Full wwPDB X-ray Structure Validation Report ⓘ

Mar 28, 2026 – 05:53 PM UTC

PDB ID	:	4V9L / pdb_00004v9l
Title	:	70S Ribosome translocation intermediate FA-3.6A containing elongation factor EFG/FUSIDIC ACID/GDP, mRNA, and tRNA bound in the pe*/E state.
Authors	:	Zhou, J.; Lancaster, L.; Donohue, J.P.; Noller, H.F.
Deposited on	:	2013-04-24
Resolution	:	3.50 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 ⓘ symbol.

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

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

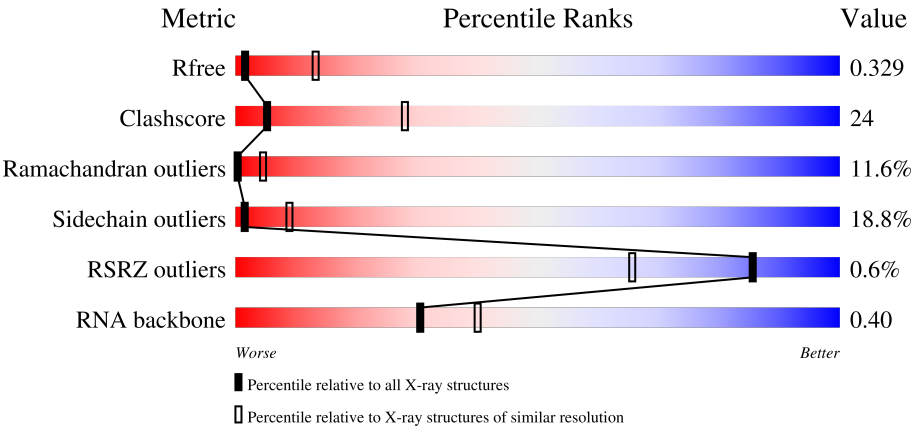
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

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 3.50 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	1085 (3.54-3.46)
Clashscore	190562	1140 (3.54-3.46)
Ramachandran outliers	187476	1113 (3.54-3.46)
Sidechain outliers	187428	1114 (3.54-3.46)
RSRZ outliers	180081	1084 (3.54-3.46)
RNA backbone	3983	1010 (3.98-3.02)

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	AB	235	32% 45% 19% .
1	CB	235	38% 42% 18% .
2	AC	207	37% 52% 10% .
2	CC	207	46% 46% 8%

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Mol	Chain	Length	Quality of chain
3	AD	208	36% 47% 15%
3	CD	208	38% 48% 12%
4	AE	151	40% 50% 9%
4	CE	151	48% 40% 11%
5	AF	101	44% 48% 9%
5	CF	101	49% 44% 5%
6	AG	155	52% 41% 8%
6	CG	155	54% 39% 8%
7	AH	138	38% 50% 10%
7	CH	138	38% 51% 11%
8	AI	127	39% 50% 12%
8	CI	127	50% 43% 6%
9	AJ	99	42% 46% 11%
9	CJ	99	42% 47% 10%
10	AK	119	40% 39% 19%
10	CK	119	35% 42% 23%
11	AL	125	20% 46% 24% 10%
11	CL	125	21% 44% 28% 7%
12	AM	125	34% 50% 16%
12	CM	125	48% 43% 9%
13	AN	60	40% 52% 8%
13	CN	60	58% 32% 10%
14	AO	88	39% 48% 11%
14	CO	88	38% 52% 9%
15	AP	84	39% 56%

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Mol	Chain	Length	Quality of chain
15	CP	84	52% 38% 10%
16	AQ	100	32% 54% 12%
16	CQ	100	30% 48% 20%
17	AR	70	33% 54% 11%
17	CR	70	39% 50% 9%
18	AS	79	37% 47% 15%
18	CS	79	39% 29% 29%
19	AT	99	46% 43% 8%
19	CT	99	45% 47% 7%
20	AA	1511	31% 56% 13%
20	CA	1511	31% 57% 12%
21	AW	77	26% 53% 21%
21	CW	77	31% 52% 17%
22	AV	23	4% 35% 48% 17%
22	CV	23	4% 30% 35% 35%
23	AY	687	34% 47% 13%
23	CY	687	39% 42% 13%
24	AU	6	33% 67%
24	CU	6	17% 50% 33%
25	BC	228	26% 40% 27% 7%
25	DC	228	23% 44% 25% 7%
26	BD	275	27% 46% 25%
26	DD	275	34% 41% 21%
27	BE	205	28% 51% 19%
27	DE	205	32% 46% 20%

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Mol	Chain	Length	Quality of chain
28	BF	208	32% 43% 20%
28	DF	208	26% 50% 20%
29	BG	181	45% 44% 10%
29	DG	181	48% 38% 13%
30	BH	167	39% 51% 9%
30	DH	167	46% 42% 12%
31	BJ	170	78% 22%
31	DJ	170	72% 28%
32	BK	140	42% 44% 13%
32	DK	140	46% 42% 11%
33	BN	138	25% 45% 30%
33	DN	138	25% 51% 21%
34	BO	122	39% 48% 11%
34	DO	122	34% 49% 16%
35	BP	146	36% 43% 18%
35	DP	146	26% 53% 19%
36	BQ	141	34% 46% 18%
36	DQ	141	35% 47% 16%
37	BR	117	33% 53% 13%
37	DR	117	40% 42% 15%
38	BS	99	30% 43% 19% 7%
38	DS	99	26% 42% 23% 8%
39	BT	138	26% 48% 20% 6%
39	DT	138	30% 46% 19%
40	BU	117	30% 56% 13%

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Mol	Chain	Length	Quality of chain
40	DU	117	44% 43% 13%
41	BV	101	30% 42% 24% 5%
41	DV	101	31% 41% 25%
42	BW	113	26% 58% 13%
42	DW	113	41% 48% 9%
43	BX	93	40% 51% 10%
43	DX	93	41% 46% 13%
44	BY	107	23% 47% 29%
44	DY	107	26% 46% 21% 7%
45	BZ	185	39% 44% 16%
45	DZ	185	41% 48% 11%
46	B0	84	46% 42% 12%
46	D0	84	4% 30% 56% 13%
47	B2	71	42% 51% 6%
47	D2	71	45% 46% 8%
48	B3	60	53% 33% 10%
48	D3	60	48% 37% 15%
49	B5	59	31% 53% 15%
49	D5	59	24% 58% 17%
50	B6	50	32% 48% 12% 8%
50	D6	50	18% 52% 30%
51	B7	49	35% 53% 12%
51	D7	49	33% 55% 10%
52	B8	64	22% 53% 19% 6%
52	D8	64	25% 42% 30%

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Mol	Chain	Length	Quality of chain
53	B9	37	22% 62% 14%
53	D9	37	49% 46% 5%
54	Be	102	2% 69% 25% 6%
54	De	102	66% 27% 5%
55	Bf	31	87% 13%
55	Bg	31	100%
55	Df	31	90% 10%
55	Dg	31	100%
56	Bh	30	93% 7%
56	Dh	30	100%
57	B1	93	23% 42% 30% 5%
57	D1	93	1% 18% 47% 27% 8%
58	B4	35	40% 34% 14% 11%
58	D4	35	3% 40% 46% 11%
59	BA	2879	29% 57% 14%
59	DA	2879	27% 57% 16%
60	BB	119	35% 50% 15%
60	DB	119	32% 58% 10%

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
62	GDP	AY	702	-	-	X	-
62	GDP	CY	702	-	-	X	-

2 Entry composition (i)

There are 63 unique types of molecules in this entry. The entry contains 308166 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 protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	AB	235	Total	C	N	O	S	0	0	0
			1910	1218	342	345	5			
1	CB	235	Total	C	N	O	S	0	0	0
			1910	1218	342	345	5			

- Molecule 2 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	AC	207	Total	C	N	O	S	0	0	0
			1621	1022	315	283	1			
2	CC	207	Total	C	N	O	S	0	0	0
			1621	1022	315	283	1			

- Molecule 3 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	AD	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			
3	CD	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			

- Molecule 4 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	AE	151	Total	C	N	O	S	0	0	0
			1156	729	218	205	4			
4	CE	151	Total	C	N	O	S	0	0	0
			1156	729	218	205	4			

- Molecule 5 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	AF	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			
5	CF	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			

- Molecule 6 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	AG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			
6	CG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

- Molecule 7 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	AH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			
7	CH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			

- Molecule 8 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
8	AI	127	Total	C	N	O	0	0	0
			1010	639	197	174			
8	CI	127	Total	C	N	O	0	0	0
			1010	639	197	174			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AI	58	HIS	ARG	conflict	UNP P62669
CI	58	HIS	ARG	conflict	UNP P62669

- Molecule 9 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	AJ	99	Total	C	N	O	S	0	0	0
			802	504	157	140	1			
9	CJ	99	Total	C	N	O	S	0	0	0
			802	504	157	140	1			

- Molecule 10 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	AK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			
10	CK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			

- Molecule 11 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	AL	125	Total	C	N	O	S	0	0	0
			976	614	196	165	1			
11	CL	125	Total	C	N	O	S	0	0	0
			976	614	196	165	1			

- Molecule 12 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	AM	125	Total	C	N	O	S	0	0	0
			997	617	207	171	2			
12	CM	125	Total	C	N	O	S	0	0	0
			997	617	207	171	2			

- Molecule 13 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	AN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			
13	CN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

- Molecule 14 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	AO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			
14	CO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			

- Molecule 15 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	AP	84	Total	C	N	O	S	0	0	0
			706	446	140	119	1			
15	CP	84	Total	C	N	O	S	0	0	0
			706	446	140	119	1			

- Molecule 16 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	AQ	100	Total	C	N	O	S	0	0	0
			835	534	155	144	2			
16	CQ	100	Total	C	N	O	S	0	0	0
			835	534	155	144	2			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AQ	96	GLU	GLN	conflict	UNP P62658
CQ	96	GLU	GLN	conflict	UNP P62658

- Molecule 17 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
17	AR	70	Total	C	N	O	0	0	0
			574	367	112	95			
17	CR	70	Total	C	N	O	0	0	0
			574	367	112	95			

- Molecule 18 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	AS	79	Total	C	N	O	S	0	0	0
			634	405	115	112	2			
18	CS	79	Total	C	N	O	S	0	0	0
			634	405	115	112	2			

- Molecule 19 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	AT	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			
19	CT	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AT	41	ILE	VAL	conflict	UNP P62661
CT	41	ILE	VAL	conflict	UNP P62661

- Molecule 20 is a RNA chain called ribosomal RNA 16S.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	AA	1511	Total	C	N	O	P	0	0	0
			32474	14455	6015	10494	1510			
20	CA	1511	Total	C	N	O	P	0	0	0
			32474	14455	6015	10494	1510			

- Molecule 21 is a RNA chain called transfer RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	AW	77	Total	C	N	O	P	0	0	0
			1635	732	291	536	76			
21	CW	77	Total	C	N	O	P	0	0	0
			1635	732	291	536	76			

- Molecule 22 is a RNA chain called messenger RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	AV	23	Total	C	N	O	P	0	0	0
			503	227	106	148	22			
22	CV	23	Total	C	N	O	P	0	0	0
			503	227	106	148	22			

- Molecule 23 is a protein called Elongation factor G.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	AY	667	Total	C	N	O	S	0	0	0
			5219	3318	893	990	18			
23	CY	667	Total	C	N	O	S	0	0	0
			5219	3318	893	990	18			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AY	129	LYS	HIS	conflict	UNP Q72I01
AY	226	ASN	HIS	conflict	UNP Q72I01
CY	129	LYS	HIS	conflict	UNP Q72I01

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Chain	Residue	Modelled	Actual	Comment	Reference
CY	226	ASN	HIS	conflict	UNP Q72I01

- Molecule 24 is a protein called VIOMYCIN.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
24	AU	6	Total	C	N	O	0	0	0
			48	25	13	10			
24	CU	6	Total	C	N	O	0	0	0
			48	25	13	10			

- Molecule 25 is a protein called 50S ribosomal protein L1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	BC	228	Total	C	N	O	S	0	0	0
			1742	1101	319	319	3			
25	DC	228	Total	C	N	O	S	0	0	0
			1742	1101	319	319	3			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BC	20	VAL	ILE	conflict	UNP Q72GV9
BC	28	ARG	HIS	conflict	UNP Q72GV9
DC	20	VAL	ILE	conflict	UNP Q72GV9
DC	28	ARG	HIS	conflict	UNP Q72GV9

- Molecule 26 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	BD	275	Total	C	N	O	S	0	0	0
			2145	1353	428	361	3			
26	DD	275	Total	C	N	O	S	0	0	0
			2145	1353	428	361	3			

- Molecule 27 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	BE	205	Total	C	N	O	S	0	0	0
			1569	991	300	272	6			
27	DE	205	Total	C	N	O	S	0	0	0
			1569	991	300	272	6			

- Molecule 28 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	BF	208	Total	C	N	O	S	0	0	0
			1628	1037	304	284	3			
28	DF	208	Total	C	N	O	S	0	0	0
			1628	1037	304	284	3			

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BF	2	LYS	-	insertion	UNP Q72I05
BF	3	GLU	-	insertion	UNP Q72I05
BF	4	VAL	-	insertion	UNP Q72I05
BF	5	ALA	-	insertion	UNP Q72I05
BF	6	VAL	-	insertion	UNP Q72I05
DF	2	LYS	-	insertion	UNP Q72I05
DF	3	GLU	-	insertion	UNP Q72I05
DF	4	VAL	-	insertion	UNP Q72I05
DF	5	ALA	-	insertion	UNP Q72I05
DF	6	VAL	-	insertion	UNP Q72I05

- Molecule 29 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	BG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			
29	DG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BG	5	VAL	LEU	conflict	UNP Q72I16
DG	5	VAL	LEU	conflict	UNP Q72I16

- Molecule 30 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	BH	167	Total	C	N	O	S	0	0	0
			1274	806	238	229	1			
30	DH	167	Total	C	N	O	S	0	0	0
			1274	806	238	229	1			

- Molecule 31 is a protein called 50S RIBOSOMAL PROTEIN L10.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
31	BJ	170	Total	C	N	O	0	0	0
			851	510	170	171			
31	DJ	170	Total	C	N	O	0	0	0
			851	510	170	171			

- Molecule 32 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	BK	140	Total	C	N	O	S	0	0	0
			1035	659	183	188	5			
32	DK	140	Total	C	N	O	S	0	0	0
			1035	659	183	188	5			

- Molecule 33 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	BN	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			
33	DN	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			

- Molecule 34 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	BO	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			
34	DO	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BO	69	ILE	VAL	conflict	UNP Q72I14
DO	69	ILE	VAL	conflict	UNP Q72I14

- Molecule 35 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	BP	146	Total	C	N	O	S	0	0	0
			1114	692	227	193	2			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	DP	146	Total	C	N	O	S	0	0	0
			1114	692	227	193	2			

- Molecule 36 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	BQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			
36	DQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BQ	32	TYR	PHE	conflict	UNP Q72I11
DQ	32	TYR	PHE	conflict	UNP Q72I11

- Molecule 37 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
37	BR	117	Total	C	N	O	0	0	0
			960	599	202	159			
37	DR	117	Total	C	N	O	0	0	0
			960	599	202	159			

- Molecule 38 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
38	BS	99	Total	C	N	O	0	0	0
			775	488	155	132			
38	DS	99	Total	C	N	O	0	0	0
			775	488	155	132			

- Molecule 39 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	BT	138	Total	C	N	O	S	0	0	0
			1147	713	235	198	1			
39	DT	138	Total	C	N	O	S	0	0	0
			1147	713	235	198	1			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BT	123	GLN	LYS	conflict	UNP Q72JU9
BT	135	ALA	VAL	conflict	UNP Q72JU9
DT	123	GLN	LYS	conflict	UNP Q72JU9
DT	135	ALA	VAL	conflict	UNP Q72JU9

- Molecule 40 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	BU	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			
40	DU	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			

- Molecule 41 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	BV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			
41	DV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			

- Molecule 42 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	BW	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			
42	DW	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			

- Molecule 43 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
43	BX	93	Total	C	N	O	0	0	0
			734	477	132	125			
43	DX	93	Total	C	N	O	0	0	0
			734	477	132	125			

- Molecule 44 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	BY	107	Total	C	N	O	S	0	0	0
			818	524	155	134	5			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	DY	107	Total	C	N	O	S	0	0	0
			818	524	155	134	5			

- Molecule 45 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	BZ	185	Total	C	N	O	S	0	0	0
			1473	939	262	270	2			
45	DZ	185	Total	C	N	O	S	0	0	0
			1473	939	262	270	2			

- Molecule 46 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	B0	84	Total	C	N	O	S	0	0	0
			662	410	140	111	1			
46	D0	84	Total	C	N	O	S	0	0	0
			662	410	140	111	1			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B0	11	ARG	LYS	conflict	UNP Q72HR3
D0	11	ARG	LYS	conflict	UNP Q72HR3

- Molecule 47 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	B2	71	Total	C	N	O	S	0	0	0
			598	370	121	106	1			
47	D2	71	Total	C	N	O	S	0	0	0
			598	370	121	106	1			

- Molecule 48 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	B3	60	Total	C	N	O	S	0	0	0
			477	303	91	82	1			
48	D3	60	Total	C	N	O	S	0	0	0
			477	303	91	82	1			

- Molecule 49 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
49	B5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			
49	D5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B5	29	THR	ILE	conflict	UNP P62652
D5	29	THR	ILE	conflict	UNP P62652

- Molecule 50 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	B6	50	Total	C	N	O	S	0	0	0
			433	270	88	71	4			
50	D6	50	Total	C	N	O	S	0	0	0
			433	270	88	71	4			

- Molecule 51 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	B7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			
51	D7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			

- Molecule 52 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	B8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			
52	D8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			

- Molecule 53 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	B9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			
53	D9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 54 is a protein called 50S ribosomal protein L7/L12.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
54	Be	102	Total	C	N	O	0	0	0
			686	430	119	137			
54	De	102	Total	C	N	O	0	0	0
			686	430	119	137			

- Molecule 55 is a protein called 50S RIBOSOMAL PROTEIN L7/L12.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
55	Bf	31	Total	C	N	O	0	0	0
			156	93	31	32			
55	Bg	31	Total	C	N	O	0	0	0
			156	93	31	32			
55	Df	31	Total	C	N	O	0	0	0
			156	93	31	32			
55	Dg	31	Total	C	N	O	0	0	0
			156	93	31	32			

- Molecule 56 is a protein called 50S RIBOSOMAL PROTEIN L7/L12.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
56	Bh	30	Total	C	N	O	0	0	0
			151	90	30	31			
56	Dh	30	Total	C	N	O	0	0	0
			151	90	30	31			

- Molecule 57 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
57	B1	93	Total	C	N	O	S	0	0	0
			732	460	145	126	1			
57	D1	93	Total	C	N	O	S	0	0	0
			732	460	145	126	1			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B1	81	LYS	ARG	conflict	UNP Q72G84
D1	81	LYS	ARG	conflict	UNP Q72G84

- Molecule 58 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
58	B4	35	Total	C	N	O	S	0	0	0
			271	174	44	50	3			
58	D4	35	Total	C	N	O	S	0	0	0
			271	174	44	50	3			

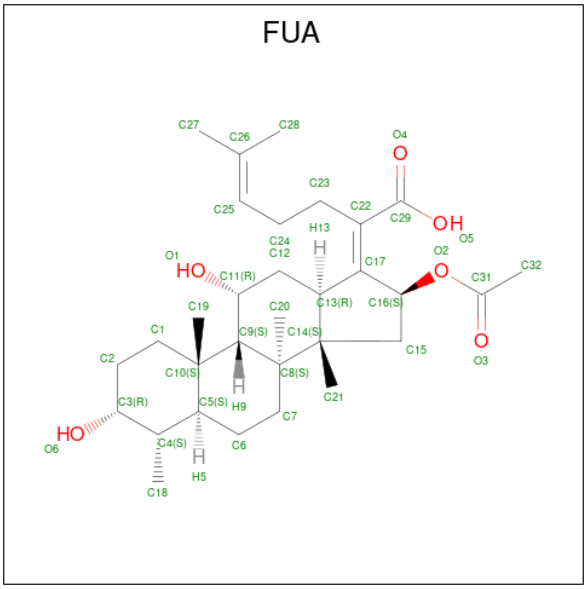
- Molecule 59 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
59	BA	2879	Total	C	N	O	P	0	0	0
			61997	27594	11582	19943	2878			
59	DA	2879	Total	C	N	O	P	0	0	0
			61997	27594	11582	19943	2878			

- Molecule 60 is a RNA chain called 5S ribosomal RNA.

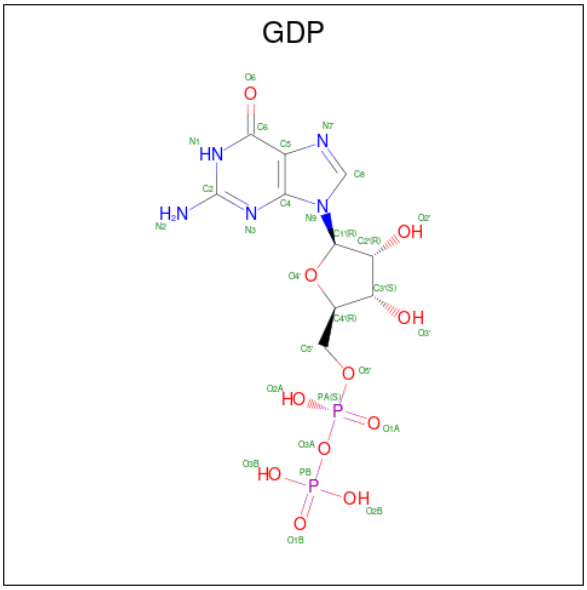
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
60	BB	119	Total	C	N	O	P	0	0	0
			2551	1136	471	826	118			
60	DB	119	Total	C	N	O	P	0	0	0
			2551	1136	471	826	118			

- Molecule 61 is FUSIDIC ACID (CCD ID: FUA) (formula: $C_{31}H_{48}O_6$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
61	AY	1	Total	C	O	0	0
			37	31	6		
61	CY	1	Total	C	O	0	0
			37	31	6		

- Molecule 62 is GUANOSINE-5'-DIPHOSPHATE (CCD ID: GDP) (formula: $C_{10}H_{15}N_5O_{11}P_2$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
62	AY	1	Total	C	N	O	P	0	0
			28	10	5	11	2		
62	CY	1	Total	C	N	O	P	0	0
			28	10	5	11	2		

- Molecule 63 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

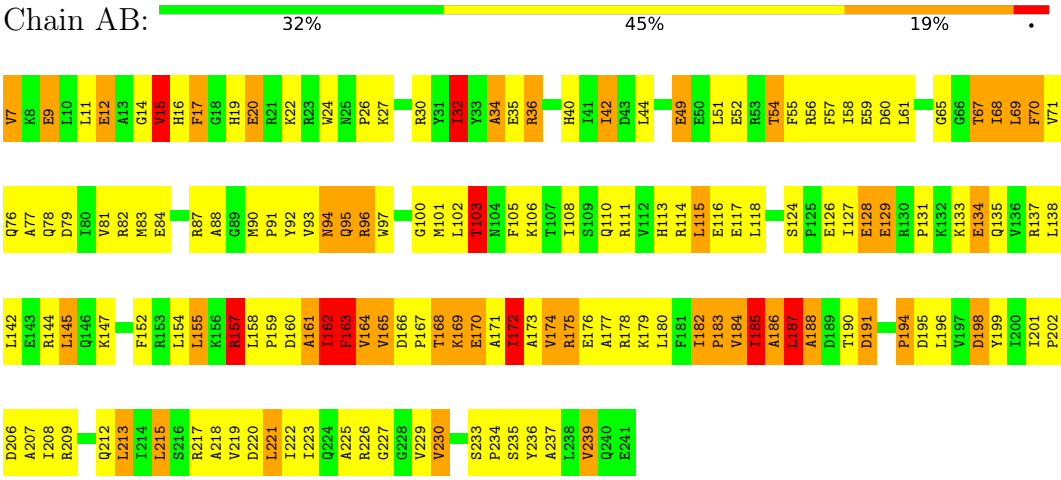
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
63	BA	1	Total	Mg	0	0
			1	1		
63	CY	1	Total	Mg	0	0
			1	1		

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.

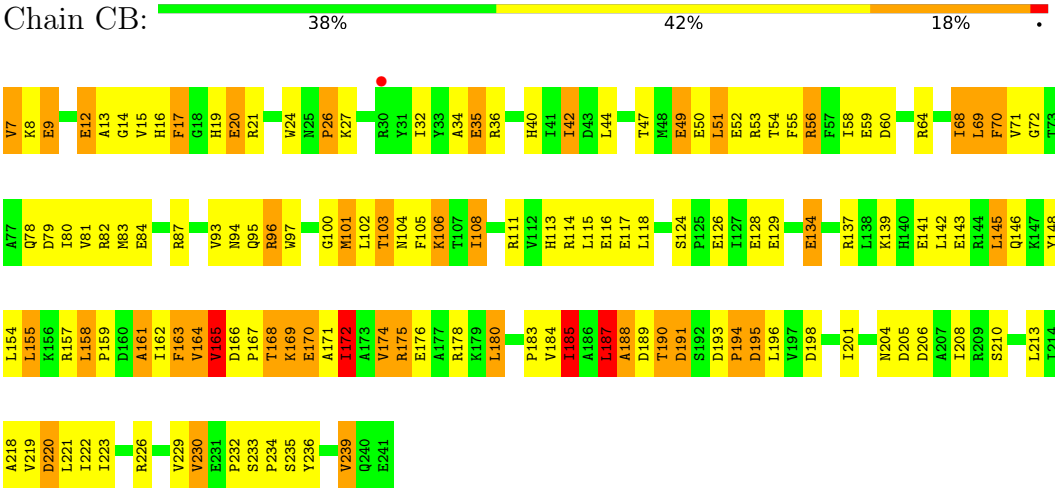
• Molecule 1: 30S ribosomal protein S2

Chain AB:



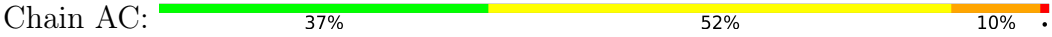
• Molecule 1: 30S ribosomal protein S2

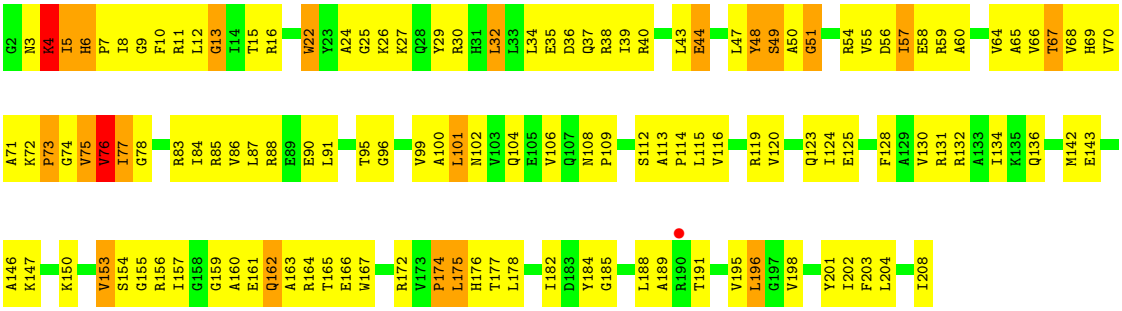
Chain CB:



• Molecule 2: 30S ribosomal protein S3

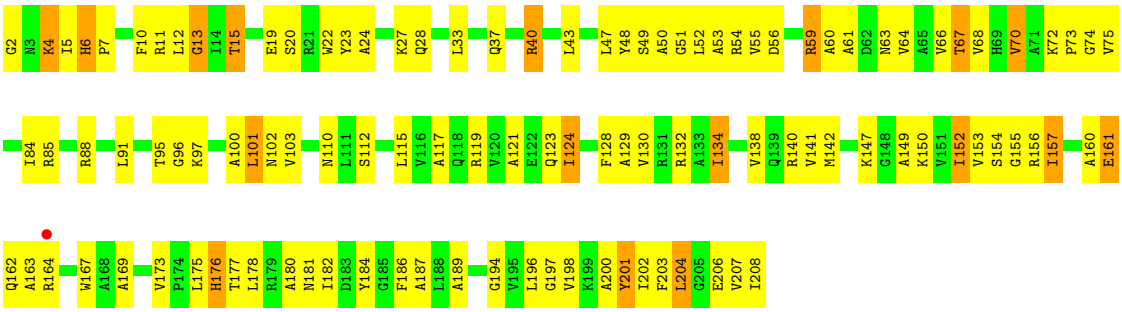
Chain AC:





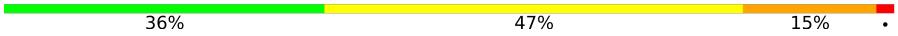
• Molecule 2: 30S ribosomal protein S3

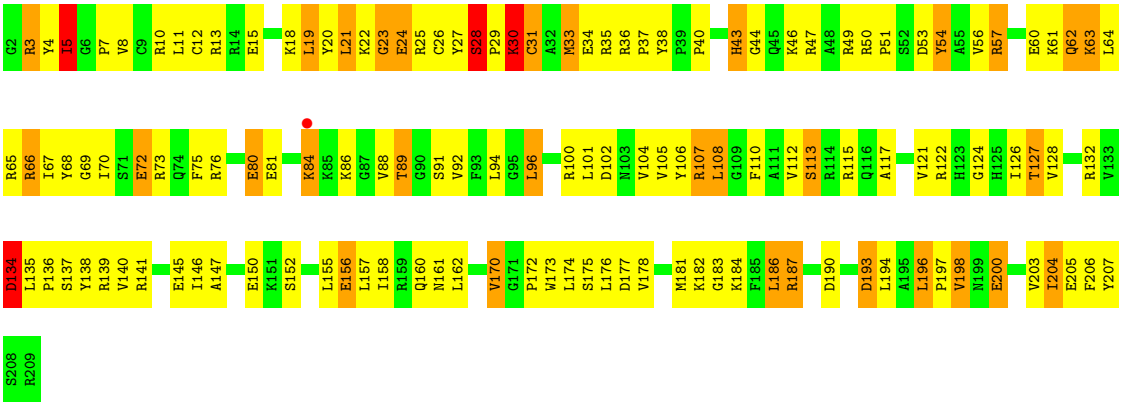
Chain CC:



• Molecule 3: 30S ribosomal protein S4

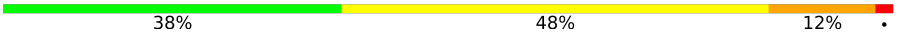
Chain AD:

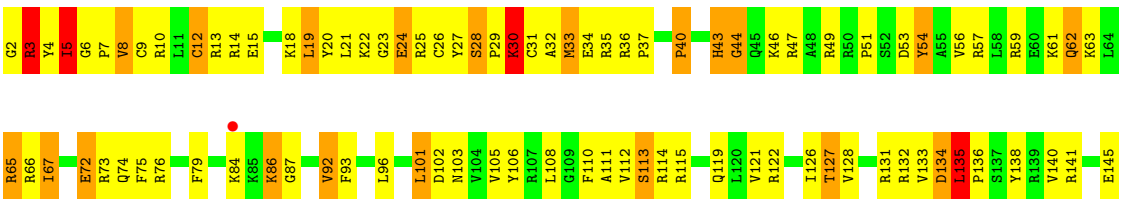


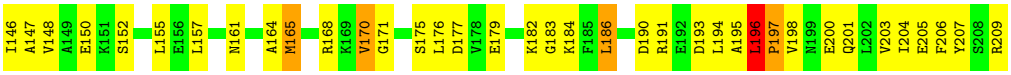


• Molecule 3: 30S ribosomal protein S4

Chain CD:

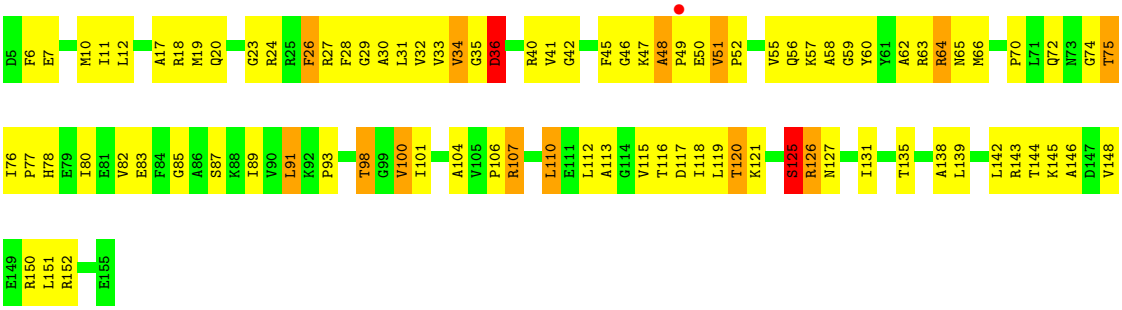






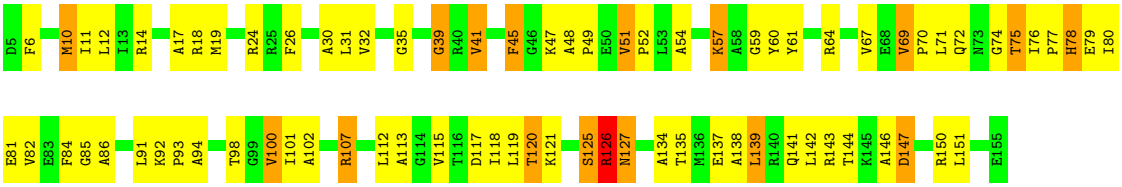
• Molecule 4: 30S ribosomal protein S5

Chain AE:



• Molecule 4: 30S ribosomal protein S5

Chain CE:



• Molecule 5: 30S ribosomal protein S6

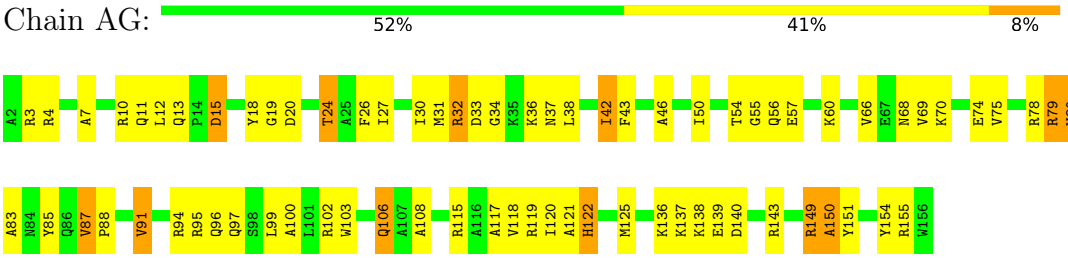
Chain AF:

• Molecule 5: 30S ribosomal protein S6

Chain CF:

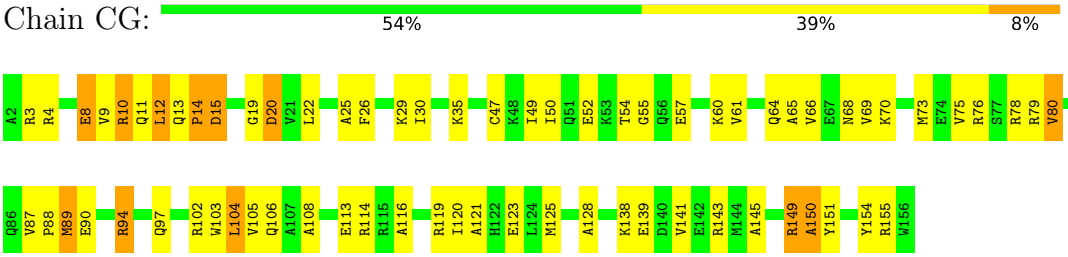
• Molecule 6: 30S ribosomal protein S7

Chain AG:



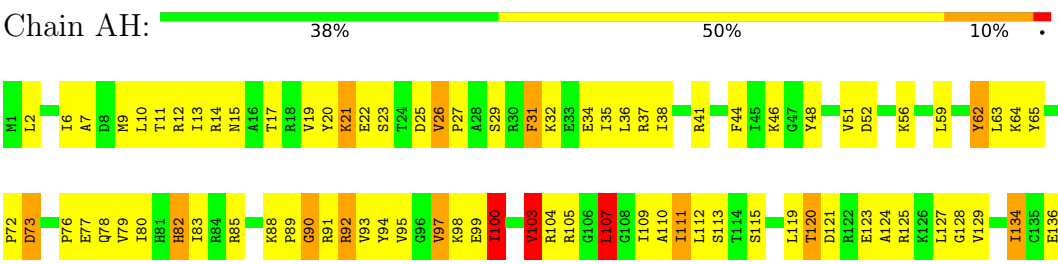
• Molecule 6: 30S ribosomal protein S7

Chain CG:



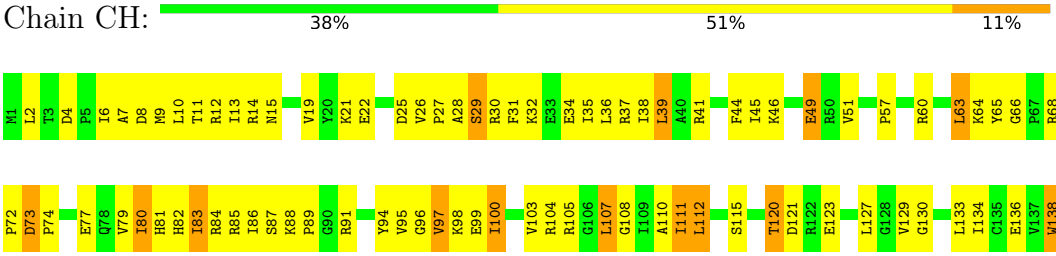
• Molecule 7: 30S ribosomal protein S8

Chain AH:



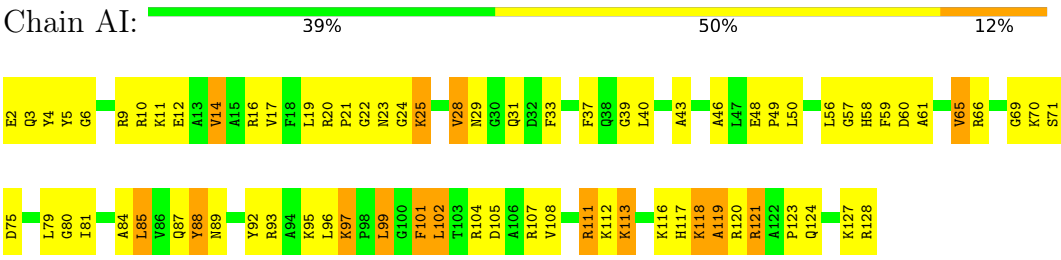
• Molecule 7: 30S ribosomal protein S8

Chain CH:



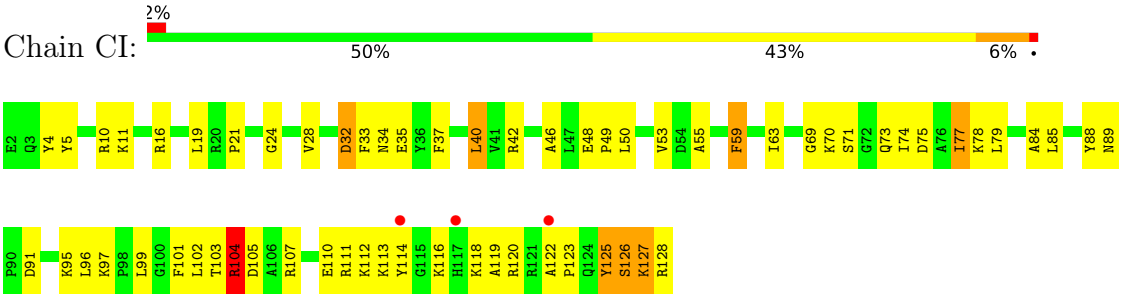
• Molecule 8: 30S ribosomal protein S9

Chain AI:



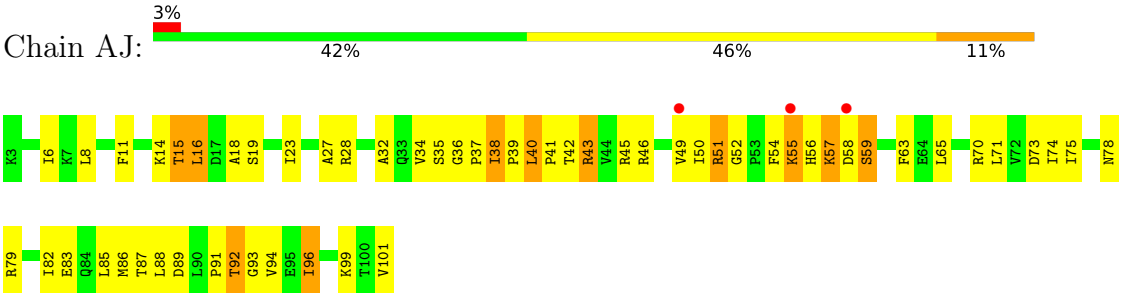
• Molecule 8: 30S ribosomal protein S9

Chain CI:



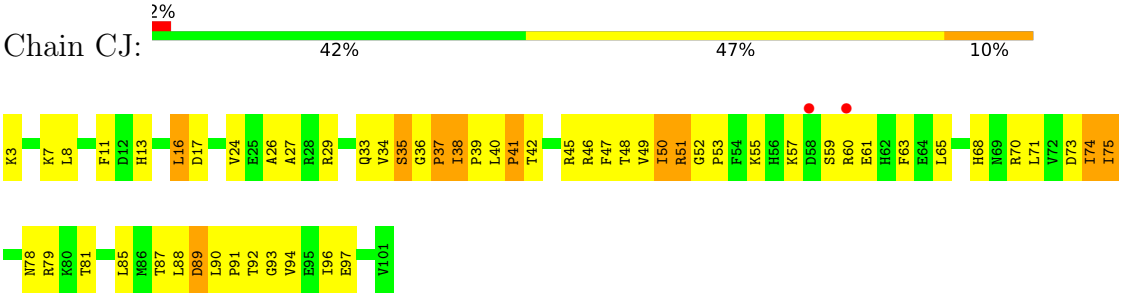
• Molecule 9: 30S ribosomal protein S10

Chain AJ:



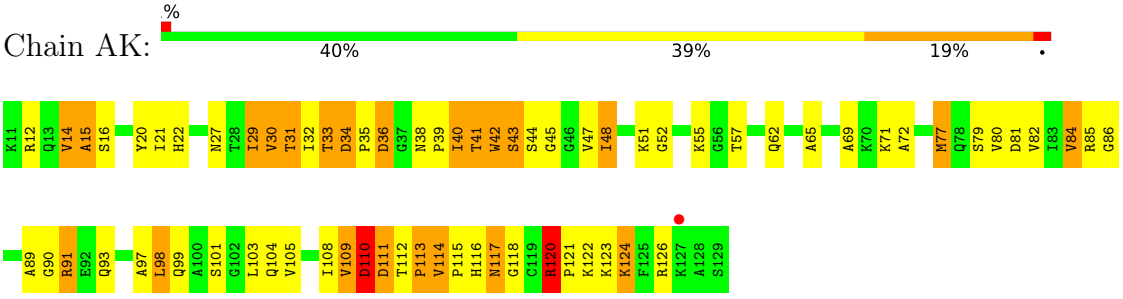
• Molecule 9: 30S ribosomal protein S10

Chain CJ:



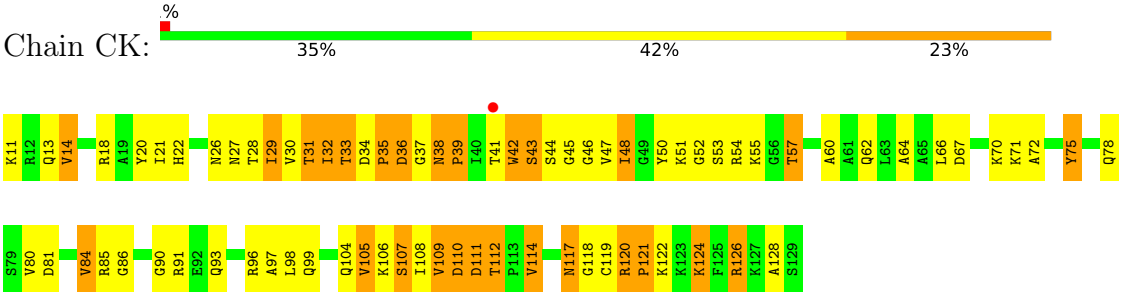
• Molecule 10: 30S ribosomal protein S11

Chain AK:



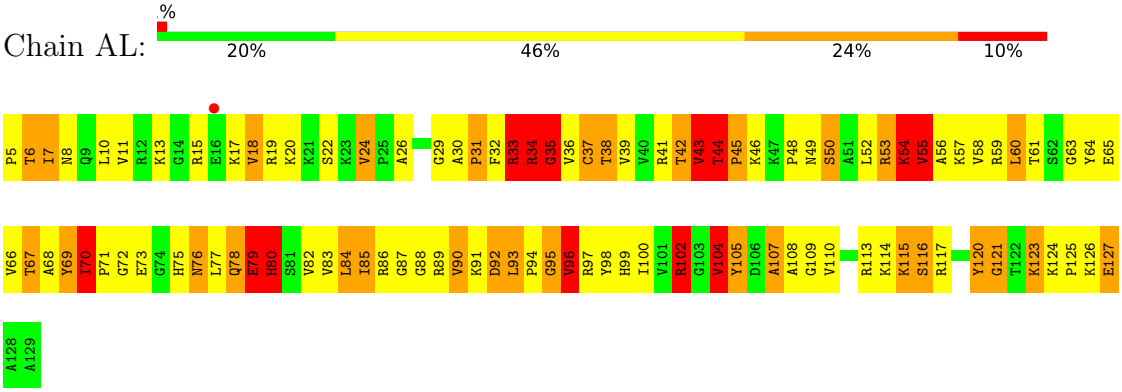
• Molecule 10: 30S ribosomal protein S11

Chain CK:



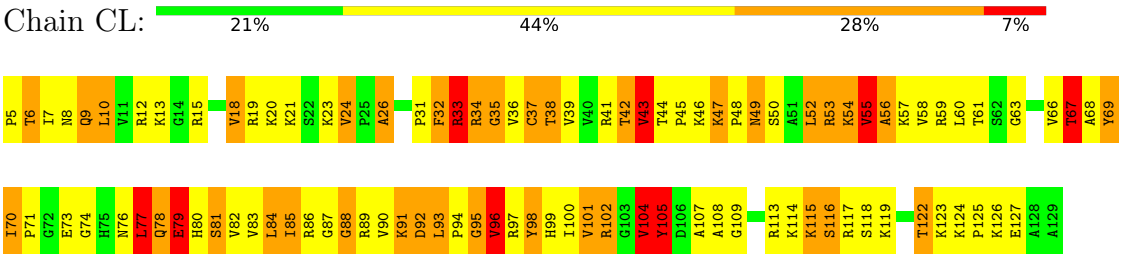
• Molecule 11: 30S ribosomal protein S12

Chain AL:



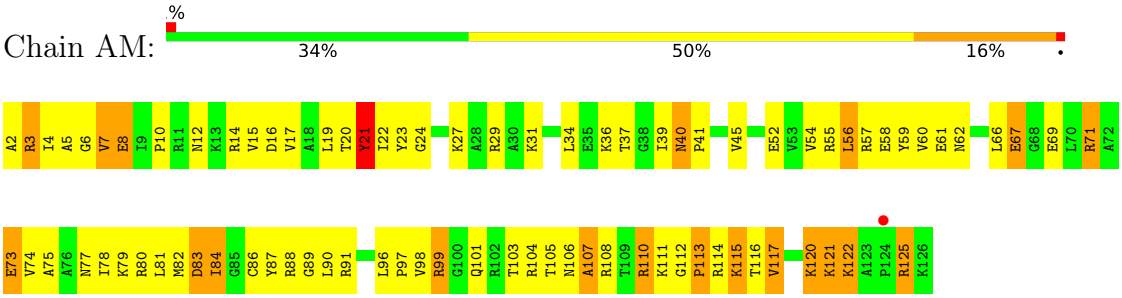
• Molecule 11: 30S ribosomal protein S12

Chain CL:



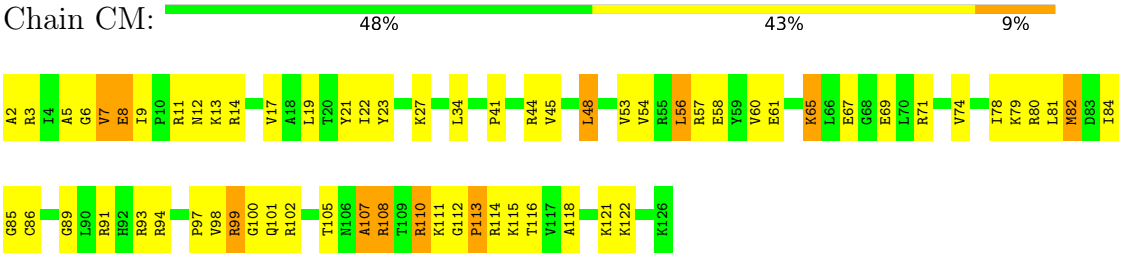
• Molecule 12: 30S ribosomal protein S13

Chain AM:



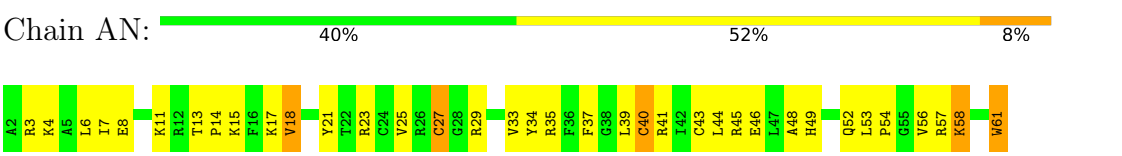
• Molecule 12: 30S ribosomal protein S13

Chain CM:



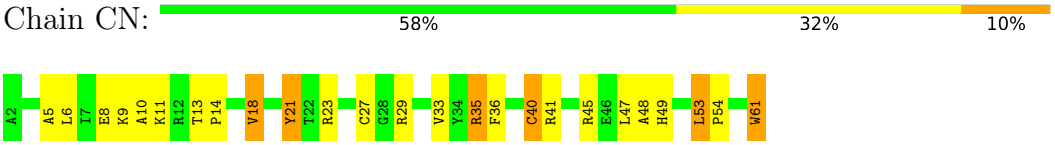
• Molecule 13: 30S ribosomal protein S14 type Z

Chain AN:



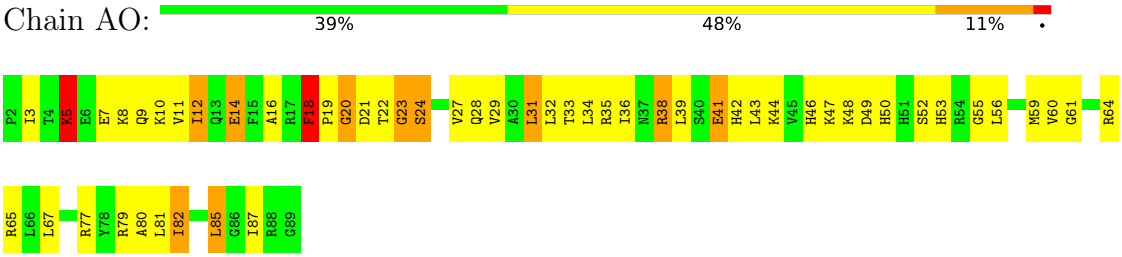
• Molecule 13: 30S ribosomal protein S14 type Z

Chain CN:



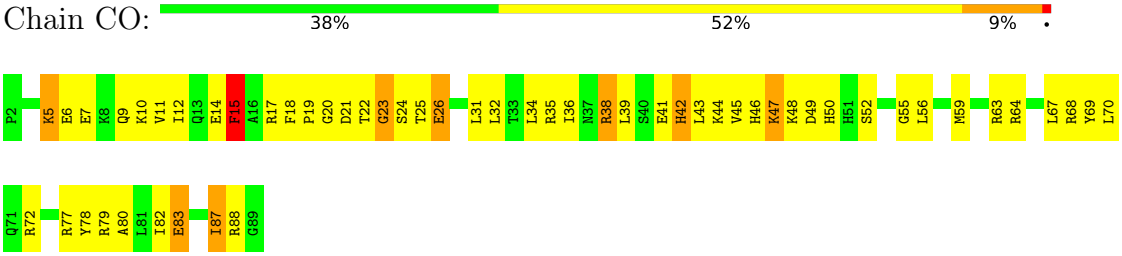
• Molecule 14: 30S ribosomal protein S15

Chain AO:



• Molecule 14: 30S ribosomal protein S15

Chain CO:

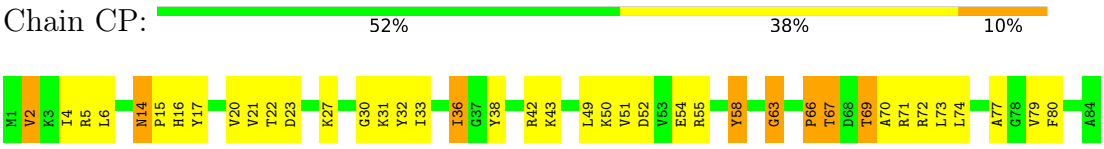


• Molecule 15: 30S ribosomal protein S16

Chain AP:

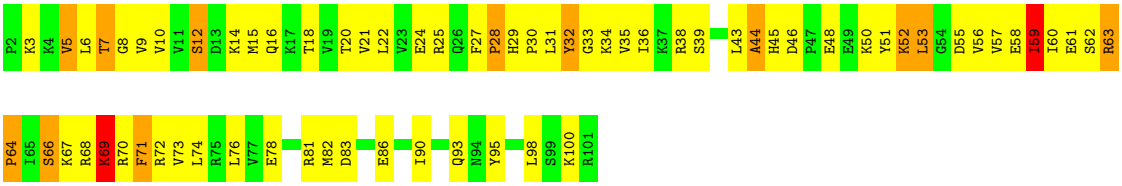
• Molecule 15: 30S ribosomal protein S16

Chain CP:

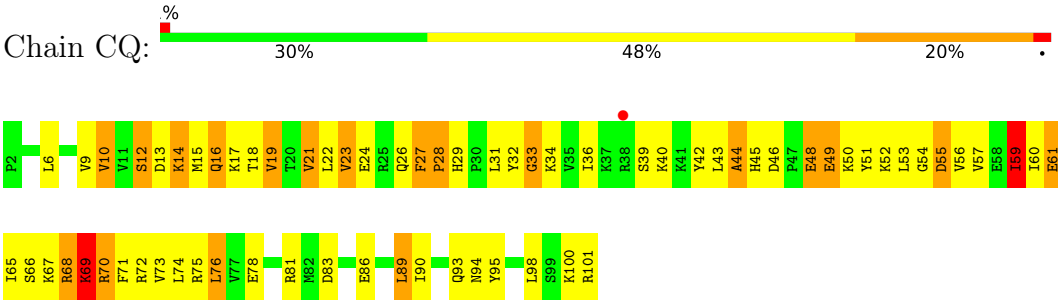


• Molecule 16: 30S ribosomal protein S17

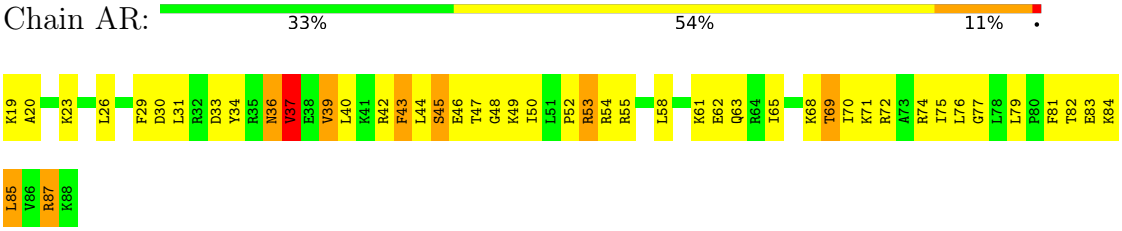
Chain AQ:



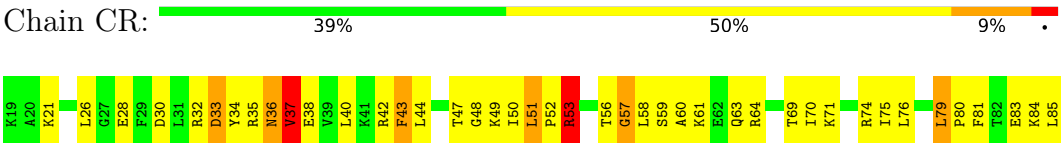
• Molecule 16: 30S ribosomal protein S17



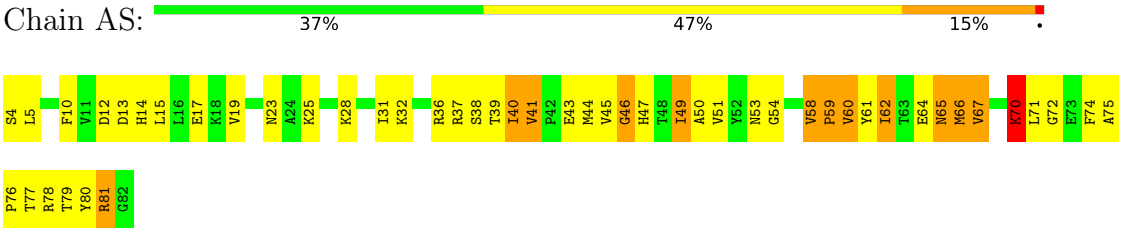
• Molecule 17: 30S ribosomal protein S18



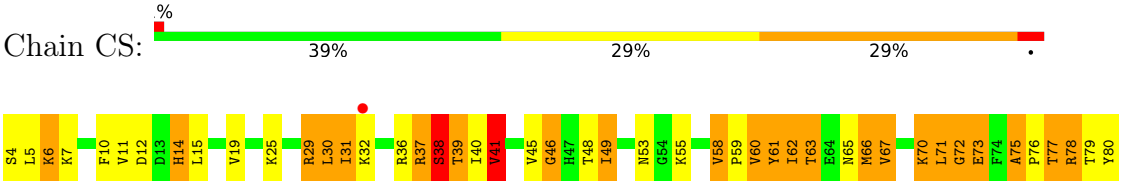
• Molecule 17: 30S ribosomal protein S18



• Molecule 18: 30S ribosomal protein S19



• Molecule 18: 30S ribosomal protein S19

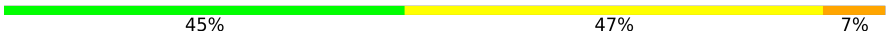


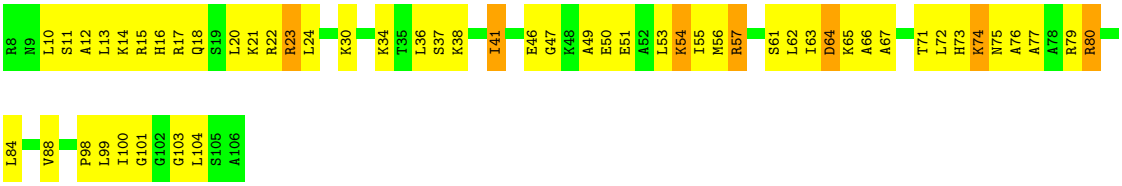
• Molecule 19: 30S ribosomal protein S20

Chain AT:

• Molecule 19: 30S ribosomal protein S20

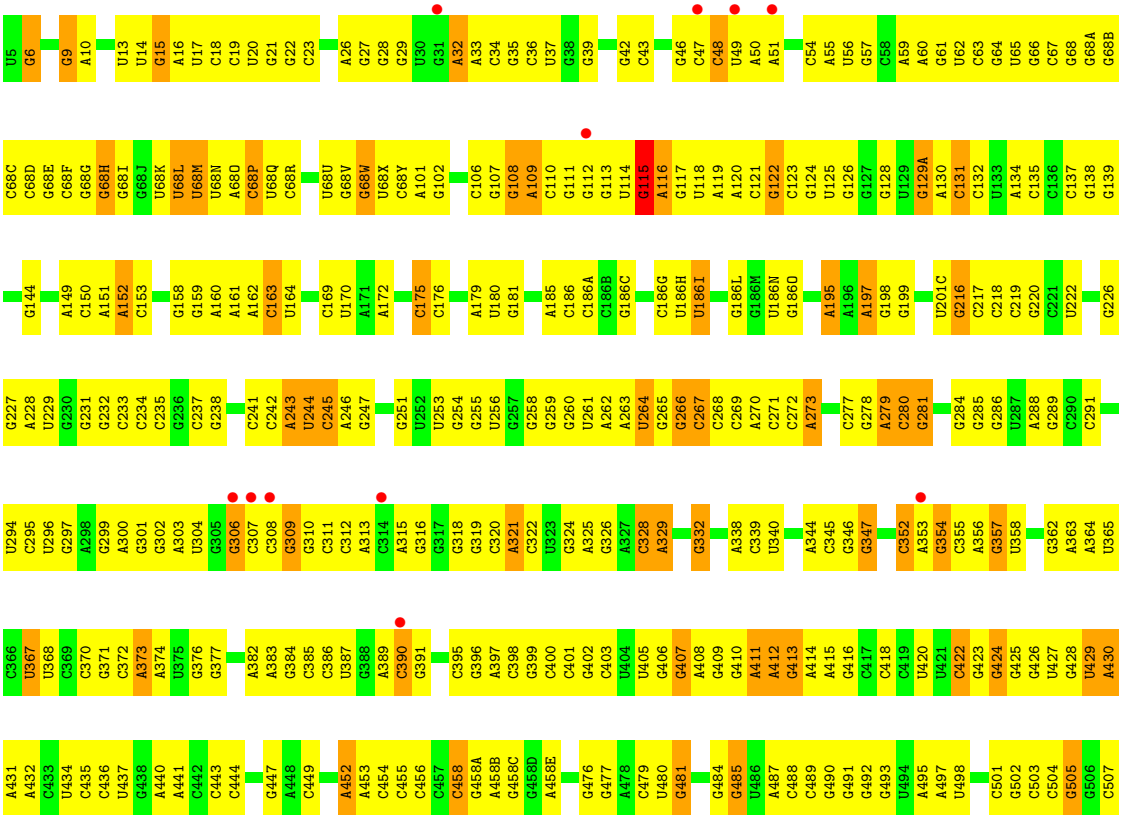
Chain CT:

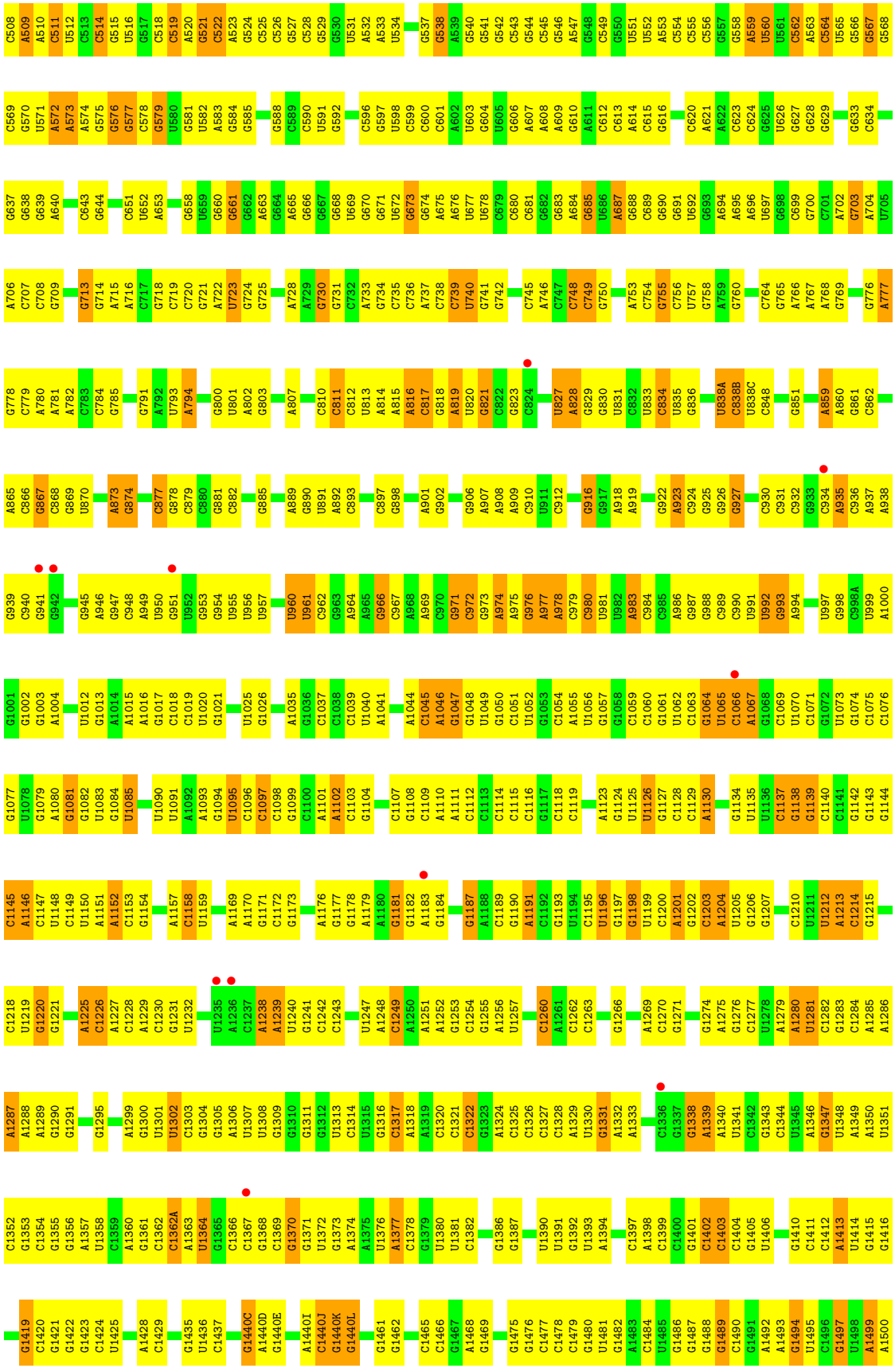




• Molecule 20: ribosomal RNA 16S

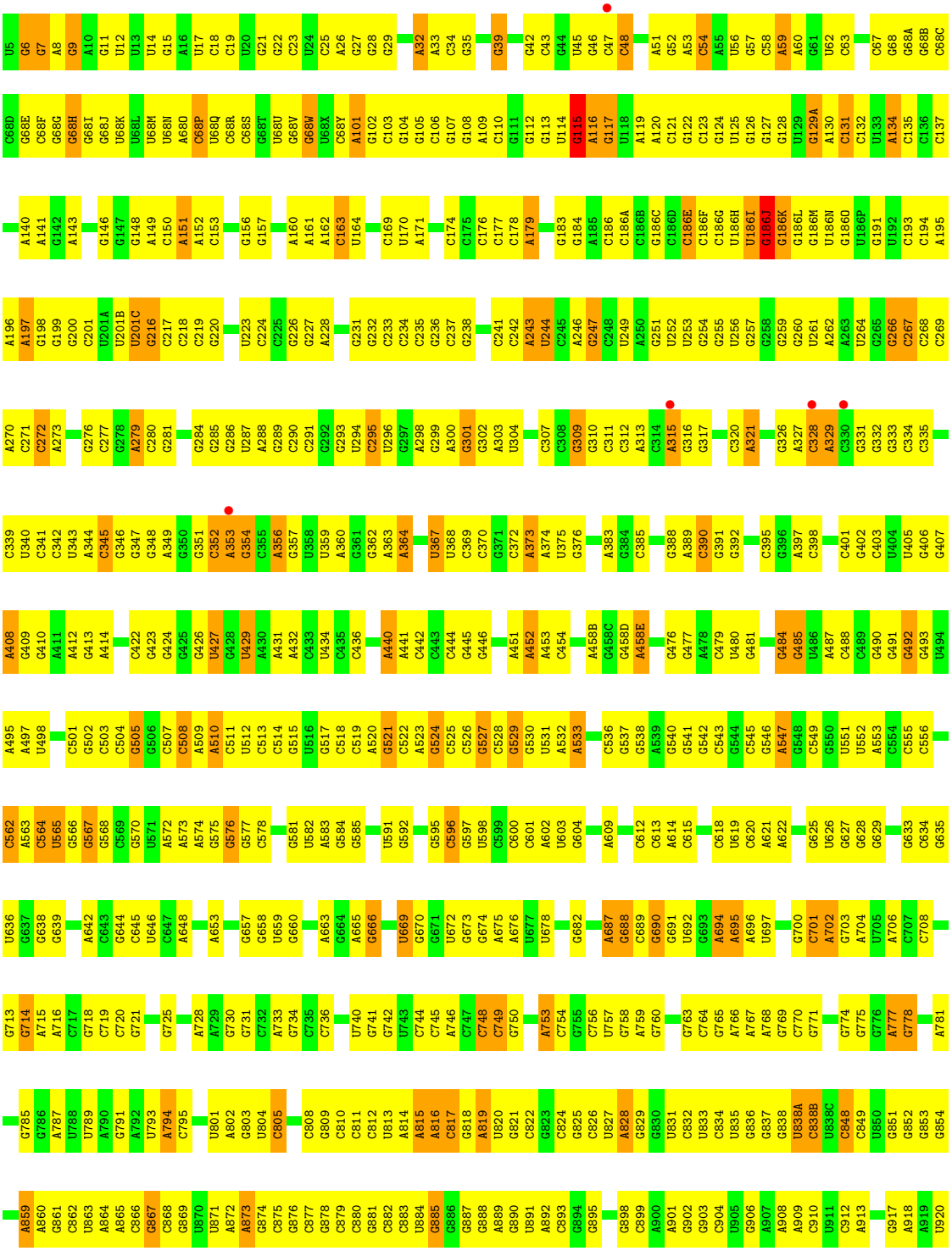
Chain AA:

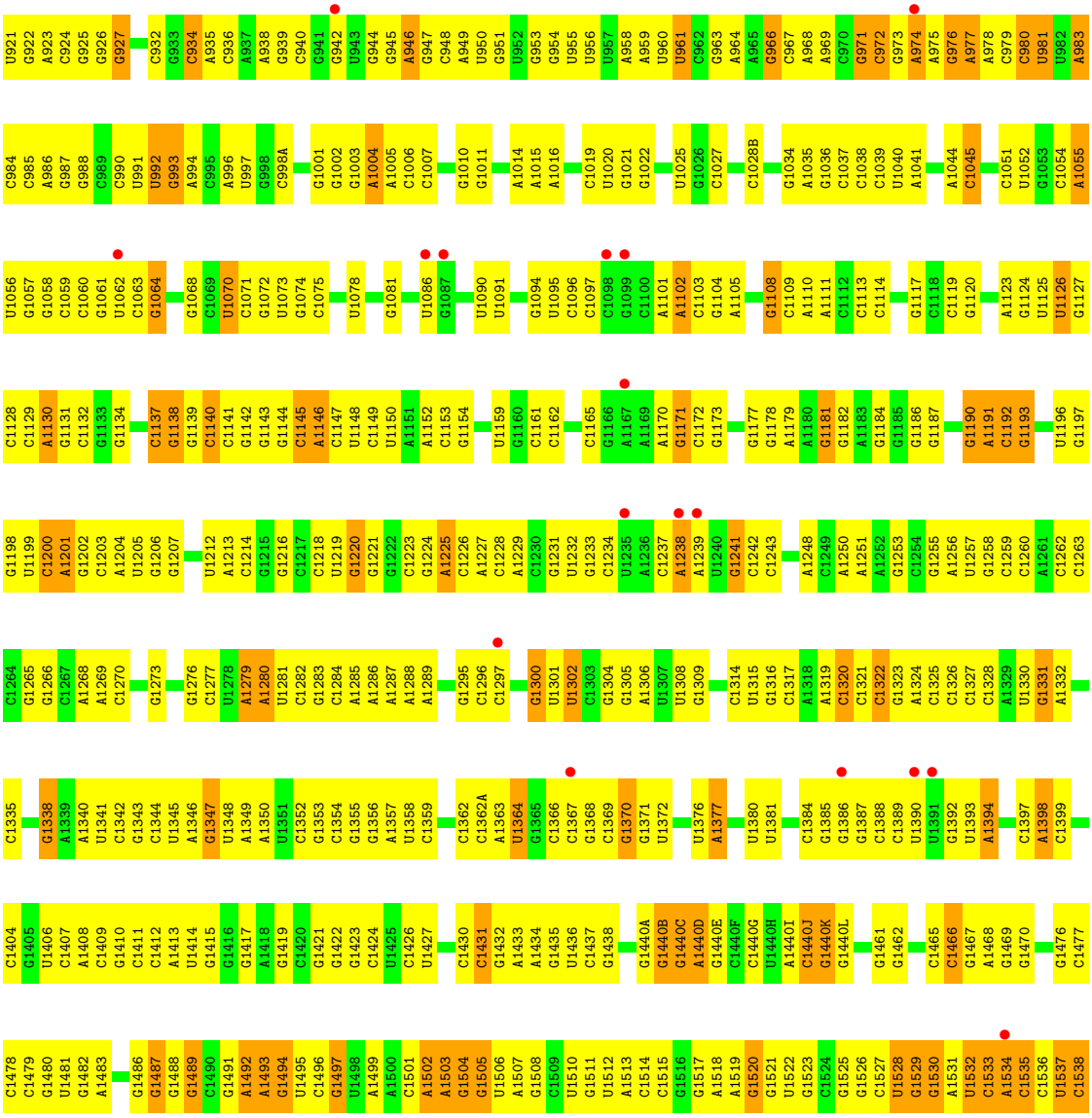




• Molecule 20: ribosomal RNA 16S

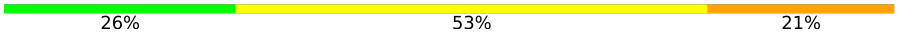
Chain CA:

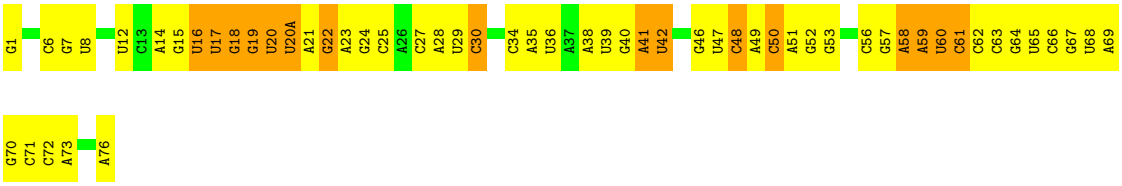




• Molecule 21: transfer RNA

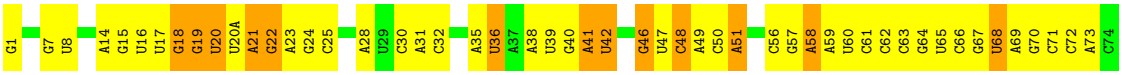
Chain AW:





• Molecule 21: transfer RNA

Chain CW:

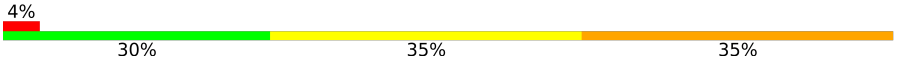


• Molecule 22: messenger RNA

Chain AV:

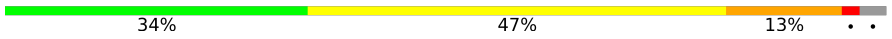
• Molecule 22: messenger RNA

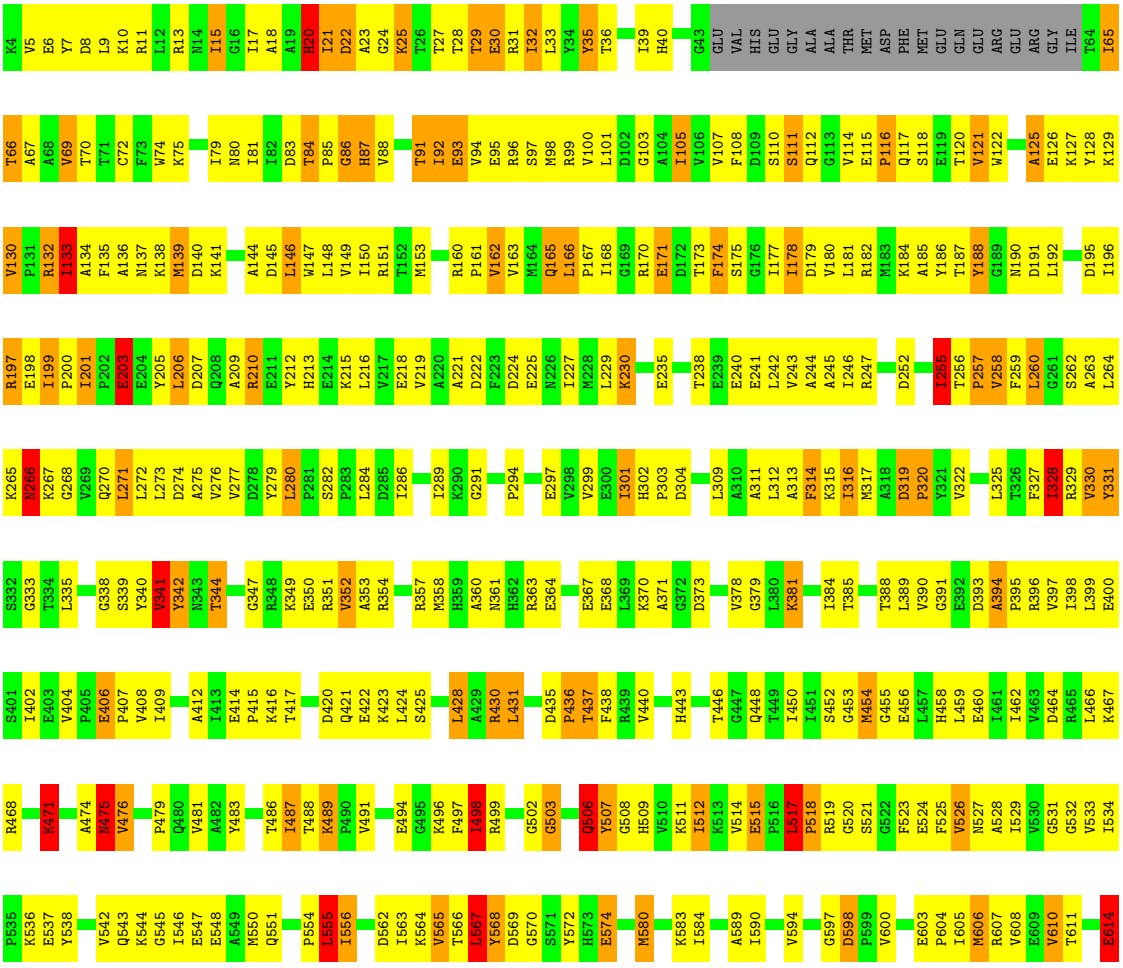
Chain CV:

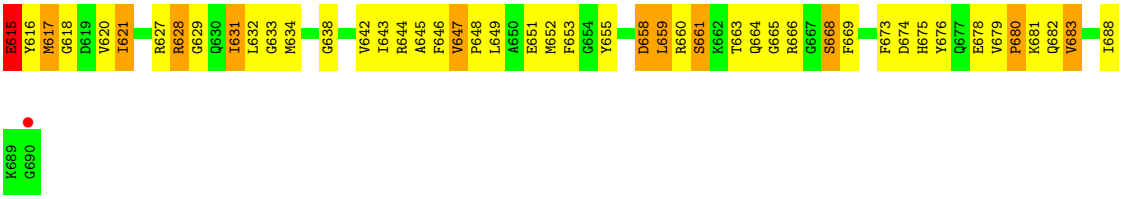


• Molecule 23: Elongation factor G

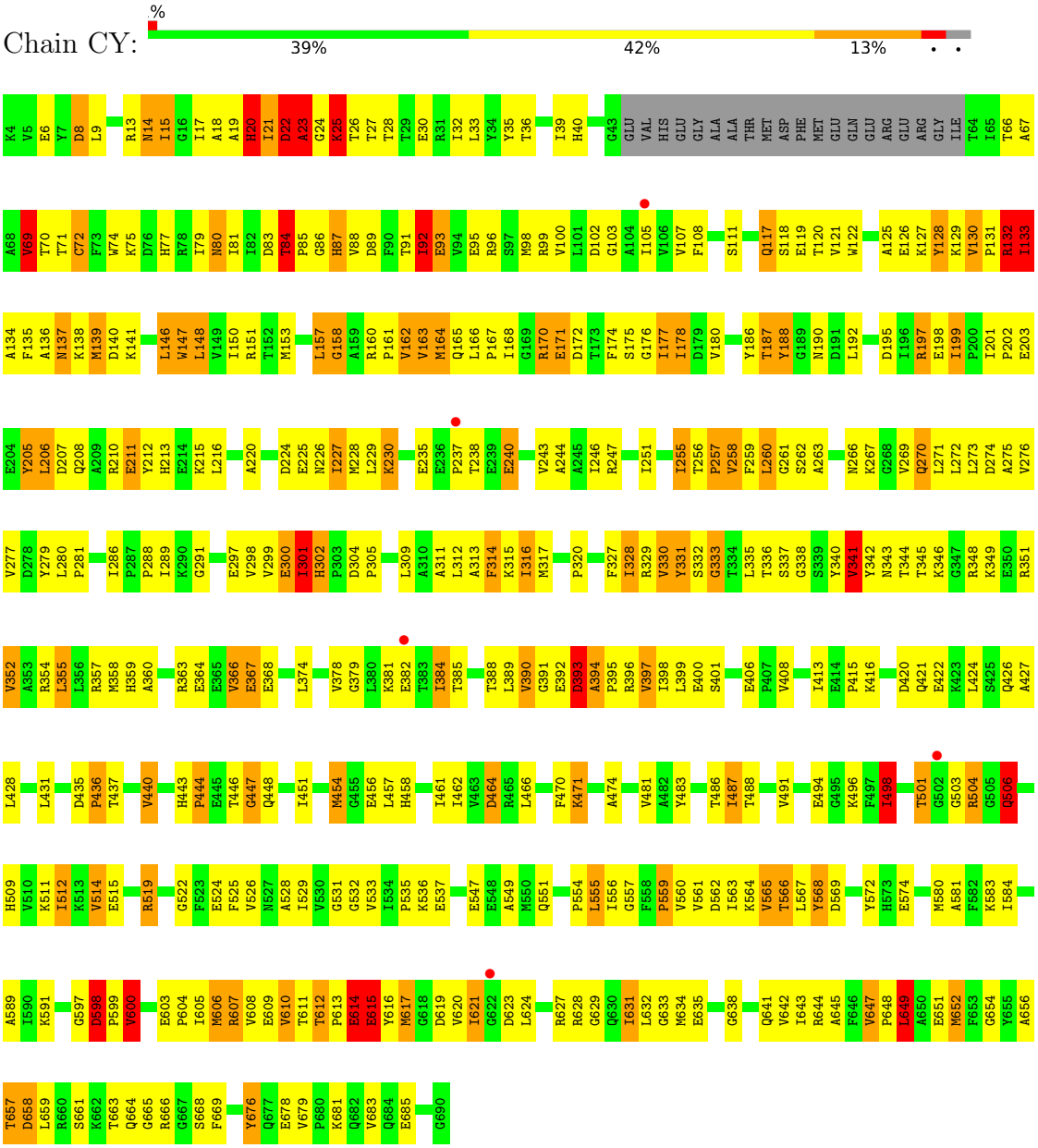
Chain AY:







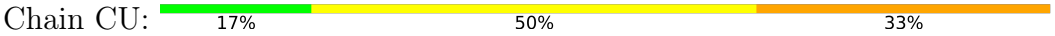
• Molecule 23: Elongation factor G

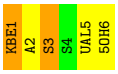


• Molecule 24: VIOMYCIN

• Molecule 24: VIOMYCIN

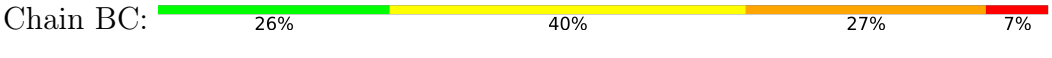
Chain CU:

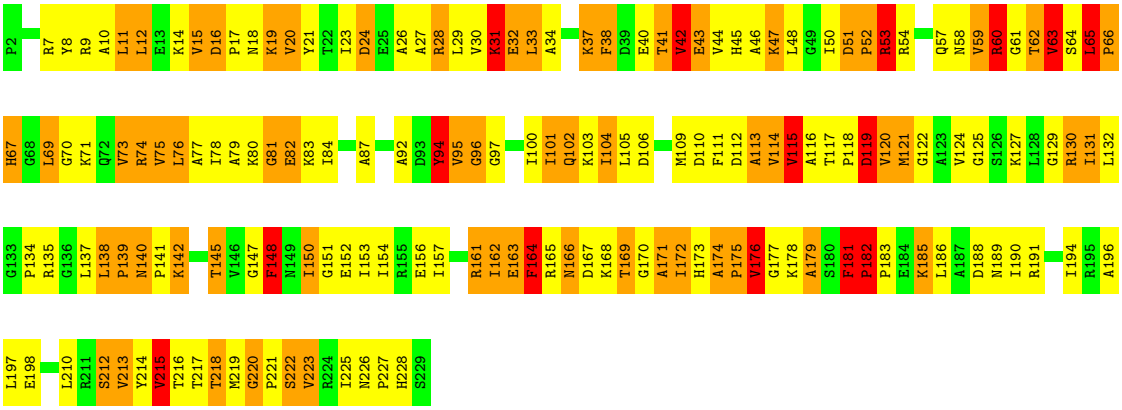




• Molecule 25: 50S ribosomal protein L1

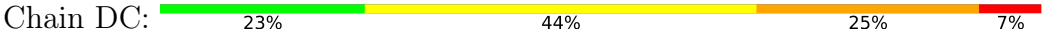
Chain BC:

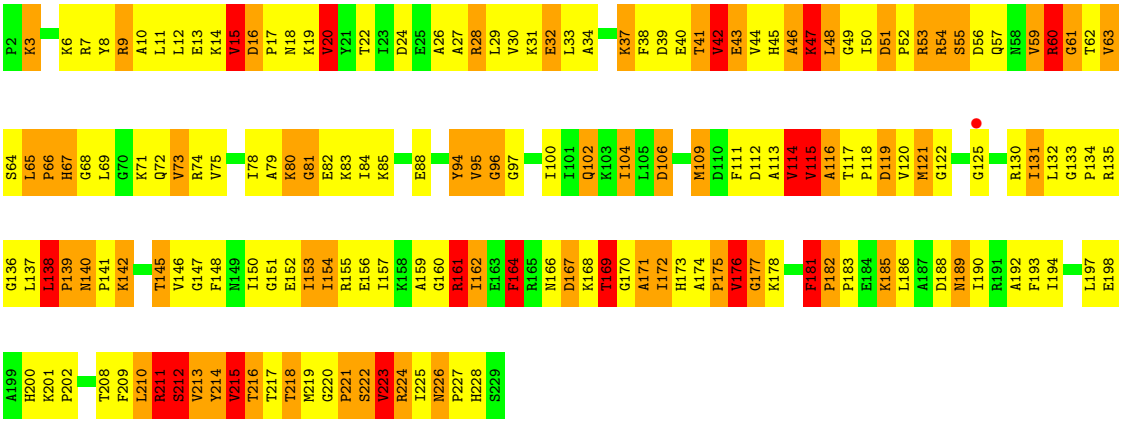




• Molecule 25: 50S ribosomal protein L1

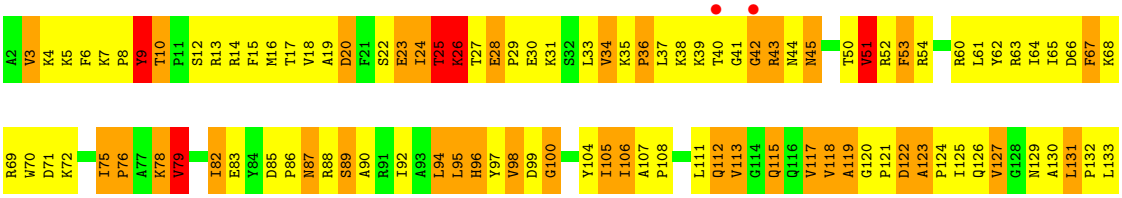
Chain DC:

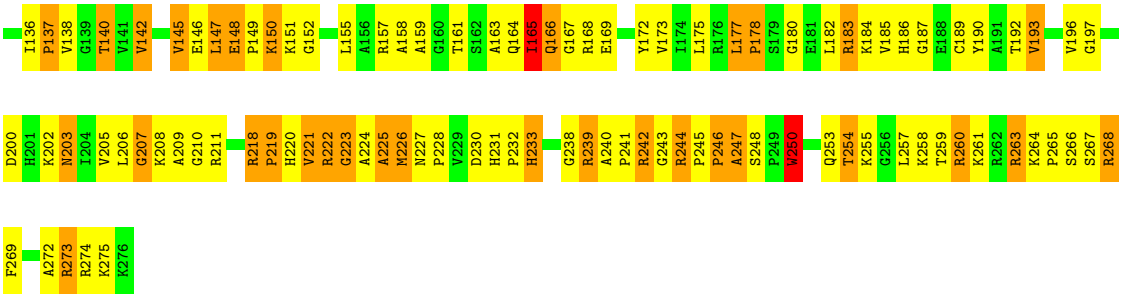




• Molecule 26: 50S ribosomal protein L2

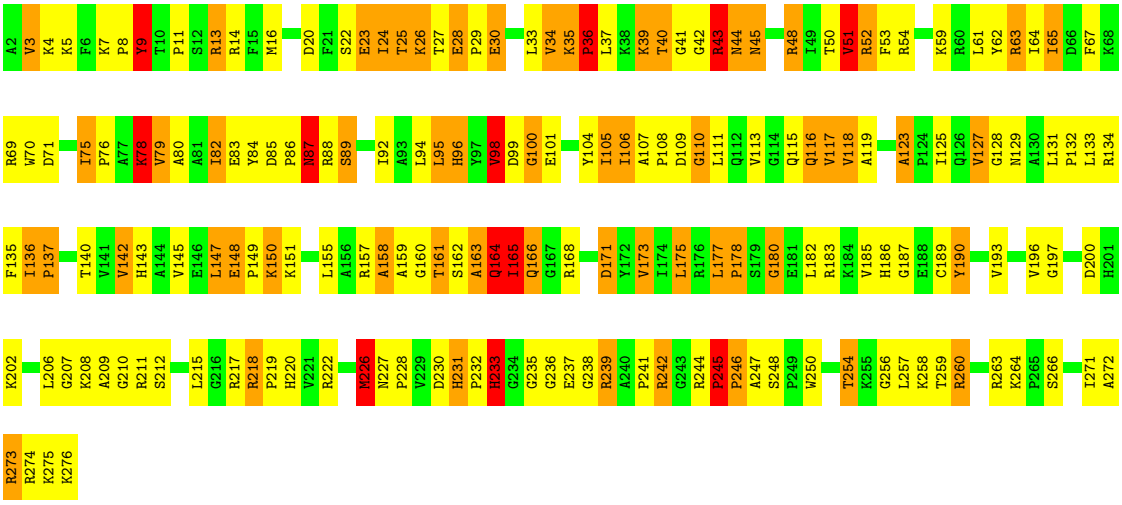
Chain BD:





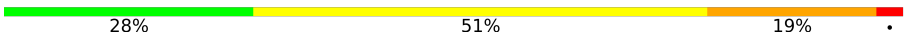
• Molecule 26: 50S ribosomal protein L2

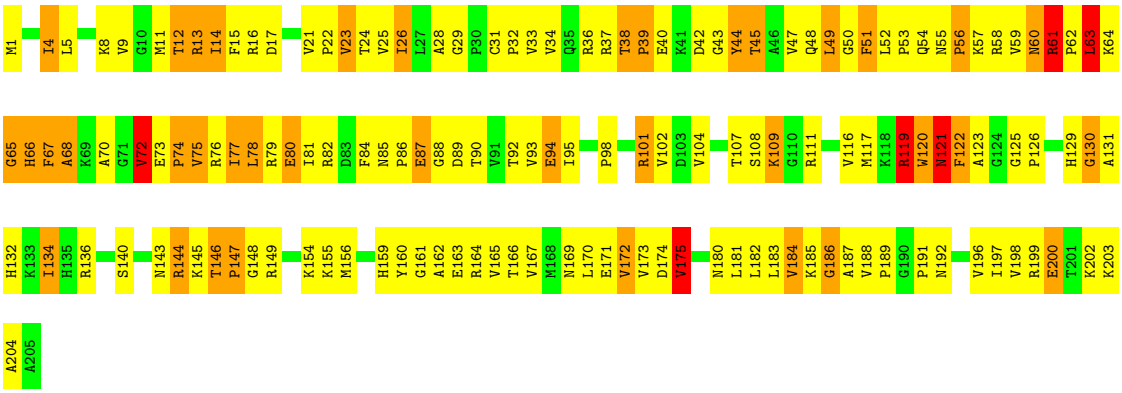
Chain DD:



• Molecule 27: 50S ribosomal protein L3

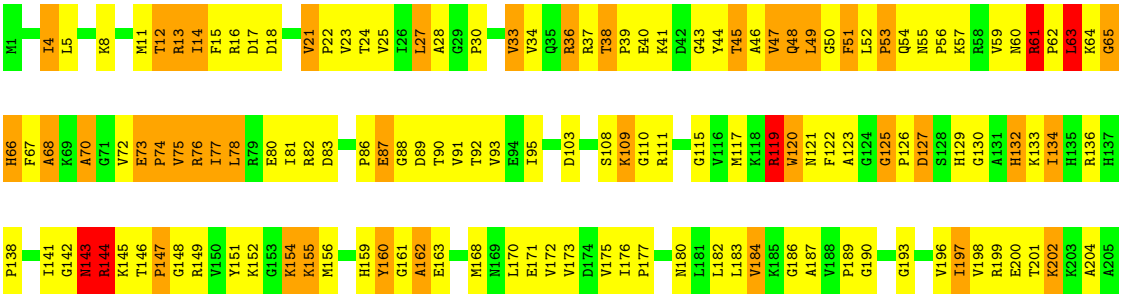
Chain BE:





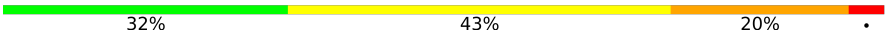
• Molecule 27: 50S ribosomal protein L3

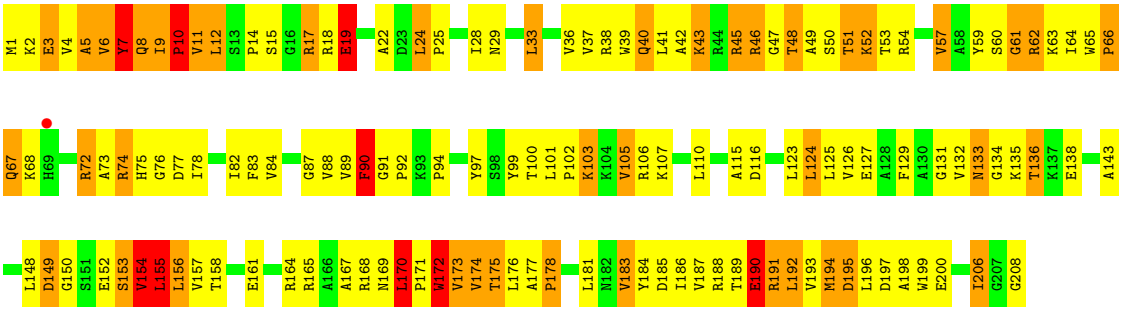
Chain DE:



• Molecule 28: 50S ribosomal protein L4

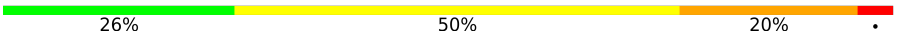
Chain BF:

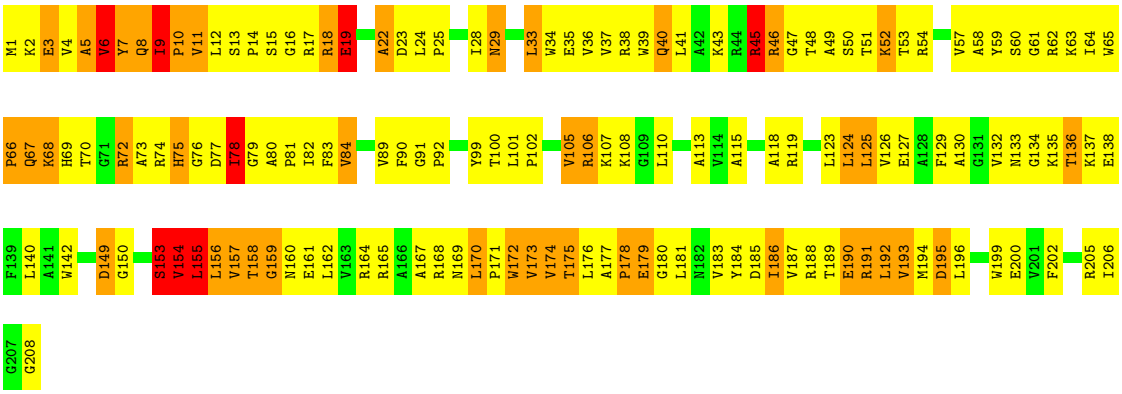




• Molecule 28: 50S ribosomal protein L4

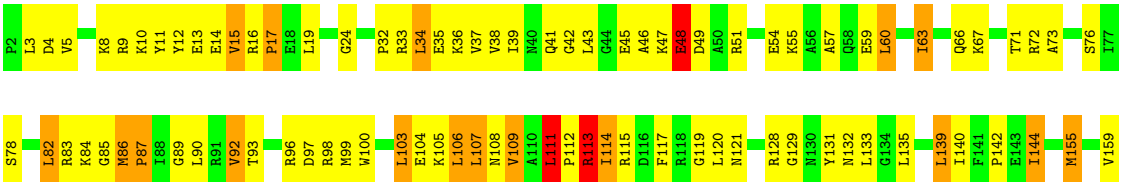
Chain DF:

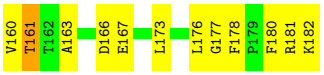




• Molecule 29: 50S ribosomal protein L5

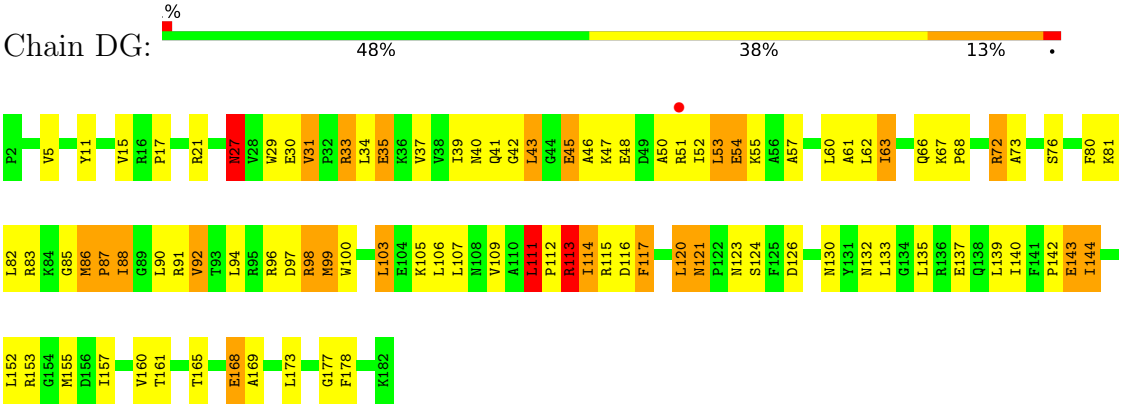
Chain BG:





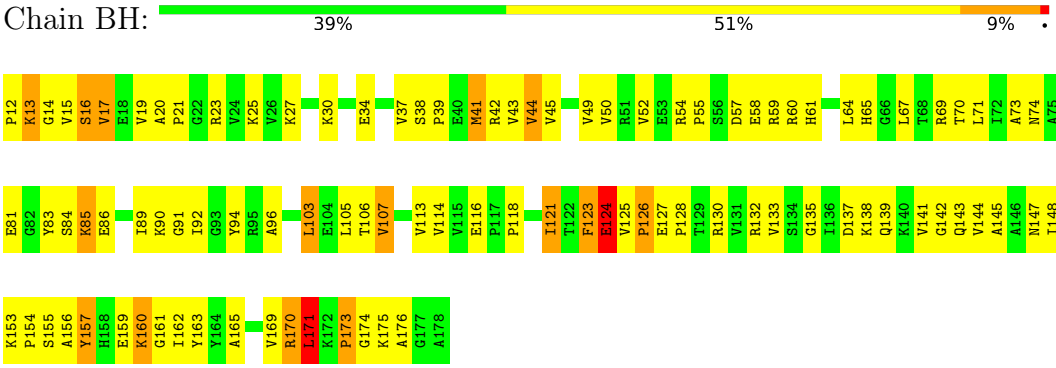
• Molecule 29: 50S ribosomal protein L5

Chain DG:



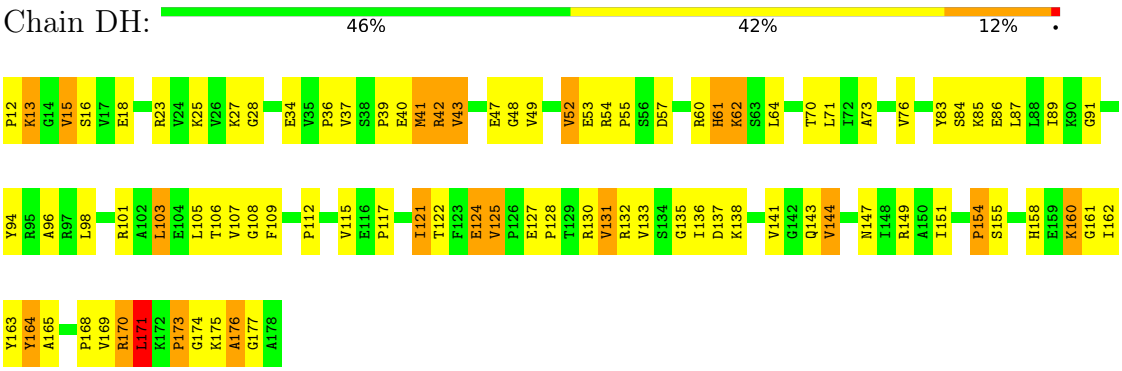
• Molecule 30: 50S ribosomal protein L6

Chain BH:



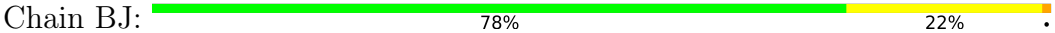
• Molecule 30: 50S ribosomal protein L6

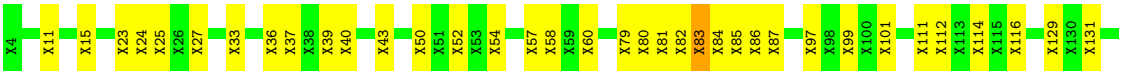
Chain DH:



• Molecule 31: 50S RIBOSOMAL PROTEIN L10

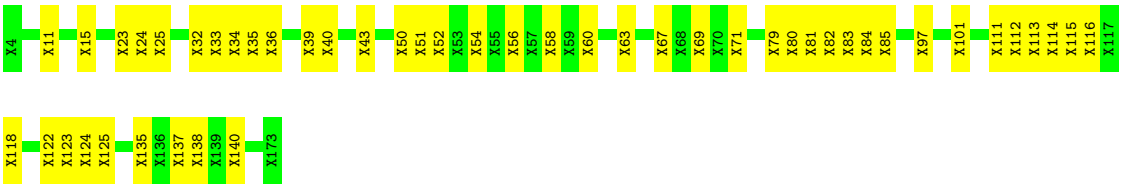
Chain BJ:





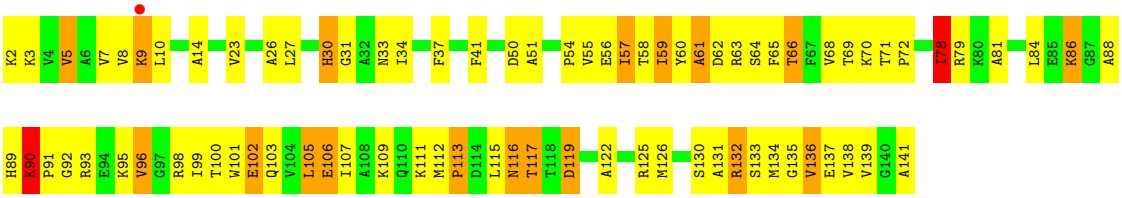
• Molecule 31: 50S RIBOSOMAL PROTEIN L10

Chain DJ:



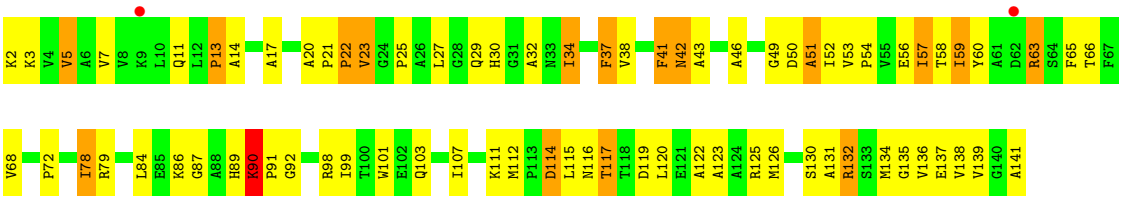
• Molecule 32: 50S ribosomal protein L11

Chain BK:



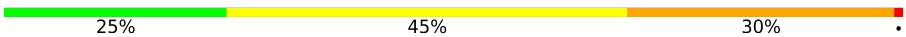
• Molecule 32: 50S ribosomal protein L11

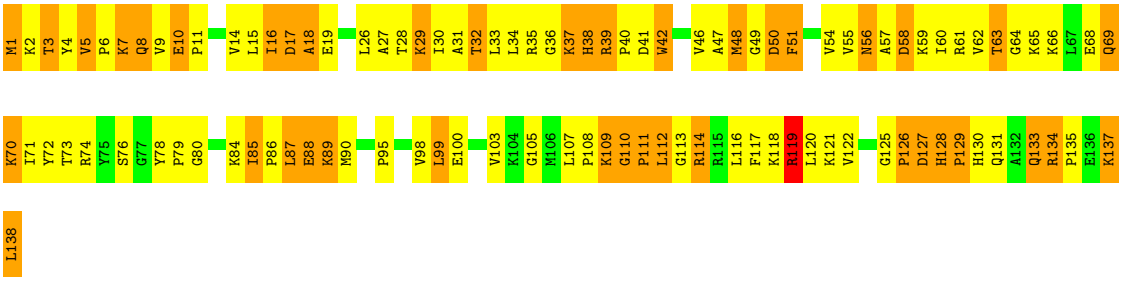
Chain DK:



• Molecule 33: 50S ribosomal protein L13

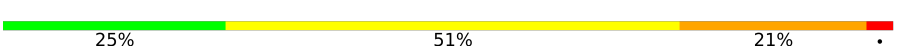
Chain BN:

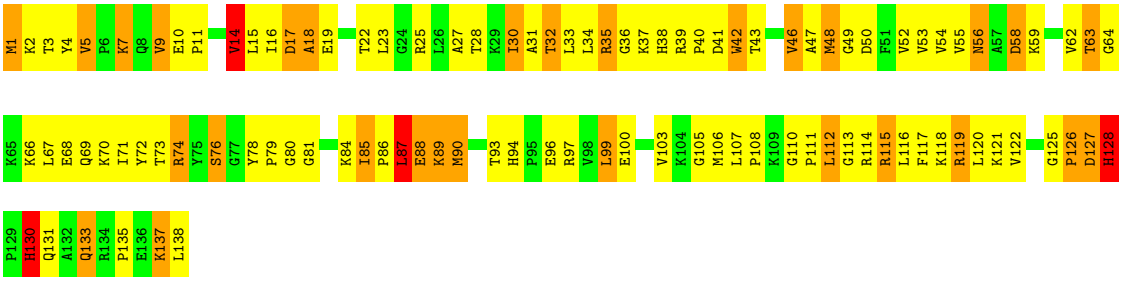




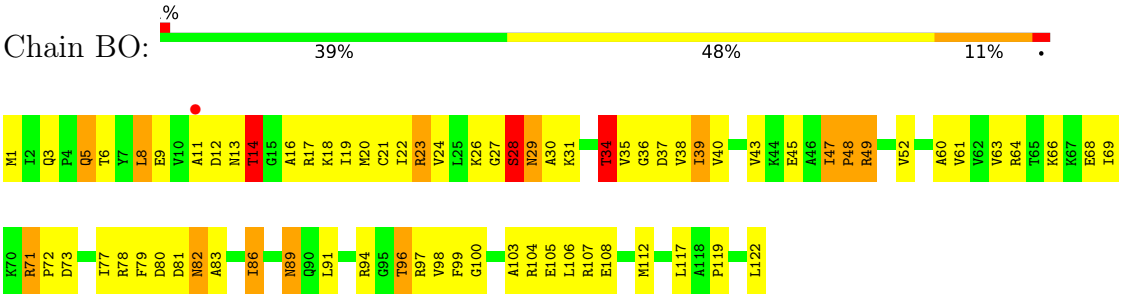
• Molecule 33: 50S ribosomal protein L13

Chain DN:

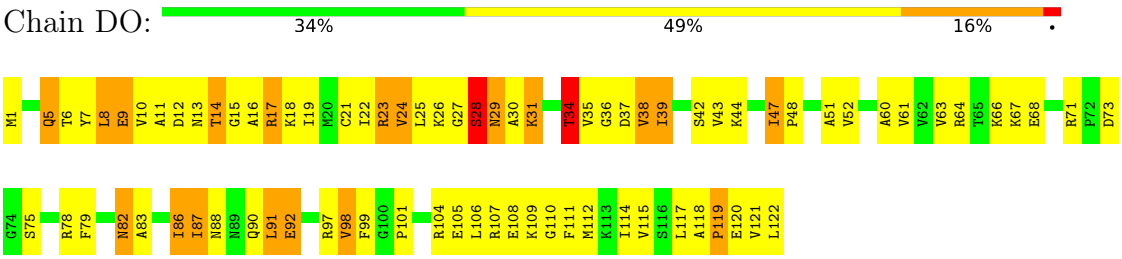




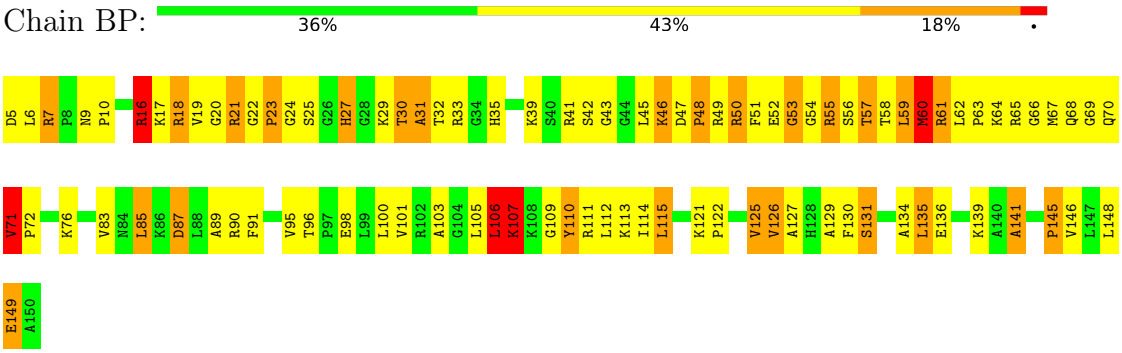
• Molecule 34: 50S ribosomal protein L14



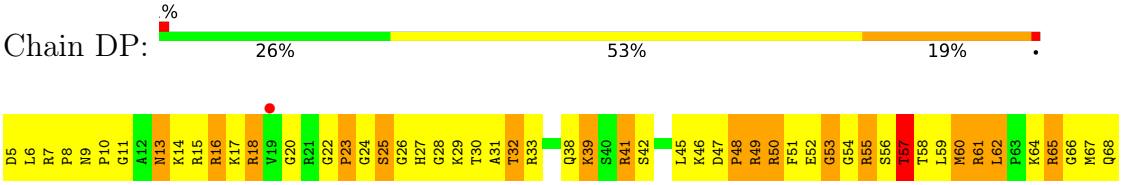
• Molecule 34: 50S ribosomal protein L14



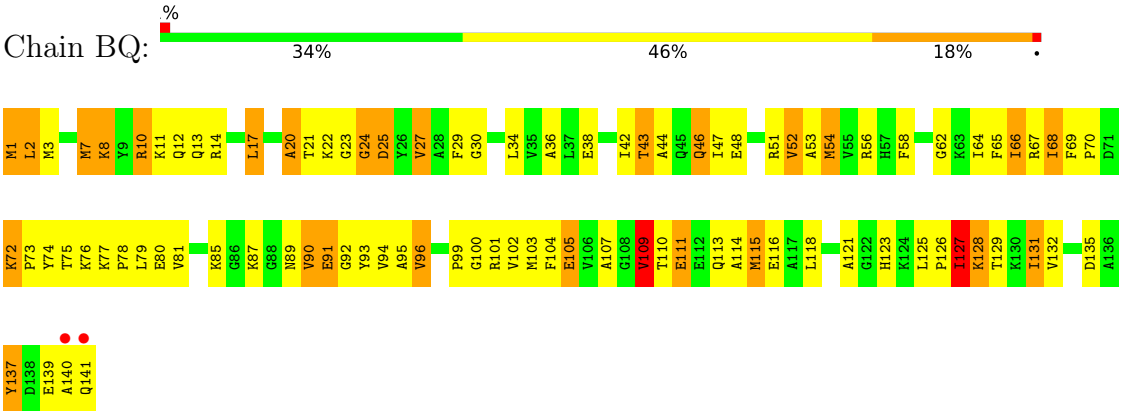
• Molecule 35: 50S ribosomal protein L15



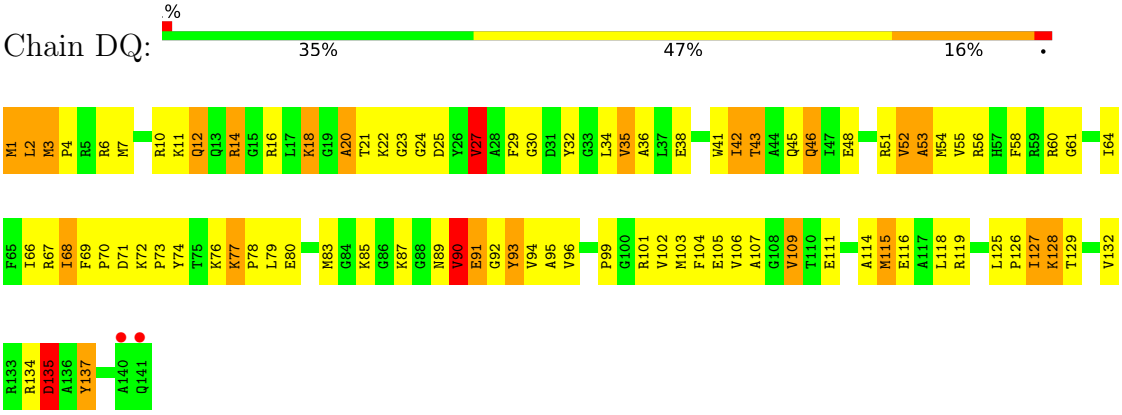
• Molecule 35: 50S ribosomal protein L15



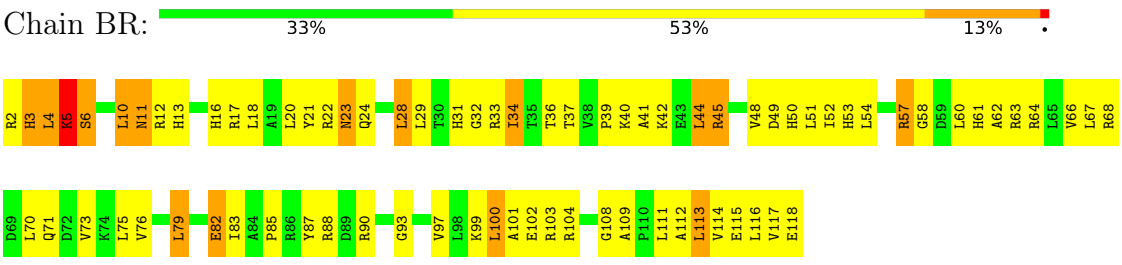
• Molecule 36: 50S ribosomal protein L16



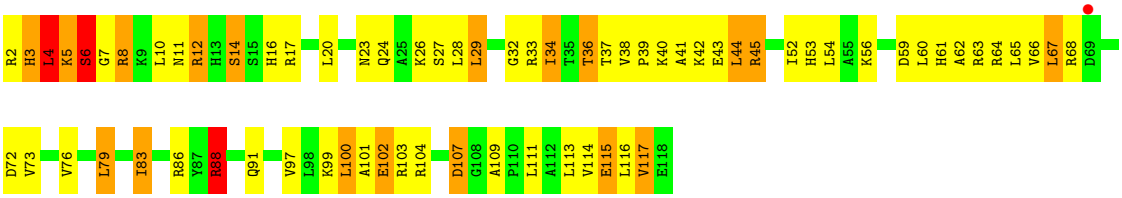
• Molecule 36: 50S ribosomal protein L16



• Molecule 37: 50S ribosomal protein L17

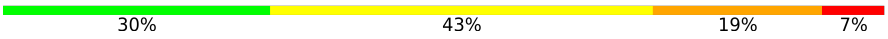


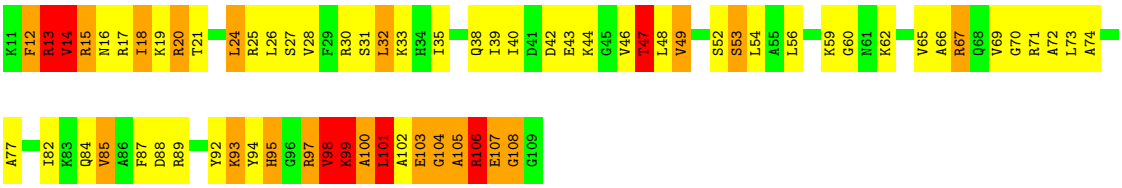
• Molecule 37: 50S ribosomal protein L17



• Molecule 38: 50S ribosomal protein L18

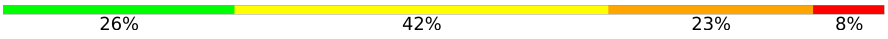
Chain BS:

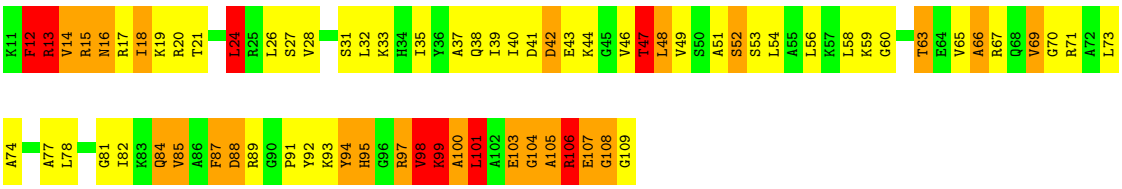




• Molecule 38: 50S ribosomal protein L18

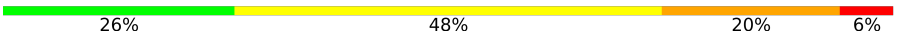
Chain DS:

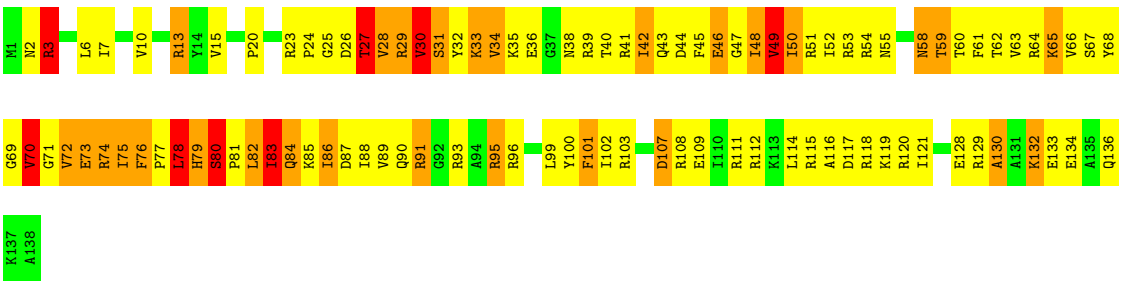




• Molecule 39: 50S ribosomal protein L19

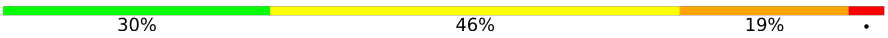
Chain BT:

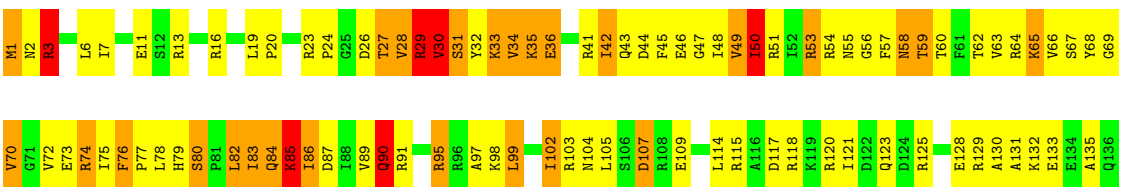




• Molecule 39: 50S ribosomal protein L19

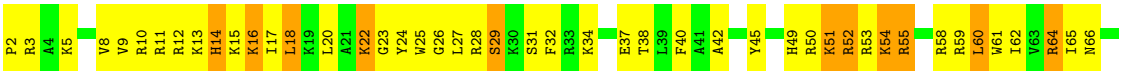
Chain DT:

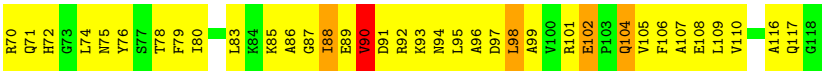




• Molecule 40: 50S ribosomal protein L20

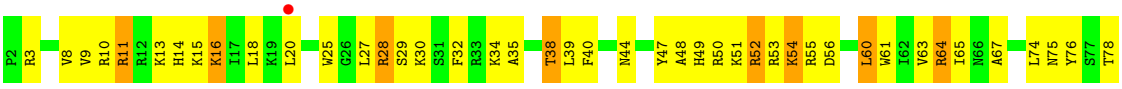
Chain BU:

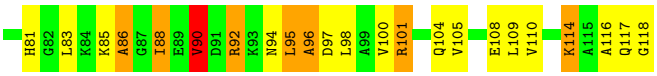




• Molecule 40: 50S ribosomal protein L20

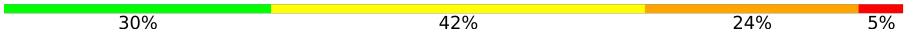
Chain DU:

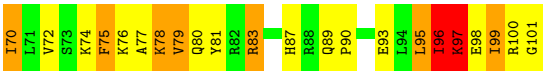




• Molecule 41: 50S ribosomal protein L21

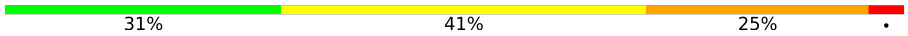
Chain BV:

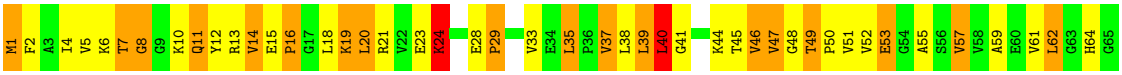


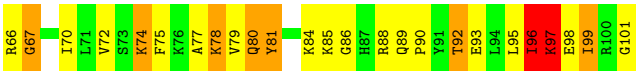


• Molecule 41: 50S ribosomal protein L21

Chain DV:

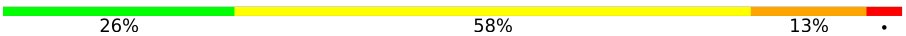


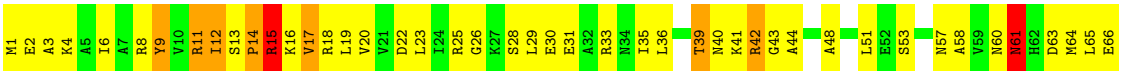


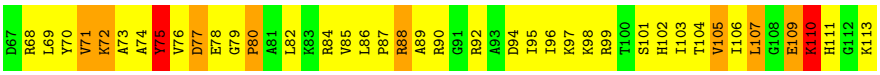


• Molecule 42: 50S ribosomal protein L22

Chain BW:

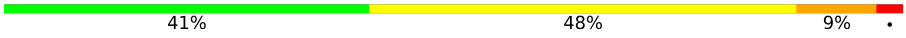


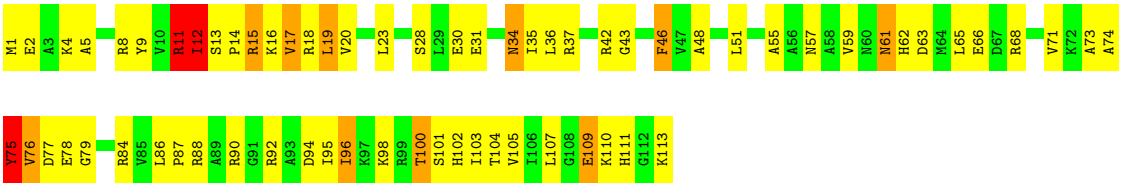




• Molecule 42: 50S ribosomal protein L22

Chain DW:



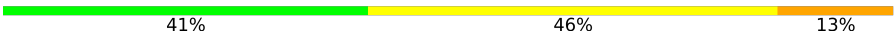


• Molecule 43: 50S ribosomal protein L23

Chain BX:

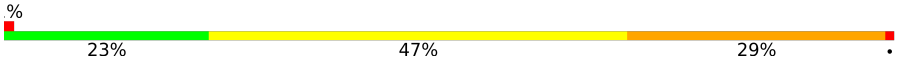
• Molecule 43: 50S ribosomal protein L23

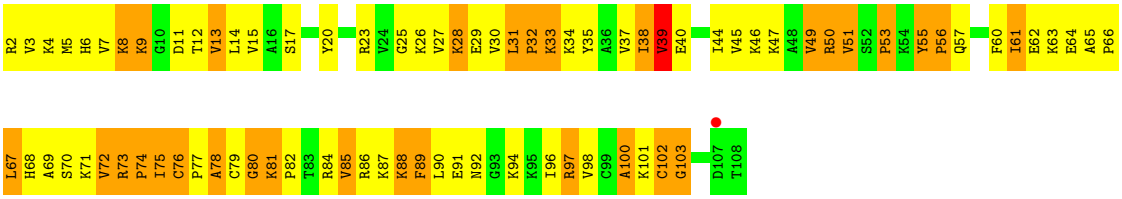
Chain DX:



• Molecule 44: 50S ribosomal protein L24

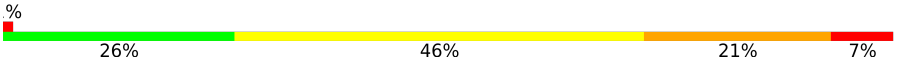
Chain BY:

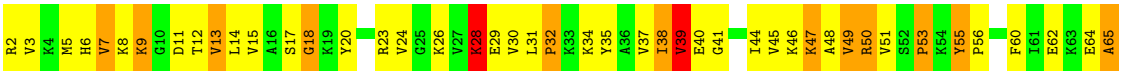


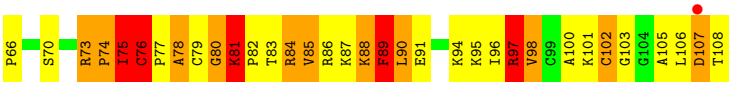


• Molecule 44: 50S ribosomal protein L24

Chain DY:

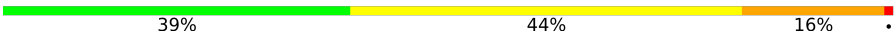


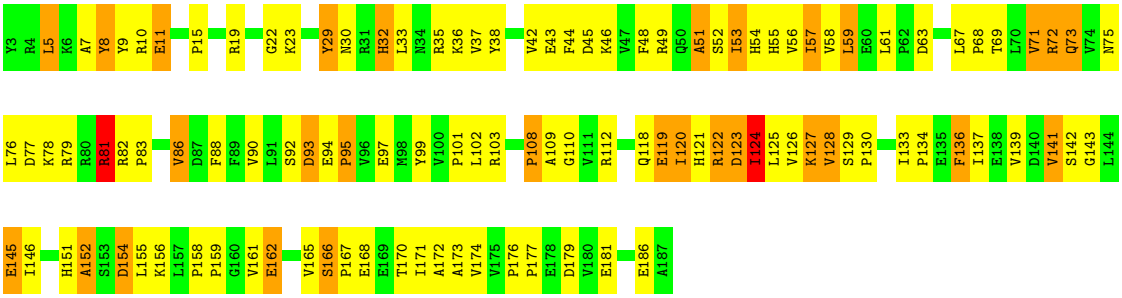




• Molecule 45: 50S ribosomal protein L25

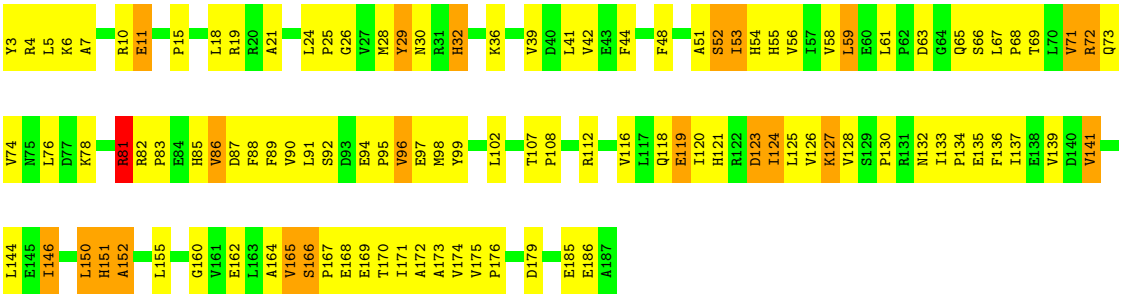
Chain BZ:





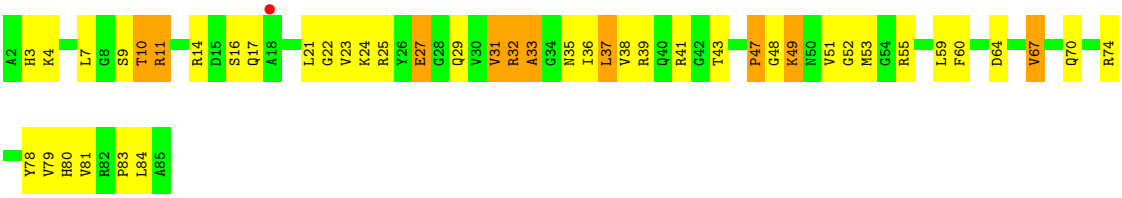
• Molecule 45: 50S ribosomal protein L25

Chain DZ:



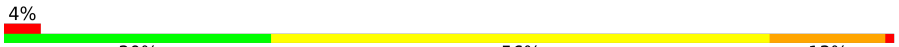
• Molecule 46: 50S ribosomal protein L27

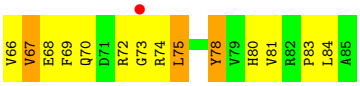
Chain B0:



• Molecule 46: 50S ribosomal protein L27

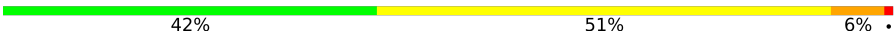
Chain D0:





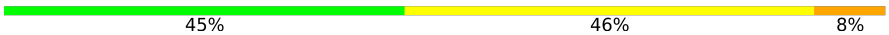
• Molecule 47: 50S ribosomal protein L29

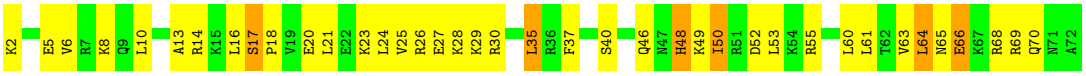
Chain B2:



• Molecule 47: 50S ribosomal protein L29

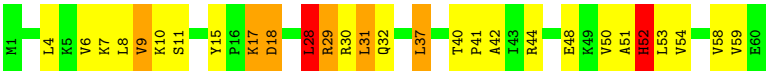
Chain D2:





• Molecule 48: 50S ribosomal protein L30

Chain B3:

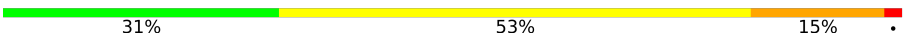


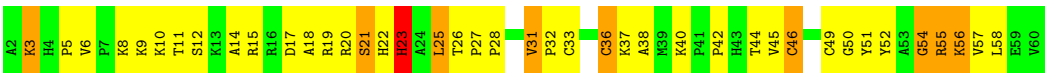
• Molecule 48: 50S ribosomal protein L30

Chain D3:

• Molecule 49: 50S ribosomal protein L32

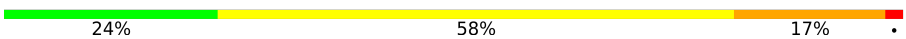
Chain B5:

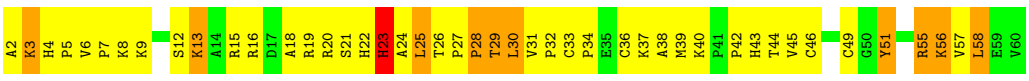




• Molecule 49: 50S ribosomal protein L32

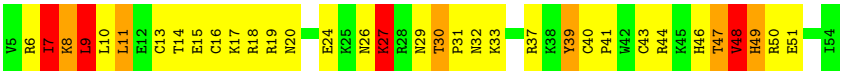
Chain D5:





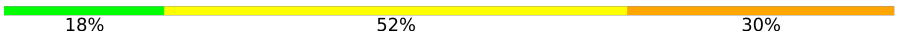
• Molecule 50: 50S ribosomal protein L33

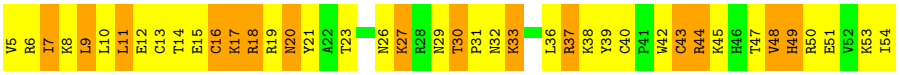
Chain B6:



• Molecule 50: 50S ribosomal protein L33

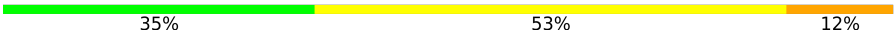
Chain D6:

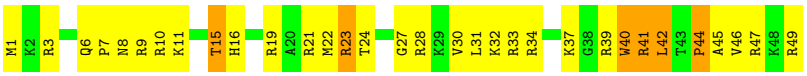




• Molecule 51: 50S ribosomal protein L34

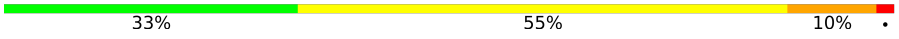
Chain B7:





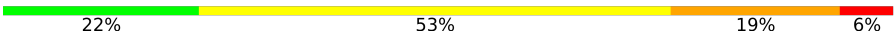
• Molecule 51: 50S ribosomal protein L34

Chain D7:



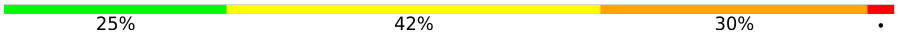
• Molecule 52: 50S ribosomal protein L35

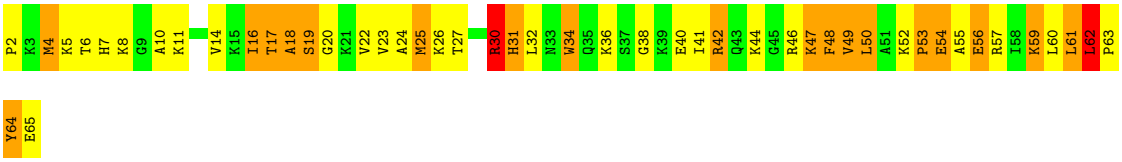
Chain B8:



• Molecule 52: 50S ribosomal protein L35

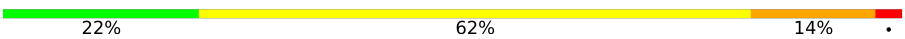
Chain D8:

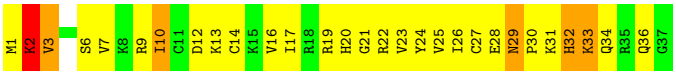




• Molecule 53: 50S ribosomal protein L36

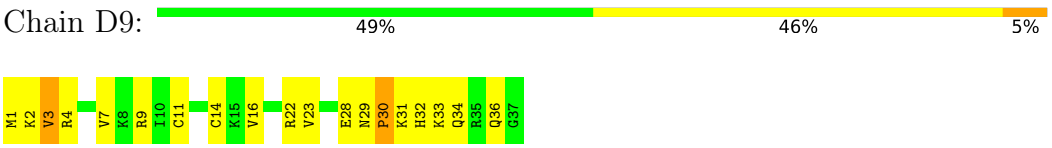
Chain B9:





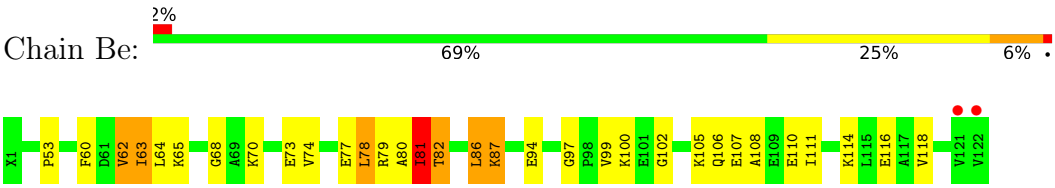
• Molecule 53: 50S ribosomal protein L36

Chain D9:



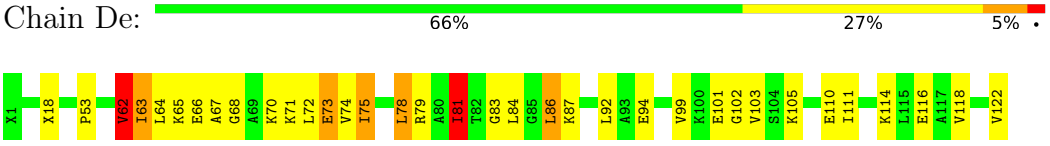
• Molecule 54: 50S ribosomal protein L7/L12

Chain Be:



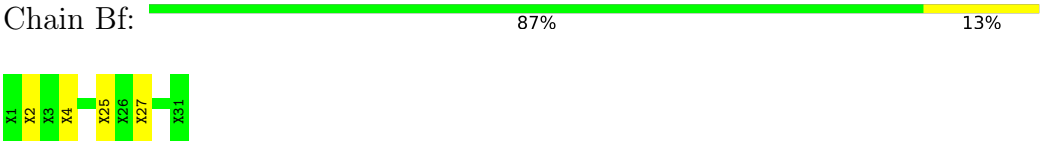
• Molecule 54: 50S ribosomal protein L7/L12

Chain De:



• Molecule 55: 50S RIBOSOMAL PROTEIN L7/L12

Chain Bf:



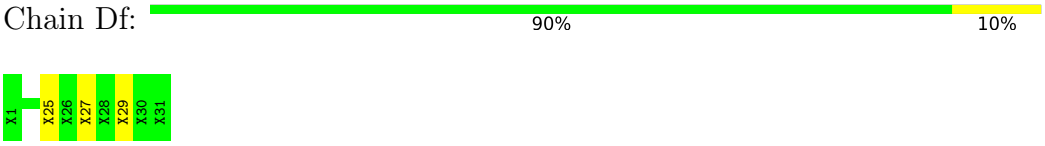
• Molecule 55: 50S RIBOSOMAL PROTEIN L7/L12

Chain Bg:

There are no outlier residues recorded for this chain.

• Molecule 55: 50S RIBOSOMAL PROTEIN L7/L12

Chain Df:



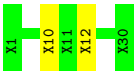
• Molecule 55: 50S RIBOSOMAL PROTEIN L7/L12

Chain Dg:

There are no outlier residues recorded for this chain.

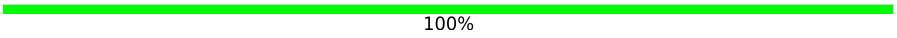
• Molecule 56: 50S RIBOSOMAL PROTEIN L7/L12

Chain Bh:



• Molecule 56: 50S RIBOSOMAL PROTEIN L7/L12

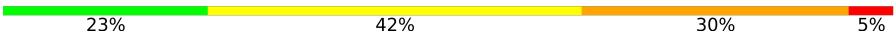
Chain Dh:

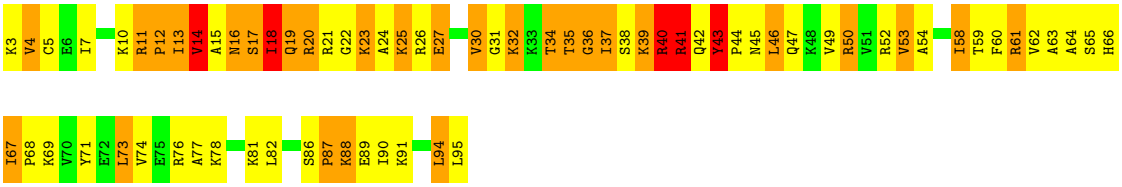


There are no outlier residues recorded for this chain.

