D3 | 209 | 7/7 | 0.91 | 0.20 | 127,127,127,127 | 7 |
| 74 | OHX | C1 | 1970 | 7/7 | 0.91 | 0.13 | 176,176,176,176 | 7 |
| 74 | OHX | B1 | 3527 | 7/7 | 0.91 | 0.27 | 84,84,84,84 | 7 |
| 74 | OHX | D1 | 3597 | 7/7 | 0.91 | 0.37 | 222,222,222,222 | 7 |
| 74 | OHX | A1 | 1938 | 7/7 | 0.91 | 0.24 | 155,155,155,155 | 7 |
| 74 | OHX | D1 | 3523 | 7/7 | 0.91 | 0.21 | 106,106,106,106 | 7 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | B1 | 3529 | 7/7 | 0.91 | 0.17 | 171,171,171,171 | 7 |
| 74 | OHX | A1 | 1994 | 7/7 | 0.91 | 0.34 | 123,123,123,123 | 7 |
| 74 | OHX | A1 | 1929 | 7/7 | 0.91 | 0.18 | 114,114,114,114 | 7 |
| 74 | OHX | B1 | 3470 | 7/7 | 0.92 | 0.21 | 122,122,122,122 | 7 |
| 74 | OHX | D1 | 3449 | 7/7 | 0.92 | 0.25 | 124,124,124,124 | 7 |
| 74 | OHX | B1 | 3524 | 7/7 | 0.92 | 0.23 | 97,97,97,97 | 7 |
| 74 | OHX | D1 | 3454 | 7/7 | 0.92 | 0.23 | 117,117,117,117 | 7 |
| 74 | OHX | A1 | 1923 | 7/7 | 0.92 | 0.25 | 98,98,98,98 | 7 |
| 74 | OHX | B1 | 3476 | 7/7 | 0.92 | 0.22 | 102,102,102,102 | 7 |
| 74 | OHX | B1 | 3477 | 7/7 | 0.92 | 0.21 | 101,101,101,101 | 7 |
| 74 | OHX | A1 | 1950 | 7/7 | 0.92 | 0.17 | 127,127,127,127 | 7 |
| 74 | OHX | D1 | 3508 | 7/7 | 0.92 | 0.21 | 88,88,88,88 | 7 |
| 74 | OHX | B1 | 3448 | 7/7 | 0.92 | 0.21 | 124,124,124,124 | 7 |
| 74 | OHX | D1 | 3468 | 7/7 | 0.92 | 0.23 | 130,130,130,130 | 7 |
| 74 | OHX | B1 | 3453 | 7/7 | 0.92 | 0.24 | 127,127,127,127 | 7 |
| 74 | OHX | D1 | 3581 | 7/7 | 0.92 | 0.27 | 60,60,60,60 | 7 |
| 74 | OHX | C1 | 1913 | 7/7 | 0.92 | 0.23 | 149,149,149,149 | 7 |
| 74 | OHX | A1 | 1926 | 7/7 | 0.92 | 0.29 | 87,87,87,87 | 7 |
| 74 | OHX | C1 | 1923 | 7/7 | 0.92 | 0.25 | 123,123,123,123 | 7 |
| 74 | OHX | C1 | 1926 | 7/7 | 0.92 | 0.22 | 96,96,96,96 | 7 |
| 74 | OHX | D1 | 3477 | 7/7 | 0.92 | 0.19 | 142,142,142,142 | 7 |
| 74 | OHX | C1 | 1993 | 7/7 | 0.92 | 0.26 | 93,93,93,93 | 7 |
| 74 | OHX | D1 | 3591 | 7/7 | 0.92 | 0.23 | 43,43,43,43 | 7 |
| 74 | OHX | C1 | 1967 | 7/7 | 0.92 | 0.21 | 100,100,100,100 | 7 |
| 74 | OHX | C1 | 1927 | 7/7 | 0.92 | 0.19 | 149,149,149,149 | 7 |
| 74 | OHX | C1 | 1969 | 7/7 | 0.92 | 0.26 | 133,133,133,133 | 7 |
| 74 | OHX | B1 | 3456 | 7/7 | 0.92 | 0.28 | 106,106,106,106 | 7 |
| 74 | OHX | B1 | 3508 | 7/7 | 0.92 | 0.23 | 113,113,113,113 | 7 |
| 74 | OHX | B2 | 204 | 7/7 | 0.92 | 0.20 | 132,132,132,132 | 7 |
| 74 | OHX | D1 | 3598 | 7/7 | 0.92 | 0.25 | 65,65,65,65 | 7 |
| 74 | OHX | B1 | 3569 | 7/7 | 0.92 | 0.17 | 95,95,95,95 | 7 |
| 74 | OHX | D1 | 3562 | 7/7 | 0.92 | 0.28 | 121,121,121,121 | 7 |
| 74 | OHX | C1 | 1939 | 7/7 | 0.92 | 0.20 | 103,103,103,103 | 7 |
| 74 | OHX | A1 | 1971 | 7/7 | 0.92 | 0.20 | 94,94,94,94 | 7 |
| 74 | OHX | A1 | 1972 | 7/7 | 0.92 | 0.23 | 87,87,87,87 | 7 |
| 74 | OHX | DO | 302 | 7/7 | 0.92 | 0.24 | 77,77,77,77 | 7 |
| 74 | OHX | B1 | 3537 | 7/7 | 0.92 | 0.27 | 56,56,56,56 | 7 |
| 74 | OHX | B1 | 3591 | 7/7 | 0.93 | 0.31 | 55,55,55,55 | 7 |
| 74 | OHX | D1 | 3537 | 7/7 | 0.93 | 0.21 | 74,74,74,74 | 7 |
| 74 | OHX | B1 | 3499 | 7/7 | 0.93 | 0.22 | 123,123,123,123 | 7 |
| 74 | OHX | B2 | 202 | 7/7 | 0.93 | 0.19 | 106,106,106,106 | 7 |
| 74 | OHX | D1 | 3540 | 7/7 | 0.93 | 0.25 | 85,85,85,85 | 7 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | B1 | 3425 | 7/7 | 0.93 | 0.21 | 108,108,108,108 | 7 |
| 74 | OHX | C1 | 1951 | 7/7 | 0.93 | 0.16 | 152,152,152,152 | 7 |
| 74 | OHX | A1 | 1951 | 7/7 | 0.93 | 0.28 | 259,259,259,259 | 7 |
| 74 | OHX | A1 | 1979 | 7/7 | 0.93 | 0.17 | 81,81,81,81 | 7 |
| 74 | OHX | B1 | 3438 | 7/7 | 0.93 | 0.18 | 168,168,168,168 | 7 |
| 74 | OHX | B1 | 3443 | 7/7 | 0.93 | 0.24 | 134,134,134,134 | 7 |
| 74 | OHX | D1 | 3495 | 7/7 | 0.93 | 0.18 | 160,160,160,160 | 7 |
| 74 | OHX | B1 | 3446 | 7/7 | 0.93 | 0.20 | 113,113,113,113 | 7 |
| 74 | OHX | A1 | 1914 | 7/7 | 0.93 | 0.24 | 145,145,145,145 | 7 |
| 74 | OHX | A1 | 1943 | 7/7 | 0.93 | 0.18 | 176,176,176,176 | 7 |
| 74 | OHX | B1 | 3484 | 7/7 | 0.93 | 0.22 | 143,143,143,143 | 7 |
| 74 | OHX | D1 | 3501 | 7/7 | 0.93 | 0.17 | 102,102,102,102 | 7 |
| 74 | OHX | B3 | 207 | 7/7 | 0.93 | 0.23 | 68,68,68,68 | 7 |
| 74 | OHX | B1 | 3576 | 7/7 | 0.93 | 0.26 | 86,86,86,86 | 7 |
| 74 | OHX | B1 | 3485 | 7/7 | 0.93 | 0.25 | 110,110,110,110 | 7 |
| 74 | OHX | B1 | 3486 | 7/7 | 0.93 | 0.24 | 104,104,104,104 | 7 |
| 74 | OHX | D1 | 3405 | 7/7 | 0.93 | 0.25 | 110,110,110,110 | 0 |
| 74 | OHX | D1 | 3617 | 7/7 | 0.93 | 0.22 | 50,50,50,50 | 7 |
| 74 | OHX | D1 | 3413 | 7/7 | 0.93 | 0.25 | 114,114,114,114 | 7 |
| 74 | OHX | B1 | 3607 | 7/7 | 0.93 | 0.26 | 44,44,44,44 | 7 |
| 74 | OHX | D1 | 3439 | 7/7 | 0.93 | 0.24 | 107,107,107,107 | 7 |
| 74 | OHX | A1 | 1961 | 7/7 | 0.93 | 0.16 | 105,105,105,105 | 7 |
| 74 | OHX | B1 | 3455 | 7/7 | 0.93 | 0.20 | 134,134,134,134 | 7 |
| 74 | OHX | C1 | 1915 | 7/7 | 0.93 | 0.24 | 120,120,120,120 | 7 |
| 74 | OHX | C1 | 1973 | 7/7 | 0.93 | 0.17 | 95,95,95,95 | 7 |
| 74 | OHX | A1 | 1908 | 7/7 | 0.93 | 0.25 | 96,96,96,96 | 7 |
| 74 | OHX | C1 | 1920 | 7/7 | 0.93 | 0.23 | 103,103,103,103 | 7 |
| 74 | OHX | D1 | 3462 | 7/7 | 0.93 | 0.21 | 114,114,114,114 | 7 |
| 74 | OHX | D2 | 205 | 7/7 | 0.93 | 0.20 | 84,84,84,84 | 7 |
| 74 | OHX | D2 | 206 | 7/7 | 0.93 | 0.23 | 85,85,85,85 | 7 |
| 74 | OHX | B1 | 3457 | 7/7 | 0.93 | 0.20 | 147,147,147,147 | 7 |
| 74 | OHX | C1 | 1977 | 7/7 | 0.93 | 0.21 | 102,102,102,102 | 7 |
| 74 | OHX | B1 | 3559 | 7/7 | 0.93 | 0.20 | 68,68,68,68 | 7 |
| 74 | OHX | A1 | 1911 | 7/7 | 0.93 | 0.22 | 112,112,112,112 | 7 |
| 74 | OHX | B1 | 3585 | 7/7 | 0.93 | 0.33 | 197,197,197,197 | 7 |
| 74 | OHX | D3 | 207 | 7/7 | 0.93 | 0.22 | 123,123,123,123 | 7 |
| 74 | OHX | D1 | 3473 | 7/7 | 0.93 | 0.18 | 123,123,123,123 | 7 |
| 74 | OHX | B1 | 3615 | 7/7 | 0.93 | 0.22 | 49,49,49,49 | 7 |
| 74 | OHX | B1 | 3561 | 7/7 | 0.93 | 0.42 | 280,280,280,280 | 7 |
| 74 | OHX | C1 | 1983 | 7/7 | 0.93 | 0.25 | 59,59,59,59 | 7 |
| 74 | OHX | D1 | 3583 | 7/7 | 0.93 | 0.20 | 88,88,88,88 | 7 |
| 74 | OHX | D1 | 3530 | 7/7 | 0.93 | 0.22 | 51,51,51,51 | 7 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | B1 | 3587 | 7/7 | 0.93 | 0.28 | 154,154,154,154 | 7 |
| 74 | OHX | D1 | 3479 | 7/7 | 0.93 | 0.26 | 99,99,99,99 | 7 |
| 74 | OHX | B1 | 3466 | 7/7 | 0.93 | 0.17 | 120,120,120,120 | 7 |
| 74 | OHX | A1 | 1987 | 7/7 | 0.93 | 0.24 | 72,72,72,72 | 7 |
| 74 | OHX | C1 | 1942 | 7/7 | 0.93 | 0.20 | 112,112,112,112 | 7 |
| 74 | OHX | B1 | 3431 | 7/7 | 0.94 | 0.16 | 125,125,125,125 | 7 |
| 74 | OHX | D1 | 3520 | 7/7 | 0.94 | 0.21 | 109,109,109,109 | 7 |
| 74 | OHX | C1 | 1961 | 7/7 | 0.94 | 0.20 | 101,101,101,101 | 7 |
| 74 | OHX | D1 | 3607 | 7/7 | 0.94 | 0.23 | 78,78,78,78 | 7 |
| 74 | OHX | D1 | 3608 | 7/7 | 0.94 | 0.26 | 14,14,14,14 | 7 |
| 74 | OHX | B1 | 3526 | 7/7 | 0.94 | 0.22 | 174,174,174,174 | 7 |
| 74 | OHX | C1 | 1963 | 7/7 | 0.94 | 0.20 | 94,94,94,94 | 7 |
| 74 | OHX | C1 | 1964 | 7/7 | 0.94 | 0.23 | 88,88,88,88 | 7 |
| 74 | OHX | C1 | 1916 | 7/7 | 0.94 | 0.25 | 169,169,169,169 | 7 |
| 74 | OHX | B1 | 3507 | 7/7 | 0.94 | 0.26 | 104,104,104,104 | 7 |
| 74 | OHX | D1 | 3484 | 7/7 | 0.94 | 0.19 | 116,116,116,116 | 7 |
| 74 | OHX | A1 | 1915 | 7/7 | 0.94 | 0.21 | 129,129,129,129 | 7 |
| 74 | OHX | C1 | 1922 | 7/7 | 0.94 | 0.23 | 142,142,142,142 | 7 |
| 74 | OHX | A1 | 1959 | 7/7 | 0.94 | 0.28 | 110,110,110,110 | 7 |
| 74 | OHX | B1 | 3460 | 7/7 | 0.94 | 0.20 | 137,137,137,137 | 7 |
| 74 | OHX | B1 | 3461 | 7/7 | 0.94 | 0.21 | 101,101,101,101 | 7 |
| 74 | OHX | B1 | 3462 | 7/7 | 0.94 | 0.20 | 90,90,90,90 | 7 |
| 74 | OHX | D1 | 3492 | 7/7 | 0.94 | 0.23 | 112,112,112,112 | 7 |
| 74 | OHX | B1 | 3488 | 7/7 | 0.94 | 0.16 | 104,104,104,104 | 7 |
| 74 | OHX | D1 | 3624 | 7/7 | 0.94 | 0.24 | 95,95,95,95 | 7 |
| 74 | OHX | B1 | 3465 | 7/7 | 0.94 | 0.20 | 142,142,142,142 | 7 |
| 74 | OHX | C1 | 1937 | 7/7 | 0.94 | 0.18 | 124,124,124,124 | 7 |
| 74 | OHX | A1 | 1932 | 7/7 | 0.94 | 0.20 | 142,142,142,142 | 7 |
| 74 | OHX | D1 | 3441 | 7/7 | 0.94 | 0.20 | 124,124,124,124 | 7 |
| 74 | OHX | B1 | 3468 | 7/7 | 0.94 | 0.25 | 89,89,89,89 | 7 |
| 74 | OHX | B1 | 3441 | 7/7 | 0.94 | 0.23 | 129,129,129,129 | 7 |
| 74 | OHX | AL | 201 | 7/7 | 0.94 | 0.15 | 122,122,122,122 | 7 |
| 74 | OHX | D1 | 3543 | 7/7 | 0.94 | 0.20 | 45,45,45,45 | 7 |
| 74 | OHX | D1 | 3588 | 7/7 | 0.94 | 0.28 | 336,336,336,336 | 7 |
| 74 | OHX | A1 | 1928 | 7/7 | 0.94 | 0.15 | 99,99,99,99 | 7 |
| 74 | OHX | D1 | 3459 | 7/7 | 0.94 | 0.23 | 96,96,96,96 | 7 |
| 74 | OHX | B3 | 203 | 7/7 | 0.94 | 0.20 | 140,140,140,140 | 7 |
| 74 | OHX | B1 | 3474 | 7/7 | 0.94 | 0.19 | 179,179,179,179 | 7 |
| 74 | OHX | C1 | 1949 | 7/7 | 0.94 | 0.17 | 97,97,97,97 | 7 |
| 74 | OHX | D1 | 3463 | 7/7 | 0.94 | 0.19 | 140,140,140,140 | 7 |
| 74 | OHX | A1 | 1924 | 7/7 | 0.94 | 0.21 | 150,150,150,150 | 7 |
| 74 | OHX | B3 | 208 | 7/7 | 0.94 | 0.18 | 79,79,79,79 | 7 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | B1 | 3543 | 7/7 | 0.94 | 0.15 | 102,102,102,102 | 7 |
| 74 | OHX | B1 | 3421 | 7/7 | 0.94 | 0.27 | 141,141,141,141 | 0 |
| 74 | OHX | A1 | 1986 | 7/7 | 0.94 | 0.19 | 98,98,98,98 | 7 |
| 74 | OHX | BC | 401 | 7/7 | 0.94 | 0.16 | 66,66,66,66 | 7 |
| 74 | OHX | B1 | 3590 | 7/7 | 0.94 | 0.18 | 69,69,69,69 | 7 |
| 74 | OHX | B1 | 3426 | 7/7 | 0.94 | 0.20 | 111,111,111,111 | 7 |
| 74 | OHX | D1 | 3491 | 7/7 | 0.95 | 0.17 | 37,37,37,37 | 7 |
| 74 | OHX | A1 | 1980 | 7/7 | 0.95 | 0.14 | 136,136,136,136 | 7 |
| 74 | OHX | B1 | 3494 | 7/7 | 0.95 | 0.19 | 118,118,118,118 | 7 |
| 74 | OHX | B1 | 3429 | 7/7 | 0.95 | 0.17 | 93,93,93,93 | 7 |
| 74 | OHX | D1 | 3458 | 7/7 | 0.95 | 0.17 | 103,103,103,103 | 7 |
| 74 | OHX | B1 | 3496 | 7/7 | 0.95 | 0.19 | 122,122,122,122 | 7 |
| 74 | OHX | B1 | 3447 | 7/7 | 0.95 | 0.22 | 126,126,126,126 | 7 |
| 74 | OHX | C1 | 1941 | 7/7 | 0.95 | 0.18 | 109,109,109,109 | 7 |
| 74 | OHX | B1 | 3430 | 7/7 | 0.95 | 0.20 | 99,99,99,99 | 7 |
| 74 | OHX | C1 | 1914 | 7/7 | 0.95 | 0.15 | 128,128,128,128 | 7 |
| 74 | OHX | D1 | 3502 | 7/7 | 0.95 | 0.16 | 79,79,79,79 | 7 |
| 74 | OHX | D1 | 3464 | 7/7 | 0.95 | 0.16 | 92,92,92,92 | 7 |
| 74 | OHX | D1 | 3465 | 7/7 | 0.95 | 0.19 | 101,101,101,101 | 7 |
| 74 | OHX | B1 | 3403 | 7/7 | 0.95 | 0.26 | 126,126,126,126 | 0 |
| 74 | OHX | B1 | 3500 | 7/7 | 0.95 | 0.21 | 116,116,116,116 | 7 |
| 74 | OHX | C1 | 1948 | 7/7 | 0.95 | 0.20 | 117,117,117,117 | 7 |
| 74 | OHX | B1 | 3409 | 7/7 | 0.95 | 0.22 | 122,122,122,122 | 0 |
| 74 | OHX | B1 | 3416 | 7/7 | 0.95 | 0.25 | 113,113,113,113 | 0 |
| 74 | OHX | B1 | 3598 | 7/7 | 0.95 | 0.20 | 100,100,100,100 | 7 |
| 74 | OHX | A1 | 1976 | 7/7 | 0.95 | 0.24 | 51,51,51,51 | 7 |
| 74 | OHX | B1 | 3440 | 7/7 | 0.95 | 0.24 | 105,105,105,105 | 7 |
| 74 | OHX | C1 | 1955 | 7/7 | 0.95 | 0.20 | 106,106,106,106 | 7 |
| 74 | OHX | B1 | 3473 | 7/7 | 0.95 | 0.17 | 91,91,91,91 | 7 |
| 74 | OHX | D1 | 3478 | 7/7 | 0.95 | 0.17 | 117,117,117,117 | 7 |
| 74 | OHX | C1 | 1928 | 7/7 | 0.95 | 0.22 | 165,165,165,165 | 7 |
| 74 | OHX | C1 | 1930 | 7/7 | 0.95 | 0.18 | 112,112,112,112 | 7 |
| 74 | OHX | B1 | 3458 | 7/7 | 0.95 | 0.25 | 114,114,114,114 | 7 |
| 74 | OHX | D1 | 3436 | 7/7 | 0.95 | 0.24 | 125,125,125,125 | 7 |
| 74 | OHX | D1 | 3437 | 7/7 | 0.95 | 0.22 | 103,103,103,103 | 7 |
| 74 | OHX | A1 | 1945 | 7/7 | 0.95 | 0.16 | 108,108,108,108 | 7 |
| 74 | OHX | D1 | 3440 | 7/7 | 0.95 | 0.25 | 137,137,137,137 | 7 |
| 74 | OHX | C1 | 1934 | 7/7 | 0.95 | 0.18 | 141,141,141,141 | 7 |
| 74 | OHX | D1 | 3448 | 7/7 | 0.95 | 0.22 | 107,107,107,107 | 7 |
| 74 | OHX | D1 | 3604 | 7/7 | 0.95 | 0.18 | 44,44,44,44 | 7 |
| 74 | OHX | C1 | 1935 | 7/7 | 0.95 | 0.15 | 93,93,93,93 | 7 |
| 74 | OHX | D1 | 3450 | 7/7 | 0.95 | 0.22 | 112,112,112,112 | 7 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | D1 | 3567 | 7/7 | 0.95 | 0.16 | 106,106,106,106 | 7 |
| 74 | OHX | D1 | 3451 | 7/7 | 0.95 | 0.22 | 112,112,112,112 | 7 |
| 74 | OHX | C1 | 1932 | 7/7 | 0.96 | 0.18 | 115,115,115,115 | 7 |
| 74 | OHX | A1 | 1904 | 7/7 | 0.96 | 0.18 | 137,137,137,137 | 7 |
| 74 | OHX | A1 | 1937 | 7/7 | 0.96 | 0.16 | 158,158,158,158 | 7 |
| 74 | OHX | D1 | 3512 | 7/7 | 0.96 | 0.16 | 108,108,108,108 | 7 |
| 74 | OHX | A1 | 1920 | 7/7 | 0.96 | 0.15 | 126,126,126,126 | 7 |
| 74 | OHX | B1 | 3433 | 7/7 | 0.96 | 0.21 | 98,98,98,98 | 7 |
| 74 | OHX | A1 | 1910 | 7/7 | 0.96 | 0.19 | 146,146,146,146 | 7 |
| 74 | OHX | D1 | 3561 | 7/7 | 0.96 | 0.17 | 65,65,65,65 | 7 |
| 74 | OHX | D1 | 3470 | 7/7 | 0.96 | 0.13 | 84,84,84,84 | 7 |
| 74 | OHX | B1 | 3436 | 7/7 | 0.96 | 0.15 | 104,104,104,104 | 7 |
| 74 | OHX | A1 | 1905 | 7/7 | 0.96 | 0.19 | 118,118,118,118 | 0 |
| 74 | OHX | D1 | 3612 | 7/7 | 0.96 | 0.18 | 36,36,36,36 | 7 |
| 74 | OHX | CS | 101 | 7/7 | 0.96 | 0.27 | 46,46,46,46 | 7 |
| 74 | OHX | A1 | 1912 | 7/7 | 0.96 | 0.18 | 125,125,125,125 | 7 |
| 74 | OHX | B1 | 3439 | 7/7 | 0.96 | 0.19 | 90,90,90,90 | 7 |
| 74 | OHX | B1 | 3463 | 7/7 | 0.96 | 0.16 | 137,137,137,137 | 7 |
| 74 | OHX | Bd | 102 | 7/7 | 0.96 | 0.15 | 73,73,73,73 | 7 |
| 74 | OHX | D1 | 3416 | 7/7 | 0.96 | 0.12 | 108,108,108,108 | 7 |
| 74 | OHX | D1 | 3571 | 7/7 | 0.96 | 0.17 | 77,77,77,77 | 7 |
| 74 | OHX | D1 | 3417 | 7/7 | 0.96 | 0.19 | 91,91,91,91 | 7 |
| 74 | OHX | D1 | 3418 | 7/7 | 0.96 | 0.22 | 103,103,103,103 | 0 |
| 74 | OHX | D1 | 3425 | 7/7 | 0.96 | 0.16 | 126,126,126,126 | 7 |
| 74 | OHX | D1 | 3429 | 7/7 | 0.96 | 0.21 | 82,82,82,82 | 7 |
| 74 | OHX | D1 | 3432 | 7/7 | 0.96 | 0.20 | 100,100,100,100 | 7 |
| 74 | OHX | C1 | 1944 | 7/7 | 0.96 | 0.12 | 134,134,134,134 | 7 |
| 74 | OHX | Bg | 101 | 7/7 | 0.96 | 0.24 | 79,79,79,79 | 7 |
| 74 | OHX | C1 | 1946 | 7/7 | 0.96 | 0.15 | 63,63,63,63 | 7 |
| 74 | OHX | B1 | 3464 | 7/7 | 0.96 | 0.20 | 89,89,89,89 | 7 |
| 74 | OHX | B1 | 3410 | 7/7 | 0.96 | 0.17 | 111,111,111,111 | 0 |
| 74 | OHX | A1 | 1906 | 7/7 | 0.96 | 0.15 | 97,97,97,97 | 7 |
| 74 | OHX | D1 | 3444 | 7/7 | 0.96 | 0.20 | 72,72,72,72 | 7 |
| 74 | OHX | D1 | 3445 | 7/7 | 0.96 | 0.19 | 101,101,101,101 | 7 |
| 74 | OHX | D1 | 3447 | 7/7 | 0.96 | 0.20 | 142,142,142,142 | 7 |
| 74 | OHX | D3 | 203 | 7/7 | 0.96 | 0.14 | 86,86,86,86 | 7 |
| 74 | OHX | D3 | 204 | 7/7 | 0.96 | 0.19 | 120,120,120,120 | 7 |
| 74 | OHX | B1 | 3442 | 7/7 | 0.96 | 0.21 | 89,89,89,89 | 7 |
| 74 | OHX | B1 | 3419 | 7/7 | 0.96 | 0.17 | 109,109,109,109 | 7 |
| 74 | OHX | B1 | 3444 | 7/7 | 0.96 | 0.15 | 111,111,111,111 | 7 |
| 74 | OHX | A1 | 1907 | 7/7 | 0.96 | 0.18 | 111,111,111,111 | 7 |
| 74 | OHX | A1 | 1916 | 7/7 | 0.96 | 0.16 | 91,91,91,91 | 7 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | A1 | 2001 | 7/7 | 0.96 | 0.17 | 26,26,26,26 | 7 |
| 74 | OHX | C1 | 1925 | 7/7 | 0.96 | 0.14 | 116,116,116,116 | 7 |
| 74 | OHX | B1 | 3475 | 7/7 | 0.96 | 0.20 | 84,84,84,84 | 7 |
| 74 | OHX | B1 | 3452 | 7/7 | 0.96 | 0.17 | 134,134,134,134 | 7 |
| 74 | OHX | D1 | 3504 | 7/7 | 0.96 | 0.16 | 101,101,101,101 | 7 |
| 74 | OHX | B1 | 3427 | 7/7 | 0.96 | 0.23 | 95,95,95,95 | 7 |
| 74 | OHX | C1 | 1929 | 7/7 | 0.96 | 0.21 | 90,90,90,90 | 7 |
| 74 | OHX | B1 | 3478 | 7/7 | 0.96 | 0.14 | 110,110,110,110 | 7 |
| 74 | OHX | Dd | 101 | 7/7 | 0.96 | 0.23 | 32,32,32,32 | 7 |
| 74 | OHX | B1 | 3505 | 7/7 | 0.96 | 0.15 | 134,134,134,134 | 7 |
| 74 | OHX | B1 | 3540 | 7/7 | 0.97 | 0.14 | 58,58,58,58 | 7 |
| 74 | OHX | A1 | 1918 | 7/7 | 0.97 | 0.18 | 94,94,94,94 | 7 |
| 74 | OHX | C1 | 1902 | 7/7 | 0.97 | 0.22 | 108,108,108,108 | 0 |
| 74 | OHX | C1 | 1905 | 7/7 | 0.97 | 0.11 | 114,114,114,114 | 7 |
| 74 | OHX | C1 | 1909 | 7/7 | 0.97 | 0.14 | 130,130,130,130 | 7 |
| 74 | OHX | D1 | 3442 | 7/7 | 0.97 | 0.16 | 126,126,126,126 | 7 |
| 74 | OHX | D1 | 3443 | 7/7 | 0.97 | 0.14 | 96,96,96,96 | 7 |
| 74 | OHX | A1 | 1903 | 7/7 | 0.97 | 0.15 | 122,122,122,122 | 7 |
| 74 | OHX | C1 | 1912 | 7/7 | 0.97 | 0.12 | 117,117,117,117 | 7 |
| 74 | OHX | D1 | 3446 | 7/7 | 0.97 | 0.17 | 83,83,83,83 | 7 |
| 74 | OHX | AS | 101 | 7/7 | 0.97 | 0.19 | 29,29,29,29 | 7 |
| 74 | OHX | B1 | 3418 | 7/7 | 0.97 | 0.14 | 106,106,106,106 | 0 |
| 74 | OHX | B1 | 3593 | 7/7 | 0.97 | 0.15 | 46,46,46,46 | 7 |
| 74 | OHX | B1 | 3432 | 7/7 | 0.97 | 0.17 | 79,79,79,79 | 7 |
| 74 | OHX | A1 | 1909 | 7/7 | 0.97 | 0.12 | 115,115,115,115 | 7 |
| 74 | OHX | A1 | 1975 | 7/7 | 0.97 | 0.17 | 67,67,67,67 | 7 |
| 74 | OHX | C1 | 1921 | 7/7 | 0.97 | 0.12 | 145,145,145,145 | 7 |
| 74 | OHX | D1 | 3496 | 7/7 | 0.97 | 0.18 | 155,155,155,155 | 7 |
| 74 | OHX | D1 | 3455 | 7/7 | 0.97 | 0.16 | 110,110,110,110 | 7 |
| 74 | OHX | D1 | 3456 | 7/7 | 0.97 | 0.19 | 131,131,131,131 | 7 |
| 74 | OHX | B1 | 3423 | 7/7 | 0.97 | 0.21 | 91,91,91,91 | 7 |
| 74 | OHX | B1 | 3492 | 7/7 | 0.97 | 0.20 | 70,70,70,70 | 7 |
| 74 | OHX | C1 | 1924 | 7/7 | 0.97 | 0.12 | 82,82,82,82 | 7 |
| 74 | OHX | B1 | 3451 | 7/7 | 0.97 | 0.15 | 86,86,86,86 | 7 |
| 74 | OHX | D1 | 3401 | 7/7 | 0.97 | 0.20 | 96,96,96,96 | 0 |
| 74 | OHX | D1 | 3403 | 7/7 | 0.97 | 0.19 | 96,96,96,96 | 0 |
| 74 | OHX | B1 | 3567 | 7/7 | 0.97 | 0.11 | 126,126,126,126 | 7 |
| 74 | OHX | D1 | 3406 | 7/7 | 0.97 | 0.12 | 107,107,107,107 | 0 |
| 74 | OHX | D1 | 3409 | 7/7 | 0.97 | 0.14 | 114,114,114,114 | 0 |
| 74 | OHX | D1 | 3410 | 7/7 | 0.97 | 0.22 | 96,96,96,96 | 0 |
| 74 | OHX | C1 | 1953 | 7/7 | 0.97 | 0.16 | 56,56,56,56 | 7 |
| 74 | OHX | B1 | 3424 | 7/7 | 0.97 | 0.19 | 105,105,105,105 | 7 |