• Molecule 57: 50S ribosomal protein L28

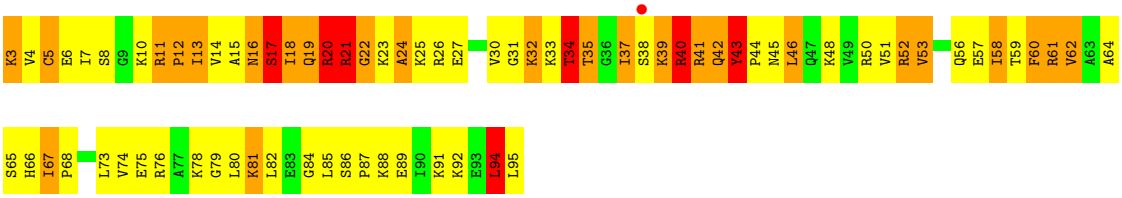
Chain B1:





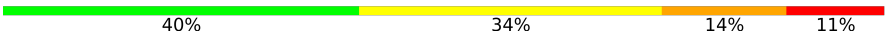
• Molecule 57: 50S ribosomal protein L28

Chain D1:



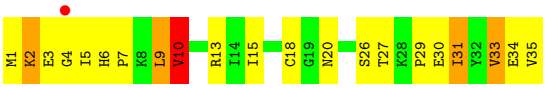
• Molecule 58: 50S ribosomal protein L31

Chain B4:



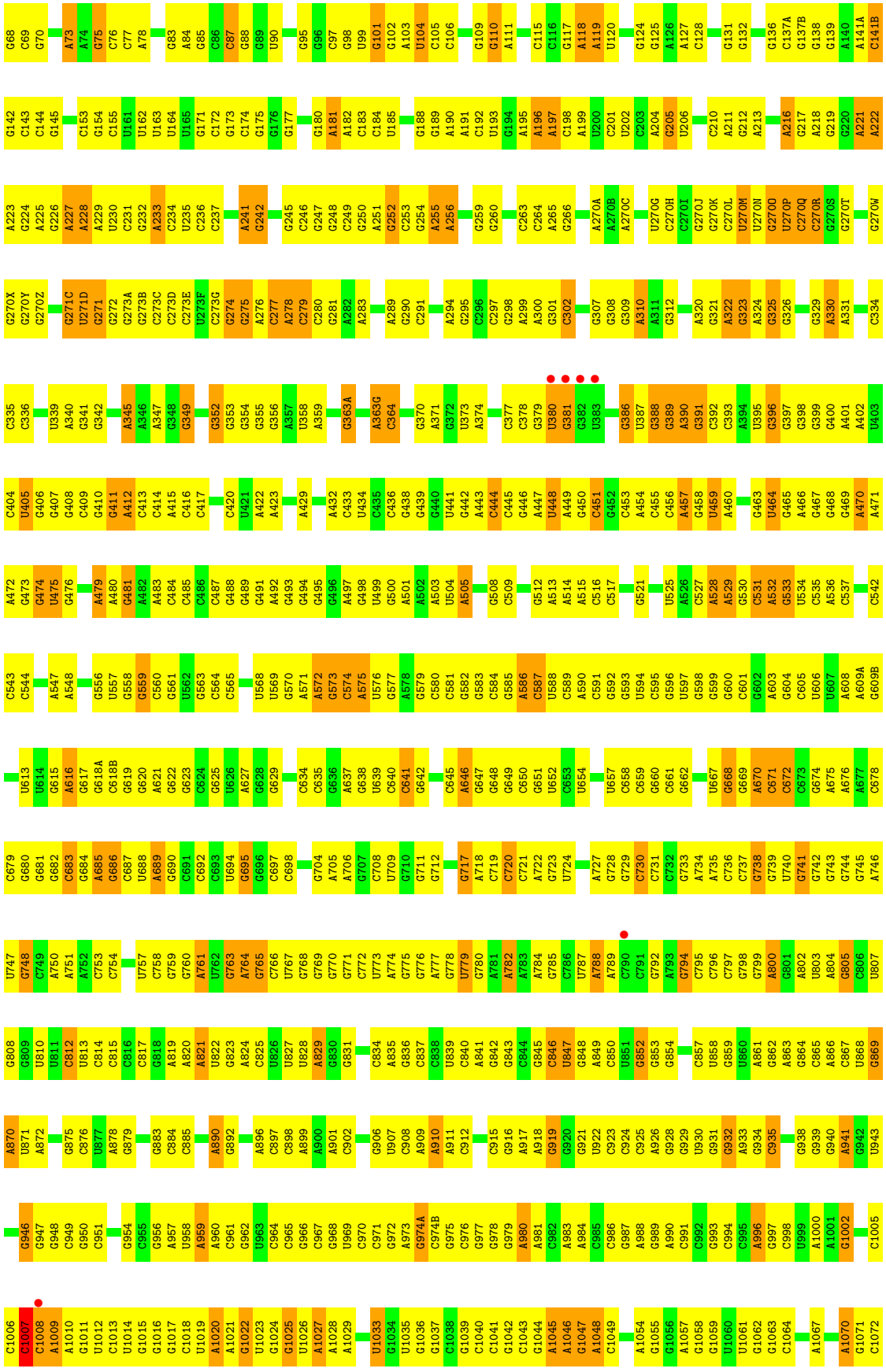
• Molecule 58: 50S ribosomal protein L31

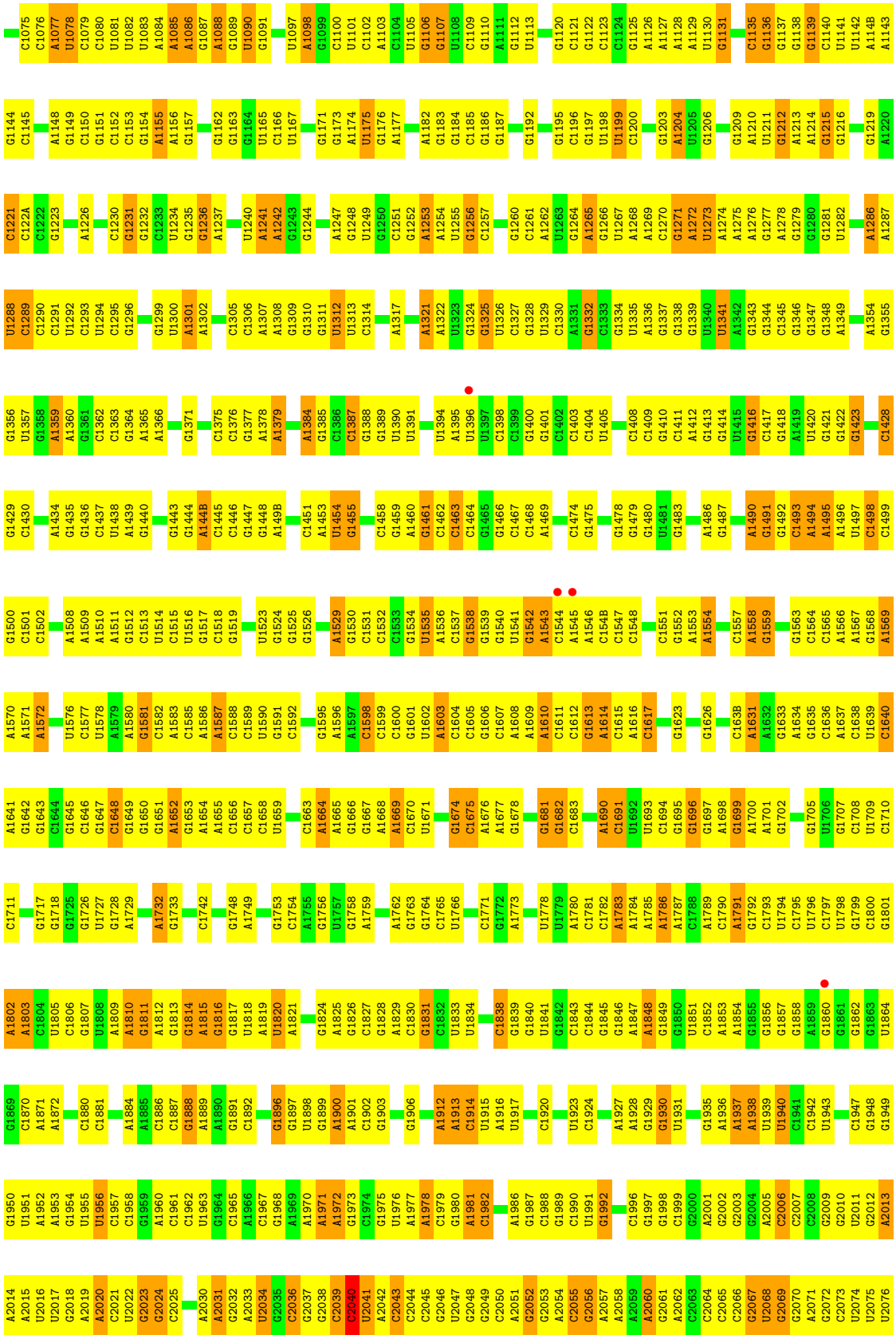
Chain D4:

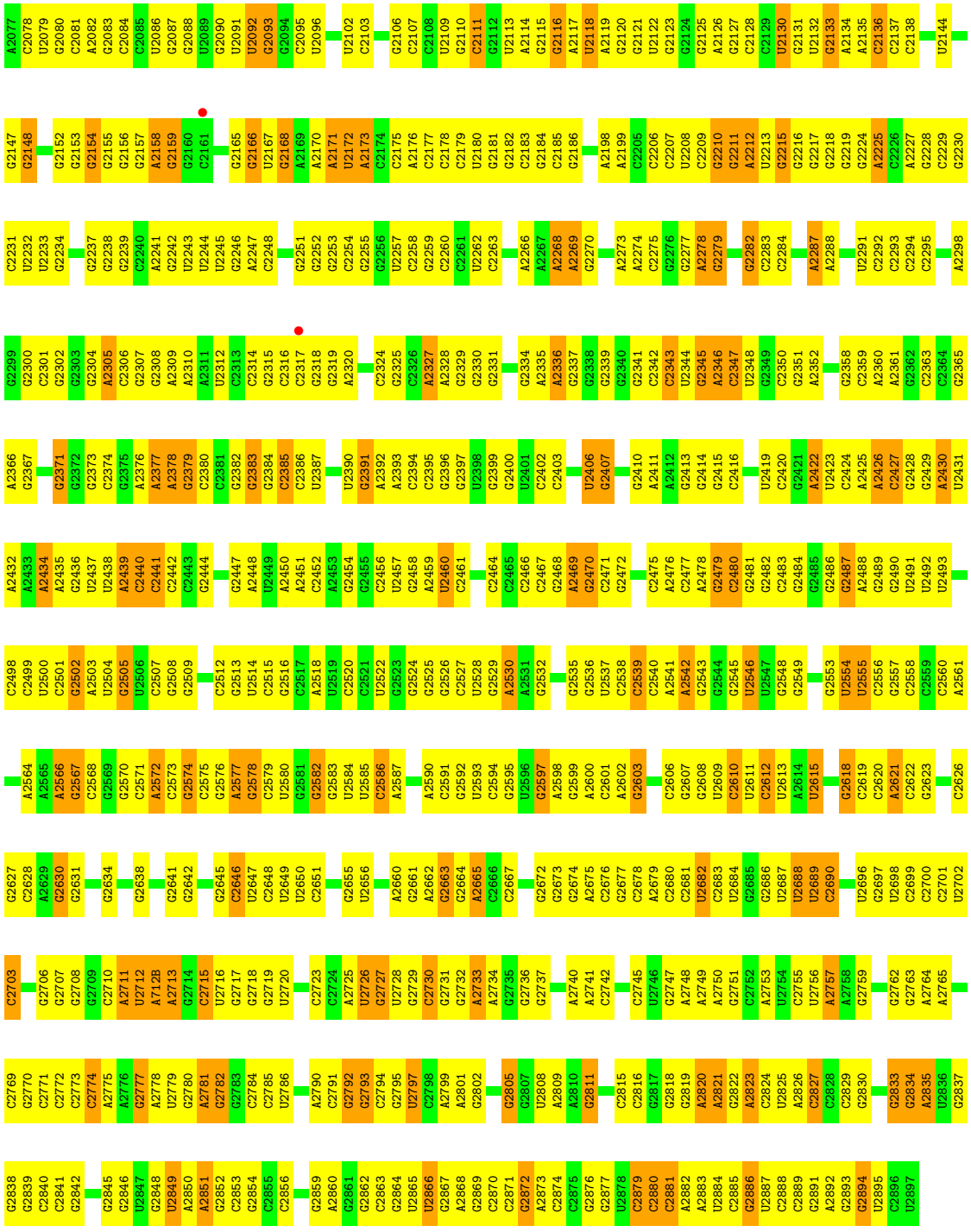


• Molecule 59: 23S ribosomal RNA

Chain BA:

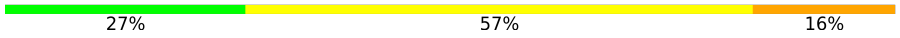

G68 C69 G70 A73 A74 G75 C76 C77 A78 G83 A84 G85 C86 C87 G88 G89 U90 G95 G96 C97 G98 U99 G101 G102 A103 U104 C105 C106 G109 G110 A111 C115 C116 G117 A118 A119 U120 G124 G125 A126 A127 C128 G131 G132 G136 C137A G137B G138 G139 A140 A141A C141B
G142 C143 C144 G145 C153 G154 C155 U161 U162 U163 U164 U165 G171 C172 G173 C174 G175 G176 G177 G180 A181 A182 C183 C184 U185 G188 G189 A190 A191 C192 U193 G194 A195 A196 A197 C198 A199 U200 C201 U202 C203 A204 G205 U206 C210 A211 G212 A213 A216 G217 A218 G219 G220 A221 A222
A223 G224 A225 G226 A227 A228 A229 U230 C231 G232 A233 C234 U235 C236 C237 A241 G242 G245 C246 G247 G248 C249 G250 A251 G252 C253 G254 A255 A256 G259 G260 C263 C264 A265 G266 A270A A270B A270C U270G C270H C270I G270J G270K C270L U270M U270N G2700 U270P C270Q C270R G270S G270T G270W
G270X G270Y G270Z G271C U271D G271 G272 C273A G273B C273C C273D C273E U273F C273G G274 G275 A276 C277 A278 C279 C280 G281 A282 A283 A289 G290 C291 A294 G295 C296 C297 G298 A299 A300 G301 C302 G307 G308 G309 A310 A311 G312 A320 G321 A322 G323 A324 G325 G326 G329 A330 A331 C334
C335 C336 U339 A340 G341 G342 A345 A346 A347 G348 G349 G352 G353 G354 G355 G356 A357 U358 A359 G363A C364 G370 A371 G372 U373 A374 C377 C378 G379 U380 G381 G382 U383 G386 U387 G388 G389 A390 G391 C392 C393 A394 U395 G396 G397 G398 G399 G400 A401 A402 U403
C404 U405 G406 G407 G408 C409 G410 G411 A412 C413 C414 A415 C416 C417 C420 U421 A422 A423 A429 A432 C433 U434 C435 C436 G438 G439 G440 U441 G442 A443 C444 C445 G446 A447 U448 A449 G450 C451 G452 C453 A454 C455 C456 A457 G458 U459 A460 G463 U464 G465 A466 G467 G468 G469 A470 A471
A472 G473 G474 U475 G476 A479 A480 G481 A482 A483 C484 C485 C486 C487 G488 G489 G491 A492 G493 G494 G495 G496 A497 G498 U499 G500 A501 A502 A503 U504 A505 G508 C509 G512 A513 A514 A515 C516 C517 G521 U525 A526 C527 A528 A529 G530 C531 A532 G533 U534 C535 A536 C537 C542
C543 C544 A547 A548 G556 U557 C558 G559 C560 C561 U562 G563 C564 C565 U568 U569 G570 A571 A572 G573 C574 A575 U576 G577 A578 G579 C580 C581 G582 G583 C584 G585 A586 C587 U588 C589 A590 C591 G592 G593 U594 C595 G596 U597 G598 G599 G600 C601 G602 A603 G604 C605 U606 U607 A608 A609A G609B
U613 U614 G615 A616 G617 G618A C618B G619 G620 A621 G622 G623 C624 G625 U626 A627 G628 G629 C634 C635 G636 A637 G638 U639 C640 C641 G642 C645 A646 G647 G648 G649 C650 G651 U652 C653 U654 U657 C658 C659 G660 C661 G662 U667 G668 G669 A670 C671 C672 C673 G674 A675 A676 A677 C678
C679 G680 G681 G682 C683 G684 A685 G686 C687 U688 A689 G690 C691 C692 C693 U694 G695 G696 C697 C698 G704 A705 A706 G707 C708 U709 G710 G711 G712 G717 A718 C719 C720 C721 A722 G723 U724 A727 G728 G729 C730 C731 C732 G733 A734 A735 A736 C737 G738 G739 U740 G741 G742 G743 G744 G745 A746
U747 G748 C749 A750 A751 A752 C753 C754 U757 C758 G759 G760 A761 U762 G763 A764 G765 C766 U767 G768 G769 G770 G771 C772 U773 A774 G775 G776 A777 G778 U779 G780 A781 A782 A783 A784 G785 C786 U787 A788 A789 C790 C791 G792 A793 G794 C795 C796 C797 G798 G799 A800 G801 A802 U803 A804 G805 C806 U807
G808 G809 U810 U811 C812 U813 C814 C815 C816 C817 G818 A819 A820 A821 U822 G823 A824 C825 U826 U827 U828 A829 G830 G831 C834 A835 G836 C837 C838 U839 C840 A841 G842 G843 C844 G845 C846 U847 G848 A849 C850 U851 G852 G853 G854 C857 U858 G859 U860 A861 G862 A863 G864 C865 A866 C867 U868 G869
A870 U871 A872 G875 C876 U877 A878 G879 G883 C884 C885 A890 G892 A896 C897 C898 A899 A900 A901 C902 G906 U907 C908 A909 A910 A911 C912 C915 G916 A917 A918 G919 G920 G921 U922 C923 C924 C925 A926 G928 G929 U930 G931 G932 A933 G934 C935 G938 G939 G940 A941 G942 U943
G946 G947 G948 C949 G950 C951 G954 C955 G956 A957 U958 A959 A960 C961 G962 U963 C964 C965 G966 C967 G968 U969 C970 C971 G972 A973 G974A C974B G975 C976 G977 G978 G979 A980 A981 C982 A983 A984 C985 C986 G987 A988 G989 A990 C991 C992 G993 C994 C995 A996 G997 C998 U999 A1000 A1001 G1002 C1005
C1006 C1007 C1008 A1009 A1010 G1011 U1012 C1013 U1014 G1015 G1016 G1017 C1018 U1019 A1020 A1021 G1022 U1023 G1024 G1025 U1026 A1027 A1028 A1029 U1033 G1034 U1035 G1036 G1037 C1038 G1039 C1040 C1041 G1042 C1043 G1044 A1045 A1046 G1047 A1048 C1049 A1054 G1055 G1056 A1057 G1058 G1059 U1060 U1061 G1062 G1063 C1064 A1067 A1070 G1071 C1072

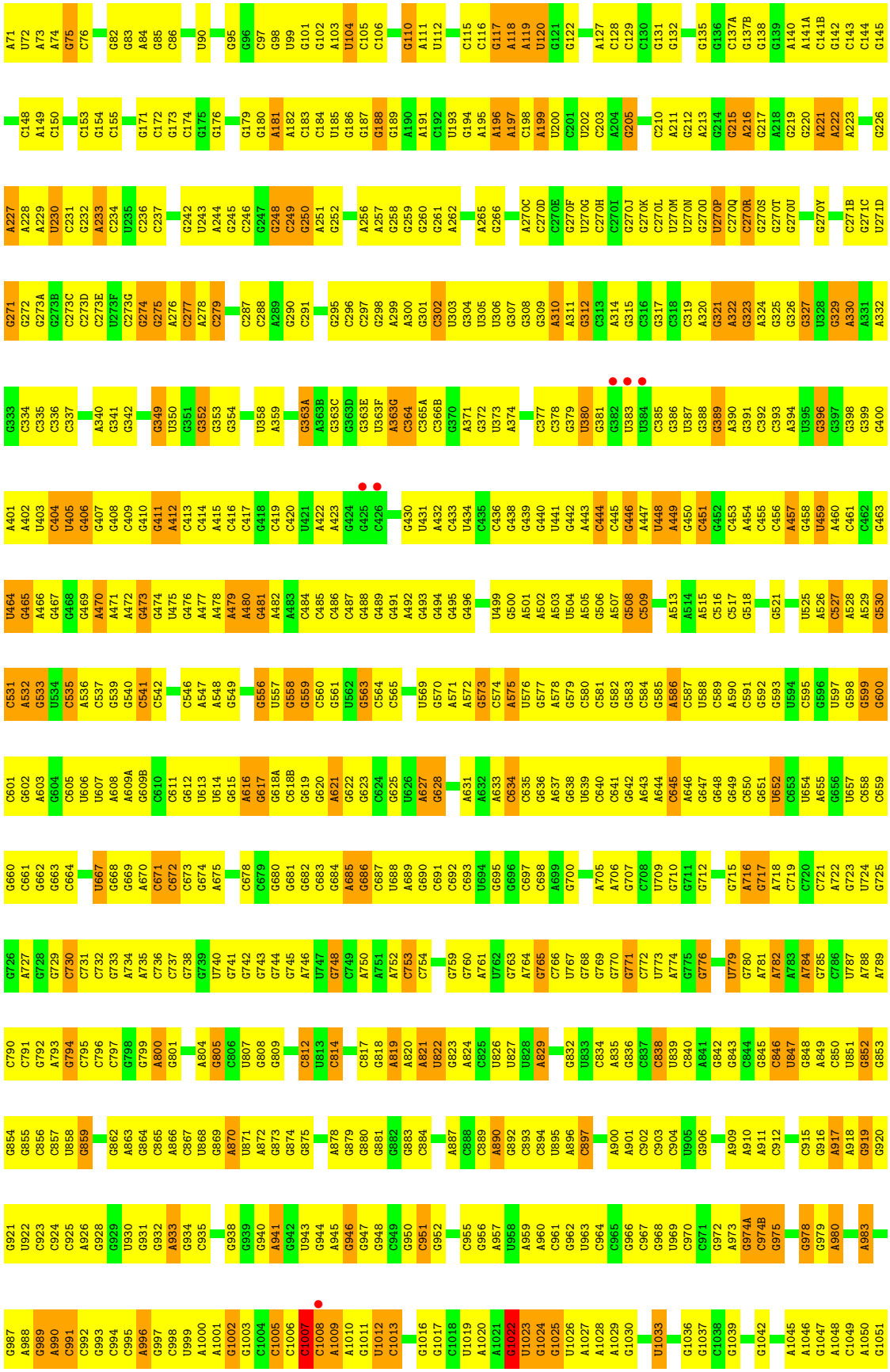


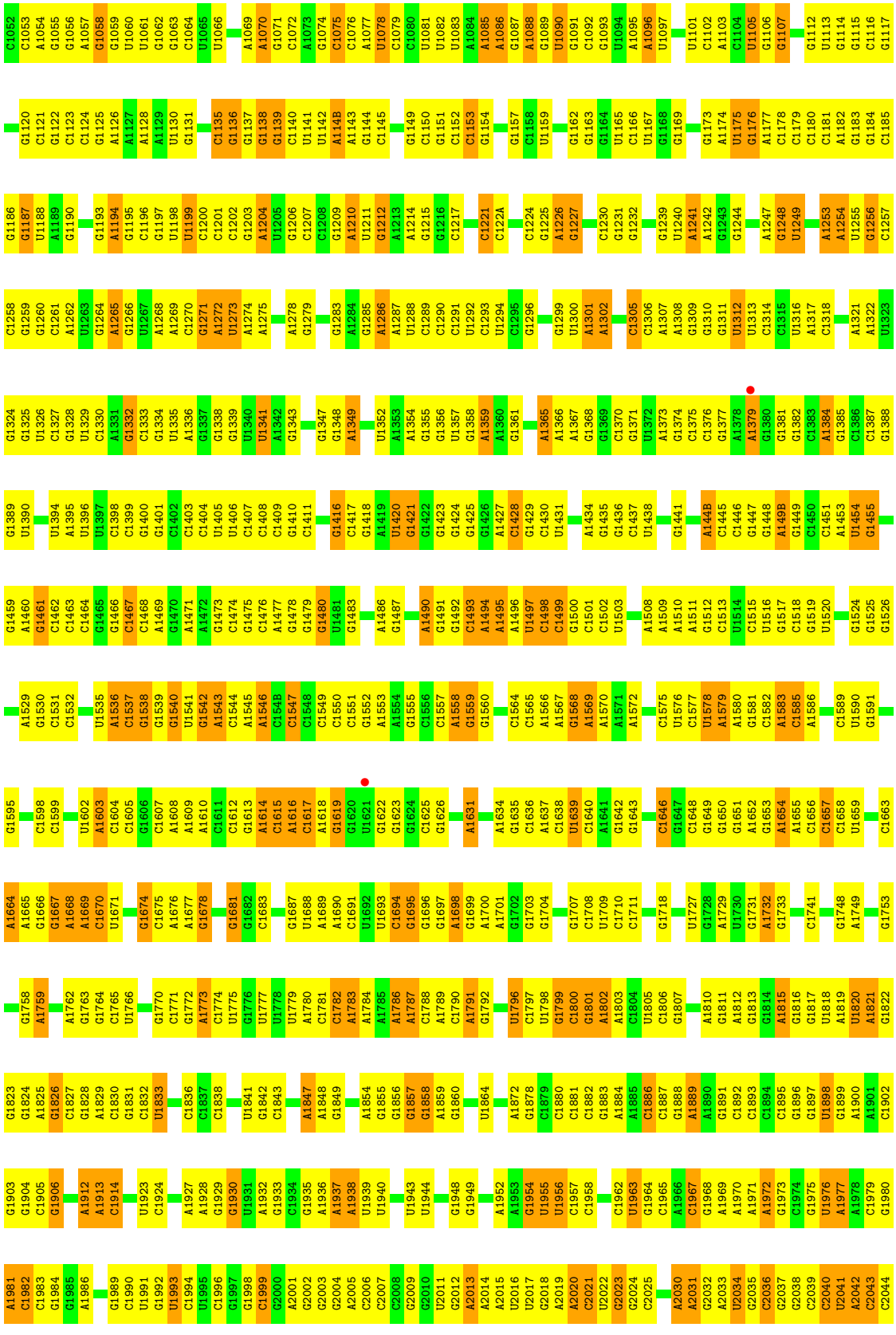


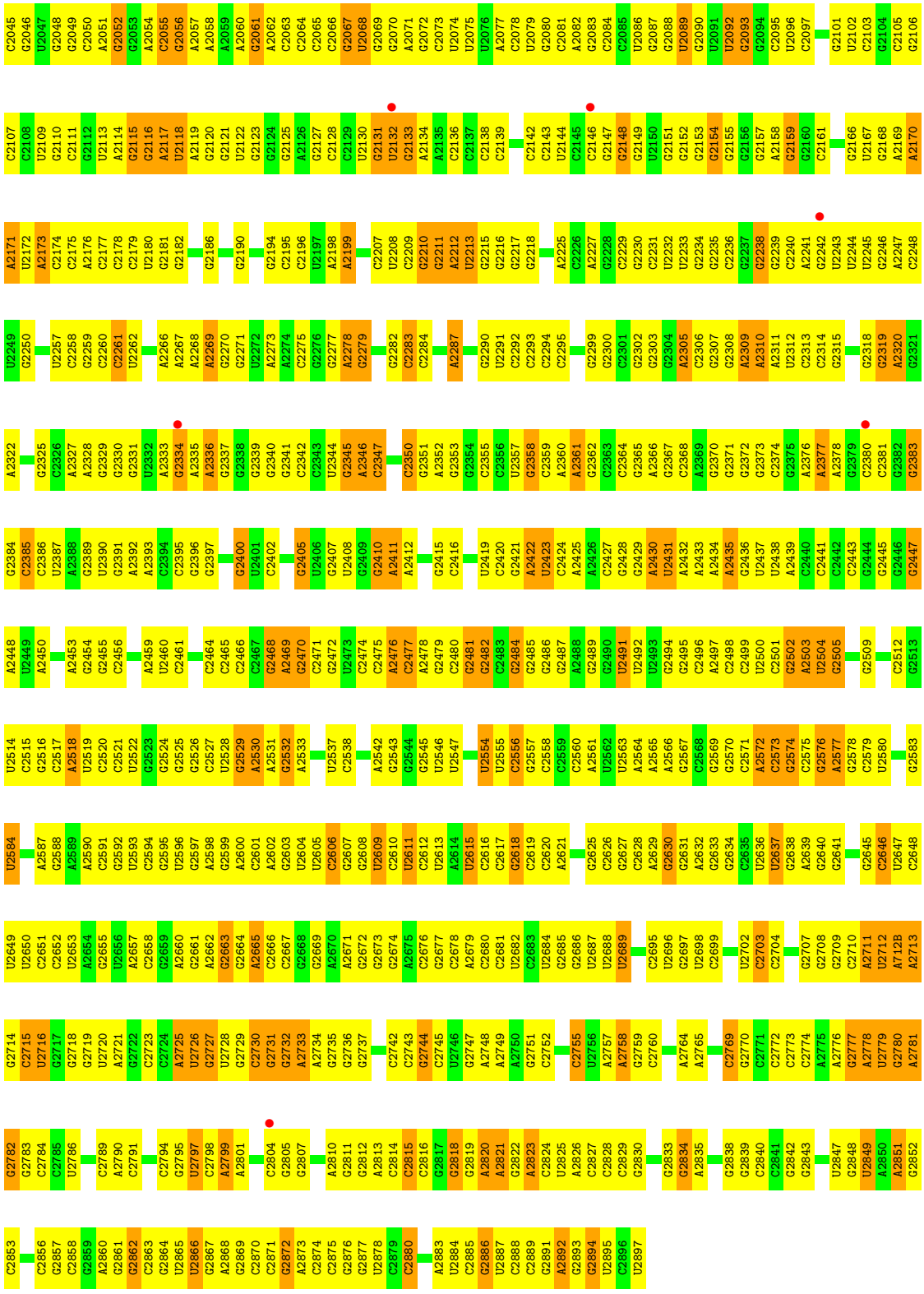
• Molecule 59: 23S ribosomal RNA

Chain DA:



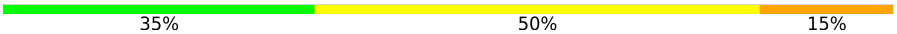


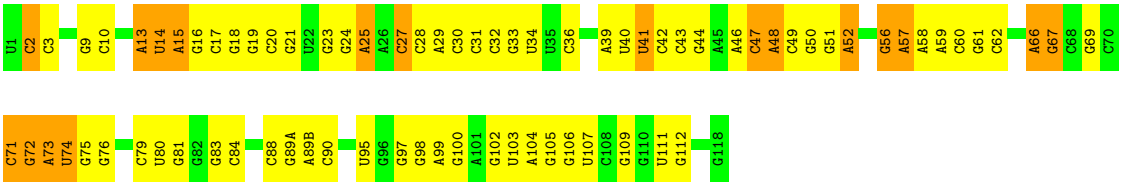




• Molecule 60: 5S ribosomal RNA

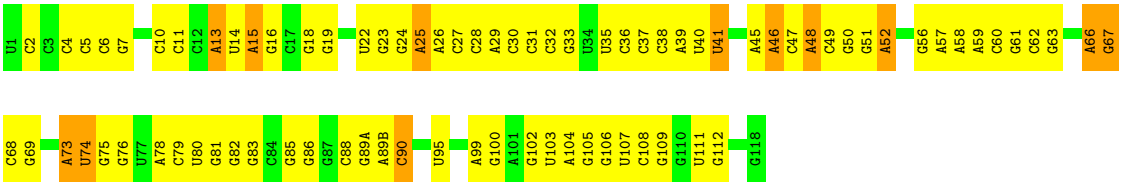
Chain BB:





• Molecule 60: 5S ribosomal RNA

Chain DB:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	308.96Å 670.66Å 347.77Å 90.00° 92.52° 90.00°	Depositor
Resolution (Å)	40.00 – 3.50 40.00 – 3.56	Depositor EDS
% Data completeness (in resolution range)	(Not available) (40.00-3.50) 74.7 (40.00-3.56)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.19 (at 3.58Å)	Xtriage
Refinement program	CNS 1.2	Depositor
R, R_{free}	0.284 , 0.328 0.290 , 0.329	Depositor DCC
R_{free} test set	33495 reflections (4.00%)	wwPDB-VP
Wilson B-factor (Å^2)	57.8	Xtriage
Anisotropy	0.660	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.18 , 294.1	EDS
L-test for twinning[2]	$< \|L\| > = 0.25$, $< L^2 > = 0.10$	Xtriage
Estimated twinning fraction	0.258 for h,-k,-l	Xtriage
F_o,F_c correlation	0.85	EDS
Total number of atoms	308166	wwPDB-VP
Average B, all atoms (Å^2)	67.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.92% 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: KBE, DPP, MG, FUA, UAL, GDP, 5OH

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	AB	0.54	0/1945	1.15	18/2621 (0.7%)
1	CB	0.53	1/1945 (0.1%)	1.07	11/2621 (0.4%)
2	AC	0.37	0/1645	0.86	2/2216 (0.1%)
2	CC	0.39	0/1645	0.94	3/2216 (0.1%)
3	AD	0.39	0/1733	0.92	3/2318 (0.1%)
3	CD	0.39	0/1733	0.98	6/2318 (0.3%)
4	AE	0.43	0/1172	0.93	3/1576 (0.2%)
4	CE	0.41	0/1172	0.94	4/1576 (0.3%)
5	AF	0.39	0/856	0.92	2/1154 (0.2%)
5	CF	0.37	0/856	0.87	0/1154
6	AG	0.38	0/1276	0.90	2/1709 (0.1%)
6	CG	0.36	0/1276	0.89	1/1709 (0.1%)
7	AH	0.42	0/1136	0.91	4/1527 (0.3%)
7	CH	0.41	0/1136	0.95	4/1527 (0.3%)
8	AI	0.40	0/1029	0.86	1/1379 (0.1%)
8	CI	0.37	0/1029	0.84	2/1379 (0.1%)
9	AJ	0.37	0/815	0.89	0/1095
9	CJ	0.40	0/815	0.90	0/1095
10	AK	0.47	0/900	1.06	5/1213 (0.4%)
10	CK	0.52	0/900	1.14	8/1213 (0.7%)
11	AL	0.59	0/992	1.25	13/1327 (1.0%)
11	CL	0.58	0/992	1.25	10/1327 (0.8%)
12	AM	0.40	0/1008	0.96	4/1347 (0.3%)
12	CM	0.39	0/1008	0.87	0/1347
13	AN	0.38	0/501	0.88	0/664
13	CN	0.34	0/501	0.84	2/664 (0.3%)
14	AO	0.40	0/745	0.87	3/992 (0.3%)
14	CO	0.39	0/745	0.83	0/992
15	AP	0.38	0/722	0.81	0/970
15	CP	0.35	0/722	0.84	0/970
16	AQ	0.46	0/848	1.07	5/1131 (0.4%)
16	CQ	0.46	0/848	1.14	10/1131 (0.9%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
17	AR	0.39	0/579	0.90	0/768
17	CR	0.37	0/579	0.85	1/768 (0.1%)
18	AS	0.45	0/647	0.99	5/870 (0.6%)
18	CS	0.42	0/647	1.03	7/870 (0.8%)
19	AT	0.43	0/765	0.91	1/1007 (0.1%)
19	CT	0.41	0/765	0.87	0/1007
20	AA	0.20	0/36351	0.41	1/56736 (0.0%)
20	CA	0.19	0/36351	0.40	2/56736 (0.0%)
21	AW	0.18	0/1827	0.43	0/2845
21	CW	0.18	0/1827	0.41	0/2845
22	AV	0.15	0/568	0.36	0/886
22	CV	0.16	0/568	0.40	0/886
23	AY	0.48	1/5317 (0.0%)	1.07	35/7198 (0.5%)
23	CY	0.54	5/5317 (0.1%)	1.02	22/7198 (0.3%)
24	AU	0.92	0/11	1.48	0/13
24	CU	0.86	0/11	1.35	0/13
25	BC	0.61	0/1774	1.24	25/2391 (1.0%)
25	DC	0.65	2/1774 (0.1%)	1.19	28/2391 (1.2%)
26	BD	0.47	0/2195	1.06	13/2955 (0.4%)
26	DD	0.49	0/2195	1.04	17/2955 (0.6%)
27	BE	0.47	0/1602	1.13	16/2160 (0.7%)
27	DE	0.44	0/1602	1.11	11/2160 (0.5%)
28	BF	0.49	0/1663	1.12	21/2249 (0.9%)
28	DF	0.50	1/1663 (0.1%)	1.15	20/2249 (0.9%)
29	BG	0.61	5/1499 (0.3%)	1.05	6/2016 (0.3%)
29	DG	0.55	3/1499 (0.2%)	1.06	7/2016 (0.3%)
30	BH	0.43	0/1298	0.94	1/1751 (0.1%)
30	DH	0.40	0/1298	0.93	2/1751 (0.1%)
32	BK	0.42	0/1054	0.92	6/1427 (0.4%)
32	DK	0.42	0/1054	0.93	5/1427 (0.4%)
33	BN	0.66	0/1131	1.19	11/1525 (0.7%)
33	DN	0.66	0/1131	1.09	6/1525 (0.4%)
34	BO	0.39	0/943	1.02	6/1269 (0.5%)
34	DO	0.39	0/943	0.91	3/1269 (0.2%)
35	BP	0.41	0/1131	0.98	5/1504 (0.3%)
35	DP	0.42	0/1131	0.99	5/1504 (0.3%)
36	BQ	0.46	0/1143	1.01	3/1527 (0.2%)
36	DQ	0.41	0/1143	0.96	1/1527 (0.1%)
37	BR	0.43	0/974	0.94	1/1302 (0.1%)
37	DR	0.43	0/974	0.94	2/1302 (0.2%)
38	BS	0.50	0/783	1.12	8/1041 (0.8%)
38	DS	0.46	0/783	1.11	7/1041 (0.7%)
39	BT	0.48	0/1161	1.05	6/1549 (0.4%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
39	DT	0.50	0/1161	1.05	5/1549 (0.3%)
40	BU	0.47	0/982	0.88	0/1306
40	DU	0.53	0/982	0.91	1/1306 (0.1%)
41	BV	0.51	0/790	1.11	6/1057 (0.6%)
41	DV	0.49	0/790	1.06	6/1057 (0.6%)
42	BW	0.44	0/911	0.95	1/1220 (0.1%)
42	DW	0.44	0/911	1.03	2/1220 (0.2%)
43	BX	0.36	0/748	0.92	3/1004 (0.3%)
43	DX	0.37	0/748	0.88	0/1004
44	BY	0.46	0/831	1.12	8/1108 (0.7%)
44	DY	0.48	0/831	1.11	11/1108 (1.0%)
45	BZ	0.39	0/1505	0.99	5/2042 (0.2%)
45	DZ	0.40	0/1505	1.01	6/2042 (0.3%)
46	B0	0.33	0/671	0.75	0/892
46	D0	0.37	0/671	0.83	2/892 (0.2%)
47	B2	0.37	0/600	0.91	1/793 (0.1%)
47	D2	0.38	0/600	0.93	2/793 (0.3%)
48	B3	0.42	0/482	0.95	1/646 (0.2%)
48	D3	0.37	0/482	1.03	5/646 (0.8%)
49	B5	0.49	0/473	1.00	3/639 (0.5%)
49	D5	0.45	0/473	0.96	0/639
50	B6	0.42	0/440	1.02	2/586 (0.3%)
50	D6	0.40	0/440	0.91	1/586 (0.2%)
51	B7	0.41	0/438	0.97	0/575
51	D7	0.39	0/438	0.94	0/575
52	B8	0.46	0/525	1.10	2/691 (0.3%)
52	D8	0.43	0/525	1.04	5/691 (0.7%)
53	B9	0.40	0/310	0.89	0/407
53	D9	0.41	0/310	0.88	0/407
54	Be	0.41	0/538	0.90	4/715 (0.6%)
54	De	0.36	0/538	0.88	1/715 (0.1%)
57	B1	0.71	0/739	1.36	17/981 (1.7%)
57	D1	0.73	1/739 (0.1%)	1.38	13/981 (1.3%)
58	B4	0.55	0/276	1.07	3/372 (0.8%)
58	D4	0.56	0/276	1.07	1/372 (0.3%)
59	BA	0.21	0/69437	0.44	3/108401 (0.0%)
59	DA	0.21	0/69437	0.43	3/108401 (0.0%)
60	BB	0.19	0/2853	0.41	0/4451
60	DB	0.18	0/2853	0.38	0/4451
All	All	0.32	19/330576 (0.0%)	0.66	565/492228 (0.1%)

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
1	AB	0	3
1	CB	0	1
11	CL	0	2
23	AY	0	3
23	CY	0	2
25	BC	0	1
25	DC	0	3
26	BD	0	1
26	DD	0	2
28	BF	0	2
28	DF	0	2
29	BG	0	2
29	DG	0	2
31	BJ	0	1
31	DJ	0	1
35	DP	0	1
38	BS	0	3
38	DS	0	3
42	BW	0	1
42	DW	0	1
57	B1	0	2
57	D1	0	2
All	All	0	41

All (19) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
23	CY	506	GLN	C-N	14.48	1.53	1.33
29	BG	114	ILE	N-CA	-12.45	1.31	1.46
23	CY	25	LYS	C-N	11.49	1.48	1.33
29	DG	114	ILE	N-CA	-10.93	1.31	1.46
23	AY	506	GLN	C-N	-8.34	1.21	1.33
23	CY	26	THR	C-N	-8.32	1.23	1.33
23	CY	22	ASP	C-N	7.89	1.44	1.33
25	DC	212	SER	C-O	-7.40	1.14	1.24
29	BG	114	ILE	CA-C	7.28	1.61	1.52
29	DG	113	ARG	CA-C	-7.21	1.42	1.52
29	BG	113	ARG	CA-C	-7.19	1.42	1.52
29	BG	115	ARG	N-CA	6.11	1.54	1.46
25	DC	46	ALA	CA-CB	5.73	1.62	1.53
23	CY	23	ALA	C-N	-5.51	1.25	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	CB	187	LEU	N-CA	5.31	1.52	1.46
28	DF	156	LEU	CA-C	-5.26	1.45	1.52
57	D1	39	LYS	CA-C	5.26	1.59	1.52
29	DG	111	LEU	C-N	5.18	1.40	1.34
29	BG	111	LEU	C-N	5.14	1.40	1.34

All (565) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	AY	506	GLN	O-C-N	-16.55	102.72	122.58
29	DG	111	LEU	CA-C-N	-15.72	103.76	119.64
29	DG	111	LEU	C-N-CA	-15.72	103.76	119.64
29	BG	111	LEU	CA-C-N	-15.72	103.77	119.64
29	BG	111	LEU	C-N-CA	-15.72	103.77	119.64
1	AB	163	PHE	N-CA-C	-12.18	91.55	110.42
23	AY	506	GLN	CA-C-N	11.58	139.91	122.65
23	AY	506	GLN	C-N-CA	11.58	139.91	122.65
11	CL	33	ARG	N-CA-C	11.49	124.55	110.41
10	AK	86	GLY	N-CA-C	11.41	123.08	111.56
1	AB	172	ILE	N-CA-C	-11.14	99.72	110.42
28	DF	193	VAL	N-CA-C	-11.13	86.18	109.34
52	B8	62	LEU	CA-C-N	-10.95	108.29	121.00
52	B8	62	LEU	C-N-CA	-10.95	108.29	121.00
41	BV	49	THR	CA-C-N	-10.47	106.75	119.84
41	BV	49	THR	C-N-CA	-10.47	106.75	119.84
3	CD	28	SER	CA-C-N	-10.23	107.05	119.84
3	CD	28	SER	C-N-CA	-10.23	107.05	119.84
12	AM	84	ILE	N-CA-C	-10.18	103.43	113.20
23	CY	394	ALA	CA-C-N	10.13	132.50	119.84
23	CY	394	ALA	C-N-CA	10.13	132.50	119.84
44	BY	73	ARG	CA-C-N	10.01	132.35	119.84
44	BY	73	ARG	C-N-CA	10.01	132.35	119.84
57	B1	18	ILE	N-CA-C	9.99	122.71	108.42
34	BO	47	ILE	CA-C-N	9.91	132.22	119.84
34	BO	47	ILE	C-N-CA	9.91	132.22	119.84
23	CY	84	THR	CA-C-N	-9.81	111.74	121.65
23	CY	84	THR	C-N-CA	-9.81	111.74	121.65
23	AY	502	GLY	O-C-N	9.78	135.41	122.70
27	DE	52	LEU	CA-C-N	9.70	131.97	119.84
27	DE	52	LEU	C-N-CA	9.70	131.97	119.84
28	DF	174	VAL	N-CA-C	-9.68	95.69	109.63
23	AY	503	GLY	O-C-N	-9.64	110.17	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
27	BE	65	GLY	N-CA-C	-9.60	100.66	113.24
10	CK	38	ASN	CA-C-N	9.56	129.63	119.78
10	CK	38	ASN	C-N-CA	9.56	129.63	119.78
27	BE	52	LEU	CA-C-N	9.53	131.76	119.84
27	BE	52	LEU	C-N-CA	9.53	131.76	119.84
57	D1	11	ARG	CA-C-N	9.45	131.65	119.84
57	D1	11	ARG	C-N-CA	9.45	131.65	119.84
57	D1	17	SER	N-CA-C	-9.37	97.30	110.50
23	AY	515	GLU	CA-C-N	9.31	131.48	119.84
23	AY	515	GLU	C-N-CA	9.31	131.48	119.84
16	CQ	60	ILE	N-CA-C	9.27	121.28	107.75
16	AQ	60	ILE	N-CA-C	9.01	121.11	107.77
23	AY	394	ALA	CA-C-N	8.94	131.01	119.84
23	AY	394	ALA	C-N-CA	8.94	131.01	119.84
25	BC	63	VAL	N-CA-C	8.83	122.45	108.85
28	DF	19	GLU	N-CA-C	8.71	121.57	110.24
1	CB	169	LYS	N-CA-C	-8.71	101.75	111.07
2	CC	6	HIS	CA-C-N	8.69	128.01	118.97
2	CC	6	HIS	C-N-CA	8.69	128.01	118.97
27	BE	125	GLY	CA-C-N	8.66	130.67	119.84
27	BE	125	GLY	C-N-CA	8.66	130.67	119.84
27	DE	65	GLY	N-CA-C	-8.41	102.22	113.24
3	AD	28	SER	CA-C-N	-8.35	109.41	119.84
3	AD	28	SER	C-N-CA	-8.35	109.41	119.84
23	AY	255	ILE	CA-C-N	-8.32	113.08	123.15
23	AY	255	ILE	C-N-CA	-8.32	113.08	123.15
23	CY	255	ILE	CA-C-N	-8.30	113.72	122.85
23	CY	255	ILE	C-N-CA	-8.30	113.72	122.85
38	DS	97	ARG	N-CA-C	-8.18	100.80	111.02
57	D1	43	TYR	N-CA-C	8.12	117.67	108.25
28	BF	191	ARG	N-CA-C	8.10	124.62	107.70
38	BS	99	LYS	N-CA-C	-8.10	102.40	111.07
25	DC	220	GLY	CA-C-N	7.98	129.82	119.84
25	DC	220	GLY	C-N-CA	7.98	129.82	119.84
7	CH	26	VAL	CA-C-N	7.95	129.78	119.84
7	CH	26	VAL	C-N-CA	7.95	129.78	119.84
1	AB	185	ILE	N-CA-C	-7.94	99.24	109.80
1	CB	172	ILE	N-CA-C	-7.92	102.72	110.72
10	AK	110	ASP	N-CA-C	-7.89	104.18	113.88
25	BC	51	ASP	CA-C-N	7.89	129.70	119.84
25	BC	51	ASP	C-N-CA	7.89	129.70	119.84
27	DE	125	GLY	CA-C-N	7.84	129.64	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
27	DE	125	GLY	C-N-CA	7.84	129.64	119.84
28	BF	155	LEU	N-CA-C	-7.81	94.16	110.80
1	AB	188	ALA	N-CA-C	7.80	119.00	108.23
25	BC	220	GLY	CA-C-N	7.75	128.78	120.11
25	BC	220	GLY	C-N-CA	7.75	128.78	120.11
23	CY	286	ILE	CA-C-N	7.74	128.36	120.38
23	CY	286	ILE	C-N-CA	7.74	128.36	120.38
38	DS	12	PHE	N-CA-C	-7.74	100.86	112.54
39	DT	76	PHE	CA-C-N	7.73	129.50	119.84
39	DT	76	PHE	C-N-CA	7.73	129.50	119.84
11	CL	101	VAL	N-CA-C	7.73	118.61	112.12
3	CD	196	LEU	CA-C-N	7.64	129.39	119.84
3	CD	196	LEU	C-N-CA	7.64	129.39	119.84
57	B1	11	ARG	CA-C-N	7.59	129.32	119.84
57	B1	11	ARG	C-N-CA	7.59	129.32	119.84
39	DT	130	ALA	N-CA-C	-7.55	104.07	113.28
11	AL	33	ARG	N-CA-C	7.54	121.65	110.48
26	BD	177	LEU	CA-C-N	7.53	129.25	119.84
26	BD	177	LEU	C-N-CA	7.53	129.25	119.84
25	BC	182	PRO	N-CA-C	7.49	119.84	110.70
44	BY	65	ALA	CA-C-N	7.49	129.20	119.84
44	BY	65	ALA	C-N-CA	7.49	129.20	119.84
28	DF	155	LEU	N-CA-C	-7.48	94.86	110.80
23	CY	621	ILE	N-CA-C	-7.45	103.20	110.72
18	CS	73	GLU	N-CA-C	-7.44	104.05	113.72
10	AK	112	THR	CA-C-N	7.44	129.13	119.84
10	AK	112	THR	C-N-CA	7.44	129.13	119.84
28	BF	174	VAL	N-CA-C	-7.42	98.05	109.78
1	AB	68	ILE	CA-C-N	-7.41	112.20	122.87
1	AB	68	ILE	C-N-CA	-7.41	112.20	122.87
33	BN	5	VAL	CB-CA-C	-7.39	104.06	111.08
44	DY	65	ALA	CA-C-N	7.39	129.07	119.84
44	DY	65	ALA	C-N-CA	7.39	129.07	119.84
23	AY	517	LEU	CA-C-N	7.37	129.06	119.84
23	AY	517	LEU	C-N-CA	7.37	129.06	119.84
6	CG	150	ALA	N-CA-C	-7.37	103.76	112.89
39	BT	13	ARG	N-CA-C	-7.35	104.28	113.18
25	DC	65	LEU	CA-C-N	7.30	128.96	119.84
25	DC	65	LEU	C-N-CA	7.30	128.96	119.84
1	AB	161	ALA	CA-C-N	-7.29	110.54	122.57
1	AB	161	ALA	C-N-CA	-7.29	110.54	122.57
25	DC	63	VAL	N-CA-C	7.28	120.73	108.86

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	BC	138	LEU	CA-C-N	7.22	128.86	119.84
25	BC	138	LEU	C-N-CA	7.22	128.86	119.84
4	CE	69	VAL	N-CA-C	7.20	115.27	108.15
16	CQ	59	ILE	CA-C-N	-7.17	113.56	123.10
16	CQ	59	ILE	C-N-CA	-7.17	113.56	123.10
36	BQ	104	PHE	N-CA-C	7.15	120.22	108.99
27	BE	38	THR	CA-C-N	7.13	128.75	119.84
27	BE	38	THR	C-N-CA	7.13	128.75	119.84
28	BF	19	GLU	N-CA-C	7.13	119.77	110.43
35	DP	53	GLY	N-CA-C	-7.13	105.23	115.64
1	CB	68	ILE	CA-C-N	-7.11	113.51	123.03
1	CB	68	ILE	C-N-CA	-7.11	113.51	123.03
29	DG	114	ILE	CB-CA-C	-7.10	103.78	111.59
38	DS	16	ASN	N-CA-C	-7.10	103.55	111.71
52	D8	62	LEU	CA-C-N	-7.07	111.00	119.84
52	D8	62	LEU	C-N-CA	-7.07	111.00	119.84
26	DD	177	LEU	CA-C-N	7.04	128.63	119.84
26	DD	177	LEU	C-N-CA	7.04	128.63	119.84
28	DF	191	ARG	N-CA-C	7.03	122.36	107.67
25	BC	65	LEU	CA-C-N	7.00	128.58	119.84
25	BC	65	LEU	C-N-CA	7.00	128.58	119.84
57	B1	17	SER	N-CA-C	-6.99	100.70	110.35
59	DA	1007	C	N1-C1'-C2'	6.98	122.47	112.00
1	CB	187	LEU	N-CA-C	6.97	121.03	108.48
18	CS	41	VAL	CA-C-N	6.97	128.56	119.84
18	CS	41	VAL	C-N-CA	6.97	128.56	119.84
38	BS	12	PHE	N-CA-C	-6.95	101.81	112.99
11	AL	54	LYS	CB-CA-C	-6.90	107.58	115.79
38	DS	99	LYS	N-CA-C	-6.89	103.70	111.07
28	DF	170	LEU	CA-C-N	6.87	128.43	119.84
28	DF	170	LEU	C-N-CA	6.87	128.43	119.84
32	DK	23	VAL	N-CA-C	-6.86	106.04	112.83
27	DE	76	ARG	N-CA-C	-6.86	105.70	112.97
7	AH	26	VAL	CA-C-N	6.85	128.40	119.84
7	AH	26	VAL	C-N-CA	6.85	128.40	119.84
45	DZ	176	PRO	CA-C-N	6.84	126.80	120.03
45	DZ	176	PRO	C-N-CA	6.84	126.80	120.03
48	D3	40	THR	CA-C-N	6.82	128.36	119.84
48	D3	40	THR	C-N-CA	6.82	128.36	119.84
25	DC	140	ASN	CA-C-N	6.80	128.34	119.84
25	DC	140	ASN	C-N-CA	6.80	128.34	119.84
35	BP	53	GLY	N-CA-C	-6.80	105.94	115.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
44	BY	55	TYR	CA-C-N	6.80	128.34	119.84
44	BY	55	TYR	C-N-CA	6.80	128.34	119.84
25	BC	140	ASN	CA-C-N	6.78	128.31	119.84
25	BC	140	ASN	C-N-CA	6.78	128.31	119.84
49	B5	31	VAL	CA-C-N	6.76	126.72	119.76
49	B5	31	VAL	C-N-CA	6.76	126.72	119.76
26	DD	245	PRO	CA-C-N	6.75	128.28	119.84
26	DD	245	PRO	C-N-CA	6.75	128.28	119.84
57	B1	30	VAL	N-CA-C	-6.75	106.14	112.83
26	DD	218	ARG	CA-C-N	6.75	128.28	119.84
26	DD	218	ARG	C-N-CA	6.75	128.28	119.84
25	DC	164	PHE	N-CA-C	6.72	120.59	110.64
57	D1	42	GLN	N-CA-C	6.71	118.60	108.46
1	CB	188	ALA	N-CA-C	6.69	117.07	108.24
41	DV	35	LEU	CA-C-N	6.68	128.20	119.84
41	DV	35	LEU	C-N-CA	6.68	128.20	119.84
28	DF	195	ASP	N-CA-C	-6.68	101.27	110.35
44	DY	73	ARG	CA-C-N	6.66	128.17	119.84
44	DY	73	ARG	C-N-CA	6.66	128.17	119.84
16	AQ	59	ILE	CA-C-N	-6.66	113.52	122.98
16	AQ	59	ILE	C-N-CA	-6.66	113.52	122.98
25	DC	182	PRO	N-CA-C	6.66	118.83	110.70
33	DN	87	LEU	N-CA-C	-6.64	104.04	111.28
41	BV	35	LEU	CA-C-N	6.64	128.14	119.84
41	BV	35	LEU	C-N-CA	6.64	128.14	119.84
32	DK	86	LYS	N-CA-C	-6.61	105.37	113.50
23	CY	515	GLU	CA-C-N	6.60	127.86	120.66
23	CY	515	GLU	C-N-CA	6.60	127.86	120.66
25	BC	12	LEU	N-CA-C	-6.60	104.16	112.93
3	AD	31	CYS	N-CA-C	-6.59	102.34	110.65
39	BT	79	HIS	N-CA-C	6.58	123.94	114.39
25	DC	154	ILE	N-CA-C	-6.58	104.07	110.72
1	CB	161	ALA	CA-C-N	-6.57	110.14	121.97
1	CB	161	ALA	C-N-CA	-6.57	110.14	121.97
37	DR	34	ILE	N-CA-C	6.54	117.54	108.12
1	CB	185	ILE	N-CA-C	-6.50	100.27	109.63
8	CI	59	PHE	N-CA-C	6.49	119.29	109.23
47	D2	17	SER	CA-C-N	6.48	127.94	119.84
47	D2	17	SER	C-N-CA	6.48	127.94	119.84
28	BF	6	VAL	N-CA-C	-6.47	104.02	110.62
39	BT	76	PHE	CA-C-N	6.44	127.89	119.84
39	BT	76	PHE	C-N-CA	6.44	127.89	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
44	DY	76	CYS	CA-C-N	6.44	127.89	119.84
44	DY	76	CYS	C-N-CA	6.44	127.89	119.84
25	DC	51	ASP	CA-C-N	6.43	127.88	119.84
25	DC	51	ASP	C-N-CA	6.43	127.88	119.84
59	BA	1007	C	C5'-C4'-C3'	6.42	124.83	115.20
38	BS	16	ASN	N-CA-C	-6.40	104.57	112.38
37	BR	34	ILE	N-CA-C	6.40	117.33	108.12
27	BE	148	GLY	N-CA-C	-6.39	106.42	115.30
26	BD	218	ARG	CA-C-N	6.37	127.81	119.84
26	BD	218	ARG	C-N-CA	6.37	127.81	119.84
11	CL	47	LYS	CA-C-N	-6.37	111.88	119.84
11	CL	47	LYS	C-N-CA	-6.37	111.88	119.84
57	D1	39	LYS	N-CA-C	6.31	118.77	109.24
33	BN	10	GLU	CA-C-N	6.28	127.69	119.84
33	BN	10	GLU	C-N-CA	6.28	127.69	119.84
33	BN	134	ARG	CB-CA-C	6.28	116.47	111.00
28	DF	190	GLU	CA-C-N	-6.28	113.57	123.24
28	DF	190	GLU	C-N-CA	-6.28	113.57	123.24
25	DC	46	ALA	N-CA-C	6.28	120.05	109.76
23	AY	621	ILE	N-CA-C	-6.27	104.22	110.62
38	DS	95	HIS	N-CA-C	-6.26	104.81	112.88
27	DE	61	ARG	CA-C-N	-6.26	112.02	119.84
27	DE	61	ARG	C-N-CA	-6.26	112.02	119.84
52	D8	47	LYS	N-CA-C	6.25	113.91	108.78
11	AL	55	VAL	CB-CA-C	-6.22	101.08	111.29
26	BD	120	GLY	CA-C-N	6.22	127.61	119.84
26	BD	120	GLY	C-N-CA	6.22	127.61	119.84
28	DF	156	LEU	CA-C-N	-6.21	111.71	120.35
28	DF	156	LEU	C-N-CA	-6.21	111.71	120.35
23	AY	280	LEU	CA-C-N	6.21	126.23	119.90
23	AY	280	LEU	C-N-CA	6.21	126.23	119.90
29	DG	114	ILE	N-CA-C	6.20	116.80	110.05
27	DE	143	ASN	N-CA-C	6.18	123.96	110.80
27	BE	61	ARG	CA-C-N	-6.17	112.12	119.84
27	BE	61	ARG	C-N-CA	-6.17	112.12	119.84
28	DF	190	GLU	N-CA-C	6.15	121.64	114.62
57	D1	40	ARG	N-CA-C	6.15	123.90	110.80
35	DP	144	GLU	CA-C-N	6.14	127.52	119.84
35	DP	144	GLU	C-N-CA	6.14	127.52	119.84
57	D1	33	LYS	N-CA-C	-6.14	103.87	113.02
57	B1	41	ARG	N-CA-C	6.13	117.84	108.52
23	CY	132	ARG	N-CA-C	6.11	118.58	108.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
18	CS	41	VAL	N-CA-C	6.10	122.06	108.88
33	DN	128	HIS	CA-C-N	-6.10	112.22	119.84
33	DN	128	HIS	C-N-CA	-6.10	112.22	119.84
26	DD	242	ARG	CB-CA-C	-6.09	109.56	116.63
11	AL	26	ALA	N-CA-C	-6.08	105.35	112.89
25	BC	152	GLU	N-CA-C	-6.08	104.72	111.71
39	DT	79	HIS	N-CA-C	6.07	123.48	113.89
1	AB	169	LYS	N-CA-C	-6.07	103.62	111.02
11	CL	26	ALA	N-CA-C	-6.07	105.84	113.18
4	AE	113	ALA	N-CA-C	-6.05	105.19	113.30
1	AB	185	ILE	O-C-N	6.05	129.04	122.57
28	BF	170	LEU	CA-C-N	6.05	127.40	119.84
28	BF	170	LEU	C-N-CA	6.05	127.40	119.84
39	BT	30	VAL	N-CA-C	6.05	121.92	109.34
4	AE	48	ALA	CA-C-N	6.04	127.39	119.84
4	AE	48	ALA	C-N-CA	6.04	127.39	119.84
26	BD	75	ILE	CA-C-N	6.04	127.39	119.84
26	BD	75	ILE	C-N-CA	6.04	127.39	119.84
35	BP	71	VAL	CA-C-N	-6.04	113.76	121.91
35	BP	71	VAL	C-N-CA	-6.04	113.76	121.91
25	BC	148	PHE	N-CA-C	-6.03	106.56	114.04
28	DF	6	VAL	N-CA-C	-6.03	105.87	112.80
33	BN	110	GLY	CA-C-N	6.02	127.37	119.84
33	BN	110	GLY	C-N-CA	6.02	127.37	119.84
28	DF	157	VAL	CB-CA-C	6.02	119.93	111.08
11	AL	41	ARG	N-CA-C	6.00	116.88	108.00
32	BK	71	THR	CA-C-N	5.99	126.55	120.38
32	BK	71	THR	C-N-CA	5.99	126.55	120.38
36	DQ	104	PHE	N-CA-C	5.99	118.28	109.24
27	BE	31	CYS	CA-C-N	5.98	127.32	119.84
27	BE	31	CYS	C-N-CA	5.98	127.32	119.84
38	BS	97	ARG	N-CA-C	-5.97	103.56	111.02
1	AB	187	LEU	N-CA-C	5.96	119.25	108.69
57	B1	43	TYR	CB-CA-C	5.96	118.14	109.20
23	CY	657	THR	N-CA-C	-5.95	105.10	112.72
25	DC	47	LYS	N-CA-C	5.94	118.12	108.26
25	DC	138	LEU	CA-C-N	5.93	127.25	119.84
25	DC	138	LEU	C-N-CA	5.93	127.25	119.84
10	CK	39	PRO	N-CA-C	5.92	120.63	111.21
38	BS	95	HIS	N-CA-C	-5.92	105.88	112.57
1	CB	185	ILE	O-C-N	5.92	128.90	122.63
27	BE	80	GLU	N-CA-C	5.91	118.06	108.26

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
28	BF	156	LEU	CA-C-N	-5.90	112.59	120.50
28	BF	156	LEU	C-N-CA	-5.90	112.59	120.50
40	DU	96	ALA	N-CA-C	-5.90	104.98	111.82
44	DY	55	TYR	CA-C-N	5.90	127.21	119.84
44	DY	55	TYR	C-N-CA	5.90	127.21	119.84
38	BS	72	ALA	N-CA-C	-5.89	104.77	111.07
28	BF	153	SER	N-CA-C	5.87	118.12	110.43
44	BY	61	ILE	N-CA-C	5.87	116.10	108.35
57	B1	43	TYR	CA-C-N	5.87	127.18	119.84
57	B1	43	TYR	C-N-CA	5.87	127.18	119.84
10	CK	110	ASP	N-CA-C	-5.87	106.77	114.04
57	D1	19	GLN	N-CA-C	-5.86	98.32	110.80
1	AB	16	HIS	N-CA-C	5.85	118.01	108.76
25	DC	215	VAL	CB-CA-C	-5.85	101.70	111.29
25	BC	31	LYS	N-CA-C	-5.84	104.82	111.07
34	BO	71	ARG	CA-C-N	5.83	127.13	119.84
34	BO	71	ARG	C-N-CA	5.83	127.13	119.84
23	CY	163	VAL	CB-CA-C	-5.83	102.85	111.19
11	CL	18	VAL	N-CA-C	5.83	116.29	110.23
14	AO	18	PHE	CA-C-N	5.83	127.12	119.84
14	AO	18	PHE	C-N-CA	5.83	127.12	119.84
11	CL	81	SER	N-CA-C	5.81	123.18	110.80
33	BN	38	HIS	N-CA-C	-5.81	106.32	113.41
33	BN	50	ASP	N-CA-C	5.80	119.00	110.30
39	DT	30	VAL	N-CA-C	5.80	121.41	109.34
41	DV	47	VAL	N-CA-C	5.80	112.41	106.21
28	BF	156	LEU	N-CA-C	-5.79	98.46	110.80
16	CQ	46	ASP	CA-C-N	5.79	125.47	119.56
16	CQ	46	ASP	C-N-CA	5.79	125.47	119.56
28	DF	29	ASN	CA-C-N	5.79	125.26	119.24
28	DF	29	ASN	C-N-CA	5.79	125.26	119.24
11	CL	93	LEU	CA-C-N	5.78	127.07	119.84
11	CL	93	LEU	C-N-CA	5.78	127.07	119.84
11	AL	46	LYS	CB-CA-C	-5.78	109.90	116.54
38	DS	107	GLU	N-CA-C	-5.77	105.83	112.86
44	DY	40	GLU	N-CA-C	-5.76	104.49	112.03
1	AB	30	ARG	N-CA-C	-5.75	106.22	113.18
28	BF	172	TRP	N-CA-C	-5.74	98.57	110.80
38	BS	49	VAL	N-CA-C	5.73	116.40	107.28
32	DK	5	VAL	N-CA-C	5.73	121.26	109.34
48	D3	15	TYR	CA-C-N	5.73	127.00	119.84
48	D3	15	TYR	C-N-CA	5.73	127.00	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	AY	489	LYS	N-CA-C	5.72	114.89	108.25
16	CQ	44	ALA	CA-C-N	-5.72	115.10	123.00
16	CQ	44	ALA	C-N-CA	-5.72	115.10	123.00
23	AY	132	ARG	N-CA-C	5.72	118.39	109.52
29	BG	113	ARG	CA-C-N	-5.72	113.13	121.71
29	BG	113	ARG	C-N-CA	-5.72	113.13	121.71
10	AK	30	VAL	N-CA-C	5.72	116.79	106.61
44	DY	81	LYS	CA-C-N	5.72	126.99	119.84
44	DY	81	LYS	C-N-CA	5.72	126.99	119.84
57	B1	13	ILE	CB-CA-C	5.71	119.31	110.28
25	DC	16	ASP	CA-C-N	5.70	126.97	119.84
25	DC	16	ASP	C-N-CA	5.70	126.97	119.84
25	DC	15	VAL	N-CA-C	5.70	116.71	111.81
11	AL	46	LYS	N-CA-C	5.69	116.96	108.31
12	AM	40	ASN	CA-C-N	5.69	124.89	118.97
12	AM	40	ASN	C-N-CA	5.69	124.89	118.97
38	DS	103	GLU	N-CA-C	-5.69	105.08	111.28
45	BZ	141	VAL	N-CA-C	-5.69	107.23	113.43
57	B1	40	ARG	N-CA-C	5.69	122.91	110.80
25	DC	223	VAL	N-CA-C	5.68	121.16	109.34
16	AQ	44	ALA	CA-C-N	-5.68	115.21	122.77
16	AQ	44	ALA	C-N-CA	-5.68	115.21	122.77
33	BN	128	HIS	CA-C-N	-5.67	112.76	119.84
33	BN	128	HIS	C-N-CA	-5.67	112.76	119.84
25	DC	211	ARG	N-CA-C	-5.67	100.92	108.34
1	AB	32	ILE	N-CA-C	5.66	116.43	108.17
54	Be	82	THR	N-CA-C	-5.66	107.38	114.56
23	CY	130	VAL	CA-C-N	5.66	125.94	119.83
23	CY	130	VAL	C-N-CA	5.66	125.94	119.83
1	AB	163	PHE	O-C-N	5.64	129.40	123.03
14	AO	14	GLU	N-CA-C	-5.63	106.45	113.55
23	AY	503	GLY	CA-C-N	5.62	131.56	121.66
23	AY	503	GLY	C-N-CA	5.62	131.56	121.66
28	BF	190	GLU	CA-C-N	-5.62	114.86	122.95
28	BF	190	GLU	C-N-CA	-5.62	114.86	122.95
41	DV	96	ILE	N-CA-C	5.60	120.98	109.34
32	BK	86	LYS	N-CA-C	-5.59	107.10	114.31
23	AY	614	GLU	N-CA-C	5.58	117.44	111.36
37	DR	102	GLU	CB-CA-C	-5.58	110.16	116.63
52	D8	54	GLU	N-CA-C	-5.58	104.89	110.97
59	DA	1022	G	C2'-C3'-O3'	5.58	117.87	109.50
4	CE	127	ASN	CA-C-N	5.57	125.93	119.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	CE	127	ASN	C-N-CA	5.57	125.93	119.47
18	AS	70	LYS	N-CA-C	5.57	122.66	110.80
6	AG	87	VAL	N-CA-C	5.57	116.50	107.71
23	CY	614	GLU	N-CA-C	5.57	122.66	110.80
39	BT	130	ALA	N-CA-C	-5.56	105.99	112.89
45	DZ	4	ARG	N-CA-C	5.56	118.69	109.46
57	D1	18	ILE	N-CA-C	5.55	120.89	109.34
54	De	72	LEU	N-CA-C	-5.55	105.29	113.61
26	BD	79	VAL	N-CA-C	5.54	120.87	109.34
16	CQ	27	PHE	CA-C-N	-5.54	112.91	119.84
16	CQ	27	PHE	C-N-CA	-5.54	112.91	119.84
11	AL	44	THR	CA-C-N	5.54	127.99	120.79
11	AL	44	THR	C-N-CA	5.54	127.99	120.79
1	AB	182	ILE	CA-C-N	5.54	126.76	119.84
1	AB	182	ILE	C-N-CA	5.54	126.76	119.84
28	BF	7	TYR	N-CA-C	-5.53	99.01	110.80
12	AM	122	LYS	N-CA-C	5.53	115.86	108.23
8	AI	14	VAL	N-CA-C	5.52	115.28	106.88
26	BD	167	GLY	N-CA-C	5.52	119.34	111.12
25	BC	174	ALA	CA-C-N	5.51	126.73	119.84
25	BC	174	ALA	C-N-CA	5.51	126.73	119.84
11	AL	45	PRO	CB-CA-C	-5.51	107.24	111.87
2	CC	74	GLY	N-CA-C	5.51	118.89	112.50
59	DA	1022	G	P-O3'-C3'	5.51	128.46	120.20
18	AS	41	VAL	CA-C-N	5.49	126.70	119.84
18	AS	41	VAL	C-N-CA	5.49	126.70	119.84
57	B1	17	SER	CA-C-N	-5.49	114.33	122.23
57	B1	17	SER	C-N-CA	-5.49	114.33	122.23
29	DG	113	ARG	CA-C-N	-5.48	113.11	120.95
29	DG	113	ARG	C-N-CA	-5.48	113.11	120.95
45	DZ	107	THR	CA-C-N	5.48	126.69	119.84
45	DZ	107	THR	C-N-CA	5.48	126.69	119.84
26	DD	35	LYS	CA-C-N	5.48	126.69	119.84
26	DD	35	LYS	C-N-CA	5.48	126.69	119.84
13	CN	53	LEU	CA-C-N	5.47	125.67	120.31
13	CN	53	LEU	C-N-CA	5.47	125.67	120.31
29	BG	111	LEU	N-CA-CB	-5.46	100.65	110.37
27	BE	23	VAL	N-CA-C	5.45	115.44	107.37
27	BE	102	VAL	N-CA-C	5.45	115.18	108.53
16	CQ	21	VAL	N-CA-C	5.45	115.70	107.75
32	BK	90	LYS	CA-C-N	5.44	125.15	119.82
32	BK	90	LYS	C-N-CA	5.44	125.15	119.82

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	BC	16	ASP	CA-C-N	5.43	126.63	119.84
25	BC	16	ASP	C-N-CA	5.43	126.63	119.84
35	DP	142	GLY	N-CA-C	5.43	117.95	110.56
26	DD	231	HIS	CA-C-N	5.43	126.63	119.84
26	DD	231	HIS	C-N-CA	5.43	126.63	119.84
57	D1	13	ILE	N-CA-C	5.42	116.17	108.42
27	DE	148	GLY	N-CA-C	-5.42	108.15	115.36
45	DZ	141	VAL	N-CA-C	-5.42	108.00	113.47
18	CS	49	ILE	CB-CA-C	-5.41	104.91	111.88
25	BC	223	VAL	N-CA-C	5.41	120.58	109.34
28	BF	29	ASN	CA-C-N	5.40	126.59	119.84
28	BF	29	ASN	C-N-CA	5.40	126.59	119.84
35	BP	59	LEU	N-CA-C	-5.40	106.64	113.18
54	Be	87	LYS	CG-CD-CE	-5.40	98.88	111.30
18	AS	60	VAL	N-CA-C	5.40	115.63	107.80
58	B4	3	GLU	CB-CA-C	-5.40	110.37	116.63
26	DD	227	ASN	CA-C-N	5.40	126.59	119.84
26	DD	227	ASN	C-N-CA	5.40	126.59	119.84
59	BA	1007	C	N1-C1'-C2'	5.40	122.09	114.00
47	B2	6	VAL	N-CA-C	-5.39	105.46	110.53
35	BP	16	ARG	N-CA-C	-5.38	107.27	113.88
44	BY	100	ALA	N-CA-C	5.38	117.83	109.60
23	AY	166	LEU	CA-C-N	5.38	125.67	119.92
23	AY	166	LEU	C-N-CA	5.38	125.67	119.92
18	CS	75	ALA	CA-C-N	5.37	125.08	119.82
18	CS	75	ALA	C-N-CA	5.37	125.08	119.82
23	AY	162	VAL	CA-C-N	5.37	131.23	122.69
23	AY	162	VAL	C-N-CA	5.37	131.23	122.69
25	DC	226	ASN	CA-C-N	5.37	126.55	119.84
25	DC	226	ASN	C-N-CA	5.37	126.55	119.84
58	D4	3	GLU	CB-CA-C	-5.37	110.37	116.54
11	AL	29	GLY	N-CA-C	-5.36	106.65	114.90
20	CA	186(J)	G	OP2-P-O3'	5.35	116.97	105.20
38	BS	106	ARG	N-CA-C	5.35	122.19	110.80
25	BC	181	PHE	CA-C-N	5.35	125.89	120.38
25	BC	181	PHE	C-N-CA	5.35	125.89	120.38
5	AF	50	TYR	CA-C-N	5.35	126.52	119.84
5	AF	50	TYR	C-N-CA	5.35	126.52	119.84
33	DN	115	ARG	N-CA-C	-5.33	105.47	111.28
50	B6	8	LYS	N-CA-C	-5.33	105.92	112.90
57	B1	19	GLN	N-CA-C	-5.33	99.46	110.80
26	BD	51	VAL	N-CA-C	5.32	115.42	110.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	DC	181	PHE	CA-C-N	5.31	125.85	120.38
25	DC	181	PHE	C-N-CA	5.31	125.85	120.38
49	B5	21	SER	N-CA-C	-5.30	104.93	111.40
50	D6	21	TYR	N-CA-C	5.30	117.92	109.81
43	BX	31	HIS	CA-C-N	5.29	124.74	119.24
43	BX	31	HIS	C-N-CA	5.29	124.74	119.24
59	BA	2040	C	P-O3'-C3'	5.29	128.13	120.20
20	CA	115	G	C2'-C3'-O3'	5.28	117.42	109.50
28	BF	190	GLU	N-CA-C	5.28	122.04	110.80
23	CY	426	GLN	N-CA-C	-5.27	105.61	111.36
23	AY	598	ASP	CA-C-N	5.27	126.42	119.84
23	AY	598	ASP	C-N-CA	5.27	126.42	119.84
8	CI	126	SER	O-C-N	5.26	125.44	120.71
17	CR	57	GLY	N-CA-C	-5.26	107.41	114.25
3	CD	171	GLY	CA-C-N	5.25	126.41	119.84
3	CD	171	GLY	C-N-CA	5.25	126.41	119.84
29	DG	52	ILE	N-CA-C	-5.25	105.20	112.50
33	BN	37	LYS	N-CA-C	5.24	119.16	112.87
11	CL	105	TYR	N-CA-C	-5.24	105.55	112.94
58	B4	6	HIS	CA-C-N	5.24	126.38	119.84
58	B4	6	HIS	C-N-CA	5.24	126.38	119.84
57	B1	14	VAL	N-CA-C	5.23	116.01	108.48
26	DD	96	HIS	N-CA-C	-5.23	102.54	110.28
7	AH	100	ILE	CA-C-N	5.21	125.95	120.11
7	AH	100	ILE	C-N-CA	5.21	125.95	120.11
32	DK	20	ALA	CA-C-N	5.21	125.75	120.38
32	DK	20	ALA	C-N-CA	5.21	125.75	120.38
36	BQ	72	LYS	CA-C-N	5.21	126.64	120.23
36	BQ	72	LYS	C-N-CA	5.21	126.64	120.23
28	BF	195	ASP	N-CA-C	-5.21	102.81	110.52
54	Be	97	GLY	CA-C-N	5.21	125.68	120.52
54	Be	97	GLY	C-N-CA	5.21	125.68	120.52
41	BV	27	ALA	CA-C-O	5.21	120.96	117.94
27	BE	76	ARG	N-CA-C	-5.20	106.79	112.72
23	CY	612	THR	CA-C-N	5.20	125.45	119.83
23	CY	612	THR	C-N-CA	5.20	125.45	119.83
20	AA	115	G	C2'-C3'-O3'	5.20	117.30	109.50
52	D8	47	LYS	CB-CA-C	-5.20	109.58	117.07
42	DW	71	VAL	N-CA-C	5.20	116.18	108.23
28	DF	156	LEU	N-CA-C	-5.20	99.73	110.80
30	BH	151	ILE	N-CA-C	-5.19	106.08	111.58
45	BZ	122	ARG	N-CA-C	-5.19	105.52	111.07

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
42	DW	12	ILE	N-CA-C	5.18	120.11	109.34
42	BW	71	VAL	N-CA-C	5.18	116.15	108.23
57	B1	54	ALA	CB-CA-C	-5.17	110.59	116.54
2	AC	9	GLY	N-CA-C	-5.17	108.55	115.32
45	BZ	124	ILE	N-CA-C	5.16	115.90	108.48
23	AY	328	ILE	N-CA-C	5.15	117.26	108.86
29	BG	111	LEU	N-CA-C	5.15	121.19	109.81
23	CY	162	VAL	CA-C-N	5.14	129.86	122.45
23	CY	162	VAL	C-N-CA	5.14	129.86	122.45
45	BZ	94	GLU	CA-C-N	5.14	126.27	119.84
45	BZ	94	GLU	C-N-CA	5.14	126.27	119.84
34	DO	86	ILE	N-CA-C	5.13	115.71	109.30
48	D3	6	VAL	N-CA-C	5.13	116.10	108.46
57	B1	13	ILE	N-CA-C	5.13	115.66	108.17
46	D0	78	TYR	N-CA-C	5.12	116.97	109.24
2	AC	143	GLU	N-CA-C	-5.12	107.03	113.28
26	DD	233	HIS	N-CA-C	-5.12	107.10	113.55
6	AG	150	ALA	N-CA-C	-5.11	105.79	112.23
25	BC	121	MET	N-CA-C	-5.11	104.79	111.02
41	BV	96	ILE	N-CA-C	5.10	119.96	109.34
10	CK	32	ILE	N-CA-C	-5.09	104.50	110.05
11	AL	35	GLY	N-CA-C	5.09	125.25	113.18
23	AY	84	THR	N-CA-C	5.09	121.06	109.81
23	AY	286	ILE	CA-C-N	5.09	125.62	120.38
23	AY	286	ILE	C-N-CA	5.09	125.62	120.38
26	DD	75	ILE	CA-C-N	5.09	126.20	119.84
26	DD	75	ILE	C-N-CA	5.09	126.20	119.84
27	DE	70	ALA	CB-CA-C	-5.09	110.73	116.63
48	B3	11	SER	N-CA-C	5.08	115.44	109.60
10	CK	30	VAL	N-CA-C	5.08	114.80	106.72
43	BX	6	ASP	N-CA-C	-5.08	105.82	112.72
41	DV	49	THR	CA-C-N	5.07	126.18	119.84
41	DV	49	THR	C-N-CA	5.07	126.18	119.84
26	BD	240	ALA	N-CA-C	5.07	115.81	109.57
23	AY	618	GLY	N-CA-C	-5.07	106.51	112.64
34	BO	100	GLY	CA-C-N	5.07	125.86	119.98
34	BO	100	GLY	C-N-CA	5.07	125.86	119.98
1	AB	127	ILE	N-CA-C	-5.06	106.98	112.80
30	DH	125	VAL	CA-C-N	5.06	124.36	118.85
30	DH	125	VAL	C-N-CA	5.06	124.36	118.85
57	D1	18	ILE	N-CA-CB	-5.06	102.88	111.23
19	AT	12	ALA	N-CA-C	-5.05	106.90	113.16

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	DC	121	MET	N-CA-C	-5.05	104.86	111.02
28	BF	91	GLY	CA-C-N	5.05	126.15	119.84
28	BF	91	GLY	C-N-CA	5.05	126.15	119.84
25	BC	38	PHE	CB-CA-C	-5.05	109.17	116.54
33	DN	52	VAL	N-CA-C	5.04	115.59	106.61
23	AY	125	ALA	N-CA-C	-5.04	106.22	112.93
4	CE	69	VAL	CB-CA-C	-5.03	106.30	111.08
33	DN	64	GLY	N-CA-C	5.03	120.48	110.77
1	CB	163	PHE	O-C-N	5.03	129.10	122.97
32	BK	5	VAL	N-CA-C	5.03	119.80	109.34
23	AY	316	ILE	CB-CA-C	-5.03	106.95	112.68
26	BD	71	ASP	N-CA-C	-5.02	105.25	111.33
7	CH	66	GLY	CA-C-N	5.02	125.42	119.99
7	CH	66	GLY	C-N-CA	5.02	125.42	119.99
28	DF	153	SER	CA-C-N	-5.02	112.93	121.97
28	DF	153	SER	C-N-CA	-5.02	112.93	121.97
34	DO	47	ILE	CA-C-N	5.02	126.12	119.84
34	DO	47	ILE	C-N-CA	5.02	126.12	119.84
35	DP	16	ARG	N-CA-C	-5.02	108.42	114.75
25	DC	113	ALA	CB-CA-C	-5.02	110.77	116.54
57	D1	21	ARG	N-CA-C	-5.02	100.11	110.80
11	AL	70	ILE	CB-CA-C	-5.01	102.24	111.36
46	D0	44	ARG	N-CA-C	-5.01	107.16	114.12
23	AY	567	LEU	N-CA-C	-5.01	100.14	110.80
50	B6	7	ILE	N-CA-C	-5.01	98.92	109.34
18	AS	49	ILE	CB-CA-C	-5.00	105.03	111.53
10	CK	112	THR	CA-C-N	5.00	126.09	119.84
10	CK	112	THR	C-N-CA	5.00	126.09	119.84

There are no chirality outliers.

All (41) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	AB	162	ILE	Peptide
1	AB	170	GLU	Peptide
1	AB	185	ILE	Peptide
23	AY	133	ILE	Peptide
23	AY	503	GLY	Mainchain
23	AY	506	GLN	Mainchain
57	B1	16	ASN	Peptide
57	B1	18	ILE	Peptide
25	BC	171	ALA	Peptide

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Mol	Chain	Res	Type	Group
26	BD	164	GLN	Peptide
28	BF	154	VAL	Peptide
28	BF	173	VAL	Peptide
29	BG	111	LEU	Mainchain
29	BG	113	ARG	Peptide
31	BJ	83	UNK	Peptide
38	BS	14	VAL	Peptide
38	BS	46	VAL	Peptide
38	BS	98	VAL	Peptide
42	BW	75	TYR	Peptide
1	CB	170	GLU	Peptide
11	CL	32	PHE	Peptide
11	CL	57	LYS	Peptide
23	CY	133	ILE	Peptide
23	CY	503	GLY	Mainchain
57	D1	16	ASN	Peptide
57	D1	17	SER	Peptide
25	DC	161	ARG	Peptide
25	DC	171	ALA	Peptide
25	DC	211	ARG	Peptide
26	DD	164	GLN	Peptide
26	DD	78	LYS	Peptide
28	DF	154	VAL	Peptide
28	DF	173	VAL	Peptide
29	DG	111	LEU	Mainchain
29	DG	113	ARG	Peptide
31	DJ	83	UNK	Peptide
35	DP	57	THR	Peptide
38	DS	14	VAL	Peptide
38	DS	46	VAL	Peptide
38	DS	98	VAL	Peptide
42	DW	75	TYR	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	AB	1910	0	1957	138	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	CB	1910	0	1957	109	0
2	AC	1621	0	1688	90	0
2	CC	1621	0	1688	67	0
3	AD	1703	0	1763	108	0
3	CD	1703	0	1763	109	0
4	AE	1156	0	1213	70	0
4	CE	1156	0	1213	58	0
5	AF	843	0	857	47	0
5	CF	843	0	857	33	0
6	AG	1257	0	1296	55	0
6	CG	1257	0	1296	56	0
7	AH	1116	0	1177	68	0
7	CH	1116	0	1177	73	0
8	AI	1010	0	1037	79	0
8	CI	1010	0	1037	56	0
9	AJ	802	0	849	44	0
9	CJ	802	0	849	48	0
10	AK	885	0	904	56	0
10	CK	885	0	904	61	0
11	AL	976	0	1062	118	0
11	CL	976	0	1062	107	0
12	AM	997	0	1072	69	0
12	CM	997	0	1072	49	0
13	AN	492	0	529	39	0
13	CN	492	0	529	26	0
14	AO	734	0	771	49	0
14	CO	734	0	771	44	0
15	AP	706	0	725	45	0
15	CP	706	0	725	29	0
16	AQ	835	0	904	65	0
16	CQ	835	0	904	60	0
17	AR	574	0	644	39	0
17	CR	574	0	644	39	0
18	AS	634	0	655	37	0
18	CS	634	0	655	45	0
19	AT	763	0	861	39	0
19	CT	763	0	861	38	0
20	AA	32474	0	16393	1005	0
20	CA	32474	0	16393	1037	0
21	AW	1635	0	831	63	0
21	CW	1635	0	831	53	0
22	AV	503	0	252	12	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
22	CV	503	0	252	15	0
23	AY	5219	0	5290	333	0
23	CY	5219	0	5291	334	0
24	AU	48	0	39	1	0
24	CU	48	0	39	3	0
25	BC	1742	0	1798	178	0
25	DC	1742	0	1798	184	0
26	BD	2145	0	2234	209	0
26	DD	2145	0	2234	204	0
27	BE	1569	0	1634	129	0
27	DE	1569	0	1634	122	0
28	BF	1628	0	1680	137	0
28	DF	1628	0	1680	156	0
29	BG	1474	0	1535	74	0
29	DG	1474	0	1535	76	0
30	BH	1274	0	1342	60	0
30	DH	1274	0	1342	52	0
31	BJ	851	0	197	31	0
31	DJ	851	0	193	39	0
32	BK	1035	0	1082	64	0
32	DK	1035	0	1082	59	0
33	BN	1104	0	1180	88	0
33	DN	1104	0	1180	104	0
34	BO	933	0	996	65	0
34	DO	933	0	996	77	0
35	BP	1114	0	1187	89	0
35	DP	1114	0	1187	90	0
36	BQ	1122	0	1179	80	0
36	DQ	1122	0	1179	75	0
37	BR	960	0	1021	71	0
37	DR	960	0	1021	63	0
38	BS	775	0	835	71	0
38	DS	775	0	835	64	0
39	BT	1147	0	1207	104	0
39	DT	1147	0	1207	103	0
40	BU	964	0	1022	89	0
40	DU	964	0	1022	62	1
41	BV	779	0	852	68	0
41	DV	779	0	852	72	0
42	BW	900	0	964	70	0
42	DW	900	0	964	50	0
43	BX	734	0	789	44	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
43	DX	734	0	789	42	0
44	BY	818	0	908	58	0
44	DY	818	0	908	60	0
45	BZ	1473	0	1497	81	0
45	DZ	1473	0	1497	70	0
46	B0	662	0	688	34	0
46	D0	662	0	688	47	0
47	B2	598	0	653	29	0
47	D2	598	0	653	31	0
48	B3	477	0	529	24	0
48	D3	477	0	529	20	0
49	B5	459	0	477	46	0
49	D5	459	0	477	48	0
50	B6	433	0	461	28	0
50	D6	433	0	461	38	0
51	B7	430	0	480	41	0
51	D7	430	0	480	36	0
52	B8	517	0	582	52	0
52	D8	517	0	582	47	0
53	B9	307	0	338	24	0
53	D9	307	0	335	18	0
54	Be	686	0	615	19	0
54	De	686	0	616	27	0
55	Bf	156	0	40	2	0
55	Bg	156	0	41	0	0
55	Df	156	0	40	2	0
55	Dg	156	0	37	0	0
56	Bh	151	0	39	1	0
56	Dh	151	0	40	0	0
57	B1	732	0	808	76	0
57	D1	732	0	808	81	0
58	B4	271	0	284	20	0
58	D4	271	0	284	18	0
59	BA	61997	0	31250	2052	1
59	DA	61997	0	31250	2211	0
60	BB	2551	0	1295	84	0
60	DB	2551	0	1295	85	0
61	AY	37	0	47	6	0
61	CY	37	0	47	7	0
62	AY	28	0	12	12	0
62	CY	28	0	12	13	0
63	BA	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
63	CY	1	0	0	0	0
All	All	308166	0	213086	12592	1

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 24.

All (12592) 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)
23:CY:19:ALA:H	23:CY:25:LYS:CE	1.38	1.34
59:DA:2405:G:H21	59:DA:2412:A:N6	1.28	1.26
23:CY:19:ALA:N	23:CY:25:LYS:HE3	1.49	1.26
59:DA:2405:G:N2	59:DA:2412:A:H62	1.29	1.25
21:AW:15:G:N2	21:AW:48:C:H42	1.36	1.24
21:AW:15:G:H22	21:AW:48:C:N4	1.38	1.21
59:DA:2681:C:N4	59:DA:2725:A:H62	1.35	1.21
23:CY:137:ASN:HD22	23:CY:138:LYS:N	1.35	1.21
59:DA:2681:C:C5	59:DA:2725:A:N6	2.09	1.21
59:BA:2681:C:C5	59:BA:2725:A:N6	2.09	1.20
23:CY:23:ALA:CB	23:CY:24:GLY:HA2	1.66	1.20
59:BA:2681:C:N4	59:BA:2725:A:H62	1.41	1.19
23:CY:23:ALA:HB3	23:CY:24:GLY:CA	1.73	1.18
23:CY:18:ALA:CA	23:CY:25:LYS:HE3	1.71	1.18
20:AA:815:A:N1	20:AA:1508:G:N2	1.93	1.15
23:CY:17:ILE:CG2	23:CY:25:LYS:HB3	1.76	1.15
20:AA:815:A:H2	20:AA:1527:C:O2	1.29	1.15
23:CY:18:ALA:HA	23:CY:25:LYS:HE3	1.19	1.14
23:CY:18:ALA:HA	23:CY:25:LYS:CE	1.76	1.14
23:CY:137:ASN:ND2	23:CY:138:LYS:H	1.46	1.12
23:CY:18:ALA:C	23:CY:25:LYS:HE3	1.75	1.11
20:CA:815:A:N1	20:CA:1508:G:N2	2.00	1.10
21:AW:50:C:N4	21:AW:64:G:H1	1.50	1.08
59:DA:1354:A:N6	59:DA:1377:G:H21	1.50	1.08
59:BA:1311:G:N2	59:BA:1603:A:H62	1.50	1.08
20:CA:815:A:H2	20:CA:1527:C:O2	1.33	1.07
59:DA:137(B):G:H1	59:DA:141(B):C:N4	1.53	1.07
59:BA:2023:G:N1	59:BA:2040:C:O2	1.85	1.07
59:DA:1354:A:H62	59:DA:1377:G:N2	1.53	1.06
59:BA:1802:A:C8	59:BA:1815:A:N6	2.23	1.05
29:BG:107:LEU:HA	29:BG:111:LEU:HD12	1.30	1.05
59:BA:2472:G:N2	59:BA:2478:A:H62	1.53	1.05