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| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | A1 | 1917 | 7/7 | 0.97 | 0.15 | 130,130,130,130 | 7 |
| 74 | OHX | B3 | 211 | 7/7 | 0.97 | 0.14 | 67,67,67,67 | 7 |
| 74 | OHX | D1 | 3422 | 7/7 | 0.97 | 0.15 | 114,114,114,114 | 7 |
| 74 | OHX | D1 | 3472 | 7/7 | 0.97 | 0.15 | 185,185,185,185 | 7 |
| 74 | OHX | B1 | 3406 | 7/7 | 0.97 | 0.23 | 106,106,106,106 | 0 |
| 74 | OHX | B1 | 3467 | 7/7 | 0.97 | 0.14 | 119,119,119,119 | 7 |
| 74 | OHX | D1 | 3430 | 7/7 | 0.97 | 0.15 | 101,101,101,101 | 7 |
| 74 | OHX | D1 | 3560 | 7/7 | 0.97 | 0.19 | 82,82,82,82 | 7 |
| 74 | OHX | B2 | 201 | 7/7 | 0.97 | 0.10 | 141,141,141,141 | 7 |
| 74 | OHX | DT | 201 | 7/7 | 0.97 | 0.22 | 100,100,100,100 | 0 |
| 74 | OHX | Bd | 101 | 7/7 | 0.97 | 0.22 | 32,32,32,32 | 7 |
| 74 | OHX | D1 | 3435 | 7/7 | 0.97 | 0.12 | 92,92,92,92 | 7 |
| 74 | OHX | B1 | 3405 | 7/7 | 0.98 | 0.18 | 101,101,101,101 | 0 |
| 74 | OHX | D1 | 3434 | 7/7 | 0.98 | 0.13 | 77,77,77,77 | 7 |
| 74 | OHX | BT | 201 | 7/7 | 0.98 | 0.17 | 91,91,91,91 | 7 |
| 74 | OHX | B1 | 3422 | 7/7 | 0.98 | 0.12 | 93,93,93,93 | 7 |
| 74 | OHX | A1 | 1901 | 7/7 | 0.98 | 0.14 | 100,100,100,100 | 0 |
| 74 | OHX | B1 | 3480 | 7/7 | 0.98 | 0.10 | 85,85,85,85 | 7 |
| 74 | OHX | B1 | 3407 | 7/7 | 0.98 | 0.12 | 105,105,105,105 | 0 |
| 74 | OHX | C1 | 1903 | 7/7 | 0.98 | 0.16 | 115,115,115,115 | 0 |
| 74 | OHX | C1 | 1904 | 7/7 | 0.98 | 0.18 | 113,113,113,113 | 0 |
| 74 | OHX | B1 | 3408 | 7/7 | 0.98 | 0.17 | 98,98,98,98 | 0 |
| 74 | OHX | C1 | 1907 | 7/7 | 0.98 | 0.18 | 123,123,123,123 | 7 |
| 74 | OHX | B1 | 3563 | 7/7 | 0.98 | 0.17 | 152,152,152,152 | 7 |
| 74 | OHX | A1 | 1902 | 7/7 | 0.98 | 0.14 | 112,112,112,112 | 0 |
| 74 | OHX | C1 | 1911 | 7/7 | 0.98 | 0.11 | 96,96,96,96 | 7 |
| 74 | OHX | A1 | 1931 | 7/7 | 0.98 | 0.14 | 96,96,96,96 | 7 |
| 74 | OHX | B1 | 3428 | 7/7 | 0.98 | 0.15 | 109,109,109,109 | 7 |
| 74 | OHX | B1 | 3411 | 7/7 | 0.98 | 0.14 | 105,105,105,105 | 0 |
| 74 | OHX | D1 | 3402 | 7/7 | 0.98 | 0.20 | 100,100,100,100 | 0 |
| 74 | OHX | D1 | 3582 | 7/7 | 0.98 | 0.13 | 71,71,71,71 | 7 |
| 74 | OHX | B1 | 3413 | 7/7 | 0.98 | 0.13 | 106,106,106,106 | 7 |
| 74 | OHX | D1 | 3404 | 7/7 | 0.98 | 0.21 | 99,99,99,99 | 0 |
| 74 | OHX | B3 | 201 | 7/7 | 0.98 | 0.20 | 117,117,117,117 | 0 |
| 74 | OHX | B3 | 202 | 7/7 | 0.98 | 0.11 | 116,116,116,116 | 0 |
| 74 | OHX | D1 | 3407 | 7/7 | 0.98 | 0.15 | 113,113,113,113 | 0 |
| 74 | OHX | D1 | 3408 | 7/7 | 0.98 | 0.13 | 143,143,143,143 | 0 |
| 74 | OHX | B1 | 3449 | 7/7 | 0.98 | 0.14 | 105,105,105,105 | 7 |
| 74 | OHX | B3 | 204 | 7/7 | 0.98 | 0.13 | 84,84,84,84 | 7 |
| 74 | OHX | D1 | 3411 | 7/7 | 0.98 | 0.15 | 117,117,117,117 | 0 |
| 74 | OHX | D1 | 3412 | 7/7 | 0.98 | 0.17 | 126,126,126,126 | 0 |
| 74 | OHX | B3 | 205 | 7/7 | 0.98 | 0.11 | 123,123,123,123 | 7 |

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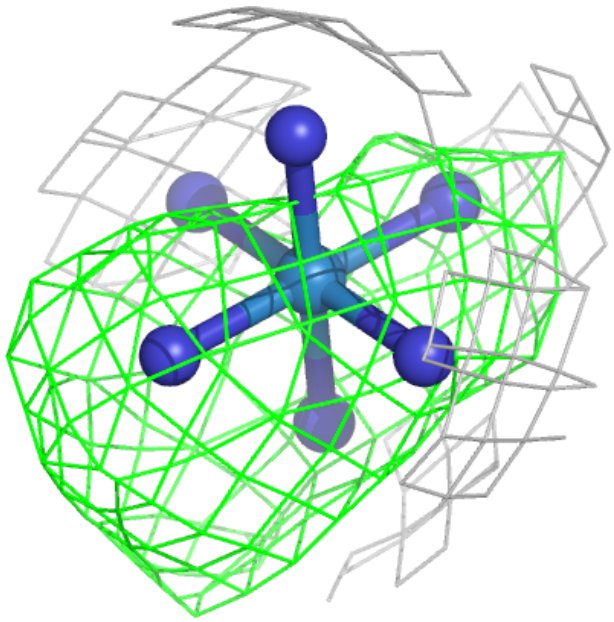
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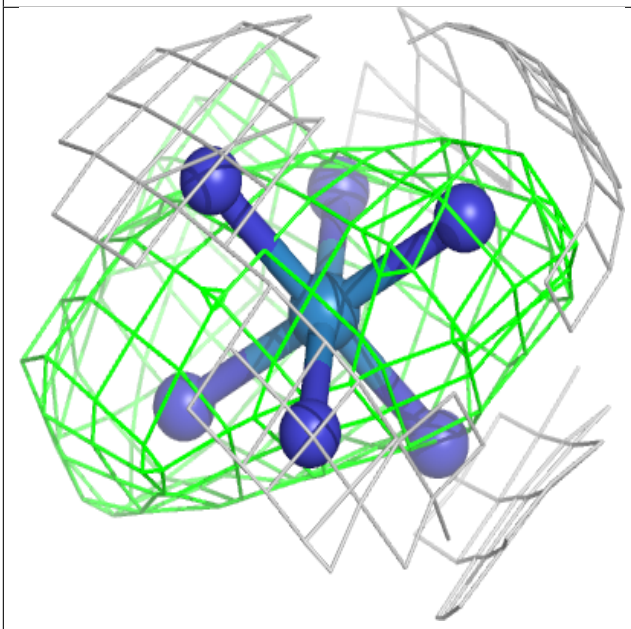
| Mol | Type | Chain | Res | Atoms | RSCC | RSR | B-factors(Å$^2$) | Q<0.9 |
|---|---|---|---|---|---|---|---|---|
| 74 | OHX | B1 | 3489 | 7/7 | 0.98 | 0.13 | 129,129,129,129 | 7 |
| 74 | OHX | B1 | 3414 | 7/7 | 0.98 | 0.13 | 106,106,106,106 | 0 |
| 74 | OHX | A1 | 1956 | 7/7 | 0.98 | 0.11 | 159,159,159,159 | 7 |
| 74 | OHX | D1 | 3419 | 7/7 | 0.98 | 0.14 | 92,92,92,92 | 0 |
| 74 | OHX | D1 | 3421 | 7/7 | 0.98 | 0.12 | 98,98,98,98 | 7 |
| 74 | OHX | B1 | 3417 | 7/7 | 0.98 | 0.12 | 102,102,102,102 | 0 |
| 74 | OHX | D1 | 3423 | 7/7 | 0.98 | 0.09 | 88,88,88,88 | 7 |
| 74 | OHX | D1 | 3424 | 7/7 | 0.98 | 0.09 | 125,125,125,125 | 7 |
| 74 | OHX | B1 | 3434 | 7/7 | 0.98 | 0.17 | 102,102,102,102 | 7 |
| 74 | OHX | D1 | 3426 | 7/7 | 0.98 | 0.15 | 112,112,112,112 | 7 |
| 74 | OHX | D1 | 3427 | 7/7 | 0.98 | 0.12 | 90,90,90,90 | 7 |
| 74 | OHX | A1 | 1913 | 7/7 | 0.98 | 0.11 | 135,135,135,135 | 7 |
| 74 | OHX | B1 | 3404 | 7/7 | 0.98 | 0.15 | 114,114,114,114 | 0 |
| 74 | OHX | B1 | 3420 | 7/7 | 0.98 | 0.15 | 93,93,93,93 | 7 |
| 74 | OHX | Dg | 101 | 7/7 | 0.98 | 0.19 | 69,69,69,69 | 7 |
| 74 | OHX | B1 | 3401 | 7/7 | 0.99 | 0.18 | 90,90,90,90 | 0 |
| 74 | OHX | D3 | 201 | 7/7 | 0.99 | 0.14 | 93,93,93,93 | 0 |
| 74 | OHX | D3 | 202 | 7/7 | 0.99 | 0.14 | 116,116,116,116 | 0 |
| 74 | OHX | C1 | 1908 | 7/7 | 0.99 | 0.11 | 104,104,104,104 | 7 |
| 74 | OHX | B1 | 3415 | 7/7 | 0.99 | 0.14 | 93,93,93,93 | 7 |
| 74 | OHX | D1 | 3428 | 7/7 | 0.99 | 0.11 | 80,80,80,80 | 7 |
| 74 | OHX | B1 | 3412 | 7/7 | 0.99 | 0.13 | 121,121,121,121 | 0 |
| 74 | OHX | D1 | 3414 | 7/7 | 0.99 | 0.11 | 114,114,114,114 | 0 |
| 74 | OHX | D1 | 3431 | 7/7 | 0.99 | 0.12 | 109,109,109,109 | 7 |
| 74 | OHX | D1 | 3415 | 7/7 | 0.99 | 0.10 | 139,139,139,139 | 0 |
| 74 | OHX | C1 | 1901 | 7/7 | 0.99 | 0.14 | 100,100,100,100 | 0 |
| 74 | OHX | D1 | 3452 | 7/7 | 0.99 | 0.10 | 94,94,94,94 | 7 |
| 74 | OHX | B1 | 3450 | 7/7 | 0.99 | 0.14 | 91,91,91,91 | 7 |
| 74 | OHX | B1 | 3445 | 7/7 | 0.99 | 0.09 | 113,113,113,113 | 7 |
| 74 | OHX | D2 | 201 | 7/7 | 0.99 | 0.09 | 94,94,94,94 | 7 |
| 74 | OHX | B1 | 3402 | 7/7 | 0.99 | 0.15 | 99,99,99,99 | 0 |
| 74 | OHX | D1 | 3420 | 7/7 | 0.99 | 0.10 | 112,112,112,112 | 0 |
| 74 | OHX | D1 | 3438 | 7/7 | 0.99 | 0.11 | 98,98,98,98 | 7 |
| 74 | OHX | B1 | 3471 | 7/7 | 0.99 | 0.11 | 130,130,130,130 | 7 |
| 74 | OHX | C1 | 1906 | 7/7 | 0.99 | 0.13 | 101,101,101,101 | 7 |
| 74 | OHX | C1 | 1917 | 7/7 | 0.99 | 0.15 | 130,130,130,130 | 7 |
| 74 | OHX | C1 | 1918 | 7/7 | 0.99 | 0.14 | 123,123,123,123 | 7 |

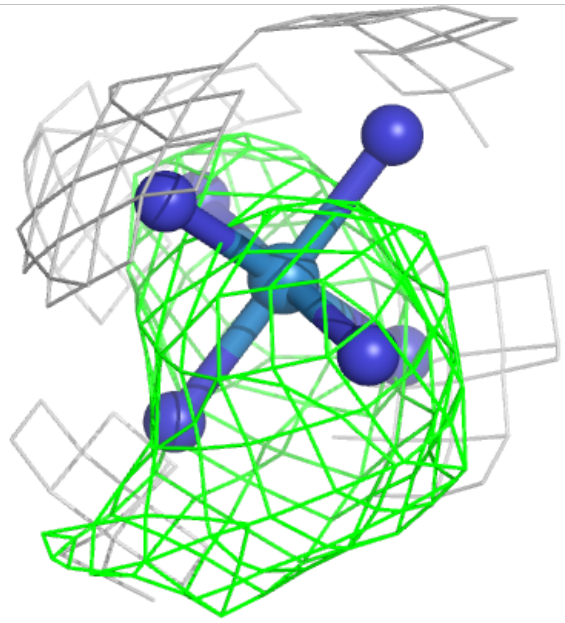
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

**Electron density around OHX C1 1998:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

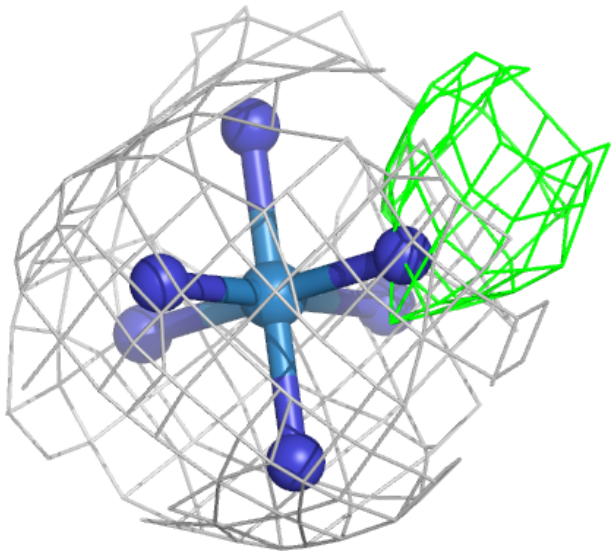


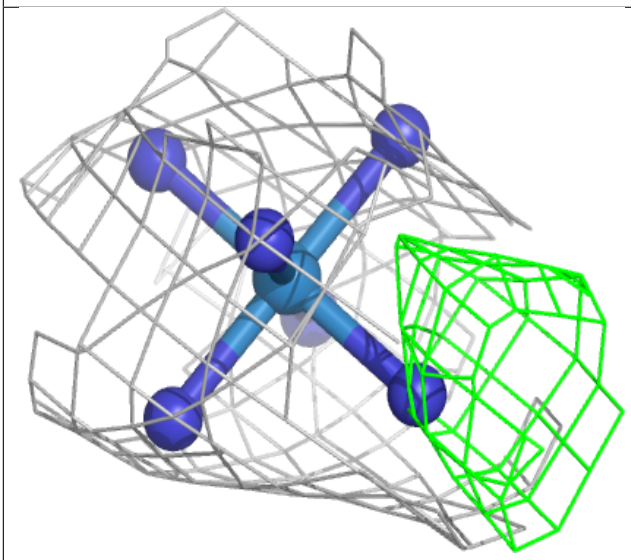


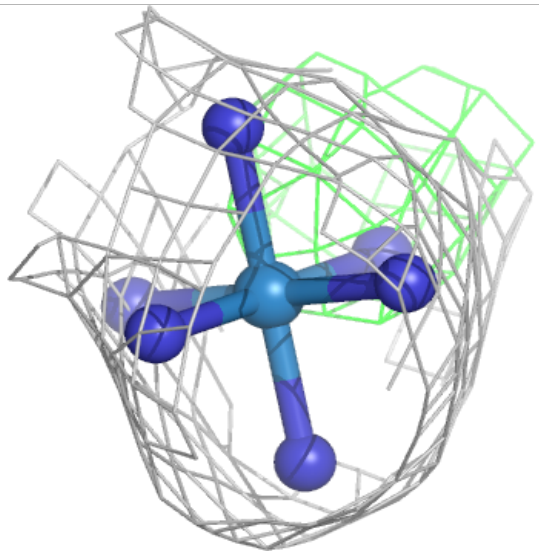


**Electron density around OHX A1 1983:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

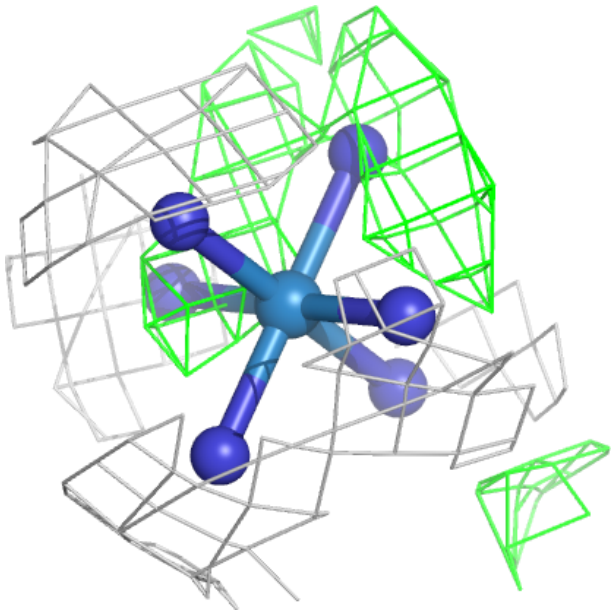


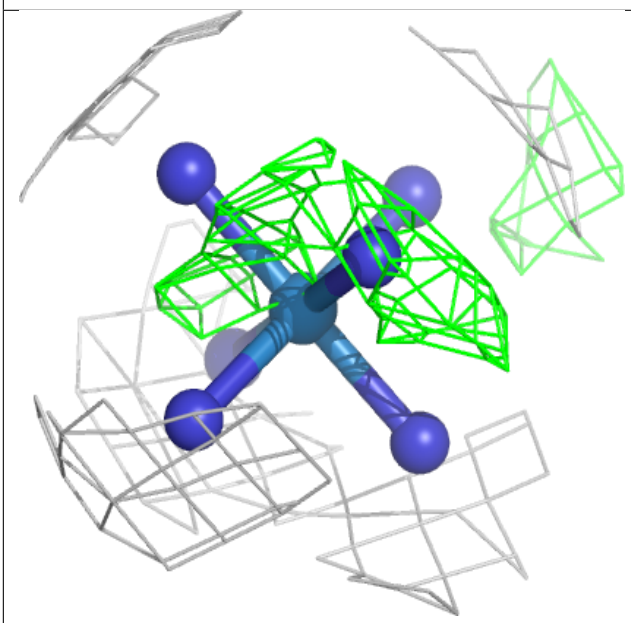


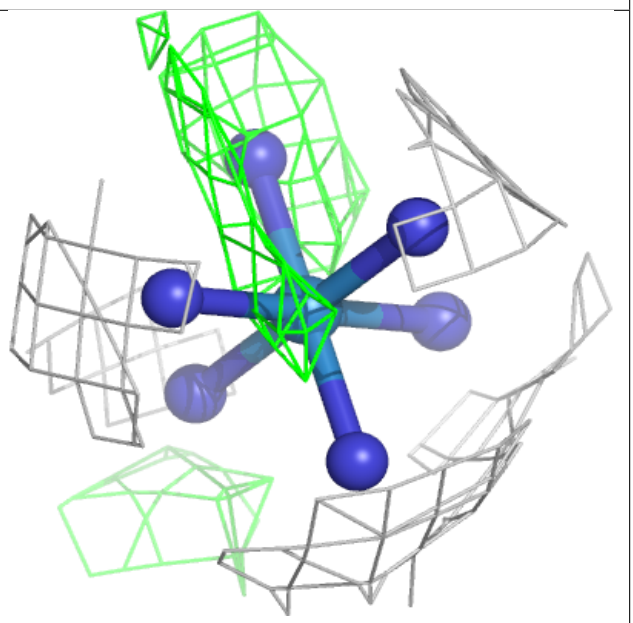


**Electron density around OHX B1 3554:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

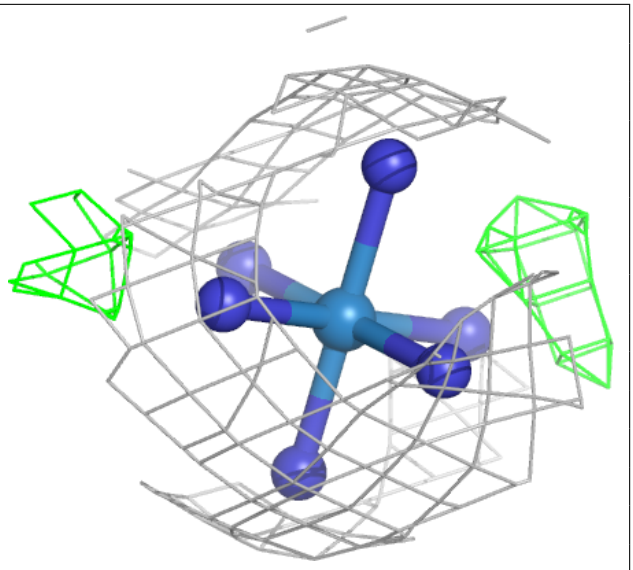


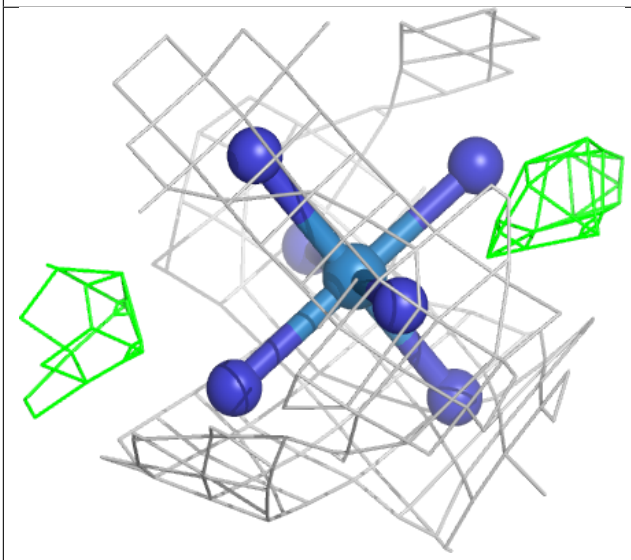


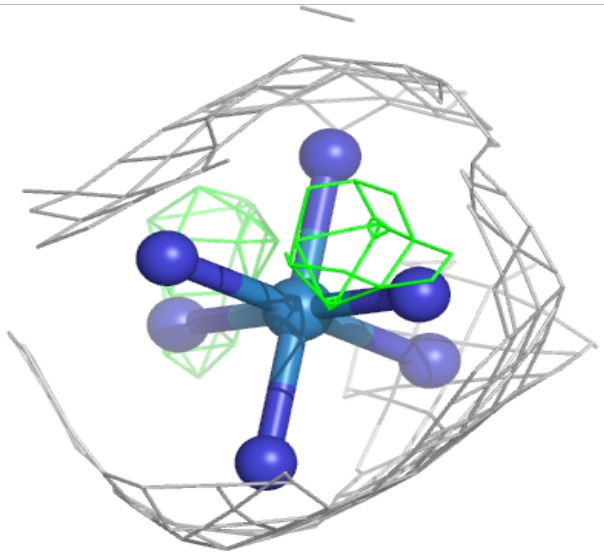


**Electron density around OHX B1 3548:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

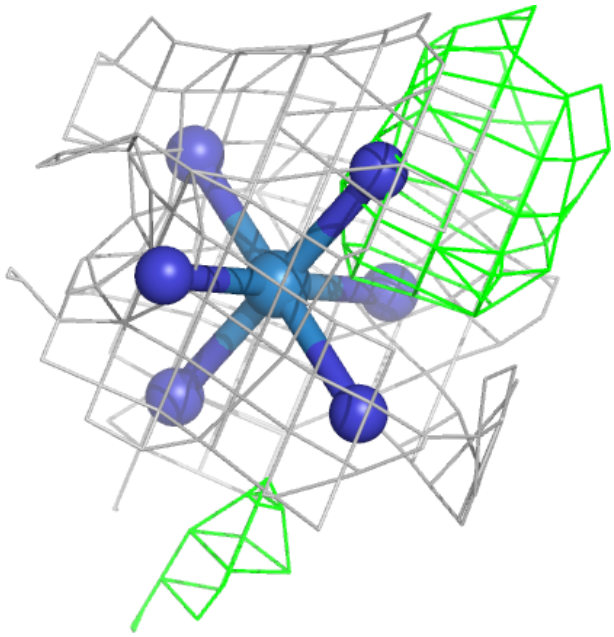


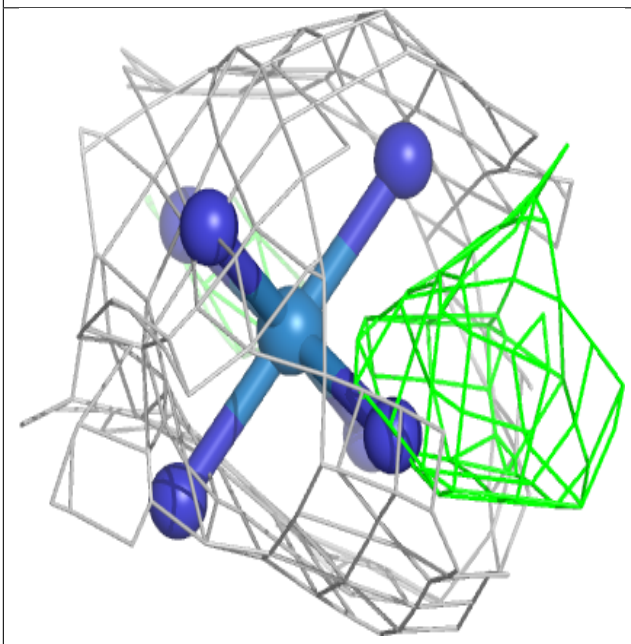


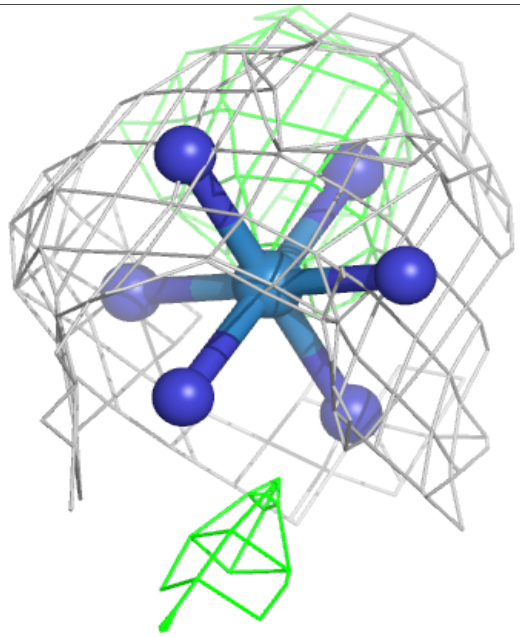


**Electron density around OHX D1 3586:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

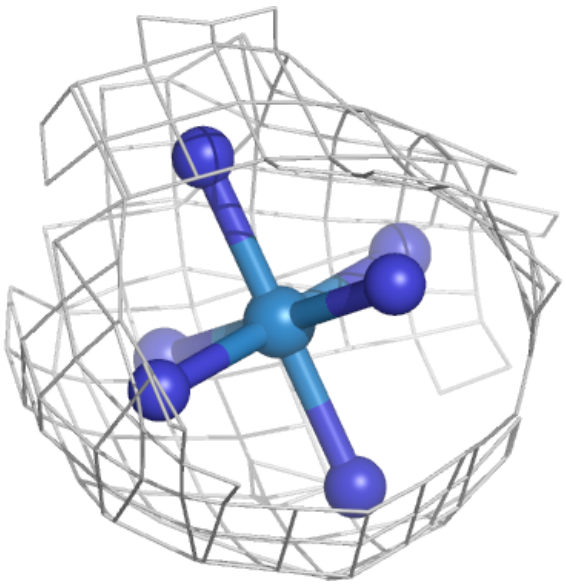


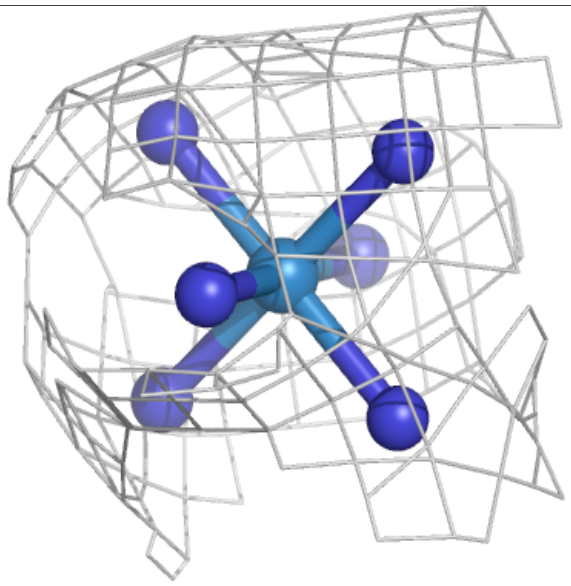


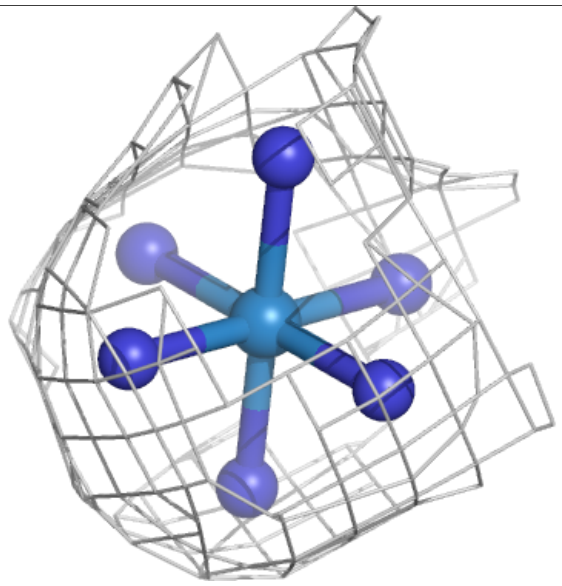


**Electron density around OHX C1 1989:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

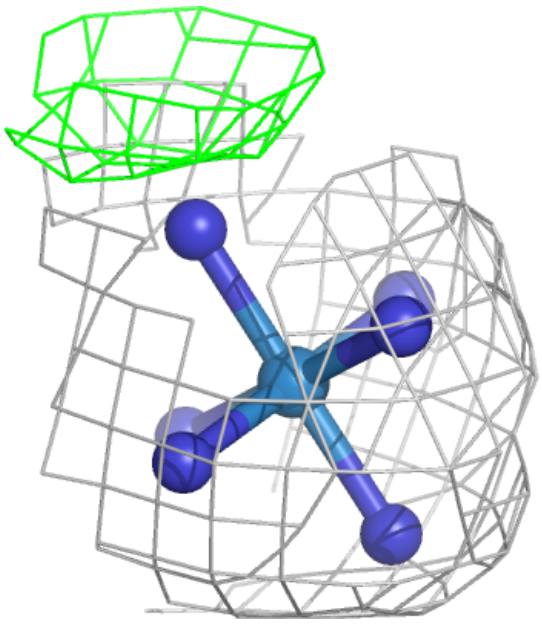


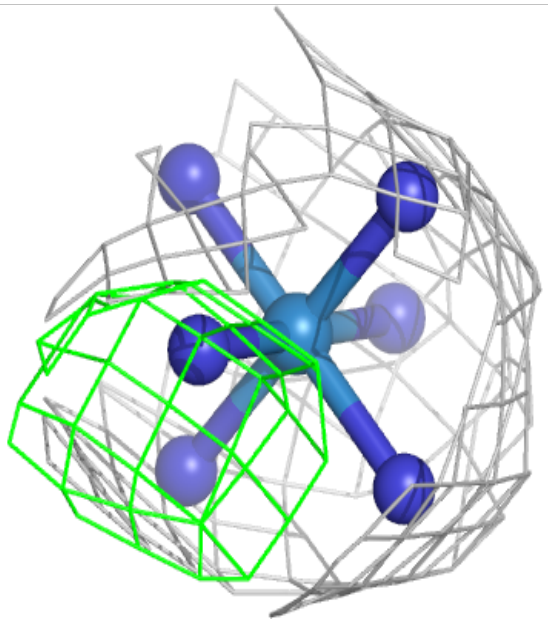


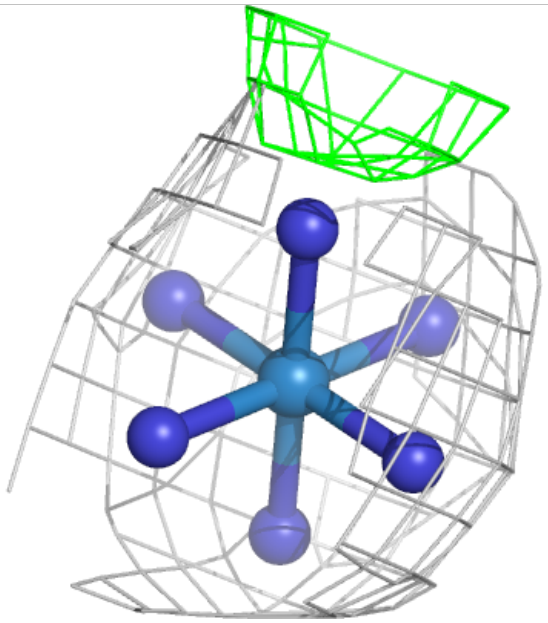


**Electron density around OHX B1 3613:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

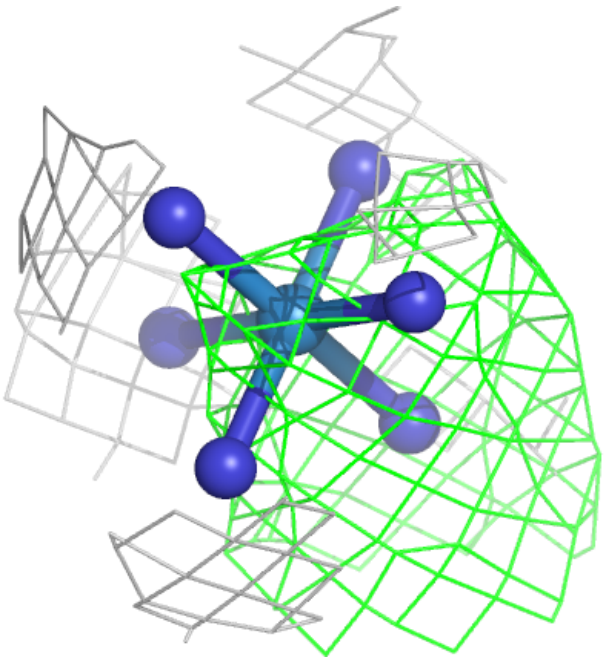


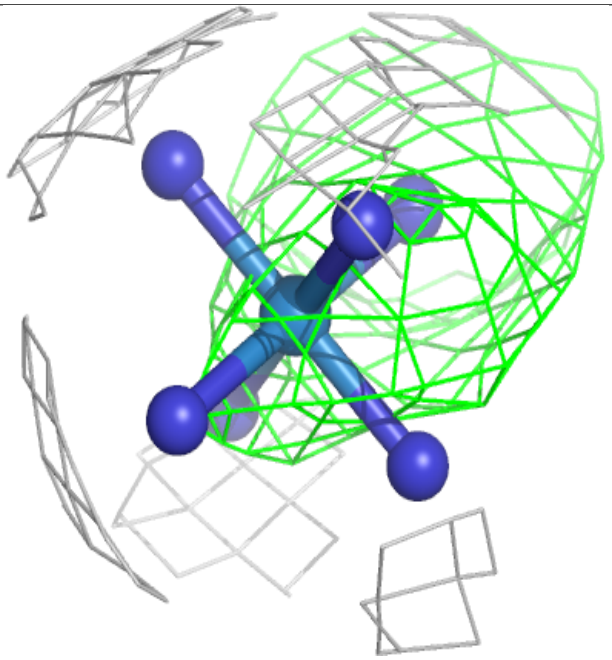


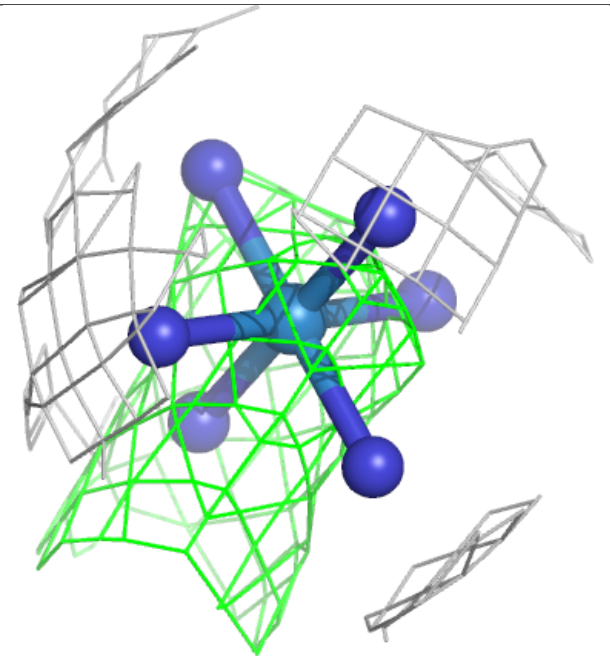


**Electron density around OHX B1 3608:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

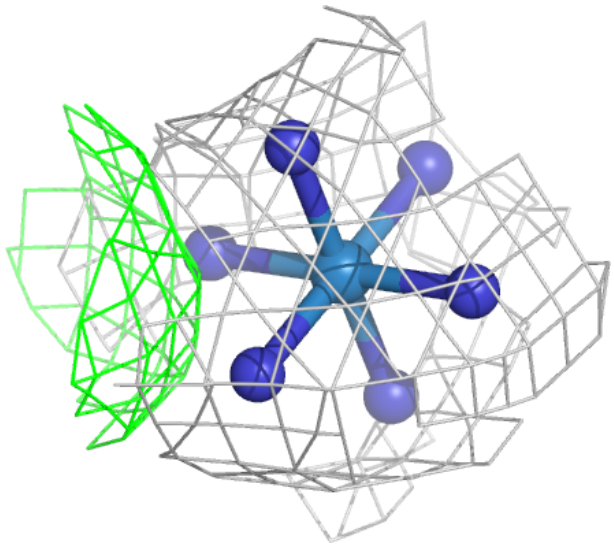


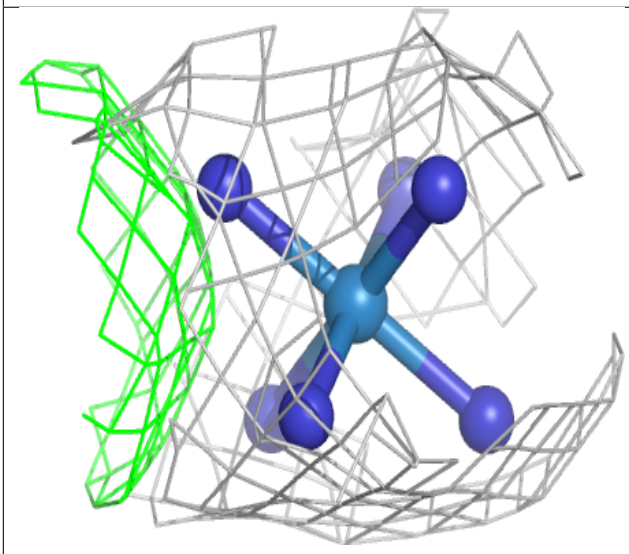


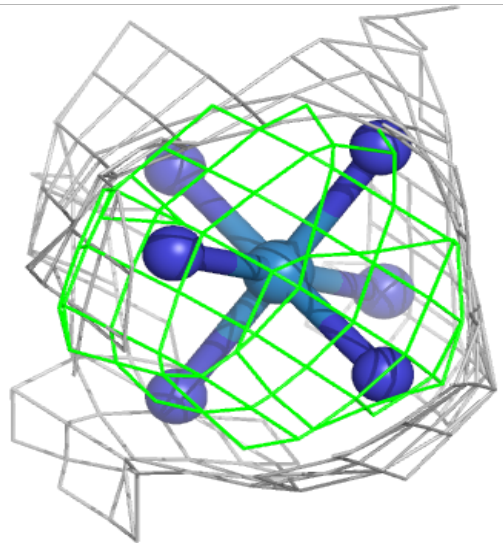


**Electron density around OHX D1 3535:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

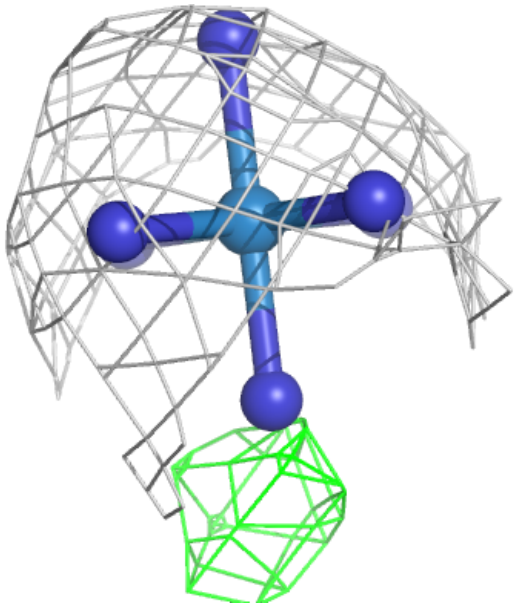


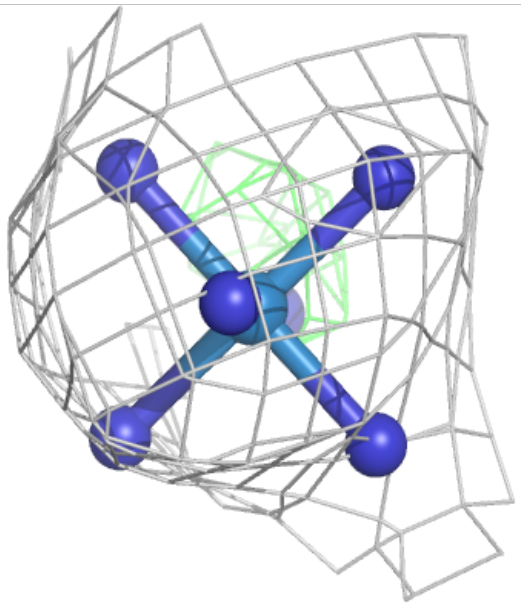


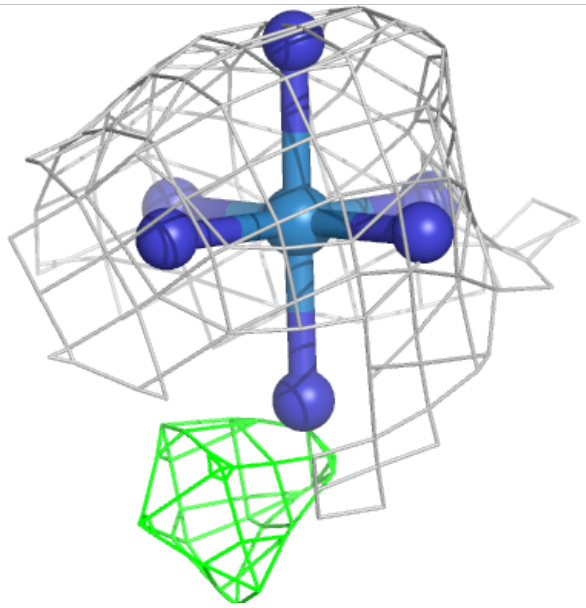


**Electron density around OHX B1 3592:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

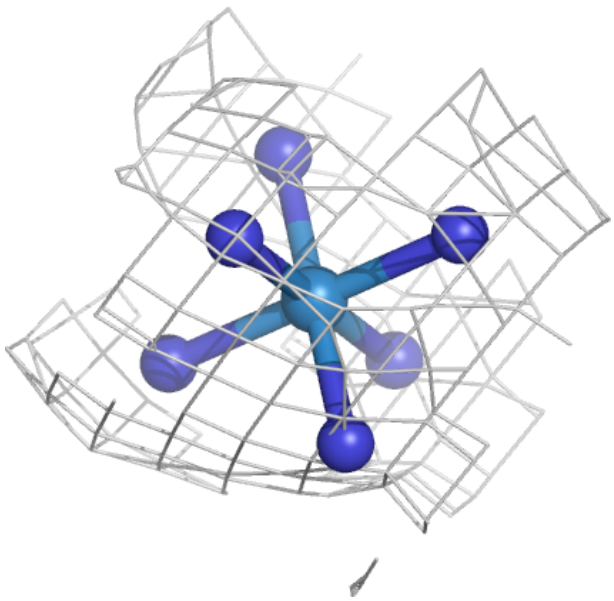


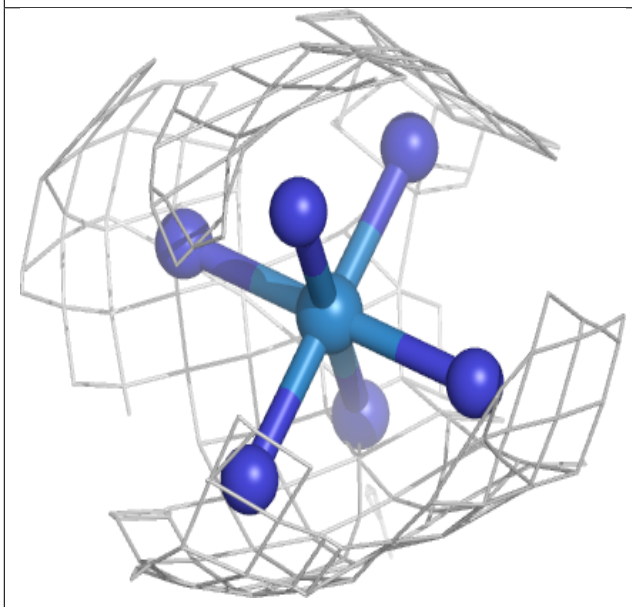


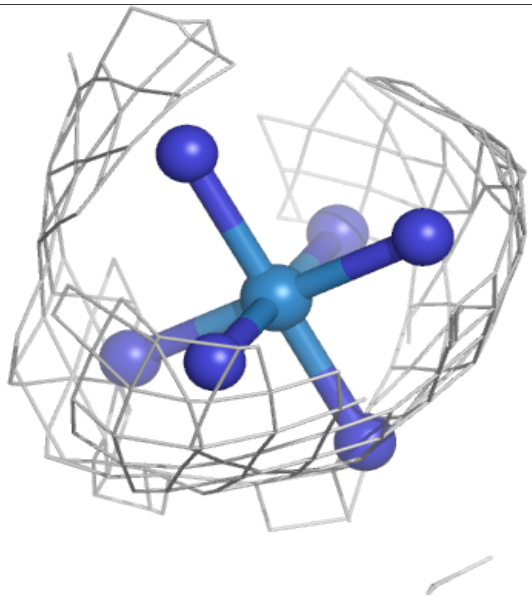


**Electron density around OHX A1 1993:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

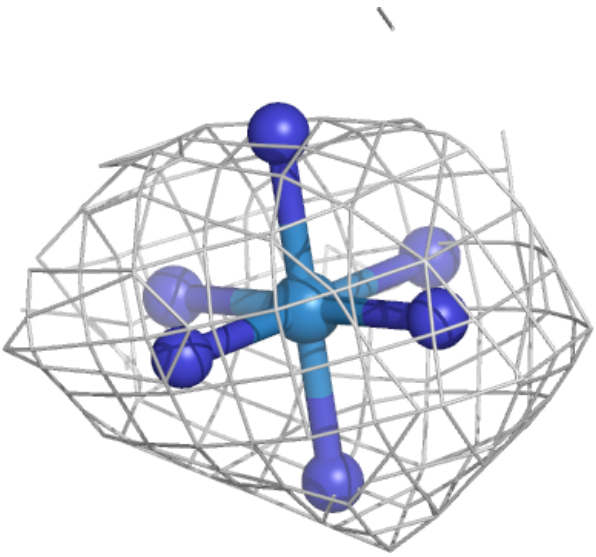


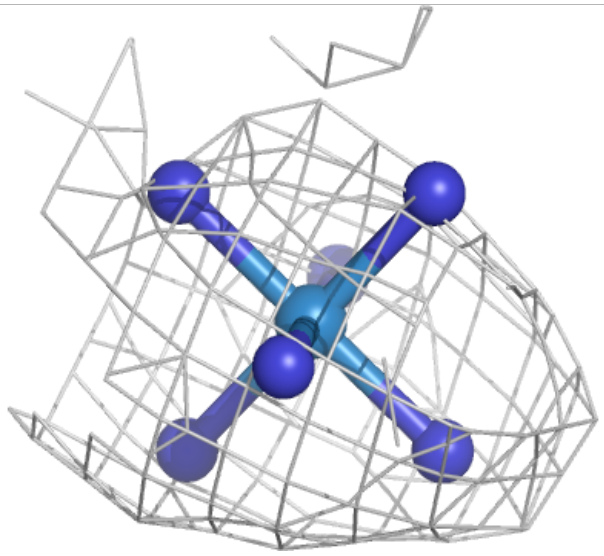


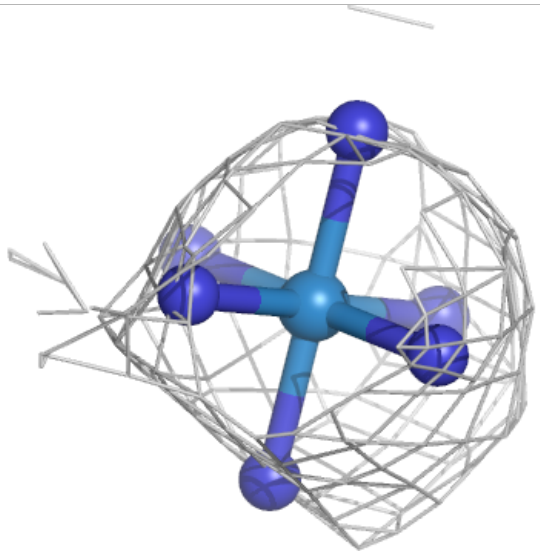


**Electron density around OHX B1 3577:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

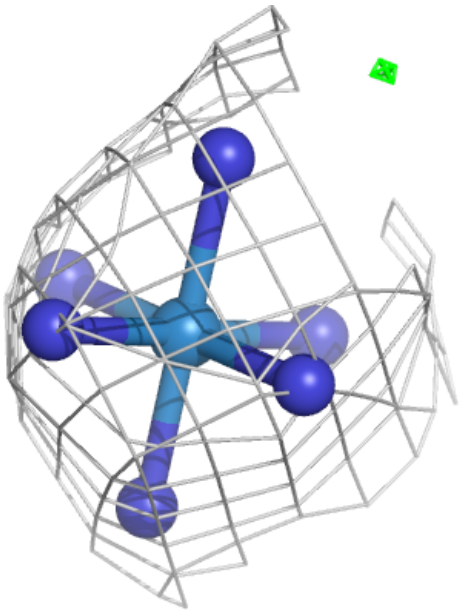


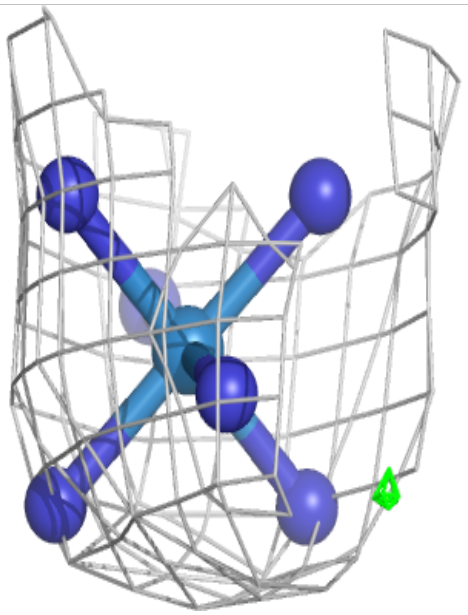


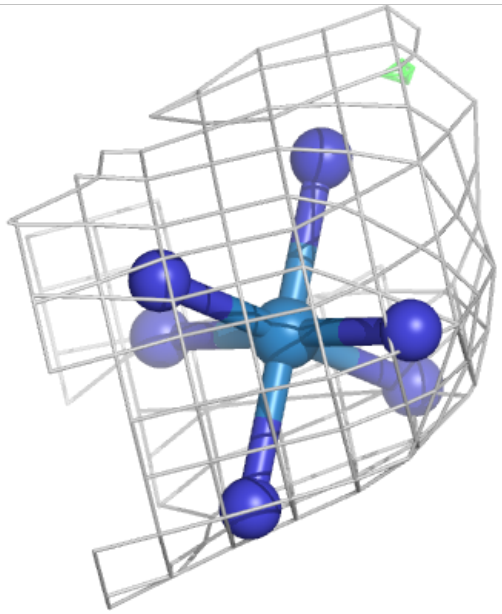


**Electron density around OHX D1 3616:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

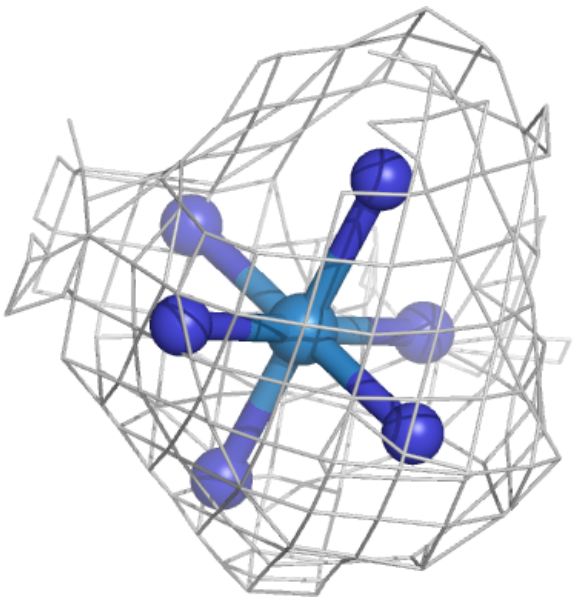


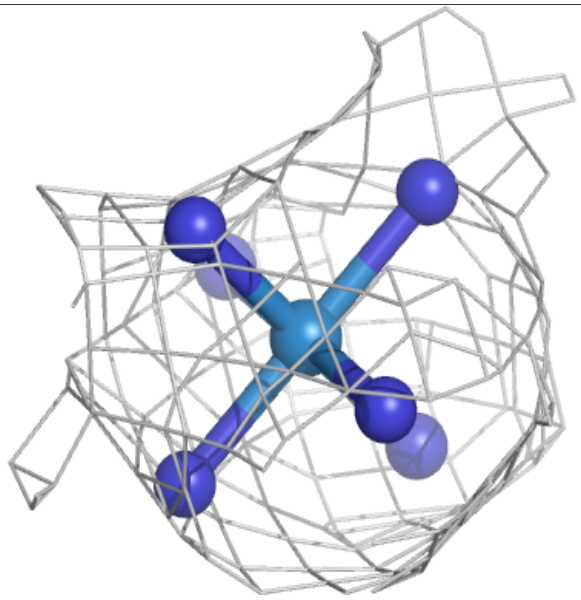


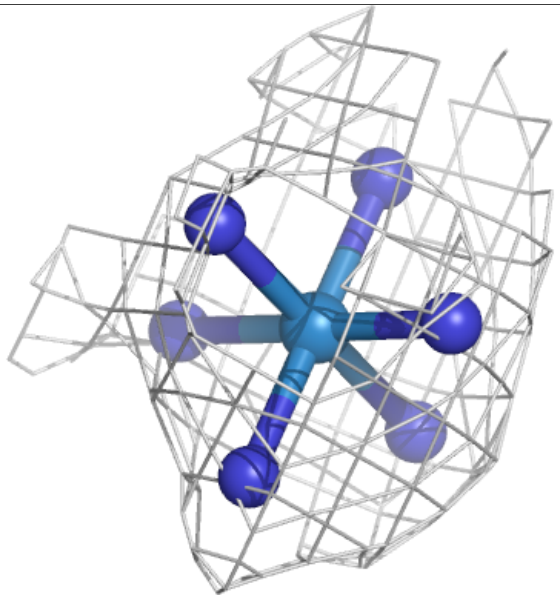


**Electron density around OHX D1 3601:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

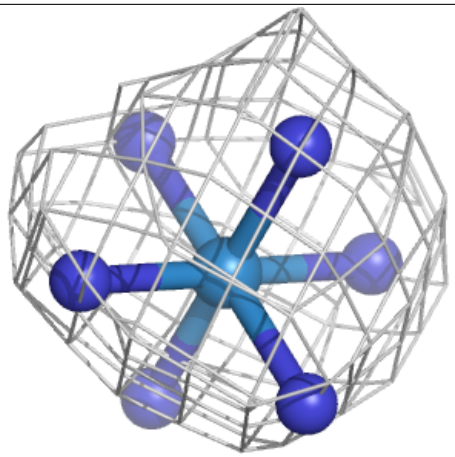


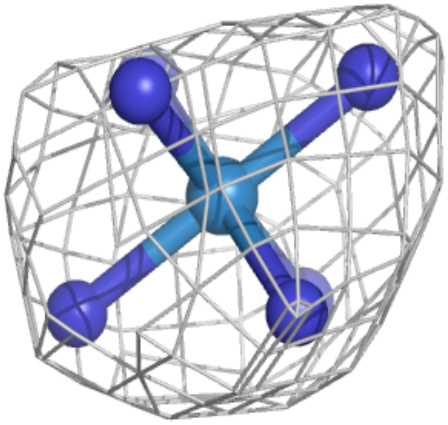


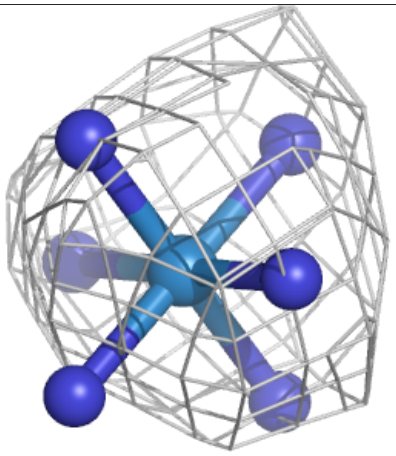


**Electron density around OHX D1 3605:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

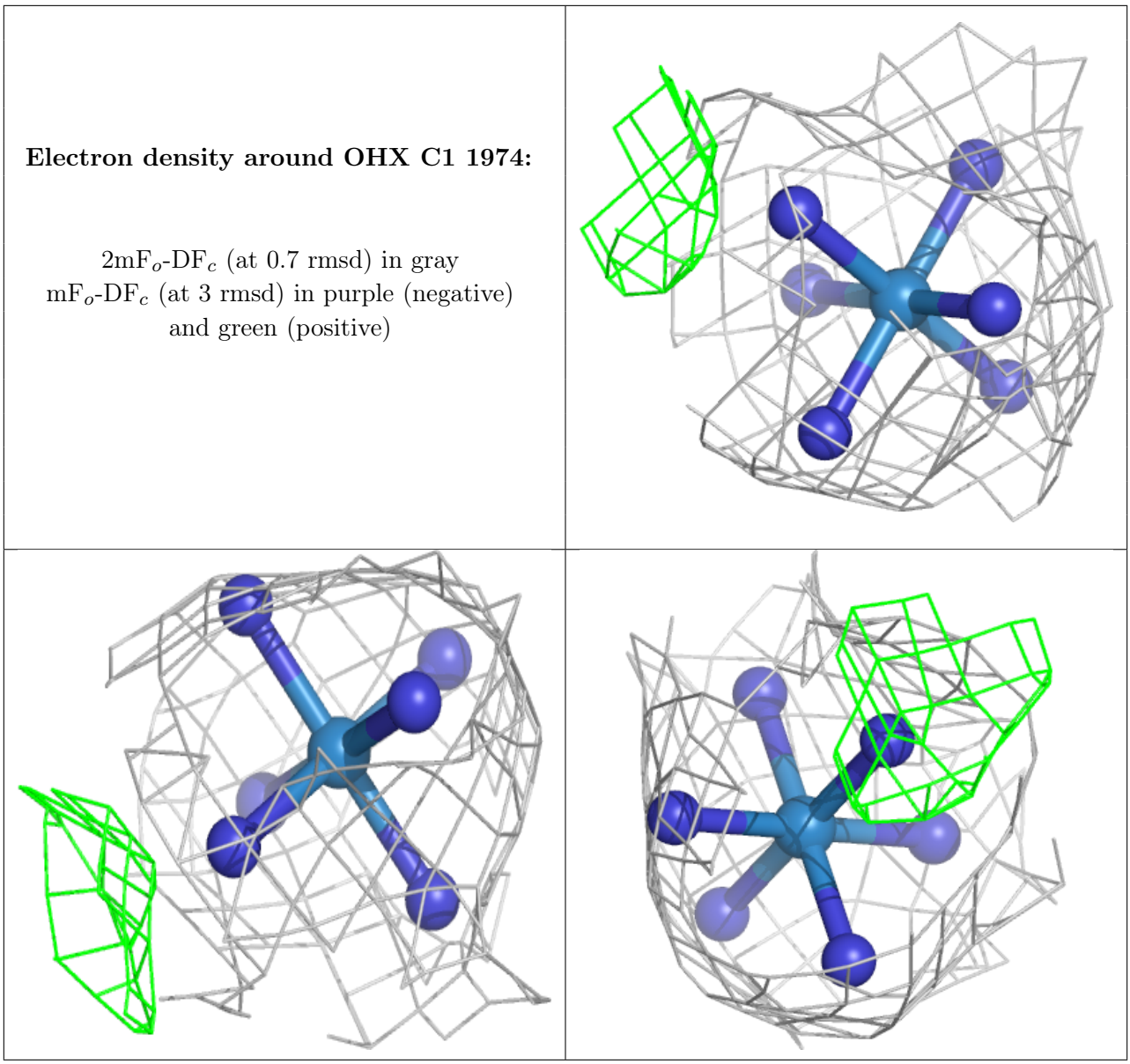






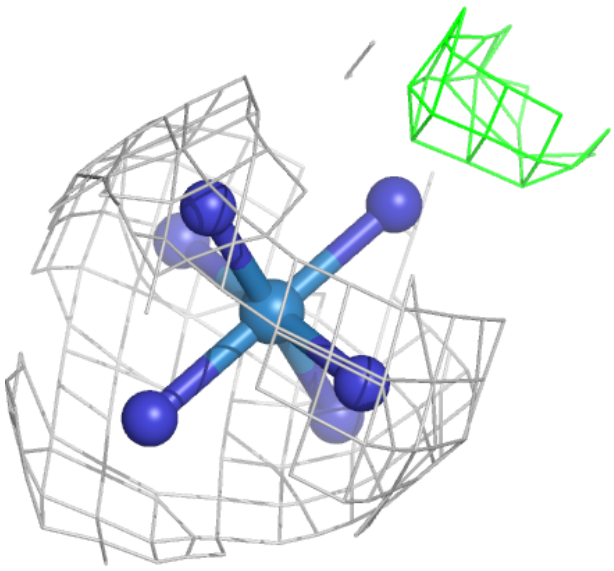
**Electron density around OHX C1 1974:**