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:1413:A:N6	20:AA:1487:G:H1	1.53	1.05
59:BA:2472:G:H21	59:BA:2478:A:N6	1.51	1.05
59:DA:1005:C:N4	59:DA:1138:G:H1	1.54	1.05
59:BA:1354:A:H62	59:BA:1377:G:N2	1.54	1.05
59:BA:1311:G:H21	59:BA:1603:A:N6	1.55	1.04
23:CY:17:ILE:HG22	23:CY:25:LYS:CB	1.88	1.02
23:CY:19:ALA:N	23:CY:25:LYS:CE	2.11	1.02
59:DA:1492:G:H1	59:DA:1498:C:H42	1.04	1.02
59:DA:2699:C:H42	59:DA:2708:G:H1	1.06	1.02
59:BA:2749:A:H62	59:BA:2753:A:N6	1.58	1.02
59:DA:1718:G:H1	59:DA:1741:C:H42	1.08	1.01
59:DA:1005:C:N3	59:DA:1138:G:N2	2.07	1.01
59:DA:1478:G:H1	59:DA:1515:C:N4	1.59	1.01
23:CY:19:ALA:H	23:CY:25:LYS:NZ	1.59	1.01
20:CA:505:G:H1	20:CA:526:C:N4	1.58	1.01
59:DA:2681:C:H5	59:DA:2725:A:H61	1.08	1.00
20:CA:408:A:H2	20:CA:434:U:H3	1.03	1.00
59:DA:2747:G:N2	59:DA:2757:A:H62	1.60	1.00
59:DA:874:G:H1	59:DA:903:C:H42	1.01	1.00
59:DA:850:C:H42	59:DA:928:G:H1	1.06	1.00
59:DA:2103:C:H42	59:DA:2186:G:H1	1.06	1.00
59:BA:1802:A:H8	59:BA:1815:A:N6	1.56	0.99
54:De:84:LEU:O	54:De:87:LYS:HG3	1.61	0.99
59:BA:2023:G:O6	59:BA:2040:C:N3	1.92	0.99
59:BA:1007:C:N3	59:BA:1136:G:O6	1.94	0.99
20:CA:815:A:H61	20:CA:1508:G:H21	1.02	0.99
20:AA:815:A:C2	20:AA:1527:C:O2	2.13	0.99
59:DA:2023:G:N1	59:DA:2040:C:O2	1.95	0.99
59:DA:2293:C:N4	59:DA:2339:G:H1	1.60	0.99
59:BA:1418:G:N2	59:BA:1580:A:H62	1.58	0.99
59:BA:1019:U:O2	59:BA:1020:A:N7	1.95	0.99
59:BA:1354:A:N6	59:BA:1377:G:H21	1.59	0.99
59:DA:415:A:H61	59:DA:2408:U:H3	1.06	0.99
59:DA:998:C:H42	59:DA:1157:G:H1	1.11	0.99
59:DA:2681:C:H41	59:DA:2725:A:N6	1.61	0.99
59:DA:2819:G:H1	59:DA:2827:C:H42	1.11	0.99
20:CA:591:U:H3	20:CA:648:A:H61	1.00	0.98
59:DA:273(G):C:H42	59:DA:363(A):G:H1	1.07	0.98
23:CY:17:ILE:HG22	23:CY:25:LYS:HB3	0.98	0.98
59:DA:1305:C:H42	59:DA:1623:G:H1	1.00	0.98
20:AA:1422:G:H5"	34:BO:48:PRO:HB3	1.40	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:146:G:H1	20:CA:176:C:N4	1.62	0.98
59:DA:2515:C:H42	59:DA:2569:G:H1	1.05	0.98
59:DA:1169:G:H1	59:DA:1180:C:H42	1.07	0.98
59:BA:529:A:H62	59:BA:2041:U:H3	1.08	0.97
59:DA:1039:G:H1	59:DA:1116:C:H42	1.07	0.97
29:DG:113:ARG:CG	58:D4:34:GLU:OE2	2.12	0.97
59:DA:2125:G:N2	59:DA:2173:A:H62	1.61	0.97
60:DB:31:C:H42	60:DB:51:G:H1	1.04	0.97
59:BA:8:A:N1	59:BA:2895:U:O4	1.97	0.97
20:CA:68(C):C:H42	20:CA:68(W):G:H1	1.01	0.97
20:CA:947:G:H1	20:CA:1234:C:H42	1.07	0.97
59:BA:2287:A:H62	59:BA:2344:U:H3	1.11	0.97
59:BA:2681:C:C4	59:BA:2725:A:N6	2.32	0.97
59:BA:2749:A:N6	59:BA:2753:A:H61	1.63	0.97
59:BA:2587:A:H62	59:BA:2608:G:H21	1.00	0.97
20:CA:987:G:H1	20:CA:1218:C:H42	1.10	0.97
59:DA:2109:U:H3	59:DA:2180:U:H3	0.98	0.97
20:CA:257:G:H1	20:CA:269:C:H42	1.13	0.97
20:CA:815:A:C2	20:CA:1527:C:O2	2.17	0.96
59:DA:1467:C:H42	59:DA:1525:G:H1	1.00	0.96
59:DA:2681:C:N4	59:DA:2725:A:N6	2.12	0.96
59:BA:1664:A:H61	59:BA:1996:C:H42	1.08	0.96
59:BA:2133:G:N2	59:BA:2158:A:H62	1.63	0.96
59:DA:1311:G:N2	59:DA:1603:A:H62	1.64	0.96
29:DG:113:ARG:HG3	58:D4:34:GLU:OE2	1.63	0.96
27:BE:63:LEU:HB2	27:BE:65:GLY:H	1.29	0.96
20:CA:1412:C:N4	20:CA:1488:G:H1	1.62	0.96
1:CB:69:LEU:HB3	1:CB:162:ILE:HG13	1.46	0.96
59:DA:1906:G:H1	59:DA:1924:C:H42	1.01	0.96
31:BJ:25:UNK:HA	31:BJ:80:UNK:HA	1.47	0.95
59:DA:672:C:H42	59:DA:808:G:H1	1.14	0.95
59:DA:873:G:H1	59:DA:904:C:H42	1.14	0.95
59:DA:273(A):G:H1	59:DA:364:C:H42	1.07	0.95
59:DA:2520:C:H42	59:DA:2545:G:H1	1.09	0.95
59:DA:459:U:C4	59:DA:470:A:N7	2.34	0.95
59:DA:1417:C:N4	59:DA:1581:G:H1	1.64	0.95
33:BN:5:VAL:O	33:BN:7:LYS:NZ	2.00	0.95
20:CA:1413:A:H61	20:CA:1487:G:H1	1.11	0.94
59:DA:2747:G:H21	59:DA:2757:A:N6	1.63	0.94
59:BA:2681:C:N4	59:BA:2725:A:N6	2.15	0.94
20:CA:923:A:H61	20:CA:1393:U:H3	1.13	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:736:C:H42	59:DA:760:G:H1	0.95	0.94
59:DA:1348:G:H1	59:DA:1598:C:H42	1.13	0.94
20:CA:1422:G:H1	20:CA:1478:C:H42	1.13	0.94
59:DA:137(A):C:H42	59:DA:142:G:H1	1.14	0.94
59:DA:2093:G:H1	59:DA:2196:C:H42	1.03	0.94
23:AY:137:ASN:HD22	23:AY:138:LYS:H	1.11	0.94
59:DA:1387:C:H42	59:DA:1400:G:H1	1.12	0.94
59:BA:1541:U:H3'	59:BA:1542:G:H3'	1.49	0.94
59:DA:76:C:N4	59:DA:110:G:H1	1.65	0.94
20:CA:444:C:H42	20:CA:490:G:H1	0.98	0.94
20:CA:1255:G:H1	20:CA:1282:C:N4	1.64	0.94
59:DA:690:G:H1	59:DA:772:C:H42	0.96	0.94
59:DA:2125:G:H21	59:DA:2173:A:N6	1.65	0.94
20:CA:1063:C:H42	20:CA:1193:G:H1	1.09	0.93
59:DA:122:G:H1	59:DA:129:C:H42	1.14	0.93
59:DA:1309:G:H1	59:DA:1605:C:N4	1.66	0.93
59:DA:2065:C:H42	59:DA:2445:G:H1	1.17	0.93
59:BA:1025:G:H1	59:BA:1139:G:H1	1.15	0.93
59:DA:8:A:N1	59:DA:2895:U:O4	2.01	0.93
59:BA:682:G:H1	59:BA:795:C:H42	1.09	0.93
59:DA:736:C:N4	59:DA:760:G:H1	1.65	0.93
59:DA:1288:U:H3	59:DA:1326:U:H3	1.09	0.93
20:CA:1409:C:N4	20:CA:1491:G:H1	1.66	0.93
59:DA:1411:C:H42	59:DA:1591:G:H1	1.15	0.93
59:DA:1770:G:H1	59:DA:1982:C:H42	0.97	0.93
59:DA:2681:C:C4	59:DA:2725:A:N6	2.33	0.93
20:AA:112:G:H1	20:AA:315:A:H61	1.07	0.92
8:CI:4:TYR:HB2	8:CI:19:LEU:HB2	1.51	0.92
20:CA:1165:C:H42	20:CA:1171:G:H1	0.92	0.92
59:DA:2080:G:H1	59:DA:2240:C:H42	0.94	0.92
59:DA:737:C:H42	59:DA:759:G:H1	1.04	0.92
59:BA:24:G:N1	59:BA:516:C:O2	2.02	0.92
33:DN:5:VAL:O	33:DN:7:LYS:NZ	2.02	0.92
59:BA:2505:G:H22	59:BA:2610:C:H42	1.12	0.92
59:DA:272:G:H1	59:DA:365(A):C:H42	0.93	0.92
25:BC:169:THR:HG23	25:BC:171:ALA:HB2	1.51	0.92
59:BA:585:G:H21	59:BA:1254:A:H62	0.99	0.92
59:BA:1019:U:H3	59:BA:1020:A:N6	1.66	0.92
20:CA:687:A:H62	20:CA:703:G:H21	1.09	0.92
59:DA:2464:C:N4	59:DA:2486:G:H1	1.67	0.92
59:BA:858:U:H3	59:BA:919:G:H1	1.14	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:296:U:H3	20:CA:301:G:H1	1.10	0.92
59:DA:671:C:H42	59:DA:809:G:H1	1.17	0.92
23:CY:23:ALA:HB3	23:CY:24:GLY:HA2	0.93	0.92
59:DA:2395:C:H42	59:DA:2421:G:H1	1.16	0.92
20:CA:862:C:N4	20:CA:867:G:H1	1.66	0.92
20:CA:1165:C:N4	20:CA:1171:G:H1	1.67	0.92
23:CY:163:VAL:HG13	23:CY:258:VAL:HB	1.51	0.92
59:DA:1030:G:H1	59:DA:1124:C:H42	1.15	0.92
59:BA:226:G:N3	59:BA:228:A:N6	2.16	0.91
59:BA:2587:A:H62	59:BA:2608:G:N2	1.67	0.91
20:CA:895:G:H1	20:CA:904:C:H42	1.13	0.91
23:CY:22:ASP:O	23:CY:24:GLY:HA2	1.68	0.91
59:DA:1311:G:H21	59:DA:1603:A:H62	0.92	0.91
20:CA:505:G:H1	20:CA:526:C:H42	0.92	0.91
59:BA:2133:G:H21	59:BA:2158:A:H62	0.93	0.91
59:DA:57:C:H42	59:DA:70:G:H1	0.93	0.91
59:BA:1417:C:H42	59:BA:1581:G:H1	1.06	0.91
59:BA:2681:C:H41	59:BA:2725:A:N6	1.68	0.91
23:CY:633:GLY:HA3	23:CY:644:ARG:HB2	1.52	0.91
11:AL:56:ALA:HB3	11:AL:68:ALA:HB3	1.52	0.91
59:BA:1844:C:H42	59:BA:1896:G:H1	1.17	0.91
20:CA:1255:G:H1	20:CA:1282:C:H42	0.91	0.91
59:DA:57:C:N4	59:DA:70:G:H1	1.68	0.91
59:DA:814:C:H42	59:DA:1193:G:H1	1.18	0.91
23:AY:137:ASN:HD21	23:AY:263:ALA:H	1.06	0.90
59:BA:1782:C:H42	59:BA:2586:C:H42	1.12	0.90
20:CA:1123:A:H2	20:CA:1150:U:H3	1.17	0.90
59:DA:19:C:H42	59:DA:521:G:H1	1.14	0.90
59:DA:381:G:H1	59:DA:393:C:H42	1.07	0.90
59:BA:2459:A:H61	59:BA:2493:U:H3	1.16	0.90
20:CA:1059:C:N4	20:CA:1198:G:H1	1.68	0.90
59:BA:57:C:H42	59:BA:70:G:H1	1.19	0.90
33:BN:9:VAL:HG11	33:BN:39:ARG:HH22	1.34	0.90
59:BA:2747:G:N2	59:BA:2757:A:H62	1.69	0.90
20:CA:1114:C:H42	20:CA:1186:G:H1	0.95	0.90
59:DA:585:G:H21	59:DA:1254:A:H62	1.13	0.90
59:BA:1418:G:H21	59:BA:1580:A:N6	1.68	0.90
11:CL:56:ALA:HB3	11:CL:68:ALA:HB3	1.52	0.90
20:CA:862:C:H42	20:CA:867:G:H1	0.93	0.90
59:DA:1423:G:H1	59:DA:1575:C:H42	1.15	0.90
59:BA:585:G:H21	59:BA:1254:A:N6	1.69	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:1059:C:H42	20:CA:1198:G:H1	0.91	0.90
23:AY:137:ASN:ND2	23:AY:138:LYS:H	1.70	0.90
39:DT:49:VAL:HA	39:DT:63:VAL:HA	1.53	0.90
59:BA:2681:C:H5	59:BA:2725:A:H61	1.08	0.89
59:DA:2023:G:O6	59:DA:2040:C:N3	2.05	0.89
59:DA:2464:C:H42	59:DA:2486:G:H1	0.91	0.89
59:DA:1309:G:H1	59:DA:1605:C:H42	0.90	0.89
6:AG:79:ARG:HB3	20:AA:1381:U:H1'	1.54	0.89
59:DA:272:G:H1	59:DA:365(A):C:N4	1.69	0.89
33:DN:49:GLY:O	33:DN:119:ARG:NH1	2.04	0.89
33:DN:74:ARG:HH11	33:DN:74:ARG:HG3	1.36	0.89
46:D0:38:VAL:HB	46:D0:59:LEU:HB2	1.55	0.89
59:DA:392:C:H5"	59:DA:409:C:H5"	1.53	0.89
59:BA:1438:U:O2	59:BA:1553:A:N7	2.05	0.89
59:DA:2634:G:H1	59:DA:2784:C:H42	1.19	0.89
59:BA:141(A):A:H8	59:BA:1595:G:H21	1.15	0.89
23:CY:27:THR:HG21	62:CY:702:GDP:H2'	1.55	0.89
59:DA:1166:C:H42	59:DA:1183:G:H1	1.16	0.89
20:AA:68(E):G:O6	20:AA:68(U):U:O2	1.90	0.88
59:BA:2109:U:H3	59:BA:2180:U:H3	1.18	0.88
59:DA:1311:G:H21	59:DA:1603:A:N6	1.69	0.88
57:B1:19:GLN:HB3	57:B1:40:ARG:HD3	1.56	0.88
59:BA:1324:G:H1	59:BA:1330:C:H42	1.16	0.88
11:CL:58:VAL:HG12	11:CL:60:LEU:H	1.38	0.88
59:BA:36:G:H1	59:BA:444:C:H42	1.21	0.88
20:CA:1114:C:N4	20:CA:1186:G:H1	1.70	0.88
59:DA:2681:C:H41	59:DA:2725:A:H62	1.06	0.88
11:AL:58:VAL:HG12	11:AL:60:LEU:H	1.36	0.88
16:CQ:43:LEU:HB3	16:CQ:69:LYS:HE2	1.55	0.88
59:BA:326:G:H1	59:BA:336:C:H42	1.19	0.88
20:CA:1408:A:H61	24:CU:1:KBE:HA	1.39	0.88
29:DG:42:GLY:O	59:DA:2306:C:N4	2.06	0.88
59:DA:1856:G:H1	59:DA:1886:C:H42	1.22	0.88
11:AL:35:GLY:HA2	11:AL:58:VAL:HG13	1.56	0.88
59:BA:1019:U:H3	59:BA:1020:A:H62	0.89	0.88
20:CA:444:C:N4	20:CA:490:G:H1	1.72	0.88
3:AD:23:GLY:HA3	3:AD:112:VAL:HG22	1.53	0.88
59:DA:2681:C:H5	59:DA:2725:A:N6	1.58	0.88
59:BA:2747:G:H21	59:BA:2757:A:H62	0.88	0.87
59:DA:1417:C:H42	59:DA:1581:G:H1	0.89	0.87
3:CD:102:ASP:HA	3:CD:121:VAL:HG21	1.54	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1105:U:H2'	59:DA:1106:G:H8	1.40	0.87
3:AD:102:ASP:HA	3:AD:121:VAL:HG21	1.53	0.87
20:CA:833:U:H3	20:CA:853:G:H1	0.94	0.87
33:DN:25:ARG:HH22	59:DA:114(B):A:H4'	1.40	0.87
59:DA:2080:G:H1	59:DA:2240:C:N4	1.70	0.87
49:B5:36:CYS:SG	49:B5:37:LYS:N	2.47	0.87
59:BA:226:G:N2	59:BA:228:A:H62	1.71	0.87
20:CA:259:G:H1	20:CA:267:C:H42	1.13	0.87
59:DA:1487:G:H1	59:DA:1502:C:H42	1.17	0.87
20:CA:1409:C:H42	20:CA:1491:G:H1	0.91	0.86
59:DA:1305:C:N4	59:DA:1623:G:H1	1.72	0.86
59:DA:1906:G:H1	59:DA:1924:C:N4	1.74	0.86
20:CA:1409:C:N3	20:CA:1491:G:N2	2.22	0.86
20:CA:815:A:N6	20:CA:1508:G:H21	1.72	0.86
20:CA:1165:C:N3	20:CA:1171:G:N2	2.22	0.86
59:DA:712:G:H1	59:DA:719:C:H42	1.19	0.86
59:DA:1478:G:H1	59:DA:1515:C:H42	0.89	0.86
59:BA:1418:G:H21	59:BA:1580:A:H62	0.90	0.86
11:CL:89:ARG:HA	11:CL:96:VAL:HB	1.58	0.86
59:DA:690:G:H1	59:DA:772:C:N4	1.72	0.86
59:DA:1614:A:OP1	59:DA:1617:C:N4	2.07	0.86
32:DK:27:LEU:HD21	32:DK:57:ILE:HD13	1.57	0.86
21:CW:15:G:H22	21:CW:48:C:H42	1.24	0.86
54:De:63:ILE:HG22	54:De:64:LEU:H	1.40	0.86
59:DA:1770:G:H1	59:DA:1982:C:N4	1.73	0.86
59:BA:1462:C:H4'	59:BA:2703:C:H5'	1.57	0.86
59:BA:2125:G:H21	59:BA:2173:A:H62	1.23	0.86
25:BC:115:VAL:HA	25:BC:145:THR:HA	1.57	0.85
59:BA:2133:G:H21	59:BA:2158:A:N6	1.72	0.85
59:DA:2400:G:H1	59:DA:2416:C:H42	1.23	0.85
21:AW:53:G:H1	21:AW:61:C:H42	1.18	0.85
27:BE:13:ARG:HA	27:BE:21:VAL:O	1.75	0.85
59:BA:2514:U:H3	59:BA:2570:G:H1	1.23	0.85
27:DE:111:ARG:H	27:DE:161:GLY:HA3	1.41	0.85
59:DA:76:C:H42	59:DA:110:G:H1	0.90	0.85
2:CC:19:GLU:O	2:CC:40:ARG:NH2	2.08	0.85
20:CA:68(C):C:N4	20:CA:68(W):G:H1	1.73	0.85
20:AA:687:A:H62	20:AA:703:G:H21	1.24	0.85
59:DA:1467:C:N4	59:DA:1525:G:H1	1.74	0.85
59:BA:2587:A:N6	59:BA:2608:G:H21	1.75	0.85
59:BA:2681:C:H5	59:BA:2725:A:N6	1.61	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:401:A:H61	59:DA:422:A:H61	1.24	0.85
39:DT:53:ARG:NH2	39:DT:60:THR:OG1	2.09	0.85
44:BY:37:VAL:HG13	44:BY:69:ALA:HA	1.58	0.85
23:CY:276:VAL:HA	23:CY:280:LEU:HD23	1.56	0.85
26:DD:3:VAL:H	26:DD:20:ASP:HB2	1.40	0.85
8:AI:2:GLU:N	8:AI:88:TYR:HH	1.74	0.84
21:AW:18:G:N2	21:AW:58:A:OP1	2.10	0.84
27:DE:63:LEU:HB2	27:DE:65:GLY:H	1.41	0.84
20:AA:406:G:H1	20:AA:436:C:H42	1.23	0.84
31:BJ:54:UNK:HA	31:BJ:79:UNK:HA	1.58	0.84
45:BZ:151:HIS:HB3	45:BZ:170:THR:HA	1.58	0.84
25:DC:169:THR:HG23	25:DC:171:ALA:HB2	1.57	0.84
23:AY:85:PRO:HB3	23:AY:94:VAL:HA	1.59	0.84
26:BD:136:ILE:O	26:BD:168:ARG:NH2	2.11	0.84
23:CY:23:ALA:CB	23:CY:24:GLY:CA	2.36	0.84
59:BA:307:G:N2	59:BA:310:A:OP2	2.10	0.84
26:DD:263:ARG:NH1	59:DA:2227:A:OP1	2.10	0.84
25:BC:157:ILE:HG12	25:BC:161:ARG:HG2	1.58	0.84
21:AW:50:C:H42	21:AW:64:G:H1	0.89	0.84
59:DA:137(B):G:H1	59:DA:141(B):C:H42	0.85	0.84
59:DA:1462:C:H4'	59:DA:2703:C:H5'	1.59	0.84
33:DN:74:ARG:NH1	33:DN:85:ILE:HD11	1.92	0.84
20:AA:977:A:HO2'	20:AA:981:U:H3	1.22	0.84
59:BA:392:C:H5"	59:BA:409:C:H5"	1.59	0.84
59:DA:273(A):G:H1	59:DA:364:C:N4	1.75	0.84
59:DA:2093:G:H1	59:DA:2196:C:N4	1.76	0.84
8:AI:4:TYR:HB2	8:AI:19:LEU:HB2	1.58	0.83
23:CY:25:LYS:N	62:CY:702:GDP:O2B	2.11	0.83
59:DA:291:C:H42	59:DA:349:G:H1	1.25	0.83
26:BD:3:VAL:H	26:BD:20:ASP:HB2	1.43	0.83
44:BY:79:CYS:SG	44:BY:80:GLY:N	2.50	0.83
59:BA:585:G:N2	59:BA:1254:A:H62	1.74	0.83
3:CD:3:ARG:HH22	3:CD:5:ILE:HD12	1.44	0.83
20:AA:1510:U:H3	20:AA:1525:G:H1	1.25	0.83
26:BD:226:MET:HE2	26:BD:230:ASP:HB3	1.60	0.83
59:BA:1018:C:H42	59:BA:1144:G:H1	1.27	0.83
59:DA:1416:G:H1	59:DA:1582:C:H42	1.23	0.83
20:CA:666:G:OP2	20:CA:725:G:N2	2.10	0.83
59:DA:2024:G:C2	59:DA:2040:C:H1'	2.13	0.83
20:AA:1077:G:N2	20:AA:1080:A:OP2	2.11	0.83
1:CB:171:ALA:HA	1:CB:174:VAL:HB	1.58	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:DG:73:ALA:H	29:DG:87:PRO:HD2	1.42	0.83
59:DA:2838:G:H1	59:DA:2880:C:H42	1.23	0.83
59:DA:874:G:H1	59:DA:903:C:N4	1.75	0.83
60:DB:86:G:H1	60:DB:90:C:H42	1.24	0.83
11:CL:58:VAL:HG11	11:CL:85:ILE:HG12	1.61	0.83
23:CY:18:ALA:HA	23:CY:25:LYS:CD	2.08	0.83
26:DD:24:ILE:HG13	26:DD:82:ILE:HB	1.60	0.83
28:BF:4:VAL:H	28:BF:24:LEU:HG	1.44	0.83
23:CY:161:PRO:HA	23:CY:256:THR:HB	1.60	0.83
59:BA:278:A:O2'	59:BA:279:C:O5'	1.96	0.82
8:CI:10:ARG:HD3	8:CI:75:ASP:HB3	1.59	0.82
28:DF:64:ILE:H	28:DF:76:GLY:HA2	1.44	0.82
39:DT:20:PRO:HG2	39:DT:86:ILE:HA	1.61	0.82
20:CA:1412:C:H42	20:CA:1488:G:H1	0.84	0.82
25:DC:43:GLU:OE1	59:DA:2123:G:N2	2.11	0.82
35:DP:23:PRO:HD2	35:DP:33:ARG:HE	1.42	0.82
59:DA:1287:A:H2	59:DA:1649:G:H4'	1.43	0.82
20:AA:681:C:H42	20:AA:709:G:H1	1.26	0.82
20:CA:591:U:H3	20:CA:648:A:N6	1.77	0.82
25:DC:44:VAL:HB	25:DC:174:ALA:HB3	1.61	0.82
25:DC:115:VAL:HA	25:DC:145:THR:HA	1.61	0.82
33:DN:133:GLN:HG2	33:DN:135:PRO:HD3	1.60	0.82
59:BA:273(G):C:H42	59:BA:363(A):G:H1	1.27	0.82
3:AD:3:ARG:HH22	3:AD:5:ILE:HD12	1.45	0.82
59:BA:273(A):G:H1	59:BA:364:C:H42	1.28	0.82
59:BA:2747:G:H21	59:BA:2757:A:N6	1.73	0.82
1:CB:161:ALA:HB1	1:CB:185:ILE:HD11	1.58	0.82
2:AC:54:ARG:HB2	2:AC:69:HIS:HB2	1.60	0.82
2:AC:88:ARG:HH21	2:AC:100:ALA:HA	1.44	0.82
14:AO:39:LEU:HD12	14:AO:56:LEU:HB2	1.62	0.82
20:AA:1065:U:O2	20:AA:1067:A:N6	2.12	0.82
20:CA:125:U:O2	20:CA:236:G:O6	1.98	0.82
39:BT:47:GLY:HA2	39:BT:65:LYS:HB2	1.62	0.82
40:BU:50:ARG:HH22	41:BV:72:VAL:HG12	1.43	0.82
1:CB:174:VAL:HG22	1:CB:184:VAL:HG11	1.61	0.82
23:CY:22:ASP:O	23:CY:24:GLY:CA	2.28	0.82
20:AA:961:U:O2	20:AA:1201:A:N1	2.13	0.82
49:B5:3:LYS:HG2	49:B5:5:PRO:HD2	1.62	0.81
28:DF:105:VAL:HG22	59:DA:600:G:H1'	1.61	0.81
33:DN:56:ASN:H	33:DN:126:PRO:HA	1.45	0.81
44:DY:86:ARG:HG2	44:DY:88:LYS:H	1.45	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BP:66:GLY:HA2	59:BA:2415:G:H4'	1.62	0.81
43:BX:53:LYS:HB3	43:BX:82:GLN:HB3	1.60	0.81
59:BA:1270:C:H5"	59:BA:1271:G:H5"	1.60	0.81
59:BA:1490:A:O3'	59:BA:1494:A:N6	2.13	0.81
59:DA:1980:G:O2'	59:DA:1982:C:OP2	1.98	0.81
23:AY:633:GLY:HA3	23:AY:644:ARG:HB2	1.63	0.81
59:BA:1443:G:H1	59:BA:1548:C:H42	1.27	0.81
59:DA:1019:U:O2	59:DA:1020:A:N7	2.14	0.81
2:AC:50:ALA:HB1	2:AC:72:LYS:HB3	1.62	0.81
20:CA:947:G:H1	20:CA:1234:C:N4	1.78	0.81
59:DA:2472:G:H21	59:DA:2478:A:H62	1.29	0.81
60:DB:22:U:H3	60:DB:61:G:H1	1.25	0.81
59:BA:85:G:N1	59:BA:97:C:O2	2.12	0.81
28:DF:171:PRO:HB3	59:DA:323:G:C8	2.16	0.81
20:AA:1528:U:H4'	20:AA:1529:G:H21	1.43	0.81
59:BA:307:G:H21	59:BA:330:A:H62	1.29	0.81
61:CY:701:FUA:H5	61:CY:701:FUA:H202	1.63	0.81
59:DA:307:G:N2	59:DA:310:A:OP2	2.10	0.81
59:DA:850:C:N4	59:DA:928:G:H1	1.79	0.81
59:DA:2502:G:H5'	59:DA:2503:A:H5"	1.63	0.81
59:DA:2699:C:N4	59:DA:2708:G:H1	1.77	0.81
59:BA:1417:C:N4	59:BA:1581:G:H1	1.78	0.81
59:BA:2048:G:H1	59:BA:2620:C:H42	1.28	0.81
59:DA:415:A:N6	59:DA:2408:U:H3	1.78	0.81
1:AB:69:LEU:HB3	1:AB:162:ILE:HG22	1.62	0.81
20:CA:1003:G:N1	20:CA:1037:C:O2	2.14	0.81
57:D1:19:GLN:NE2	59:DA:2233:U:OP2	2.13	0.81
60:DB:31:C:N4	60:DB:51:G:H1	1.78	0.81
27:BE:147:PRO:HB2	27:BE:149:ARG:H	1.45	0.80
23:CY:566:THR:HG22	23:CY:567:LEU:H	1.45	0.80
59:DA:2040:C:C6	59:DA:2040:C:H5"	2.16	0.80
23:AY:137:ASN:HD22	23:AY:138:LYS:N	1.78	0.80
1:CB:84:GLU:HB3	1:CB:219:VAL:HG21	1.62	0.80
59:DA:736:C:N3	59:DA:760:G:N2	2.29	0.80
59:DA:2103:C:N4	59:DA:2186:G:H1	1.78	0.80
59:BA:863:A:H2'	59:BA:864:G:C8	2.16	0.80
59:BA:1008:C:H1'	59:BA:1009:A:N7	1.97	0.80
59:BA:1019:U:C2	59:BA:1020:A:N7	2.48	0.80
59:BA:1135:C:H42	59:BA:1138:G:H8	1.28	0.80
20:CA:815:A:H61	20:CA:1508:G:N2	1.78	0.80
21:CW:30:C:H42	21:CW:40:G:H1	1.29	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BZ:7:ALA:HB2	45:BZ:59:LEU:HB2	1.61	0.80
3:CD:57:ARG:HG2	3:CD:206:PHE:HB2	1.63	0.80
20:AA:296:U:H3	20:AA:301:G:H1	1.28	0.80
43:BX:54:VAL:HG13	43:BX:81:VAL:HG12	1.64	0.80
28:DF:63:LYS:NZ	28:DF:66:PRO:O	2.15	0.80
38:DS:40:ILE:HA	38:DS:47:THR:HA	1.64	0.80
40:DU:92:ARG:HD2	41:DV:11:GLN:HB2	1.64	0.80
23:AY:137:ASN:HD21	23:AY:263:ALA:N	1.79	0.80
3:CD:134:ASP:OD2	3:CD:134:ASP:N	2.14	0.80
20:CA:146:G:H1	20:CA:176:C:H42	0.86	0.80
3:AD:57:ARG:HH21	4:AE:107:ARG:HH21	1.28	0.80
20:AA:908:A:H2'	20:AA:909:A:C8	2.17	0.80
57:D1:81:LYS:HG2	59:DA:270(J):G:H4'	1.62	0.80
59:DA:1849:G:H1	59:DA:1893:C:H42	1.29	0.80
20:AA:112:G:H1	20:AA:315:A:N6	1.80	0.80
23:CY:18:ALA:HB2	23:CY:85:PRO:HD2	1.63	0.80
26:DD:157:ARG:HH22	59:DA:1817:G:H3'	1.45	0.80
59:DA:2107:C:H42	59:DA:2182:G:H1	1.30	0.80
59:DA:2515:C:N4	59:DA:2569:G:H1	1.79	0.80
29:BG:73:ALA:H	29:BG:87:PRO:HD2	1.45	0.80
54:Be:63:ILE:HG22	54:Be:64:LEU:H	1.45	0.80
25:DC:46:ALA:HA	25:DC:212:SER:O	1.80	0.80
40:DU:3:ARG:HB2	59:DA:445:C:H5"	1.61	0.80
23:AY:201:ILE:HG12	23:AY:206:LEU:H	1.46	0.80
32:BK:79:ARG:HG3	32:BK:84:LEU:HB2	1.62	0.80
59:BA:2047:U:O2'	59:BA:2823:A:N1	2.14	0.80
29:DG:113:ARG:HG2	58:D4:34:GLU:OE2	1.82	0.80
33:DN:118:LYS:O	33:DN:121:LYS:NZ	2.15	0.80
59:DA:2520:C:N4	59:DA:2545:G:H1	1.78	0.80
28:BF:157:VAL:HG12	28:BF:192:LEU:HA	1.64	0.79
39:BT:33:LYS:HB2	39:BT:43:GLN:H	1.47	0.79
20:CA:628:G:H2'	20:CA:629:G:H8	1.46	0.79
20:CA:1063:C:N4	20:CA:1193:G:H1	1.80	0.79
59:DA:750:A:OP1	59:DA:1615:C:N4	2.15	0.79
26:BD:149:PRO:HG2	59:BA:2218:G:H4'	1.61	0.79
26:BD:209:ALA:HB2	59:BA:1790:C:H4'	1.63	0.79
30:BH:85:LYS:HE3	30:BH:145:ALA:HB2	1.65	0.79
42:BW:41:LYS:O	42:BW:44:ALA:N	2.15	0.79
59:BA:964:C:O2'	59:BA:2273:A:N3	2.14	0.79
59:DA:2587:A:H62	59:DA:2608:G:H21	1.28	0.79
20:AA:1003:G:N1	20:AA:1037:C:O2	2.15	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:1363:A:H4'	20:CA:1364:U:H5"	1.62	0.79
59:BA:867:C:N3	59:BA:912:C:O2'	2.15	0.79
59:BA:2681:C:H41	59:BA:2725:A:H62	1.18	0.79
59:DA:812:C:H42	59:DA:1195:G:H1	1.28	0.79
11:AL:71:PRO:O	11:AL:102:ARG:NH1	2.16	0.79
59:BA:1387:C:H42	59:BA:1400:G:H1	1.26	0.79
38:BS:106:ARG:HE	38:BS:108:GLY:HA2	1.47	0.79
46:B0:74:ARG:HH22	60:BB:13:A:H8	1.30	0.79
59:BA:1664:A:H61	59:BA:1996:C:N4	1.81	0.79
11:AL:71:PRO:HB2	11:AL:102:ARG:HH11	1.48	0.79
36:BQ:12:GLN:HA	59:BA:910:A:H62	1.48	0.79
37:BR:41:ALA:HB1	37:BR:97:VAL:HG11	1.65	0.79
39:BT:88:ILE:HG22	39:BT:89:VAL:HG23	1.64	0.79
25:DC:213:VAL:HG11	25:DC:225:ILE:HG12	1.64	0.79
11:AL:89:ARG:HA	11:AL:96:VAL:HB	1.65	0.79
57:B1:12:PRO:HA	57:B1:44:PRO:HD2	1.64	0.79
59:BA:2876:G:H2'	59:BA:2877:G:H8	1.47	0.79
4:CE:92:LYS:HG2	4:CE:119:LEU:HD12	1.63	0.79
60:DB:24:G:C6	60:DB:56:G:N3	2.51	0.79
25:DC:30:VAL:HA	25:DC:33:LEU:HG	1.65	0.79
3:AD:175:SER:HB3	3:AD:184:LYS:HB2	1.65	0.78
14:AO:39:LEU:HD23	20:AA:740:U:H4'	1.63	0.78
61:CY:701:FUA:H201	61:CY:701:FUA:O1	1.82	0.78
59:DA:881:G:H1	59:DA:895:U:H3	1.28	0.78
59:BA:371:A:H61	59:BA:401:A:H3'	1.48	0.78
59:DA:951:C:H42	59:DA:966:G:H1	1.28	0.78
59:DA:2293:C:H42	59:DA:2339:G:H1	0.83	0.78
50:D6:40:CYS:SG	59:DA:2370:G:N2	2.56	0.78
59:DA:381:G:H1	59:DA:393:C:N4	1.79	0.78
59:DA:1478:G:H2'	59:DA:1479:G:H8	1.48	0.78
23:AY:497:PHE:HB3	23:AY:508:GLY:H	1.49	0.78
30:BH:41:MET:SD	30:BH:42:ARG:N	2.56	0.78
20:CA:1412:C:N3	20:CA:1488:G:N2	2.28	0.78
27:DE:109:LYS:NZ	59:DA:2681:C:OP2	2.17	0.78
25:DC:33:LEU:HD13	25:DC:221:PRO:HB2	1.65	0.78
41:DV:24:LYS:HB3	59:DA:1162:G:H4'	1.65	0.78
59:DA:119:A:H4'	59:DA:120:U:H5'	1.63	0.78
59:DA:680:G:H1	59:DA:797:C:H42	1.31	0.78
59:BA:226:G:H21	59:BA:228:A:H62	1.31	0.78
59:BA:1006:C:H42	59:BA:1137:G:H1	1.31	0.78
11:CL:34:ARG:HG3	11:CL:82:VAL:HG13	1.65	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:CY:105:ILE:HD13	23:CY:133:ILE:HD11	1.66	0.78
25:DC:51:ASP:O	25:DC:53:ARG:N	2.17	0.78
27:DE:13:ARG:HA	27:DE:21:VAL:O	1.82	0.78
59:DA:2293:C:N3	59:DA:2339:G:N2	2.26	0.78
1:AB:204:ASN:OD1	1:AB:207:ALA:N	2.15	0.78
23:AY:137:ASN:ND2	62:AY:702:GDP:O6	2.17	0.78
39:BT:34:VAL:HG13	39:BT:39:ARG:HG2	1.64	0.78
23:CY:506:GLN:HG3	23:CY:581:ALA:HB2	1.65	0.78
54:De:110:GLU:HB3	54:De:114:LYS:HE3	1.66	0.78
57:D1:18:ILE:HG21	59:DA:380:U:H4'	1.64	0.78
59:DA:1039:G:H1	59:DA:1116:C:N4	1.80	0.78
59:DA:1248:G:H3'	59:DA:1249:U:H5"	1.65	0.78
40:BU:52:ARG:NH1	59:BA:559:G:O2'	2.17	0.78
45:BZ:119:GLU:HB2	45:BZ:122:ARG:HH12	1.48	0.78
59:BA:1478:G:H1	59:BA:1515:C:H42	1.31	0.78
26:DD:222:ARG:N	59:DA:1789:A:OP1	2.16	0.78
59:DA:1007:C:N3	59:DA:1136:G:O6	2.17	0.78
35:BP:67:MET:HE1	35:BP:70:GLN:HG2	1.66	0.78
59:DA:737:C:N4	59:DA:759:G:H1	1.80	0.78
23:AY:133:ILE:HD12	23:AY:280:LEU:HD21	1.65	0.78
30:BH:144:VAL:HA	30:BH:147:ASN:HB2	1.66	0.78
59:BA:557:U:H2'	59:BA:558:G:C8	2.19	0.78
33:DN:73:THR:HG22	33:DN:84:LYS:HB3	1.65	0.78
41:DV:96:ILE:HG22	41:DV:97:LYS:H	1.48	0.78
59:DA:2212:A:H1'	59:DA:2215:G:C5	2.19	0.78
59:BA:2284:C:H42	59:BA:2384:G:H1	1.29	0.77
59:DA:484:C:H42	59:DA:496:G:H1	1.32	0.77
59:DA:558:G:H2'	59:DA:559:G:H8	1.49	0.77
59:DA:964:C:O2'	59:DA:2273:A:N3	2.15	0.77
49:B5:12:SER:HB2	59:BA:2020:A:H5'	1.67	0.77
59:BA:1791:A:N6	59:BA:1828:G:O2'	2.16	0.77
20:CA:68(C):C:N3	20:CA:68(W):G:N2	2.30	0.77
20:CA:1414:U:H2'	20:CA:1415:G:H8	1.48	0.77
39:DT:3:ARG:HG3	59:DA:2876:G:H4'	1.64	0.77
59:DA:1169:G:H1	59:DA:1180:C:N4	1.81	0.77
59:DA:2041:U:H2'	59:DA:2042:A:C8	2.19	0.77
59:DA:2208:U:H3	59:DA:2216:G:H1	1.32	0.77
20:AA:107:G:OP1	20:AA:325:A:N6	2.17	0.77
23:AY:607:ARG:HG3	23:AY:674:ASP:HB2	1.67	0.77
40:BU:92:ARG:HD2	41:BV:11:GLN:HB2	1.65	0.77
20:CA:356:A:N3	20:CA:368:U:O2'	2.18	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BC:164:PHE:HA	25:BC:172:ILE:HG13	1.65	0.77
41:BV:96:ILE:HG22	41:BV:97:LYS:H	1.49	0.77
11:CL:85:ILE:HG23	11:CL:98:TYR:HB3	1.66	0.77
59:DA:585:G:H21	59:DA:1254:A:N6	1.82	0.77
17:CR:52:PRO:HB3	20:CA:720:C:H5"	1.65	0.77
20:CA:923:A:N6	20:CA:1393:U:H3	1.81	0.77
14:AO:39:LEU:HD21	14:AO:52:SER:HB3	1.66	0.77
32:BK:90:LYS:HG3	59:BA:1063:G:H21	1.47	0.77
33:BN:114:ARG:HH22	59:BA:528:A:H5"	1.50	0.77
20:CA:895:G:H1	20:CA:904:C:N4	1.82	0.77
20:CA:1413:A:N6	20:CA:1487:G:H1	1.82	0.77
23:CY:137:ASN:ND2	62:CY:702:GDP:O6	2.18	0.77
33:BN:14:VAL:HG12	33:BN:15:LEU:H	1.50	0.77
3:CD:175:SER:HB3	3:CD:184:LYS:HB2	1.64	0.77
25:DC:157:ILE:HG12	25:DC:161:ARG:HG2	1.66	0.77
59:DA:579:G:H5"	59:DA:2018:G:H5"	1.67	0.77
59:DA:1105:U:H2'	59:DA:1106:G:C8	2.19	0.77
32:BK:27:LEU:HD21	32:BK:57:ILE:HD13	1.66	0.77
19:CT:66:ALA:HB1	19:CT:72:LEU:HB2	1.67	0.77
38:DS:70:GLY:HA3	38:DS:99:LYS:HG3	1.66	0.77
42:DW:12:ILE:HD11	42:DW:42:ARG:HH22	1.50	0.77
20:AA:285:G:H2'	20:AA:286:G:H8	1.50	0.77
39:BT:51:ARG:HB3	39:BT:62:THR:HG22	1.67	0.77
18:CS:29:ARG:HH11	18:CS:48:THR:HG21	1.50	0.77
59:DA:2330:G:H1	59:DA:2385:C:H42	1.31	0.77
23:AY:230:LYS:HG3	23:AY:235:GLU:HB3	1.65	0.77
37:BR:5:LYS:HG3	59:BA:2820:A:H4'	1.64	0.77
38:BS:92:TYR:OH	59:BA:2293:C:OP1	2.03	0.77
59:BA:682:G:H1	59:BA:795:C:N4	1.81	0.77
59:BA:2469:A:H2	59:BA:2481:G:H21	1.32	0.77
60:BB:81:G:O6	60:BB:95:U:O2	2.03	0.77
13:CN:41:ARG:HH22	20:CA:973:G:H4'	1.50	0.77
19:CT:75:ASN:HB2	20:CA:262:A:H4'	1.64	0.77
21:CW:18:G:N2	21:CW:58:A:OP1	2.17	0.77
25:DC:83:LYS:HG3	25:DC:117:THR:HG21	1.66	0.77
43:DX:62:LYS:NZ	59:DA:1338:G:N7	2.33	0.77
59:DA:859:G:N2	59:DA:917:A:OP2	2.12	0.77
38:BS:24:LEU:HB3	38:BS:85:VAL:HG12	1.65	0.76
51:B7:40:TRP:CZ3	59:BA:459:U:H6	2.03	0.76
54:Be:74:VAL:HG11	54:Be:86:LEU:HD11	1.67	0.76
59:DA:1718:G:H1	59:DA:1741:C:N4	1.81	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AB:84:GLU:HB3	1:AB:219:VAL:HG21	1.67	0.76
23:AY:517:LEU:HG	23:AY:518:PRO:HD2	1.65	0.76
59:BA:1430:C:H42	59:BA:1563:G:H1	1.31	0.76
11:CL:70:ILE:HA	11:CL:100:ILE:HB	1.67	0.76
20:CA:12:U:H3	20:CA:22:G:H1	1.33	0.76
59:DA:1819:A:H4'	59:DA:1820:U:H5'	1.67	0.76
20:AA:1505:G:H5"	20:AA:1506:U:H5"	1.66	0.76
37:BR:12:ARG:NH2	59:BA:1276:A:O2'	2.18	0.76
40:BU:3:ARG:HB2	59:BA:445:C:H5"	1.66	0.76
59:BA:1007:C:H5"	59:BA:1008:C:H2'	1.65	0.76
11:CL:13:LYS:NZ	20:CA:882:C:OP2	2.18	0.76
20:CA:987:G:H1	20:CA:1218:C:N4	1.84	0.76
27:DE:189:PRO:HA	59:DA:2680:C:H5'	1.67	0.76
59:DA:1022:G:H22	59:DA:114(B):A:H2	1.33	0.76
4:AE:125:SER:OG	20:AA:19:C:OP1	2.04	0.76
14:AO:23:GLY:O	20:AA:750:G:N2	2.18	0.76
25:DC:216:THR:HB	25:DC:222:SER:HB3	1.67	0.76
26:DD:147:LEU:HD12	26:DD:155:LEU:HD21	1.67	0.76
59:DA:700:G:H1	59:DA:732:C:H42	1.33	0.76
33:BN:54:VAL:HB	33:BN:122:VAL:HG13	1.66	0.76
2:CC:67:THR:HA	2:CC:102:ASN:HB3	1.67	0.76
41:DV:40:LEU:HD12	41:DV:46:VAL:HA	1.66	0.76
59:DA:784:A:N6	59:DA:2072:G:O2'	2.18	0.76
28:BF:4:VAL:HG13	28:BF:7:TYR:HA	1.66	0.76
28:BF:153:SER:HA	28:BF:172:TRP:O	1.86	0.76
58:B4:15:ILE:H	58:B4:32:TYR:HB3	1.49	0.76
59:BA:1324:G:H1	59:BA:1330:C:N4	1.81	0.76
9:CJ:40:LEU:HD22	9:CJ:41:PRO:HD2	1.68	0.76
29:DG:105:LYS:HE2	58:D4:26:SER:HB2	1.65	0.76
20:AA:1060:C:H2'	20:AA:1061:G:H8	1.50	0.76
59:BA:270(A):A:OP2	59:BA:270(Z):G:N1	2.16	0.76
59:DA:998:C:N4	59:DA:1157:G:H1	1.81	0.76
59:DA:1008:C:H1'	59:DA:1009:A:N7	1.99	0.76
1:AB:167:PRO:O	1:AB:171:ALA:HB2	1.84	0.76
25:BC:46:ALA:HA	25:BC:212:SER:O	1.85	0.76
59:BA:1139:G:H2'	59:BA:1140:C:C6	2.20	0.76
59:BA:2024:G:C2	59:BA:2040:C:H1'	2.21	0.76
3:AD:122:ARG:HE	20:AA:403:C:H4'	1.50	0.76
23:AY:566:THR:HG22	23:AY:567:LEU:H	1.50	0.76
25:BC:138:LEU:HD22	25:BC:139:PRO:HD2	1.68	0.76
32:BK:115:LEU:O	59:BA:1058:G:O2'	2.02	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CD:103:ASN:HA	3:CD:106:TYR:HB3	1.67	0.76
23:CY:133:ILE:HD12	23:CY:280:LEU:HD21	1.68	0.76
20:AA:973:G:H3'	20:AA:974:A:H5"	1.67	0.76
27:BE:1:MET:HA	27:BE:200:GLU:HG2	1.67	0.76
41:BV:83:ARG:NH1	59:BA:815:C:OP2	2.19	0.76
59:BA:270(C):A:O2'	59:BA:364:C:O2	2.04	0.76
59:BA:1005:C:H42	59:BA:1138:G:H1	1.29	0.76
33:DN:86:PRO:HG2	33:DN:89:LYS:H	1.50	0.76
59:DA:2041:U:OP2	59:DA:2041:U:H6	1.67	0.76
20:AA:441:A:H62	20:AA:493:G:H21	1.33	0.75
10:CK:27:ASN:ND2	10:CK:55:LYS:O	2.18	0.75
11:CL:35:GLY:HA2	11:CL:58:VAL:HG13	1.67	0.75
31:DJ:52:UNK:HA	31:DJ:81:UNK:HA	1.68	0.75
43:DX:53:LYS:HB3	43:DX:82:GLN:HB3	1.68	0.75
59:DA:1492:G:H1	59:DA:1498:C:N4	1.81	0.75
59:DA:2469:A:H2	59:DA:2481:G:H21	1.34	0.75
20:AA:559:A:H4'	20:AA:560:U:H5"	1.68	0.75
59:BA:1819:A:H4'	59:BA:1820:U:H5'	1.67	0.75
59:BA:1935:G:H3'	59:BA:1962:C:H42	1.51	0.75
14:CO:23:GLY:O	20:CA:750:G:N2	2.15	0.75
20:CA:257:G:H1	20:CA:269:C:N4	1.85	0.75
26:DD:79:VAL:HA	26:DD:95:LEU:HA	1.68	0.75
36:DQ:87:LYS:NZ	59:DA:955:C:OP1	2.18	0.75
59:DA:273(G):C:N4	59:DA:363(A):G:H1	1.81	0.75
59:DA:277:C:H3'	59:DA:278:A:H8	1.51	0.75
59:DA:1913:A:O2'	59:DA:1914:C:OP2	2.05	0.75
16:AQ:28:PRO:HA	16:AQ:35:VAL:HA	1.66	0.75
25:BC:164:PHE:HB3	25:BC:172:ILE:HG21	1.68	0.75
54:Be:63:ILE:HG13	54:Be:70:LYS:HA	1.68	0.75
34:DO:121:VAL:O	39:DT:43:GLN:NE2	2.18	0.75
57:D1:12:PRO:HA	57:D1:44:PRO:HD2	1.68	0.75
2:AC:67:THR:HA	2:AC:102:ASN:HB3	1.66	0.75
3:AD:68:TYR:O	3:AD:70:ILE:N	2.18	0.75
33:BN:69:GLN:HE22	59:BA:1022:G:H8	1.34	0.75
36:BQ:89:ASN:O	36:BQ:91:GLU:N	2.18	0.75
59:BA:11:G:N1	59:BA:2628:C:OP1	2.16	0.75
19:CT:74:LYS:HG2	19:CT:75:ASN:H	1.52	0.75
28:DF:40:GLN:HA	28:DF:43:LYS:HG2	1.69	0.75
33:DN:110:GLY:O	33:DN:113:GLY:N	2.16	0.75
59:DA:2819:G:H1	59:DA:2827:C:N4	1.83	0.75
1:AB:19:HIS:HB2	1:AB:204:ASN:HD22	1.52	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:713:G:H2'	20:AA:714:G:C8	2.21	0.75
26:BD:98:VAL:O	59:BA:1501:C:O2'	2.03	0.75
27:BE:134:ILE:HD12	59:BA:2579:C:H4'	1.68	0.75
28:BF:206:ILE:HG22	28:BF:208:GLY:H	1.52	0.75
1:CB:71:VAL:HB	1:CB:164:VAL:HG22	1.68	0.75
30:DH:16:SER:HB3	30:DH:27:LYS:HB3	1.69	0.75
59:DA:1530:G:O6	59:DA:1541:U:O2	2.05	0.75
36:BQ:70:PRO:HA	36:BQ:95:ALA:HB2	1.69	0.75
37:BR:10:LEU:HB3	37:BR:17:ARG:HH21	1.51	0.75
44:BY:38:ILE:HD11	44:BY:64:GLU:HB3	1.68	0.75
59:BA:698:C:OP1	59:BA:1634:A:N6	2.18	0.75
11:CL:87:GLY:HA2	11:CL:98:TYR:H	1.51	0.75
20:CA:862:C:N3	20:CA:867:G:N2	2.33	0.75
57:D1:3:LYS:HG3	57:D1:4:VAL:HG12	1.69	0.75
10:AK:32:ILE:HD13	10:AK:72:ALA:HB2	1.69	0.75
32:BK:72:PRO:O	32:BK:111:LYS:NZ	2.20	0.75
12:CM:91:ARG:NH1	12:CM:97:PRO:O	2.19	0.75
20:CA:612:C:H42	20:CA:628:G:H1	1.32	0.75
20:CA:666:G:H1	20:CA:740:U:H3	1.34	0.75
46:D0:24:LYS:NZ	59:DA:2355:C:O2'	2.19	0.75
50:D6:8:LYS:HD2	50:D6:27:LYS:HG2	1.68	0.75
23:AY:314:PHE:HZ	23:AY:329:ARG:HB3	1.51	0.75
35:BP:49:ARG:HD2	52:B8:59:LYS:HE2	1.68	0.75
59:BA:529:A:N6	59:BA:2041:U:H3	1.82	0.75
59:BA:1782:C:N4	59:BA:2586:C:H42	1.84	0.75
17:CR:44:LEU:HG	17:CR:50:ILE:HA	1.69	0.75
26:DD:157:ARG:HH21	59:DA:1818:U:H6	1.34	0.75
33:DN:70:LYS:HB3	33:DN:87:LEU:HB2	1.69	0.75
38:DS:42:ASP:OD1	38:DS:42:ASP:N	2.20	0.75
59:DA:577:G:O2'	59:DA:1254:A:OP1	2.05	0.75
59:DA:1083:U:O2'	59:DA:1085:A:N7	2.18	0.75
53:B9:31:LYS:NZ	59:BA:2478:A:OP1	2.20	0.75
21:CW:41:A:H2'	21:CW:42:U:C6	2.21	0.75
40:DU:98:LEU:HD22	40:DU:101:ARG:HH22	1.51	0.75
59:DA:223:A:O2'	59:DA:420:C:O2	2.05	0.75
20:AA:585:G:H1	20:AA:756:C:H42	1.33	0.74
53:B9:23:VAL:HB	53:B9:36:GLN:HG3	1.68	0.74
57:B1:74:VAL:HG12	57:B1:78:LYS:HE3	1.69	0.74
59:BA:1664:A:N6	59:BA:1996:C:H42	1.85	0.74
13:CN:48:ALA:HA	13:CN:53:LEU:HB2	1.66	0.74
20:CA:501:C:H1'	20:CA:549:C:H1'	1.69	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:672:U:H3	20:CA:734:G:H1	1.32	0.74
44:DY:97:ARG:NH2	59:DA:300:A:OP1	2.14	0.74
57:D1:43:TYR:HE2	59:DA:2230:G:H5"	1.51	0.74
59:DA:1019:U:C2	59:DA:1020:A:N7	2.54	0.74
59:DA:2178:C:H2'	59:DA:2179:C:C6	2.22	0.74
2:AC:5:ILE:HG21	20:AA:1189:C:H5"	1.67	0.74
10:AK:22:HIS:HB3	10:AK:29:ILE:HG22	1.70	0.74
20:AA:1065:U:H4'	20:AA:1066:C:H5"	1.69	0.74
26:DD:62:TYR:HE2	26:DD:88:ARG:HH22	1.35	0.74
31:DJ:23:UNK:O	31:DJ:85:UNK:N	2.20	0.74
35:DP:56:SER:O	35:DP:58:THR:N	2.20	0.74
59:DA:154:G:H1	59:DA:172:C:H42	1.33	0.74
20:AA:1281:U:H5'	20:AA:1282:C:H5	1.52	0.74
35:BP:56:SER:O	35:BP:58:THR:N	2.20	0.74
57:B1:86:SER:HB2	57:B1:89:GLU:HB2	1.69	0.74
59:BA:676:A:H8	59:BA:2069:G:H21	1.33	0.74
59:BA:1083:U:O2'	59:BA:1085:A:N7	2.20	0.74
30:DH:107:VAL:O	30:DH:109:PHE:N	2.20	0.74
57:D1:22:GLY:HA2	57:D1:37:ILE:HA	1.69	0.74
11:AL:52:LEU:H	11:AL:53:ARG:HD2	1.52	0.74
20:AA:673:G:H2'	20:AA:674:G:C8	2.23	0.74
33:BN:56:ASN:HA	33:BN:125:GLY:H	1.53	0.74
38:BS:53:SER:HA	38:BS:65:VAL:HG11	1.69	0.74
59:BA:1459:G:H2'	59:BA:1461:G:H5'	1.66	0.74
25:DC:69:LEU:HD22	25:DC:71:LYS:HB2	1.69	0.74
35:DP:13:ASN:ND2	59:DA:598:G:O2'	2.18	0.74
44:DY:97:ARG:HA	44:DY:97:ARG:HH11	1.53	0.74
59:DA:1417:C:N3	59:DA:1581:G:N2	2.32	0.74
59:DA:2396:G:H2'	59:DA:2397:G:H8	1.53	0.74
1:AB:171:ALA:HA	1:AB:174:VAL:HB	1.67	0.74
17:AR:52:PRO:HB3	20:AA:720:C:H5"	1.70	0.74
20:AA:33:A:H2	20:AA:551:U:H3	1.35	0.74
21:AW:15:G:N1	21:AW:48:C:N3	2.30	0.74
53:B9:25:VAL:HB	53:B9:34:GLN:HB2	1.69	0.74
53:B9:27:CYS:SG	53:B9:28:GLU:N	2.58	0.74
27:DE:156:MET:HE1	59:DA:2050:C:H1'	1.70	0.74
29:DG:40:ASN:ND2	29:DG:90:LEU:O	2.21	0.74
30:DH:143:GLN:OE1	59:DA:2744:G:N2	2.18	0.74
59:DA:1139:G:C8	59:DA:1139:G:OP2	2.41	0.74
2:AC:48:TYR:O	2:AC:50:ALA:N	2.21	0.74
6:AG:87:VAL:HG22	6:AG:151:TYR:HB3	1.68	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BZ:76:LEU:HD22	45:BZ:83:PRO:HA	1.68	0.74
26:DD:209:ALA:HB2	59:DA:1790:C:H4'	1.69	0.74
59:DA:575:A:OP2	59:DA:2499:C:O2'	2.05	0.74
10:AK:29:ILE:HD11	10:AK:42:TRP:HB2	1.70	0.74
12:AM:120:LYS:HG2	20:AA:955:U:H5'	1.69	0.74
45:BZ:51:ALA:HA	45:BZ:55:HIS:HB2	1.69	0.74
59:BA:1492:G:H1	59:BA:1498:C:H42	1.36	0.74
60:BB:60:C:H2'	60:BB:61:G:H8	1.52	0.74
20:CA:778:G:H1	20:CA:804:U:H3	1.36	0.74
59:DA:2503:A:O2'	59:DA:2505:G:OP2	2.05	0.74
23:AY:428:LEU:HA	23:AY:431:LEU:HB2	1.70	0.74
37:BR:67:LEU:HD13	37:BR:70:LEU:HB2	1.68	0.74
11:CL:90:VAL:HG22	11:CL:96:VAL:HG11	1.68	0.74
42:DW:20:VAL:HG21	42:DW:43:GLY:HA3	1.70	0.74
59:DA:1486:A:H2	59:DA:1503:U:H3	1.35	0.74
6:AG:78:ARG:HB3	6:AG:85:TYR:HB2	1.69	0.74
43:BX:6:ASP:OD1	47:B2:29:LYS:NZ	2.21	0.74
57:B1:88:LYS:HA	57:B1:91:LYS:HB3	1.70	0.74
59:BA:1047:G:H1'	59:BA:1110:G:H22	1.52	0.74
59:BA:1354:A:H62	59:BA:1377:G:H21	0.77	0.74
59:BA:2459:A:N6	59:BA:2493:U:H3	1.85	0.74
25:DC:79:ALA:HB1	25:DC:83:LYS:HB2	1.69	0.74
27:DE:119:ARG:NH1	27:DE:156:MET:O	2.19	0.74
34:DO:66:LYS:HG3	59:DA:1665:A:H5"	1.70	0.74
23:AY:72:CYS:HB3	23:AY:79:ILE:HB	1.70	0.74
31:BJ:23:UNK:O	31:BJ:85:UNK:N	2.21	0.74
34:BO:71:ARG:NH2	34:BO:122:LEU:O	2.21	0.74
59:BA:278:A:HO2'	59:BA:279:C:P	2.10	0.74
59:BA:1782:C:H42	59:BA:2586:C:N4	1.85	0.74
3:CD:191:ARG:HH12	3:CD:195:ALA:HA	1.53	0.74
25:DC:14:LYS:HD3	25:DC:33:LEU:HD22	1.69	0.74
25:DC:37:LYS:HE3	59:DA:2127:G:H4'	1.68	0.74
33:DN:72:TYR:N	33:DN:85:ILE:O	2.19	0.74
44:DY:28:LYS:HA	44:DY:39:VAL:HA	1.69	0.74
44:DY:51:VAL:HG12	44:DY:53:PRO:HD2	1.67	0.74
59:DA:1511:A:H2'	59:DA:1512:G:C8	2.22	0.74
2:AC:102:ASN:HD21	2:AC:104:GLN:HG2	1.53	0.73
3:AD:187:ARG:NH2	3:AD:193:ASP:OD2	2.21	0.73
26:BD:14:ARG:HE	26:BD:15:PHE:HE2	1.35	0.73
43:BX:82:GLN:NE2	43:BX:83:VAL:O	2.20	0.73
59:BA:1980:G:O2'	59:BA:1982:C:OP2	2.05	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2287:A:N6	59:BA:2344:U:H3	1.85	0.73
20:CA:687:A:H62	20:CA:703:G:N2	1.84	0.73
28:DF:110:LEU:HD23	28:DF:183:VAL:HG13	1.70	0.73
39:DT:64:ARG:HG2	39:DT:102:ILE:HD11	1.70	0.73
42:DW:5:ALA:HB2	42:DW:57:ASN:HD21	1.53	0.73
1:AB:162:ILE:HB	1:AB:164:VAL:HG23	1.70	0.73
39:BT:33:LYS:HD3	39:BT:34:VAL:H	1.52	0.73
59:BA:1007:C:O2	59:BA:1136:G:N1	2.18	0.73
59:BA:2024:G:N2	59:BA:2040:C:H1'	2.03	0.73
60:BB:81:G:H1	60:BB:95:U:H3	1.36	0.73
20:CA:186(E):C:H42	20:CA:186(L):G:H1	1.34	0.73
23:CY:138:LYS:HE2	62:CY:702:GDP:C5	2.23	0.73
35:DP:7:ARG:HG2	59:DA:1203:G:H4'	1.69	0.73
59:DA:1024:G:H3'	59:DA:1025:G:H5"	1.70	0.73
19:AT:86:ARG:NH2	20:AA:258:G:OP1	2.20	0.73
29:BG:73:ALA:HA	59:BA:2312:U:H5"	1.70	0.73
51:B7:40:TRP:HZ3	59:BA:459:U:H6	1.35	0.73
59:BA:2634:G:H1	59:BA:2784:C:H42	1.34	0.73
41:DV:10:LYS:HZ2	59:DA:994:C:H1'	1.52	0.73
59:DA:137(A):C:N4	59:DA:142:G:H1	1.86	0.73
59:DA:371:A:H61	59:DA:401:A:H3'	1.53	0.73
59:DA:599:G:H1	59:DA:658:C:H42	1.36	0.73
59:DA:805:G:N2	59:DA:829:A:OP1	2.22	0.73
59:DA:1324:G:H1	59:DA:1330:C:H42	1.36	0.73
10:AK:99:GLN:HG2	10:AK:105:VAL:HG21	1.69	0.73
14:AO:38:ARG:HH11	14:AO:38:ARG:HA	1.52	0.73
23:AY:141:LYS:HE2	59:BA:2656:U:H4'	1.70	0.73
28:BF:2:LYS:HB2	28:BF:24:LEU:HD12	1.69	0.73
59:BA:223:A:O2'	59:BA:420:C:O2	2.06	0.73
4:CE:115:VAL:HG11	4:CE:118:ILE:HB	1.68	0.73
49:D5:36:CYS:SG	49:D5:37:LYS:N	2.61	0.73
59:DA:1348:G:H1	59:DA:1598:C:N4	1.86	0.73
32:BK:56:GLU:HB3	32:BK:68:VAL:HB	1.70	0.73
40:BU:45:TYR:O	40:BU:49:HIS:ND1	2.21	0.73
44:BY:73:ARG:HD2	59:BA:335:C:H4'	1.69	0.73
3:CD:8:VAL:HG11	3:CD:115:ARG:HD3	1.71	0.73
8:CI:113:LYS:H	8:CI:119:ALA:HA	1.52	0.73
34:DO:68:GLU:HB3	34:DO:78:ARG:HB2	1.69	0.73
59:DA:2699:C:N3	59:DA:2708:G:N2	2.35	0.73
1:AB:204:ASN:HD21	1:AB:206:ASP:HB2	1.53	0.73
12:AM:115:LYS:NZ	20:AA:1228:C:OP1	2.22	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AQ:10:VAL:HA	16:AQ:21:VAL:HG22	1.70	0.73
59:BA:1345:C:H42	59:BA:1601:G:H1	1.33	0.73
31:DJ:54:UNK:HA	31:DJ:79:UNK:HA	1.71	0.73
59:DA:671:C:N4	59:DA:809:G:H1	1.86	0.73
59:DA:2520:C:N3	59:DA:2545:G:N2	2.32	0.73
20:AA:1135:U:O2	20:AA:1138:G:N2	2.20	0.73
6:CG:113:GLU:HB2	6:CG:119:ARG:HG2	1.68	0.73
10:CK:111:ASP:HA	17:CR:84:LYS:HG3	1.69	0.73
26:DD:35:LYS:O	26:DD:37:LEU:N	2.21	0.73
20:CA:992:U:O2'	20:CA:993:G:OP2	2.04	0.73
28:DF:101:LEU:HD12	28:DF:102:PRO:HD2	1.71	0.73
31:DJ:25:UNK:HA	31:DJ:80:UNK:HA	1.70	0.73
1:AB:174:VAL:HG22	1:AB:184:VAL:HG11	1.70	0.73
59:BA:1287:A:H2	59:BA:1649:G:HO2'	1.36	0.73
59:BA:2505:G:N2	59:BA:2610:C:H42	1.87	0.73
9:CJ:34:VAL:HG13	9:CJ:74:ILE:HG22	1.71	0.73
8:AI:120:ARG:HD2	20:AA:1348:U:H4'	1.68	0.73
21:AW:15:G:H22	21:AW:48:C:H42	0.75	0.73
25:BC:65:LEU:O	25:BC:67:HIS:N	2.22	0.73
27:BE:111:ARG:NH2	59:BA:2680:C:OP2	2.22	0.73
28:BF:9:ILE:HG22	28:BF:125:LEU:H	1.54	0.73
53:B9:19:ARG:O	53:B9:21:GLY:N	2.22	0.73
11:CL:80:HIS:O	11:CL:82:VAL:N	2.20	0.73
18:CS:39:THR:HA	18:CS:70:LYS:HA	1.71	0.73
18:CS:48:THR:HG22	18:CS:61:TYR:HE2	1.53	0.73
11:AL:85:ILE:HG23	11:AL:98:TYR:HB3	1.70	0.72
23:AY:408:VAL:HG22	23:AY:454:MET:HA	1.69	0.72
25:BC:181:PHE:HB3	25:BC:185:LYS:HB3	1.69	0.72
33:BN:34:LEU:HD21	33:BN:120:LEU:HD12	1.71	0.72
45:BZ:121:HIS:HB3	45:BZ:124:ILE:HG22	1.70	0.72
59:BA:529:A:N7	59:BA:2041:U:O4	2.22	0.72
20:CA:375:U:H3	20:CA:389:A:H61	1.37	0.72
1:AB:35:GLU:HA	1:AB:40:HIS:HA	1.71	0.72
13:AN:41:ARG:HH22	20:AA:973:G:H4'	1.53	0.72
29:BG:35:GLU:HB2	29:BG:161:THR:HA	1.70	0.72
20:CA:973:G:H3'	20:CA:974:A:H5"	1.70	0.72
20:CA:1515:C:H42	20:CA:1520:G:H1	1.35	0.72
25:DC:47:LYS:HG3	25:DC:47:LYS:O	1.89	0.72
39:DT:117:ASP:HB3	39:DT:120:ARG:HG2	1.70	0.72
49:D5:13:LYS:HB3	49:D5:16:ARG:HH21	1.54	0.72
59:DA:1664:A:H3'	59:DA:1665:A:H8	1.54	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:BK:60:TYR:HB2	32:BK:64:SER:HB3	1.70	0.72
52:B8:42:ARG:NH1	59:BA:2351:G:N7	2.35	0.72
52:B8:61:LEU:HD23	52:B8:62:LEU:HG	1.70	0.72
3:CD:15:GLU:HA	3:CD:59:ARG:HH22	1.54	0.72
20:CA:259:G:H1	20:CA:267:C:N4	1.87	0.72
36:DQ:70:PRO:HA	36:DQ:95:ALA:HB2	1.72	0.72
59:DA:873:G:H1	59:DA:904:C:N4	1.87	0.72
59:DA:1387:C:N4	59:DA:1400:G:H1	1.85	0.72
59:DA:1540:G:C2	59:DA:1541:U:H1'	2.24	0.72
1:AB:170:GLU:O	1:AB:174:VAL:HG23	1.89	0.72
59:BA:2030:A:H4'	59:BA:2031:A:C8	2.24	0.72
59:BA:2070:G:H1	59:BA:2441:C:H42	1.36	0.72
33:DN:137:LYS:HZ3	33:DN:138:LEU:H	1.34	0.72
37:DR:76:VAL:HA	37:DR:79:LEU:HB2	1.70	0.72
48:D3:11:SER:OG	59:DA:989:G:OP2	2.07	0.72
59:DA:390:A:H4'	59:DA:391:G:H5'	1.69	0.72
59:DA:690:G:N2	59:DA:772:C:N3	2.35	0.72
59:DA:1166:C:N4	59:DA:1183:G:H1	1.88	0.72
59:DA:2290:G:H1	59:DA:2342:C:H42	1.38	0.72
9:AJ:16:LEU:HD11	9:AJ:70:ARG:HD3	1.71	0.72
20:AA:505:G:H1	20:AA:526:C:H42	1.36	0.72
20:AA:1060:C:H2'	20:AA:1061:G:C8	2.25	0.72
25:BC:44:VAL:HG22	25:BC:215:VAL:HG12	1.70	0.72
39:BT:49:VAL:HA	39:BT:63:VAL:HA	1.72	0.72
10:CK:62:GLN:HG3	10:CK:97:ALA:HB2	1.70	0.72
11:CL:37:CYS:SG	11:CL:38:THR:N	2.63	0.72
33:DN:137:LYS:NZ	33:DN:138:LEU:H	1.86	0.72
46:D0:24:LYS:HB2	46:D0:37:LEU:HA	1.69	0.72
59:DA:1792:G:H1	59:DA:1827:C:H42	1.37	0.72
10:AK:33:THR:HA	10:AK:39:PRO:HA	1.72	0.72
27:BE:65:GLY:HA2	27:BE:70:ALA:HA	1.70	0.72
34:BO:8:LEU:HD21	34:BO:21:CYS:HB2	1.72	0.72
59:BA:848:G:H2'	59:BA:849:A:C8	2.25	0.72
28:DF:154:VAL:HG23	28:DF:173:VAL:HG22	1.72	0.72
41:DV:7:THR:OG1	41:DV:8:GLY:N	2.19	0.72
16:AQ:43:LEU:HD12	16:AQ:69:LYS:HA	1.71	0.72
20:AA:975:A:H4'	20:AA:976:G:H5"	1.69	0.72
23:AY:603:GLU:OE2	23:AY:628:ARG:NH2	2.22	0.72
20:CA:68(A):G:H1	20:CA:68(Y):C:H42	1.37	0.72
26:DD:242:ARG:NH1	59:DA:1902:C:OP1	2.23	0.72
27:DE:28:ALA:HB3	27:DE:93:VAL:HG22	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:DE:61:ARG:HB2	27:DE:62:PRO:HD3	1.72	0.72
59:DA:585:G:N2	59:DA:1254:A:H62	1.86	0.72
59:DA:1022:G:O2'	59:DA:1023:U:OP2	2.04	0.72
23:AY:276:VAL:HA	23:AY:280:LEU:HD23	1.71	0.72
32:BK:116:ASN:HD22	59:BA:1058:G:H1'	1.55	0.72
59:BA:476:G:N1	59:BA:479:A:OP2	2.21	0.72
11:CL:8:ASN:ND2	20:CA:880:C:OP1	2.22	0.72
20:CA:406:G:H1	20:CA:436:C:H42	1.35	0.72
23:CY:19:ALA:N	23:CY:25:LYS:NZ	2.29	0.72
23:CY:314:PHE:N	23:CY:327:PHE:O	2.20	0.72
27:DE:199:ARG:HH12	27:DE:202:LYS:HZ3	1.36	0.72
40:DU:85:LYS:HD2	40:DU:117:GLN:HG2	1.71	0.72
59:DA:19:C:N4	59:DA:521:G:H1	1.86	0.72
57:B1:13:ILE:HG13	57:B1:17:SER:HB3	1.70	0.72
59:BA:579:G:H5"	59:BA:2018:G:H5"	1.72	0.72
59:BA:2178:C:H2'	59:BA:2179:C:H6	1.55	0.72
23:CY:25:LYS:HE2	23:CY:86:GLY:CA	2.20	0.72
59:DA:137(B):G:N2	59:DA:141(B):C:N3	2.33	0.72
46:B0:14:ARG:NH2	59:BA:2279:G:N7	2.38	0.72
1:CB:167:PRO:O	1:CB:171:ALA:HB2	1.89	0.72
1:CB:184:VAL:H	1:CB:198:ASP:HB2	1.55	0.72
10:CK:62:GLN:NE2	10:CK:93:GLN:OE1	2.22	0.72
20:CA:1124:G:H1	20:CA:1149:C:H42	1.37	0.72
26:DD:149:PRO:O	26:DD:151:LYS:NZ	2.22	0.72
59:DA:2818:G:H1	59:DA:2828:C:H42	1.34	0.72
12:AM:114:ARG:HB3	20:AA:1228:C:H5"	1.72	0.71
35:BP:21:ARG:NH2	59:BA:1192:G:OP2	2.23	0.71
59:BA:1511:A:H2'	59:BA:1512:G:C8	2.25	0.71
12:CM:14:ARG:NH1	20:CA:1302:U:O4	2.23	0.71
23:CY:27:THR:HG23	62:CY:702:GDP:PA	2.29	0.71
59:DA:612:G:N2	59:DA:616:A:O2'	2.23	0.71
59:DA:1309:G:N2	59:DA:1605:C:N3	2.35	0.71
11:AL:53:ARG:HG2	11:AL:93:LEU:HD22	1.72	0.71
46:B0:32:ARG:HA	46:B0:64:ASP:HA	1.72	0.71
52:B8:19:SER:OG	59:BA:651:G:OP1	2.07	0.71
1:CB:194:PRO:O	1:CB:196:LEU:N	2.23	0.71
17:CR:53:ARG:NH2	20:CA:834:C:OP1	2.22	0.71
20:CA:68(E):G:O6	20:CA:68(U):U:O2	2.08	0.71
59:DA:1279:G:H1	59:DA:1291:C:H42	1.36	0.71
59:DA:1423:G:H1	59:DA:1575:C:N4	1.87	0.71
25:BC:79:ALA:HB1	25:BC:83:LYS:HB2	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BG:66:GLN:HG2	58:B4:1:MET:HG2	1.71	0.71
30:BH:20:ALA:HB3	30:BH:23:ARG:HG3	1.72	0.71
58:B4:12:ALA:HB1	58:B4:31:ILE:HB	1.71	0.71
59:BA:2246:G:H2'	59:BA:2247:A:C8	2.26	0.71
20:CA:146:G:N2	20:CA:176:C:N3	2.32	0.71
20:CA:522:C:H42	20:CA:527:G:H1	1.34	0.71
20:CA:1113:C:H42	20:CA:1187:G:H1	1.37	0.71
23:CY:138:LYS:HG2	62:CY:702:GDP:C6	2.26	0.71
35:DP:45:LEU:HG	35:DP:46:LYS:HD2	1.72	0.71
59:DA:327:G:H1	59:DA:335:C:H42	1.39	0.71
59:DA:1063:G:H1	59:DA:1075:C:H42	1.38	0.71
59:DA:2632:A:N1	59:DA:2786:U:O4	2.23	0.71
10:AK:21:ILE:HB	10:AK:84:VAL:HA	1.71	0.71
20:AA:1502:A:H8	20:AA:1505:G:H22	1.38	0.71
25:BC:44:VAL:HB	25:BC:174:ALA:HB3	1.73	0.71
28:BF:60:SER:HB3	28:BF:62:ARG:HG3	1.72	0.71
35:BP:96:THR:HA	35:BP:126:VAL:HB	1.73	0.71
38:BS:71:ARG:HE	38:BS:103:GLU:HB3	1.56	0.71
59:BA:1659:U:H3	59:BA:2001:A:H61	1.37	0.71
60:BB:60:C:H2'	60:BB:61:G:C8	2.25	0.71
1:CB:95:GLN:OE1	1:CB:96:ARG:NH1	2.23	0.71
15:AP:30:GLY:HA2	20:AA:309:G:H5"	1.72	0.71
57:B1:58:ILE:HG13	57:B1:91:LYS:HB2	1.73	0.71
59:BA:570:G:H5'	59:BA:972:G:H4'	1.72	0.71
20:CA:1321:C:H3'	20:CA:1322:C:H5"	1.73	0.71
25:DC:164:PHE:HB3	25:DC:172:ILE:HG21	1.72	0.71
26:DD:231:HIS:O	26:DD:233:HIS:N	2.20	0.71
27:DE:92:THR:H	27:DE:95:ILE:HD11	1.53	0.71
41:DV:4:ILE:HD13	41:DV:40:LEU:HD23	1.71	0.71
47:D2:20:GLU:HA	47:D2:23:LYS:HD2	1.72	0.71
59:DA:122:G:H1	59:DA:129:C:N4	1.88	0.71
59:DA:150:C:H42	59:DA:176:G:H1	1.36	0.71
59:DA:2071:A:H2'	59:DA:2072:G:H8	1.53	0.71
4:AE:148:VAL:HG13	4:AE:152:ARG:HD2	1.73	0.71
12:AM:99:ARG:NH2	20:AA:1308:U:OP2	2.24	0.71
20:CA:816:A:H5'	20:CA:817:C:H2'	1.73	0.71
36:DQ:43:THR:HA	36:DQ:94:VAL:HG12	1.72	0.71
36:DQ:58:PHE:HZ	36:DQ:64:ILE:HD11	1.55	0.71
49:D5:46:CYS:HB3	49:D5:49:CYS:HB2	1.73	0.71
59:DA:1030:G:H1	59:DA:1124:C:N4	1.87	0.71
20:AA:427:U:H4'	20:AA:541:G:H5"	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:B6:15:GLU:HA	50:B6:49:HIS:HA	1.73	0.71
1:CB:162:ILE:HG23	1:CB:184:VAL:HG13	1.70	0.71
16:CQ:56:VAL:HG23	16:CQ:81:ARG:HG3	1.72	0.71
23:CY:627:ARG:NH2	23:CY:658:ASP:OD1	2.24	0.71
28:DF:154:VAL:O	28:DF:175:THR:HA	1.90	0.71
59:DA:1411:C:N4	59:DA:1591:G:H1	1.87	0.71
2:AC:157:ILE:HD13	2:AC:164:ARG:HE	1.56	0.71
6:AG:57:GLU:HB2	6:AG:60:LYS:HB2	1.71	0.71
20:AA:1414:U:H2'	20:AA:1415:G:H8	1.56	0.71
27:BE:49:LEU:HD21	27:BE:81:ILE:HG12	1.72	0.71
34:BO:66:LYS:HG3	59:BA:1665:A:H5"	1.73	0.71
44:BY:102:CYS:SG	44:BY:103:GLY:N	2.63	0.71
51:B7:34:ARG:HD3	51:B7:39:ARG:HD2	1.71	0.71
59:BA:226:G:C2	59:BA:228:A:N6	2.59	0.71
59:BA:1135:C:N4	59:BA:1138:G:OP2	2.17	0.71
20:CA:285:G:H2'	20:CA:286:G:H8	1.55	0.71
20:CA:984:C:H42	20:CA:1221:G:H1	1.36	0.71
49:D5:9:LYS:HZ1	59:DA:2018:G:H3'	1.55	0.71
11:AL:124:LYS:NZ	20:AA:501:C:OP2	2.20	0.71
33:BN:42:TRP:HA	33:BN:48:MET:HE1	1.72	0.71
59:BA:697:C:H42	59:BA:765:G:H1	1.36	0.71
20:CA:1060:C:H2'	20:CA:1061:G:C8	2.26	0.71
33:DN:48:MET:N	33:DN:48:MET:SD	2.63	0.71
59:DA:270(T):G:H2'	59:DA:270(U):G:H8	1.54	0.71
59:DA:273(G):C:H3'	59:DA:274:G:H5"	1.73	0.71
59:DA:2447:G:N2	59:DA:2450:A:OP2	2.23	0.71
4:AE:18:ARG:NH2	20:AA:1070:U:OP1	2.24	0.71
36:BQ:1:MET:O	36:BQ:2:LEU:HB2	1.91	0.71
44:BY:86:ARG:HG2	44:BY:88:LYS:H	1.56	0.71
59:BA:2505:G:H22	59:BA:2610:C:N4	1.87	0.71
30:DH:41:MET:HE1	30:DH:43:VAL:HG13	1.71	0.71
59:DA:814:C:N4	59:DA:1193:G:H1	1.89	0.71
28:BF:154:VAL:HG12	28:BF:156:LEU:HA	1.72	0.70
35:BP:58:THR:O	35:BP:61:ARG:NE	2.24	0.70
59:BA:326:G:H1	59:BA:336:C:N4	1.89	0.70
59:BA:1022:G:H22	59:BA:114(B):A:H2	1.37	0.70
59:BA:1438:U:H3	59:BA:1553:A:H8	1.37	0.70
21:CW:15:G:N2	21:CW:48:C:H42	1.88	0.70
27:DE:168:MET:HB2	59:DA:2731:G:H5'	1.72	0.70
38:DS:53:SER:HA	38:DS:65:VAL:HG11	1.71	0.70
18:AS:39:THR:HA	18:AS:70:LYS:HA	1.71	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1231:G:H2'	59:BA:1232:G:H8	1.55	0.70
59:BA:2078:C:H42	59:BA:2242:G:H1	1.37	0.70
20:CA:1537:U:H3	22:CV:8:A:H2	1.38	0.70
26:DD:45:ASN:HB3	59:DA:1813:G:H1'	1.71	0.70
40:DU:53:ARG:NH2	59:DA:994:C:OP1	2.24	0.70
44:DY:2:ARG:HH11	44:DY:3:VAL:H	1.39	0.70
52:D8:61:LEU:HD23	52:D8:62:LEU:HG	1.73	0.70
59:DA:846:C:H4'	59:DA:847:U:H5'	1.72	0.70
59:DA:1671:U:N3	59:DA:1674:G:OP2	2.24	0.70
8:AI:21:PRO:HA	8:AI:59:PHE:HA	1.73	0.70
11:AL:92:ASP:OD1	11:AL:92:ASP:N	2.24	0.70
61:AY:701:FUA:H202	61:AY:701:FUA:H5	1.73	0.70
30:BH:74:ASN:ND2	59:BA:2747:G:OP1	2.25	0.70
59:BA:1844:C:N4	59:BA:1896:G:H1	1.89	0.70
20:CA:1422:G:H1	20:CA:1478:C:N4	1.88	0.70
46:D0:27:GLU:HB3	46:D0:68:GLU:HA	1.72	0.70
48:D3:8:LEU:HB2	48:D3:28:LEU:HD12	1.73	0.70
59:DA:1019:U:H3	59:DA:1020:A:H62	1.36	0.70
59:DA:1718:G:N2	59:DA:1741:C:N3	2.36	0.70
59:DA:2395:C:N4	59:DA:2421:G:H1	1.89	0.70
20:AA:373:A:N3	20:AA:481:G:N2	2.35	0.70
23:AY:24:GLY:C	62:AY:702:GDP:O2A	2.34	0.70
23:AY:341:VAL:HG12	23:AY:391:GLY:HA2	1.74	0.70
25:BC:121:MET:O	25:BC:125:GLY:N	2.24	0.70
26:BD:3:VAL:HG22	26:BD:19:ALA:HA	1.72	0.70
1:CB:35:GLU:HA	1:CB:40:HIS:HA	1.72	0.70
20:CA:628:G:H2'	20:CA:629:G:C8	2.26	0.70
23:CY:23:ALA:O	23:CY:138:LYS:HE3	1.91	0.70
59:DA:1536:A:OP2	59:DA:1537:C:N4	2.23	0.70
59:DA:2125:G:H21	59:DA:2173:A:H62	0.80	0.70
10:AK:40:ILE:HD13	20:AA:685:G:H5'	1.73	0.70
20:AA:28:G:O2'	20:AA:296:U:OP1	2.09	0.70
20:AA:367:U:H4'	23:AY:351:ARG:HE	1.55	0.70
20:AA:801:U:H2'	20:AA:802:A:H8	1.56	0.70
25:BC:51:ASP:O	25:BC:53:ARG:N	2.21	0.70
25:BC:213:VAL:HG11	25:BC:225:ILE:HG12	1.74	0.70
29:BG:103:LEU:HD12	29:BG:107:LEU:HD21	1.73	0.70
32:BK:92:GLY:O	45:BZ:112:ARG:NH2	2.25	0.70
57:B1:3:LYS:HG3	57:B1:4:VAL:H	1.55	0.70
57:B1:45:ASN:HB3	57:B1:64:ALA:HB2	1.74	0.70
59:BA:1516:U:H2'	59:BA:1517:G:H8	1.54	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2454:G:H1	59:BA:2498:C:H42	1.40	0.70
7:CH:94:TYR:OH	20:CA:597:G:N2	2.24	0.70
20:CA:408:A:H2	20:CA:434:U:N3	1.83	0.70
20:CA:1060:C:H2'	20:CA:1061:G:H8	1.56	0.70
23:CY:20:HIS:CG	23:CY:21:ILE:H	2.10	0.70
23:CY:313:ALA:HA	23:CY:328:ILE:HA	1.71	0.70
25:DC:138:LEU:HD22	25:DC:139:PRO:HD2	1.73	0.70
34:DO:73:ASP:OD1	39:DT:32:TYR:OH	2.05	0.70
57:D1:20:ARG:HH11	57:D1:22:GLY:HA3	1.57	0.70
59:DA:1347:G:H1	59:DA:1599:C:H42	1.39	0.70
20:AA:112:G:N2	20:AA:315:A:N1	2.35	0.70
28:BF:176:LEU:HD21	28:BF:181:LEU:HA	1.74	0.70
38:BS:28:VAL:HG12	38:BS:38:GLN:H	1.57	0.70
49:B5:8:LYS:HZ2	59:BA:2056:G:H4'	1.57	0.70
52:B8:53:PRO:HA	52:B8:56:GLU:HB2	1.73	0.70
54:Be:74:VAL:HA	54:Be:78:LEU:HB2	1.72	0.70
20:CA:1512:U:H2'	20:CA:1513:A:C8	2.26	0.70
38:DS:35:ILE:HG22	38:DS:53:SER:HB2	1.72	0.70
45:DZ:151:HIS:HB3	45:DZ:170:THR:HA	1.73	0.70
59:DA:290:G:O6	59:DA:350:U:O2	2.09	0.70
59:DA:1361:G:O6	59:DA:1370:C:N3	2.24	0.70
25:BC:216:THR:HB	25:BC:222:SER:HB3	1.73	0.70
26:BD:264:LYS:HD3	26:BD:266:SER:H	1.56	0.70
33:BN:29:LYS:O	33:BN:32:THR:OG1	2.08	0.70
59:BA:57:C:N4	59:BA:70:G:H1	1.89	0.70
59:BA:1008:C:O2	59:BA:1009:A:N6	2.21	0.70
59:BA:1494:A:H2'	59:BA:1494:A:N3	2.07	0.70
59:BA:1538:G:H2'	59:BA:1539:G:H8	1.57	0.70
59:BA:2876:G:H2'	59:BA:2877:G:C8	2.27	0.70
20:CA:537:G:H2'	20:CA:538:G:C8	2.26	0.70
23:CY:177:ILE:HG13	23:CY:271:LEU:HD11	1.74	0.70
23:CY:511:LYS:HB2	23:CY:569:ASP:HB3	1.74	0.70
26:DD:202:LYS:HB3	59:DA:1820:U:H1'	1.73	0.70
57:D1:86:SER:HB2	57:D1:89:GLU:HB2	1.73	0.70
59:DA:137(A):C:N3	59:DA:142:G:N2	2.34	0.70
59:DA:270(C):A:O2'	59:DA:364:C:O2	2.10	0.70
36:BQ:43:THR:HA	36:BQ:94:VAL:HG12	1.72	0.70
46:B0:24:LYS:HB2	46:B0:37:LEU:HA	1.74	0.70
15:CP:72:ARG:NH1	20:CA:452:A:N3	2.40	0.70
59:DA:2634:G:H1	59:DA:2784:C:N4	1.90	0.70
17:AR:34:TYR:HB3	17:AR:69:THR:HG22	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AW:53:G:H1	21:AW:61:C:N4	1.89	0.70
23:AY:315:LYS:HB3	23:AY:327:PHE:HD2	1.56	0.70
28:BF:154:VAL:HG23	28:BF:173:VAL:HG22	1.73	0.70
29:BG:107:LEU:HA	29:BG:111:LEU:CD1	2.16	0.70
40:BU:49:HIS:HD2	59:BA:559:G:H22	1.39	0.70
26:DD:254:THR:HG21	59:DA:1824:G:H1'	1.72	0.70
43:DX:82:GLN:HE21	43:DX:83:VAL:H	1.39	0.70
46:D0:32:ARG:HA	46:D0:64:ASP:HA	1.73	0.70
57:D1:18:ILE:HG12	57:D1:20:ARG:H	1.55	0.70
59:DA:1287:A:C2	59:DA:1649:G:H4'	2.27	0.70
59:DA:2712:U:OP1	59:DA:2714:G:O2'	2.07	0.70
12:AM:105:THR:OG1	12:AM:106:ASN:N	2.22	0.70
29:BG:39:ILE:HG12	29:BG:92:VAL:HG12	1.72	0.70
59:BA:1007:C:H5"	59:BA:1008:C:C2'	2.21	0.70
59:BA:2593:U:H3	59:BA:2600:A:H61	1.38	0.70
59:BA:2848:G:O2'	59:BA:2867:G:N2	2.24	0.70
60:BB:51:G:H21	60:BB:52:A:H62	1.38	0.70
10:CK:81:ASP:HA	10:CK:106:LYS:O	1.92	0.70
18:CS:36:ARG:HB2	18:CS:72:GLY:HA3	1.74	0.70
34:DO:1:MET:N	59:DA:1665:A:O2'	2.20	0.70
42:DW:18:ARG:NH2	59:DA:517:C:O2'	2.25	0.70
11:AL:93:LEU:O	11:AL:95:GLY:N	2.25	0.69
23:AY:608:VAL:HG21	23:AY:652:MET:HE2	1.73	0.69
25:BC:16:ASP:O	25:BC:18:ASN:N	2.24	0.69
34:BO:1:MET:N	59:BA:1665:A:O2'	2.21	0.69
59:BA:2502:G:H5'	59:BA:2503:A:H5"	1.72	0.69
38:BS:89:ARG:HB3	38:BS:92:TYR:HB3	1.74	0.69
49:B5:15:ARG:NH1	59:BA:2046:G:OP1	2.15	0.69
5:CF:67:MET:HE1	5:CF:72:VAL:HB	1.73	0.69
16:CQ:9:VAL:HA	16:CQ:56:VAL:HG22	1.74	0.69
20:CA:1376:U:H2'	20:CA:1377:A:H8	1.57	0.69
23:CY:67:ALA:HB2	23:CY:363:ARG:HH21	1.56	0.69
27:DE:48:GLN:HE22	27:DE:64:LYS:HE3	1.55	0.69
40:DU:92:ARG:O	40:DU:96:ALA:N	2.25	0.69
59:DA:273(G):C:N3	59:DA:363(A):G:N2	2.36	0.69
3:AD:19:LEU:HB3	3:AD:67:ILE:HD13	1.73	0.69
43:BX:36:LYS:HD3	43:BX:54:VAL:HB	1.74	0.69
59:BA:83:G:H21	59:BA:103:A:H62	1.37	0.69
7:CH:21:LYS:N	7:CH:65:TYR:OH	2.23	0.69
28:DF:157:VAL:HG12	28:DF:192:LEU:HA	1.74	0.69
59:DA:453:C:H4'	59:DA:472:A:H61	1.56	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2133:G:H2'	59:DA:2157:G:H22	1.57	0.69
1:AB:101:MET:HB2	1:AB:102:LEU:HD12	1.73	0.69
11:AL:42:THR:HA	11:AL:52:LEU:HA	1.74	0.69
20:AA:940:C:H2'	20:AA:941:G:C8	2.27	0.69
20:AA:946:A:H2'	20:AA:947:G:C8	2.26	0.69
28:BF:101:LEU:HD12	28:BF:102:PRO:HD2	1.75	0.69
59:BA:499:U:O2	59:BA:503:A:N7	2.26	0.69
59:BA:1024:G:H3'	59:BA:1025:G:H5"	1.74	0.69
59:BA:2304:G:H1	59:BA:2312:U:H3	1.38	0.69
11:CL:93:LEU:O	11:CL:95:GLY:N	2.25	0.69
18:CS:29:ARG:HD2	18:CS:48:THR:HG21	1.74	0.69
20:CA:21:G:H2'	20:CA:22:G:C8	2.27	0.69
20:CA:1276:G:N2	20:CA:1282:C:O2	2.22	0.69
2:AC:66:VAL:HB	2:AC:101:LEU:HA	1.73	0.69
10:AK:84:VAL:HG21	10:AK:91:ARG:HD3	1.73	0.69
42:BW:4:LYS:O	42:BW:57:ASN:ND2	2.25	0.69
44:BY:46:LYS:HB2	44:BY:62:GLU:HB2	1.75	0.69
59:BA:2698:U:H2'	59:BA:2699:C:C6	2.27	0.69
8:CI:46:ALA:HB2	8:CI:74:ILE:HG23	1.74	0.69
11:CL:107:ALA:O	11:CL:109:GLY:N	2.25	0.69
20:CA:715:A:H2'	20:CA:716:A:C8	2.25	0.69
20:CA:1124:G:O2'	20:CA:1145:C:N4	2.25	0.69
26:DD:3:VAL:HG21	26:DD:200:ASP:HB3	1.74	0.69
32:DK:132:ARG:HH22	32:DK:138:VAL:HG23	1.58	0.69
52:D8:4:MET:SD	59:DA:592:G:N2	2.64	0.69
59:DA:1003:G:H1	59:DA:1152:C:H42	1.39	0.69
59:DA:2065:C:N4	59:DA:2445:G:H1	1.88	0.69
6:AG:31:MET:HE1	20:AA:1374:A:H1'	1.74	0.69
30:BH:16:SER:HB3	30:BH:27:LYS:HB3	1.73	0.69
3:CD:122:ARG:HD3	3:CD:136:PRO:HD3	1.74	0.69
23:CY:330:VAL:HG13	23:CY:331:TYR:H	1.57	0.69
23:CY:547:GLU:O	23:CY:551:GLN:NE2	2.24	0.69
39:DT:28:VAL:HA	39:DT:47:GLY:H	1.56	0.69
2:AC:4:LYS:HE3	20:AA:1191:A:H5'	1.74	0.69
17:AR:26:LEU:HD11	17:AR:42:ARG:HD2	1.75	0.69
28:BF:48:THR:HB	59:BA:442:G:H21	1.56	0.69
34:BO:8:LEU:HD12	34:BO:82:ASN:HB2	1.75	0.69
52:B8:2:PRO:HA	59:BA:591:C:H1'	1.74	0.69
52:B8:23:VAL:HG13	52:B8:48:PHE:HA	1.73	0.69
59:BA:1771:C:H42	59:BA:1980:G:H1	1.39	0.69
1:CB:108:ILE:HA	1:CB:111:ARG:HG3	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CD:25:ARG:HG3	3:CD:30:LYS:HE3	1.75	0.69
4:CE:143:ARG:NH1	7:CH:77:GLU:OE2	2.26	0.69
6:CG:15:ASP:HB3	6:CG:19:GLY:H	1.57	0.69
23:CY:486:THR:H	23:CY:600:VAL:HG12	1.57	0.69
23:CY:610:VAL:HG22	23:CY:643:ILE:HB	1.75	0.69
11:AL:37:CYS:SG	11:AL:38:THR:N	2.65	0.69
20:AA:1356:G:H2'	20:AA:1357:A:C8	2.28	0.69
41:BV:56:SER:H	41:BV:100:ARG:HG3	1.58	0.69
42:BW:92:ARG:NH2	59:BA:2015:A:OP1	2.25	0.69
59:BA:1570:A:H2'	59:BA:1571:A:C8	2.28	0.69
3:CD:74:GLN:NE2	20:CA:403:C:OP2	2.26	0.69
8:CI:120:ARG:HD2	20:CA:1348:U:H4'	1.75	0.69
11:CL:101:VAL:HB	11:CL:104:VAL:HG22	1.74	0.69
14:CO:38:ARG:HA	14:CO:38:ARG:HH11	1.58	0.69
18:CS:78:ARG:O	18:CS:81:ARG:NH1	2.26	0.69
34:DO:8:LEU:HD21	34:DO:21:CYS:HB2	1.74	0.69
36:DQ:54:MET:HG2	36:DQ:58:PHE:HE2	1.58	0.69
57:D1:79:GLY:HA3	59:DA:270(S):G:H1'	1.74	0.69
59:DA:76:C:N3	59:DA:110:G:N2	2.35	0.69
59:DA:234:C:H42	59:DA:430:G:H22	1.41	0.69
59:DA:465:G:HO2'	59:DA:683:C:HO2'	1.30	0.69
59:DA:557:U:H2'	59:DA:558:G:C8	2.27	0.69
59:DA:672:C:N4	59:DA:808:G:H1	1.88	0.69
59:DA:947:G:H2'	59:DA:948:G:H8	1.58	0.69
59:DA:2001:A:H2'	59:DA:2002:G:C8	2.28	0.69
18:AS:36:ARG:NH2	18:AS:72:GLY:O	2.26	0.69
27:BE:28:ALA:HB3	27:BE:93:VAL:HG22	1.75	0.69
27:BE:166:THR:HG21	27:BE:199:ARG:HH21	1.56	0.69
59:BA:442:G:H4'	59:BA:615:G:H22	1.57	0.69
59:BA:850:C:H42	59:BA:928:G:H1	1.38	0.69
59:BA:1417:C:N3	59:BA:1581:G:N2	2.35	0.69
3:CD:122:ARG:HE	20:CA:403:C:H4'	1.58	0.69
6:CG:114:ARG:HH12	20:CA:1297:C:H1'	1.57	0.69
12:CM:98:VAL:O	12:CM:99:ARG:NE	2.25	0.69
38:DS:28:VAL:HG12	38:DS:38:GLN:H	1.58	0.69
59:DA:848:G:N3	59:DA:933:A:O2'	2.25	0.69
12:AM:122:LYS:HB3	20:AA:953:G:O2'	1.91	0.69
26:BD:245:PRO:O	26:BD:247:ALA:N	2.26	0.69
27:BE:143:ASN:O	59:BA:2052:G:O2'	2.09	0.69
45:BZ:73:GLN:NE2	60:BB:102:G:N3	2.39	0.69
59:BA:390:A:H4'	59:BA:391:G:H5'	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:CY:535:PRO:HB2	23:CY:537:GLU:HG2	1.75	0.69
36:DQ:89:ASN:O	36:DQ:91:GLU:N	2.25	0.69
10:AK:114:VAL:HG11	17:AR:82:THR:HG21	1.74	0.68
20:AA:1321:C:H3'	20:AA:1322:C:H5"	1.75	0.68
37:BR:68:ARG:HH21	59:BA:2707:G:H5"	1.58	0.68
45:BZ:30:ASN:HB2	45:BZ:90:VAL:HB	1.76	0.68
5:CF:82:ARG:NH2	5:CF:84:ASN:OD1	2.26	0.68
20:CA:867:G:O2'	20:CA:873:A:N1	2.27	0.68
21:CW:15:G:H22	21:CW:48:C:N4	1.92	0.68
25:DC:16:ASP:O	25:DC:18:ASN:N	2.26	0.68
59:DA:560:C:H2'	59:DA:561:G:H8	1.57	0.68
59:DA:1010:A:N3	59:DA:1153:C:H1'	2.08	0.68
20:AA:628:G:H2'	20:AA:629:G:C8	2.28	0.68
20:AA:697:U:O2	20:AA:785:G:N2	2.26	0.68
20:AA:1503:A:H61	22:AV:14:A:H3'	1.57	0.68
21:AW:66:C:H2'	21:AW:67:G:H8	1.56	0.68
41:BV:40:LEU:HD12	41:BV:46:VAL:HA	1.76	0.68
45:BZ:19:ARG:NH2	60:BB:76:G:O3'	2.26	0.68
59:BA:909:A:H2'	59:BA:912:C:C5	2.28	0.68
59:BA:1264:G:H3'	59:BA:1265:A:H2'	1.74	0.68
20:CA:1059:C:N3	20:CA:1198:G:N2	2.34	0.68
57:D1:13:ILE:HG12	57:D1:17:SER:HB3	1.75	0.68
59:DA:2747:G:H21	59:DA:2757:A:H62	0.80	0.68
1:AB:88:ALA:HB1	1:AB:222:ILE:HD11	1.75	0.68
20:AA:114:U:O4	20:AA:313:A:N1	2.26	0.68
20:AA:1440(J):C:O2'	20:AA:1440(K):G:N3	2.27	0.68
23:AY:514:VAL:HA	23:AY:565:VAL:O	1.92	0.68
59:BA:1295:C:H42	59:BA:1645:G:H1	1.41	0.68
3:CD:72:GLU:OE2	3:CD:207:TYR:OH	2.11	0.68
11:CL:93:LEU:HG	11:CL:96:VAL:HG22	1.75	0.68
20:CA:1119:C:N3	20:CA:1154:G:O6	2.26	0.68
23:CY:137:ASN:ND2	23:CY:138:LYS:N	2.20	0.68
29:DG:35:GLU:HB2	29:DG:161:THR:HA	1.75	0.68
29:DG:98:ARG:HG2	29:DG:98:ARG:HH11	1.57	0.68
1:AB:34:ALA:HB1	1:AB:36:ARG:HD2	1.75	0.68
20:AA:537:G:H2'	20:AA:538:G:H8	1.59	0.68
20:AA:612:C:H2'	20:AA:613:C:C6	2.29	0.68
44:BY:84:ARG:HD2	44:BY:98:VAL:H	1.57	0.68
59:BA:36:G:H1	59:BA:444:C:N4	1.91	0.68
59:BA:2293:C:H42	59:BA:2339:G:H1	1.41	0.68
27:DE:147:PRO:HB2	27:DE:149:ARG:H	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:DZ:19:ARG:NH2	60:DB:76:G:O3'	2.24	0.68
3:AD:20:TYR:O	3:AD:22:LYS:N	2.27	0.68
5:AF:4:TYR:OH	20:AA:738:C:OP1	2.11	0.68
12:AM:8:GLU:HG2	12:AM:22:ILE:HG12	1.75	0.68
20:AA:537:G:H2'	20:AA:538:G:C8	2.28	0.68
27:BE:117:MET:HE3	27:BE:136:ARG:HA	1.75	0.68
37:BR:4:LEU:HB2	59:BA:1653:G:H3'	1.76	0.68
41:BV:55:ALA:HB1	41:BV:101:GLY:HA2	1.74	0.68
44:BY:76:CYS:HB3	44:BY:96:ILE:HG13	1.74	0.68
59:BA:558:G:H2'	59:BA:559:G:C8	2.29	0.68
59:BA:2505:G:N1	59:BA:2610:C:N3	2.39	0.68
23:CY:176:GLY:HA3	23:CY:187:THR:HA	1.75	0.68
59:DA:479:A:H1'	59:DA:481:G:H5"	1.76	0.68
59:DA:1028:A:H2'	59:DA:1029:A:C8	2.28	0.68
59:DA:1487:G:H1	59:DA:1502:C:N4	1.87	0.68
59:DA:2071:A:H2'	59:DA:2072:G:C8	2.27	0.68
35:BP:50:ARG:HB2	35:BP:57:THR:HB	1.76	0.68
59:BA:575:A:OP2	59:BA:2499:C:O2'	2.12	0.68
11:CL:5:PRO:HG2	11:CL:15:ARG:HH21	1.57	0.68
23:CY:309:LEU:HA	23:CY:333:GLY:HA3	1.74	0.68
23:CY:631:ILE:HA	23:CY:645:ALA:HA	1.75	0.68
53:D9:23:VAL:HB	53:D9:36:GLN:HG3	1.74	0.68
18:AS:78:ARG:O	18:AS:81:ARG:NH1	2.27	0.68
23:AY:91:THR:O	23:AY:93:GLU:N	2.27	0.68
23:AY:133:ILE:HG13	23:AY:272:LEU:HD11	1.75	0.68
27:BE:202:LYS:NZ	59:BA:2771:C:OP1	2.27	0.68
28:BF:63:LYS:HG3	28:BF:76:GLY:HA2	1.74	0.68
29:BG:11:TYR:HB2	29:BG:176:LEU:HD21	1.75	0.68
32:BK:126:MET:HE3	59:BA:1058:G:H21	1.59	0.68
40:BU:28:ARG:NH1	40:BU:38:THR:OG1	2.26	0.68
45:BZ:128:VAL:HB	45:BZ:161:VAL:HG13	1.76	0.68
46:B0:39:ARG:NH2	59:BA:2363:C:O2'	2.27	0.68
2:CC:72:LYS:HD2	2:CC:73:PRO:HD2	1.75	0.68
20:CA:137:C:H42	20:CA:226:G:H1	1.40	0.68
20:CA:576:G:N7	20:CA:881:G:H1'	2.08	0.68
20:CA:908:A:H2'	20:CA:909:A:C8	2.28	0.68
20:CA:1513:A:H2'	20:CA:1514:C:C6	2.28	0.68
28:DF:50:SER:HA	28:DF:92:PRO:HB2	1.74	0.68
59:DA:712:G:H1	59:DA:719:C:N4	1.91	0.68
59:DA:2038:G:C2'	59:DA:2039:C:H5'	2.24	0.68
59:DA:2400:G:H1	59:DA:2416:C:N4	1.91	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:B1:45:ASN:HD22	59:BA:2230:G:H1'	1.59	0.68
59:BA:2243:U:H2'	59:BA:2244:U:H6	1.59	0.68
2:CC:66:VAL:HG21	2:CC:91:LEU:HD13	1.75	0.68
20:CA:127:G:H1	20:CA:234:C:H42	1.41	0.68
20:CA:1266:G:N2	20:CA:1269:A:OP2	2.25	0.68
28:DF:158:THR:OG1	28:DF:159:GLY:N	2.25	0.68
32:DK:115:LEU:O	59:DA:1058:G:O2'	2.12	0.68
59:DA:24:G:N1	59:DA:516:C:O2	2.19	0.68
1:AB:27:LYS:HB2	1:AB:194:PRO:HG3	1.76	0.68
4:AE:126:ARG:HE	20:AA:9:G:H5"	1.59	0.68
12:AM:58:GLU:O	12:AM:62:ASN:ND2	2.26	0.68
33:BN:42:TRP:N	40:BU:64:ARG:HD2	2.08	0.68
11:CL:54:LYS:HD2	11:CL:70:ILE:HG12	1.75	0.68
20:CA:186(N):U:H2'	20:CA:186(O):G:H8	1.58	0.68
20:CA:370:C:H42	20:CA:391:G:H1	1.39	0.68
59:DA:558:G:H2'	59:DA:559:G:C8	2.28	0.68
59:DA:2751:G:OP1	59:DA:2751:G:N2	2.18	0.68
23:AY:162:VAL:HB	23:AY:255:ILE:HG13	1.76	0.68
57:B1:14:VAL:HG13	57:B1:41:ARG:HD2	1.75	0.68
13:CN:9:LYS:NZ	20:CA:980:C:O3'	2.27	0.68
23:CY:131:PRO:HG2	23:CY:281:PRO:HG3	1.75	0.68
25:DC:27:ALA:HB3	25:DC:28:ARG:HE	1.59	0.68
27:DE:37:ARG:NH1	27:DE:44:TYR:OH	2.27	0.68
41:DV:47:VAL:HG12	41:DV:52:VAL:HB	1.76	0.68
41:DV:84:LYS:NZ	59:DA:1226:A:OP1	2.21	0.68
26:BD:24:ILE:HG13	26:BD:82:ILE:HB	1.76	0.67
51:B7:3:ARG:HG3	59:BA:1613:G:H1'	1.76	0.67
59:BA:1136:G:O2'	59:BA:2038:G:O2'	2.12	0.67
20:CA:1510:U:H3	20:CA:1525:G:H1	1.41	0.67
30:DH:41:MET:SD	30:DH:42:ARG:N	2.64	0.67
37:DR:2:ARG:HB2	59:DA:2723:C:H5"	1.76	0.67
39:DT:49:VAL:HG22	39:DT:50:ILE:H	1.57	0.67
59:DA:875:G:H1	59:DA:902:C:H42	1.40	0.67
10:AK:111:ASP:HA	17:AR:84:LYS:HG3	1.75	0.67
20:AA:68(B):G:O6	20:AA:68(X):U:O2	2.12	0.67
21:AW:12:U:H3	21:AW:23:A:H61	1.42	0.67
25:BC:132:LEU:O	25:BC:137:LEU:N	2.27	0.67
51:B7:11:LYS:O	51:B7:15:THR:OG1	2.07	0.67
45:DZ:72:ARG:NH1	60:DB:103:U:O3'	2.27	0.67
50:D6:6:ARG:H	50:D6:6:ARG:HD2	1.59	0.67
59:DA:1541:U:H3'	59:DA:1542:G:O3'	1.95	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AQ:68:ARG:O	16:AQ:70:ARG:N	2.26	0.67
18:AS:36:ARG:HB2	18:AS:72:GLY:HA3	1.77	0.67
23:AY:341:VAL:HG22	23:AY:352:VAL:HG12	1.74	0.67
34:BO:112:MET:N	34:BO:112:MET:SD	2.67	0.67
59:BA:1014:U:H3	59:BA:1148:A:H61	1.39	0.67
59:BA:1434:A:H2'	59:BA:1435:G:C8	2.28	0.67
59:BA:1690:A:H62	59:BA:1697:G:H21	1.41	0.67
2:CC:48:TYR:O	2:CC:50:ALA:N	2.28	0.67
5:CF:87:ARG:NH2	20:CA:673:G:O3'	2.27	0.67
17:CR:40:LEU:HA	17:CR:43:PHE:HB2	1.76	0.67
23:CY:491:VAL:H	23:CY:514:VAL:HG22	1.58	0.67
23:CY:605:ILE:HG13	23:CY:648:PRO:HA	1.76	0.67
26:DD:110:GLY:HA3	26:DD:127:VAL:HG11	1.75	0.67
26:DD:164:GLN:O	26:DD:164:GLN:NE2	2.27	0.67
59:DA:1999:C:O2	59:DA:2687:U:O2'	2.11	0.67
9:AJ:51:ARG:HB3	20:AA:1060:C:H4'	1.75	0.67
11:AL:6:THR:O	11:AL:8:ASN:N	2.28	0.67
20:AA:520:A:H62	20:AA:529:G:H21	1.42	0.67
26:DD:260:ARG:NH2	26:DD:266:SER:OG	2.28	0.67
49:D5:18:ALA:HA	49:D5:21:SER:HB3	1.75	0.67
57:D1:12:PRO:HA	57:D1:43:TYR:HB2	1.76	0.67
59:DA:380:U:H3	59:DA:394:A:H61	1.41	0.67
59:DA:476:G:N1	59:DA:479:A:OP2	2.25	0.67
59:DA:2127:G:O6	59:DA:2161:C:N3	2.27	0.67
60:DB:40:U:H3'	60:DB:41:U:H5"	1.76	0.67
8:AI:113:LYS:H	8:AI:119:ALA:HA	1.60	0.67
14:AO:16:ALA:HB1	14:AO:21:ASP:HB3	1.76	0.67
14:AO:77:ARG:HA	14:AO:80:ALA:HB3	1.76	0.67
20:AA:68(E):G:C6	20:AA:68(U):U:O2	2.47	0.67
20:AA:68(F):C:H2'	20:AA:68(G):G:C8	2.30	0.67
28:BF:188:ARG:HB3	35:BP:7:ARG:HH22	1.60	0.67
42:BW:76:VAL:HG23	42:BW:103:ILE:HG13	1.77	0.67
59:BA:2185:C:H2'	59:BA:2186:G:H8	1.58	0.67
4:CE:10:MET:SD	4:CE:10:MET:N	2.68	0.67
59:DA:1090:U:H2'	59:DA:1091:G:C8	2.29	0.67
59:DA:1474:C:H42	59:DA:1519:G:H1	1.42	0.67
59:DA:2049:G:H1	59:DA:2619:C:H42	1.42	0.67
11:AL:71:PRO:HG2	11:AL:102:ARG:HG2	1.77	0.67
20:AA:925:G:O2'	20:AA:927:G:OP1	2.13	0.67
23:AY:679:VAL:HB	23:AY:683:VAL:HB	1.76	0.67
45:BZ:99:TYR:HB3	45:BZ:123:ASP:HB2	1.75	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:CH:15:ASN:ND2	20:CA:826:C:O2	2.28	0.67
20:CA:186(F):C:H42	20:CA:186(K):G:H1	1.41	0.67
28:DF:191:ARG:O	28:DF:193:VAL:N	2.27	0.67
35:DP:56:SER:HB2	35:DP:59:LEU:HB3	1.76	0.67
44:DY:2:ARG:HD3	44:DY:3:VAL:HG23	1.75	0.67
45:DZ:58:VAL:HG22	45:DZ:68:PRO:HB3	1.76	0.67
50:D6:30:THR:O	50:D6:32:ASN:N	2.28	0.67
11:AL:34:ARG:HG3	11:AL:82:VAL:HG13	1.77	0.67
20:AA:68(K):U:N3	20:AA:68(N):U:OP2	2.26	0.67
51:B7:30:VAL:O	51:B7:34:ARG:HG2	1.95	0.67
59:BA:1018:C:H2'	59:BA:1019:U:H6	1.60	0.67
20:CA:815:A:N6	20:CA:1508:G:N2	2.41	0.67
50:B6:30:THR:O	50:B6:32:ASN:N	2.28	0.67
59:BA:2037:G:H2'	59:BA:2038:G:H8	1.59	0.67
10:CK:120:ARG:H	10:CK:121:PRO:HD3	1.60	0.67
16:CQ:63:ARG:HH21	20:CA:130:A:H5'	1.60	0.67
20:CA:299:G:N2	20:CA:566:G:O6	2.25	0.67
20:CA:663:A:H61	20:CA:742:G:H1	1.43	0.67
59:DA:1467:C:N3	59:DA:1525:G:N2	2.37	0.67
59:DA:1478:G:H2'	59:DA:1479:G:C8	2.30	0.67
59:DA:1689:A:H62	59:DA:1698:A:H2	1.40	0.67
59:DA:1856:G:H1	59:DA:1886:C:N4	1.92	0.67
21:AW:50:C:N3	21:AW:64:G:N2	2.38	0.67
23:AY:83:ASP:C	23:AY:85:PRO:HD3	2.19	0.67
26:BD:88:ARG:NH2	59:BA:1817:G:OP1	2.25	0.67
33:BN:110:GLY:O	33:BN:112:LEU:N	2.28	0.67
33:BN:111:PRO:HA	33:BN:114:ARG:HE	1.60	0.67
42:BW:78:GLU:O	59:BA:24:G:O2'	2.13	0.67
59:BA:1064:C:N4	59:BA:1070:A:OP1	2.28	0.67
3:CD:26:CYS:HA	3:CD:31:CYS:HA	1.75	0.67
11:CL:118:SER:HB3	20:CA:35:G:H21	1.60	0.67
11:CL:124:LYS:NZ	20:CA:501:C:OP2	2.20	0.67
20:CA:1218:C:H2'	20:CA:1219:U:C6	2.29	0.67
59:DA:436:C:H2'	59:DA:438:G:C8	2.30	0.67
60:DB:86:G:H1	60:DB:90:C:N4	1.93	0.67
37:BR:64:ARG:O	37:BR:68:ARG:N	2.28	0.67
51:B7:40:TRP:CH2	59:BA:458:G:H1'	2.30	0.67
59:BA:19:C:H2'	59:BA:20:C:C6	2.30	0.67
59:BA:404:C:H4'	59:BA:405:U:H5"	1.76	0.67
59:BA:1778:U:H3	59:BA:1785:A:H62	1.41	0.67
59:BA:1838:C:H4'	59:BA:1839:G:H5'	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2109:U:O4	59:BA:2180:U:O4	2.12	0.67
15:CP:67:THR:H	15:CP:70:ALA:HB3	1.60	0.67
20:CA:1040:U:H2'	20:CA:1041:A:C8	2.30	0.67
20:CA:1408:A:N6	24:CU:1:KBE:HA	2.09	0.67
26:DD:226:MET:HE2	26:DD:230:ASP:HB3	1.75	0.67
44:DY:76:CYS:O	44:DY:78:ALA:N	2.28	0.67
59:DA:453:C:O2	59:DA:457:A:O2'	2.13	0.67
59:DA:1613:G:H3'	59:DA:1614:A:H5'	1.77	0.67
2:AC:8:ILE:HD11	2:AC:184:TYR:HB3	1.77	0.66
11:AL:70:ILE:HA	11:AL:100:ILE:HB	1.76	0.66
12:AM:37:THR:HG22	12:AM:59:TYR:HB3	1.77	0.66
16:AQ:66:SER:OG	16:AQ:67:LYS:N	2.27	0.66
20:AA:458(A):G:H21	20:AA:458(E):A:H62	1.43	0.66
34:BO:64:ARG:HB2	34:BO:83:ALA:HB3	1.76	0.66
20:CA:253:U:O4	20:CA:273:A:N1	2.29	0.66
20:CA:346:G:H4'	39:DT:41:ARG:HH22	1.58	0.66
33:DN:80:GLY:N	59:DA:1131:G:OP1	2.27	0.66
35:DP:96:THR:HA	35:DP:126:VAL:HB	1.77	0.66
59:DA:1335:U:H2'	59:DA:1336:A:C8	2.29	0.66
59:DA:1791:A:N6	59:DA:1828:G:O2'	2.27	0.66
59:DA:2711:A:H5"	59:DA:2712:U:H5'	1.77	0.66
1:AB:175:ARG:NH2	20:AA:1075:C:O3'	2.27	0.66
25:BC:62:THR:O	25:BC:62:THR:OG1	2.04	0.66
42:BW:68:ARG:HB3	42:BW:110:LYS:H	1.61	0.66
59:BA:2243:U:H2'	59:BA:2244:U:C6	2.31	0.66
4:CE:35:GLY:HA3	4:CE:112:LEU:HB3	1.77	0.66
20:CA:454:C:N4	20:CA:479:C:N3	2.43	0.66
20:CA:1488:G:H2'	20:CA:1489:G:C8	2.30	0.66
39:DT:53:ARG:HH12	39:DT:60:THR:H	1.44	0.66
49:D5:30:LEU:HB2	49:D5:39:MET:HE3	1.78	0.66
52:D8:31:HIS:NE2	59:DA:2392:A:OP2	2.28	0.66
52:D8:62:LEU:HD13	59:DA:242:G:H5"	1.77	0.66
59:DA:1057:A:N6	59:DA:1087:G:OP1	2.23	0.66
59:DA:2812:G:H2'	59:DA:2813:A:C8	2.29	0.66
37:BR:64:ARG:NH2	59:BA:2706:G:O2'	2.20	0.66
59:BA:2711:A:H3'	59:BA:2712:U:H5'	1.76	0.66
3:CD:20:TYR:O	3:CD:22:LYS:N	2.28	0.66
43:DX:8:ILE:HA	43:DX:30:VAL:HG12	1.76	0.66
59:DA:582:G:H2'	59:DA:583:G:C8	2.30	0.66
59:DA:1135:C:H42	59:DA:1138:G:H8	1.42	0.66
59:DA:1957:C:H2'	59:DA:1958:C:C6	2.31	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AB:95:GLN:OE1	1:AB:96:ARG:NH1	2.29	0.66
16:AQ:100:LYS:HB2	20:AA:246:A:H3'	1.78	0.66
26:BD:131:LEU:HD13	26:BD:136:ILE:HD11	1.78	0.66
33:BN:100:GLU:HB3	33:BN:117:PHE:HZ	1.60	0.66
1:CB:115:LEU:HD13	1:CB:145:LEU:HB3	1.77	0.66
3:CD:132:ARG:NH2	20:CA:490:G:OP2	2.28	0.66
20:CA:186(J):G:H4'	20:CA:186(K):G:OP2	1.93	0.66
20:CA:408:A:C2	20:CA:434:U:N3	2.50	0.66
20:CA:769:G:H1	20:CA:810:C:H42	1.44	0.66
23:CY:606:MET:HG3	23:CY:649:LEU:HD21	1.75	0.66
25:DC:140:ASN:O	25:DC:142:LYS:N	2.29	0.66
36:DQ:87:LYS:HB2	59:DA:2277:G:OP1	1.95	0.66
42:DW:13:SER:OG	59:DA:1266:G:O6	2.12	0.66
59:DA:678:C:H42	59:DA:799:G:H1	1.42	0.66
59:DA:1230:C:H2'	59:DA:1231:G:C8	2.30	0.66
11:AL:92:ASP:HB2	11:AL:93:LEU:HD23	1.78	0.66
23:AY:22:ASP:O	62:AY:702:GDP:O3A	2.13	0.66
33:BN:118:LYS:O	33:BN:121:LYS:NZ	2.17	0.66
59:BA:32:C:N4	59:BA:447:A:OP2	2.29	0.66
59:BA:1007:C:H5"	59:BA:1008:C:H3'	1.78	0.66
25:DC:115:VAL:H	25:DC:145:THR:HG22	1.60	0.66
29:DG:66:GLN:HG2	58:D4:1:MET:HG2	1.78	0.66
32:DK:14:ALA:HB3	32:DK:50:ASP:HA	1.76	0.66
33:DN:137:LYS:NZ	33:DN:137:LYS:HB3	2.10	0.66
38:DS:74:ALA:HB2	38:DS:104:GLY:HA2	1.76	0.66
59:DA:144:C:H2'	59:DA:145:G:H8	1.59	0.66
20:AA:67:C:H2'	20:AA:68:G:C8	2.30	0.66
24:AU:3:SER:HB2	59:BA:1913:A:H2'	1.77	0.66
25:BC:33:LEU:HD13	25:BC:221:PRO:HG2	1.78	0.66
36:BQ:27:VAL:HG12	36:BQ:29:PHE:H	1.61	0.66
41:BV:35:LEU:HD23	41:BV:57:VAL:HG22	1.77	0.66
57:B1:50:ARG:HA	57:B1:59:THR:HA	1.77	0.66
7:CH:10:LEU:HD22	7:CH:83:ILE:HD11	1.78	0.66
8:CI:114:TYR:HB2	20:CA:1367:C:H5"	1.78	0.66
12:CM:3:ARG:HE	12:CM:7:VAL:HG13	1.60	0.66
20:CA:114:U:H2'	20:CA:115:G:C8	2.30	0.66
20:CA:186(N):U:H2'	20:CA:186(O):G:C8	2.31	0.66
20:CA:476:G:H2'	20:CA:477:G:C8	2.29	0.66
23:CY:272:LEU:HA	23:CY:275:ALA:HB3	1.78	0.66
28:DF:59:TYR:OH	59:DA:470:A:OP1	2.08	0.66
44:DY:74:PRO:HB2	44:DY:96:ILE:HD11	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:D8:19:SER:OG	59:DA:651:G:OP1	2.14	0.66
59:DA:307:G:H21	59:DA:330:A:H62	1.44	0.66
59:DA:808:G:H2'	59:DA:809:G:C8	2.31	0.66
59:DA:868:U:H3	59:DA:909:A:H61	1.42	0.66
59:DA:1039:G:N2	59:DA:1116:C:N3	2.36	0.66
59:DA:1604:C:H2'	59:DA:1605:C:C6	2.31	0.66
8:AI:96:LEU:HG	8:AI:101:PHE:HB2	1.78	0.66
20:AA:237:C:H2'	20:AA:238:G:C8	2.30	0.66
20:AA:1512:U:H2'	20:AA:1513:A:C8	2.29	0.66
32:BK:90:LYS:NZ	59:BA:1076:C:O2'	2.29	0.66
35:BP:47:ASP:OD1	35:BP:50:ARG:NH2	2.29	0.66
37:BR:104:ARG:HB3	37:BR:109:ALA:HB3	1.77	0.66
48:B3:6:VAL:HG22	48:B3:37:LEU:HD11	1.77	0.66
59:BA:839:U:H2'	59:BA:840:C:C6	2.31	0.66
59:BA:871:U:H2'	59:BA:872:A:C8	2.30	0.66
59:BA:1335:U:H2'	59:BA:1336:A:C8	2.30	0.66
60:BB:24:G:C6	60:BB:56:G:N3	2.64	0.66
26:DD:231:HIS:HE2	59:DA:1825:A:H5"	1.59	0.66
28:DF:89:VAL:HG21	59:DA:586:A:H5'	1.76	0.66
34:DO:64:ARG:HB2	34:DO:83:ALA:HB3	1.77	0.66
44:DY:102:CYS:SG	44:DY:103:GLY:N	2.65	0.66
54:De:84:LEU:HA	54:De:87:LYS:HD2	1.78	0.66
59:DA:278:A:O2'	59:DA:279:C:O5'	2.12	0.66
11:AL:58:VAL:HG11	11:AL:85:ILE:HG12	1.76	0.66
20:AA:791:G:N2	20:AA:1497:G:O3'	2.29	0.66
20:AA:867:G:O2'	20:AA:873:A:N1	2.28	0.66
26:BD:219:PRO:HG3	59:BA:764:A:H2	1.59	0.66
30:BH:121:ILE:HG22	30:BH:135:GLY:HA2	1.78	0.66
59:BA:528:A:N1	59:BA:2042:A:H2'	2.10	0.66
59:BA:1326:U:O2'	59:BA:2010:G:O2'	2.13	0.66
59:BA:2020:A:N1	59:BA:2034:U:O4	2.29	0.66
2:CC:11:ARG:O	2:CC:13:GLY:N	2.28	0.66
28:DF:176:LEU:HD21	28:DF:181:LEU:HA	1.77	0.66
59:DA:926:A:H2'	59:DA:928:G:C8	2.31	0.66
40:BU:64:ARG:HB2	40:BU:64:ARG:HH21	1.60	0.66
59:BA:24:G:O6	59:BA:516:C:N3	2.29	0.66
59:BA:573:G:N1	59:BA:2031:A:OP2	2.22	0.66
59:BA:1801:G:N2	59:BA:2207:C:O2'	2.25	0.66
59:BA:2049:G:H1	59:BA:2619:C:H42	1.42	0.66
8:CI:127:LYS:O	20:CA:966:G:O2'	2.13	0.66
12:CM:45:VAL:HG23	12:CM:48:LEU:HD12	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:DD:180:GLY:HA3	26:DD:275:LYS:HB3	1.78	0.66
3:AD:101:LEU:HD11	3:AD:126:ILE:HG21	1.78	0.66
20:AA:681:C:N4	20:AA:709:G:H1	1.94	0.66
21:AW:39:U:H2'	21:AW:40:G:H8	1.60	0.66
28:BF:3:GLU:HA	28:BF:24:LEU:H	1.60	0.66
57:B1:13:ILE:HG13	57:B1:17:SER:CB	2.26	0.66
59:BA:227:A:H61	59:BA:410:G:H21	1.42	0.66
2:CC:88:ARG:HA	2:CC:91:LEU:HD12	1.78	0.66
20:CA:505:G:N2	20:CA:526:C:N3	2.40	0.66
35:DP:41:ARG:NH1	59:DA:832:G:OP1	2.29	0.66
20:AA:892:A:O2'	20:AA:1415:G:O2'	2.14	0.65
27:BE:22:PRO:O	27:BE:186:GLY:N	2.29	0.65
28:BF:54:ARG:NH2	28:BF:77:ASP:OD2	2.29	0.65
37:BR:104:ARG:HB2	37:BR:111:LEU:HD21	1.77	0.65
49:B5:20:ARG:HA	49:B5:23:HIS:HB2	1.78	0.65
53:B9:14:CYS:SG	53:B9:27:CYS:HB2	2.36	0.65
60:BB:104:A:H2'	60:BB:105:G:O4'	1.95	0.65
1:CB:19:HIS:HB2	1:CB:204:ASN:HD22	1.62	0.65
16:CQ:68:ARG:O	16:CQ:70:ARG:N	2.26	0.65
52:D8:53:PRO:HA	52:D8:56:GLU:HB2	1.78	0.65
59:DA:2707:G:H2'	59:DA:2708:G:H8	1.61	0.65
23:AY:631:ILE:HA	23:AY:645:ALA:HA	1.78	0.65
25:BC:115:VAL:H	25:BC:145:THR:HG22	1.61	0.65
27:BE:109:LYS:NZ	59:BA:2681:C:OP2	2.25	0.65
29:BG:41:GLN:HB2	29:BG:90:LEU:HD23	1.79	0.65
51:B7:21:ARG:NH2	59:BA:684:G:OP1	2.30	0.65
52:B8:26:LYS:HG2	52:B8:47:LYS:HG3	1.76	0.65
59:BA:558:G:H2'	59:BA:559:G:H8	1.59	0.65
59:BA:911:A:O2'	59:BA:2263:C:O2'	2.14	0.65
7:CH:86:ILE:HG21	7:CH:133:LEU:HD23	1.78	0.65
14:CO:69:TYR:OH	20:CA:753:A:OP1	2.14	0.65
23:CY:408:VAL:HG22	23:CY:454:MET:HA	1.78	0.65
32:DK:126:MET:HE3	59:DA:1058:G:H21	1.60	0.65
59:DA:131:G:H1	59:DA:148:C:H42	1.41	0.65
59:DA:661:C:H2'	59:DA:662:G:C8	2.32	0.65
3:AD:108:LEU:HD21	3:AD:183:GLY:HA3	1.78	0.65
25:BC:132:LEU:HD22	25:BC:137:LEU:HD12	1.78	0.65
26:BD:244:ARG:NH1	59:BA:1841:U:O2'	2.27	0.65
28:BF:106:ARG:NH1	59:BA:618(A):G:OP1	2.29	0.65
29:BG:72:ARG:HB3	29:BG:87:PRO:HD2	1.76	0.65
29:BG:173:LEU:HB3	29:BG:178:PHE:HB2	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BR:4:LEU:O	37:BR:6:SER:N	2.29	0.65
46:B0:21:LEU:HD23	46:B0:39:ARG:HB3	1.77	0.65
49:B5:40:LYS:HE2	49:B5:46:CYS:HB2	1.77	0.65
59:BA:1631:A:C5	59:BA:1683:C:H5'	2.31	0.65
20:CA:1070:U:H3	20:CA:1105:A:H61	1.44	0.65
39:DT:24:PRO:HB3	39:DT:97:ALA:HA	1.76	0.65
57:D1:7:ILE:HD11	57:D1:62:VAL:HA	1.78	0.65
59:DA:459:U:C5	59:DA:470:A:N7	2.64	0.65
59:DA:1288:U:C4	59:DA:1327:C:H1'	2.31	0.65
59:DA:2372:G:H2'	59:DA:2373:G:C8	2.31	0.65
59:DA:2649:U:H2'	59:DA:2650:U:H6	1.61	0.65
20:AA:1308:U:H2'	20:AA:1309:G:C8	2.31	0.65
23:AY:610:VAL:HG22	23:AY:643:ILE:HB	1.78	0.65
26:BD:60:ARG:NE	59:BA:1567:A:OP1	2.25	0.65
26:BD:125:ILE:HG21	26:BD:137:PRO:HG2	1.78	0.65
27:BE:119:ARG:NH1	27:BE:156:MET:O	2.30	0.65
38:BS:74:ALA:HA	38:BS:105:ALA:HB2	1.77	0.65
45:BZ:137:ILE:HG23	45:BZ:156:LYS:HB3	1.79	0.65
59:BA:1454:U:O2'	59:BA:1455:G:N7	2.29	0.65
59:BA:1478:G:H2'	59:BA:1479:G:H8	1.59	0.65
59:BA:1540:G:C2	59:BA:1541:U:H1'	2.32	0.65
59:BA:1957:C:H2'	59:BA:1958:C:C6	2.31	0.65
59:BA:2514:U:H2'	59:BA:2515:C:C6	2.32	0.65
8:CI:32:ASP:OD2	8:CI:32:ASP:N	2.30	0.65
20:CA:68(E):G:C6	20:CA:68(U):U:O2	2.49	0.65
20:CA:271:C:H2'	20:CA:272:C:O4'	1.97	0.65
20:CA:927:G:O6	20:CA:1390:U:O2	2.14	0.65
23:CY:139:MET:H	23:CY:262:SER:HB2	1.60	0.65
23:CY:338:GLY:O	23:CY:351:ARG:NH2	2.29	0.65
40:DU:54:LYS:HE2	59:DA:995:C:H5"	1.79	0.65
52:D8:61:LEU:HG	59:DA:593:G:H4'	1.78	0.65
23:AY:15:ILE:HD11	23:AY:81:ILE:HG13	1.77	0.65
23:AY:256:THR:O	23:AY:258:VAL:N	2.29	0.65
34:BO:18:LYS:HB2	34:BO:45:GLU:HB3	1.77	0.65
59:BA:682:G:N2	59:BA:795:C:N3	2.35	0.65
59:BA:1862:G:H1	59:BA:1880:C:H42	1.42	0.65
5:CF:47:ARG:HA	5:CF:57:GLN:HA	1.77	0.65
18:CS:31:ILE:HG12	18:CS:49:ILE:HA	1.78	0.65
23:CY:86:GLY:O	23:CY:88:VAL:N	2.29	0.65
57:D1:18:ILE:HG12	57:D1:20:ARG:N	2.11	0.65
59:DA:24:G:O6	59:DA:516:C:N3	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:465:G:H2'	59:DA:466:A:C5	2.31	0.65
59:DA:648:G:H2'	59:DA:649:G:H8	1.61	0.65
59:DA:2355:C:H42	59:DA:2362:G:H1	1.45	0.65
59:DA:2671:A:H2'	59:DA:2672:G:C8	2.31	0.65
3:AD:43:HIS:HA	3:AD:46:LYS:HD3	1.78	0.65
8:AI:57:GLY:O	8:AI:59:PHE:N	2.25	0.65
20:AA:34:C:H2'	20:AA:35:G:C8	2.31	0.65
26:BD:180:GLY:HA3	26:BD:275:LYS:HB3	1.77	0.65
30:BH:86:GLU:HB2	30:BH:132:ARG:HA	1.76	0.65
8:CI:104:ARG:HH21	8:CI:105:ASP:HB3	1.61	0.65
11:CL:95:GLY:O	11:CL:97:ARG:N	2.25	0.65
20:CA:993:G:O6	20:CA:1045:C:N3	2.30	0.65
20:CA:1172:C:H2'	20:CA:1173:G:C8	2.31	0.65
20:CA:1495:U:OP2	23:CY:504:ARG:NH1	2.30	0.65
33:DN:76:SER:HB3	59:DA:2641:G:H4'	1.78	0.65
39:DT:32:TYR:HB3	39:DT:82:LEU:HA	1.78	0.65
3:AD:152:SER:HA	3:AD:155:LEU:HG	1.78	0.65
31:BJ:50:UNK:O	31:BJ:52:UNK:N	2.30	0.65
19:CT:79:ARG:NH2	20:CA:261:U:OP2	2.30	0.65
19:CT:80:ARG:NH2	20:CA:260:G:OP1	2.30	0.65
20:CA:34:C:H2'	20:CA:35:G:C8	2.32	0.65
20:CA:1430:C:H42	20:CA:1470:G:H1	1.45	0.65
26:DD:13:ARG:NH1	59:DA:729:G:OP2	2.29	0.65
33:DN:58:ASP:OD1	33:DN:58:ASP:N	2.30	0.65
35:DP:39:LYS:NZ	59:DA:808:G:O6	2.22	0.65
36:DQ:27:VAL:HG12	36:DQ:29:PHE:H	1.61	0.65
48:D3:40:THR:O	48:D3:42:ALA:N	2.30	0.65
59:DA:479:A:H4'	59:DA:480:A:H5'	1.79	0.65
59:DA:659:C:H2'	59:DA:660:G:C8	2.32	0.65
20:AA:285:G:H2'	20:AA:286:G:C8	2.32	0.65
21:AW:66:C:H2'	21:AW:67:G:C8	2.31	0.65
35:BP:23:PRO:HD2	35:BP:33:ARG:HE	1.60	0.65
41:BV:35:LEU:HB2	41:BV:57:VAL:HG13	1.78	0.65
59:BA:969:U:H2'	59:BA:970:C:C6	2.32	0.65
1:CB:168:THR:C	1:CB:171:ALA:H	2.05	0.65
1:CB:204:ASN:HD21	1:CB:206:ASP:HB2	1.62	0.65
8:CI:120:ARG:HH12	20:CA:1346:A:H5'	1.62	0.65
12:CM:114:ARG:NE	20:CA:1229:A:OP2	2.30	0.65
20:CA:408:A:N1	20:CA:434:U:O4	2.30	0.65
20:CA:898:G:N2	20:CA:901:A:OP2	2.30	0.65
21:CW:28:A:N1	21:CW:42:U:O4	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:CY:317:MET:HB3	23:CY:327:PHE:CE2	2.32	0.65
59:DA:182:A:H2'	59:DA:183:C:H6	1.62	0.65
59:DA:2474:C:OP2	59:DA:2475:C:N4	2.30	0.65
53:B9:3:VAL:HG11	59:BA:2539:C:H5'	1.77	0.65
59:BA:659:C:H2'	59:BA:660:G:H8	1.61	0.65
14:CO:49:ASP:OD2	14:CO:52:SER:OG	2.09	0.65
20:CA:908:A:H2'	20:CA:909:A:H8	1.61	0.65
21:CW:64:G:C6	21:CW:65:U:C4	2.85	0.65
59:DA:651:G:H2'	59:DA:652:U:H5"	1.78	0.65
59:DA:2466:C:H42	59:DA:2484:G:H1	1.45	0.65
60:DB:59:A:H2'	60:DB:60:C:O4'	1.97	0.65
25:BC:114:VAL:O	25:BC:116:ALA:N	2.30	0.65
27:BE:77:ILE:HG22	27:BE:78:LEU:HG	1.79	0.65
28:BF:129:PHE:HE1	28:BF:193:VAL:HG12	1.62	0.65
30:BH:85:LYS:HD2	30:BH:141:VAL:HG13	1.78	0.65
43:BX:8:ILE:HA	43:BX:30:VAL:HG12	1.78	0.65
59:BA:1047:G:O3'	59:BA:1048:A:H8	1.80	0.65
59:BA:2092:U:OP1	59:BA:2199:A:O2'	2.15	0.65
2:CC:22:TRP:HA	9:CJ:93:GLY:HA2	1.78	0.65
2:CC:167:TRP:HZ2	20:CA:1192:C:H5"	1.62	0.65
11:CL:86:ARG:HE	11:CL:99:HIS:HB2	1.61	0.65
20:CA:127:G:H2'	20:CA:128:G:H8	1.62	0.65
20:CA:1537:U:O4	22:CV:8:A:N1	2.30	0.65
23:CY:614:GLU:HA	23:CY:617:MET:HB3	1.79	0.65
28:DF:3:GLU:HB2	28:DF:23:ASP:HA	1.79	0.65
59:DA:2080:G:H2'	59:DA:2081:C:C6	2.32	0.65
17:AR:40:LEU:HA	17:AR:43:PHE:HB2	1.77	0.64
20:AA:418:C:H42	20:AA:425:G:H1	1.45	0.64
20:AA:1391:U:H2'	20:AA:1392:G:C8	2.32	0.64
25:BC:67:HIS:NE2	25:BC:188:ASP:HB2	2.12	0.64
26:BD:137:PRO:O	26:BD:140:THR:OG1	2.14	0.64
40:BU:92:ARG:HG2	40:BU:95:LEU:H	1.62	0.64
45:BZ:102:LEU:HD13	45:BZ:139:VAL:HG11	1.79	0.64
3:CD:152:SER:HA	3:CD:155:LEU:HG	1.79	0.64
6:CG:57:GLU:HB2	6:CG:60:LYS:HB2	1.79	0.64
20:CA:367:U:OP1	23:CY:340:TYR:OH	2.15	0.64
20:CA:1251:A:N3	20:CA:1369:C:O2'	2.26	0.64
26:DD:51:VAL:HG13	26:DD:52:ARG:H	1.62	0.64
37:DR:39:PRO:HG2	59:DA:1651:G:H5'	1.79	0.64
59:DA:1270:C:H5"	59:DA:1271:G:H5'	1.79	0.64
59:DA:1275:A:OP2	59:DA:1646:C:N4	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2040:C:H5”	59:DA:2040:C:H6	1.62	0.64
59:DA:2810:A:H62	59:DA:2891:G:H21	1.44	0.64
2:AC:153:VAL:HG23	2:AC:166:GLU:HB3	1.77	0.64
19:AT:80:ARG:NH2	20:AA:261:U:OP2	2.30	0.64
25:BC:83:LYS:HG3	25:BC:117:THR:HG21	1.77	0.64
26:BD:142:VAL:HG23	26:BD:193:VAL:HA	1.79	0.64
27:BE:189:PRO:HA	59:BA:2680:C:H5’	1.79	0.64
35:BP:115:LEU:HA	35:BP:134:ALA:HB2	1.78	0.64
59:BA:8:A:N1	59:BA:2895:U:C4	2.64	0.64
59:BA:2393:A:H62	59:BA:2422:A:H61	1.45	0.64
10:CK:85:ARG:HA	10:CK:110:ASP:O	1.97	0.64
19:CT:18:GLN:NE2	20:CA:104:G:OP2	2.31	0.64
23:CY:526:VAL:HG23	23:CY:528:ALA:HB2	1.80	0.64
39:DT:30:VAL:HG22	39:DT:31:SER:H	1.62	0.64
51:D7:40:TRP:HZ3	59:DA:459:U:C6	2.16	0.64
51:D7:40:TRP:NE1	59:DA:458:G:O2’	2.29	0.64
59:DA:381:G:N2	59:DA:393:C:N3	2.42	0.64
12:AM:103:THR:HB	20:AA:1226:C:H2’	1.80	0.64
25:BC:213:VAL:HG21	25:BC:225:ILE:HG12	1.79	0.64
27:BE:47:VAL:HG21	27:BE:86:PRO:HD3	1.79	0.64
39:BT:93:ARG:O	39:BT:95:ARG:NH1	2.31	0.64
41:BV:4:ILE:HG13	41:BV:13:ARG:HG3	1.79	0.64
59:BA:1043:C:O2’	59:BA:1048:A:O2’	2.13	0.64
59:BA:1972:A:H2’	59:BA:1973:G:H8	1.61	0.64
59:BA:2505:G:O6	59:BA:2610:C:O2	2.16	0.64
59:BA:2834:G:H1’	59:BA:2883:A:N6	2.12	0.64
20:CA:106:C:H2’	20:CA:107:G:H8	1.63	0.64
23:CY:18:ALA:CA	23:CY:25:LYS:CE	2.52	0.64
48:D3:6:VAL:HG12	48:D3:56:VAL:HA	1.79	0.64
51:D7:21:ARG:HH12	59:DA:683:C:H5”	1.61	0.64
59:DA:662:G:H2’	59:DA:663:G:H8	1.63	0.64
59:DA:2023:G:P	59:DA:2023:G:H8	2.19	0.64
59:DA:2626:C:H2’	59:DA:2627:G:O4’	1.97	0.64
8:AI:127:LYS:HA	20:AA:967:C:H5’	1.78	0.64
16:AQ:62:SER:HB3	20:AA:186(I):U:H3	1.61	0.64
20:AA:663:A:H61	20:AA:742:G:H1	1.44	0.64
20:AA:1484:C:O2’	59:BA:1960:A:O2’	2.16	0.64
26:BD:13:ARG:NH1	59:BA:729:G:OP2	2.29	0.64
59:BA:1394:U:H4’	59:BA:1603:A:H4’	1.79	0.64
16:CQ:68:ARG:HH22	20:CA:277:C:H5”	1.62	0.64
35:DP:48:PRO:O	35:DP:50:ARG:N	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:DQ:1:MET:SD	36:DQ:2:LEU:N	2.70	0.64
39:DT:129:ARG:HD3	39:DT:132:LYS:HB2	1.79	0.64
45:DZ:28:MET:HB3	45:DZ:88:PHE:HB2	1.79	0.64
59:DA:2838:G:H1	59:DA:2880:C:N4	1.94	0.64
20:AA:1413:A:N1	20:AA:1487:G:N2	2.32	0.64
23:AY:335:LEU:HD11	23:AY:352:VAL:HG11	1.79	0.64
25:BC:28:ARG:HG3	25:BC:183:PRO:HG3	1.79	0.64
59:BA:1538:G:H2'	59:BA:1539:G:C8	2.33	0.64
59:BA:1613:G:H3'	59:BA:1614:A:H5'	1.78	0.64
20:CA:713:G:H2'	20:CA:714:G:C8	2.32	0.64
25:DC:6:LYS:O	25:DC:9:ARG:HG3	1.98	0.64
26:DD:100:GLY:HA3	59:DA:1500:G:H21	1.62	0.64
28:DF:2:LYS:O	28:DF:4:VAL:N	2.29	0.64
32:DK:56:GLU:HB3	32:DK:68:VAL:HB	1.80	0.64
59:DA:687:C:H42	59:DA:787:U:H4'	1.62	0.64
59:DA:1137:G:C2'	59:DA:1138:G:H5'	2.28	0.64
59:DA:2080:G:N2	59:DA:2240:C:N3	2.34	0.64
59:DA:2111:C:O2	59:DA:2118:U:O2'	2.12	0.64
9:AJ:40:LEU:HD22	9:AJ:41:PRO:HD2	1.79	0.64
15:AP:57:ARG:NH2	15:AP:78:GLY:O	2.31	0.64
16:AQ:45:HIS:HB3	16:AQ:72:ARG:HA	1.78	0.64
29:BG:71:THR:OG1	29:BG:89:GLY:O	2.14	0.64
59:BA:224:G:OP2	59:BA:408:G:N2	2.30	0.64
1:CB:71:VAL:HA	1:CB:93:VAL:HB	1.80	0.64
15:CP:51:VAL:HG11	15:CP:77:ALA:HB1	1.79	0.64
20:CA:865:A:H5'	20:CA:1078:U:H5	1.63	0.64
59:DA:1139:G:O2'	59:DA:1143:A:N1	2.25	0.64
59:DA:1316:U:H2'	59:DA:1317:A:C8	2.33	0.64
5:AF:98:LEU:HB3	17:AR:30:ASP:HA	1.80	0.64
9:AJ:65:LEU:HA	13:AN:56:VAL:HA	1.79	0.64
14:AO:23:GLY:H	14:AO:27:VAL:HG21	1.63	0.64
39:BT:53:ARG:NH1	39:BT:60:THR:OG1	2.27	0.64
59:BA:2037:G:H2'	59:BA:2038:G:C8	2.32	0.64
9:CJ:47:PHE:N	9:CJ:63:PHE:O	2.20	0.64
20:CA:46:G:H1	20:CA:395:C:H42	1.43	0.64
20:CA:1414:U:H2'	20:CA:1415:G:C8	2.31	0.64
39:DT:27:THR:O	39:DT:87:ASP:HB2	1.97	0.64
52:D8:18:ALA:HB3	59:DA:628:G:H5"	1.79	0.64
59:DA:1872:A:H8	59:DA:1872:A:O5'	1.79	0.64
59:DA:1935:G:H3'	59:DA:1962:C:H42	1.63	0.64
59:DA:2707:G:H2'	59:DA:2708:G:C8	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AB:58:ILE:HD11	1:AB:185:ILE:HG21	1.79	0.64
1:AB:175:ARG:HH22	20:AA:1076:C:H5'	1.62	0.64
6:AG:95:ARG:HH22	20:AA:938:A:H4'	1.63	0.64
10:AK:34:ASP:O	10:AK:36:ASP:N	2.30	0.64
20:AA:599:C:H42	20:AA:639:G:H1	1.46	0.64
20:AA:1015:A:H2'	20:AA:1016:A:C8	2.33	0.64
23:AY:137:ASN:ND2	23:AY:262:SER:HA	2.13	0.64
23:AY:315:LYS:HB3	23:AY:327:PHE:CD2	2.32	0.64
57:B1:18:ILE:HG21	59:BA:380:U:H4'	1.79	0.64
57:B1:26:ARG:HB3	57:B1:32:LYS:HB2	1.80	0.64
59:BA:222:A:N6	59:BA:232:G:H1'	2.13	0.64
59:BA:1223:G:N2	59:BA:1226:A:OP2	2.30	0.64
17:CR:48:GLY:O	17:CR:74:ARG:NH2	2.31	0.64
40:DU:29:SER:OG	40:DU:30:LYS:NZ	2.29	0.64
47:D2:61:LEU:O	47:D2:65:ASN:N	2.26	0.64
52:D8:14:VAL:HG23	52:D8:24:ALA:HB2	1.79	0.64
59:DA:2287:A:H62	59:DA:2344:U:H3	1.42	0.64
59:DA:2857:G:N2	59:DA:2860:A:OP2	2.29	0.64
3:AD:107:ARG:HB3	3:AD:174:LEU:HD11	1.80	0.64
6:AG:75:VAL:HA	6:AG:88:PRO:HA	1.78	0.64
20:AA:1376:U:H2'	20:AA:1377:A:C8	2.33	0.64
27:BE:130:GLY:HA2	59:BA:2580:U:H4'	1.78	0.64
44:BY:20:TYR:HB3	44:BY:23:ARG:HG3	1.80	0.64
47:B2:32:LEU:HD11	47:B2:54:LYS:HG2	1.80	0.64
52:B8:50:LEU:HA	52:B8:53:PRO:HG2	1.79	0.64
59:BA:991:C:H5'	59:BA:1185:C:H2'	1.79	0.64
59:BA:2426:A:H3'	59:BA:2427:C:H5"	1.80	0.64
59:BA:2520:C:H41	59:BA:2542:A:H62	1.44	0.64
4:CE:80:ILE:HG12	4:CE:91:LEU:HB2	1.78	0.64
12:CM:91:ARG:HA	12:CM:94:ARG:HG2	1.79	0.64
20:CA:184:G:H1	20:CA:193:C:H42	1.46	0.64
20:CA:715:A:H2'	20:CA:716:A:H8	1.62	0.64
23:CY:608:VAL:HG21	23:CY:652:MET:HE2	1.79	0.64
25:DC:115:VAL:HB	25:DC:150:ILE:HG23	1.80	0.64
38:DS:51:ALA:HB1	38:DS:69:VAL:HG22	1.80	0.64
57:D1:75:GLU:HA	57:D1:78:LYS:HE2	1.78	0.64
59:DA:67:U:H2'	59:DA:68:G:H8	1.62	0.64
59:DA:1400:G:H2'	59:DA:1401:G:H8	1.62	0.64
23:AY:313:ALA:HA	23:AY:328:ILE:HA	1.80	0.64
26:BD:35:LYS:HD3	26:BD:61:LEU:HD11	1.80	0.64
26:BD:202:LYS:HB3	59:BA:1820:U:H1'	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BP:62:LEU:HD21	52:B8:25:MET:HB3	1.79	0.64
59:BA:1025:G:O6	59:BA:1139:G:N2	2.25	0.64
59:BA:1230:C:H2'	59:BA:1231:G:C8	2.32	0.64
59:BA:1531:C:H42	59:BA:1540:G:H1	1.45	0.64
10:CK:26:ASN:ND2	20:CA:691:G:OP2	2.31	0.64
11:CL:6:THR:O	11:CL:8:ASN:N	2.30	0.64
23:CY:71:THR:OG1	23:CY:359:HIS:ND1	2.30	0.64
26:DD:165:ILE:O	26:DD:166:GLN:HB2	1.98	0.64
36:DQ:36:ALA:HA	36:DQ:129:THR:HG22	1.79	0.64
39:DT:50:ILE:HG12	39:DT:99:LEU:HB2	1.80	0.64
52:D8:2:PRO:HA	59:DA:591:C:H1'	1.79	0.64
59:DA:2241:A:H2'	59:DA:2242:G:C8	2.33	0.64
1:AB:52:GLU:OE1	1:AB:56:ARG:NH2	2.31	0.63
9:AJ:56:HIS:O	9:AJ:58:ASP:N	2.30	0.63
25:BC:104:ILE:HG23	25:BC:111:PHE:CZ	2.33	0.63
28:BF:175:THR:O	28:BF:175:THR:OG1	2.09	0.63
36:BQ:110:THR:HB	36:BQ:113:GLN:HB2	1.80	0.63
41:BV:37:VAL:HA	41:BV:51:VAL:HG11	1.80	0.63
49:B5:46:CYS:HB3	49:B5:49:CYS:H	1.62	0.63
59:BA:1139:G:O2'	59:BA:1140:C:O4'	2.15	0.63
59:BA:2366:A:H2'	59:BA:2367:G:O4'	1.98	0.63
2:CC:66:VAL:HB	2:CC:101:LEU:HA	1.80	0.63
20:CA:1306:A:N6	20:CA:1331:G:O2'	2.31	0.63
23:CY:20:HIS:HB2	23:CY:117:GLN:HB3	1.80	0.63
25:DC:115:VAL:HG11	25:DC:154:ILE:HG12	1.79	0.63
32:DK:116:ASN:HD22	59:DA:1058:G:H1'	1.62	0.63
40:DU:15:LYS:NZ	59:DA:1217:C:OP2	2.29	0.63
50:D6:13:CYS:SG	50:D6:14:THR:N	2.70	0.63
59:DA:821:A:H3'	59:DA:946:G:H8	1.63	0.63
59:DA:2454:G:H1	59:DA:2498:C:H42	1.46	0.63
59:DA:2819:G:N2	59:DA:2827:C:N3	2.39	0.63
20:AA:1271:G:H5'	20:AA:1314:C:H5"	1.79	0.63
23:AY:353:ALA:HB3	23:AY:378:VAL:HB	1.79	0.63
25:BC:41:THR:C	25:BC:43:GLU:H	2.06	0.63
25:BC:41:THR:O	25:BC:43:GLU:N	2.29	0.63
26:BD:16:MET:HE3	26:BD:211:ARG:HH11	1.61	0.63
26:BD:79:VAL:C	26:BD:96:HIS:H	2.06	0.63
59:BA:966:G:H2'	59:BA:967:C:C6	2.33	0.63
7:CH:14:ARG:HH12	20:CA:876:G:H4'	1.63	0.63
28:DF:154:VAL:HG12	28:DF:156:LEU:HA	1.80	0.63
32:DK:17:ALA:HA	32:DK:38:VAL:HG21	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DP:112:LEU:HD22	35:DP:113:LYS:H	1.63	0.63
36:DQ:2:LEU:HG	36:DQ:69:PHE:HE1	1.63	0.63
44:DY:38:ILE:HD11	44:DY:64:GLU:HB3	1.81	0.63
59:DA:2829:C:H2'	59:DA:2830:G:H8	1.63	0.63
60:DB:31:C:N3	60:DB:51:G:N2	2.41	0.63
23:AY:96:ARG:HA	23:AY:99:ARG:HB2	1.80	0.63
23:AY:163:VAL:HG22	23:AY:258:VAL:HB	1.81	0.63
25:BC:43:GLU:HB2	25:BC:216:THR:O	1.98	0.63
39:BT:24:PRO:HG3	39:BT:52:ILE:HG12	1.80	0.63
59:BA:37:C:H2'	59:BA:38:A:C8	2.33	0.63
59:BA:291:C:H42	59:BA:349:G:H1	1.45	0.63
59:BA:1443:G:H1	59:BA:1548:C:N4	1.96	0.63
20:CA:140:A:H2'	20:CA:141:A:C8	2.33	0.63
26:DD:8:PRO:HG3	59:DA:1694:C:H5'	1.80	0.63
26:DD:160:GLY:HA3	59:DA:1820:U:C4	2.33	0.63
37:DR:14:SER:OG	59:DA:2713:A:OP1	2.15	0.63
39:DT:3:ARG:HB3	39:DT:6:LEU:HB2	1.80	0.63
57:D1:21:ARG:HG3	59:DA:2080:G:H5"	1.80	0.63
57:D1:76:ARG:HH22	57:D1:95:LEU:HD13	1.63	0.63
59:DA:1196:C:HO2'	59:DA:1227:G:HO2'	1.33	0.63
59:DA:1525:G:H2'	59:DA:1526:G:C8	2.33	0.63
8:AI:93:ARG:HH21	20:AA:1178:G:H5"	1.64	0.63
10:AK:84:VAL:HG22	10:AK:110:ASP:HA	1.79	0.63
11:AL:87:GLY:HA2	11:AL:98:TYR:H	1.62	0.63
18:AS:49:ILE:HD13	18:AS:71:LEU:HD22	1.80	0.63
20:AA:1481:U:H2'	20:AA:1482:G:C8	2.33	0.63
23:AY:496:LYS:HA	23:AY:509:HIS:HA	1.80	0.63
47:B2:20:GLU:HA	47:B2:23:LYS:HD2	1.81	0.63
59:BA:834:C:H2'	59:BA:835:A:C8	2.34	0.63
59:BA:1149:G:H2'	59:BA:1150:C:C6	2.33	0.63
59:BA:1199:U:H2'	59:BA:1200:C:C6	2.33	0.63
59:BA:2525:G:H2'	59:BA:2526:G:H8	1.64	0.63
10:CK:27:ASN:HD21	10:CK:45:GLY:HA3	1.64	0.63
29:DG:126:ASP:HB2	29:DG:130:ASN:HD22	1.64	0.63
44:DY:14:LEU:HA	44:DY:24:VAL:HA	1.80	0.63
59:DA:2303:G:H1	59:DA:2313:C:H42	1.47	0.63
59:DA:2372:G:H1	59:DA:2381:C:H42	1.46	0.63
59:DA:2557:G:H2'	59:DA:2558:C:C6	2.33	0.63
6:AG:78:ARG:HD2	6:AG:79:ARG:HD3	1.80	0.63
8:AI:113:LYS:HE2	20:AA:1187:G:H5'	1.79	0.63
10:AK:113:PRO:HB3	20:AA:676:A:H5"	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:AS:40:ILE:HG12	18:AS:71:LEU:HD23	1.78	0.63
26:BD:86:PRO:O	26:BD:88:ARG:N	2.32	0.63
26:BD:118:VAL:N	26:BD:129:ASN:OD1	2.24	0.63
26:BD:165:ILE:HA	26:BD:175:LEU:HA	1.80	0.63
59:BA:535:C:H2'	59:BA:536:A:C8	2.33	0.63
14:CO:39:LEU:HB3	14:CO:56:LEU:HD13	1.81	0.63
16:CQ:45:HIS:HB3	16:CQ:72:ARG:HG2	1.80	0.63
20:CA:123:C:OP1	20:CA:311:C:O2'	2.17	0.63
20:CA:865:A:H5'	20:CA:1078:U:C5	2.33	0.63
20:CA:1479:C:H2'	20:CA:1480:G:H8	1.63	0.63
23:CY:212:TYR:HA	23:CY:215:LYS:HB2	1.80	0.63
25:DC:78:ILE:HD11	25:DC:104:ILE:HD11	1.81	0.63
26:DD:145:VAL:HG12	26:DD:147:LEU:H	1.62	0.63
35:DP:16:ARG:O	59:DA:661:C:O2'	2.13	0.63
59:DA:56:A:H2'	59:DA:57:C:C6	2.33	0.63
59:DA:1538:G:H2'	59:DA:1539:G:H8	1.63	0.63
59:DA:1771:C:H2'	59:DA:1772:G:C8	2.33	0.63
2:AC:58:GLU:H	2:AC:65:ALA:HB3	1.62	0.63
16:AQ:61:GLU:HA	16:AQ:71:PHE:HA	1.81	0.63
20:AA:1324:A:H4'	20:AA:1362:C:H4'	1.80	0.63
25:BC:11:LEU:HA	25:BC:14:LYS:HG2	1.80	0.63
42:BW:86:LEU:HD12	42:BW:87:PRO:HD2	1.79	0.63
59:BA:589:C:H2'	59:BA:590:A:C8	2.33	0.63
59:BA:1435:G:H1	59:BA:1557:C:H42	1.45	0.63
10:CK:47:VAL:HG13	20:CA:687:A:H4'	1.81	0.63
20:CA:692:U:O2'	20:CA:694:A:N7	2.27	0.63
20:CA:944:G:N1	20:CA:1338:G:OP2	2.26	0.63
20:CA:1127:G:N2	20:CA:1147:C:H41	1.97	0.63
20:CA:1422:G:H5"	34:DO:48:PRO:HB3	1.81	0.63
26:DD:239:ARG:HB2	59:DA:2590:A:H5"	1.81	0.63
29:DG:113:ARG:HB2	58:D4:34:GLU:OE1	1.99	0.63
33:DN:42:TRP:N	40:DU:64:ARG:HD2	2.13	0.63
35:DP:115:LEU:HD13	59:DA:627:A:H62	1.64	0.63
38:DS:26:LEU:HD22	38:DS:87:PHE:HA	1.80	0.63
41:DV:35:LEU:HB2	41:DV:57:VAL:HG13	1.79	0.63
57:D1:37:ILE:HG12	59:DA:200:U:H4'	1.81	0.63
59:DA:839:U:H2'	59:DA:840:C:C6	2.34	0.63
59:DA:1120:G:H2'	59:DA:1121:C:C6	2.33	0.63
20:AA:33:A:N1	20:AA:551:U:O4	2.32	0.63
20:AA:722:A:H4'	20:AA:723:U:H5	1.62	0.63
23:AY:31:ARG:NH2	23:AY:266:ASN:OD1	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AY:259:PHE:HB2	23:AY:272:LEU:HD13	1.81	0.63
25:BC:139:PRO:HA	25:BC:145:THR:HB	1.79	0.63
27:BE:199:ARG:NH2	59:BA:2772:C:OP1	2.27	0.63
28:BF:110:LEU:HD23	28:BF:183:VAL:HG13	1.80	0.63
38:BS:17:ARG:HA	38:BS:20:ARG:HB3	1.79	0.63
41:BV:77:ALA:O	41:BV:79:VAL:N	2.28	0.63
59:BA:2185:C:H2'	59:BA:2186:G:C8	2.33	0.63
59:BA:2853:C:H2'	59:BA:2854:G:C8	2.33	0.63
10:CK:34:ASP:O	10:CK:36:ASP:N	2.32	0.63
14:CO:21:ASP:OD2	20:CA:750:G:O2'	2.16	0.63
20:CA:1056:U:H3	20:CA:1204:A:H61	1.45	0.63
23:CY:83:ASP:C	23:CY:85:PRO:HD3	2.24	0.63
23:CY:98:MET:SD	23:CY:130:VAL:HG11	2.38	0.63
25:DC:96:GLY:HA3	25:DC:100:ILE:HG12	1.79	0.63
25:DC:132:LEU:HD22	25:DC:137:LEU:HD12	1.80	0.63
25:DC:177:GLY:HA2	25:DC:186:LEU:HD21	1.80	0.63
40:DU:47:TYR:HA	40:DU:50:ARG:HD2	1.81	0.63
47:D2:25:VAL:HG22	47:D2:60:LEU:HB3	1.80	0.63
59:DA:980:A:H2	59:DA:2038:G:H1'	1.63	0.63
59:DA:1173:G:H21	59:DA:1177:A:H62	1.46	0.63
59:DA:2678:C:H2'	59:DA:2679:A:C8	2.34	0.63
10:AK:116:HIS:CD2	20:AA:674:G:H21	2.17	0.63
11:AL:80:HIS:CE1	23:AY:425:SER:HB3	2.33	0.63
20:AA:1522:U:H2'	20:AA:1523:G:C8	2.34	0.63
27:BE:8:LYS:HG3	27:BE:188:VAL:HG21	1.80	0.63
33:BN:27:ALA:HA	33:BN:30:ILE:HB	1.80	0.63
36:BQ:34:LEU:HD13	36:BQ:118:LEU:HB3	1.80	0.63
45:BZ:8:TYR:HB2	45:BZ:38:TYR:CE1	2.34	0.63
59:BA:67:U:H2'	59:BA:68:G:H8	1.64	0.63
59:BA:745:G:O6	59:BA:746:A:N6	2.32	0.63
59:BA:947:G:H1	59:BA:970:C:H42	1.45	0.63
59:BA:1638:C:H4'	59:BA:2710:C:O2	1.98	0.63
1:CB:58:ILE:HD11	1:CB:185:ILE:HG21	1.80	0.63
3:CD:36:ARG:NH2	20:CA:429:U:OP2	2.28	0.63
20:CA:815:A:C6	20:CA:1508:G:N2	2.64	0.63
23:CY:617:MET:HA	23:CY:620:VAL:HG22	1.80	0.63
26:DD:79:VAL:C	26:DD:96:HIS:H	2.06	0.63
39:DT:128:GLU:HG2	39:DT:129:ARG:HG2	1.81	0.63
39:DT:133:GLU:O	39:DT:137:LYS:N	2.32	0.63
49:D5:18:ALA:C	49:D5:21:SER:H	2.07	0.63
59:DA:2646:C:OP2	59:DA:2732:G:O2'	2.16	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AB:92:TYR:HE1	1:AB:94:ASN:HB2	1.63	0.63
1:AB:174:VAL:O	1:AB:177:ALA:N	2.32	0.63
3:AD:62:GLN:O	3:AD:65:ARG:N	2.31	0.63
8:AI:93:ARG:NH2	20:AA:1179:A:OP2	2.31	0.63
21:AW:69:A:H2'	21:AW:70:G:H8	1.63	0.63
59:BA:273(G):C:N4	59:BA:363(A):G:H1	1.97	0.63
59:BA:769:G:H2'	59:BA:770:G:C8	2.34	0.63
59:BA:863:A:H2'	59:BA:864:G:H8	1.63	0.63
59:BA:1144:G:H2'	59:BA:1145:C:H6	1.63	0.63
59:BA:2233:U:H2'	59:BA:2234:G:C8	2.33	0.63
59:BA:2415:G:H2'	59:BA:2416:C:H6	1.63	0.63
3:CD:164:ALA:O	3:CD:168:ARG:NH1	2.32	0.63
20:CA:673:G:H2'	20:CA:674:G:C8	2.33	0.63
20:CA:1172:C:H2'	20:CA:1173:G:H8	1.62	0.63
20:CA:1229:A:O2'	21:CW:30:C:OP1	2.16	0.63
23:CY:91:THR:O	23:CY:93:GLU:N	2.32	0.63
26:DD:250:TRP:CE2	59:DA:1805:U:H5"	2.34	0.63
28:DF:34:TRP:HB2	35:DP:10:PRO:HB2	1.80	0.63
41:DV:39:LEU:HD12	41:DV:47:VAL:HG21	1.81	0.63
46:D0:49:LYS:HB2	46:D0:80:HIS:HB3	1.79	0.63
59:DA:734:A:H2'	59:DA:735:A:H8	1.64	0.63
59:DA:848:G:H2'	59:DA:849:A:C8	2.33	0.63
59:DA:1771:C:H42	59:DA:1980:G:H1	1.46	0.63
60:DB:51:G:H21	60:DB:52:A:H62	1.45	0.63
10:AK:52:GLY:H	10:AK:55:LYS:HE2	1.63	0.62
20:AA:312:C:H2'	20:AA:313:A:C8	2.34	0.62
20:AA:1083:U:H5"	20:AA:1084:G:OP2	1.99	0.62
23:AY:218:GLU:OE2	54:Be:87:LYS:NZ	2.32	0.62
33:BN:15:LEU:HB2	33:BN:134:ARG:HG2	1.79	0.62
43:BX:29:TRP:HZ3	43:BX:76:ARG:HH21	1.47	0.62
47:B2:4:SER:HA	47:B2:7:ARG:HD2	1.80	0.62
5:CF:84:ASN:HA	5:CF:86:ARG:HH21	1.64	0.62
20:CA:687:A:N6	20:CA:703:G:H21	1.90	0.62
20:CA:1522:U:H2'	20:CA:1523:G:C8	2.34	0.62
23:CY:19:ALA:HB3	23:CY:25:LYS:HZ2	1.61	0.62
23:CY:138:LYS:HE2	62:CY:702:GDP:C4	2.34	0.62
37:DR:4:LEU:O	37:DR:6:SER:N	2.26	0.62
38:DS:77:ALA:HA	38:DS:82:ILE:HD12	1.81	0.62
59:DA:39:C:H2'	59:DA:40:C:C6	2.34	0.62
59:DA:880:G:H1	59:DA:897:C:H42	1.47	0.62
59:DA:1271:G:O3'	59:DA:1272:A:H4'	1.98	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AE:93:PRO:HG3	7:AH:105:ARG:HG2	1.80	0.62
8:AI:20:ARG:O	8:AI:60:ASP:N	2.22	0.62
14:AO:8:LYS:HE3	14:AO:31:LEU:HD21	1.81	0.62
20:AA:782:A:H62	20:AA:800:G:H21	1.48	0.62
20:AA:1435:G:H2'	20:AA:1436:U:C6	2.34	0.62
26:BD:14:ARG:NH1	59:BA:1693:U:O2'	2.31	0.62
26:BD:16:MET:HE3	26:BD:211:ARG:HD2	1.81	0.62
59:BA:1516:U:H2'	59:BA:1517:G:C8	2.34	0.62
9:CJ:7:LYS:NZ	20:CA:1279:A:OP2	2.32	0.62
23:CY:343:ASN:HD22	23:CY:389:LEU:HD11	1.63	0.62
23:CY:616:TYR:HA	23:CY:619:ASP:HB2	1.81	0.62
26:DD:67:PHE:HZ	26:DD:157:ARG:HH11	1.47	0.62
44:DY:47:LYS:NZ	59:DA:480:A:O2'	2.32	0.62
45:DZ:10:ARG:HB3	45:DZ:36:LYS:HB2	1.81	0.62
59:DA:259:G:H2'	59:DA:260:G:C8	2.34	0.62
59:DA:834:C:H2'	59:DA:835:A:C8	2.34	0.62
59:DA:1669:A:H61	59:DA:1993:U:H3	1.46	0.62
20:AA:406:G:H1	20:AA:436:C:N4	1.93	0.62
20:AA:890:G:H22	20:AA:906:G:H2'	1.64	0.62
25:BC:63:VAL:N	25:BC:161:ARG:O	2.32	0.62
45:BZ:72:ARG:NH1	60:BB:103:U:O3'	2.32	0.62
59:BA:374:A:H62	59:BA:400:G:H21	1.45	0.62
59:BA:1645:G:H5"	59:BA:1646:C:H5'	1.81	0.62
59:BA:1948:G:H2'	59:BA:1949:G:C8	2.34	0.62
59:BA:2038:G:C2'	59:BA:2039:C:H5'	2.30	0.62
60:BB:47:C:H2'	60:BB:48:A:O4'	1.99	0.62
8:CI:97:LYS:NZ	20:CA:1178:G:O6	2.29	0.62
16:CQ:21:VAL:HG12	16:CQ:23:VAL:HG22	1.81	0.62
18:CS:71:LEU:O	18:CS:73:GLU:N	2.26	0.62
20:CA:45:U:H5"	20:CA:307:C:H1'	1.81	0.62
20:CA:426:G:H2'	20:CA:427:U:O4'	2.00	0.62
20:CA:1538:C:N3	22:CV:7:G:O6	2.32	0.62
25:DC:139:PRO:O	25:DC:145:THR:OG1	2.18	0.62
35:DP:66:GLY:HA2	59:DA:2415:G:H4'	1.80	0.62
38:DS:97:ARG:O	38:DS:99:LYS:N	2.32	0.62
54:De:63:ILE:HB	54:De:70:LYS:HG2	1.80	0.62
59:DA:812:C:N4	59:DA:1195:G:H1	1.97	0.62
59:DA:951:C:N4	59:DA:966:G:H1	1.96	0.62
59:DA:1387:C:H2'	59:DA:1388:G:C8	2.35	0.62
59:DA:1830:C:H42	59:DA:1975:G:H1	1.45	0.62
59:DA:1858:G:H1'	59:DA:1884:A:N6	2.14	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2392:A:H2'	59:DA:2393:A:O4'	1.98	0.62
59:DA:2812:G:H2'	59:DA:2813:A:H8	1.63	0.62
60:DB:60:C:H2'	60:DB:61:G:C8	2.35	0.62
2:AC:12:LEU:HD12	13:AN:58:LYS:HB2	1.81	0.62
4:AE:32:VAL:HG13	4:AE:62:ALA:HB2	1.79	0.62
4:AE:151:LEU:HB3	7:AH:79:VAL:HG22	1.80	0.62
20:AA:1420:C:H42	20:AA:1480:G:H1	1.48	0.62
23:AY:134:ALA:HB3	23:AY:258:VAL:HA	1.82	0.62
38:BS:97:ARG:O	38:BS:99:LYS:N	2.32	0.62
41:BV:89:GLN:OE1	59:BA:1162:G:N2	2.32	0.62
59:BA:2269:A:H2'	59:BA:2270:G:O4'	1.99	0.62
59:BA:2886:G:H2'	59:BA:2887:U:C6	2.34	0.62
15:CP:5:ARG:HB2	20:CA:376:G:H5"	1.81	0.62
20:CA:767:A:H2'	20:CA:768:A:O4'	2.00	0.62
25:DC:15:VAL:HG13	25:DC:221:PRO:HB3	1.81	0.62
27:DE:13:ARG:HA	27:DE:21:VAL:C	2.24	0.62
59:DA:2020:A:N1	59:DA:2034:U:O4	2.32	0.62
11:AL:70:ILE:HG23	11:AL:100:ILE:HD12	1.81	0.62
12:AM:121:LYS:HZ3	12:AM:121:LYS:HB2	1.63	0.62
14:AO:46:HIS:HB3	20:AA:668:G:H1'	1.80	0.62
20:AA:49:U:O4	20:AA:362:G:N2	2.32	0.62
20:AA:137:C:H42	20:AA:226:G:H1	1.45	0.62
20:AA:1412:C:H2'	20:AA:1413:A:C8	2.35	0.62
50:B6:19:ARG:NH2	59:BA:2399:G:O2'	2.32	0.62
59:BA:35:G:H2'	59:BA:36:G:O4'	1.98	0.62
59:BA:371:A:N6	59:BA:401:A:H3'	2.13	0.62
59:BA:1317:A:H61	59:BA:1335:U:H3	1.47	0.62
59:BA:1336:A:H2'	59:BA:1337:G:H8	1.63	0.62
59:BA:2287:A:N6	59:BA:2344:U:N3	2.45	0.62
59:BA:2406:U:H4'	59:BA:2407:G:O5'	1.99	0.62
11:CL:58:VAL:HG12	11:CL:60:LEU:N	2.13	0.62
19:CT:20:LEU:HD22	19:CT:23:ARG:HH11	1.64	0.62
20:CA:479:C:H2'	20:CA:480:U:C6	2.34	0.62
25:DC:43:GLU:OE2	25:DC:218:THR:HA	1.98	0.62
35:DP:50:ARG:HB2	35:DP:57:THR:HB	1.79	0.62
40:DU:83:LEU:HA	40:DU:88:ILE:HD12	1.82	0.62
45:DZ:72:ARG:HH12	60:DB:104:A:P	2.23	0.62
45:DZ:99:TYR:HB3	45:DZ:123:ASP:HB2	1.80	0.62
1:AB:69:LEU:H	1:AB:163:PHE:H	1.47	0.62
3:AD:18:LYS:HB3	3:AD:33:MET:HG3	1.81	0.62
3:AD:81:GLU:HA	3:AD:84:LYS:HE2	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:294:U:H2'	20:AA:295:C:C6	2.34	0.62
20:AA:666:G:OP2	20:AA:725:G:N2	2.28	0.62
25:BC:45:HIS:CE1	59:BA:2177:C:H1'	2.35	0.62
33:BN:9:VAL:HG11	33:BN:39:ARG:NH2	2.12	0.62
38:BS:85:VAL:HG23	38:BS:106:ARG:HH11	1.63	0.62
59:BA:1077:A:H3'	59:BA:1078:U:O4'	2.00	0.62
59:BA:1142:U:H5"	59:BA:114(B):A:C8	2.33	0.62
1:CB:162:ILE:HG12	1:CB:164:VAL:HG23	1.82	0.62
12:CM:91:ARG:NH2	20:CA:1226:C:OP2	2.32	0.62
21:CW:63:C:H2'	21:CW:64:G:H8	1.64	0.62
23:CY:72:CYS:HB3	23:CY:79:ILE:HB	1.81	0.62
33:DN:10:GLU:OE2	33:DN:11:PRO:HD2	1.99	0.62
59:DA:584:C:H42	59:DA:1256:G:H1	1.45	0.62
59:DA:1802:A:C8	59:DA:1815:A:N6	2.67	0.62
11:AL:84:LEU:HD22	11:AL:104:VAL:HG13	1.82	0.62
20:AA:1270:C:H2'	20:AA:1271:G:C8	2.35	0.62
20:AA:1494:G:N2	59:BA:1912:A:N3	2.47	0.62
21:AW:6:C:H2'	21:AW:7:G:C8	2.34	0.62
25:BC:30:VAL:HA	25:BC:33:LEU:HG	1.82	0.62
25:BC:58:ASN:ND2	25:BC:166:ASN:OD1	2.30	0.62
33:BN:125:GLY:HA3	33:BN:126:PRO:O	2.00	0.62
59:BA:52:A:OP2	59:BA:117:G:N1	2.27	0.62
59:BA:85:G:O6	59:BA:97:C:N3	2.33	0.62
59:BA:193:U:H3	59:BA:202:U:H3	1.48	0.62
59:BA:460:A:H62	59:BA:469:G:H21	1.45	0.62
59:BA:2023:G:O2'	59:BA:2618:G:H5"	2.00	0.62
1:CB:74:LYS:NZ	1:CB:205:ASP:OD2	2.33	0.62
9:CJ:7:LYS:HE2	9:CJ:97:GLU:HG3	1.82	0.62
14:CO:39:LEU:HD12	14:CO:56:LEU:HD22	1.82	0.62
16:CQ:18:THR:HG23	16:CQ:69:LYS:HE3	1.82	0.62
23:CY:23:ALA:HB3	23:CY:24:GLY:C	2.25	0.62
36:DQ:46:GLN:HG2	36:DQ:126:PRO:HD3	1.82	0.62
41:DV:86:GLY:N	59:DA:1224:C:O2'	2.29	0.62
43:DX:10:ALA:HB3	43:DX:29:TRP:HB2	1.81	0.62
45:DZ:102:LEU:HD13	45:DZ:139:VAL:HG11	1.81	0.62
59:DA:1777:U:O4	59:DA:1787:A:N1	2.33	0.62
59:DA:2570:G:H2'	59:DA:2571:C:C6	2.34	0.62
60:DB:39:A:H2	60:DB:46:A:H61	1.48	0.62
16:AQ:57:VAL:HG12	16:AQ:76:LEU:HA	1.81	0.62
33:BN:63:THR:OG1	59:BA:1141:U:OP2	2.13	0.62
35:BP:89:ALA:HA	35:BP:121:LYS:HD2	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BT:77:PRO:O	39:BT:79:HIS:N	2.32	0.62
43:BX:10:ALA:HB3	43:BX:29:TRP:HB2	1.80	0.62
59:BA:797:C:H2'	59:BA:798:G:H8	1.64	0.62
4:CE:24:ARG:NH2	20:CA:15:G:O2'	2.33	0.62
11:CL:55:VAL:HG12	11:CL:67:THR:HG22	1.82	0.62
20:CA:1002:G:H2'	20:CA:1003:G:C8	2.35	0.62
27:DE:87:GLU:OE2	27:DE:89:ASP:N	2.32	0.62
57:D1:15:ALA:H	57:D1:41:ARG:HG2	1.63	0.62
59:DA:531:C:H3'	59:DA:561:G:H21	1.64	0.62
59:DA:2696:U:H2'	59:DA:2697:G:C8	2.34	0.62
5:AF:100:ASN:HA	17:AR:23:LYS:HE3	1.82	0.62
11:AL:93:LEU:HG	11:AL:96:VAL:HG22	1.82	0.62
23:AY:330:VAL:HG13	23:AY:331:TYR:H	1.64	0.62
26:BD:231:HIS:O	26:BD:233:HIS:N	2.33	0.62
29:BG:37:VAL:HG22	29:BG:159:VAL:HG23	1.81	0.62
38:BS:102:ALA:HA	38:BS:108:GLY:HA3	1.81	0.62
42:BW:1:MET:N	42:BW:109:GLU:OE2	2.33	0.62
44:BY:32:PRO:HD2	44:BY:34:LYS:H	1.64	0.62
44:BY:76:CYS:O	44:BY:78:ALA:N	2.31	0.62
59:BA:1197:G:H2'	59:BA:1198:U:H6	1.64	0.62
20:CA:67:C:H2'	20:CA:68:G:C8	2.35	0.62
25:DC:63:VAL:N	25:DC:161:ARG:O	2.33	0.62
26:DD:149:PRO:HG2	59:DA:2218:G:H4'	1.81	0.62
26:DD:157:ARG:NH2	59:DA:1818:U:H6	1.98	0.62
29:DG:121:ASN:HD22	29:DG:123:ASN:H	1.47	0.62
30:DH:91:GLY:HA2	30:DH:160:LYS:HG3	1.82	0.62
32:DK:30:HIS:CD2	32:DK:59:ILE:HB	2.34	0.62
40:DU:75:ASN:HB2	59:DA:1011:G:OP1	1.99	0.62
59:DA:19:C:H2'	59:DA:20:C:C6	2.35	0.62
59:DA:234:C:H42	59:DA:430:G:N2	1.96	0.62
59:DA:481:G:H1'	59:DA:506:G:N2	2.14	0.62
59:DA:531:C:P	59:DA:561:G:H22	2.23	0.62
59:DA:722:A:H2'	59:DA:723:G:C8	2.34	0.62
1:AB:152:PHE:HE2	1:AB:155:LEU:HD12	1.65	0.62
5:AF:90:VAL:O	20:AA:736:C:O2'	2.18	0.62
23:AY:486:THR:OG1	23:AY:487:ILE:N	2.28	0.62
28:BF:1:MET:HB3	28:BF:3:GLU:HG2	1.82	0.62
29:BG:128:ARG:HH12	59:BA:2315:G:H21	1.48	0.62
36:BQ:74:TYR:HB3	36:BQ:91:GLU:O	2.00	0.62
59:BA:1057:A:N6	59:BA:1087:G:OP1	2.33	0.62
59:BA:1090:U:H2'	59:BA:1091:G:C8	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1468:C:H2'	59:BA:1469:A:C8	2.35	0.62
59:BA:1858:G:H1'	59:BA:1884:A:N6	2.15	0.62
1:CB:220:ASP:HA	1:CB:223:ILE:HD12	1.81	0.62
12:CM:81:LEU:HB3	12:CM:89:GLY:HA3	1.80	0.62
20:CA:68(F):C:H2'	20:CA:68(G):G:C8	2.35	0.62
20:CA:808:C:H2'	20:CA:809:G:C8	2.34	0.62
33:DN:25:ARG:HA	59:DA:1012:U:O4	1.99	0.62
33:DN:89:LYS:O	33:DN:93:THR:OG1	2.18	0.62
34:DO:34:THR:H	34:DO:37:ASP:CG	2.06	0.62
59:DA:272:G:N2	59:DA:365(A):C:N3	2.40	0.62
59:DA:2023:G:C6	59:DA:2040:C:N3	2.68	0.62
59:DA:2143:C:N3	59:DA:2148:G:O6	2.33	0.62
5:AF:82:ARG:NH2	5:AF:84:ASN:OD1	2.33	0.61
8:AI:97:LYS:HD2	8:AI:102:LEU:HD12	1.82	0.61
11:AL:113:ARG:HH21	11:AL:115:LYS:HB3	1.65	0.61
20:AA:1461:G:H2'	20:AA:1462:G:H8	1.65	0.61
21:AW:70:G:H2'	21:AW:71:C:C6	2.35	0.61
26:BD:165:ILE:O	26:BD:166:GLN:HB2	2.00	0.61
27:BE:87:GLU:OE2	27:BE:89:ASP:N	2.32	0.61
57:B1:42:GLN:OE1	59:BA:379:G:N2	2.26	0.61
59:BA:1199:U:H2'	59:BA:1200:C:H6	1.65	0.61
59:BA:2086:U:H2'	59:BA:2087:G:C8	2.35	0.61
59:BA:2091:U:H3	59:BA:2228:G:H1	1.48	0.61
2:CC:37:GLN:HA	2:CC:40:ARG:HG3	1.81	0.61
11:CL:124:LYS:O	11:CL:126:LYS:N	2.33	0.61
20:CA:345:C:H3'	39:DT:35:LYS:HZ1	1.65	0.61
20:CA:595:G:H1'	20:CA:596:C:H5	1.64	0.61
20:CA:1356:G:H2'	20:CA:1357:A:C8	2.34	0.61
25:DC:65:LEU:O	25:DC:67:HIS:N	2.33	0.61
25:DC:121:MET:O	25:DC:125:GLY:N	2.27	0.61
28:DF:154:VAL:HB	28:DF:173:VAL:HG13	1.81	0.61
38:DS:89:ARG:HB3	38:DS:92:TYR:HB3	1.81	0.61
41:DV:40:LEU:HD13	41:DV:47:VAL:HG22	1.82	0.61
59:DA:272:G:H2'	59:DA:273(A):G:C8	2.34	0.61
59:DA:1005:C:H42	59:DA:1138:G:H1	0.77	0.61
59:DA:1054:A:H2'	59:DA:1055:G:C8	2.35	0.61
59:DA:2030:A:H4'	59:DA:2031:A:C8	2.35	0.61
59:DA:2291:U:OP1	59:DA:2380:C:O2'	2.18	0.61
4:AE:33:VAL:HG12	4:AE:112:LEU:HD12	1.82	0.61
4:AE:143:ARG:NH1	7:AH:77:GLU:OE1	2.33	0.61
7:AH:127:LEU:HB3	7:AH:129:VAL:HG22	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:21:G:H2'	20:AA:22:G:C8	2.34	0.61
28:BF:9:ILE:HG21	28:BF:124:LEU:HB2	1.80	0.61
28:BF:88:VAL:HG22	28:BF:89:VAL:H	1.65	0.61
37:BR:64:ARG:NH1	59:BA:2851:A:O2'	2.34	0.61
39:BT:30:VAL:HA	39:BT:45:PHE:H	1.63	0.61
59:BA:56:A:H2'	59:BA:57:C:C6	2.35	0.61
59:BA:192:C:O2'	59:BA:802:A:N3	2.33	0.61
59:BA:956:G:H1'	59:BA:960:A:N6	2.14	0.61
59:BA:2001:A:H4'	59:BA:2689:U:C2	2.34	0.61
20:CA:584:G:H2'	20:CA:585:G:C8	2.35	0.61
23:CY:25:LYS:O	23:CY:28:THR:HB	2.00	0.61
28:DF:158:THR:HA	28:DF:195:ASP:H	1.65	0.61
34:DO:7:TYR:O	34:DO:82:ASN:ND2	2.33	0.61
42:DW:4:LYS:O	42:DW:57:ASN:ND2	2.33	0.61
59:DA:273(C):C:H2'	59:DA:273(D):C:C6	2.35	0.61
59:DA:415:A:N1	59:DA:2408:U:O2	2.32	0.61
59:DA:1203:G:H2'	59:DA:1204:A:C2	2.35	0.61
59:DA:2081:C:H2'	59:DA:2082:A:H8	1.65	0.61
59:DA:2089:U:H2'	59:DA:2090:G:C8	2.35	0.61
59:DA:2105:C:H2'	59:DA:2106:G:C8	2.35	0.61
1:AB:79:ASP:O	1:AB:82:ARG:HG2	2.00	0.61
1:AB:166:ASP:HA	1:AB:188:ALA:HB2	1.82	0.61
13:AN:48:ALA:HA	13:AN:53:LEU:HB2	1.81	0.61
19:AT:43:LEU:HB2	19:AT:52:ALA:HB2	1.81	0.61
20:AA:56:U:H2'	20:AA:57:G:H8	1.65	0.61
36:BQ:85:LYS:HE2	46:B0:7:LEU:HD12	1.80	0.61
59:BA:177:G:OP2	59:BA:177:G:N2	2.30	0.61
59:BA:557:U:H2'	59:BA:558:G:H8	1.63	0.61
59:BA:2023:G:C6	59:BA:2040:C:N3	2.69	0.61
59:BA:2336:A:H3'	59:BA:2337:G:H8	1.64	0.61
60:BB:71:C:H42	60:BB:105:G:H1	1.49	0.61
20:CA:1221:G:OP1	20:CA:1320:C:N4	2.29	0.61
20:CA:1376:U:H2'	20:CA:1377:A:C8	2.35	0.61
23:CY:566:THR:CG2	23:CY:567:LEU:H	2.14	0.61
25:DC:151:GLY:HA2	25:DC:154:ILE:HG13	1.81	0.61
36:DQ:34:LEU:HD13	36:DQ:118:LEU:HB3	1.82	0.61
36:DQ:135:ASP:H	36:DQ:137:TYR:HD1	1.46	0.61
59:DA:1400:G:H2'	59:DA:1401:G:C8	2.35	0.61
59:DA:1999:C:H4'	59:DA:2723:C:H1'	1.82	0.61
59:DA:2115:G:H1	59:DA:2118:U:P	2.23	0.61
60:DB:32:C:H2'	60:DB:33:G:C8	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AJ:8:LEU:HA	9:AJ:96:ILE:HG22	1.80	0.61
11:AL:58:VAL:HG21	11:AL:85:ILE:HD11	1.80	0.61
12:AM:78:ILE:HA	12:AM:81:LEU:HB2	1.81	0.61
17:AR:48:GLY:O	17:AR:74:ARG:NH2	2.32	0.61
39:BT:55:ASN:ND2	59:BA:2683:C:OP1	2.33	0.61
54:Be:74:VAL:HG12	54:Be:82:THR:HG22	1.82	0.61
59:BA:1387:C:N4	59:BA:1400:G:H1	1.96	0.61
60:BB:66:A:H61	60:BB:107:U:H2'	1.65	0.61
1:CB:187:LEU:HD23	1:CB:201:ILE:HG22	1.83	0.61
2:CC:182:ILE:HG12	2:CC:203:PHE:HA	1.82	0.61
3:CD:101:LEU:HD12	3:CD:121:VAL:HG13	1.83	0.61
13:CN:45:ARG:NH2	20:CA:1059:C:O3'	2.33	0.61
26:DD:85:ASP:OD1	26:DD:88:ARG:NH1	2.33	0.61
26:DD:89:SER:HB2	26:DD:159:ALA:HB2	1.83	0.61
46:D0:72:ARG:HH22	60:DB:10:C:H5"	1.65	0.61
59:DA:1670:C:H2'	59:DA:1671:U:O4'	1.99	0.61
59:DA:1770:G:H2'	59:DA:1771:C:C6	2.35	0.61
20:AA:346:G:O2'	39:BT:41:ARG:NH2	2.33	0.61
20:AA:687:A:H62	20:AA:703:G:N2	1.97	0.61
20:AA:1201:A:H4'	20:AA:1202:G:H5"	1.82	0.61
23:AY:680:PRO:O	23:AY:682:GLN:N	2.34	0.61
25:BC:61:GLY:HA3	25:BC:164:PHE:CD1	2.36	0.61
36:BQ:17:LEU:HD11	59:BA:958:U:H3	1.65	0.61
39:BT:64:ARG:HD3	39:BT:73:GLU:HG3	1.82	0.61
49:B5:44:THR:HG22	49:B5:45:VAL:H	1.64	0.61
59:BA:918:A:N3	60:BB:80:U:O2'	2.32	0.61
59:BA:2210:G:N2	59:BA:2212:A:OP1	2.29	0.61
1:CB:189:ASP:HB3	1:CB:204:ASN:HA	1.83	0.61
13:CN:41:ARG:NH1	20:CA:973:G:O3'	2.33	0.61
21:CW:63:C:H2'	21:CW:64:G:C8	2.35	0.61
26:DD:123:ALA:HB3	26:DD:131:LEU:HG	1.81	0.61
27:DE:38:THR:HG22	27:DE:41:LYS:HG2	1.83	0.61
29:DG:43:LEU:HD13	59:DA:2305:A:H61	1.65	0.61
59:DA:470:A:H5'	59:DA:470:A:H8	1.63	0.61
59:DA:855:G:H1	59:DA:922:U:H3	1.46	0.61
59:DA:1538:G:H2'	59:DA:1539:G:C8	2.34	0.61
2:AC:3:ASN:O	2:AC:4:LYS:HB2	1.99	0.61
3:AD:64:LEU:HD13	3:AD:198:VAL:HG11	1.83	0.61
20:AA:707:C:H2'	20:AA:708:C:H6	1.65	0.61
20:AA:740:U:O2'	20:AA:741:G:O4'	2.17	0.61
20:AA:1338:G:H21	21:AW:41:A:H1'	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AY:161:PRO:HA	23:AY:256:THR:HB	1.81	0.61
23:AY:605:ILE:HG13	23:AY:648:PRO:HA	1.83	0.61
26:BD:246:PRO:HD3	59:BA:1902:C:H5'	1.82	0.61
27:BE:15:PHE:HD1	39:BT:80:SER:HB2	1.65	0.61
31:BJ:25:UNK:CA	31:BJ:80:UNK:HA	2.27	0.61
59:BA:2622:C:O2'	59:BA:2824:C:N4	2.34	0.61
59:BA:2707:G:H2'	59:BA:2708:G:C8	2.34	0.61
3:CD:170:VAL:HG11	3:CD:176:LEU:HB2	1.83	0.61
11:CL:49:ASN:ND2	20:CA:521:G:O6	2.31	0.61
20:CA:987:G:N2	20:CA:1218:C:N3	2.43	0.61
20:CA:1513:A:H2'	20:CA:1514:C:H6	1.65	0.61
25:DC:104:ILE:HG21	25:DC:132:LEU:HD11	1.82	0.61
26:DD:206:LEU:HB2	59:DA:1791:A:H4'	1.81	0.61
27:DE:4:ILE:HD13	27:DE:5:LEU:H	1.66	0.61
59:DA:2515:C:H2'	59:DA:2516:G:H8	1.65	0.61
26:BD:133:LEU:N	26:BD:187:GLY:O	2.33	0.61
26:BD:258:LYS:NZ	59:BA:1844:C:O3'	2.33	0.61
30:BH:123:PHE:O	30:BH:124:GLU:HB3	2.00	0.61
30:BH:152:ARG:HB3	30:BH:162:ILE:HG13	1.82	0.61
59:BA:1024:G:OP2	59:BA:1025:G:H3'	2.00	0.61
2:CC:150:LYS:HE3	2:CC:201:TYR:HD1	1.65	0.61
16:CQ:17:LYS:HZ2	20:CA:255:G:HO2'	1.46	0.61
20:CA:585:G:H1	20:CA:756:C:H42	1.48	0.61
57:D1:21:ARG:HB3	57:D1:38:SER:HB2	1.83	0.61
59:DA:659:C:H2'	59:DA:660:G:H8	1.63	0.61
59:DA:1197:G:H2'	59:DA:1198:U:H6	1.65	0.61
59:DA:1819:A:C4'	59:DA:1820:U:H5'	2.31	0.61
59:DA:2154:G:H2'	59:DA:2155:G:H8	1.66	0.61
1:AB:169:LYS:O	1:AB:172:ILE:N	2.32	0.61
13:AN:61:TRP:HZ2	20:AA:1368:G:H4'	1.64	0.61
20:AA:339:C:H2'	20:AA:340:U:C6	2.36	0.61
20:AA:520:A:H62	20:AA:529:G:N2	1.98	0.61
23:AY:137:ASN:ND2	23:AY:263:ALA:H	1.89	0.61
26:BD:106:ILE:HG23	26:BD:108:PRO:HD3	1.81	0.61
27:BE:156:MET:HE2	59:BA:2049:G:H21	1.66	0.61
44:BY:79:CYS:HG	44:BY:80:GLY:H	1.48	0.61
59:BA:137(B):G:H1	59:BA:141(B):C:H42	1.48	0.61
59:BA:689:A:H2'	59:BA:690:G:C8	2.36	0.61
59:BA:1007:C:H5"	59:BA:1008:C:C3'	2.31	0.61
59:BA:1090:U:H2'	59:BA:1091:G:H8	1.66	0.61
11:CL:12:ARG:NH2	20:CA:881:G:OP2	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:CM:79:LYS:HA	12:CM:82:MET:HG2	1.82	0.61
20:CA:1120:G:H1	20:CA:1153:C:H42	1.46	0.61
23:CY:496:LYS:HA	23:CY:509:HIS:HA	1.82	0.61
23:CY:613:PRO:HD2	23:CY:666:ARG:HB3	1.82	0.61
28:DF:54:ARG:NH1	59:DA:673:C:OP1	2.33	0.61
30:DH:39:PRO:O	30:DH:41:MET:N	2.29	0.61
40:DU:28:ARG:NH1	40:DU:38:THR:OG1	2.34	0.61
45:DZ:74:VAL:HG22	45:DZ:86:VAL:HA	1.82	0.61
51:D7:8:ASN:HB3	51:D7:11:LYS:HB3	1.83	0.61
59:DA:1796:U:H3	59:DA:1823:G:H1	1.49	0.61
60:DB:57:A:H2'	60:DB:58:A:C8	2.35	0.61
3:AD:19:LEU:HD23	3:AD:67:ILE:HB	1.82	0.61
5:AF:46:ARG:HH22	17:AR:37:VAL:HG21	1.66	0.61
20:AA:1225:A:H2'	20:AA:1226:C:C5	2.36	0.61
21:AW:23:A:H2'	21:AW:24:G:C8	2.36	0.61
26:BD:111:LEU:HG	26:BD:127:VAL:HG12	1.83	0.61
27:BE:109:LYS:HG2	27:BE:191:PRO:HD3	1.83	0.61
41:BV:62:LEU:HD12	41:BV:95:LEU:HB2	1.83	0.61
59:BA:273(D):C:H2'	59:BA:273(E):C:H6	1.66	0.61
59:BA:2111:C:O2	59:BA:2118:U:O2'	2.19	0.61
60:BB:9:G:H2'	60:BB:10:C:C6	2.36	0.61
6:CG:102:ARG:HD2	6:CG:106:GLN:HE22	1.65	0.61
11:CL:15:ARG:NH1	20:CA:563:A:N3	2.49	0.61
20:CA:816:A:OP2	20:CA:1526:G:O2'	2.18	0.61
21:CW:64:G:C6	21:CW:65:U:O4	2.53	0.61
25:DC:138:LEU:HD13	25:DC:139:PRO:HG2	1.81	0.61
26:DD:148:GLU:HB3	26:DD:151:LYS:HG3	1.83	0.61
26:DD:163:ALA:HB1	26:DD:175:LEU:HD21	1.83	0.61
26:DD:244:ARG:HG2	26:DD:245:PRO:HA	1.81	0.61
31:DJ:122:UNK:O	31:DJ:124:UNK:N	2.34	0.61
37:DR:53:HIS:CG	59:DA:2840:C:H5"	2.36	0.61
38:DS:24:LEU:HB3	38:DS:85:VAL:HG12	1.83	0.61
39:DT:60:THR:HG22	39:DT:78:LEU:H	1.66	0.61
45:DZ:5:LEU:HD11	45:DZ:44:PHE:HD1	1.66	0.61
46:D0:22:GLY:H	46:D0:39:ARG:HB2	1.66	0.61
49:D5:15:ARG:NH1	59:DA:2046:G:OP1	2.19	0.61
59:DA:836:G:H1	59:DA:943:U:H3	1.46	0.61
59:DA:992:C:H42	59:DA:1162:G:H1	1.48	0.61
14:AO:67:LEU:HD13	14:AO:87:ILE:HD12	1.83	0.61
59:BA:36:G:N2	59:BA:444:C:N3	2.41	0.61
59:BA:52:A:H2'	59:BA:53:A:C8	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:273(A):G:H1	59:BA:364:C:N4	1.96	0.61
59:BA:2287:A:N6	59:BA:2344:U:C2	2.69	0.61
59:BA:2870:C:H2'	59:BA:2871:C:O4'	2.01	0.61
23:CY:208:GLN:O	23:CY:211:GLU:HG2	2.01	0.61
23:CY:580:MET:HA	23:CY:583:LYS:HB3	1.82	0.61
26:DD:157:ARG:NH1	59:DA:1818:U:OP2	2.34	0.61
42:DW:75:TYR:O	42:DW:104:THR:N	2.34	0.61
53:D9:2:LYS:HD2	59:DA:2526:G:O2'	2.01	0.61
59:DA:1291:C:H4'	59:DA:1535:U:O2'	2.01	0.61
1:AB:223:ILE:O	1:AB:227:GLY:N	2.34	0.60
3:AD:25:ARG:NH2	20:AA:411:A:OP2	2.33	0.60
15:AP:29:ASP:OD2	15:AP:29:ASP:N	2.34	0.60
20:AA:810:C:H2'	20:AA:811:C:C6	2.36	0.60
20:AA:1504:G:H4'	20:AA:1505:G:H5'	1.83	0.60
25:BC:47:LYS:HB2	25:BC:169:THR:O	2.01	0.60
27:BE:12:THR:O	27:BE:22:PRO:HA	2.01	0.60
27:BE:63:LEU:HB2	27:BE:65:GLY:N	2.10	0.60
36:BQ:1:MET:H1	36:BQ:48:GLU:HB2	1.66	0.60
44:BY:97:ARG:NH2	59:BA:300:A:OP1	2.31	0.60
59:BA:970:C:O2	59:BA:984:A:O2'	2.13	0.60
59:BA:1144:G:H2'	59:BA:1145:C:C6	2.36	0.60
59:BA:1268:A:H2'	59:BA:1269:A:O4'	2.01	0.60
59:BA:2606:C:H2'	59:BA:2607:G:C8	2.36	0.60
14:CO:68:ARG:HH22	20:CA:582:U:H5"	1.66	0.60
23:CY:66:THR:O	23:CY:363:ARG:NH2	2.34	0.60
26:DD:168:ARG:HA	26:DD:173:VAL:HA	1.83	0.60
33:DN:25:ARG:NH2	59:DA:114(B):A:H4'	2.15	0.60
48:D3:30:ARG:NH2	59:DA:1159:U:OP1	2.34	0.60
49:D5:20:ARG:HA	49:D5:23:HIS:HB2	1.82	0.60
57:D1:25:LYS:HG2	57:D1:34:THR:HA	1.81	0.60
59:DA:1416:G:H1	59:DA:1582:C:N4	1.95	0.60
59:DA:1486:A:N1	59:DA:1503:U:O4	2.34	0.60
59:DA:2080:G:H2'	59:DA:2081:C:H6	1.65	0.60
20:AA:885:G:H1	20:AA:912:C:H42	1.49	0.60
26:BD:254:THR:HG21	59:BA:1824:G:H1'	1.83	0.60
30:BH:85:LYS:HD3	30:BH:133:VAL:HB	1.83	0.60
36:BQ:109:VAL:HG21	36:BQ:114:ALA:HB2	1.81	0.60
36:BQ:132:VAL:HB	36:BQ:137:TYR:OH	2.01	0.60
41:BV:79:VAL:HG21	59:BA:973:A:H5'	1.83	0.60
60:BB:39:A:H2	60:BB:46:A:H61	1.49	0.60
20:CA:237:C:H2'	20:CA:238:G:C8	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:1102:A:H2'	20:CA:1103:C:C6	2.35	0.60
23:CY:457:LEU:HD23	23:CY:458:HIS:H	1.66	0.60
25:DC:61:GLY:HA3	25:DC:164:PHE:CE1	2.36	0.60
28:DF:188:ARG:HB3	35:DP:7:ARG:HH21	1.64	0.60
32:DK:78:ILE:HD11	32:DK:99:ILE:HD11	1.83	0.60
48:D3:6:VAL:HG22	48:D3:37:LEU:HD11	1.83	0.60
59:DA:184:C:H2'	59:DA:185:U:C6	2.36	0.60
11:AL:88:GLY:O	11:AL:99:HIS:NE2	2.34	0.60
20:AA:1198:G:H2'	20:AA:1199:U:C6	2.36	0.60
21:AW:19:G:N2	21:AW:56:C:N3	2.49	0.60
35:BP:106:LEU:HD21	35:BP:112:LEU:HD23	1.83	0.60
37:BR:49:ASP:HB3	59:BA:2839:G:H4'	1.84	0.60
59:BA:1463:C:H2'	59:BA:1464:C:C6	2.36	0.60
59:BA:1530:G:O6	59:BA:1541:U:O2	2.19	0.60
59:BA:1558:A:O2'	59:BA:1559:G:OP2	2.17	0.60
59:BA:2119:A:C2	59:BA:2170:A:H2'	2.36	0.60
1:CB:60:ASP:HB3	1:CB:64:ARG:HH22	1.65	0.60
4:CE:102:ALA:HB3	4:CE:107:ARG:HB2	1.83	0.60
10:CK:32:ILE:HD13	10:CK:72:ALA:HB2	1.82	0.60
10:CK:53:SER:HB2	20:CA:694:A:H5"	1.83	0.60
25:DC:51:ASP:HB2	25:DC:54:ARG:HB2	1.82	0.60
25:DC:62:THR:OG1	25:DC:62:THR:O	2.14	0.60
26:DD:165:ILE:HA	26:DD:175:LEU:HA	1.83	0.60
28:DF:156:LEU:O	28:DF:158:THR:HG22	2.01	0.60
40:DU:98:LEU:HD13	40:DU:101:ARG:HH12	1.66	0.60
46:D0:35:ASN:ND2	59:DA:2353:G:O2'	2.35	0.60
59:DA:871:U:O2	59:DA:906:G:O6	2.19	0.60
59:DA:1142:U:H5"	59:DA:114(B):A:C8	2.36	0.60
59:DA:1495:A:H2	59:DA:1578:U:H1'	1.66	0.60
59:DA:2246:G:H2'	59:DA:2247:A:C8	2.36	0.60
59:DA:2378:A:H8	59:DA:2378:A:O5'	1.84	0.60
59:DA:2789:C:H1'	59:DA:2892:A:H2	1.66	0.60
2:AC:163:ALA:HB3	20:AA:1056:U:H4'	1.83	0.60
4:AE:77:PRO:HD2	4:AE:142:LEU:HD21	1.83	0.60
12:AM:24:GLY:O	12:AM:29:ARG:NH1	2.34	0.60
20:AA:865:A:H2'	20:AA:866:C:C6	2.36	0.60
20:AA:1081:G:H2'	20:AA:1082:G:H8	1.66	0.60
23:AY:512:ILE:HA	23:AY:567:LEU:HA	1.82	0.60
32:BK:100:THR:HG22	32:BK:139:VAL:HB	1.83	0.60
33:BN:40:PRO:HG3	40:BU:71:GLN:HE22	1.67	0.60
37:BR:40:LYS:O	37:BR:44:LEU:HB2	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BS:27:SER:H	38:BS:40:ILE:HG22	1.66	0.60
44:BY:74:PRO:HG3	44:BY:82:PRO:HA	1.81	0.60
59:BA:1101:U:H2'	59:BA:1102:C:C6	2.36	0.60
59:BA:2469:A:H61	59:BA:2481:G:H1'	1.67	0.60
4:CE:76:ILE:HG12	4:CE:78:HIS:H	1.67	0.60
11:CL:49:ASN:OD1	11:CL:49:ASN:N	2.33	0.60
12:CM:11:ARG:O	12:CM:13:LYS:N	2.34	0.60
20:CA:62:U:H3	20:CA:105:G:H1	1.49	0.60
29:DG:62:LEU:HD12	58:D4:7:PRO:HG3	1.83	0.60
42:DW:68:ARG:HB3	42:DW:110:LYS:HB2	1.81	0.60
44:DY:76:CYS:HB3	44:DY:96:ILE:HG13	1.83	0.60
54:De:99:VAL:HG21	54:De:122:VAL:HB	1.83	0.60
59:DA:643:A:H2'	59:DA:644:A:C8	2.35	0.60
59:DA:1913:A:HO2'	59:DA:1914:C:P	2.23	0.60
59:DA:2038:G:H2'	59:DA:2039:C:H5'	1.84	0.60
60:DB:14:U:H2'	60:DB:15:A:H2	1.65	0.60
20:AA:185:A:H2'	20:AA:186:C:C6	2.36	0.60
20:AA:265:G:H2'	20:AA:266:G:H5"	1.84	0.60
20:AA:585:G:H1	20:AA:756:C:N4	2.00	0.60
23:AY:135:PHE:HA	23:AY:260:LEU:HA	1.84	0.60
25:BC:37:LYS:HD2	25:BC:219:MET:HE3	1.81	0.60
29:BG:11:TYR:O	29:BG:15:VAL:HB	2.01	0.60
38:BS:35:ILE:HG22	38:BS:53:SER:HB2	1.83	0.60
39:BT:59:THR:HG23	39:BT:78:LEU:HD22	1.81	0.60
48:B3:30:ARG:NH1	48:B3:32:GLN:O	2.33	0.60
59:BA:1007:C:N3	59:BA:1136:G:C6	2.69	0.60
2:CC:154:SER:O	2:CC:197:GLY:N	2.25	0.60
5:CF:70:ASP:OD2	5:CF:71:ARG:N	2.34	0.60
8:CI:127:LYS:HA	20:CA:967:C:H5'	1.84	0.60
16:CQ:27:PHE:HB2	16:CQ:28:PRO:HD2	1.82	0.60
26:DD:43:ARG:O	26:DD:51:VAL:HG11	2.01	0.60
31:DJ:39:UNK:O	31:DJ:43:UNK:N	2.34	0.60
37:DR:53:HIS:CD2	59:DA:2840:C:H5"	2.36	0.60
42:DW:76:VAL:HA	42:DW:102:HIS:O	2.01	0.60
23:AY:268:GLY:HA2	23:AY:271:LEU:HD21	1.83	0.60
26:BD:68:LYS:O	26:BD:70:TRP:N	2.30	0.60
27:BE:8:LYS:HE3	27:BE:188:VAL:HG11	1.84	0.60
29:BG:109:VAL:O	29:BG:112:PRO:HD2	2.01	0.60
31:BJ:33:UNK:O	31:BJ:37:UNK:N	2.35	0.60
34:BO:66:LYS:HD3	34:BO:78:ARG:HD2	1.82	0.60
41:BV:39:LEU:HD12	41:BV:47:VAL:HG21	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:B1:76:ARG:NH2	57:B1:94:LEU:O	2.35	0.60
59:BA:1638:C:H2'	59:BA:1639:U:O4'	2.02	0.60
1:CB:166:ASP:HA	1:CB:188:ALA:HB2	1.82	0.60
6:CG:69:VAL:HA	6:CG:138:LYS:HD2	1.84	0.60
34:DO:34:THR:OG1	34:DO:35:VAL:N	2.33	0.60
36:DQ:116:GLU:HA	36:DQ:119:ARG:HE	1.65	0.60
37:DR:7:GLY:O	37:DR:8:ARG:HB2	2.00	0.60
43:DX:25:LYS:HG2	43:DX:82:GLN:HB2	1.83	0.60
59:DA:212:G:H2'	59:DA:213:A:C8	2.36	0.60
8:AI:10:ARG:HD3	8:AI:75:ASP:HB3	1.83	0.60
23:AY:606:MET:HG3	23:AY:649:LEU:HD21	1.84	0.60
26:BD:130:ALA:HA	26:BD:192:THR:HA	1.82	0.60
39:BT:60:THR:HG22	39:BT:77:PRO:HA	1.84	0.60
59:BA:2001:A:H2'	59:BA:2002:G:C8	2.37	0.60
59:BA:2131:G:H5'	59:BA:2133:G:C1'	2.32	0.60
3:CD:106:TYR:HA	3:CD:111:ALA:HB3	1.83	0.60
12:CM:122:LYS:HA	20:CA:954:G:H5'	1.82	0.60
23:CY:19:ALA:N	23:CY:25:LYS:HZ2	1.99	0.60
23:CY:135:PHE:HA	23:CY:260:LEU:HA	1.84	0.60
38:DS:92:TYR:C	38:DS:94:TYR:H	2.09	0.60
43:DX:51:VAL:HA	43:DX:83:VAL:HG22	1.84	0.60
45:DZ:3:TYR:N	45:DZ:56:VAL:O	2.35	0.60
59:DA:1542:G:H4'	59:DA:1543:A:O5'	2.01	0.60
59:DA:1557:C:H2'	59:DA:1558:A:H2	1.67	0.60
59:DA:1812:A:H2'	59:DA:1813:G:C8	2.36	0.60
59:DA:2105:C:H2'	59:DA:2106:G:H8	1.65	0.60
59:DA:2515:C:N3	59:DA:2569:G:N2	2.37	0.60
1:AB:71:VAL:HB	1:AB:164:VAL:HG22	1.84	0.60
11:AL:54:LYS:HD2	11:AL:70:ILE:HG12	1.83	0.60
20:AA:576:G:N7	20:AA:881:G:H1'	2.16	0.60
20:AA:1238:A:H2	20:AA:1241:G:N3	1.99	0.60
21:AW:41:A:H2'	21:AW:42:U:C6	2.37	0.60
27:BE:143:ASN:ND2	27:BE:146:THR:O	2.34	0.60
28:BF:157:VAL:HG13	28:BF:194:MET:HG2	1.83	0.60
31:BJ:25:UNK:O	31:BJ:111:UNK:HA	2.02	0.60
32:BK:7:VAL:HB	32:BK:58:THR:HG23	1.82	0.60
36:BQ:92:GLY:O	36:BQ:94:VAL:HG13	2.01	0.60
43:BX:27:THR:HG22	43:BX:80:ILE:HB	1.82	0.60
44:BY:37:VAL:N	44:BY:67:LEU:O	2.32	0.60
59:BA:1139:G:OP2	59:BA:1139:G:H8	1.84	0.60
59:BA:2066:C:H42	59:BA:2444:G:H1	1.49	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2095:C:H2'	59:BA:2096:U:C6	2.36	0.60
2:CC:2:GLY:N	20:CA:1062:U:O4	2.35	0.60
8:CI:125:TYR:HE2	20:CA:967:C:H4'	1.66	0.60
10:CK:11:LYS:N	10:CK:75:TYR:HH	1.99	0.60
18:CS:12:ASP:H	18:CS:38:SER:HB3	1.66	0.60
25:DC:185:LYS:O	25:DC:189:ASN:HB2	2.02	0.60
25:DC:214:TYR:HB3	25:DC:222:SER:HB2	1.81	0.60
39:DT:30:VAL:HA	39:DT:45:PHE:H	1.66	0.60
40:DU:64:ARG:HB2	40:DU:64:ARG:HH21	1.67	0.60
52:D8:17:THR:O	52:D8:19:SER:N	2.35	0.60
57:D1:13:ILE:HG23	57:D1:17:SER:HB2	1.84	0.60
2:AC:22:TRP:HB3	2:AC:59:ARG:H	1.67	0.60
20:AA:1270:C:H2'	20:AA:1271:G:H8	1.66	0.60
20:AA:1288:A:H2'	20:AA:1289:A:O4'	2.02	0.60
34:BO:28:SER:HB3	59:BA:2566:A:H61	1.66	0.60
39:BT:96:ARG:NE	59:BA:2717:G:O2'	2.35	0.60
45:BZ:82:ARG:HG2	45:BZ:83:PRO:HD2	1.84	0.60
59:BA:413:C:H2'	59:BA:414:C:C6	2.37	0.60
59:BA:659:C:H2'	59:BA:660:G:C8	2.37	0.60
60:BB:71:C:H2'	60:BB:72:G:H5'	1.84	0.60
1:CB:139:LYS:O	1:CB:143:GLU:HG2	2.02	0.60
20:CA:253:U:H3	20:CA:273:A:H2	1.49	0.60
20:CA:848:C:H2'	20:CA:849:C:H6	1.67	0.60
20:CA:1123:A:N1	20:CA:1150:U:O4	2.33	0.60
28:DF:11:VAL:HG13	28:DF:127:GLU:HB2	1.84	0.60
34:DO:19:ILE:HG22	34:DO:43:VAL:HA	1.82	0.60
34:DO:107:ARG:HH22	39:DT:36:GLU:HG3	1.67	0.60
59:DA:291:C:N4	59:DA:349:G:H1	1.95	0.60
59:DA:2176:A:H2'	59:DA:2177:C:C6	2.36	0.60
59:DA:2736:G:H2'	59:DA:2737:G:H8	1.66	0.60
3:AD:31:CYS:HB3	3:AD:33:MET:HG2	1.83	0.60
4:AE:40:ARG:HE	4:AE:66:MET:HE2	1.67	0.60
20:AA:588:G:H1	20:AA:651:C:H42	1.50	0.60
26:BD:22:SER:C	26:BD:24:ILE:H	2.08	0.60
35:BP:51:PHE:CD1	35:BP:52:GLU:HB2	2.37	0.60
47:B2:48:HIS:CD2	47:B2:49:LYS:H	2.19	0.60
59:BA:1305:C:H42	59:BA:1623:G:H1	1.47	0.60
59:BA:1604:C:H2'	59:BA:1605:C:C6	2.35	0.60
17:CR:44:LEU:HD22	17:CR:79:LEU:HD21	1.84	0.60
17:CR:74:ARG:HG3	17:CR:79:LEU:HB3	1.84	0.60
20:CA:231:G:H2'	20:CA:232:G:H8	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:DG:57:ALA:HB1	29:DG:90:LEU:HD22	1.84	0.60
32:DK:21:PRO:HA	32:DK:23:VAL:H	1.67	0.60
35:DP:53:GLY:O	35:DP:55:ARG:N	2.34	0.60
36:DQ:14:ARG:NH1	59:DA:956:G:N7	2.40	0.60
41:DV:66:ARG:HG2	41:DV:88:ARG:HB3	1.83	0.60
45:DZ:10:ARG:HD2	45:DZ:36:LYS:HB2	1.84	0.60
59:DA:38:A:H2'	59:DA:39:C:C6	2.37	0.60
59:DA:740:U:H2'	59:DA:741:G:C8	2.37	0.60
59:DA:1137:G:H2'	59:DA:1138:G:H5'	1.83	0.60
59:DA:1849:G:H1	59:DA:1893:C:N4	1.99	0.60
7:AH:103:VAL:HG12	7:AH:138:TRP:HD1	1.67	0.59
9:AJ:42:THR:H	20:AA:1151:A:H5"	1.66	0.59
10:AK:41:THR:HG21	10:AK:71:LYS:HD3	1.83	0.59
20:AA:33:A:H4'	20:AA:364:A:H1'	1.83	0.59
20:AA:1206:G:H2'	20:AA:1207:G:O4'	2.02	0.59
20:AA:1290:G:H3'	20:AA:1291:G:H8	1.66	0.59
25:BC:23:ILE:HG21	25:BC:191:ARG:HG3	1.84	0.59
25:BC:30:VAL:HG13	25:BC:33:LEU:HD12	1.82	0.59
26:BD:241:PRO:HA	59:BA:1971:A:H1'	1.84	0.59
28:BF:5:ALA:HB1	28:BF:123:LEU:HD21	1.84	0.59
42:BW:26:GLY:HA2	42:BW:71:VAL:O	2.02	0.59
59:BA:322:A:O4'	59:BA:340:A:H1'	2.00	0.59
59:BA:772:C:H2'	59:BA:773:U:C6	2.36	0.59
59:BA:1128:A:O4'	59:BA:2516:G:O2'	2.20	0.59
3:CD:10:ARG:HA	3:CD:13:ARG:HD2	1.83	0.59
20:CA:1040:U:H2'	20:CA:1041:A:H8	1.67	0.59
23:CY:567:LEU:HG	23:CY:568:TYR:H	1.66	0.59
25:DC:104:ILE:HG23	25:DC:111:PHE:CZ	2.36	0.59
34:DO:23:ARG:HG3	34:DO:24:VAL:H	1.66	0.59
39:DT:47:GLY:HA3	39:DT:65:LYS:HB2	1.84	0.59
47:D2:2:LYS:HD2	47:D2:5:GLU:HB2	1.84	0.59
59:DA:565:C:H4'	59:DA:1253:A:C6	2.36	0.59
59:DA:686:G:N2	59:DA:788:A:H61	2.00	0.59
59:DA:1891:G:H2'	59:DA:1892:C:C6	2.37	0.59
59:DA:2037:G:H2'	59:DA:2038:G:C8	2.37	0.59
5:AF:82:ARG:HB2	5:AF:85:VAL:HG23	1.83	0.59
7:AH:111:ILE:HD11	7:AH:137:VAL:HG23	1.83	0.59
11:AL:58:VAL:HG12	11:AL:60:LEU:N	2.10	0.59
20:AA:217:C:H2'	20:AA:218:C:H6	1.67	0.59
25:BC:81:GLY:O	25:BC:84:ILE:HB	2.02	0.59
25:BC:104:ILE:HG21	25:BC:132:LEU:HD11	1.82	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BQ:1:MET:N	36:BQ:48:GLU:OE1	2.35	0.59
50:B6:6:ARG:H	50:B6:6:ARG:HD2	1.67	0.59
59:BA:38:A:H2'	59:BA:39:C:C6	2.37	0.59
59:BA:978:G:O2'	59:BA:1002:G:O2'	2.20	0.59
59:BA:2178:C:H2'	59:BA:2179:C:C6	2.35	0.59
59:BA:2345:G:H5"	59:BA:2347:C:O4'	2.02	0.59
59:BA:2829:C:H2'	59:BA:2830:G:H8	1.67	0.59
20:CA:22:G:H4'	20:CA:885:G:C8	2.37	0.59
20:CA:390:C:H2'	20:CA:391:G:C8	2.35	0.59
20:CA:563:A:H5"	20:CA:564:C:H5	1.66	0.59
20:CA:885:G:H1	20:CA:912:C:H42	1.51	0.59
20:CA:990:C:H2'	20:CA:991:U:O4'	2.03	0.59
20:CA:1262:C:H2'	20:CA:1263:C:C6	2.37	0.59
21:CW:51:A:H61	21:CW:63:C:H42	1.48	0.59
41:DV:1:MET:SD	41:DV:99:ILE:HG13	2.42	0.59
59:DA:1025:G:OP1	59:DA:1025:G:H8	1.85	0.59
59:DA:1318:C:N3	59:DA:1334:G:O6	2.35	0.59
59:DA:2686:G:H2'	59:DA:2687:U:O4'	2.02	0.59
16:AQ:66:SER:OG	20:AA:254:G:OP1	2.20	0.59
25:BC:140:ASN:O	25:BC:142:LYS:N	2.34	0.59
26:BD:27:THR:HG23	26:BD:83:GLU:HB3	1.84	0.59
29:BG:119:GLY:HA3	29:BG:181:ARG:HA	1.84	0.59
52:B8:36:LYS:HD2	52:B8:40:GLU:HG3	1.84	0.59
59:BA:847:U:HO2'	59:BA:848:G:H8	1.48	0.59
59:BA:1136:G:HO2'	59:BA:2038:G:HO2'	1.40	0.59
59:BA:2284:C:N4	59:BA:2384:G:H1	1.99	0.59
1:CB:53:ARG:O	1:CB:56:ARG:HB2	2.02	0.59
10:CK:21:ILE:HD12	10:CK:84:VAL:HG12	1.85	0.59
11:CL:12:ARG:HH22	20:CA:881:G:P	2.25	0.59
11:CL:34:ARG:HB2	20:CA:363:A:OP1	2.01	0.59
23:CY:134:ALA:HB3	23:CY:258:VAL:HA	1.83	0.59
25:DC:41:THR:HB	25:DC:175:PRO:HA	1.83	0.59
27:DE:204:ALA:HA	59:DA:2734:A:H1'	1.83	0.59
28:DF:102:PRO:HB3	59:DA:606:U:H5"	1.85	0.59
32:DK:42:ASN:ND2	32:DK:49:GLY:O	2.34	0.59
45:DZ:3:TYR:O	45:DZ:58:VAL:N	2.35	0.59
49:D5:31:VAL:HG23	49:D5:40:LYS:HG3	1.84	0.59
59:DA:1000:A:H2'	59:DA:1001:A:C8	2.38	0.59
59:DA:1113:U:H2'	59:DA:1114:G:C8	2.38	0.59
59:DA:2698:U:H2'	59:DA:2699:C:C6	2.37	0.59
17:AR:75:ILE:HD11	20:AA:735:C:H1'	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:1230:C:H2'	20:AA:1231:G:H8	1.68	0.59
20:AA:1266:G:N2	20:AA:1269:A:OP2	2.34	0.59
25:BC:15:VAL:HG22	25:BC:221:PRO:HB3	1.84	0.59
39:BT:27:THR:HG22	39:BT:49:VAL:HB	1.84	0.59
39:BT:74:ARG:HD2	39:BT:76:PHE:CZ	2.37	0.59
44:BY:73:ARG:HH21	44:BY:82:PRO:HD3	1.67	0.59
59:BA:852:G:H2'	59:BA:853:G:C8	2.37	0.59
59:BA:1287:A:H2'	59:BA:1288:U:H5'	1.84	0.59
59:BA:1288:U:C4	59:BA:1327:C:H1'	2.37	0.59
59:BA:1346:G:H1	59:BA:1600:C:H42	1.49	0.59
59:BA:1430:C:N4	59:BA:1563:G:H1	2.00	0.59
59:BA:1438:U:C2	59:BA:1553:A:N7	2.70	0.59
60:BB:36:C:O2	60:BB:49:C:O2'	2.20	0.59
3:CD:13:ARG:HG3	3:CD:40:PRO:HD3	1.83	0.59
6:CG:89:MET:HA	6:CG:155:ARG:HD2	1.83	0.59
21:CW:23:A:H2'	21:CW:24:G:C8	2.37	0.59
27:DE:49:LEU:HD11	27:DE:81:ILE:HG12	1.84	0.59
28:DF:8:GLN:HB2	28:DF:22:ALA:HB2	1.84	0.59
29:DG:103:LEU:HA	29:DG:106:LEU:HB3	1.84	0.59
30:DH:127:GLU:OE2	30:DH:130:ARG:NH2	2.35	0.59
34:DO:31:LYS:NZ	59:DA:2547:U:O2'	2.34	0.59
38:DS:92:TYR:OH	59:DA:2293:C:OP1	2.20	0.59
59:DA:49:A:H5"	59:DA:51:G:O4'	2.01	0.59
59:DA:969:U:H2'	59:DA:970:C:C6	2.37	0.59
59:DA:1886:C:O2'	59:DA:2101:G:O2'	2.21	0.59
2:AC:25:GLY:O	2:AC:27:LYS:N	2.35	0.59
4:AE:17:ALA:HA	4:AE:26:PHE:HA	1.83	0.59
8:AI:112:LYS:NZ	8:AI:116:LYS:O	2.32	0.59
20:AA:505:G:H1	20:AA:526:C:N4	2.00	0.59
20:AA:801:U:H2'	20:AA:802:A:C8	2.37	0.59
20:AA:898:G:N2	20:AA:901:A:OP2	2.36	0.59
59:BA:2091:U:OP2	59:BA:2092:U:O2'	2.18	0.59
59:BA:2886:G:H2'	59:BA:2887:U:H6	1.68	0.59
19:CT:53:LEU:HA	19:CT:56:MET:HB2	1.84	0.59
20:CA:59:A:H1'	20:CA:354:G:N2	2.17	0.59
41:DV:4:ILE:HG13	41:DV:13:ARG:HG3	1.83	0.59
59:DA:2011:U:H2'	59:DA:2012:G:O4'	2.02	0.59
59:DA:2500:U:O2'	59:DA:2504:U:OP1	2.15	0.59
1:AB:61:LEU:O	1:AB:65:GLY:N	2.32	0.59
11:AL:93:LEU:HD21	11:AL:96:VAL:HG13	1.84	0.59
14:AO:82:ILE:HG12	14:AO:87:ILE:H	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:129(A):G:H4'	20:AA:130:A:H5"	1.84	0.59
20:AA:308:C:H2'	20:AA:309:G:H8	1.67	0.59
20:AA:861:G:HO2'	20:AA:874:G:HO2'	1.50	0.59
20:AA:919:A:O2'	20:AA:1080:A:N1	2.31	0.59
26:BD:157:ARG:HH21	59:BA:1818:U:H6	1.48	0.59
44:BY:51:VAL:HB	44:BY:55:TYR:HB2	1.84	0.59
59:BA:1018:C:N4	59:BA:1144:G:H1	1.97	0.59
59:BA:1286:A:O2'	59:BA:1288:U:OP2	2.20	0.59
59:BA:2570:G:H2'	59:BA:2571:C:C6	2.38	0.59
9:CJ:92:THR:OG1	9:CJ:93:GLY:N	2.34	0.59
17:CR:79:LEU:HD23	17:CR:80:PRO:HD2	1.85	0.59
20:CA:115:G:H1'	20:CA:116:A:N7	2.18	0.59
20:CA:216:G:H2'	20:CA:217:C:C6	2.38	0.59
20:CA:815:A:C2	20:CA:1527:C:H1'	2.37	0.59
23:CY:25:LYS:HE2	23:CY:86:GLY:HA2	1.84	0.59
27:DE:55:ASN:HB2	27:DE:74:PRO:O	2.03	0.59
40:DU:3:ARG:NH1	59:DA:446:G:H5'	2.17	0.59
44:DY:86:ARG:HD2	44:DY:88:LYS:HD2	1.84	0.59
46:D0:47:PRO:HG3	46:D0:53:MET:HB2	1.85	0.59
59:DA:1144:G:H2'	59:DA:1145:C:C6	2.37	0.59
59:DA:1975:G:O2'	59:DA:1976:U:O5'	2.21	0.59
59:DA:2243:U:H2'	59:DA:2244:U:H6	1.66	0.59
3:AD:172:PRO:HB2	3:AD:187:ARG:HH22	1.68	0.59
11:AL:49:ASN:HD21	20:AA:528:C:N4	2.01	0.59
16:AQ:3:LYS:NZ	20:AA:128:G:O2'	2.35	0.59
20:AA:1103:C:H2'	20:AA:1104:G:O4'	2.03	0.59
25:BC:115:VAL:HB	25:BC:150:ILE:HG23	1.84	0.59
26:BD:95:LEU:HD11	26:BD:105:ILE:HG22	1.84	0.59
27:BE:143:ASN:HB3	27:BE:147:PRO:HD2	1.82	0.59
35:BP:110:TYR:HD2	35:BP:111:ARG:HG3	1.67	0.59
59:BA:1541:U:H3'	59:BA:1542:G:C3'	2.27	0.59
59:BA:1664:A:H3'	59:BA:1665:A:H8	1.67	0.59
59:BA:2656:U:O4	59:BA:2665:A:N7	2.36	0.59
3:CD:165:MET:HE1	3:CD:176:LEU:HD11	1.84	0.59
9:CJ:16:LEU:HD11	9:CJ:70:ARG:HD3	1.83	0.59
11:CL:74:GLY:O	11:CL:102:ARG:NH2	2.35	0.59
20:CA:1492:A:H2'	20:CA:1493:A:C8	2.37	0.59
23:CY:201:ILE:C	23:CY:203:GLU:H	2.11	0.59
26:DD:244:ARG:NH1	59:DA:1841:U:O2'	2.21	0.59
27:DE:12:THR:HG21	39:DT:57:PHE:HD1	1.67	0.59
27:DE:49:LEU:HD11	27:DE:81:ILE:H	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:DF:113:ALA:HB1	28:DF:186:ILE:HG21	1.84	0.59
33:DN:22:THR:HB	33:DN:25:ARG:HB2	1.84	0.59
36:DQ:69:PHE:CE2	36:DQ:71:ASP:HB3	2.37	0.59
42:DW:92:ARG:NH2	59:DA:2015:A:OP1	2.36	0.59
44:DY:84:ARG:HH21	44:DY:97:ARG:HH12	1.49	0.59
45:DZ:166:SER:H	45:DZ:167:PRO:HA	1.66	0.59
46:D0:35:ASN:H	46:D0:61:ALA:HB3	1.68	0.59
48:D3:11:SER:HB2	59:DA:988:A:P	2.43	0.59
59:DA:319:C:H42	59:DA:323:G:H1	1.50	0.59
59:DA:575:A:H2'	59:DA:576:U:H6	1.67	0.59
59:DA:796:C:H2'	59:DA:797:C:C6	2.37	0.59
59:DA:1354:A:H62	59:DA:1377:G:H21	0.73	0.59
8:AI:16:ARG:NH1	20:AA:1147:C:O2	2.35	0.59
11:AL:34:ARG:HB2	20:AA:363:A:OP1	2.03	0.59
14:AO:7:GLU:O	14:AO:10:LYS:HG3	2.03	0.59
15:AP:20:VAL:HG23	15:AP:35:LYS:HA	1.85	0.59
20:AA:241:C:H2'	20:AA:242:C:C6	2.38	0.59
29:BG:3:LEU:HB2	29:BG:97:ASP:HB3	1.84	0.59
34:BO:19:ILE:HG22	34:BO:43:VAL:HA	1.85	0.59
38:BS:26:LEU:HD22	38:BS:87:PHE:HA	1.85	0.59
57:B1:35:THR:HG21	59:BA:2432:A:C8	2.37	0.59
59:BA:579:G:O2'	59:BA:2019:A:OP1	2.18	0.59
59:BA:680:G:H2'	59:BA:681:G:C8	2.38	0.59
59:BA:1260:G:H2'	59:BA:1261:C:C6	2.38	0.59
59:BA:1410:G:H2'	59:BA:1411:C:C6	2.37	0.59
8:CI:126:SER:OG	20:CA:1231:G:O3'	2.21	0.59
11:CL:52:LEU:HD12	11:CL:54:LYS:HZ3	1.67	0.59
20:CA:950:U:H2'	20:CA:951:G:H8	1.68	0.59
23:CY:201:ILE:HD13	23:CY:206:LEU:HD12	1.83	0.59
26:DD:51:VAL:HG21	26:DD:54:ARG:HB2	1.83	0.59
35:DP:85:LEU:HG	35:DP:118:GLY:HA3	1.84	0.59
45:DZ:7:ALA:HB2	45:DZ:59:LEU:HB2	1.83	0.59
59:DA:1149:G:H2'	59:DA:1150:C:C6	2.36	0.59
59:DA:1638:C:H4'	59:DA:2710:C:O2	2.03	0.59
1:AB:42:ILE:HD11	1:AB:202:PRO:HB2	1.84	0.59
18:AS:12:ASP:OD1	18:AS:14:HIS:NE2	2.35	0.59
19:AT:66:ALA:HB1	19:AT:72:LEU:HB2	1.84	0.59
20:AA:131:C:H2'	20:AA:132:C:C6	2.38	0.59
20:AA:576:G:OP2	20:AA:577:G:H5"	2.03	0.59
23:AY:309:LEU:HA	23:AY:333:GLY:HA3	1.83	0.59
27:BE:14:ILE:HG13	27:BE:23:VAL:HG21	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BE:132:HIS:HB3	59:BA:1658:C:OP1	2.03	0.59
28:BF:9:ILE:HG23	28:BF:12:LEU:HD23	1.83	0.59
35:BP:69:GLY:HA2	59:BA:245:G:H5'	1.85	0.59
37:BR:48:VAL:O	37:BR:52:ILE:HG12	2.03	0.59
40:BU:95:LEU:HD11	41:BV:13:ARG:HD3	1.83	0.59
40:BU:105:VAL:O	40:BU:109:LEU:HG	2.02	0.59
52:B8:57:ARG:HA	52:B8:60:LEU:HD12	1.85	0.59
10:CK:108:ILE:HB	17:CR:87:ARG:HA	1.85	0.59
12:CM:48:LEU:HD13	12:CM:53:VAL:HG22	1.85	0.59
23:CY:136:ALA:HB3	23:CY:260:LEU:HB2	1.84	0.59
25:DC:47:LYS:HB3	25:DC:212:SER:HB2	1.83	0.59
28:DF:192:LEU:HB3	28:DF:194:MET:HE2	1.85	0.59
38:DS:74:ALA:HA	38:DS:105:ALA:HB2	1.85	0.59
39:DT:41:ARG:HG2	39:DT:43:GLN:H	1.68	0.59
52:D8:26:LYS:HG2	52:D8:47:LYS:HG3	1.84	0.59
59:DA:1359:A:OP2	59:DA:1371:G:N2	2.34	0.59
59:DA:2718:G:O2'	59:DA:2847:U:OP1	2.19	0.59
60:DB:104:A:H2'	60:DB:105:G:O4'	2.03	0.59
23:AY:216:LEU:HD11	23:AY:246:ILE:HD11	1.83	0.59
30:BH:103:LEU:HD13	30:BH:125:VAL:HG21	1.84	0.59
59:BA:1930:G:HO2'	59:BA:1968:G:H1	1.50	0.59
8:CI:116:LYS:HA	8:CI:123:PRO:HD3	1.85	0.59
11:CL:60:LEU:HD23	11:CL:63:GLY:O	2.03	0.59
14:CO:25:THR:OG1	14:CO:26:GLU:OE2	2.19	0.59
33:DN:39:ARG:HG2	33:DN:40:PRO:HD2	1.83	0.59
37:DR:33:ARG:HA	37:DR:114:VAL:O	2.03	0.59
41:DV:24:LYS:NZ	59:DA:1162:G:O2'	2.36	0.59
54:De:74:VAL:HG13	54:De:78:LEU:HD12	1.84	0.59
59:DA:40:C:H2'	59:DA:41:C:H6	1.68	0.59
59:DA:781:A:O2'	59:DA:1788:C:O2	2.17	0.59
59:DA:1674:G:H1'	59:DA:1676:A:H62	1.68	0.59
5:AF:11:ASN:HB3	5:AF:14:LEU:HG	1.84	0.58
7:AH:14:ARG:HD3	7:AH:82:HIS:HE1	1.68	0.58
10:AK:85:ARG:HA	10:AK:110:ASP:O	2.03	0.58
15:AP:80:PHE:HB3	20:AA:458(E):A:H5"	1.85	0.58
20:AA:950:U:H2'	20:AA:951:G:C8	2.38	0.58
61:AY:701:FUA:H201	61:AY:701:FUA:O1	2.03	0.58
25:BC:165:ARG:H	25:BC:172:ILE:HG13	1.68	0.58
26:BD:45:ASN:HB3	59:BA:1813:G:H1'	1.84	0.58
33:BN:26:LEU:HD23	33:BN:99:LEU:HD21	1.84	0.58
36:BQ:54:MET:SD	36:BQ:64:ILE:HG21	2.43	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BZ:58:VAL:HG22	45:BZ:68:PRO:HB3	1.85	0.58
47:B2:63:VAL:O	47:B2:66:GLU:HG2	2.03	0.58
59:BA:263:C:O2'	59:BA:429:A:N3	2.31	0.58
59:BA:987:G:O2'	59:BA:1000:A:N3	2.34	0.58
59:BA:1631:A:N6	59:BA:1682:G:O3'	2.36	0.58
59:BA:1819:A:C4'	59:BA:1820:U:H5'	2.33	0.58
1:CB:59:GLU:HG3	1:CB:221:LEU:HD11	1.84	0.58
8:CI:16:ARG:HH12	20:CA:1128:C:H5"	1.66	0.58
11:CL:70:ILE:HG23	11:CL:100:ILE:HD12	1.85	0.58
20:CA:126:G:OP1	20:CA:633:G:N2	2.36	0.58
20:CA:520:A:H62	20:CA:529:G:H21	1.49	0.58
25:DC:40:GLU:HG3	25:DC:218:THR:HB	1.84	0.58
30:DH:121:ILE:HG22	30:DH:136:ILE:H	1.68	0.58
49:D5:9:LYS:NZ	59:DA:2018:G:H3'	2.17	0.58
52:D8:26:LYS:HD2	52:D8:44:LYS:HD2	1.85	0.58
59:DA:692:C:H42	59:DA:770:G:H1	1.49	0.58
59:DA:2330:G:H1	59:DA:2385:C:N4	2.01	0.58
25:BC:7:ARG:NH1	59:BA:2128:C:OP1	2.35	0.58
34:BO:14:THR:HB	34:BO:16:ALA:H	1.68	0.58
37:BR:20:LEU:HD11	59:BA:1277:G:H5'	1.85	0.58
40:BU:49:HIS:CD2	59:BA:559:G:H22	2.21	0.58
44:BY:84:ARG:HE	44:BY:97:ARG:HD2	1.67	0.58
59:BA:1005:C:N4	59:BA:1138:G:H1	2.00	0.58
59:BA:1019:U:H2'	59:BA:1020:A:C8	2.38	0.58
9:CJ:60:ARG:NH2	20:CA:1366:C:O3'	2.35	0.58
20:CA:1392:G:O2'	20:CA:1502:A:OP1	2.20	0.58
20:CA:1412:C:H2'	20:CA:1413:A:H8	1.68	0.58
27:DE:15:PHE:HD1	39:DT:80:SER:HB2	1.66	0.58
32:DK:89:HIS:HA	59:DA:1064:C:H4'	1.84	0.58
35:DP:88:LEU:HD11	35:DP:123:LEU:HD11	1.84	0.58
50:D6:15:GLU:HB3	50:D6:20:ASN:HB2	1.85	0.58
53:D9:30:PRO:HB2	59:DA:2527:C:H5"	1.85	0.58
59:DA:274:G:H2'	59:DA:275:G:O4'	2.03	0.58
59:DA:2370:G:H2'	59:DA:2371:G:O4'	2.03	0.58
4:AE:32:VAL:HG11	4:AE:58:ALA:C	2.28	0.58
10:AK:123:LYS:HA	10:AK:126:ARG:HB3	1.85	0.58
20:AA:216:G:H2'	20:AA:217:C:C6	2.38	0.58
20:AA:272:C:H2'	20:AA:273:A:C8	2.38	0.58
20:AA:946:A:H2'	20:AA:947:G:H8	1.67	0.58
20:AA:1114:C:H2'	20:AA:1115:C:H6	1.69	0.58
25:BC:40:GLU:HG2	25:BC:219:MET:HG2	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BD:79:VAL:HA	26:BD:95:LEU:HA	1.85	0.58
28:BF:188:ARG:HB3	35:BP:7:ARG:NH2	2.18	0.58
33:BN:100:GLU:HB3	33:BN:117:PHE:CZ	2.37	0.58
35:BP:46:LYS:HG2	35:BP:51:PHE:CD1	2.38	0.58
42:BW:68:ARG:HH22	42:BW:111:HIS:HB2	1.68	0.58
59:BA:307:G:N2	59:BA:309:G:H3'	2.18	0.58
59:BA:1416:G:H2'	59:BA:1417:C:C6	2.37	0.58
60:BB:32:C:H2'	60:BB:33:G:C8	2.38	0.58
60:BB:74:U:H2'	60:BB:75:G:H8	1.68	0.58
20:CA:335:C:O2'	20:CA:1433:A:N3	2.28	0.58
26:DD:80:ALA:N	26:DD:94:LEU:O	2.33	0.58
26:DD:142:VAL:HG12	26:DD:163:ALA:O	2.04	0.58
41:DV:41:GLY:H	41:DV:45:THR:HB	1.68	0.58
50:D6:43:CYS:HB2	50:D6:44:ARG:HE	1.68	0.58
57:D1:11:ARG:NH2	59:DA:1365:A:O2'	2.36	0.58
59:DA:680:G:H1	59:DA:797:C:N4	1.99	0.58
3:AD:157:LEU:O	3:AD:161:ASN:ND2	2.34	0.58
20:AA:1306:A:N6	20:AA:1331:G:O2'	2.35	0.58
23:AY:368:GLU:O	23:AY:370:LYS:NZ	2.33	0.58
26:BD:165:ILE:HG22	26:BD:166:GLN:H	1.68	0.58
29:BG:47:LYS:HA	29:BG:82:LEU:HG	1.83	0.58
38:BS:105:ALA:O	38:BS:107:GLU:N	2.37	0.58
40:BU:90:VAL:C	40:BU:92:ARG:H	2.11	0.58
44:BY:4:LYS:HD2	44:BY:33:LYS:HB3	1.85	0.58
59:BA:273(G):C:N3	59:BA:363(A):G:N2	2.49	0.58
59:BA:821:A:H3'	59:BA:946:G:C8	2.38	0.58
59:BA:1830:C:H2'	59:BA:1831:G:H8	1.68	0.58
12:CM:44:ARG:NH1	20:CA:1296:C:OP1	2.36	0.58
20:CA:513:C:H42	20:CA:538:G:H1	1.51	0.58
20:CA:1538:C:O2	22:CV:7:G:N1	2.28	0.58
25:DC:125:GLY:HA2	25:DC:138:LEU:HD11	1.85	0.58
28:DF:3:GLU:HA	28:DF:24:LEU:H	1.68	0.58
34:DO:73:ASP:OD1	34:DO:75:SER:OG	2.21	0.58
45:DZ:58:VAL:HA	45:DZ:68:PRO:HA	1.83	0.58
46:D0:39:ARG:HH21	59:DA:2355:C:H1'	1.68	0.58
49:D5:3:LYS:HG2	49:D5:5:PRO:HD2	1.85	0.58
59:DA:459:U:H6	59:DA:460:A:C8	2.21	0.58
59:DA:599:G:H1	59:DA:658:C:N4	2.00	0.58
59:DA:640:C:H42	59:DA:648:G:H1	1.50	0.58
59:DA:1019:U:H3	59:DA:1020:A:N6	2.00	0.58
26:BD:35:LYS:N	26:BD:36:PRO:HD2	2.19	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BE:111:ARG:H	27:BE:161:GLY:HA3	1.67	0.58
29:BG:107:LEU:HD13	29:BG:177:GLY:HA3	1.85	0.58
34:BO:22:ILE:HD12	59:BA:1952:A:C2	2.38	0.58
34:BO:30:ALA:HB2	59:BA:2674:G:H4'	1.85	0.58
38:BS:33:LYS:HD2	60:BB:27:C:H5"	1.84	0.58
48:B3:4:LEU:HD23	48:B3:58:VAL:HG13	1.84	0.58
59:BA:484:C:H2'	59:BA:485:C:C6	2.38	0.58
59:BA:2679:A:H61	59:BA:2728:U:H3	1.50	0.58
2:CC:95:THR:O	2:CC:97:LYS:N	2.36	0.58
13:CN:61:TRP:HZ2	20:CA:1368:G:H4'	1.69	0.58
20:CA:1242:C:H2'	20:CA:1243:C:C6	2.38	0.58
23:CY:355:LEU:HB2	23:CY:366:VAL:HG22	1.84	0.58
25:DC:34:ALA:HB2	25:DC:217:THR:HG21	1.85	0.58
28:DF:156:LEU:HD12	28:DF:193:VAL:HG21	1.84	0.58
33:DN:74:ARG:HH12	33:DN:85:ILE:HD11	1.68	0.58
37:DR:3:HIS:O	37:DR:4:LEU:HB2	2.01	0.58
46:D0:50:ASN:HD22	46:D0:63:VAL:HG11	1.66	0.58
52:D8:16:ILE:HG21	52:D8:60:LEU:HD11	1.85	0.58
59:DA:182:A:H2'	59:DA:183:C:C6	2.38	0.58
59:DA:516:C:H2'	59:DA:517:C:C6	2.39	0.58
59:DA:2116:G:N7	59:DA:2166:G:N2	2.52	0.58
59:DA:2839:G:H1	59:DA:2878:U:H3	1.50	0.58
60:DB:66:A:H61	60:DB:107:U:H2'	1.68	0.58
10:AK:20:TYR:HB2	10:AK:31:THR:HG23	1.86	0.58
12:AM:34:LEU:HD13	12:AM:41:PRO:HG3	1.86	0.58
23:AY:524:GLU:HB2	23:AY:564:LYS:HA	1.86	0.58
26:BD:89:SER:HB2	26:BD:159:ALA:HB2	1.86	0.58
27:BE:13:ARG:HG3	27:BE:15:PHE:HE2	1.68	0.58
28:BF:154:VAL:HB	28:BF:173:VAL:HG13	1.85	0.58
33:BN:76:SER:HB3	59:BA:2641:G:H4'	1.84	0.58
59:BA:608:A:H2'	59:BA:609(A):A:C8	2.38	0.58
59:BA:1054:A:H2'	59:BA:1055:G:C8	2.39	0.58
20:CA:551:U:H2'	20:CA:552:U:C6	2.38	0.58
20:CA:584:G:H1	20:CA:757:U:H3	1.51	0.58
20:CA:1015:A:H2'	20:CA:1016:A:C8	2.37	0.58
23:CY:103:GLY:HA3	23:CY:280:LEU:HD12	1.86	0.58
25:DC:7:ARG:HH22	59:DA:2128:C:H5"	1.67	0.58
27:DE:161:GLY:O	27:DE:163:GLU:N	2.36	0.58
28:DF:10:PRO:HG3	28:DF:19:GLU:HA	1.86	0.58
28:DF:185:ASP:HA	28:DF:188:ARG:HG2	1.85	0.58
37:DR:104:ARG:HB3	37:DR:109:ALA:HB3	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:D5:45:VAL:HG13	49:D5:51:TYR:H	1.69	0.58
59:DA:1792:G:N2	59:DA:1827:C:N3	2.51	0.58
59:DA:2601:C:H2'	59:DA:2603:G:C8	2.38	0.58
60:DB:66:A:N6	60:DB:107:U:H2'	2.19	0.58
60:DB:81:G:H1	60:DB:95:U:H3	1.50	0.58
1:AB:75:LYS:O	1:AB:78:GLN:HB3	2.04	0.58
12:AM:86:CYS:O	12:AM:90:LEU:N	2.34	0.58
20:AA:1513:A:H2'	20:AA:1514:C:C6	2.39	0.58
23:AY:69:VAL:HA	23:AY:81:ILE:O	2.03	0.58
27:BE:109:LYS:HB2	37:BR:2:ARG:NE	2.19	0.58
33:BN:35:ARG:HB3	33:BN:42:TRP:HZ3	1.69	0.58
35:BP:27:HIS:HB3	59:BA:814:C:H5	1.67	0.58
37:BR:39:PRO:HG2	59:BA:1651:G:H5'	1.84	0.58
40:BU:64:ARG:HB2	40:BU:64:ARG:NH2	2.18	0.58
59:BA:2080:G:H2'	59:BA:2081:C:C6	2.38	0.58
59:BA:2229:C:H2'	59:BA:2230:G:H8	1.69	0.58
2:CC:22:TRP:CZ2	13:CN:54:PRO:HG2	2.38	0.58
6:CG:78:ARG:HG2	6:CG:85:TYR:HD1	1.68	0.58
10:CK:22:HIS:HB3	10:CK:29:ILE:HG22	1.83	0.58
32:DK:90:LYS:NZ	59:DA:1076:C:O2'	2.37	0.58
36:DQ:68:ILE:HG23	36:DQ:103:MET:HA	1.83	0.58
41:DV:4:ILE:HG22	41:DV:39:LEU:HD23	1.85	0.58
57:D1:44:PRO:HD3	59:DA:396:G:H4'	1.86	0.58
59:DA:884:C:H42	59:DA:892:G:H1	1.52	0.58
59:DA:2834:G:H1'	59:DA:2883:A:N6	2.18	0.58
3:AD:10:ARG:NH2	20:AA:543:C:OP2	2.28	0.58
6:AG:54:THR:OG1	6:AG:55:GLY:N	2.36	0.58
7:AH:119:LEU:HB2	7:AH:124:ALA:HB2	1.85	0.58
8:AI:11:LYS:HG3	8:AI:108:VAL:HA	1.86	0.58
11:AL:45:PRO:HG3	11:AL:92:ASP:HB3	1.86	0.58
12:AM:97:PRO:HA	12:AM:110:ARG:HG3	1.86	0.58
20:AA:356:A:N3	20:AA:368:U:O2'	2.29	0.58
29:BG:109:VAL:HG11	58:B4:14:ILE:HG12	1.86	0.58
42:BW:13:SER:HA	42:BW:99:ARG:HB2	1.85	0.58
47:B2:21:LEU:HD13	47:B2:63:VAL:HG12	1.86	0.58
51:B7:40:TRP:CZ3	59:BA:459:U:C6	2.89	0.58
53:B9:22:ARG:NH1	59:BA:2741:A:OP1	2.35	0.58
59:BA:24:G:H2'	59:BA:25:U:C6	2.38	0.58
59:BA:1291:C:H4'	59:BA:1535:U:O2'	2.03	0.58
8:CI:42:ARG:NH1	8:CI:75:ASP:OD2	2.36	0.58
10:CK:108:ILE:HD13	17:CR:87:ARG:HG2	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:CM:84:ILE:HD11	18:CS:63:THR:HG23	1.85	0.58
20:CA:127:G:H2'	20:CA:128:G:C8	2.39	0.58
20:CA:217:C:H2'	20:CA:218:C:H6	1.68	0.58
20:CA:266:G:O2'	20:CA:268:C:OP2	2.19	0.58
20:CA:565:U:OP2	20:CA:566:G:O2'	2.22	0.58
20:CA:801:U:H2'	20:CA:802:A:C8	2.39	0.58
25:DC:79:ALA:O	25:DC:84:ILE:HG13	2.04	0.58
26:DD:134:ARG:HA	26:DD:168:ARG:HE	1.67	0.58
34:DO:68:GLU:N	34:DO:68:GLU:OE2	2.35	0.58
46:D0:16:SER:HB2	59:DA:2261:C:H3'	1.84	0.58
59:DA:1324:G:H1	59:DA:1330:C:N4	2.02	0.58
59:DA:1638:C:H2'	59:DA:1639:U:O4'	2.03	0.58
59:DA:2023:G:N1	59:DA:2040:C:C2	2.60	0.58
20:AA:410:G:N1	20:AA:431:A:OP2	2.31	0.58
20:AA:689:C:H2'	20:AA:690:G:O4'	2.04	0.58
23:AY:565:VAL:HG12	23:AY:566:THR:O	2.03	0.58
30:BH:90:LYS:HB2	30:BH:163:TYR:CE1	2.39	0.58
57:B1:46:LEU:HD23	57:B1:61:ARG:HH12	1.67	0.58
59:BA:174:C:H2'	59:BA:175:G:O4'	2.03	0.58
59:BA:358:U:H2'	59:BA:359:A:C8	2.39	0.58
59:BA:448:U:O4	59:BA:582:G:N2	2.37	0.58
59:BA:862:G:H2'	59:BA:863:A:O4'	2.04	0.58
59:BA:915:C:H2'	59:BA:916:G:O4'	2.04	0.58
59:BA:1435:G:H1	59:BA:1557:C:N4	2.01	0.58
59:BA:1478:G:H1	59:BA:1515:C:N4	2.01	0.58
59:BA:2241:A:H2'	59:BA:2242:G:C8	2.39	0.58
60:BB:29:A:H2'	60:BB:30:C:C6	2.39	0.58
8:CI:37:PHE:HE1	8:CI:77:ILE:HD12	1.68	0.58
10:CK:43:SER:HB2	10:CK:71:LYS:HZ1	1.67	0.58
15:CP:21:VAL:HB	15:CP:36:ILE:HD11	1.85	0.58
20:CA:591:U:H2'	20:CA:592:G:C8	2.39	0.58
23:CY:148:LEU:HA	23:CY:151:ARG:HH21	1.68	0.58
25:DC:67:HIS:NE2	25:DC:188:ASP:HB2	2.18	0.58
28:DF:62:ARG:HH21	28:DF:64:ILE:HA	1.69	0.58
31:DJ:25:UNK:C	31:DJ:111:UNK:HA	2.34	0.58
54:De:84:LEU:C	54:De:87:LYS:HG3	2.27	0.58
59:DA:459:U:O4	59:DA:470:A:N7	2.36	0.58
59:DA:787:U:H5"	59:DA:788:A:H5'	1.85	0.58
59:DA:1474:C:H2'	59:DA:1475:G:H8	1.69	0.58
59:DA:2130:U:O2'	59:DA:2158:A:N1	2.34	0.58
59:DA:2593:U:H3	59:DA:2600:A:H61	1.51	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2834:G:H1'	59:DA:2883:A:H61	1.68	0.58
1:AB:15:VAL:HB	1:AB:209:ARG:HE	1.68	0.58
1:AB:162:ILE:HD11	1:AB:184:VAL:HG13	1.85	0.58
20:AA:815:A:N6	20:AA:1508:G:H21	2.01	0.58
20:AA:1002:G:H2'	20:AA:1003:G:C8	2.38	0.58
20:AA:1510:U:H2'	20:AA:1511:G:C8	2.39	0.58
23:AY:114:VAL:HB	23:AY:116:PRO:HD3	1.86	0.58
28:BF:41:LEU:HB3	59:BA:443:A:H61	1.68	0.58
32:BK:60:TYR:O	32:BK:62:ASP:N	2.34	0.58
36:BQ:68:ILE:HG23	36:BQ:103:MET:HA	1.86	0.58
38:BS:32:LEU:O	38:BS:62:LYS:NZ	2.36	0.58
59:BA:227:A:N6	59:BA:410:G:H21	2.02	0.58
59:BA:868:U:H2'	59:BA:869:G:C8	2.39	0.58
59:BA:1498:C:H2'	59:BA:1499:C:C6	2.38	0.58
59:BA:1639:U:H2'	59:BA:1640:C:H5"	1.86	0.58
2:CC:11:ARG:HB3	2:CC:15:THR:HB	1.86	0.58
20:CA:186(E):C:N4	20:CA:186(L):G:H1	2.02	0.58
20:CA:269:C:H2'	20:CA:270:A:C8	2.38	0.58
35:DP:111:ARG:HB3	35:DP:128:HIS:HB2	1.84	0.58
59:DA:226:G:H1'	59:DA:228:A:N6	2.19	0.58
59:DA:685:A:H5"	59:DA:774:A:H61	1.68	0.58
59:DA:1403:C:H5"	59:DA:1471:A:H1'	1.86	0.58
59:DA:1864:U:OP1	59:DA:2410:G:O2'	2.22	0.58
59:DA:2090:G:H1	59:DA:2229:C:H42	1.51	0.58
59:DA:2849:U:H1'	59:DA:2866:U:H6	1.69	0.58
3:AD:101:LEU:HD22	3:AD:138:TYR:HD2	1.69	0.57
16:AQ:59:ILE:HG12	16:AQ:73:VAL:HG22	1.86	0.57
20:AA:1062:U:H2'	20:AA:1063:C:C6	2.39	0.57
20:AA:1422:G:H2'	20:AA:1423:G:H8	1.69	0.57
20:AA:1488:G:H2'	20:AA:1489:G:H8	1.69	0.57
25:BC:157:ILE:HG23	25:BC:161:ARG:HB2	1.86	0.57
26:BD:43:ARG:O	26:BD:51:VAL:HG11	2.04	0.57
26:BD:105:ILE:HG23	26:BD:106:ILE:O	2.04	0.57
38:BS:25:ARG:HB3	38:BS:40:ILE:HG23	1.85	0.57
42:BW:84:ARG:NH2	59:BA:1322:A:O2'	2.36	0.57
46:B0:49:LYS:HB2	46:B0:80:HIS:ND1	2.19	0.57
59:BA:105:C:H2'	59:BA:106:C:C6	2.39	0.57
59:BA:570:G:OP1	59:BA:972:G:O2'	2.20	0.57
59:BA:2715:C:H2'	59:BA:2716:U:C6	2.39	0.57
2:CC:153:VAL:HG12	2:CC:198:VAL:HA	1.86	0.57
12:CM:3:ARG:HH21	12:CM:7:VAL:HG22	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:DC:40:GLU:HB3	25:DC:217:THR:C	2.29	0.57
26:DD:22:SER:C	26:DD:24:ILE:H	2.12	0.57
26:DD:43:ARG:HG2	59:DA:691:C:O2'	2.04	0.57
26:DD:43:ARG:HD3	26:DD:44:ASN:HB3	1.85	0.57
36:DQ:67:ARG:O	36:DQ:101:ARG:NH2	2.36	0.57
38:DS:26:LEU:O	38:DS:88:ASP:HB3	2.04	0.57
39:DT:49:VAL:HG23	39:DT:63:VAL:HG22	1.86	0.57
40:DU:95:LEU:HD22	40:DU:101:ARG:NH2	2.19	0.57
59:DA:184:C:H2'	59:DA:185:U:H6	1.68	0.57
59:DA:1054:A:H2'	59:DA:1055:G:H8	1.67	0.57
59:DA:1930:G:H22	59:DA:1968:G:H2'	1.69	0.57
59:DA:2829:C:H2'	59:DA:2830:G:C8	2.38	0.57
60:DB:24:G:C6	60:DB:56:G:C2	2.92	0.57
1:AB:168:THR:C	1:AB:171:ALA:H	2.12	0.57
4:AE:50:GLU:HG2	4:AE:52:PRO:HD2	1.85	0.57
6:AG:15:ASP:HB3	6:AG:19:GLY:H	1.69	0.57
20:AA:234:C:H2'	20:AA:235:C:C6	2.40	0.57
20:AA:280:C:H3'	20:AA:281:G:H5'	1.85	0.57
20:AA:406:G:H2'	20:AA:407:G:H8	1.69	0.57
23:AY:512:ILE:HG22	23:AY:567:LEU:HD13	1.86	0.57
26:BD:268:ARG:NH1	59:BA:2224:G:OP1	2.25	0.57
30:BH:17:VAL:HG11	30:BH:50:VAL:HG21	1.85	0.57
31:BJ:39:UNK:O	31:BJ:43:UNK:N	2.37	0.57
34:BO:34:THR:OG1	34:BO:35:VAL:N	2.35	0.57
46:B0:11:ARG:NH2	59:BA:2278:A:H3'	2.20	0.57
59:BA:1045:A:N3	59:BA:1047:G:N2	2.53	0.57
29:DG:126:ASP:OD1	59:DA:2302:G:N2	2.38	0.57
35:DP:136:GLU:HA	35:DP:139:LYS:HG2	1.85	0.57
38:DS:99:LYS:HG2	38:DS:101:LEU:H	1.68	0.57
54:De:67:ALA:H	54:De:70:LYS:HE3	1.69	0.57
59:DA:1162:G:H2'	59:DA:1163:G:C8	2.39	0.57
59:DA:1930:G:N2	59:DA:1968:G:H2'	2.20	0.57
59:DA:2154:G:H2'	59:DA:2155:G:C8	2.39	0.57
4:AE:19:MET:SD	20:AA:15:G:H1'	2.43	0.57
4:AE:20:GLN:H	4:AE:24:ARG:HA	1.68	0.57
4:AE:27:ARG:HE	4:AE:49:PRO:HD3	1.69	0.57
16:AQ:70:ARG:HG2	20:AA:235:C:H5'	1.86	0.57
20:AA:890:G:N2	20:AA:906:G:H2'	2.19	0.57
20:AA:935:A:H2'	20:AA:936:C:H6	1.68	0.57
20:AA:1218:C:H2'	20:AA:1219:U:C6	2.40	0.57
20:AA:1480:G:C2	20:AA:1481:U:H1'	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BE:203:LYS:HA	59:BA:2733:A:N1	2.19	0.57
37:BR:36:THR:OG1	37:BR:37:THR:N	2.36	0.57
40:BU:40:PHE:HB3	41:BV:75:PHE:CE1	2.39	0.57
59:BA:690:G:O2'	59:BA:780:G:OP1	2.21	0.57
59:BA:769:G:H4'	59:BA:1379:A:N6	2.20	0.57
59:BA:1854:A:H62	59:BA:1888:G:H8	1.50	0.57
59:BA:2257:U:H2'	59:BA:2258:C:C6	2.39	0.57
3:CD:33:MET:O	3:CD:35:ARG:N	2.37	0.57
8:CI:120:ARG:NH2	20:CA:1346:A:OP1	2.36	0.57
20:CA:285:G:H2'	20:CA:286:G:C8	2.38	0.57
20:CA:522:C:N4	20:CA:527:G:H1	2.01	0.57
20:CA:1412:C:H2'	20:CA:1413:A:C8	2.39	0.57
21:CW:23:A:H2'	21:CW:24:G:H8	1.69	0.57
29:DG:120:LEU:HD21	29:DG:133:LEU:HD22	1.85	0.57
44:DY:32:PRO:HD2	44:DY:34:LYS:H	1.69	0.57
59:DA:291:C:N3	59:DA:349:G:N2	2.43	0.57
59:DA:733:G:OP2	59:DA:761:A:N6	2.31	0.57
59:DA:2233:U:H2'	59:DA:2234:G:C8	2.39	0.57
59:DA:2587:A:H62	59:DA:2608:G:N2	2.00	0.57
59:DA:2715:C:H2'	59:DA:2716:U:C6	2.39	0.57
1:AB:71:VAL:HA	1:AB:93:VAL:HB	1.86	0.57
19:AT:51:GLU:HA	19:AT:54:LYS:HD2	1.85	0.57
20:AA:757:U:H2'	20:AA:758:G:O4'	2.05	0.57
26:BD:67:PHE:HZ	26:BD:157:ARG:HD2	1.69	0.57
28:BF:54:ARG:HA	28:BF:87:GLY:HA3	1.86	0.57
28:BF:105:VAL:HG22	59:BA:600:G:H1'	1.86	0.57
28:BF:155:LEU:HB2	28:BF:189:THR:OG1	2.04	0.57
44:BY:7:VAL:HG22	44:BY:8:LYS:HZ2	1.68	0.57
59:BA:391:G:O2'	59:BA:410:G:OP1	2.20	0.57
59:BA:648:G:H2'	59:BA:649:G:H8	1.68	0.57
59:BA:2030:A:H4'	59:BA:2031:A:H8	1.69	0.57
59:BA:2700:C:H2'	59:BA:2701:C:C6	2.39	0.57
1:CB:83:MET:CB	1:CB:234:PRO:HG3	2.34	0.57
4:CE:57:LYS:HZ1	4:CE:61:TYR:HD2	1.50	0.57
10:CK:99:GLN:HG2	10:CK:105:VAL:HG21	1.85	0.57
18:CS:40:ILE:HG12	18:CS:71:LEU:HD23	1.86	0.57
20:CA:603:U:H2'	20:CA:604:G:C8	2.39	0.57
25:DC:73:VAL:HG23	25:DC:112:ASP:HB2	1.87	0.57
26:DD:274:ARG:NH2	59:DA:1798:U:OP2	2.37	0.57
31:DJ:58:UNK:HA	59:DA:1107:G:P	2.44	0.57
32:DK:78:ILE:HG13	32:DK:134:MET:HE1	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DO:75:SER:HG	39:DT:32:TYR:HH	1.52	0.57
44:DY:96:ILE:O	44:DY:98:VAL:N	2.38	0.57
59:DA:2284:C:H42	59:DA:2384:G:H1	1.50	0.57
59:DA:2708:G:H2'	59:DA:2709:G:C8	2.39	0.57
59:DA:2876:G:H2'	59:DA:2877:G:H8	1.68	0.57
7:AH:100:ILE:HG22	7:AH:125:ARG:HH21	1.68	0.57
20:AA:302:G:N3	20:AA:556:C:H4'	2.20	0.57
20:AA:1287:A:H2'	20:AA:1288:A:C8	2.40	0.57
23:AY:259:PHE:CE1	23:AY:275:ALA:HB1	2.40	0.57
32:BK:30:HIS:CD2	32:BK:59:ILE:HB	2.39	0.57
36:BQ:52:VAL:HG11	59:BA:2482:G:H22	1.70	0.57
38:BS:92:TYR:C	38:BS:94:TYR:H	2.12	0.57
54:Be:102:GLY:H	54:Be:105:LYS:HD3	1.69	0.57
59:BA:1047:G:O2'	59:BA:1109:C:N4	2.36	0.57
59:BA:1404:C:H2'	59:BA:1405:U:H6	1.69	0.57
59:BA:2769:C:H2'	59:BA:2770:G:C8	2.39	0.57
3:CD:22:LYS:NZ	20:CA:410:G:O6	2.35	0.57
7:CH:108:GLY:HA2	7:CH:138:TRP:HB3	1.86	0.57
14:CO:7:GLU:O	14:CO:10:LYS:HG3	2.04	0.57
21:CW:39:U:H2'	21:CW:40:G:H8	1.69	0.57
21:CW:64:G:N1	21:CW:65:U:C4	2.72	0.57
25:DC:62:THR:HA	25:DC:162:ILE:O	2.04	0.57
25:DC:139:PRO:HA	25:DC:145:THR:HB	1.87	0.57
28:DF:57:VAL:C	28:DF:59:TYR:H	2.11	0.57
35:DP:25:SER:OG	35:DP:27:HIS:O	2.23	0.57
39:DT:49:VAL:H	39:DT:63:VAL:HG13	1.70	0.57
49:D5:55:ARG:O	49:D5:56:LYS:HB2	2.04	0.57
59:DA:33:U:O4	59:DA:446:G:O2'	2.21	0.57
59:DA:173:G:H2'	59:DA:174:C:C6	2.40	0.57
59:DA:565:C:H4'	59:DA:1253:A:N6	2.18	0.57
59:DA:2107:C:N4	59:DA:2182:G:H1	2.01	0.57
59:DA:2386:C:H2'	59:DA:2387:U:C6	2.38	0.57
60:DB:6:C:H2'	60:DB:7:G:H8	1.70	0.57
20:AA:68(G):G:C4	20:AA:68(H):G:H1'	2.40	0.57
20:AA:68(P):C:H2'	20:AA:68(Q):U:O4'	2.05	0.57
20:AA:992:U:H3	20:AA:1044:A:H62	1.50	0.57
20:AA:1118:C:H2'	20:AA:1119:C:H6	1.69	0.57
20:AA:1401:G:H2'	20:AA:1402:C:O4'	2.04	0.57
42:BW:99:ARG:NH1	59:BA:1262:A:OP1	2.37	0.57
59:BA:769:G:H2'	59:BA:770:G:H8	1.68	0.57
59:BA:1287:A:H2	59:BA:1649:G:O2'	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2066:C:H2'	59:BA:2067:G:C8	2.39	0.57
59:BA:2545:G:H2'	59:BA:2546:U:O4'	2.03	0.57
7:CH:97:VAL:HG13	7:CH:98:LYS:H	1.69	0.57
23:CY:415:PRO:HA	23:CY:474:ALA:HA	1.85	0.57
26:DD:40:THR:O	26:DD:42:GLY:N	2.36	0.57
27:DE:110:GLY:HA2	27:DE:162:ALA:N	2.19	0.57
30:DH:175:LYS:O	30:DH:177:GLY:N	2.37	0.57
49:D5:8:LYS:NZ	59:DA:2055:C:OP1	2.32	0.57
51:D7:33:ARG:NH1	59:DA:466:A:O3'	2.37	0.57
59:DA:724:U:H2'	59:DA:725:G:O4'	2.05	0.57
59:DA:822:U:H5	59:DA:944:G:H1'	1.69	0.57
59:DA:1028:A:H2'	59:DA:1029:A:H8	1.68	0.57
59:DA:1166:C:N3	59:DA:1183:G:N2	2.45	0.57
1:AB:157:ARG:HB3	1:AB:157:ARG:HH11	1.69	0.57
3:AD:23:GLY:O	3:AD:25:ARG:N	2.36	0.57
15:AP:81:ARG:HG2	15:AP:83:GLU:H	1.69	0.57
20:AA:707:C:H2'	20:AA:708:C:C6	2.39	0.57
20:AA:813:U:H2'	20:AA:814:A:C8	2.39	0.57
20:AA:891:U:H2'	20:AA:892:A:C8	2.40	0.57
21:AW:17:U:H5'	21:AW:18:G:C4'	2.34	0.57
26:BD:89:SER:OG	26:BD:90:ALA:N	2.38	0.57
26:BD:100:GLY:HA3	59:BA:1500:G:H21	1.69	0.57
27:BE:175:VAL:HB	27:BE:182:LEU:HD12	1.87	0.57
29:BG:15:VAL:HG13	29:BG:19:LEU:HD12	1.86	0.57
36:BQ:46:GLN:HG2	36:BQ:126:PRO:HD3	1.86	0.57
48:B3:50:VAL:O	48:B3:52:HIS:N	2.35	0.57
59:BA:326:G:N2	59:BA:336:C:N3	2.47	0.57
59:BA:453:C:O2	59:BA:457:A:O2'	2.23	0.57
59:BA:1273:U:H5'	59:BA:1646:C:H42	1.68	0.57
59:BA:1802:A:H2'	59:BA:1803:A:C8	2.39	0.57
59:BA:2054:A:H62	59:BA:2577:A:H61	1.53	0.57
59:BA:2152:G:H2'	59:BA:2153:G:C8	2.40	0.57
20:CA:123:C:O2'	20:CA:290:C:O2	2.23	0.57
20:CA:410:G:H21	20:CA:432:A:H62	1.50	0.57
21:CW:66:C:H2'	21:CW:67:G:H8	1.68	0.57
25:DC:176:VAL:O	25:DC:178:LYS:N	2.37	0.57
29:DG:114:ILE:HG22	29:DG:116:ASP:H	1.70	0.57
34:DO:71:ARG:NH1	34:DO:104:ARG:HE	2.03	0.57
40:DU:108:GLU:HG3	41:DV:44:LYS:HG2	1.85	0.57
50:D6:26:ASN:ND2	50:D6:51:GLU:OE1	2.38	0.57
59:DA:391:G:H2'	59:DA:392:C:C6	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:422:A:H2'	59:DA:423:A:C8	2.39	0.57
59:DA:459:U:C6	59:DA:470:A:N6	2.73	0.57
59:DA:460:A:H2'	59:DA:461:C:O4'	2.04	0.57
59:DA:772:C:H2'	59:DA:773:U:C6	2.40	0.57
59:DA:856:C:H2'	59:DA:857:C:C6	2.39	0.57
59:DA:1510:A:H2'	59:DA:1511:A:O4'	2.04	0.57
59:DA:1583:A:H4'	59:DA:1586:A:C4	2.40	0.57
59:DA:2712:U:O2'	59:DA:2713:A:H5'	2.04	0.57
2:AC:7:PRO:HG2	2:AC:201:TYR:CE2	2.39	0.57
10:AK:111:ASP:O	10:AK:113:PRO:HD3	2.05	0.57
17:AR:58:LEU:H	17:AR:58:LEU:HD22	1.69	0.57
20:AA:1286:A:N6	20:AA:1355:G:OP1	2.37	0.57
21:AW:63:C:H2'	21:AW:64:G:H8	1.70	0.57
23:AY:107:VAL:HG22	23:AY:135:PHE:HB3	1.87	0.57
23:AY:136:ALA:HB3	23:AY:260:LEU:HB2	1.86	0.57
28:BF:46:ARG:HG2	28:BF:48:THR:HG23	1.87	0.57
59:BA:141(A):A:H5'	59:BA:141(B):C:OP2	2.05	0.57
59:BA:388:G:H5'	59:BA:389:G:OP2	2.04	0.57
59:BA:2649:U:H2'	59:BA:2650:U:H6	1.69	0.57
7:CH:44:PHE:CD2	7:CH:80:ILE:HG13	2.39	0.57
9:CJ:51:ARG:HG3	9:CJ:59:SER:HB3	1.86	0.57
10:CK:117:ASN:O	20:CA:716:A:O2'	2.23	0.57
11:CL:95:GLY:C	11:CL:97:ARG:H	2.09	0.57
14:CO:72:ARG:NH2	20:CA:754:C:OP1	2.37	0.57
20:CA:745:C:H1'	20:CA:836:G:O2'	2.04	0.57
20:CA:997:U:H3	20:CA:1044:A:H2	1.52	0.57
21:CW:70:G:H2'	21:CW:71:C:C6	2.40	0.57
23:CY:210:ARG:O	23:CY:213:HIS:HB3	2.05	0.57
26:DD:256:GLY:O	59:DA:1843:C:O2'	2.17	0.57
27:DE:65:GLY:HA2	27:DE:70:ALA:HA	1.86	0.57
27:DE:143:ASN:O	59:DA:2052:G:O2'	2.22	0.57
29:DG:39:ILE:HG13	29:DG:92:VAL:HG13	1.87	0.57
29:DG:98:ARG:HG2	29:DG:98:ARG:NH1	2.20	0.57
31:DJ:58:UNK:N	59:DA:1106:G:H5"	2.19	0.57
59:DA:13:A:H61	59:DA:525:U:H3'	1.70	0.57
59:DA:821:A:H3'	59:DA:946:G:C8	2.40	0.57
1:AB:87:ARG:HG2	1:AB:223:ILE:HD11	1.86	0.57
2:AC:106:VAL:HG12	2:AC:108:ASN:H	1.68	0.57
11:AL:17:LYS:NZ	20:AA:302:G:O3'	2.33	0.57
20:AA:552:U:H2'	20:AA:553:A:H8	1.68	0.57
20:AA:745:C:H2'	20:AA:746:A:H8	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:813:U:H2'	20:AA:814:A:H8	1.69	0.57
23:AY:272:LEU:HA	23:AY:275:ALA:HB3	1.87	0.57
25:BC:170:GLY:O	25:BC:172:ILE:N	2.37	0.57
30:BH:45:VAL:HG22	30:BH:50:VAL:HG22	1.86	0.57
35:BP:47:ASP:OD2	35:BP:49:ARG:NE	2.38	0.57
42:BW:75:TYR:O	42:BW:104:THR:N	2.37	0.57
59:BA:883:G:H2'	59:BA:884:C:C6	2.40	0.57
59:BA:2328:A:H2'	59:BA:2329:G:C8	2.40	0.57
11:CL:115:LYS:O	11:CL:117:ARG:N	2.33	0.57
18:CS:49:ILE:HD11	18:CS:62:ILE:HB	1.87	0.57
20:CA:848:C:H2'	20:CA:849:C:C6	2.40	0.57
27:DE:25:VAL:HG22	27:DE:183:LEU:HG	1.86	0.57
27:DE:77:ILE:HG22	27:DE:78:LEU:HG	1.86	0.57
33:DN:42:TRP:CD1	40:DU:63:VAL:HG11	2.39	0.57
34:DO:39:ILE:HG23	34:DO:60:ALA:HB3	1.86	0.57
39:DT:95:ARG:HE	59:DA:1753:G:H5"	1.70	0.57
43:DX:82:GLN:HE21	43:DX:83:VAL:N	2.03	0.57
48:D3:8:LEU:HD22	48:D3:31:LEU:HA	1.87	0.57
48:D3:10:LYS:HB3	48:D3:53:LEU:HD23	1.86	0.57
59:DA:439:G:H2'	59:DA:440:G:C8	2.40	0.57
59:DA:591:C:H2'	59:DA:592:G:C8	2.39	0.57
59:DA:1387:C:N3	59:DA:1400:G:N2	2.44	0.57
59:DA:1434:A:H2'	59:DA:1435:G:C8	2.40	0.57
59:DA:1564:C:H2'	59:DA:1565:C:C6	2.39	0.57
59:DA:2102:U:H2'	59:DA:2103:C:C6	2.39	0.57
59:DA:2212:A:H1'	59:DA:2215:G:C6	2.40	0.57
59:DA:2525:G:H2'	59:DA:2526:G:H8	1.70	0.57
59:DA:2773:C:H2'	59:DA:2774:C:H6	1.70	0.57
59:DA:2870:C:H2'	59:DA:2871:C:O4'	2.05	0.57
8:AI:107:ARG:HE	20:AA:1347:G:H5"	1.70	0.57
9:AJ:39:PRO:HA	9:AJ:70:ARG:HG3	1.87	0.57
9:AJ:49:VAL:HG23	13:AN:41:ARG:HB2	1.87	0.57
12:AM:122:LYS:HA	20:AA:954:G:H5'	1.86	0.57
20:AA:1522:U:H2'	20:AA:1523:G:H8	1.69	0.57
26:BD:151:LYS:HZ1	59:BA:2217:G:H21	1.52	0.57
29:BG:32:PRO:HB2	29:BG:163:ALA:HA	1.85	0.57
33:BN:108:PRO:HA	33:BN:109:LYS:HD2	1.87	0.57
42:BW:3:ALA:HB3	42:BW:107:LEU:HD13	1.87	0.57
45:BZ:118:GLN:N	45:BZ:173:ALA:O	2.38	0.57
59:BA:153:C:H2'	59:BA:154:G:H8	1.69	0.57
59:BA:922:U:H2'	59:BA:923:C:C6	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:989:G:O2'	59:BA:990:A:OP2	2.22	0.57
59:BA:1028:A:H2'	59:BA:1029:A:C8	2.40	0.57
59:BA:1418:G:OP1	59:BA:1588:C:O2'	2.23	0.57
59:BA:1446:C:H2'	59:BA:1447:G:C8	2.40	0.57
20:CA:1003:G:O6	20:CA:1037:C:N3	2.37	0.57
20:CA:1468:A:H2'	20:CA:1469:G:O4'	2.05	0.57
28:DF:63:LYS:HG2	28:DF:65:TRP:O	2.05	0.57
28:DF:102:PRO:HA	59:DA:607:U:P	2.45	0.57
33:DN:10:GLU:CD	33:DN:11:PRO:HD2	2.30	0.57
36:DQ:34:LEU:HB2	36:DQ:118:LEU:HD22	1.86	0.57
43:DX:32:PRO:HA	43:DX:77:LYS:HB2	1.85	0.57
59:DA:305:U:H2'	59:DA:306:U:C6	2.40	0.57
59:DA:441:U:H2'	59:DA:442:G:C8	2.40	0.57
59:DA:1614:A:H5"	59:DA:1617:C:H41	1.69	0.57
59:DA:1811:G:H2'	59:DA:1812:A:C8	2.40	0.57
59:DA:1957:C:H2'	59:DA:1958:C:H6	1.68	0.57
59:DA:2096:U:H2'	59:DA:2097:C:C6	2.40	0.57
59:DA:2893:G:H5"	59:DA:2894:G:O4'	2.04	0.57
20:AA:1510:U:H2'	20:AA:1511:G:H8	1.70	0.56
25:BC:73:VAL:HG22	25:BC:75:VAL:H	1.70	0.56
25:BC:115:VAL:N	25:BC:145:THR:HG22	2.20	0.56
25:BC:162:ILE:HD13	25:BC:175:PRO:HD2	1.87	0.56
26:BD:67:PHE:CZ	26:BD:157:ARG:HD2	2.40	0.56
32:BK:88:ALA:HB2	32:BK:96:VAL:HG23	1.85	0.56
34:BO:34:THR:H	34:BO:37:ASP:CG	2.13	0.56
48:B3:6:VAL:HB	48:B3:54:VAL:HG13	1.86	0.56
59:BA:270(O):G:O2'	59:BA:270(P):U:H5"	2.04	0.56
59:BA:1203:G:H2'	59:BA:1204:A:C2	2.40	0.56
59:BA:2006:C:O2'	59:BA:2823:A:N3	2.37	0.56
59:BA:2082:A:H62	59:BA:2237:G:H21	1.52	0.56
59:BA:2392:A:H2'	59:BA:2393:A:O4'	2.05	0.56
20:CA:186:C:H2'	20:CA:186(A):C:C6	2.40	0.56
21:CW:66:C:H2'	21:CW:67:G:C8	2.40	0.56
26:DD:115:GLN:HE22	26:DD:117:VAL:HG22	1.70	0.56
29:DG:135:LEU:HD22	29:DG:140:ILE:HD11	1.87	0.56
41:DV:62:LEU:HD12	41:DV:95:LEU:HB2	1.87	0.56
54:De:18:UNK:HA	55:Df:29:UNK:HA	1.87	0.56
59:DA:2036:C:H2'	59:DA:2037:G:H8	1.69	0.56
2:AC:7:PRO:O	2:AC:11:ARG:HG2	2.04	0.56
9:AJ:51:ARG:HG2	9:AJ:59:SER:O	2.05	0.56
16:AQ:95:TYR:OH	20:AA:279:A:OP2	2.15	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:321:A:H61	20:AA:332:G:H1	1.53	0.56
20:AA:1262:C:H2'	20:AA:1263:C:C6	2.39	0.56
21:AW:41:A:O2'	21:AW:42:U:OP1	2.21	0.56
23:AY:564:LYS:HG2	23:AY:565:VAL:H	1.69	0.56
28:BF:36:VAL:O	28:BF:39:TRP:HB3	2.05	0.56
28:BF:191:ARG:HB3	28:BF:193:VAL:HG23	1.86	0.56
32:BK:134:MET:HG2	59:BA:1063:G:H5'	1.86	0.56
35:BP:52:GLU:HG3	35:BP:53:GLY:H	1.70	0.56
37:BR:90:ARG:HH21	37:BR:118:GLU:HG3	1.69	0.56
40:BU:51:LYS:O	40:BU:54:LYS:HB2	2.05	0.56
43:BX:64:LYS:HE2	43:BX:66:LEU:HD11	1.86	0.56
59:BA:33:U:O4	59:BA:446:G:O2'	2.18	0.56
59:BA:242:G:N2	59:BA:255:A:OP2	2.38	0.56
59:BA:1312:U:O2	59:BA:1339:G:N1	2.33	0.56
59:BA:2315:G:H2'	59:BA:2316:C:C6	2.40	0.56
20:CA:695:A:H2'	20:CA:696:A:C8	2.40	0.56
20:CA:892:A:H2'	20:CA:893:C:H6	1.70	0.56
20:CA:1073:U:H2'	20:CA:1074:G:C8	2.40	0.56
20:CA:1126:U:H2'	20:CA:1127:G:O4'	2.05	0.56
25:DC:47:LYS:HB2	25:DC:169:THR:OG1	2.05	0.56
26:DD:177:LEU:HD23	26:DD:178:PRO:HD2	1.87	0.56
28:DF:8:GLN:O	28:DF:9:ILE:HB	2.03	0.56
35:DP:81:GLN:HG2	35:DP:106:LEU:HA	1.87	0.56
50:D6:37:ARG:HH21	59:DA:2287:A:H61	1.53	0.56
57:D1:25:LYS:HB3	59:DA:388:G:OP2	2.05	0.56
59:DA:234:C:N4	59:DA:430:G:H22	2.02	0.56
59:DA:270(K):G:H1	59:DA:270(Q):C:H42	1.53	0.56
59:DA:648:G:H2'	59:DA:649:G:C8	2.40	0.56
59:DA:1494:A:H2'	59:DA:1494:A:N3	2.19	0.56
59:DA:2391:G:O2'	59:DA:2424:C:N4	2.38	0.56
59:DA:2649:U:H2'	59:DA:2650:U:C6	2.39	0.56
60:DB:81:G:O6	60:DB:95:U:O2	2.23	0.56
11:AL:36:VAL:N	11:AL:58:VAL:HA	2.19	0.56
11:AL:52:LEU:HG	11:AL:53:ARG:H	1.70	0.56
12:AM:2:ALA:O	12:AM:4:ILE:N	2.37	0.56
12:AM:87:TYR:HE1	18:AS:76:PRO:HA	1.70	0.56
17:AR:70:ILE:O	17:AR:74:ARG:HG3	2.04	0.56
20:AA:318:G:H2'	20:AA:319:G:H8	1.69	0.56
20:AA:1040:U:H2'	20:AA:1041:A:H8	1.69	0.56
20:AA:1507:A:H2'	20:AA:1508:G:C8	2.40	0.56
23:AY:149:VAL:O	23:AY:153:MET:HG3	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AY:610:VAL:O	23:AY:642:VAL:HA	2.05	0.56
26:BD:133:LEU:HB2	26:BD:187:GLY:HA2	1.88	0.56
27:BE:72:VAL:HG12	27:BE:73:GLU:H	1.70	0.56
27:BE:119:ARG:HG2	27:BE:160:TYR:HB2	1.87	0.56
28:BF:45:ARG:NH2	59:BA:443:A:O5'	2.37	0.56
31:BJ:58:UNK:HA	59:BA:1107:G:P	2.44	0.56
32:BK:130:SER:OG	59:BA:1059:G:N2	2.27	0.56
34:BO:89:ASN:N	34:BO:89:ASN:OD1	2.38	0.56
35:BP:61:ARG:HA	52:B8:27:THR:HG21	1.87	0.56
37:BR:2:ARG:NH1	59:BA:2723:C:OP1	2.38	0.56
38:BS:95:HIS:CE1	60:BB:48:A:H4'	2.40	0.56
39:BT:109:GLU:HA	39:BT:112:ARG:HB3	1.87	0.56
41:BV:4:ILE:HB	41:BV:39:LEU:O	2.05	0.56
46:B0:38:VAL:HB	46:B0:59:LEU:HB2	1.87	0.56
51:B7:40:TRP:CD1	51:B7:40:TRP:H	2.23	0.56
59:BA:41:C:H2'	59:BA:43:G:C8	2.40	0.56
59:BA:926:A:H2'	59:BA:928:G:C8	2.40	0.56
59:BA:1345:C:N4	59:BA:1601:G:H1	2.02	0.56
59:BA:1429:G:H2'	59:BA:1430:C:C6	2.40	0.56
60:BB:59:A:H2'	60:BB:60:C:O4'	2.06	0.56
11:CL:77:LEU:O	11:CL:79:GLU:N	2.38	0.56
20:CA:68(H):G:H2'	20:CA:68(I):G:C8	2.40	0.56
20:CA:892:A:H2'	20:CA:893:C:C6	2.40	0.56
20:CA:1407:C:O2'	59:DA:1912:A:N1	2.33	0.56
20:CA:1530:G:H2'	20:CA:1531:A:H8	1.69	0.56
22:CV:8:A:H2'	22:CV:9:G:C8	2.40	0.56
23:CY:92:ILE:HG21	23:CY:437:THR:HG22	1.86	0.56
23:CY:166:LEU:HB2	23:CY:178:ILE:HG22	1.87	0.56
23:CY:634:MET:N	23:CY:634:MET:SD	2.78	0.56
25:DC:3:LYS:NZ	59:DA:2151:G:OP1	2.28	0.56
26:DD:186:HIS:HB3	26:DD:189:CYS:SG	2.44	0.56
27:DE:14:ILE:HG13	27:DE:23:VAL:HG21	1.86	0.56
29:DG:86:MET:N	29:DG:86:MET:SD	2.79	0.56
31:DJ:25:UNK:CA	31:DJ:80:UNK:HA	2.35	0.56
31:DJ:36:UNK:O	31:DJ:40:UNK:N	2.38	0.56
33:DN:137:LYS:HB3	33:DN:137:LYS:HZ2	1.70	0.56
35:DP:55:ARG:NH1	59:DA:2358:G:H1	2.04	0.56
37:DR:40:LYS:O	37:DR:44:LEU:HB2	2.04	0.56
39:DT:16:ARG:NH2	39:DT:82:LEU:O	2.36	0.56
45:DZ:10:ARG:NH2	45:DZ:26:GLY:O	2.39	0.56
52:D8:50:LEU:HA	52:D8:53:PRO:HG2	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:155:C:H42	59:DA:171:G:H1	1.52	0.56
59:DA:700:G:H1	59:DA:732:C:N4	2.02	0.56
59:DA:2489:G:N2	59:DA:2491:U:O4	2.38	0.56
59:DA:2590:A:H2'	59:DA:2591:C:H6	1.71	0.56
59:DA:2696:U:H2'	59:DA:2697:G:H8	1.70	0.56
60:DB:23:G:H2'	60:DB:24:G:C8	2.39	0.56
5:AF:33:TYR:HA	5:AF:71:ARG:HH21	1.69	0.56
14:AO:42:HIS:NE2	20:AA:739:C:O2	2.38	0.56
20:AA:309:G:H2'	20:AA:310:G:H8	1.70	0.56
20:AA:1363:A:H4'	20:AA:1364:U:H5"	1.86	0.56
23:AY:25:LYS:HE3	62:AY:702:GDP:O2B	2.05	0.56
23:AY:534:ILE:HG23	23:AY:538:TYR:HD2	1.70	0.56
23:AY:544:LYS:O	23:AY:548:GLU:N	2.36	0.56
25:BC:115:VAL:HG11	25:BC:154:ILE:HG12	1.86	0.56
26:BD:9:TYR:HD1	26:BD:10:THR:H	1.52	0.56
27:BE:62:PRO:O	27:BE:64:LYS:N	2.32	0.56
39:BT:32:TYR:HB3	39:BT:82:LEU:HA	1.87	0.56
42:BW:18:ARG:HA	42:BW:76:VAL:HG11	1.87	0.56
57:B1:19:GLN:O	57:B1:21:ARG:N	2.34	0.56
57:B1:23:LYS:HB3	57:B1:36:GLY:HA3	1.88	0.56
59:BA:2092:U:O2'	59:BA:2093:G:OP2	2.23	0.56
59:BA:2564:A:C8	59:BA:2648:C:H5'	2.41	0.56
3:CD:54:TYR:O	3:CD:57:ARG:HB3	2.06	0.56
3:CD:108:LEU:HD21	3:CD:183:GLY:HA3	1.87	0.56
6:CG:121:ALA:O	6:CG:125:MET:HG2	2.06	0.56
7:CH:110:ALA:HB3	7:CH:121:ASP:HB3	1.86	0.56
16:CQ:45:HIS:HB3	16:CQ:72:ARG:HA	1.86	0.56
20:CA:1044:A:H2'	20:CA:1045:C:H4'	1.87	0.56
21:CW:76:A:H1'	59:DA:2395:C:C2	2.40	0.56
25:DC:60:ARG:HG2	25:DC:142:LYS:HD3	1.88	0.56
26:DD:35:LYS:HD3	26:DD:61:LEU:HG	1.88	0.56
26:DD:125:ILE:HG21	26:DD:137:PRO:HG2	1.86	0.56
27:DE:159:HIS:HB2	59:DA:2621:A:O2'	2.06	0.56
40:DU:92:ARG:HG2	40:DU:95:LEU:H	1.70	0.56
43:DX:3:THR:N	43:DX:6:ASP:OD1	2.38	0.56
47:D2:16:LEU:HD12	47:D2:24:LEU:HD11	1.87	0.56
57:D1:43:TYR:HB2	57:D1:44:PRO:HD2	1.86	0.56
59:DA:530:G:N2	59:DA:2021:C:O2	2.39	0.56
59:DA:1231:G:H2'	59:DA:1232:G:H8	1.70	0.56
59:DA:2250:G:O2'	59:DA:2496:C:OP1	2.21	0.56
7:AH:97:VAL:HG13	7:AH:98:LYS:H	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AT:73:HIS:C	19:AT:74:LYS:HD3	2.31	0.56
19:AT:89:ARG:NH1	19:AT:105:SER:O	2.38	0.56
20:AA:520:A:N6	20:AA:529:G:H21	2.04	0.56
20:AA:828:A:H2'	20:AA:829:G:O4'	2.05	0.56
20:AA:924:C:H2'	20:AA:925:G:C8	2.40	0.56
20:AA:1124:G:O2'	20:AA:1145:C:N4	2.39	0.56
20:AA:1144:G:N2	20:AA:1146:A:H62	2.03	0.56
23:AY:8:ASP:O	23:AY:9:LEU:HB2	2.04	0.56
27:BE:120:TRP:O	27:BE:121:ASN:HB2	2.06	0.56
28:BF:41:LEU:O	59:BA:443:A:N6	2.38	0.56
33:BN:99:LEU:HD12	33:BN:122:VAL:HG21	1.87	0.56
37:BR:12:ARG:HG2	37:BR:16:HIS:CG	2.41	0.56
43:BX:36:LYS:HB2	59:BA:1599:C:OP1	2.06	0.56
53:B9:6:SER:HB3	59:BA:2466:C:H5"	1.88	0.56
59:BA:1495:A:H2	59:BA:1578:U:H1'	1.71	0.56
59:BA:2147:G:H2'	59:BA:2148:G:O4'	2.06	0.56
20:CA:54:C:H42	20:CA:357:G:H1	1.52	0.56
20:CA:151:A:H62	20:CA:170:U:H3	1.53	0.56
29:DG:113:ARG:HG3	58:D4:34:GLU:CD	2.27	0.56
33:DN:137:LYS:HZ3	33:DN:138:LEU:N	2.02	0.56
44:DY:17:SER:OG	44:DY:18:GLY:N	2.37	0.56
49:D5:3:LYS:HG3	59:DA:2613:U:OP2	2.05	0.56
52:D8:42:ARG:HG3	59:DA:2350:C:H5"	1.87	0.56
59:DA:401:A:H2'	59:DA:402:A:C8	2.40	0.56
59:DA:579:G:H2'	59:DA:580:C:C6	2.41	0.56
59:DA:698:C:OP1	59:DA:1634:A:N6	2.36	0.56
59:DA:1199:U:H2'	59:DA:1200:C:C6	2.40	0.56
59:DA:2245:U:OP1	59:DA:2430:A:N6	2.38	0.56
18:AS:13:ASP:O	18:AS:17:GLU:HG2	2.04	0.56
20:AA:318:G:H2'	20:AA:319:G:C8	2.41	0.56
28:BF:125:LEU:HD21	28:BF:199:TRP:CD1	2.39	0.56
39:BT:48:ILE:O	39:BT:49:VAL:HG12	2.05	0.56
45:BZ:152:ALA:HA	45:BZ:167:PRO:HB2	1.87	0.56
49:B5:55:ARG:HD3	49:B5:56:LYS:H	1.71	0.56
59:BA:137(B):G:H2'	59:BA:139:G:N7	2.21	0.56
59:BA:595:C:H2'	59:BA:596:G:O4'	2.05	0.56
59:BA:1165:U:H2'	59:BA:1166:C:C6	2.40	0.56
59:BA:2618:G:H2'	59:BA:2619:C:H6	1.71	0.56
2:CC:7:PRO:HG2	2:CC:184:TYR:CG	2.41	0.56
3:CD:25:ARG:HB2	20:CA:410:G:OP2	2.06	0.56
18:CS:49:ILE:HB	18:CS:60:VAL:HG13	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:CS:82:GLY:HA3	20:CA:1226:C:H4'	1.86	0.56
20:CA:200:G:H1	20:CA:217:C:H42	1.53	0.56
23:CY:14:ASN:HB3	23:CY:102:ASP:H	1.71	0.56
23:CY:311:ALA:HA	23:CY:330:VAL:HA	1.88	0.56
25:DC:27:ALA:O	25:DC:31:LYS:HB2	2.05	0.56
26:DD:244:ARG:HH22	59:DA:1841:U:H1'	1.71	0.56
27:DE:12:THR:O	27:DE:22:PRO:HA	2.05	0.56
36:DQ:21:THR:OG1	36:DQ:99:PRO:O	2.24	0.56
36:DQ:30:GLY:HA3	36:DQ:105:GLU:HB2	1.86	0.56
59:DA:1165:U:H2'	59:DA:1166:C:H6	1.70	0.56
59:DA:1301:A:H1'	59:DA:1302:A:H2'	1.88	0.56
59:DA:1448:G:O2'	59:DA:1529:A:N6	2.36	0.56
59:DA:2147:G:H2'	59:DA:2148:G:O4'	2.05	0.56
59:DA:2795:G:H3'	59:DA:2797:U:H5"	1.88	0.56
11:AL:5:PRO:HG2	11:AL:15:ARG:HH21	1.69	0.56
21:AW:64:G:C6	21:AW:65:U:O4	2.59	0.56
30:BH:173:PRO:O	30:BH:175:LYS:N	2.38	0.56
37:BR:33:ARG:HA	37:BR:114:VAL:O	2.06	0.56
39:BT:27:THR:O	39:BT:87:ASP:HB2	2.06	0.56
42:BW:74:ALA:HA	42:BW:105:VAL:HA	1.87	0.56
43:BX:41:ASN:O	43:BX:45:THR:OG1	2.16	0.56
59:BA:1542:G:H4'	59:BA:1543:A:O5'	2.05	0.56
59:BA:2048:G:H1	59:BA:2620:C:N4	2.00	0.56
3:CD:191:ARG:NH1	3:CD:194:LEU:O	2.39	0.56
6:CG:87:VAL:HG22	6:CG:151:TYR:HB3	1.87	0.56
9:CJ:35:SER:N	9:CJ:73:ASP:O	2.36	0.56
10:CK:21:ILE:HB	10:CK:84:VAL:HA	1.88	0.56
20:CA:741:G:H2'	20:CA:742:G:H8	1.71	0.56
23:CY:344:THR:OG1	23:CY:388:THR:O	2.21	0.56
61:CY:701:FUA:O1	61:CY:701:FUA:C20	2.51	0.56
25:DC:42:VAL:O	25:DC:43:GLU:C	2.49	0.56
25:DC:61:GLY:HA2	25:DC:200:HIS:CE1	2.40	0.56
26:DD:24:ILE:HG12	26:DD:25:THR:H	1.69	0.56
27:DE:151:TYR:HB2	27:DE:154:LYS:HB2	1.87	0.56
29:DG:37:VAL:HB	29:DG:94:LEU:HB2	1.86	0.56
36:DQ:132:VAL:HB	36:DQ:137:TYR:OH	2.06	0.56
37:DR:42:LYS:O	37:DR:45:ARG:HG3	2.05	0.56
37:DR:63:ARG:NH2	59:DA:1454:U:OP1	2.38	0.56
51:D7:6:GLN:O	59:DA:686:G:H8	1.89	0.56
52:D8:23:VAL:HG12	52:D8:46:ARG:HH11	1.71	0.56
59:DA:602:G:N2	59:DA:655:A:N7	2.53	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1664:A:H3'	59:DA:1665:A:C8	2.38	0.56
59:DA:1748:G:H2'	59:DA:1749:A:C8	2.40	0.56
59:DA:2676:C:H2'	59:DA:2677:G:H8	1.71	0.56
11:AL:114:LYS:HB2	20:AA:538:G:H5"	1.86	0.56
20:AA:591:U:H2'	20:AA:592:G:C8	2.41	0.56
37:BR:11:ASN:HB2	59:BA:1653:G:O6	2.04	0.56
42:BW:20:VAL:HG21	42:BW:43:GLY:HA3	1.86	0.56
43:BX:5:TYR:HA	43:BX:7:VAL:HG23	1.87	0.56
47:B2:2:LYS:HD2	47:B2:5:GLU:HB2	1.86	0.56
52:B8:18:ALA:HB3	59:BA:651:G:H4'	1.88	0.56
52:B8:23:VAL:HA	52:B8:48:PHE:O	2.06	0.56
59:BA:392:C:H2'	59:BA:393:C:H6	1.71	0.56
59:BA:1446:C:H2'	59:BA:1447:G:H8	1.71	0.56
59:BA:2118:U:H3	59:BA:2148:G:H4'	1.70	0.56
59:BA:2650:U:H2'	59:BA:2651:C:C6	2.41	0.56
59:BA:2781:A:H5"	59:BA:2781:A:H8	1.71	0.56
1:CB:161:ALA:HA	1:CB:183:PRO:HB2	1.88	0.56
20:CA:294:U:H2'	20:CA:295:C:C6	2.40	0.56
20:CA:300:A:O5'	20:CA:300:A:H8	1.89	0.56
20:CA:730:G:C5	20:CA:731:G:H1'	2.40	0.56
20:CA:1386:G:H2'	20:CA:1387:G:H8	1.71	0.56
23:CY:28:THR:O	23:CY:32:ILE:HG12	2.05	0.56
23:CY:358:MET:HA	23:CY:363:ARG:HG2	1.87	0.56
28:DF:5:ALA:HB2	28:DF:118:ALA:HB1	1.88	0.56
34:DO:87:ILE:HD13	34:DO:91:LEU:HD23	1.88	0.56
35:DP:98:GLU:O	35:DP:102:ARG:NH2	2.39	0.56
38:DS:67:ARG:HA	38:DS:99:LYS:HB2	1.87	0.56
41:DV:96:ILE:HG22	41:DV:97:LYS:N	2.18	0.56
59:DA:1144:G:H2'	59:DA:1145:C:H6	1.71	0.56
59:DA:1771:C:H2'	59:DA:1772:G:H8	1.68	0.56
59:DA:2472:G:N2	59:DA:2478:A:H62	2.01	0.56
59:DA:2590:A:H2'	59:DA:2591:C:C6	2.41	0.56
2:AC:153:VAL:HG12	2:AC:198:VAL:HG22	1.88	0.56
14:AO:65:ARG:NH2	20:AA:581:G:OP1	2.38	0.56
20:AA:408:A:H2	20:AA:434:U:H3	1.53	0.56
25:BC:84:ILE:HG23	25:BC:95:VAL:HB	1.87	0.56
31:BJ:112:UNK:O	31:BJ:114:UNK:N	2.39	0.56
35:BP:25:SER:HB2	59:BA:812:C:H3'	1.87	0.56
59:BA:1120:G:H2'	59:BA:1121:C:C6	2.41	0.56
59:BA:1281:G:H2'	59:BA:1282:U:C6	2.41	0.56
59:BA:2634:G:H1	59:BA:2784:C:N4	2.03	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2893:G:H5”	59:BA:2894:G:O4’	2.05	0.56
1:CB:27:LYS:HB2	1:CB:194:PRO:HG3	1.88	0.56
1:CB:162:ILE:O	1:CB:164:VAL:HG23	2.06	0.56
2:CC:4:LYS:HZ2	20:CA:1191:A:H4’	1.70	0.56
7:CH:41:ARG:NH2	7:CH:123:GLU:OE1	2.39	0.56
20:CA:1515:C:N4	20:CA:1520:G:H1	2.03	0.56
36:DQ:52:VAL:O	36:DQ:54:MET:N	2.39	0.56
39:DT:47:GLY:HA2	39:DT:65:LYS:HD2	1.87	0.56
59:DA:1207:C:H42	59:DA:1239:G:H1	1.54	0.56
4:AE:24:ARG:HD2	22:AV:26:A:H2	1.70	0.56
7:AH:120:THR:HG23	7:AH:123:GLU:HG3	1.86	0.56
19:AT:21:LYS:O	19:AT:24:LEU:HB3	2.06	0.56
20:AA:217:C:H2’	20:AA:218:C:C6	2.41	0.56
20:AA:565:U:OP2	20:AA:566:G:O2’	2.24	0.56
20:AA:584:G:H2’	20:AA:585:G:C8	2.41	0.56
20:AA:1026:G:O6	20:AA:1035:A:N1	2.39	0.56
21:AW:63:C:H2’	21:AW:64:G:C8	2.41	0.56
23:AY:207:ASP:HA	23:AY:210:ARG:HB2	1.87	0.56
27:BE:32:PRO:HD2	27:BE:50:GLY:C	2.31	0.56
35:BP:23:PRO:HD2	35:BP:33:ARG:NE	2.21	0.56
46:B0:23:VAL:HG12	46:B0:38:VAL:HG22	1.86	0.56
48:B3:29:ARG:HH21	59:BA:1183:G:H4’	1.70	0.56
57:B1:44:PRO:HD3	59:BA:396:G:H4’	1.86	0.56
59:BA:355:G:H2’	59:BA:356:G:H8	1.71	0.56
59:BA:959:A:N3	59:BA:2457:U:O2’	2.36	0.56
59:BA:1311:G:H21	59:BA:1603:A:H62	0.72	0.56
59:BA:2697:G:H2’	59:BA:2698:U:O4’	2.06	0.56
20:CA:1461:G:H2’	20:CA:1462:G:H8	1.71	0.56
27:DE:27:LEU:HD13	39:DT:1:MET:HB3	1.87	0.56
34:DO:88:ASN:ND2	34:DO:92:GLU:O	2.38	0.56
37:DR:10:LEU:HB2	59:DA:1653:G:C6	2.40	0.56
46:D0:11:ARG:HH22	59:DA:2278:A:H3’	1.71	0.56
59:DA:319:C:H2’	59:DA:320:A:O4’	2.05	0.56
59:DA:1677:A:H2’	59:DA:1678:G:C8	2.40	0.56
59:DA:2396:G:H2’	59:DA:2397:G:C8	2.37	0.56
11:AL:37:CYS:HA	11:AL:57:LYS:H	1.71	0.55
20:AA:950:U:H2’	20:AA:951:G:H8	1.71	0.55
21:AW:68:U:H2’	21:AW:69:A:C8	2.41	0.55
23:AY:20:HIS:HB3	23:AY:118:SER:N	2.21	0.55
23:AY:178:ILE:HA	23:AY:185:ALA:HA	1.88	0.55
23:AY:466:LEU:O	23:AY:471:LYS:N	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AY:512:ILE:HD12	23:AY:589:ALA:HB1	1.87	0.55
26:BD:111:LEU:HD11	26:BD:117:VAL:HG11	1.88	0.55
29:BG:66:GLN:NE2	58:B4:1:MET:SD	2.78	0.55
29:BG:105:LYS:HD2	58:B4:26:SER:HB3	1.88	0.55
32:BK:101:TRP:HZ2	32:BK:141:ALA:H	1.54	0.55
34:BO:96:THR:HG23	34:BO:97:ARG:HG2	1.88	0.55
38:BS:84:GLN:HA	38:BS:106:ARG:HG2	1.87	0.55
44:BY:28:LYS:HE3	44:BY:30:VAL:HG23	1.88	0.55
49:B5:10:LYS:N	59:BA:2017:U:O2'	2.39	0.55
59:BA:639:U:H2'	59:BA:640:C:C6	2.41	0.55
59:BA:795:C:H2'	59:BA:796:C:O4'	2.06	0.55
59:BA:1215:G:O6	59:BA:1234:U:O2	2.23	0.55
59:BA:1978:A:H2'	59:BA:1979:C:C6	2.42	0.55
4:CE:101:ILE:HD11	4:CE:119:LEU:HD22	1.89	0.55
6:CG:150:ALA:HB1	10:CK:93:GLN:HE22	1.71	0.55
20:CA:961:U:OP2	20:CA:1223:C:O2'	2.17	0.55
20:CA:1522:U:H2'	20:CA:1523:G:H8	1.70	0.55
25:DC:169:THR:OG1	25:DC:169:THR:O	2.22	0.55
37:DR:97:VAL:HA	37:DR:113:LEU:O	2.06	0.55
38:DS:26:LEU:HD11	38:DS:101:LEU:HD13	1.89	0.55
57:D1:45:ASN:OD1	57:D1:46:LEU:N	2.40	0.55
59:DA:864:G:H2'	59:DA:865:C:C6	2.40	0.55
59:DA:1231:G:H2'	59:DA:1232:G:C8	2.41	0.55
59:DA:1585:C:H3'	59:DA:1586:A:H8	1.70	0.55
59:DA:1801:G:O2'	59:DA:1802:A:H5'	2.06	0.55
59:DA:1880:C:H2'	59:DA:1881:C:H6	1.71	0.55
59:DA:1899:G:H21	59:DA:1902:C:H41	1.54	0.55
59:DA:2023:G:O2'	59:DA:2618:G:H5"	2.06	0.55
59:DA:2632:A:H2'	59:DA:2633:G:C8	2.42	0.55
60:DB:22:U:O2	60:DB:61:G:N2	2.30	0.55
2:AC:78:GLY:HA3	2:AC:83:ARG:H	1.71	0.55
3:AD:136:PRO:HD2	20:AA:403:C:H5"	1.88	0.55
23:AY:146:LEU:O	23:AY:150:ILE:HG12	2.06	0.55
25:BC:28:ARG:O	25:BC:31:LYS:HB3	2.05	0.55
33:BN:72:TYR:N	33:BN:85:ILE:O	2.28	0.55
36:BQ:72:LYS:N	36:BQ:94:VAL:O	2.37	0.55
57:B1:26:ARG:NH1	57:B1:27:GLU:OE1	2.39	0.55
59:BA:661:C:H2'	59:BA:662:G:C8	2.41	0.55
59:BA:2023:G:P	59:BA:2023:G:H8	2.28	0.55
6:CG:87:VAL:HG12	6:CG:88:PRO:O	2.06	0.55
11:CL:114:LYS:HB2	20:CA:538:G:H5"	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:CM:80:ARG:NH1	18:CS:65:ASN:O	2.39	0.55
19:CT:54:LYS:HA	19:CT:57:ARG:HE	1.71	0.55
23:CY:138:LYS:HE2	62:CY:702:GDP:C8	2.41	0.55
25:DC:54:ARG:O	25:DC:56:ASP:N	2.39	0.55
50:D6:6:ARG:O	50:D6:7:ILE:HB	2.05	0.55
59:DA:1999:C:H5'	59:DA:2723:C:O2'	2.06	0.55
1:AB:71:VAL:H	1:AB:164:VAL:HA	1.72	0.55
20:AA:980:C:H5'	20:AA:981:U:C5	2.41	0.55
23:AY:526:VAL:O	23:AY:528:ALA:N	2.40	0.55
25:BC:194:ILE:HA	25:BC:197:LEU:HD12	1.87	0.55
26:BD:42:GLY:H	59:BA:692:C:H4'	1.71	0.55
29:BG:63:ILE:HA	58:B4:27:THR:HG21	1.88	0.55
37:BR:29:LEU:HD12	37:BR:83:ILE:HD13	1.88	0.55
37:BR:73:VAL:O	37:BR:76:VAL:HG12	2.07	0.55
44:BY:14:LEU:HD21	44:BY:79:CYS:HB2	1.88	0.55
59:BA:621:A:C2	59:BA:622:G:H1'	2.42	0.55
59:BA:687:C:H2'	59:BA:688:U:O4'	2.05	0.55
59:BA:1025:G:C4	59:BA:1135:C:H1'	2.41	0.55
59:BA:1510:A:H2'	59:BA:1511:A:O4'	2.05	0.55
59:BA:1814:G:H3'	59:BA:1815:A:H2'	1.88	0.55
8:CI:4:TYR:HE1	8:CI:21:PRO:HD3	1.70	0.55
9:CJ:26:ALA:HA	9:CJ:29:ARG:HB2	1.88	0.55
20:CA:113:G:H2'	20:CA:114:U:C6	2.42	0.55
20:CA:1440(C):G:N7	39:DT:118:ARG:NH1	2.54	0.55
23:CY:316:ILE:HD11	23:CY:385:THR:HB	1.89	0.55
25:DC:57:GLN:HG2	25:DC:202:PRO:HB3	1.88	0.55
25:DC:102:GLN:HG3	25:DC:106:ASP:HB2	1.88	0.55
25:DC:168:LYS:O	59:DA:2178:C:O2'	2.23	0.55
36:DQ:109:VAL:HG21	36:DQ:114:ALA:HB2	1.89	0.55
43:DX:12:VAL:HG11	43:DX:21:PHE:CZ	2.42	0.55
47:D2:48:HIS:CD2	47:D2:49:LYS:HG2	2.41	0.55
48:D3:6:VAL:HB	48:D3:54:VAL:HG13	1.88	0.55
51:D7:18:PHE:HE2	59:DA:117:G:H5'	1.72	0.55
53:D9:32:HIS:O	53:D9:34:GLN:N	2.40	0.55
59:DA:40:C:H2'	59:DA:41:C:C6	2.41	0.55
59:DA:150:C:N4	59:DA:176:G:H1	2.03	0.55
2:AC:191:THR:HG23	2:AC:196:LEU:HD21	1.88	0.55
18:AS:36:ARG:HH22	18:AS:75:ALA:HB3	1.71	0.55
20:AA:1488:G:H2'	20:AA:1489:G:C8	2.41	0.55
25:BC:84:ILE:HD11	25:BC:97:GLY:N	2.22	0.55
28:BF:75:HIS:NE2	59:BA:1256:G:O2'	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BR:68:ARG:HG3	59:BA:2708:G:H5'	1.89	0.55
46:B0:67:VAL:HG13	46:B0:81:VAL:HG22	1.88	0.55
57:B1:12:PRO:HA	57:B1:43:TYR:HB2	1.88	0.55
59:BA:824:A:H1'	59:BA:2358:G:N7	2.21	0.55
59:BA:1586:A:H3'	59:BA:1587:A:H8	1.71	0.55
59:BA:2095:C:H2'	59:BA:2096:U:H6	1.72	0.55
59:BA:2125:G:N2	59:BA:2173:A:H62	1.99	0.55
59:BA:2503:A:O2'	59:BA:2505:G:OP2	2.23	0.55
1:CB:58:ILE:HG22	1:CB:222:ILE:HG22	1.88	0.55
1:CB:113:HIS:O	1:CB:117:GLU:HG2	2.06	0.55
9:CJ:55:LYS:H	9:CJ:55:LYS:HD2	1.71	0.55
10:CK:18:ARG:HB2	10:CK:33:THR:OG1	2.06	0.55
11:CL:52:LEU:HD21	20:CA:521:G:OP2	2.07	0.55
20:CA:517:G:H5'	20:CA:519:C:C2	2.42	0.55
20:CA:612:C:N4	20:CA:628:G:H1	2.03	0.55
23:CY:663:THR:O	23:CY:665:GLY:N	2.39	0.55
29:DG:31:VAL:O	29:DG:33:ARG:HD3	2.07	0.55
34:DO:98:VAL:HG13	34:DO:117:LEU:HD22	1.86	0.55
37:DR:41:ALA:HB1	37:DR:97:VAL:HG11	1.87	0.55
54:De:63:ILE:HG13	54:De:70:LYS:HA	1.88	0.55
59:DA:276:A:H2'	59:DA:277:C:C6	2.41	0.55
59:DA:817:C:H42	59:DA:1190:G:H1	1.54	0.55
59:DA:1162:G:H2'	59:DA:1163:G:H8	1.72	0.55
59:DA:1536:A:H5"	59:DA:1537:C:OP2	2.05	0.55
3:AD:196:LEU:O	3:AD:198:VAL:N	2.40	0.55
4:AE:110:LEU:O	4:AE:115:VAL:HG23	2.06	0.55
7:AH:9:MET:HG3	7:AH:26:VAL:HG11	1.88	0.55
8:AI:11:LYS:HA	8:AI:108:VAL:HG12	1.87	0.55
11:AL:86:ARG:HE	11:AL:99:HIS:HB2	1.72	0.55
20:AA:1145:C:O2'	20:AA:1146:A:O5'	2.24	0.55
25:BC:176:VAL:HG21	25:BC:189:ASN:HB3	1.89	0.55
36:BQ:25:ASP:N	36:BQ:25:ASP:OD1	2.40	0.55
49:B5:55:ARG:HD3	49:B5:56:LYS:N	2.21	0.55
59:BA:513:A:H2	59:BA:582:G:H4'	1.72	0.55
59:BA:2648:C:H2'	59:BA:2649:U:C6	2.42	0.55
2:CC:175:LEU:HD23	2:CC:175:LEU:H	1.71	0.55
11:CL:32:PHE:O	11:CL:84:LEU:HG	2.07	0.55
20:CA:383:A:H8	20:CA:383:A:O5'	1.89	0.55
20:CA:401:C:H2'	20:CA:402:G:C8	2.41	0.55
20:CA:1237:C:O2'	20:CA:1300:G:N2	2.39	0.55
39:DT:51:ARG:NH2	59:DA:2719:G:OP1	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:DU:86:ALA:HB3	40:DU:88:ILE:HG13	1.87	0.55
57:D1:18:ILE:CG2	59:DA:380:U:H4'	2.34	0.55
57:D1:45:ASN:HD22	59:DA:2230:G:H1'	1.71	0.55
59:DA:2246:G:H2'	59:DA:2247:A:H8	1.72	0.55
59:DA:2333:A:H1'	59:DA:2335:A:C6	2.41	0.55
59:DA:2648:C:H42	59:DA:2672:G:H1	1.54	0.55
59:DA:2804:C:H2'	59:DA:2805:G:C8	2.42	0.55
4:AE:91:LEU:HD22	4:AE:120:THR:HB	1.89	0.55
5:AF:47:ARG:HA	5:AF:57:GLN:HA	1.87	0.55
7:AH:89:PRO:HG2	20:AA:878:G:H5'	1.87	0.55
11:AL:71:PRO:HD2	11:AL:102:ARG:HD3	1.89	0.55
12:AM:14:ARG:NH1	20:AA:1295:G:O2'	2.39	0.55
16:AQ:45:HIS:CB	16:AQ:72:ARG:HA	2.36	0.55
18:AS:54:GLY:HA3	20:AA:1220:G:H21	1.72	0.55
18:AS:76:PRO:O	18:AS:78:ARG:N	2.37	0.55
20:AA:454:C:N4	20:AA:479:C:N3	2.55	0.55
20:AA:503:C:H2'	20:AA:504:C:C6	2.42	0.55
20:AA:802:A:H2'	20:AA:803:G:O4'	2.07	0.55
20:AA:1172:C:H2'	20:AA:1173:G:C8	2.41	0.55
20:AA:1304:G:N1	20:AA:1332:A:OP2	2.40	0.55
23:AY:70:THR:HB	23:AY:81:ILE:HD13	1.88	0.55
25:BC:27:ALA:HB3	25:BC:28:ARG:HE	1.72	0.55
26:BD:25:THR:O	26:BD:26:LYS:HB2	2.06	0.55
26:BD:41:GLY:O	26:BD:43:ARG:N	2.36	0.55
26:BD:151:LYS:HD2	59:BA:2208:U:H4'	1.87	0.55
26:BD:274:ARG:NH2	59:BA:1798:U:OP2	2.40	0.55
29:BG:86:MET:N	29:BG:86:MET:SD	2.80	0.55
39:BT:130:ALA:O	39:BT:134:GLU:N	2.39	0.55
43:BX:32:PRO:HA	43:BX:77:LYS:HB3	1.88	0.55
59:BA:1478:G:H2'	59:BA:1479:G:C8	2.41	0.55
59:BA:1778:U:O4	59:BA:1785:A:N7	2.40	0.55
2:CC:147:LYS:HB2	2:CC:203:PHE:CD2	2.42	0.55
6:CG:108:ALA:HB2	6:CG:123:GLU:HG2	1.88	0.55
8:CI:69:GLY:HA3	20:CA:1371:G:H4'	1.88	0.55
20:CA:1242:C:H2'	20:CA:1243:C:H6	1.72	0.55
23:CY:162:VAL:HB	23:CY:255:ILE:HG13	1.89	0.55
23:CY:297:GLU:HG3	23:CY:298:VAL:H	1.70	0.55
23:CY:341:VAL:HG12	23:CY:391:GLY:HA2	1.88	0.55
23:CY:506:GLN:NE2	23:CY:580:MET:HE1	2.21	0.55
26:DD:215:LEU:HB2	26:DD:217:ARG:HG3	1.87	0.55
37:DR:104:ARG:HB2	37:DR:111:LEU:HD21	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:D9:11:CYS:SG	53:D9:14:CYS:N	2.80	0.55
59:DA:142:G:H2'	59:DA:143:C:C6	2.42	0.55
59:DA:273(C):C:H2'	59:DA:273(D):C:H6	1.70	0.55
59:DA:407:G:H1	59:DA:420:C:H42	1.54	0.55
59:DA:950:G:H2'	59:DA:951:C:C6	2.40	0.55
59:DA:1064:C:H42	59:DA:1074:G:H1	1.54	0.55
16:AQ:29:HIS:CG	16:AQ:32:TYR:HB2	2.42	0.55
20:AA:160:A:H61	20:AA:347:G:H1'	1.72	0.55
25:BC:169:THR:O	25:BC:169:THR:OG1	2.22	0.55
37:BR:12:ARG:HG2	37:BR:16:HIS:ND1	2.21	0.55
44:BY:15:VAL:HB	44:BY:23:ARG:H	1.71	0.55
57:B1:65:SER:O	57:B1:66:HIS:ND1	2.40	0.55
59:BA:191:A:H2'	59:BA:192:C:H6	1.70	0.55
59:BA:236:C:H2'	59:BA:237:C:H6	1.72	0.55
59:BA:373:U:H2'	59:BA:374:A:C8	2.42	0.55
59:BA:380:U:H2'	59:BA:381:G:C8	2.42	0.55
59:BA:1501:C:H2'	59:BA:1502:C:C6	2.42	0.55
59:BA:2152:G:H2'	59:BA:2153:G:H8	1.72	0.55
59:BA:2437:U:H2'	59:BA:2438:U:C6	2.42	0.55
59:BA:2729:G:H2'	59:BA:2730:C:O4'	2.07	0.55
1:CB:20:GLU:HG3	1:CB:191:ASP:HB2	1.89	0.55
2:CC:68:VAL:HG12	2:CC:70:VAL:HG22	1.89	0.55
11:CL:88:GLY:O	11:CL:99:HIS:NE2	2.39	0.55
16:CQ:51:TYR:HE1	16:CQ:76:LEU:HB2	1.72	0.55
23:CY:25:LYS:HE2	23:CY:86:GLY:HA3	1.87	0.55
26:DD:86:PRO:HG3	59:DA:1567:A:H2'	1.88	0.55
40:DU:52:ARG:NH1	59:DA:559:G:O2'	2.40	0.55
44:DY:7:VAL:HG21	59:DA:336:C:H5"	1.88	0.55
47:D2:64:LEU:O	47:D2:68:ARG:N	2.40	0.55
49:D5:18:ALA:O	49:D5:21:SER:N	2.29	0.55
59:DA:199:A:N6	59:DA:2433:A:H2'	2.21	0.55
59:DA:470:A:H2'	59:DA:471:A:O4'	2.07	0.55
59:DA:476:G:H1'	59:DA:480:A:N6	2.21	0.55
59:DA:1279:G:H1	59:DA:1291:C:N4	2.02	0.55
59:DA:1308:A:H2'	59:DA:1309:G:O4'	2.06	0.55
59:DA:2168:G:N2	59:DA:2170:A:H3'	2.20	0.55
59:DA:2660:A:H2'	59:DA:2661:G:O4'	2.07	0.55
59:DA:2819:G:H2'	59:DA:2821:A:N7	2.22	0.55
1:AB:91:PRO:HG2	1:AB:155:LEU:HD23	1.89	0.55
3:AD:33:MET:O	3:AD:35:ARG:N	2.40	0.55
16:AQ:56:VAL:HB	16:AQ:78:GLU:HG2	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:109:A:H62	20:AA:324:G:H21	1.55	0.55
20:AA:185:A:H2'	20:AA:186:C:H6	1.72	0.55
20:AA:715:A:H2'	20:AA:716:A:C8	2.41	0.55
20:AA:891:U:H2'	20:AA:892:A:H8	1.71	0.55
25:BC:176:VAL:O	25:BC:178:LYS:N	2.40	0.55
26:BD:147:LEU:HA	26:BD:185:VAL:HG13	1.89	0.55
32:BK:63:ARG:HB2	54:Be:79:ARG:HG3	1.87	0.55
35:BP:41:ARG:HE	35:BP:45:LEU:HD22	1.72	0.55
39:BT:58:ASN:HD22	39:BT:58:ASN:H	1.53	0.55
59:BA:514:A:N3	59:BA:581:C:O2'	2.38	0.55
59:BA:576:U:H2'	59:BA:577:G:C8	2.42	0.55
59:BA:1010:A:N3	59:BA:1153:C:H1'	2.22	0.55
59:BA:1793:C:O2'	59:BA:1900:A:N1	2.37	0.55
59:BA:2078:C:H2'	59:BA:2079:U:C6	2.41	0.55
59:BA:2176:A:H2'	59:BA:2177:C:C6	2.42	0.55
59:BA:2620:C:O2'	59:BA:2621:A:H8	1.89	0.55
1:CB:71:VAL:HG22	1:CB:93:VAL:HG21	1.88	0.55
1:CB:87:ARG:HH22	1:CB:233:SER:H	1.53	0.55
2:CC:56:ASP:OD1	2:CC:56:ASP:N	2.38	0.55
9:CJ:51:ARG:NH1	9:CJ:61:GLU:OE2	2.40	0.55
13:CN:48:ALA:HB2	13:CN:53:LEU:HD12	1.88	0.55
20:CA:152:A:N6	20:CA:169:C:O2	2.39	0.55
20:CA:1010:G:H2'	20:CA:1011:G:H8	1.71	0.55
23:CY:496:LYS:HG2	23:CY:498:ILE:HG23	1.89	0.55
29:DG:173:LEU:HB3	29:DG:178:PHE:HB2	1.87	0.55
42:DW:9:TYR:H	42:DW:102:HIS:CE1	2.24	0.55
42:DW:9:TYR:H	42:DW:102:HIS:HE1	1.53	0.55
48:D3:8:LEU:HD12	48:D3:28:LEU:HB3	1.87	0.55
59:DA:1316:U:H3	59:DA:1336:A:H61	1.54	0.55
59:DA:1530:G:C6	59:DA:1541:U:O2	2.59	0.55
1:AB:24:TRP:CZ3	1:AB:26:PRO:HA	2.41	0.55
12:AM:3:ARG:HH21	12:AM:7:VAL:HG22	1.71	0.55