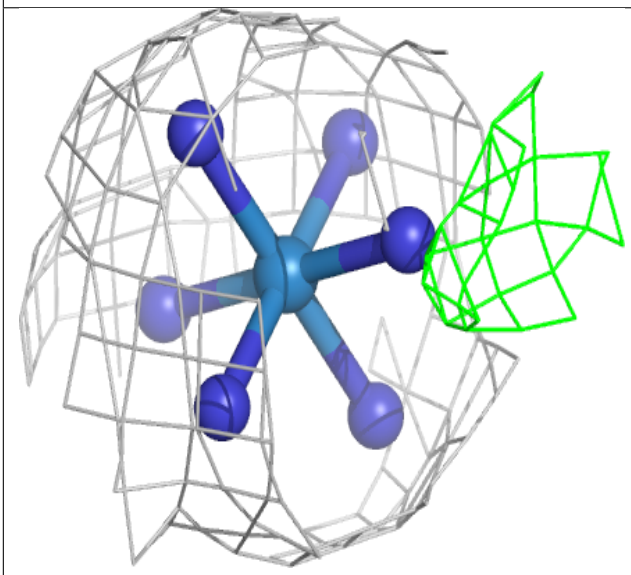
$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

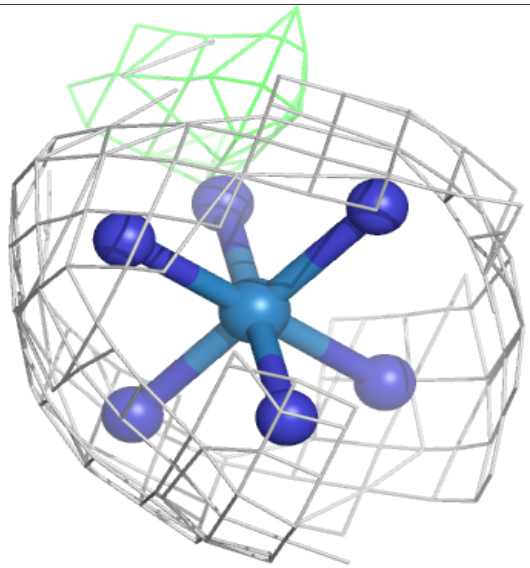


**Electron density around OHX A1 1966:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

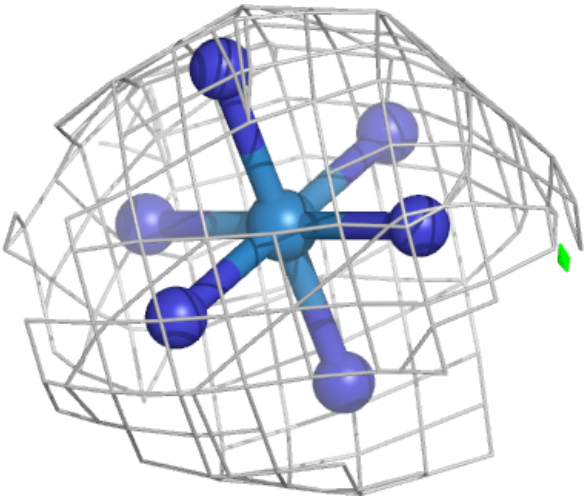


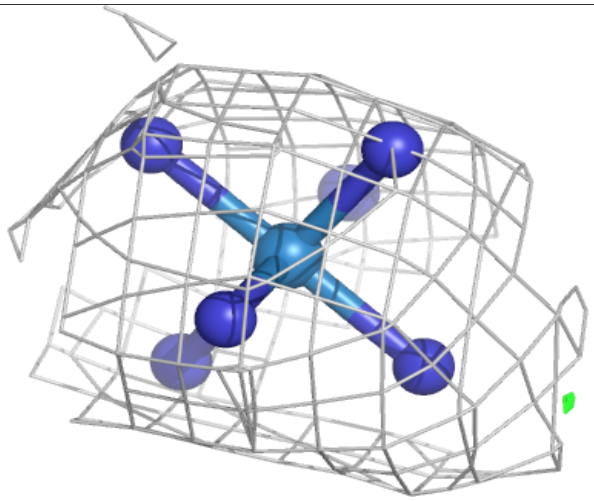


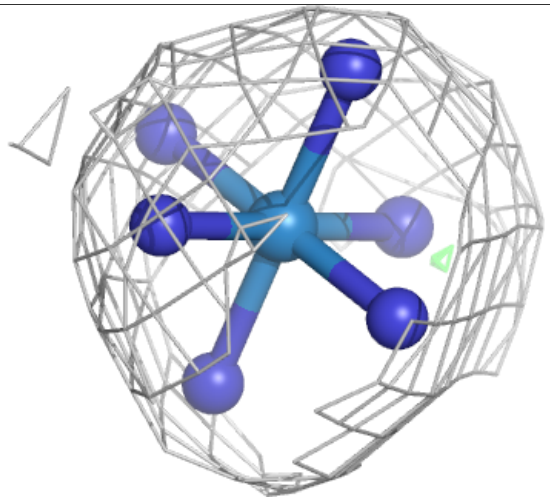


**Electron density around OHX D1 3541:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

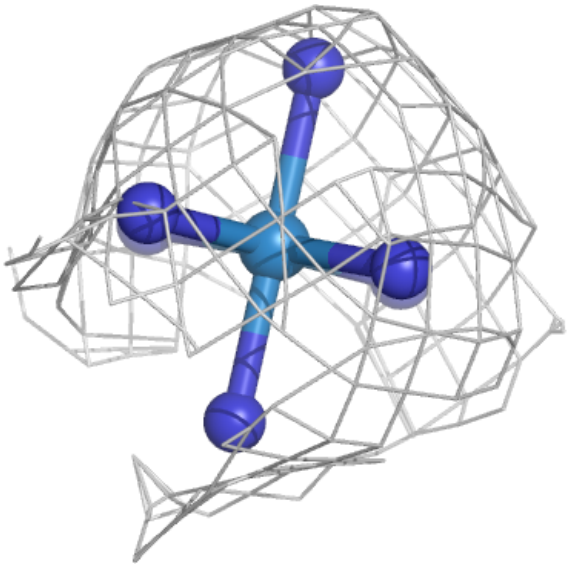


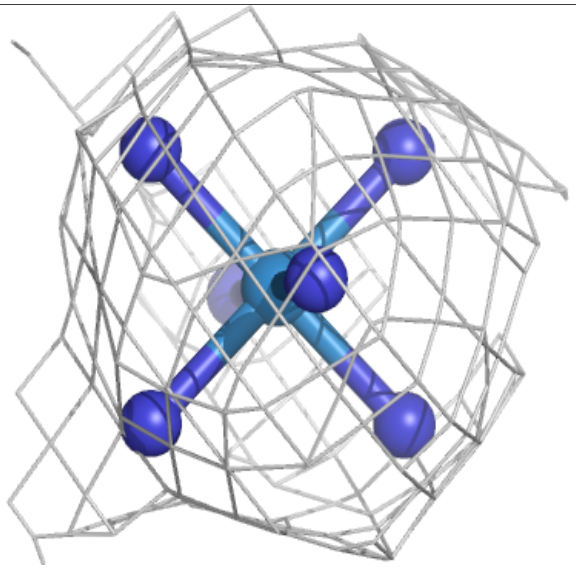


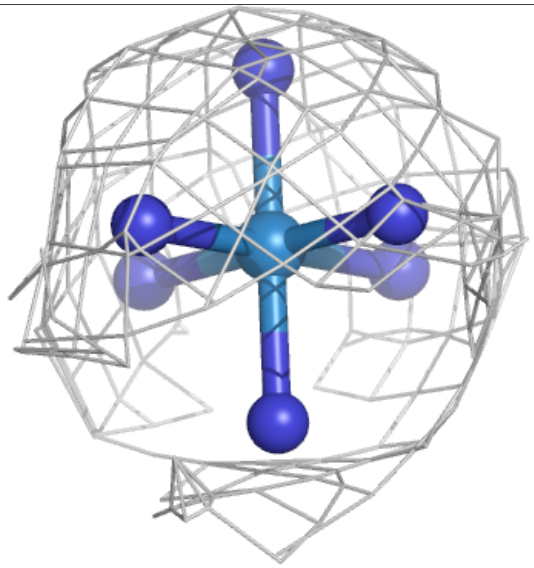


**Electron density around OHX C1 1991:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

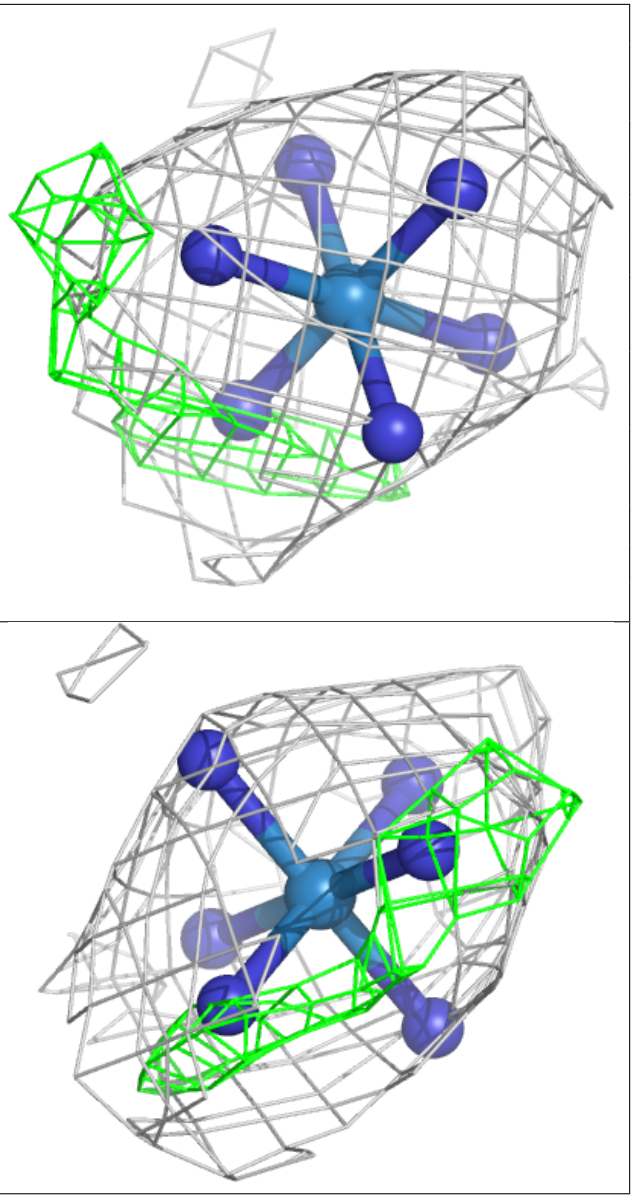






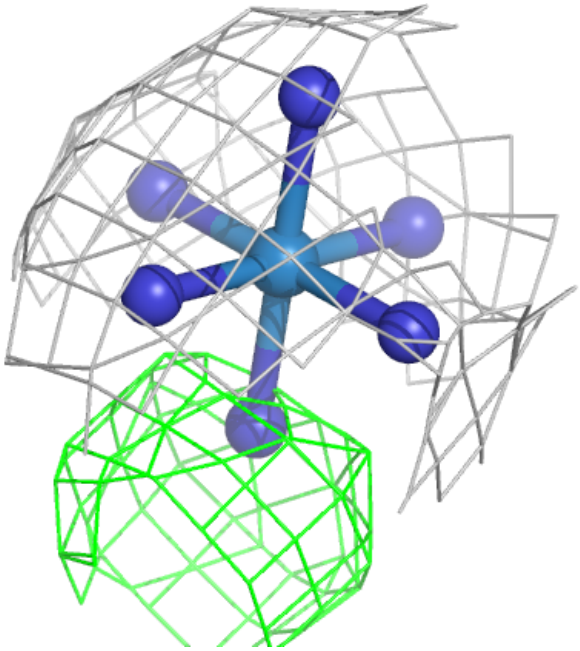
**Electron density around OHX B1 3589:**

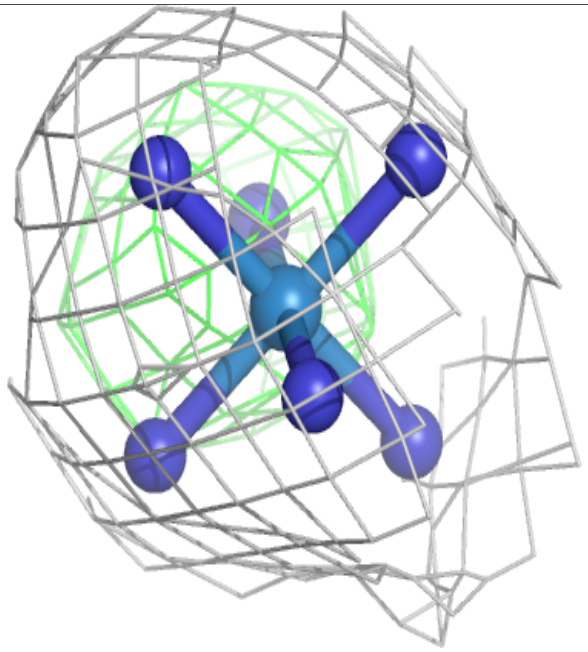
$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

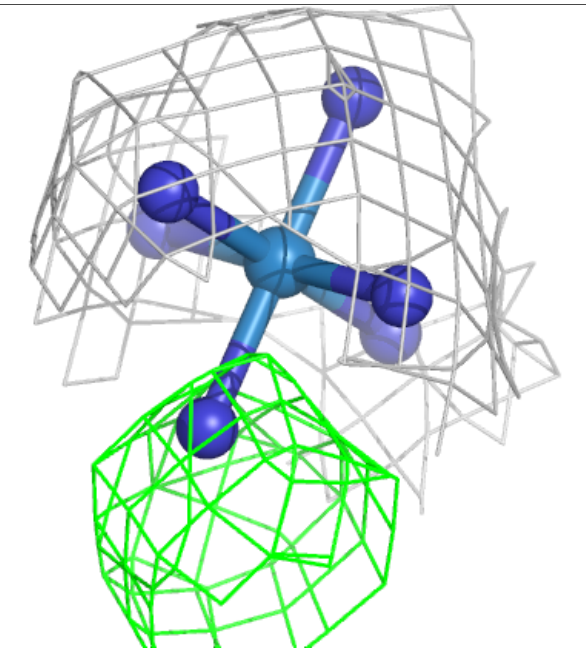


**Electron density around OHX D3 206:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

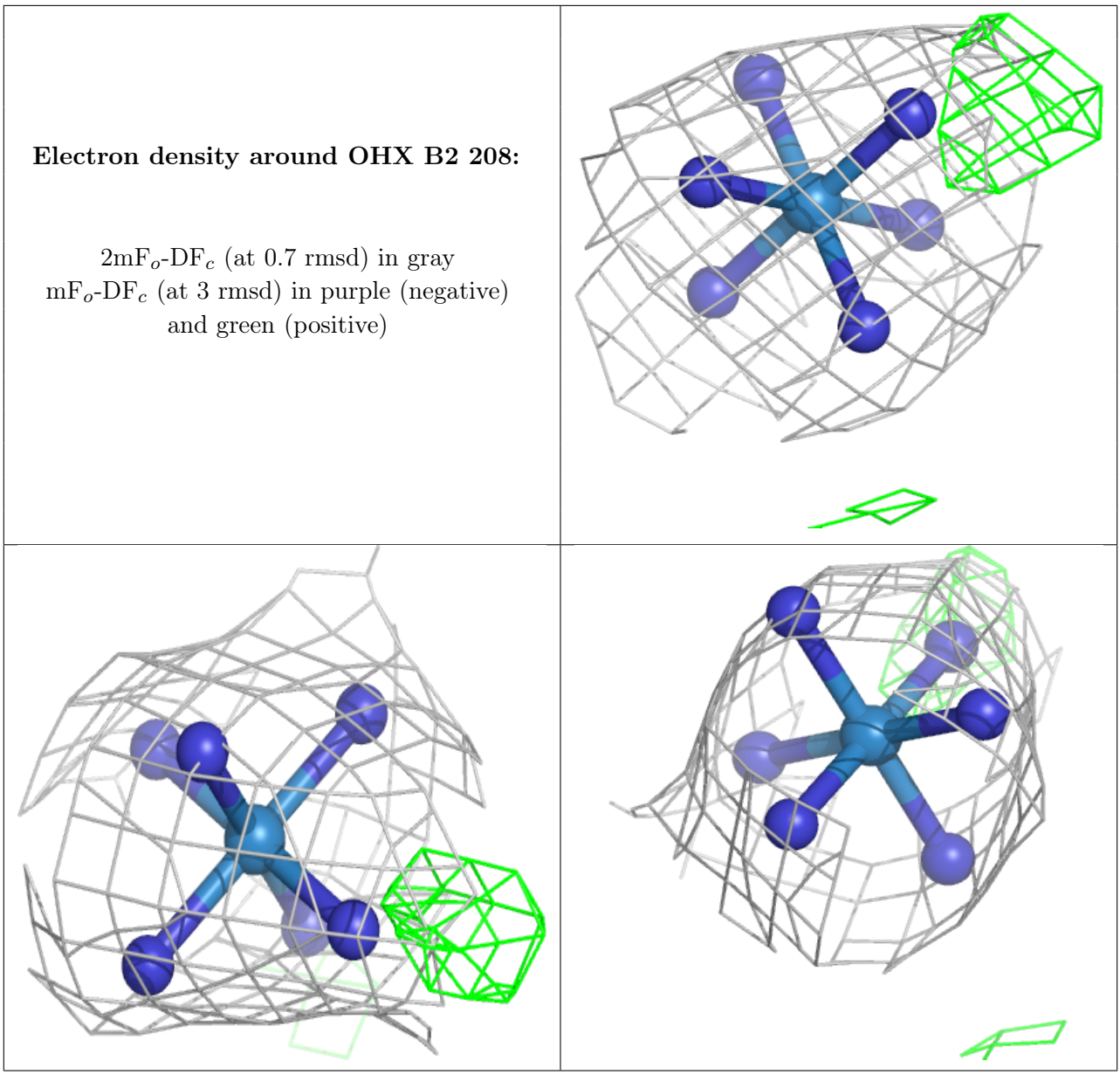






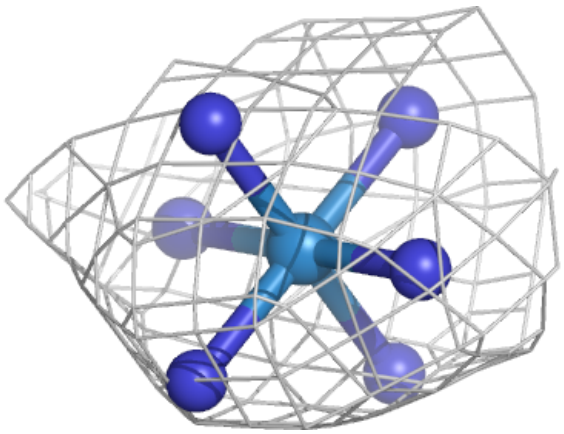
**Electron density around OHX B2 208:**

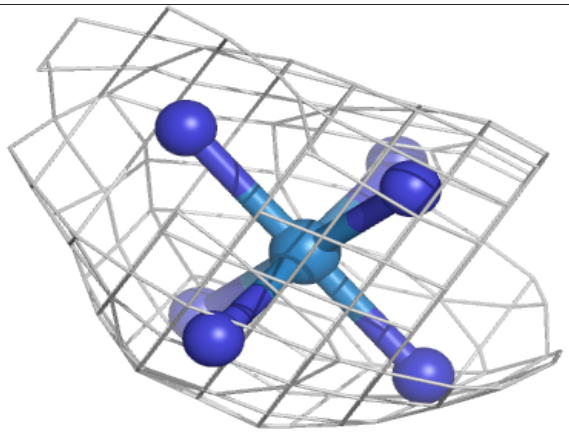
$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