20:AA:578:C:H2'	20:AA:579:G:C8	2.42	0.55
23:AY:25:LYS:HE3	62:AY:702:GDP:PB	2.47	0.55
23:AY:110:SER:HB3	23:AY:144:ALA:HA	1.89	0.55
28:BF:157:VAL:O	28:BF:194:MET:HA	2.07	0.55
28:BF:161:GLU:O	28:BF:165:ARG:HG2	2.07	0.55
39:BT:33:LYS:HD3	39:BT:34:VAL:N	2.21	0.55
41:BV:47:VAL:HB	41:BV:50:PRO:O	2.06	0.55
59:BA:797:C:H2'	59:BA:798:G:C8	2.42	0.55
59:BA:1182:A:H2'	59:BA:1183:G:C8	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1375:C:H2'	59:BA:1376:C:C6	2.42	0.55
2:CC:43:LEU:O	2:CC:47:LEU:HB3	2.06	0.55
4:CE:151:LEU:HB3	7:CH:79:VAL:HG22	1.89	0.55
7:CH:85:ARG:NH1	7:CH:87:SER:O	2.40	0.55
23:CY:604:PRO:HA	23:CY:676:TYR:HB3	1.89	0.55
26:DD:220:HIS:N	59:DA:1790:C:OP1	2.40	0.55
26:DD:239:ARG:NH2	59:DA:1788:C:OP1	2.39	0.55
26:DD:244:ARG:HG3	59:DA:1902:C:O4'	2.07	0.55
33:DN:19:GLU:HB3	33:DN:59:LYS:HE3	1.88	0.55
34:DO:28:SER:OG	59:DA:2563:U:O2'	2.15	0.55
40:DU:10:ARG:NH2	59:DA:584:C:OP2	2.40	0.55
43:DX:41:ASN:O	43:DX:45:THR:OG1	2.23	0.55
59:DA:404:C:H4'	59:DA:405:U:H5'	1.88	0.55
59:DA:2805:G:H2'	59:DA:2807:G:C8	2.42	0.55
2:AC:155:GLY:HA3	2:AC:196:LEU:HA	1.89	0.55
7:AH:110:ALA:HB3	7:AH:121:ASP:HB3	1.89	0.55
8:AI:124:GLN:HB3	20:AA:1232:U:H5"	1.88	0.55
20:AA:242:C:H2'	20:AA:245:C:H5	1.72	0.55
25:BC:34:ALA:HB2	25:BC:217:THR:HG21	1.88	0.55
25:BC:120:VAL:O	25:BC:124:VAL:N	2.23	0.55
26:BD:25:THR:HG22	26:BD:26:LYS:H	1.71	0.55
26:BD:250:TRP:CE2	59:BA:1805:U:H5"	2.42	0.55
31:BJ:25:UNK:C	31:BJ:111:UNK:HA	2.37	0.55
38:BS:71:ARG:O	38:BS:74:ALA:HB3	2.07	0.55
39:BT:49:VAL:O	39:BT:50:ILE:HG13	2.06	0.55
41:BV:33:VAL:HG13	41:BV:59:ALA:HB3	1.88	0.55
59:BA:334:C:OP1	59:BA:335:C:N4	2.31	0.55
59:BA:646:A:H2'	59:BA:647:G:O4'	2.07	0.55
59:BA:740:U:H2'	59:BA:741:G:C8	2.42	0.55
59:BA:1833:U:H2'	59:BA:1834:U:C6	2.42	0.55
59:BA:2011:U:H2'	59:BA:2012:G:O4'	2.07	0.55
59:BA:2036:C:H2'	59:BA:2037:G:H8	1.72	0.55
59:BA:2829:C:H2'	59:BA:2830:G:C8	2.42	0.55
60:BB:32:C:H2'	60:BB:33:G:H8	1.70	0.55
3:CD:14:ARG:HG3	3:CD:66:ARG:HH22	1.72	0.55
6:CG:73:MET:HG2	6:CG:90:GLU:HA	1.89	0.55
7:CH:7:ALA:O	7:CH:11:THR:HG23	2.07	0.55
9:CJ:40:LEU:HD21	20:CA:1280:A:H5'	1.87	0.55
16:CQ:86:GLU:O	16:CQ:90:ILE:HG13	2.07	0.55
19:CT:53:LEU:HD12	19:CT:100:ILE:HG23	1.89	0.55
20:CA:33:A:H2'	20:CA:34:C:C6	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:757:U:H2'	20:CA:758:G:O4'	2.04	0.55
20:CA:1422:G:H2'	20:CA:1423:G:H8	1.72	0.55
20:CA:1481:U:H2'	20:CA:1482:G:C8	2.42	0.55
23:CY:146:LEU:O	23:CY:150:ILE:HG12	2.07	0.55
23:CY:188:TYR:HB2	23:CY:267:LYS:HG2	1.88	0.55
25:DC:42:VAL:HB	25:DC:177:GLY:HA3	1.88	0.55
28:DF:196:LEU:O	28:DF:200:GLU:HG2	2.07	0.55
29:DG:114:ILE:HB	29:DG:117:PHE:HB2	1.88	0.55
42:DW:68:ARG:HH12	42:DW:111:HIS:HB2	1.72	0.55
51:D7:3:ARG:HG3	59:DA:1613:G:H1'	1.89	0.55
52:D8:17:THR:OG1	52:D8:19:SER:OG	2.22	0.55
59:DA:322:A:O4'	59:DA:340:A:H1'	2.07	0.55
59:DA:1221:C:H2'	59:DA:122(A):C:H6	1.71	0.55
59:DA:1501:C:H2'	59:DA:1502:C:C6	2.42	0.55
59:DA:1796:U:H2'	59:DA:1797:C:C6	2.42	0.55
59:DA:1948:G:H1	59:DA:1958:C:H42	1.55	0.55
59:DA:2138:C:H2'	59:DA:2139:C:C6	2.42	0.55
59:DA:2533:A:OP1	59:DA:2665:A:O2'	2.18	0.55
7:AH:37:ARG:O	7:AH:41:ARG:HB2	2.07	0.54
7:AH:46:LYS:HB3	7:AH:62:TYR:HB2	1.89	0.54
10:AK:72:ALA:HB1	10:AK:77:MET:HG2	1.90	0.54
14:AO:11:VAL:HG21	14:AO:34:LEU:HD22	1.88	0.54
18:AS:64:GLU:O	18:AS:67:VAL:HG23	2.06	0.54
20:AA:1324:A:H2'	20:AA:1325:C:C6	2.41	0.54
20:AA:1436:U:H2'	20:AA:1437:C:O4'	2.07	0.54
23:AY:291:GLY:HA2	23:AY:400:GLU:N	2.22	0.54
25:BC:153:ILE:O	25:BC:157:ILE:HG13	2.08	0.54
26:BD:228:PRO:HB3	59:BA:2598:A:H4'	1.90	0.54
29:BG:60:LEU:HD12	29:BG:90:LEU:HD21	1.88	0.54
29:BG:135:LEU:HD22	29:BG:140:ILE:HD11	1.89	0.54
32:BK:106:GLU:HA	32:BK:109:LYS:HB2	1.89	0.54
40:BU:60:LEU:HD13	40:BU:64:ARG:HH22	1.71	0.54
50:B6:46:HIS:HD1	59:BA:2371:G:HO2'	1.52	0.54
53:B9:2:LYS:HG2	53:B9:33:LYS:HB3	1.89	0.54
59:BA:226:G:N2	59:BA:228:A:N6	2.47	0.54
59:BA:1854:A:H1'	59:BA:2233:U:H4'	1.89	0.54
9:CJ:57:LYS:HB2	20:CA:972:C:H4'	1.89	0.54
16:CQ:43:LEU:HB2	16:CQ:70:ARG:O	2.08	0.54
20:CA:56:U:H2'	20:CA:57:G:H8	1.71	0.54
20:CA:1016:A:O5'	20:CA:1016:A:H8	1.90	0.54
23:CY:18:ALA:HA	23:CY:25:LYS:HD3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:CY:524:GLU:HB2	23:CY:564:LYS:HA	1.88	0.54
28:DF:202:PHE:HA	28:DF:205:ARG:HB2	1.88	0.54
33:DN:68:GLU:HA	33:DN:88:GLU:OE1	2.07	0.54
52:D8:61:LEU:O	52:D8:64:TYR:N	2.39	0.54
59:DA:722:A:H2'	59:DA:723:G:H8	1.72	0.54
59:DA:878:A:H2'	59:DA:879:G:O4'	2.07	0.54
59:DA:1025:G:C4	59:DA:1135:C:H1'	2.43	0.54
59:DA:1305:C:N3	59:DA:1623:G:N2	2.45	0.54
59:DA:1473:G:H2'	59:DA:1474:C:C6	2.42	0.54
59:DA:1821:A:H2'	59:DA:1822:G:C8	2.42	0.54
59:DA:1897:G:H2'	59:DA:1898:U:O4'	2.07	0.54
59:DA:2389:G:H5"	59:DA:2390:U:O4'	2.07	0.54
59:DA:2606:C:H2'	59:DA:2607:G:C8	2.42	0.54
10:AK:82:VAL:HG21	10:AK:105:VAL:HG12	1.88	0.54
15:AP:53:VAL:HG12	15:AP:79:VAL:HG22	1.88	0.54
20:AA:476:G:H2'	20:AA:477:G:C8	2.43	0.54
26:BD:205:VAL:HG12	26:BD:207:GLY:H	1.72	0.54
27:BE:119:ARG:HD2	27:BE:120:TRP:CD1	2.43	0.54
27:BE:120:TRP:CD1	27:BE:120:TRP:H	2.24	0.54
28:BF:103:LYS:HG3	28:BF:107:LYS:HE2	1.89	0.54
30:BH:94:TYR:HB3	30:BH:107:VAL:HG12	1.90	0.54
33:BN:65:LYS:NZ	59:BA:1021:A:OP2	2.32	0.54
34:BO:68:GLU:HB3	34:BO:78:ARG:HB2	1.89	0.54
37:BR:17:ARG:O	37:BR:21:TYR:HD2	1.90	0.54
41:BV:15:GLU:HB2	41:BV:18:LEU:HD21	1.88	0.54
53:B9:19:ARG:HH11	53:B9:26:ILE:HD11	1.71	0.54
54:Be:63:ILE:HG23	54:Be:116:GLU:HG2	1.88	0.54
59:BA:1151:G:H2'	59:BA:1152:C:C6	2.42	0.54
59:BA:1957:C:H2'	59:BA:1958:C:H6	1.71	0.54
59:BA:2064:C:H2'	59:BA:2065:C:C6	2.42	0.54
2:CC:124:ILE:HD11	2:CC:196:LEU:HG	1.89	0.54
9:CJ:55:LYS:HG2	20:CA:963:G:N2	2.23	0.54
20:CA:1231:G:H2'	20:CA:1232:U:O4'	2.06	0.54
23:CY:147:TRP:HA	23:CY:150:ILE:HB	1.88	0.54
34:DO:71:ARG:NH2	34:DO:122:LEU:O	2.40	0.54
35:DP:50:ARG:HH21	52:D8:59:LYS:HD2	1.73	0.54
38:DS:42:ASP:O	38:DS:44:LYS:N	2.39	0.54
39:DT:27:THR:HG22	39:DT:49:VAL:HB	1.88	0.54
45:DZ:52:SER:OG	45:DZ:53:ILE:N	2.40	0.54
59:DA:181:A:H2'	59:DA:182:A:H8	1.72	0.54
59:DA:997:G:H2'	59:DA:998:C:C6	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1019:U:H2'	59:DA:1020:A:C8	2.41	0.54
59:DA:1479:G:H2'	59:DA:1480:G:C8	2.42	0.54
60:DB:102:G:H2'	60:DB:103:U:H6	1.72	0.54
1:AB:162:ILE:HG12	1:AB:184:VAL:HA	1.88	0.54
10:AK:79:SER:HA	10:AK:104:GLN:HB3	1.89	0.54
12:AM:20:THR:C	12:AM:22:ILE:H	2.15	0.54
14:AO:56:LEU:HA	14:AO:59:MET:HE2	1.88	0.54
20:AA:115:G:O2'	20:AA:116:A:OP2	2.25	0.54
20:AA:299:G:C6	20:AA:300:A:C6	2.95	0.54
23:AY:294:PRO:HD3	23:AY:397:VAL:HG12	1.90	0.54
23:AY:487:ILE:HB	23:AY:597:GLY:O	2.08	0.54
26:BD:13:ARG:HG3	26:BD:16:MET:SD	2.47	0.54
26:BD:51:VAL:HG21	26:BD:54:ARG:HB2	1.89	0.54
39:BT:30:VAL:HG22	39:BT:31:SER:H	1.72	0.54
59:BA:30:G:H2'	59:BA:31:C:H6	1.71	0.54
59:BA:605:C:H1'	59:BA:657:U:O2'	2.06	0.54
59:BA:1603:A:H5'	59:BA:1604:C:OP2	2.07	0.54
59:BA:2749:A:H62	59:BA:2753:A:H61	0.78	0.54
3:CD:161:ASN:O	3:CD:165:MET:HB2	2.08	0.54
16:CQ:57:VAL:HG12	16:CQ:76:LEU:HA	1.88	0.54
18:CS:30:LEU:HD22	18:CS:32:LYS:HG3	1.87	0.54
20:CA:509:A:N3	20:CA:543:C:O2'	2.33	0.54
20:CA:1145:C:O2'	20:CA:1146:A:O5'	2.26	0.54
26:DD:14:ARG:NH1	59:DA:1693:U:O2'	2.30	0.54
29:DG:113:ARG:CG	58:D4:34:GLU:CD	2.80	0.54
32:DK:131:ALA:HA	32:DK:134:MET:HE2	1.88	0.54
33:DN:27:ALA:O	33:DN:30:ILE:N	2.40	0.54
33:DN:34:LEU:O	33:DN:49:GLY:HA3	2.07	0.54
39:DT:33:LYS:HD3	39:DT:34:VAL:H	1.73	0.54
42:DW:78:GLU:O	59:DA:24:G:O2'	2.23	0.54
51:D7:10:ARG:NH2	59:DA:771:G:OP1	2.40	0.54
57:D1:39:LYS:NZ	57:D1:40:ARG:O	2.41	0.54
57:D1:48:LYS:NZ	57:D1:59:THR:OG1	2.26	0.54
59:DA:1531:C:H2'	59:DA:1532:C:C6	2.42	0.54
59:DA:1709:U:H1'	59:DA:2860:A:N3	2.23	0.54
59:DA:2502:G:H5'	59:DA:2503:A:C5'	2.34	0.54
59:DA:2773:C:H2'	59:DA:2774:C:C6	2.42	0.54
11:AL:76:ASN:O	11:AL:78:GLN:N	2.31	0.54
16:AQ:56:VAL:HG23	16:AQ:81:ARG:HG3	1.88	0.54
20:AA:22:G:H2'	20:AA:23:C:C6	2.43	0.54
20:AA:1040:U:H2'	20:AA:1041:A:C8	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BQ:1:MET:N	36:BQ:48:GLU:HB2	2.22	0.54
41:BV:6:LYS:HA	41:BV:11:GLN:HA	1.89	0.54
52:B8:9:GLY:O	52:B8:13:ARG:HG2	2.08	0.54
59:BA:227:A:H61	59:BA:410:G:N2	2.06	0.54
59:BA:580:C:H2'	59:BA:581:C:C6	2.43	0.54
59:BA:834:C:H1'	59:BA:2358:G:N3	2.22	0.54
59:BA:1336:A:H2'	59:BA:1337:G:C8	2.42	0.54
59:BA:2078:C:N4	59:BA:2242:G:H1	2.04	0.54
1:CB:154:LEU:HD23	1:CB:154:LEU:H	1.73	0.54
9:CJ:36:GLY:HA3	20:CA:1123:A:H4'	1.90	0.54
17:CR:32:ARG:HA	17:CR:69:THR:HG21	1.89	0.54
17:CR:35:ARG:O	17:CR:37:VAL:N	2.41	0.54
20:CA:140:A:H2	20:CA:223:U:H3	1.50	0.54
21:CW:62:C:H4'	25:DC:53:ARG:HH21	1.71	0.54
28:DF:126:VAL:HG21	28:DF:142:TRP:HZ2	1.73	0.54
29:DG:99:MET:HE2	29:DG:103:LEU:HD21	1.90	0.54
35:DP:48:PRO:C	35:DP:50:ARG:H	2.15	0.54
43:DX:64:LYS:HD2	43:DX:73:ARG:HH21	1.72	0.54
49:D5:2:ALA:N	59:DA:2015:A:N3	2.56	0.54
49:D5:4:HIS:HB3	59:DA:2577:A:H1'	1.89	0.54
49:D5:12:SER:HB3	49:D5:15:ARG:HG2	1.89	0.54
59:DA:181:A:H2'	59:DA:182:A:C8	2.42	0.54
59:DA:531:C:H3'	59:DA:561:G:N2	2.21	0.54
59:DA:575:A:H2'	59:DA:576:U:C6	2.42	0.54
59:DA:589:C:H2'	59:DA:590:A:C8	2.42	0.54
59:DA:819:A:OP2	59:DA:1187:G:N2	2.40	0.54
59:DA:1050:A:H2'	59:DA:1051:G:C8	2.42	0.54
59:DA:2299:G:H2'	59:DA:2300:G:H8	1.72	0.54
1:AB:184:VAL:N	1:AB:198:ASP:HB2	2.22	0.54
3:AD:25:ARG:HB2	20:AA:410:G:OP2	2.07	0.54
10:AK:118:GLY:HA2	20:AA:716:A:H1'	1.88	0.54
12:AM:74:VAL:O	12:AM:78:ILE:HG12	2.07	0.54
17:AR:49:LYS:HB3	20:AA:719:C:O2'	2.08	0.54
19:AT:22:ARG:NE	20:AA:324:G:OP1	2.38	0.54
20:AA:1048:G:H2'	20:AA:1050:G:H8	1.71	0.54
25:BC:61:GLY:HA3	25:BC:164:PHE:CE1	2.42	0.54
25:BC:132:LEU:HB3	25:BC:137:LEU:HB2	1.88	0.54
26:BD:208:LYS:HG3	26:BD:210:GLY:H	1.72	0.54
28:BF:167:ALA:HB1	28:BF:175:THR:HB	1.88	0.54
30:BH:175:LYS:HG2	30:BH:176:ALA:H	1.71	0.54
32:BK:95:LYS:HG2	32:BK:137:GLU:HB3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BP:60:MET:HB3	59:BA:2392:A:H8	1.73	0.54
42:BW:15:ARG:HD2	49:B5:20:ARG:HD3	1.90	0.54
45:BZ:103:ARG:HD3	45:BZ:136:PHE:HB2	1.90	0.54
45:BZ:118:GLN:HB3	45:BZ:173:ALA:H	1.71	0.54
50:B6:11:LEU:HD12	50:B6:26:ASN:HB2	1.88	0.54
54:Be:63:ILE:HB	54:Be:70:LYS:HG2	1.89	0.54
59:BA:210:C:H2'	59:BA:211:A:C8	2.41	0.54
59:BA:354:G:H2'	59:BA:355:G:H8	1.71	0.54
59:BA:848:G:H2'	59:BA:849:A:H8	1.72	0.54
59:BA:1136:G:H2'	59:BA:1137:G:O4'	2.07	0.54
59:BA:1139:G:H1'	59:BA:1143:A:C2	2.43	0.54
59:BA:2470:G:H2'	59:BA:2471:C:H6	1.73	0.54
9:CJ:51:ARG:HB3	20:CA:1060:C:H4'	1.88	0.54
10:CK:20:TYR:HB2	10:CK:31:THR:HG23	1.90	0.54
20:CA:129(A):G:H4'	20:CA:130:A:H5"	1.88	0.54
20:CA:216:G:H2'	20:CA:217:C:H6	1.73	0.54
20:CA:296:U:O2'	20:CA:556:C:O2	2.20	0.54
20:CA:1288:A:H2'	20:CA:1289:A:O4'	2.07	0.54
20:CA:1501:C:OP1	20:CA:1508:G:H4'	2.07	0.54
25:DC:8:TYR:O	25:DC:12:LEU:HB2	2.07	0.54
26:DD:245:PRO:O	26:DD:247:ALA:N	2.40	0.54
34:DO:71:ARG:HD2	39:DT:74:ARG:HH21	1.70	0.54
34:DO:104:ARG:O	34:DO:107:ARG:HB3	2.06	0.54
45:DZ:127:LYS:HG2	45:DZ:164:ALA:HB2	1.89	0.54
59:DA:657:U:H2'	59:DA:658:C:C6	2.42	0.54
59:DA:2014:A:H2'	59:DA:2015:A:C8	2.43	0.54
59:DA:2089:U:H2'	59:DA:2090:G:H8	1.72	0.54
59:DA:2889:C:H2'	59:DA:2891:G:O4'	2.08	0.54
20:AA:1440(J):C:H1'	20:AA:1440(K):G:N2	2.22	0.54
23:AY:13:ARG:O	23:AY:80:ASN:N	2.31	0.54
27:BE:101:ARG:HE	27:BE:171:GLU:HB2	1.72	0.54
33:BN:14:VAL:HG21	33:BN:33:LEU:HD21	1.90	0.54
33:BN:15:LEU:HD21	33:BN:55:VAL:HG13	1.90	0.54
36:BQ:7:MET:SD	36:BQ:8:LYS:N	2.80	0.54
36:BQ:76:LYS:N	36:BQ:89:ASN:H	2.06	0.54
36:BQ:135:ASP:H	36:BQ:137:TYR:HD1	1.55	0.54
40:BU:55:ARG:HA	40:BU:58:ARG:HD2	1.88	0.54
40:BU:59:ARG:HG3	59:BA:1009:A:H5"	1.88	0.54
59:BA:83:G:H21	59:BA:103:A:N6	2.04	0.54
59:BA:463:G:H2'	59:BA:464:U:H5"	1.90	0.54
59:BA:976:C:H2'	59:BA:977:G:H8	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1667:G:O2'	59:BA:1991:U:O4	2.25	0.54
59:BA:1826:G:O2'	59:BA:1971:A:OP2	2.26	0.54
59:BA:2593:U:H2'	59:BA:2594:C:C6	2.43	0.54
59:BA:2626:C:H2'	59:BA:2627:G:O4'	2.07	0.54
8:CI:70:LYS:NZ	20:CA:1248:A:O2'	2.34	0.54
16:CQ:40:LYS:NZ	16:CQ:42:TYR:OH	2.41	0.54
20:CA:370:C:N4	20:CA:391:G:H1	2.05	0.54
20:CA:600:C:H2'	20:CA:601:C:C6	2.42	0.54
20:CA:757:U:O2'	20:CA:879:C:O2	2.26	0.54
23:CY:190:ASN:HD21	23:CY:195:ASP:H	1.54	0.54
26:DD:136:ILE:O	26:DD:168:ARG:NH2	2.38	0.54
27:DE:62:PRO:O	27:DE:64:LYS:N	2.37	0.54
28:DF:162:LEU:H	28:DF:162:LEU:HD12	1.71	0.54
36:DQ:134:ARG:HH12	45:DZ:119:GLU:HG3	1.72	0.54
38:DS:17:ARG:O	38:DS:21:THR:N	2.40	0.54
40:DU:49:HIS:HA	40:DU:52:ARG:HB3	1.90	0.54
44:DY:51:VAL:HB	44:DY:55:TYR:HB2	1.89	0.54
59:DA:270(T):G:H2'	59:DA:270(U):G:C8	2.41	0.54
59:DA:484:C:N4	59:DA:496:G:H1	2.01	0.54
59:DA:1687:G:N1	59:DA:1700:A:OP1	2.36	0.54
59:DA:2526:G:H1	59:DA:2537:U:H3	1.54	0.54
60:DB:36:C:N4	60:DB:49:C:O2	2.26	0.54
11:AL:69:TYR:CD1	11:AL:70:ILE:HG13	2.43	0.54
20:AA:216:G:H2'	20:AA:217:C:H6	1.73	0.54
21:AW:17:U:H5'	21:AW:18:G:O4'	2.07	0.54
23:AY:18:ALA:HB2	23:AY:85:PRO:HD2	1.89	0.54
23:AY:289:ILE:HB	23:AY:301:ILE:HB	1.90	0.54
28:BF:2:LYS:O	28:BF:4:VAL:N	2.40	0.54
29:BG:42:GLY:O	59:BA:2306:C:N4	2.41	0.54
43:BX:35:THR:HG21	59:BA:143:C:H5'	1.87	0.54
53:B9:32:HIS:O	53:B9:34:GLN:N	2.41	0.54
59:BA:2065:C:H2'	59:BA:2066:C:H6	1.72	0.54
59:BA:2630:G:H2'	59:BA:2631:G:C8	2.43	0.54
7:CH:9:MET:O	7:CH:13:ILE:HG12	2.07	0.54
9:CJ:53:PRO:O	13:CN:41:ARG:NH2	2.41	0.54
17:CR:44:LEU:HD11	17:CR:70:ILE:HD13	1.88	0.54
23:CY:187:THR:HG21	23:CY:199:ILE:HD13	1.88	0.54
26:DD:244:ARG:HG2	26:DD:245:PRO:CA	2.37	0.54
30:DH:176:ALA:HB1	59:DA:2529:G:H5"	1.90	0.54
37:DR:67:LEU:HD21	37:DR:76:VAL:HG11	1.90	0.54
44:DY:28:LYS:HB2	44:DY:39:VAL:HG13	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:56:A:H2'	59:DA:57:C:H6	1.71	0.54
59:DA:2050:C:H2'	59:DA:2051:A:C8	2.43	0.54
59:DA:2212:A:H4'	59:DA:2213:U:C5	2.43	0.54
60:DB:11:C:H42	60:DB:109:G:H1	1.55	0.54
1:AB:70:PHE:CD2	1:AB:81:VAL:HB	2.43	0.54
3:AD:15:GLU:HG3	3:AD:66:ARG:HH22	1.72	0.54
5:AF:95:GLU:O	5:AF:97:PHE:N	2.41	0.54
20:AA:1511:G:H2'	20:AA:1512:U:O4'	2.08	0.54
23:AY:634:MET:HE1	59:BA:1067:A:H1'	1.90	0.54
26:BD:157:ARG:NH2	59:BA:1817:G:H3'	2.23	0.54
28:BF:176:LEU:HG	28:BF:177:ALA:N	2.23	0.54
29:BG:129:GLY:O	29:BG:161:THR:N	2.38	0.54
30:BH:83:TYR:O	30:BH:85:LYS:N	2.41	0.54
31:BJ:11:UNK:O	31:BJ:15:UNK:N	2.40	0.54
31:BJ:25:UNK:N	31:BJ:112:UNK:N	2.56	0.54
34:BO:64:ARG:HH22	39:BT:69:GLY:HA3	1.73	0.54
51:B7:37:LYS:NZ	59:BA:468:G:OP2	2.40	0.54
52:B8:63:PRO:O	52:B8:65:GLU:N	2.41	0.54
59:BA:842:G:H2'	59:BA:843:G:H8	1.71	0.54
59:BA:852:G:H2'	59:BA:853:G:H8	1.72	0.54
59:BA:2327:A:H2'	59:BA:2328:A:C8	2.43	0.54
59:BA:2415:G:H2'	59:BA:2416:C:C6	2.41	0.54
59:BA:2728:U:H2'	59:BA:2729:G:C8	2.43	0.54
60:BB:20:C:H2'	60:BB:21:G:C8	2.43	0.54
11:CL:15:ARG:NH2	20:CA:567:G:O6	2.41	0.54
12:CM:91:ARG:HH21	20:CA:1226:C:P	2.31	0.54
12:CM:98:VAL:N	20:CA:1308:U:OP1	2.28	0.54
20:CA:948:C:H5'	20:CA:1306:A:H4'	1.90	0.54
20:CA:1314:C:H2'	20:CA:1315:U:C6	2.43	0.54
21:CW:30:C:N4	21:CW:40:G:H1	2.00	0.54
23:CY:216:LEU:HD11	23:CY:246:ILE:HD11	1.89	0.54
23:CY:309:LEU:O	23:CY:390:VAL:HB	2.08	0.54
37:DR:64:ARG:NE	59:DA:1454:U:O2	2.41	0.54
38:DS:26:LEU:HD13	38:DS:106:ARG:HH12	1.71	0.54
39:DT:55:ASN:H	39:DT:59:THR:HB	1.72	0.54
59:DA:24:G:H2'	59:DA:25:U:C6	2.43	0.54
59:DA:153:C:H2'	59:DA:154:G:C8	2.43	0.54
59:DA:197:A:O4'	59:DA:2068:U:N3	2.41	0.54
59:DA:325:G:H1	59:DA:337:C:H42	1.56	0.54
59:DA:641:C:H2'	59:DA:642:G:O4'	2.07	0.54
59:DA:799:G:H3'	59:DA:800:A:H5"	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1165:U:H2'	59:DA:1166:C:C6	2.43	0.54
59:DA:1525:G:H2'	59:DA:1526:G:H8	1.71	0.54
59:DA:1841:U:H2'	59:DA:1842:G:H8	1.73	0.54
59:DA:2109:U:O4	59:DA:2180:U:O4	2.25	0.54
59:DA:2851:A:H2'	59:DA:2852:G:O4'	2.08	0.54
1:AB:69:LEU:CB	1:AB:162:ILE:HG22	2.35	0.54
3:AD:11:LEU:HD13	3:AD:66:ARG:HD2	1.90	0.54
7:AH:14:ARG:HE	7:AH:83:ILE:HG23	1.73	0.54
19:AT:78:ALA:HA	19:AT:81:LYS:HD3	1.88	0.54
20:AA:352:C:O2	20:AA:355:C:N4	2.41	0.54
20:AA:678:U:H1'	20:AA:777:A:O3'	2.08	0.54
20:AA:1084:G:H3'	20:AA:1085:U:H2'	1.90	0.54
20:AA:1097:C:H2'	20:AA:1098:C:C6	2.43	0.54
27:BE:108:SER:OG	27:BE:161:GLY:O	2.25	0.54
29:BG:43:LEU:HD13	59:BA:2305:A:H61	1.72	0.54
36:BQ:74:TYR:OH	59:BA:957:A:H4'	2.07	0.54
41:BV:52:VAL:HG13	41:BV:55:ALA:HB3	1.89	0.54
45:BZ:11:GLU:H	45:BZ:11:GLU:CD	2.16	0.54
51:B7:41:ARG:HB3	59:BA:463:G:O6	2.08	0.54
59:BA:43:G:H2'	59:BA:44:A:O4'	2.07	0.54
59:BA:307:G:H21	59:BA:330:A:N6	2.00	0.54
59:BA:597:U:H2'	59:BA:598:G:C8	2.43	0.54
59:BA:618(A):G:H2'	59:BA:618(B):C:C6	2.43	0.54
59:BA:686:G:N2	59:BA:788:A:H61	2.05	0.54
59:BA:1166:C:H2'	59:BA:1167:U:C6	2.43	0.54
59:BA:1854:A:N6	59:BA:1888:G:H8	2.06	0.54
11:CL:41:ARG:HH12	11:CL:55:VAL:HG11	1.73	0.54
20:CA:68(B):G:H2'	20:CA:68(C):C:C6	2.43	0.54
20:CA:334:C:O2	20:CA:1434:A:O2'	2.25	0.54
23:CY:631:ILE:HG22	23:CY:632:LEU:N	2.22	0.54
25:DC:84:ILE:HG23	25:DC:95:VAL:HB	1.90	0.54
34:DO:25:LEU:HD23	34:DO:38:VAL:HG21	1.90	0.54
35:DP:65:ARG:HA	59:DA:631:A:H4'	1.89	0.54
45:DZ:118:GLN:O	45:DZ:172:ALA:HA	2.07	0.54
52:D8:57:ARG:HG3	52:D8:60:LEU:HD12	1.88	0.54
59:DA:86:C:H4'	59:DA:104:U:H1'	1.90	0.54
59:DA:144:C:H2'	59:DA:145:G:C8	2.42	0.54
59:DA:307:G:H21	59:DA:330:A:N6	2.06	0.54
59:DA:383:U:H2'	59:DA:385:C:H5	1.73	0.54
59:DA:506:G:H4'	59:DA:509:C:O2	2.08	0.54
59:DA:669:G:H8	59:DA:801:G:HO2'	1.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:862:G:H2'	59:DA:863:A:O4'	2.07	0.54
59:DA:1120:G:H2'	59:DA:1121:C:H6	1.73	0.54
59:DA:1459:G:H2'	59:DA:1461:G:H5'	1.90	0.54
59:DA:2464:C:H2'	59:DA:2465:C:O4'	2.08	0.54
4:AE:146:ALA:O	4:AE:150:ARG:HG2	2.08	0.54
7:AH:91:ARG:O	7:AH:93:VAL:N	2.40	0.54
8:AI:99:LEU:HD12	8:AI:101:PHE:HE1	1.74	0.54
11:AL:52:LEU:HG	11:AL:54:LYS:HZ1	1.72	0.54
20:AA:160:A:N6	20:AA:347:G:H1'	2.23	0.54
20:AA:687:A:N6	20:AA:703:G:H21	2.01	0.54
23:AY:467:LYS:HA	23:AY:471:LYS:HA	1.88	0.54
26:BD:263:ARG:NH1	59:BA:2227:A:OP1	2.40	0.54
28:BF:102:PRO:HB3	59:BA:606:U:H5"	1.89	0.54
33:BN:37:LYS:NZ	59:BA:1007:C:OP2	2.41	0.54
39:BT:95:ARG:H	39:BT:95:ARG:HD2	1.73	0.54
40:BU:51:LYS:HA	40:BU:54:LYS:HD2	1.90	0.54
59:BA:184:C:H2'	59:BA:185:U:C6	2.42	0.54
59:BA:210:C:H2'	59:BA:211:A:H8	1.73	0.54
59:BA:212:G:H2'	59:BA:213:A:H8	1.72	0.54
59:BA:388:G:O2'	59:BA:389:G:N7	2.41	0.54
59:BA:608:A:H2'	59:BA:609(A):A:H8	1.71	0.54
59:BA:994:C:O2'	59:BA:996:A:OP1	2.25	0.54
59:BA:1376:C:H2'	59:BA:1377:G:O4'	2.08	0.54
59:BA:2460:U:H2'	59:BA:2461:C:H6	1.73	0.54
59:BA:2487:G:H2'	59:BA:2488:A:C8	2.43	0.54
10:CK:118:GLY:HA2	20:CA:716:A:H1'	1.88	0.54
11:CL:52:LEU:HD12	11:CL:54:LYS:NZ	2.23	0.54
12:CM:14:ARG:NH1	20:CA:1295:G:O2'	2.41	0.54
20:CA:375:U:H3	20:CA:389:A:N6	2.04	0.54
20:CA:733:A:O2'	20:CA:734:G:OP2	2.22	0.54
20:CA:757:U:OP1	20:CA:822:C:O2'	2.26	0.54
20:CA:1073:U:H2'	20:CA:1074:G:H8	1.73	0.54
23:CY:466:LEU:HA	23:CY:470:PHE:HD2	1.72	0.54
23:CY:634:MET:O	23:CY:641:GLN:NE2	2.40	0.54
25:DC:46:ALA:HA	25:DC:212:SER:C	2.32	0.54
27:DE:51:PHE:HB3	27:DE:76:ARG:HB2	1.90	0.54
28:DF:157:VAL:O	28:DF:193:VAL:O	2.26	0.54
37:DR:79:LEU:HA	37:DR:83:ILE:HD12	1.89	0.54
41:DV:10:LYS:NZ	41:DV:23:GLU:OE1	2.40	0.54
59:DA:1076:C:H2'	59:DA:1077:A:H4'	1.89	0.54
59:DA:1149:G:H2'	59:DA:1150:C:H6	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1389:G:H2'	59:DA:1390:U:O4'	2.08	0.54
59:DA:2037:G:H2'	59:DA:2038:G:H8	1.72	0.54
59:DA:2131:G:H5"	59:DA:2132:U:O5'	2.08	0.54
60:DB:62:C:H2'	60:DB:63:G:H8	1.73	0.54
1:AB:167:PRO:HD2	1:AB:188:ALA:CB	2.38	0.53
7:AH:94:TYR:OH	20:AA:597:G:N2	2.34	0.53
17:AR:45:SER:OG	17:AR:46:GLU:N	2.42	0.53
20:AA:68(Y):C:H2'	20:AA:101:A:C8	2.43	0.53
20:AA:119:A:H4'	20:AA:120:A:C8	2.42	0.53
20:AA:1440(J):C:O2'	20:AA:1440(K):G:H5"	2.09	0.53
28:BF:63:LYS:HA	28:BF:76:GLY:HA2	1.90	0.53
30:BH:92:ILE:HG12	30:BH:160:LYS:HE2	1.90	0.53
33:BN:3:THR:OG1	40:BU:61:TRP:NE1	2.29	0.53
37:BR:13:HIS:ND1	59:BA:712(B):A:H4'	2.23	0.53
39:BT:91:ARG:HG2	39:BT:116:ALA:HB2	1.89	0.53
41:BV:75:PHE:HB2	41:BV:81:TYR:O	2.08	0.53
51:B7:30:VAL:O	51:B7:34:ARG:NH1	2.41	0.53
59:BA:29:U:H2'	59:BA:30:G:C8	2.43	0.53
59:BA:153:C:H2'	59:BA:154:G:C8	2.43	0.53
59:BA:271:G:H2'	59:BA:272:G:C8	2.44	0.53
59:BA:273(D):C:H2'	59:BA:273(E):C:C6	2.43	0.53
59:BA:298:G:N1	59:BA:339:U:OP2	2.36	0.53
59:BA:497:A:H3'	59:BA:498:G:H8	1.73	0.53
59:BA:948:G:H1	59:BA:969:U:H3	1.55	0.53
6:CG:65:ALA:HA	6:CG:128:ALA:HA	1.89	0.53
7:CH:64:LYS:HG2	7:CH:79:VAL:HG21	1.89	0.53
20:CA:675:A:H2'	20:CA:676:A:C8	2.43	0.53
20:CA:984:C:N4	20:CA:1221:G:H1	2.04	0.53
20:CA:1051:C:H2'	20:CA:1052:U:C6	2.42	0.53
26:DD:211:ARG:NH1	59:DA:1566:A:OP1	2.41	0.53
29:DG:47:LYS:HD3	29:DG:81:LYS:HD2	1.89	0.53
32:DK:92:GLY:O	45:DZ:112:ARG:NH2	2.31	0.53
39:DT:53:ARG:NH1	39:DT:53:ARG:O	2.41	0.53
59:DA:1017:G:O6	59:DA:1145:C:N3	2.40	0.53
59:DA:2655:G:O2'	59:DA:2664:G:O6	2.26	0.53
2:AC:86:VAL:O	2:AC:90:GLU:HG3	2.08	0.53
3:AD:51:PRO:HB2	3:AD:56:VAL:HG13	1.90	0.53
11:AL:53:ARG:HG3	11:AL:69:TYR:CE1	2.43	0.53
20:AA:115:G:H1'	20:AA:116:A:N7	2.22	0.53
20:AA:730:G:H5'	20:AA:816:A:O2'	2.08	0.53
20:AA:974:A:H8	20:AA:974:A:OP1	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:1097:C:H2'	20:AA:1098:C:H6	1.71	0.53
20:AA:1176:A:H2'	20:AA:1177:G:C8	2.44	0.53
23:AY:262:SER:N	23:AY:267:LYS:O	2.41	0.53
27:BE:161:GLY:O	27:BE:163:GLU:N	2.41	0.53
27:BE:172:VAL:HA	27:BE:184:VAL:HA	1.88	0.53
29:BG:9:ARG:HH21	29:BG:12:TYR:HD1	1.56	0.53
35:BP:64:LYS:HE3	59:BA:2416:C:H5"	1.89	0.53
39:BT:27:THR:HG23	39:BT:28:VAL:H	1.73	0.53
39:BT:53:ARG:HH22	39:BT:60:THR:HG23	1.73	0.53
49:B5:33:CYS:SG	49:B5:38:ALA:N	2.81	0.53
57:B1:20:ARG:HH22	57:B1:24:ALA:HB2	1.73	0.53
59:BA:533:G:H2'	59:BA:534:U:C6	2.43	0.53
59:BA:1014:U:H3	59:BA:1148:A:N6	2.06	0.53
59:BA:2557:G:H2'	59:BA:2558:C:C6	2.44	0.53
1:CB:113:HIS:O	1:CB:116:GLU:HG2	2.08	0.53
9:CJ:13:HIS:HA	9:CJ:16:LEU:HB3	1.89	0.53
9:CJ:16:LEU:HD13	9:CJ:17:ASP:N	2.23	0.53
12:CM:34:LEU:HD13	12:CM:41:PRO:HA	1.89	0.53
20:CA:68(I):G:H1	20:CA:68(Q):U:H3	1.54	0.53
20:CA:131:C:H2'	20:CA:132:C:H6	1.73	0.53
20:CA:1114:C:N3	20:CA:1186:G:N2	2.43	0.53
20:CA:1137:C:H4'	20:CA:1138:G:C2	2.43	0.53
23:CY:274:ASP:HA	23:CY:277:VAL:HG12	1.90	0.53
25:DC:40:GLU:HG2	25:DC:219:MET:HG2	1.90	0.53
25:DC:150:ILE:HD12	25:DC:153:ILE:HD12	1.90	0.53
26:DD:28:GLU:O	26:DD:30:GLU:N	2.42	0.53
26:DD:142:VAL:HG23	26:DD:193:VAL:HA	1.89	0.53
35:DP:55:ARG:HH12	59:DA:2358:G:H1	1.56	0.53
50:D6:47:THR:OG1	50:D6:48:VAL:N	2.41	0.53
59:DA:389:G:H1'	59:DA:2412:A:N3	2.23	0.53
59:DA:1604:C:H2'	59:DA:1605:C:H6	1.73	0.53
7:AH:94:TYR:CG	20:AA:598:U:H4'	2.42	0.53
8:AI:14:VAL:HG11	20:AA:1148:U:H4'	1.89	0.53
11:AL:82:VAL:HB	11:AL:105:TYR:HB2	1.89	0.53
12:AM:87:TYR:CE1	18:AS:76:PRO:HA	2.44	0.53
20:AA:243:A:H4'	20:AA:244:U:O5'	2.07	0.53
20:AA:415:A:H2'	20:AA:416:G:H8	1.72	0.53
20:AA:552:U:H2'	20:AA:553:A:C8	2.44	0.53
20:AA:777:A:H2'	20:AA:778:G:H8	1.72	0.53
25:BC:24:ASP:OD1	25:BC:191:ARG:NH2	2.39	0.53
25:BC:139:PRO:O	25:BC:145:THR:OG1	2.26	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BD:66:ASP:N	26:BD:104:TYR:O	2.37	0.53
33:BN:114:ARG:HH22	59:BA:528:A:C5'	2.20	0.53
59:BA:38:A:H2'	59:BA:39:C:H6	1.73	0.53
59:BA:212:G:H2'	59:BA:213:A:C8	2.43	0.53
59:BA:571:A:H61	59:BA:2500:U:P	2.32	0.53
59:BA:1120:G:H2'	59:BA:1121:C:H6	1.73	0.53
59:BA:1153:C:H2'	59:BA:1154:G:O4'	2.08	0.53
59:BA:1657:C:H2'	59:BA:1658:C:C6	2.44	0.53
59:BA:2182:G:H2'	59:BA:2183:C:C6	2.43	0.53
60:BB:23:G:H2'	60:BB:24:G:C8	2.43	0.53
2:CC:88:ARG:HH21	2:CC:100:ALA:HA	1.73	0.53
9:CJ:55:LYS:HG2	20:CA:963:G:H21	1.73	0.53
23:CY:205:TYR:O	23:CY:207:ASP:N	2.42	0.53
40:DU:25:TRP:N	59:DA:533:G:OP1	2.39	0.53
49:D5:13:LYS:HB3	49:D5:16:ARG:NH2	2.23	0.53
59:DA:199:A:O2'	59:DA:2433:A:N6	2.42	0.53
59:DA:226:G:HO2'	59:DA:227:A:H8	1.56	0.53
59:DA:1050:A:O2'	59:DA:2752:C:O2	2.26	0.53
59:DA:1063:G:H1	59:DA:1075:C:N4	2.05	0.53
59:DA:1710:C:H2'	59:DA:1711:C:C6	2.42	0.53
59:DA:1783:A:OP2	59:DA:1783:A:H8	1.92	0.53
59:DA:2524:G:H2'	59:DA:2525:G:C8	2.43	0.53
59:DA:2673:G:H2'	59:DA:2674:G:C8	2.43	0.53
59:DA:2876:G:H2'	59:DA:2877:G:C8	2.43	0.53
1:AB:131:PRO:HB2	1:AB:134:GLU:HB2	1.91	0.53
11:AL:15:ARG:HB3	20:AA:562:C:H1'	1.90	0.53
11:AL:92:ASP:CG	20:AA:523:A:H61	2.16	0.53
12:AM:80:ARG:HA	12:AM:83:ASP:HB3	1.90	0.53
12:AM:80:ARG:HB3	18:AS:65:ASN:HB3	1.90	0.53
15:AP:21:VAL:HG11	15:AP:59:TRP:NE1	2.24	0.53
20:AA:108:G:OP1	20:AA:326:G:N2	2.40	0.53
20:AA:748:C:O2'	20:AA:749:C:OP2	2.18	0.53
20:AA:1003:G:O6	20:AA:1037:C:N3	2.41	0.53
23:AY:201:ILE:HD13	23:AY:206:LEU:HD12	1.91	0.53
23:AY:247:ARG:HB2	23:AY:279:TYR:HD1	1.73	0.53
28:BF:41:LEU:HB3	59:BA:443:A:N6	2.24	0.53
29:BG:105:LYS:HE3	29:BG:142:PRO:HG2	1.91	0.53
30:BH:20:ALA:HB1	30:BH:21:PRO:HD2	1.88	0.53
33:BN:80:GLY:N	59:BA:1131:G:OP1	2.41	0.53
51:B7:42:LEU:O	51:B7:44:PRO:HD3	2.07	0.53
53:B9:29:ASN:OD1	53:B9:29:ASN:N	2.40	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:B1:19:GLN:H	57:B1:40:ARG:HB3	1.74	0.53
59:BA:422:A:H2'	59:BA:423:A:C8	2.44	0.53
59:BA:629:G:N3	59:BA:639:U:O2'	2.41	0.53
59:BA:1655:A:C2	59:BA:2049:G:H5"	2.44	0.53
59:BA:2678:C:H2'	59:BA:2679:A:C8	2.44	0.53
59:BA:2868:A:H2'	59:BA:2869:G:C8	2.43	0.53
60:BB:15:A:H1'	60:BB:109:G:C6	2.43	0.53
8:CI:11:LYS:NZ	20:CA:1372:U:OP2	2.25	0.53
20:CA:1064:G:O2'	20:CA:1190:G:N2	2.42	0.53
20:CA:1530:G:H2'	20:CA:1531:A:C8	2.44	0.53
23:CY:70:THR:HB	23:CY:81:ILE:HB	1.90	0.53
26:DD:28:GLU:H	26:DD:29:PRO:HD2	1.74	0.53
27:DE:37:ARG:HB2	27:DE:46:ALA:HB3	1.90	0.53
32:DK:123:ALA:O	32:DK:126:MET:HB3	2.09	0.53
34:DO:11:ALA:HB1	34:DO:99:PHE:HB2	1.91	0.53
42:DW:84:ARG:NH2	59:DA:1322:A:O2'	2.41	0.53
44:DY:81:LYS:HB3	44:DY:97:ARG:HB2	1.89	0.53
45:DZ:24:LEU:HB2	45:DZ:41:LEU:HD23	1.90	0.53
50:D6:27:LYS:HD2	50:D6:30:THR:H	1.74	0.53
59:DA:141(A):A:H5'	59:DA:141(B):C:OP2	2.07	0.53
59:DA:236:C:H2'	59:DA:237:C:H6	1.73	0.53
59:DA:270(K):G:H2'	59:DA:270(L):C:O4'	2.09	0.53
59:DA:1260:G:H2'	59:DA:1261:C:C6	2.43	0.53
59:DA:2259:G:H2'	59:DA:2260:C:H6	1.73	0.53
3:AD:193:ASP:OD1	3:AD:193:ASP:N	2.40	0.53
12:AM:14:ARG:NH1	20:AA:1302:U:O4	2.41	0.53
20:AA:68(H):G:H1	20:AA:68(R):C:H42	1.56	0.53
20:AA:149:A:H2'	20:AA:150:C:C6	2.44	0.53
20:AA:328:C:H4'	20:AA:329:A:H5'	1.89	0.53
20:AA:830:G:H2'	20:AA:831:U:O4'	2.08	0.53
23:AY:443:HIS:HB2	23:AY:450:ILE:HD11	1.91	0.53
30:BH:58:GLU:HB2	30:BH:61:HIS:HB2	1.90	0.53
30:BH:91:GLY:HA2	30:BH:160:LYS:HG3	1.91	0.53
42:BW:3:ALA:HB2	42:BW:58:ALA:HB2	1.91	0.53
57:B1:25:LYS:HG2	57:B1:34:THR:HA	1.89	0.53
57:B1:63:ALA:HB3	57:B1:66:HIS:HB2	1.91	0.53
59:BA:1509:A:H4'	59:BA:1510:A:C8	2.44	0.53
59:BA:2070:G:H1	59:BA:2441:C:N4	2.05	0.53
59:BA:2212:A:H1'	59:BA:2215:G:C5	2.44	0.53
59:BA:2591:C:N4	59:BA:2592:G:O6	2.42	0.53
4:CE:147:ASP:OD1	4:CE:147:ASP:N	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:DD:145:VAL:HB	26:DD:155:LEU:HB2	1.89	0.53
28:DF:37:VAL:O	28:DF:40:GLN:NE2	2.40	0.53
33:DN:63:THR:OG1	59:DA:1141:U:OP2	2.18	0.53
40:DU:27:LEU:HD21	49:D5:13:LYS:HD3	1.90	0.53
41:DV:52:VAL:HG13	41:DV:55:ALA:HB3	1.91	0.53
44:DY:15:VAL:N	44:DY:23:ARG:O	2.28	0.53
49:D5:22:HIS:NE2	59:DA:2045:C:O2	2.42	0.53
59:DA:75:G:H22	59:DA:111:A:H2	1.57	0.53
59:DA:1524:G:H2'	59:DA:1525:G:O4'	2.09	0.53
59:DA:2671:A:H2'	59:DA:2672:G:H8	1.71	0.53
3:AD:72:GLU:OE2	3:AD:207:TYR:OH	2.25	0.53
4:AE:131:ILE:O	4:AE:135:THR:OG1	2.21	0.53
7:AH:52:ASP:OD2	7:AH:56:LYS:N	2.42	0.53
20:AA:46:G:O2'	20:AA:365:U:O2'	2.14	0.53
20:AA:777:A:H2'	20:AA:778:G:C8	2.44	0.53
20:AA:1018:C:H2'	20:AA:1019:C:C6	2.44	0.53
23:AY:22:ASP:O	62:AY:702:GDP:PB	2.67	0.53
23:AY:274:ASP:HA	23:AY:277:VAL:HG12	1.91	0.53
45:BZ:99:TYR:HA	45:BZ:124:ILE:O	2.09	0.53
57:B1:16:ASN:HB3	59:BA:381:G:H4'	1.90	0.53
59:BA:270(J):G:H2'	59:BA:270(K):G:O4'	2.09	0.53
59:BA:1035:U:H2'	59:BA:1036:G:C8	2.43	0.53
59:BA:1162:G:H2'	59:BA:1163:G:C8	2.44	0.53
59:BA:1732:A:H2'	59:BA:1733:G:O4'	2.09	0.53
59:BA:1827:C:H2'	59:BA:1828:G:O4'	2.09	0.53
59:BA:2009:G:H2'	59:BA:2010:G:H8	1.73	0.53
60:BB:24:G:C2	60:BB:56:G:C2	2.96	0.53
5:CF:21:LEU:O	5:CF:25:ILE:HG12	2.09	0.53
6:CG:10:ARG:HH22	20:CA:1346:A:N6	2.06	0.53
9:CJ:63:PHE:HZ	13:CN:49:HIS:HE2	1.54	0.53
19:CT:15:ARG:NH2	20:CA:107:G:N7	2.57	0.53
20:CA:269:C:H2'	20:CA:270:A:H8	1.74	0.53
20:CA:514:C:H2'	20:CA:515:G:C8	2.44	0.53
20:CA:1505:G:H1'	22:CV:15:A:C8	2.43	0.53
33:DN:74:ARG:CZ	33:DN:85:ILE:HD11	2.39	0.53
41:DV:5:VAL:HG13	41:DV:7:THR:HG22	1.90	0.53
44:DY:46:LYS:HB2	44:DY:62:GLU:HG3	1.91	0.53
51:D7:7:PRO:HA	59:DA:686:G:C8	2.44	0.53
53:D9:31:LYS:HD3	59:DA:2528:U:H5'	1.90	0.53
59:DA:154:G:H1	59:DA:172:C:N4	2.03	0.53
59:DA:477:A:H2'	59:DA:478:A:C8	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2066:C:H2'	59:DA:2067:G:C8	2.44	0.53
59:DA:2515:C:H2'	59:DA:2516:G:C8	2.43	0.53
60:DB:62:C:H2'	60:DB:63:G:C8	2.43	0.53
60:DB:102:G:H2'	60:DB:103:U:C6	2.44	0.53
1:AB:115:LEU:HB2	1:AB:145:LEU:HG	1.90	0.53
1:AB:167:PRO:HD2	1:AB:188:ALA:HB3	1.91	0.53
1:AB:176:GLU:O	1:AB:180:LEU:HD12	2.08	0.53
2:AC:13:GLY:HA2	13:AN:57:ARG:HH21	1.74	0.53
7:AH:128:GLY:O	20:AA:600:C:H4'	2.09	0.53
8:AI:71:SER:HB3	20:AA:1372:U:H5"	1.91	0.53
9:AJ:91:PRO:O	9:AJ:93:GLY:N	2.42	0.53
17:AR:74:ARG:HG2	17:AR:79:LEU:HB3	1.91	0.53
20:AA:1020:U:H2'	20:AA:1021:G:H8	1.73	0.53
20:AA:1095:U:H2'	20:AA:1096:C:C6	2.43	0.53
23:AY:661:SER:OG	59:BA:2660:A:N6	2.42	0.53
25:BC:45:HIS:ND1	25:BC:171:ALA:O	2.41	0.53
26:BD:6:PHE:HE1	26:BD:18:VAL:HB	1.74	0.53
32:BK:54:PRO:HB2	32:BK:70:LYS:HD3	1.90	0.53
37:BR:24:GLN:HG3	37:BR:44:LEU:HD21	1.91	0.53
39:BT:49:VAL:HG23	39:BT:63:VAL:HG22	1.89	0.53
43:BX:74:PRO:O	43:BX:76:ARG:NH1	2.39	0.53
49:B5:18:ALA:HA	49:B5:21:SER:HB3	1.91	0.53
57:B1:15:ALA:HA	57:B1:40:ARG:O	2.09	0.53
57:B1:20:ARG:HG3	57:B1:22:GLY:N	2.24	0.53
59:BA:30:G:H2'	59:BA:31:C:C6	2.44	0.53
59:BA:1076:C:H2'	59:BA:1077:A:H4'	1.90	0.53
59:BA:2171:A:O2'	59:BA:2172:U:O4'	2.26	0.53
20:CA:759:A:H4'	20:CA:881:G:H5'	1.91	0.53
20:CA:1064:G:H22	20:CA:1190:G:H2'	1.74	0.53
23:CY:528:ALA:HB3	23:CY:567:LEU:HB3	1.89	0.53
25:DC:65:LEU:CD1	25:DC:162:ILE:HD11	2.39	0.53
25:DC:148:PHE:C	25:DC:150:ILE:H	2.15	0.53
28:DF:72:ARG:NH2	59:DA:1258:C:OP2	2.41	0.53
28:DF:171:PRO:HG2	28:DF:172:TRP:HD1	1.73	0.53
29:DG:130:ASN:HB3	29:DG:160:VAL:HG22	1.90	0.53
39:DT:53:ARG:HH22	39:DT:60:THR:HG1	1.50	0.53
40:DU:105:VAL:O	40:DU:109:LEU:HG	2.08	0.53
59:DA:19:C:H2'	59:DA:20:C:H6	1.73	0.53
59:DA:259:G:H2'	59:DA:260:G:H8	1.71	0.53
59:DA:978:G:HO2'	59:DA:1002:G:HO2'	1.54	0.53
59:DA:2119:A:C2	59:DA:2170:A:H2'	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2207:C:H42	59:DA:2217:G:H1	1.56	0.53
59:DA:2570:G:H2'	59:DA:2571:C:H6	1.73	0.53
59:DA:2593:U:H2'	59:DA:2594:C:C6	2.44	0.53
59:DA:2626:C:H42	59:DA:2777:G:H1	1.55	0.53
4:AE:10:MET:SD	4:AE:10:MET:N	2.77	0.53
4:AE:19:MET:SD	4:AE:24:ARG:HB3	2.48	0.53
5:AF:2:ARG:NH1	5:AF:69:GLU:OE1	2.41	0.53
10:AK:40:ILE:HA	20:AA:685:G:H4'	1.91	0.53
11:AL:92:ASP:OD2	20:AA:523:A:N6	2.30	0.53
15:AP:43:LYS:NZ	20:AA:452:A:OP1	2.42	0.53
20:AA:401:C:H2'	20:AA:402:G:C8	2.44	0.53
20:AA:1332:A:H2'	20:AA:1333:A:O4'	2.08	0.53
23:AY:25:LYS:N	62:AY:702:GDP:O2B	2.41	0.53
23:AY:93:GLU:O	23:AY:97:SER:OG	2.27	0.53
36:BQ:13:GLN:HG3	59:BA:910:A:C6	2.44	0.53
38:BS:14:VAL:HG13	59:BA:2335:A:OP2	2.09	0.53
41:BV:40:LEU:HD13	41:BV:47:VAL:HG22	1.89	0.53
41:BV:67:GLY:H	41:BV:90:PRO:HA	1.74	0.53
42:BW:69:LEU:HB3	42:BW:107:LEU:HD23	1.91	0.53
43:BX:90:GLU:HA	43:BX:93:GLU:HB2	1.90	0.53
46:B0:70:GLN:HB3	46:B0:78:TYR:HB2	1.91	0.53
49:B5:15:ARG:HH11	49:B5:15:ARG:HA	1.74	0.53
59:BA:173:G:H2'	59:BA:174:C:C6	2.44	0.53
59:BA:1659:U:H3	59:BA:2001:A:N6	2.04	0.53
59:BA:2083:G:H2'	59:BA:2084:C:C6	2.44	0.53
3:CD:2:GLY:N	20:CA:547:A:OP2	2.42	0.53
6:CG:73:MET:HE3	6:CG:145:ALA:HB1	1.90	0.53
16:CQ:59:ILE:HG12	16:CQ:73:VAL:HG22	1.90	0.53
20:CA:519:C:H2'	20:CA:520:A:O4'	2.09	0.53
20:CA:880:C:H2'	20:CA:881:G:C8	2.44	0.53
20:CA:1466:C:H2'	20:CA:1467:G:O4'	2.09	0.53
22:CV:16:A:H2'	22:CV:17:U:C6	2.44	0.53
25:DC:26:ALA:HA	25:DC:30:VAL:HG23	1.90	0.53
33:DN:43:THR:HB	33:DN:46:VAL:HG11	1.91	0.53
42:DW:35:ILE:HG23	49:D5:28:PRO:HG3	1.91	0.53
46:D0:34:GLY:N	46:D0:61:ALA:O	2.39	0.53
51:D7:40:TRP:N	51:D7:40:TRP:CD1	2.76	0.53
59:DA:391:G:O2'	59:DA:410:G:OP1	2.27	0.53
59:DA:454:A:H3'	59:DA:455:C:C6	2.44	0.53
59:DA:584:C:H2'	59:DA:585:G:O4'	2.09	0.53
59:DA:922:U:H2'	59:DA:923:C:C6	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1128:A:C5	59:DA:2518:A:N6	2.77	0.53
59:DA:1166:C:H2'	59:DA:1167:U:C6	2.44	0.53
59:DA:1476:C:H2'	59:DA:1477:A:C8	2.44	0.53
59:DA:1493:C:O2	59:DA:1493:C:H2'	2.06	0.53
59:DA:2118:U:O2	59:DA:2148:G:O2'	2.19	0.53
59:DA:2469:A:H3'	59:DA:2470:G:C8	2.44	0.53
59:DA:2476:A:H8	59:DA:2481:G:H22	1.55	0.53
59:DA:2678:C:H2'	59:DA:2679:A:H8	1.74	0.53
2:AC:39:ILE:O	2:AC:43:LEU:HG	2.08	0.53
3:AD:25:ARG:N	20:AA:409:G:OP1	2.40	0.53
5:AF:46:ARG:HB3	5:AF:60:PHE:HE1	1.73	0.53
16:AQ:67:LYS:O	16:AQ:68:ARG:HB3	2.09	0.53
20:AA:151:A:N7	20:AA:170:U:O4	2.42	0.53
20:AA:264:U:H2'	20:AA:265:G:O4'	2.09	0.53
20:AA:1064:G:N2	20:AA:1190:G:O2'	2.41	0.53
20:AA:1118:C:H2'	20:AA:1119:C:C6	2.44	0.53
20:AA:1280:A:O2'	20:AA:1281:U:OP1	2.26	0.53
20:AA:1404:C:H1'	20:AA:1499:A:C2	2.43	0.53
23:AY:20:HIS:HB2	23:AY:117:GLN:HB3	1.91	0.53
25:BC:32:GLU:O	25:BC:34:ALA:N	2.38	0.53
26:BD:221:VAL:O	26:BD:223:GLY:N	2.41	0.53
27:BE:174:ASP:HB3	27:BE:183:LEU:HD13	1.91	0.53
38:BS:39:ILE:HD13	38:BS:73:LEU:HD11	1.91	0.53
38:BS:40:ILE:HA	38:BS:47:THR:HA	1.89	0.53
43:BX:63:LYS:HE3	43:BX:72:LYS:HE3	1.90	0.53
45:BZ:134:PRO:HB3	45:BZ:161:VAL:HG21	1.90	0.53
46:B0:41:ARG:NH2	59:BA:2386:C:O2'	2.42	0.53
59:BA:1468:C:H2'	59:BA:1469:A:H8	1.72	0.53
59:BA:2291:U:H3	59:BA:2341:G:H1	1.57	0.53
59:BA:2688:U:HO2'	59:BA:2689:U:P	2.31	0.53
3:CD:33:MET:O	3:CD:36:ARG:N	2.38	0.53
3:CD:43:HIS:HA	3:CD:46:LYS:HD3	1.91	0.53
3:CD:72:GLU:HA	3:CD:75:PHE:HB3	1.90	0.53
10:CK:29:ILE:HD11	10:CK:42:TRP:HB2	1.90	0.53
11:CL:53:ARG:HA	11:CL:69:TYR:CE1	2.44	0.53
11:CL:113:ARG:HH21	11:CL:116:SER:H	1.56	0.53
20:CA:1027:C:N3	20:CA:1034:G:O6	2.42	0.53
23:CY:514:VAL:HA	23:CY:565:VAL:O	2.09	0.53
26:DD:78:LYS:HA	26:DD:116:GLN:HA	1.90	0.53
26:DD:94:LEU:HG	26:DD:104:TYR:CE2	2.43	0.53
28:DF:169:ASN:ND2	59:DA:320:A:O2'	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DO:64:ARG:HH22	39:DT:69:GLY:HA3	1.73	0.53
36:DQ:32:TYR:HB2	36:DQ:106:VAL:HG22	1.91	0.53
44:DY:49:VAL:O	44:DY:51:VAL:N	2.38	0.53
46:D0:23:VAL:HA	46:D0:38:VAL:HA	1.91	0.53
47:D2:46:GLN:HB3	47:D2:48:HIS:CE1	2.43	0.53
59:DA:327:G:H1	59:DA:335:C:N4	2.05	0.53
59:DA:473:G:H5"	59:DA:508:G:N2	2.24	0.53
59:DA:947:G:H2'	59:DA:948:G:C8	2.41	0.53
59:DA:991:C:H5'	59:DA:1185:C:H2'	1.91	0.53
59:DA:1128:A:O4'	59:DA:2516:G:O2'	2.27	0.53
59:DA:1479:G:H2'	59:DA:1480:G:H8	1.72	0.53
20:AA:1070:U:H2'	20:AA:1071:C:C6	2.44	0.53
20:AA:1340:A:C2	20:AA:1341:U:C2	2.97	0.53
20:AA:1533:C:H5	22:AV:12:A:H61	1.55	0.53
23:AY:180:VAL:HG12	23:AY:209:ALA:HB1	1.91	0.53
23:AY:266:ASN:OD1	23:AY:266:ASN:N	2.39	0.53
23:AY:421:GLN:O	23:AY:424:LEU:HG	2.09	0.53
35:BP:53:GLY:O	35:BP:55:ARG:N	2.38	0.53
37:BR:97:VAL:HA	37:BR:113:LEU:O	2.09	0.53
40:BU:70:ARG:NH2	59:BA:1011:G:OP2	2.42	0.53
41:BV:70:ILE:HG12	41:BV:87:HIS:HB3	1.90	0.53
42:BW:11:ARG:NH2	42:BW:99:ARG:O	2.42	0.53
46:B0:9:SER:OG	46:B0:10:THR:N	2.39	0.53
48:B3:8:LEU:HD22	48:B3:31:LEU:HA	1.91	0.53
59:BA:192:C:O2	59:BA:802:A:O2'	2.26	0.53
59:BA:1007:C:H2'	59:BA:1008:C:C5	2.44	0.53
59:BA:1356:G:H2'	59:BA:1357:U:C6	2.44	0.53
59:BA:2040:C:C6	59:BA:2040:C:H5"	2.44	0.53
2:CC:157:ILE:HD11	2:CC:164:ARG:H	1.74	0.53
3:CD:133:VAL:HG11	3:CD:138:TYR:CD2	2.43	0.53
10:CK:85:ARG:HG2	10:CK:111:ASP:HB3	1.90	0.53
23:CY:100:VAL:HG11	23:CY:314:PHE:CE2	2.44	0.53
23:CY:641:GLN:OE1	23:CY:642:VAL:N	2.42	0.53
25:DC:28:ARG:CZ	25:DC:183:PRO:HB3	2.39	0.53
27:DE:45:THR:HB	27:DE:83:ASP:HA	1.91	0.53
28:DF:45:ARG:NH2	59:DA:443:A:H3'	2.23	0.53
33:DN:47:ALA:HB2	33:DN:112:LEU:HD12	1.91	0.53
59:DA:83:G:N2	59:DA:103:A:OP2	2.37	0.53
59:DA:454:A:H3'	59:DA:455:C:H6	1.74	0.53
59:DA:459:U:C6	59:DA:460:A:C8	2.97	0.53
59:DA:979:G:H3'	59:DA:980:A:C5'	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1312:U:O2	59:DA:1339:G:N1	2.22	0.53
59:DA:1441:G:H1	59:DA:1550:C:H42	1.57	0.53
59:DA:1540:G:H3'	59:DA:1541:U:C6	2.44	0.53
59:DA:1540:G:H3'	59:DA:1541:U:H6	1.74	0.53
59:DA:2393:A:H62	59:DA:2422:A:H61	1.56	0.53
1:AB:96:ARG:HG2	20:AA:1099:G:OP1	2.09	0.52
6:AG:24:THR:HA	6:AG:27:ILE:HB	1.90	0.52
8:AI:121:ARG:NH1	20:AA:1343:G:O2'	2.43	0.52
9:AJ:82:ILE:O	9:AJ:86:MET:HB2	2.09	0.52
10:AK:84:VAL:N	10:AK:109:VAL:O	2.42	0.52
19:AT:79:ARG:O	19:AT:82:SER:OG	2.25	0.52
20:AA:983:A:H2	20:AA:984:C:C5	2.25	0.52
20:AA:1063:C:H42	20:AA:1193:G:H1	1.57	0.52
23:AY:317:MET:HB2	23:AY:327:PHE:CE2	2.44	0.52
33:BN:10:GLU:CD	33:BN:11:PRO:HD2	2.34	0.52
35:BP:27:HIS:HB3	59:BA:814:C:C5	2.43	0.52
35:BP:64:LYS:HE2	52:B8:25:MET:HE2	1.90	0.52
39:BT:20:PRO:HG2	39:BT:86:ILE:HA	1.90	0.52
42:BW:9:TYR:H	42:BW:102:HIS:CE1	2.27	0.52
51:B7:39:ARG:HD3	51:B7:42:LEU:HB3	1.89	0.52
57:B1:21:ARG:NH2	57:B1:38:SER:OG	2.38	0.52
59:BA:221:A:C4	59:BA:233:A:H1'	2.43	0.52
59:BA:270(Q):C:HO2'	59:BA:270(R):C:H5	1.57	0.52
59:BA:571:A:O2'	59:BA:572:A:OP2	2.25	0.52
59:BA:736:C:N3	59:BA:760:G:O6	2.43	0.52
59:BA:1087:G:O2'	59:BA:1088:A:H4'	2.09	0.52
1:CB:32:ILE:HD12	1:CB:40:HIS:HB3	1.90	0.52
1:CB:75:LYS:O	1:CB:78:GLN:HB3	2.08	0.52
11:CL:71:PRO:O	11:CL:102:ARG:NH1	2.42	0.52
20:CA:68(V):G:C2	20:CA:68(W):G:H1'	2.44	0.52
20:CA:112:G:H1	20:CA:315:A:H61	1.57	0.52
20:CA:272:C:H2'	20:CA:273:A:C8	2.44	0.52
20:CA:1224:G:O2'	20:CA:1322:C:OP2	2.20	0.52
25:DC:133:GLY:N	25:DC:138:LEU:HB2	2.24	0.52
33:DN:39:ARG:C	33:DN:41:ASP:H	2.17	0.52
34:DO:36:GLY:HA2	34:DO:106:LEU:HG	1.90	0.52
38:DS:37:ALA:HB1	38:DS:101:LEU:HD21	1.90	0.52
42:DW:28:SER:N	42:DW:31:GLU:OE1	2.40	0.52
59:DA:800:A:H8	59:DA:800:A:OP1	1.92	0.52
59:DA:1292:U:H2'	59:DA:1293:C:C6	2.44	0.52
2:AC:37:GLN:NE2	2:AC:37:GLN:O	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AC:160:ALA:O	2:AC:162:GLN:N	2.42	0.52
6:AG:3:ARG:NH1	20:AA:1380:U:O2'	2.42	0.52
11:AL:60:LEU:HD23	11:AL:63:GLY:O	2.09	0.52
14:AO:5:LYS:O	14:AO:9:GLN:HG2	2.09	0.52
15:AP:70:ALA:O	15:AP:74:LEU:HG	2.09	0.52
20:AA:32:A:H2'	20:AA:33:A:C8	2.44	0.52
20:AA:673:G:H2'	20:AA:674:G:H8	1.73	0.52
20:AA:908:A:H2'	20:AA:909:A:H8	1.73	0.52
20:AA:1137:C:H4'	20:AA:1138:G:C2	2.44	0.52
20:AA:1484:C:HO2'	59:BA:1960:A:HO2'	1.53	0.52
26:BD:146:GLU:OE1	26:BD:150:LYS:N	2.41	0.52
26:BD:260:ARG:NH1	59:BA:1799:G:OP1	2.36	0.52
30:BH:67:LEU:HD12	59:BA:2747:G:O2'	2.09	0.52
38:BS:26:LEU:O	38:BS:88:ASP:HB3	2.10	0.52
39:BT:54:ARG:HA	39:BT:59:THR:HB	1.90	0.52
44:BY:15:VAL:HG12	44:BY:17:SER:H	1.74	0.52
59:BA:49:A:H5"	59:BA:51:G:O4'	2.09	0.52
59:BA:69:C:H2'	59:BA:70:G:C8	2.44	0.52
59:BA:172:C:H2'	59:BA:173:G:O4'	2.09	0.52
59:BA:907:U:H2'	59:BA:908:C:C6	2.44	0.52
59:BA:1234:U:H2'	59:BA:1235:G:O4'	2.10	0.52
59:BA:1492:G:H1	59:BA:1498:C:N4	2.04	0.52
59:BA:2291:U:H2'	59:BA:2292:C:C6	2.44	0.52
7:CH:31:PHE:O	7:CH:35:ILE:HG12	2.09	0.52
7:CH:94:TYR:CD2	20:CA:598:U:H4'	2.43	0.52
14:CO:22:THR:HB	20:CA:658:G:H4'	1.92	0.52
16:CQ:78:GLU:HG3	16:CQ:81:ARG:HD3	1.90	0.52
19:CT:73:HIS:C	19:CT:74:LYS:HD3	2.35	0.52
20:CA:490:G:H2'	20:CA:491:G:C8	2.44	0.52
20:CA:1342:C:H2'	20:CA:1343:G:H8	1.72	0.52
20:CA:1343:G:N2	20:CA:1349:A:O2'	2.43	0.52
20:CA:1476:G:H2'	20:CA:1477:C:C6	2.44	0.52
23:CY:186:TYR:HA	23:CY:198:GLU:HB3	1.91	0.52
25:DC:121:MET:HG3	25:DC:146:VAL:HG22	1.90	0.52
27:DE:147:PRO:HG3	27:DE:151:TYR:CE1	2.43	0.52
30:DH:54:ARG:NH1	30:DH:57:ASP:OD1	2.42	0.52
37:DR:36:THR:OG1	37:DR:37:THR:N	2.41	0.52
57:D1:20:ARG:NH1	57:D1:22:GLY:HA3	2.24	0.52
57:D1:62:VAL:HG21	57:D1:67:ILE:HG23	1.90	0.52
59:DA:873:G:H2'	59:DA:874:G:C8	2.44	0.52
59:DA:2745:C:H41	59:DA:2755:C:H4'	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:DB:78:A:H2'	60:DB:79:C:O4'	2.09	0.52
1:AB:71:VAL:O	1:AB:165:VAL:HG23	2.09	0.52
1:AB:106:LYS:H	1:AB:106:LYS:HD2	1.75	0.52
2:AC:56:ASP:OD1	2:AC:56:ASP:N	2.42	0.52
3:AD:10:ARG:HA	3:AD:13:ARG:HD2	1.91	0.52
9:AJ:55:LYS:HG3	20:AA:973:G:O4'	2.09	0.52
12:AM:52:GLU:HA	12:AM:55:ARG:HE	1.73	0.52
15:AP:6:LEU:HB3	15:AP:17:TYR:HD2	1.75	0.52
23:AY:13:ARG:HB2	23:AY:79:ILE:HG12	1.91	0.52
23:AY:309:LEU:HD21	23:AY:335:LEU:HD13	1.89	0.52
26:BD:35:LYS:O	26:BD:37:LEU:N	2.43	0.52
27:BE:51:PHE:H	27:BE:74:PRO:HG3	1.75	0.52
30:BH:154:PRO:HA	30:BH:161:GLY:HA3	1.92	0.52
34:BO:26:LYS:HB3	34:BO:30:ALA:HB3	1.91	0.52
38:BS:26:LEU:HD13	38:BS:106:ARG:HH12	1.73	0.52
51:B7:22:MET:O	51:B7:28:ARG:NH1	2.35	0.52
59:BA:21:A:H2'	59:BA:22:C:C6	2.44	0.52
59:BA:850:C:N4	59:BA:928:G:H1	2.07	0.52
59:BA:1717:G:H2'	59:BA:1718:G:C8	2.45	0.52
59:BA:2715:C:H2'	59:BA:2716:U:H6	1.72	0.52
4:CE:92:LYS:HB3	4:CE:119:LEU:HB2	1.90	0.52
9:CJ:39:PRO:HA	9:CJ:70:ARG:HG3	1.90	0.52
20:CA:197:A:N3	20:CA:198:G:H1'	2.24	0.52
20:CA:529:G:H1'	20:CA:533:A:C2	2.44	0.52
20:CA:947:G:N2	20:CA:1234:C:N3	2.44	0.52
20:CA:987:G:H2'	20:CA:988:G:H8	1.73	0.52
20:CA:1435:G:H2'	20:CA:1436:U:C6	2.44	0.52
23:CY:23:ALA:CB	23:CY:24:GLY:C	2.82	0.52
27:DE:16:ARG:CZ	27:DE:173:VAL:HG11	2.39	0.52
27:DE:50:GLY:HA2	27:DE:77:ILE:O	2.08	0.52
32:DK:101:TRP:HE1	32:DK:141:ALA:H	1.58	0.52
34:DO:104:ARG:HD3	39:DT:35:LYS:HB2	1.92	0.52
40:DU:49:HIS:CD2	59:DA:559:G:H22	2.27	0.52
45:DZ:99:TYR:HA	45:DZ:124:ILE:O	2.09	0.52
48:D3:12:PRO:HB2	48:D3:20:LYS:HE2	1.91	0.52
57:D1:42:GLN:HG2	57:D1:43:TYR:N	2.24	0.52
59:DA:401:A:H2'	59:DA:402:A:H8	1.75	0.52
59:DA:597:U:H2'	59:DA:598:G:H8	1.74	0.52
59:DA:1972:A:H2'	59:DA:1973:G:H8	1.74	0.52
59:DA:2728:U:H2'	59:DA:2729:G:C8	2.45	0.52
59:DA:2868:A:H2'	59:DA:2869:G:C8	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AD:126:ILE:HG23	3:AD:146:ILE:HG23	1.92	0.52
3:AD:145:GLU:OE1	3:AD:182:LYS:HB3	2.09	0.52
4:AE:83:GLU:HG3	4:AE:87:SER:O	2.09	0.52
8:AI:6:GLY:HA3	8:AI:80:GLY:O	2.10	0.52
20:AA:815:A:H61	20:AA:1508:G:H21	1.57	0.52
20:AA:949:A:O2'	20:AA:971:G:O6	2.22	0.52
20:AA:1127:G:H1'	20:AA:1148:U:C4	2.44	0.52
20:AA:1137:C:H5'	20:AA:1138:G:C6	2.44	0.52
25:BC:172:ILE:HD13	25:BC:173:HIS:H	1.73	0.52
26:BD:260:ARG:HH12	59:BA:1799:G:H3'	1.74	0.52
32:BK:78:ILE:HG21	32:BK:134:MET:HE1	1.92	0.52
34:BO:28:SER:CB	59:BA:2566:A:H61	2.22	0.52
37:BR:3:HIS:ND1	59:BA:1654:A:OP1	2.43	0.52
39:BT:27:THR:C	39:BT:87:ASP:HB2	2.34	0.52
40:BU:49:HIS:HA	40:BU:52:ARG:HG2	1.90	0.52
42:BW:98:LYS:HA	59:BA:2012:G:OP1	2.09	0.52
59:BA:189:G:H2'	59:BA:205:G:H22	1.74	0.52
59:BA:226:G:H21	59:BA:228:A:N6	2.02	0.52
59:BA:503:A:H4'	59:BA:504:U:H5"	1.92	0.52
59:BA:529:A:N6	59:BA:2041:U:C2	2.74	0.52
59:BA:1273:U:H5'	59:BA:1646:C:N4	2.24	0.52
6:CG:11:GLN:HE22	6:CG:14:PRO:HD3	1.74	0.52
7:CH:129:VAL:HA	20:CA:600:C:H5'	1.90	0.52
10:CK:114:VAL:O	20:CA:675:A:O2'	2.24	0.52
12:CM:67:GLU:HB2	12:CM:71:ARG:HH21	1.73	0.52
15:CP:6:LEU:HB3	15:CP:17:TYR:HD2	1.75	0.52
16:CQ:17:LYS:NZ	20:CA:255:G:O2'	2.29	0.52
20:CA:241:C:H2'	20:CA:242:C:C6	2.45	0.52
20:CA:501:C:H2'	20:CA:502:G:H8	1.74	0.52
20:CA:670:G:H1	20:CA:736:C:H42	1.58	0.52
20:CA:1218:C:H2'	20:CA:1219:U:H6	1.73	0.52
21:CW:68:U:H2'	21:CW:69:A:C8	2.45	0.52
23:CY:220:ALA:HB3	23:CY:227:ILE:HG21	1.91	0.52
25:DC:61:GLY:HA3	25:DC:164:PHE:CZ	2.44	0.52
28:DF:107:LYS:NZ	59:DA:618(A):G:H5"	2.25	0.52
28:DF:191:ARG:O	28:DF:193:VAL:HG23	2.09	0.52
59:DA:1139:G:H2'	59:DA:1140:C:C6	2.44	0.52
59:DA:1636:C:H2'	59:DA:1637:A:H8	1.75	0.52
59:DA:1990:C:H2'	59:DA:1991:U:C6	2.44	0.52
3:AD:61:LYS:HG2	3:AD:75:PHE:HE2	1.73	0.52
7:AH:31:PHE:HZ	7:AH:113:SER:HB2	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AI:22:GLY:HA3	8:AI:60:ASP:CG	2.34	0.52
16:AQ:45:HIS:H	16:AQ:72:ARG:HA	1.75	0.52
20:AA:924:C:H2'	20:AA:925:G:H8	1.75	0.52
23:AY:98:MET:HG3	23:AY:101:LEU:HD12	1.90	0.52
23:AY:175:SER:O	23:AY:187:THR:OG1	2.25	0.52
23:AY:481:VAL:HB	23:AY:483:TYR:CZ	2.44	0.52
25:BC:40:GLU:HB3	25:BC:217:THR:C	2.35	0.52
27:BE:13:ARG:N	27:BE:23:VAL:HG22	2.24	0.52
33:BN:112:LEU:HD22	59:BA:558:G:H5'	1.90	0.52
36:BQ:25:ASP:HA	36:BQ:102:VAL:HG23	1.91	0.52
52:B8:30:ARG:HD2	59:BA:2420:C:H41	1.74	0.52
59:BA:224:G:P	59:BA:408:G:H21	2.32	0.52
59:BA:271(D):U:H3'	59:BA:271:G:H5'	1.91	0.52
59:BA:1783:A:OP2	59:BA:1783:A:H8	1.92	0.52
59:BA:2688:U:O2'	59:BA:2689:U:OP2	2.26	0.52
11:CL:15:ARG:HB3	20:CA:562:C:H1'	1.91	0.52
15:CP:4:ILE:HB	15:CP:66:PRO:HA	1.91	0.52
20:CA:249:U:O2	20:CA:252:U:O2'	2.27	0.52
20:CA:520:A:H62	20:CA:529:G:N2	2.06	0.52
20:CA:953:G:H2'	20:CA:954:G:O4'	2.09	0.52
20:CA:1149:C:O2'	20:CA:1280:A:N1	2.42	0.52
22:CV:18:G:H5'	22:CV:19:G:OP1	2.10	0.52
23:CY:230:LYS:HD3	23:CY:237:PRO:HA	1.91	0.52
25:DC:79:ALA:HA	25:DC:117:THR:HG23	1.90	0.52
32:DK:7:VAL:HB	32:DK:58:THR:HG23	1.90	0.52
37:DR:17:ARG:NH2	59:DA:2002:G:OP1	2.35	0.52
46:D0:12:ASN:O	46:D0:14:ARG:N	2.36	0.52
59:DA:14:A:N3	59:DA:2625:G:H1'	2.24	0.52
59:DA:236:C:H2'	59:DA:237:C:C6	2.43	0.52
59:DA:311:A:O2'	59:DA:312:G:O5'	2.25	0.52
59:DA:1499:C:H2'	59:DA:1500:G:H8	1.73	0.52
59:DA:1969:A:O2'	59:DA:1972:A:N3	2.34	0.52
59:DA:2469:A:H3'	59:DA:2470:G:H8	1.74	0.52
59:DA:2595:G:N2	59:DA:2598:A:OP2	2.39	0.52
60:DB:28:C:H2'	60:DB:29:A:C8	2.44	0.52
14:AO:39:LEU:HD22	14:AO:42:HIS:HB3	1.90	0.52
20:AA:20:U:O2'	20:AA:573:A:N6	2.42	0.52
20:AA:559:A:H4'	20:AA:560:U:H3'	1.91	0.52
20:AA:767:A:O2'	20:AA:1524:C:O2	2.21	0.52
23:AY:66:THR:O	23:AY:363:ARG:NH2	2.42	0.52
23:AY:243:VAL:HA	23:AY:279:TYR:HE1	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AY:311:ALA:HA	23:AY:330:VAL:HA	1.91	0.52
25:BC:31:LYS:HG3	25:BC:182:PRO:HA	1.91	0.52
36:BQ:11:LYS:NZ	59:BA:2277:G:OP1	2.41	0.52
36:BQ:76:LYS:NZ	36:BQ:77:LYS:O	2.31	0.52
59:BA:454:A:H3'	59:BA:455:C:C6	2.44	0.52
59:BA:571:A:H1'	59:BA:573:G:C8	2.45	0.52
59:BA:591:C:H2'	59:BA:592:G:H8	1.75	0.52
59:BA:622:G:H2'	59:BA:623:G:C8	2.44	0.52
59:BA:711:G:H2'	59:BA:712:G:C8	2.45	0.52
59:BA:821:A:H3'	59:BA:946:G:H8	1.74	0.52
59:BA:1356:G:H2'	59:BA:1357:U:H6	1.74	0.52
59:BA:1530:G:C6	59:BA:1541:U:O2	2.63	0.52
59:BA:2825:U:H2'	59:BA:2826:A:O4'	2.09	0.52
3:CD:128:VAL:HG22	3:CD:146:ILE:HA	1.90	0.52
5:CF:69:GLU:O	5:CF:71:ARG:N	2.42	0.52
6:CG:88:PRO:HB3	6:CG:145:ALA:HA	1.90	0.52
20:CA:406:G:H1	20:CA:436:C:N4	2.05	0.52
20:CA:408:A:H2'	20:CA:409:G:H8	1.73	0.52
20:CA:954:G:H2'	20:CA:955:U:O4'	2.10	0.52
26:DD:111:LEU:HD11	26:DD:128:GLY:HA3	1.92	0.52
27:DE:132:HIS:HB3	59:DA:1658:C:OP1	2.10	0.52
51:D7:30:VAL:O	51:D7:34:ARG:HG2	2.10	0.52
59:DA:270(K):G:H2'	59:DA:270(L):C:H6	1.75	0.52
59:DA:459:U:O4	59:DA:470:A:C8	2.63	0.52
59:DA:1904:G:O2'	59:DA:1927:A:N6	2.36	0.52
59:DA:2576:G:O2'	59:DA:2579:C:OP2	2.18	0.52
2:AC:142:MET:HE1	2:AC:146:ALA:HB3	1.91	0.52
3:AD:76:ARG:O	3:AD:80:GLU:HG2	2.10	0.52
6:AG:31:MET:HG3	6:AG:36:LYS:HA	1.91	0.52
11:AL:83:VAL:HB	11:AL:100:ILE:HG23	1.92	0.52
17:AR:44:LEU:HG	17:AR:50:ILE:HA	1.92	0.52
17:AR:58:LEU:HB3	17:AR:62:GLU:HB3	1.92	0.52
20:AA:1349:A:H2'	20:AA:1350:A:O4'	2.09	0.52
20:AA:1507:A:H2'	20:AA:1508:G:H8	1.75	0.52
23:AY:100:VAL:HG21	23:AY:314:PHE:CZ	2.44	0.52
23:AY:607:ARG:HG2	23:AY:646:PHE:HE1	1.74	0.52
23:AY:611:THR:HA	23:AY:642:VAL:HG22	1.90	0.52
25:BC:173:HIS:CE1	59:BA:2176:A:C2	2.98	0.52
27:BE:58:ARG:HH12	27:BE:75:VAL:HG23	1.74	0.52
37:BR:53:HIS:CD2	59:BA:2840:C:H5"	2.44	0.52
40:BU:92:ARG:O	40:BU:95:LEU:N	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:B3:29:ARG:HG2	59:BA:1184:G:OP1	2.10	0.52
50:B6:8:LYS:HD2	50:B6:27:LYS:HG2	1.90	0.52
59:BA:271:G:H2'	59:BA:272:G:H8	1.73	0.52
59:BA:390:A:H4'	59:BA:391:G:C5'	2.40	0.52
59:BA:1496:A:H2'	59:BA:1498:C:H5	1.74	0.52
59:BA:1638:C:H5"	59:BA:2710:C:O2'	2.09	0.52
1:CB:54:THR:O	1:CB:58:ILE:HG12	2.09	0.52
5:CF:62:TRP:CH2	5:CF:64:GLN:HB2	2.45	0.52
11:CL:113:ARG:HE	11:CL:116:SER:N	2.08	0.52
16:CQ:95:TYR:HE1	20:CA:279:A:H2'	1.75	0.52
20:CA:151:A:N7	20:CA:170:U:O4	2.42	0.52
20:CA:317:G:OP1	20:CA:353:A:N6	2.42	0.52
20:CA:976:G:OP2	20:CA:1358:U:O2'	2.20	0.52
25:DC:83:LYS:HD2	25:DC:148:PHE:CD1	2.44	0.52
30:DH:41:MET:HB2	30:DH:53:GLU:O	2.10	0.52
31:DJ:58:UNK:C	31:DJ:60:UNK:N	2.72	0.52
33:DN:42:TRP:HA	33:DN:48:MET:HE1	1.91	0.52
34:DO:27:GLY:O	34:DO:29:ASN:N	2.34	0.52
37:DR:100:LEU:HD22	37:DR:101:ALA:H	1.74	0.52
42:DW:5:ALA:HB2	42:DW:57:ASN:ND2	2.22	0.52
42:DW:42:ARG:NH1	59:DA:2011:U:OP1	2.43	0.52
44:DY:20:TYR:HB3	44:DY:23:ARG:HG3	1.91	0.52
49:D5:9:LYS:HZ2	59:DA:2019:A:H8	1.53	0.52
51:D7:26:GLY:HA2	59:DA:682:G:H5"	1.91	0.52
52:D8:20:GLY:O	52:D8:57:ARG:NH2	2.43	0.52
55:Df:25:UNK:C	55:Df:27:UNK:H	2.23	0.52
57:D1:58:ILE:HG13	57:D1:91:LYS:HB2	1.92	0.52
59:DA:270(H):C:H42	59:DA:270(T):G:H1	1.56	0.52
59:DA:449:A:H2'	59:DA:450:G:O4'	2.10	0.52
59:DA:558:G:O2'	59:DA:559:G:O5'	2.26	0.52
59:DA:693:C:H42	59:DA:769:G:H1	1.58	0.52
59:DA:820:A:N3	59:DA:943:U:H4'	2.24	0.52
59:DA:1007:C:H3'	59:DA:1008:C:H2'	1.92	0.52
59:DA:1792:G:H1	59:DA:1827:C:N4	2.04	0.52
59:DA:2030:A:H4'	59:DA:2031:A:H8	1.74	0.52
6:AG:74:GLU:HG2	6:AG:91:VAL:HG22	1.92	0.52
20:AA:116:A:H2'	20:AA:117:G:O4'	2.09	0.52
20:AA:308:C:H2'	20:AA:309:G:C8	2.45	0.52
20:AA:1016:A:H8	20:AA:1016:A:O5'	1.93	0.52
20:AA:1360:A:H2'	20:AA:1361:G:O4'	2.08	0.52
20:AA:1413:A:H61	20:AA:1487:G:H1	0.72	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AW:72:C:H2'	21:AW:73:A:O4'	2.10	0.52
25:BC:54:ARG:HB3	25:BC:57:GLN:HB2	1.91	0.52
28:BF:153:SER:N	28:BF:190:GLU:OE2	2.39	0.52
30:BH:41:MET:SD	30:BH:52:VAL:HG13	2.50	0.52
35:BP:135:LEU:O	35:BP:139:LYS:HG2	2.09	0.52
42:BW:78:GLU:HG2	42:BW:79:GLY:O	2.10	0.52
59:BA:87:C:H5"	59:BA:88:G:H5'	1.92	0.52
59:BA:136:G:H1	59:BA:143:C:H42	1.56	0.52
59:BA:479:A:H1'	59:BA:481:G:H5"	1.91	0.52
59:BA:697:C:N4	59:BA:765:G:H1	2.06	0.52
59:BA:1444:G:HO2'	59:BA:144(B):A:H8	1.56	0.52
59:BA:2567:G:H2'	59:BA:2568:C:C6	2.45	0.52
59:BA:2674:G:H2'	59:BA:2675:A:C8	2.45	0.52
4:CE:92:LYS:HG3	4:CE:93:PRO:HD2	1.92	0.52
5:CF:100:ASN:HB2	17:CR:28:GLU:HA	1.92	0.52
8:CI:96:LEU:HG	8:CI:101:PHE:HB2	1.90	0.52
20:CA:563:A:O2'	20:CA:566:G:O2'	2.27	0.52
20:CA:961:U:O2	20:CA:1201:A:N1	2.42	0.52
20:CA:1038:C:H2'	20:CA:1039:C:C6	2.45	0.52
23:CY:259:PHE:CE1	23:CY:275:ALA:HB1	2.45	0.52
23:CY:617:MET:O	23:CY:621:ILE:HG13	2.08	0.52
29:DG:61:ALA:HB1	29:DG:66:GLN:O	2.10	0.52
38:DS:52:SER:HB2	38:DS:56:LEU:H	1.74	0.52
50:D6:38:LYS:HD3	59:DA:2344:U:OP1	2.10	0.52
59:DA:707:G:H1	59:DA:724:U:H3	1.58	0.52
59:DA:1209:G:H21	59:DA:1210:A:H62	1.57	0.52
59:DA:1394:U:H4'	59:DA:1603:A:H4'	1.90	0.52
59:DA:2712:U:H1'	59:DA:712(B):A:C8	2.44	0.52
59:DA:2811:G:H1	59:DA:2889:C:H42	1.57	0.52
59:DA:2849:U:H1'	59:DA:2866:U:C6	2.45	0.52
1:AB:54:THR:O	1:AB:58:ILE:HG12	2.10	0.52
2:AC:131:ARG:NH2	2:AC:166:GLU:OE2	2.41	0.52
4:AE:35:GLY:HA3	4:AE:112:LEU:HD22	1.92	0.52
4:AE:75:THR:HB	4:AE:117:ASP:O	2.08	0.52
6:AG:69:VAL:HA	6:AG:138:LYS:HD2	1.90	0.52
7:AH:21:LYS:O	7:AH:23:SER:N	2.43	0.52
14:AO:18:PHE:O	14:AO:20:GLY:N	2.43	0.52
17:AR:65:ILE:O	17:AR:69:THR:OG1	2.27	0.52
20:AA:68(F):C:H2'	20:AA:68(G):G:H8	1.74	0.52
20:AA:1281:U:H5'	20:AA:1282:C:C5	2.38	0.52
20:AA:1343:G:H2'	20:AA:1344:C:C6	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BC:163:GLU:HG3	25:BC:163:GLU:O	2.09	0.52
27:BE:109:LYS:HD2	37:BR:2:ARG:CZ	2.38	0.52
27:BE:181:LEU:HD21	39:BT:7:ILE:HD12	1.92	0.52
30:BH:41:MET:HE1	30:BH:52:VAL:HG22	1.92	0.52
33:BN:85:ILE:HG22	33:BN:86:PRO:HD2	1.92	0.52
40:BU:11:ARG:HG2	40:BU:15:LYS:HE3	1.91	0.52
41:BV:76:LYS:NZ	59:BA:974(A):G:O5'	2.42	0.52
59:BA:401:A:H2'	59:BA:402:A:C8	2.45	0.52
59:BA:586:A:H5"	59:BA:587:C:OP2	2.09	0.52
59:BA:1151:G:H2'	59:BA:1152:C:H6	1.75	0.52
59:BA:1848:A:H2'	59:BA:1849:G:O4'	2.09	0.52
59:BA:1972:A:H2'	59:BA:1973:G:C8	2.43	0.52
59:BA:2419:U:H2'	59:BA:2420:C:C6	2.45	0.52
59:BA:2647:U:O2	59:BA:2673:G:O6	2.27	0.52
1:CB:32:ILE:HD13	1:CB:42:ILE:HA	1.91	0.52
14:CO:50:HIS:ND1	20:CA:765:G:OP1	2.41	0.52
20:CA:701:C:OP1	20:CA:702:A:O2'	2.21	0.52
20:CA:935:A:H2'	20:CA:936:C:C6	2.44	0.52
20:CA:1258:G:H2'	20:CA:1259:C:C6	2.44	0.52
23:CY:122:TRP:CH2	23:CY:132:ARG:HG2	2.45	0.52
23:CY:343:ASN:N	23:CY:348:ARG:O	2.32	0.52
26:DD:157:ARG:HE	59:DA:1818:U:H2'	1.75	0.52
28:DF:45:ARG:CZ	59:DA:443:A:H3'	2.40	0.52
32:DK:101:TRP:HE1	32:DK:141:ALA:N	2.08	0.52
33:DN:14:VAL:HG12	33:DN:15:LEU:H	1.75	0.52
33:DN:125:GLY:HA3	33:DN:126:PRO:O	2.10	0.52
37:DR:11:ASN:HB2	59:DA:1653:G:O6	2.09	0.52
37:DR:62:ALA:O	37:DR:66:VAL:HG23	2.10	0.52
41:DV:15:GLU:HB3	41:DV:16:PRO:HD2	1.92	0.52
41:DV:53:GLU:C	41:DV:55:ALA:H	2.18	0.52
43:DX:36:LYS:HD3	43:DX:54:VAL:HB	1.92	0.52
45:DZ:82:ARG:HG2	45:DZ:83:PRO:HD2	1.91	0.52
46:D0:23:VAL:HG12	46:D0:38:VAL:HG22	1.92	0.52
49:D5:45:VAL:HG22	49:D5:51:TYR:HB2	1.92	0.52
57:D1:67:ILE:N	57:D1:68:PRO:HD2	2.25	0.52
59:DA:588:U:H2'	59:DA:589:C:O4'	2.09	0.52
59:DA:2057:A:H2'	59:DA:2058:A:C8	2.45	0.52
59:DA:2628:C:H1'	59:DA:2781:A:H2'	1.91	0.52
59:DA:2828:C:H2'	59:DA:2829:C:H6	1.73	0.52
60:DB:82:G:H2'	60:DB:83:G:C8	2.44	0.52
6:AG:34:GLY:HA3	20:AA:1350:A:C2	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AJ:49:VAL:HG22	9:AJ:50:ILE:H	1.75	0.52
11:AL:102:ARG:HB3	11:AL:109:GLY:H	1.75	0.52
14:AO:50:HIS:ND1	20:AA:764:C:H5"	2.25	0.52
19:AT:59:ALA:O	19:AT:63:ILE:HG13	2.09	0.52
20:AA:488:C:H2'	20:AA:489:C:C6	2.45	0.52
20:AA:1324:A:H2'	20:AA:1325:C:H6	1.75	0.52
20:AA:1440(K):G:H2'	20:AA:1440(L):G:O4'	2.09	0.52
20:AA:1487:G:H2'	20:AA:1488:G:H8	1.75	0.52
23:AY:256:THR:O	23:AY:258:VAL:HG23	2.10	0.52
23:AY:496:LYS:HG2	23:AY:498:ILE:HG23	1.92	0.52
23:AY:546:ILE:HA	23:AY:590:ILE:HG13	1.91	0.52
23:AY:616:TYR:CG	23:AY:663:THR:HA	2.45	0.52
25:BC:67:HIS:CE1	25:BC:185:LYS:HE2	2.45	0.52
27:BE:143:ASN:HD21	59:BA:2572:A:P	2.33	0.52
33:BN:16:ILE:HG22	33:BN:17:ASP:H	1.75	0.52
39:BT:51:ARG:NH2	39:BT:100:TYR:OH	2.33	0.52
39:BT:53:ARG:NH1	39:BT:53:ARG:HB3	2.25	0.52
43:BX:71:GLY:HA3	59:BA:64:A:H4'	1.92	0.52
45:BZ:29:TYR:HE1	60:BB:73:A:H61	1.58	0.52
59:BA:618(B):C:H2'	59:BA:619:G:O4'	2.10	0.52
59:BA:1880:C:H2'	59:BA:1881:C:C6	2.45	0.52
59:BA:2066:C:H2'	59:BA:2067:G:H8	1.74	0.52
59:BA:2293:C:N4	59:BA:2339:G:H1	2.08	0.52
59:BA:2794:C:H2'	59:BA:2795:G:H5'	1.91	0.52
60:BB:73:A:H3'	60:BB:74:U:C6	2.45	0.52
2:CC:155:GLY:HA3	2:CC:196:LEU:HA	1.92	0.52
8:CI:110:GLU:HB2	20:CA:1348:U:OP1	2.09	0.52
9:CJ:27:ALA:HA	9:CJ:85:LEU:HD11	1.92	0.52
11:CL:86:ARG:C	11:CL:98:TYR:HA	2.35	0.52
17:CR:74:ARG:NE	17:CR:80:PRO:O	2.26	0.52
20:CA:537:G:H2'	20:CA:538:G:H8	1.75	0.52
20:CA:825:G:H1	20:CA:875:C:H42	1.58	0.52
25:DC:75:VAL:HG21	25:DC:154:ILE:HG12	1.92	0.52
39:DT:23:ARG:HG3	39:DT:24:PRO:HD2	1.91	0.52
39:DT:35:LYS:O	39:DT:36:GLU:HB2	2.09	0.52
41:DV:55:ALA:HB1	41:DV:101:GLY:HA2	1.91	0.52
43:DX:36:LYS:HA	43:DX:39:ILE:HD12	1.92	0.52
43:DX:40:LYS:HG2	43:DX:51:VAL:HB	1.92	0.52
45:DZ:30:ASN:HA	45:DZ:89:PHE:HE2	1.75	0.52
45:DZ:69:THR:HA	45:DZ:91:LEU:HG	1.92	0.52
59:DA:67:U:H2'	59:DA:68:G:C8	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:850:C:N3	59:DA:928:G:N2	2.48	0.52
59:DA:852:G:H2'	59:DA:853:G:C8	2.45	0.52
59:DA:1179:C:H2'	59:DA:1180:C:H6	1.75	0.52
59:DA:1357:U:H2'	59:DA:1358:G:O4'	2.10	0.52
59:DA:1375:C:H2'	59:DA:1376:C:C6	2.44	0.52
2:AC:175:LEU:HD23	2:AC:175:LEU:H	1.74	0.51
3:AD:115:ARG:HB3	20:AA:407:G:H5"	1.90	0.51
16:AQ:83:ASP:OD1	16:AQ:83:ASP:N	2.42	0.51
20:AA:935:A:H2'	20:AA:936:C:C6	2.45	0.51
20:AA:1178:G:N1	20:AA:1181:G:OP2	2.42	0.51
25:BC:182:PRO:HB3	25:BC:183:PRO:HD2	1.91	0.51
27:BE:143:ASN:OD1	59:BA:2571:C:H2'	2.09	0.51
40:BU:18:LEU:HD11	40:BU:22:LYS:HE2	1.92	0.51
42:BW:76:VAL:HA	42:BW:102:HIS:O	2.10	0.51
42:BW:103:ILE:H	42:BW:103:ILE:HD12	1.75	0.51
46:B0:52:GLY:O	46:B0:59:LEU:HA	2.10	0.51
49:B5:8:LYS:O	49:B5:9:LYS:HB2	2.10	0.51
53:B9:7:VAL:HG21	53:B9:36:GLN:HG2	1.92	0.51
57:B1:15:ALA:H	57:B1:41:ARG:HG2	1.74	0.51
59:BA:189:G:H2'	59:BA:205:G:N2	2.24	0.51
59:BA:1412:A:H2'	59:BA:1413:G:C8	2.44	0.51
59:BA:1448:G:H2'	59:BA:149(B):A:C8	2.46	0.51
59:BA:2553:G:N3	59:BA:2583:G:H1'	2.26	0.51
59:BA:2794:C:N3	59:BA:2802:G:O6	2.43	0.51
60:BB:74:U:H2'	60:BB:75:G:C8	2.45	0.51
1:CB:114:ARG:O	1:CB:118:LEU:HG	2.10	0.51
9:CJ:55:LYS:HG3	20:CA:973:G:O4'	2.10	0.51
11:CL:115:LYS:C	11:CL:117:ARG:H	2.18	0.51
20:CA:68:G:H2'	20:CA:68(A):G:O4'	2.10	0.51
20:CA:614:A:H2'	20:CA:615:C:C6	2.46	0.51
20:CA:682:G:H1	20:CA:708:C:H42	1.58	0.51
20:CA:834:C:H2'	20:CA:835:U:H6	1.75	0.51
20:CA:977:A:O2'	20:CA:981:U:N3	2.31	0.51
21:CW:19:G:H4'	21:CW:20:U:H2'	1.92	0.51
23:CY:92:ILE:HG23	23:CY:93:GLU:H	1.75	0.51
25:DC:42:VAL:HB	25:DC:177:GLY:CA	2.40	0.51
27:DE:149:ARG:NH1	59:DA:2024:G:O3'	2.43	0.51
28:DF:1:MET:HB3	28:DF:3:GLU:HG2	1.90	0.51
32:DK:79:ARG:HA	32:DK:84:LEU:HB2	1.92	0.51
43:DX:5:TYR:HA	43:DX:7:VAL:HG23	1.92	0.51
57:D1:34:THR:HG23	57:D1:35:THR:HG23	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:D1:73:LEU:HD21	57:D1:94:LEU:HD23	1.92	0.51
59:DA:72:U:O4	59:DA:111:A:O2'	2.22	0.51
59:DA:278:A:H2'	59:DA:279:C:C6	2.45	0.51
59:DA:1011:G:O2'	59:DA:1013:C:H5"	2.10	0.51
59:DA:1495:A:C2	59:DA:1578:U:H1'	2.45	0.51
59:DA:1516:U:H2'	59:DA:1517:G:H8	1.75	0.51
59:DA:1775:U:OP1	59:DA:1979:C:O2'	2.23	0.51
59:DA:2086:U:H2'	59:DA:2087:G:C8	2.44	0.51
59:DA:2291:U:H2'	59:DA:2292:C:C6	2.44	0.51
59:DA:2573:C:OP1	59:DA:2574:G:H5"	2.09	0.51
59:DA:2736:G:H2'	59:DA:2737:G:C8	2.44	0.51
4:AE:98:THR:OG1	20:AA:6:G:N2	2.28	0.51
7:AH:88:LYS:C	7:AH:90:GLY:H	2.17	0.51
18:AS:46:GLY:HA2	18:AS:62:ILE:HG23	1.92	0.51
20:AA:232:G:H1'	20:AA:262:A:N1	2.25	0.51
20:AA:296:U:H2'	20:AA:297:G:C8	2.45	0.51
20:AA:1238:A:H2'	20:AA:1238:A:N3	2.26	0.51
21:AW:57:G:H2'	21:AW:57:G:N3	2.26	0.51
23:AY:29:THR:HA	23:AY:32:ILE:HB	1.93	0.51
29:BG:76:SER:HA	29:BG:83:ARG:HA	1.91	0.51
30:BH:139:GLN:OE1	59:BA:2759:G:N2	2.43	0.51
32:BK:78:ILE:HD11	32:BK:99:ILE:HD11	1.92	0.51
34:BO:77:ILE:HD11	39:BT:72:VAL:HG22	1.92	0.51
37:BR:28:LEU:O	37:BR:31:HIS:N	2.43	0.51
45:BZ:10:ARG:NH1	60:BB:75:G:O3'	2.42	0.51
59:BA:67:U:H2'	59:BA:68:G:C8	2.44	0.51
59:BA:413:C:H2'	59:BA:414:C:H6	1.73	0.51
59:BA:1195:G:H2'	59:BA:1196:C:H6	1.75	0.51
59:BA:1264:G:O3'	59:BA:2615:U:H5'	2.11	0.51
59:BA:1411:C:H42	59:BA:1591:G:H1	1.57	0.51
59:BA:1942:C:OP2	59:BA:1943:U:O2'	2.28	0.51
60:BB:102:G:H2'	60:BB:103:U:C6	2.46	0.51
4:CE:121:LYS:HG2	20:CA:7:G:H21	1.75	0.51
7:CH:14:ARG:HD3	7:CH:82:HIS:CE1	2.45	0.51
12:CM:89:GLY:O	12:CM:93:ARG:HG3	2.10	0.51
12:CM:105:THR:HG22	20:CA:1229:A:N6	2.25	0.51
15:CP:2:VAL:HA	15:CP:23:ASP:HA	1.92	0.51
16:CQ:63:ARG:NH2	20:CA:186(I):U:O2'	2.44	0.51
20:CA:113:G:H2'	20:CA:114:U:H6	1.75	0.51
20:CA:374:A:O2'	20:CA:451:A:OP2	2.26	0.51
20:CA:1027:C:O2	20:CA:1034:G:N1	2.34	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:CY:19:ALA:CB	23:CY:25:LYS:HZ2	2.22	0.51
25:DC:20:VAL:HG22	25:DC:226:ASN:H	1.74	0.51
26:DD:161:THR:OG1	26:DD:162:SER:N	2.43	0.51
27:DE:172:VAL:HG21	27:DE:182:LEU:HG	1.92	0.51
30:DH:149:ARG:HH21	30:DH:163:TYR:HA	1.74	0.51
31:DJ:33:UNK:HA	59:DA:1055:G:H5"	1.91	0.51
33:DN:34:LEU:HD11	33:DN:119:ARG:O	2.09	0.51
34:DO:14:THR:HB	34:DO:16:ALA:H	1.76	0.51
34:DO:112:MET:SD	34:DO:112:MET:N	2.76	0.51
57:D1:27:GLU:HA	57:D1:31:GLY:HA2	1.92	0.51
58:D4:2:LYS:HG3	60:DB:39:A:H61	1.74	0.51
59:DA:8:A:N1	59:DA:2895:U:C4	2.78	0.51
59:DA:997:G:H2'	59:DA:998:C:H6	1.74	0.51
59:DA:1416:G:N2	59:DA:1582:C:N3	2.49	0.51
59:DA:2066:C:H2'	59:DA:2067:G:H8	1.75	0.51
59:DA:2455:G:H2'	59:DA:2456:C:H6	1.75	0.51
1:AB:184:VAL:HB	1:AB:198:ASP:H	1.75	0.51
7:AH:26:VAL:HG22	7:AH:32:LYS:NZ	2.25	0.51
14:AO:79:ARG:HA	14:AO:82:ILE:HG22	1.91	0.51
20:AA:672:U:O2'	20:AA:673:G:O5'	2.27	0.51
26:BD:246:PRO:HB2	26:BD:255:LYS:HE2	1.92	0.51
27:BE:66:HIS:O	27:BE:68:ALA:N	2.43	0.51
31:BJ:23:UNK:HA	31:BJ:111:UNK:O	2.09	0.51
41:BV:3:ALA:HB3	41:BV:14:VAL:HG23	1.91	0.51
42:BW:79:GLY:C	59:BA:25:U:H4'	2.35	0.51
52:B8:8:LYS:HG3	59:BA:252:G:O6	2.10	0.51
59:BA:137(A):C:H2'	59:BA:137(B):G:C8	2.45	0.51
59:BA:950:G:H2'	59:BA:951:C:C6	2.44	0.51
59:BA:1400:G:H2'	59:BA:1401:G:H8	1.76	0.51
59:BA:1410:G:H2'	59:BA:1411:C:H6	1.75	0.51
59:BA:2039:C:H2'	59:BA:2040:C:O4'	2.10	0.51
59:BA:2560:C:H2'	59:BA:2561:A:C8	2.45	0.51
59:BA:2838:G:H1	59:BA:2880:C:H42	1.57	0.51
1:CB:236:TYR:HA	1:CB:239:VAL:HB	1.93	0.51
8:CI:125:TYR:CE2	20:CA:967:C:H4'	2.45	0.51
8:CI:128:ARG:HD3	8:CI:128:ARG:H	1.75	0.51
18:CS:4:SER:O	20:CA:1314:C:N4	2.44	0.51
20:CA:766:A:H2'	20:CA:767:A:O4'	2.11	0.51
20:CA:815:A:N3	20:CA:1527:C:H1'	2.26	0.51
20:CA:1124:G:H1	20:CA:1149:C:N4	2.06	0.51
23:CY:17:ILE:H	23:CY:83:ASP:HA	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:CY:120:THR:OG1	23:CY:121:VAL:N	2.44	0.51
25:DC:132:LEU:HD12	25:DC:138:LEU:HD23	1.92	0.51
28:DF:25:PRO:HD3	28:DF:115:ALA:O	2.10	0.51
31:DJ:24:UNK:HA	31:DJ:84:UNK:C	2.40	0.51
57:D1:60:PHE:HE2	57:D1:73:LEU:HD22	1.75	0.51
59:DA:580:C:H2'	59:DA:581:C:C6	2.45	0.51
59:DA:1292:U:H2'	59:DA:1293:C:H6	1.75	0.51
59:DA:1906:G:N2	59:DA:1924:C:N3	2.47	0.51
59:DA:2634:G:N2	59:DA:2784:C:N3	2.43	0.51
60:DB:24:G:N1	60:DB:56:G:N2	2.57	0.51
5:AF:61:LEU:HB2	5:AF:63:TYR:HE2	1.76	0.51
7:AH:6:ILE:HD12	7:AH:6:ILE:H	1.74	0.51
20:AA:266:G:O2'	20:AA:268:C:OP2	2.22	0.51
20:AA:370:C:H42	20:AA:391:G:H1	1.57	0.51
20:AA:612:C:H2'	20:AA:613:C:H6	1.75	0.51
20:AA:1202:G:H2'	20:AA:1203:C:H5'	1.93	0.51
23:AY:408:VAL:HG23	23:AY:409:ILE:HG12	1.93	0.51
25:BC:115:VAL:HG21	25:BC:154:ILE:HD11	1.92	0.51
26:BD:161:THR:HB	26:BD:178:PRO:HG3	1.92	0.51
27:BE:36:ARG:HH21	27:BE:88:GLY:HA2	1.75	0.51
28:BF:40:GLN:HE22	28:BF:184:TYR:HB2	1.75	0.51
36:BQ:20:ALA:C	36:BQ:22:LYS:H	2.18	0.51
36:BQ:36:ALA:HA	36:BQ:129:THR:HG22	1.91	0.51
38:BS:67:ARG:HA	38:BS:99:LYS:HB2	1.92	0.51
59:BA:438:G:H2'	59:BA:439:G:H8	1.75	0.51
59:BA:1175:U:H5	59:BA:1177:A:N1	2.07	0.51
10:CK:48:ILE:HD11	10:CK:64:ALA:HA	1.91	0.51
20:CA:116:A:H2'	20:CA:117:G:O4'	2.11	0.51
20:CA:825:G:H2'	20:CA:826:C:C6	2.45	0.51
20:CA:1148:U:H2'	20:CA:1149:C:O4'	2.11	0.51
20:CA:1206:G:H2'	20:CA:1207:G:O4'	2.09	0.51
20:CA:1340:A:C2	20:CA:1341:U:C2	2.98	0.51
25:DC:118:PRO:HD3	25:DC:147:GLY:HA2	1.93	0.51
26:DD:79:VAL:O	26:DD:96:HIS:HB2	2.11	0.51
41:DV:38:LEU:O	41:DV:47:VAL:HG11	2.10	0.51
47:D2:48:HIS:CG	47:D2:49:LYS:H	2.28	0.51
48:D3:22:ALA:HB2	48:D3:49:LYS:HD3	1.93	0.51
52:D8:23:VAL:HG13	52:D8:48:PHE:HA	1.91	0.51
59:DA:648:G:H4'	59:DA:2351:G:H5"	1.92	0.51
59:DA:824:A:H1'	59:DA:2358:G:N7	2.25	0.51
59:DA:859:G:O2'	59:DA:916:G:O6	2.22	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2314:C:H2'	59:DA:2315:G:C8	2.45	0.51
1:AB:59:GLU:HG2	1:AB:225:ALA:HB2	1.92	0.51
3:AD:13:ARG:HG3	3:AD:40:PRO:HD3	1.93	0.51
12:AM:37:THR:HB	12:AM:56:LEU:HA	1.93	0.51
20:AA:1478:C:H2'	20:AA:1479:C:C6	2.45	0.51
26:BD:53:PHE:O	26:BD:218:ARG:HG2	2.10	0.51
27:BE:144:ARG:O	59:BA:2052:G:O2'	2.29	0.51
29:BG:103:LEU:HA	29:BG:106:LEU:HB3	1.91	0.51
35:BP:6:LEU:HG	35:BP:7:ARG:H	1.75	0.51
52:B8:5:LYS:NZ	59:BA:253:C:OP2	2.39	0.51
52:B8:16:ILE:HG21	52:B8:65:GLU:OXT	2.10	0.51
59:BA:717:G:H2'	59:BA:718:A:O4'	2.11	0.51
59:BA:1278:A:H2'	59:BA:1279:G:H8	1.75	0.51
59:BA:1384:A:H1'	59:BA:1405:U:H1'	1.93	0.51
59:BA:1853:A:H2'	59:BA:1854:A:C8	2.45	0.51
59:BA:2649:U:H2'	59:BA:2650:U:C6	2.45	0.51
59:BA:2676:C:H2'	59:BA:2677:G:C8	2.44	0.51
59:BA:2726:U:O2'	59:BA:2727:G:O5'	2.28	0.51
1:CB:87:ARG:HH12	1:CB:232:PRO:HA	1.74	0.51
1:CB:101:MET:HB2	1:CB:102:LEU:HD12	1.93	0.51
4:CE:100:VAL:HG12	4:CE:115:VAL:HB	1.93	0.51
9:CJ:24:VAL:HA	9:CJ:34:VAL:HG11	1.93	0.51
10:CK:51:LYS:HA	10:CK:55:LYS:HG3	1.91	0.51
15:CP:69:THR:HG21	20:CA:375:U:H5"	1.92	0.51
18:CS:71:LEU:C	18:CS:73:GLU:H	2.15	0.51
18:CS:77:THR:OG1	18:CS:78:ARG:N	2.44	0.51
23:CY:137:ASN:HD22	23:CY:138:LYS:H	0.62	0.51
23:CY:512:ILE:HD12	23:CY:589:ALA:HB1	1.92	0.51
26:DD:108:PRO:HB3	26:DD:143:HIS:NE2	2.25	0.51
26:DD:133:LEU:N	26:DD:187:GLY:O	2.44	0.51
27:DE:8:LYS:NZ	27:DE:190:GLY:O	2.30	0.51
27:DE:36:ARG:NH2	27:DE:88:GLY:HA2	2.26	0.51
29:DG:97:ASP:HA	29:DG:100:TRP:HD1	1.76	0.51
37:DR:23:ASN:ND2	59:DA:1294:U:H1'	2.26	0.51
42:DW:18:ARG:HG2	42:DW:76:VAL:HG11	1.92	0.51
44:DY:46:LYS:H	44:DY:62:GLU:HB2	1.76	0.51
46:D0:68:GLU:HG3	46:D0:80:HIS:HB2	1.91	0.51
59:DA:195:A:H5"	59:DA:196:A:OP2	2.11	0.51
1:AB:78:GLN:O	1:AB:81:VAL:HG22	2.11	0.51
2:AC:7:PRO:HG2	2:AC:201:TYR:HE2	1.76	0.51
3:AD:91:SER:HA	3:AD:94:LEU:HD12	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AD:101:LEU:HD22	3:AD:138:TYR:CD2	2.45	0.51
9:AJ:87:THR:O	9:AJ:89:ASP:N	2.44	0.51
10:AK:120:ARG:HH11	10:AK:126:ARG:HH12	1.59	0.51
14:AO:64:ARG:HH21	20:AA:581:G:H4'	1.74	0.51
20:AA:120:A:H2'	20:AA:122:G:C8	2.46	0.51
20:AA:1044:A:C5	20:AA:1045:C:H1'	2.45	0.51
23:AY:422:GLU:O	23:AY:425:SER:HB2	2.10	0.51
23:AY:544:LYS:HB3	23:AY:583:LYS:HE3	1.93	0.51
28:BF:10:PRO:HG3	28:BF:19:GLU:HA	1.92	0.51
32:BK:91:PRO:HG3	59:BA:1062:G:H21	1.75	0.51
33:BN:58:ASP:OD1	33:BN:58:ASP:N	2.44	0.51
35:BP:136:GLU:HA	35:BP:139:LYS:HG2	1.92	0.51
37:BR:100:LEU:HD22	37:BR:101:ALA:H	1.76	0.51
39:BT:83:ILE:HD12	39:BT:84:GLN:HE22	1.75	0.51
46:B0:51:VAL:HG22	46:B0:81:VAL:HG23	1.91	0.51
51:B7:39:ARG:HH12	51:B7:40:TRP:CD1	2.29	0.51
51:B7:40:TRP:CZ2	59:BA:469:G:N1	2.79	0.51
59:BA:37:C:H4'	59:BA:451:C:OP1	2.10	0.51
59:BA:766:C:H2'	59:BA:767:U:C6	2.46	0.51
59:BA:1007:C:H3'	59:BA:1008:C:H6	1.74	0.51
59:BA:1213:A:N6	59:BA:1236:G:H1'	2.26	0.51
59:BA:1347:G:H2'	59:BA:1348:G:C8	2.46	0.51
59:BA:1391:U:H3	59:BA:1394:U:H5	1.57	0.51
59:BA:1682:G:P	59:BA:1699:G:H22	2.34	0.51
5:CF:8:ILE:HG23	5:CF:88:VAL:HG22	1.92	0.51
8:CI:128:ARG:HG3	21:CW:32:C:OP2	2.10	0.51
11:CL:20:LYS:H	11:CL:20:LYS:HD3	1.76	0.51
20:CA:442:C:H42	20:CA:492:G:H1	1.59	0.51
20:CA:669:U:H2'	20:CA:670:G:C8	2.46	0.51
20:CA:794:A:H2'	20:CA:795:C:H6	1.75	0.51
20:CA:865:A:H2'	20:CA:866:C:C6	2.45	0.51
20:CA:1113:C:N4	20:CA:1187:G:H1	2.06	0.51
23:CY:486:THR:OG1	23:CY:487:ILE:N	2.44	0.51
26:DD:147:LEU:HD21	26:DD:183:ARG:HH12	1.76	0.51
29:DG:27:ASN:HB3	29:DG:30:GLU:HB3	1.93	0.51
35:DP:64:LYS:O	35:DP:66:GLY:N	2.43	0.51
41:DV:18:LEU:HA	41:DV:95:LEU:HD22	1.92	0.51
45:DZ:18:LEU:HD22	45:DZ:25:PRO:HB3	1.91	0.51
59:DA:221:A:O2'	59:DA:222:A:O5'	2.26	0.51
59:DA:222:A:N1	59:DA:233:A:H5'	2.26	0.51
59:DA:485:C:H2'	59:DA:486:C:H6	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1410:G:H2'	59:DA:1411:C:H6	1.75	0.51
59:DA:1796:U:H2'	59:DA:1797:C:H6	1.73	0.51
59:DA:1811:G:H2'	59:DA:1812:A:H8	1.73	0.51
59:DA:2557:G:H2'	59:DA:2558:C:H6	1.75	0.51
6:AG:46:ALA:O	6:AG:50:ILE:HG13	2.11	0.51
8:AI:124:GLN:NE2	20:AA:1232:U:OP1	2.42	0.51
20:AA:584:G:H2'	20:AA:585:G:H8	1.74	0.51
20:AA:767:A:H2'	20:AA:768:A:O4'	2.08	0.51
23:AY:617:MET:HG2	23:AY:621:ILE:HD13	1.92	0.51
28:BF:60:SER:N	59:BA:469:G:OP1	2.43	0.51
32:BK:95:LYS:HG3	32:BK:135:GLY:O	2.11	0.51
39:BT:49:VAL:H	39:BT:63:VAL:HG13	1.76	0.51
41:BV:24:LYS:HB3	59:BA:1162:G:H4'	1.92	0.51
47:B2:5:GLU:O	47:B2:9:GLN:HG2	2.10	0.51
49:B5:3:LYS:H	49:B5:3:LYS:HE2	1.76	0.51
59:BA:1288:U:C2	59:BA:1327:C:C2	2.99	0.51
59:BA:1394:U:H5"	59:BA:1604:C:P	2.51	0.51
59:BA:2373:G:H2'	59:BA:2374:C:C6	2.46	0.51
59:BA:2707:G:H2'	59:BA:2708:G:H8	1.74	0.51
59:BA:2712:U:H2'	59:BA:2712:U:O2	2.10	0.51
20:CA:137:C:N4	20:CA:226:G:H1	2.08	0.51
25:DC:115:VAL:N	25:DC:145:THR:HG22	2.25	0.51
26:DD:94:LEU:HG	26:DD:104:TYR:HE2	1.74	0.51
32:DK:30:HIS:HA	32:DK:59:ILE:HD12	1.91	0.51
34:DO:12:ASP:OD2	34:DO:12:ASP:N	2.42	0.51
34:DO:71:ARG:HD2	39:DT:74:ARG:NH2	2.25	0.51
46:D0:67:VAL:HG12	46:D0:68:GLU:H	1.75	0.51
49:D5:15:ARG:HH11	49:D5:15:ARG:HA	1.75	0.51
59:DA:1326:U:H2'	59:DA:1327:C:O4'	2.10	0.51
59:DA:1376:C:H2'	59:DA:1377:G:H8	1.76	0.51
59:DA:2152:G:H2'	59:DA:2153:G:C8	2.46	0.51
1:AB:49:GLU:O	1:AB:52:GLU:HB3	2.11	0.51
1:AB:162:ILE:HG13	1:AB:185:ILE:O	2.11	0.51
2:AC:156:ARG:N	2:AC:196:LEU:HD12	2.25	0.51
3:AD:11:LEU:HB3	3:AD:66:ARG:NH1	2.26	0.51
3:AD:57:ARG:NH2	4:AE:107:ARG:HH21	2.02	0.51
6:AG:15:ASP:OD1	6:AG:18:TYR:HB2	2.11	0.51
11:AL:49:ASN:HD21	20:AA:528:C:H42	1.59	0.51
18:AS:44:MET:HE1	18:AS:71:LEU:HD11	1.93	0.51
20:AA:368:U:C5	23:AY:354:ARG:HD3	2.46	0.51
20:AA:1157:A:H61	20:AA:1178:G:H1'	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AW:39:U:H2'	21:AW:40:G:C8	2.43	0.51
23:AY:197:ARG:HG3	23:AY:198:GLU:H	1.75	0.51
28:BF:154:VAL:O	28:BF:156:LEU:N	2.44	0.51
33:BN:66:LYS:HE2	59:BA:1022:G:N7	2.25	0.51
33:BN:69:GLN:HE21	59:BA:1022:G:H5"	1.75	0.51
41:BV:17:GLY:HA2	41:BV:96:ILE:HB	1.93	0.51
48:B3:52:HIS:HD2	60:BB:83:G:H4'	1.76	0.51
59:BA:224:G:H2'	59:BA:225:A:O4'	2.11	0.51
59:BA:647:G:H2'	59:BA:648:G:O4'	2.11	0.51
59:BA:1914:C:H3'	59:BA:1915:U:H6	1.76	0.51
59:BA:2379:G:H2'	59:BA:2380:C:C6	2.45	0.51
59:BA:2736:G:H2'	59:BA:2737:G:H8	1.75	0.51
59:BA:2838:G:H2'	59:BA:2839:G:H8	1.75	0.51
4:CE:14:ARG:HD2	20:CA:17:U:H5"	1.93	0.51
20:CA:339:C:H2'	20:CA:340:U:C6	2.46	0.51
20:CA:1161:C:H2'	20:CA:1162:C:C6	2.46	0.51
20:CA:1320:C:H2'	20:CA:1321:C:C6	2.46	0.51
21:CW:19:G:H1	21:CW:56:C:H42	1.59	0.51
23:CY:96:ARG:O	23:CY:100:VAL:HG12	2.10	0.51
23:CY:392:GLU:CD	23:CY:392:GLU:H	2.18	0.51
25:DC:81:GLY:O	25:DC:84:ILE:HB	2.10	0.51
25:DC:84:ILE:HD11	25:DC:97:GLY:N	2.26	0.51
26:DD:24:ILE:HA	26:DD:82:ILE:HD13	1.92	0.51
28:DF:38:ARG:HA	28:DF:41:LEU:HB2	1.91	0.51
30:DH:125:VAL:HG22	30:DH:131:VAL:HG22	1.91	0.51
34:DO:13:ASN:HB3	34:DO:97:ARG:HG3	1.91	0.51
40:DU:3:ARG:N	59:DA:445:C:OP1	2.26	0.51
59:DA:1062:G:H2'	59:DA:1063:G:C8	2.45	0.51
59:DA:1287:A:H2	59:DA:1649:G:C4'	2.20	0.51
59:DA:1490:A:O3'	59:DA:1494:A:N6	2.36	0.51
59:DA:2023:G:C2	59:DA:2040:C:O2	2.61	0.51
59:DA:2081:C:H2'	59:DA:2082:A:C8	2.46	0.51
1:AB:97:TRP:HZ2	1:AB:176:GLU:HG3	1.75	0.51
5:AF:9:VAL:HB	5:AF:87:ARG:HB2	1.93	0.51
11:AL:69:TYR:CG	11:AL:70:ILE:N	2.77	0.51
13:AN:23:ARG:HA	13:AN:29:ARG:O	2.11	0.51
14:AO:29:VAL:HG11	14:AO:81:LEU:HD21	1.92	0.51
20:AA:383:A:O5'	20:AA:383:A:H8	1.94	0.51
33:BN:114:ARG:NH2	59:BA:528:A:H5"	2.21	0.51
39:BT:46:GLU:HG3	39:BT:65:LYS:HD3	1.92	0.51
39:BT:58:ASN:HD22	39:BT:58:ASN:N	2.08	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BX:55:ASN:HB2	43:BX:80:ILE:HG23	1.92	0.51
47:B2:68:ARG:O	47:B2:70:GLN:NE2	2.44	0.51
59:BA:19:C:H2'	59:BA:20:C:H6	1.75	0.51
59:BA:575:A:O2'	59:BA:2501:C:OP1	2.29	0.51
59:BA:672:C:H42	59:BA:808:G:H1	1.57	0.51
59:BA:767:U:H2'	59:BA:768:G:C8	2.46	0.51
59:BA:1845:G:H2'	59:BA:1846:G:H8	1.75	0.51
59:BA:1880:C:H2'	59:BA:1881:C:H6	1.75	0.51
59:BA:2347:C:H2'	59:BA:2348:U:C6	2.46	0.51
59:BA:2696:U:H2'	59:BA:2697:G:C8	2.46	0.51
4:CE:118:ILE:HG13	4:CE:120:THR:HG22	1.93	0.51
11:CL:31:PRO:HB3	20:CA:553:A:O4'	2.11	0.51
20:CA:22:G:H2'	20:CA:23:C:C6	2.46	0.51
20:CA:328:C:H4'	20:CA:329:A:H5'	1.93	0.51
20:CA:490:G:H2'	20:CA:491:G:H8	1.75	0.51
20:CA:834:C:H42	20:CA:852:G:H1	1.59	0.51
20:CA:1059:C:H2'	20:CA:1060:C:O4'	2.11	0.51
23:CY:107:VAL:HG22	23:CY:135:PHE:HB3	1.93	0.51
25:DC:71:LYS:HG3	25:DC:72:GLN:H	1.75	0.51
43:DX:36:LYS:HA	43:DX:39:ILE:HB	1.93	0.51
45:DZ:69:THR:HG22	45:DZ:90:VAL:HA	1.93	0.51
52:D8:8:LYS:HG3	59:DA:246:C:H42	1.75	0.51
59:DA:548:A:H2'	59:DA:549:G:O4'	2.11	0.51
59:DA:697:C:H2'	59:DA:698:C:C6	2.46	0.51
59:DA:1007:C:H5"	59:DA:1008:C:H3'	1.93	0.51
59:DA:1024:G:OP2	59:DA:1025:G:H3'	2.11	0.51
59:DA:1765:C:H2'	59:DA:1766:U:C6	2.46	0.51
59:DA:2662:A:H2'	59:DA:2663:G:O4'	2.11	0.51
3:AD:35:ARG:HD3	20:AA:412:A:H2	1.76	0.51
7:AH:20:TYR:OH	7:AH:76:PRO:O	2.24	0.51
8:AI:39:GLY:HA3	20:AA:1291:G:H4'	1.91	0.51
8:AI:50:LEU:HB3	8:AI:56:LEU:HA	1.93	0.51
13:AN:48:ALA:HB2	13:AN:53:LEU:HD12	1.93	0.51
20:AA:271:C:H2'	20:AA:272:C:O4'	2.10	0.51
20:AA:280:C:H3'	20:AA:281:G:C5'	2.38	0.51
20:AA:1081:G:H2'	20:AA:1082:G:C8	2.46	0.51
21:AW:1:G:N2	21:AW:73:A:O2'	2.44	0.51
23:AY:614:GLU:HA	23:AY:617:MET:HB3	1.93	0.51
26:BD:6:PHE:CE1	26:BD:18:VAL:HB	2.46	0.51
26:BD:261:LYS:HG2	26:BD:263:ARG:H	1.76	0.51
30:BH:30:LYS:HD2	30:BH:81:GLU:HG2	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:BH:96:ALA:HB3	30:BH:128:PRO:HA	1.92	0.51
36:BQ:87:LYS:HB2	59:BA:2277:G:OP1	2.11	0.51
39:BT:26:ASP:OD2	39:BT:27:THR:N	2.36	0.51
40:BU:92:ARG:O	40:BU:96:ALA:N	2.44	0.51
42:BW:90:ARG:HH11	59:BA:751:A:H4'	1.75	0.51
44:BY:97:ARG:HH21	59:BA:300:A:P	2.34	0.51
45:BZ:10:ARG:O	45:BZ:35:ARG:NH2	2.44	0.51
49:B5:55:ARG:O	49:B5:56:LYS:HB2	2.11	0.51
59:BA:276:A:H2'	59:BA:277:C:C6	2.46	0.51
59:BA:650:C:H2'	59:BA:651:G:O4'	2.11	0.51
59:BA:744:G:H2'	59:BA:745:G:O4'	2.11	0.51
59:BA:1036:G:H2'	59:BA:1037:G:C8	2.46	0.51
59:BA:1651:G:H2'	59:BA:1652:A:O4'	2.11	0.51
3:CD:54:TYR:HD1	3:CD:209:ARG:HH22	1.57	0.51
4:CE:125:SER:OG	20:CA:19:C:OP1	2.26	0.51
15:CP:30:GLY:HA2	20:CA:309:G:H5"	1.93	0.51
19:CT:37:SER:O	19:CT:41:ILE:HG23	2.10	0.51
20:CA:266:G:O2'	20:CA:267:C:O5'	2.29	0.51
20:CA:584:G:H2'	20:CA:585:G:H8	1.75	0.51
20:CA:974:A:H8	20:CA:974:A:OP1	1.94	0.51
23:CY:130:VAL:O	23:CY:132:ARG:HD3	2.11	0.51
26:DD:175:LEU:HD12	26:DD:185:VAL:HG21	1.92	0.51
26:DD:206:LEU:O	26:DD:211:ARG:HD3	2.11	0.51
36:DQ:90:VAL:HG12	36:DQ:93:TYR:HE1	1.76	0.51
37:DR:14:SER:HA	37:DR:17:ARG:HD2	1.93	0.51
53:D9:9:ARG:NH2	59:DA:1033:U:OP1	2.30	0.51
59:DA:273(A):G:N2	59:DA:364:C:N3	2.51	0.51
59:DA:273(G):C:H3'	59:DA:274:G:C5'	2.40	0.51
59:DA:380:U:H3	59:DA:394:A:N6	2.08	0.51
59:DA:678:C:N4	59:DA:799:G:H1	2.09	0.51
59:DA:847:U:O2'	59:DA:848:G:H8	1.94	0.51
59:DA:1732:A:H2'	59:DA:1733:G:C8	2.46	0.51
59:DA:1836:C:H42	59:DA:1904:G:H1	1.59	0.51
59:DA:2290:G:H1	59:DA:2342:C:N4	2.06	0.51
59:DA:2852:G:H2'	59:DA:2853:C:C6	2.46	0.51
25:BC:218:THR:O	59:BA:2175:C:H1'	2.10	0.50
28:BF:45:ARG:HA	28:BF:45:ARG:HE	1.75	0.50
35:BP:49:ARG:CZ	52:B8:59:LYS:HD2	2.41	0.50
36:BQ:13:GLN:HB3	59:BA:954:G:H5"	1.92	0.50
39:BT:29:ARG:HG2	39:BT:30:VAL:HB	1.92	0.50
52:B8:61:LEU:O	52:B8:64:TYR:N	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:B4:15:ILE:H	58:B4:32:TYR:CB	2.23	0.50
59:BA:25:U:H3	59:BA:515:A:N6	2.09	0.50
59:BA:301:G:O2'	59:BA:302:C:O5'	2.29	0.50
59:BA:325:G:H2'	59:BA:326:G:C8	2.46	0.50
59:BA:353:G:H2'	59:BA:354:G:C8	2.45	0.50
59:BA:533:G:H2'	59:BA:534:U:H6	1.75	0.50
59:BA:1295:C:N4	59:BA:1645:G:H1	2.08	0.50
59:BA:2002:G:H2'	59:BA:2003:G:C8	2.46	0.50
59:BA:2126:A:N3	59:BA:2127:G:H1'	2.27	0.50
59:BA:2471:C:H2'	59:BA:2472:G:O4'	2.10	0.50
59:BA:2689:U:OP2	59:BA:2872:G:N2	2.44	0.50
16:CQ:12:SER:HB2	16:CQ:14:LYS:HG3	1.93	0.50
16:CQ:13:ASP:O	16:CQ:15:MET:N	2.44	0.50
20:CA:1479:C:H2'	20:CA:1480:G:C8	2.44	0.50
23:CY:22:ASP:O	23:CY:24:GLY:HA3	2.09	0.50
23:CY:134:ALA:HB3	23:CY:258:VAL:HG13	1.93	0.50
23:CY:136:ALA:H	23:CY:260:LEU:HA	1.76	0.50
25:DC:44:VAL:CB	25:DC:174:ALA:HB3	2.37	0.50
25:DC:150:ILE:HA	25:DC:153:ILE:HG13	1.93	0.50
28:DF:102:PRO:HB2	28:DF:105:VAL:HG23	1.93	0.50
44:DY:85:VAL:HG13	44:DY:94:LYS:HB3	1.93	0.50
51:D7:9:ARG:NH1	51:D7:46:VAL:O	2.44	0.50
59:DA:270(J):G:H2'	59:DA:270(K):G:O4'	2.11	0.50
59:DA:1273:U:H5'	59:DA:1646:C:N4	2.27	0.50
59:DA:1312:U:H5'	59:DA:1313:U:C6	2.46	0.50
59:DA:2795:G:H3'	59:DA:2797:U:C5'	2.41	0.50
2:AC:51:GLY:C	2:AC:115:LEU:HD21	2.36	0.50
13:AN:4:LYS:HG2	20:AA:994:A:C2	2.46	0.50
19:AT:17:ARG:HH12	20:AA:102:G:H5"	1.76	0.50
20:AA:255:G:H2'	20:AA:256:U:C6	2.46	0.50
20:AA:255:G:H2'	20:AA:256:U:H6	1.76	0.50
20:AA:643:C:H2'	20:AA:644:G:H8	1.76	0.50
20:AA:1428:A:H2'	20:AA:1429:C:O4'	2.11	0.50
20:AA:1479:C:H2'	20:AA:1480:G:H8	1.76	0.50
23:AY:8:ASP:HB3	23:AY:11:ARG:HG2	1.93	0.50
23:AY:20:HIS:CG	23:AY:21:ILE:H	2.27	0.50
25:BC:42:VAL:HG11	25:BC:176:VAL:HG23	1.93	0.50
51:B7:28:ARG:O	51:B7:31:LEU:HB2	2.11	0.50
52:B8:52:LYS:O	52:B8:55:ALA:N	2.44	0.50
59:BA:270(C):A:H62	59:BA:270(Y):G:H21	1.59	0.50
59:BA:1088:A:N3	59:BA:1088:A:H2'	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1540:G:N2	59:BA:1541:U:H1'	2.26	0.50
59:BA:2041:U:O5'	59:BA:2041:U:H6	1.94	0.50
4:CE:35:GLY:N	4:CE:112:LEU:HD13	2.27	0.50
4:CE:80:ILE:HG22	7:CH:104:ARG:HH21	1.77	0.50
7:CH:29:SER:OG	7:CH:32:LYS:HE2	2.11	0.50
7:CH:121:ASP:OD1	7:CH:121:ASP:N	2.43	0.50
11:CL:45:PRO:HD2	11:CL:49:ASN:HB2	1.92	0.50
16:CQ:44:ALA:HB2	16:CQ:59:ILE:HD11	1.93	0.50
20:CA:68(F):C:H2'	20:CA:68(G):G:H8	1.76	0.50
20:CA:431:A:H2'	20:CA:432:A:C8	2.46	0.50
20:CA:764:C:H2'	20:CA:765:G:C8	2.47	0.50
20:CA:1432:G:OP1	39:DT:107:ASP:HB2	2.11	0.50
28:DF:54:ARG:HG2	59:DA:801:G:C5	2.47	0.50
28:DF:68:LYS:C	28:DF:70:THR:H	2.18	0.50
32:DK:72:PRO:O	32:DK:111:LYS:NZ	2.30	0.50
32:DK:125:ARG:H	32:DK:125:ARG:HD2	1.75	0.50
33:DN:15:LEU:HD21	33:DN:55:VAL:HG13	1.94	0.50
37:DR:5:LYS:HE3	59:DA:2820:A:O3'	2.12	0.50
45:DZ:97:GLU:HG2	45:DZ:127:LYS:HA	1.92	0.50
47:D2:26:ARG:O	47:D2:29:LYS:HB2	2.11	0.50
59:DA:1782:C:O2	59:DA:2608:G:O2'	2.27	0.50
59:DA:2230:G:H2'	59:DA:2231:C:H6	1.77	0.50
59:DA:2662:A:H8	59:DA:2662:A:O5'	1.93	0.50
4:AE:32:VAL:HG21	4:AE:59:GLY:HA2	1.93	0.50
14:AO:22:THR:HB	20:AA:658:G:H4'	1.93	0.50
17:AR:81:PHE:HB3	20:AA:718:G:H1	1.77	0.50
18:AS:4:SER:O	20:AA:1314:C:N4	2.44	0.50
20:AA:399:G:H2'	20:AA:400:C:C6	2.47	0.50
20:AA:581:G:N2	20:AA:760:G:N7	2.58	0.50
20:AA:1077:G:N2	20:AA:1079:G:H3'	2.26	0.50
20:AA:1284:C:OP2	20:AA:1285:A:O2'	2.23	0.50
20:AA:1381:U:H5'	20:AA:1382:C:OP2	2.11	0.50
20:AA:1422:G:H2'	20:AA:1423:G:C8	2.47	0.50
25:BC:19:LYS:HE3	25:BC:20:VAL:H	1.77	0.50
25:BC:47:LYS:HB3	25:BC:212:SER:HB2	1.92	0.50
25:BC:73:VAL:C	25:BC:75:VAL:H	2.19	0.50
27:BE:44:TYR:O	27:BE:45:THR:OG1	2.23	0.50
27:BE:109:LYS:HE3	59:BA:2680:C:H5"	1.93	0.50
30:BH:126:PRO:HG2	30:BH:130:ARG:HH12	1.76	0.50
34:BO:64:ARG:HB3	34:BO:79:PHE:HB2	1.93	0.50
37:BR:24:GLN:O	37:BR:28:LEU:HB2	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BU:45:TYR:OH	59:BA:532:A:OP1	2.29	0.50
45:BZ:44:PHE:CZ	45:BZ:86:VAL:HG21	2.45	0.50
59:BA:488:G:H1'	59:BA:492:A:N6	2.26	0.50
59:BA:1049:C:H1'	59:BA:1113:U:H4'	1.93	0.50
59:BA:1466:G:H2'	59:BA:1547:C:H41	1.76	0.50
59:BA:1553:A:H5'	59:BA:1554:A:OP2	2.11	0.50
59:BA:1669:A:O3'	59:BA:2549:G:H5'	2.10	0.50
59:BA:1748:G:H2'	59:BA:1749:A:C8	2.47	0.50
59:BA:2324:C:O2'	59:BA:2337:G:H5'	2.11	0.50
59:BA:2656:U:H3	59:BA:2665:A:H62	1.59	0.50
59:BA:2673:G:H2'	59:BA:2674:G:H8	1.75	0.50
59:BA:2676:C:H2'	59:BA:2677:G:H8	1.76	0.50
60:BB:24:G:H5"	60:BB:25:A:OP1	2.11	0.50
60:BB:105:G:H2'	60:BB:106:G:H8	1.76	0.50
2:CC:173:VAL:HG13	2:CC:182:ILE:HD13	1.93	0.50
9:CJ:52:GLY:HA2	20:CA:1059:C:O2'	2.11	0.50
15:CP:80:PHE:HB3	20:CA:458(E):A:H5"	1.91	0.50
20:CA:105:G:H2'	20:CA:106:C:C6	2.46	0.50
20:CA:341:C:H2'	20:CA:342:C:H6	1.77	0.50
20:CA:562:C:H41	20:CA:884:U:H2'	1.76	0.50
20:CA:713:G:H21	20:CA:777:A:H1'	1.77	0.50
20:CA:825:G:H2'	20:CA:826:C:H6	1.75	0.50
20:CA:1295:G:O2'	20:CA:1302:U:O4	2.25	0.50
23:CY:28:THR:HG21	23:CY:107:VAL:HG21	1.92	0.50
26:DD:210:GLY:HA2	59:DA:764:A:H5'	1.93	0.50
28:DF:54:ARG:HD2	28:DF:81:PRO:HD3	1.92	0.50
31:DJ:63:UNK:O	31:DJ:67:UNK:N	2.45	0.50
33:DN:53:VAL:HA	33:DN:121:LYS:O	2.10	0.50
35:DP:24:GLY:HA3	35:DP:33:ARG:NH1	2.27	0.50
35:DP:46:LYS:HG2	35:DP:51:PHE:CD1	2.46	0.50
35:DP:62:LEU:HD22	52:D8:27:THR:HG22	1.93	0.50
35:DP:79:ARG:NH2	35:DP:109:GLY:HA2	2.27	0.50
45:DZ:74:VAL:HG13	45:DZ:85:HIS:O	2.12	0.50
59:DA:127:A:H5"	59:DA:128:C:C6	2.46	0.50
59:DA:597:U:H2'	59:DA:598:G:C8	2.46	0.50
59:DA:709:U:H2'	59:DA:710:G:C8	2.47	0.50
59:DA:743:G:H1	59:DA:754:C:H42	1.57	0.50
59:DA:871:U:H2'	59:DA:872:A:C8	2.45	0.50
59:DA:1975:G:O2'	59:DA:1976:U:H6	1.95	0.50
59:DA:2243:U:H2'	59:DA:2244:U:C6	2.45	0.50
2:AC:147:LYS:HB2	2:AC:203:PHE:CE2	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AH:85:ARG:NH1	7:AH:134:ILE:O	2.44	0.50
10:AK:120:ARG:H	10:AK:121:PRO:HD3	1.76	0.50
14:AO:8:LYS:HG3	14:AO:31:LEU:HD21	1.93	0.50
20:AA:112:G:H2'	20:AA:113:G:H8	1.77	0.50
20:AA:1051:C:H2'	20:AA:1052:U:C6	2.46	0.50
20:AA:1486:G:H2'	20:AA:1487:G:O4'	2.11	0.50
21:AW:18:G:O2'	21:AW:57:G:N2	2.44	0.50
23:AY:5:VAL:O	23:AY:7:TYR:N	2.45	0.50
25:BC:37:LYS:HE3	59:BA:2127:G:H4'	1.94	0.50
25:BC:125:GLY:HA2	25:BC:138:LEU:HD21	1.92	0.50
32:BK:131:ALA:HA	32:BK:134:MET:HE2	1.93	0.50
39:BT:95:ARG:NH2	59:BA:1753:G:OP1	2.45	0.50
59:BA:1071:G:H1'	59:BA:1089:G:C5	2.46	0.50
59:BA:2718:G:H2'	59:BA:2719:G:O4'	2.11	0.50
60:BB:57:A:H2'	60:BB:58:A:H8	1.76	0.50
60:BB:81:G:O6	60:BB:95:U:C2	2.63	0.50
1:CB:81:VAL:HG12	1:CB:215:LEU:HD11	1.91	0.50
4:CE:71:LEU:HD22	4:CE:74:GLY:HA2	1.92	0.50
6:CG:12:LEU:HD13	6:CG:25:ALA:HB2	1.93	0.50
11:CL:85:ILE:HD12	11:CL:98:TYR:HB2	1.94	0.50
20:CA:284:G:H2'	20:CA:285:G:C8	2.47	0.50
20:CA:408:A:H2'	20:CA:409:G:C8	2.45	0.50
20:CA:612:C:H2'	20:CA:613:C:C6	2.47	0.50
20:CA:689:C:H2'	20:CA:690:G:O4'	2.11	0.50
20:CA:1316:G:N1	20:CA:1319:A:OP2	2.43	0.50
23:CY:512:ILE:HG22	23:CY:567:LEU:HD12	1.93	0.50
27:DE:66:HIS:NE2	59:DA:2786:U:OP1	2.41	0.50
28:DF:162:LEU:HA	28:DF:165:ARG:HG3	1.92	0.50
39:DT:49:VAL:HA	39:DT:63:VAL:CA	2.35	0.50
43:DX:75:ASP:HA	43:DX:76:ARG:HH11	1.76	0.50
45:DZ:132:ASN:ND2	45:DZ:160:GLY:O	2.44	0.50
59:DA:27:G:H1'	59:DA:513:A:N6	2.26	0.50
59:DA:230:U:H2'	59:DA:231:C:C6	2.47	0.50
59:DA:639:U:H2'	59:DA:640:C:C6	2.47	0.50
59:DA:855:G:H2'	59:DA:856:C:C6	2.46	0.50
59:DA:1273:U:O2'	59:DA:1275:A:OP1	2.22	0.50
59:DA:1356:G:H2'	59:DA:1357:U:H6	1.76	0.50
59:DA:1830:C:H2'	59:DA:1831:G:H8	1.76	0.50
59:DA:2464:C:N3	59:DA:2486:G:N2	2.51	0.50
59:DA:2742:C:H2'	59:DA:2743:C:C6	2.47	0.50
59:DA:2742:C:H2'	59:DA:2743:C:H6	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AD:127:THR:HG23	3:AD:147:ALA:HB3	1.94	0.50
6:AG:66:VAL:HG12	6:AG:70:LYS:HE2	1.94	0.50
7:AH:121:ASP:N	7:AH:121:ASP:OD1	2.39	0.50
8:AI:107:ARG:NH2	20:AA:1346:A:N3	2.58	0.50
15:AP:21:VAL:HG11	15:AP:59:TRP:CE2	2.46	0.50
20:AA:33:A:H2'	20:AA:34:C:C6	2.47	0.50
20:AA:68(P):C:H2'	20:AA:68(Q):U:H6	1.77	0.50
20:AA:745:C:H5"	20:AA:851:G:H1'	1.92	0.50
21:AW:16:U:H5'	21:AW:59:A:N1	2.27	0.50
23:AY:627:ARG:NH2	23:AY:658:ASP:OD1	2.44	0.50
32:BK:31:GLY:HA3	32:BK:63:ARG:HE	1.76	0.50
39:BT:55:ASN:OD1	39:BT:58:ASN:ND2	2.45	0.50
51:B7:33:ARG:HB2	51:B7:34:ARG:HH12	1.77	0.50
59:BA:52:A:H2'	59:BA:53:A:H8	1.75	0.50
59:BA:548:A:H8	59:BA:548:A:O5'	1.95	0.50
59:BA:565:C:H4'	59:BA:1253:A:N6	2.26	0.50
59:BA:589:C:H2'	59:BA:590:A:H8	1.77	0.50
59:BA:909:A:H2'	59:BA:912:C:H5	1.77	0.50
59:BA:1102:C:C2	59:BA:1103:A:C8	3.00	0.50
59:BA:1105:U:H2'	59:BA:1106:G:C8	2.46	0.50
59:BA:1418:G:N2	59:BA:1580:A:N6	2.41	0.50
59:BA:2208:U:H2'	59:BA:2209:C:C6	2.47	0.50
60:BB:24:G:N1	60:BB:56:G:C2	2.80	0.50
2:CC:27:LYS:HG3	2:CC:28:GLN:H	1.75	0.50
9:CJ:24:VAL:HG21	9:CJ:37:PRO:HD3	1.93	0.50
10:CK:120:ARG:NH1	10:CK:126:ARG:HH12	2.08	0.50
11:CL:31:PRO:HG2	11:CL:32:PHE:CD2	2.47	0.50
17:CR:43:PHE:HB3	17:CR:44:LEU:HD12	1.92	0.50
20:CA:813:U:H2'	20:CA:814:A:C8	2.47	0.50
20:CA:1127:G:H1'	20:CA:1148:U:C4	2.46	0.50
28:DF:47:GLY:O	28:DF:49:ALA:N	2.45	0.50
28:DF:67:GLN:NE2	59:DA:674:G:O2'	2.45	0.50
41:DV:37:VAL:HA	41:DV:51:VAL:HG11	1.92	0.50
41:DV:95:LEU:O	41:DV:96:ILE:O	2.28	0.50
51:D7:1:MET:N	59:DA:1619:G:O2'	2.45	0.50
59:DA:858:U:H3	59:DA:919:G:H1	1.59	0.50
59:DA:1007:C:H5"	59:DA:1008:C:H2'	1.94	0.50
59:DA:1101:U:H2'	59:DA:1102:C:C6	2.46	0.50
59:DA:1138:G:H2'	59:DA:1139:G:O4'	2.11	0.50
59:DA:1411:C:N3	59:DA:1591:G:N2	2.51	0.50
59:DA:1579:A:H2'	59:DA:1580:A:O4'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1731:G:HO2'	59:DA:1732:A:H8	1.54	0.50
59:DA:2328:A:H2'	59:DA:2329:G:C8	2.46	0.50
59:DA:2514:U:H2'	59:DA:2515:C:H6	1.77	0.50
16:AQ:68:ARG:HH12	20:AA:277:C:H5'	1.77	0.50
20:AA:769:G:H4'	20:AA:1513:A:H4'	1.94	0.50
23:AY:394:ALA:O	23:AY:396:ARG:N	2.45	0.50
25:BC:164:PHE:HZ	25:BC:196:ALA:HB1	1.77	0.50
26:BD:62:TYR:HE2	26:BD:88:ARG:HH22	1.59	0.50
28:BF:5:ALA:HB3	28:BF:8:GLN:HA	1.93	0.50
28:BF:75:HIS:HA	59:BA:674:G:H4'	1.93	0.50
29:BG:120:LEU:HB3	29:BG:180:PHE:HA	1.93	0.50
30:BH:170:ARG:O	30:BH:171:LEU:HB2	2.12	0.50
39:BT:32:TYR:CE1	39:BT:81:PRO:HB2	2.47	0.50
41:BV:51:VAL:HG23	41:BV:53:GLU:H	1.77	0.50
41:BV:96:ILE:HG22	41:BV:97:LYS:N	2.25	0.50
42:BW:22:ASP:OD2	42:BW:25:ARG:NH1	2.44	0.50
59:BA:483:A:N7	59:BA:497:A:H2	2.09	0.50
59:BA:878:A:H3'	59:BA:879:G:C8	2.47	0.50
59:BA:898:C:H2'	59:BA:899:A:C8	2.47	0.50
59:BA:1198:U:H2'	59:BA:1199:U:C6	2.47	0.50
59:BA:1428:C:C5	59:BA:1569:A:H5"	2.47	0.50
59:BA:2238:G:H2'	59:BA:2238:G:N3	2.26	0.50
59:BA:2684:U:H3	59:BA:2725:A:H2	1.59	0.50
6:CG:79:ARG:HG3	20:CA:1381:U:H1'	1.94	0.50
11:CL:50:SER:OG	20:CA:519:C:OP2	2.20	0.50
20:CA:28:G:O2'	20:CA:296:U:OP1	2.28	0.50
20:CA:255:G:H2'	20:CA:256:U:C6	2.47	0.50
20:CA:887:G:H1	20:CA:910:C:H42	1.59	0.50
20:CA:935:A:H2'	20:CA:936:C:H6	1.77	0.50
20:CA:1057:G:H2'	20:CA:1058:G:O4'	2.10	0.50
23:CY:394:ALA:O	23:CY:396:ARG:N	2.44	0.50
23:CY:457:LEU:O	23:CY:461:ILE:HG13	2.11	0.50
23:CY:616:TYR:CG	23:CY:663:THR:HA	2.47	0.50
25:DC:170:GLY:O	25:DC:172:ILE:N	2.44	0.50
25:DC:194:ILE:HA	25:DC:197:LEU:HD12	1.93	0.50
26:DD:50:THR:OG1	59:DA:1813:G:N3	2.41	0.50
27:DE:109:LYS:HE3	59:DA:2680:C:H5"	1.92	0.50
27:DE:111:ARG:NH2	59:DA:2680:C:OP2	2.44	0.50
29:DG:72:ARG:HB3	29:DG:86:MET:HA	1.94	0.50
37:DR:97:VAL:HG22	37:DR:114:VAL:HA	1.93	0.50
59:DA:371:A:N6	59:DA:401:A:H3'	2.24	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:868:U:H3	59:DA:909:A:N6	2.08	0.50
59:DA:890:A:H2'	59:DA:892:G:O4'	2.12	0.50
59:DA:1310:G:H1	59:DA:1604:C:H42	1.58	0.50
59:DA:1654:A:H2'	59:DA:1655:A:C8	2.46	0.50
59:DA:2083:G:H2'	59:DA:2084:C:C6	2.46	0.50
59:DA:2415:G:H2'	59:DA:2416:C:C6	2.46	0.50
59:DA:2474:C:H5'	59:DA:2475:C:OP2	2.12	0.50
60:DB:18:G:H2'	60:DB:19:G:H8	1.77	0.50
3:AD:15:GLU:OE1	3:AD:63:LYS:HA	2.12	0.50
4:AE:17:ALA:O	20:AA:15:G:N2	2.32	0.50
4:AE:91:LEU:HD13	4:AE:118:ILE:HG12	1.92	0.50
9:AJ:16:LEU:O	9:AJ:19:SER:OG	2.30	0.50
12:AM:107:ALA:H	12:AM:108:ARG:HD2	1.77	0.50
16:AQ:44:ALA:HB2	16:AQ:59:ILE:HD11	1.94	0.50
16:AQ:64:PRO:HB3	16:AQ:70:ARG:HH12	1.75	0.50
18:AS:36:ARG:HH12	18:AS:75:ALA:HB3	1.77	0.50
19:AT:74:LYS:HG2	19:AT:75:ASN:H	1.76	0.50
20:AA:68(H):G:N2	20:AA:68(R):C:N3	2.57	0.50
20:AA:540:G:H2'	20:AA:541:G:O4'	2.11	0.50
20:AA:570:G:O6	20:AA:865:A:N6	2.45	0.50
20:AA:1012:U:H2'	20:AA:1013:G:C8	2.47	0.50
20:AA:1288:A:N1	20:AA:1371:G:H1'	2.26	0.50
20:AA:1391:U:H2'	20:AA:1392:G:H8	1.76	0.50
23:AY:317:MET:HB3	23:AY:325:LEU:HB2	1.93	0.50
23:AY:556:ILE:HD13	23:AY:556:ILE:H	1.77	0.50
25:BC:114:VAL:HG21	25:BC:132:LEU:HD13	1.93	0.50
25:BC:169:THR:O	25:BC:171:ALA:N	2.45	0.50
26:BD:22:SER:O	26:BD:24:ILE:N	2.40	0.50
27:BE:24:THR:HG22	27:BE:186:GLY:HA2	1.93	0.50
27:BE:204:ALA:HA	59:BA:2734:A:N3	2.26	0.50
29:BG:173:LEU:O	29:BG:178:PHE:N	2.44	0.50
35:BP:30:THR:HG22	35:BP:31:ALA:H	1.76	0.50
42:BW:70:TYR:CZ	42:BW:72:LYS:HG2	2.47	0.50
45:BZ:69:THR:HG22	45:BZ:90:VAL:HA	1.93	0.50
50:B6:43:CYS:C	50:B6:44:ARG:HE	2.20	0.50
59:BA:27:G:H2'	59:BA:28:A:C8	2.47	0.50
59:BA:65:C:H2'	59:BA:66:C:O4'	2.12	0.50
59:BA:223:A:H5'	59:BA:224:G:H5'	1.94	0.50
59:BA:438:G:H2'	59:BA:439:G:C8	2.47	0.50
59:BA:571:A:N6	59:BA:2500:U:OP1	2.44	0.50
59:BA:828:U:H4'	59:BA:831:G:N1	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:828:U:H2'	59:BA:829:A:N7	2.26	0.50
59:BA:858:U:O2	59:BA:2268:A:H2'	2.12	0.50
59:BA:976:C:H2'	59:BA:977:G:C8	2.47	0.50
59:BA:1219:G:H1	59:BA:1230:C:H42	1.59	0.50
59:BA:1290:C:H2'	59:BA:1291:C:C6	2.46	0.50
59:BA:2069:G:H1	59:BA:2442:C:H42	1.59	0.50
59:BA:2342:C:H2'	59:BA:2343:C:O4'	2.12	0.50
59:BA:2359:C:H2'	59:BA:2360:A:O4'	2.12	0.50
59:BA:2679:A:H2'	59:BA:2680:C:C6	2.47	0.50
9:CJ:38:ILE:HG23	9:CJ:71:LEU:HB3	1.94	0.50
11:CL:113:ARG:NH2	11:CL:116:SER:OG	2.44	0.50
16:CQ:10:VAL:HG12	16:CQ:54:GLY:H	1.76	0.50
16:CQ:67:LYS:HE2	20:CA:266:G:H2'	1.93	0.50
17:CR:26:LEU:HD21	17:CR:42:ARG:HD2	1.93	0.50
21:CW:51:A:N6	21:CW:63:C:H42	2.09	0.50
23:CY:138:LYS:HE2	62:CY:702:GDP:N7	2.27	0.50
23:CY:512:ILE:HA	23:CY:567:LEU:HA	1.94	0.50
27:DE:63:LEU:HD12	27:DE:65:GLY:HA3	1.94	0.50
28:DF:130:ALA:HB3	28:DF:142:TRP:HB2	1.94	0.50
29:DG:72:ARG:HB3	29:DG:87:PRO:HD2	1.94	0.50
29:DG:137:GLU:HB2	29:DG:140:ILE:HG23	1.94	0.50
32:DK:30:HIS:NE2	32:DK:58:THR:O	2.44	0.50
41:DV:14:VAL:HG12	41:DV:96:ILE:HD13	1.93	0.50
44:DY:90:LEU:HD23	44:DY:90:LEU:H	1.77	0.50
52:D8:23:VAL:O	52:D8:46:ARG:NH1	2.43	0.50
52:D8:30:ARG:H	52:D8:32:LEU:HD23	1.76	0.50
53:D9:2:LYS:HD3	59:DA:2526:G:N3	2.27	0.50
54:De:71:LYS:HG3	54:De:75:ILE:HD13	1.94	0.50
59:DA:363(G):A:H8	59:DA:363(G):A:O5'	1.95	0.50
59:DA:374:A:H1'	59:DA:401:A:N6	2.27	0.50
59:DA:980:A:C2	59:DA:2038:G:H1'	2.44	0.50
59:DA:1153:C:H2'	59:DA:1154:G:O4'	2.10	0.50
59:DA:1194:A:H2'	59:DA:1195:G:H8	1.77	0.50
59:DA:1409:C:H2'	59:DA:1410:G:C8	2.46	0.50
59:DA:2052:G:O6	59:DA:2617:C:N3	2.45	0.50
1:AB:88:ALA:HB2	1:AB:219:VAL:HG13	1.93	0.50
3:AD:25:ARG:HG3	3:AD:30:LYS:HE3	1.92	0.50
13:AN:4:LYS:NZ	20:AA:1047:G:OP1	2.32	0.50
18:AS:36:ARG:NH2	18:AS:75:ALA:O	2.45	0.50
20:AA:42:G:H2'	20:AA:43:C:C6	2.47	0.50
20:AA:406:G:H2'	20:AA:407:G:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AY:243:VAL:HA	23:AY:279:TYR:CE1	2.47	0.50
23:AY:554:PRO:HG3	23:AY:594:VAL:HG12	1.93	0.50
26:BD:223:GLY:O	26:BD:225:ALA:N	2.45	0.50
27:BE:187:ALA:HB2	59:BA:2729:G:H1'	1.94	0.50
28:BF:45:ARG:CZ	59:BA:443:A:H3'	2.41	0.50
28:BF:185:ASP:HA	28:BF:188:ARG:HG2	1.92	0.50
34:BO:39:ILE:HG12	34:BO:40:VAL:O	2.11	0.50
34:BO:79:PHE:O	34:BO:81:ASP:N	2.44	0.50
37:BR:62:ALA:O	37:BR:66:VAL:HG23	2.11	0.50
39:BT:3:ARG:HG3	59:BA:2876:G:H4'	1.93	0.50
40:BU:8:VAL:HG12	59:BA:29:U:H4'	1.93	0.50
43:BX:75:ASP:N	59:BA:58:G:OP2	2.43	0.50
45:BZ:127:LYS:HD3	45:BZ:162:GLU:HB2	1.94	0.50