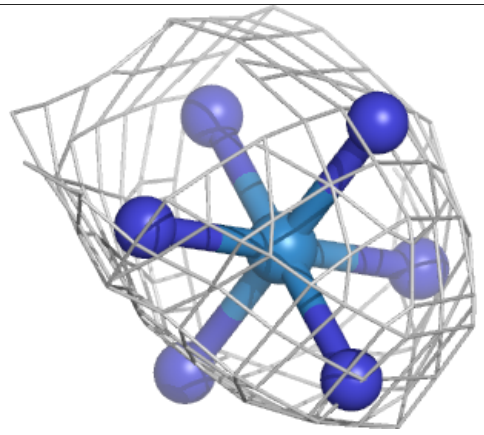


**Electron density around OHX C1 1978:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

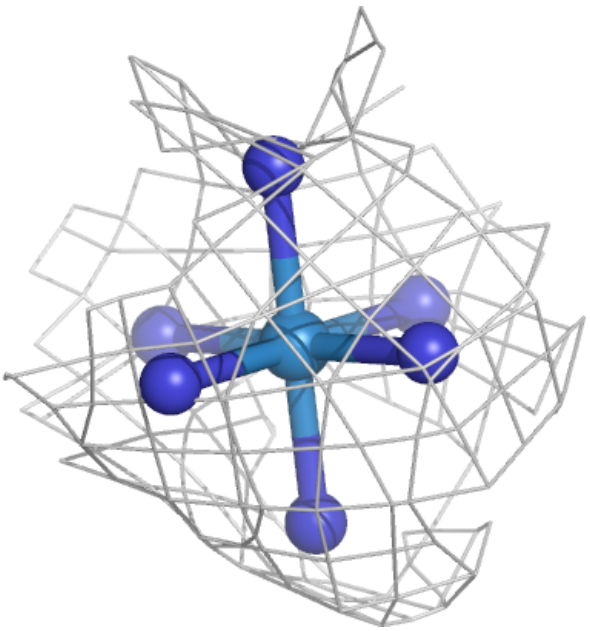


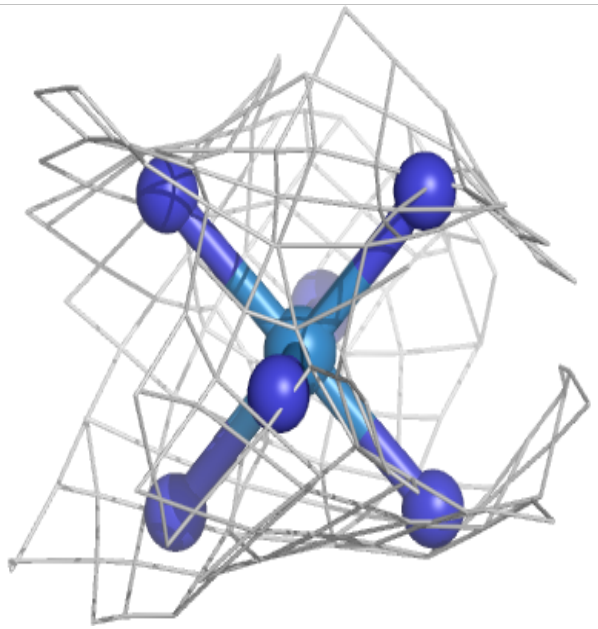


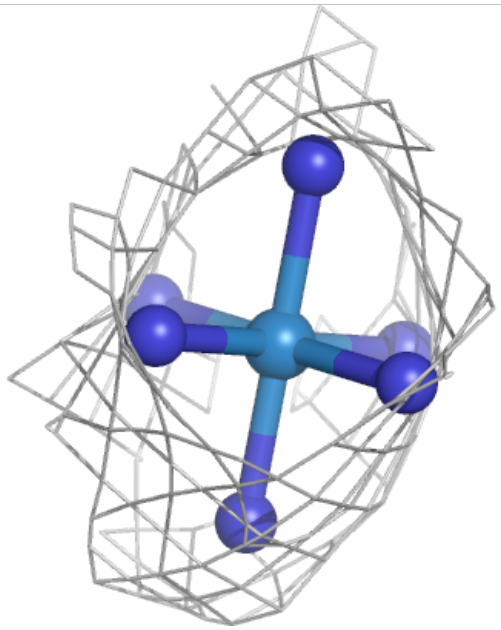


**Electron density around OHX B2 210:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

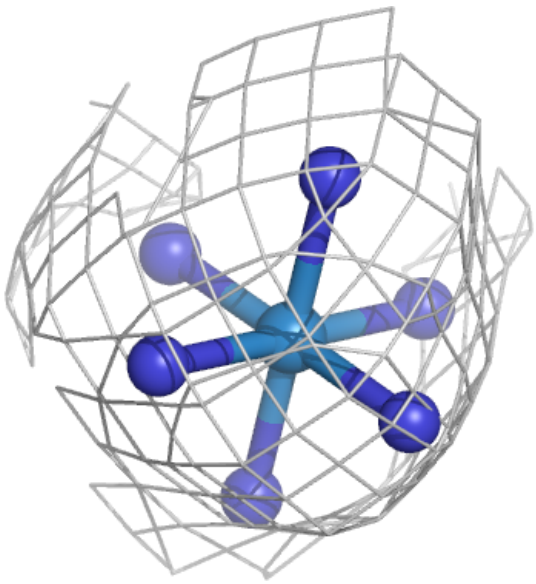


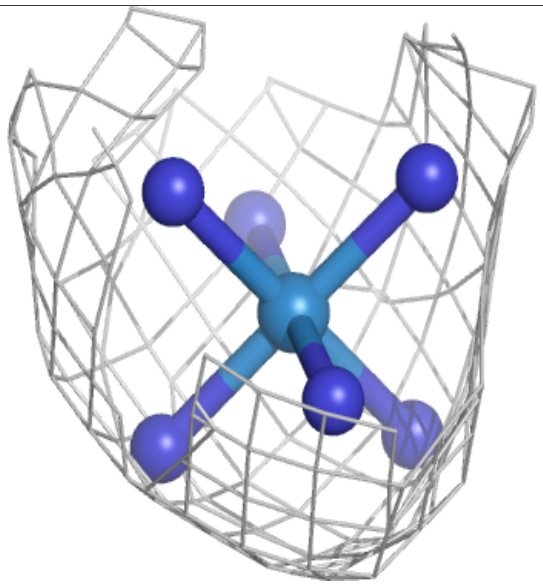


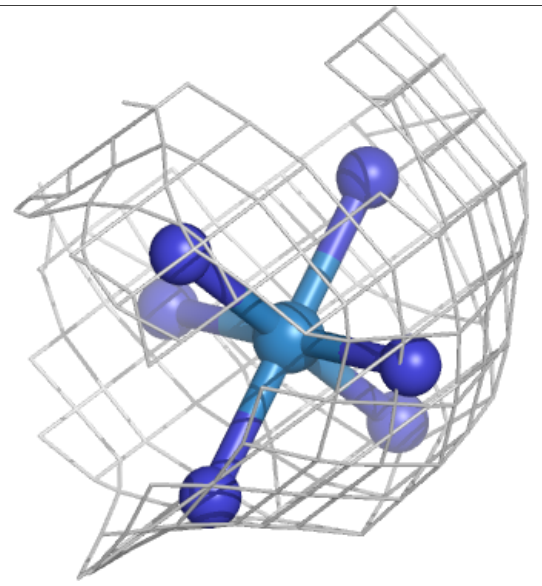


**Electron density around OHX C1 1985:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

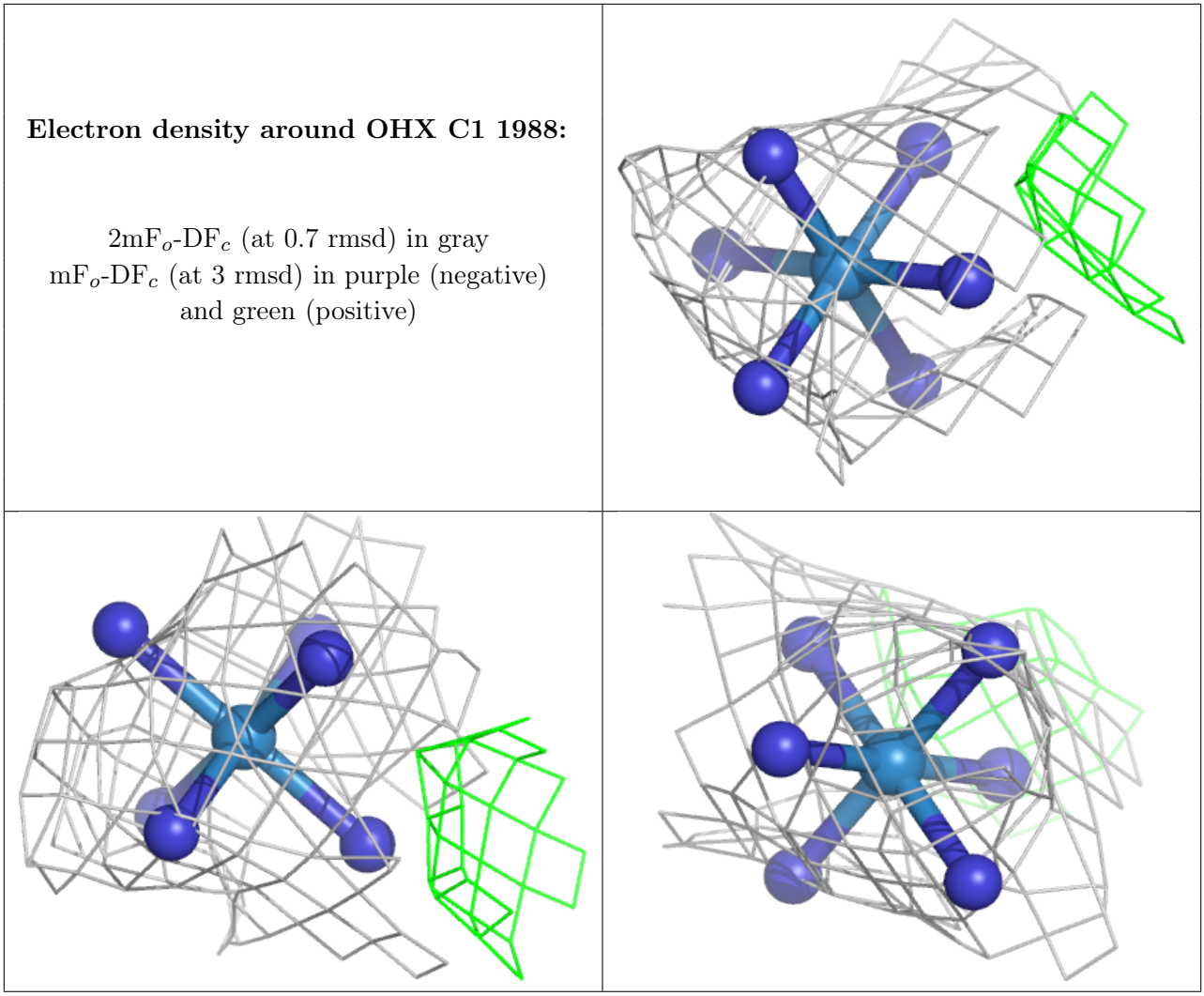






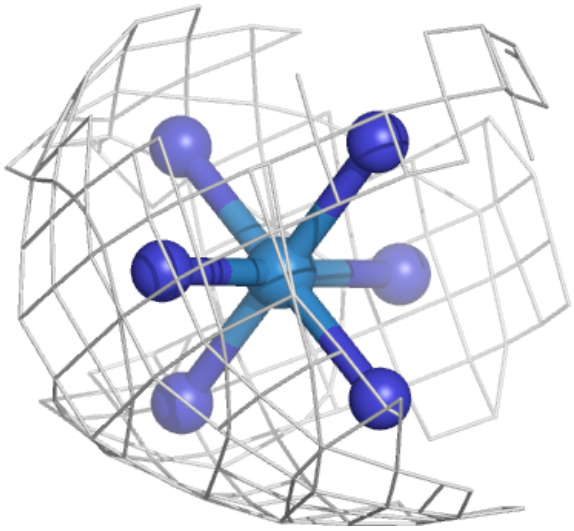
**Electron density around OHX C1 1988:**

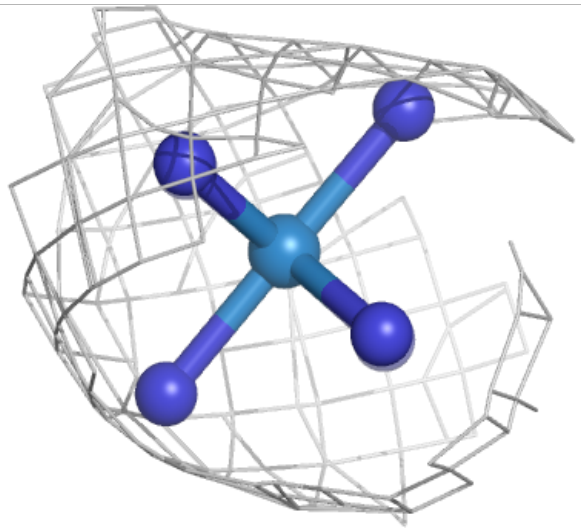
$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

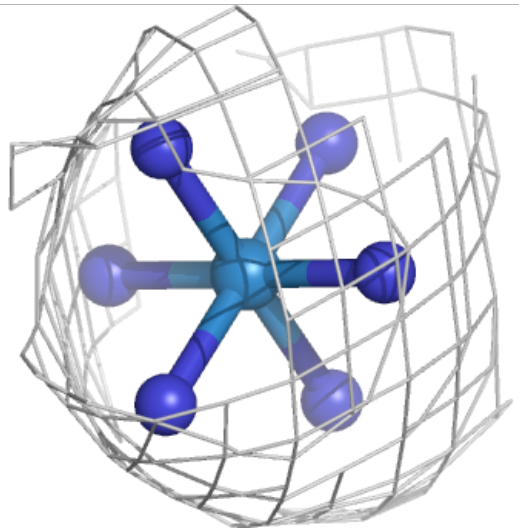


**Electron density around OHX B2 207:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

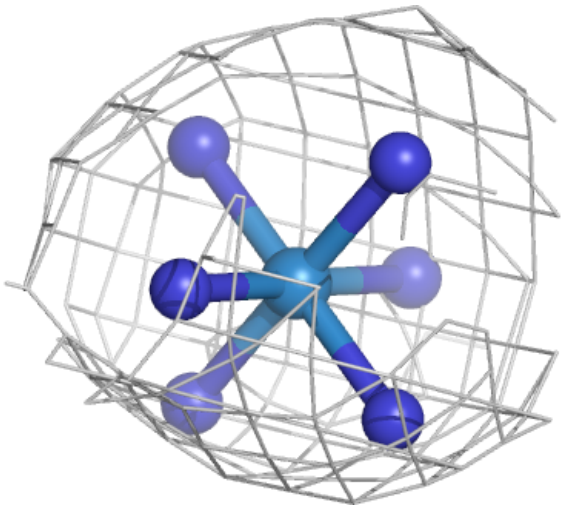


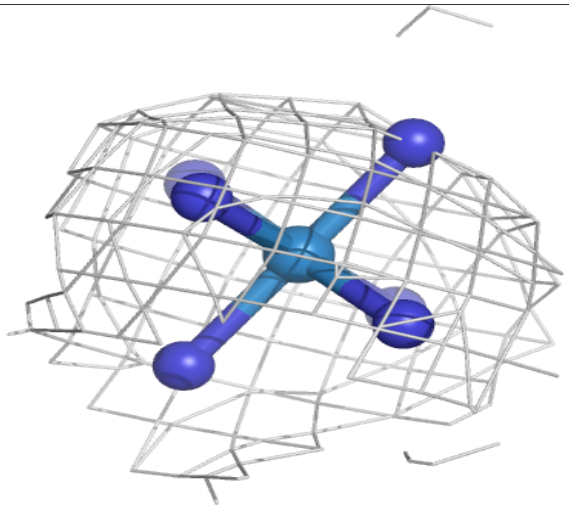


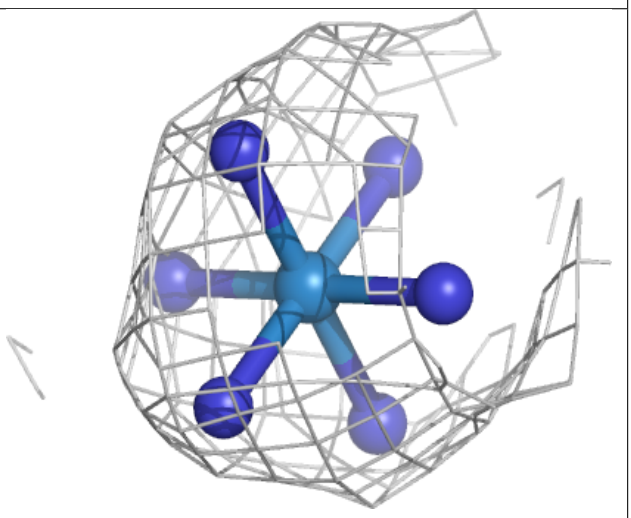


**Electron density around OHX A1 1953:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

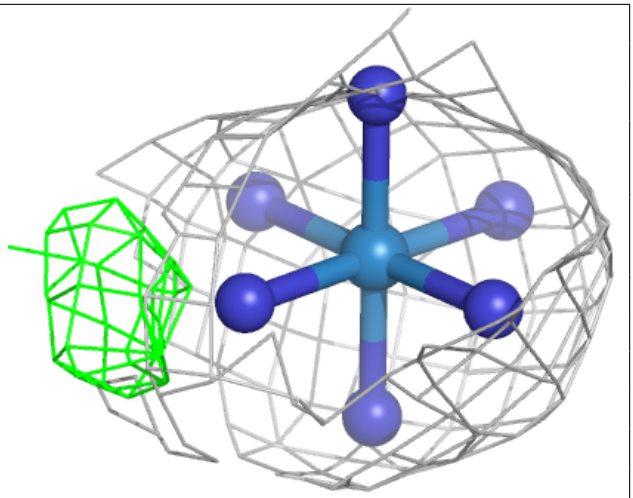


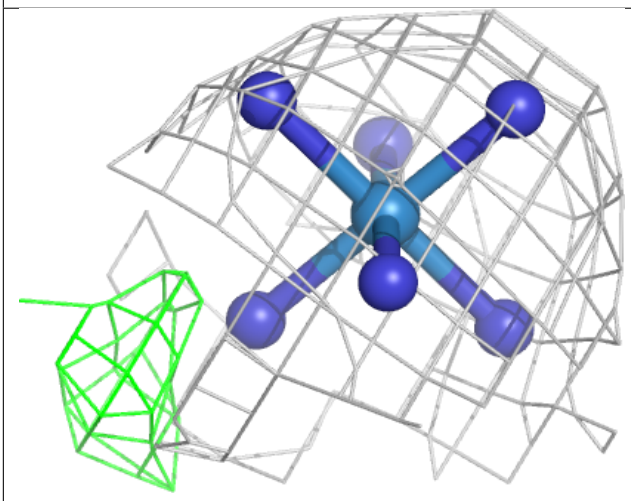


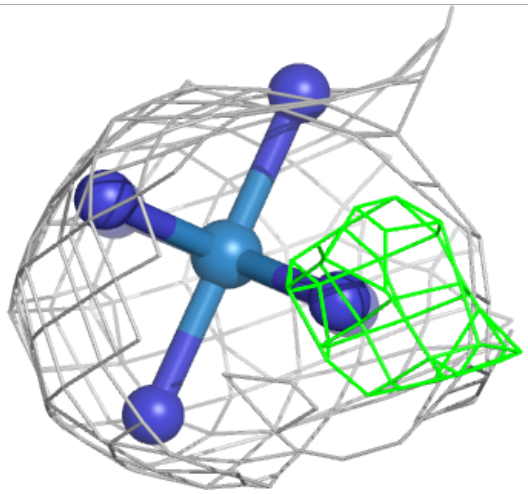


**Electron density around OHX C1 1976:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)

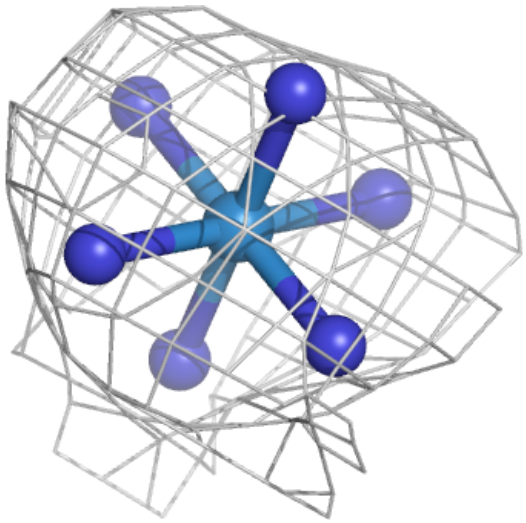


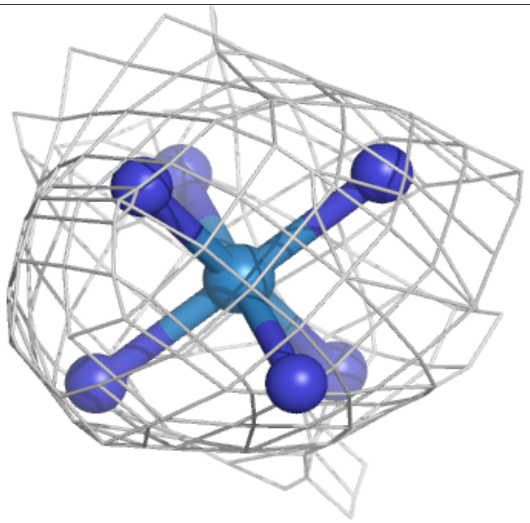


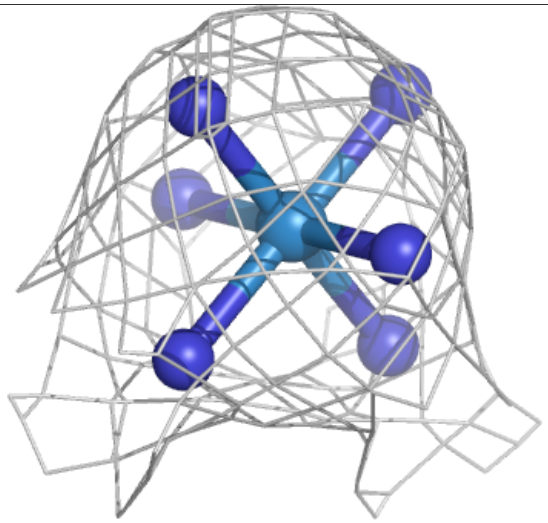


**Electron density around OHX D1 3610:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

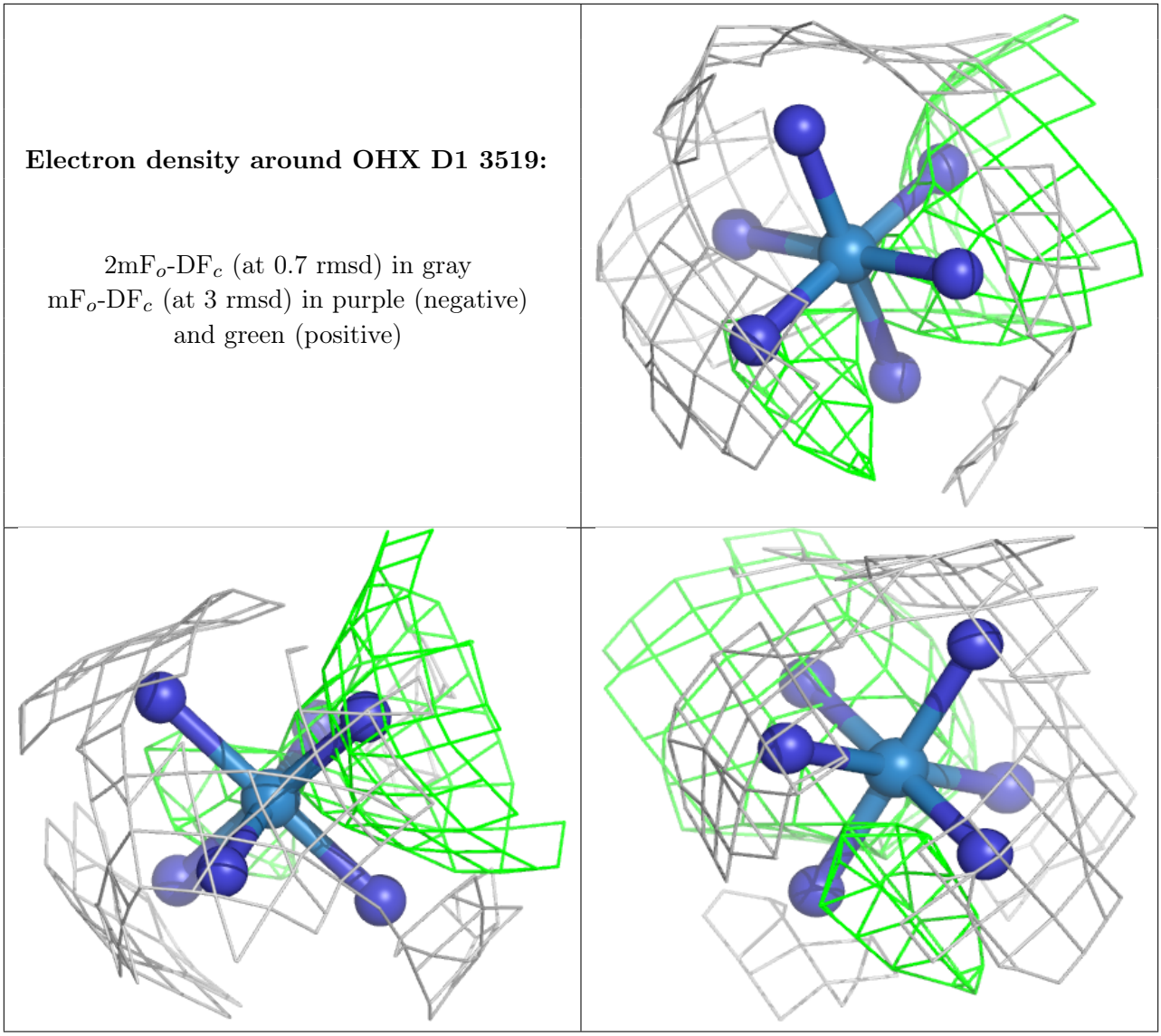






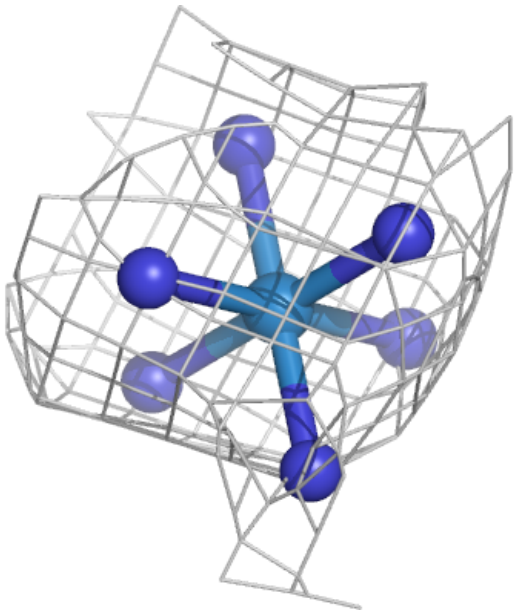
**Electron density around OHX D1 3519:**

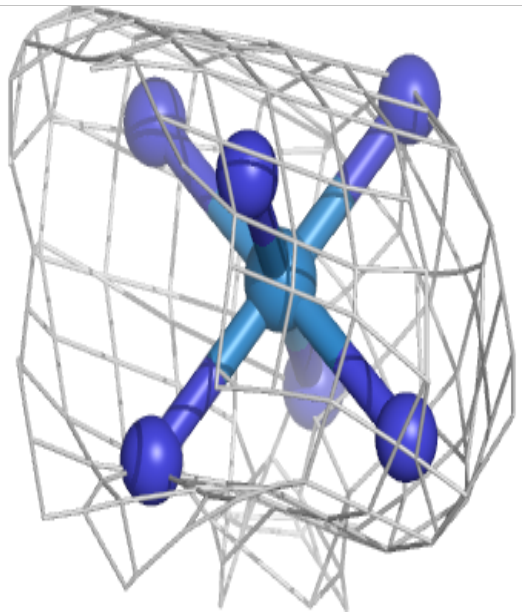
$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

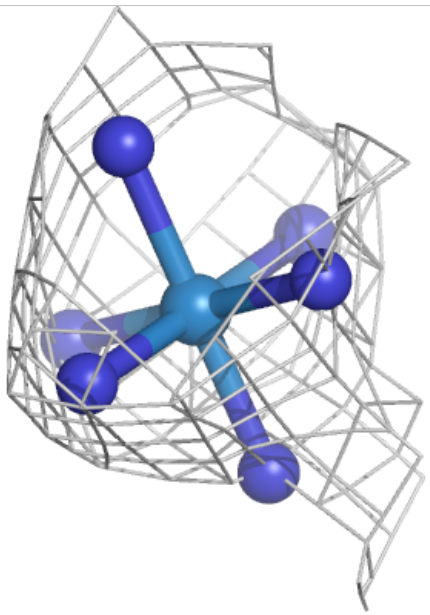


**Electron density around OHX A1 1974:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

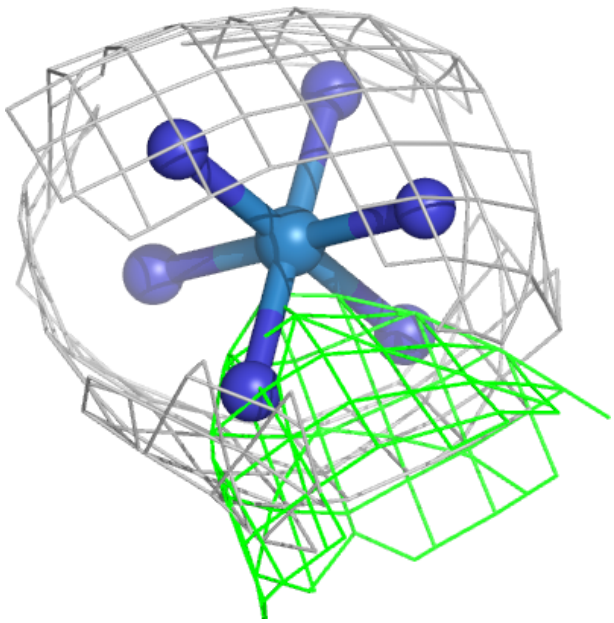


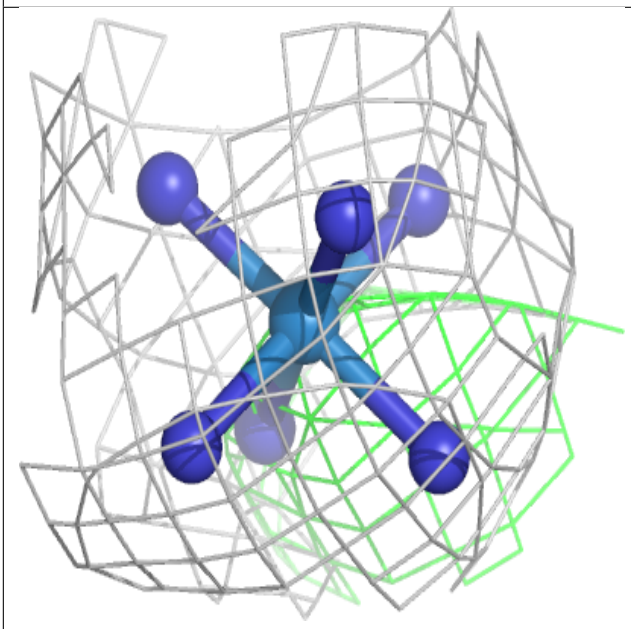


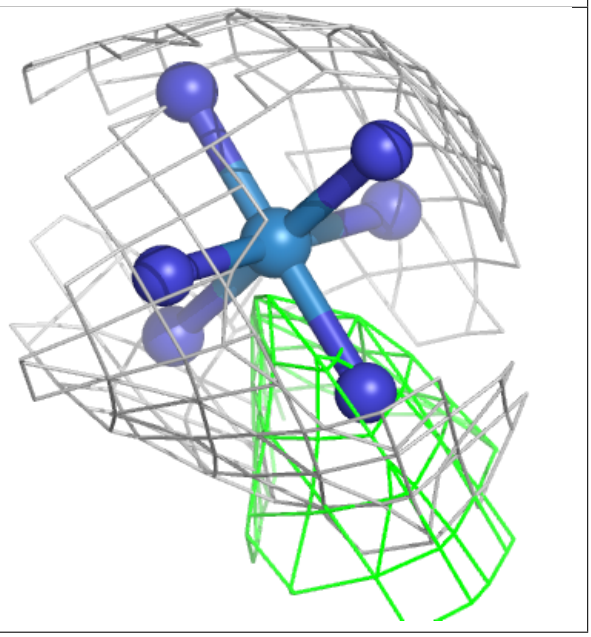


**Electron density around OHX D1 3568:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

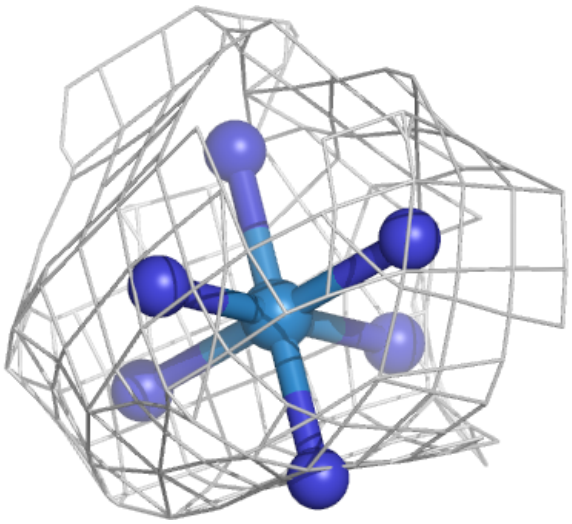


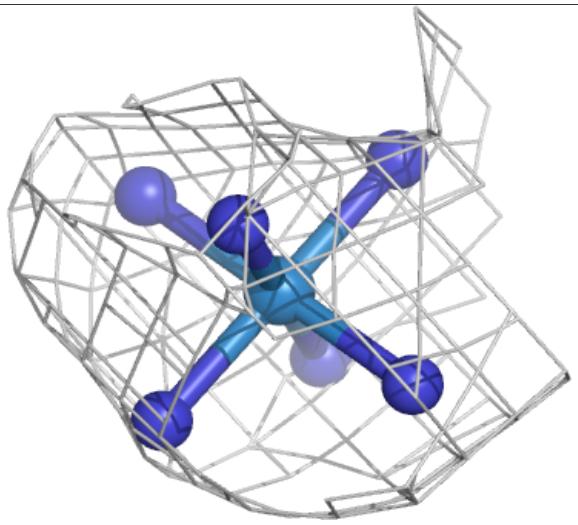


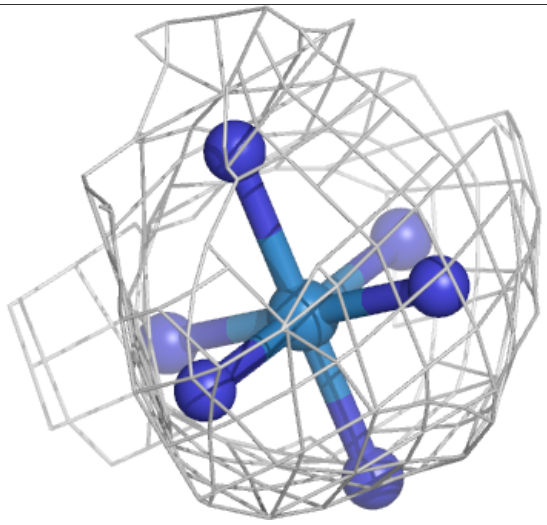


**Electron density around OHX D1 3623:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

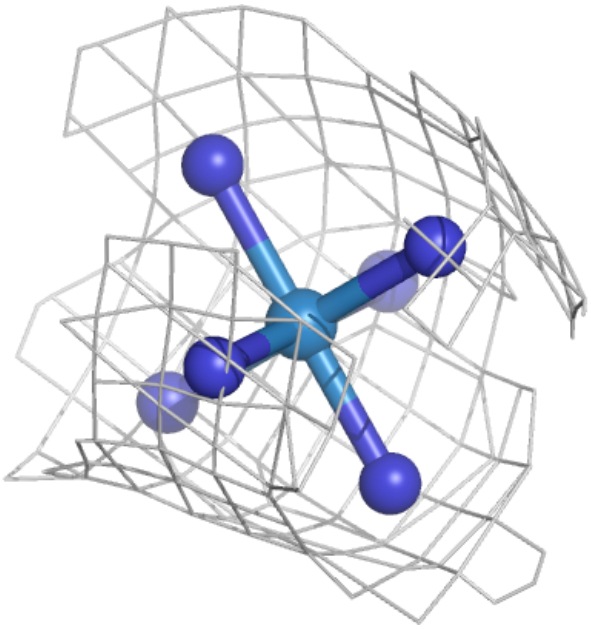


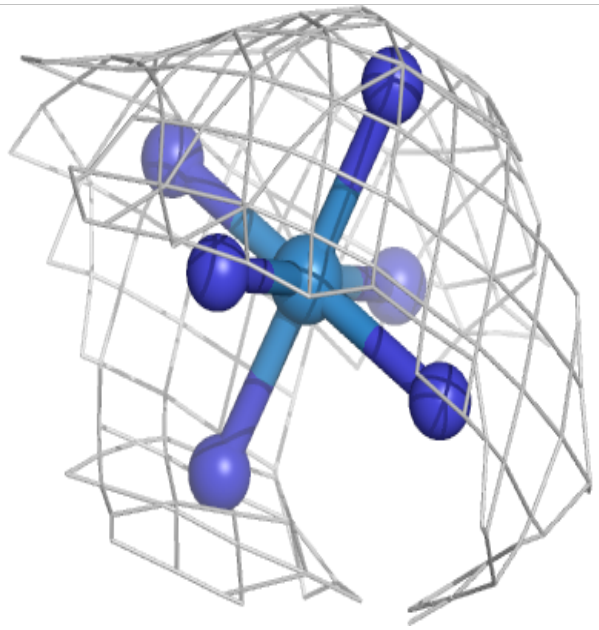


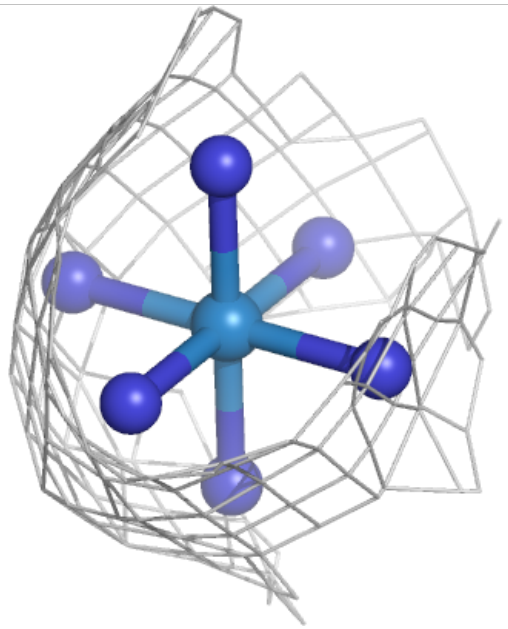


**Electron density around OHX A1 1995:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

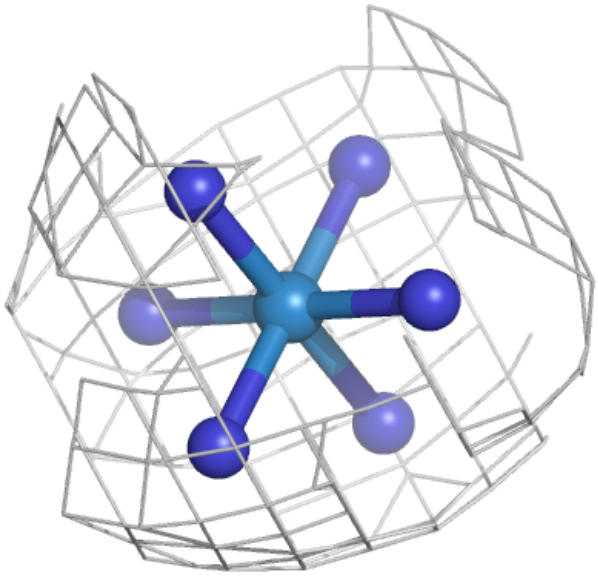


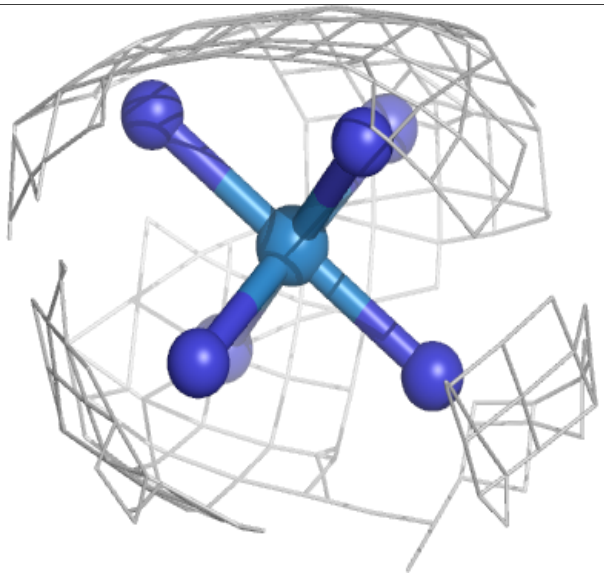


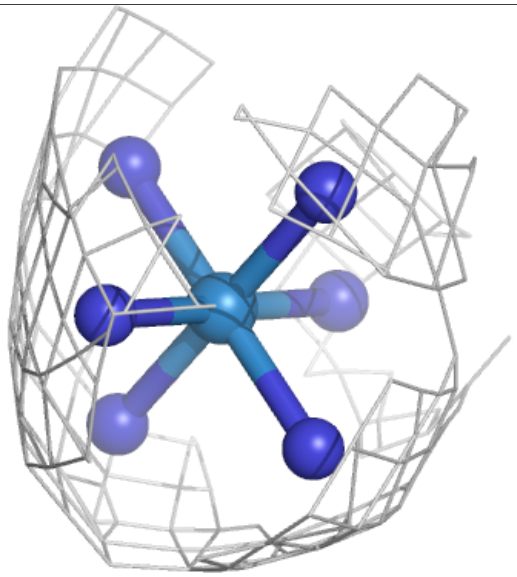


**Electron density around OHX D1 3603:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

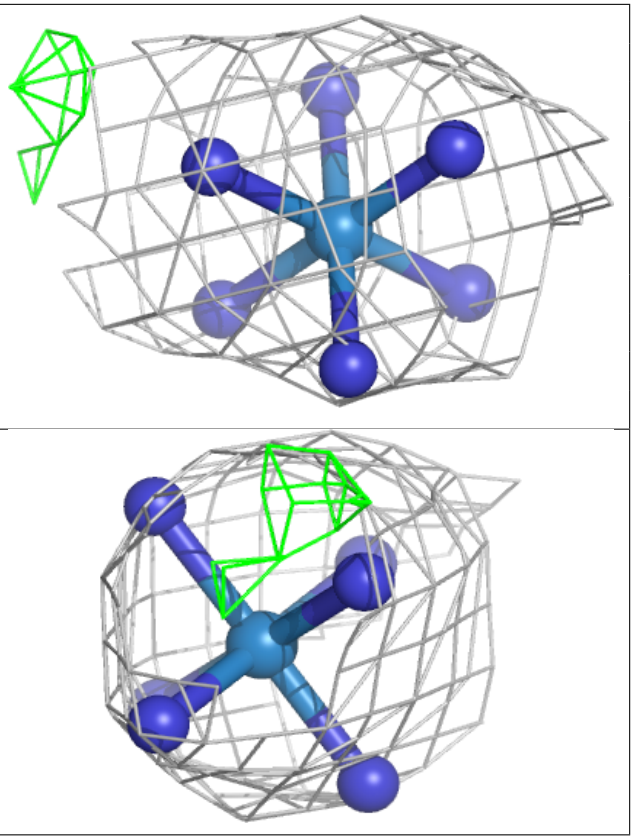


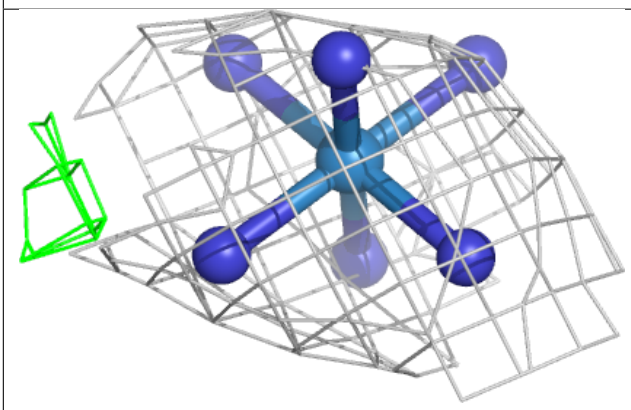




**Electron density around OHX D1 3522:**

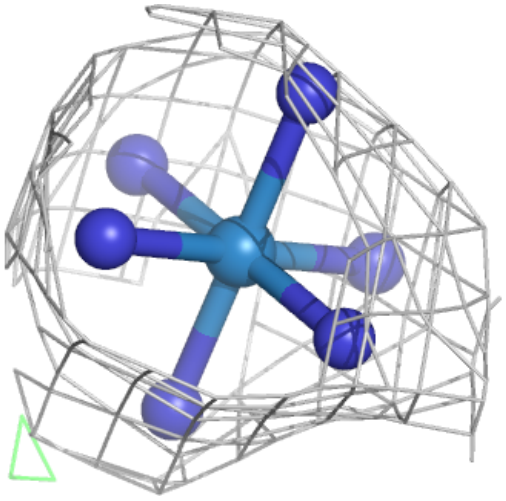
$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

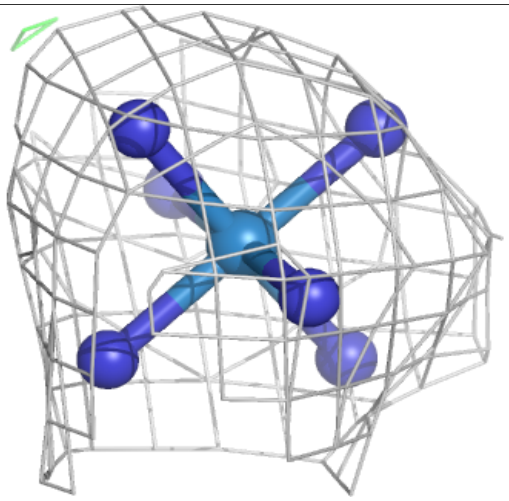


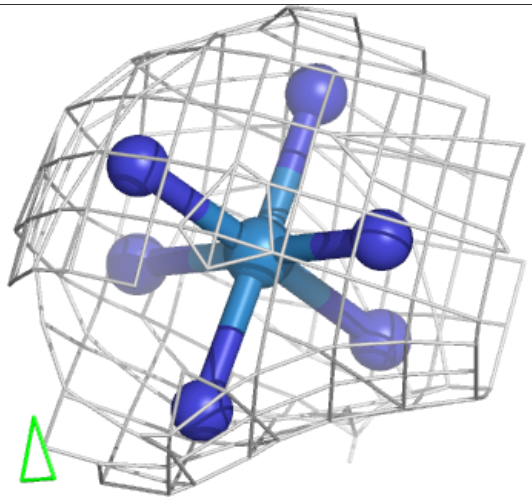


**Electron density around OHX D1 3555:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

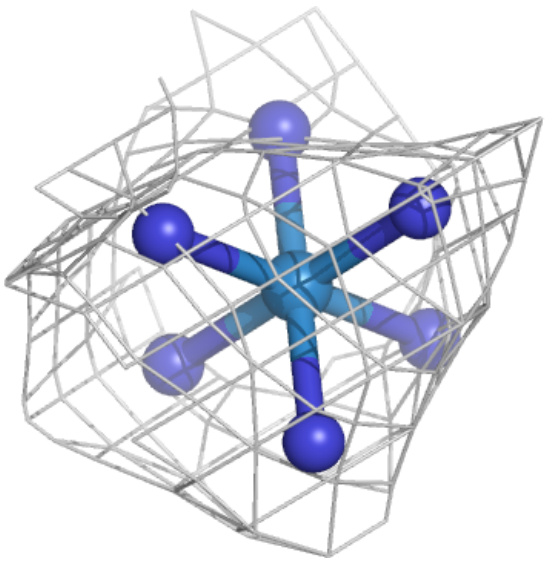


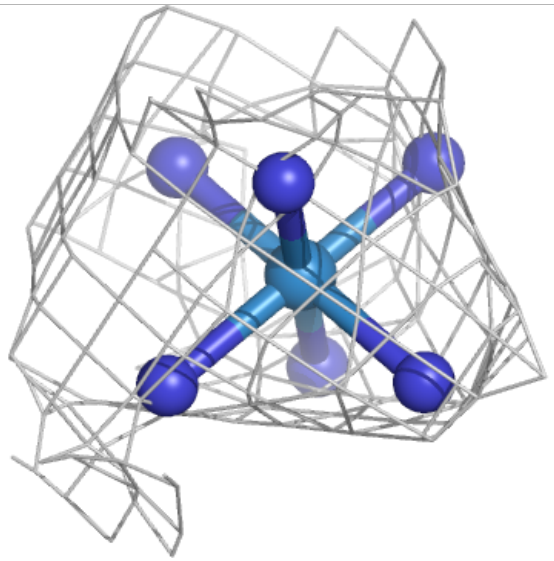


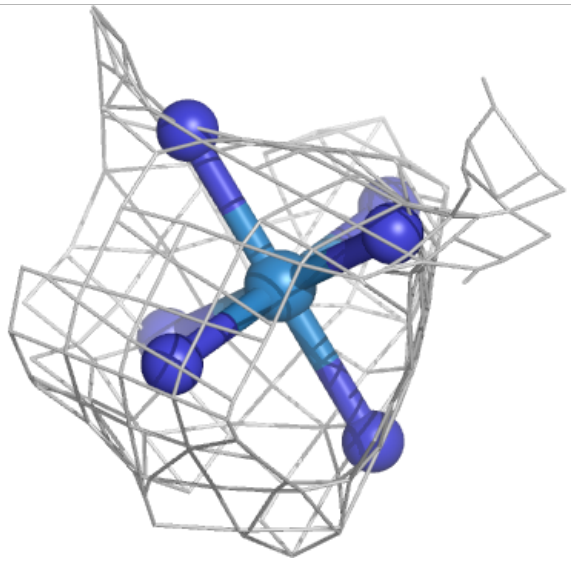


**Electron density around OHX A1 1978:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

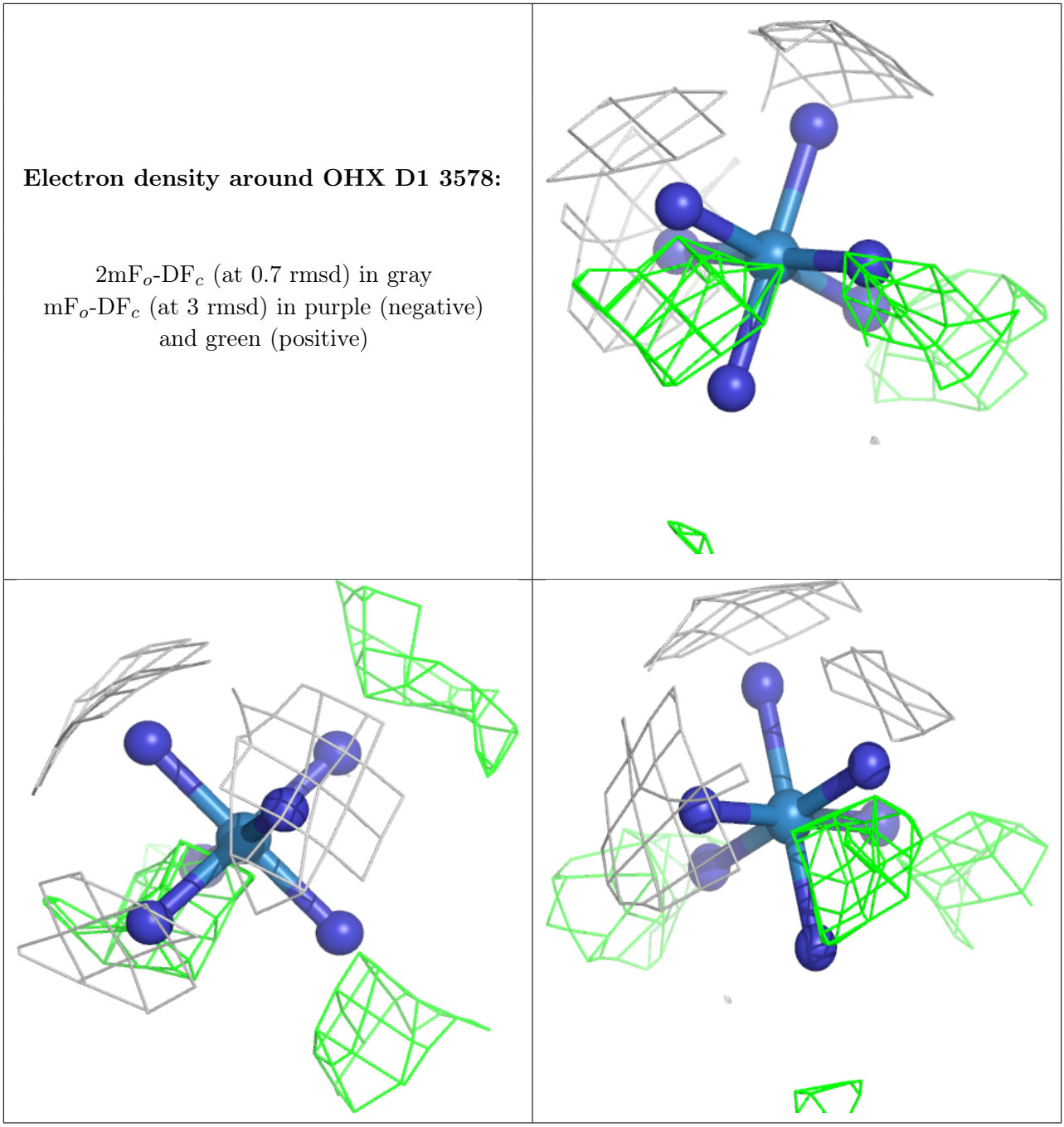






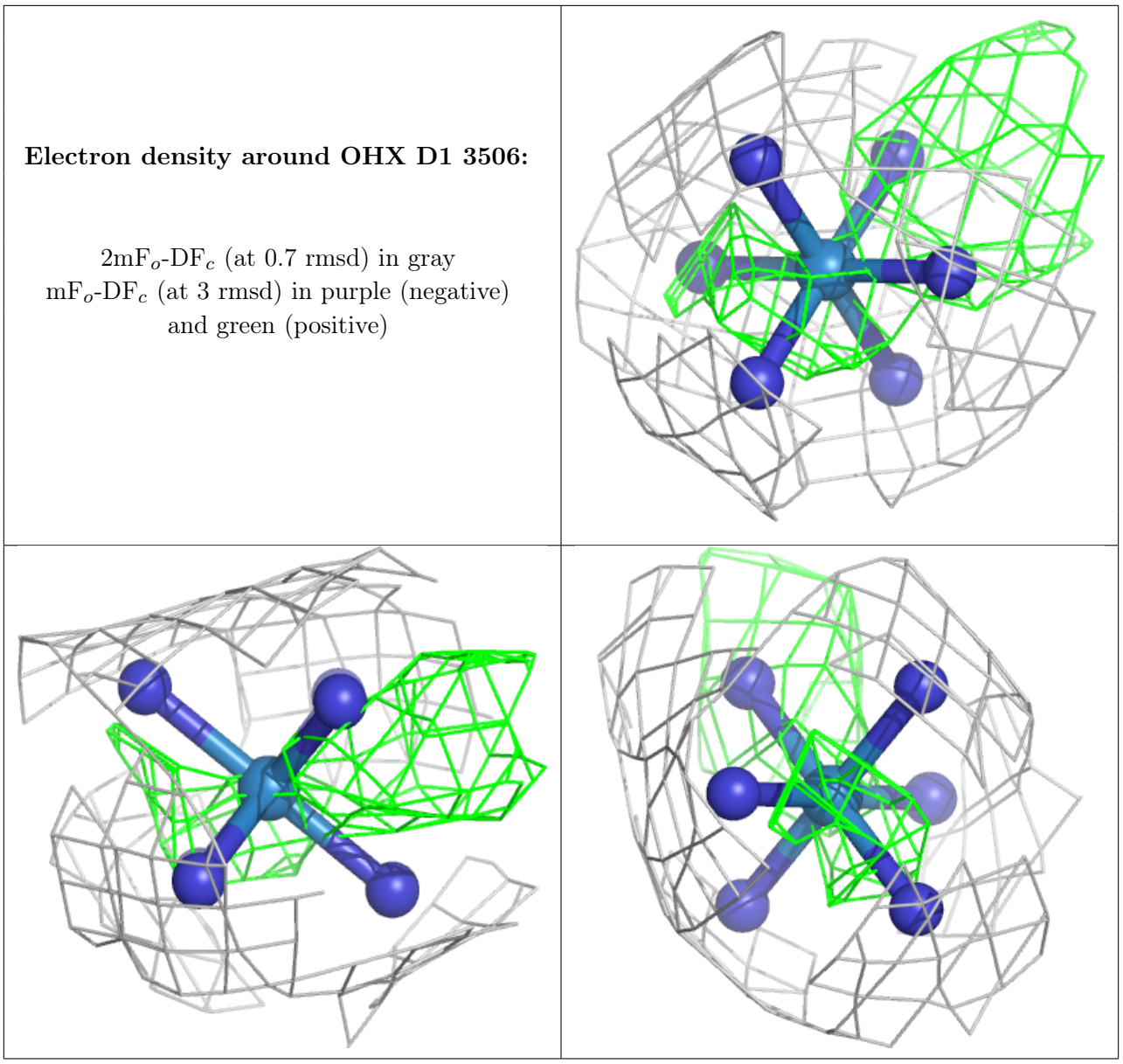
**Electron density around OHX D1 3578:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)



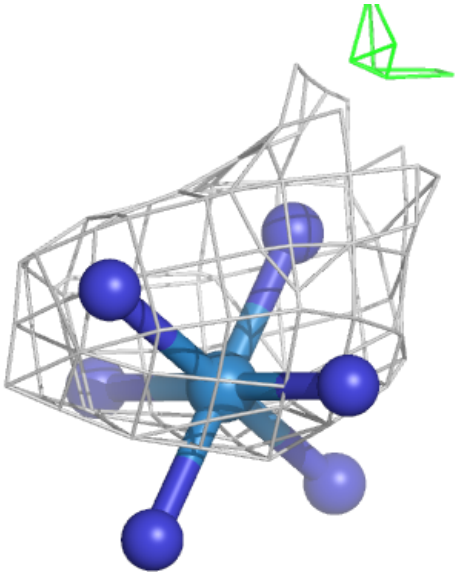
**Electron density around OHX D1 3506:**

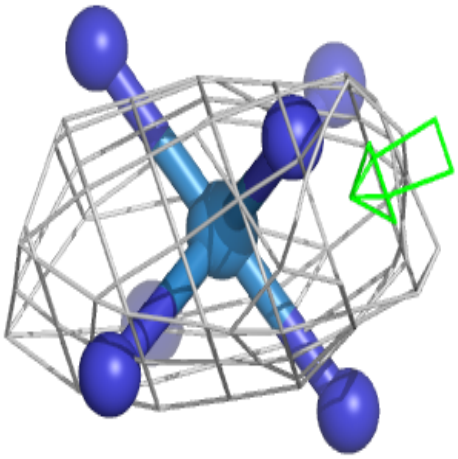
$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