45:BZ:151:HIS:HA	45:BZ:171:ILE:HG23	1.92	0.50
47:B2:57:ILE:HA	47:B2:60:LEU:HD12	1.93	0.50
48:B3:18:ASP:OD1	48:B3:18:ASP:N	2.29	0.50
59:BA:753:C:H2'	59:BA:754:C:C6	2.47	0.50
59:BA:2183:C:H2'	59:BA:2184:G:C8	2.47	0.50
6:CG:26:PHE:O	6:CG:30:ILE:HG13	2.12	0.50
20:CA:1161:C:H2'	20:CA:1162:C:H6	1.77	0.50
23:CY:398:ILE:HG22	23:CY:399:LEU:H	1.76	0.50
28:DF:45:ARG:NH2	59:DA:444:C:OP1	2.43	0.50
28:DF:177:ALA:HB1	28:DF:178:PRO:HD2	1.94	0.50
31:DJ:51:UNK:HA	31:DJ:56:UNK:CB	2.42	0.50
36:DQ:1:MET:N	36:DQ:48:GLU:HB2	2.26	0.50
36:DQ:58:PHE:CD1	36:DQ:61:GLY:HA3	2.47	0.50
36:DQ:73:PRO:HB3	36:DQ:90:VAL:HG12	1.92	0.50
42:DW:12:ILE:H	42:DW:12:ILE:HD12	1.76	0.50
42:DW:86:LEU:HB3	42:DW:94:ASP:HB2	1.93	0.50
44:DY:79:CYS:SG	44:DY:80:GLY:N	2.85	0.50
54:De:64:LEU:O	54:De:66:GLU:N	2.44	0.50
59:DA:105:C:H2'	59:DA:106:C:C6	2.47	0.50
59:DA:819:A:N7	59:DA:1188:U:O4	2.45	0.50
59:DA:1019:U:H2'	59:DA:1020:A:H8	1.76	0.50
59:DA:1197:G:H2'	59:DA:1198:U:C6	2.46	0.50
59:DA:1438:U:O2	59:DA:1553:A:N7	2.45	0.50
59:DA:1511:A:H2'	59:DA:1512:G:H8	1.72	0.50
59:DA:2075:U:H2'	59:DA:2238:G:H22	1.77	0.50
59:DA:2231:C:H2'	59:DA:2232:U:O4'	2.12	0.50
3:AD:134:ASP:OD2	3:AD:134:ASP:N	2.44	0.50
3:AD:175:SER:HB2	3:AD:186:LEU:HD11	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AH:9:MET:HE3	7:AH:10:LEU:HD23	1.94	0.50
10:AK:44:SER:H	10:AK:47:VAL:HG21	1.75	0.50
12:AM:105:THR:HG22	20:AA:1229:A:N6	2.26	0.50
14:AO:24:SER:O	14:AO:28:GLN:NE2	2.45	0.50
20:AA:612:C:H42	20:AA:628:G:H1	1.60	0.50
20:AA:901:A:H8	20:AA:901:A:O5'	1.95	0.50
20:AA:1423:G:H5'	34:BO:49:ARG:NH2	2.25	0.50
26:BD:172:TYR:HA	26:BD:186:HIS:HA	1.94	0.50
27:BE:109:LYS:HZ3	59:BA:2681:C:P	2.33	0.50
31:BJ:54:UNK:O	59:BA:1107:G:H5'	2.11	0.50
33:BN:108:PRO:O	33:BN:113:GLY:HA3	2.12	0.50
34:BO:104:ARG:CZ	39:BT:33:LYS:HD2	2.42	0.50
53:B9:1:MET:HB3	53:B9:34:GLN:HG2	1.94	0.50
59:BA:141(B):C:H2'	59:BA:142:G:O4'	2.12	0.50
59:BA:468:G:H3'	59:BA:469:G:C8	2.47	0.50
59:BA:613:U:H4'	59:BA:616:A:C6	2.47	0.50
59:BA:1595:G:H2'	59:BA:1596:A:C8	2.47	0.50
59:BA:1949:G:C6	59:BA:1950:G:C6	3.00	0.50
59:BA:2057:A:H2'	59:BA:2058:A:H8	1.77	0.50
59:BA:2064:C:H1'	59:BA:2450:A:C5	2.47	0.50
59:BA:2454:G:H1	59:BA:2498:C:N4	2.07	0.50
6:CG:139:GLU:O	6:CG:143:ARG:HG3	2.10	0.50
14:CO:50:HIS:ND1	20:CA:764:C:H5"	2.27	0.50
20:CA:131:C:H2'	20:CA:132:C:C6	2.47	0.50
20:CA:1342:C:H2'	20:CA:1343:G:C8	2.47	0.50
23:CY:390:VAL:HG11	23:CY:397:VAL:HG23	1.93	0.50
23:CY:617:MET:HG3	23:CY:643:ILE:HD11	1.94	0.50
25:DC:46:ALA:CA	25:DC:212:SER:O	2.55	0.50
26:DD:157:ARG:N	59:DA:1819:A:OP1	2.43	0.50
28:DF:170:LEU:HB2	28:DF:173:VAL:HB	1.93	0.50
33:DN:112:LEU:HA	33:DN:115:ARG:HB2	1.94	0.50
41:DV:6:LYS:HE2	41:DV:6:LYS:O	2.12	0.50
59:DA:541:C:H2'	59:DA:542:C:C6	2.47	0.50
59:DA:1287:A:H2'	59:DA:1288:U:H5'	1.94	0.50
59:DA:1487:G:N2	59:DA:1502:C:N3	2.51	0.50
59:DA:1558:A:N7	59:DA:1560:G:H8	2.10	0.50
59:DA:2118:U:H3	59:DA:2148:G:H4'	1.77	0.50
59:DA:2269:A:H2'	59:DA:2270:G:O4'	2.12	0.50
5:AF:75:LEU:O	5:AF:79:LEU:HG	2.11	0.49
8:AI:97:LYS:HD3	20:AA:1178:G:N7	2.27	0.49
9:AJ:51:ARG:HG2	9:AJ:59:SER:C	2.36	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AL:108:ALA:C	11:AL:121:GLY:HA3	2.37	0.49
16:AQ:12:SER:HB2	16:AQ:14:LYS:HD2	1.94	0.49
20:AA:745:C:H2'	20:AA:746:A:C8	2.45	0.49
20:AA:859:A:H3'	20:AA:860:A:H8	1.77	0.49
20:AA:976:G:OP2	20:AA:1358:U:O2'	2.26	0.49
20:AA:1019:C:H2'	20:AA:1020:U:O4'	2.12	0.49
23:AY:257:PRO:O	23:AY:259:PHE:N	2.40	0.49
23:AY:607:ARG:HA	23:AY:645:ALA:O	2.11	0.49
25:BC:8:TYR:O	25:BC:12:LEU:HB2	2.12	0.49
26:BD:115:GLN:HE22	26:BD:117:VAL:HG22	1.77	0.49
33:BN:39:ARG:HG2	33:BN:40:PRO:HD2	1.94	0.49
33:BN:107:LEU:HD13	33:BN:113:GLY:O	2.11	0.49
42:BW:88:ARG:HG3	59:BA:748:G:OP2	2.12	0.49
45:BZ:154:ASP:OD2	45:BZ:154:ASP:N	2.42	0.49
47:B2:59:ARG:HG2	59:BA:77:C:H5'	1.92	0.49
48:B3:10:LYS:NZ	60:BB:84:C:OP1	2.41	0.49
57:B1:67:ILE:N	57:B1:68:PRO:HD2	2.26	0.49
59:BA:564:C:O2'	59:BA:1252:G:O6	2.29	0.49
59:BA:868:U:H3	59:BA:909:A:H61	1.60	0.49
59:BA:1652:A:H3'	59:BA:1653:G:H8	1.75	0.49
59:BA:1710:C:H5'	59:BA:2859:G:H1'	1.93	0.49
59:BA:2024:G:C6	59:BA:2040:C:C2	3.00	0.49
1:CB:12:GLU:C	1:CB:14:GLY:H	2.20	0.49
4:CE:17:ALA:HA	4:CE:26:PHE:HA	1.94	0.49
18:CS:14:HIS:CE1	20:CA:1014:A:H4'	2.47	0.49
20:CA:312:C:H2'	20:CA:313:A:C8	2.47	0.49
20:CA:834:C:H2'	20:CA:835:U:C6	2.46	0.49
20:CA:934:C:N3	20:CA:938:A:N1	2.60	0.49
20:CA:1386:G:H2'	20:CA:1387:G:C8	2.47	0.49
23:CY:243:VAL:HA	23:CY:279:TYR:HE1	1.77	0.49
25:DC:153:ILE:HG23	25:DC:156:GLU:HB2	1.94	0.49
26:DD:9:TYR:CD2	59:DA:705:A:H1'	2.47	0.49
31:DJ:25:UNK:N	31:DJ:112:UNK:N	2.60	0.49
35:DP:113:LYS:HA	35:DP:129:ALA:O	2.12	0.49
44:DY:11:ASP:CG	44:DY:12:THR:H	2.19	0.49
44:DY:46:LYS:N	44:DY:62:GLU:HB2	2.27	0.49
59:DA:242:G:H1'	59:DA:243:U:H5	1.76	0.49
59:DA:270(F):G:H2'	59:DA:270(G):U:C6	2.46	0.49
59:DA:270(Q):C:HO2'	59:DA:270(R):C:H6	1.59	0.49
59:DA:814:C:O2'	59:DA:1224:C:N3	2.45	0.49
59:DA:1113:U:H2'	59:DA:1114:G:H8	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1269:A:H61	59:DA:2011:U:H3	1.59	0.49
59:DA:1664:A:H61	59:DA:1996:C:H42	1.60	0.49
59:DA:2004:G:H2'	59:DA:2005:A:O4'	2.12	0.49
59:DA:2114:A:C2	59:DA:2168:G:H1'	2.47	0.49
59:DA:2133:G:H2'	59:DA:2157:G:N2	2.24	0.49
59:DA:2293:C:H2'	59:DA:2294:C:O4'	2.12	0.49
59:DA:2329:G:H2'	59:DA:2330:G:C8	2.46	0.49
59:DA:2781:A:H5'	59:DA:2782:G:C5'	2.42	0.49
10:AK:16:SER:HA	10:AK:79:SER:O	2.12	0.49
20:AA:424:G:H2'	20:AA:425:G:H8	1.77	0.49
20:AA:671:G:H2'	20:AA:672:U:C6	2.47	0.49
23:AY:111:SER:HB2	23:AY:141:LYS:HG2	1.94	0.49
23:AY:219:VAL:HG11	23:AY:255:ILE:HD11	1.92	0.49
23:AY:265:LYS:O	23:AY:267:LYS:N	2.45	0.49
23:AY:342:TYR:HB2	23:AY:349:LYS:HA	1.94	0.49
23:AY:569:ASP:OD1	23:AY:570:GLY:N	2.37	0.49
25:BC:105:LEU:HD22	25:BC:127:LYS:HB3	1.94	0.49
26:BD:145:VAL:HG12	26:BD:146:GLU:H	1.77	0.49
26:BD:219:PRO:HB2	59:BA:1789:A:O3'	2.12	0.49
27:BE:56:PRO:HB2	27:BE:57:LYS:HD2	1.94	0.49
33:BN:57:ALA:O	33:BN:59:LYS:N	2.45	0.49
33:BN:66:LYS:O	33:BN:70:LYS:HB3	2.12	0.49
45:BZ:23:LYS:HD3	45:BZ:38:TYR:CD1	2.47	0.49
45:BZ:54:HIS:CE1	45:BZ:101:PRO:HB3	2.47	0.49
47:B2:47:ASN:OD1	47:B2:47:ASN:N	2.40	0.49
59:BA:24:G:C2	59:BA:516:C:O2	2.65	0.49
59:BA:547:A:H3'	59:BA:548:A:C8	2.47	0.49
59:BA:807:U:HO2'	59:BA:2060:A:H2	1.55	0.49
59:BA:848:G:C2	59:BA:933:A:H1'	2.46	0.49
59:BA:857:C:N4	59:BA:858:U:O4	2.45	0.49
59:BA:957:A:C2	59:BA:2459:A:H5'	2.47	0.49
59:BA:1057:A:H62	59:BA:1087:G:P	2.34	0.49
59:BA:1677:A:H2'	59:BA:1678:G:C8	2.47	0.49
59:BA:1811:G:H2'	59:BA:1812:A:H8	1.75	0.49
59:BA:2660:A:H2'	59:BA:2661:G:O4'	2.12	0.49
5:CF:9:VAL:HB	5:CF:87:ARG:HB2	1.94	0.49
7:CH:96:GLY:O	7:CH:100:ILE:HG13	2.12	0.49
11:CL:69:TYR:CG	11:CL:70:ILE:N	2.80	0.49
20:CA:56:U:H2'	20:CA:57:G:C8	2.47	0.49
20:CA:925:G:O2'	20:CA:927:G:OP1	2.25	0.49
34:DO:9:GLU:HA	34:DO:18:LYS:HA	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:DT:1:MET:HA	39:DT:7:ILE:HD11	1.93	0.49
57:D1:88:LYS:HA	57:D1:91:LYS:HB3	1.94	0.49
59:DA:473:G:H5"	59:DA:508:G:H22	1.77	0.49
59:DA:1199:U:H2'	59:DA:1200:C:H6	1.75	0.49
59:DA:1264:G:H3'	59:DA:1265:A:H2'	1.94	0.49
59:DA:1509:A:H4'	59:DA:1510:A:C8	2.47	0.49
59:DA:1550:C:OP1	59:DA:1727:U:O2'	2.23	0.49
59:DA:2687:U:H2'	59:DA:2688:U:O2	2.12	0.49
59:DA:2842:G:H2'	59:DA:2843:G:H8	1.77	0.49
60:DB:4:C:H2'	60:DB:5:C:C6	2.46	0.49
1:AB:102:LEU:O	1:AB:180:LEU:HD11	2.11	0.49
2:AC:8:ILE:HD12	2:AC:16:ARG:HH12	1.76	0.49
3:AD:15:GLU:OE1	3:AD:19:LEU:HD21	2.12	0.49
3:AD:33:MET:O	3:AD:36:ARG:N	2.46	0.49
11:AL:71:PRO:HD3	11:AL:100:ILE:HB	1.94	0.49
12:AM:116:THR:HA	20:AA:1228:C:H4'	1.93	0.49
18:AS:78:ARG:NH1	20:AA:1225:A:H5'	2.26	0.49
20:AA:218:C:O2'	20:AA:458(C):G:N2	2.44	0.49
20:AA:927:G:O6	20:AA:1390:U:O2	2.30	0.49
20:AA:999:U:O4	20:AA:1000:A:N6	2.45	0.49
20:AA:1065:U:OP2	20:AA:1190:G:N2	2.30	0.49
20:AA:1127:G:N2	20:AA:1147:C:H41	2.09	0.49
21:AW:29:U:H2'	21:AW:30:C:O4'	2.12	0.49
23:AY:127:LYS:HE2	23:AY:127:LYS:HA	1.95	0.49
23:AY:316:ILE:HD11	23:AY:385:THR:HB	1.94	0.49
25:BC:42:VAL:O	25:BC:43:GLU:C	2.54	0.49
25:BC:60:ARG:NE	25:BC:142:LYS:HB3	2.27	0.49
28:BF:63:LYS:HZ2	28:BF:66:PRO:C	2.20	0.49
29:BG:37:VAL:HG13	29:BG:159:VAL:HB	1.94	0.49
35:BP:60:MET:O	59:BA:2392:A:O2'	2.21	0.49
35:BP:90:ARG:HD2	35:BP:91:PHE:HB2	1.94	0.49
57:B1:73:LEU:HD13	57:B1:94:LEU:HD23	1.94	0.49
59:BA:377:C:H2'	59:BA:378:C:C6	2.47	0.49
59:BA:687:C:H42	59:BA:787:U:H4'	1.77	0.49
59:BA:1130:U:N3	59:BA:2025:C:OP1	2.26	0.49
59:BA:1139:G:O2'	59:BA:1143:A:N1	2.30	0.49
59:BA:1564:C:H2'	59:BA:1565:C:C6	2.47	0.49
59:BA:1581:G:H2'	59:BA:1582:C:C6	2.46	0.49
59:BA:1858:G:H1'	59:BA:1884:A:H61	1.77	0.49
59:BA:2507:C:N4	59:BA:2508:G:O6	2.46	0.49
9:CJ:50:ILE:HB	9:CJ:60:ARG:HG2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:CO:63:ARG:O	14:CO:67:LEU:HG	2.11	0.49
18:CS:40:ILE:HG21	18:CS:66:MET:HG3	1.93	0.49
20:CA:46:G:H1	20:CA:395:C:N4	2.09	0.49
20:CA:566:G:H4'	20:CA:567:G:H5'	1.94	0.49
20:CA:1074:G:H2'	20:CA:1075:C:H6	1.78	0.49
20:CA:1324:A:H2'	20:CA:1325:C:C6	2.47	0.49
20:CA:1421:G:H2'	20:CA:1422:G:O4'	2.13	0.49
23:CY:174:PHE:O	23:CY:267:LYS:NZ	2.36	0.49
25:DC:114:VAL:O	25:DC:116:ALA:N	2.44	0.49
25:DC:216:THR:HG21	59:DA:2176:A:O4'	2.12	0.49
26:DD:63:ARG:HB2	26:DD:85:ASP:OD2	2.12	0.49
26:DD:161:THR:O	26:DD:196:VAL:HG22	2.12	0.49
27:DE:66:HIS:O	27:DE:68:ALA:N	2.44	0.49
28:DF:24:LEU:HB3	28:DF:25:PRO:HD2	1.94	0.49
28:DF:100:THR:O	59:DA:659:C:H4'	2.12	0.49
28:DF:188:ARG:HG3	28:DF:189:THR:HG23	1.95	0.49
36:DQ:51:ARG:HA	36:DQ:54:MET:HE2	1.95	0.49
36:DQ:137:TYR:HD1	36:DQ:137:TYR:H	1.56	0.49
39:DT:98:LYS:HG2	59:DA:2718:G:O3'	2.12	0.49
40:DU:92:ARG:CZ	40:DU:95:LEU:HG	2.42	0.49
41:DV:67:GLY:HA3	41:DV:89:GLN:O	2.11	0.49
44:DY:2:ARG:HH11	44:DY:3:VAL:N	2.07	0.49
45:DZ:29:TYR:HE1	60:DB:73:A:H61	1.61	0.49
46:D0:32:ARG:HB2	46:D0:32:ARG:CZ	2.41	0.49
51:D7:27:GLY:O	51:D7:30:VAL:HB	2.12	0.49
51:D7:40:TRP:CZ2	59:DA:458:G:H1'	2.47	0.49
59:DA:526:A:O2'	59:DA:2043:C:O2	2.28	0.49
59:DA:1258:C:H2'	59:DA:1259:G:H8	1.77	0.49
60:DB:29:A:H2'	60:DB:30:C:C6	2.46	0.49
11:AL:53:ARG:HB3	11:AL:93:LEU:HD13	1.93	0.49
20:AA:545:C:O2'	20:AA:549:C:OP1	2.30	0.49
21:AW:12:U:H3	21:AW:23:A:N6	2.07	0.49
23:AY:338:GLY:O	23:AY:351:ARG:NH2	2.45	0.49
26:BD:244:ARG:HH22	59:BA:1841:U:H1'	1.77	0.49
35:BP:65:ARG:HG2	52:B8:12:LYS:HA	1.94	0.49
36:BQ:11:LYS:HD3	36:BQ:87:LYS:HD3	1.94	0.49
49:B5:18:ALA:C	49:B5:21:SER:H	2.20	0.49
59:BA:513:A:H2'	59:BA:514:A:O4'	2.12	0.49
59:BA:573:G:O2'	59:BA:574:C:H3'	2.12	0.49
59:BA:719:C:H2'	59:BA:720:C:C6	2.47	0.49
59:BA:814:C:H2'	59:BA:815:C:H6	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:878:A:H3'	59:BA:879:G:H8	1.78	0.49
59:BA:1102:C:H2'	59:BA:1103:A:O4'	2.12	0.49
59:BA:2071:A:H2'	59:BA:2072:G:H8	1.76	0.49
59:BA:2591:C:H2'	59:BA:2592:G:C8	2.48	0.49
1:CB:134:GLU:OE2	1:CB:137:ARG:NH2	2.45	0.49
3:CD:138:TYR:HB2	20:CA:620:C:H1'	1.94	0.49
4:CE:32:VAL:HG11	4:CE:59:GLY:HA2	1.94	0.49
4:CE:127:ASN:HD21	20:CA:18:C:P	2.35	0.49
13:CN:35:ARG:HG3	20:CA:1358:U:OP1	2.13	0.49
23:CY:494:GLU:HG2	23:CY:496:LYS:HB2	1.94	0.49
26:DD:92:ILE:HA	26:DD:107:ALA:H	1.76	0.49
26:DD:260:ARG:HH12	59:DA:1799:G:H5"	1.77	0.49
32:DK:130:SER:OG	59:DA:1059:G:N2	2.32	0.49
42:DW:17:VAL:HB	42:DW:76:VAL:HG21	1.94	0.49
42:DW:23:LEU:HD11	49:D5:27:PRO:HA	1.94	0.49
44:DY:85:VAL:HA	44:DY:94:LYS:HA	1.94	0.49
47:D2:66:GLU:O	47:D2:69:ARG:HG2	2.12	0.49
51:D7:34:ARG:HD2	51:D7:42:LEU:HD22	1.93	0.49
53:D9:7:VAL:HG11	53:D9:34:GLN:HB3	1.92	0.49
59:DA:197:A:H2	59:DA:2434:A:H62	1.60	0.49
59:DA:459:U:H2'	59:DA:460:A:O4'	2.11	0.49
59:DA:503:A:H4'	59:DA:504:U:H5"	1.94	0.49
59:DA:863:A:H2'	59:DA:864:G:C8	2.47	0.49
59:DA:1497:U:H5'	59:DA:1498:C:C5	2.47	0.49
60:DB:24:G:N3	60:DB:27:C:N4	2.53	0.49
5:AF:98:LEU:HA	17:AR:31:LEU:H	1.77	0.49
10:AK:29:ILE:HD12	20:AA:706:A:H1'	1.94	0.49
10:AK:124:LYS:NZ	20:AA:692:U:OP1	2.28	0.49
14:AO:5:LYS:H	14:AO:5:LYS:HD3	1.78	0.49
16:AQ:90:ILE:HG21	20:AA:583:A:H5'	1.94	0.49
20:AA:64:G:H4'	20:AA:65:U:H3'	1.93	0.49
20:AA:152:A:H3'	20:AA:153:C:H6	1.77	0.49
20:AA:299:G:H2'	20:AA:300:A:C8	2.48	0.49
20:AA:823:G:H1	20:AA:877:C:H42	1.61	0.49
20:AA:1468:A:H2'	20:AA:1469:G:O4'	2.13	0.49
23:AY:341:VAL:N	23:AY:350:GLU:O	2.34	0.49
23:AY:509:HIS:CE1	23:AY:511:LYS:HE3	2.47	0.49
25:BC:213:VAL:HG11	25:BC:225:ILE:CG1	2.41	0.49
28:BF:143:ALA:HB1	28:BF:148:LEU:HB2	1.94	0.49
35:BP:46:LYS:HG2	35:BP:51:PHE:CE1	2.47	0.49
40:BU:3:ARG:C	40:BU:5:LYS:H	2.21	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BU:75:ASN:HB2	59:BA:1011:G:OP1	2.12	0.49
46:B0:31:VAL:HG12	46:B0:35:ASN:HB2	1.95	0.49
59:BA:21:A:H2'	59:BA:22:C:H6	1.77	0.49
59:BA:27:G:H1'	59:BA:513:A:N6	2.28	0.49
59:BA:181:A:H2'	59:BA:182:A:C8	2.47	0.49
59:BA:398:G:H2'	59:BA:399:G:C8	2.47	0.49
59:BA:451:C:N4	59:BA:454:A:OP2	2.29	0.49
59:BA:1105:U:H2'	59:BA:1106:G:H8	1.77	0.49
59:BA:1591:G:H2'	59:BA:1592:C:C6	2.46	0.49
59:BA:2121:G:H2'	59:BA:2122:U:C6	2.47	0.49
59:BA:2136:C:H2'	59:BA:2137:C:C6	2.48	0.49
59:BA:2422:A:OP1	59:BA:2422:A:H4'	2.11	0.49
59:BA:2628:C:O2'	59:BA:2781:A:H2'	2.11	0.49
60:BB:34:U:O2'	60:BB:44:G:N7	2.46	0.49
2:CC:117:ALA:HB2	2:CC:200:ALA:HB2	1.94	0.49
3:CD:119:GLN:HE22	20:CA:407:G:H1'	1.77	0.49
4:CE:146:ALA:O	4:CE:150:ARG:HG2	2.12	0.49
7:CH:15:ASN:O	7:CH:19:VAL:HG23	2.11	0.49
7:CH:104:ARG:HB2	7:CH:138:TRP:HD1	1.78	0.49
9:CJ:57:LYS:HG2	20:CA:972:C:OP2	2.12	0.49
10:CK:57:THR:HG22	10:CK:60:ALA:H	1.78	0.49
20:CA:26:A:H4'	20:CA:508:C:H42	1.77	0.49
20:CA:525:C:H2'	20:CA:526:C:C6	2.48	0.49
20:CA:1019:C:H2'	20:CA:1020:U:O4'	2.12	0.49
26:DD:16:MET:HG3	26:DD:207:GLY:HA3	1.95	0.49
26:DD:147:LEU:HB2	26:DD:155:LEU:CD1	2.43	0.49
27:DE:130:GLY:HA2	59:DA:2580:U:H4'	1.94	0.49
27:DE:132:HIS:HB2	59:DA:744:G:OP1	2.12	0.49
35:DP:74:GLU:HG2	59:DA:244:A:O3'	2.11	0.49
35:DP:105:LEU:O	35:DP:107:LYS:N	2.44	0.49
43:DX:80:ILE:HG21	59:DA:1341:U:O2	2.12	0.49
46:D0:11:ARG:NH2	59:DA:2279:G:O5'	2.45	0.49
46:D0:21:LEU:HD13	46:D0:41:ARG:HD3	1.93	0.49
50:D6:11:LEU:HD23	50:D6:51:GLU:HG3	1.94	0.49
59:DA:1009:A:H2'	59:DA:1010:A:C8	2.47	0.49
59:DA:1636:C:H2'	59:DA:1637:A:C8	2.47	0.49
59:DA:1710:C:H4'	59:DA:2858:C:N3	2.27	0.49
59:DA:1895:C:H2'	59:DA:1896:G:C8	2.47	0.49
59:DA:2818:G:H1	59:DA:2828:C:N4	2.05	0.49
1:AB:170:GLU:HA	1:AB:173:ALA:HB3	1.95	0.49
2:AC:172:ARG:NH2	20:AA:1107:C:OP1	2.41	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AN:17:LYS:HG2	20:AA:1317:C:OP1	2.13	0.49
15:AP:5:ARG:HB2	20:AA:376:G:H5"	1.95	0.49
20:AA:428:G:H1'	20:AA:430:A:C8	2.48	0.49
20:AA:781:A:H1'	20:AA:1523:G:H1'	1.94	0.49
20:AA:949:A:H2'	20:AA:950:U:C6	2.47	0.49
32:BK:103:GLN:O	32:BK:107:ILE:HG12	2.12	0.49
36:BQ:21:THR:OG1	36:BQ:99:PRO:O	2.30	0.49
37:BR:63:ARG:HG3	37:BR:76:VAL:HG21	1.93	0.49
42:BW:82:LEU:HB2	42:BW:98:LYS:HB2	1.94	0.49
43:BX:73:ARG:NH1	59:BA:63:U:OP1	2.40	0.49
44:BY:75:ILE:HA	44:BY:79:CYS:O	2.12	0.49
49:B5:6:VAL:HG13	59:BA:2015:A:C2	2.47	0.49
57:B1:45:ASN:HB2	59:BA:2230:G:H1'	1.95	0.49
57:B1:61:ARG:HB3	57:B1:61:ARG:HH11	1.77	0.49
59:BA:190:A:N7	59:BA:206:U:O4	2.45	0.49
59:BA:193:U:H4'	59:BA:803:U:H4'	1.95	0.49
59:BA:355:G:H2'	59:BA:356:G:C8	2.46	0.49
59:BA:635:C:O2'	59:BA:639:U:OP1	2.29	0.49
59:BA:648:G:H4'	59:BA:2351:G:H5"	1.94	0.49
59:BA:2306:C:H5"	59:BA:2307:G:N7	2.26	0.49
59:BA:2824:C:H2'	59:BA:2825:U:O4'	2.12	0.49
59:BA:2845:G:H2'	59:BA:2846:G:C8	2.48	0.49
60:BB:21:G:H1	60:BB:62:C:H42	1.60	0.49
3:CD:29:PRO:O	3:CD:30:LYS:HB3	2.10	0.49
7:CH:104:ARG:HB2	7:CH:138:TRP:CD1	2.47	0.49
7:CH:104:ARG:HB3	7:CH:107:LEU:HG	1.94	0.49
7:CH:120:THR:H	7:CH:123:GLU:HB2	1.77	0.49
8:CI:4:TYR:CE1	8:CI:21:PRO:HD3	2.47	0.49
10:CK:84:VAL:HG22	10:CK:109:VAL:O	2.13	0.49
19:CT:14:LYS:HA	19:CT:17:ARG:HE	1.78	0.49
23:CY:337:SER:HB2	23:CY:367:GLU:O	2.12	0.49
35:DP:114:ILE:HG12	35:DP:130:PHE:HD1	1.76	0.49
42:DW:8:ARG:HA	42:DW:102:HIS:ND1	2.28	0.49
45:DZ:96:VAL:HB	45:DZ:130:PRO:HG3	1.94	0.49
54:De:63:ILE:HG22	54:De:64:LEU:N	2.20	0.49
59:DA:563:G:H2'	59:DA:564:C:C6	2.48	0.49
59:DA:582:G:H2'	59:DA:583:G:H8	1.78	0.49
59:DA:590:A:H2'	59:DA:591:C:C6	2.48	0.49
59:DA:2461:C:H1'	59:DA:2492:U:N3	2.28	0.49
60:DB:24:G:N1	60:DB:56:G:C2	2.80	0.49
1:AB:55:PHE:HE1	1:AB:218:ALA:HA	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AG:26:PHE:CE2	6:AG:30:ILE:HD11	2.47	0.49
7:AH:9:MET:O	7:AH:13:ILE:HG12	2.13	0.49
9:AJ:34:VAL:HG22	9:AJ:74:ILE:HG22	1.95	0.49
15:AP:19:ILE:HB	15:AP:37:GLY:C	2.38	0.49
20:AA:68(V):G:C2	20:AA:68(W):G:H1'	2.47	0.49
23:AY:133:ILE:HG22	23:AY:257:PRO:HB2	1.94	0.49
23:AY:659:LEU:O	23:AY:661:SER:N	2.45	0.49
28:BF:132:VAL:O	28:BF:133:ASN:HB2	2.12	0.49
30:BH:19:VAL:HG21	30:BH:44:VAL:HA	1.94	0.49
31:BJ:58:UNK:C	31:BJ:60:UNK:N	2.76	0.49
32:BK:131:ALA:HB1	32:BK:136:VAL:HG13	1.95	0.49
42:BW:86:LEU:HB3	42:BW:94:ASP:HB2	1.93	0.49
49:B5:3:LYS:HE3	49:B5:5:PRO:HG2	1.94	0.49
51:B7:7:PRO:HA	59:BA:686:G:C8	2.47	0.49
59:BA:1165:U:H2'	59:BA:1166:C:H6	1.76	0.49
59:BA:2013:A:H2'	59:BA:2014:A:C8	2.48	0.49
59:BA:2036:C:H2'	59:BA:2037:G:C8	2.48	0.49
59:BA:2662:A:H8	59:BA:2662:A:O5'	1.95	0.49
1:CB:72:GLY:H	1:CB:93:VAL:HB	1.78	0.49
3:CD:92:VAL:HG13	3:CD:96:LEU:HD22	1.95	0.49
6:CG:13:GLN:O	6:CG:15:ASP:N	2.45	0.49
6:CG:49:ILE:HA	6:CG:52:GLU:HB2	1.93	0.49
10:CK:29:ILE:HD12	20:CA:706:A:H1'	1.94	0.49
20:CA:68(A):G:H1	20:CA:68(Y):C:N4	2.06	0.49
20:CA:255:G:H2'	20:CA:256:U:H6	1.77	0.49
20:CA:476:G:H2'	20:CA:477:G:H8	1.73	0.49
20:CA:1140:C:H2'	20:CA:1141:C:H6	1.77	0.49
20:CA:1250:A:N3	20:CA:1370:G:O2'	2.44	0.49
23:CY:20:HIS:HB3	23:CY:118:SER:HB3	1.93	0.49
23:CY:20:HIS:HB3	23:CY:118:SER:N	2.28	0.49
23:CY:528:ALA:HB1	23:CY:568:TYR:HA	1.94	0.49
25:DC:28:ARG:HG3	25:DC:183:PRO:HG3	1.94	0.49
25:DC:68:GLY:HA2	25:DC:159:ALA:O	2.13	0.49
27:DE:117:MET:O	27:DE:119:ARG:N	2.44	0.49
29:DG:111:LEU:HB3	29:DG:117:PHE:CE1	2.47	0.49
40:DU:3:ARG:HH11	59:DA:446:G:H5'	1.76	0.49
40:DU:40:PHE:HB3	41:DV:75:PHE:CE1	2.48	0.49
41:DV:77:ALA:O	41:DV:79:VAL:N	2.39	0.49
45:DZ:150:LEU:HD12	45:DZ:171:ILE:HD11	1.94	0.49
51:D7:30:VAL:HG22	51:D7:33:ARG:HH12	1.78	0.49
59:DA:222:A:N6	59:DA:232:G:H1'	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:733:G:O6	59:DA:761:A:H2'	2.13	0.49
59:DA:1468:C:H2'	59:DA:1469:A:H8	1.77	0.49
59:DA:1551:C:H2'	59:DA:1552:G:O4'	2.13	0.49
59:DA:1687:G:H2'	59:DA:1688:U:H6	1.78	0.49
59:DA:1802:A:P	59:DA:1815:A:H61	2.35	0.49
59:DA:2096:U:H2'	59:DA:2097:C:H6	1.76	0.49
3:AD:26:CYS:HA	3:AD:30:LYS:O	2.13	0.49
5:AF:70:ASP:O	5:AF:73:ASN:ND2	2.45	0.49
12:AM:78:ILE:HD13	12:AM:81:LEU:HD22	1.95	0.49
15:AP:8:ARG:HB2	15:AP:17:TYR:CE2	2.47	0.49
20:AA:17:U:H2'	20:AA:18:C:C6	2.47	0.49
20:AA:162:A:H3'	20:AA:163:C:O4'	2.12	0.49
20:AA:1183:A:O2'	20:AA:1184:G:H5"	2.13	0.49
20:AA:1399:C:C2	20:AA:1502:A:N6	2.81	0.49
21:AW:19:G:H1	21:AW:56:C:H42	1.59	0.49
26:BD:34:VAL:HB	26:BD:104:TYR:CE1	2.48	0.49
40:BU:102:GLU:OE1	40:BU:104:GLN:NE2	2.46	0.49
42:BW:60:ASN:O	42:BW:61:ASN:ND2	2.43	0.49
47:B2:28:LYS:HD2	47:B2:53:LEU:HD11	1.95	0.49
49:B5:9:LYS:NZ	59:BA:2018:G:H3'	2.28	0.49
49:B5:42:PRO:HB2	59:BA:2815:C:O2'	2.12	0.49
50:B6:37:ARG:NE	59:BA:2344:U:O2'	2.46	0.49
59:BA:249:C:OP2	59:BA:2394:C:O2'	2.24	0.49
59:BA:667:U:H2'	59:BA:668:G:O4'	2.13	0.49
59:BA:1018:C:N3	59:BA:1144:G:N2	2.56	0.49
59:BA:2014:A:H2'	59:BA:2015:A:C8	2.47	0.49
59:BA:2314:C:H2'	59:BA:2315:G:C8	2.47	0.49
59:BA:2458:G:HO2'	59:BA:2490:G:H1	1.59	0.49
59:BA:2472:G:H21	59:BA:2478:A:H62	0.73	0.49
59:BA:2620:C:HO2'	59:BA:2621:A:H8	1.61	0.49
59:BA:2736:G:H2'	59:BA:2737:G:C8	2.48	0.49
59:BA:2852:G:H1	59:BA:2865:U:H3	1.60	0.49
1:CB:187:LEU:HD22	1:CB:188:ALA:N	2.28	0.49
2:CC:59:ARG:HD3	2:CC:64:VAL:HG22	1.93	0.49
6:CG:103:TRP:HH2	6:CG:141:VAL:HG21	1.77	0.49
20:CA:740:U:O2'	20:CA:741:G:O4'	2.25	0.49
20:CA:794:A:H4'	20:CA:1521:G:O2'	2.12	0.49
23:CY:157:LEU:HG	23:CY:158:GLY:H	1.78	0.49
23:CY:256:THR:O	23:CY:258:VAL:N	2.46	0.49
26:DD:63:ARG:NH2	59:DA:1568:G:OP2	2.46	0.49
26:DD:88:ARG:NH2	59:DA:1817:G:OP1	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:DD:248:SER:C	26:DD:250:TRP:H	2.21	0.49
28:DF:5:ALA:HB1	28:DF:123:LEU:HD21	1.95	0.49
32:DK:43:ALA:HA	32:DK:46:ALA:HB2	1.94	0.49
33:DN:131:GLN:NE2	59:DA:7:G:O2'	2.46	0.49
34:DO:21:CYS:HA	34:DO:39:ILE:HD11	1.95	0.49
44:DY:13:VAL:HG13	44:DY:73:ARG:O	2.13	0.49
47:D2:46:GLN:HB3	47:D2:48:HIS:HE1	1.78	0.49
59:DA:302:C:H42	59:DA:315:G:H1	1.60	0.49
59:DA:934:G:H2'	59:DA:935:C:H6	1.77	0.49
59:DA:1200:C:H2'	59:DA:1201:C:H6	1.78	0.49
59:DA:1639:U:O2'	59:DA:2699:C:H4'	2.13	0.49
59:DA:1696:G:H2'	59:DA:1697:G:O4'	2.13	0.49
59:DA:2346:A:H5"	59:DA:2383:G:H1'	1.94	0.49
60:DB:47:C:H2'	60:DB:48:A:O4'	2.12	0.49
6:AG:15:ASP:HB2	6:AG:20:ASP:O	2.12	0.49
7:AH:34:GLU:O	7:AH:38:ILE:HG12	2.11	0.49
20:AA:163:C:H2'	20:AA:164:U:H6	1.78	0.49
20:AA:669:U:H2'	20:AA:670:G:C8	2.47	0.49
20:AA:1039:C:H2'	20:AA:1040:U:C6	2.48	0.49
20:AA:1115:C:H2'	20:AA:1116:C:H5'	1.95	0.49
20:AA:1251:A:N3	20:AA:1369:C:O2'	2.32	0.49
20:AA:1487:G:H2'	20:AA:1488:G:C8	2.48	0.49
23:AY:314:PHE:CZ	23:AY:329:ARG:HB3	2.39	0.49
26:BD:115:GLN:HE22	26:BD:117:VAL:HG13	1.77	0.49
29:BG:13:GLU:O	29:BG:17:PRO:HD2	2.12	0.49
33:BN:51:PHE:HZ	59:BA:9:U:OP1	1.95	0.49
33:BN:111:PRO:HA	33:BN:114:ARG:NE	2.25	0.49
34:BO:11:ALA:HB1	34:BO:99:PHE:HB2	1.95	0.49
34:BO:29:ASN:HB2	59:BA:2675:A:H4'	1.93	0.49
45:BZ:48:PHE:CZ	45:BZ:52:SER:HA	2.48	0.49
59:BA:109:G:H2'	59:BA:110:G:O4'	2.13	0.49
59:BA:197:A:O4'	59:BA:2068:U:N3	2.46	0.49
59:BA:504:U:H4'	59:BA:505:A:H5'	1.95	0.49
59:BA:1005:C:H2'	59:BA:1006:C:C6	2.47	0.49
59:BA:1394:U:H5"	59:BA:1604:C:OP1	2.13	0.49
59:BA:1710:C:H2'	59:BA:1711:C:C6	2.48	0.49
59:BA:1980:G:H3'	59:BA:1981:A:H5"	1.94	0.49
59:BA:2111:C:H1'	59:BA:2118:U:H4'	1.94	0.49
59:BA:2575:C:H2'	59:BA:2578:G:O6	2.13	0.49
1:CB:178:ARG:HH12	7:CH:68:ARG:NH2	2.11	0.49
2:CC:53:ALA:HB2	2:CC:115:LEU:HD11	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:CI:111:ARG:HH21	8:CI:113:LYS:HA	1.76	0.49
18:CS:55:LYS:HD2	20:CA:958:A:C4	2.48	0.49
18:CS:76:PRO:HB2	18:CS:81:ARG:NH1	2.27	0.49
20:CA:294:U:O4	20:CA:303:A:N1	2.46	0.49
25:DC:214:TYR:CB	25:DC:222:SER:HB2	2.43	0.49
26:DD:158:ALA:HB2	59:DA:1819:A:H5"	1.94	0.49
29:DG:63:ILE:HB	29:DG:143:GLU:CD	2.38	0.49
32:DK:84:LEU:HB3	32:DK:87:GLY:HA2	1.95	0.49
34:DO:64:ARG:HB3	34:DO:79:PHE:HB2	1.94	0.49
39:DT:89:VAL:C	39:DT:90:GLN:HG3	2.38	0.49
42:DW:84:ARG:HB2	42:DW:96:ILE:HG23	1.95	0.49
59:DA:141(A):A:H8	59:DA:1595:G:H21	1.61	0.49
59:DA:535:C:H2'	59:DA:536:A:C8	2.48	0.49
59:DA:909:A:H2'	59:DA:912:C:C5	2.47	0.49
59:DA:950:G:O6	59:DA:967:C:N3	2.46	0.49
59:DA:956:G:H1'	59:DA:960:A:N6	2.27	0.49
59:DA:1230:C:H2'	59:DA:1231:G:H8	1.76	0.49
59:DA:1347:G:H1	59:DA:1599:C:N4	2.07	0.49
59:DA:1516:U:H2'	59:DA:1517:G:C8	2.48	0.49
59:DA:1708:C:H2'	59:DA:1709:U:H6	1.78	0.49
59:DA:1758:G:N7	59:DA:2695:C:H4'	2.28	0.49
59:DA:2686:G:H1	59:DA:2723:C:H42	1.61	0.49
2:AC:6:HIS:ND1	13:AN:49:HIS:HB3	2.27	0.49
2:AC:8:ILE:HD12	2:AC:16:ARG:NH1	2.28	0.49
11:AL:43:VAL:HG12	11:AL:44:THR:H	1.77	0.49
20:AA:817:C:O2'	20:AA:1527:C:O3'	2.31	0.49
20:AA:966:G:H1'	21:AW:34:C:H4'	1.94	0.49
20:AA:1461:G:H2'	20:AA:1462:G:C8	2.47	0.49
27:BE:49:LEU:HD21	27:BE:81:ILE:H	1.77	0.49
27:BE:93:VAL:C	27:BE:95:ILE:H	2.21	0.49
28:BF:135:LYS:HB3	28:BF:138:GLU:HG3	1.94	0.49
39:BT:6:LEU:O	39:BT:10:VAL:HG23	2.13	0.49
41:BV:18:LEU:H	41:BV:96:ILE:HD12	1.78	0.49
43:BX:36:LYS:HE2	43:BX:56:THR:HG23	1.95	0.49
50:B6:8:LYS:HA	50:B6:27:LYS:HA	1.93	0.49
59:BA:354:G:H2'	59:BA:355:G:C8	2.46	0.49
59:BA:481:G:H4'	59:BA:481:G:OP1	2.13	0.49
59:BA:584:C:H2'	59:BA:585:G:O4'	2.13	0.49
59:BA:1726:G:H2'	59:BA:1727:U:C6	2.47	0.49
59:BA:1870:C:H2'	59:BA:1871:A:O4'	2.13	0.49
59:BA:2038:G:H2'	59:BA:2039:C:O4'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:BB:49:C:H2'	60:BB:50:G:H8	1.77	0.49
2:CC:56:ASP:O	2:CC:67:THR:OG1	2.16	0.49
6:CG:114:ARG:NH1	20:CA:1297:C:O2	2.46	0.49
10:CK:119:CYS:HB3	10:CK:121:PRO:HD3	1.94	0.49
11:CL:53:ARG:N	11:CL:53:ARG:HD2	2.27	0.49
17:CR:47:THR:HG23	17:CR:49:LYS:H	1.78	0.49
20:CA:127:G:H1	20:CA:234:C:N4	2.09	0.49
20:CA:802:A:H2'	20:CA:803:G:O4'	2.12	0.49
20:CA:854:G:H3'	20:CA:871:U:O4	2.13	0.49
21:CW:39:U:H2'	21:CW:40:G:C8	2.48	0.49
26:DD:132:PRO:HA	26:DD:189:CYS:O	2.13	0.49
27:DE:125:GLY:O	27:DE:127:ASP:N	2.46	0.49
28:DF:175:THR:O	28:DF:175:THR:OG1	2.23	0.49
29:DG:39:ILE:HG22	29:DG:157:ILE:HG23	1.93	0.49
33:DN:31:ALA:O	33:DN:34:LEU:N	2.41	0.49
35:DP:25:SER:H	35:DP:30:THR:HG22	1.77	0.49
35:DP:98:GLU:HA	35:DP:101:VAL:HG22	1.95	0.49
35:DP:109:GLY:O	35:DP:111:ARG:N	2.46	0.49
47:D2:14:ARG:HG2	47:D2:63:VAL:HG13	1.95	0.49
59:DA:481:G:H4'	59:DA:481:G:OP1	2.13	0.49
59:DA:1081:U:H2'	59:DA:1082:U:C6	2.47	0.49
59:DA:1136:G:H2'	59:DA:1137:G:O4'	2.12	0.49
59:DA:1139:G:H2'	59:DA:1140:C:H6	1.77	0.49
59:DA:1823:G:H2'	59:DA:1824:G:H8	1.77	0.49
59:DA:1998:G:H2'	59:DA:1999:C:O4'	2.13	0.49
59:DA:2333:A:H1'	59:DA:2335:A:C5	2.48	0.49
1:AB:77:ALA:O	1:AB:81:VAL:N	2.35	0.48
1:AB:93:VAL:HG22	1:AB:101:MET:HE1	1.95	0.48
2:AC:154:SER:HA	2:AC:165:THR:HA	1.94	0.48
8:AI:89:ASN:HB3	8:AI:92:TYR:CD1	2.48	0.48
10:AK:108:ILE:HD13	17:AR:87:ARG:HA	1.95	0.48
20:AA:441:A:H62	20:AA:493:G:N2	2.07	0.48
20:AA:488:C:H2'	20:AA:489:C:H6	1.78	0.48
20:AA:569:C:H42	20:AA:881:G:H1	1.61	0.48
20:AA:683:G:H2'	20:AA:684:A:C8	2.48	0.48
20:AA:833:U:O2'	20:AA:834:C:O5'	2.30	0.48
20:AA:1048:G:H2'	20:AA:1050:G:C8	2.48	0.48
22:AV:12:A:H2'	22:AV:13:A:H5'	1.95	0.48
25:BC:47:LYS:HB2	25:BC:169:THR:OG1	2.12	0.48
25:BC:118:PRO:HA	25:BC:121:MET:HB2	1.95	0.48
27:BE:55:ASN:HB2	27:BE:74:PRO:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BF:106:ARG:HH12	28:BF:107:LYS:NZ	2.11	0.48
33:BN:133:GLN:HG2	33:BN:135:PRO:HD3	1.95	0.48
34:BO:64:ARG:HA	34:BO:79:PHE:CD1	2.47	0.48
35:BP:71:VAL:H	35:BP:72:PRO:HD3	1.78	0.48
41:BV:28:GLU:HB3	41:BV:29:PRO:HD2	1.95	0.48
44:BY:2:ARG:HD3	44:BY:3:VAL:H	1.78	0.48
45:BZ:120:ILE:HG22	45:BZ:121:HIS:ND1	2.27	0.48
52:B8:17:THR:OG1	52:B8:19:SER:OG	2.31	0.48
59:BA:137(B):G:H5"	59:BA:138:G:OP2	2.13	0.48
59:BA:1019:U:OP1	59:BA:1035:U:O2'	2.24	0.48
59:BA:1486:A:H2'	59:BA:1487:G:H8	1.78	0.48
59:BA:1670:C:H2'	59:BA:1671:U:O4'	2.12	0.48
59:BA:2215:G:H2'	59:BA:2216:G:H8	1.78	0.48
59:BA:2593:U:H3	59:BA:2600:A:N6	2.08	0.48
60:BB:24:G:N7	60:BB:56:G:O2'	2.46	0.48
60:BB:72:G:O2'	60:BB:73:A:O4'	2.28	0.48
1:CB:174:VAL:HG11	1:CB:196:LEU:HD13	1.95	0.48
6:CG:94:ARG:HH11	6:CG:94:ARG:HB2	1.79	0.48
10:CK:52:GLY:H	10:CK:55:LYS:HE2	1.76	0.48
12:CM:99:ARG:HB3	12:CM:101:GLN:HG3	1.94	0.48
17:CR:37:VAL:HG23	17:CR:38:GLU:H	1.78	0.48
17:CR:44:LEU:HD21	17:CR:50:ILE:HG12	1.94	0.48
20:CA:198:G:H2'	20:CA:199:G:H8	1.77	0.48
20:CA:357:G:OP1	20:CA:367:U:H5"	2.13	0.48
23:CY:74:TRP:CG	23:CY:75:LYS:H	2.30	0.48
23:CY:170:ARG:HD3	23:CY:170:ARG:N	2.28	0.48
23:CY:263:ALA:C	23:CY:266:ASN:H	2.21	0.48
25:DC:7:ARG:NH2	59:DA:2128:C:H5"	2.28	0.48
26:DD:132:PRO:HB2	26:DD:135:PHE:HD1	1.78	0.48
27:DE:152:LYS:HD3	59:DA:2620:C:P	2.53	0.48
28:DF:180:GLY:HA3	59:DA:616:A:H1'	1.95	0.48
32:DK:91:PRO:HG3	59:DA:1062:G:H21	1.78	0.48
33:DN:55:VAL:HB	33:DN:126:PRO:HA	1.95	0.48
33:DN:90:MET:HE1	33:DN:94:HIS:CD2	2.48	0.48
36:DQ:21:THR:C	36:DQ:23:GLY:H	2.21	0.48
39:DT:27:THR:HG23	39:DT:28:VAL:H	1.78	0.48
46:D0:40:GLN:HB2	46:D0:44:ARG:HD3	1.95	0.48
50:D6:53:LYS:HG3	50:D6:54:ILE:H	1.78	0.48
59:DA:372:G:O2'	59:DA:400:G:O6	2.29	0.48
59:DA:1603:A:H5'	59:DA:1604:C:OP2	2.12	0.48
59:DA:1980:G:H3'	59:DA:1981:A:H5"	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2415:G:H2'	59:DA:2416:C:H6	1.78	0.48
59:DA:2554:U:H2'	59:DA:2555:U:C5	2.48	0.48
59:DA:2575:C:H2'	59:DA:2578:G:O6	2.13	0.48
59:DA:2886:G:H2'	59:DA:2887:U:C6	2.48	0.48
5:AF:48:LEU:N	5:AF:56:PRO:O	2.38	0.48
8:AI:25:LYS:HG3	8:AI:25:LYS:O	2.13	0.48
11:AL:80:HIS:O	11:AL:82:VAL:N	2.40	0.48
13:AN:6:LEU:HD13	13:AN:23:ARG:HH22	1.79	0.48
20:AA:1097:C:O2'	20:AA:1169:A:N3	2.38	0.48
20:AA:1139:G:N2	20:AA:1142:G:O6	2.46	0.48
23:AY:663:THR:C	23:AY:665:GLY:H	2.21	0.48
26:BD:7:LYS:HE3	26:BD:8:PRO:HD2	1.94	0.48
27:BE:25:VAL:HG22	27:BE:183:LEU:HG	1.94	0.48
28:BF:169:ASN:HB2	59:BA:322:A:P	2.53	0.48
28:BF:170:LEU:HB3	28:BF:173:VAL:HB	1.94	0.48
33:BN:36:GLY:O	33:BN:42:TRP:HB2	2.12	0.48
38:BS:31:SER:O	38:BS:33:LYS:N	2.46	0.48
38:BS:67:ARG:CZ	38:BS:71:ARG:HH12	2.26	0.48
40:BU:50:ARG:O	40:BU:54:LYS:HE2	2.13	0.48
40:BU:62:ILE:HD11	40:BU:93:LYS:HD3	1.95	0.48
45:BZ:10:ARG:HA	45:BZ:38:TYR:CE2	2.48	0.48
59:BA:31:C:H2'	59:BA:32:C:H6	1.77	0.48
59:BA:1019:U:H5'	59:BA:1120:G:N2	2.28	0.48
59:BA:1162:G:H2'	59:BA:1163:G:H8	1.77	0.48
59:BA:1429:G:H2'	59:BA:1430:C:H6	1.76	0.48
59:BA:1652:A:N1	59:BA:2005:A:N6	2.61	0.48
59:BA:1807:G:N2	59:BA:1810:A:OP2	2.45	0.48
59:BA:2165:G:N3	59:BA:2165:G:H2'	2.28	0.48
59:BA:2414:G:H2'	59:BA:2415:G:H8	1.77	0.48
59:BA:2430:A:H5'	59:BA:2431:U:OP2	2.13	0.48
1:CB:44:LEU:O	1:CB:47:THR:HB	2.13	0.48
3:CD:62:GLN:NE2	20:CA:545:C:OP2	2.46	0.48
6:CG:47:CYS:HA	6:CG:50:ILE:HD12	1.95	0.48
10:CK:21:ILE:HD11	10:CK:98:LEU:HD11	1.95	0.48
11:CL:84:LEU:HD22	11:CL:104:VAL:HG13	1.95	0.48
13:CN:5:ALA:HB2	20:CA:1216:G:H5"	1.94	0.48
18:CS:12:ASP:HB2	18:CS:15:LEU:HG	1.95	0.48
18:CS:59:PRO:HB3	59:DA:887:A:H5"	1.95	0.48
19:CT:56:MET:HE2	19:CT:56:MET:HA	1.94	0.48
20:CA:22:G:O2'	20:CA:913:A:N1	2.43	0.48
20:CA:992:U:O2	20:CA:993:G:N2	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:CY:512:ILE:HG12	23:CY:514:VAL:HG12	1.93	0.48
28:DF:5:ALA:HB3	28:DF:8:GLN:HA	1.94	0.48
34:DO:5:GLN:HG2	59:DA:1669:A:C8	2.48	0.48
37:DR:53:HIS:HD2	37:DR:54:LEU:HD12	1.78	0.48
39:DT:53:ARG:NH2	59:DA:2684:U:OP1	2.41	0.48
42:DW:43:GLY:HA2	42:DW:46:PHE:HB2	1.94	0.48
59:DA:413:C:O2'	59:DA:1880:C:H1'	2.13	0.48
59:DA:414:C:H2'	59:DA:415:A:H8	1.77	0.48
59:DA:579:G:O2'	59:DA:2019:A:OP1	2.30	0.48
59:DA:1373:A:H2'	59:DA:1374:G:O4'	2.12	0.48
59:DA:1410:G:H2'	59:DA:1411:C:C6	2.48	0.48
59:DA:2503:A:H4'	59:DA:2504:U:OP1	2.12	0.48
59:DA:2583:G:H2'	59:DA:2584:U:H5'	1.95	0.48
59:DA:2794:C:H2'	59:DA:2795:G:H5'	1.95	0.48
59:DA:2828:C:H2'	59:DA:2829:C:C6	2.48	0.48
4:AE:75:THR:OG1	4:AE:76:ILE:N	2.45	0.48
6:AG:108:ALA:HB1	6:AG:120:ILE:HD13	1.95	0.48
8:AI:25:LYS:O	8:AI:61:ALA:N	2.41	0.48
15:AP:2:VAL:HA	15:AP:23:ASP:HA	1.94	0.48
20:AA:284:G:H2'	20:AA:285:G:C8	2.47	0.48
20:AA:571:U:H5"	20:AA:819:A:C5	2.48	0.48
20:AA:1090:U:H2'	20:AA:1091:U:C6	2.48	0.48
20:AA:1260:C:H42	20:AA:1274:G:H1	1.60	0.48
22:AV:18:G:H5'	22:AV:19:G:OP1	2.13	0.48
25:BC:60:ARG:HB2	25:BC:60:ARG:HH11	1.76	0.48
26:BD:117:VAL:HG12	26:BD:129:ASN:ND2	2.28	0.48
29:BG:135:LEU:HD21	29:BG:155:MET:HG2	1.94	0.48
30:BH:12:PRO:HG2	30:BH:49:VAL:HG13	1.95	0.48
33:BN:19:GLU:HB3	33:BN:59:LYS:HE3	1.96	0.48
37:BR:68:ARG:NH1	59:BA:2708:G:OP1	2.46	0.48
57:B1:22:GLY:HA2	57:B1:38:SER:N	2.28	0.48
57:B1:25:LYS:HB3	59:BA:388:G:P	2.52	0.48
59:BA:678:C:H2'	59:BA:679:C:O4'	2.13	0.48
59:BA:697:C:H2'	59:BA:698:C:C6	2.49	0.48
59:BA:969:U:H2'	59:BA:970:C:H6	1.76	0.48
59:BA:1512:G:H2'	59:BA:1513:C:O4'	2.13	0.48
59:BA:1891:G:H2'	59:BA:1892:C:C6	2.48	0.48
59:BA:2179:C:H2'	59:BA:2180:U:H6	1.78	0.48
59:BA:2440:C:H5"	59:BA:2587:A:H4'	1.93	0.48
59:BA:2849:U:N3	59:BA:2867:G:O4'	2.47	0.48
59:BA:2873:A:O2'	59:BA:2874:C:H5'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:CO:43:LEU:C	14:CO:45:VAL:H	2.21	0.48
20:CA:130:A:C5	20:CA:264:U:H1'	2.48	0.48
20:CA:563:A:H5"	20:CA:564:C:C5	2.47	0.48
20:CA:659:U:H2'	20:CA:660:G:C8	2.48	0.48
20:CA:763:G:H2'	20:CA:764:C:O4'	2.13	0.48
20:CA:860:A:H2'	20:CA:861:G:O4'	2.13	0.48
20:CA:890:G:O2'	20:CA:906:G:O6	2.31	0.48
20:CA:1152:A:H2'	20:CA:1153:C:H6	1.78	0.48
23:CY:160:ARG:O	23:CY:162:VAL:N	2.41	0.48
23:CY:188:TYR:OH	23:CY:270:GLN:HG2	2.13	0.48
23:CY:312:LEU:HD13	23:CY:399:LEU:HD12	1.95	0.48
23:CY:342:TYR:HA	23:CY:349:LYS:HA	1.95	0.48
26:DD:24:ILE:HG12	26:DD:25:THR:N	2.29	0.48
30:DH:154:PRO:HA	30:DH:161:GLY:HA3	1.95	0.48
36:DQ:58:PHE:CZ	36:DQ:64:ILE:HD11	2.43	0.48
39:DT:50:ILE:HD12	39:DT:64:ARG:HB2	1.95	0.48
44:DY:9:LYS:HE2	44:DY:103:GLY:HA3	1.94	0.48
57:D1:30:VAL:HA	59:DA:2396:G:O2'	2.13	0.48
59:DA:481:G:H2'	59:DA:507:A:N1	2.28	0.48
59:DA:570:G:OP1	59:DA:972:G:O2'	2.31	0.48
59:DA:874:G:N2	59:DA:903:C:N3	2.50	0.48
59:DA:918:A:N3	60:DB:80:U:O2'	2.40	0.48
59:DA:1077:A:H5"	59:DA:1078:U:C6	2.49	0.48
59:DA:1183:G:H2'	59:DA:1184:G:H8	1.77	0.48
59:DA:2115:G:C6	59:DA:2117:A:H5"	2.47	0.48
3:AD:175:SER:O	3:AD:183:GLY:HA2	2.14	0.48
6:AG:7:ALA:HB3	20:AA:1378:C:OP1	2.13	0.48
9:AJ:36:GLY:HA3	20:AA:1123:A:H4'	1.95	0.48
11:AL:76:ASN:ND2	11:AL:77:LEU:H	2.10	0.48
11:AL:115:LYS:O	11:AL:117:ARG:N	2.39	0.48
11:AL:123:LYS:HD2	20:AA:37:U:P	2.53	0.48
14:AO:55:GLY:O	14:AO:59:MET:HG3	2.12	0.48
15:AP:16:HIS:CE1	15:AP:38:TYR:HB2	2.48	0.48
20:AA:27:G:H2'	20:AA:28:G:C8	2.49	0.48
20:AA:120:A:H2'	20:AA:122:G:N7	2.28	0.48
21:AW:15:G:N2	21:AW:48:C:N4	2.16	0.48
23:AY:606:MET:HG2	23:AY:673:PHE:HA	1.95	0.48
29:BG:128:ARG:NH1	59:BA:2315:G:H21	2.11	0.48
33:BN:137:LYS:NZ	33:BN:138:LEU:H	2.11	0.48
37:BR:32:GLY:HA3	37:BR:116:LEU:HG	1.96	0.48
38:BS:85:VAL:H	38:BS:106:ARG:CG	2.26	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:76:C:H2'	59:BA:77:C:C6	2.49	0.48
59:BA:591:C:H2'	59:BA:592:G:C8	2.48	0.48
59:BA:722:A:H2'	59:BA:723:G:C8	2.48	0.48
59:BA:1231:G:H2'	59:BA:1232:G:C8	2.43	0.48
60:BB:40:U:H3'	60:BB:41:U:H5"	1.94	0.48
4:CE:77:PRO:HG3	4:CE:143:ARG:O	2.13	0.48
11:CL:52:LEU:HB2	11:CL:54:LYS:HZ1	1.78	0.48
11:CL:113:ARG:HE	11:CL:116:SER:H	1.59	0.48
11:CL:117:ARG:HB3	11:CL:122:THR:O	2.13	0.48
16:CQ:43:LEU:HD12	16:CQ:69:LYS:HA	1.96	0.48
18:CS:49:ILE:O	18:CS:59:PRO:HA	2.14	0.48
20:CA:341:C:H2'	20:CA:342:C:C6	2.48	0.48
20:CA:362:G:H2'	20:CA:364:A:OP2	2.13	0.48
20:CA:1056:U:H3	20:CA:1204:A:N6	2.12	0.48
20:CA:1134:G:H1	20:CA:1140:C:H42	1.62	0.48
20:CA:1394:A:N7	20:CA:1501:C:H4'	2.28	0.48
20:CA:1426:C:H2'	20:CA:1427:U:C6	2.49	0.48
20:CA:1436:U:H2'	20:CA:1437:C:O4'	2.13	0.48
27:DE:15:PHE:CD1	39:DT:80:SER:HB2	2.48	0.48
57:D1:88:LYS:O	57:D1:92:LYS:N	2.45	0.48
59:DA:215:G:N2	59:DA:432:A:H2	2.12	0.48
59:DA:848:G:H2'	59:DA:849:A:H8	1.78	0.48
59:DA:903:C:H2'	59:DA:904:C:O4'	2.14	0.48
59:DA:1710:C:H2'	59:DA:1711:C:H6	1.77	0.48
59:DA:2079:U:H2'	59:DA:2080:G:O4'	2.12	0.48
59:DA:2294:C:H2'	59:DA:2295:C:H6	1.78	0.48
59:DA:2355:C:N4	59:DA:2362:G:H1	2.11	0.48
59:DA:2411:A:H2'	59:DA:2412:A:C8	2.48	0.48
2:AC:24:ALA:HB3	9:AJ:11:PHE:HZ	1.77	0.48
4:AE:146:ALA:O	4:AE:150:ARG:NH1	2.47	0.48
8:AI:43:ALA:HA	8:AI:74:ILE:HG21	1.95	0.48
8:AI:117:HIS:HE1	8:AI:123:PRO:HB3	1.78	0.48
14:AO:10:LYS:O	14:AO:14:GLU:HB2	2.13	0.48
16:AQ:86:GLU:O	16:AQ:90:ILE:HG13	2.14	0.48
17:AR:36:ASN:HB3	17:AR:39:VAL:HB	1.96	0.48
20:AA:68(H):G:H2'	20:AA:68(H):G:N3	2.28	0.48
20:AA:410:G:H2'	20:AA:429:U:C5	2.48	0.48
20:AA:766:A:H2'	20:AA:767:A:O4'	2.13	0.48
23:AY:100:VAL:HG21	23:AY:314:PHE:HZ	1.78	0.48
25:BC:96:GLY:HA3	25:BC:100:ILE:HG12	1.95	0.48
25:BC:151:GLY:HA2	25:BC:154:ILE:HG13	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BD:118:VAL:HG22	26:BD:119:ALA:N	2.29	0.48
29:BG:60:LEU:O	29:BG:63:ILE:HG12	2.14	0.48
30:BH:123:PHE:HD1	30:BH:133:VAL:HG22	1.79	0.48
35:BP:16:ARG:O	59:BA:661:C:O2'	2.30	0.48
36:BQ:21:THR:C	36:BQ:23:GLY:H	2.21	0.48
38:BS:40:ILE:HG13	38:BS:47:THR:H	1.78	0.48
44:BY:9:LYS:HD2	44:BY:94:LYS:NZ	2.28	0.48
44:BY:73:ARG:NH2	44:BY:82:PRO:HD3	2.28	0.48
46:B0:11:ARG:NH2	59:BA:2279:G:O5'	2.46	0.48
59:BA:59:U:H4'	59:BA:73:A:C5	2.49	0.48
59:BA:259:G:H2'	59:BA:260:G:C8	2.49	0.48
59:BA:1028:A:OP2	59:BA:1126:A:N6	2.45	0.48
59:BA:1195:G:H2'	59:BA:1196:C:C6	2.49	0.48
3:CD:15:GLU:OE1	3:CD:19:LEU:HD21	2.13	0.48
3:CD:86:LYS:HA	3:CD:86:LYS:HE2	1.94	0.48
4:CE:126:ARG:HH21	20:CA:9:G:H8	1.62	0.48
6:CG:22:LEU:HD21	6:CG:66:VAL:HG21	1.94	0.48
10:CK:84:VAL:HG21	10:CK:91:ARG:HD3	1.95	0.48
11:CL:21:LYS:HZ1	11:CL:23:LYS:HG3	1.78	0.48
12:CM:78:ILE:HA	12:CM:81:LEU:HB2	1.96	0.48
12:CM:116:THR:HA	20:CA:1228:C:H4'	1.95	0.48
13:CN:6:LEU:HB3	13:CN:23:ARG:NH2	2.28	0.48
20:CA:125:U:O2	20:CA:236:G:C6	2.65	0.48
20:CA:510:A:N3	20:CA:543:C:H1'	2.29	0.48
20:CA:1034:G:H2'	20:CA:1035:A:C8	2.48	0.48
20:CA:1063:C:N3	20:CA:1193:G:N2	2.46	0.48
20:CA:1238:A:N3	20:CA:1238:A:H2'	2.27	0.48
23:CY:201:ILE:O	23:CY:203:GLU:N	2.39	0.48
23:CY:291:GLY:HA2	23:CY:400:GLU:N	2.29	0.48
23:CY:656:ALA:HB2	23:CY:669:PHE:CE1	2.48	0.48
25:DC:217:THR:O	25:DC:218:THR:OG1	2.24	0.48
26:DD:27:THR:HG23	26:DD:83:GLU:HB3	1.94	0.48
26:DD:118:VAL:HG13	26:DD:119:ALA:H	1.79	0.48
29:DG:73:ALA:HA	59:DA:2312:U:H5'	1.94	0.48
32:DK:132:ARG:NH1	32:DK:136:VAL:O	2.45	0.48
35:DP:58:THR:O	35:DP:61:ARG:NE	2.42	0.48
38:DS:13:ARG:C	38:DS:15:ARG:N	2.69	0.48
38:DS:85:VAL:O	38:DS:106:ARG:HD3	2.13	0.48
51:D7:18:PHE:CE2	59:DA:117:G:H5'	2.49	0.48
59:DA:251:A:H8	59:DA:251:A:O5'	1.96	0.48
59:DA:1003:G:H1	59:DA:1152:C:N4	2.08	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1115:G:H2'	59:DA:1116:C:C6	2.48	0.48
59:DA:1669:A:N6	59:DA:1993:U:H3	2.11	0.48
59:DA:2676:C:H2'	59:DA:2677:G:C8	2.49	0.48
59:DA:2780:G:H1'	59:DA:2781:A:OP1	2.12	0.48
60:DB:82:G:H2'	60:DB:83:G:H8	1.78	0.48
8:AI:107:ARG:NH2	20:AA:1346:A:H1'	2.27	0.48
20:AA:1218:C:H2'	20:AA:1219:U:H6	1.78	0.48
20:AA:1394:A:N7	20:AA:1501:C:H4'	2.28	0.48
23:AY:96:ARG:HA	23:AY:99:ARG:CB	2.43	0.48
25:BC:113:ALA:O	25:BC:114:VAL:HB	2.13	0.48
26:BD:61:LEU:HB3	59:BA:1568:G:P	2.54	0.48
26:BD:222:ARG:HG2	59:BA:1789:A:OP1	2.13	0.48
33:BN:129:PRO:O	33:BN:131:GLN:N	2.47	0.48
36:BQ:7:MET:HE1	36:BQ:10:ARG:HA	1.96	0.48
39:BT:78:LEU:HB3	39:BT:79:HIS:CD2	2.48	0.48
42:BW:29:LEU:O	42:BW:33:ARG:HB2	2.13	0.48
45:BZ:97:GLU:HA	45:BZ:126:VAL:O	2.12	0.48
49:B5:19:ARG:HA	59:BA:2046:G:H5'	1.95	0.48
52:B8:61:LEU:C	52:B8:64:TYR:H	2.20	0.48
57:B1:13:ILE:HG23	57:B1:42:GLN:O	2.14	0.48
59:BA:580:C:H2'	59:BA:581:C:H6	1.77	0.48
59:BA:2037:G:C4	59:BA:2038:G:C8	3.02	0.48
59:BA:2038:G:H2'	59:BA:2039:C:H5'	1.96	0.48
59:BA:2137:C:H2'	59:BA:2138:C:C6	2.48	0.48
3:CD:19:LEU:HB3	3:CD:67:ILE:HG12	1.96	0.48
8:CI:112:LYS:HA	8:CI:119:ALA:HB2	1.94	0.48
11:CL:58:VAL:HG21	11:CL:85:ILE:HD11	1.95	0.48
20:CA:120:A:H2'	20:CA:122:G:N7	2.29	0.48
20:CA:327:A:O2'	20:CA:328:C:O4'	2.28	0.48
20:CA:1181:G:O2'	20:CA:1182:G:C8	2.67	0.48
20:CA:1327:C:H2'	20:CA:1328:C:C6	2.49	0.48
20:CA:1465:C:H2'	20:CA:1466:C:C6	2.48	0.48
23:CY:13:ARG:HB2	23:CY:79:ILE:HG13	1.95	0.48
25:DC:213:VAL:HG12	25:DC:224:ARG:HA	1.94	0.48
28:DF:18:ARG:O	28:DF:18:ARG:NE	2.46	0.48
31:DJ:24:UNK:N	31:DJ:111:UNK:O	2.46	0.48
31:DJ:111:UNK:O	31:DJ:116:UNK:HA	2.13	0.48
33:DN:54:VAL:HB	33:DN:122:VAL:HG22	1.96	0.48
33:DN:90:MET:HE2	33:DN:90:MET:HA	1.94	0.48
35:DP:41:ARG:HA	35:DP:41:ARG:HD3	1.66	0.48
45:DZ:54:HIS:NE2	45:DZ:123:ASP:HB3	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:D0:24:LYS:HG3	59:DA:2355:C:H4'	1.96	0.48
46:D0:27:GLU:HG3	46:D0:69:PHE:CE1	2.49	0.48
46:D0:55:ARG:N	59:DA:2365:G:OP1	2.46	0.48
47:D2:28:LYS:HD2	47:D2:53:LEU:HD11	1.94	0.48
51:D7:42:LEU:HD11	59:DA:467:G:OP2	2.14	0.48
57:D1:80:LEU:HD21	59:DA:270(T):G:O2'	2.13	0.48
59:DA:974(B):C:C4	59:DA:983:A:H5"	2.48	0.48
59:DA:1049:C:N3	59:DA:2751:G:O6	2.46	0.48
59:DA:1092:C:H2'	59:DA:1093:G:O4'	2.14	0.48
59:DA:1194:A:H2'	59:DA:1195:G:C8	2.49	0.48
59:DA:1642:G:H2'	59:DA:1643:G:O4'	2.14	0.48
60:DB:56:G:H4'	60:DB:57:A:H8	1.79	0.48
2:AC:157:ILE:HD13	2:AC:164:ARG:NE	2.27	0.48
6:AG:34:GLY:HA3	20:AA:1350:A:H2	1.77	0.48
8:AI:93:ARG:NE	8:AI:102:LEU:HD11	2.29	0.48
16:AQ:69:LYS:HG3	20:AA:254:G:H5"	1.96	0.48
20:AA:62:U:H2'	20:AA:63:C:C6	2.49	0.48
20:AA:131:C:H2'	20:AA:132:C:H6	1.78	0.48
20:AA:553:A:H2'	20:AA:554:C:H6	1.79	0.48
20:AA:590:C:H2'	20:AA:591:U:C6	2.48	0.48
20:AA:766:A:H61	20:AA:1511:G:H1'	1.79	0.48
20:AA:1419:G:H2'	20:AA:1420:C:H6	1.78	0.48
23:AY:199:ILE:HG12	23:AY:200:PRO:O	2.13	0.48
25:BC:162:ILE:CD1	25:BC:175:PRO:HD2	2.43	0.48
26:BD:51:VAL:HG13	26:BD:52:ARG:H	1.79	0.48
33:BN:27:ALA:O	33:BN:31:ALA:N	2.34	0.48
35:BP:112:LEU:HD12	35:BP:127:ALA:HB2	1.96	0.48
37:BR:13:HIS:H	37:BR:16:HIS:HB3	1.78	0.48
37:BR:97:VAL:HG12	37:BR:112:ALA:HB1	1.95	0.48
38:BS:26:LEU:HD13	38:BS:106:ARG:NH1	2.29	0.48
38:BS:77:ALA:HB1	38:BS:82:ILE:HB	1.96	0.48
40:BU:34:LYS:NZ	59:BA:2018:G:N3	2.61	0.48
40:BU:76:TYR:CD2	59:BA:1010:A:H4'	2.49	0.48
41:BV:4:ILE:O	41:BV:39:LEU:N	2.38	0.48
51:B7:27:GLY:O	51:B7:30:VAL:HB	2.13	0.48
57:B1:77:ALA:O	57:B1:82:LEU:HD11	2.13	0.48
59:BA:52:A:H62	59:BA:119:A:H62	1.62	0.48
59:BA:294:A:H2'	59:BA:295:G:O4'	2.14	0.48
59:BA:381:G:H8	59:BA:381:G:O5'	1.97	0.48
59:BA:690:G:H1'	59:BA:779:U:O3'	2.12	0.48
59:BA:947:G:H1	59:BA:970:C:N4	2.10	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:974(A):G:C6	59:BA:989:G:C6	3.02	0.48
59:BA:1429:G:O4'	59:BA:1568:G:O2'	2.24	0.48
59:BA:1495:A:H8	59:BA:1495:A:OP1	1.96	0.48
59:BA:1551:C:H2'	59:BA:1552:G:O4'	2.13	0.48
59:BA:2133:G:H2'	59:BA:2157:G:H1	1.77	0.48
59:BA:2808:U:N3	59:BA:2809:A:N7	2.62	0.48
1:CB:87:ARG:NH2	1:CB:233:SER:H	2.11	0.48
2:CC:156:ARG:HD3	2:CC:194:GLY:HA3	1.95	0.48
7:CH:71:GLY:O	7:CH:73:ASP:N	2.47	0.48
18:CS:6:LYS:HE2	18:CS:7:LYS:H	1.79	0.48
20:CA:68(P):C:H2'	20:CA:68(Q):U:O4'	2.12	0.48
20:CA:748:C:O2'	20:CA:749:C:OP2	2.28	0.48
20:CA:890:G:N2	20:CA:906:G:H2'	2.28	0.48
20:CA:946:A:H2'	20:CA:947:G:C8	2.49	0.48
20:CA:971:G:N2	20:CA:1363:A:OP2	2.30	0.48
23:CY:22:ASP:O	62:CY:702:GDP:O3B	2.32	0.48
32:DK:59:ILE:HG12	32:DK:60:TYR:O	2.13	0.48
33:DN:105:GLY:C	33:DN:107:LEU:H	2.22	0.48
35:DP:100:LEU:HB3	35:DP:106:LEU:HD12	1.95	0.48
37:DR:86:ARG:C	37:DR:88:ARG:H	2.21	0.48
51:D7:42:LEU:O	51:D7:44:PRO:HD3	2.14	0.48
59:DA:24:G:H2'	59:DA:25:U:H6	1.79	0.48
59:DA:85:G:N1	59:DA:97:C:O2	2.38	0.48
59:DA:325:G:H2'	59:DA:326:G:H8	1.78	0.48
59:DA:1102:C:H2'	59:DA:1103:A:O4'	2.13	0.48
59:DA:1558:A:O2'	59:DA:1559:G:OP2	2.21	0.48
59:DA:2048:G:H1	59:DA:2620:C:H42	1.62	0.48
59:DA:2367:G:H2'	59:DA:2368:C:H6	1.78	0.48
59:DA:2469:A:N6	59:DA:2481:G:O2'	2.47	0.48
59:DA:2778:A:O2'	59:DA:2780:G:O2'	2.25	0.48
11:AL:45:PRO:HD2	11:AL:49:ASN:HB2	1.95	0.48
11:AL:82:VAL:O	11:AL:82:VAL:HG12	2.14	0.48
20:AA:1017:G:H2'	20:AA:1018:C:C6	2.49	0.48
20:AA:1412:C:H42	20:AA:1488:G:H1	1.61	0.48
23:AY:74:TRP:CG	23:AY:75:LYS:H	2.32	0.48
23:AY:137:ASN:ND2	23:AY:138:LYS:N	2.47	0.48
25:BC:125:GLY:HA2	25:BC:138:LEU:HD11	1.96	0.48
29:BG:97:ASP:HA	29:BG:100:TRP:HD1	1.79	0.48
29:BG:104:GLU:C	29:BG:108:ASN:HD22	2.20	0.48
29:BG:111:LEU:HB3	29:BG:117:PHE:CZ	2.49	0.48
40:BU:79:PHE:HE1	40:BU:106:PHE:CZ	2.32	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BV:95:LEU:O	41:BV:96:ILE:O	2.32	0.48
45:BZ:15:PRO:O	45:BZ:19:ARG:HG3	2.14	0.48
51:B7:23:ARG:O	51:B7:28:ARG:NH1	2.46	0.48
57:B1:50:ARG:NH2	59:BA:2206:C:OP2	2.46	0.48
59:BA:104:U:H3'	59:BA:105:C:H6	1.79	0.48
59:BA:273(C):C:H2'	59:BA:273(D):C:C6	2.49	0.48
59:BA:774:A:H4'	59:BA:777:A:O2'	2.14	0.48
59:BA:1493:C:O2	59:BA:2210:G:O2'	2.31	0.48
59:BA:2889:C:H2'	59:BA:2891:G:O4'	2.14	0.48
3:CD:62:GLN:O	3:CD:65:ARG:HG3	2.13	0.48
16:CQ:29:HIS:HB3	16:CQ:33:GLY:N	2.28	0.48
18:CS:70:LYS:O	18:CS:73:GLU:HB3	2.14	0.48
20:CA:359:U:H2'	20:CA:360:A:H8	1.77	0.48
20:CA:815:A:O4'	20:CA:817:C:N4	2.47	0.48
20:CA:833:U:O2	20:CA:853:G:N2	2.31	0.48
20:CA:1437:C:H2'	20:CA:1438:G:H8	1.78	0.48
23:CY:201:ILE:HG21	23:CY:206:LEU:N	2.27	0.48
28:DF:13:SER:O	28:DF:15:SER:N	2.47	0.48
30:DH:101:ARG:HG3	30:DH:117:PRO:HG2	1.96	0.48
31:DJ:11:UNK:O	31:DJ:15:UNK:N	2.46	0.48
35:DP:30:THR:O	35:DP:32:THR:N	2.47	0.48
36:DQ:1:MET:H2	36:DQ:48:GLU:HB2	1.78	0.48
38:DS:58:LEU:HD22	38:DS:69:VAL:HG23	1.96	0.48
45:DZ:5:LEU:HD11	45:DZ:44:PHE:CD1	2.47	0.48
47:D2:18:PRO:HA	47:D2:21:LEU:HD12	1.95	0.48
59:DA:193:U:H2'	59:DA:194:G:H8	1.79	0.48
59:DA:571:A:H1'	59:DA:573:G:C8	2.48	0.48
59:DA:873:G:N2	59:DA:904:C:N3	2.47	0.48
59:DA:1050:A:H2'	59:DA:1051:G:H8	1.78	0.48
59:DA:1053:C:H2'	59:DA:1054:A:O4'	2.14	0.48
59:DA:1855:G:H1	59:DA:1887:C:H42	1.60	0.48
59:DA:2041:U:OP2	59:DA:2041:U:C6	2.57	0.48
59:DA:2309:A:H2'	59:DA:2310:A:C8	2.49	0.48
59:DA:2572:A:OP1	59:DA:2574:G:H4'	2.14	0.48
5:AF:1:MET:HA	5:AF:68:PRO:HA	1.96	0.48
7:AH:32:LYS:O	7:AH:36:LEU:HG	2.13	0.48
10:AK:27:ASN:ND2	10:AK:55:LYS:HD2	2.28	0.48
12:AM:39:ILE:HD12	12:AM:56:LEU:HG	1.96	0.48
20:AA:411:A:O2'	20:AA:413:G:OP1	2.27	0.48
20:AA:606:G:H3'	20:AA:607:A:H5'	1.95	0.48
30:BH:105:LEU:HG	30:BH:113:VAL:HB	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BO:6:THR:HG23	59:BA:1666:G:O3'	2.14	0.48
35:BP:7:ARG:O	35:BP:10:PRO:HD2	2.13	0.48
35:BP:101:VAL:HG12	35:BP:106:LEU:HB3	1.96	0.48
38:BS:26:LEU:HD11	38:BS:101:LEU:HD22	1.95	0.48
39:BT:130:ALA:HA	39:BT:133:GLU:HB3	1.96	0.48
42:BW:14:PRO:O	42:BW:16:LYS:N	2.46	0.48
43:BX:8:ILE:HB	47:B2:37:PHE:HZ	1.78	0.48
43:BX:49:VAL:HB	43:BX:83:VAL:HG11	1.96	0.48
44:BY:68:HIS:HB3	44:BY:71:LYS:HE2	1.96	0.48
44:BY:69:ALA:O	44:BY:71:LYS:N	2.43	0.48
45:BZ:95:PRO:HA	45:BZ:129:SER:HA	1.95	0.48
46:B0:24:LYS:N	46:B0:37:LEU:O	2.43	0.48
51:B7:33:ARG:HB2	51:B7:34:ARG:NH1	2.29	0.48
52:B8:37:SER:HB3	59:BA:2383:G:OP2	2.13	0.48
53:B9:7:VAL:HG12	53:B9:34:GLN:HB3	1.96	0.48
57:B1:25:LYS:HD2	59:BA:388:G:P	2.54	0.48
58:B4:14:ILE:HD13	58:B4:22:ILE:HD12	1.95	0.48
59:BA:67:U:C2	59:BA:68:G:C8	3.01	0.48
59:BA:531:C:H5"	59:BA:532:A:C4	2.49	0.48
59:BA:1400:G:H2'	59:BA:1401:G:C8	2.48	0.48
59:BA:1413:G:H2'	59:BA:1414:G:C8	2.48	0.48
59:BA:1537:C:H2'	59:BA:1538:G:H4'	1.95	0.48
59:BA:1557:C:H5"	59:BA:1558:A:OP2	2.14	0.48
59:BA:1609:A:O2'	59:BA:1610:A:O5'	2.29	0.48
59:BA:1674:G:H21	59:BA:1677:A:H61	1.60	0.48
59:BA:1947:C:H2'	59:BA:1948:G:H8	1.78	0.48
59:BA:1988:C:H2'	59:BA:1989:G:C8	2.49	0.48
59:BA:2113:U:H2'	59:BA:2114:A:O4'	2.14	0.48
59:BA:2663:G:H2'	59:BA:2664:G:O4'	2.14	0.48
60:BB:9:G:H2'	60:BB:10:C:H6	1.79	0.48
3:CD:33:MET:HB3	3:CD:37:PRO:HB3	1.95	0.48
3:CD:209:ARG:HD3	20:CA:8:A:C5	2.49	0.48
4:CE:18:ARG:HB2	20:CA:921:U:O2'	2.14	0.48
14:CO:24:SER:OG	14:CO:25:THR:N	2.47	0.48
15:CP:36:ILE:HG22	15:CP:52:ASP:HB3	1.95	0.48
20:CA:68(P):C:H2'	20:CA:68(Q):U:H6	1.78	0.48
20:CA:831:U:H2'	20:CA:832:C:H6	1.79	0.48
20:CA:1528:U:H4'	20:CA:1529:G:H21	1.79	0.48
23:CY:15:ILE:HG13	23:CY:80:ASN:O	2.14	0.48
23:CY:446:THR:OG1	23:CY:447:GLY:N	2.45	0.48
26:DD:117:VAL:HG12	26:DD:129:ASN:HD21	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:DF:106:ARG:HH12	28:DF:107:LYS:HE2	1.79	0.48
28:DF:184:TYR:HH	59:DA:1202:C:HO2'	1.59	0.48
37:DR:107:ASP:HB2	59:DA:1649:G:H21	1.79	0.48
44:DY:47:LYS:HG2	59:DA:482:A:H4'	1.96	0.48
57:D1:43:TYR:CE2	59:DA:2230:G:H5"	2.40	0.48
59:DA:572:A:H5"	59:DA:573:G:OP2	2.13	0.48
59:DA:1224:C:H2'	59:DA:1225:G:O4'	2.14	0.48
59:DA:1290:C:H2'	59:DA:1291:C:C6	2.49	0.48
59:DA:2024:G:N2	59:DA:2040:C:H1'	2.27	0.48
59:DA:2110:G:H1	59:DA:2179:C:H42	1.62	0.48
59:DA:2592:G:H2'	59:DA:2593:U:H5'	1.95	0.48
2:AC:5:ILE:HG22	20:AA:1190:G:OP1	2.14	0.48
5:AF:44:GLY:HA2	5:AF:59:TYR:CE1	2.49	0.48
5:AF:51:PRO:HA	5:AF:56:PRO:HA	1.95	0.48
6:AG:150:ALA:HB1	10:AK:93:GLN:HE22	1.79	0.48
11:AL:5:PRO:HG2	11:AL:15:ARG:NH2	2.28	0.48
19:AT:49:ALA:O	19:AT:52:ALA:N	2.46	0.48
20:AA:555:C:H2'	20:AA:556:C:C6	2.49	0.48
20:AA:757:U:O2'	20:AA:879:C:O2	2.32	0.48
20:AA:973:G:C8	20:AA:974:A:H2'	2.48	0.48
20:AA:1369:C:H2'	20:AA:1370:G:O4'	2.14	0.48
21:AW:52:G:H1	21:AW:62:C:H42	1.62	0.48
23:AY:187:THR:HG22	23:AY:198:GLU:HA	1.95	0.48
26:BD:35:LYS:HG2	26:BD:62:TYR:O	2.14	0.48
26:BD:203:ASN:N	26:BD:203:ASN:OD1	2.46	0.48
28:BF:25:PRO:HD3	28:BF:115:ALA:O	2.14	0.48
32:BK:30:HIS:NE2	32:BK:58:THR:O	2.47	0.48
36:BQ:30:GLY:HA2	36:BQ:107:ALA:HB2	1.96	0.48
37:BR:42:LYS:O	37:BR:45:ARG:NE	2.47	0.48
38:BS:85:VAL:H	38:BS:106:ARG:HG2	1.78	0.48
41:BV:39:LEU:HA	41:BV:47:VAL:HG11	1.96	0.48
44:BY:28:LYS:HA	44:BY:39:VAL:HA	1.96	0.48
46:B0:51:VAL:HG21	46:B0:79:VAL:O	2.13	0.48
59:BA:271(C):G:O2'	59:BA:271(D):U:OP2	2.30	0.48
59:BA:408:G:O5'	59:BA:408:G:H8	1.97	0.48
59:BA:981:A:H1'	59:BA:2037:G:H1'	1.96	0.48
59:BA:1025:G:N2	59:BA:1139:G:O6	2.45	0.48
59:BA:1166:C:H2'	59:BA:1167:U:H6	1.79	0.48
59:BA:1786:A:C8	59:BA:1938:A:C6	3.02	0.48
59:BA:1811:G:H2'	59:BA:1812:A:C8	2.48	0.48
59:BA:1862:G:H1	59:BA:1880:C:N4	2.11	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2294:C:H2'	59:BA:2295:C:C6	2.49	0.48
59:BA:2498:C:O2'	59:BA:2499:C:H5'	2.14	0.48
59:BA:2756:U:H4'	59:BA:2757:A:OP1	2.14	0.48
60:BB:102:G:H2'	60:BB:103:U:H6	1.77	0.48
1:CB:175:ARG:NH2	20:CA:1075:C:O3'	2.46	0.48
7:CH:10:LEU:O	7:CH:13:ILE:HB	2.14	0.48
12:CM:102:ARG:HH21	12:CM:105:THR:HG23	1.79	0.48
12:CM:108:ARG:H	12:CM:108:ARG:HD2	1.79	0.48
20:CA:1143:G:H2'	20:CA:1144:G:H8	1.79	0.48
23:CY:67:ALA:HB3	23:CY:358:MET:HG3	1.94	0.48
23:CY:549:ALA:HB1	23:CY:591:LYS:HE2	1.96	0.48
25:DC:65:LEU:HD21	25:DC:193:PHE:HB2	1.96	0.48
26:DD:92:ILE:HG22	26:DD:106:ILE:HA	1.96	0.48
27:DE:63:LEU:HB2	27:DE:65:GLY:N	2.20	0.48
28:DF:67:GLN:HG2	59:DA:675:A:O2'	2.14	0.48
36:DQ:77:LYS:HG2	36:DQ:78:PRO:HD2	1.96	0.48
39:DT:33:LYS:HB2	39:DT:43:GLN:HB3	1.96	0.48
47:D2:35:LEU:HD22	47:D2:50:ILE:HG12	1.95	0.48
52:D8:30:ARG:N	52:D8:32:LEU:HD23	2.29	0.48
57:D1:45:ASN:ND2	59:DA:2230:G:H1'	2.29	0.48
58:D4:2:LYS:HG3	60:DB:39:A:N6	2.29	0.48
59:DA:15:G:H1	59:DA:525:U:H3	1.62	0.48
59:DA:131:G:H2'	59:DA:132:G:C8	2.49	0.48
59:DA:578:A:OP1	59:DA:1255:U:O2'	2.32	0.48
59:DA:1519:G:H2'	59:DA:1520:U:O4'	2.14	0.48
59:DA:1536:A:H3'	59:DA:1537:C:C6	2.49	0.48
59:DA:1657:C:H2'	59:DA:1658:C:C6	2.49	0.48
59:DA:1676:A:H2'	59:DA:1677:A:C8	2.48	0.48
59:DA:2453:A:O2'	59:DA:2572:A:O4'	2.30	0.48
59:DA:2888:C:H2'	59:DA:2889:C:H6	1.79	0.48
2:AC:87:LEU:O	2:AC:91:LEU:HG	2.14	0.47
3:AD:62:GLN:NE2	20:AA:544:G:OP1	2.45	0.47
3:AD:73:ARG:HB2	20:AA:546:G:OP1	2.14	0.47
7:AH:109:ILE:HG13	7:AH:120:THR:HB	1.96	0.47
9:AJ:35:SER:HB3	9:AJ:73:ASP:HB2	1.96	0.47
15:AP:70:ALA:O	15:AP:73:LEU:N	2.47	0.47
20:AA:124:G:H4'	20:AA:291:C:O2'	2.14	0.47
20:AA:125:U:H2'	20:AA:126:G:C8	2.49	0.47
23:AY:137:ASN:HD22	23:AY:262:SER:HA	1.78	0.47
23:AY:631:ILE:HG22	23:AY:632:LEU:N	2.29	0.47
26:BD:62:TYR:HE1	59:BA:1816:G:C8	2.32	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BD:108:PRO:HA	26:BD:196:VAL:HA	1.95	0.47
30:BH:105:LEU:O	30:BH:113:VAL:N	2.44	0.47
33:BN:137:LYS:NZ	33:BN:137:LYS:HB3	2.29	0.47
34:BO:86:ILE:HG22	34:BO:94:ARG:HB2	1.96	0.47
39:BT:53:ARG:HH12	39:BT:60:THR:HG1	1.57	0.47
48:B3:10:LYS:HB3	48:B3:53:LEU:HA	1.95	0.47
59:BA:1676:A:H2'	59:BA:1677:A:H8	1.79	0.47
59:BA:2002:G:H2'	59:BA:2003:G:H8	1.78	0.47
59:BA:2155:G:H3'	59:BA:2156:G:C8	2.49	0.47
59:BA:2618:G:H2'	59:BA:2619:C:C6	2.49	0.47
1:CB:69:LEU:O	1:CB:71:VAL:HG23	2.13	0.47
1:CB:164:VAL:HG12	1:CB:165:VAL:O	2.14	0.47
3:CD:103:ASN:HB2	3:CD:114:ARG:HH12	1.79	0.47
16:CQ:40:LYS:HG2	16:CQ:42:TYR:HE1	1.79	0.47
16:CQ:48:GLU:O	16:CQ:50:LYS:N	2.46	0.47
20:CA:690:G:H8	20:CA:690:G:OP2	1.97	0.47
20:CA:715:A:H5"	20:CA:805:C:O4'	2.14	0.47
20:CA:1072:G:O6	20:CA:1103:C:N3	2.47	0.47
20:CA:1503:A:N6	22:CV:14:A:H2'	2.29	0.47
20:CA:1507:A:H2'	20:CA:1508:G:C8	2.49	0.47
61:CY:701:FUA:H322	61:CY:701:FUA:H16	1.76	0.47
31:DJ:82:UNK:O	31:DJ:84:UNK:N	2.47	0.47
32:DK:98:ARG:HB3	32:DK:137:GLU:HG3	1.95	0.47
37:DR:38:VAL:O	37:DR:42:LYS:HG2	2.14	0.47
38:DS:78:LEU:HD11	38:DS:105:ALA:HA	1.95	0.47
38:DS:84:GLN:HA	38:DS:106:ARG:HG2	1.96	0.47
38:DS:97:ARG:O	38:DS:100:ALA:N	2.32	0.47
39:DT:54:ARG:HA	39:DT:59:THR:HB	1.96	0.47
42:DW:8:ARG:HA	42:DW:102:HIS:HD1	1.79	0.47
46:D0:24:LYS:HB3	46:D0:25:ARG:NH1	2.29	0.47
51:D7:31:LEU:O	51:D7:35:ARG:HG3	2.14	0.47
53:D9:1:MET:HB3	53:D9:4:ARG:HD3	1.95	0.47
59:DA:85:G:O6	59:DA:97:C:N3	2.47	0.47
59:DA:688:U:H2'	59:DA:689:A:C8	2.48	0.47
59:DA:919:G:H2'	59:DA:920:G:H8	1.78	0.47
59:DA:1070:A:C5	59:DA:1097:U:H4'	2.49	0.47
59:DA:1394:U:H5"	59:DA:1604:C:P	2.54	0.47
59:DA:1666:G:N2	59:DA:1669:A:N7	2.61	0.47
59:DA:2114:A:H2	59:DA:2168:G:H1'	1.79	0.47
59:DA:2873:A:O2'	59:DA:2874:C:H5'	2.14	0.47
60:DB:56:G:H4'	60:DB:57:A:C8	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AB:12:GLU:C	1:AB:14:GLY:H	2.21	0.47
1:AB:97:TRP:CZ2	1:AB:176:GLU:HG3	2.48	0.47
1:AB:171:ALA:HA	1:AB:174:VAL:CB	2.39	0.47
2:AC:24:ALA:HB1	2:AC:29:TYR:HB2	1.95	0.47
6:AG:139:GLU:O	6:AG:143:ARG:HG3	2.14	0.47
7:AH:107:LEU:HD23	7:AH:107:LEU:H	1.79	0.47
8:AI:33:PHE:HE1	8:AI:43:ALA:HB1	1.79	0.47
8:AI:117:HIS:CE1	8:AI:123:PRO:HB3	2.49	0.47
15:AP:2:VAL:HG11	20:AA:228:A:O2'	2.14	0.47
23:AY:118:SER:C	23:AY:120:THR:H	2.21	0.47
26:BD:221:VAL:HA	59:BA:1789:A:H5"	1.95	0.47
26:BD:226:MET:HE3	59:BA:782:A:C2	2.49	0.47
26:BD:250:TRP:CD2	59:BA:1805:U:H5"	2.48	0.47
28:BF:83:PHE:CD2	59:BA:1257:C:H4'	2.49	0.47
33:BN:137:LYS:HZ3	33:BN:138:LEU:N	2.12	0.47
35:BP:7:ARG:HG2	59:BA:1203:G:H4'	1.96	0.47
37:BR:12:ARG:HE	37:BR:20:LEU:HD13	1.79	0.47
41:BV:20:LEU:HG	41:BV:93:GLU:HG3	1.96	0.47
43:BX:65:ARG:NH2	59:BA:1334:G:O3'	2.46	0.47
44:BY:51:VAL:HG12	44:BY:53:PRO:HD2	1.95	0.47
45:BZ:118:GLN:HB3	45:BZ:173:ALA:N	2.28	0.47
48:B3:40:THR:HG22	48:B3:42:ALA:H	1.79	0.47
52:B8:20:GLY:HA3	52:B8:57:ARG:HH21	1.79	0.47
59:BA:36:G:H4'	59:BA:451:C:C2	2.49	0.47
59:BA:190:A:H62	59:BA:206:U:H3	1.62	0.47
59:BA:529:A:N7	59:BA:2041:U:C4	2.82	0.47
59:BA:840:C:OP2	59:BA:932:G:N2	2.47	0.47
59:BA:847:U:O2'	59:BA:848:G:H8	1.96	0.47
59:BA:1024:G:C6	59:BA:1025:G:C6	3.02	0.47
59:BA:1948:G:H1	59:BA:1958:C:H42	1.62	0.47
59:BA:2131:G:H5'	59:BA:2133:G:H1'	1.96	0.47
59:BA:2576:G:H5"	59:BA:2577:A:OP1	2.13	0.47
60:BB:14:U:H1'	60:BB:107:U:H1'	1.96	0.47
60:BB:66:A:H4'	60:BB:67:G:C8	2.49	0.47
3:CD:126:ILE:HG23	3:CD:146:ILE:HG23	1.95	0.47
5:CF:5:GLU:HB2	5:CF:91:VAL:HG12	1.96	0.47
7:CH:88:LYS:NZ	20:CA:877:C:OP1	2.43	0.47
7:CH:96:GLY:HA2	7:CH:130:GLY:HA3	1.96	0.47
20:CA:582:U:H2'	20:CA:583:A:O4'	2.13	0.47
20:CA:688:G:H2'	20:CA:689:C:C6	2.49	0.47
20:CA:1177:G:O6	20:CA:1181:G:N7	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:1499:A:H1'	20:CA:1520:G:H5'	1.95	0.47
23:CY:257:PRO:O	23:CY:259:PHE:N	2.45	0.47
25:DC:213:VAL:O	25:DC:214:TYR:C	2.57	0.47
26:DD:98:VAL:O	59:DA:1501:C:O2'	2.32	0.47
29:DG:17:PRO:O	29:DG:21:ARG:HG2	2.15	0.47
33:DN:3:THR:HG22	33:DN:4:TYR:H	1.77	0.47
33:DN:35:ARG:NH1	59:DA:1007:C:OP1	2.47	0.47
33:DN:70:LYS:O	33:DN:87:LEU:N	2.42	0.47
37:DR:52:ILE:HD12	37:DR:79:LEU:HD11	1.95	0.47
52:D8:22:VAL:HB	52:D8:53:PRO:HB3	1.95	0.47
52:D8:34:TRP:HB3	59:DA:2420:C:OP1	2.14	0.47
59:DA:250:G:C6	59:DA:251:A:C2	3.02	0.47
59:DA:875:G:H1	59:DA:902:C:N4	2.09	0.47
59:DA:1954:G:H22	59:DA:1986:A:P	2.36	0.47
59:DA:2095:C:H2'	59:DA:2096:U:C6	2.48	0.47
59:DA:2158:A:H1'	59:DA:2159:G:C8	2.48	0.47
59:DA:2291:U:O2'	59:DA:2374:C:O2	2.32	0.47
59:DA:2377:A:H2'	59:DA:2378:A:C8	2.50	0.47
59:DA:2628:C:O2'	59:DA:2781:A:H3'	2.14	0.47
59:DA:2651:C:H42	59:DA:2669:G:H1	1.61	0.47
60:DB:15:A:H1'	60:DB:109:G:C6	2.49	0.47
4:AE:18:ARG:HA	20:AA:15:G:N2	2.28	0.47
11:AL:36:VAL:H	11:AL:58:VAL:HA	1.78	0.47
16:AQ:61:GLU:HB2	16:AQ:71:PHE:CE1	2.50	0.47
19:AT:12:ALA:O	19:AT:15:ARG:HB2	2.14	0.47
19:AT:22:ARG:HB3	20:AA:324:G:OP1	2.14	0.47
20:AA:59:A:H1'	20:AA:354:G:N2	2.28	0.47
20:AA:436:C:H2'	20:AA:437:U:O4'	2.15	0.47
20:AA:558:G:C8	20:AA:559:A:H2'	2.50	0.47
20:AA:1362:C:H2'	20:AA:1362(A):C:H5"	1.97	0.47
23:AY:420:ASP:O	23:AY:423:LYS:HB3	2.14	0.47
23:AY:453:GLY:HA3	23:AY:459:LEU:HD11	1.97	0.47
25:BC:132:LEU:HB2	25:BC:138:LEU:HB2	1.96	0.47
25:BC:173:HIS:HE1	59:BA:2176:A:C2	2.33	0.47
27:BE:94:GLU:H	27:BE:94:GLU:CD	2.23	0.47
29:BG:4:ASP:HA	29:BG:8:LYS:HD3	1.95	0.47
32:BK:102:GLU:O	32:BK:105:LEU:HB3	2.14	0.47
38:BS:77:ALA:HA	38:BS:82:ILE:HD12	1.95	0.47
41:BV:63:GLY:O	41:BV:93:GLU:N	2.38	0.47
41:BV:76:LYS:HE2	59:BA:975:G:OP1	2.15	0.47
46:B0:11:ARG:HH22	59:BA:2278:A:H3'	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:B5:40:LYS:NZ	49:B5:50:GLY:O	2.47	0.47
52:B8:48:PHE:O	52:B8:49:VAL:HG22	2.14	0.47
59:BA:708:C:H2'	59:BA:709:U:C6	2.48	0.47
59:BA:1045:A:OP1	59:BA:1046:A:O2'	2.18	0.47
59:BA:1474:C:H2'	59:BA:1475:G:C8	2.50	0.47
59:BA:1791:A:H61	59:BA:1828:G:HO2'	1.60	0.47
59:BA:2480:C:OP2	59:BA:2537:U:H4'	2.14	0.47
2:CC:177:THR:HB	2:CC:180:ALA:HB2	1.96	0.47
3:CD:175:SER:HB2	3:CD:186:LEU:HD11	1.97	0.47
10:CK:120:ARG:HH22	20:CA:1525:G:P	2.38	0.47
14:CO:43:LEU:O	14:CO:45:VAL:N	2.47	0.47
20:CA:59:A:H3'	20:CA:331:G:H22	1.78	0.47
20:CA:114:U:H2'	20:CA:115:G:H8	1.79	0.47
20:CA:633:G:H2'	20:CA:634:C:C6	2.50	0.47
20:CA:1014:A:H2	20:CA:1219:U:H1'	1.77	0.47
20:CA:1123:A:H2	20:CA:1150:U:N3	1.99	0.47
20:CA:1417:G:H2'	20:CA:1482:G:N2	2.30	0.47
23:CY:317:MET:HB3	23:CY:327:PHE:HE2	1.78	0.47
26:DD:228:PRO:HB3	59:DA:2598:A:H4'	1.97	0.47
27:DE:13:ARG:HH21	39:DT:60:THR:HG21	1.80	0.47
31:DJ:97:UNK:O	31:DJ:101:UNK:N	2.47	0.47
32:DK:22:PRO:HA	32:DK:25:PRO:HD2	1.95	0.47
42:DW:101:SER:O	42:DW:102:HIS:ND1	2.47	0.47
44:DY:26:LYS:N	44:DY:39:VAL:HG12	2.29	0.47
45:DZ:141:VAL:HA	45:DZ:144:LEU:HD23	1.96	0.47
50:D6:14:THR:O	50:D6:50:ARG:N	2.40	0.47
59:DA:769:G:H4'	59:DA:1379:A:N6	2.29	0.47
59:DA:1268:A:H2'	59:DA:1269:A:O4'	2.13	0.47
59:DA:2577:A:H5"	59:DA:2578:G:H5'	1.97	0.47
60:DB:30:C:H1'	60:DB:57:A:H61	1.79	0.47
1:AB:81:VAL:HG12	1:AB:215:LEU:HD11	1.96	0.47
3:AD:157:LEU:HA	3:AD:160:GLN:HB2	1.95	0.47
6:AG:88:PRO:HD2	6:AG:151:TYR:HB2	1.95	0.47
14:AO:56:LEU:O	14:AO:60:VAL:HG23	2.15	0.47
20:AA:68(I):G:C2	20:AA:68(R):C:H1'	2.50	0.47
20:AA:112:G:H2'	20:AA:113:G:C8	2.49	0.47
20:AA:186(N):U:H2'	20:AA:186(O):G:C8	2.49	0.47
20:AA:344:A:P	20:AA:344:A:H8	2.38	0.47
20:AA:427:U:O2'	20:AA:541:G:OP1	2.32	0.47
20:AA:945:G:C2	20:AA:946:A:C8	3.02	0.47
20:AA:1114:C:H2'	20:AA:1115:C:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AY:201:ILE:C	23:AY:203:GLU:H	2.22	0.47
26:BD:126:GLN:OE1	26:BD:126:GLN:N	2.46	0.47
26:BD:163:ALA:HA	26:BD:177:LEU:HA	1.96	0.47
27:BE:51:PHE:C	27:BE:74:PRO:HB3	2.39	0.47
28:BF:7:TYR:CZ	28:BF:9:ILE:HA	2.49	0.47
28:BF:154:VAL:O	28:BF:174:VAL:O	2.31	0.47
30:BH:13:LYS:HB3	30:BH:14:GLY:H	1.52	0.47
31:BJ:24:UNK:HA	31:BJ:84:UNK:C	2.45	0.47
32:BK:9:LYS:HB2	32:BK:55:VAL:O	2.14	0.47
32:BK:57:ILE:HA	32:BK:66:THR:O	2.14	0.47
33:BN:42:TRP:O	40:BU:64:ARG:NE	2.47	0.47
36:BQ:123:HIS:ND1	36:BQ:123:HIS:O	2.47	0.47
38:BS:25:ARG:HE	38:BS:27:SER:HB2	1.78	0.47
44:BY:35:TYR:HD1	44:BY:69:ALA:HB3	1.79	0.47
55:Bf:25:UNK:C	55:Bf:27:UNK:H	2.27	0.47
58:B4:8:LYS:HE3	58:B4:8:LYS:HB3	1.73	0.47
59:BA:363(G):A:HO2'	59:BA:364:C:H6	1.60	0.47
59:BA:389:G:C8	59:BA:2413:G:H4'	2.50	0.47
59:BA:635:C:O2'	59:BA:639:U:H5"	2.15	0.47
59:BA:751:A:N6	59:BA:789:A:C6	2.82	0.47
59:BA:1709:U:H1'	59:BA:2860:A:N3	2.29	0.47
59:BA:2102:U:H2'	59:BA:2103:C:C6	2.49	0.47
59:BA:2459:A:N1	59:BA:2493:U:O2	2.48	0.47
59:BA:2514:U:H2'	59:BA:2515:C:H6	1.80	0.47
59:BA:2834:G:H1'	59:BA:2883:A:H61	1.79	0.47
1:CB:111:ARG:HD2	20:CA:1103:C:O2'	2.13	0.47
4:CE:41:VAL:HG21	4:CE:113:ALA:HB2	1.97	0.47
7:CH:6:ILE:O	7:CH:10:LEU:HG	2.14	0.47
8:CI:37:PHE:CE1	8:CI:77:ILE:HD12	2.48	0.47
11:CL:33:ARG:NH1	11:CL:61:THR:OG1	2.47	0.47
12:CM:105:THR:HG21	20:CA:951:G:O6	2.14	0.47
14:CO:64:ARG:NH2	20:CA:582:U:H5'	2.29	0.47
14:CO:77:ARG:HA	14:CO:80:ALA:HB3	1.97	0.47
20:CA:777:A:H2'	20:CA:778:G:C8	2.49	0.47
21:CW:38:A:H1'	22:CV:16:A:H2	1.79	0.47
23:CY:95:GLU:O	23:CY:99:ARG:HB2	2.15	0.47
23:CY:165:GLN:HE21	23:CY:260:LEU:HD13	1.79	0.47
28:DF:154:VAL:C	28:DF:174:VAL:O	2.58	0.47
28:DF:178:PRO:C	28:DF:180:GLY:H	2.23	0.47
31:DJ:23:UNK:O	31:DJ:84:UNK:C	2.63	0.47
33:DN:120:LEU:C	33:DN:121:LYS:HD2	2.40	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:DQ:11:LYS:O	59:DA:911:A:N6	2.43	0.47
39:DT:53:ARG:CZ	39:DT:53:ARG:HB3	2.39	0.47
57:D1:84:GLY:O	57:D1:86:SER:N	2.46	0.47
59:DA:32:C:N4	59:DA:447:A:OP2	2.47	0.47
59:DA:118:A:H2'	59:DA:120:U:O4	2.14	0.47
59:DA:270(C):A:H3'	59:DA:270(D):C:C6	2.49	0.47
59:DA:1005:C:C2	59:DA:1138:G:N2	2.70	0.47
59:DA:1299:G:H5'	59:DA:1301:A:O4'	2.14	0.47
59:DA:1498:C:H2'	59:DA:1499:C:C6	2.48	0.47
59:DA:1696:G:N2	59:DA:1977:A:O2'	2.43	0.47
59:DA:2863:C:H2'	59:DA:2864:G:O4'	2.15	0.47
1:AB:35:GLU:HG3	1:AB:40:HIS:CG	2.50	0.47
3:AD:8:VAL:HG11	3:AD:115:ARG:HD3	1.94	0.47
9:AJ:28:ARG:NH2	9:AJ:34:VAL:O	2.48	0.47
11:AL:49:ASN:ND2	20:AA:529:G:O6	2.47	0.47
13:AN:33:VAL:HA	13:AN:40:CYS:HA	1.95	0.47
14:AO:12:ILE:HG23	14:AO:27:VAL:HG13	1.96	0.47
16:AQ:5:VAL:HG12	16:AQ:59:ILE:O	2.14	0.47
20:AA:27:G:H2'	20:AA:28:G:H8	1.80	0.47
20:AA:434:U:H2'	20:AA:435:C:C6	2.49	0.47
20:AA:525:C:H2'	20:AA:526:C:C6	2.49	0.47
23:AY:121:VAL:O	23:AY:125:ALA:HB2	2.15	0.47
25:BC:118:PRO:HD3	25:BC:147:GLY:HA2	1.95	0.47
26:BD:112:GLN:HB3	26:BD:113:VAL:H	1.48	0.47
26:BD:118:VAL:HG13	26:BD:119:ALA:H	1.79	0.47
27:BE:67:PHE:CG	27:BE:68:ALA:N	2.81	0.47
32:BK:98:ARG:HB2	32:BK:139:VAL:HG23	1.97	0.47
33:BN:17:ASP:OD2	33:BN:18:ALA:N	2.47	0.47
34:BO:27:GLY:O	34:BO:29:ASN:N	2.42	0.47
36:BQ:66:ILE:HG12	36:BQ:66:ILE:O	2.15	0.47
36:BQ:128:LYS:HD2	59:BA:1029:A:H5"	1.95	0.47
40:BU:95:LEU:HD21	41:BV:13:ARG:HH11	1.79	0.47
46:B0:55:ARG:N	59:BA:2365:G:OP1	2.47	0.47
53:B9:12:ASP:OD1	53:B9:13:LYS:NZ	2.34	0.47
59:BA:232:G:H22	59:BA:420:C:H5"	1.78	0.47
59:BA:669:G:H2'	59:BA:670:A:C8	2.49	0.47
59:BA:901:A:H2'	59:BA:902:C:H6	1.79	0.47
59:BA:1529:A:C8	59:BA:1530:G:C8	3.02	0.47
59:BA:1794:U:H2'	59:BA:1795:C:O4'	2.15	0.47
59:BA:1856:G:H2'	59:BA:1857:G:O4'	2.14	0.47
59:BA:1871:A:H2'	59:BA:1872:A:C8	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2016:U:H5"	59:BA:2058:A:OP1	2.15	0.47
59:BA:2229:C:H2'	59:BA:2230:G:C8	2.47	0.47
59:BA:2673:G:H2'	59:BA:2674:G:C8	2.49	0.47
59:BA:2863:C:H2'	59:BA:2864:G:O4'	2.13	0.47
1:CB:155:LEU:HD21	1:CB:159:PRO:HG3	1.97	0.47
9:CJ:87:THR:O	9:CJ:89:ASP:N	2.47	0.47
14:CO:82:ILE:HB	14:CO:87:ILE:HG12	1.95	0.47
20:CA:198:G:H2'	20:CA:199:G:C8	2.49	0.47
20:CA:578:C:O2'	20:CA:728:A:N3	2.37	0.47
20:CA:942:G:C2	20:CA:1342:C:C2	3.03	0.47
20:CA:1480:G:H2'	20:CA:1481:U:O4'	2.15	0.47
20:CA:1504:G:H4'	20:CA:1505:G:H5'	1.96	0.47
20:CA:1511:G:H2'	20:CA:1512:U:O4'	2.15	0.47
21:CW:38:A:H1'	22:CV:16:A:C2	2.49	0.47
26:DD:50:THR:HA	59:DA:1805:U:O2'	2.15	0.47
26:DD:118:VAL:HG22	26:DD:119:ALA:N	2.29	0.47
26:DD:134:ARG:HG3	26:DD:135:PHE:CD1	2.49	0.47
30:DH:12:PRO:HG2	30:DH:49:VAL:HG13	1.97	0.47
39:DT:121:ILE:O	39:DT:125:ARG:HG2	2.13	0.47
40:DU:64:ARG:HB2	40:DU:64:ARG:NH2	2.29	0.47
43:DX:90:GLU:HA	43:DX:93:GLU:HB2	1.95	0.47
47:D2:18:PRO:O	47:D2:21:LEU:HB2	2.14	0.47
59:DA:210:C:H2'	59:DA:211:A:C8	2.48	0.47
59:DA:380:U:H2'	59:DA:381:G:C8	2.49	0.47
59:DA:580:C:H2'	59:DA:581:C:H6	1.79	0.47
59:DA:600:G:H2'	59:DA:601:C:H6	1.80	0.47
2:AC:22:TRP:HA	9:AJ:93:GLY:HA2	1.97	0.47
5:AF:46:ARG:HB3	5:AF:60:PHE:CE1	2.49	0.47
7:AH:12:ARG:NH1	7:AH:26:VAL:HG23	2.30	0.47
8:AI:2:GLU:N	8:AI:88:TYR:OH	2.45	0.47
14:AO:33:THR:OG1	14:AO:85:LEU:HD21	2.15	0.47
19:AT:15:ARG:NH2	20:AA:108:G:N3	2.63	0.47
20:AA:937:A:O2'	20:AA:1378:C:N4	2.47	0.47
20:AA:983:A:H2	20:AA:984:C:H5	1.63	0.47
21:AW:58:A:O2'	21:AW:60:U:O5'	2.32	0.47
23:AY:400:GLU:O	23:AY:402:ILE:HG13	2.15	0.47
61:AY:701:FUA:H231	61:AY:701:FUA:H122	1.95	0.47
26:BD:145:VAL:HB	26:BD:155:LEU:HB2	1.96	0.47
27:BE:136:ARG:NH1	59:BA:1998:G:OP2	2.48	0.47
28:BF:170:LEU:HD12	28:BF:172:TRP:HE1	1.79	0.47
29:BG:78:SER:HA	29:BG:83:ARG:HH21	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:BK:78:ILE:HD12	32:BK:136:VAL:HG11	1.95	0.47
33:BN:38:HIS:CE1	33:BN:50:ASP:OD2	2.68	0.47
38:BS:13:ARG:C	38:BS:15:ARG:N	2.71	0.47
40:BU:42:ALA:HB1	59:BA:534:U:H5'	1.97	0.47
40:BU:76:TYR:OH	40:BU:93:LYS:NZ	2.47	0.47
48:B3:17:LYS:HB2	59:BA:969:U:OP1	2.14	0.47
49:B5:52:TYR:C	49:B5:54:GLY:H	2.22	0.47
51:B7:8:ASN:HB3	51:B7:11:LYS:HB3	1.95	0.47
52:B8:60:LEU:HB3	52:B8:64:TYR:O	2.15	0.47
59:BA:1897:G:H2'	59:BA:1898:U:O4'	2.14	0.47
59:BA:2055:C:H2'	59:BA:2504:U:C5'	2.45	0.47
59:BA:2133:G:H2'	59:BA:2157:G:H22	1.78	0.47
59:BA:2179:C:H2'	59:BA:2180:U:C6	2.49	0.47
60:BB:72:G:H1'	60:BB:104:A:N6	2.29	0.47
3:CD:12:CYS:HB3	3:CD:33:MET:SD	2.54	0.47
4:CE:98:THR:HB	4:CE:117:ASP:HB3	1.96	0.47
8:CI:10:ARG:HG2	8:CI:105:ASP:HB2	1.95	0.47
8:CI:127:LYS:HD2	20:CA:966:G:H21	1.79	0.47
9:CJ:13:HIS:HA	9:CJ:16:LEU:HD12	1.97	0.47
10:CK:124:LYS:HB3	10:CK:124:LYS:NZ	2.30	0.47
11:CL:58:VAL:C	11:CL:60:LEU:H	2.23	0.47
15:CP:70:ALA:HA	15:CP:73:LEU:HB2	1.97	0.47
20:CA:33:A:H5"	20:CA:364:A:H1'	1.95	0.47
20:CA:514:C:H2'	20:CA:515:G:H8	1.79	0.47
20:CA:541:G:H2'	20:CA:542:G:H8	1.79	0.47
20:CA:1219:U:H2'	20:CA:1220:G:C8	2.49	0.47
23:CY:133:ILE:HG13	23:CY:272:LEU:HD11	1.94	0.47
23:CY:567:LEU:O	23:CY:568:TYR:HB3	2.15	0.47
28:DF:176:LEU:HG	28:DF:177:ALA:N	2.29	0.47
32:DK:21:PRO:HA	32:DK:23:VAL:N	2.30	0.47
34:DO:14:THR:HG23	34:DO:86:ILE:HG13	1.97	0.47
34:DO:15:GLY:HA3	34:DO:51:ALA:H	1.80	0.47
39:DT:58:ASN:HD22	39:DT:58:ASN:H	1.63	0.47
43:DX:36:LYS:HE2	43:DX:56:THR:HG23	1.96	0.47
48:D3:41:PRO:HA	48:D3:44:ARG:HB2	1.94	0.47
59:DA:191:A:O2'	59:DA:678:C:O2	2.28	0.47
59:DA:226:G:H1'	59:DA:228:A:H61	1.77	0.47
59:DA:392:C:H2'	59:DA:393:C:H6	1.79	0.47
59:DA:412:A:H3'	59:DA:413:C:C6	2.50	0.47
59:DA:752:A:O3'	59:DA:753:C:H6	1.97	0.47
59:DA:753:C:H2'	59:DA:754:C:H6	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1028:A:H1'	59:DA:2487:G:H5'	1.94	0.47
59:DA:1153:C:H3'	59:DA:1154:G:C8	2.49	0.47
59:DA:2093:G:N2	59:DA:2196:C:N3	2.49	0.47
59:DA:2529:G:OP2	59:DA:2530:A:H5"	2.14	0.47
59:DA:2798:C:H5"	59:DA:2799:A:OP2	2.14	0.47
60:DB:89(B):A:H8	60:DB:89(B):A:O5'	1.97	0.47
1:AB:7:VAL:HA	1:AB:11:LEU:HD12	1.96	0.47
2:AC:40:ARG:HH12	13:AN:52:GLN:HB3	1.80	0.47
3:AD:26:CYS:HA	3:AD:31:CYS:HA	1.97	0.47
4:AE:30:ALA:O	4:AE:45:PHE:HA	2.15	0.47
4:AE:125:SER:C	4:AE:127:ASN:H	2.23	0.47
8:AI:70:LYS:O	8:AI:73:GLN:HB2	2.14	0.47
11:AL:80:HIS:NE2	23:AY:425:SER:HB3	2.29	0.47
11:AL:85:ILE:HD12	11:AL:98:TYR:CB	2.44	0.47
11:AL:104:VAL:C	11:AL:105:TYR:HD1	2.22	0.47
12:AM:91:ARG:HH21	12:AM:96:LEU:HD13	1.79	0.47
12:AM:108:ARG:HB2	20:AA:948:C:OP2	2.15	0.47
13:AN:45:ARG:NH2	20:AA:1059:C:O3'	2.48	0.47
15:AP:6:LEU:HG	15:AP:19:ILE:HD13	1.96	0.47
20:AA:114:U:H3	20:AA:313:A:H2	1.60	0.47
20:AA:137:C:N4	20:AA:226:G:H1	2.12	0.47
20:AA:1414:U:H2'	20:AA:1415:G:C8	2.43	0.47
20:AA:1504:G:H4'	20:AA:1505:G:C5'	2.44	0.47
23:AY:25:LYS:HG3	62:AY:702:GDP:O2B	2.15	0.47
26:BD:9:TYR:CD2	59:BA:727:A:H2	2.32	0.47
26:BD:72:LYS:HB3	26:BD:75:ILE:HB	1.97	0.47
26:BD:222:ARG:N	59:BA:1789:A:OP1	2.33	0.47
26:BD:242:ARG:NH1	59:BA:1902:C:OP1	2.48	0.47
27:BE:39:PRO:O	27:BE:43:GLY:N	2.48	0.47
27:BE:53:PRO:O	27:BE:55:ASN:N	2.47	0.47
27:BE:107:THR:HA	27:BE:164:ARG:HA	1.96	0.47
27:BE:174:ASP:HB3	27:BE:183:LEU:HB2	1.97	0.47
31:BJ:52:UNK:N	31:BJ:80:UNK:O	2.48	0.47
32:BK:30:HIS:HE1	32:BK:57:ILE:HG22	1.80	0.47
34:BO:23:ARG:NH1	59:BA:2548:G:H1'	2.30	0.47
35:BP:55:ARG:HH11	59:BA:2358:G:H22	1.61	0.47
35:BP:121:LYS:HA	35:BP:122:PRO:HD3	1.81	0.47
38:BS:97:ARG:O	38:BS:100:ALA:N	2.33	0.47
42:BW:11:ARG:CZ	42:BW:12:ILE:H	2.28	0.47
42:BW:12:ILE:HD11	42:BW:42:ARG:HH22	1.79	0.47
43:BX:34:ALA:O	43:BX:77:LYS:NZ	2.26	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BY:28:LYS:HD3	44:BY:37:VAL:HG12	1.96	0.47
46:B0:16:SER:HB2	59:BA:2262:U:OP2	2.15	0.47
48:B3:17:LYS:HE2	59:BA:969:U:OP1	2.14	0.47
49:B5:18:ALA:O	49:B5:21:SER:N	2.38	0.47
59:BA:227:A:H5'	59:BA:228:A:C2	2.50	0.47
59:BA:341:G:H2'	59:BA:342:G:C8	2.50	0.47
59:BA:638:G:H2'	59:BA:639:U:H6	1.79	0.47
59:BA:694:U:H2'	59:BA:695:G:C8	2.50	0.47
59:BA:730:C:H2'	59:BA:731:C:C6	2.50	0.47
59:BA:861:A:H2'	59:BA:862:G:O4'	2.15	0.47
59:BA:1128:A:H1'	59:BA:1129:A:C4	2.49	0.47
59:BA:1136:G:C4	59:BA:1137:G:C8	3.02	0.47
59:BA:1288:U:H3	59:BA:1326:U:H3	1.63	0.47
59:BA:1422:G:H2'	59:BA:1423:G:C8	2.50	0.47
59:BA:1514:U:H2'	59:BA:1515:C:C6	2.49	0.47
59:BA:1525:G:H2'	59:BA:1526:G:C8	2.50	0.47
59:BA:1582:C:H2'	59:BA:1583:A:O4'	2.14	0.47
59:BA:1655:A:H3'	59:BA:1656:C:H6	1.80	0.47
59:BA:1759:A:H4'	59:BA:2715:C:O4'	2.15	0.47
59:BA:1810:A:H2'	59:BA:1811:G:O4'	2.15	0.47
59:BA:2023:G:N1	59:BA:2040:C:C2	2.67	0.47
59:BA:2317:C:H2'	59:BA:2318:G:O4'	2.15	0.47
59:BA:2537:U:H2'	59:BA:2538:C:C6	2.49	0.47
59:BA:2595:G:O2'	59:BA:2597:G:N7	2.41	0.47
60:BB:79:C:H42	60:BB:97:G:H1	1.63	0.47
3:CD:24:GLU:HB2	20:CA:409:G:OP1	2.14	0.47
5:CF:69:GLU:O	5:CF:72:VAL:HG12	2.15	0.47
7:CH:79:VAL:O	7:CH:81:HIS:ND1	2.48	0.47
8:CI:103:THR:HA	20:CA:1179:A:O3'	2.13	0.47
10:CK:50:TYR:CG	10:CK:54:ARG:HB3	2.48	0.47
12:CM:74:VAL:O	12:CM:78:ILE:HG12	2.14	0.47
16:CQ:29:HIS:CG	16:CQ:32:TYR:HB2	2.50	0.47
19:CT:76:ALA:HA	19:CT:79:ARG:NH1	2.30	0.47
20:CA:68(J):G:N2	20:CA:68(Q):U:H1'	2.29	0.47
20:CA:339:C:H6	34:DO:97:ARG:HH12	1.61	0.47
20:CA:540:G:H2'	20:CA:541:G:O4'	2.14	0.47
20:CA:618:C:H42	20:CA:622:A:H62	1.62	0.47
20:CA:663:A:N6	20:CA:742:G:H1	2.11	0.47
20:CA:690:G:H2'	20:CA:691:G:C8	2.49	0.47
20:CA:813:U:H2'	20:CA:814:A:H8	1.80	0.47
20:CA:1058:G:H2'	20:CA:1059:C:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:1070:U:H3	20:CA:1105:A:N6	2.13	0.47
20:CA:1440(J):C:H1'	20:CA:1440(K):G:N2	2.30	0.47
21:CW:22:G:C8	21:CW:46:G:N1	2.82	0.47
23:CY:340:TYR:CZ	23:CY:351:ARG:HB2	2.50	0.47
25:DC:29:LEU:O	25:DC:32:GLU:HG3	2.14	0.47
26:DD:42:GLY:O	26:DD:44:ASN:N	2.41	0.47
26:DD:48:ARG:HE	59:DA:774:A:H5"	1.80	0.47
26:DD:233:HIS:NE2	26:DD:246:PRO:HA	2.30	0.47
27:DE:122:PHE:CZ	59:DA:2512:C:H4'	2.49	0.47
28:DF:80:ALA:HB3	28:DF:83:PHE:CD1	2.49	0.47
28:DF:125:LEU:HD21	28:DF:199:TRP:HB2	1.96	0.47
28:DF:129:PHE:HE1	28:DF:193:VAL:CG1	2.28	0.47
33:DN:74:ARG:HH11	33:DN:74:ARG:CG	2.15	0.47
34:DO:67:LYS:HZ1	59:DA:2685:G:H4'	1.80	0.47
35:DP:46:LYS:HG2	35:DP:51:PHE:CE1	2.50	0.47
37:DR:28:LEU:HG	37:DR:34:ILE:HD13	1.96	0.47
41:DV:5:VAL:HG23	41:DV:37:VAL:O	2.14	0.47
41:DV:78:LYS:H	59:DA:565:C:P	2.37	0.47
44:DY:8:LYS:H	44:DY:8:LYS:HD2	1.80	0.47
44:DY:47:LYS:HD2	59:DA:481:G:OP2	2.14	0.47
46:D0:23:VAL:HG12	46:D0:38:VAL:HG13	1.95	0.47
48:D3:19:GLN:NE2	60:DB:83:G:OP1	2.40	0.47
51:D7:1:MET:SD	59:DA:752:A:H3'	2.54	0.47
52:D8:10:ALA:O	52:D8:14:VAL:N	2.48	0.47
59:DA:216:A:H2'	59:DA:217:G:O4'	2.15	0.47
59:DA:600:G:H2'	59:DA:601:C:C6	2.49	0.47
59:DA:782:A:H5'	59:DA:1788:C:H1'	1.96	0.47
59:DA:873:G:H2'	59:DA:874:G:H8	1.80	0.47
59:DA:968:G:H2'	59:DA:969:U:O4'	2.15	0.47
59:DA:1019:U:O2	59:DA:1020:A:C8	2.68	0.47
59:DA:1466:G:H2'	59:DA:1547:C:H41	1.78	0.47
59:DA:1476:C:H2'	59:DA:1477:A:H8	1.79	0.47
59:DA:1612:C:H42	59:DA:1619:G:H1	1.62	0.47
59:DA:1810:A:O5'	59:DA:1810:A:H8	1.97	0.47
59:DA:2345:G:O2'	59:DA:2381:C:O2	2.30	0.47
59:DA:2554:U:H2'	59:DA:2555:U:C6	2.50	0.47
60:DB:13:A:H2'	60:DB:14:U:H5"	1.97	0.47
3:AD:172:PRO:HB2	3:AD:187:ARG:HH12	1.80	0.47
10:AK:114:VAL:HG13	20:AA:675:A:O2'	2.15	0.47
11:AL:52:LEU:HG	11:AL:54:LYS:NZ	2.29	0.47
19:AT:76:ALA:HB2	20:AA:262:A:H5"	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:68(P):C:H2'	20:AA:68(Q):U:C6	2.50	0.47
20:AA:663:A:N6	20:AA:742:G:H1	2.12	0.47
20:AA:1326:C:H2'	20:AA:1327:C:H6	1.78	0.47
20:AA:1353:G:H2'	20:AA:1354:C:H6	1.80	0.47
23:AY:291:GLY:HA2	23:AY:400:GLU:HB2	1.97	0.47
23:AY:455:GLY:O	23:AY:458:HIS:HB3	2.15	0.47
23:AY:520:GLY:N	23:AY:562:ASP:OD1	2.47	0.47
25:BC:75:VAL:HG21	25:BC:154:ILE:HG23	1.96	0.47
25:BC:77:ALA:HA	25:BC:114:VAL:O	2.15	0.47
26:BD:24:ILE:HG12	26:BD:25:THR:H	1.80	0.47
27:BE:131:ALA:HB3	27:BE:134:ILE:HD11	1.97	0.47
27:BE:167:VAL:HG13	27:BE:170:LEU:HD11	1.96	0.47
28:BF:102:PRO:O	28:BF:106:ARG:HG2	2.14	0.47
28:BF:136:THR:OG1	59:BA:320:A:H3'	2.15	0.47
33:BN:49:GLY:O	33:BN:119:ARG:NH1	2.48	0.47
35:BP:49:ARG:HB3	52:B8:59:LYS:NZ	2.30	0.47
35:BP:59:LEU:HA	35:BP:61:ARG:CZ	2.45	0.47
40:BU:61:TRP:CD2	40:BU:94:ASN:HA	2.49	0.47
49:B5:55:ARG:HD2	49:B5:56:LYS:HD2	1.97	0.47
51:B7:19:ARG:HD2	59:BA:124:G:H2'	1.96	0.47
54:Be:99:VAL:HG23	54:Be:108:ALA:HB2	1.96	0.47
57:B1:86:SER:OG	57:B1:90:ILE:HG13	2.14	0.47
59:BA:569:U:H5"	59:BA:821:A:N1	2.30	0.47
59:BA:1137:G:H2'	59:BA:1138:G:O4'	2.15	0.47
59:BA:1864:U:OP1	59:BA:2410:G:O2'	2.32	0.47
59:BA:2386:C:H2'	59:BA:2387:U:C6	2.50	0.47
59:BA:2620:C:C2	59:BA:2621:A:C8	3.03	0.47
1:CB:20:GLU:HB2	1:CB:190:THR:OG1	2.15	0.47
1:CB:50:GLU:O	1:CB:53:ARG:N	2.48	0.47
18:CS:10:PHE:O	18:CS:39:THR:OG1	2.23	0.47
18:CS:46:GLY:HA2	18:CS:62:ILE:HG23	1.97	0.47
19:CT:30:LYS:O	19:CT:34:LYS:HG3	2.14	0.47
20:CA:766:A:H61	20:CA:1511:G:H1'	1.80	0.47
20:CA:1062:U:H2'	20:CA:1063:C:C6	2.50	0.47
20:CA:1152:A:H2'	20:CA:1153:C:C6	2.50	0.47
23:CY:647:VAL:HG11	23:CY:652:MET:SD	2.54	0.47
26:DD:157:ARG:NH2	59:DA:1818:U:O5'	2.47	0.47
26:DD:219:PRO:HB3	59:DA:1790:C:H5'	1.96	0.47
44:DY:13:VAL:HG22	44:DY:74:PRO:HA	1.96	0.47
45:DZ:11:GLU:H	45:DZ:11:GLU:CD	2.22	0.47
47:D2:21:LEU:HD23	47:D2:24:LEU:HD12	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:D1:89:GLU:OE2	57:D1:89:GLU:N	2.34	0.47
59:DA:111:A:H2'	59:DA:112:U:H6	1.80	0.47
59:DA:682:G:H2'	59:DA:683:C:C6	2.50	0.47
59:DA:2143:C:O2	59:DA:2148:G:N1	2.33	0.47
59:DA:2395:C:H2'	59:DA:2396:G:C8	2.49	0.47
59:DA:2469:A:H2	59:DA:2481:G:N2	2.10	0.47
59:DA:2715:C:H2'	59:DA:2716:U:H6	1.80	0.47
59:DA:2720:U:H2'	59:DA:2721:A:C8	2.49	0.47
59:DA:2824:C:H2'	59:DA:2825:U:O4'	2.15	0.47
2:AC:72:LYS:HE3	2:AC:75:VAL:H	1.79	0.47
7:AH:9:MET:HB2	7:AH:26:VAL:HG21	1.97	0.47
16:AQ:57:VAL:HG23	16:AQ:59:ILE:HG13	1.96	0.47
19:AT:16:HIS:O	19:AT:20:LEU:HG	2.15	0.47
20:AA:259:G:H2'	20:AA:260:G:C8	2.50	0.47
20:AA:627:G:H2'	20:AA:628:G:C8	2.49	0.47
20:AA:862:C:H42	20:AA:867:G:H1	1.61	0.47
20:AA:1230:C:H2'	20:AA:1231:G:C8	2.49	0.47
20:AA:1328:C:H2'	20:AA:1329:A:O4'	2.14	0.47
20:AA:1534:A:H2'	20:AA:1535:C:H6	1.80	0.47
23:AY:438:PHE:HB2	23:AY:452:SER:O	2.15	0.47
26:BD:269:PHE:HE2	59:BA:2219:G:H4'	1.80	0.47
28:BF:155:LEU:HD11	28:BF:176:LEU:HD22	1.95	0.47
34:BO:18:LYS:N	34:BO:45:GLU:O	2.46	0.47
35:BP:109:GLY:O	35:BP:111:ARG:N	2.47	0.47
42:BW:23:LEU:HD21	49:B5:28:PRO:HD3	1.96	0.47
44:BY:44:ILE:O	44:BY:62:GLU:HB3	2.15	0.47
50:B6:47:THR:OG1	50:B6:48:VAL:N	2.45	0.47
52:B8:22:VAL:HB	52:B8:53:PRO:HB3	1.97	0.47
59:BA:8:A:C6	59:BA:2895:U:O4	2.67	0.47
59:BA:1438:U:N3	59:BA:1553:A:C8	2.74	0.47
59:BA:1448:G:N3	59:BA:1529:A:H2	2.13	0.47
59:BA:2155:G:H3'	59:BA:2156:G:H8	1.78	0.47
59:BA:2294:C:H2'	59:BA:2295:C:H6	1.80	0.47
59:BA:2590:A:H2'	59:BA:2591:C:H6	1.80	0.47
59:BA:2700:C:H2'	59:BA:2701:C:H6	1.79	0.47
59:BA:2851:A:H2'	59:BA:2852:G:O4'	2.15	0.47
60:BB:57:A:H2'	60:BB:58:A:C8	2.49	0.47
2:CC:7:PRO:HG3	2:CC:201:TYR:OH	2.15	0.47
3:CD:86:LYS:HD3	3:CD:87:GLY:H	1.80	0.47
3:CD:105:VAL:HG21	3:CD:126:ILE:HG13	1.97	0.47
8:CI:28:VAL:HG12	8:CI:63:ILE:HB	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:CO:17:ARG:HA	14:CO:17:ARG:CZ	2.45	0.47
20:CA:68(H):G:H2'	20:CA:68(I):G:N7	2.30	0.47
20:CA:157:G:H1	20:CA:164:U:H3	1.63	0.47
20:CA:320:C:H2'	20:CA:321:A:C8	2.50	0.47
20:CA:781:A:H4'	20:CA:1522:U:O2'	2.14	0.47
20:CA:1228:C:H2'	20:CA:1229:A:C8	2.49	0.47
25:DC:47:LYS:HE3	25:DC:169:THR:O	2.14	0.47
25:DC:65:LEU:HD13	25:DC:189:ASN:OD1	2.15	0.47
26:DD:88:ARG:HE	59:DA:1817:G:H5"	1.80	0.47
27:DE:61:ARG:HD2	59:DA:2811:G:OP1	2.15	0.47
27:DE:156:MET:HB2	59:DA:2620:C:H4'	1.96	0.47
28:DF:154:VAL:O	28:DF:156:LEU:N	2.48	0.47
28:DF:154:VAL:H	28:DF:173:VAL:HA	1.80	0.47
40:DU:90:VAL:C	40:DU:92:ARG:H	2.22	0.47
42:DW:86:LEU:HD12	42:DW:87:PRO:HD2	1.97	0.47
50:D6:5:VAL:HG13	50:D6:6:ARG:O	2.14	0.47
50:D6:36:LEU:HD12	50:D6:49:HIS:O	2.15	0.47
58:D4:13:ARG:O	58:D4:31:ILE:HG22	2.15	0.47
59:DA:36:G:H4'	59:DA:451:C:C2	2.49	0.47
59:DA:492:A:H2'	59:DA:493:G:O4'	2.15	0.47
59:DA:644:A:O2'	59:DA:645:C:O2	2.28	0.47
59:DA:869:G:H2'	59:DA:870:A:O4'	2.15	0.47
59:DA:1406:U:H2'	59:DA:1407:C:C6	2.50	0.47
59:DA:1486:A:H2'	59:DA:1487:G:C8	2.50	0.47
59:DA:1631:A:C5	59:DA:1683:C:H5'	2.50	0.47
59:DA:1668:A:H4'	59:DA:1669:A:H5'	1.97	0.47
59:DA:1858:G:H1'	59:DA:1884:A:H61	1.78	0.47
59:DA:1859:A:H2'	59:DA:1860:G:O4'	2.15	0.47
59:DA:2134:A:C2	59:DA:2159:G:H1'	2.50	0.47
59:DA:2842:G:H1	59:DA:2875:C:H42	1.62	0.47
59:DA:2852:G:H1	59:DA:2865:U:H3	1.61	0.47
6:AG:118:VAL:HG13	6:AG:122:HIS:CE1	2.49	0.47
13:AN:43:CYS:O	13:AN:46:GLU:HG2	2.15	0.47
18:AS:64:GLU:O	18:AS:66:MET:N	2.43	0.47
20:AA:68(O):A:C8	20:AA:68(P):C:H1'	2.50	0.47
20:AA:702:A:N1	59:BA:1846:G:N2	2.56	0.47
23:AY:416:LYS:HB3	23:AY:416:LYS:HE2	1.66	0.47
23:AY:475:ASN:N	23:AY:475:ASN:OD1	2.47	0.47
25:BC:21:TYR:HE2	25:BC:29:LEU:HD22	1.80	0.47
25:BC:139:PRO:HA	25:BC:145:THR:CB	2.42	0.47
28:BF:191:ARG:HB3	28:BF:193:VAL:CG2	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:BG:114:ILE:HB	29:BG:117:PHE:HB2	1.97	0.47
35:BP:83:VAL:HG23	35:BP:105:LEU:HD22	1.97	0.47
35:BP:114:ILE:O	35:BP:131:SER:HB3	2.15	0.47
36:BQ:46:GLN:NE2	59:BA:2484:G:O3'	2.48	0.47
38:BS:85:VAL:C	38:BS:106:ARG:HD3	2.40	0.47
50:B6:37:ARG:NH2	59:BA:2344:U:O2	2.43	0.47
50:B6:48:VAL:O	50:B6:49:HIS:HB2	2.14	0.47
52:B8:12:LYS:NZ	59:BA:246:C:H41	2.13	0.47
52:B8:15:LYS:HB2	52:B8:46:ARG:HH22	1.80	0.47
59:BA:291:C:N4	59:BA:349:G:H1	2.13	0.47
59:BA:373:U:H2'	59:BA:374:A:H8	1.78	0.47
59:BA:711:G:H2'	59:BA:712:G:H8	1.80	0.47
59:BA:1171:G:H2'	59:BA:1173:G:O4'	2.14	0.47
59:BA:2134:A:H2'	59:BA:2134:A:N3	2.30	0.47
59:BA:2211:G:H4'	59:BA:2212:A:C5	2.50	0.47
59:BA:2330:G:H1	59:BA:2385:C:H42	1.63	0.47
1:CB:71:VAL:HG22	1:CB:93:VAL:CG2	2.45	0.47
1:CB:103:THR:HB	20:CA:1074:G:H4'	1.96	0.47
2:CC:19:GLU:O	2:CC:56:ASP:HA	2.14	0.47
5:CF:12:PRO:HB3	5:CF:58:GLY:N	2.29	0.47
5:CF:72:VAL:HG13	5:CF:73:ASN:H	1.80	0.47
17:CR:71:LYS:O	17:CR:75:ILE:HG13	2.15	0.47
19:CT:16:HIS:CE1	20:CA:333:G:H4'	2.50	0.47
20:CA:186(F):C:N4	20:CA:186(K):G:H1	2.08	0.47
20:CA:243:A:H4'	20:CA:244:U:O5'	2.15	0.47
20:CA:501:C:H2'	20:CA:502:G:C8	2.50	0.47
20:CA:1338:G:H21	21:CW:41:A:H1'	1.80	0.47
20:CA:1413:A:N1	20:CA:1487:G:N2	2.49	0.47
23:CY:661:SER:OG	59:DA:2660:A:N6	2.47	0.47
25:DC:117:THR:O	25:DC:121:MET:HB2	2.15	0.47
26:DD:30:GLU:N	26:DD:30:GLU:OE2	2.47	0.47
26:DD:151:LYS:NZ	59:DA:2217:G:H21	2.13	0.47
26:DD:219:PRO:HG3	59:DA:764:A:H2	1.80	0.47
38:DS:39:ILE:HD13	38:DS:73:LEU:HD21	1.97	0.47
42:DW:11:ARG:O	42:DW:100:THR:HA	2.14	0.47
47:D2:13:ALA:O	47:D2:21:LEU:HD21	2.15	0.47
57:D1:11:ARG:HB2	57:D1:12:PRO:HD2	1.97	0.47
59:DA:211:A:H2'	59:DA:212:G:O4'	2.15	0.47
59:DA:401:A:H61	59:DA:422:A:N6	2.03	0.47
59:DA:573:G:N2	59:DA:2031:A:OP2	2.46	0.47
59:DA:734:A:H2'	59:DA:735:A:C8	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:853:G:H2'	59:DA:854:G:C8	2.49	0.47
59:DA:1332:G:N2	59:DA:1609:A:O2'	2.48	0.47
59:DA:1408:C:H2'	59:DA:1409:C:C6	2.50	0.47
59:DA:1424:G:H2'	59:DA:1425:G:O4'	2.15	0.47
59:DA:2175:C:H2'	59:DA:2176:A:C8	2.50	0.47
59:DA:2820:A:O2'	59:DA:2821:A:OP1	2.26	0.47
1:AB:69:LEU:H	1:AB:163:PHE:N	2.12	0.46
2:AC:35:GLU:O	2:AC:39:ILE:HG13	2.15	0.46
4:AE:126:ARG:HD3	20:AA:10:A:OP2	2.16	0.46
6:AG:32:ARG:HG2	20:AA:1240:U:C2	2.50	0.46
12:AM:14:ARG:HB2	12:AM:17:VAL:HG23	1.97	0.46
12:AM:125:ARG:HH12	20:AA:953:G:H5'	1.80	0.46
13:AN:17:LYS:HD2	20:AA:1316:G:H5"	1.97	0.46
20:AA:175:C:H2'	20:AA:176:C:H6	1.80	0.46
20:AA:694:A:H2'	20:AA:695:A:O4'	2.15	0.46
20:AA:971:G:N1	20:AA:1363:A:OP2	2.44	0.46
20:AA:1157:A:H4'	20:AA:1158:C:O5'	2.16	0.46
21:AW:56:C:H5'	25:BC:134:PRO:HB3	1.97	0.46
23:AY:179:ASP:N	23:AY:184:LYS:O	2.36	0.46
23:AY:615:GLU:H	23:AY:615:GLU:HG2	1.44	0.46
28:BF:57:VAL:C	28:BF:59:TYR:H	2.23	0.46
30:BH:55:PRO:HG2	30:BH:61:HIS:CE1	2.50	0.46
33:BN:116:LEU:O	33:BN:119:ARG:HB2	2.14	0.46
40:BU:3:ARG:NH1	59:BA:446:G:H5'	2.29	0.46
42:BW:64:MET:HB3	42:BW:109:GLU:HB3	1.98	0.46
43:BX:12:VAL:HG11	43:BX:21:PHE:CZ	2.50	0.46
47:B2:48:HIS:CG	47:B2:49:LYS:H	2.32	0.46
52:B8:25:MET:C	52:B8:47:LYS:HB2	2.40	0.46
54:Be:63:ILE:HG22	54:Be:64:LEU:N	2.24	0.46
59:BA:191:A:H2'	59:BA:192:C:C6	2.50	0.46
59:BA:515:A:H1'	59:BA:581:C:H1'	1.95	0.46
59:BA:742:G:H2'	59:BA:743:G:C8	2.51	0.46
59:BA:813:U:H2'	59:BA:814:C:C6	2.50	0.46
59:BA:1806:C:H2'	59:BA:1807:G:O4'	2.15	0.46
59:BA:2064:C:H1'	59:BA:2450:A:C6	2.49	0.46
59:BA:2456:C:H2'	59:BA:2457:U:O4'	2.16	0.46
60:BB:19:G:H2'	60:BB:20:C:O4'	2.15	0.46
60:BB:97:G:H2'	60:BB:98:G:O4'	2.15	0.46
4:CE:51:VAL:HG23	4:CE:52:PRO:HD3	1.97	0.46
5:CF:1:MET:HA	5:CF:68:PRO:HA	1.96	0.46
20:CA:1494:G:H2'	20:CA:1495:U:C6	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:CY:22:ASP:C	23:CY:24:GLY:HA2	2.37	0.46
25:DC:14:LYS:HB3	25:DC:14:LYS:HE2	1.63	0.46
29:DG:33:ARG:HE	29:DG:33:ARG:HB2	1.37	0.46
29:DG:42:GLY:HA2	29:DG:88:ILE:O	2.14	0.46
31:DJ:54:UNK:N	31:DJ:79:UNK:HA	2.30	0.46
31:DJ:58:UNK:O	31:DJ:60:UNK:N	2.48	0.46
36:DQ:41:TRP:HA	36:DQ:95:ALA:O	2.15	0.46
36:DQ:72:LYS:HA	36:DQ:73:PRO:HD3	1.75	0.46
47:D2:55:ARG:NH1	59:DA:75:G:H4'	2.30	0.46
49:D5:6:VAL:HG12	59:DA:2016:U:H1'	1.95	0.46
53:D9:16:VAL:HG13	53:D9:23:VAL:HG13	1.96	0.46
59:DA:27:G:H8	59:DA:27:G:O5'	1.98	0.46
59:DA:185:U:H2'	59:DA:186:G:C8	2.50	0.46
59:DA:488:G:H1'	59:DA:492:A:N6	2.30	0.46
59:DA:501:A:H2'	59:DA:502:A:C8	2.49	0.46
59:DA:883:G:H2'	59:DA:884:C:C6	2.50	0.46
59:DA:1115:G:H2'	59:DA:1116:C:H6	1.79	0.46
59:DA:1479:G:H5"	59:DA:1560:G:H4'	1.97	0.46
59:DA:1512:G:H2'	59:DA:1513:C:O4'	2.15	0.46
59:DA:1932:A:H2'	59:DA:1933:G:O4'	2.15	0.46
59:DA:2494:G:H2'	59:DA:2495:G:H8	1.80	0.46
59:DA:2594:C:H2'	59:DA:2595:G:C8	2.50	0.46
60:DB:24:G:H4'	60:DB:25:A:C8	2.50	0.46
60:DB:24:G:N2	60:DB:28:C:O2	2.48	0.46
60:DB:24:G:O6	60:DB:56:G:N3	2.46	0.46
2:AC:163:ALA:CB	20:AA:1056:U:H4'	2.44	0.46
9:AJ:91:PRO:HB2	9:AJ:94:VAL:HB	1.96	0.46
11:AL:36:VAL:O	11:AL:37:CYS:HB3	2.15	0.46
11:AL:38:THR:HG22	11:AL:57:LYS:HB2	1.96	0.46
15:AP:53:VAL:O	15:AP:57:ARG:HD3	2.15	0.46
20:AA:113:G:H2'	20:AA:114:U:H6	1.79	0.46
20:AA:1376:U:H2'	20:AA:1377:A:H8	1.78	0.46
20:AA:1401:G:H5"	22:AV:22:A:N6	2.30	0.46
26:BD:118:VAL:O	26:BD:129:ASN:HA	2.14	0.46
28:BF:62:ARG:HH21	28:BF:64:ILE:HA	1.80	0.46
31:BJ:82:UNK:O	31:BJ:84:UNK:N	2.48	0.46
32:BK:31:GLY:HA3	32:BK:63:ARG:HG3	1.96	0.46
45:BZ:10:ARG:HB3	45:BZ:36:LYS:HG3	1.96	0.46
59:BA:345:A:N3	59:BA:347:A:N6	2.63	0.46
59:BA:450:G:N1	59:BA:454:A:OP2	2.48	0.46
59:BA:638:G:H2'	59:BA:639:U:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:686:G:H21	59:BA:788:A:H61	1.62	0.46
59:BA:1914:C:H3'	59:BA:1915:U:C6	2.50	0.46
59:BA:2154:G:H2'	59:BA:2155:G:H8	1.80	0.46
59:BA:2733:A:H3'	59:BA:2734:A:H8	1.80	0.46
59:BA:2785:C:H2'	59:BA:2786:U:O4'	2.15	0.46
3:CD:29:PRO:HG2	3:CD:30:LYS:HZ3	1.80	0.46
3:CD:51:PRO:HB2	3:CD:56:VAL:HG13	1.96	0.46
7:CH:39:LEU:HB3	7:CH:45:ILE:HG12	1.96	0.46
10:CK:46:GLY:HA2	10:CK:50:TYR:O	2.14	0.46
12:CM:56:LEU:O	12:CM:60:VAL:HG23	2.15	0.46
15:CP:22:THR:OG1	15:CP:23:ASP:N	2.45	0.46
20:CA:62:U:H2'	20:CA:63:C:C6	2.50	0.46
20:CA:390:C:H2'	20:CA:391:G:H8	1.79	0.46
20:CA:638:G:H2'	20:CA:639:G:O4'	2.14	0.46
20:CA:917:G:H2'	20:CA:918:A:O4'	2.16	0.46
20:CA:1090:U:H2'	20:CA:1091:U:C6	2.50	0.46
25:DC:45:HIS:CD2	59:DA:2177:C:H1'	2.50	0.46
25:DC:135:ARG:HD2	59:DA:2170:A:H5'	1.97	0.46
26:DD:115:GLN:OE1	26:DD:117:VAL:HG13	2.15	0.46
27:DE:156:MET:HE2	59:DA:2049:G:H21	1.79	0.46
28:DF:7:TYR:CZ	28:DF:9:ILE:HA	2.50	0.46
28:DF:15:SER:O	28:DF:17:ARG:N	2.48	0.46
28:DF:167:ALA:HB1	28:DF:173:VAL:HG11	1.97	0.46
29:DG:87:PRO:HB2	29:DG:88:ILE:H	1.53	0.46
32:DK:13:PRO:HG3	32:DK:52:ILE:HG23	1.97	0.46
32:DK:126:MET:HE3	59:DA:1058:G:N2	2.28	0.46
36:DQ:92:GLY:O	36:DQ:94:VAL:HG13	2.15	0.46
39:DT:59:THR:O	39:DT:59:THR:OG1	2.12	0.46
39:DT:76:PHE:HA	39:DT:77:PRO:HD3	1.64	0.46
40:DU:52:ARG:O	40:DU:56:ASP:HB2	2.14	0.46
45:DZ:120:ILE:HG22	45:DZ:121:HIS:ND1	2.30	0.46
57:D1:16:ASN:O	59:DA:381:G:H5'	2.16	0.46
57:D1:16:ASN:HB3	59:DA:381:G:H5"	1.98	0.46
59:DA:227:A:H61	59:DA:410:G:H21	1.63	0.46
59:DA:609(B):G:O6	59:DA:618(B):C:N3	2.49	0.46
59:DA:622:G:H2'	59:DA:623:G:C8	2.51	0.46
59:DA:764:A:O2'	59:DA:765:G:H5'	2.15	0.46
59:DA:1007:C:H5"	59:DA:1008:C:C2'	2.45	0.46
59:DA:1468:C:H2'	59:DA:1469:A:C8	2.50	0.46
59:DA:2103:C:N3	59:DA:2186:G:N2	2.48	0.46
59:DA:2423:U:OP1	59:DA:2423:U:H3'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2472:G:H21	59:DA:2478:A:N6	2.05	0.46
59:DA:2646:C:H2'	59:DA:2647:U:O4'	2.16	0.46
59:DA:2869:G:H2'	59:DA:2870:C:H6	1.79	0.46
1:AB:70:PHE:O	1:AB:93:VAL:N	2.48	0.46
1:AB:113:HIS:O	1:AB:117:GLU:HG2	2.16	0.46
8:AI:118:LYS:O	8:AI:120:ARG:N	2.48	0.46
12:AM:66:LEU:HB3	12:AM:67:GLU:H	1.53	0.46
12:AM:96:LEU:HD11	20:AA:1226:C:H5"	1.98	0.46
20:AA:413:G:H1'	20:AA:428:G:N2	2.30	0.46
20:AA:614:A:H2'	20:AA:615:C:C6	2.51	0.46
20:AA:660:G:H2'	20:AA:661:G:C8	2.51	0.46
20:AA:976:G:H5'	20:AA:1358:U:O2'	2.14	0.46
20:AA:1304:G:H1'	20:AA:1333:A:N6	2.30	0.46
23:AY:238:THR:O	23:AY:241:GLU:HG2	2.16	0.46
25:BC:46:ALA:O	25:BC:171:ALA:N	2.48	0.46
27:BE:13:ARG:HA	27:BE:21:VAL:C	2.38	0.46
30:BH:148:ILE:HG22	30:BH:162:ILE:HD13	1.98	0.46
33:BN:103:VAL:O	33:BN:105:GLY:N	2.49	0.46
34:BO:104:ARG:NE	39:BT:33:LYS:HD2	2.29	0.46
36:BQ:69:PHE:CZ	59:BA:871:U:H5"	2.50	0.46
36:BQ:121:ALA:O	36:BQ:125:LEU:HD12	2.15	0.46
36:BQ:123:HIS:NE2	59:BA:2466:C:O2'	2.40	0.46
38:BS:15:ARG:HB2	38:BS:18:ILE:HB	1.97	0.46
47:B2:26:ARG:O	47:B2:29:LYS:HB2	2.14	0.46
52:B8:12:LYS:HZ1	59:BA:246:C:H41	1.64	0.46
59:BA:270(G):U:H2'	59:BA:270(H):C:C6	2.51	0.46
59:BA:848:G:N3	59:BA:933:A:H1'	2.30	0.46
59:BA:980:A:C4	59:BA:1136:G:O4'	2.68	0.46
59:BA:1771:C:N4	59:BA:1980:G:H1	2.11	0.46
59:BA:1938:A:N7	59:BA:2590:A:O2'	2.47	0.46
59:BA:1960:A:H2'	59:BA:1961:C:C6	2.50	0.46
59:BA:2006:C:C2	59:BA:2007:C:C5	3.03	0.46
59:BA:2158:A:H4'	59:BA:2159:G:H5'	1.97	0.46
59:BA:2231:C:H2'	59:BA:2232:U:C6	2.50	0.46
59:BA:2298:A:H62	59:BA:2318:G:H21	1.63	0.46
59:BA:2819:G:H2'	59:BA:2821:A:N7	2.31	0.46
59:BA:2838:G:H2'	59:BA:2839:G:C8	2.50	0.46
1:CB:218:ALA:O	1:CB:221:LEU:HB3	2.15	0.46
7:CH:64:LYS:HE3	7:CH:64:LYS:HB2	1.68	0.46
7:CH:115:SER:HA	20:CA:642:A:C5	2.49	0.46
11:CL:82:VAL:HG12	11:CL:82:VAL:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:CM:100:GLY:HA3	20:CA:1322:C:H5'	1.96	0.46
20:CA:659:U:H3	20:CA:746:A:H61	1.63	0.46
20:CA:700:G:H4'	20:CA:704:A:H1'	1.96	0.46
23:CY:525:PHE:HE2	23:CY:567:LEU:HD22	1.79	0.46
25:DC:20:VAL:HG11	25:DC:226:ASN:HB2	1.96	0.46
26:DD:87:ASN:OD1	26:DD:87:ASN:N	2.49	0.46
33:DN:67:LEU:HA	33:DN:87:LEU:HD13	1.97	0.46
36:DQ:52:VAL:HG11	59:DA:2482:G:H22	1.79	0.46
38:DS:31:SER:O	38:DS:33:LYS:N	2.46	0.46
40:DU:92:ARG:HH12	41:DV:13:ARG:N	2.14	0.46
40:DU:95:LEU:HD11	41:DV:13:ARG:HB2	1.97	0.46
46:D0:48:GLY:HA3	46:D0:80:HIS:HD1	1.80	0.46
46:D0:67:VAL:HG13	46:D0:81:VAL:HG22	1.97	0.46
49:D5:16:ARG:NH1	59:DA:517:C:OP1	2.46	0.46
59:DA:398:G:H2'	59:DA:399:G:C8	2.51	0.46
59:DA:850:C:H2'	59:DA:851:U:O4'	2.16	0.46
59:DA:867:C:N3	59:DA:912:C:O2'	2.40	0.46
59:DA:1409:C:H2'	59:DA:1410:G:H8	1.81	0.46
59:DA:1549:C:H2'	59:DA:1550:C:O4'	2.15	0.46
59:DA:1576:U:H2'	59:DA:1577:C:C6	2.50	0.46
59:DA:1847:A:H8	59:DA:1847:A:OP1	1.98	0.46
59:DA:2216:G:H2'	59:DA:2217:G:C8	2.49	0.46
59:DA:2330:G:H2'	59:DA:2331:G:O4'	2.15	0.46
59:DA:2385:C:H2'	59:DA:2386:C:C6	2.50	0.46
59:DA:2758:A:H2'	59:DA:2759:G:O4'	2.14	0.46
5:AF:50:TYR:OH	17:AR:74:ARG:O	2.23	0.46
11:AL:15:ARG:NH2	20:AA:567:G:N7	2.63	0.46
14:AO:48:LYS:HB3	20:AA:668:G:H4'	1.96	0.46
14:AO:50:HIS:CG	20:AA:764:C:H5"	2.51	0.46
15:AP:8:ARG:HA	15:AP:17:TYR:HA	1.97	0.46
19:AT:53:LEU:HA	19:AT:56:MET:HB2	1.96	0.46
20:AA:405:U:H5"	20:AA:406:G:O4'	2.15	0.46
20:AA:827:U:O2'	20:AA:859:A:N1	2.36	0.46
23:AY:29:THR:HG22	23:AY:33:LEU:HD13	1.97	0.46
23:AY:93:GLU:OE1	23:AY:97:SER:OG	2.32	0.46
23:AY:309:LEU:O	23:AY:394:ALA:HB1	2.16	0.46
23:AY:354:ARG:NH2	23:AY:378:VAL:HG21	2.31	0.46
23:AY:621:ILE:HD11	23:AY:643:ILE:HG12	1.96	0.46
25:BC:10:ALA:C	25:BC:12:LEU:H	2.21	0.46
26:BD:175:LEU:HD12	26:BD:185:VAL:HG21	1.97	0.46
28:BF:154:VAL:H	28:BF:173:VAL:HA	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BN:34:LEU:O	33:BN:49:GLY:HA3	2.15	0.46
38:BS:66:ALA:HB1	38:BS:99:LYS:HD2	1.98	0.46
41:BV:38:LEU:O	41:BV:39:LEU:HD13	2.14	0.46
43:BX:89:ILE:HG22	43:BX:92:LEU:H	1.81	0.46
52:B8:61:LEU:HD21	59:BA:593:G:H4'	1.98	0.46
59:BA:68:G:H2'	59:BA:69:C:O4'	2.16	0.46
59:BA:730:C:H2'	59:BA:731:C:H6	1.80	0.46
59:BA:804:A:H5"	59:BA:805:G:OP1	2.15	0.46
59:BA:841:A:H2'	59:BA:842:G:C8	2.50	0.46
59:BA:959:A:O2'	59:BA:2457:U:O3'	2.32	0.46
59:BA:1086:A:H4'	59:BA:1103:A:H2	1.80	0.46
59:BA:1408:C:H2'	59:BA:1409:C:C6	2.49	0.46
59:BA:1413:G:H2'	59:BA:1414:G:H8	1.80	0.46
59:BA:1595:G:H2'	59:BA:1596:A:H8	1.80	0.46
1:CB:169:LYS:O	1:CB:172:ILE:HG12	2.15	0.46
20:CA:149:A:H2'	20:CA:150:C:C6	2.51	0.46
20:CA:519:C:N4	20:CA:520:A:N1	2.63	0.46
20:CA:756:C:O2'	20:CA:878:G:N2	2.48	0.46
27:DE:57:LYS:H	27:DE:57:LYS:HD2	1.79	0.46
28:DF:125:LEU:HD22	28:DF:196:LEU:HA	1.98	0.46
31:DJ:34:UNK:N	59:DA:1056:G:OP1	2.49	0.46
34:DO:11:ALA:O	34:DO:98:VAL:HA	2.15	0.46
35:DP:77:ARG:NH2	59:DA:633:A:OP1	2.49	0.46
36:DQ:111:GLU:O	36:DQ:115:MET:HG2	2.16	0.46
44:DY:87:LYS:O	44:DY:89:PHE:N	2.49	0.46
49:D5:6:VAL:HG13	59:DA:2015:A:N3	2.29	0.46
59:DA:46:C:H2'	59:DA:47:C:C6	2.50	0.46
59:DA:244:A:H2'	59:DA:245:G:O4'	2.16	0.46
59:DA:820:A:H1'	59:DA:943:U:H1'	1.96	0.46
59:DA:1211:U:O2'	59:DA:1212:G:OP1	2.31	0.46
59:DA:1288:U:O4	59:DA:1327:C:H1'	2.14	0.46
59:DA:1474:C:N4	59:DA:1519:G:H1	2.10	0.46
59:DA:1582:C:H2'	59:DA:1583:A:O4'	2.15	0.46
59:DA:2432:A:H2'	59:DA:2432:A:N3	2.30	0.46
59:DA:2848:G:O2'	59:DA:2867:G:N2	2.48	0.46
1:AB:69:LEU:H	1:AB:162:ILE:HA	1.81	0.46
1:AB:77:ALA:O	1:AB:81:VAL:HG13	2.15	0.46