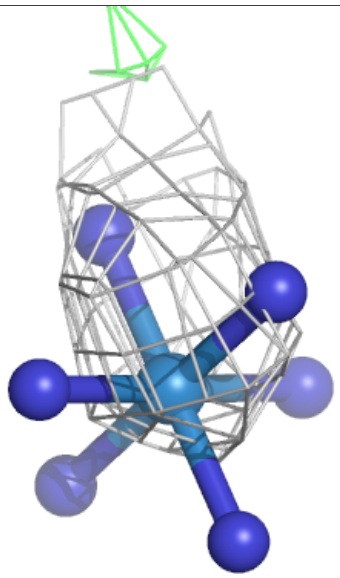


**Electron density around OHX D1 3593:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

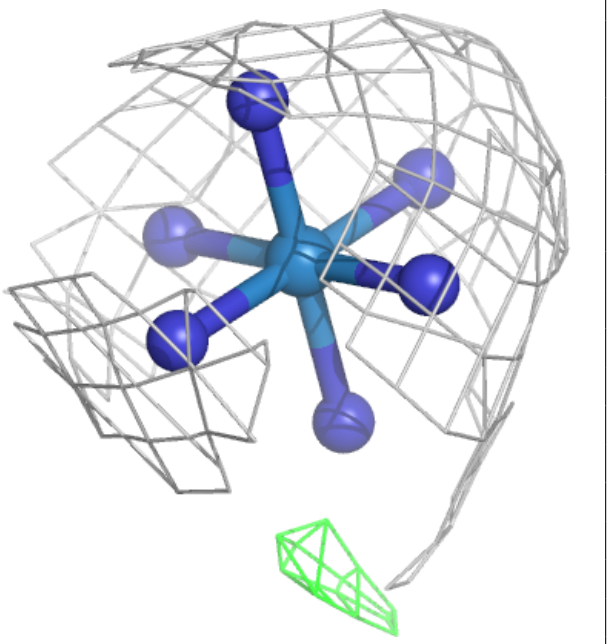


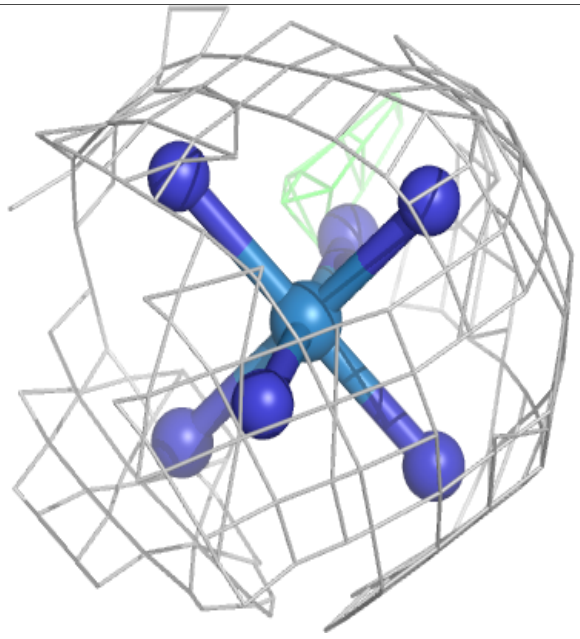


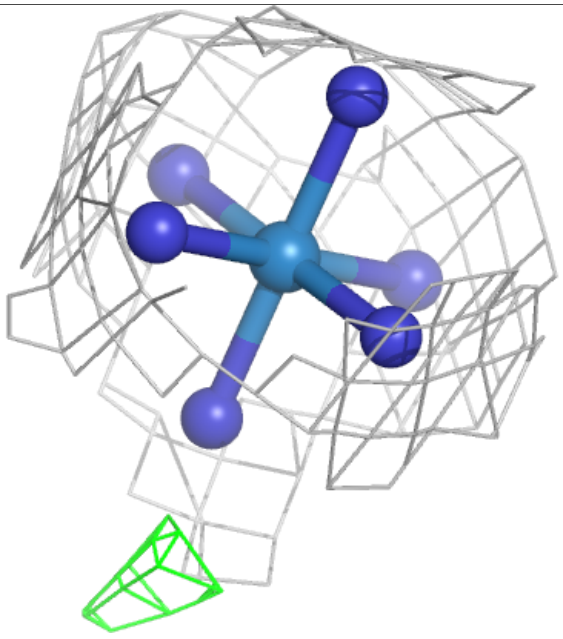


**Electron density around OHX B1 3545:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

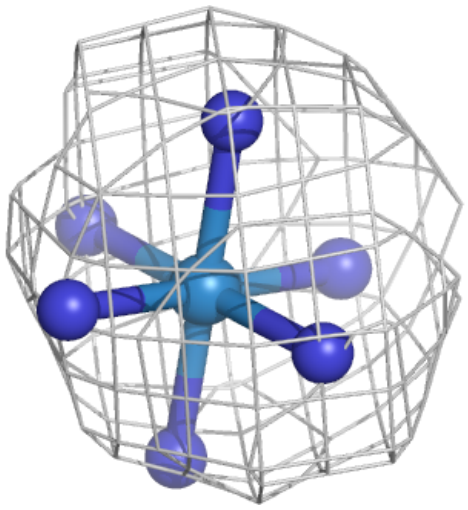


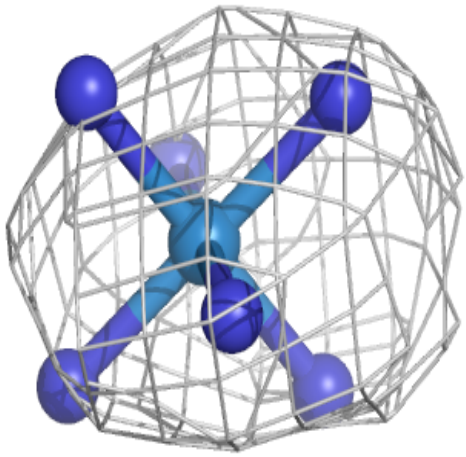


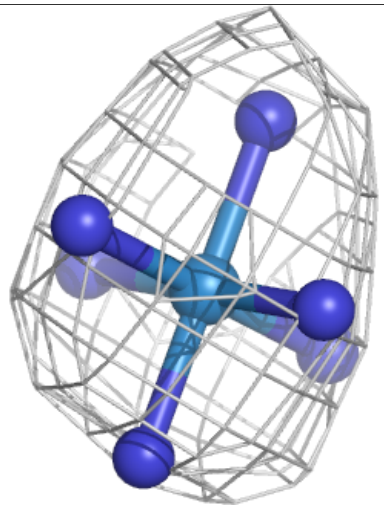


**Electron density around OHX D1 3587:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

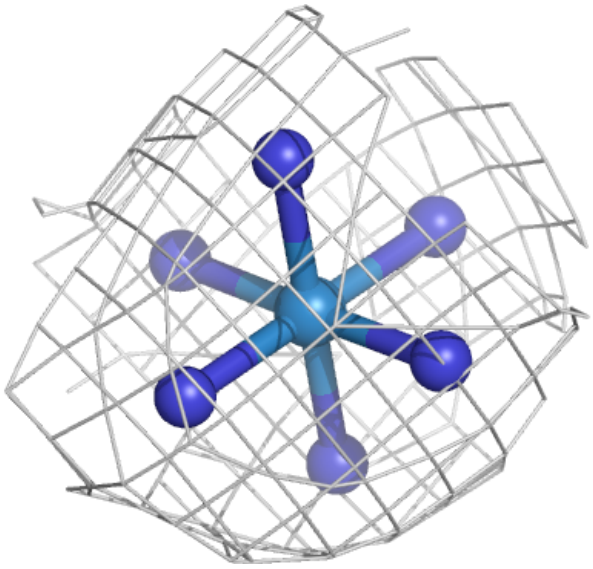


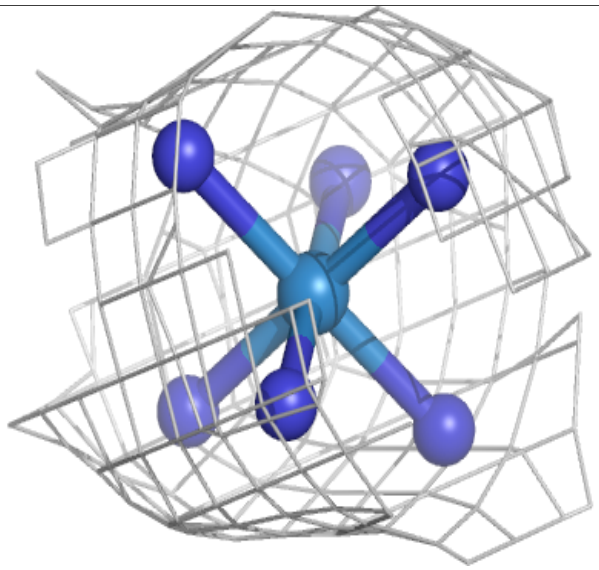


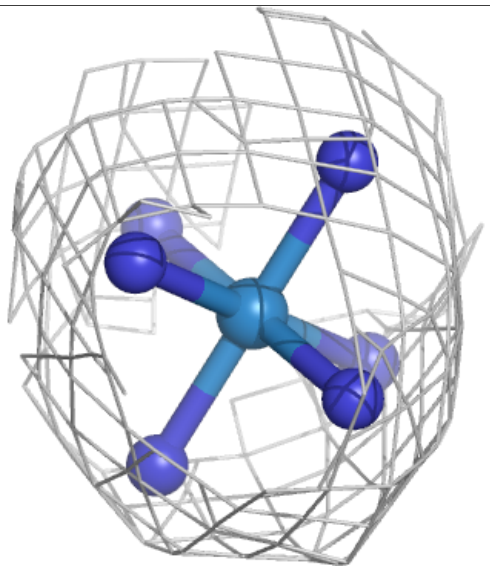


**Electron density around OHX B1 3533:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

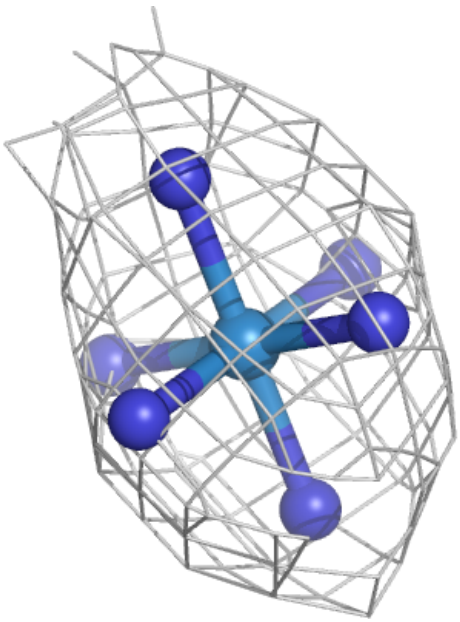


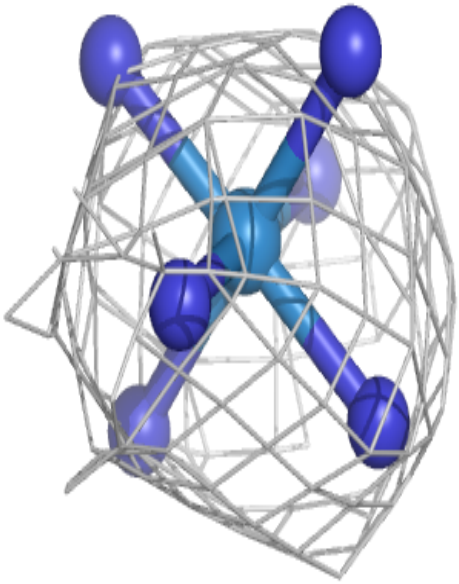


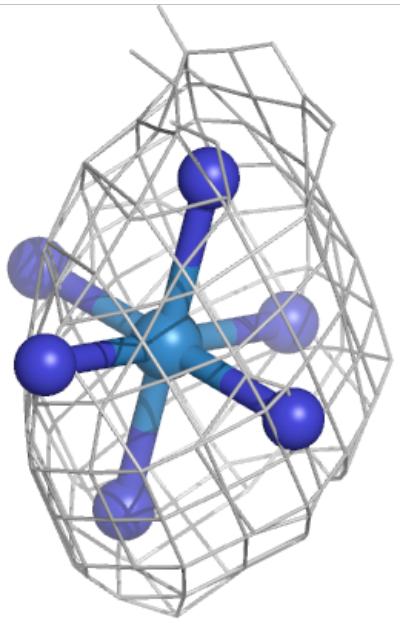


**Electron density around OHX BO 301:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

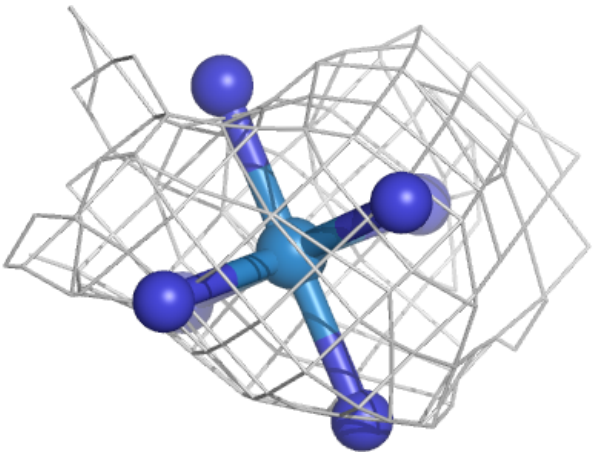


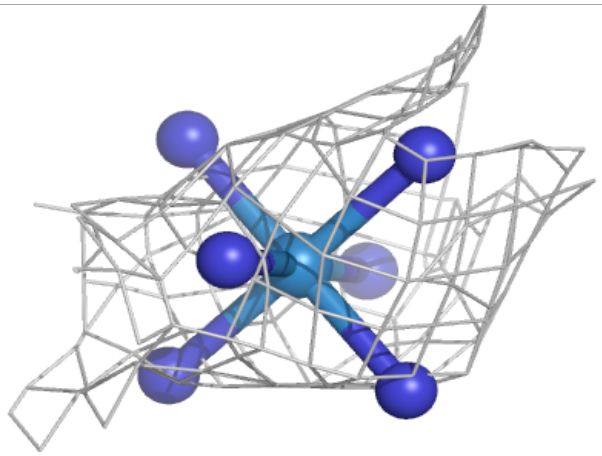


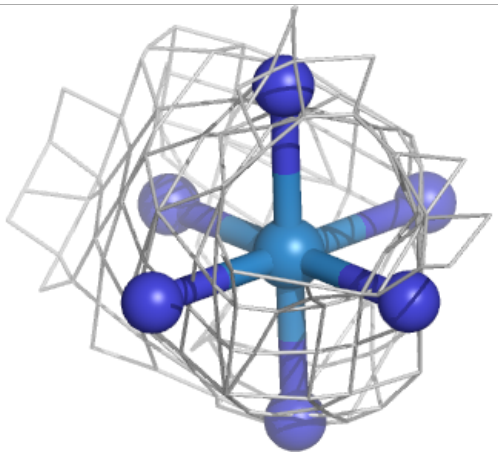


**Electron density around OHX A1 1996:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

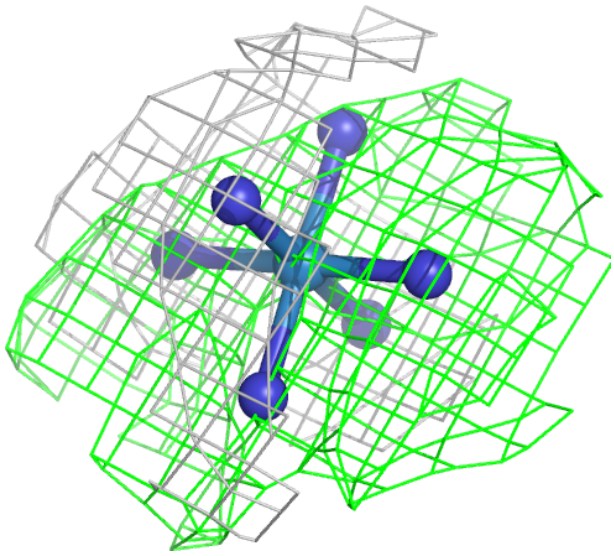


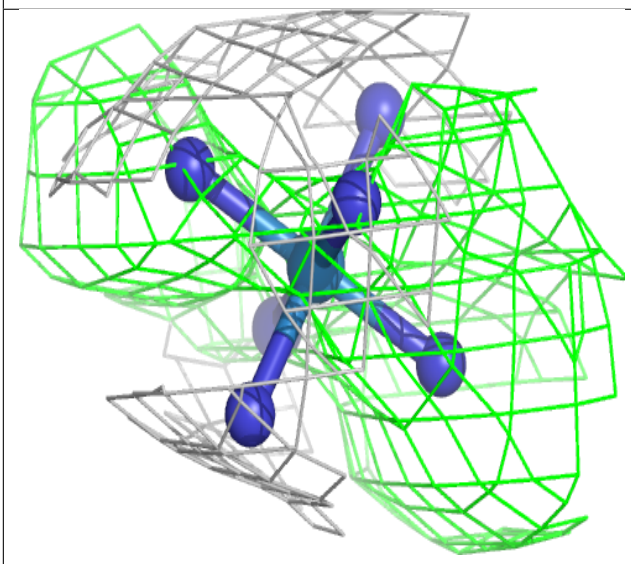


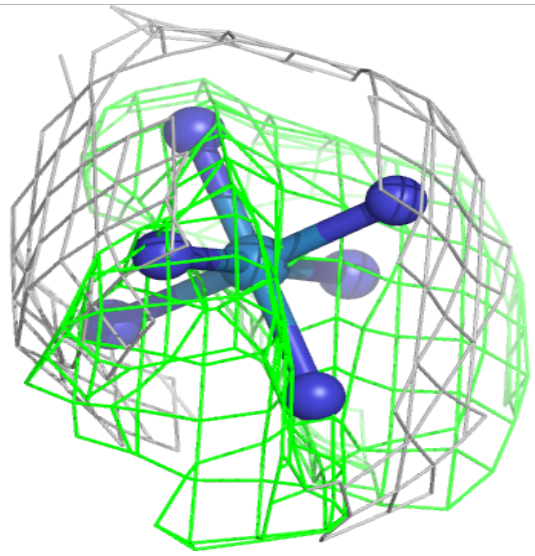


**Electron density around OHX B1 3515:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

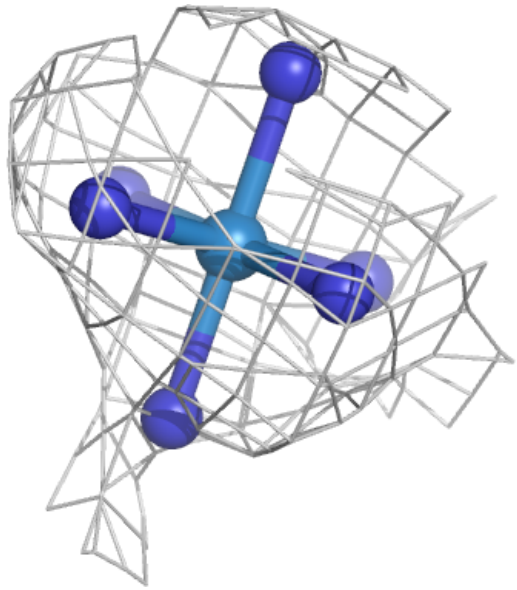


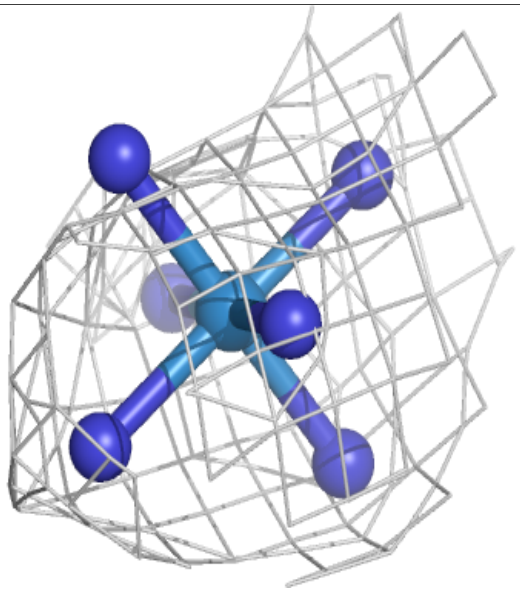


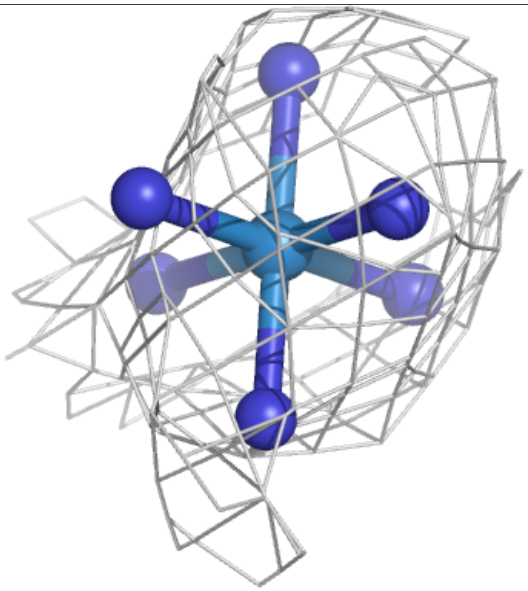


**Electron density around OHX C1 1957:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

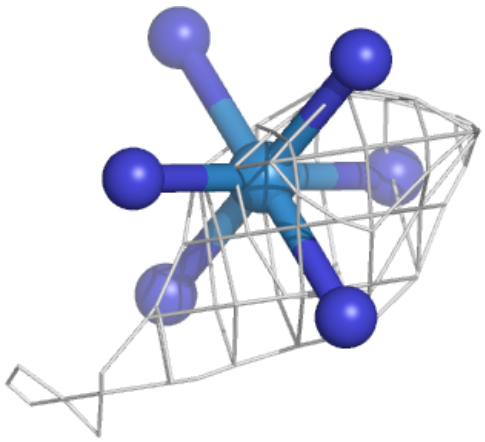


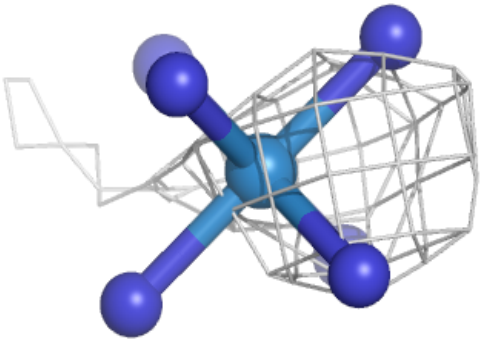


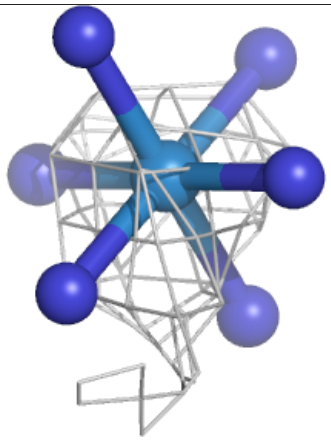


**Electron density around OHX A1 1998:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

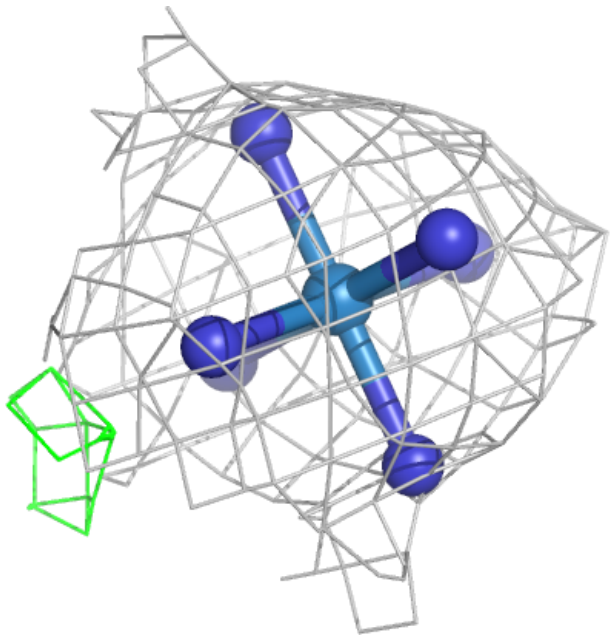


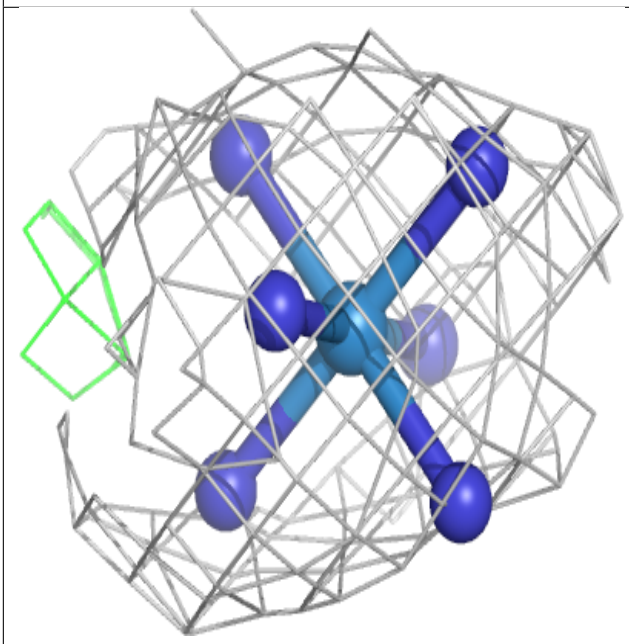


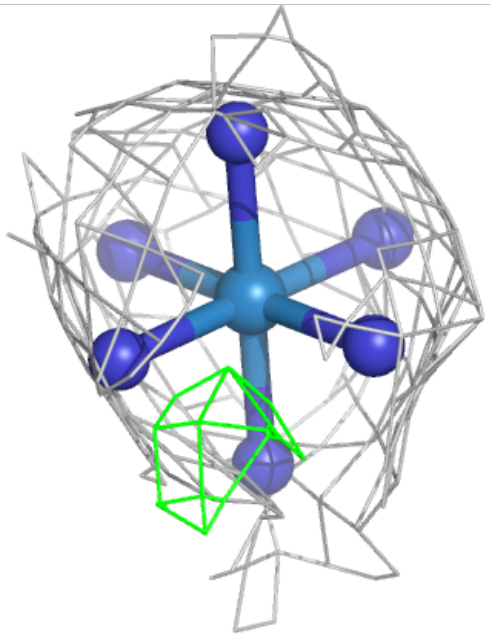


**Electron density around OHX B1 3584:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

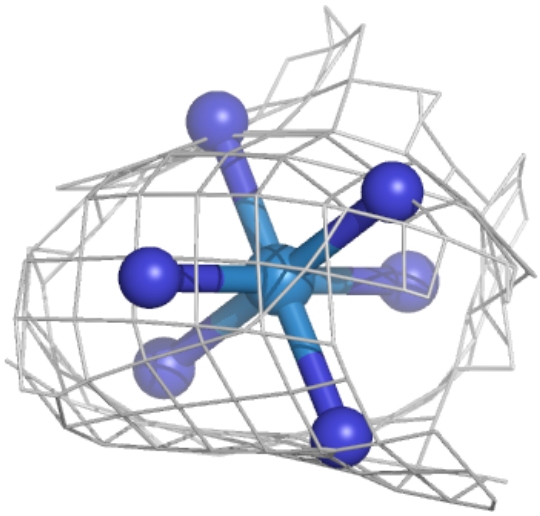


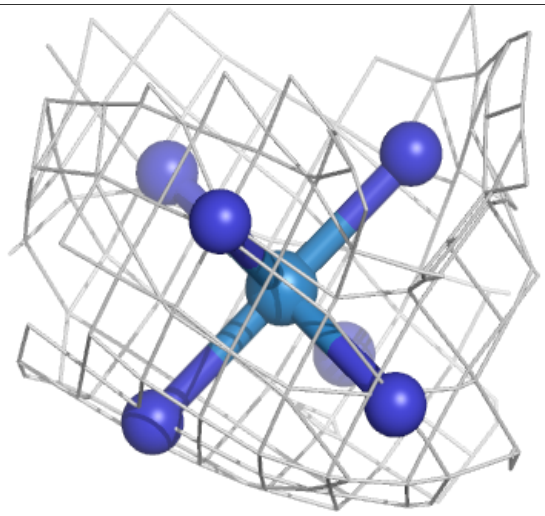


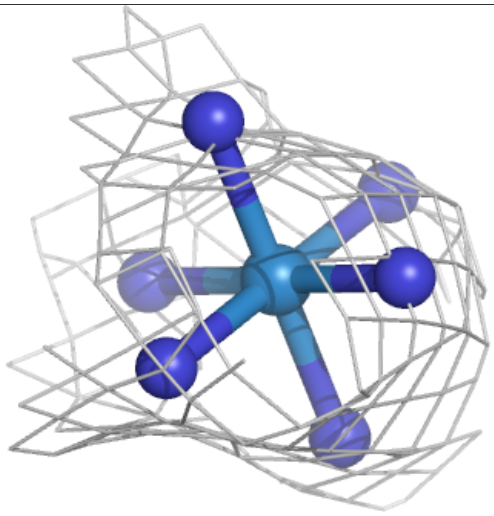


**Electron density around OHX C1 1996:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

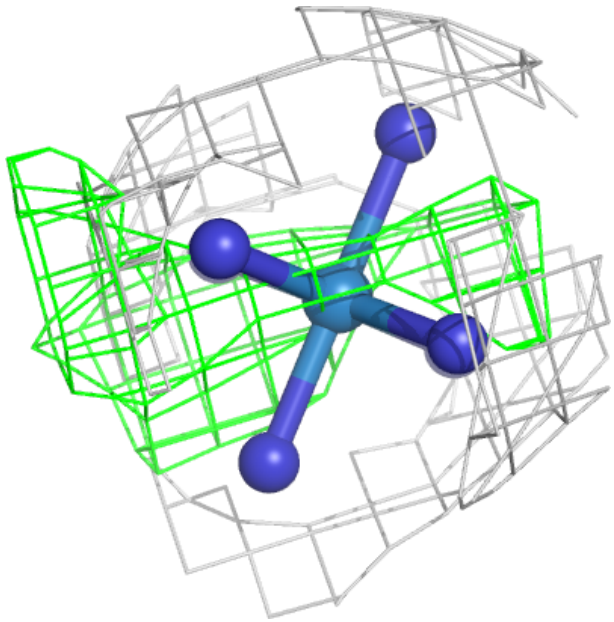


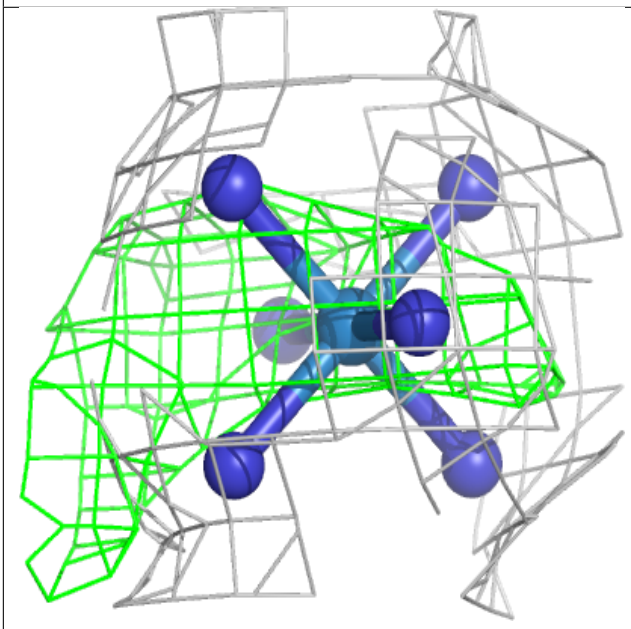


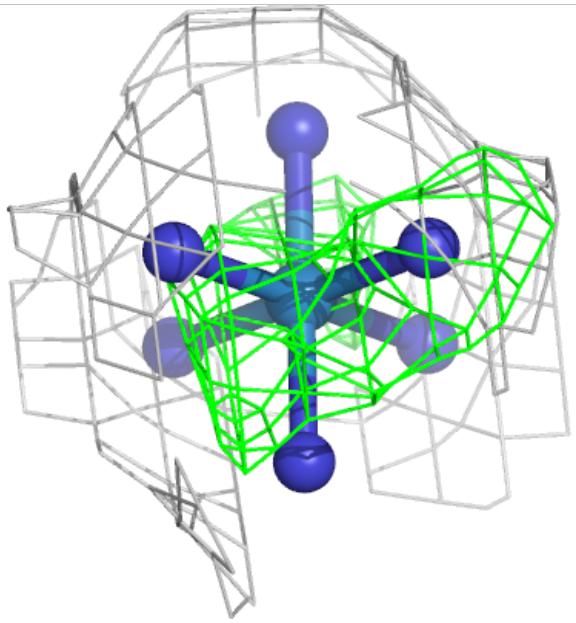


**Electron density around OHX A1 1988:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

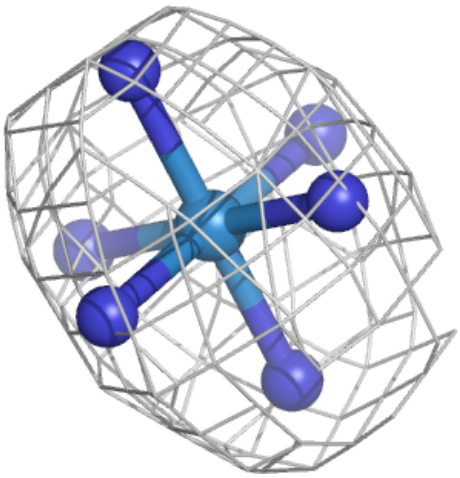


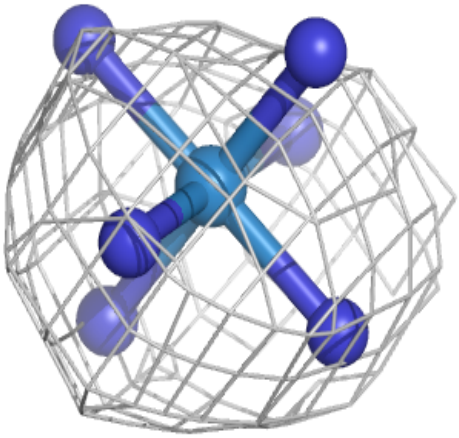


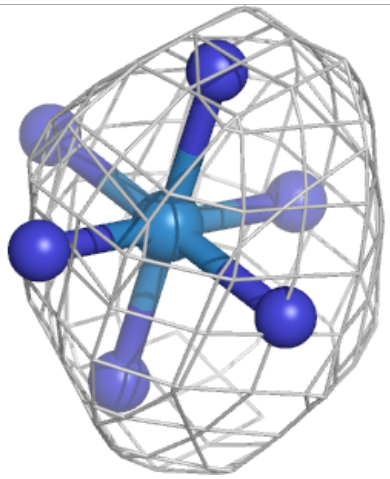


**Electron density around OHX B1 3602:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

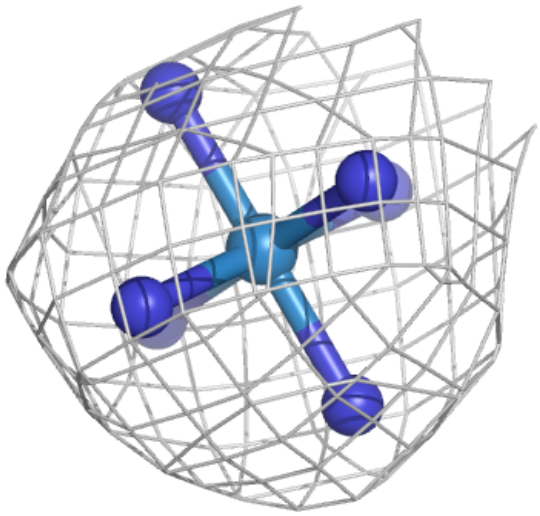


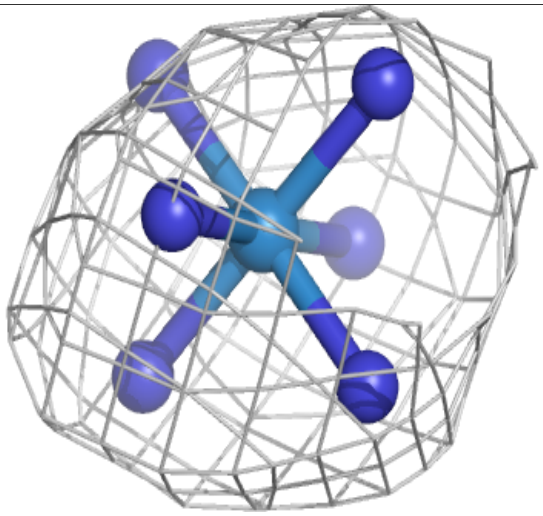


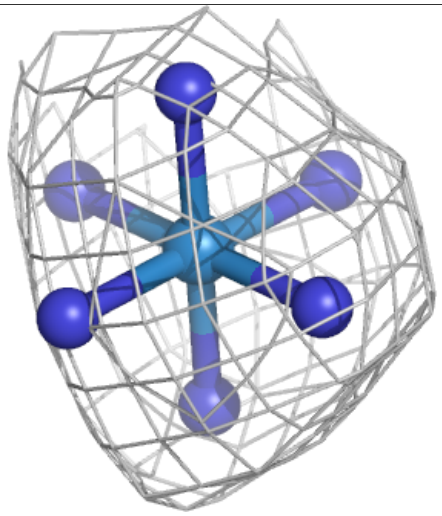


**Electron density around OHX D1 3595:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

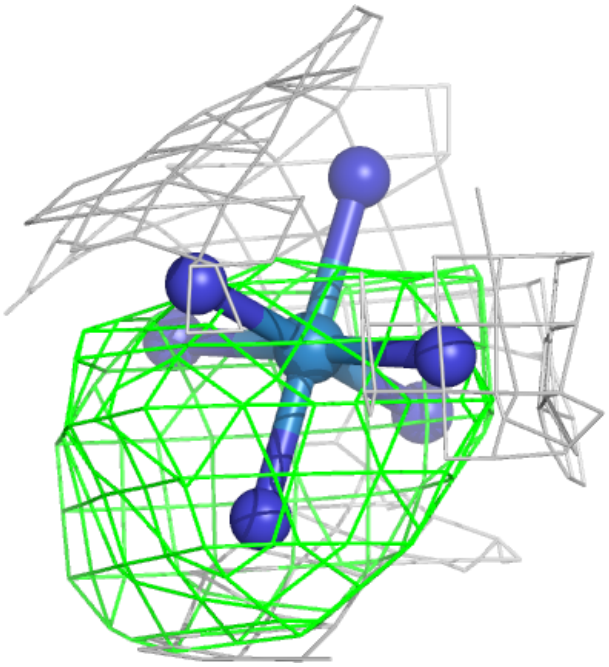


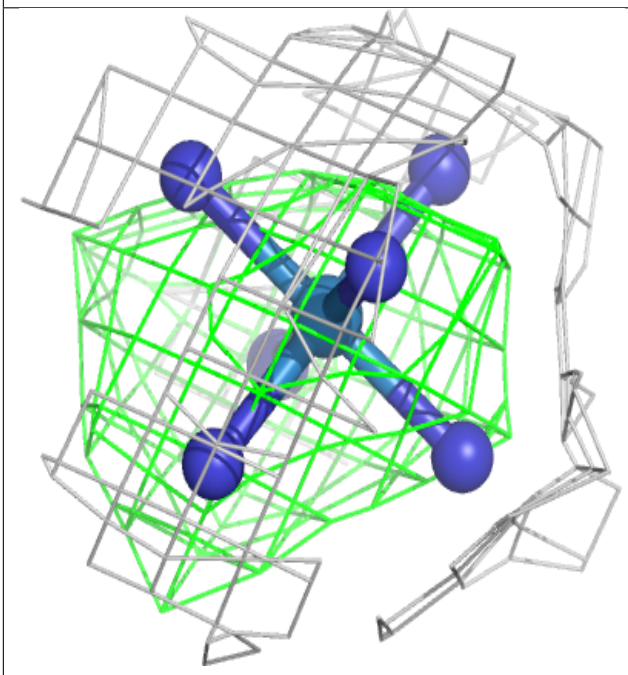


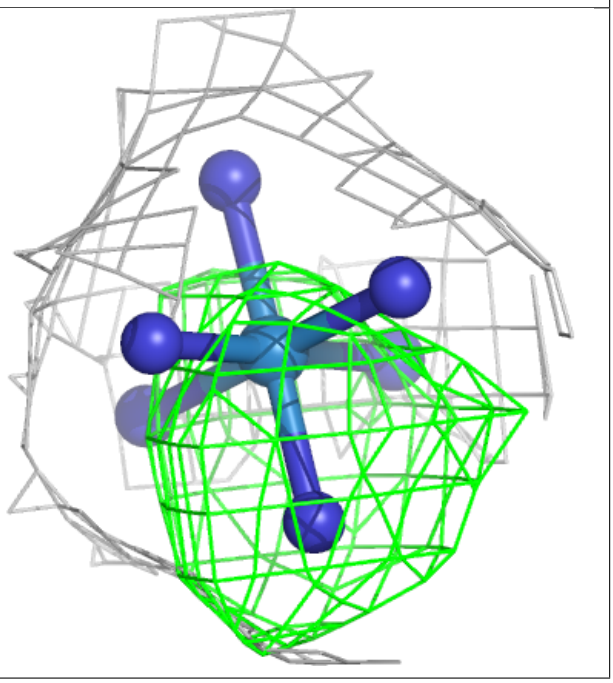


**Electron density around OHX B1 3542:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

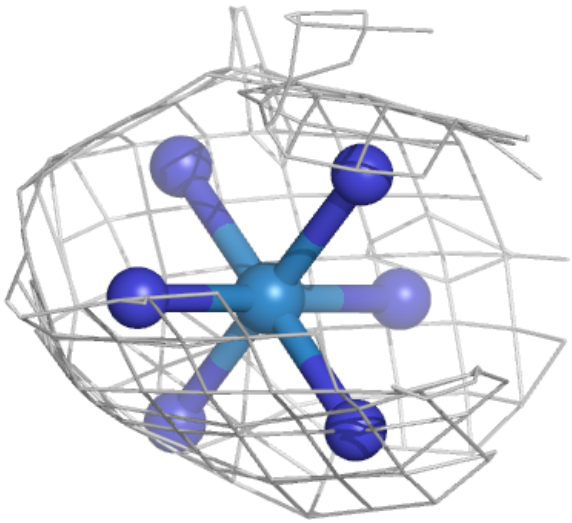


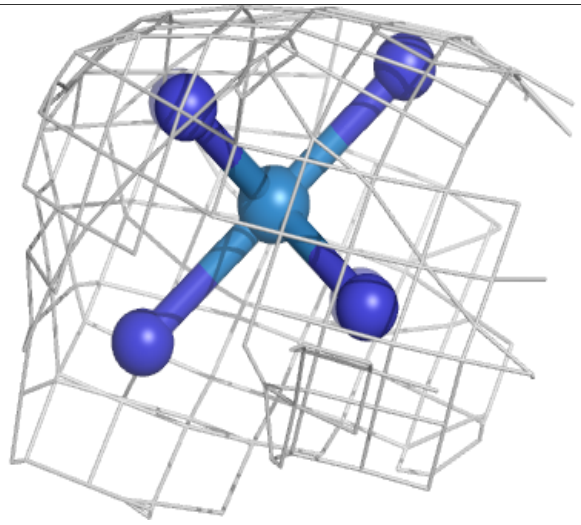


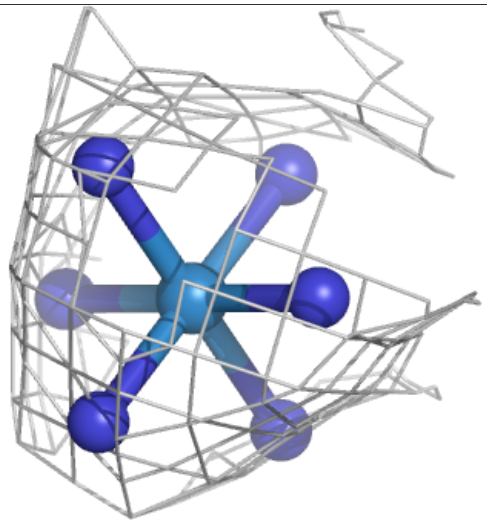


**Electron density around OHX C1 1980:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

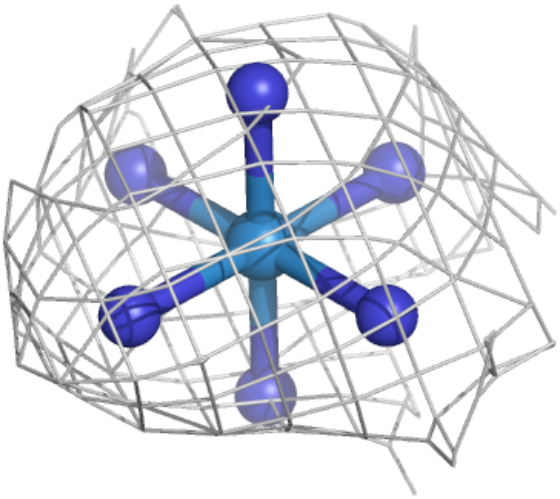


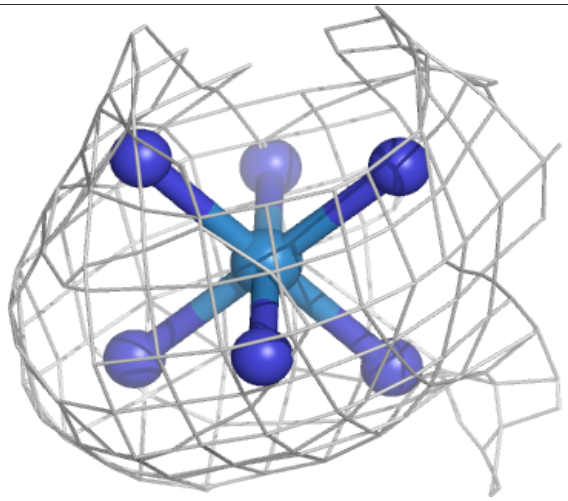


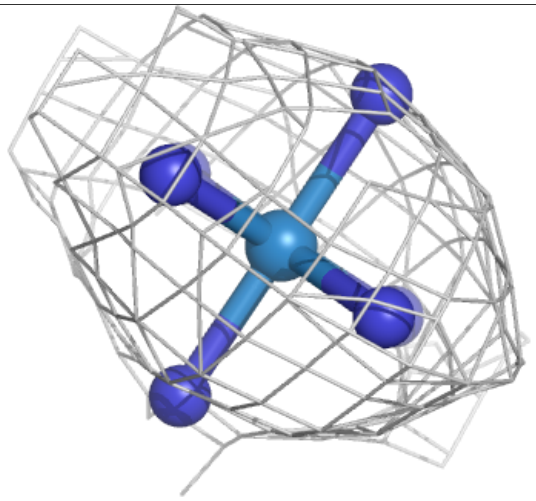


**Electron density around OHX B1 3609:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

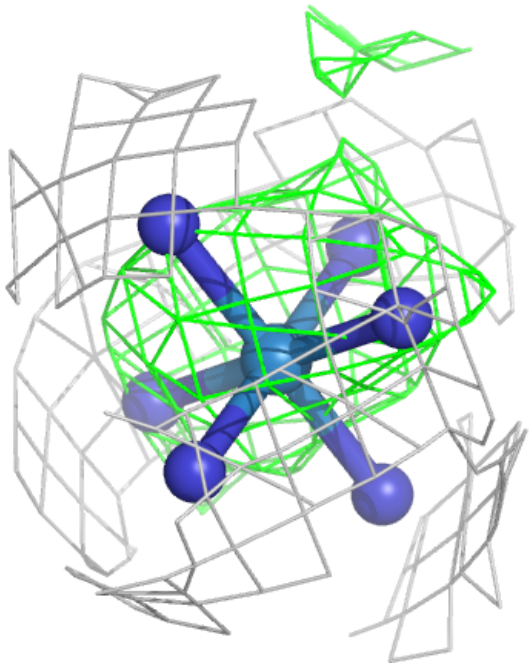


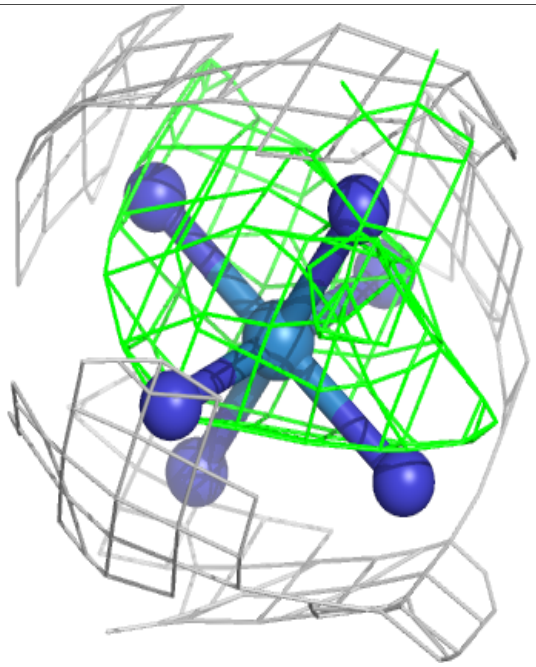


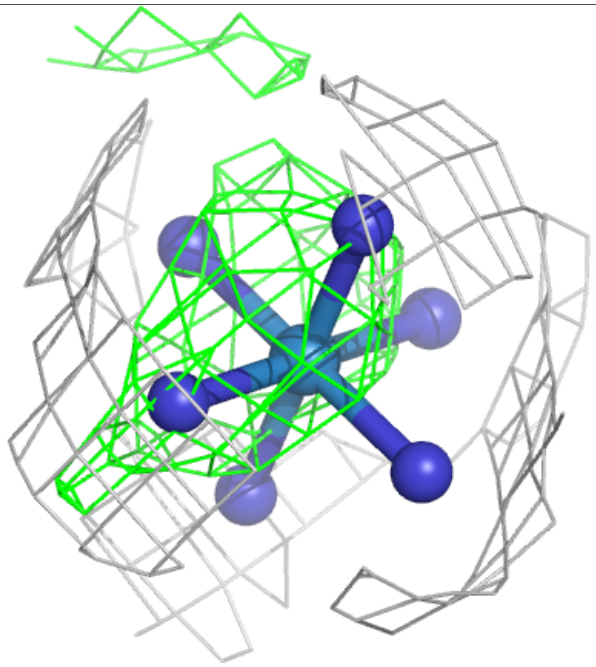


**Electron density around OHX D1 3545:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

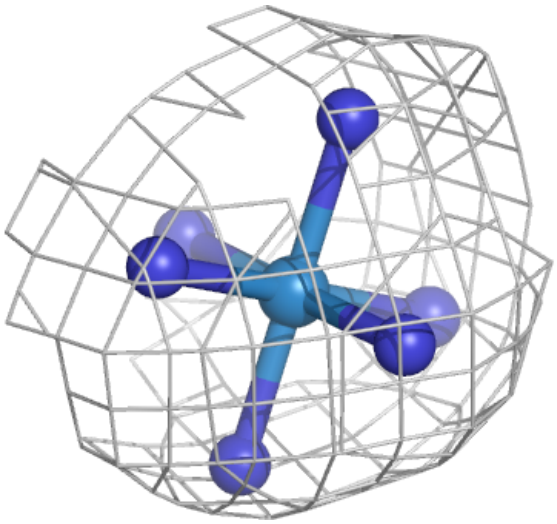


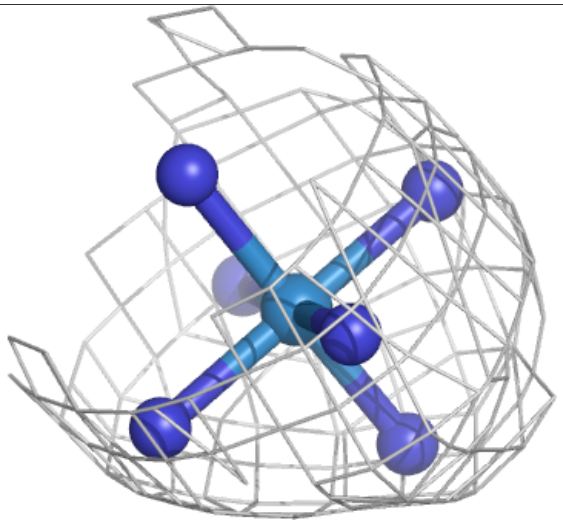


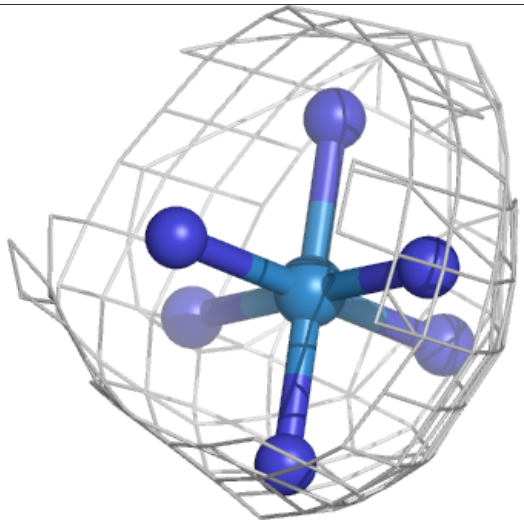


**Electron density around OHX C1 1995:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

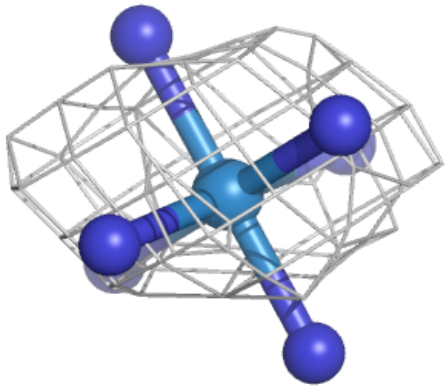


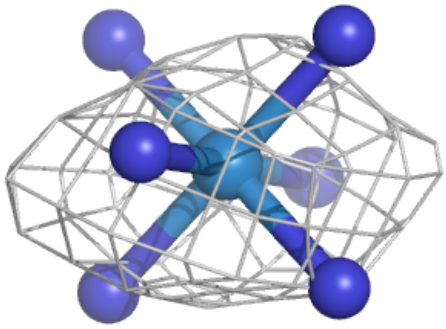


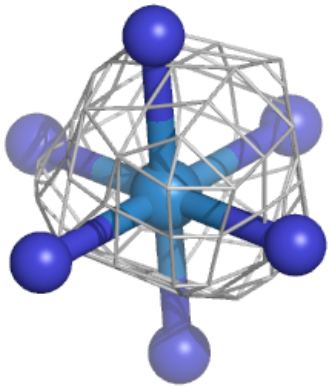


**Electron density around OHX B1 3555:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

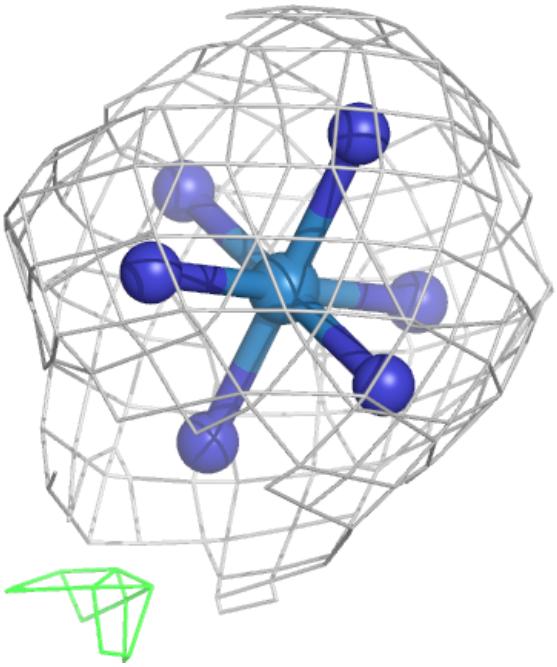


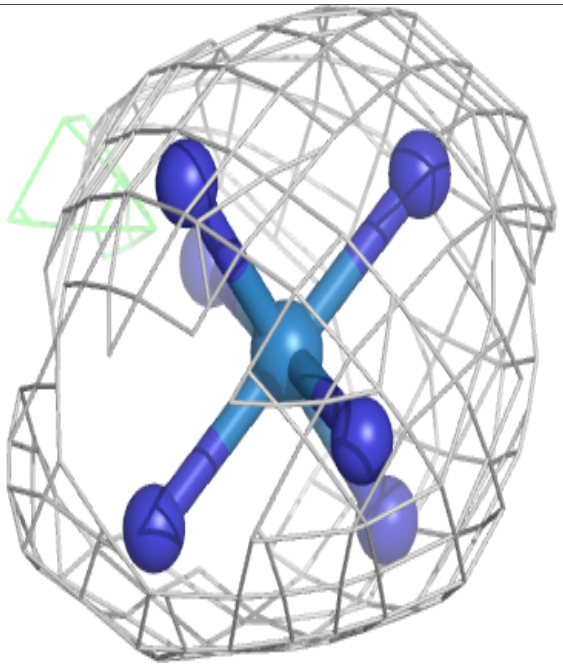


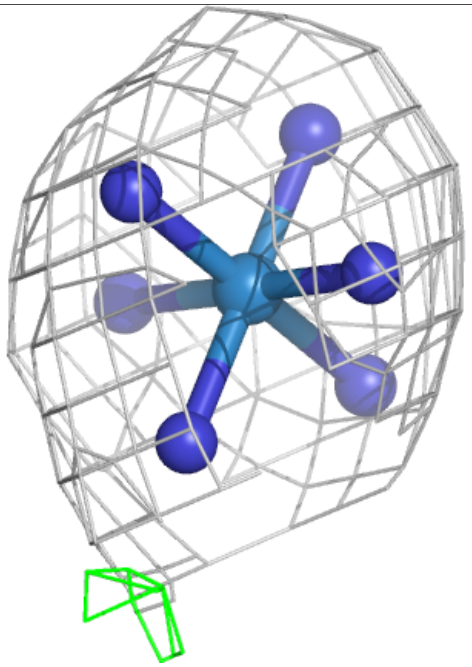


**Electron density around OHX B1 3551:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

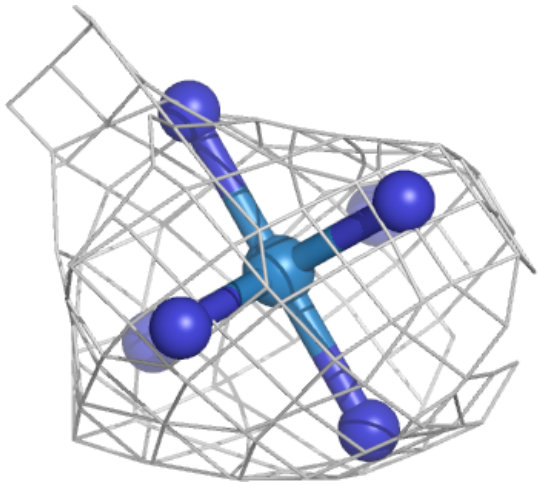


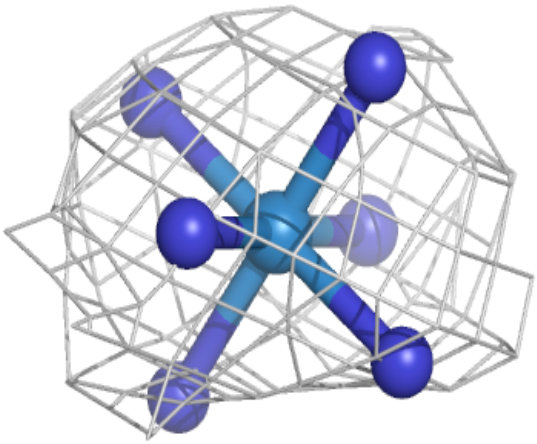


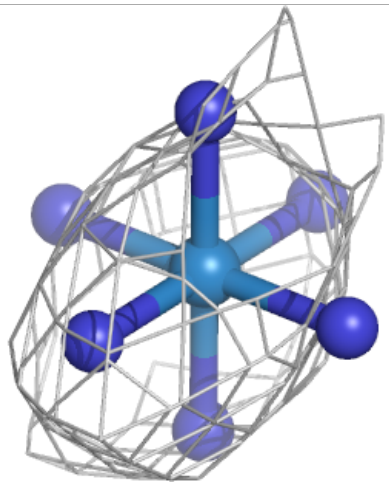


**Electron density around OHX D1 3509:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

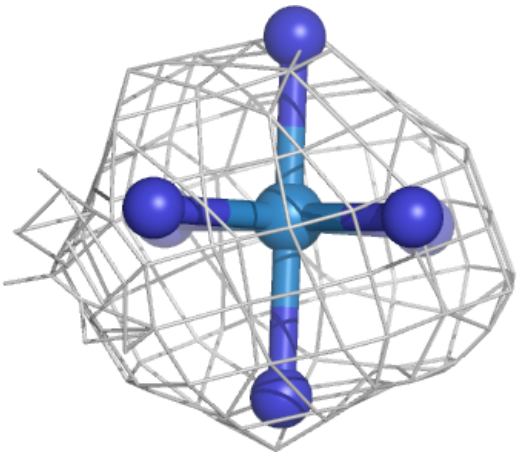


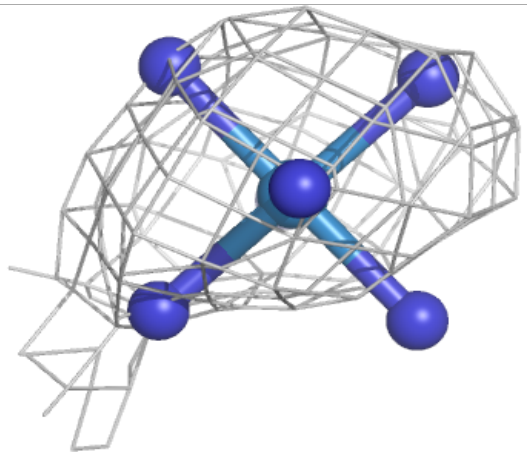


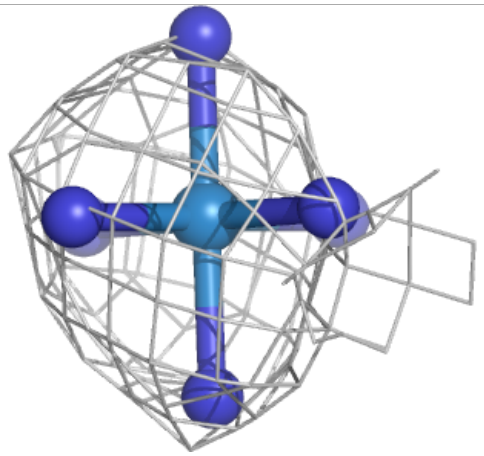


**Electron density around OHX D1 3573:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)

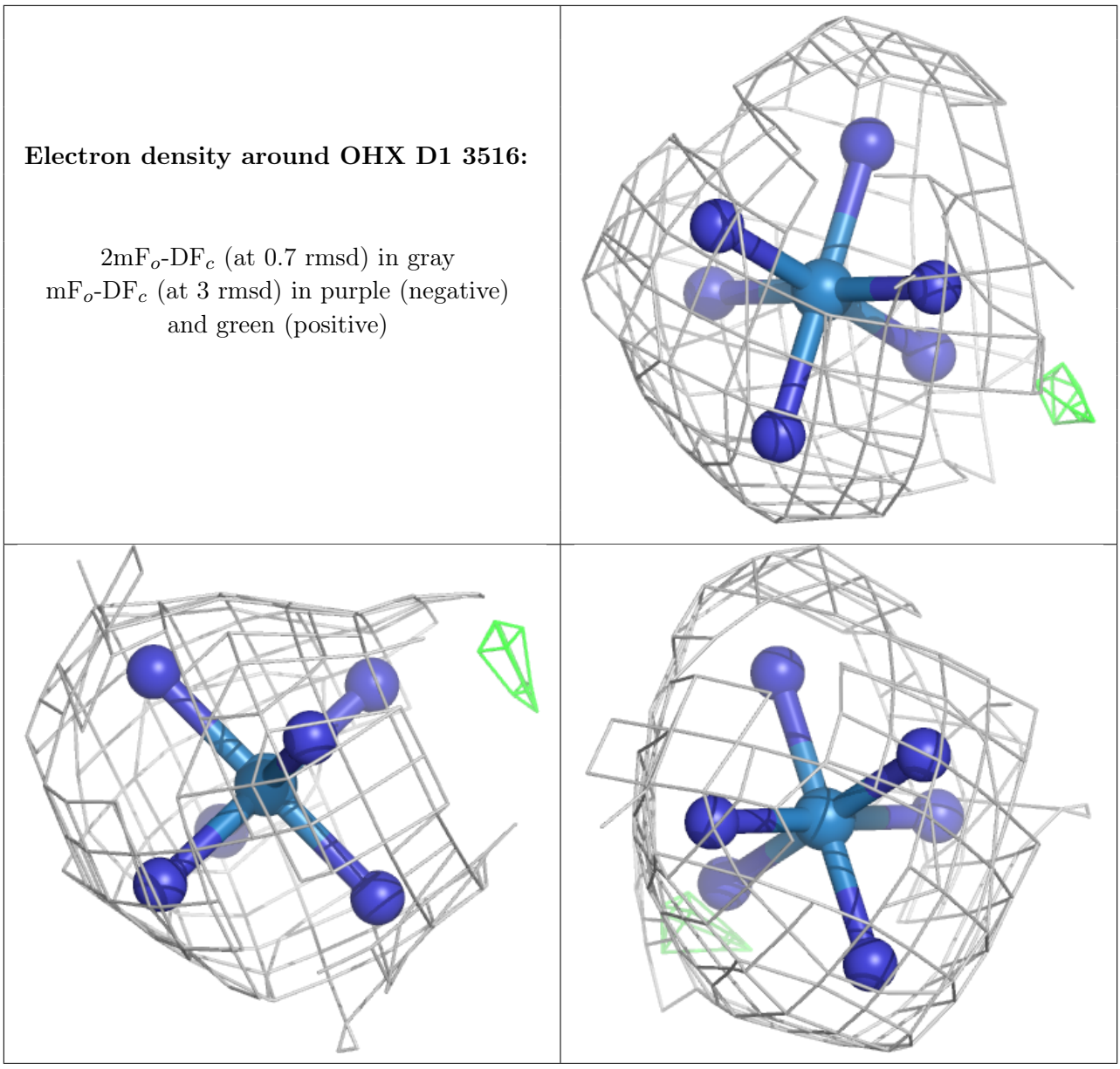






**Electron density around OHX D1 3516:**

$2mF_o$-$DF_c$ (at 0.7 rmsd) in gray
$mF_o$-$DF_c$ (at 3 rmsd) in purple (negative) and green (positive)



## 6.5 Other polymers (i)

There are no such residues in this entry.