1:AB:113:HIS:O	1:AB:116:GLU:HG2	2.15	0.46
6:AG:38:LEU:O	6:AG:42:ILE:HG12	2.15	0.46
11:AL:71:PRO:HB2	11:AL:102:ARG:NH1	2.24	0.46
12:AM:115:LYS:N	20:AA:1228:C:H5'	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AN:29:ARG:NH2	20:AA:974:A:OP2	2.47	0.46
19:AT:62:LEU:HA	19:AT:65:LYS:HG2	1.97	0.46
20:AA:745:C:H5"	20:AA:851:G:O2'	2.15	0.46
20:AA:1339:A:H4'	21:AW:40:G:O2'	2.15	0.46
20:AA:1501:C:OP1	20:AA:1508:G:H4'	2.15	0.46
25:BC:73:VAL:HG11	25:BC:157:ILE:HG22	1.97	0.46
29:BG:131:TYR:C	29:BG:132:ASN:HD22	2.23	0.46
34:BO:36:GLY:HA2	34:BO:106:LEU:HG	1.97	0.46
36:BQ:48:GLU:O	36:BQ:52:VAL:HG23	2.16	0.46
38:BS:18:ILE:HA	38:BS:21:THR:OG1	2.16	0.46
39:BT:49:VAL:HG22	39:BT:50:ILE:H	1.80	0.46
40:BU:50:ARG:NH2	41:BV:72:VAL:HG12	2.21	0.46
40:BU:61:TRP:O	40:BU:65:ILE:HD13	2.15	0.46
42:BW:82:LEU:O	42:BW:97:LYS:HA	2.16	0.46
49:B5:11:THR:HG21	49:B5:19:ARG:HH22	1.81	0.46
50:B6:27:LYS:HD2	50:B6:30:THR:H	1.80	0.46
51:B7:10:ARG:HH12	59:BA:770:G:H4'	1.81	0.46
52:B8:55:ALA:O	52:B8:59:LYS:HB2	2.16	0.46
57:B1:45:ASN:ND2	59:BA:2230:G:H1'	2.30	0.46
58:B4:14:ILE:HA	58:B4:32:TYR:HA	1.98	0.46
59:BA:371:A:N6	59:BA:402:A:OP2	2.46	0.46
59:BA:401:A:H2'	59:BA:402:A:H8	1.79	0.46
59:BA:594:U:H2'	59:BA:595:C:C6	2.50	0.46
59:BA:1027:A:C6	59:BA:1126:A:C4	3.04	0.46
59:BA:1332:G:N2	59:BA:1610:A:N7	2.61	0.46
59:BA:1526:G:H1	59:BA:154(B):C:H42	1.63	0.46
59:BA:1789:A:H2'	59:BA:1790:C:O4'	2.16	0.46
59:BA:2577:A:H5"	59:BA:2578:G:H5'	1.97	0.46
3:CD:31:CYS:HB3	3:CD:33:MET:HG2	1.97	0.46
3:CD:87:GLY:HA3	3:CD:92:VAL:HG21	1.98	0.46
4:CE:79:GLU:HA	4:CE:91:LEU:O	2.15	0.46
6:CG:64:GLN:HG3	6:CG:128:ALA:HB1	1.98	0.46
10:CK:114:VAL:HG13	20:CA:675:A:O2'	2.15	0.46
14:CO:87:ILE:HG13	14:CO:88:ARG:N	2.30	0.46
15:CP:15:PRO:HD2	15:CP:42:ARG:NE	2.31	0.46
15:CP:70:ALA:O	15:CP:74:LEU:HG	2.15	0.46
16:CQ:45:HIS:CB	16:CQ:72:ARG:HA	2.45	0.46
18:CS:41:VAL:N	18:CS:67:VAL:O	2.49	0.46
20:CA:302:G:O2'	20:CA:556:C:H5"	2.16	0.46
20:CA:408:A:N1	20:CA:434:U:C4	2.84	0.46
20:CA:980:C:H5'	20:CA:981:U:C5	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:1430:C:C2'	20:CA:1431:C:H5'	2.46	0.46
23:CY:330:VAL:O	23:CY:331:TYR:HB2	2.16	0.46
26:DD:7:LYS:HG3	59:DA:706:A:H5'	1.98	0.46
26:DD:78:LYS:HZ1	26:DD:98:VAL:HG13	1.80	0.46
27:DE:53:PRO:HA	27:DE:74:PRO:HA	1.96	0.46
35:DP:104:GLY:O	59:DA:625:G:N2	2.46	0.46
44:DY:89:PHE:HD1	44:DY:89:PHE:HA	1.65	0.46
47:D2:27:GLU:O	47:D2:30:ARG:HG2	2.16	0.46
59:DA:131:G:H1	59:DA:148:C:N4	2.11	0.46
59:DA:325:G:H2'	59:DA:326:G:C8	2.51	0.46
59:DA:1195:G:H2'	59:DA:1196:C:H6	1.81	0.46
59:DA:1463:C:H2'	59:DA:1464:C:C6	2.51	0.46
59:DA:1690:A:H2'	59:DA:1691:C:O4'	2.15	0.46
59:DA:1880:C:H2'	59:DA:1881:C:C6	2.49	0.46
59:DA:1902:C:H2'	59:DA:1903:G:O4'	2.15	0.46
59:DA:1949:G:H1	59:DA:1957:C:H42	1.63	0.46
59:DA:1955:U:O2'	59:DA:1956:U:H5'	2.15	0.46
59:DA:1972:A:H2'	59:DA:1973:G:C8	2.49	0.46
59:DA:1983:C:H4'	59:DA:2606:C:H4'	1.96	0.46
59:DA:2078:C:H2'	59:DA:2079:U:C6	2.50	0.46
59:DA:2299:G:H2'	59:DA:2300:G:C8	2.50	0.46
60:DB:4:C:H2'	60:DB:5:C:H6	1.80	0.46
1:AB:173:ALA:O	1:AB:176:GLU:HB2	2.15	0.46
3:AD:5:ILE:HD13	20:AA:406:G:H4'	1.97	0.46
6:AG:57:GLU:H	6:AG:57:GLU:CD	2.23	0.46
8:AI:118:LYS:C	8:AI:120:ARG:H	2.24	0.46
9:AJ:57:LYS:HE2	20:AA:972:C:OP2	2.15	0.46
13:AN:61:TRP:CZ2	20:AA:1368:G:H4'	2.48	0.46
20:AA:14:U:O5'	20:AA:14:U:H6	1.99	0.46
20:AA:17:U:H2'	20:AA:18:C:H6	1.80	0.46
20:AA:455:C:H2'	20:AA:456:C:C6	2.51	0.46
20:AA:590:C:H2'	20:AA:591:U:H6	1.81	0.46
20:AA:1015:A:C6	20:AA:1016:A:C6	3.03	0.46
20:AA:1239:A:H62	20:AA:1299:A:H61	1.61	0.46
20:AA:1356:G:H2'	20:AA:1357:A:H8	1.75	0.46
20:AA:1528:U:O2'	20:AA:1530:G:H5'	2.16	0.46
26:BD:125:ILE:HG13	26:BD:131:LEU:HD21	1.97	0.46
26:BD:177:LEU:HD23	26:BD:178:PRO:HD2	1.96	0.46
27:BE:66:HIS:CD2	59:BA:2786:U:H4'	2.50	0.46
28:BF:191:ARG:O	28:BF:193:VAL:HG23	2.16	0.46
44:BY:46:LYS:N	44:BY:62:GLU:HB2	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:57:C:H2'	59:BA:58:G:O4'	2.16	0.46
59:BA:1007:C:C5'	59:BA:1008:C:H2'	2.39	0.46
59:BA:1039:G:H2'	59:BA:1040:C:C6	2.51	0.46
59:BA:1139:G:H1'	59:BA:1143:A:H2	1.79	0.46
59:BA:1514:U:H2'	59:BA:1515:C:C5	2.50	0.46
59:BA:1681:G:H8	59:BA:1681:G:OP2	1.99	0.46
59:BA:2520:C:C6	59:BA:2567:G:H1'	2.50	0.46
59:BA:2881:C:H2'	59:BA:2882:A:H8	1.81	0.46
60:BB:13:A:H2	60:BB:69:G:H21	1.64	0.46
60:BB:56:G:H4'	60:BB:57:A:C8	2.51	0.46
3:CD:10:ARG:O	3:CD:13:ARG:HG2	2.16	0.46
3:CD:15:GLU:CD	3:CD:19:LEU:HD11	2.41	0.46
3:CD:76:ARG:HD3	3:CD:207:TYR:CE2	2.51	0.46
14:CO:7:GLU:O	14:CO:11:VAL:HG23	2.16	0.46
14:CO:42:HIS:CE1	14:CO:46:HIS:HB2	2.50	0.46
17:CR:53:ARG:HE	17:CR:59:SER:HA	1.81	0.46
17:CR:56:THR:OG1	17:CR:57:GLY:N	2.48	0.46
20:CA:14:U:N3	20:CA:17:U:OP2	2.48	0.46
20:CA:570:G:O6	20:CA:865:A:N6	2.48	0.46
20:CA:1440(A):G:H5"	20:CA:1440(B):G:O4'	2.16	0.46
21:CW:28:A:H2	21:CW:42:U:H3	1.59	0.46
23:CY:506:GLN:HG3	23:CY:581:ALA:CB	2.39	0.46
23:CY:591:LYS:HD3	23:CY:591:LYS:HA	1.68	0.46
23:CY:616:TYR:O	23:CY:620:VAL:HG13	2.15	0.46
25:DC:10:ALA:O	25:DC:13:GLU:N	2.49	0.46
28:DF:136:THR:OG1	59:DA:320:A:H3'	2.15	0.46
30:DH:60:ARG:HG3	30:DH:61:HIS:N	2.31	0.46
30:DH:147:ASN:O	30:DH:151:ILE:HG13	2.16	0.46
31:DJ:54:UNK:CA	31:DJ:79:UNK:HA	2.41	0.46
34:DO:91:LEU:HD21	34:DO:111:PHE:CE1	2.50	0.46
35:DP:39:LYS:HD3	35:DP:39:LYS:HA	1.71	0.46
36:DQ:74:TYR:OH	59:DA:957:A:H4'	2.15	0.46
37:DR:53:HIS:CD2	37:DR:54:LEU:HD12	2.51	0.46
37:DR:115:GLU:CD	37:DR:117:VAL:H	2.24	0.46
41:DV:5:VAL:HG21	41:DV:35:LEU:HG	1.97	0.46
44:DY:47:LYS:N	44:DY:47:LYS:HE3	2.30	0.46
47:D2:21:LEU:HA	47:D2:24:LEU:HD12	1.97	0.46
50:D6:45:LYS:HB2	59:DA:2371:G:H4'	1.97	0.46
51:D7:3:ARG:O	59:DA:687:C:H4'	2.16	0.46
51:D7:5:TRP:NE1	51:D7:7:PRO:HD3	2.30	0.46
59:DA:248:G:N3	59:DA:2431:U:H4'	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:303:U:H2'	59:DA:304:G:H8	1.79	0.46
59:DA:388:G:H5'	59:DA:389:G:OP2	2.16	0.46
59:DA:842:G:H2'	59:DA:843:G:H8	1.79	0.46
59:DA:1007:C:N3	59:DA:1136:G:C6	2.83	0.46
59:DA:1341:U:C5	59:DA:1395:A:H2	2.34	0.46
59:DA:2073:C:H2'	59:DA:2074:U:O4'	2.15	0.46
59:DA:2095:C:H2'	59:DA:2096:U:H6	1.79	0.46
59:DA:2230:G:H2'	59:DA:2231:C:C6	2.50	0.46
59:DA:2703:C:H2'	59:DA:2704:C:H6	1.80	0.46
2:AC:195:VAL:HG12	20:AA:1057:G:H1'	1.98	0.46
3:AD:62:GLN:NE2	20:AA:545:C:OP2	2.49	0.46
7:AH:19:VAL:HG21	20:AA:827:U:H4'	1.98	0.46
7:AH:26:VAL:HG22	7:AH:32:LYS:HZ2	1.80	0.46
11:AL:85:ILE:HD12	11:AL:98:TYR:HB2	1.98	0.46
15:AP:59:TRP:HA	15:AP:62:VAL:HG22	1.98	0.46
16:AQ:45:HIS:H	16:AQ:72:ARG:CA	2.28	0.46
19:AT:71:THR:HB	19:AT:72:LEU:H	1.62	0.46
20:AA:371:G:H1	20:AA:390:C:H42	1.64	0.46
20:AA:692:U:H2'	20:AA:694:A:OP2	2.16	0.46
20:AA:1440(J):C:H1'	20:AA:1440(K):G:C2	2.51	0.46
23:AY:543:GLN:HA	23:AY:546:ILE:HD12	1.98	0.46
25:BC:62:THR:HA	25:BC:162:ILE:O	2.16	0.46
26:BD:13:ARG:HA	26:BD:16:MET:HB3	1.97	0.46
26:BD:28:GLU:H	26:BD:29:PRO:HD2	1.81	0.46
26:BD:227:ASN:HB2	26:BD:228:PRO:HD2	1.97	0.46
26:BD:228:PRO:HB2	59:BA:2073:C:O3'	2.16	0.46
26:BD:228:PRO:HG2	59:BA:2073:C:H4'	1.97	0.46
27:BE:60:ASN:C	27:BE:61:ARG:HG3	2.40	0.46
29:BG:104:GLU:O	29:BG:108:ASN:ND2	2.39	0.46
37:BR:42:LYS:O	37:BR:45:ARG:HG3	2.16	0.46
38:BS:42:ASP:O	38:BS:44:LYS:N	2.49	0.46
39:BT:61:PHE:CZ	39:BT:76:PHE:HB2	2.51	0.46
39:BT:64:ARG:HD2	39:BT:72:VAL:O	2.16	0.46
39:BT:67:SER:O	39:BT:69:GLY:N	2.49	0.46
42:BW:36:LEU:HD22	42:BW:48:ALA:HB2	1.98	0.46
59:BA:390:A:H5'	59:BA:412:A:H4'	1.98	0.46
59:BA:658:C:H2'	59:BA:659:C:O4'	2.16	0.46
59:BA:1312:U:H5'	59:BA:1313:U:C5	2.51	0.46
59:BA:2346:A:O2'	59:BA:2347:C:OP1	2.34	0.46
59:BA:2470:G:H2'	59:BA:2471:C:C6	2.49	0.46
59:BA:2522:U:H1'	59:BA:2647:U:OP1	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CB:96:ARG:HB2	1:CB:148:TYR:HE1	1.80	0.46
1:CB:158:LEU:HA	1:CB:159:PRO:HD3	1.78	0.46
2:CC:186:PHE:CZ	20:CA:1058:G:H5'	2.51	0.46
7:CH:25:ASP:HA	7:CH:60:ARG:HA	1.97	0.46
19:CT:21:LYS:O	19:CT:24:LEU:HB3	2.15	0.46
20:CA:234:C:H2'	20:CA:235:C:H6	1.81	0.46
20:CA:659:U:H2'	20:CA:660:G:H8	1.80	0.46
21:CW:56:C:H5'	25:DC:134:PRO:HG3	1.97	0.46
21:CW:66:C:C2	21:CW:67:G:C8	3.03	0.46
23:CY:519:ARG:NH2	23:CY:678:GLU:H	2.13	0.46
26:DD:25:THR:HG22	26:DD:26:LYS:H	1.81	0.46
26:DD:78:LYS:O	26:DD:79:VAL:O	2.34	0.46
27:DE:4:ILE:HD13	27:DE:5:LEU:N	2.31	0.46
33:DN:5:VAL:HB	33:DN:7:LYS:HZ1	1.81	0.46
36:DQ:14:ARG:NH2	59:DA:957:A:H3'	2.30	0.46
38:DS:59:LYS:HG2	38:DS:60:GLY:H	1.81	0.46
52:D8:52:LYS:N	52:D8:53:PRO:HD2	2.30	0.46
57:D1:52:ARG:HD3	57:D1:57:GLU:HB2	1.98	0.46
59:DA:297:C:H2'	59:DA:298:G:O4'	2.16	0.46
59:DA:1077:A:H3'	59:DA:1078:U:O4'	2.15	0.46
59:DA:1095:A:H2'	59:DA:1096:A:C8	2.51	0.46
59:DA:1290:C:H2'	59:DA:1291:C:H6	1.80	0.46
59:DA:1310:G:H2'	59:DA:1311:G:O4'	2.15	0.46
59:DA:1376:C:H2'	59:DA:1377:G:C8	2.51	0.46
59:DA:1650:G:H1	59:DA:2007:C:H42	1.64	0.46
59:DA:1830:C:N4	59:DA:1975:G:H1	2.10	0.46
59:DA:2038:G:H2'	59:DA:2039:C:O4'	2.16	0.46
59:DA:2050:C:H2'	59:DA:2051:A:H8	1.78	0.46
59:DA:2171:A:O2'	59:DA:2172:U:O5'	2.33	0.46
1:AB:67:THR:HA	1:AB:90:MET:SD	2.55	0.46
6:AG:102:ARG:CZ	20:AA:939:G:H5"	2.45	0.46
7:AH:6:ILE:O	7:AH:10:LEU:HG	2.15	0.46
11:AL:124:LYS:O	11:AL:126:LYS:N	2.49	0.46
12:AM:23:TYR:CE2	20:AA:1330:U:H4'	2.51	0.46
20:AA:687:A:C2	20:AA:704:A:C6	3.04	0.46
20:AA:988:G:H2'	20:AA:989:C:O4'	2.15	0.46
20:AA:1059:C:H2'	20:AA:1060:C:O4'	2.16	0.46
21:AW:41:A:HO2'	21:AW:42:U:P	2.38	0.46
23:AY:333:GLY:H	23:AY:371:ALA:CB	2.27	0.46
25:BC:47:LYS:HE3	25:BC:169:THR:O	2.15	0.46
26:BD:241:PRO:O	26:BD:242:ARG:HB2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BE:8:LYS:HG2	27:BE:9:VAL:N	2.30	0.46
32:BK:93:ARG:HD2	45:BZ:112:ARG:HH22	1.80	0.46
39:BT:44:ASP:N	39:BT:44:ASP:OD1	2.48	0.46
39:BT:76:PHE:HA	39:BT:77:PRO:HD3	1.70	0.46
45:BZ:136:PHE:HD1	45:BZ:136:PHE:H	1.63	0.46
50:B6:39:TYR:OH	59:BA:2346:A:H3'	2.16	0.46
59:BA:31:C:H2'	59:BA:32:C:C6	2.51	0.46
59:BA:409:C:H2'	59:BA:410:G:C8	2.50	0.46
59:BA:738:G:C6	59:BA:739:G:C2	3.03	0.46
59:BA:775:G:C6	59:BA:794:G:C8	3.04	0.46
59:BA:1139:G:OP2	59:BA:1139:G:C8	2.68	0.46
59:BA:2314:C:H2'	59:BA:2315:G:H8	1.80	0.46
1:CB:83:MET:HB3	1:CB:234:PRO:HG3	1.97	0.46
5:CF:1:MET:HG2	5:CF:68:PRO:N	2.31	0.46
12:CM:8:GLU:HG2	12:CM:22:ILE:HG12	1.98	0.46
16:CQ:18:THR:HG21	20:CA:254:G:H4'	1.98	0.46
19:CT:56:MET:HE1	19:CT:84:LEU:HG	1.98	0.46
20:CA:152:A:H3'	20:CA:153:C:H6	1.80	0.46
20:CA:484:G:O2'	20:CA:485:G:OP2	2.25	0.46
20:CA:983:A:H2	20:CA:984:C:C5	2.33	0.46
23:CY:300:GLU:O	23:CY:302:HIS:N	2.49	0.46
23:CY:526:VAL:HG22	23:CY:566:THR:HG23	1.97	0.46
26:DD:9:TYR:HD2	59:DA:705:A:H1'	1.81	0.46
27:DE:143:ASN:CG	59:DA:2574:G:HO2'	2.24	0.46
29:DG:114:ILE:HG22	29:DG:117:PHE:H	1.80	0.46
30:DH:83:TYR:CG	30:DH:84:SER:N	2.84	0.46
32:DK:78:ILE:HD11	32:DK:136:VAL:HG11	1.98	0.46
35:DP:15:ARG:HB2	59:DA:598:G:H5'	1.98	0.46
37:DR:44:LEU:HD13	37:DR:44:LEU:HA	1.79	0.46
38:DS:71:ARG:O	38:DS:74:ALA:HB3	2.15	0.46
41:DV:35:LEU:HB2	41:DV:57:VAL:O	2.15	0.46
45:DZ:128:VAL:HG21	45:DZ:134:PRO:HD3	1.97	0.46
46:D0:20:ARG:NE	59:DA:2357:U:OP1	2.46	0.46
52:D8:63:PRO:O	52:D8:65:GLU:N	2.49	0.46
54:De:78:LEU:HD23	54:De:78:LEU:HA	1.84	0.46
57:D1:7:ILE:CD1	57:D1:62:VAL:HA	2.44	0.46
57:D1:61:ARG:HB3	57:D1:61:ARG:HH11	1.81	0.46
59:DA:2583:G:C2'	59:DA:2584:U:H5'	2.45	0.46
2:AC:6:HIS:CG	13:AN:49:HIS:HB3	2.51	0.46
2:AC:72:LYS:HD2	2:AC:73:PRO:HD2	1.97	0.46
3:AD:128:VAL:HA	3:AD:145:GLU:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AE:57:LYS:O	4:AE:60:TYR:HB3	2.16	0.46
5:AF:69:GLU:O	5:AF:72:VAL:HG12	2.15	0.46
8:AI:4:TYR:HB2	8:AI:19:LEU:CB	2.39	0.46
8:AI:33:PHE:CE1	8:AI:43:ALA:HB1	2.51	0.46
19:AT:63:ILE:HG21	19:AT:81:LYS:HG3	1.98	0.46
20:AA:246:A:N1	20:AA:278:G:O2'	2.47	0.46
20:AA:722:A:H4'	20:AA:723:U:C5	2.48	0.46
23:AY:17:ILE:HA	23:AY:105:ILE:O	2.16	0.46
23:AY:197:ARG:CZ	23:AY:197:ARG:HA	2.46	0.46
26:BD:9:TYR:HD2	59:BA:727:A:H2	1.64	0.46
27:BE:13:ARG:HG3	27:BE:15:PHE:CE2	2.50	0.46
27:BE:111:ARG:HB2	27:BE:160:TYR:O	2.16	0.46
37:BR:54:LEU:HD23	37:BR:57:ARG:HH21	1.80	0.46
40:BU:107:ALA:O	40:BU:110:VAL:HB	2.16	0.46
45:BZ:128:VAL:HG21	45:BZ:134:PRO:HD3	1.98	0.46
52:B8:15:LYS:O	52:B8:23:VAL:N	2.39	0.46
57:B1:81:LYS:HG2	59:BA:270(J):G:H4'	1.98	0.46
59:BA:13:A:O2'	59:BA:15:G:N7	2.35	0.46
59:BA:118:A:OP2	59:BA:119:A:H2'	2.16	0.46
59:BA:459:U:O4	59:BA:470:A:N7	2.48	0.46
59:BA:890:A:H2'	59:BA:892:G:O4'	2.16	0.46
59:BA:980:A:H2	59:BA:2038:G:H1'	1.80	0.46
59:BA:1301:A:H2	59:BA:1626:G:N3	2.14	0.46
59:BA:1474:C:H2'	59:BA:1475:G:H8	1.81	0.46
59:BA:1523:U:H2'	59:BA:1524:G:C8	2.51	0.46
1:CB:167:PRO:HD2	1:CB:188:ALA:CB	2.46	0.46
8:CI:118:LYS:C	8:CI:120:ARG:H	2.23	0.46
10:CK:33:THR:HA	10:CK:39:PRO:HA	1.97	0.46
19:CT:103:GLY:C	20:CA:191:G:H21	2.24	0.46
20:CA:17:U:H2'	20:CA:18:C:H6	1.81	0.46
20:CA:152:A:H3'	20:CA:153:C:C6	2.51	0.46
20:CA:201(B):U:H2'	20:CA:201(C):U:C2	2.51	0.46
20:CA:217:C:H2'	20:CA:218:C:C6	2.48	0.46
20:CA:352:C:H4'	20:CA:354:G:OP1	2.15	0.46
20:CA:745:C:H2'	20:CA:746:A:H8	1.81	0.46
20:CA:955:U:H2'	20:CA:956:U:O4'	2.16	0.46
20:CA:994:A:N3	20:CA:994:A:H2'	2.30	0.46
20:CA:1006:C:H2'	20:CA:1007:C:C6	2.50	0.46
20:CA:1131:G:H2'	20:CA:1132:C:C6	2.51	0.46
23:CY:580:MET:HA	23:CY:583:LYS:CB	2.44	0.46
25:DC:26:ALA:O	25:DC:30:VAL:HB	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:DD:244:ARG:HA	26:DD:246:PRO:HD3	1.97	0.46
28:DF:3:GLU:CB	28:DF:23:ASP:HA	2.45	0.46
28:DF:107:LYS:HZ1	59:DA:618(A):G:H5"	1.81	0.46
28:DF:158:THR:HG23	28:DF:164:ARG:HD3	1.97	0.46
28:DF:170:LEU:CB	28:DF:173:VAL:HB	2.46	0.46
33:DN:116:LEU:HD23	33:DN:119:ARG:HG3	1.98	0.46
34:DO:8:LEU:O	34:DO:19:ILE:HG13	2.15	0.46
39:DT:84:GLN:O	39:DT:86:ILE:N	2.39	0.46
45:DZ:94:GLU:O	45:DZ:96:VAL:N	2.49	0.46
45:DZ:137:ILE:HG21	45:DZ:155:LEU:HD12	1.97	0.46
59:DA:271(B):C:O2	59:DA:271:G:N2	2.46	0.46
59:DA:358:U:H2'	59:DA:359:A:C8	2.51	0.46
59:DA:799:G:C3'	59:DA:800:A:H5"	2.46	0.46
59:DA:972:G:OP2	59:DA:974(A):G:H5"	2.16	0.46
59:DA:1221:C:H2'	59:DA:122(A):C:C6	2.51	0.46
59:DA:1675:C:C2	59:DA:1676:A:C8	3.04	0.46
1:AB:160:ASP:HA	1:AB:182:ILE:HD12	1.98	0.46
2:AC:71:ALA:HB2	2:AC:115:LEU:HD22	1.98	0.46
3:AD:108:LEU:HD23	3:AD:110:PHE:CZ	2.50	0.46
5:AF:50:TYR:CZ	17:AR:77:GLY:HA2	2.51	0.46
9:AJ:46:ARG:HD2	13:AN:61:TRP:CZ3	2.50	0.46
12:AM:91:ARG:NH2	12:AM:96:LEU:HB3	2.31	0.46
18:AS:31:ILE:HD11	18:AS:49:ILE:HG12	1.98	0.46
20:AA:186:C:H2'	20:AA:186(A):C:O4'	2.16	0.46
20:AA:1392:G:H2'	20:AA:1393:U:C6	2.51	0.46
23:AY:216:LEU:HD21	23:AY:242:LEU:HD22	1.98	0.46
23:AY:272:LEU:HD12	23:AY:275:ALA:HB3	1.97	0.46
23:AY:614:GLU:CD	23:AY:614:GLU:H	2.22	0.46
25:BC:26:ALA:O	25:BC:30:VAL:HB	2.16	0.46
26:BD:50:THR:HB	59:BA:1805:U:H1'	1.97	0.46
31:BJ:57:UNK:HA	59:BA:1106:G:OP1	2.16	0.46
39:BT:26:ASP:CG	39:BT:27:THR:H	2.22	0.46
39:BT:118:ARG:O	39:BT:121:ILE:N	2.49	0.46
40:BU:14:HIS:NE2	40:BU:32:PHE:O	2.49	0.46
40:BU:83:LEU:HG	40:BU:88:ILE:HD12	1.97	0.46
58:B4:26:SER:OG	58:B4:27:THR:N	2.48	0.46
59:BA:828:U:H2'	59:BA:829:A:C5	2.51	0.46
59:BA:840:C:H42	59:BA:938:G:H1	1.63	0.46
59:BA:940:G:H2'	59:BA:941:A:O4'	2.16	0.46
59:BA:1438:U:H2'	59:BA:1439:A:H8	1.81	0.46
59:BA:1448:G:H2'	59:BA:149(B):A:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1844:C:H2'	59:BA:1845:G:O4'	2.16	0.46
59:BA:2109:U:H2'	59:BA:2110:G:O4'	2.15	0.46
59:BA:2254:C:H2'	59:BA:2255:G:H8	1.81	0.46
59:BA:2410:G:H2'	59:BA:2411:A:O4'	2.16	0.46
59:BA:2655:G:O2'	59:BA:2664:G:O6	2.32	0.46
60:BB:99:A:H3'	60:BB:100:G:H8	1.81	0.46
3:CD:15:GLU:OE1	3:CD:63:LYS:HA	2.16	0.46
6:CG:85:TYR:HB3	6:CG:151:TYR:HD2	1.81	0.46
7:CH:19:VAL:HG21	20:CA:827:U:H4'	1.97	0.46
13:CN:61:TRP:CZ2	20:CA:1368:G:H4'	2.49	0.46
20:CA:541:G:H2'	20:CA:542:G:C8	2.51	0.46
20:CA:687:A:C2	20:CA:704:A:C6	3.05	0.46
20:CA:1110:A:H2'	20:CA:1111:A:O4'	2.15	0.46
21:CW:19:G:N2	21:CW:56:C:N3	2.63	0.46
21:CW:71:C:H2'	21:CW:72:C:C6	2.51	0.46
23:CY:20:HIS:CD2	23:CY:21:ILE:HG23	2.51	0.46
23:CY:341:VAL:HG22	23:CY:352:VAL:HG12	1.98	0.46
23:CY:608:VAL:O	23:CY:645:ALA:HB3	2.16	0.46
25:DC:85:LYS:O	25:DC:88:GLU:HB2	2.15	0.46
27:DE:59:VAL:HG21	27:DE:73:GLU:HG2	1.98	0.46
27:DE:147:PRO:HG3	27:DE:151:TYR:HE1	1.81	0.46
28:DF:154:VAL:HG12	28:DF:156:LEU:CA	2.46	0.46
28:DF:155:LEU:HB2	28:DF:189:THR:OG1	2.16	0.46
30:DH:61:HIS:O	30:DH:64:LEU:N	2.49	0.46
31:DJ:112:UNK:O	31:DJ:114:UNK:N	2.49	0.46
31:DJ:113:UNK:C	31:DJ:115:UNK:H	2.28	0.46
33:DN:86:PRO:O	33:DN:90:MET:HB2	2.15	0.46
35:DP:51:PHE:CD1	35:DP:52:GLU:HB2	2.50	0.46
38:DS:40:ILE:HG13	38:DS:47:THR:H	1.80	0.46
45:DZ:167:PRO:O	45:DZ:169:GLU:N	2.49	0.46
49:D5:23:HIS:HB3	49:D5:24:ALA:H	1.44	0.46
59:DA:416:C:H2'	59:DA:417:C:C6	2.51	0.46
59:DA:573:G:O2'	59:DA:574:C:H3'	2.16	0.46
59:DA:767:U:O2'	59:DA:1622:G:H4'	2.16	0.46
59:DA:1558:A:N7	59:DA:1560:G:C8	2.84	0.46
59:DA:1935:G:H1'	59:DA:1964:G:N2	2.30	0.46
59:DA:2318:G:H5"	59:DA:2319:G:OP2	2.16	0.46
59:DA:2400:G:N2	59:DA:2416:C:N3	2.53	0.46
59:DA:2588:G:H8	59:DA:2588:G:O5'	1.99	0.46
59:DA:2673:G:H2'	59:DA:2674:G:H8	1.79	0.46
59:DA:2679:A:H2'	59:DA:2680:C:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2861:G:H2'	59:DA:2862:G:C8	2.51	0.46
1:AB:162:ILE:CG1	1:AB:184:VAL:HA	2.46	0.45
1:AB:236:TYR:HA	1:AB:239:VAL:HB	1.97	0.45
8:AI:16:ARG:HH12	20:AA:1128:C:H4'	1.82	0.45
10:AK:108:ILE:HB	17:AR:87:ARG:H	1.81	0.45
15:AP:32:TYR:OH	20:AA:608:A:H4'	2.16	0.45
18:AS:58:VAL:HG21	18:AS:75:ALA:HB2	1.97	0.45
20:AA:242:C:H2'	20:AA:245:C:C5	2.51	0.45
20:AA:458(A):G:N2	20:AA:458(E):A:H62	2.13	0.45
20:AA:620:C:H2'	20:AA:621:A:O4'	2.16	0.45
20:AA:1252:A:H2'	20:AA:1253:G:C8	2.51	0.45
21:AW:63:C:H5'	25:BC:54:ARG:HH22	1.81	0.45
23:AY:301:ILE:HG21	23:AY:331:TYR:HB3	1.97	0.45
26:BD:45:ASN:HB2	59:BA:1812:A:O2'	2.16	0.45
26:BD:206:LEU:O	26:BD:208:LYS:N	2.48	0.45
26:BD:260:ARG:HH21	26:BD:267:SER:HA	1.82	0.45
33:BN:6:PRO:HG3	33:BN:41:ASP:O	2.16	0.45
33:BN:70:LYS:HB3	33:BN:87:LEU:HB2	1.98	0.45
38:BS:17:ARG:HG2	38:BS:88:ASP:OD2	2.16	0.45
38:BS:39:ILE:HB	38:BS:49:VAL:HB	1.97	0.45
40:BU:23:GLY:HA2	59:BA:19:C:OP1	2.15	0.45
42:BW:96:ILE:HD11	59:BA:2012:G:H4'	1.99	0.45
44:BY:11:ASP:CG	44:BY:12:THR:H	2.24	0.45
47:B2:55:ARG:NH1	59:BA:75:G:H4'	2.31	0.45
48:B3:29:ARG:HB3	48:B3:30:ARG:H	1.59	0.45
53:B9:9:ARG:NH2	59:BA:1033:U:OP1	2.49	0.45
57:B1:18:ILE:HG13	57:B1:20:ARG:N	2.31	0.45
57:B1:30:VAL:HA	59:BA:2396:G:O2'	2.16	0.45
59:BA:436:C:H2'	59:BA:438:G:C8	2.51	0.45
59:BA:471:A:H2'	59:BA:472:A:O4'	2.16	0.45
59:BA:528:A:H61	59:BA:2042:A:H3'	1.80	0.45
59:BA:639:U:H3	59:BA:649:G:H1	1.64	0.45
59:BA:907:U:H2'	59:BA:908:C:H6	1.80	0.45
59:BA:1542:G:H5'	59:BA:1542:G:N3	2.31	0.45
1:CB:7:VAL:HG13	1:CB:217:ARG:CZ	2.46	0.45
1:CB:79:ASP:O	1:CB:82:ARG:HG2	2.16	0.45
2:CC:141:VAL:HG11	2:CC:202:ILE:HG21	1.96	0.45
5:CF:33:TYR:CG	5:CF:75:LEU:HD13	2.51	0.45
7:CH:6:ILE:O	7:CH:9:MET:HB3	2.16	0.45
9:CJ:63:PHE:HZ	13:CN:49:HIS:NE2	2.15	0.45
10:CK:18:ARG:HG2	10:CK:35:PRO:HA	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:CL:69:TYR:CD1	11:CL:70:ILE:HG13	2.51	0.45
13:CN:53:LEU:HA	13:CN:54:PRO:HD3	1.70	0.45
18:CS:6:LYS:HG3	20:CA:1314:C:OP2	2.15	0.45
18:CS:59:PRO:CB	59:DA:887:A:H5"	2.47	0.45
20:CA:160:A:H2'	20:CA:161:A:O4'	2.16	0.45
20:CA:833:U:O4	20:CA:853:G:O6	2.34	0.45
20:CA:1113:C:H2'	20:CA:1114:C:O4'	2.16	0.45
20:CA:1140:C:H2'	20:CA:1141:C:C6	2.51	0.45
20:CA:1388:C:H2'	20:CA:1389:C:H6	1.80	0.45
23:CY:457:LEU:HD23	23:CY:458:HIS:N	2.29	0.45
26:DD:11:PRO:HA	26:DD:14:ARG:HB2	1.98	0.45
30:DH:173:PRO:HB2	30:DH:174:GLY:H	1.66	0.45
33:DN:34:LEU:HD21	33:DN:120:LEU:HD12	1.97	0.45
34:DO:71:ARG:NH1	39:DT:74:ARG:HH22	2.14	0.45
35:DP:128:HIS:CE1	35:DP:148:LEU:HB2	2.51	0.45
39:DT:62:THR:HB	39:DT:75:ILE:HG12	1.96	0.45
40:DU:101:ARG:NH1	40:DU:101:ARG:O	2.49	0.45
43:DX:50:LYS:O	43:DX:83:VAL:HG13	2.17	0.45
44:DY:83:THR:HG22	44:DY:94:LYS:HB2	1.98	0.45
59:DA:404:C:H4'	59:DA:405:U:C5'	2.46	0.45
59:DA:611:C:N3	59:DA:617:G:O6	2.50	0.45
59:DA:618(A):G:H2'	59:DA:618(B):C:O4'	2.15	0.45
59:DA:769:G:H4'	59:DA:1379:A:C6	2.51	0.45
59:DA:926:A:H2'	59:DA:928:G:H8	1.79	0.45
59:DA:934:G:H2'	59:DA:935:C:C6	2.50	0.45
59:DA:1011:G:C6	59:DA:1151:G:C6	3.04	0.45
59:DA:1264:G:O3'	59:DA:2615:U:H5'	2.16	0.45
59:DA:2247:A:H2'	59:DA:2248:C:O4'	2.16	0.45
59:DA:2372:G:H2'	59:DA:2373:G:H8	1.80	0.45
59:DA:2466:C:N4	59:DA:2484:G:H1	2.10	0.45
59:DA:2560:C:H2'	59:DA:2561:A:H8	1.82	0.45
59:DA:2639:A:H2'	59:DA:2640:G:O4'	2.16	0.45
2:AC:6:HIS:O	2:AC:10:PHE:N	2.49	0.45
5:AF:35:ALA:HB2	5:AF:67:MET:HB3	1.98	0.45
6:AG:27:ILE:HG21	6:AG:36:LYS:HZ2	1.82	0.45
9:AJ:46:ARG:NH2	20:AA:1253:G:OP1	2.42	0.45
10:AK:41:THR:CG2	10:AK:71:LYS:HD3	2.45	0.45
10:AK:51:LYS:HA	10:AK:55:LYS:HG3	1.99	0.45
15:AP:12:LYS:HB3	20:AA:43:C:H5"	1.99	0.45
20:AA:418:C:N4	20:AA:425:G:H1	2.13	0.45
20:AA:947:G:H2'	20:AA:948:C:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:964:A:H8	20:AA:964:A:O5'	1.99	0.45
20:AA:1149:C:O2'	20:AA:1280:A:N1	2.50	0.45
23:AY:115:GLU:N	23:AY:116:PRO:HD3	2.31	0.45
27:BE:187:ALA:HB2	59:BA:2729:G:O2'	2.16	0.45
29:BG:112:PRO:HA	29:BG:117:PHE:CE2	2.51	0.45
33:BN:4:TYR:CG	33:BN:5:VAL:N	2.84	0.45
34:BO:31:LYS:HD3	59:BA:2548:G:H4'	1.98	0.45
36:BQ:127:ILE:HB	36:BQ:128:LYS:H	1.42	0.45
37:BR:51:LEU:HA	37:BR:54:LEU:HD12	1.97	0.45
42:BW:53:SER:OG	59:BA:487:C:O2	2.31	0.45
43:BX:44:GLU:OE1	43:BX:51:VAL:N	2.49	0.45
45:BZ:59:LEU:HD21	45:BZ:69:THR:HG23	1.97	0.45
50:B6:14:THR:O	50:B6:50:ARG:N	2.28	0.45
59:BA:131:G:H2'	59:BA:132:G:H8	1.80	0.45
59:BA:273(G):C:H3'	59:BA:274:G:H5"	1.97	0.45
59:BA:397:G:H1'	59:BA:2231:C:O2'	2.15	0.45
59:BA:1084:A:C5	59:BA:1085:A:C5	3.05	0.45
59:BA:1137:G:C2	59:BA:1138:G:C4	3.04	0.45
59:BA:1211:U:O2'	59:BA:1212:G:OP1	2.34	0.45
59:BA:1537:C:C4	59:BA:1538:G:H1'	2.51	0.45
59:BA:2537:U:H2'	59:BA:2538:C:H6	1.80	0.45
60:BB:2:C:H2'	60:BB:3:C:C6	2.51	0.45
1:CB:71:VAL:O	1:CB:165:VAL:HG23	2.16	0.45
1:CB:97:TRP:CH2	1:CB:176:GLU:HG3	2.50	0.45
4:CE:70:PRO:HG2	4:CE:142:LEU:HD13	1.97	0.45
6:CG:75:VAL:HA	6:CG:88:PRO:HA	1.98	0.45
7:CH:38:ILE:HG21	7:CH:111:ILE:HG22	1.98	0.45
20:CA:108:G:OP2	20:CA:326:G:N1	2.43	0.45
20:CA:626:U:H2'	20:CA:627:G:H8	1.82	0.45
20:CA:1512:U:H2'	20:CA:1513:A:H8	1.80	0.45
23:CY:102:ASP:O	23:CY:131:PRO:HD2	2.17	0.45
23:CY:108:PHE:HZ	23:CY:122:TRP:CZ3	2.34	0.45
26:DD:218:ARG:HA	26:DD:219:PRO:HD2	1.71	0.45
28:DF:99:TYR:CE2	59:DA:660:G:H5'	2.51	0.45
32:DK:101:TRP:NE1	32:DK:141:ALA:H	2.14	0.45
41:DV:18:LEU:O	41:DV:96:ILE:HG13	2.16	0.45
41:DV:62:LEU:N	41:DV:93:GLU:O	2.49	0.45
43:DX:27:THR:HA	43:DX:80:ILE:HA	1.99	0.45
45:DZ:65:GLN:HB3	45:DZ:67:LEU:HD13	1.98	0.45
54:De:102:GLY:H	54:De:105:LYS:HG2	1.80	0.45
59:DA:20:C:C2	59:DA:21:A:C8	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:273(D):C:H2'	59:DA:273(E):C:O4'	2.17	0.45
59:DA:439:G:H2'	59:DA:440:G:H8	1.80	0.45
59:DA:537:C:OP1	59:DA:995:C:N4	2.49	0.45
59:DA:662:G:H2'	59:DA:663:G:C8	2.47	0.45
59:DA:1007:C:O2	59:DA:1136:G:N1	2.37	0.45
59:DA:1020:A:N1	59:DA:1141:U:H1'	2.31	0.45
59:DA:1486:A:H2'	59:DA:1487:G:H8	1.81	0.45
59:DA:1495:A:H2'	59:DA:1496:A:N3	2.32	0.45
59:DA:2049:G:H1	59:DA:2619:C:N4	2.11	0.45
59:DA:2336:A:H3'	59:DA:2337:G:C8	2.52	0.45
1:AB:95:GLN:HB3	1:AB:96:ARG:HD2	1.97	0.45
1:AB:108:ILE:HA	1:AB:111:ARG:HG3	1.98	0.45
5:AF:19:LEU:HD11	5:AF:59:TYR:OH	2.16	0.45
8:AI:3:GLN:NE2	20:AA:1130:A:O2'	2.42	0.45
15:AP:81:ARG:HA	20:AA:458(E):A:O2'	2.16	0.45
20:AA:367:U:OP1	23:AY:340:TYR:OH	2.30	0.45
20:AA:881:G:H2'	20:AA:882:C:C6	2.51	0.45
20:AA:1255:G:H1	20:AA:1282:C:H42	1.64	0.45
20:AA:1386:G:H2'	20:AA:1387:G:H8	1.81	0.45
20:AA:1392:G:O2'	20:AA:1502:A:OP1	2.32	0.45
20:AA:1533:C:H3'	20:AA:1534:A:O4'	2.16	0.45
23:AY:458:HIS:O	23:AY:462:ILE:HG12	2.17	0.45
23:AY:545:GLY:HA3	23:AY:583:LYS:O	2.16	0.45
26:BD:38:LYS:HE3	26:BD:38:LYS:HB3	1.72	0.45
27:BE:21:VAL:O	27:BE:23:VAL:HG13	2.17	0.45
29:BG:48:GLU:HB3	29:BG:49:ASP:H	1.60	0.45
32:BK:90:LYS:NZ	32:BK:93:ARG:HG2	2.31	0.45
32:BK:133:SER:HB2	59:BA:1088:A:N6	2.32	0.45
33:BN:112:LEU:HD22	59:BA:558:G:OP1	2.16	0.45
35:BP:22:GLY:HA2	35:BP:23:PRO:HD3	1.78	0.45
39:BT:95:ARG:O	59:BA:2848:G:H2'	2.16	0.45
39:BT:129:ARG:HD3	39:BT:132:LYS:HB2	1.99	0.45
40:BU:106:PHE:O	40:BU:109:LEU:N	2.50	0.45
47:B2:20:GLU:O	47:B2:24:LEU:HG	2.16	0.45
49:B5:17:ASP:HB3	59:BA:16:G:H5"	1.97	0.45
50:B6:16:CYS:HB2	50:B6:17:LYS:HD2	1.98	0.45
59:BA:297:C:H2'	59:BA:298:G:O4'	2.16	0.45
59:BA:325:G:H2'	59:BA:326:G:H8	1.80	0.45
59:BA:409:C:H2'	59:BA:410:G:H8	1.82	0.45
59:BA:442:G:C2	59:BA:444:C:C5	3.04	0.45
59:BA:705:A:C2	59:BA:727:A:H1'	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:765:G:H8	59:BA:765:G:OP2	2.00	0.45
59:BA:1321:A:H2'	59:BA:1322:A:C8	2.50	0.45
59:BA:1495:A:C2	59:BA:1578:U:H1'	2.50	0.45
59:BA:1701:A:H4'	59:BA:1765:C:O2'	2.17	0.45
59:BA:1845:G:H2'	59:BA:1846:G:C8	2.51	0.45
59:BA:1923:U:H2'	59:BA:1924:C:C6	2.52	0.45
59:BA:2377:A:N6	59:BA:2378:A:N1	2.64	0.45
5:CF:90:VAL:O	20:CA:736:C:O2'	2.25	0.45
6:CG:78:ARG:O	6:CG:84:ASN:ND2	2.47	0.45
10:CK:53:SER:N	20:CA:695:A:OP2	2.49	0.45
15:CP:31:LYS:HG2	15:CP:32:TYR:N	2.31	0.45
15:CP:49:LEU:HD11	15:CP:73:LEU:HD11	1.99	0.45
18:CS:53:ASN:HB2	18:CS:58:VAL:HG22	1.97	0.45
20:CA:335:C:H1'	20:CA:1434:A:H1'	1.97	0.45
20:CA:348:G:H2'	20:CA:349:A:H8	1.81	0.45
20:CA:522:C:N3	20:CA:527:G:N2	2.55	0.45
20:CA:1532:U:H1'	20:CA:1533:C:OP1	2.17	0.45
23:CY:27:THR:HG23	62:CY:702:GDP:O5'	2.16	0.45
25:DC:167:ASP:OD1	25:DC:168:LYS:N	2.43	0.45
25:DC:214:TYR:HD2	25:DC:222:SER:OG	1.99	0.45
26:DD:30:GLU:CD	26:DD:30:GLU:H	2.24	0.45
26:DD:264:LYS:HD3	26:DD:266:SER:H	1.80	0.45
31:DJ:138:UNK:C	31:DJ:140:UNK:H	2.28	0.45
34:DO:105:GLU:O	34:DO:109:LYS:HG2	2.15	0.45
36:DQ:16:ARG:HG2	36:DQ:18:LYS:HG2	1.97	0.45
36:DQ:25:ASP:HA	36:DQ:102:VAL:HG23	1.98	0.45
36:DQ:42:ILE:HD11	36:DQ:95:ALA:HB3	1.98	0.45
37:DR:2:ARG:HB3	37:DR:5:LYS:HG2	1.98	0.45
39:DT:16:ARG:HH11	39:DT:19:LEU:HD21	1.81	0.45
40:DU:34:LYS:NZ	59:DA:2018:G:N3	2.65	0.45
47:D2:48:HIS:HD2	47:D2:49:LYS:HE3	1.81	0.45
49:D5:29:THR:HG21	59:DA:2814:C:O2'	2.16	0.45
50:D6:16:CYS:HB2	50:D6:17:LYS:HD2	1.98	0.45
52:D8:40:GLU:O	52:D8:44:LYS:HB2	2.17	0.45
59:DA:319:C:N4	59:DA:323:G:H1	2.14	0.45
59:DA:650:C:H2'	59:DA:651:G:C8	2.51	0.45
59:DA:846:C:H42	59:DA:931:G:H1	1.64	0.45
59:DA:1061:U:H4'	59:DA:1070:A:O3'	2.16	0.45
59:DA:1655:A:H3'	59:DA:1656:C:H6	1.80	0.45
59:DA:1773:A:H2'	59:DA:1774:C:O4'	2.16	0.45
1:AB:169:LYS:O	1:AB:172:ILE:HG12	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AB:175:ARG:NH2	20:AA:1076:C:H5'	2.31	0.45
1:AB:220:ASP:HA	1:AB:223:ILE:HD12	1.99	0.45
4:AE:115:VAL:HG12	4:AE:116:THR:H	1.81	0.45
4:AE:127:ASN:HD22	20:AA:19:C:P	2.40	0.45
9:AJ:63:PHE:HD1	13:AN:58:LYS:HA	1.80	0.45
11:AL:11:VAL:HG13	16:AQ:29:HIS:HD2	1.81	0.45
20:AA:33:A:H2'	20:AA:34:C:H6	1.81	0.45
20:AA:68(I):G:N2	20:AA:68(R):C:H1'	2.32	0.45
20:AA:123:C:OP1	20:AA:311:C:O2'	2.33	0.45
20:AA:1204:A:H3'	20:AA:1205:U:C6	2.52	0.45
23:AY:30:GLU:HG2	23:AY:31:ARG:N	2.32	0.45
23:AY:33:LEU:HD22	23:AY:65:ILE:HG22	1.99	0.45
23:AY:604:PRO:HB2	23:AY:649:LEU:HD12	1.99	0.45
25:BC:102:GLN:HE22	25:BC:105:LEU:HD23	1.81	0.45
28:BF:3:GLU:HA	28:BF:24:LEU:N	2.30	0.45
29:BG:93:THR:HB	60:BB:43:C:H1'	1.98	0.45
32:BK:91:PRO:HG3	59:BA:1062:G:N2	2.31	0.45
32:BK:134:MET:HE3	32:BK:134:MET:HB2	1.74	0.45
39:BT:61:PHE:CE2	39:BT:76:PHE:HB2	2.52	0.45
39:BT:99:LEU:O	39:BT:102:ILE:HG12	2.15	0.45
45:BZ:108:PRO:HB2	45:BZ:109:ALA:H	1.57	0.45
47:B2:46:GLN:HB3	47:B2:48:HIS:CE1	2.51	0.45
50:B6:14:THR:OG1	50:B6:19:ARG:O	2.33	0.45
53:B9:9:ARG:HH12	53:B9:16:VAL:H	1.63	0.45
55:Bf:2:UNK:O	55:Bf:4:UNK:N	2.50	0.45
59:BA:19:C:H42	59:BA:521:G:H1	1.64	0.45
59:BA:56:A:H2'	59:BA:57:C:H6	1.79	0.45
59:BA:391:G:O2'	59:BA:411:G:O4'	2.34	0.45
59:BA:565:C:H42	59:BA:576:U:H3	1.63	0.45
59:BA:736:C:H2'	59:BA:737:C:H6	1.81	0.45
59:BA:1611:C:H2'	59:BA:1612:C:C5	2.51	0.45
59:BA:1803:A:N6	59:BA:1814:G:H1'	2.31	0.45
59:BA:2057:A:H2'	59:BA:2058:A:C8	2.51	0.45
59:BA:2467:C:H2'	59:BA:2468:G:O4'	2.16	0.45
59:BA:2540:C:H2'	59:BA:2541:A:O4'	2.16	0.45
3:CD:127:THR:HG23	3:CD:147:ALA:HB3	1.99	0.45
7:CH:84:ARG:N	7:CH:136:GLU:OE2	2.49	0.45
9:CJ:13:HIS:HB3	9:CJ:68:HIS:CE1	2.51	0.45
9:CJ:42:THR:HG23	9:CJ:68:HIS:HA	1.99	0.45
9:CJ:60:ARG:NH2	20:CA:1367:C:H5'	2.32	0.45
19:CT:101:GLY:HA2	19:CT:104:LEU:HB3	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:52:G:O6	20:CA:359:U:O2	2.35	0.45
20:CA:60:A:H62	20:CA:110:C:H42	1.64	0.45
20:CA:945:G:C2	20:CA:946:A:C8	3.04	0.45
20:CA:1127:G:H21	20:CA:1147:C:H41	1.65	0.45
20:CA:1204:A:H3'	20:CA:1205:U:C6	2.52	0.45
20:CA:1276:G:H2'	20:CA:1277:C:C6	2.51	0.45
20:CA:1422:G:H2'	20:CA:1423:G:C8	2.51	0.45
23:CY:163:VAL:HG12	23:CY:164:MET:N	2.31	0.45
26:DD:48:ARG:NE	59:DA:774:A:H5"	2.32	0.45
27:DE:12:THR:O	27:DE:13:ARG:HB3	2.15	0.45
27:DE:108:SER:OG	27:DE:161:GLY:O	2.21	0.45
30:DH:27:LYS:HE3	30:DH:28:GLY:C	2.41	0.45
38:DS:28:VAL:HG22	38:DS:88:ASP:O	2.17	0.45
39:DT:41:ARG:NE	39:DT:43:GLN:HB2	2.31	0.45
40:DU:53:ARG:HD2	59:DA:536:A:H5'	1.98	0.45
41:DV:24:LYS:NZ	59:DA:1163:G:H5'	2.31	0.45
46:D0:24:LYS:N	46:D0:37:LEU:O	2.49	0.45
49:D5:4:HIS:O	59:DA:2056:G:N2	2.49	0.45
50:D6:23:THR:HG21	59:DA:2419:U:OP1	2.16	0.45
59:DA:30:G:H2'	59:DA:31:C:O4'	2.16	0.45
59:DA:341:G:H2'	59:DA:342:G:C8	2.51	0.45
59:DA:617:G:H2'	59:DA:618(A):G:H8	1.81	0.45
59:DA:647:G:H2'	59:DA:648:G:O4'	2.16	0.45
59:DA:915:C:H2'	59:DA:916:G:O4'	2.16	0.45
59:DA:1178:C:H2'	59:DA:1179:C:C6	2.51	0.45
59:DA:1296:G:OP1	59:DA:2709:G:O2'	2.27	0.45
59:DA:1312:U:H4'	59:DA:1313:U:O5'	2.15	0.45
59:DA:1381:G:C6	59:DA:1382:G:C6	3.04	0.45
59:DA:1384:A:N3	59:DA:1405:U:H1'	2.31	0.45
59:DA:1399:C:H2'	59:DA:1400:G:O4'	2.16	0.45
59:DA:2086:U:H2'	59:DA:2087:G:H8	1.82	0.45
59:DA:2532:G:C5	59:DA:2533:A:C5	3.05	0.45
59:DA:2545:G:H2'	59:DA:2546:U:O4'	2.17	0.45
59:DA:2810:A:O5'	59:DA:2810:A:H8	2.00	0.45
60:DB:22:U:H2'	60:DB:23:G:C8	2.51	0.45
3:AD:29:PRO:O	3:AD:30:LYS:HB3	2.17	0.45
4:AE:51:VAL:O	4:AE:55:VAL:HG23	2.16	0.45
5:AF:48:LEU:HD22	17:AR:77:GLY:C	2.42	0.45
10:AK:30:VAL:HG22	10:AK:43:SER:O	2.16	0.45
12:AM:56:LEU:O	12:AM:60:VAL:HG23	2.16	0.45
12:AM:113:PRO:HB2	12:AM:114:ARG:H	1.53	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AQ:38:ARG:HD3	20:AA:280:C:O2	2.17	0.45
16:AQ:67:LYS:C	16:AQ:69:LYS:H	2.24	0.45
20:AA:66:G:N2	20:AA:172:A:N3	2.64	0.45
20:AA:237:C:H2'	20:AA:238:G:H8	1.76	0.45
20:AA:578:C:O2'	20:AA:728:A:N3	2.43	0.45
20:AA:930:C:H2'	20:AA:931:C:C6	2.51	0.45
20:AA:937:A:H2	20:AA:1377:A:HO2'	1.63	0.45
20:AA:1157:A:N6	20:AA:1178:G:H1'	2.32	0.45
23:AY:333:GLY:H	23:AY:371:ALA:HB2	1.82	0.45
23:AY:652:MET:HG3	23:AY:652:MET:O	2.15	0.45
25:BC:7:ARG:O	25:BC:11:LEU:HG	2.17	0.45
25:BC:40:GLU:HB3	25:BC:218:THR:N	2.32	0.45
26:BD:53:PHE:HE1	26:BD:220:HIS:CG	2.35	0.45
26:BD:78:LYS:HZ3	59:BA:1502:C:H5'	1.82	0.45
27:BE:42:ASP:HB3	27:BE:44:TYR:CZ	2.51	0.45
43:BX:39:ILE:O	43:BX:43:VAL:HG23	2.17	0.45
59:BA:479:A:C4	59:BA:481:G:O4'	2.69	0.45
59:BA:950:G:C6	59:BA:968:G:C6	3.04	0.45
59:BA:2024:G:N2	59:BA:2025:C:C2	2.84	0.45
59:BA:2092:U:C2	59:BA:2225:A:H2	2.35	0.45
59:BA:2106:G:H2'	59:BA:2107:C:C6	2.51	0.45
59:BA:2505:G:C6	59:BA:2610:C:O2	2.70	0.45
60:BB:24:G:C2	60:BB:56:G:N2	2.84	0.45
1:CB:193:ASP:HB3	1:CB:196:LEU:HD23	1.98	0.45
2:CC:142:MET:HE1	2:CC:147:LYS:C	2.42	0.45
2:CC:189:ALA:HB3	2:CC:196:LEU:HB2	1.98	0.45
3:CD:18:LYS:HB3	3:CD:33:MET:HG3	1.99	0.45
7:CH:14:ARG:HD3	7:CH:82:HIS:HE1	1.81	0.45
8:CI:116:LYS:HG2	8:CI:122:ALA:HA	1.98	0.45
11:CL:83:VAL:HB	11:CL:100:ILE:HG23	1.99	0.45
11:CL:90:VAL:HB	20:CA:523:A:C6	2.51	0.45
20:CA:186(M):G:H2'	20:CA:186(N):U:O4'	2.17	0.45
20:CA:231:G:H2'	20:CA:232:G:C8	2.49	0.45
20:CA:781:A:N7	20:CA:801:U:O2	2.49	0.45
25:DC:47:LYS:CB	25:DC:212:SER:HB2	2.45	0.45
25:DC:115:VAL:HG11	25:DC:154:ILE:CG1	2.47	0.45
27:DE:33:VAL:HG23	27:DE:47:VAL:HG13	1.98	0.45
27:DE:82:ARG:HG3	27:DE:83:ASP:CG	2.42	0.45
27:DE:117:MET:SD	27:DE:136:ARG:HG3	2.57	0.45
27:DE:154:LYS:O	27:DE:156:MET:HG2	2.17	0.45
28:DF:155:LEU:O	28:DF:191:ARG:O	2.33	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:DF:156:LEU:HD23	28:DF:164:ARG:HG2	1.99	0.45
28:DF:158:THR:OG1	28:DF:195:ASP:HB2	2.16	0.45
36:DQ:51:ARG:HH12	36:DQ:55:VAL:HB	1.82	0.45
42:DW:62:HIS:NE2	59:DA:495:G:O2'	2.48	0.45
46:D0:12:ASN:C	46:D0:14:ARG:H	2.23	0.45
58:D4:33:VAL:HG12	58:D4:34:GLU:HG3	1.98	0.45
59:DA:308:G:C8	59:DA:501:A:H1'	2.52	0.45
59:DA:332:A:H1'	59:DA:334:C:OP2	2.17	0.45
59:DA:820:A:H2'	59:DA:821:A:O4'	2.16	0.45
59:DA:2605:U:H2'	59:DA:2606:C:C6	2.52	0.45
59:DA:2652:C:H2'	59:DA:2653:U:O4'	2.17	0.45
1:AB:124:SER:O	1:AB:126:GLU:N	2.44	0.45
1:AB:155:LEU:HD11	1:AB:159:PRO:HG3	1.98	0.45
3:AD:22:LYS:O	3:AD:26:CYS:HB3	2.17	0.45
4:AE:18:ARG:HA	20:AA:15:G:H21	1.82	0.45
7:AH:83:ILE:HA	7:AH:136:GLU:O	2.16	0.45
12:AM:15:VAL:HG12	12:AM:45:VAL:HA	1.98	0.45
14:AO:8:LYS:O	14:AO:12:ILE:HG13	2.16	0.45
16:AQ:22:LEU:HD11	16:AQ:39:SER:HB2	1.98	0.45
16:AQ:68:ARG:NH1	20:AA:277:C:H5'	2.31	0.45
16:AQ:98:LEU:HD13	20:AA:279:A:C5	2.51	0.45
20:AA:415:A:H2'	20:AA:416:G:C8	2.51	0.45
20:AA:566:G:H4'	20:AA:567:G:H5'	1.99	0.45
20:AA:1352:C:H2'	20:AA:1353:G:C8	2.51	0.45
21:AW:64:G:N1	21:AW:65:U:C4	2.85	0.45
23:AY:339:SER:C	23:AY:352:VAL:HG13	2.42	0.45
26:BD:9:TYR:HA	59:BA:1695:G:O2'	2.17	0.45
26:BD:172:TYR:OH	59:BA:2218:G:O3'	2.35	0.45
28:BF:157:VAL:HG22	28:BF:198:ALA:HB1	1.98	0.45
34:BO:23:ARG:HA	34:BO:23:ARG:HD2	1.75	0.45
39:BT:107:ASP:N	39:BT:107:ASP:OD1	2.47	0.45
41:BV:24:LYS:CB	59:BA:1162:G:H4'	2.46	0.45
50:B6:15:GLU:HB3	50:B6:20:ASN:HB2	1.98	0.45
59:BA:629:G:H1'	59:BA:639:U:H1'	1.98	0.45
59:BA:682:G:H2'	59:BA:683:C:C6	2.51	0.45
59:BA:1044:G:O3'	59:BA:1047:G:H5'	2.17	0.45
59:BA:1308:A:H2'	59:BA:1309:G:O4'	2.17	0.45
59:BA:1444:G:H2'	59:BA:1445:C:C5	2.52	0.45
59:BA:1700:A:H3'	59:BA:1701:A:H8	1.82	0.45
1:CB:194:PRO:HB2	1:CB:195:ASP:H	1.45	0.45
3:CD:23:GLY:HA3	3:CD:112:VAL:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:CG:61:VAL:HA	6:CG:64:GLN:HB3	1.99	0.45
7:CH:79:VAL:O	7:CH:81:HIS:N	2.49	0.45
10:CK:84:VAL:N	10:CK:109:VAL:O	2.50	0.45
11:CL:43:VAL:HG12	11:CL:44:THR:H	1.82	0.45
12:CM:54:VAL:O	12:CM:58:GLU:HG2	2.17	0.45
16:CQ:22:LEU:HD11	16:CQ:39:SER:HB2	1.98	0.45
20:CA:401:C:O2'	20:CA:621:A:N3	2.46	0.45
20:CA:492:G:H2'	20:CA:493:G:C8	2.51	0.45
20:CA:745:C:H5"	20:CA:851:G:H1'	1.98	0.45
20:CA:920:U:O2'	20:CA:1081:G:O2'	2.30	0.45
20:CA:1010:G:H2'	20:CA:1011:G:C8	2.52	0.45
20:CA:1404:C:O2	20:CA:1519:A:O2'	2.28	0.45
27:DE:172:VAL:HA	27:DE:184:VAL:HA	1.98	0.45
28:DF:124:LEU:O	28:DF:194:MET:HG3	2.16	0.45
32:DK:131:ALA:HB1	32:DK:136:VAL:HG13	1.98	0.45
33:DN:85:ILE:HD12	33:DN:90:MET:HE3	1.98	0.45
34:DO:23:ARG:CG	34:DO:24:VAL:H	2.29	0.45
35:DP:41:ARG:NE	35:DP:45:LEU:HD13	2.31	0.45
36:DQ:87:LYS:HE2	59:DA:955:C:H5"	1.99	0.45
38:DS:105:ALA:O	38:DS:107:GLU:N	2.49	0.45
39:DT:29:ARG:HB3	39:DT:86:ILE:O	2.17	0.45
50:D6:7:ILE:HG23	50:D6:29:ASN:HB2	1.98	0.45
53:D9:7:VAL:CG1	53:D9:34:GLN:HB3	2.47	0.45
59:DA:197:A:H2	59:DA:2434:A:N6	2.15	0.45
59:DA:272:G:H2'	59:DA:273(A):G:H8	1.79	0.45
59:DA:486:C:H2'	59:DA:487:C:C6	2.51	0.45
59:DA:729:G:O2'	59:DA:763:G:H4'	2.16	0.45
59:DA:766:C:H2'	59:DA:767:U:C6	2.52	0.45
59:DA:924:C:H2'	59:DA:925:C:C6	2.51	0.45
59:DA:2663:G:C6	59:DA:2664:G:C4	3.04	0.45
1:AB:70:PHE:HD2	1:AB:81:VAL:HB	1.81	0.45
2:AC:30:ARG:O	2:AC:34:LEU:HG	2.17	0.45
5:AF:63:TYR:N	5:AF:63:TYR:CD2	2.84	0.45
13:AN:17:LYS:HG3	13:AN:18:VAL:N	2.32	0.45
15:AP:68:ASP:O	15:AP:71:ARG:HB3	2.17	0.45
20:AA:699:C:H2'	20:AA:700:G:H5'	1.98	0.45
21:AW:20:U:H4'	21:AW:20(A):U:C6	2.52	0.45
23:AY:21:ILE:O	23:AY:23:ALA:N	2.50	0.45
23:AY:538:TYR:HB3	23:AY:542:VAL:HB	1.99	0.45
23:AY:608:VAL:HG11	23:AY:652:MET:HE1	1.97	0.45
27:BE:8:LYS:HD3	27:BE:192:ASN:HA	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BF:123:LEU:HB3	28:BF:192:LEU:HD12	1.98	0.45
34:BO:63:VAL:HA	34:BO:106:LEU:HD11	1.98	0.45
36:BQ:44:ALA:HA	36:BQ:47:ILE:HB	1.99	0.45
36:BQ:67:ARG:HH11	36:BQ:102:VAL:HB	1.80	0.45
36:BQ:111:GLU:O	36:BQ:115:MET:HG2	2.16	0.45
37:BR:75:LEU:O	37:BR:79:LEU:HB2	2.17	0.45
38:BS:92:TYR:CG	38:BS:93:LYS:N	2.84	0.45
39:BT:28:VAL:HG12	39:BT:29:ARG:N	2.32	0.45
43:BX:44:GLU:CD	43:BX:50:LYS:HA	2.42	0.45
45:BZ:29:TYR:HE1	60:BB:73:A:N6	2.15	0.45
46:B0:22:GLY:H	46:B0:39:ARG:HB2	1.80	0.45
59:BA:24:G:N1	59:BA:516:C:C2	2.65	0.45
59:BA:127:A:H5"	59:BA:128:C:O4'	2.17	0.45
59:BA:182:A:H2'	59:BA:183:C:C6	2.52	0.45
59:BA:392:C:H2'	59:BA:393:C:C6	2.51	0.45
59:BA:579:G:H2'	59:BA:580:C:C6	2.51	0.45
59:BA:1086:A:H3'	59:BA:1086:A:N3	2.32	0.45
59:BA:1375:C:H2'	59:BA:1376:C:H6	1.82	0.45
59:BA:1666:G:H2'	59:BA:1667:G:O4'	2.16	0.45
59:BA:1930:G:N2	59:BA:1968:G:H2'	2.31	0.45
60:BB:13:A:H2'	60:BB:14:U:H5"	1.99	0.45
2:CC:59:ARG:HH12	2:CC:97:LYS:HD3	1.80	0.45
9:CJ:7:LYS:HB3	9:CJ:97:GLU:HB2	1.99	0.45
16:CQ:32:TYR:O	16:CQ:34:LYS:N	2.44	0.45
18:CS:6:LYS:HB3	20:CA:1314:C:H5	1.82	0.45
20:CA:108:G:OP1	20:CA:326:G:N2	2.48	0.45
20:CA:162:A:C8	20:CA:163:C:H1'	2.51	0.45
20:CA:669:U:H2'	20:CA:670:G:H8	1.80	0.45
20:CA:837:G:H1	20:CA:849:C:H42	1.64	0.45
23:CY:354:ARG:HH12	23:CY:378:VAL:HG11	1.81	0.45
23:CY:654:GLY:O	23:CY:657:THR:HG23	2.16	0.45
25:DC:47:LYS:HB2	25:DC:169:THR:O	2.17	0.45
26:DD:264:LYS:HD2	26:DD:266:SER:OG	2.16	0.45
27:DE:93:VAL:HG21	27:DE:180:ASN:HA	1.99	0.45
27:DE:122:PHE:CD2	27:DE:138:PRO:HA	2.52	0.45
30:DH:163:TYR:HE2	30:DH:168:PRO:HB3	1.82	0.45
37:DR:79:LEU:HD22	37:DR:83:ILE:HD12	1.99	0.45
38:DS:95:HIS:NE2	60:DB:48:A:H4'	2.31	0.45
45:DZ:99:TYR:HE2	45:DZ:125:LEU:HD13	1.82	0.45
47:D2:28:LYS:HG3	47:D2:60:LEU:HD11	1.98	0.45
49:D5:33:CYS:HB2	49:D5:49:CYS:HB3	1.67	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:De:79:ARG:C	54:De:81:ILE:H	2.25	0.45
59:DA:35:G:H2'	59:DA:36:G:O4'	2.17	0.45
59:DA:378:C:H2'	59:DA:379:G:C8	2.52	0.45
59:DA:379:G:C6	59:DA:396:G:C6	3.05	0.45
59:DA:401:A:N6	59:DA:422:A:H61	2.04	0.45
59:DA:466:A:H8	59:DA:466:A:O5'	2.00	0.45
59:DA:525:U:H5'	59:DA:556:G:OP1	2.16	0.45
59:DA:634:C:H2'	59:DA:635:C:C6	2.52	0.45
59:DA:900:A:H2'	59:DA:901:A:O4'	2.16	0.45
59:DA:1278:A:H2'	59:DA:1279:G:C8	2.51	0.45
59:DA:1796:U:C2	59:DA:1797:C:C5	3.04	0.45
59:DA:2013:A:H2'	59:DA:2014:A:C8	2.52	0.45
59:DA:2061:G:C2	59:DA:2063:C:C4	3.05	0.45
3:AD:122:ARG:HD3	3:AD:136:PRO:HD3	1.99	0.45
16:AQ:29:HIS:C	16:AQ:31:LEU:H	2.25	0.45
20:AA:490:G:H2'	20:AA:491:G:C8	2.51	0.45
20:AA:553:A:H2'	20:AA:554:C:C6	2.52	0.45
20:AA:834:C:H2'	20:AA:835:U:H6	1.82	0.45
20:AA:1015:A:H1'	20:AA:1218:C:O2'	2.17	0.45
23:AY:213:HIS:O	23:AY:216:LEU:HB3	2.17	0.45
23:AY:315:LYS:HD3	23:AY:316:ILE:N	2.31	0.45
23:AY:519:ARG:NH2	23:AY:678:GLU:H	2.15	0.45
25:BC:41:THR:N	25:BC:217:THR:O	2.50	0.45
25:BC:87:ALA:HB1	25:BC:92:ALA:HB3	1.99	0.45
26:BD:231:HIS:HD1	26:BD:233:HIS:HB2	1.81	0.45
27:BE:4:ILE:HG22	27:BE:198:VAL:HB	1.99	0.45
28:BF:102:PRO:HG3	59:BA:658:C:O2'	2.17	0.45
31:BJ:138:UNK:C	31:BJ:140:UNK:H	2.29	0.45
36:BQ:44:ALA:HA	36:BQ:47:ILE:HD12	1.98	0.45
39:BT:51:ARG:HB3	39:BT:62:THR:CG2	2.42	0.45
40:BU:50:ARG:HH21	59:BA:993:G:H5"	1.81	0.45
43:BX:80:ILE:HG21	59:BA:1341:U:O2	2.17	0.45
44:BY:85:VAL:HG13	44:BY:94:LYS:HB3	1.98	0.45
48:B3:17:LYS:HD3	48:B3:17:LYS:HA	1.82	0.45
52:B8:55:ALA:O	52:B8:59:LYS:NZ	2.50	0.45
54:Be:110:GLU:HB3	54:Be:114:LYS:HE3	1.99	0.45
57:B1:26:ARG:HG3	57:B1:27:GLU:H	1.81	0.45
59:BA:28:A:C2	59:BA:513:A:C8	3.05	0.45
59:BA:38:A:H2	59:BA:441:U:H3	1.60	0.45
59:BA:101:G:H2'	59:BA:101:G:N3	2.32	0.45
59:BA:492:A:H2'	59:BA:493:G:O4'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:629:G:H5"	59:BA:650:C:O2'	2.17	0.45
59:BA:2183:C:H2'	59:BA:2184:G:H8	1.82	0.45
59:BA:2771:C:H2'	59:BA:2772:C:C6	2.52	0.45
2:CC:19:GLU:C	2:CC:40:ARG:HH22	2.23	0.45
4:CE:125:SER:C	4:CE:127:ASN:H	2.25	0.45
5:CF:76:ALA:HB1	5:CF:80:ARG:NH2	2.32	0.45
8:CI:97:LYS:HB2	8:CI:102:LEU:HD12	1.99	0.45
16:CQ:55:ASP:O	16:CQ:57:VAL:HG13	2.15	0.45
19:CT:51:GLU:O	19:CT:55:ILE:HG12	2.17	0.45
20:CA:32:A:H1'	20:CA:48:C:N4	2.32	0.45
20:CA:585:G:H1	20:CA:756:C:N4	2.12	0.45
20:CA:950:U:H2'	20:CA:951:G:C8	2.50	0.45
21:CW:1:G:H22	21:CW:73:A:H1'	1.82	0.45
21:CW:35:A:H2'	21:CW:36:U:C6	2.52	0.45
26:DD:84:TYR:CD2	26:DD:86:PRO:HD3	2.51	0.45
27:DE:51:PHE:H	27:DE:74:PRO:HG3	1.82	0.45
27:DE:109:LYS:HB2	37:DR:2:ARG:NE	2.31	0.45
27:DE:141:ILE:HG13	27:DE:142:GLY:H	1.82	0.45
35:DP:66:GLY:HA3	59:DA:2415:G:O2'	2.16	0.45
36:DQ:20:ALA:C	36:DQ:22:LYS:H	2.25	0.45
37:DR:12:ARG:HG2	37:DR:16:HIS:ND1	2.32	0.45
39:DT:65:LYS:HZ2	39:DT:66:VAL:H	1.63	0.45
40:DU:81:HIS:CE1	59:DA:1151:G:H5"	2.51	0.45
41:DV:64:HIS:CE1	41:DV:92:THR:HG23	2.52	0.45
46:D0:27:GLU:HG3	46:D0:69:PHE:HE1	1.82	0.45
46:D0:27:GLU:H	46:D0:69:PHE:HE1	1.65	0.45
54:De:62:VAL:HG11	54:De:92:LEU:HD22	1.98	0.45
58:D4:9:LEU:HD22	58:D4:9:LEU:HA	1.87	0.45
59:DA:1652:A:H2'	59:DA:1653:G:O4'	2.16	0.45
59:DA:1703:G:H2'	59:DA:1704:G:H8	1.82	0.45
59:DA:1786:A:C8	59:DA:1938:A:C6	3.05	0.45
1:AB:141:GLU:O	1:AB:145:LEU:HB2	2.16	0.45
1:AB:171:ALA:HA	1:AB:174:VAL:H	1.82	0.45
2:AC:43:LEU:HD22	2:AC:47:LEU:HD22	1.98	0.45
2:AC:119:ARG:O	2:AC:123:GLN:HG2	2.17	0.45
2:AC:178:LEU:HD23	20:AA:1112:C:H42	1.82	0.45
4:AE:70:PRO:HG2	4:AE:142:LEU:HD22	1.98	0.45
9:AJ:45:ARG:HG3	20:AA:1254:C:OP1	2.17	0.45
15:AP:28:ARG:HB3	15:AP:28:ARG:CZ	2.45	0.45
18:AS:49:ILE:HD12	18:AS:60:VAL:HG13	1.99	0.45
19:AT:38:LYS:HA	19:AT:41:ILE:HG22	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:226:G:H2'	20:AA:227:G:H8	1.81	0.45
20:AA:358:U:OP1	23:AY:381:LYS:NZ	2.42	0.45
20:AA:519:C:N4	20:AA:520:A:C6	2.84	0.45
20:AA:691:G:H1'	20:AA:696:A:H61	1.82	0.45
20:AA:860:A:H2'	20:AA:861:G:O4'	2.17	0.45
20:AA:1253:G:H1'	20:AA:1355:G:O2'	2.17	0.45
23:AY:137:ASN:ND2	23:AY:263:ALA:N	2.56	0.45
25:BC:65:LEU:HA	25:BC:66:PRO:HD2	1.75	0.45
26:BD:78:LYS:O	26:BD:79:VAL:O	2.35	0.45
26:BD:206:LEU:HB2	59:BA:1791:A:O3'	2.17	0.45
26:BD:208:LYS:HG3	26:BD:210:GLY:N	2.31	0.45
30:BH:155:SER:O	30:BH:157:TYR:N	2.50	0.45
32:BK:30:HIS:CD2	32:BK:30:HIS:C	2.95	0.45
35:BP:50:ARG:NH1	59:BA:251:A:OP1	2.41	0.45
37:BR:104:ARG:HD3	37:BR:109:ALA:HB3	1.99	0.45
39:BT:53:ARG:NH1	59:BA:2684:U:OP1	2.50	0.45
42:BW:80:PRO:HB3	59:BA:26:G:OP1	2.16	0.45
51:B7:10:ARG:HG3	59:BA:125:G:C5	2.52	0.45
59:BA:414:C:H2'	59:BA:415:A:C8	2.52	0.45
59:BA:531:C:H5"	59:BA:532:A:C5	2.51	0.45
59:BA:648:G:H2'	59:BA:649:G:C8	2.49	0.45
59:BA:679:C:H2'	59:BA:680:G:C8	2.52	0.45
59:BA:820:A:N3	59:BA:943:U:H4'	2.32	0.45
59:BA:1025:G:H8	59:BA:1025:G:OP1	1.99	0.45
59:BA:1675:C:C2	59:BA:1676:A:C8	3.04	0.45
59:BA:2376:A:H2'	59:BA:2377:A:O4'	2.16	0.45
59:BA:2822:G:H2'	59:BA:2823:A:H5"	1.97	0.45
6:CG:94:ARG:O	6:CG:97:GLN:HB3	2.17	0.45
10:CK:86:GLY:HA2	10:CK:112:THR:HG23	1.99	0.45
15:CP:55:ARG:O	15:CP:58:TYR:HB3	2.16	0.45
16:CQ:15:MET:SD	20:CA:276:G:H5'	2.56	0.45
20:CA:487:A:H2'	20:CA:488:C:O4'	2.17	0.45
20:CA:1288:A:N3	20:CA:1352:C:O2'	2.47	0.45
23:CY:13:ARG:HD3	23:CY:79:ILE:HG13	1.98	0.45
23:CY:20:HIS:CG	23:CY:21:ILE:N	2.81	0.45
23:CY:379:GLY:HA2	23:CY:381:LYS:HZ2	1.82	0.45
23:CY:566:THR:HG22	23:CY:567:LEU:N	2.24	0.45
27:DE:37:ARG:NH2	59:DA:2784:C:O2	2.50	0.45
28:DF:137:LYS:HE2	28:DF:137:LYS:HB3	1.87	0.45
28:DF:156:LEU:H	28:DF:176:LEU:N	2.15	0.45
34:DO:22:ILE:HG12	34:DO:42:SER:HB3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:DR:26:LYS:HZ3	59:DA:1294:U:H5"	1.80	0.45
41:DV:72:VAL:HG23	41:DV:85:LYS:HB2	1.99	0.45
41:DV:77:ALA:C	41:DV:79:VAL:H	2.22	0.45
42:DW:11:ARG:HB3	42:DW:12:ILE:HD12	1.99	0.45
42:DW:61:ASN:ND2	59:DA:496:G:O4'	2.50	0.45
44:DY:95:LYS:HD3	44:DY:100:ALA:HA	1.98	0.45
54:De:114:LYS:O	54:De:116:GLU:HG3	2.17	0.45
59:DA:270(F):G:H2'	59:DA:270(G):U:H6	1.82	0.45
59:DA:432:A:H2'	59:DA:433:C:C6	2.52	0.45
59:DA:488:G:H1'	59:DA:492:A:H61	1.82	0.45
59:DA:575:A:O2'	59:DA:2501:C:OP1	2.35	0.45
59:DA:692:C:N4	59:DA:770:G:H1	2.15	0.45
59:DA:930:U:H4'	59:DA:931:G:O4'	2.17	0.45
59:DA:1008:C:H1'	59:DA:1009:A:C8	2.52	0.45
59:DA:1131:G:C8	59:DA:2025:C:H4'	2.52	0.45
59:DA:1782:C:H1'	59:DA:2609:U:H5'	1.98	0.45
2:AC:49:SER:OG	2:AC:83:ARG:NH2	2.42	0.45
2:AC:174:PRO:HA	20:AA:1108:G:P	2.57	0.45
4:AE:36:ASP:OD1	4:AE:40:ARG:N	2.50	0.45
5:AF:18:GLN:O	5:AF:21:LEU:HB3	2.17	0.45
6:AG:102:ARG:O	6:AG:106:GLN:HG2	2.15	0.45
11:AL:10:LEU:HB3	16:AQ:32:TYR:CZ	2.52	0.45
13:AN:34:TYR:N	13:AN:39:LEU:O	2.50	0.45
14:AO:41:GLU:HA	14:AO:44:LYS:HG3	1.98	0.45
20:AA:151:A:H62	20:AA:170:U:H3	1.64	0.45
20:AA:195:A:N3	20:AA:222:U:O2'	2.44	0.45
20:AA:961:U:H3	20:AA:1201:A:H2	1.64	0.45
20:AA:1102:A:H2'	20:AA:1103:C:C6	2.51	0.45
20:AA:1424:C:H2'	20:AA:1425:U:O4'	2.17	0.45
21:AW:18:G:N2	21:AW:58:A:O4'	2.50	0.45
23:AY:416:LYS:HG2	23:AY:417:THR:HG23	1.98	0.45
23:AY:534:ILE:HG13	23:AY:570:GLY:HA3	1.99	0.45
25:BC:121:MET:O	25:BC:122:GLY:C	2.59	0.45
26:BD:76:PRO:HA	26:BD:118:VAL:HB	1.98	0.45
27:BE:47:VAL:HG12	27:BE:49:LEU:HD13	1.98	0.45
27:BE:64:LYS:HZ3	27:BE:67:PHE:HB2	1.82	0.45
27:BE:136:ARG:O	59:BA:1656:C:H5"	2.17	0.45
28:BF:12:LEU:HD22	28:BF:12:LEU:HA	1.82	0.45
31:BJ:52:UNK:HA	31:BJ:81:UNK:HA	1.99	0.45
34:BO:47:ILE:HA	34:BO:48:PRO:HD2	1.52	0.45
44:BY:45:VAL:HG13	44:BY:61:ILE:HA	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BZ:30:ASN:O	45:BZ:32:HIS:N	2.43	0.45
45:BZ:93:ASP:HA	45:BZ:130:PRO:HB2	1.99	0.45
46:B0:27:GLU:H	46:B0:27:GLU:CD	2.24	0.45
57:B1:45:ASN:CB	57:B1:64:ALA:HB2	2.44	0.45
57:B1:49:VAL:O	57:B1:60:PHE:HB2	2.17	0.45
59:BA:352:G:N2	59:BA:354:G:H3'	2.33	0.45
59:BA:609(A):A:H62	59:BA:619:G:H21	1.65	0.45
59:BA:836:G:H2'	59:BA:837:C:C6	2.52	0.45
59:BA:934:G:H2'	59:BA:935:C:H6	1.81	0.45
59:BA:1295:C:H2'	59:BA:1296:G:O4'	2.17	0.45
59:BA:1583:A:N6	20:CA:838(B):C:OP1	2.50	0.45
59:BA:1652:A:H3'	59:BA:1653:G:C8	2.51	0.45
59:BA:1930:G:O2'	59:BA:1968:G:N1	2.43	0.45
59:BA:2043:C:OP1	59:BA:2777:G:O2'	2.27	0.45
59:BA:2134:A:H2	59:BA:2159:G:O2'	2.00	0.45
59:BA:2468:G:O2'	59:BA:2469:A:H5"	2.17	0.45
59:BA:2512:C:H2'	59:BA:2513:G:O4'	2.16	0.45
60:BB:49:C:H2'	60:BB:50:G:C8	2.52	0.45
3:CD:12:CYS:HA	3:CD:19:LEU:HD13	1.99	0.45
3:CD:13:ARG:HD3	3:CD:40:PRO:HB3	1.98	0.45
4:CE:19:MET:CG	20:CA:15:G:H1'	2.47	0.45
4:CE:45:PHE:CZ	4:CE:47:LYS:HG3	2.51	0.45
6:CG:15:ASP:HB2	6:CG:20:ASP:O	2.17	0.45
13:CN:47:LEU:HA	13:CN:47:LEU:HD23	1.73	0.45
20:CA:296:U:H1'	20:CA:556:C:H1'	1.98	0.45
20:CA:730:G:H5'	20:CA:816:A:O2'	2.16	0.45
20:CA:869:G:O2'	20:CA:872:A:N7	2.49	0.45
20:CA:1268:A:H1'	20:CA:1327:C:H5'	1.98	0.45
23:CY:137:ASN:HA	23:CY:261:GLY:O	2.17	0.45
25:DC:104:ILE:HG23	25:DC:111:PHE:HZ	1.81	0.45
27:DE:119:ARG:HD2	27:DE:120:TRP:CD1	2.51	0.45
28:DF:206:ILE:HG22	28:DF:208:GLY:H	1.82	0.45
32:DK:117:THR:C	32:DK:119:ASP:H	2.25	0.45
34:DO:91:LEU:C	34:DO:92:GLU:HG3	2.41	0.45
35:DP:60:MET:O	59:DA:2392:A:O2'	2.31	0.45
37:DR:4:LEU:C	37:DR:6:SER:H	2.20	0.45
38:DS:27:SER:H	38:DS:40:ILE:HG22	1.81	0.45
39:DT:55:ASN:ND2	39:DT:55:ASN:O	2.50	0.45
43:DX:29:TRP:HZ3	43:DX:76:ARG:HH21	1.63	0.45
43:DX:29:TRP:HA	43:DX:78:LYS:HA	1.99	0.45
45:DZ:144:LEU:HG	45:DZ:150:LEU:HD22	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:D7:27:GLY:O	51:D7:31:LEU:HG	2.16	0.45
59:DA:27:G:H1'	59:DA:513:A:H61	1.82	0.45
59:DA:184:C:H4'	59:DA:217:G:N2	2.32	0.45
59:DA:352:G:H21	59:DA:354:G:H3'	1.82	0.45
59:DA:573:G:N1	59:DA:2031:A:OP2	2.49	0.45
59:DA:787:U:H3'	59:DA:791:C:H41	1.82	0.45
59:DA:1028:A:N3	59:DA:2486:G:O2'	2.47	0.45
59:DA:1036:G:H2'	59:DA:1037:G:C8	2.52	0.45
59:DA:1418:G:H1'	59:DA:1580:A:H61	1.82	0.45
59:DA:2454:G:H1	59:DA:2498:C:N4	2.13	0.45
1:AB:179:LYS:NZ	20:AA:1075:C:H5"	2.31	0.44
3:AD:190:ASP:H	3:AD:193:ASP:CG	2.25	0.44
4:AE:29:GLY:HA2	4:AE:46:GLY:O	2.17	0.44
5:AF:63:TYR:N	5:AF:63:TYR:HD2	2.15	0.44
6:AG:30:ILE:HD13	6:AG:43:PHE:HB2	1.98	0.44
11:AL:15:ARG:O	20:AA:562:C:O2'	2.34	0.44
11:AL:22:SER:C	11:AL:24:VAL:H	2.25	0.44
12:AM:5:ALA:O	12:AM:7:VAL:N	2.50	0.44
20:AA:32:A:H1'	20:AA:48:C:H41	1.82	0.44
20:AA:152:A:H3'	20:AA:153:C:C6	2.52	0.44
20:AA:198:G:H1	20:AA:219:C:H42	1.65	0.44
20:AA:551:U:H2'	20:AA:552:U:C6	2.52	0.44
20:AA:838(A):U:O2'	20:AA:838(B):C:H5"	2.16	0.44
20:AA:1317:C:H3'	20:AA:1318:A:H8	1.82	0.44
23:AY:22:ASP:O	62:AY:702:GDP:O3B	2.35	0.44
23:AY:24:GLY:O	62:AY:702:GDP:O2A	2.35	0.44
61:AY:701:FUA:H322	61:AY:701:FUA:H16	1.75	0.44
28:BF:40:GLN:OE1	28:BF:183:VAL:HG23	2.17	0.44
28:BF:47:GLY:C	28:BF:49:ALA:H	2.25	0.44
28:BF:66:PRO:O	28:BF:67:GLN:HB2	2.16	0.44
34:BO:23:ARG:HG3	34:BO:24:VAL:H	1.83	0.44
37:BR:33:ARG:CZ	37:BR:116:LEU:HD12	2.48	0.44
40:BU:51:LYS:HD2	40:BU:51:LYS:N	2.32	0.44
43:BX:43:VAL:HG11	43:BX:51:VAL:HG21	2.00	0.44
44:BY:91:GLU:HG2	44:BY:92:ASN:H	1.83	0.44
57:B1:19:GLN:NE2	59:BA:2233:U:OP2	2.50	0.44
59:BA:842:G:H2'	59:BA:843:G:C8	2.50	0.44
59:BA:1809:A:H2'	59:BA:1810:A:C8	2.52	0.44
59:BA:1810:A:H8	59:BA:1810:A:O5'	1.99	0.44
59:BA:2259:G:H2'	59:BA:2260:C:H6	1.80	0.44
59:BA:2378:A:O5'	59:BA:2378:A:H8	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CB:157:ARG:NH1	1:CB:157:ARG:HB3	2.32	0.44
2:CC:204:LEU:HA	2:CC:204:LEU:HD22	1.70	0.44
6:CG:54:THR:OG1	6:CG:55:GLY:N	2.41	0.44
20:CA:223:U:H2'	20:CA:224:C:O4'	2.17	0.44
20:CA:359:U:H2'	20:CA:360:A:C8	2.52	0.44
20:CA:595:G:H21	20:CA:596:C:N4	2.16	0.44
23:CY:75:LYS:C	23:CY:77:HIS:H	2.25	0.44
26:DD:44:ASN:OD1	26:DD:45:ASN:N	2.50	0.44
28:DF:77:ASP:C	28:DF:79:GLY:H	2.25	0.44
28:DF:135:LYS:HB3	28:DF:138:GLU:HG3	1.99	0.44
30:DH:96:ALA:HB3	30:DH:128:PRO:HA	1.99	0.44
30:DH:176:ALA:HB1	59:DA:2529:G:C5'	2.47	0.44
35:DP:71:VAL:H	35:DP:72:PRO:CD	2.30	0.44
35:DP:131:SER:HB3	35:DP:134:ALA:HB3	1.99	0.44
39:DT:114:LEU:HA	39:DT:114:LEU:HD23	1.64	0.44
43:DX:15:GLU:HA	43:DX:18:TYR:CD2	2.52	0.44
45:DZ:118:GLN:N	45:DZ:173:ALA:O	2.50	0.44
45:DZ:139:VAL:HG12	45:DZ:155:LEU:HB2	1.99	0.44
57:D1:76:ARG:NH2	57:D1:94:LEU:O	2.45	0.44
59:DA:135:G:H1	59:DA:144:C:H42	1.65	0.44
59:DA:419:C:H2'	59:DA:420:C:O4'	2.17	0.44
59:DA:675:A:N3	59:DA:2443:C:O2'	2.38	0.44
59:DA:1102:C:C2	59:DA:1103:A:C8	3.05	0.44
59:DA:1967:C:H2'	59:DA:1968:G:O4'	2.18	0.44
59:DA:2367:G:H2'	59:DA:2368:C:C6	2.52	0.44
59:DA:2730:C:H2'	59:DA:2731:G:C8	2.52	0.44
59:DA:2825:U:H2'	59:DA:2826:A:O4'	2.17	0.44
3:AD:105:VAL:HG21	3:AD:126:ILE:HG13	1.99	0.44
4:AE:78:HIS:O	4:AE:93:PRO:HD3	2.18	0.44
5:AF:46:ARG:NH2	17:AR:37:VAL:HG21	2.32	0.44
20:AA:67:C:H2'	20:AA:68:G:H8	1.77	0.44
20:AA:757:U:H1'	20:AA:879:C:H1'	1.99	0.44
20:AA:794:A:H4'	20:AA:1521:G:O2'	2.17	0.44
20:AA:1134:G:H2'	20:AA:1135:U:O4'	2.18	0.44
20:AA:1135:U:H2'	20:AA:1137:C:O4'	2.17	0.44
20:AA:1170:A:H8	20:AA:1170:A:O5'	2.00	0.44
23:AY:27:THR:HA	23:AY:30:GLU:HB3	1.99	0.44
23:AY:91:THR:HG22	23:AY:95:GLU:HG2	1.99	0.44
23:AY:547:GLU:O	23:AY:551:GLN:NE2	2.48	0.44
25:BC:166:ASN:HA	25:BC:170:GLY:HA2	1.99	0.44
26:BD:9:TYR:HD2	59:BA:705:A:H1'	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BD:42:GLY:C	26:BD:44:ASN:H	2.25	0.44
26:BD:157:ARG:HH22	59:BA:1817:G:H3'	1.82	0.44
26:BD:165:ILE:HG23	26:BD:175:LEU:HD23	1.99	0.44
26:BD:273:ARG:HB3	26:BD:274:ARG:H	1.51	0.44
28:BF:129:PHE:CE1	28:BF:193:VAL:HG12	2.49	0.44
30:BH:19:VAL:HG23	30:BH:45:VAL:HG23	1.98	0.44
30:BH:126:PRO:HB2	30:BH:127:GLU:OE1	2.18	0.44
35:BP:112:LEU:HD22	35:BP:113:LYS:N	2.32	0.44
36:BQ:66:ILE:H	36:BQ:66:ILE:HD13	1.83	0.44
37:BR:97:VAL:HG22	37:BR:114:VAL:HA	1.99	0.44
37:BR:100:LEU:HD13	37:BR:101:ALA:N	2.32	0.44
39:BT:54:ARG:HA	39:BT:59:THR:CB	2.48	0.44
40:BU:92:ARG:HH11	41:BV:4:ILE:HG23	1.82	0.44
54:Be:79:ARG:C	54:Be:81:ILE:H	2.25	0.44
57:B1:20:ARG:NH2	57:B1:24:ALA:HB2	2.33	0.44
59:BA:198:C:O5'	59:BA:198:C:H6	2.00	0.44
59:BA:414:C:H2'	59:BA:415:A:H8	1.81	0.44
59:BA:2076:U:OP2	59:BA:2238:G:N2	2.42	0.44
59:BA:2300:G:H2'	59:BA:2301:C:C6	2.53	0.44
59:BA:2663:G:H3'	59:BA:2664:G:H8	1.82	0.44
59:BA:2888:C:H2'	59:BA:2889:C:C6	2.51	0.44
3:CD:31:CYS:C	3:CD:33:MET:H	2.26	0.44
3:CD:73:ARG:HB2	20:CA:546:G:OP1	2.17	0.44
5:CF:87:ARG:HH22	20:CA:674:G:P	2.40	0.44
6:CG:150:ALA:O	10:CK:96:ARG:NH1	2.50	0.44
13:CN:47:LEU:HB3	13:CN:53:LEU:HG	1.99	0.44
17:CR:33:ASP:C	17:CR:35:ARG:H	2.25	0.44
17:CR:49:LYS:HB3	20:CA:719:C:O2'	2.18	0.44
19:CT:21:LYS:NZ	20:CA:103:C:H5"	2.31	0.44
20:CA:62:U:OP1	20:CA:385:C:O2'	2.34	0.44
20:CA:177:C:H2'	20:CA:178:C:C6	2.51	0.44
20:CA:530:G:O6	22:CV:24:A:H4'	2.17	0.44
20:CA:863:U:H2'	20:CA:865:A:OP2	2.17	0.44
20:CA:1004:A:H8	20:CA:1036:G:H1	1.63	0.44
20:CA:1006:C:H2'	20:CA:1007:C:H6	1.83	0.44
20:CA:1323:G:H2'	20:CA:1324:A:C8	2.52	0.44
23:CY:301:ILE:HG22	23:CY:332:SER:HB2	1.99	0.44
26:DD:63:ARG:CZ	26:DD:86:PRO:HD2	2.47	0.44
27:DE:5:LEU:HD23	27:DE:5:LEU:HA	1.84	0.44
28:DF:36:VAL:O	28:DF:39:TRP:HB3	2.17	0.44
28:DF:126:VAL:HG21	28:DF:142:TRP:CZ2	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:DF:153:SER:HA	28:DF:172:TRP:O	2.17	0.44
29:DG:47:LYS:HA	29:DG:82:LEU:HG	1.98	0.44
33:DN:36:GLY:O	33:DN:42:TRP:HB2	2.17	0.44
33:DN:56:ASN:HA	33:DN:125:GLY:H	1.82	0.44
33:DN:76:SER:OG	33:DN:81:GLY:HA3	2.18	0.44
33:DN:127:ASP:N	33:DN:127:ASP:OD1	2.50	0.44
33:DN:137:LYS:HB3	33:DN:138:LEU:H	1.69	0.44
41:DV:7:THR:HG23	41:DV:12:TYR:HD2	1.82	0.44
41:DV:72:VAL:HG11	59:DA:992:C:O3'	2.17	0.44
45:DZ:76:LEU:HD22	45:DZ:83:PRO:HA	1.99	0.44
46:D0:75:LEU:HD21	59:DA:2334:G:C2	2.52	0.44
59:DA:270(G):U:H2'	59:DA:270(H):C:C6	2.52	0.44
59:DA:709:U:H2'	59:DA:710:G:H8	1.82	0.44
59:DA:781:A:H2'	59:DA:1777:U:H1'	1.98	0.44
59:DA:1264:G:H2'	59:DA:1265:A:C8	2.53	0.44
59:DA:2872:G:O2'	59:DA:2873:A:O4'	2.28	0.44
3:AD:105:VAL:HG21	3:AD:121:VAL:HG22	1.98	0.44
5:AF:84:ASN:O	5:AF:86:ARG:N	2.48	0.44
7:AH:103:VAL:HG11	7:AH:109:ILE:H	1.81	0.44
11:AL:15:ARG:NH1	20:AA:563:A:N3	2.65	0.44
16:AQ:15:MET:HE3	16:AQ:15:MET:HB2	1.86	0.44
17:AR:19:LYS:HB3	17:AR:20:ALA:H	1.61	0.44
18:AS:15:LEU:HD23	18:AS:15:LEU:HA	1.75	0.44
20:AA:447:G:H2'	20:AA:485:G:N2	2.31	0.44
20:AA:582:U:H2'	20:AA:583:A:C8	2.52	0.44
20:AA:691:G:H1'	20:AA:696:A:N6	2.32	0.44
20:AA:881:G:H2'	20:AA:882:C:H6	1.81	0.44
20:AA:1152:A:H2'	20:AA:1153:C:H6	1.81	0.44
20:AA:1260:C:N4	20:AA:1274:G:H1	2.15	0.44
20:AA:1285:A:H5'	20:AA:1286:A:C8	2.51	0.44
23:AY:147:TRP:O	23:AY:151:ARG:HB2	2.17	0.44
23:AY:548:GLU:C	23:AY:550:MET:H	2.24	0.44
23:AY:604:PRO:HA	23:AY:676:TYR:HB3	1.99	0.44
26:BD:219:PRO:HB3	59:BA:1790:C:H5'	2.00	0.44
27:BE:122:PHE:CZ	59:BA:2512:C:H4'	2.51	0.44
28:BF:171:PRO:HB3	59:BA:323:G:C8	2.51	0.44
35:BP:16:ARG:HD2	35:BP:18:ARG:HG2	1.98	0.44
35:BP:35:HIS:CE1	59:BA:941:A:H4'	2.52	0.44
35:BP:126:VAL:HA	35:BP:145:PRO:HG2	1.98	0.44
36:BQ:51:ARG:HD2	36:BQ:54:MET:HE1	1.98	0.44
37:BR:102:GLU:O	37:BR:103:ARG:HB2	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BS:99:LYS:O	38:BS:101:LEU:N	2.50	0.44
49:B5:38:ALA:HB3	49:B5:49:CYS:SG	2.58	0.44
57:B1:22:GLY:HA2	57:B1:38:SER:H	1.82	0.44
59:BA:679:C:H2'	59:BA:680:G:H8	1.82	0.44
59:BA:718:A:H3'	59:BA:719:C:H6	1.83	0.44
59:BA:954:G:O2'	59:BA:2274:A:N1	2.37	0.44
59:BA:1035:U:H2'	59:BA:1036:G:H8	1.82	0.44
59:BA:1081:U:H2'	59:BA:1082:U:C6	2.52	0.44
59:BA:1097:U:H2'	59:BA:1098:A:H5'	2.00	0.44
59:BA:1121:C:H2'	59:BA:1122:G:O4'	2.18	0.44
59:BA:1305:C:N4	59:BA:1623:G:H1	2.13	0.44
59:BA:1312:U:H4'	59:BA:1313:U:O5'	2.17	0.44
59:BA:1389:G:H2'	59:BA:1390:U:O4'	2.16	0.44
59:BA:1690:A:H2'	59:BA:1691:C:O4'	2.17	0.44
59:BA:2726:U:O2'	59:BA:2727:G:H8	2.00	0.44
59:BA:2822:G:N2	59:BA:2824:C:OP1	2.51	0.44
6:CG:15:ASP:HB3	6:CG:19:GLY:N	2.30	0.44
6:CG:102:ARG:NH2	20:CA:939:G:H5"	2.32	0.44
7:CH:95:VAL:HG21	7:CH:133:LEU:HD22	1.98	0.44
8:CI:107:ARG:NH2	20:CA:1346:A:N3	2.66	0.44
15:CP:58:TYR:C	15:CP:58:TYR:CD1	2.95	0.44
20:CA:184:G:H1	20:CA:193:C:N4	2.14	0.44
20:CA:186(E):C:N3	20:CA:186(L):G:N2	2.55	0.44
20:CA:864:A:H2'	20:CA:865:A:C8	2.52	0.44
25:DC:82:GLU:HG3	25:DC:83:LYS:HD3	1.98	0.44
25:DC:118:PRO:HD3	25:DC:147:GLY:CA	2.46	0.44
29:DG:46:ALA:HA	29:DG:53:LEU:HD23	1.99	0.44
30:DH:85:LYS:CE	30:DH:141:VAL:HG13	2.47	0.44
30:DH:89:ILE:HG22	30:DH:162:ILE:HG23	1.99	0.44
31:DJ:35:UNK:O	31:DJ:39:UNK:N	2.50	0.44
32:DK:103:GLN:O	32:DK:107:ILE:HG12	2.17	0.44
36:DQ:30:GLY:HA2	36:DQ:107:ALA:HB2	1.98	0.44
45:DZ:81:ARG:HE	45:DZ:81:ARG:HB2	1.56	0.44
59:DA:219:G:C6	59:DA:220:G:C6	3.06	0.44
59:DA:227:A:C6	59:DA:2407:G:H1'	2.52	0.44
59:DA:443:A:H1'	59:DA:1201:C:C1'	2.47	0.44
59:DA:557:U:H2'	59:DA:558:G:H8	1.75	0.44
59:DA:822:U:O4	59:DA:944:G:H8	2.01	0.44
59:DA:1258:C:H2'	59:DA:1259:G:C8	2.52	0.44
59:DA:149(B):A:H2'	59:DA:1449:G:O4'	2.17	0.44
59:DA:2001:A:H4'	59:DA:2689:U:C2	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:DB:40:U:H3'	60:DB:41:U:C5'	2.45	0.44
6:AG:75:VAL:HG22	6:AG:88:PRO:HB3	2.00	0.44
6:AG:102:ARG:HD3	20:AA:940:C:OP1	2.18	0.44
8:AI:48:GLU:N	8:AI:49:PRO:HD2	2.33	0.44
16:AQ:46:ASP:OD2	16:AQ:50:LYS:HG2	2.17	0.44
20:AA:26:A:N6	20:AA:558:G:H1'	2.32	0.44
20:AA:32:A:H1'	20:AA:48:C:N4	2.32	0.44
20:AA:149:A:H2'	20:AA:150:C:H6	1.83	0.44
23:AY:344:THR:OG1	23:AY:390:VAL:HG13	2.17	0.44
23:AY:437:THR:OG1	23:AY:438:PHE:N	2.50	0.44
25:BC:14:LYS:HE2	25:BC:14:LYS:HB3	1.79	0.44
25:BC:161:ARG:O	25:BC:161:ARG:HD3	2.17	0.44
27:BE:29:GLY:HA2	27:BE:180:ASN:HB3	1.98	0.44
27:BE:48:GLN:HA	27:BE:79:ARG:O	2.18	0.44
27:BE:146:THR:O	59:BA:2571:C:O2'	2.35	0.44
28:BF:100:THR:O	59:BA:659:C:H4'	2.17	0.44
28:BF:107:LYS:NZ	59:BA:618(A):G:H5"	2.32	0.44
28:BF:131:GLY:HA2	28:BF:138:GLU:HB3	1.98	0.44
28:BF:155:LEU:O	28:BF:191:ARG:O	2.35	0.44
31:BJ:23:UNK:O	31:BJ:84:UNK:C	2.66	0.44
31:BJ:36:UNK:O	31:BJ:40:UNK:N	2.51	0.44
33:BN:61:ARG:NH1	33:BN:61:ARG:HG2	2.32	0.44
37:BR:50:HIS:CE1	37:BR:54:LEU:HD11	2.52	0.44
38:BS:70:GLY:O	38:BS:73:LEU:HB3	2.17	0.44
39:BT:50:ILE:HG12	39:BT:99:LEU:HB2	1.99	0.44
44:BY:49:VAL:HG12	44:BY:50:ARG:H	1.83	0.44
45:BZ:44:PHE:CE1	45:BZ:88:PHE:HZ	2.36	0.44
57:B1:12:PRO:CA	57:B1:43:TYR:HB2	2.47	0.44
59:BA:685:A:H5"	59:BA:774:A:H61	1.82	0.44
59:BA:854:G:H1	59:BA:923:C:H42	1.66	0.44
59:BA:1131:G:OP2	59:BA:2515:C:H4'	2.18	0.44
59:BA:1603:A:H2'	59:BA:1603:A:N3	2.32	0.44
59:BA:1765:C:H2'	59:BA:1766:U:H6	1.83	0.44
59:BA:1817:G:H2'	59:BA:1818:U:H5'	1.99	0.44
59:BA:1902:C:H2'	59:BA:1903:G:O4'	2.17	0.44
59:BA:1952:A:C6	59:BA:1953:A:N1	2.86	0.44
59:BA:2599:G:H2'	59:BA:2600:A:H8	1.82	0.44
59:BA:2849:U:H1'	59:BA:2866:U:H6	1.82	0.44
1:CB:70:PHE:O	1:CB:93:VAL:N	2.43	0.44
1:CB:198:ASP:HA	7:CH:68:ARG:NH2	2.32	0.44
3:CD:30:LYS:N	3:CD:30:LYS:HE2	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CD:190:ASP:H	3:CD:193:ASP:HB2	1.83	0.44
5:CF:80:ARG:HE	5:CF:80:ARG:HB2	1.44	0.44
7:CH:21:LYS:O	7:CH:63:LEU:HD21	2.18	0.44
14:CO:70:LEU:HG	14:CO:78:TYR:HB2	2.00	0.44
20:CA:140:A:H2'	20:CA:141:A:H8	1.82	0.44
20:CA:257:G:N2	20:CA:269:C:N3	2.54	0.44
20:CA:405:U:H5"	20:CA:406:G:O4'	2.18	0.44
20:CA:745:C:H2'	20:CA:746:A:C8	2.53	0.44
20:CA:939:G:H2'	20:CA:940:C:C6	2.52	0.44
20:CA:1198:G:H2'	20:CA:1199:U:C6	2.52	0.44
20:CA:1200:C:O2'	20:CA:1201:A:OP2	2.32	0.44
20:CA:1440(J):C:O2'	20:CA:1440(K):G:H5"	2.17	0.44
23:CY:427:ALA:HB1	23:CY:466:LEU:HD11	1.99	0.44
23:CY:461:ILE:HA	23:CY:464:ASP:HB3	1.99	0.44
25:DC:173:HIS:O	25:DC:174:ALA:C	2.60	0.44
27:DE:156:MET:HB3	27:DE:156:MET:HE3	1.56	0.44
28:DF:66:PRO:HB2	28:DF:67:GLN:H	1.61	0.44
28:DF:108:LYS:NZ	59:DA:601:C:H5'	2.32	0.44
29:DG:76:SER:HA	29:DG:83:ARG:HA	1.99	0.44
31:DJ:24:UNK:HA	31:DJ:84:UNK:O	2.18	0.44
33:DN:74:ARG:HG3	33:DN:74:ARG:NH1	2.14	0.44
33:DN:128:HIS:NE2	33:DN:130:HIS:HA	2.33	0.44
34:DO:28:SER:O	59:DA:2547:U:H1'	2.17	0.44
38:DS:16:ASN:ND2	38:DS:20:ARG:HH22	2.15	0.44
39:DT:59:THR:HG23	39:DT:78:LEU:HD23	2.00	0.44
40:DU:54:LYS:HE3	59:DA:994:C:H3'	1.98	0.44
47:D2:48:HIS:HB3	59:DA:95:G:O2'	2.17	0.44
50:D6:14:THR:O	50:D6:49:HIS:HA	2.17	0.44
51:D7:16:HIS:ND1	59:DA:684:G:OP1	2.51	0.44
51:D7:23:ARG:O	51:D7:28:ARG:NH1	2.51	0.44
57:D1:91:LYS:HA	57:D1:94:LEU:HD22	1.97	0.44
58:D4:9:LEU:HB3	58:D4:10:VAL:H	1.61	0.44
59:DA:537:C:H2'	59:DA:539:G:C8	2.53	0.44
59:DA:584:C:H2'	59:DA:585:G:C8	2.53	0.44
59:DA:658:C:H2'	59:DA:659:C:O4'	2.18	0.44
59:DA:846:C:C2	59:DA:847:U:H5	2.35	0.44
59:DA:1016:G:C2	59:DA:1017:G:C8	3.05	0.44
59:DA:1889:A:H1'	59:DA:2087:G:O4'	2.17	0.44
59:DA:1889:A:N3	59:DA:2086:U:O2'	2.42	0.44
59:DA:2002:G:H2'	59:DA:2003:G:C8	2.52	0.44
59:DA:2521:C:H2'	59:DA:2522:U:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2629:A:O2'	59:DA:2895:U:O4	2.28	0.44
1:AB:20:GLU:HG3	1:AB:191:ASP:N	2.32	0.44
3:AD:12:CYS:SG	3:AD:21:LEU:HD12	2.58	0.44
5:AF:100:ASN:ND2	17:AR:23:LYS:HG2	2.32	0.44
6:AG:78:ARG:HD3	6:AG:154:TYR:O	2.18	0.44
6:AG:91:VAL:HB	6:AG:96:GLN:HG3	2.00	0.44
6:AG:102:ARG:NH2	20:AA:939:G:H5"	2.32	0.44
7:AH:25:ASP:OD2	7:AH:26:VAL:N	2.50	0.44
8:AI:10:ARG:HG2	8:AI:105:ASP:HB2	1.98	0.44
9:AJ:92:THR:OG1	9:AJ:93:GLY:N	2.46	0.44
11:AL:33:ARG:N	11:AL:85:ILE:HB	2.33	0.44
16:AQ:10:VAL:HG21	16:AQ:51:TYR:HB3	1.99	0.44
20:AA:35:G:H2'	20:AA:36:C:C6	2.53	0.44
20:AA:1326:C:H2'	20:AA:1327:C:C6	2.53	0.44
20:AA:1403:C:H1'	20:AA:1500:A:N1	2.32	0.44
22:AV:6:G:H2'	22:AV:7:G:C8	2.53	0.44
23:AY:201:ILE:HG12	23:AY:206:LEU:N	2.25	0.44
25:BC:41:THR:O	25:BC:175:PRO:HA	2.16	0.44
25:BC:82:GLU:HG3	25:BC:83:LYS:N	2.32	0.44
26:BD:50:THR:HA	59:BA:1805:U:O2'	2.18	0.44
26:BD:248:SER:C	26:BD:250:TRP:H	2.24	0.44
27:BE:12:THR:HA	59:BA:2682:U:H1'	2.00	0.44
29:BG:111:LEU:O	29:BG:112:PRO:C	2.59	0.44
34:BO:64:ARG:NH2	39:BT:69:GLY:HA3	2.33	0.44
35:BP:63:PRO:HD2	59:BA:2394:C:OP1	2.18	0.44
38:BS:71:ARG:HG3	38:BS:103:GLU:OE2	2.17	0.44
39:BT:89:VAL:O	39:BT:91:ARG:HG3	2.17	0.44
40:BU:11:ARG:HH11	59:BA:513:A:H1'	1.81	0.44
45:BZ:145:GLU:OE1	45:BZ:146:ILE:N	2.46	0.44
59:BA:273(A):G:C2	59:BA:273(B):G:C8	3.05	0.44
59:BA:600:G:H2'	59:BA:601:C:C6	2.53	0.44
59:BA:988:A:H4'	59:BA:1155:A:C2	2.52	0.44
59:BA:2524:G:C6	59:BA:2525:G:C5	3.05	0.44
59:BA:2612:C:C4	59:BA:2613:U:H5	2.36	0.44
59:BA:2679:A:N6	59:BA:2728:U:H3	2.14	0.44
59:BA:2833:G:O2'	59:BA:2834:G:OP1	2.36	0.44
3:CD:135:LEU:CD1	3:CD:135:LEU:H	2.30	0.44
3:CD:145:GLU:OE1	3:CD:182:LYS:HD2	2.17	0.44
5:CF:80:ARG:HD3	5:CF:88:VAL:HB	1.99	0.44
12:CM:111:LYS:HE3	12:CM:112:GLY:O	2.18	0.44
14:CO:67:LEU:HD13	14:CO:87:ILE:HD12	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:769:G:H1	20:CA:810:C:N4	2.13	0.44
20:CA:1202:G:H2'	20:CA:1203:C:O4'	2.17	0.44
23:CY:614:GLU:C	23:CY:617:MET:HB3	2.43	0.44
26:DD:43:ARG:HE	59:DA:691:C:H4'	1.83	0.44
28:DF:84:VAL:HG23	59:DA:1257:C:O2'	2.17	0.44
31:DJ:69:UNK:O	31:DJ:71:UNK:N	2.51	0.44
32:DK:34:ILE:HA	32:DK:37:PHE:HB3	1.99	0.44
33:DN:43:THR:HB	33:DN:46:VAL:CG1	2.47	0.44
34:DO:61:VAL:HG21	34:DO:111:PHE:CE2	2.52	0.44
34:DO:104:ARG:NH2	39:DT:43:GLN:OE1	2.50	0.44
39:DT:131:ALA:O	39:DT:135:ALA:N	2.50	0.44
40:DU:34:LYS:NZ	59:DA:2018:G:H21	2.15	0.44
41:DV:19:LYS:HE2	41:DV:19:LYS:HB2	1.75	0.44
42:DW:12:ILE:HD11	42:DW:42:ARG:NH2	2.26	0.44
42:DW:55:ALA:O	42:DW:59:VAL:HG23	2.18	0.44
43:DX:88:LYS:HE2	43:DX:88:LYS:HB3	1.82	0.44
44:DY:75:ILE:HG12	44:DY:76:CYS:N	2.32	0.44
46:D0:72:ARG:NH2	60:DB:10:C:H5"	2.32	0.44
57:D1:20:ARG:HH12	57:D1:24:ALA:HB2	1.82	0.44
57:D1:60:PHE:CE2	57:D1:73:LEU:HD22	2.52	0.44
59:DA:807:U:H2'	59:DA:808:G:O4'	2.17	0.44
59:DA:972:G:H8	59:DA:972:G:O5'	2.00	0.44
59:DA:1005:C:H2'	59:DA:1006:C:O4'	2.17	0.44
59:DA:2070:G:H2'	59:DA:2071:A:C8	2.52	0.44
1:AB:57:PHE:CD2	1:AB:185:ILE:HD11	2.53	0.44
2:AC:77:ILE:C	2:AC:83:ARG:HB3	2.42	0.44
3:AD:15:GLU:OE2	3:AD:63:LYS:HG3	2.17	0.44
3:AD:200:GLU:O	3:AD:204:ILE:HG12	2.18	0.44
10:AK:44:SER:OG	10:AK:45:GLY:N	2.48	0.44
11:AL:73:GLU:HA	20:AA:521:G:OP1	2.17	0.44
11:AL:95:GLY:O	11:AL:97:ARG:N	2.50	0.44
15:AP:18:ARG:HD3	15:AP:35:LYS:HD2	2.00	0.44
16:AQ:7:THR:HA	16:AQ:58:GLU:HA	1.99	0.44
16:AQ:62:SER:HB2	16:AQ:72:ARG:HG3	1.99	0.44
16:AQ:69:LYS:CG	20:AA:254:G:H5"	2.47	0.44
20:AA:68:G:H2'	20:AA:68(A):G:O4'	2.18	0.44
20:AA:130:A:N1	20:AA:233:C:H1'	2.32	0.44
20:AA:226:G:H2'	20:AA:227:G:C8	2.53	0.44
20:AA:329:A:C5	20:AA:332:G:C6	3.06	0.44
20:AA:1181:G:O2'	20:AA:1182:G:N7	2.50	0.44
20:AA:1422:G:O2'	34:BO:49:ARG:NH2	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AY:317:MET:HA	23:AY:317:MET:HE3	2.00	0.44
25:BC:165:ARG:N	25:BC:172:ILE:HG13	2.33	0.44
26:BD:27:THR:HG21	26:BD:94:LEU:HD12	2.00	0.44
26:BD:222:ARG:HG2	59:BA:1789:A:P	2.57	0.44
27:BE:40:GLU:H	27:BE:40:GLU:CD	2.24	0.44
27:BE:109:LYS:HB2	37:BR:2:ARG:HE	1.82	0.44
28:BF:155:LEU:HG	28:BF:176:LEU:HB3	1.98	0.44
28:BF:194:MET:SD	28:BF:199:TRP:HD1	2.41	0.44
34:BO:71:ARG:O	34:BO:73:ASP:N	2.51	0.44
36:BQ:38:GLU:OE1	36:BQ:128:LYS:HE2	2.18	0.44
38:BS:108:GLY:O	59:BA:2377:A:H4'	2.18	0.44
41:BV:4:ILE:HD13	41:BV:40:LEU:HD23	1.99	0.44
42:BW:9:TYR:H	42:BW:102:HIS:HE1	1.65	0.44
42:BW:92:ARG:HH22	59:BA:2015:A:P	2.38	0.44
42:BW:101:SER:O	42:BW:102:HIS:ND1	2.51	0.44
45:BZ:102:LEU:HD21	45:BZ:124:ILE:HD12	2.00	0.44
46:B0:25:ARG:HG2	46:B0:37:LEU:HB3	1.99	0.44
51:B7:49:ARG:HB2	59:BA:1601:G:H4'	1.98	0.44
59:BA:270(H):C:H42	59:BA:270(T):G:H1	1.64	0.44
59:BA:734:A:H2'	59:BA:735:A:H8	1.82	0.44
59:BA:1024:G:C3'	59:BA:1025:G:H5"	2.46	0.44
59:BA:1230:C:H2'	59:BA:1231:G:H8	1.80	0.44
59:BA:1518:C:H2'	59:BA:1519:G:C8	2.52	0.44
59:BA:2074:U:H2'	59:BA:2075:U:C6	2.52	0.44
59:BA:2630:G:H1'	59:BA:2894:G:O2'	2.17	0.44
1:CB:83:MET:HB2	1:CB:234:PRO:HG3	1.98	0.44
2:CC:7:PRO:O	2:CC:11:ARG:HG2	2.18	0.44
2:CC:155:GLY:C	2:CC:163:ALA:HB1	2.43	0.44
3:CD:106:TYR:CE1	3:CD:113:SER:HA	2.53	0.44
11:CL:24:VAL:O	11:CL:26:ALA:N	2.47	0.44
11:CL:95:GLY:C	11:CL:97:ARG:N	2.74	0.44
12:CM:5:ALA:O	12:CM:7:VAL:N	2.51	0.44
13:CN:29:ARG:HD3	20:CA:1202:G:O2'	2.17	0.44
18:CS:36:ARG:HH11	18:CS:53:ASN:HA	1.82	0.44
19:CT:64:ASP:OD2	20:CA:194:C:H4'	2.17	0.44
19:CT:76:ALA:HA	19:CT:79:ARG:HH12	1.81	0.44
20:CA:299:G:H2'	20:CA:300:A:C8	2.52	0.44
20:CA:581:G:H2'	20:CA:582:U:H6	1.83	0.44
20:CA:614:A:H61	20:CA:626:U:H3	1.66	0.44
20:CA:645:C:H2'	20:CA:646:U:H6	1.83	0.44
20:CA:1142:G:H2'	20:CA:1143:G:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:1481:U:H2'	20:CA:1482:G:H8	1.81	0.44
23:CY:146:LEU:H	23:CY:146:LEU:HD12	1.83	0.44
23:CY:247:ARG:HG3	23:CY:279:TYR:HA	2.00	0.44
23:CY:311:ALA:HB3	23:CY:389:LEU:O	2.18	0.44
23:CY:393:ASP:HB2	23:CY:394:ALA:H	1.43	0.44
23:CY:416:LYS:HE2	23:CY:416:LYS:HB3	1.90	0.44
23:CY:471:LYS:NZ	23:CY:471:LYS:HB2	2.33	0.44
23:CY:658:ASP:OD2	23:CY:658:ASP:N	2.38	0.44
25:DC:65:LEU:HD11	25:DC:162:ILE:HD11	2.00	0.44
26:DD:162:SER:O	26:DD:164:GLN:N	2.51	0.44
27:DE:149:ARG:NH1	59:DA:2024:G:O2'	2.51	0.44
28:DF:75:HIS:HA	59:DA:674:G:H4'	1.98	0.44
28:DF:170:LEU:HD12	28:DF:172:TRP:NE1	2.32	0.44
31:DJ:32:UNK:O	59:DA:1055:G:H4'	2.18	0.44
31:DJ:116:UNK:O	31:DJ:118:UNK:N	2.51	0.44
33:DN:40:PRO:HA	40:DU:67:ALA:CB	2.47	0.44
35:DP:68:GLN:NE2	59:DA:249:C:N3	2.65	0.44
36:DQ:35:VAL:HB	36:DQ:102:VAL:HA	1.99	0.44
41:DV:4:ILE:HB	41:DV:39:LEU:O	2.18	0.44
41:DV:23:GLU:OE1	59:DA:993:G:N2	2.45	0.44
42:DW:11:ARG:NH2	42:DW:98:LYS:HD3	2.33	0.44
42:DW:109:GLU:CD	42:DW:109:GLU:H	2.25	0.44
50:D6:19:ARG:HB3	50:D6:20:ASN:H	1.54	0.44
50:D6:38:LYS:HA	50:D6:48:VAL:O	2.17	0.44
51:D7:41:ARG:NH1	59:DA:463:G:O6	2.49	0.44
57:D1:20:ARG:HB2	57:D1:38:SER:O	2.17	0.44
59:DA:179:G:H2'	59:DA:180:G:O4'	2.18	0.44
59:DA:373:U:H2'	59:DA:374:A:H8	1.82	0.44
59:DA:401:A:C2	59:DA:402:A:C4	3.05	0.44
59:DA:484:C:H2'	59:DA:485:C:C6	2.53	0.44
59:DA:493:G:H2'	59:DA:494:G:O4'	2.17	0.44
59:DA:605:C:H2'	59:DA:606:U:O4'	2.18	0.44
59:DA:618(B):C:H2'	59:DA:619:G:O4'	2.18	0.44
59:DA:687:C:H2'	59:DA:688:U:O4'	2.18	0.44
59:DA:753:C:H2'	59:DA:754:C:C6	2.53	0.44
59:DA:768:G:H2'	59:DA:769:G:O4'	2.18	0.44
59:DA:1416:G:H2'	59:DA:1417:C:C6	2.53	0.44
59:DA:1569:A:H2'	59:DA:1570:A:C8	2.53	0.44
59:DA:1838:C:O2'	59:DA:1898:U:O4	2.35	0.44
59:DA:2637:U:O2	59:DA:2776:A:N7	2.50	0.44
59:DA:2884:U:H2'	59:DA:2885:C:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2886:G:H2'	59:DA:2887:U:H6	1.82	0.44
9:AJ:16:LEU:HD21	9:AJ:70:ARG:HD3	2.00	0.44
11:AL:114:LYS:HA	11:AL:117:ARG:HH11	1.83	0.44
12:AM:111:LYS:HE2	12:AM:111:LYS:HB3	1.69	0.44
18:AS:78:ARG:HH11	20:AA:1225:A:H5'	1.82	0.44
20:AA:62:U:H5"	20:AA:385:C:H1'	1.99	0.44
20:AA:501:C:H2'	20:AA:502:G:H8	1.82	0.44
20:AA:1149:C:H2'	20:AA:1150:U:C6	2.53	0.44
20:AA:1513:A:H2'	20:AA:1514:C:H6	1.83	0.44
23:AY:18:ALA:HA	23:AY:25:LYS:HD3	2.00	0.44
23:AY:103:GLY:HA2	23:AY:130:VAL:HG23	1.99	0.44
28:BF:3:GLU:HB2	28:BF:22:ALA:O	2.16	0.44
32:BK:90:LYS:HZ3	59:BA:1076:C:C1'	2.31	0.44
33:BN:10:GLU:OE2	33:BN:11:PRO:HD2	2.18	0.44
34:BO:48:PRO:HB2	34:BO:49:ARG:H	1.53	0.44
42:BW:1:MET:HG3	42:BW:2:GLU:H	1.82	0.44
42:BW:12:ILE:HD11	42:BW:42:ARG:NH2	2.33	0.44
44:BY:87:LYS:O	44:BY:89:PHE:N	2.50	0.44
48:B3:41:PRO:HA	48:B3:44:ARG:HB2	1.99	0.44
58:B4:10:VAL:HG22	58:B4:11:PRO:HD2	2.00	0.44
59:BA:204:A:O3'	59:BA:205:G:H4'	2.18	0.44
59:BA:310:A:H2'	59:BA:312:G:N7	2.32	0.44
59:BA:513:A:H2	59:BA:582:G:C4'	2.29	0.44
59:BA:1000:A:OP2	59:BA:1154:G:N1	2.47	0.44
59:BA:1605:C:H5"	59:BA:1606:G:OP2	2.17	0.44
59:BA:1975:G:H2'	59:BA:1976:U:H6	1.82	0.44
59:BA:2050:C:H2'	59:BA:2051:A:O4'	2.16	0.44
59:BA:2171:A:O2'	59:BA:2172:U:O5'	2.34	0.44
59:BA:2306:C:H5"	59:BA:2307:G:C8	2.53	0.44
4:CE:19:MET:SD	20:CA:15:G:H1'	2.58	0.44
5:CF:3:ARG:HD3	5:CF:64:GLN:HE21	1.83	0.44
10:CK:44:SER:H	10:CK:47:VAL:CG2	2.30	0.44
10:CK:128:ALA:HA	22:CV:12:A:OP2	2.17	0.44
12:CM:107:ALA:H	12:CM:108:ARG:HD2	1.83	0.44
14:CO:47:LYS:H	14:CO:47:LYS:HD3	1.81	0.44
20:CA:440:A:OP2	20:CA:493:G:N2	2.50	0.44
20:CA:635:G:H2'	20:CA:636:U:O4'	2.18	0.44
20:CA:1269:A:H1'	20:CA:1326:C:H1'	2.00	0.44
23:CY:648:PRO:O	23:CY:651:GLU:N	2.50	0.44
26:DD:276:LYS:HD3	26:DD:276:LYS:HA	1.78	0.44
28:DF:136:THR:O	28:DF:140:LEU:HB2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DO:21:CYS:O	34:DO:22:ILE:HD13	2.18	0.44
34:DO:110:GLY:HA2	34:DO:112:MET:HE1	2.00	0.44
35:DP:56:SER:C	35:DP:58:THR:N	2.76	0.44
37:DR:59:ASP:OD1	37:DR:60:LEU:N	2.51	0.44
40:DU:49:HIS:O	40:DU:53:ARG:HB2	2.16	0.44
40:DU:96:ALA:C	40:DU:98:LEU:H	2.26	0.44
42:DW:79:GLY:HA2	59:DA:25:U:H5'	2.00	0.44
43:DX:5:TYR:HE1	43:DX:42:ALA:HB1	1.83	0.44
45:DZ:135:GLU:HB3	45:DZ:136:PHE:HD1	1.83	0.44
59:DA:43:G:H2'	59:DA:44:A:O4'	2.18	0.44
59:DA:141(B):C:H2'	59:DA:142:G:O4'	2.17	0.44
59:DA:795:C:H2'	59:DA:796:C:C6	2.52	0.44
59:DA:921:G:H2'	59:DA:922:U:C6	2.53	0.44
59:DA:974(A):G:C6	59:DA:989:G:C6	3.06	0.44
59:DA:1498:C:H2'	59:DA:1499:C:H6	1.83	0.44
59:DA:1546:A:H8	59:DA:1546:A:O5'	2.01	0.44
59:DA:2146:C:H4'	59:DA:2147:G:C8	2.52	0.44
59:DA:2606:C:H2'	59:DA:2607:G:H8	1.81	0.44
59:DA:2661:G:C6	59:DA:2662:A:C2	3.06	0.44
60:DB:18:G:H2'	60:DB:19:G:C8	2.53	0.44
1:AB:32:ILE:HA	1:AB:32:ILE:HD13	1.79	0.44
1:AB:158:LEU:HA	1:AB:159:PRO:HD3	1.78	0.44
1:AB:174:VAL:O	1:AB:175:ARG:C	2.59	0.44
1:AB:187:LEU:HB2	1:AB:201:ILE:HB	1.99	0.44
4:AE:35:GLY:N	4:AE:112:LEU:HD13	2.33	0.44
5:AF:1:MET:HE2	5:AF:68:PRO:HG3	2.00	0.44
8:AI:89:ASN:HB3	8:AI:92:TYR:HD1	1.82	0.44
10:AK:114:VAL:O	20:AA:675:A:O2'	2.26	0.44
12:AM:104:ARG:HA	20:AA:1226:C:C4	2.53	0.44
15:AP:33:ILE:HD13	20:AA:229:U:H5"	1.99	0.44
16:AQ:70:ARG:HH22	20:AA:234:C:H5"	1.83	0.44
20:AA:48:C:H2'	20:AA:365:U:O4	2.18	0.44
20:AA:198:G:H2'	20:AA:199:G:H8	1.82	0.44
20:AA:1170:A:C5	20:AA:1171:G:H1'	2.52	0.44
20:AA:1352:C:H2'	20:AA:1353:G:H8	1.82	0.44
23:AY:165:GLN:HB3	23:AY:177:ILE:HG21	2.00	0.44
25:BC:120:VAL:O	25:BC:121:MET:C	2.61	0.44
26:BD:105:ILE:HG12	26:BD:106:ILE:H	1.83	0.44
26:BD:173:VAL:O	26:BD:184:LYS:HA	2.18	0.44
26:BD:226:MET:HG2	59:BA:782:A:N3	2.33	0.44
27:BE:82:ARG:HH22	59:BA:2638:G:P	2.41	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BE:92:THR:OG1	27:BE:94:GLU:OE2	2.24	0.44
28:BF:42:ALA:HA	28:BF:45:ARG:HB2	2.00	0.44
30:BH:105:LEU:H	30:BH:105:LEU:HD23	1.83	0.44
40:BU:87:GLY:O	40:BU:89:GLU:N	2.51	0.44
41:BV:18:LEU:HG	41:BV:19:LYS:H	1.83	0.44
41:BV:76:LYS:HG3	41:BV:81:TYR:CD1	2.53	0.44
44:BY:28:LYS:HB3	44:BY:28:LYS:HE2	1.51	0.44
46:B0:47:PRO:HG3	46:B0:53:MET:HB2	2.00	0.44
59:BA:493:G:H2'	59:BA:494:G:O4'	2.18	0.44
59:BA:934:G:H2'	59:BA:935:C:C6	2.53	0.44
59:BA:1463:C:H2'	59:BA:1464:C:H6	1.81	0.44
59:BA:1491:G:P	59:BA:1494:A:H62	2.40	0.44
59:BA:1951:U:H2'	59:BA:1953:A:OP2	2.17	0.44
59:BA:2130:U:H4'	59:BA:2133:G:O2'	2.18	0.44
59:BA:2331:G:H21	59:BA:2336:A:H2	1.64	0.44
59:BA:2347:C:C2	59:BA:2348:U:C5	3.06	0.44
59:BA:2414:G:C4	59:BA:2415:G:C8	3.06	0.44
3:CD:79:PHE:HB2	3:CD:93:PHE:CZ	2.52	0.44
10:CK:13:GLN:NE2	59:DA:2142:C:OP1	2.51	0.44
10:CK:120:ARG:N	10:CK:121:PRO:HD3	2.28	0.44
12:CM:23:TYR:OH	12:CM:71:ARG:HG3	2.17	0.44
14:CO:11:VAL:HG21	14:CO:34:LEU:HD22	2.00	0.44
20:CA:68(P):C:H2'	20:CA:68(Q):U:C6	2.53	0.44
20:CA:657:G:H1	20:CA:749:C:H42	1.66	0.44
20:CA:1430:C:N4	20:CA:1470:G:H1	2.12	0.44
20:CA:1496:C:OP2	23:CY:501:THR:CG2	2.65	0.44
25:DC:120:VAL:O	25:DC:121:MET:C	2.61	0.44
25:DC:132:LEU:HB3	25:DC:137:LEU:HB2	2.00	0.44
25:DC:215:VAL:HG23	25:DC:222:SER:O	2.18	0.44
26:DD:208:LYS:HE3	26:DD:210:GLY:HA3	1.98	0.44
28:DF:193:VAL:O	28:DF:194:MET:HG2	2.18	0.44
29:DG:73:ALA:HA	59:DA:2312:U:C5'	2.47	0.44
32:DK:91:PRO:HA	32:DK:135:GLY:HA3	2.00	0.44
33:DN:42:TRP:CG	33:DN:43:THR:N	2.85	0.44
36:DQ:46:GLN:HG3	59:DA:2484:G:O2'	2.18	0.44
48:D3:45:GLY:HA2	48:D3:48:GLU:CD	2.42	0.44
51:D7:20:ALA:O	51:D7:24:THR:HG22	2.17	0.44
57:D1:5:CYS:SG	57:D1:8:SER:N	2.83	0.44
57:D1:88:LYS:HB3	57:D1:88:LYS:HE2	1.75	0.44
59:DA:410:G:H2'	59:DA:2407:G:N7	2.33	0.44
59:DA:539:G:H2'	59:DA:540:G:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:569:U:O4'	59:DA:946:G:O2'	2.29	0.44
59:DA:818:G:H4'	59:DA:838:C:O3'	2.18	0.44
59:DA:1287:A:N7	59:DA:1288:U:C5	2.86	0.44
59:DA:1541:U:H3'	59:DA:1542:G:C3'	2.47	0.44
59:DA:2347:C:N3	59:DA:2370:G:O6	2.51	0.44
59:DA:2395:C:H2'	59:DA:2396:G:O4'	2.17	0.44
59:DA:2455:G:H2'	59:DA:2456:C:C6	2.52	0.44
59:DA:2514:U:H2'	59:DA:2515:C:C6	2.52	0.44
59:DA:2730:C:H2'	59:DA:2731:G:H8	1.83	0.44
3:AD:60:GLU:O	3:AD:63:LYS:HB3	2.16	0.44
3:AD:62:GLN:O	3:AD:63:LYS:C	2.61	0.44
3:AD:96:LEU:HD12	3:AD:139:ARG:HH22	1.83	0.44
4:AE:118:ILE:HG13	4:AE:120:THR:HG22	1.99	0.44
5:AF:9:VAL:HB	5:AF:87:ARG:CB	2.48	0.44
11:AL:5:PRO:HB2	11:AL:10:LEU:HG	1.99	0.44
11:AL:30:ALA:HA	20:AA:363:A:N6	2.33	0.44
12:AM:54:VAL:O	12:AM:57:ARG:HG2	2.18	0.44
20:AA:54:C:O2'	20:AA:55:A:H5'	2.18	0.44
20:AA:677:U:H3	20:AA:713:G:H22	1.64	0.44
20:AA:1127:G:H2'	20:AA:1128:C:O4'	2.18	0.44
21:AW:64:G:C2	21:AW:65:U:N3	2.85	0.44
23:AY:311:ALA:HB3	23:AY:389:LEU:O	2.18	0.44
23:AY:406:GLU:HG3	23:AY:407:PRO:HD2	1.99	0.44
23:AY:497:PHE:HD2	23:AY:507:TYR:HA	1.82	0.44
26:BD:218:ARG:HA	26:BD:219:PRO:HD2	1.76	0.44
26:BD:264:LYS:HG2	26:BD:265:PRO:HD2	1.99	0.44
27:BE:169:ASN:O	59:BA:2730:C:H4'	2.18	0.44
28:BF:74:ARG:HE	59:BA:674:G:H1'	1.82	0.44
28:BF:157:VAL:HG11	28:BF:194:MET:HE3	1.98	0.44
32:BK:117:THR:O	32:BK:119:ASP:N	2.44	0.44
34:BO:5:GLN:O	59:BA:1667:G:H4'	2.18	0.44
42:BW:18:ARG:HH12	42:BW:77:ASP:HA	1.83	0.44
50:B6:10:LEU:HD11	59:BA:2420:C:H5"	1.99	0.44
51:B7:9:ARG:NH1	51:B7:46:VAL:O	2.50	0.44
59:BA:1498:C:H2'	59:BA:1499:C:H6	1.83	0.44
59:BA:2489:G:C6	59:BA:2490:G:C6	3.06	0.44
59:BA:2646:C:H2'	59:BA:2647:U:O4'	2.17	0.44
3:CD:49:ARG:O	3:CD:51:PRO:HD3	2.18	0.44
4:CE:82:VAL:HG21	4:CE:138:ALA:HA	1.99	0.44
20:CA:115:G:O2'	20:CA:116:A:OP2	2.31	0.44
20:CA:124:G:H4'	20:CA:291:C:O2'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:570:G:H1'	20:CA:820:U:C4	2.53	0.44
20:CA:922:G:H2'	20:CA:923:A:H8	1.83	0.44
20:CA:1304:G:C6	20:CA:1305:G:N1	2.85	0.44
25:DC:131:ILE:HG12	25:DC:132:LEU:H	1.82	0.44
25:DC:157:ILE:HG12	25:DC:161:ARG:CG	2.44	0.44
26:DD:105:ILE:HD13	26:DD:106:ILE:N	2.33	0.44
26:DD:132:PRO:HB2	26:DD:135:PHE:CD1	2.53	0.44
26:DD:147:LEU:HD21	26:DD:183:ARG:NH1	2.33	0.44
32:DK:98:ARG:HB2	32:DK:139:VAL:HG23	2.00	0.44
33:DN:32:THR:HG22	33:DN:37:LYS:HD3	2.00	0.44
34:DO:36:GLY:HA3	34:DO:109:LYS:HG3	2.00	0.44
39:DT:28:VAL:HG12	39:DT:29:ARG:N	2.33	0.44
39:DT:85:LYS:C	39:DT:85:LYS:HE2	2.42	0.44
44:DY:30:VAL:HB	59:DA:85:G:O5'	2.18	0.44
57:D1:37:ILE:HG23	59:DA:200:U:H4'	2.00	0.44
59:DA:7:G:N2	59:DA:2897:U:O2	2.51	0.44
59:DA:202:U:H2'	59:DA:203:C:O4'	2.18	0.44
59:DA:403:U:H4'	59:DA:404:C:H5"	1.99	0.44
59:DA:819:A:H62	59:DA:1188:U:H3	1.66	0.44
59:DA:975:G:H1'	59:DA:990:A:C2	2.52	0.44
59:DA:1241:A:N7	59:DA:1242:A:C5	2.85	0.44
59:DA:1427:A:H4'	59:DA:1428:C:O4'	2.17	0.44
59:DA:1430:C:H2'	59:DA:1431:U:O4'	2.18	0.44
59:DA:1446:C:H2'	59:DA:1447:G:C8	2.53	0.44
59:DA:1614:A:C5'	59:DA:1617:C:H41	2.30	0.44
59:DA:1758:G:H3'	59:DA:1759:A:H8	1.83	0.44
59:DA:2006:C:O2'	59:DA:2823:A:N3	2.49	0.44
59:DA:2262:U:O2'	59:DA:2328:A:H1'	2.18	0.44
59:DA:2270:G:H3'	59:DA:2271:G:C8	2.53	0.44
59:DA:2632:A:H4'	59:DA:2811:G:O2'	2.18	0.44
60:DB:57:A:H2'	60:DB:58:A:H8	1.82	0.44
1:AB:22:LYS:HA	1:AB:24:TRP:HD1	1.83	0.43
1:AB:194:PRO:O	1:AB:196:LEU:N	2.51	0.43
1:AB:217:ARG:O	1:AB:221:LEU:HB2	2.18	0.43
2:AC:5:ILE:HD11	13:AN:58:LYS:HE3	2.00	0.43
2:AC:182:ILE:HG12	2:AC:203:PHE:HA	1.99	0.43
4:AE:7:GLU:O	4:AE:34:VAL:HA	2.18	0.43
4:AE:110:LEU:HB3	4:AE:115:VAL:CG2	2.48	0.43
4:AE:115:VAL:HG12	4:AE:116:THR:N	2.33	0.43
6:AG:26:PHE:CD2	6:AG:30:ILE:HD11	2.53	0.43
10:AK:97:ALA:O	10:AK:101:SER:OG	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AK:115:PRO:C	10:AK:117:ASN:H	2.26	0.43
11:AL:97:ARG:H	11:AL:97:ARG:HG2	1.53	0.43
12:AM:75:ALA:O	12:AM:79:LYS:HG3	2.18	0.43
13:AN:27:CYS:CB	20:AA:1202:G:H21	2.30	0.43
14:AO:7:GLU:O	14:AO:11:VAL:HG23	2.18	0.43
20:AA:1107:C:C4	20:AA:1108:G:C8	3.05	0.43
20:AA:1343:G:H2'	20:AA:1344:C:H6	1.82	0.43
20:AA:1420:C:N4	20:AA:1480:G:H1	2.16	0.43
20:AA:1476:G:H2'	20:AA:1477:C:C6	2.52	0.43
23:AY:7:TYR:CE2	23:AY:9:LEU:HG	2.53	0.43
23:AY:160:ARG:HH22	23:AY:222:ASP:HB2	1.83	0.43
23:AY:171:GLU:C	23:AY:173:THR:H	2.26	0.43
25:BC:100:ILE:HG23	25:BC:103:LYS:HB2	1.99	0.43
26:BD:24:ILE:HG12	26:BD:25:THR:N	2.33	0.43
26:BD:148:GLU:HB3	26:BD:151:LYS:HG3	1.99	0.43
26:BD:151:LYS:NZ	59:BA:2217:G:H21	2.15	0.43
31:BJ:97:UNK:C	31:BJ:99:UNK:H	2.30	0.43
33:BN:1:MET:SD	33:BN:2:LYS:N	2.90	0.43
38:BS:15:ARG:C	38:BS:17:ARG:N	2.75	0.43
38:BS:74:ALA:HB2	38:BS:104:GLY:HA2	2.00	0.43
39:BT:66:VAL:HA	39:BT:71:GLY:HA2	1.99	0.43
40:BU:55:ARG:NE	59:BA:1156:A:OP1	2.51	0.43
45:BZ:61:LEU:HD22	45:BZ:63:ASP:HB3	2.00	0.43
47:B2:64:LEU:O	47:B2:68:ARG:N	2.51	0.43
48:B3:10:LYS:HE2	48:B3:15:TYR:OH	2.18	0.43
51:B7:7:PRO:HA	59:BA:686:G:H8	1.83	0.43
57:B1:64:ALA:HB1	59:BA:398:G:P	2.58	0.43
59:BA:320:A:H4'	59:BA:322:A:N7	2.32	0.43
59:BA:600:G:H2'	59:BA:601:C:H6	1.82	0.43
59:BA:820:A:H2'	59:BA:821:A:O4'	2.17	0.43
59:BA:1214:A:H2'	59:BA:1215:G:O4'	2.17	0.43
59:BA:1221:C:H2'	59:BA:122(A):C:H6	1.83	0.43
59:BA:1292:U:H2'	59:BA:1293:C:C6	2.52	0.43
59:BA:1676:A:H2'	59:BA:1677:A:C8	2.53	0.43
59:BA:2038:G:C3'	59:BA:2039:C:H5'	2.47	0.43
59:BA:2464:C:H42	59:BA:2486:G:H1	1.66	0.43
59:BA:2564:A:C6	59:BA:2647:U:H4'	2.53	0.43
59:BA:2771:C:H2'	59:BA:2772:C:H6	1.82	0.43
1:CB:87:ARG:NH1	1:CB:232:PRO:HA	2.33	0.43
1:CB:208:ILE:H	1:CB:208:ILE:HD12	1.83	0.43
2:CC:119:ARG:HD3	2:CC:140:ARG:HH22	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CC:149:ALA:O	2:CC:169:ALA:HA	2.18	0.43
4:CE:81:GLU:OE1	4:CE:81:GLU:N	2.51	0.43
7:CH:41:ARG:HH22	7:CH:123:GLU:CD	2.26	0.43
8:CI:19:LEU:HD13	8:CI:59:PHE:CE2	2.53	0.43
14:CO:5:LYS:O	14:CO:9:GLN:HG2	2.18	0.43
16:CQ:26:GLN:HA	16:CQ:36:ILE:O	2.18	0.43
16:CQ:83:ASP:OD1	16:CQ:83:ASP:N	2.51	0.43
19:CT:84:LEU:O	19:CT:88:VAL:HG23	2.17	0.43
20:CA:67:C:H2'	20:CA:68:G:H8	1.82	0.43
20:CA:1238:A:H2	20:CA:1241:G:N3	2.15	0.43
20:CA:1324:A:H4'	20:CA:1362:C:H4'	1.99	0.43
25:DC:42:VAL:H	25:DC:217:THR:HA	1.82	0.43
27:DE:82:ARG:NH2	59:DA:2637:U:OP1	2.41	0.43
28:DF:9:ILE:HD13	28:DF:124:LEU:HB2	2.00	0.43
28:DF:129:PHE:HE1	28:DF:193:VAL:HG12	1.83	0.43
30:DH:144:VAL:O	30:DH:147:ASN:HB3	2.17	0.43
37:DR:64:ARG:NH2	59:DA:2851:A:O2'	2.46	0.43
38:DS:47:THR:O	38:DS:48:LEU:HB2	2.18	0.43
43:DX:76:ARG:H	43:DX:76:ARG:NH1	2.16	0.43
51:D7:5:TRP:CZ2	51:D7:7:PRO:HB3	2.53	0.43
51:D7:40:TRP:HZ2	59:DA:458:G:H1'	1.82	0.43
52:D8:11:LYS:NZ	59:DA:243:U:OP1	2.51	0.43
59:DA:197:A:H2'	59:DA:198:C:O4'	2.17	0.43
59:DA:804:A:H5"	59:DA:805:G:OP1	2.18	0.43
59:DA:1059:G:H2'	59:DA:1060:U:C5	2.53	0.43
59:DA:2257:U:H2'	59:DA:2258:C:C6	2.53	0.43
59:DA:2303:G:H1	59:DA:2313:C:N4	2.14	0.43
59:DA:2478:A:H1'	59:DA:2528:U:O2'	2.18	0.43
59:DA:2726:U:O2'	59:DA:2727:G:H8	2.01	0.43
59:DA:2869:G:H2'	59:DA:2870:C:C6	2.53	0.43
2:AC:157:ILE:HB	2:AC:164:ARG:HH21	1.83	0.43
3:AD:124:GLY:O	3:AD:132:ARG:HB2	2.18	0.43
3:AD:145:GLU:HG3	3:AD:183:GLY:C	2.43	0.43
4:AE:101:ILE:HG13	4:AE:118:ILE:O	2.18	0.43
9:AJ:51:ARG:HB3	20:AA:1060:C:C4'	2.46	0.43
13:AN:6:LEU:HB3	13:AN:23:ARG:NH2	2.33	0.43
13:AN:8:GLU:HA	13:AN:11:LYS:HB2	1.99	0.43
20:AA:68(C):C:H2'	20:AA:68(D):C:C6	2.54	0.43
20:AA:971:G:OP1	20:AA:971:G:H3'	2.18	0.43
20:AA:1304:G:H1'	20:AA:1333:A:H61	1.83	0.43
21:AW:28:A:H2	21:AW:42:U:H3	1.62	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AY:133:ILE:H	23:AY:133:ILE:HD13	1.83	0.43
23:AY:607:ARG:HG2	23:AY:646:PHE:CE1	2.52	0.43
25:BC:78:ILE:O	25:BC:120:VAL:HG21	2.17	0.43
26:BD:14:ARG:NH2	59:BA:1693:U:O2	2.51	0.43
26:BD:255:LYS:HD3	26:BD:255:LYS:HA	1.74	0.43
27:BE:61:ARG:HG2	59:BA:2811:G:OP1	2.17	0.43
31:BJ:83:UNK:C	31:BJ:85:UNK:N	2.82	0.43
32:BK:8:VAL:HG11	32:BK:26:ALA:HB1	2.01	0.43
33:BN:70:LYS:HG2	33:BN:87:LEU:HG	1.99	0.43
35:BP:33:ARG:HD3	59:BA:810:U:O2'	2.18	0.43
39:BT:101:PHE:N	39:BT:101:PHE:CD1	2.85	0.43
39:BT:114:LEU:HD23	39:BT:114:LEU:HA	1.72	0.43
40:BU:92:ARG:HH12	41:BV:12:TYR:C	2.25	0.43
52:B8:34:TRP:CG	52:B8:35:GLN:N	2.85	0.43
56:Bh:10:UNK:C	56:Bh:12:UNK:H	2.32	0.43
59:BA:270(K):G:H2'	59:BA:270(L):C:O4'	2.18	0.43
59:BA:447:A:H4'	59:BA:448:U:C5'	2.48	0.43
59:BA:604:G:C6	59:BA:625:G:C2	3.06	0.43
59:BA:813:U:H2'	59:BA:814:C:H6	1.82	0.43
59:BA:828:U:H2'	59:BA:829:A:C8	2.54	0.43
59:BA:1054:A:H2'	59:BA:1055:G:H8	1.83	0.43
59:BA:1439:A:H2'	59:BA:1440:G:O4'	2.18	0.43
59:BA:1987:G:H2'	59:BA:1988:C:H6	1.82	0.43
59:BA:2252:G:H2'	59:BA:2253:G:C8	2.53	0.43
1:CB:105:PHE:HB3	1:CB:106:LYS:NZ	2.33	0.43
1:CB:111:ARG:NH2	20:CA:1104:G:H4'	2.33	0.43
1:CB:166:ASP:O	1:CB:170:GLU:HB2	2.17	0.43
1:CB:184:VAL:H	1:CB:198:ASP:CB	2.27	0.43
1:CB:220:ASP:N	1:CB:220:ASP:OD1	2.50	0.43
2:CC:119:ARG:O	2:CC:123:GLN:HG2	2.18	0.43
8:CI:107:ARG:HE	20:CA:1347:G:H5"	1.83	0.43
9:CJ:55:LYS:HE3	20:CA:973:G:H1'	1.99	0.43
14:CO:39:LEU:HD21	14:CO:52:SER:HB3	2.00	0.43
20:CA:39:G:N1	20:CA:403:C:O2	2.45	0.43
20:CA:299:G:C6	20:CA:300:A:C6	3.07	0.43
20:CA:521:G:C6	20:CA:529:G:N1	2.86	0.43
20:CA:789:U:O2'	20:CA:791:G:N7	2.49	0.43
20:CA:1354:C:H2'	20:CA:1355:G:C8	2.53	0.43
20:CA:1369:C:H2'	20:CA:1370:G:O4'	2.17	0.43
20:CA:1417:G:N2	20:CA:1482:G:H2'	2.33	0.43
20:CA:1423:G:H2'	20:CA:1424:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:CY:335:LEU:O	23:CY:368:GLU:HB2	2.18	0.43
23:CY:424:LEU:O	23:CY:427:ALA:HB3	2.18	0.43
23:CY:487:ILE:HB	23:CY:597:GLY:O	2.18	0.43
25:DC:66:PRO:HD2	25:DC:192:ALA:HB1	2.00	0.43
26:DD:171:ASP:OD2	26:DD:171:ASP:N	2.50	0.43
26:DD:266:SER:HG	59:DA:1800:C:P	2.40	0.43
27:DE:132:HIS:NE2	59:DA:743:G:H4'	2.32	0.43
27:DE:146:THR:HA	27:DE:147:PRO:C	2.43	0.43
28:DF:62:ARG:NH2	28:DF:64:ILE:HA	2.32	0.43
29:DG:97:ASP:HA	29:DG:100:TRP:CD1	2.53	0.43
29:DG:135:LEU:HD11	29:DG:155:MET:HE3	1.99	0.43
33:DN:5:VAL:HB	33:DN:7:LYS:NZ	2.33	0.43
34:DO:6:THR:HA	59:DA:1667:G:H5'	2.00	0.43
34:DO:10:VAL:HG22	34:DO:17:ARG:HA	2.00	0.43
39:DT:132:LYS:O	39:DT:132:LYS:HD3	2.18	0.43
43:DX:39:ILE:O	43:DX:43:VAL:HG23	2.18	0.43
51:D7:29:LYS:O	51:D7:33:ARG:HG3	2.18	0.43
57:D1:52:ARG:HA	57:D1:57:GLU:HA	1.99	0.43
59:DA:115:C:H2'	59:DA:116:C:O4'	2.18	0.43
59:DA:856:C:H2'	59:DA:857:C:H6	1.79	0.43
59:DA:881:G:O6	59:DA:895:U:O4	2.36	0.43
59:DA:996:A:H61	59:DA:1159:U:H3	1.66	0.43
59:DA:1071:G:H1'	59:DA:1089:G:C8	2.53	0.43
59:DA:1356:G:H2'	59:DA:1357:U:C6	2.53	0.43
59:DA:2238:G:H2'	59:DA:2238:G:N3	2.33	0.43
59:DA:2336:A:H3'	59:DA:2337:G:H8	1.81	0.43
59:DA:2372:G:H1	59:DA:2381:C:N4	2.14	0.43
59:DA:2604:U:H2'	59:DA:2605:U:C6	2.54	0.43
59:DA:2782:G:H3'	59:DA:2783:G:H8	1.83	0.43
59:DA:2849:U:O2	59:DA:2866:U:H1'	2.18	0.43
2:AC:114:PRO:HA	2:AC:185:GLY:HA3	1.99	0.43
2:AC:156:ARG:HE	2:AC:159:GLY:HA2	1.83	0.43
4:AE:20:GLN:N	4:AE:23:GLY:O	2.51	0.43
8:AI:118:LYS:HD2	20:AA:1349:A:OP2	2.18	0.43
10:AK:30:VAL:O	10:AK:42:TRP:HA	2.18	0.43
11:AL:78:GLN:HG3	11:AL:79:GLU:H	1.82	0.43
20:AA:68(K):U:H2'	20:AA:68(M):U:C5	2.53	0.43
20:AA:118:U:O4	20:AA:288:A:H2'	2.18	0.43
20:AA:134:A:H2'	20:AA:135:C:C6	2.54	0.43
20:AA:303:A:H2'	20:AA:304:U:O4'	2.18	0.43
20:AA:784:C:H2'	20:AA:785:G:H8	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:947:G:H4'	20:AA:1332:A:H2	1.83	0.43
20:AA:1346:A:N1	20:AA:1374:A:H5"	2.32	0.43
23:AY:28:THR:O	23:AY:32:ILE:HG12	2.18	0.43
23:AY:28:THR:HG21	23:AY:107:VAL:HG21	2.00	0.43
23:AY:188:TYR:OH	23:AY:270:GLN:HG2	2.18	0.43
23:AY:259:PHE:CB	23:AY:272:LEU:HD13	2.48	0.43
23:AY:425:SER:HA	23:AY:428:LEU:HD23	2.00	0.43
23:AY:496:LYS:HG3	23:AY:509:HIS:CG	2.53	0.43
25:BC:67:HIS:CG	25:BC:185:LYS:HG3	2.53	0.43
25:BC:77:ALA:HB3	25:BC:95:VAL:HG13	2.00	0.43
26:BD:92:ILE:C	26:BD:107:ALA:HB2	2.42	0.43
26:BD:175:LEU:O	26:BD:182:LEU:HA	2.19	0.43
30:BH:76:VAL:O	30:BH:80:SER:OG	2.26	0.43
34:BO:13:ASN:HB3	34:BO:97:ARG:HG3	2.00	0.43
34:BO:71:ARG:HH11	39:BT:74:ARG:NH2	2.15	0.43
35:BP:52:GLU:CG	35:BP:53:GLY:H	2.30	0.43
36:BQ:24:GLY:HA3	36:BQ:67:ARG:HH22	1.82	0.43
36:BQ:131:ILE:H	36:BQ:131:ILE:HG13	1.57	0.43
37:BR:83:ILE:O	37:BR:87:TYR:HD2	2.00	0.43
52:B8:27:THR:O	52:B8:44:LYS:HE2	2.18	0.43
59:BA:432:A:H2'	59:BA:433:C:C6	2.54	0.43
59:BA:924:C:H2'	59:BA:925:C:C6	2.53	0.43
59:BA:1289:C:H4'	59:BA:1330:C:H1'	1.99	0.43
59:BA:1437:C:H2'	59:BA:1438:U:C6	2.53	0.43
59:BA:1571:A:H2'	59:BA:1572:A:C8	2.53	0.43
59:BA:1886:C:H2'	59:BA:1887:C:H6	1.83	0.43
59:BA:1912:A:C8	59:BA:1917:U:N3	2.80	0.43
59:BA:2049:G:H1	59:BA:2619:C:N4	2.10	0.43
59:BA:2056:G:H2'	59:BA:2056:G:N3	2.34	0.43
2:CC:134:ILE:O	2:CC:138:VAL:HG23	2.19	0.43
3:CD:122:ARG:NE	20:CA:403:C:H4'	2.31	0.43
4:CE:76:ILE:HG13	4:CE:142:LEU:HD21	2.00	0.43
11:CL:73:GLU:HA	20:CA:521:G:OP1	2.18	0.43
13:CN:33:VAL:HA	13:CN:40:CYS:HA	2.00	0.43
20:CA:346:G:C4'	39:DT:41:ARG:HH22	2.28	0.43
20:CA:507:C:P	20:CA:508:C:H3'	2.58	0.43
20:CA:949:A:H2'	20:CA:950:U:C6	2.53	0.43
20:CA:958:A:N6	20:CA:959:A:N1	2.67	0.43
23:CY:314:PHE:CZ	23:CY:329:ARG:HB3	2.53	0.43
26:DD:14:ARG:NH1	59:DA:1695:G:N7	2.66	0.43
29:DG:97:ASP:HB2	29:DG:98:ARG:NH1	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:DQ:69:PHE:CD1	36:DQ:70:PRO:HD2	2.53	0.43
36:DQ:137:TYR:CD1	36:DQ:137:TYR:N	2.84	0.43
37:DR:27:SER:HB3	59:DA:1278:A:O2'	2.18	0.43
38:DS:92:TYR:CE2	38:DS:94:TYR:HB2	2.53	0.43
38:DS:94:TYR:CZ	59:DA:2376:A:H1'	2.53	0.43
44:DY:9:LYS:CE	44:DY:103:GLY:HA3	2.48	0.43
50:D6:47:THR:OG1	50:D6:48:VAL:HG22	2.18	0.43
57:D1:15:ALA:HA	57:D1:40:ARG:O	2.18	0.43
59:DA:131:G:H2'	59:DA:132:G:H8	1.83	0.43
59:DA:186:G:H2'	59:DA:187:G:H8	1.83	0.43
59:DA:563:G:H2'	59:DA:564:C:H6	1.83	0.43
59:DA:576:U:H2'	59:DA:577:G:C8	2.53	0.43
59:DA:114(B):A:C4	59:DA:1144:G:C8	3.07	0.43
59:DA:1184:G:H2'	59:DA:1185:C:H5'	2.01	0.43
59:DA:1305:C:H2'	59:DA:1306:C:H5'	2.00	0.43
59:DA:1583:A:H4'	59:DA:1586:A:C5	2.53	0.43
59:DA:2038:G:C5	59:DA:2039:C:C6	3.06	0.43
59:DA:2075:U:H4'	59:DA:2596:U:O2	2.18	0.43
1:AB:213:LEU:O	1:AB:217:ARG:HB2	2.19	0.43
2:AC:4:LYS:HE3	20:AA:1191:A:C5'	2.45	0.43
3:AD:57:ARG:HG3	3:AD:206:PHE:HB2	2.00	0.43
3:AD:61:LYS:HE2	3:AD:206:PHE:CE2	2.53	0.43
4:AE:42:GLY:HA3	4:AE:62:ALA:O	2.18	0.43
7:AH:13:ILE:O	7:AH:17:THR:HG23	2.19	0.43
7:AH:78:GLN:HE21	7:AH:80:ILE:HB	1.82	0.43
8:AI:70:LYS:O	8:AI:74:ILE:HG13	2.18	0.43
15:AP:16:HIS:HE1	15:AP:38:TYR:HB2	1.82	0.43
15:AP:40:ASP:HA	15:AP:41:PRO:HD2	1.83	0.43
16:AQ:82:MET:O	16:AQ:86:GLU:HB2	2.18	0.43
17:AR:68:LYS:HB3	17:AR:72:ARG:NH2	2.33	0.43
20:AA:130:A:H2	20:AA:263:A:C2	2.37	0.43
20:AA:563:A:O4'	20:AA:566:G:N2	2.51	0.43
20:AA:719:C:H2'	20:AA:720:C:O4'	2.18	0.43
20:AA:919:A:O5'	20:AA:919:A:H8	2.02	0.43
20:AA:987:G:H1	20:AA:1218:C:H42	1.65	0.43
20:AA:1317:C:H3'	20:AA:1318:A:C8	2.54	0.43
23:AY:322:VAL:HG23	23:AY:325:LEU:HD11	1.99	0.43
23:AY:491:VAL:O	23:AY:514:VAL:HG22	2.18	0.43
23:AY:555:LEU:HB2	23:AY:556:ILE:HD13	2.00	0.43
25:BC:82:GLU:OE2	25:BC:83:LYS:HD3	2.19	0.43
27:BE:8:LYS:HA	27:BE:26:ILE:HG22	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BE:104:VAL:O	27:BE:167:VAL:HG12	2.18	0.43
28:BF:43:LYS:HE3	28:BF:43:LYS:HB2	1.82	0.43
28:BF:155:LEU:HA	28:BF:176:LEU:HB3	2.01	0.43
29:BG:100:TRP:CE3	29:BG:103:LEU:HD21	2.53	0.43
32:BK:33:ASN:HB3	32:BK:65:PHE:CD1	2.53	0.43
36:BQ:135:ASP:OD1	36:BQ:135:ASP:N	2.50	0.43
38:BS:59:LYS:HG2	38:BS:60:GLY:H	1.84	0.43
40:BU:86:ALA:HB2	40:BU:116:ALA:HB2	2.00	0.43
43:BX:51:VAL:HG22	43:BX:83:VAL:HG22	2.01	0.43
44:BY:39:VAL:HB	44:BY:40:GLU:H	1.48	0.43
45:BZ:15:PRO:HB2	45:BZ:19:ARG:NE	2.33	0.43
45:BZ:176:PRO:HA	45:BZ:177:PRO:HD3	1.76	0.43
47:B2:48:HIS:CE1	59:BA:95:G:H4'	2.53	0.43
50:B6:14:THR:OG1	50:B6:20:ASN:O	2.34	0.43
51:B7:40:TRP:HB3	59:BA:460:A:OP2	2.18	0.43
59:BA:190:A:N3	59:BA:679:C:O2'	2.47	0.43
59:BA:641:C:H2'	59:BA:642:G:O4'	2.19	0.43
59:BA:1174:A:N7	59:BA:1175:U:H1'	2.33	0.43
59:BA:1273:U:H4'	59:BA:1275:A:OP2	2.18	0.43
59:BA:1438:U:H2'	59:BA:1439:A:C8	2.53	0.43
59:BA:1598:C:H2'	59:BA:1599:C:C6	2.54	0.43
59:BA:2528:U:OP2	59:BA:2530:A:N6	2.52	0.43
2:CC:6:HIS:O	2:CC:10:PHE:N	2.52	0.43
2:CC:187:ALA:HB3	2:CC:198:VAL:HB	2.01	0.43
7:CH:8:ASP:OD2	7:CH:12:ARG:NH2	2.51	0.43
7:CH:44:PHE:O	7:CH:64:LYS:HE3	2.17	0.43
7:CH:112:LEU:HB3	7:CH:133:LEU:HD12	2.00	0.43
11:CL:32:PHE:HA	11:CL:85:ILE:O	2.18	0.43
11:CL:53:ARG:HG3	11:CL:69:TYR:CE1	2.53	0.43
16:CQ:19:VAL:O	16:CQ:44:ALA:HB3	2.18	0.43
17:CR:61:LYS:HB2	17:CR:61:LYS:HE3	1.74	0.43
19:CT:61:SER:O	19:CT:65:LYS:HG2	2.19	0.43
20:CA:42:G:H2'	20:CA:43:C:C6	2.54	0.43
20:CA:186(G):C:H1'	20:CA:186(K):G:N2	2.32	0.43
20:CA:591:U:H2'	20:CA:592:G:H8	1.80	0.43
20:CA:770:C:O2'	20:CA:899:C:N3	2.45	0.43
20:CA:868:C:H2'	20:CA:869:G:O4'	2.18	0.43
20:CA:924:C:H2'	20:CA:925:G:H8	1.84	0.43
20:CA:1422:G:OP1	34:DO:48:PRO:HA	2.19	0.43
20:CA:1496:C:OP2	23:CY:501:THR:HG22	2.19	0.43
23:CY:197:ARG:HA	23:CY:197:ARG:CZ	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:CY:343:ASN:OD1	23:CY:346:LYS:N	2.30	0.43
23:CY:614:GLU:O	23:CY:617:MET:HB3	2.18	0.43
61:CY:701:FUA:H151	61:CY:701:FUA:H203	1.79	0.43
26:DD:182:LEU:HB2	26:DD:271:ILE:O	2.19	0.43
34:DO:101:PRO:HA	34:DO:120:GLU:O	2.18	0.43
36:DQ:103:MET:HE2	36:DQ:103:MET:HB3	1.80	0.43
38:DS:15:ARG:O	38:DS:18:ILE:HB	2.17	0.43
38:DS:24:LEU:HB3	38:DS:85:VAL:HA	1.99	0.43
39:DT:28:VAL:O	39:DT:46:GLU:HA	2.18	0.43
42:DW:74:ALA:HA	42:DW:104:THR:O	2.18	0.43
49:D5:58:LEU:H	49:D5:58:LEU:HG	1.65	0.43
59:DA:46:C:H2'	59:DA:47:C:H6	1.83	0.43
59:DA:270(C):A:H3'	59:DA:270(D):C:H6	1.83	0.43
59:DA:277:C:H3'	59:DA:278:A:C8	2.41	0.43
59:DA:463:G:H2'	59:DA:464:U:H5"	2.00	0.43
59:DA:794:G:C6	59:DA:795:C:C4	3.05	0.43
59:DA:901:A:H2'	59:DA:902:C:H6	1.83	0.43
59:DA:1070:A:H2'	59:DA:1097:U:OP1	2.18	0.43
59:DA:1279:G:N2	59:DA:1291:C:N3	2.59	0.43
59:DA:1455:G:O2'	59:DA:2853:C:OP1	2.26	0.43
59:DA:1541:U:H3'	59:DA:1542:G:H3'	1.99	0.43
59:DA:1882:C:H2'	59:DA:1883:G:O4'	2.18	0.43
59:DA:2092:U:OP1	59:DA:2199:A:O2'	2.35	0.43
59:DA:2113:U:H2'	59:DA:2114:A:O4'	2.18	0.43
59:DA:2744:G:H1	59:DA:2760:C:H42	1.67	0.43
59:DA:2816:C:O2	59:DA:2883:A:O2'	2.35	0.43
60:DB:25:A:H2'	60:DB:26:A:H8	1.82	0.43
1:AB:101:MET:HB3	1:AB:152:PHE:CE1	2.52	0.43
1:AB:186:ALA:O	1:AB:201:ILE:HG12	2.19	0.43
8:AI:5:TYR:HH	20:AA:1147:C:HO2'	1.65	0.43
11:AL:33:ARG:H	11:AL:85:ILE:HB	1.83	0.43
18:AS:39:THR:HB	18:AS:41:VAL:HG13	2.00	0.43
18:AS:40:ILE:HG12	18:AS:71:LEU:HA	2.00	0.43
20:AA:834:C:H2'	20:AA:835:U:C6	2.53	0.43
20:AA:1307:U:H2'	20:AA:1308:U:O4'	2.19	0.43
20:AA:1401:G:H5"	22:AV:22:A:H61	1.83	0.43
20:AA:1489:G:H2'	20:AA:1490:C:O4'	2.19	0.43
20:AA:1533:C:N4	22:AV:12:A:N1	2.67	0.43
23:AY:543:GLN:O	23:AY:546:ILE:HB	2.19	0.43
25:BC:38:PHE:O	25:BC:179:ALA:HB3	2.19	0.43
26:BD:17:THR:OG1	26:BD:205:VAL:N	2.42	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BE:144:ARG:O	59:BA:2053:G:H5'	2.18	0.43
28:BF:154:VAL:HG13	28:BF:191:ARG:HB2	2.00	0.43
30:BH:142:GLY:C	59:BA:2745:C:H4'	2.44	0.43
31:BJ:111:UNK:O	31:BJ:116:UNK:HA	2.19	0.43
35:BP:17:LYS:HE3	35:BP:19:VAL:O	2.18	0.43
35:BP:60:MET:HB3	59:BA:2392:A:C8	2.52	0.43
36:BQ:103:MET:HE2	36:BQ:103:MET:HB3	1.78	0.43
40:BU:27:LEU:O	40:BU:31:SER:N	2.52	0.43
40:BU:92:ARG:NH1	41:BV:4:ILE:HG23	2.32	0.43
42:BW:35:ILE:O	42:BW:39:THR:OG1	2.36	0.43
45:BZ:158:PRO:HA	45:BZ:159:PRO:HD3	1.88	0.43
51:B7:28:ARG:HA	51:B7:31:LEU:HG	2.00	0.43
52:B8:15:LYS:HE2	52:B8:16:ILE:N	2.34	0.43
59:BA:141(A):A:C8	59:BA:1596:A:H1'	2.53	0.43
59:BA:898:C:H2'	59:BA:899:A:H8	1.83	0.43
59:BA:1534:G:H1'	59:BA:1538:G:N2	2.34	0.43
59:BA:1927:A:H2'	59:BA:1928:A:C8	2.53	0.43
3:CD:14:ARG:CZ	3:CD:40:PRO:HD2	2.48	0.43
5:CF:75:LEU:O	5:CF:79:LEU:HG	2.18	0.43
16:CQ:95:TYR:CE1	20:CA:279:A:H2'	2.53	0.43
17:CR:30:ASP:O	17:CR:36:ASN:ND2	2.51	0.43
17:CR:81:PHE:C	20:CA:718:G:H22	2.26	0.43
20:CA:201:C:N4	20:CA:201(B):U:O2	2.52	0.43
20:CA:817:C:C2	20:CA:819:A:H5'	2.53	0.43
20:CA:828:A:H2'	20:CA:829:G:O4'	2.19	0.43
21:CW:31:A:H2	21:CW:39:U:H3	1.60	0.43
23:CY:343:ASN:HA	23:CY:389:LEU:HG	2.01	0.43
23:CY:522:GLY:O	23:CY:562:ASP:HA	2.18	0.43
25:DC:37:LYS:HB2	25:DC:38:PHE:CD1	2.54	0.43
25:DC:194:ILE:O	25:DC:197:LEU:HB2	2.19	0.43
26:DD:43:ARG:NH2	59:DA:690:G:O2'	2.52	0.43
26:DD:78:LYS:HE3	26:DD:78:LYS:HB3	1.56	0.43
26:DD:133:LEU:O	26:DD:136:ILE:HB	2.18	0.43
29:DG:41:GLN:NE2	29:DG:155:MET:HE2	2.33	0.43
31:DJ:135:UNK:C	31:DJ:137:UNK:H	2.31	0.43
33:DN:9:VAL:HG21	33:DN:39:ARG:NH1	2.33	0.43
36:DQ:36:ALA:HB2	36:DQ:103:MET:HE3	2.00	0.43
37:DR:24:GLN:O	37:DR:28:LEU:HB2	2.18	0.43
37:DR:38:VAL:O	37:DR:41:ALA:HB3	2.18	0.43
39:DT:64:ARG:HH12	39:DT:103:ARG:HG2	1.83	0.43
39:DT:67:SER:O	39:DT:69:GLY:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:DU:13:LYS:O	40:DU:16:LYS:HB3	2.18	0.43
41:DV:28:GLU:CD	41:DV:29:PRO:HD2	2.43	0.43
41:DV:97:LYS:HD3	41:DV:97:LYS:HA	1.67	0.43
42:DW:19:LEU:HD13	42:DW:19:LEU:HA	1.79	0.43
59:DA:8:A:H2'	59:DA:9:U:C6	2.53	0.43
59:DA:227:A:H5'	59:DA:228:A:C2	2.53	0.43
59:DA:734:A:C4	59:DA:735:A:C8	3.07	0.43
59:DA:919:G:H5"	60:DB:81:G:O2'	2.18	0.43
59:DA:960:A:H8	59:DA:960:A:O5'	2.01	0.43
59:DA:1435:G:H2'	59:DA:1436:G:C8	2.53	0.43
59:DA:1812:A:H2'	59:DA:1813:G:H8	1.78	0.43
59:DA:2173:A:H2'	59:DA:2174:C:O4'	2.18	0.43
59:DA:2352:A:H2'	59:DA:2353:G:O4'	2.19	0.43
59:DA:2421:G:H5"	59:DA:2422:A:OP2	2.18	0.43
59:DA:2769:C:H2'	59:DA:2770:G:C8	2.53	0.43
1:AB:140:HIS:O	1:AB:144:ARG:HG2	2.18	0.43
1:AB:161:ALA:HA	1:AB:183:PRO:HB2	1.99	0.43
10:AK:113:PRO:CB	20:AA:676:A:H5"	2.46	0.43
11:AL:82:VAL:O	11:AL:104:VAL:HG11	2.18	0.43
14:AO:32:LEU:HA	14:AO:35:ARG:HD2	2.00	0.43
19:AT:52:ALA:HA	19:AT:55:ILE:HB	2.00	0.43
20:AA:68(G):G:C5	20:AA:68(H):G:H1'	2.53	0.43
20:AA:68(H):G:H2'	20:AA:68(I):G:C8	2.54	0.43
20:AA:680:C:H2'	20:AA:681:C:C6	2.53	0.43
20:AA:922:G:H2'	20:AA:923:A:C8	2.53	0.43
20:AA:1066:C:H3'	20:AA:1067:A:C8	2.53	0.43
21:AW:27:C:H2'	21:AW:28:A:H8	1.84	0.43
23:AY:98:MET:HB2	23:AY:98:MET:HE3	1.82	0.43
23:AY:188:TYR:N	23:AY:188:TYR:CD2	2.87	0.43
23:AY:627:ARG:O	23:AY:629:GLY:N	2.52	0.43
25:BC:43:GLU:CD	59:BA:2123:G:H21	2.26	0.43
26:BD:92:ILE:HB	26:BD:105:ILE:O	2.19	0.43
26:BD:94:LEU:HG	26:BD:104:TYR:HE2	1.83	0.43
28:BF:173:VAL:C	28:BF:174:VAL:O	2.59	0.43
29:BG:98:ARG:HG3	58:B4:1:MET:SD	2.59	0.43
31:BJ:97:UNK:O	31:BJ:101:UNK:N	2.51	0.43
33:BN:95:PRO:O	33:BN:98:VAL:HG22	2.19	0.43
35:BP:61:ARG:HA	52:B8:27:THR:CG2	2.47	0.43
36:BQ:54:MET:HE2	36:BQ:54:MET:HB3	1.94	0.43
37:BR:40:LYS:HE3	59:BA:1651:G:OP2	2.19	0.43
39:BT:96:ARG:HA	59:BA:2848:G:OP2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BU:58:ARG:HA	40:BU:61:TRP:CE3	2.53	0.43
42:BW:75:TYR:CE1	42:BW:104:THR:HB	2.54	0.43
45:BZ:52:SER:C	45:BZ:54:HIS:H	2.26	0.43
50:B6:7:ILE:HD13	50:B6:7:ILE:HA	1.76	0.43
50:B6:41:PRO:HG2	50:B6:43:CYS:O	2.19	0.43
51:B7:39:ARG:HA	51:B7:39:ARG:NH1	2.34	0.43
58:B4:28:LYS:HB3	58:B4:31:ILE:CD1	2.48	0.43
59:BA:223:A:H4'	59:BA:420:C:O2'	2.18	0.43
59:BA:276:A:H2'	59:BA:277:C:C5	2.54	0.43
59:BA:979:G:H3'	59:BA:980:A:C5'	2.48	0.43
59:BA:1287:A:N6	59:BA:1648:C:O2'	2.51	0.43
59:BA:1802:A:P	59:BA:1815:A:H61	2.41	0.43
59:BA:2479:G:OP1	59:BA:2537:U:H1'	2.19	0.43
59:BA:2839:G:H2'	59:BA:2840:C:H6	1.83	0.43
60:BB:17:C:H2'	60:BB:18:G:O4'	2.18	0.43
1:CB:96:ARG:HB2	1:CB:148:TYR:CE1	2.53	0.43
2:CC:54:ARG:HB3	2:CC:56:ASP:OD1	2.19	0.43
3:CD:25:ARG:N	20:CA:409:G:OP1	2.45	0.43
11:CL:61:THR:CB	20:CA:362:G:H5"	2.49	0.43
19:CT:12:ALA:O	19:CT:15:ARG:HB2	2.18	0.43
20:CA:143:A:H5'	20:CA:196:A:N1	2.33	0.43
20:CA:996:A:H2'	20:CA:997:U:C6	2.54	0.43
20:CA:1120:G:H1	20:CA:1153:C:N4	2.14	0.43
20:CA:1486:G:H2'	20:CA:1487:G:O4'	2.19	0.43
23:CY:22:ASP:O	23:CY:23:ALA:HB3	2.19	0.43
23:CY:127:LYS:HE2	23:CY:127:LYS:HA	2.00	0.43
23:CY:255:ILE:HG23	23:CY:257:PRO:HD3	2.00	0.43
23:CY:329:ARG:HD3	23:CY:374:LEU:HG	2.01	0.43
23:CY:421:GLN:O	23:CY:424:LEU:HG	2.18	0.43
25:DC:48:LEU:HB2	25:DC:49:GLY:H	1.60	0.43
26:DD:132:PRO:HG3	26:DD:190:TYR:CE1	2.54	0.43
26:DD:250:TRP:NE1	59:DA:1805:U:H5"	2.34	0.43
27:DE:14:ILE:HD11	27:DE:183:LEU:HD23	2.00	0.43
28:DF:189:THR:O	28:DF:190:GLU:HG3	2.19	0.43
30:DH:41:MET:SD	30:DH:52:VAL:HG13	2.58	0.43
32:DK:116:ASN:HD21	59:DA:1057:A:H2	1.65	0.43
33:DN:78:TYR:HA	33:DN:79:PRO:HD3	1.90	0.43
39:DT:105:LEU:HB3	39:DT:109:GLU:OE1	2.19	0.43
41:DV:6:LYS:O	41:DV:37:VAL:HG21	2.18	0.43
43:DX:62:LYS:HE2	59:DA:1339:G:O6	2.19	0.43
44:DY:28:LYS:HB3	44:DY:28:LYS:HE2	1.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:DZ:167:PRO:C	45:DZ:169:GLU:H	2.26	0.43
46:D0:73:GLY:C	46:D0:75:LEU:H	2.27	0.43
59:DA:262:A:H5'	59:DA:609(B):G:O2'	2.18	0.43
59:DA:363(E):G:H2'	59:DA:363(F):U:C6	2.53	0.43
59:DA:723:G:H2'	59:DA:724:U:H6	1.84	0.43
59:DA:822:U:C5	59:DA:944:G:H1'	2.53	0.43
59:DA:1321:A:H2'	59:DA:1322:A:C8	2.53	0.43
59:DA:1375:C:C2	59:DA:1376:C:C5	3.06	0.43
59:DA:1674:G:H21	59:DA:1677:A:H61	1.65	0.43
59:DA:1899:G:H21	59:DA:1902:C:N4	2.15	0.43
1:AB:208:ILE:HD12	1:AB:208:ILE:H	1.84	0.43
3:AD:49:ARG:HB3	3:AD:50:ARG:H	1.58	0.43
3:AD:106:TYR:HB2	3:AD:117:ALA:HB2	2.01	0.43
3:AD:138:TYR:HB2	20:AA:620:C:H1'	2.01	0.43
9:AJ:15:THR:HA	9:AJ:18:ALA:HB3	2.00	0.43
10:AK:38:ASN:HA	10:AK:39:PRO:HD3	1.74	0.43
10:AK:65:ALA:HB1	10:AK:98:LEU:HD23	2.00	0.43
11:AL:90:VAL:C	11:AL:92:ASP:H	2.27	0.43
16:AQ:25:ARG:NH1	20:AA:237:C:H5"	2.32	0.43
20:AA:389:A:C6	20:AA:390:C:H1'	2.54	0.43
20:AA:583:A:N6	20:AA:758:G:O2'	2.51	0.43
20:AA:1219:U:H2'	20:AA:1220:G:C8	2.53	0.43
23:AY:190:ASN:HD21	23:AY:195:ASP:H	1.67	0.43
25:BC:75:VAL:O	25:BC:77:ALA:N	2.52	0.43
25:BC:76:LEU:O	25:BC:95:VAL:HA	2.19	0.43
25:BC:135:ARG:NH1	59:BA:2170:A:OP1	2.52	0.43
27:BE:59:VAL:HG13	27:BE:60:ASN:H	1.84	0.43
27:BE:61:ARG:HB2	27:BE:62:PRO:HD3	2.00	0.43
33:BN:118:LYS:C	33:BN:120:LEU:H	2.26	0.43
35:BP:148:LEU:HB3	35:BP:149:GLU:H	1.44	0.43
39:BT:61:PHE:CD2	39:BT:78:LEU:HD12	2.53	0.43
40:BU:25:TRP:HD1	40:BU:26:GLY:N	2.17	0.43
40:BU:37:GLU:O	40:BU:40:PHE:HB2	2.18	0.43
41:BV:83:ARG:HH21	59:BA:1187:G:P	2.41	0.43
45:BZ:102:LEU:N	45:BZ:122:ARG:O	2.51	0.43
51:B7:16:HIS:HE1	59:BA:684:G:H5'	1.84	0.43
57:B1:49:VAL:HG21	57:B1:67:ILE:HG22	2.00	0.43
58:B4:9:LEU:HB3	58:B4:10:VAL:H	1.58	0.43
59:BA:308:G:C8	59:BA:501:A:H1'	2.54	0.43
59:BA:459:U:C4	59:BA:470:A:N7	2.87	0.43
59:BA:500:G:N1	59:BA:503:A:OP2	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:512:G:OP1	59:BA:1234:U:O2'	2.34	0.43
59:BA:704:G:O2'	59:BA:705:A:OP2	2.37	0.43
59:BA:988:A:H2	59:BA:989:G:N2	2.17	0.43
59:BA:1070:A:O2'	59:BA:1071:G:OP1	2.36	0.43
59:BA:1604:C:H2'	59:BA:1605:C:H6	1.78	0.43
59:BA:1633:G:C6	59:BA:1635:G:C2	3.06	0.43
59:BA:1940:U:P	59:BA:1965:C:H41	2.42	0.43
59:BA:2171:A:H2'	59:BA:2172:U:C6	2.54	0.43
59:BA:2513:G:H2'	59:BA:2514:U:C6	2.53	0.43
59:BA:2572:A:H3'	59:BA:2574:G:H5"	2.00	0.43
59:BA:2646:C:OP2	59:BA:2732:G:O2'	2.35	0.43
59:BA:2838:G:C6	59:BA:2839:G:C5	3.07	0.43
1:CB:12:GLU:OE2	1:CB:16:HIS:NE2	2.51	0.43
6:CG:78:ARG:HB3	6:CG:85:TYR:HB2	2.01	0.43
7:CH:32:LYS:O	7:CH:36:LEU:HG	2.19	0.43
11:CL:83:VAL:HG11	11:CL:100:ILE:HD13	1.99	0.43
12:CM:108:ARG:HD2	12:CM:108:ARG:N	2.34	0.43
18:CS:25:LYS:HA	18:CS:25:LYS:HD2	1.82	0.43
19:CT:49:ALA:O	19:CT:53:LEU:HG	2.19	0.43
20:CA:1021:G:H2'	20:CA:1022:G:H8	1.83	0.43
25:DC:173:HIS:NE2	59:DA:2176:A:C2	2.87	0.43
26:DD:35:LYS:HA	26:DD:63:ARG:HA	1.99	0.43
27:DE:115:GLY:O	27:DE:119:ARG:HB2	2.18	0.43
28:DF:78:ILE:H	28:DF:78:ILE:HG12	1.65	0.43
28:DF:102:PRO:HB2	28:DF:105:VAL:CG2	2.48	0.43
29:DG:114:ILE:HG22	29:DG:115:ARG:N	2.33	0.43
30:DH:23:ARG:HB3	30:DH:36:PRO:HB3	1.99	0.43
32:DK:51:ALA:O	32:DK:53:VAL:HG23	2.19	0.43
36:DQ:14:ARG:HH21	59:DA:957:A:H3'	1.84	0.43
40:DU:61:TRP:CD2	40:DU:94:ASN:HA	2.53	0.43
48:D3:30:ARG:NH1	48:D3:32:GLN:O	2.52	0.43
52:D8:61:LEU:CG	59:DA:593:G:H4'	2.48	0.43
57:D1:66:HIS:NE2	59:DA:372:G:H5'	2.33	0.43
59:DA:41:C:H2'	59:DA:43:G:C8	2.54	0.43
59:DA:219:G:H2'	59:DA:220:G:C8	2.53	0.43
59:DA:257:A:H2'	59:DA:258:G:O4'	2.19	0.43
59:DA:391:G:H2'	59:DA:392:C:H6	1.82	0.43
59:DA:407:G:H2'	59:DA:408:G:C8	2.54	0.43
59:DA:1174:A:N7	59:DA:1175:U:H1'	2.34	0.43
59:DA:1651:G:H2'	59:DA:1652:A:O4'	2.18	0.43
59:DA:1774:C:O2	59:DA:1774:C:H2'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:2043:C:P	59:DA:2777:G:HO2'	2.36	0.43
59:DA:2111:C:H1'	59:DA:2118:U:H4'	2.00	0.43
59:DA:2748:A:H2'	59:DA:2749:A:C8	2.54	0.43
2:AC:113:ALA:HB2	2:AC:202:ILE:HG13	2.01	0.43
2:AC:176:HIS:HB2	20:AA:1108:G:P	2.59	0.43
3:AD:100:ARG:O	3:AD:104:VAL:HG23	2.18	0.43
5:AF:5:GLU:HB3	5:AF:62:TRP:CZ2	2.53	0.43
8:AI:92:TYR:O	8:AI:96:LEU:HB2	2.19	0.43
11:AL:102:ARG:HA	11:AL:107:ALA:HB3	2.01	0.43
12:AM:23:TYR:CZ	20:AA:1330:U:H4'	2.54	0.43
12:AM:88:ARG:HA	12:AM:98:VAL:HG13	2.00	0.43
14:AO:46:HIS:O	14:AO:48:LYS:N	2.52	0.43
15:AP:72:ARG:NH1	20:AA:452:A:N3	2.66	0.43
18:AS:10:PHE:CD2	20:AA:1318:A:H4'	2.53	0.43
20:AA:514:C:H2'	20:AA:515:G:O4'	2.19	0.43
20:AA:956:U:H2'	20:AA:957:U:O4'	2.19	0.43
25:BC:20:VAL:HG13	25:BC:226:ASN:N	2.34	0.43
25:BC:74:ARG:HE	25:BC:110:ASP:C	2.26	0.43
27:BE:62:PRO:C	27:BE:64:LYS:H	2.24	0.43
27:BE:144:ARG:HD2	59:BA:2572:A:C8	2.54	0.43
28:BF:158:THR:O	28:BF:178:PRO:HD3	2.19	0.43
32:BK:90:LYS:HG3	59:BA:1063:G:N2	2.24	0.43
32:BK:126:MET:HA	59:BA:1080:C:O2'	2.19	0.43
34:BO:39:ILE:HG23	34:BO:60:ALA:HB3	2.00	0.43
35:BP:46:LYS:HD2	35:BP:46:LYS:N	2.33	0.43
39:BT:84:GLN:C	39:BT:86:ILE:H	2.27	0.43
40:BU:99:ALA:HB2	40:BU:106:PHE:CE2	2.54	0.43
45:BZ:75:ASN:C	45:BZ:76:LEU:HD23	2.44	0.43
45:BZ:77:ASP:O	45:BZ:79:ARG:N	2.52	0.43
57:B1:76:ARG:HH22	57:B1:95:LEU:HD13	1.84	0.43
59:BA:799:G:H3'	59:BA:800:A:H5"	2.01	0.43
59:BA:1346:G:H1	59:BA:1600:C:N4	2.16	0.43
59:BA:1359:A:C6	59:BA:1360:A:H1'	2.53	0.43
59:BA:1435:G:H2'	59:BA:1436:G:C8	2.54	0.43
59:BA:2258:C:H3'	59:BA:2259:G:H8	1.83	0.43
59:BA:2535:G:H2'	59:BA:2536:G:C8	2.54	0.43
59:BA:2815:C:H2'	59:BA:2816:C:O4'	2.19	0.43
3:CD:10:ARG:HH21	20:CA:542:G:P	2.41	0.43
3:CD:36:ARG:NH1	20:CA:427:U:OP2	2.52	0.43
7:CH:30:ARG:O	7:CH:34:GLU:HG2	2.19	0.43
7:CH:49:GLU:OE2	7:CH:60:ARG:HB3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:CL:5:PRO:O	11:CL:9:GLN:HG3	2.19	0.43
11:CL:76:ASN:CG	11:CL:77:LEU:H	2.25	0.43
11:CL:91:LYS:HE2	20:CA:526:C:OP2	2.19	0.43
13:CN:10:ALA:HB2	13:CN:21:TYR:CE1	2.53	0.43
20:CA:101:A:H2'	20:CA:102:G:H8	1.83	0.43
20:CA:199:G:H1	20:CA:218:C:H42	1.67	0.43
20:CA:666:G:N2	20:CA:740:U:O2	2.42	0.43
20:CA:1097:C:H1'	20:CA:1170:A:H1'	1.99	0.43
20:CA:1108:G:H2'	20:CA:1109:C:H5'	1.99	0.43
20:CA:1507:A:C2	20:CA:1508:G:C5	3.07	0.43
23:CY:69:VAL:O	23:CY:358:MET:HB3	2.19	0.43
23:CY:133:ILE:H	23:CY:133:ILE:HD13	1.84	0.43
23:CY:565:VAL:O	23:CY:566:THR:HB	2.19	0.43
23:CY:617:MET:HG3	23:CY:643:ILE:CD1	2.48	0.43
61:CY:701:FUA:H5	61:CY:701:FUA:C20	2.36	0.43
25:DC:173:HIS:CD2	59:DA:2123:G:H1'	2.53	0.43
30:DH:143:GLN:HG2	59:DA:2745:C:H1'	2.00	0.43
32:DK:13:PRO:HA	32:DK:53:VAL:H	1.82	0.43
32:DK:30:HIS:CG	32:DK:32:ALA:HB2	2.54	0.43
33:DN:35:ARG:HB2	33:DN:42:TRP:HZ3	1.84	0.43
35:DP:5:ASP:OD2	35:DP:6:LEU:N	2.52	0.43
35:DP:47:ASP:OD1	35:DP:49:ARG:HB2	2.19	0.43
35:DP:86:LYS:HD2	35:DP:86:LYS:HA	1.85	0.43
40:DU:25:TRP:CD1	40:DU:25:TRP:C	2.97	0.43
42:DW:8:ARG:HE	42:DW:102:HIS:CE1	2.37	0.43
43:DX:21:PHE:HE2	43:DX:26:TYR:HA	1.83	0.43
50:D6:5:VAL:HB	59:DA:2283:C:H5'	2.01	0.43
51:D7:34:ARG:HH12	59:DA:467:G:P	2.41	0.43
57:D1:76:ARG:HG3	59:DA:270(T):G:H5'	2.01	0.43
59:DA:189:G:H2'	59:DA:205:G:N2	2.34	0.43
59:DA:987:G:O2'	59:DA:1000:A:N3	2.46	0.43
59:DA:1434:A:H61	59:DA:1558:A:N6	2.15	0.43
59:DA:1577:C:H2'	59:DA:1578:U:C6	2.54	0.43
59:DA:2002:G:H2'	59:DA:2003:G:H8	1.83	0.43
59:DA:2471:C:H2'	59:DA:2472:G:C8	2.53	0.43
1:AB:42:ILE:HG23	1:AB:44:LEU:HG	2.01	0.43
1:AB:103:THR:C	1:AB:105:PHE:H	2.27	0.43
5:AF:21:LEU:O	5:AF:25:ILE:HG12	2.19	0.43
20:AA:637:G:H2'	20:AA:638:G:O4'	2.19	0.43
20:AA:955:U:H2'	20:AA:956:U:O4'	2.19	0.43
20:AA:1229:A:H5"	21:AW:29:U:O2'	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BC:73:VAL:HG22	25:BC:75:VAL:N	2.34	0.43
25:BC:119:ASP:OD2	25:BC:119:ASP:N	2.47	0.43
25:BC:164:PHE:CA	25:BC:172:ILE:HG13	2.42	0.43
29:BG:114:ILE:HD12	29:BG:117:PHE:CD1	2.53	0.43
29:BG:139:LEU:HA	29:BG:144:ILE:HG23	2.01	0.43
30:BH:25:LYS:H	30:BH:25:LYS:HG3	1.58	0.43
35:BP:60:MET:H	35:BP:60:MET:HG2	1.54	0.43
36:BQ:14:ARG:NH1	59:BA:956:G:N7	2.55	0.43
39:BT:23:ARG:C	39:BT:25:GLY:H	2.27	0.43
39:BT:62:THR:OG1	39:BT:75:ILE:HG12	2.18	0.43
49:B5:22:HIS:CE1	59:BA:2045:C:H1'	2.54	0.43
51:B7:41:ARG:HH12	51:B7:44:PRO:HG3	1.84	0.43
52:B8:52:LYS:N	52:B8:53:PRO:HD2	2.34	0.43
59:BA:814:C:H2'	59:BA:815:C:C6	2.53	0.43
59:BA:901:A:H2'	59:BA:902:C:C6	2.54	0.43
59:BA:975:G:H1'	59:BA:990:A:C2	2.54	0.43
59:BA:997:G:H2'	59:BA:998:C:H6	1.83	0.43
59:BA:1412:A:H2'	59:BA:1413:G:H8	1.84	0.43
59:BA:2414:G:H2'	59:BA:2415:G:C8	2.54	0.43
59:BA:2553:G:C2	59:BA:2583:G:H1'	2.54	0.43
59:BA:2564:A:OP1	59:BA:2648:C:H4'	2.18	0.43
1:CB:72:GLY:HA3	1:CB:81:VAL:HG21	2.01	0.43
1:CB:124:SER:C	1:CB:126:GLU:H	2.27	0.43
2:CC:6:HIS:HA	2:CC:7:PRO:HD3	1.68	0.43
4:CE:119:LEU:HD21	20:CA:6:G:C2	2.53	0.43
6:CG:102:ARG:NH2	20:CA:939:G:OP1	2.45	0.43
8:CI:4:TYR:HD1	8:CI:19:LEU:O	2.01	0.43
13:CN:21:TYR:CE2	20:CA:981:U:H4'	2.54	0.43
15:CP:38:TYR:CE2	20:CA:626:U:H5"	2.54	0.43
16:CQ:54:GLY:O	16:CQ:56:VAL:N	2.51	0.43
17:CR:64:ARG:NH2	20:CA:663:A:O3'	2.50	0.43
19:CT:63:ILE:HG22	19:CT:77:ALA:HB1	2.00	0.43
20:CA:68(G):G:C4	20:CA:68(H):G:H1'	2.54	0.43
20:CA:503:C:H2'	20:CA:504:C:C6	2.53	0.43
20:CA:901:A:H8	20:CA:901:A:O5'	2.01	0.43
23:CY:454:MET:HE3	23:CY:454:MET:HB2	1.80	0.43
25:DC:22:THR:HA	25:DC:225:ILE:O	2.19	0.43
28:DF:156:LEU:O	28:DF:157:VAL:C	2.59	0.43
34:DO:6:THR:HG23	59:DA:1666:G:O3'	2.18	0.43
35:DP:79:ARG:HH21	35:DP:109:GLY:HA2	1.83	0.43
36:DQ:38:GLU:OE1	36:DQ:128:LYS:HE2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:DQ:126:PRO:HA	59:DA:2485:G:H4'	2.01	0.43
39:DT:16:ARG:NH1	39:DT:19:LEU:HD21	2.33	0.43
41:DV:59:ALA:HB1	41:DV:96:ILE:HA	2.00	0.43
41:DV:75:PHE:HB2	41:DV:81:TYR:O	2.19	0.43
50:D6:15:GLU:HA	50:D6:49:HIS:HA	2.01	0.43
59:DA:528:A:C2	59:DA:2043:C:H4'	2.54	0.43
59:DA:612:G:H2'	59:DA:613:U:C6	2.54	0.43
59:DA:715:G:C6	59:DA:716:A:C6	3.07	0.43
59:DA:1306:C:N3	59:DA:1622:G:O6	2.51	0.43
59:DA:2023:G:OP1	59:DA:2034:U:H1'	2.19	0.43
59:DA:2038:G:C2	59:DA:2039:C:H1'	2.54	0.43
59:DA:2116:G:H2'	59:DA:2117:A:C5	2.54	0.43
59:DA:2583:G:N1	59:DA:2584:U:O2	2.52	0.43
2:AC:34:LEU:HD22	13:AN:25:VAL:HG21	2.00	0.43
3:AD:37:PRO:O	3:AD:38:TYR:HB3	2.19	0.43
4:AE:110:LEU:HD13	4:AE:115:VAL:HG21	2.01	0.43
5:AF:5:GLU:HB3	5:AF:62:TRP:HZ2	1.83	0.43
5:AF:15:ASP:HB3	5:AF:18:GLN:CD	2.44	0.43
5:AF:18:GLN:O	5:AF:22:GLU:HG2	2.18	0.43
7:AH:31:PHE:O	7:AH:35:ILE:HG12	2.19	0.43
11:AL:30:ALA:HA	11:AL:31:PRO:HD3	1.72	0.43
11:AL:58:VAL:HG11	11:AL:85:ILE:CG1	2.46	0.43
19:AT:89:ARG:NH2	20:AA:186(A):C:O3'	2.52	0.43
20:AA:33:A:H5"	20:AA:364:A:H1'	2.01	0.43
20:AA:62:U:H2'	20:AA:63:C:H6	1.84	0.43
20:AA:68(A):G:C2	20:AA:68(B):G:C8	3.07	0.43
20:AA:479:C:H2'	20:AA:480:U:C6	2.54	0.43
20:AA:867:G:H2'	20:AA:868:C:C6	2.54	0.43
20:AA:1108:G:H2'	20:AA:1109:C:H5'	2.01	0.43
20:AA:1410:G:H2'	20:AA:1411:C:C6	2.53	0.43
23:AY:357:ARG:NH1	23:AY:373:ASP:OD1	2.52	0.43
25:BC:101:ILE:HD13	25:BC:124:VAL:HG13	2.00	0.43
25:BC:131:ILE:HG12	25:BC:132:LEU:H	1.83	0.43
25:BC:161:ARG:HD3	25:BC:161:ARG:C	2.44	0.43
27:BE:22:PRO:HG2	59:BA:2729:G:H5'	2.01	0.43
27:BE:166:THR:OG1	59:BA:2773:C:OP1	2.32	0.43
28:BF:47:GLY:O	28:BF:94:PRO:HA	2.19	0.43
28:BF:50:SER:O	59:BA:37:C:O2'	2.35	0.43
28:BF:156:LEU:O	28:BF:157:VAL:C	2.59	0.43
30:BH:12:PRO:HD2	30:BH:49:VAL:HG22	2.00	0.43
34:BO:103:ALA:HB1	34:BO:105:GLU:OE1	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BP:55:ARG:NH1	59:BA:2358:G:H22	2.17	0.43
41:BV:1:MET:HB2	41:BV:42:GLY:HA3	2.01	0.43
41:BV:36:PRO:HD2	41:BV:37:VAL:HG22	2.01	0.43
42:BW:3:ALA:O	42:BW:106:ILE:HA	2.18	0.43
44:BY:8:LYS:NZ	59:BA:336:C:H4'	2.32	0.43
44:BY:14:LEU:O	44:BY:72:VAL:HG12	2.19	0.43
45:BZ:81:ARG:HE	45:BZ:81:ARG:HB2	1.36	0.43
49:B5:31:VAL:HA	49:B5:32:PRO:HD3	1.86	0.43
57:B1:18:ILE:HG13	57:B1:20:ARG:H	1.84	0.43
57:B1:23:LYS:HD2	57:B1:23:LYS:HA	1.81	0.43
57:B1:25:LYS:HG2	57:B1:34:THR:C	2.44	0.43
58:B4:6:HIS:C	58:B4:8:LYS:H	2.27	0.43
59:BA:115:C:O2'	59:BA:127:A:O2'	2.27	0.43
59:BA:250:G:N1	59:BA:251:A:C2	2.87	0.43
59:BA:839:U:H2'	59:BA:840:C:H6	1.80	0.43
59:BA:864:G:H2'	59:BA:865:C:C6	2.54	0.43
59:BA:948:G:H2'	59:BA:949:C:C6	2.54	0.43
59:BA:1659:U:O2	59:BA:2001:A:N1	2.52	0.43
59:BA:2119:A:C2	59:BA:2171:A:H1'	2.54	0.43
59:BA:2439:A:H8	59:BA:2586:C:O3'	2.02	0.43
59:BA:2451:A:C8	59:BA:2452:C:C5	3.07	0.43
2:CC:161:GLU:HG3	20:CA:1055:A:O3'	2.19	0.43
4:CE:80:ILE:HG22	7:CH:104:ARG:NH2	2.34	0.43
5:CF:67:MET:O	5:CF:69:GLU:N	2.52	0.43
7:CH:7:ALA:HA	7:CH:10:LEU:HD12	2.00	0.43
9:CJ:33:GLN:HB2	9:CJ:75:ILE:HD12	2.01	0.43
10:CK:70:LYS:HB3	10:CK:70:LYS:HE2	1.77	0.43
14:CO:55:GLY:O	14:CO:59:MET:HG3	2.19	0.43
17:CR:56:THR:HB	17:CR:58:LEU:HD23	2.01	0.43
19:CT:67:ALA:HB2	19:CT:77:ALA:HB3	2.01	0.43
20:CA:28:G:H2'	20:CA:29:G:C8	2.54	0.43
20:CA:287:U:H2'	20:CA:288:A:C8	2.54	0.43
20:CA:513:C:N4	20:CA:538:G:H1	2.16	0.43
20:CA:721:G:H8	20:CA:721:G:OP1	2.02	0.43
20:CA:1534:A:H2'	20:CA:1535:C:H6	1.84	0.43
23:CY:610:VAL:O	23:CY:642:VAL:HA	2.19	0.43
25:DC:152:GLU:O	25:DC:155:ARG:HB2	2.19	0.43
26:DD:78:LYS:HB2	26:DD:116:GLN:HB2	2.01	0.43
27:DE:93:VAL:C	27:DE:95:ILE:H	2.27	0.43
29:DG:133:LEU:HD11	29:DG:157:ILE:HD12	2.00	0.43
31:DJ:123:UNK:C	31:DJ:125:UNK:H	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:DK:17:ALA:HB2	32:DK:38:VAL:HG11	2.01	0.43
34:DO:63:VAL:HG23	34:DO:64:ARG:HG3	2.01	0.43
37:DR:107:ASP:HB2	59:DA:1649:G:N2	2.33	0.43
45:DZ:48:PHE:HA	45:DZ:51:ALA:HB3	2.01	0.43
46:D0:40:GLN:HE21	46:D0:57:PHE:HB3	1.84	0.43
46:D0:70:GLN:HB3	46:D0:78:TYR:HB2	2.00	0.43
53:D9:31:LYS:HD2	59:DA:2478:A:O4'	2.18	0.43
59:DA:227:A:H61	59:DA:410:G:N2	2.17	0.43
59:DA:227:A:N6	59:DA:410:G:H21	2.17	0.43
59:DA:664:C:H4'	59:DA:940:G:H5"	2.00	0.43
59:DA:681:G:H2'	59:DA:682:G:C8	2.54	0.43
59:DA:1024:G:H21	59:DA:1144:G:C4'	2.31	0.43
59:DA:1056:G:H4'	59:DA:1086:A:C8	2.54	0.43
59:DA:1463:C:H2'	59:DA:1464:C:H6	1.84	0.43
59:DA:1732:A:H2'	59:DA:1733:G:O4'	2.19	0.43
59:DA:2211:G:H2'	59:DA:2211:G:N3	2.34	0.43
59:DA:2703:C:H2'	59:DA:2704:C:C6	2.53	0.43
59:DA:2821:A:H2'	59:DA:2822:G:C8	2.54	0.43
1:AB:95:GLN:HG3	1:AB:147:LYS:HG3	2.01	0.42
2:AC:36:ASP:OD1	2:AC:57:ILE:HD13	2.19	0.42
2:AC:102:ASN:ND2	2:AC:104:GLN:HG2	2.28	0.42
7:AH:115:SER:HB2	20:AA:640:A:H1'	1.99	0.42
8:AI:28:VAL:N	8:AI:31:GLN:O	2.48	0.42
9:AJ:99:LYS:HD2	9:AJ:99:LYS:HA	1.68	0.42
11:AL:120:TYR:N	11:AL:120:TYR:CD2	2.87	0.42
12:AM:77:ASN:O	12:AM:81:LEU:HD13	2.19	0.42
12:AM:105:THR:HG22	20:AA:1229:A:H61	1.85	0.42
12:AM:115:LYS:H	20:AA:1228:C:H5'	1.84	0.42
15:AP:42:ARG:NH1	20:AA:449:C:O2	2.52	0.42
15:AP:80:PHE:O	20:AA:458(E):A:H4'	2.18	0.42
16:AQ:63:ARG:HB2	20:AA:130:A:C8	2.54	0.42
19:AT:36:LEU:HD13	19:AT:36:LEU:HA	1.83	0.42
20:AA:62:U:OP1	20:AA:385:C:O2'	2.35	0.42
20:AA:197:A:N3	20:AA:198:G:H1'	2.34	0.42
20:AA:301:G:H2'	20:AA:302:G:C8	2.53	0.42
20:AA:957:U:H1'	20:AA:960:U:N3	2.33	0.42
20:AA:1073:U:H2'	20:AA:1074:G:H8	1.84	0.42
20:AA:1210:C:H1'	20:AA:1214:C:O2	2.18	0.42
22:AV:16:A:H2'	22:AV:17:U:C6	2.54	0.42
23:AY:328:ILE:HG13	23:AY:330:VAL:H	1.84	0.42
27:BE:134:ILE:HD13	27:BE:134:ILE:N	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BF:51:THR:O	28:BF:52:LYS:HB2	2.18	0.42
28:BF:154:VAL:HG11	28:BF:156:LEU:HD12	2.01	0.42
28:BF:164:ARG:O	28:BF:168:ARG:N	2.52	0.42
32:BK:132:ARG:HH12	32:BK:138:VAL:HG23	1.84	0.42
36:BQ:20:ALA:O	36:BQ:22:LYS:N	2.51	0.42
40:BU:94:ASN:HB2	59:BA:996:A:H5'	2.00	0.42
49:B5:8:LYS:NZ	59:BA:2056:G:H4'	2.31	0.42
49:B5:9:LYS:HA	59:BA:2017:U:H4'	2.00	0.42
57:B1:7:ILE:CD1	57:B1:62:VAL:HA	2.49	0.42
59:BA:236:C:H2'	59:BA:237:C:C6	2.54	0.42
59:BA:377:C:H2'	59:BA:378:C:H6	1.83	0.42
59:BA:464:U:H2'	59:BA:465:G:O4'	2.19	0.42
59:BA:734:A:O2'	59:BA:1635:G:H5'	2.19	0.42
59:BA:1309:G:H1	59:BA:1605:C:H42	1.67	0.42
59:BA:1950:G:C8	59:BA:1951:U:H5	2.36	0.42
59:BA:1954:G:O2'	59:BA:1956:U:O4	2.29	0.42
59:BA:2212:A:H1'	59:BA:2215:G:C4	2.54	0.42
59:BA:2247:A:H2'	59:BA:2248:C:O4'	2.19	0.42
59:BA:2884:U:H2'	59:BA:2885:C:O4'	2.19	0.42
1:CB:71:VAL:CB	1:CB:164:VAL:HG22	2.41	0.42
2:CC:176:HIS:HB3	20:CA:1111:A:H61	1.84	0.42
3:CD:165:MET:HB3	3:CD:165:MET:HE3	1.64	0.42
5:CF:1:MET:HE2	5:CF:68:PRO:HD3	2.00	0.42
6:CG:57:GLU:CD	6:CG:57:GLU:H	2.27	0.42
6:CG:79:ARG:H	6:CG:79:ARG:HD3	1.83	0.42
6:CG:151:TYR:HA	6:CG:154:TYR:CD1	2.53	0.42
7:CH:28:ALA:HB2	7:CH:57:PRO:HB2	2.00	0.42
7:CH:83:ILE:HA	7:CH:136:GLU:O	2.18	0.42
9:CJ:60:ARG:NH2	20:CA:1366:C:O2'	2.50	0.42
13:CN:35:ARG:HG3	13:CN:35:ARG:H	1.59	0.42
18:CS:39:THR:HB	18:CS:41:VAL:HG13	2.01	0.42
20:CA:219:C:H2'	20:CA:220:G:O4'	2.19	0.42
20:CA:454:C:N4	20:CA:479:C:C4	2.87	0.42
20:CA:581:G:N2	20:CA:760:G:N7	2.67	0.42
20:CA:987:G:H2'	20:CA:988:G:C8	2.53	0.42
20:CA:1128:C:O2'	20:CA:1130:A:N7	2.49	0.42
20:CA:1355:G:H2'	20:CA:1356:G:C8	2.54	0.42
23:CY:92:ILE:HG23	23:CY:93:GLU:N	2.33	0.42
23:CY:122:TRP:O	23:CY:125:ALA:HB3	2.19	0.42
23:CY:180:VAL:HB	23:CY:213:HIS:HB2	2.01	0.42
23:CY:251:ILE:HG12	23:CY:281:PRO:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:CY:443:HIS:ND1	23:CY:444:PRO:HD2	2.33	0.42
23:CY:620:VAL:HA	23:CY:623:ASP:OD1	2.18	0.42
23:CY:624:LEU:HB3	23:CY:631:ILE:HD11	2.01	0.42
23:CY:627:ARG:C	23:CY:629:GLY:H	2.27	0.42
26:DD:115:GLN:HE22	26:DD:117:VAL:HG13	1.85	0.42
27:DE:197:ILE:HG12	27:DE:198:VAL:N	2.34	0.42
28:DF:178:PRO:O	28:DF:180:GLY:N	2.52	0.42
30:DH:105:LEU:HD23	30:DH:105:LEU:H	1.84	0.42
34:DO:30:ALA:HB2	59:DA:2674:G:H4'	2.01	0.42
34:DO:107:ARG:HB2	34:DO:115:VAL:HG21	2.01	0.42
36:DQ:16:ARG:NH1	59:DA:952:G:OP2	2.51	0.42
38:DS:26:LEU:O	38:DS:28:VAL:HG13	2.19	0.42
38:DS:63:THR:O	38:DS:67:ARG:HG2	2.19	0.42
39:DT:33:LYS:H	39:DT:42:ILE:HA	1.84	0.42
39:DT:51:ARG:HB3	39:DT:62:THR:HG22	2.01	0.42
42:DW:19:LEU:HD12	49:D5:25:LEU:HB2	2.01	0.42
43:DX:26:TYR:OH	43:DX:93:GLU:HG2	2.19	0.42
43:DX:63:LYS:HE2	43:DX:72:LYS:HE3	2.01	0.42
46:D0:29:GLN:O	46:D0:66:VAL:HA	2.19	0.42
50:D6:45:LYS:CB	59:DA:2371:G:H4'	2.49	0.42
59:DA:22:C:N3	59:DA:518:G:O6	2.52	0.42
59:DA:37:C:H2'	59:DA:38:A:C8	2.54	0.42
59:DA:1278:A:H2'	59:DA:1279:G:H8	1.84	0.42
59:DA:1772:G:H2'	59:DA:1773:A:O3'	2.19	0.42
59:DA:1832:C:H2'	59:DA:1833:U:O4'	2.19	0.42
59:DA:2020:A:O2'	59:DA:2021:C:H2'	2.18	0.42
59:DA:2211:G:H2'	59:DA:2212:A:H5"	2.01	0.42
59:DA:2359:C:H2'	59:DA:2360:A:O4'	2.19	0.42
60:DB:66:A:O2'	60:DB:67:G:OP2	2.30	0.42
1:AB:12:GLU:HB3	1:AB:44:LEU:HD22	2.01	0.42
3:AD:24:GLU:O	3:AD:28:SER:HB3	2.19	0.42
3:AD:54:TYR:HA	3:AD:57:ARG:HE	1.83	0.42
3:AD:61:LYS:HD3	3:AD:207:TYR:OH	2.20	0.42
8:AI:29:ASN:HB2	8:AI:65:VAL:H	1.84	0.42
9:AJ:35:SER:N	9:AJ:73:ASP:O	2.46	0.42
11:AL:17:LYS:NZ	20:AA:303:A:H5'	2.34	0.42
13:AN:33:VAL:HG13	13:AN:39:LEU:C	2.44	0.42
19:AT:87:LYS:HD2	19:AT:87:LYS:HA	1.84	0.42
20:AA:158:G:H2'	20:AA:159:G:O4'	2.19	0.42
20:AA:487:A:H2'	20:AA:488:C:O4'	2.19	0.42
20:AA:745:C:H1'	20:AA:836:G:O2'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:756:C:O2'	20:AA:878:G:N2	2.52	0.42
20:AA:909:A:H2'	20:AA:910:C:O4'	2.19	0.42
20:AA:1148:U:H2'	20:AA:1149:C:O4'	2.18	0.42
20:AA:1313:U:H2'	20:AA:1314:C:C6	2.54	0.42
21:AW:35:A:N6	22:AV:18:G:O6	2.51	0.42
22:AV:18:G:OP2	22:AV:18:G:H8	2.01	0.42
23:AY:86:GLY:O	23:AY:88:VAL:N	2.52	0.42
23:AY:603:GLU:HG2	23:AY:679:VAL:HG13	2.00	0.42
25:BC:102:GLN:NE2	25:BC:105:LEU:HD23	2.34	0.42
25:BC:129:GLY:C	25:BC:130:ARG:HH11	2.27	0.42
25:BC:151:GLY:O	25:BC:154:ILE:HB	2.18	0.42
25:BC:217:THR:O	25:BC:218:THR:OG1	2.28	0.42
30:BH:60:ARG:HG3	30:BH:61:HIS:N	2.34	0.42
32:BK:100:THR:OG1	32:BK:101:TRP:N	2.52	0.42
33:BN:14:VAL:HG23	33:BN:50:ASP:HB3	2.01	0.42
34:BO:8:LEU:HA	34:BO:82:ASN:ND2	2.34	0.42
35:BP:135:LEU:HD22	35:BP:135:LEU:HA	1.86	0.42
38:BS:99:LYS:HE3	38:BS:101:LEU:HG	2.00	0.42
40:BU:90:VAL:C	40:BU:92:ARG:N	2.77	0.42
41:BV:2:PHE:CD2	41:BV:13:ARG:HD2	2.54	0.42
41:BV:15:GLU:CB	41:BV:16:PRO:HD2	2.49	0.42
42:BW:84:ARG:HB2	42:BW:96:ILE:HG23	2.00	0.42
59:BA:15:G:H1	59:BA:525:U:H3	1.66	0.42
59:BA:24:G:H2'	59:BA:25:U:H6	1.81	0.42
59:BA:412:A:H3'	59:BA:413:C:C6	2.54	0.42
59:BA:621:A:N3	59:BA:621:A:H2'	2.33	0.42
59:BA:670:A:H4'	59:BA:671:C:H5'	2.01	0.42
59:BA:1378:A:OP1	59:BA:1378:A:H3'	2.19	0.42
59:BA:1784:A:H4'	59:BA:1785:A:O5'	2.19	0.42
59:BA:1811:G:C4	59:BA:1812:A:C8	3.07	0.42
59:BA:1899:G:H21	59:BA:1902:C:H41	1.67	0.42
59:BA:1987:G:H2'	59:BA:1988:C:C6	2.54	0.42
59:BA:2154:G:H2'	59:BA:2155:G:C8	2.52	0.42
59:BA:2168:G:N1	59:BA:2171:A:OP2	2.53	0.42
59:BA:2852:G:H2'	59:BA:2853:C:C6	2.54	0.42
3:CD:22:LYS:HG3	20:CA:408:A:OP2	2.18	0.42
3:CD:30:LYS:O	3:CD:30:LYS:HG2	2.18	0.42
4:CE:86:ALA:CB	20:CA:19:C:H5"	2.49	0.42
11:CL:45:PRO:HA	11:CL:92:ASP:HB3	2.01	0.42
11:CL:114:LYS:O	11:CL:115:LYS:HD3	2.19	0.42
14:CO:18:PHE:O	14:CO:20:GLY:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:CQ:68:ARG:C	16:CQ:70:ARG:N	2.76	0.42
17:CR:74:ARG:HG3	17:CR:79:LEU:HD22	2.01	0.42
20:CA:298:A:H2'	20:CA:299:G:O4'	2.18	0.42
20:CA:316:G:C8	20:CA:351:G:C2	3.07	0.42
20:CA:697:U:O2	20:CA:785:G:N2	2.41	0.42
20:CA:1004:A:H2'	20:CA:1005:A:O4'	2.19	0.42
20:CA:1504:G:O2'	20:CA:1505:G:P	2.77	0.42
21:CW:69:A:O2'	21:CW:70:G:H5'	2.18	0.42
25:DC:61:GLY:HA3	25:DC:164:PHE:CD1	2.53	0.42
26:DD:11:PRO:C	26:DD:13:ARG:H	2.27	0.42
27:DE:62:PRO:C	27:DE:64:LYS:H	2.25	0.42
27:DE:74:PRO:HG2	27:DE:77:ILE:HA	2.01	0.42
28:DF:45:ARG:HD2	59:DA:443:A:C5	2.54	0.42
28:DF:51:THR:H	28:DF:92:PRO:HB2	1.84	0.42
29:DG:114:ILE:CG2	29:DG:115:ARG:N	2.82	0.42
40:DU:92:ARG:HD3	40:DU:95:LEU:HB2	2.00	0.42
43:DX:54:VAL:HG13	43:DX:81:VAL:HG12	2.02	0.42
49:D5:6:VAL:HG13	59:DA:2015:A:C2	2.54	0.42
52:D8:5:LYS:HA	59:DA:242:G:H8	1.83	0.42
59:DA:172:C:H2'	59:DA:173:G:O4'	2.19	0.42
59:DA:221:A:HO2'	59:DA:222:A:P	2.41	0.42
59:DA:570:G:H1'	59:DA:983:A:N6	2.34	0.42
59:DA:660:G:H2'	59:DA:661:C:O4'	2.19	0.42
59:DA:848:G:C8	59:DA:933:A:H8	2.37	0.42
59:DA:884:C:N4	59:DA:892:G:H1	2.17	0.42
59:DA:989:G:O2'	59:DA:990:A:OP2	2.34	0.42
59:DA:1589:C:H2'	59:DA:1590:U:H6	1.84	0.42
59:DA:2115:G:H8	59:DA:2115:G:OP2	2.02	0.42
59:DA:2524:G:H2'	59:DA:2525:G:H8	1.84	0.42
59:DA:2875:C:H2'	59:DA:2876:G:O4'	2.18	0.42
6:AG:115:ARG:O	6:AG:119:ARG:HG3	2.20	0.42
7:AH:10:LEU:O	7:AH:13:ILE:HB	2.19	0.42
18:AS:66:MET:HE3	18:AS:74:PHE:CE2	2.54	0.42
20:AA:68(H):G:N2	20:AA:68(R):C:C2	2.84	0.42
20:AA:386:C:H2'	20:AA:387:U:O4'	2.20	0.42
20:AA:431:A:H2'	20:AA:432:A:C8	2.54	0.42
20:AA:443:C:H2'	20:AA:444:C:C6	2.55	0.42
20:AA:652:U:H3	20:AA:753:A:H62	1.66	0.42
20:AA:1152:A:H2'	20:AA:1153:C:C6	2.55	0.42
20:AA:1366:C:H2'	20:AA:1367:C:C6	2.55	0.42
23:AY:523:PHE:CE2	23:AY:547:GLU:HG2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BC:69:LEU:HB3	25:BC:70:GLY:H	1.70	0.42
26:BD:78:LYS:HE3	26:BD:78:LYS:HB3	1.51	0.42
26:BD:146:GLU:OE2	26:BD:152:GLY:N	2.53	0.42
33:BN:36:GLY:CA	33:BN:42:TRP:HE3	2.32	0.42
33:BN:68:GLU:HG2	33:BN:88:GLU:OE1	2.19	0.42
33:BN:89:LYS:NZ	33:BN:89:LYS:HB3	2.34	0.42
35:BP:85:LEU:HD23	35:BP:115:LEU:O	2.19	0.42
36:BQ:30:GLY:H	36:BQ:105:GLU:HG3	1.83	0.42
39:BT:27:THR:OG1	39:BT:28:VAL:N	2.49	0.42
42:BW:35:ILE:HG23	49:B5:28:PRO:HG3	2.01	0.42
45:BZ:59:LEU:HG	45:BZ:67:LEU:O	2.20	0.42
47:B2:25:VAL:HG22	47:B2:60:LEU:HB3	2.02	0.42
59:BA:241:A:H62	59:BA:256:A:H62	1.65	0.42
59:BA:474:G:O2'	59:BA:475:U:H5"	2.19	0.42
59:BA:997:G:H2'	59:BA:998:C:C6	2.54	0.42
59:BA:1076:C:H2'	59:BA:1077:A:C4'	2.49	0.42
59:BA:144(B):A:O2'	59:BA:1445:C:H5'	2.19	0.42
59:BA:1649:G:H2'	59:BA:1650:G:H8	1.83	0.42
59:BA:2135:A:H3'	59:BA:2136:C:C5	2.55	0.42
59:BA:2582:G:C2	59:BA:2583:G:C8	3.07	0.42
59:BA:2686:G:C2	59:BA:2687:U:H1'	2.54	0.42
59:BA:2688:U:C5	59:BA:2719:G:H2'	2.54	0.42
59:BA:2688:U:C5	59:BA:2720:U:H5	2.37	0.42
59:BA:2781:A:H5"	59:BA:2781:A:C8	2.53	0.42
59:BA:2793:G:C6	59:BA:2794:C:N4	2.87	0.42
59:BA:2816:C:O2	59:BA:2883:A:O2'	2.36	0.42
2:CC:23:TYR:CG	2:CC:24:ALA:N	2.87	0.42
4:CE:78:HIS:O	4:CE:93:PRO:HD3	2.18	0.42
6:CG:116:ALA:O	6:CG:120:ILE:HG12	2.20	0.42
7:CH:30:ARG:NH1	20:CA:591:U:OP2	2.53	0.42
8:CI:69:GLY:O	8:CI:73:GLN:HG3	2.18	0.42
10:CK:78:GLN:O	10:CK:104:GLN:N	2.52	0.42
11:CL:90:VAL:C	11:CL:92:ASP:H	2.26	0.42
16:CQ:66:SER:O	16:CQ:70:ARG:NH2	2.33	0.42
16:CQ:70:ARG:HG2	20:CA:235:C:H5'	2.00	0.42
16:CQ:89:LEU:HD22	16:CQ:89:LEU:HA	1.82	0.42
18:CS:66:MET:H	18:CS:66:MET:HG2	1.65	0.42
19:CT:101:GLY:O	20:CA:191:G:O2'	2.35	0.42
20:CA:68(Y):C:H2'	20:CA:101:A:C8	2.54	0.42
20:CA:445:G:H2'	20:CA:446:G:C8	2.54	0.42
20:CA:889:A:H5'	20:CA:891:U:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:966:G:C6	20:CA:967:C:C2	3.07	0.42
20:CA:992:U:HO2'	20:CA:993:G:P	2.37	0.42
23:CY:99:ARG:HD3	23:CY:128:TYR:HB2	2.01	0.42
26:DD:134:ARG:HG2	26:DD:187:GLY:O	2.20	0.42
26:DD:244:ARG:NH2	59:DA:1841:U:H1'	2.34	0.42
28:DF:65:TRP:HZ3	28:DF:75:HIS:NE2	2.17	0.42
29:DG:107:LEU:HD22	29:DG:177:GLY:O	2.20	0.42
30:DH:106:THR:OG1	30:DH:112:PRO:HB3	2.19	0.42
32:DK:41:PHE:HE1	32:DK:53:VAL:HG21	1.83	0.42
33:DN:54:VAL:HB	33:DN:122:VAL:HG13	2.01	0.42
35:DP:107:LYS:HB2	35:DP:107:LYS:NZ	2.34	0.42
37:DR:107:ASP:O	59:DA:2009:G:H1'	2.18	0.42
41:DV:10:LYS:NZ	59:DA:994:C:H1'	2.26	0.42
41:DV:89:GLN:HA	41:DV:90:PRO:HD3	1.88	0.42
42:DW:34:ASN:OD1	49:D5:39:MET:HB2	2.18	0.42
43:DX:33:LYS:HD2	43:DX:33:LYS:HA	1.91	0.42
45:DZ:26:GLY:HA2	45:DZ:85:HIS:CD2	2.54	0.42
45:DZ:118:GLN:HB3	45:DZ:173:ALA:H	1.83	0.42
47:D2:49:LYS:HA	47:D2:52:ASP:HB3	2.01	0.42
50:D6:17:LYS:HD2	50:D6:17:LYS:N	2.34	0.42
50:D6:48:VAL:HG23	50:D6:49:HIS:H	1.84	0.42
59:DA:75:G:N3	59:DA:75:G:H2'	2.34	0.42
59:DA:622:G:H2'	59:DA:623:G:H8	1.85	0.42
59:DA:1589:C:H2'	59:DA:1590:U:C6	2.53	0.42
1:AB:219:VAL:O	1:AB:223:ILE:HG13	2.19	0.42
8:AI:49:PRO:HD3	8:AI:101:PHE:HE2	1.84	0.42
11:AL:69:TYR:CE1	11:AL:70:ILE:HG13	2.54	0.42
12:AM:111:LYS:HG2	12:AM:112:GLY:H	1.84	0.42
13:AN:29:ARG:HH22	20:AA:974:A:P	2.42	0.42
14:AO:29:VAL:O	14:AO:33:THR:OG1	2.35	0.42
17:AR:71:LYS:HE2	20:AA:719:C:N4	2.35	0.42
18:AS:36:ARG:HD3	20:AA:1221:G:H5'	2.01	0.42
19:AT:28:ALA:O	19:AT:31:SER:OG	2.28	0.42
20:AA:68(B):G:H3'	20:AA:68(C):C:H6	1.84	0.42
20:AA:68(L):U:H5"	20:AA:68(M):U:OP2	2.20	0.42
20:AA:113:G:H2'	20:AA:114:U:C6	2.53	0.42
20:AA:163:C:H2'	20:AA:164:U:C6	2.54	0.42
20:AA:507:C:P	20:AA:508:C:H3'	2.60	0.42
20:AA:778:G:H2'	20:AA:779:C:O4'	2.19	0.42
21:AW:69:A:H2'	21:AW:70:G:C8	2.49	0.42
23:AY:519:ARG:HH12	23:AY:678:GLU:HB2	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:BC:186:LEU:O	25:BC:190:ILE:HG12	2.19	0.42
26:BD:140:THR:H	26:BD:165:ILE:HD12	1.84	0.42
26:BD:151:LYS:HE3	59:BA:2208:U:H1'	2.01	0.42
26:BD:209:ALA:CB	59:BA:1790:C:H4'	2.44	0.42
26:BD:253:GLN:OE1	59:BA:1843:C:H5'	2.19	0.42
27:BE:98:PRO:HG3	27:BE:175:VAL:HG12	2.01	0.42
28:BF:67:GLN:NE2	59:BA:674:G:O2'	2.52	0.42
32:BK:78:ILE:HA	32:BK:81:ALA:HB3	2.01	0.42
34:BO:12:ASP:OD2	34:BO:14:THR:OG1	2.35	0.42
35:BP:113:LYS:HA	35:BP:129:ALA:O	2.20	0.42
38:BS:18:ILE:C	38:BS:20:ARG:H	2.26	0.42
38:BS:31:SER:HB2	60:BB:29:A:P	2.58	0.42
59:BA:280:C:H2'	59:BA:281:G:H5'	2.02	0.42
59:BA:884:C:H2'	59:BA:885:C:O4'	2.19	0.42
59:BA:1311:G:N2	59:BA:1603:A:N6	2.36	0.42
59:BA:1326:U:H2'	59:BA:1327:C:O4'	2.20	0.42
59:BA:2284:C:O2'	59:BA:2288:A:N6	2.53	0.42
1:CB:157:ARG:HB3	1:CB:157:ARG:HH11	1.84	0.42
4:CE:48:ALA:HB3	4:CE:54:ALA:HB2	2.00	0.42
8:CI:120:ARG:NH1	20:CA:1345:U:H5"	2.33	0.42
11:CL:76:ASN:O	11:CL:78:GLN:N	2.52	0.42
11:CL:104:VAL:HB	11:CL:105:TYR:H	1.34	0.42
13:CN:8:GLU:HA	13:CN:11:LYS:HB2	2.01	0.42
18:CS:46:GLY:HA2	18:CS:62:ILE:O	2.19	0.42
20:CA:688:G:H2'	20:CA:689:C:H6	1.84	0.42
20:CA:824:C:H2'	20:CA:825:G:C8	2.53	0.42
20:CA:922:G:H2'	20:CA:923:A:C8	2.55	0.42
25:DC:56:ASP:N	25:DC:56:ASP:OD2	2.49	0.42
25:DC:83:LYS:HG3	25:DC:117:THR:CG2	2.41	0.42
25:DC:174:ALA:HB2	25:DC:193:PHE:CZ	2.54	0.42
26:DD:95:LEU:HD12	26:DD:95:LEU:H	1.83	0.42
26:DD:208:LYS:HB2	59:DA:729:G:C6	2.55	0.42
26:DD:260:ARG:HD2	26:DD:273:ARG:HH21	1.84	0.42
27:DE:154:LYS:HE3	27:DE:154:LYS:HA	2.01	0.42
28:DF:106:ARG:NH2	59:DA:618(A):G:OP2	2.53	0.42
29:DG:82:LEU:HD13	29:DG:87:PRO:HB3	2.00	0.42
29:DG:132:ASN:ND2	59:DA:2303:G:N3	2.61	0.42
33:DN:96:GLU:O	33:DN:100:GLU:HG3	2.19	0.42
41:DV:19:LYS:HG3	41:DV:20:LEU:N	2.33	0.42
47:D2:25:VAL:O	47:D2:29:LYS:HG2	2.19	0.42
54:De:66:GLU:H	54:De:70:LYS:HE3	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:82:G:H5”	59:DA:296:C:H5”	2.01	0.42
59:DA:186:G:H2’	59:DA:187:G:C8	2.54	0.42
59:DA:306:U:H3’	59:DA:307:G:C8	2.55	0.42
59:DA:541:C:H2’	59:DA:542:C:H6	1.84	0.42
59:DA:640:C:N4	59:DA:648:G:H1	2.16	0.42
59:DA:941:A:O2’	59:DA:1190:G:H4’	2.19	0.42
59:DA:1106:G:C6	59:DA:1107:G:C5	3.07	0.42
59:DA:1151:G:H2’	59:DA:1152:C:C6	2.54	0.42
59:DA:1495:A:H8	59:DA:1495:A:OP1	2.02	0.42
59:DA:1652:A:H3’	59:DA:1653:G:C8	2.55	0.42
59:DA:1937:A:H1’	59:DA:1938:A:OP1	2.19	0.42
59:DA:2040:C:C6	59:DA:2040:C:C5’	2.97	0.42
1:AB:69:LEU:HG	1:AB:159:PRO:HG2	2.02	0.42
2:AC:156:ARG:H	2:AC:196:LEU:HD12	1.84	0.42
3:AD:158:ILE:O	3:AD:162:LEU:HG	2.20	0.42
8:AI:37:PHE:CD2	8:AI:70:LYS:HG3	2.54	0.42
8:AI:71:SER:HA	8:AI:74:ILE:HG13	2.01	0.42
10:AK:109:VAL:HA	17:AR:85:LEU:O	2.19	0.42
17:AR:53:ARG:HD2	17:AR:63:GLN:HE21	1.83	0.42
20:AA:169:C:H2’	20:AA:170:U:C6	2.54	0.42
20:AA:328:C:H4’	20:AA:329:A:C5’	2.49	0.42
20:AA:339:C:H2’	20:AA:340:U:H6	1.81	0.42
20:AA:609:A:H2’	20:AA:610:G:O4’	2.20	0.42
20:AA:680:C:H2’	20:AA:681:C:H6	1.84	0.42
20:AA:695:A:H2’	20:AA:696:A:C8	2.54	0.42
20:AA:713:G:H8	20:AA:713:G:OP2	2.02	0.42
23:AY:70:THR:HG23	23:AY:358:MET:SD	2.59	0.42
23:AY:110:SER:OG	23:AY:137:ASN:O	2.33	0.42
23:AY:255:ILE:HA	23:AY:255:ILE:HD12	1.74	0.42
23:AY:344:THR:HG1	23:AY:388:THR:C	2.27	0.42
23:AY:398:ILE:HG22	23:AY:399:LEU:H	1.84	0.42
25:BC:52:PRO:HB3	25:BC:168:LYS:HA	2.00	0.42
26:BD:13:ARG:HD2	59:BA:729:G:OP2	2.19	0.42
26:BD:173:VAL:HG22	26:BD:185:VAL:O	2.20	0.42
26:BD:219:PRO:HG3	59:BA:764:A:C2	2.46	0.42
27:BE:199:ARG:HH12	27:BE:202:LYS:HE3	1.83	0.42
28:BF:6:VAL:HG23	28:BF:7:TYR:H	1.84	0.42
30:BH:153:LYS:HG2	30:BH:154:PRO:HD2	2.01	0.42
33:BN:126:PRO:HB2	33:BN:127:ASP:H	1.50	0.42
37:BR:2:ARG:HB3	37:BR:5:LYS:HG2	2.01	0.42
37:BR:24:GLN:HB3	37:BR:44:LEU:HD11	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BR:85:PRO:O	37:BR:88:ARG:HB2	2.20	0.42
41:BV:6:LYS:HE2	41:BV:7:THR:HA	2.01	0.42
44:BY:46:LYS:H	44:BY:62:GLU:HB2	1.84	0.42
45:BZ:5:LEU:O	45:BZ:59:LEU:HA	2.19	0.42
45:BZ:120:ILE:HG13	45:BZ:172:ALA:HA	2.02	0.42
46:B0:48:GLY:H	46:B0:51:VAL:HB	1.84	0.42
47:B2:19:VAL:O	47:B2:22:GLU:HB3	2.19	0.42
49:B5:25:LEU:HD23	49:B5:25:LEU:HA	1.76	0.42
50:B6:40:CYS:HB2	50:B6:46:HIS:CD2	2.54	0.42
59:BA:144:C:H2'	59:BA:145:G:C8	2.55	0.42
59:BA:247:G:H4'	59:BA:386:G:C4	2.54	0.42
59:BA:568:U:H2'	59:BA:570:G:C8	2.54	0.42
59:BA:824:A:H2'	59:BA:825:C:C6	2.55	0.42
59:BA:1007:C:C2	59:BA:1136:G:N1	2.82	0.42
59:BA:1057:A:N7	59:BA:1086:A:H2'	2.34	0.42
59:BA:1332:G:C5	59:BA:1609:A:C6	3.08	0.42
59:BA:1509:A:H5'	59:BA:1510:A:O4'	2.20	0.42
59:BA:2689:U:H5"	59:BA:2690:C:O4'	2.20	0.42
59:BA:2762:G:H2'	59:BA:2763:G:O4'	2.20	0.42
60:BB:30:C:H2'	60:BB:31:C:O4'	2.18	0.42
1:CB:24:TRP:CZ3	1:CB:26:PRO:HA	2.54	0.42
1:CB:169:LYS:O	1:CB:172:ILE:N	2.47	0.42
2:CC:150:LYS:O	2:CC:201:TYR:HB2	2.19	0.42
3:CD:200:GLU:O	3:CD:204:ILE:HG12	2.19	0.42
7:CH:46:LYS:H	7:CH:63:LEU:HA	1.85	0.42
8:CI:104:ARG:HB3	8:CI:105:ASP:H	1.64	0.42
16:CQ:67:LYS:O	16:CQ:68:ARG:HB3	2.19	0.42
20:CA:119:A:H4'	20:CA:120:A:C8	2.55	0.42
20:CA:177:C:H2'	20:CA:178:C:C5	2.54	0.42
20:CA:1324:A:H2'	20:CA:1325:C:H6	1.83	0.42
23:CY:598:ASP:OD1	23:CY:598:ASP:N	2.53	0.42
23:CY:631:ILE:HA	23:CY:645:ALA:CA	2.47	0.42
25:DC:121:MET:O	25:DC:122:GLY:C	2.62	0.42
26:DD:42:GLY:O	26:DD:43:ARG:HG3	2.19	0.42
26:DD:211:ARG:O	26:DD:215:LEU:HG	2.19	0.42
29:DG:60:LEU:O	29:DG:63:ILE:HG12	2.20	0.42
33:DN:4:TYR:HB3	40:DU:100:VAL:HG11	2.01	0.42
33:DN:40:PRO:HA	40:DU:67:ALA:HB1	2.02	0.42
33:DN:106:MET:HE3	33:DN:106:MET:HB3	1.66	0.42
35:DP:115:LEU:HD13	59:DA:627:A:N6	2.33	0.42
40:DU:110:VAL:O	40:DU:114:LYS:HD2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:DV:8:GLY:HA3	41:DV:23:GLU:HB2	2.02	0.42
50:D6:16:CYS:H	50:D6:48:VAL:HG23	1.83	0.42
50:D6:26:ASN:CG	50:D6:27:LYS:H	2.28	0.42
50:D6:33:LYS:HE3	50:D6:33:LYS:HB3	1.90	0.42
59:DA:8:A:C2	59:DA:9:U:C2	3.08	0.42
59:DA:221:A:C4	59:DA:233:A:H1'	2.55	0.42
59:DA:377:C:H2'	59:DA:378:C:O4'	2.18	0.42
59:DA:842:G:H2'	59:DA:843:G:C8	2.54	0.42
59:DA:854:G:H1	59:DA:923:C:H42	1.66	0.42
59:DA:966:G:O4'	59:DA:2267:A:N6	2.52	0.42
59:DA:1478:G:N2	59:DA:1515:C:N3	2.51	0.42
59:DA:1681:G:N3	59:DA:1762:A:H2'	2.35	0.42
59:DA:1806:C:H2'	59:DA:1807:G:C8	2.54	0.42
59:DA:1927:A:C6	59:DA:1928:A:C6	3.07	0.42
59:DA:2227:A:H8	59:DA:2227:A:O5'	2.02	0.42
59:DA:2564:A:OP1	59:DA:2648:C:H4'	2.19	0.42
59:DA:2648:C:H2'	59:DA:2649:U:C6	2.54	0.42
1:AB:218:ALA:O	1:AB:221:LEU:HB3	2.19	0.42
3:AD:22:LYS:HD3	20:AA:409:G:OP2	2.19	0.42
3:AD:134:ASP:HB2	3:AD:135:LEU:H	1.58	0.42
5:AF:50:TYR:HA	5:AF:51:PRO:HD2	1.77	0.42
6:AG:137:LYS:HA	6:AG:140:ASP:HB3	2.00	0.42
7:AH:7:ALA:O	7:AH:11:THR:OG1	2.31	0.42
7:AH:62:TYR:CD2	7:AH:62:TYR:N	2.87	0.42
9:AJ:19:SER:O	9:AJ:23:ILE:HG12	2.19	0.42
12:AM:84:ILE:HB	18:AS:74:PHE:CE1	2.55	0.42
15:AP:20:VAL:HG21	15:AP:32:TYR:CD1	2.54	0.42
16:AQ:53:LEU:H	16:AQ:53:LEU:HG	1.66	0.42
20:AA:623:C:H2'	20:AA:624:C:C6	2.55	0.42
20:AA:776:G:N2	20:AA:803:G:N7	2.67	0.42
20:AA:971:G:H22	20:AA:1363:A:P	2.42	0.42
20:AA:1195:C:H5"	20:AA:1196:U:OP2	2.18	0.42
20:AA:1423:G:H5'	34:BO:49:ARG:HH21	1.84	0.42
21:AW:27:C:H2'	21:AW:28:A:C8	2.55	0.42
23:AY:25:LYS:CG	62:AY:702:GDP:O2B	2.68	0.42
23:AY:188:TYR:N	23:AY:188:TYR:HD2	2.17	0.42
23:AY:511:LYS:HB3	23:AY:568:TYR:CZ	2.54	0.42
25:BC:26:ALA:HA	25:BC:30:VAL:HG23	2.01	0.42
25:BC:96:GLY:HA3	25:BC:100:ILE:CG1	2.49	0.42
26:BD:35:LYS:HA	26:BD:63:ARG:HA	2.02	0.42
27:BE:37:ARG:NH1	27:BE:44:TYR:OH	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:BF:154:VAL:CB	28:BF:173:VAL:HG13	2.49	0.42
28:BF:170:LEU:CB	28:BF:173:VAL:HB	2.48	0.42
28:BF:183:VAL:O	28:BF:187:VAL:HG23	2.20	0.42
38:BS:71:ARG:HD2	38:BS:71:ARG:N	2.34	0.42
41:BV:81:TYR:CE2	59:BA:1187:G:H5"	2.55	0.42
42:BW:23:LEU:HD11	49:B5:27:PRO:HA	2.02	0.42
50:B6:27:LYS:HE2	50:B6:29:ASN:HB3	2.01	0.42
50:B6:47:THR:OG1	50:B6:48:VAL:HG22	2.19	0.42
59:BA:270(L):C:H2'	59:BA:270(M):U:H5"	2.02	0.42
59:BA:416:C:H2'	59:BA:417:C:C6	2.54	0.42
59:BA:1344:G:H4'	59:BA:1384:A:C6	2.54	0.42
59:BA:1960:A:H2'	59:BA:1961:C:H6	1.83	0.42
59:BA:1986:A:H2'	59:BA:1987:G:H8	1.84	0.42
59:BA:1990:C:H2'	59:BA:1991:U:C6	2.54	0.42
59:BA:2048:G:C6	59:BA:2049:G:N7	2.87	0.42
59:BA:2244:U:H1'	59:BA:2434:A:C4	2.55	0.42
59:BA:2391:G:H1'	59:BA:2424:C:N4	2.34	0.42
59:BA:2525:G:H2'	59:BA:2526:G:C8	2.48	0.42
59:BA:2741:A:H2'	59:BA:2742:C:O4'	2.20	0.42
60:BB:89(A):G:H2'	60:BB:89(B):A:C8	2.54	0.42
2:CC:70:VAL:HG21	2:CC:103:VAL:HG13	2.01	0.42
3:CD:30:LYS:HD3	3:CD:35:ARG:NH1	2.34	0.42
4:CE:107:ARG:HB3	4:CE:107:ARG:NH1	2.35	0.42
11:CL:35:GLY:CA	11:CL:58:VAL:HG13	2.42	0.42
20:CA:774:G:H2'	20:CA:775:G:H8	1.84	0.42
20:CA:883:C:H2'	20:CA:884:U:C6	2.54	0.42
20:CA:1398:A:H2'	20:CA:1398:A:N3	2.35	0.42
20:CA:1537:U:O2'	20:CA:1538:C:OP1	2.29	0.42
22:CV:21:A:H2'	22:CV:22:A:O4'	2.18	0.42
23:CY:19:ALA:CA	23:CY:25:LYS:HZ2	2.32	0.42
23:CY:27:THR:CG2	62:CY:702:GDP:O5'	2.67	0.42
23:CY:141:LYS:HA	23:CY:141:LYS:HD2	1.78	0.42
23:CY:301:ILE:H	23:CY:301:ILE:HG12	1.56	0.42
23:CY:567:LEU:HG	23:CY:568:TYR:N	2.33	0.42
23:CY:568:TYR:CD2	23:CY:569:ASP:HB2	2.55	0.42
23:CY:615:GLU:H	23:CY:615:GLU:HG3	1.42	0.42
25:DC:11:LEU:HB3	25:DC:221:PRO:HD3	2.02	0.42
25:DC:48:LEU:HD22	25:DC:209:PHE:CE1	2.54	0.42
25:DC:60:ARG:NE	25:DC:142:LYS:HB3	2.34	0.42
26:DD:35:LYS:HG2	26:DD:62:TYR:O	2.20	0.42
27:DE:38:THR:HG23	27:DE:40:GLU:N	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:DF:4:VAL:N	28:DF:24:LEU:HG	2.34	0.42
28:DF:157:VAL:O	28:DF:193:VAL:C	2.63	0.42
32:DK:37:PHE:O	32:DK:41:PHE:HD2	2.02	0.42
33:DN:36:GLY:C	33:DN:42:TRP:HE3	2.27	0.42
35:DP:16:ARG:NH1	59:DA:661:C:H4'	2.35	0.42
37:DR:59:ASP:OD2	37:DR:61:HIS:HB3	2.20	0.42
38:DS:26:LEU:HD13	38:DS:106:ARG:NH1	2.33	0.42
39:DT:120:ARG:HA	39:DT:123:GLN:CD	2.44	0.42
59:DA:635:C:O2'	59:DA:639:U:H5"	2.20	0.42
59:DA:1135:C:N4	59:DA:1138:G:OP2	2.36	0.42
59:DA:1312:U:H5'	59:DA:1313:U:C5	2.55	0.42
59:DA:1655:A:C2	59:DA:2049:G:H4'	2.55	0.42
59:DA:1657:C:H2'	59:DA:1658:C:H6	1.85	0.42
59:DA:1913:A:H4'	59:DA:1914:C:C5'	2.50	0.42
59:DA:1927:A:H2'	59:DA:1928:A:C8	2.55	0.42
59:DA:2168:G:H22	59:DA:2170:A:H3'	1.85	0.42
59:DA:2461:C:H42	59:DA:2489:G:H1	1.67	0.42
59:DA:2711:A:C4	59:DA:2714:G:H1'	2.55	0.42
60:DB:68:C:H2'	60:DB:69:G:O4'	2.19	0.42
2:AC:150:LYS:O	2:AC:201:TYR:HB2	2.20	0.42
7:AH:12:ARG:O	7:AH:15:ASN:HB2	2.20	0.42
7:AH:71:GLY:O	7:AH:73:ASP:N	2.52	0.42
8:AI:4:TYR:HA	8:AI:87:GLN:OE1	2.20	0.42
8:AI:11:LYS:HE3	20:AA:1371:G:OP2	2.20	0.42
9:AJ:54:PHE:CD1	9:AJ:55:LYS:HD2	2.55	0.42
10:AK:120:ARG:HH22	20:AA:1525:G:P	2.42	0.42
16:AQ:15:MET:HE1	16:AQ:20:THR:OG1	2.20	0.42
20:AA:186(C):G:O6	20:AA:186(N):U:O2	2.37	0.42
20:AA:1340:A:C6	20:AA:1341:U:C4	3.08	0.42
23:AY:519:ARG:NH1	23:AY:678:GLU:HB2	2.34	0.42
23:AY:537:GLU:HG3	23:AY:538:TYR:CD1	2.55	0.42
25:BC:220:GLY:HA3	25:BC:221:PRO:HD2	1.79	0.42
36:BQ:25:ASP:HB3	36:BQ:100:GLY:O	2.19	0.42
44:BY:27:VAL:O	44:BY:28:LYS:HB3	2.17	0.42
45:BZ:5:LEU:HD11	45:BZ:44:PHE:HA	2.01	0.42
50:B6:24:GLU:OE1	59:BA:2346:A:O2'	2.27	0.42
52:B8:16:ILE:HD12	52:B8:21:LYS:O	2.20	0.42
53:B9:23:VAL:C	53:B9:24:TYR:HD1	2.27	0.42
57:B1:19:GLN:C	57:B1:21:ARG:H	2.25	0.42
59:BA:17:G:H2'	59:BA:18:C:H6	1.85	0.42
59:BA:270(C):A:H62	59:BA:270(Y):G:N2	2.17	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:330:A:H2	59:BA:1210:A:H2'	1.84	0.42
59:BA:634:C:H2'	59:BA:635:C:C6	2.55	0.42
59:BA:723:G:H2'	59:BA:724:U:O4'	2.19	0.42
59:BA:883:G:H2'	59:BA:884:C:H6	1.83	0.42
59:BA:1611:C:H2'	59:BA:1612:C:C6	2.54	0.42
59:BA:1727:U:C4	59:BA:1728:G:C6	3.08	0.42
59:BA:1758:G:H3'	59:BA:1759:A:H8	1.83	0.42
59:BA:1824:G:H2'	59:BA:1825:A:C8	2.54	0.42
59:BA:2005:A:C8	59:BA:2006:C:C5	3.08	0.42
59:BA:2301:C:H2'	59:BA:2302:G:H8	1.85	0.42
59:BA:2849:U:H1'	59:BA:2866:U:C6	2.54	0.42
2:CC:152:ILE:O	2:CC:152:ILE:HG12	2.19	0.42
2:CC:160:ALA:O	2:CC:162:GLN:N	2.53	0.42
7:CH:4:ASP:OD2	7:CH:6:ILE:HB	2.20	0.42
12:CM:23:TYR:CE2	20:CA:1330:U:H4'	2.55	0.42
15:CP:63:GLY:HA2	20:CA:137:C:O4'	2.19	0.42
17:CR:33:ASP:HB3	17:CR:36:ASN:HD22	1.85	0.42
20:CA:22:G:H2'	20:CA:23:C:H6	1.83	0.42
20:CA:68(N):U:H3'	20:CA:68(O):A:C8	2.54	0.42
20:CA:1064:G:P	20:CA:1386:G:H4'	2.60	0.42
20:CA:1306:A:H1'	20:CA:1332:A:N1	2.35	0.42
21:CW:56:C:C6	59:DA:2169:A:H1'	2.55	0.42
23:CY:96:ARG:HA	23:CY:99:ARG:HB2	2.01	0.42
23:CY:238:THR:OG1	23:CY:240:GLU:OE1	2.38	0.42
23:CY:291:GLY:HA2	23:CY:400:GLU:HB2	2.01	0.42
23:CY:609:GLU:HA	23:CY:643:ILE:O	2.20	0.42
25:DC:59:VAL:HG12	25:DC:200:HIS:HB3	2.01	0.42
30:DH:54:ARG:HA	30:DH:55:PRO:HD3	1.82	0.42
32:DK:3:LYS:HD2	54:De:79:ARG:HH22	1.82	0.42
33:DN:90:MET:HA	33:DN:90:MET:CE	2.50	0.42
35:DP:18:ARG:HA	35:DP:18:ARG:HD2	1.54	0.42
40:DU:78:THR:HA	40:DU:81:HIS:HB3	2.02	0.42
43:DX:26:TYR:CG	43:DX:89:ILE:HD12	2.55	0.42
45:DZ:15:PRO:HB2	45:DZ:19:ARG:HE	1.85	0.42
46:D0:30:VAL:HG12	46:D0:66:VAL:HG22	2.02	0.42
47:D2:10:LEU:HA	47:D2:13:ALA:HB3	2.01	0.42
52:D8:7:HIS:CE1	52:D8:10:ALA:H	2.38	0.42
59:DA:374:A:H61	59:DA:400:G:H1'	1.84	0.42
59:DA:391:G:C2	59:DA:411:G:C6	3.08	0.42
59:DA:636:G:H4'	59:DA:638:G:H4'	2.00	0.42
59:DA:638:G:H2'	59:DA:639:U:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:776:G:H1	59:DA:2072:G:H5"	1.84	0.42
59:DA:893:C:H2'	59:DA:894:C:C6	2.54	0.42
59:DA:1316:U:H2'	59:DA:1317:A:H8	1.81	0.42
59:DA:2037:G:C4	59:DA:2038:G:C8	3.07	0.42
59:DA:2077:A:H1'	59:DA:2435:A:C8	2.55	0.42
59:DA:2340:G:H2'	59:DA:2341:G:H8	1.85	0.42
59:DA:2366:A:H2'	59:DA:2367:G:O4'	2.19	0.42
59:DA:2422:A:OP1	59:DA:2422:A:H4'	2.19	0.42
1:AB:69:LEU:N	1:AB:163:PHE:H	2.15	0.42
3:AD:173:TRP:CH2	3:AD:194:LEU:HD21	2.54	0.42
4:AE:70:PRO:HG2	4:AE:142:LEU:HD13	2.02	0.42
6:AG:151:TYR:HA	6:AG:154:TYR:CD1	2.55	0.42
8:AI:5:TYR:HA	8:AI:17:VAL:O	2.19	0.42
14:AO:61:GLY:O	14:AO:65:ARG:HG3	2.20	0.42
15:AP:22:THR:HA	15:AP:33:ILE:HG13	2.02	0.42
19:AT:25:ARG:CZ	19:AT:25:ARG:HB2	2.46	0.42
19:AT:43:LEU:CB	19:AT:52:ALA:HB2	2.48	0.42
20:AA:371:G:H21	20:AA:374:A:N6	2.18	0.42
20:AA:889:A:H4'	20:AA:890:G:H4'	2.02	0.42
20:AA:1003:G:C2	20:AA:1037:C:O2	2.73	0.42
20:AA:1386:G:H2'	20:AA:1387:G:C8	2.55	0.42
23:AY:443:HIS:ND1	23:AY:446:THR:HG22	2.35	0.42
23:AY:647:VAL:HA	23:AY:648:PRO:HD3	1.89	0.42
26:BD:45:ASN:OD1	26:BD:45:ASN:N	2.52	0.42
26:BD:147:LEU:HD11	26:BD:183:ARG:HH11	1.83	0.42
28:BF:155:LEU:HA	28:BF:176:LEU:CB	2.50	0.42
29:BG:46:ALA:HB1	29:BG:51:ARG:HH22	1.85	0.42
35:BP:45:LEU:HG	35:BP:46:LYS:H	1.85	0.42
37:BR:23:ASN:OD1	59:BA:1277:G:H1'	2.20	0.42
38:BS:40:ILE:HG13	38:BS:47:THR:N	2.35	0.42
39:BT:108:ARG:O	39:BT:112:ARG:N	2.49	0.42
40:BU:92:ARG:HG2	40:BU:94:ASN:HB3	2.00	0.42
41:BV:35:LEU:C	41:BV:37:VAL:H	2.26	0.42
43:BX:75:ASP:H	59:BA:58:G:P	2.43	0.42
49:B5:25:LEU:HD22	49:B5:26:THR:H	1.84	0.42
53:B9:7:VAL:CG2	53:B9:36:GLN:HG2	2.49	0.42
59:BA:640:C:H42	59:BA:648:G:H1	1.68	0.42
59:BA:921:G:H2'	59:BA:922:U:C6	2.55	0.42
59:BA:930:U:H4'	59:BA:931:G:O4'	2.20	0.42
59:BA:1215:G:C4	59:BA:1216:G:C8	3.08	0.42
59:BA:1310:G:O2'	59:BA:1611:C:OP1	2.21	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1359:A:OP2	59:BA:1371:G:N1	2.46	0.42
59:BA:1654:A:H2'	59:BA:1655:A:H8	1.85	0.42
59:BA:1709:U:O3'	59:BA:2859:G:O2'	2.35	0.42
59:BA:1814:G:H2'	59:BA:1815:A:C8	2.55	0.42
59:BA:2287:A:H2	59:BA:2346:A:N1	2.18	0.42
59:BA:2837:G:H2'	59:BA:2838:G:O4'	2.19	0.42
60:BB:24:G:N2	60:BB:28:C:O2	2.53	0.42
3:CD:108:LEU:HD23	3:CD:110:PHE:HE2	1.83	0.42
3:CD:196:LEU:HA	3:CD:197:PRO:HD2	1.75	0.42
9:CJ:45:ARG:HD3	13:CN:36:PHE:CE2	2.54	0.42
14:CO:15:PHE:HD2	14:CO:15:PHE:HA	1.62	0.42
14:CO:64:ARG:HH21	20:CA:581:G:H4'	1.85	0.42
16:CQ:67:LYS:C	16:CQ:69:LYS:H	2.28	0.42
16:CQ:100:LYS:HE2	20:CA:246:A:OP2	2.20	0.42
20:CA:32:A:H2'	20:CA:33:A:C8	2.55	0.42
20:CA:53:A:H2'	20:CA:54:C:O4'	2.20	0.42
20:CA:1495:U:P	23:CY:504:ARG:HH11	2.43	0.42
21:CW:75:C:H5"	57:D1:30:VAL:HG21	2.01	0.42
23:CY:620:VAL:O	23:CY:624:LEU:HB2	2.20	0.42
25:DC:71:LYS:HD3	25:DC:71:LYS:HA	1.74	0.42
26:DD:245:PRO:HA	26:DD:246:PRO:HD2	1.92	0.42
27:DE:75:VAL:C	27:DE:77:ILE:H	2.28	0.42
28:DF:68:LYS:O	28:DF:70:THR:N	2.52	0.42
29:DG:139:LEU:HA	29:DG:144:ILE:HG23	2.01	0.42
33:DN:3:THR:HG22	33:DN:4:TYR:N	2.34	0.42
35:DP:24:GLY:HA3	35:DP:33:ARG:CZ	2.50	0.42
35:DP:100:LEU:HD13	35:DP:103:ALA:HB3	2.01	0.42
41:DV:41:GLY:H	41:DV:45:THR:CB	2.31	0.42
42:DW:12:ILE:HD13	42:DW:46:PHE:CZ	2.55	0.42
42:DW:34:ASN:HB3	49:D5:30:LEU:HD13	2.02	0.42
50:D6:7:ILE:HD13	50:D6:7:ILE:HA	1.95	0.42
59:DA:307:G:N2	59:DA:309:G:H3'	2.35	0.42
59:DA:459:U:H5	59:DA:460:A:C5	2.38	0.42
59:DA:579:G:H4'	59:DA:2017:U:H2'	2.01	0.42
59:DA:772:C:H2'	59:DA:773:U:H6	1.82	0.42
59:DA:1181:C:H2'	59:DA:1182:A:H8	1.85	0.42
59:DA:1540:G:H2'	59:DA:1541:U:O4'	2.20	0.42
59:DA:2525:G:O2'	59:DA:2526:G:H5'	2.20	0.42
59:DA:2615:U:H2'	59:DA:2616:C:C6	2.54	0.42
59:DA:2810:A:H62	59:DA:2891:G:N2	2.15	0.42
59:DA:2838:G:N2	59:DA:2880:C:N3	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AC:36:ASP:HA	2:AC:39:ILE:HD12	2.00	0.42
2:AC:189:ALA:HB1	2:AC:196:LEU:HD23	2.01	0.42
4:AE:75:THR:OG1	4:AE:76:ILE:O	2.37	0.42
4:AE:121:LYS:HD2	4:AE:121:LYS:HA	1.73	0.42
5:AF:89:MET:HE1	17:AR:75:ILE:HD12	2.01	0.42
11:AL:79:GLU:O	11:AL:80:HIS:CG	2.72	0.42
12:AM:87:TYR:HA	12:AM:90:LEU:HB3	2.02	0.42
13:AN:61:TRP:CD1	13:AN:61:TRP:C	2.98	0.42
20:AA:443:C:H2'	20:AA:444:C:H6	1.85	0.42
20:AA:511:C:C2	20:AA:512:U:C5	3.08	0.42
20:AA:598:U:H2'	20:AA:599:C:H6	1.84	0.42
20:AA:766:A:C8	20:AA:814:A:N6	2.88	0.42
20:AA:978:A:C6	20:AA:1318:A:C6	3.08	0.42
20:AA:1126:U:H2'	20:AA:1127:G:O4'	2.19	0.42
23:AY:162:VAL:HB	23:AY:255:ILE:CG1	2.48	0.42
23:AY:212:TYR:O	23:AY:215:LYS:HB2	2.20	0.42
23:AY:218:GLU:CD	54:Be:87:LYS:NZ	2.78	0.42
23:AY:379:GLY:HA2	23:AY:381:LYS:HE3	2.00	0.42
23:AY:414:GLU:HA	23:AY:415:PRO:HD2	1.86	0.42
23:AY:474:ALA:O	23:AY:476:VAL:N	2.53	0.42
25:BC:148:PHE:C	25:BC:150:ILE:H	2.27	0.42
28:BF:17:ARG:HE	28:BF:17:ARG:HB2	1.46	0.42
28:BF:67:GLN:CD	59:BA:675:A:H4'	2.45	0.42
28:BF:197:ASP:OD2	28:BF:198:ALA:N	2.51	0.42
29:BG:3:LEU:HD13	29:BG:98:ARG:HH12	1.85	0.42
29:BG:36:LYS:HG2	29:BG:160:VAL:HB	2.02	0.42
29:BG:45:GLU:C	29:BG:47:LYS:H	2.28	0.42
36:BQ:109:VAL:HB	36:BQ:110:THR:H	1.62	0.42
38:BS:70:GLY:O	38:BS:74:ALA:N	2.52	0.42
40:BU:95:LEU:HD13	41:BV:4:ILE:HG12	2.00	0.42
48:B3:28:LEU:HD13	48:B3:28:LEU:HA	1.82	0.42
59:BA:105:C:H2'	59:BA:106:C:H6	1.83	0.42
59:BA:689:A:H2'	59:BA:690:G:H8	1.83	0.42
59:BA:751:A:H8	59:BA:751:A:O5'	2.03	0.42
59:BA:794:G:C6	59:BA:795:C:C4	3.08	0.42
59:BA:1589:C:H2'	59:BA:1590:U:H6	1.85	0.42
59:BA:1641:A:H2'	59:BA:1642:G:O4'	2.20	0.42
1:CB:49:GLU:O	1:CB:52:GLU:HB3	2.19	0.42
3:CD:61:LYS:HA	3:CD:203:VAL:HG22	2.00	0.42
14:CO:32:LEU:HA	14:CO:35:ARG:HG2	2.01	0.42
15:CP:38:TYR:CZ	15:CP:50:LYS:HD3	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:CQ:68:ARG:NH2	20:CA:277:C:H5”	2.30	0.42
20:CA:67:C:O2’	20:CA:171:A:N3	2.51	0.42
20:CA:115:G:O2’	20:CA:116:A:P	2.78	0.42
20:CA:234:C:H2’	20:CA:235:C:C6	2.55	0.42
20:CA:774:G:H2’	20:CA:775:G:C8	2.54	0.42
20:CA:831:U:H2’	20:CA:832:C:C6	2.54	0.42
20:CA:1037:C:H2’	20:CA:1038:C:C6	2.55	0.42
20:CA:1286:A:H3’	20:CA:1286:A:N3	2.35	0.42
20:CA:1384:C:H2’	20:CA:1385:G:O4’	2.20	0.42
23:CY:289:ILE:H	23:CY:289:ILE:HD12	1.85	0.42
23:CY:311:ALA:CA	23:CY:330:VAL:HA	2.50	0.42
23:CY:435:ASP:HA	23:CY:436:PRO:HD2	1.91	0.42
23:CY:481:VAL:HB	23:CY:483:TYR:CZ	2.55	0.42
23:CY:612:THR:HA	23:CY:613:PRO:HD3	1.92	0.42
26:DD:34:VAL:C	26:DD:36:PRO:HD2	2.45	0.42
26:DD:62:TYR:HE2	26:DD:88:ARG:NH2	2.12	0.42
26:DD:222:ARG:HG3	59:DA:1789:A:OP1	2.20	0.42
27:DE:21:VAL:HA	27:DE:22:PRO:HD2	1.74	0.42
27:DE:80:GLU:HB3	59:DA:2636:U:O5’	2.20	0.42
27:DE:199:ARG:NH2	59:DA:2772:C:OP1	2.53	0.42
28:DF:34:TRP:CG	35:DP:11:GLY:HA2	2.55	0.42
28:DF:161:GLU:O	28:DF:164:ARG:N	2.53	0.42
29:DG:51:ARG:HA	29:DG:54:GLU:HB3	2.01	0.42
29:DG:124:SER:HB2	29:DG:132:ASN:O	2.19	0.42
30:DH:13:LYS:C	30:DH:15:VAL:H	2.27	0.42
30:DH:83:TYR:H	30:DH:83:TYR:HD2	1.65	0.42
30:DH:85:LYS:HE2	30:DH:133:VAL:HB	2.02	0.42
30:DH:149:ARG:CZ	30:DH:164:TYR:H	2.33	0.42
32:DK:63:ARG:HE	54:De:79:ARG:HD3	1.85	0.42
34:DO:90:GLN:HB2	34:DO:92:GLU:OE2	2.20	0.42
36:DQ:69:PHE:HE2	36:DQ:71:ASP:HB3	1.82	0.42
38:DS:52:SER:HB2	38:DS:56:LEU:N	2.34	0.42
38:DS:92:TYR:C	38:DS:94:TYR:N	2.76	0.42
39:DT:137:LYS:HD3	39:DT:138:ALA:N	2.35	0.42
43:DX:12:VAL:HG11	43:DX:21:PHE:HZ	1.82	0.42
45:DZ:116:VAL:O	45:DZ:174:VAL:HA	2.19	0.42
46:D0:42:GLY:HA3	59:DA:2331:G:O4’	2.20	0.42
47:D2:2:LYS:O	47:D2:6:VAL:N	2.52	0.42
49:D5:6:VAL:HG13	59:DA:2015:A:C4	2.54	0.42
52:D8:23:VAL:HG12	52:D8:46:ARG:NH1	2.34	0.42
59:DA:41:C:C2	59:DA:43:G:C8	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:499:U:H2'	59:DA:500:G:O4'	2.19	0.42
59:DA:527:C:N3	59:DA:2779:U:H2'	2.35	0.42
59:DA:767:U:H2'	59:DA:768:G:C8	2.54	0.42
59:DA:1086:A:H3'	59:DA:1086:A:N3	2.34	0.42
59:DA:1403:C:H5"	59:DA:1471:A:C1'	2.49	0.42
59:DA:1889:A:H61	59:DA:2234:G:H1'	1.84	0.42
59:DA:2320:A:N3	59:DA:2320:A:H2'	2.34	0.42
60:DB:27:C:C4	60:DB:28:C:C4	3.07	0.42
1:AB:69:LEU:HD22	1:AB:69:LEU:HA	1.81	0.42
1:AB:209:ARG:HH11	1:AB:239:VAL:HG13	1.84	0.42
3:AD:96:LEU:HD12	3:AD:139:ARG:NH2	2.35	0.42
3:AD:172:PRO:HB2	3:AD:187:ARG:NH2	2.32	0.42
7:AH:10:LEU:HD22	7:AH:83:ILE:HD11	2.02	0.42
10:AK:69:ALA:HA	10:AK:103:LEU:HD21	2.02	0.42
17:AR:61:LYS:HE3	17:AR:61:LYS:HB2	1.82	0.42
19:AT:81:LYS:HB3	19:AT:85:MET:HE3	2.01	0.42
20:AA:267:C:H2'	20:AA:268:C:C6	2.55	0.42
20:AA:420:U:N3	20:AA:422:C:N3	2.68	0.42
20:AA:660:G:H2'	20:AA:661:G:H8	1.85	0.42
20:AA:829:G:H8	20:AA:829:G:OP2	2.03	0.42
23:AY:179:ASP:OD1	23:AY:181:LEU:HB3	2.20	0.42
23:AY:201:ILE:HG22	23:AY:203:GLU:H	1.85	0.42
23:AY:271:LEU:H	23:AY:271:LEU:HG	1.69	0.42
23:AY:494:GLU:CG	23:AY:496:LYS:HB2	2.50	0.42
23:AY:608:VAL:HG13	23:AY:669:PHE:HB2	2.01	0.42
26:BD:9:TYR:CD2	59:BA:705:A:H1'	2.55	0.42
26:BD:31:LYS:HA	26:BD:31:LYS:HD2	1.84	0.42
26:BD:131:LEU:HD13	26:BD:136:ILE:CD1	2.46	0.42
26:BD:258:LYS:HG3	59:BA:1797:C:H5"	2.02	0.42
28:BF:39:TRP:HA	28:BF:99:TYR:CE1	2.55	0.42
28:BF:45:ARG:HB3	28:BF:97:TYR:CD2	2.55	0.42
29:BG:129:GLY:HA3	29:BG:163:ALA:O	2.19	0.42
29:BG:182:LYS:HD3	29:BG:182:LYS:HA	1.88	0.42
35:BP:30:THR:O	35:BP:32:THR:N	2.53	0.42
36:BQ:36:ALA:HB2	36:BQ:103:MET:HE3	2.01	0.42
39:BT:111:ARG:H	39:BT:111:ARG:HG3	1.65	0.42
40:BU:54:LYS:NZ	59:BA:994:C:H3'	2.34	0.42
40:BU:72:HIS:NE2	40:BU:107:ALA:HB2	2.35	0.42
40:BU:85:LYS:HD2	40:BU:117:GLN:HG3	2.01	0.42
40:BU:99:ALA:HB2	40:BU:106:PHE:CZ	2.55	0.42
42:BW:15:ARG:HG2	59:BA:1266:G:N7	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BY:56:PRO:HB2	44:BY:57:GLN:H	1.56	0.42
47:B2:66:GLU:HA	47:B2:69:ARG:NH2	2.35	0.42
53:B9:1:MET:SD	53:B9:1:MET:N	2.78	0.42
54:Be:105:LYS:C	54:Be:107:GLU:H	2.28	0.42
59:BA:49:A:N3	59:BA:49:A:H2'	2.35	0.42
59:BA:197:A:C5	59:BA:2430:A:H2'	2.55	0.42
59:BA:609(A):A:H2'	59:BA:609(B):G:O4'	2.20	0.42
59:BA:1019:U:H2'	59:BA:1020:A:H8	1.82	0.42
59:BA:1403:C:H2'	59:BA:1404:C:O4'	2.19	0.42
59:BA:2348:U:O4	59:BA:2382:G:N1	2.53	0.42
3:CD:13:ARG:HH21	3:CD:36:ARG:HG3	1.84	0.42
4:CE:18:ARG:HA	20:CA:15:G:N2	2.35	0.42
7:CH:99:GLU:OE1	7:CH:99:GLU:N	2.51	0.42
11:CL:56:ALA:CB	11:CL:68:ALA:HB3	2.38	0.42
12:CM:113:PRO:HB2	12:CM:114:ARG:H	1.67	0.42
14:CO:50:HIS:HD1	20:CA:765:G:P	2.43	0.42
20:CA:812:C:OP1	20:CA:903:G:H1'	2.20	0.42
20:CA:837:G:H2'	20:CA:838:G:O4'	2.20	0.42
20:CA:1406:U:H2'	20:CA:1407:C:O4'	2.20	0.42
23:CY:71:THR:HG23	23:CY:358:MET:O	2.20	0.42
23:CY:117:GLN:OE1	23:CY:117:GLN:HA	2.18	0.42
23:CY:210:ARG:HA	23:CY:210:ARG:HD3	1.92	0.42
23:CY:679:VAL:HB	23:CY:683:VAL:HB	2.02	0.42
25:DC:80:LYS:HB2	25:DC:120:VAL:CG1	2.50	0.42
25:DC:164:PHE:CB	25:DC:172:ILE:HG13	2.50	0.42
25:DC:174:ALA:HA	25:DC:175:PRO:HD3	1.56	0.42
27:DE:144:ARG:HB3	27:DE:145:LYS:H	1.45	0.42
28:DF:63:LYS:HA	28:DF:76:GLY:HA3	2.02	0.42
28:DF:155:LEU:HD13	28:DF:189:THR:OG1	2.20	0.42
28:DF:187:VAL:HB	35:DP:7:ARG:HH22	1.85	0.42
29:DG:98:ARG:HA	29:DG:98:ARG:HD3	1.61	0.42
30:DH:103:LEU:HD13	30:DH:125:VAL:HG21	2.02	0.42
33:DN:70:LYS:HE2	33:DN:72:TYR:CZ	2.55	0.42
34:DO:91:LEU:HD11	34:DO:111:PHE:HE1	1.85	0.42
36:DQ:60:ARG:HA	45:DZ:179:ASP:HB3	2.02	0.42
37:DR:29:LEU:HD12	37:DR:83:ILE:HD13	2.00	0.42
39:DT:27:THR:CG2	39:DT:49:VAL:HB	2.50	0.42
39:DT:65:LYS:HE3	39:DT:66:VAL:O	2.20	0.42
43:DX:6:ASP:OD1	43:DX:6:ASP:N	2.53	0.42
45:DZ:152:ALA:HA	45:DZ:167:PRO:C	2.45	0.42
49:D5:19:ARG:HA	59:DA:2046:G:H5'	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:De:83:GLY:O	54:De:87:LYS:HG2	2.20	0.42
58:D4:6:HIS:HA	58:D4:7:PRO:HD3	1.84	0.42
59:DA:868:U:N3	59:DA:869:G:N7	2.68	0.42
59:DA:962:G:H2'	59:DA:963:U:O4'	2.20	0.42
59:DA:1499:C:C2	59:DA:1500:G:C8	3.07	0.42
59:DA:1532:C:C2	59:DA:1540:G:N2	2.88	0.42
59:DA:1800:C:C2	59:DA:1818:U:N3	2.88	0.42
59:DA:1802:A:H3'	59:DA:1803:A:C8	2.55	0.42
59:DA:1856:G:H2'	59:DA:1857:G:O4'	2.19	0.42
59:DA:1904:G:H1'	59:DA:1927:A:N1	2.35	0.42
59:DA:1923:U:H2'	59:DA:1924:C:C6	2.55	0.42
59:DA:2657:A:H2'	59:DA:2658:C:O4'	2.20	0.42
59:DA:2867:G:O2'	59:DA:2868:A:OP2	2.33	0.42
2:AC:91:LEU:O	2:AC:95:THR:N	2.52	0.41
7:AH:29:SER:HA	20:AA:590:C:P	2.60	0.41
9:AJ:55:LYS:HG3	20:AA:973:G:C1'	2.50	0.41
12:AM:120:LYS:NZ	20:AA:955:U:H4'	2.35	0.41
16:AQ:9:VAL:HG22	16:AQ:56:VAL:HG22	2.01	0.41
20:AA:22:G:H4'	20:AA:885:G:C8	2.55	0.41
20:AA:515:G:H2'	20:AA:516:U:C6	2.55	0.41
20:AA:578:C:H2'	20:AA:579:G:H8	1.82	0.41
20:AA:1504:G:O2'	20:AA:1505:G:O5'	2.36	0.41
21:AW:14:A:C2	21:AW:22:G:H1'	2.54	0.41
21:AW:38:A:H2'	21:AW:39:U:O4'	2.20	0.41
23:AY:10:LYS:HG2	23:AY:284:LEU:HD22	2.01	0.41
23:AY:139:MET:HE3	23:AY:167:PRO:HG3	2.02	0.41
23:AY:201:ILE:HG21	23:AY:206:LEU:N	2.35	0.41
23:AY:580:MET:HA	23:AY:583:LYS:HB3	2.02	0.41
61:AY:701:FUA:O1	61:AY:701:FUA:C20	2.68	0.41
26:BD:86:PRO:HB3	59:BA:1567:A:OP2	2.20	0.41
26:BD:123:ALA:HA	26:BD:124:PRO:HD2	1.89	0.41
28:BF:125:LEU:HA	28:BF:194:MET:O	2.19	0.41
32:BK:134:MET:HA	59:BA:1063:G:H4'	2.02	0.41
34:BO:20:MET:HG2	34:BO:21:CYS:N	2.34	0.41
35:BP:122:PRO:HG3	35:BP:141:ALA:HB1	2.02	0.41
37:BR:24:GLN:OE1	59:BA:1277:G:O2'	2.38	0.41
37:BR:82:GLU:C	37:BR:85:PRO:HD2	2.44	0.41
42:BW:6:ILE:HG13	42:BW:104:THR:OG1	2.20	0.41
45:BZ:45:ASP:O	45:BZ:49:ARG:HG2	2.20	0.41
48:B3:9:VAL:HG22	48:B3:53:LEU:C	2.44	0.41
51:B7:42:LEU:C	51:B7:44:PRO:HD3	2.45	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:746:A:H5'	59:BA:748:G:H1'	2.01	0.41
59:BA:1141:U:H4'	59:BA:114(B):A:C8	2.55	0.41
59:BA:1413:G:C4	59:BA:1414:G:C8	3.08	0.41
59:BA:1577:C:H2'	59:BA:1578:U:C6	2.55	0.41
59:BA:1636:C:H2'	59:BA:1637:A:C8	2.55	0.41
59:BA:2066:C:N4	59:BA:2444:G:H1	2.16	0.41
59:BA:2086:U:H2'	59:BA:2087:G:H8	1.85	0.41
59:BA:2282:G:H21	59:BA:2390:U:H3	1.67	0.41
59:BA:2601:C:N4	59:BA:2603:G:O6	2.53	0.41
59:BA:2774:C:H5"	59:BA:2775:A:OP2	2.20	0.41
60:BB:73:A:N3	60:BB:73:A:H2'	2.35	0.41
2:CC:121:ALA:HA	2:CC:198:VAL:HG21	2.01	0.41
3:CD:122:ARG:HB2	3:CD:136:PRO:HG3	2.01	0.41
8:CI:53:VAL:HG23	8:CI:55:ALA:H	1.84	0.41
8:CI:71:SER:O	8:CI:74:ILE:HB	2.20	0.41
8:CI:112:LYS:HG2	8:CI:119:ALA:H	1.84	0.41
11:CL:71:PRO:HG2	11:CL:102:ARG:HG2	2.02	0.41
19:CT:18:GLN:O	19:CT:22:ARG:HG3	2.20	0.41
20:CA:293:G:H4'	20:CA:609:A:N1	2.35	0.41
20:CA:310:G:H2'	20:CA:311:C:C6	2.55	0.41
20:CA:771:G:N1	20:CA:808:C:O2	2.50	0.41
20:CA:801:U:H2'	20:CA:802:A:H8	1.82	0.41
20:CA:1308:U:H2'	20:CA:1309:G:C8	2.55	0.41
20:CA:1497:G:N2	20:CA:1519:A:H1'	2.34	0.41
25:DC:53:ARG:O	25:DC:55:SER:N	2.53	0.41
25:DC:94:TYR:O	25:DC:100:ILE:HG13	2.20	0.41
25:DC:186:LEU:O	25:DC:190:ILE:HG12	2.20	0.41
27:DE:80:GLU:N	59:DA:2636:U:OP1	2.53	0.41
28:DF:160:ASN:HD21	28:DF:162:LEU:HD13	1.85	0.41
29:DG:29:TRP:HB3	60:DB:57:A:C2	2.55	0.41
33:DN:1:MET:SD	33:DN:2:LYS:N	2.93	0.41
33:DN:108:PRO:HG3	59:DA:1007:C:H4'	2.02	0.41
34:DO:7:TYR:HE1	34:DO:44:LYS:HG3	1.85	0.41
35:DP:67:MET:HE1	35:DP:70:GLN:HG2	2.01	0.41
35:DP:76:LYS:HE3	35:DP:76:LYS:HB3	1.84	0.41
36:DQ:12:GLN:HG2	36:DQ:73:PRO:HD2	2.02	0.41
36:DQ:127:ILE:HB	36:DQ:128:LYS:H	1.67	0.41
37:DR:34:ILE:O	37:DR:113:LEU:HA	2.20	0.41
37:DR:73:VAL:O	37:DR:76:VAL:HG12	2.20	0.41
44:DY:102:CYS:HB3	44:DY:108:THR:HG21	2.02	0.41
44:DY:105:ALA:O	44:DY:107:ASP:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:D6:12:GLU:OE1	59:DA:2419:U:O2'	2.33	0.41
57:D1:3:LYS:HD3	59:DA:1365:A:OP2	2.20	0.41
59:DA:49:A:H2'	59:DA:49:A:N3	2.34	0.41
59:DA:391:G:C4	59:DA:392:C:C5	3.08	0.41
59:DA:531:C:H4'	59:DA:532:A:O5'	2.20	0.41
59:DA:667:U:H2'	59:DA:668:G:O4'	2.19	0.41
59:DA:682:G:H2'	59:DA:683:C:H6	1.85	0.41
59:DA:765:G:OP2	59:DA:765:G:H8	2.03	0.41
59:DA:1136:G:H3'	59:DA:1137:G:H8	1.85	0.41
59:DA:1286:A:O2'	59:DA:1288:U:OP2	2.20	0.41
59:DA:1341:U:H5	59:DA:1395:A:H2	1.67	0.41
59:DA:144(B):A:O2'	59:DA:1445:C:H5'	2.20	0.41
59:DA:1499:C:H2'	59:DA:1500:G:C8	2.55	0.41
59:DA:1759:A:H4'	59:DA:2715:C:O4'	2.19	0.41
59:DA:1993:U:H2'	59:DA:1994:C:O4'	2.19	0.41
60:DB:58:A:C5	60:DB:59:A:N7	2.88	0.41
3:AD:115:ARG:NH1	20:AA:407:G:OP1	2.53	0.41
4:AE:64:ARG:O	4:AE:66:MET:N	2.53	0.41
7:AH:41:ARG:HE	7:AH:41:ARG:HB3	1.73	0.41
7:AH:91:ARG:NH2	20:AA:564:C:O3'	2.53	0.41
8:AI:9:ARG:HB3	8:AI:104:ARG:NH1	2.34	0.41
8:AI:81:ILE:O	8:AI:85:LEU:HG	2.19	0.41
8:AI:81:ILE:HG22	8:AI:85:LEU:HD11	2.02	0.41
11:AL:113:ARG:HH12	20:AA:537:G:P	2.43	0.41
18:AS:10:PHE:CG	20:AA:1318:A:H4'	2.55	0.41
20:AA:18:C:H2'	20:AA:19:C:C6	2.55	0.41
20:AA:33:A:H5"	20:AA:364:A:O2'	2.20	0.41
20:AA:110:C:H2'	20:AA:111:G:O4'	2.20	0.41
20:AA:241:C:H2'	20:AA:242:C:H6	1.85	0.41
20:AA:320:C:H2'	20:AA:321:A:C8	2.55	0.41
20:AA:382:A:H2'	20:AA:383:A:C8	2.54	0.41
20:AA:755:G:H2'	20:AA:756:C:C6	2.55	0.41
20:AA:784:C:H2'	20:AA:785:G:C8	2.56	0.41
20:AA:1415:G:H2'	20:AA:1416:G:O4'	2.20	0.41
21:AW:50:C:N4	21:AW:64:G:N1	2.31	0.41
23:AY:13:ARG:HD3	23:AY:79:ILE:HG12	2.01	0.41
23:AY:168:ILE:H	23:AY:174:PHE:HE1	1.68	0.41
23:AY:526:VAL:CG2	23:AY:566:THR:HG23	2.50	0.41
61:AY:701:FUA:H203	61:AY:701:FUA:H151	1.86	0.41
25:BC:62:THR:HB	25:BC:161:ARG:CZ	2.51	0.41
25:BC:130:ARG:HA	25:BC:134:PRO:HG2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BD:122:ASP:CG	26:BD:123:ALA:N	2.78	0.41
26:BD:132:PRO:HA	26:BD:189:CYS:O	2.20	0.41
30:BH:38:SER:HA	30:BH:39:PRO:HD3	1.92	0.41
30:BH:89:ILE:HG22	30:BH:162:ILE:HG23	2.02	0.41
32:BK:58:THR:O	32:BK:65:PHE:HA	2.20	0.41
33:BN:29:LYS:O	33:BN:30:ILE:C	2.63	0.41
35:BP:48:PRO:C	35:BP:50:ARG:H	2.27	0.41
35:BP:76:LYS:HE3	35:BP:76:LYS:HB3	1.89	0.41
38:BS:93:LYS:HG2	60:BB:47:C:O2'	2.21	0.41
39:BT:39:ARG:O	39:BT:40:THR:OG1	2.33	0.41
42:BW:11:ARG:NH2	42:BW:98:LYS:HB3	2.35	0.41
42:BW:68:ARG:HB3	42:BW:110:LYS:HB2	2.01	0.41
45:BZ:29:TYR:HB2	45:BZ:33:LEU:O	2.19	0.41
45:BZ:141:VAL:O	45:BZ:143:GLY:N	2.53	0.41
59:BA:17:G:H2'	59:BA:18:C:C6	2.55	0.41
59:BA:26:G:C6	59:BA:27:G:C6	3.09	0.41
59:BA:270(L):C:C2'	59:BA:270(M):U:H5"	2.50	0.41
59:BA:289:A:H2'	59:BA:290:G:O4'	2.20	0.41
59:BA:592:G:H2'	59:BA:593:G:O4'	2.20	0.41
59:BA:729:G:O2'	59:BA:763:G:H4'	2.19	0.41
59:BA:817:C:H4'	59:BA:932:G:C6	2.55	0.41
59:BA:1197:G:H2'	59:BA:1198:U:C6	2.51	0.41
59:BA:1508:A:H2'	59:BA:1509:A:O4'	2.19	0.41
59:BA:1914:C:H5'	59:BA:1915:U:OP2	2.20	0.41
59:BA:2167:U:C4	59:BA:2168:G:C6	3.08	0.41
59:BA:2501:C:H6	59:BA:2501:C:H2'	1.67	0.41
59:BA:2841:C:H2'	59:BA:2842:G:H8	1.85	0.41
1:CB:87:ARG:HG2	1:CB:223:ILE:HD11	2.01	0.41
1:CB:176:GLU:O	1:CB:180:LEU:HD12	2.20	0.41
3:CD:31:CYS:C	3:CD:33:MET:N	2.78	0.41
4:CE:84:PHE:HB3	4:CE:134:ALA:HB2	2.02	0.41
7:CH:91:ARG:NH2	20:CA:564:C:O3'	2.53	0.41
8:CI:48:GLU:N	8:CI:49:PRO:HD2	2.35	0.41
14:CO:79:ARG:O	14:CO:83:GLU:HB2	2.20	0.41
15:CP:16:HIS:ND1	20:CA:625:G:H4'	2.35	0.41
15:CP:74:LEU:HD22	15:CP:79:VAL:HG11	2.01	0.41
18:CS:48:THR:HG22	18:CS:61:TYR:CE2	2.44	0.41
19:CT:36:LEU:HG	19:CT:62:LEU:HD12	2.02	0.41
20:CA:521:G:H1	20:CA:528:C:H42	1.69	0.41
20:CA:1300:G:O5'	20:CA:1335:C:N4	2.53	0.41
20:CA:1440(A):G:H5"	20:CA:1440(B):G:O5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:1494:G:N2	59:DA:1912:A:N3	2.69	0.41
21:CW:31:A:N1	21:CW:39:U:O4	2.53	0.41
25:DC:41:THR:HA	25:DC:176:VAL:O	2.19	0.41
25:DC:109:MET:HA	25:DC:111:PHE:CE2	2.54	0.41
25:DC:208:THR:C	25:DC:210:LEU:H	2.28	0.41
26:DD:163:ALA:HB1	26:DD:175:LEU:CD2	2.50	0.41
27:DE:202:LYS:HG3	59:DA:2733:A:H61	1.85	0.41
28:DF:125:LEU:CD2	28:DF:196:LEU:HA	2.49	0.41
28:DF:135:LYS:HA	59:DA:321:G:OP1	2.20	0.41
29:DG:45:GLU:C	29:DG:47:LYS:H	2.28	0.41
29:DG:111:LEU:O	29:DG:112:PRO:C	2.59	0.41
30:DH:98:LEU:HD22	30:DH:124:GLU:HA	2.03	0.41
37:DR:64:ARG:O	37:DR:68:ARG:HB2	2.20	0.41
38:DS:71:ARG:HD2	38:DS:71:ARG:N	2.36	0.41
39:DT:33:LYS:N	39:DT:42:ILE:HA	2.35	0.41
40:DU:48:ALA:O	40:DU:52:ARG:HB3	2.20	0.41
41:DV:20:LEU:HG	41:DV:93:GLU:HG3	2.02	0.41
49:D5:32:PRO:HG2	59:DA:2887:U:H5'	2.02	0.41
49:D5:33:CYS:SG	49:D5:38:ALA:N	2.92	0.41
50:D6:27:LYS:O	50:D6:32:ASN:HB2	2.20	0.41
50:D6:53:LYS:HA	50:D6:53:LYS:HD2	1.83	0.41
57:D1:3:LYS:HZ3	57:D1:3:LYS:HG2	1.74	0.41
59:DA:210:C:H2'	59:DA:211:A:H8	1.84	0.41
59:DA:233:A:H2'	59:DA:234:C:O4'	2.20	0.41
59:DA:391:G:H1'	59:DA:411:G:C4	2.55	0.41
59:DA:405:U:H3'	59:DA:406:G:H5'	2.00	0.41
59:DA:489:G:H2'	59:DA:491:G:O4'	2.19	0.41
59:DA:721:C:H2'	59:DA:722:A:C8	2.55	0.41
59:DA:745:G:O6	59:DA:746:A:N6	2.53	0.41
59:DA:817:C:O2'	59:DA:839:U:OP1	2.31	0.41
59:DA:1027:A:C6	59:DA:1126:A:C4	3.08	0.41
59:DA:1348:G:H2'	59:DA:1349:A:H5"	2.01	0.41
59:DA:1854:A:H2	59:DA:2088:G:H1'	1.85	0.41
59:DA:2314:C:H2'	59:DA:2315:G:H8	1.83	0.41
59:DA:2350:C:H2'	59:DA:2351:G:O4'	2.20	0.41
59:DA:2711:A:H5"	59:DA:2712:U:H3'	2.01	0.41
59:DA:2814:C:H42	59:DA:2886:G:H1	1.67	0.41
3:AD:170:VAL:HG21	3:AD:176:LEU:HB2	2.01	0.41
4:AE:144:THR:O	4:AE:148:VAL:HG23	2.20	0.41
6:AG:136:LYS:HD2	6:AG:136:LYS:HA	1.91	0.41
11:AL:34:ARG:HG3	11:AL:82:VAL:CG1	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AL:50:SER:HB2	20:AA:519:C:OP2	2.20	0.41
11:AL:72:GLY:HA3	20:AA:522:C:OP1	2.21	0.41
12:AM:36:LYS:HD3	12:AM:36:LYS:HA	1.84	0.41
14:AO:33:THR:O	14:AO:36:ILE:HB	2.20	0.41
15:AP:25:ARG:HH22	20:AA:134:A:H61	1.68	0.41
16:AQ:12:SER:HA	16:AQ:14:LYS:NZ	2.35	0.41
16:AQ:64:PRO:HD2	20:AA:130:A:N7	2.35	0.41
16:AQ:66:SER:HA	20:AA:265:G:O3'	2.20	0.41
20:AA:510:A:H5"	20:AA:511:C:OP2	2.20	0.41
20:AA:1534:A:H8	20:AA:1534:A:O5'	2.03	0.41
23:AY:25:LYS:CB	62:AY:702:GDP:O2B	2.68	0.41
23:AY:197:ARG:NH2	23:AY:198:GLU:HG2	2.36	0.41
23:AY:206:LEU:HB3	23:AY:207:ASP:H	1.64	0.41
23:AY:339:SER:O	23:AY:351:ARG:HD2	2.20	0.41
23:AY:651:GLU:C	23:AY:653:PHE:H	2.27	0.41
26:BD:15:PHE:HE1	59:BA:1830:C:H4'	1.85	0.41
26:BD:85:ASP:HA	26:BD:86:PRO:HD2	1.80	0.41
29:BG:114:ILE:O	29:BG:117:PHE:HB2	2.21	0.41
29:BG:135:LEU:O	59:BA:2305:A:H1'	2.21	0.41
35:BP:107:LYS:HD2	59:BA:625:G:O6	2.20	0.41
36:BQ:52:VAL:O	36:BQ:54:MET:N	2.53	0.41
39:BT:33:LYS:N	39:BT:42:ILE:HA	2.35	0.41
39:BT:101:PHE:CE2	59:BA:1754:C:H5'	2.55	0.41
43:BX:5:TYR:HE1	43:BX:42:ALA:HB1	1.85	0.41
43:BX:12:VAL:HG23	43:BX:13:LEU:H	1.85	0.41
43:BX:13:LEU:HD11	47:B2:40:SER:OG	2.21	0.41
44:BY:63:LYS:HB3	44:BY:64:GLU:H	1.72	0.41
45:BZ:99:TYR:HE2	45:BZ:125:LEU:HB2	1.86	0.41
49:B5:3:LYS:HD3	59:BA:747:U:C5	2.56	0.41
49:B5:44:THR:HG22	49:B5:45:VAL:N	2.33	0.41
50:B6:8:LYS:C	50:B6:9:LEU:HD13	2.45	0.41
52:B8:61:LEU:HD11	59:BA:593:G:O2'	2.20	0.41
57:B1:18:ILE:CG1	57:B1:20:ARG:HB3	2.49	0.41
57:B1:43:TYR:C	57:B1:43:TYR:CD2	2.98	0.41
59:BA:8:A:C2	59:BA:9:U:C2	3.08	0.41
59:BA:234:C:H2'	59:BA:235:U:H6	1.84	0.41
59:BA:450:G:H1	59:BA:454:A:P	2.43	0.41
59:BA:465:G:H2'	59:BA:466:A:C5	2.55	0.41
59:BA:473:G:O2'	59:BA:474:G:H5'	2.20	0.41
59:BA:956:G:N2	59:BA:960:A:OP2	2.49	0.41
59:BA:1852:C:O2'	59:BA:1853:A:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:2023:G:P	59:BA:2023:G:C8	3.12	0.41
59:BA:2090:G:H1	59:BA:2229:C:H42	1.67	0.41
59:BA:2628:C:H1'	59:BA:2781:A:H2'	2.02	0.41
59:BA:2663:G:C6	59:BA:2664:G:C4	3.08	0.41
59:BA:2773:C:H2'	59:BA:2774:C:H6	1.86	0.41
59:BA:2781:A:H3'	59:BA:2782:G:H5'	2.02	0.41
60:BB:24:G:N1	60:BB:56:G:N2	2.68	0.41
60:BB:29:A:H2'	60:BB:30:C:H6	1.84	0.41
60:BB:88:C:H2'	60:BB:89(A):G:C8	2.55	0.41
1:CB:51:LEU:O	1:CB:55:PHE:HB2	2.20	0.41
3:CD:6:GLY:HA3	3:CD:7:PRO:HD3	1.90	0.41
5:CF:14:LEU:CD2	5:CF:18:GLN:HB2	2.50	0.41
7:CH:127:LEU:HB3	7:CH:129:VAL:HG22	2.01	0.41
10:CK:18:ARG:NH1	10:CK:81:ASP:OD2	2.53	0.41
11:CL:5:PRO:HB2	11:CL:10:LEU:HG	2.02	0.41
15:CP:27:LYS:HE3	15:CP:27:LYS:HB2	1.88	0.41
16:CQ:16:GLN:NE2	16:CQ:16:GLN:H	2.18	0.41
20:CA:28:G:H1	20:CA:555:C:H42	1.69	0.41
20:CA:178:C:H2'	20:CA:179:A:O4'	2.20	0.41
20:CA:838(A):U:O2'	20:CA:838(B):C:H5"	2.21	0.41
20:CA:1349:A:H3'	20:CA:1350:A:H8	1.84	0.41
21:CW:14:A:H2'	21:CW:15:G:O4'	2.19	0.41
23:CY:72:CYS:SG	23:CY:79:ILE:HB	2.60	0.41
23:CY:91:THR:HB	23:CY:92:ILE:H	1.65	0.41
23:CY:614:GLU:O	23:CY:617:MET:HE2	2.20	0.41
23:CY:656:ALA:HB2	23:CY:669:PHE:HE1	1.85	0.41
25:DC:153:ILE:HA	25:DC:156:GLU:HB2	2.00	0.41
26:DD:115:GLN:NE2	26:DD:117:VAL:HG13	2.35	0.41
27:DE:129:HIS:CE1	59:DA:1675:C:N4	2.89	0.41
27:DE:146:THR:O	59:DA:2571:C:O2'	2.37	0.41
28:DF:67:GLN:O	28:DF:68:LYS:HD2	2.21	0.41
30:DH:61:HIS:O	30:DH:62:LYS:C	2.63	0.41
32:DK:78:ILE:HG21	32:DK:134:MET:SD	2.60	0.41
33:DN:97:ARG:O	33:DN:100:GLU:N	2.53	0.41
39:DT:51:ARG:HB3	39:DT:62:THR:CG2	2.50	0.41
42:DW:90:ARG:NH2	59:DA:748:G:H1	2.18	0.41
45:DZ:61:LEU:HB3	45:DZ:63:ASP:OD1	2.19	0.41
49:D5:43:HIS:NE2	59:DA:2883:A:O3'	2.51	0.41
59:DA:560:C:H2'	59:DA:561:G:C8	2.45	0.41
59:DA:705:A:C4	59:DA:727:A:C2	3.09	0.41
59:DA:1799:G:H4'	59:DA:1800:C:O5'	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1954:G:N2	59:DA:1986:A:OP1	2.49	0.41
59:DA:2074:U:O3'	59:DA:2597:G:O2'	2.37	0.41
59:DA:2471:C:H2'	59:DA:2472:G:O4'	2.19	0.41
60:DB:99:A:H2'	60:DB:100:G:O4'	2.19	0.41
60:DB:105:G:H2'	60:DB:106:G:H8	1.86	0.41
1:AB:68:ILE:CG2	1:AB:163:PHE:HB2	2.51	0.41
4:AE:125:SER:OG	4:AE:125:SER:O	2.39	0.41
6:AG:87:VAL:HG11	6:AG:155:ARG:HA	2.01	0.41
7:AH:97:VAL:HG12	20:AA:600:C:OP1	2.19	0.41
8:AI:111:ARG:HG3	20:AA:1369:C:OP2	2.21	0.41
10:AK:14:VAL:HB	10:AK:15:ALA:H	1.64	0.41
12:AM:21:TYR:HD2	12:AM:21:TYR:HA	1.70	0.41
15:AP:66:PRO:CG	15:AP:71:ARG:HH22	2.33	0.41
16:AQ:29:HIS:O	16:AQ:31:LEU:N	2.54	0.41
20:AA:55:A:H2'	20:AA:56:U:O4'	2.20	0.41
20:AA:244:U:O4	20:AA:893:C:N3	2.53	0.41
20:AA:426:G:H2'	20:AA:427:U:O4'	2.20	0.41
20:AA:626:U:H2'	20:AA:627:G:H8	1.86	0.41
20:AA:633:G:H2'	20:AA:634:C:C6	2.55	0.41
20:AA:955:U:H2'	20:AA:956:U:C6	2.55	0.41
23:AY:20:HIS:HB3	23:AY:118:SER:CA	2.51	0.41
23:AY:166:LEU:HB2	23:AY:178:ILE:HG22	2.02	0.41
23:AY:489:LYS:HE3	23:AY:489:LYS:HB2	1.87	0.41
25:BC:76:LEU:HD12	25:BC:94:TYR:HD2	1.85	0.41
26:BD:24:ILE:HG23	26:BD:25:THR:H	1.84	0.41
26:BD:38:LYS:HD2	26:BD:39:LYS:O	2.20	0.41
26:BD:206:LEU:HD12	59:BA:1792:G:OP2	2.20	0.41
27:BE:140:SER:HB3	59:BA:2512:C:H1'	2.00	0.41
28:BF:33:LEU:O	28:BF:37:VAL:HG23	2.21	0.41
29:BG:121:ASN:O	29:BG:131:TYR:OH	2.36	0.41
32:BK:78:ILE:HG21	32:BK:134:MET:CE	2.51	0.41
33:BN:57:ALA:O	33:BN:60:ILE:HG13	2.20	0.41
34:BO:23:ARG:HH12	59:BA:2548:G:H1'	1.84	0.41
35:BP:51:PHE:CE1	35:BP:52:GLU:HB2	2.55	0.41
37:BR:18:LEU:O	37:BR:22:ARG:HG3	2.20	0.41
37:BR:60:LEU:HG	37:BR:64:ARG:HH11	1.86	0.41
39:BT:26:ASP:HB3	39:BT:91:ARG:HB2	2.01	0.41
40:BU:92:ARG:NH1	40:BU:95:LEU:HD12	2.36	0.41
42:BW:14:PRO:O	42:BW:17:VAL:N	2.53	0.41
43:BX:38:GLU:O	43:BX:41:ASN:HB2	2.19	0.41
44:BY:13:VAL:N	44:BY:25:GLY:O	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BZ:118:GLN:O	45:BZ:172:ALA:HA	2.20	0.41
46:B0:47:PRO:CG	46:B0:53:MET:HB2	2.50	0.41
48:B3:17:LYS:NZ	59:BA:969:U:H5"	2.34	0.41
49:B5:31:VAL:HG21	49:B5:42:PRO:HA	2.03	0.41
57:B1:86:SER:HA	57:B1:87:PRO:HD2	1.84	0.41
59:BA:41:C:H2'	59:BA:43:G:H8	1.82	0.41
59:BA:685:A:C5'	59:BA:774:A:H61	2.33	0.41
59:BA:733:G:O6	59:BA:761:A:H2'	2.20	0.41
59:BA:875:G:H2'	59:BA:876:C:O4'	2.20	0.41
59:BA:1799:G:C6	59:BA:1819:A:N7	2.89	0.41
59:BA:1975:G:H2'	59:BA:1976:U:C6	2.55	0.41
59:BA:2116:G:O6	59:BA:2166:G:N2	2.53	0.41
59:BA:2396:G:H2'	59:BA:2397:G:H8	1.84	0.41
59:BA:2795:G:H3'	59:BA:2797:U:C5'	2.51	0.41
59:BA:2820:A:O2'	59:BA:2821:A:OP1	2.37	0.41
59:BA:2838:G:C6	59:BA:2839:G:C6	3.08	0.41
1:CB:32:ILE:HG21	1:CB:40:HIS:HD2	1.85	0.41
1:CB:71:VAL:CG2	1:CB:164:VAL:HG22	2.50	0.41
8:CI:50:LEU:HD23	8:CI:50:LEU:HA	1.95	0.41
9:CJ:45:ARG:NH2	20:CA:1255:G:OP1	2.50	0.41
11:CL:44:THR:HB	11:CL:49:ASN:O	2.20	0.41
11:CL:61:THR:HB	20:CA:362:G:H5"	2.02	0.41
12:CM:2:ALA:HB3	12:CM:9:ILE:HG23	2.02	0.41
16:CQ:28:PRO:HB2	16:CQ:29:HIS:H	1.49	0.41
16:CQ:43:LEU:HD23	16:CQ:43:LEU:HA	1.52	0.41
18:CS:30:LEU:HD23	18:CS:30:LEU:HA	1.85	0.41
20:CA:68(R):C:H2'	20:CA:68(S):C:C6	2.55	0.41
20:CA:634:C:H2'	20:CA:635:G:H8	1.84	0.41
20:CA:744:C:H2'	20:CA:745:C:C6	2.55	0.41
20:CA:1255:G:N2	20:CA:1282:C:N3	2.48	0.41
20:CA:1440(D):A:C2	39:DT:118:ARG:HG2	2.56	0.41
23:CY:27:THR:HG23	62:CY:702:GDP:O2A	2.19	0.41
23:CY:201:ILE:C	23:CY:203:GLU:N	2.78	0.41
23:CY:304:ASP:HA	23:CY:305:PRO:HD2	1.94	0.41
23:CY:355:LEU:H	23:CY:355:LEU:HD22	1.84	0.41
25:DC:169:THR:C	25:DC:171:ALA:N	2.79	0.41
26:DD:51:VAL:O	26:DD:52:ARG:HB2	2.20	0.41
28:DF:164:ARG:O	28:DF:168:ARG:HB2	2.20	0.41
30:DH:41:MET:O	30:DH:42:ARG:HB2	2.20	0.41
33:DN:38:HIS:CG	33:DN:39:ARG:N	2.89	0.41
34:DO:107:ARG:NH2	39:DT:36:GLU:HG3	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:DQ:72:LYS:HB3	36:DQ:94:VAL:HG23	2.01	0.41
37:DR:2:ARG:HB3	37:DR:5:LYS:HE2	2.02	0.41
37:DR:37:THR:O	37:DR:40:LYS:HB2	2.20	0.41
40:DU:85:LYS:HD3	40:DU:85:LYS:O	2.21	0.41
41:DV:4:ILE:HB	41:DV:39:LEU:HB2	2.02	0.41
41:DV:55:ALA:CB	41:DV:101:GLY:HA2	2.50	0.41
44:DY:28:LYS:HD3	44:DY:37:VAL:HG12	2.03	0.41
44:DY:73:ARG:HH22	59:DA:302:C:P	2.43	0.41
52:D8:27:THR:OG1	59:DA:2361:A:O5'	2.38	0.41
53:D9:3:VAL:HB	59:DA:2538:C:O2'	2.20	0.41
54:De:74:VAL:HG11	54:De:86:LEU:HD11	2.01	0.41
59:DA:199:A:H61	59:DA:2433:A:H2'	1.83	0.41
59:DA:301:G:C6	59:DA:317:G:C5	3.08	0.41
59:DA:443:A:H1'	59:DA:1201:C:H1'	2.02	0.41
59:DA:479:A:C4	59:DA:481:G:O4'	2.73	0.41
59:DA:572:A:H3'	59:DA:573:G:C8	2.55	0.41
59:DA:730:C:H2'	59:DA:731:C:O4'	2.20	0.41
59:DA:746:A:O2'	59:DA:2611:U:O2'	2.33	0.41
59:DA:1771:C:N4	59:DA:1980:G:H1	2.16	0.41
59:DA:2599:G:H2'	59:DA:2600:A:C8	2.55	0.41
1:AB:87:ARG:NH2	1:AB:233:SER:OG	2.54	0.41
1:AB:114:ARG:O	1:AB:118:LEU:HG	2.21	0.41
3:AD:57:ARG:NH1	3:AD:205:GLU:HB3	2.36	0.41
3:AD:101:LEU:O	3:AD:105:VAL:HG23	2.21	0.41
4:AE:82:VAL:HG11	4:AE:138:ALA:HA	2.03	0.41
8:AI:23:ASN:O	8:AI:57:GLY:HA2	2.21	0.41
8:AI:69:GLY:HA2	20:AA:1249:C:O2	2.21	0.41
11:AL:83:VAL:HG11	11:AL:100:ILE:HD13	2.01	0.41
19:AT:89:ARG:NH2	20:AA:186(A):C:O2'	2.53	0.41
20:AA:68(O):A:H3'	20:AA:68(P):C:O4'	2.19	0.41
20:AA:395:C:H2'	20:AA:396:G:H8	1.85	0.41
20:AA:505:G:N2	20:AA:526:C:N3	2.62	0.41
20:AA:509:A:H2	20:AA:543:C:O2	2.04	0.41
20:AA:600:C:H2'	20:AA:601:C:C6	2.55	0.41
20:AA:652:U:O4	20:AA:753:A:N7	2.53	0.41
20:AA:993:G:C5	20:AA:1046:A:C2	3.08	0.41
20:AA:1051:C:H2'	20:AA:1052:U:H6	1.85	0.41
23:AY:30:GLU:HG2	23:AY:31:ARG:HG2	2.01	0.41
23:AY:329:ARG:O	23:AY:329:ARG:HG3	2.19	0.41
23:AY:668:SER:HB2	23:AY:669:PHE:CD1	2.56	0.41
25:BC:118:PRO:HD3	25:BC:147:GLY:CA	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:BD:37:LEU:HD23	26:BD:37:LEU:HA	1.89	0.41
28:BF:37:VAL:HA	28:BF:40:GLN:CD	2.46	0.41
32:BK:117:THR:HB	59:BA:1082:U:H5'	2.02	0.41
35:BP:48:PRO:O	35:BP:50:ARG:N	2.54	0.41
35:BP:112:LEU:HD22	35:BP:113:LYS:H	1.85	0.41
40:BU:37:GLU:HA	40:BU:40:PHE:HD1	1.84	0.41
41:BV:53:GLU:O	41:BV:55:ALA:N	2.45	0.41
41:BV:99:ILE:O	41:BV:99:ILE:HG12	2.20	0.41
54:Be:73:GLU:O	54:Be:77:GLU:HB2	2.21	0.41
54:Be:78:LEU:HD22	54:Be:80:ALA:HB3	2.02	0.41
57:B1:3:LYS:CG	57:B1:4:VAL:H	2.25	0.41
57:B1:17:SER:O	57:B1:18:ILE:HD12	2.21	0.41
59:BA:69:C:H2'	59:BA:70:G:H8	1.83	0.41
59:BA:721:C:H2'	59:BA:722:A:C8	2.56	0.41
59:BA:733:G:N7	59:BA:761:A:C6	2.89	0.41
59:BA:778:G:C5	59:BA:779:U:C4	3.08	0.41
59:BA:821:A:N6	59:BA:972:G:O2'	2.52	0.41
59:BA:890:A:H2'	59:BA:892:G:H8	1.86	0.41
59:BA:956:G:N2	59:BA:959:A:H3'	2.36	0.41
59:BA:1138:G:H2'	59:BA:1139:G:O4'	2.21	0.41
59:BA:1290:C:H2'	59:BA:1291:C:H6	1.84	0.41
59:BA:1299:G:N1	59:BA:1640:C:OP2	2.47	0.41
59:BA:1690:A:H62	59:BA:1697:G:N2	2.11	0.41
59:BA:2400:G:H1	59:BA:2416:C:H42	1.66	0.41
59:BA:2426:A:H3'	59:BA:2427:C:C5'	2.48	0.41
59:BA:2535:G:H2'	59:BA:2536:G:H8	1.85	0.41
60:BB:24:G:H1	60:BB:59:A:H61	1.67	0.41
60:BB:51:G:H21	60:BB:52:A:N6	2.13	0.41
4:CE:57:LYS:O	4:CE:60:TYR:HB3	2.19	0.41
8:CI:40:LEU:HD13	8:CI:74:ILE:HD12	2.03	0.41
9:CJ:16:LEU:HG	9:CJ:68:HIS:HB2	2.02	0.41
10:CK:32:ILE:CD1	10:CK:72:ALA:HB2	2.50	0.41
11:CL:69:TYR:O	11:CL:70:ILE:HG23	2.21	0.41
20:CA:102:G:H2'	20:CA:103:C:C6	2.56	0.41
20:CA:445:G:H2'	20:CA:446:G:H8	1.86	0.41
20:CA:1315:U:H2'	20:CA:1316:G:O4'	2.20	0.41
21:CW:7:G:C6	21:CW:49:A:N7	2.89	0.41
21:CW:69:A:H2'	21:CW:70:G:H8	1.86	0.41
23:CY:17:ILE:HG22	23:CY:25:LYS:CG	2.49	0.41
23:CY:167:PRO:HB2	23:CY:170:ARG:HD2	2.02	0.41
24:CU:2:DPP:NG	24:CU:3:SER:N	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:DE:119:ARG:HG2	27:DE:160:TYR:CG	2.56	0.41
28:DF:6:VAL:HG23	28:DF:7:TYR:CD1	2.55	0.41
32:DK:3:LYS:HD3	32:DK:29:GLN:HB3	2.01	0.41
32:DK:114:ASP:HB2	32:DK:115:LEU:H	1.50	0.41
33:DN:34:LEU:HD13	33:DN:50:ASP:O	2.20	0.41
35:DP:99:LEU:HA	35:DP:102:ARG:NH2	2.36	0.41
36:DQ:3:MET:HB2	36:DQ:4:PRO:HD2	2.02	0.41
38:DS:12:PHE:CD1	38:DS:91:PRO:HD3	2.56	0.41
38:DS:19:LYS:HD2	38:DS:19:LYS:HA	1.76	0.41
41:DV:35:LEU:C	41:DV:37:VAL:H	2.27	0.41
44:DY:2:ARG:NE	59:DA:295:G:OP1	2.54	0.41
59:DA:447:A:H4'	59:DA:448:U:C5'	2.51	0.41
59:DA:852:G:H2'	59:DA:853:G:H8	1.85	0.41
59:DA:1175:U:H2'	59:DA:1176:G:N7	2.36	0.41
59:DA:1508:A:H2'	59:DA:1509:A:O4'	2.19	0.41
59:DA:2064:C:H2'	59:DA:2065:C:C6	2.55	0.41
59:DA:2090:G:H1	59:DA:2229:C:N4	2.18	0.41
60:DB:37:C:H2'	60:DB:38:C:O4'	2.20	0.41
1:AB:135:GLN:HA	1:AB:138:LEU:HG	2.02	0.41
3:AD:15:GLU:CD	3:AD:19:LEU:HD11	2.46	0.41
4:AE:78:HIS:HB2	7:AH:104:ARG:HG3	2.02	0.41
7:AH:29:SER:HA	20:AA:590:C:OP1	2.21	0.41
7:AH:112:LEU:HA	7:AH:134:ILE:HG13	2.03	0.41
9:AJ:46:ARG:HD2	13:AN:61:TRP:HZ3	1.86	0.41
16:AQ:27:PHE:O	16:AQ:36:ILE:HG12	2.21	0.41
19:AT:18:GLN:O	19:AT:22:ARG:HG3	2.21	0.41
19:AT:88:VAL:O	19:AT:92:LEU:HG	2.20	0.41
20:AA:14:U:O2'	20:AA:16:A:N7	2.52	0.41
20:AA:32:A:H2'	20:AA:33:A:H8	1.82	0.41
20:AA:715:A:H1'	20:AA:777:A:N1	2.36	0.41
20:AA:820:U:H3'	20:AA:821:G:H5'	2.02	0.41
20:AA:978:A:OP2	20:AA:1362(A):C:N4	2.53	0.41
20:AA:986:A:H2'	20:AA:987:G:C8	2.56	0.41
20:AA:1093:A:O2'	20:AA:1095:U:OP1	2.26	0.41
20:AA:1110:A:H2'	20:AA:1111:A:O4'	2.20	0.41
20:AA:1324:A:C4'	20:AA:1362:C:H4'	2.48	0.41
21:AW:64:G:C2	21:AW:65:U:C4	3.09	0.41
23:AY:651:GLU:O	23:AY:652:MET:HB3	2.20	0.41
25:BC:7:ARG:NH2	59:BA:2128:C:H5"	2.36	0.41
25:BC:225:ILE:O	25:BC:226:ASN:HB3	2.21	0.41
26:BD:183:ARG:NH2	26:BD:269:PHE:HB3	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:BE:49:LEU:O	27:BE:78:LEU:HA	2.19	0.41
28:BF:156:LEU:O	28:BF:158:THR:HG22	2.21	0.41
29:BG:34:LEU:HD13	29:BG:99:MET:HE1	2.03	0.41
30:BH:54:ARG:NH2	30:BH:57:ASP:OD2	2.53	0.41
32:BK:10:LEU:HD13	32:BK:23:VAL:HG22	2.03	0.41
36:BQ:58:PHE:CE1	36:BQ:64:ILE:HD11	2.55	0.41
36:BQ:123:HIS:CE1	59:BA:2466:C:HO2'	2.32	0.41
38:BS:15:ARG:C	38:BS:18:ILE:H	2.27	0.41
38:BS:52:SER:H	38:BS:56:LEU:HB2	1.85	0.41
38:BS:67:ARG:O	38:BS:71:ARG:HD3	2.19	0.41
40:BU:10:ARG:NE	59:BA:1251:C:OP2	2.48	0.41
40:BU:12:ARG:O	40:BU:15:LYS:HB2	2.21	0.41
41:BV:89:GLN:NE2	59:BA:993:G:N3	2.39	0.41
45:BZ:52:SER:OG	45:BZ:53:ILE:N	2.53	0.41
45:BZ:119:GLU:HB2	45:BZ:122:ARG:NH1	2.25	0.41
51:B7:32:LYS:HE2	59:BA:180:G:OP2	2.20	0.41
51:B7:39:ARG:HA	51:B7:39:ARG:CZ	2.50	0.41
52:B8:59:LYS:HA	52:B8:59:LYS:HD3	1.87	0.41
59:BA:216:A:H2'	59:BA:217:G:O4'	2.21	0.41
59:BA:513:A:C2	59:BA:582:G:H4'	2.54	0.41
59:BA:747:U:C4	59:BA:2613:U:C4	3.08	0.41
59:BA:965:C:O5'	59:BA:2273:A:H1'	2.21	0.41
59:BA:1636:C:H2'	59:BA:1637:A:H8	1.85	0.41
59:BA:1708:C:H2'	59:BA:1709:U:H6	1.84	0.41
59:BA:1916:A:H8	59:BA:1916:A:O5'	2.03	0.41
59:BA:2287:A:C2	59:BA:2346:A:N1	2.88	0.41
59:BA:2328:A:H2'	59:BA:2329:G:H8	1.84	0.41
59:BA:2888:C:H2'	59:BA:2889:C:H6	1.84	0.41
60:BB:111:U:H2'	60:BB:112:G:C8	2.55	0.41
3:CD:30:LYS:HB2	3:CD:33:MET:N	2.34	0.41
4:CE:30:ALA:O	4:CE:45:PHE:HA	2.21	0.41
6:CG:70:LYS:O	6:CG:138:LYS:HE3	2.21	0.41
7:CH:69:ARG:H	7:CH:69:ARG:HG3	1.57	0.41
10:CK:27:ASN:CG	10:CK:28:THR:H	2.28	0.41
10:CK:126:ARG:O	10:CK:126:ARG:HG3	2.21	0.41
12:CM:111:LYS:HE2	12:CM:111:LYS:HB3	1.94	0.41
14:CO:9:GLN:NE2	20:CA:659:U:OP1	2.53	0.41
15:CP:14:ASN:N	15:CP:15:PRO:HD3	2.36	0.41
16:CQ:63:ARG:HB2	20:CA:130:A:C8	2.56	0.41
17:CR:51:LEU:HA	17:CR:52:PRO:HD3	1.98	0.41
20:CA:935:A:H61	20:CA:1380:U:H3	1.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:975:A:H4'	20:CA:976:G:H5"	2.02	0.41
20:CA:1070:U:H2'	20:CA:1071:C:C6	2.56	0.41
20:CA:1250:A:H2	20:CA:1370:G:H1'	1.86	0.41
20:CA:1314:C:H2'	20:CA:1315:U:H6	1.84	0.41
23:CY:657:THR:OG1	23:CY:658:ASP:N	2.54	0.41
25:DC:61:GLY:HA2	25:DC:200:HIS:NE2	2.35	0.41
26:DD:134:ARG:HG2	26:DD:187:GLY:C	2.45	0.41
28:DF:72:ARG:HD2	28:DF:73:ALA:H	1.86	0.41
30:DH:170:ARG:O	30:DH:171:LEU:HB2	2.20	0.41
33:DN:17:ASP:O	33:DN:18:ALA:HB2	2.20	0.41
33:DN:99:LEU:O	33:DN:103:VAL:HG23	2.21	0.41
36:DQ:1:MET:HE2	36:DQ:45:GLN:HE22	1.86	0.41
36:DQ:53:ALA:C	36:DQ:56:ARG:HB3	2.46	0.41
38:DS:15:ARG:C	38:DS:17:ARG:N	2.75	0.41
38:DS:70:GLY:CA	38:DS:99:LYS:HG3	2.44	0.41
40:DU:40:PHE:HB3	41:DV:75:PHE:HE1	1.85	0.41
48:D3:24:LYS:HE2	48:D3:24:LYS:HB2	1.81	0.41
49:D5:42:PRO:HB2	59:DA:2815:C:O2'	2.19	0.41
59:DA:531:C:C5	59:DA:2035:G:C2	3.08	0.41
59:DA:642:G:O5'	59:DA:642:G:H8	2.04	0.41
59:DA:863:A:H2'	59:DA:864:G:H8	1.85	0.41
59:DA:922:U:H2'	59:DA:923:C:H6	1.84	0.41
59:DA:1420:U:O2'	59:DA:1421:G:OP1	2.32	0.41
59:DA:1429:G:H2'	59:DA:1430:C:H6	1.85	0.41
59:DA:2107:C:N3	59:DA:2182:G:N2	2.55	0.41
59:DA:2194:G:H2'	59:DA:2195:C:C6	2.56	0.41
59:DA:2307:G:N2	59:DA:2312:U:O4	2.53	0.41
59:DA:2353:G:H1	59:DA:2364:C:H42	1.69	0.41
59:DA:2734:A:H2'	59:DA:2735:G:O4'	2.21	0.41
59:DA:2769:C:H2'	59:DA:2770:G:H8	1.86	0.41
60:DB:25:A:H2'	60:DB:26:A:C8	2.55	0.41
1:AB:57:PHE:O	1:AB:60:ASP:HB2	2.21	0.41
6:AG:4:ARG:HG2	20:AA:932:C:OP1	2.21	0.41
6:AG:119:ARG:NH2	20:AA:1240:U:OP1	2.53	0.41
6:AG:149:ARG:HD3	6:AG:149:ARG:O	2.21	0.41
8:AI:5:TYR:O	8:AI:84:ALA:HA	2.21	0.41
8:AI:46:ALA:HB2	8:AI:74:ILE:HG22	2.02	0.41
11:AL:58:VAL:C	11:AL:60:LEU:H	2.29	0.41
14:AO:38:ARG:HA	14:AO:38:ARG:HD3	1.57	0.41
18:AS:58:VAL:HG21	18:AS:75:ALA:CB	2.50	0.41
20:AA:458:C:H2'	20:AA:458(A):G:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:971:G:N2	20:AA:1363:A:OP2	2.48	0.41
20:AA:1537:U:H2'	20:AA:1538:C:H6	1.86	0.41
21:AW:53:G:N2	21:AW:61:C:N3	2.57	0.41
23:AY:247:ARG:HB2	23:AY:279:TYR:CD1	2.54	0.41
23:AY:655:TYR:OH	23:AY:659:LEU:HD23	2.20	0.41
26:BD:20:ASP:OD2	26:BD:22:SER:OG	2.25	0.41
26:BD:78:LYS:NZ	59:BA:1502:C:H5'	2.35	0.41
27:BE:64:LYS:C	27:BE:66:HIS:N	2.78	0.41
28:BF:195:ASP:HB3	28:BF:197:ASP:OD2	2.20	0.41
31:BJ:129:UNK:O	31:BJ:131:UNK:N	2.54	0.41
33:BN:38:HIS:NE2	33:BN:50:ASP:OD2	2.53	0.41
36:BQ:72:LYS:HD2	36:BQ:96:VAL:HG13	2.03	0.41
36:BQ:77:LYS:HG2	36:BQ:78:PRO:HD2	2.02	0.41
39:BT:65:LYS:HZ2	39:BT:66:VAL:H	1.68	0.41
40:BU:88:ILE:C	40:BU:90:VAL:H	2.29	0.41
41:BV:66:ARG:O	41:BV:68:LYS:N	2.42	0.41
45:BZ:58:VAL:HA	45:BZ:68:PRO:HA	2.01	0.41
58:B4:6:HIS:HA	58:B4:7:PRO:HD3	1.89	0.41
59:BA:137(B):G:H1	59:BA:141(B):C:N4	2.15	0.41
59:BA:378:C:H2'	59:BA:379:G:C8	2.55	0.41
59:BA:736:C:H2'	59:BA:737:C:C6	2.55	0.41
59:BA:822:U:H2'	59:BA:823:G:H8	1.85	0.41
59:BA:1070:A:H2'	59:BA:1097:U:OP1	2.20	0.41
59:BA:1100:C:H2'	59:BA:1101:U:O4'	2.19	0.41
59:BA:1325:G:OP1	59:BA:1647:G:O2'	2.28	0.41
59:BA:1531:C:N4	59:BA:1540:G:H1	2.13	0.41
59:BA:1830:C:H2'	59:BA:1831:G:C8	2.53	0.41
60:BB:28:C:H2'	60:BB:29:A:C8	2.55	0.41
2:CC:61:ALA:C	2:CC:63:ASN:H	2.28	0.41
3:CD:201:GLN:O	3:CD:204:ILE:HB	2.21	0.41
4:CE:84:PHE:O	4:CE:86:ALA:N	2.54	0.41
12:CM:65:LYS:H	12:CM:65:LYS:HG2	1.72	0.41
20:CA:310:G:H2'	20:CA:311:C:H6	1.84	0.41
20:CA:374:A:H5"	20:CA:452:A:H61	1.86	0.41
20:CA:601:C:H2'	20:CA:602:A:H8	1.85	0.41
20:CA:674:G:H2'	20:CA:675:A:C8	2.55	0.41
20:CA:745:C:OP1	20:CA:851:G:O2'	2.34	0.41
20:CA:1354:C:H2'	20:CA:1355:G:H8	1.84	0.41
22:CV:5:A:H2'	22:CV:6:G:C8	2.56	0.41
25:DC:78:ILE:HA	25:DC:96:GLY:O	2.21	0.41
26:DD:22:SER:C	26:DD:24:ILE:N	2.78	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:DD:148:GLU:HB3	26:DD:151:LYS:CG	2.50	0.41
26:DD:208:LYS:HB2	59:DA:729:G:C5	2.55	0.41
27:DE:14:ILE:HD12	27:DE:23:VAL:HG11	2.03	0.41
27:DE:66:HIS:CD2	59:DA:2786:U:H4'	2.56	0.41
28:DF:45:ARG:HG2	59:DA:443:A:N7	2.35	0.41
32:DK:53:VAL:HA	32:DK:54:PRO:HD3	1.94	0.41
38:DS:66:ALA:HB1	38:DS:99:LYS:HD2	2.03	0.41
40:DU:60:LEU:O	40:DU:63:VAL:HB	2.21	0.41
47:D2:21:LEU:O	47:D2:25:VAL:HG23	2.19	0.41
59:DA:25:U:H3	59:DA:515:A:H62	1.69	0.41
59:DA:547:A:H3'	59:DA:548:A:C8	2.55	0.41
59:DA:880:G:H1	59:DA:897:C:N4	2.14	0.41
59:DA:1437:C:O2'	59:DA:1518:C:H4'	2.20	0.41
59:DA:1963:U:O2	59:DA:1963:U:H2'	2.20	0.41
60:DB:74:U:H2'	60:DB:75:G:C8	2.56	0.41
1:AB:68:ILE:HG23	1:AB:163:PHE:N	2.36	0.41
1:AB:71:VAL:CG2	1:AB:164:VAL:HG22	2.50	0.41
1:AB:128:GLU:HB3	1:AB:129:GLU:H	1.69	0.41
2:AC:74:GLY:C	2:AC:76:VAL:H	2.29	0.41
8:AI:70:LYS:NZ	20:AA:1248:A:O2'	2.52	0.41
9:AJ:38:ILE:HG12	9:AJ:71:LEU:HB3	2.03	0.41
10:AK:62:GLN:HG3	10:AK:97:ALA:HB2	2.03	0.41
15:AP:55:ARG:O	15:AP:58:TYR:HB3	2.20	0.41
20:AA:123:C:H5"	20:AA:311:C:O2'	2.20	0.41
20:AA:576:G:O2'	20:AA:578:C:OP2	2.32	0.41
20:AA:604:G:H1	20:AA:634:C:H42	1.69	0.41
20:AA:1276:G:H2'	20:AA:1277:C:C6	2.56	0.41
20:AA:1404:C:H2'	20:AA:1405:G:C8	2.55	0.41
23:AY:9:LEU:HD13	23:AY:303:PRO:HB2	2.02	0.41
23:AY:35:TYR:CE1	23:AY:266:ASN:HB3	2.56	0.41
23:AY:181:LEU:HG	23:AY:182:ARG:HG3	2.02	0.41
23:AY:188:TYR:HA	23:AY:196:ILE:HB	2.03	0.41
23:AY:341:VAL:HB	23:AY:342:TYR:H	1.74	0.41
23:AY:454:MET:HE3	23:AY:454:MET:O	2.21	0.41
25:BC:44:VAL:HA	25:BC:215:VAL:HA	2.01	0.41
26:BD:75:ILE:HA	26:BD:76:PRO:HD2	1.91	0.41
26:BD:263:ARG:HB3	26:BD:263:ARG:CZ	2.51	0.41
28:BF:33:LEU:HD13	28:BF:33:LEU:HA	1.90	0.41
29:BG:57:ALA:HB1	29:BG:90:LEU:HD13	2.02	0.41
30:BH:144:VAL:O	30:BH:148:ILE:HG12	2.20	0.41
33:BN:33:LEU:HG	33:BN:50:ASP:OD2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BO:23:ARG:HD3	59:BA:2561:A:C2	2.56	0.41
35:BP:95:VAL:CG2	35:BP:125:VAL:HA	2.50	0.41
39:BT:117:ASP:OD2	39:BT:119:LYS:HB3	2.20	0.41
40:BU:13:LYS:O	40:BU:16:LYS:HB3	2.20	0.41
40:BU:24:TYR:CD2	59:BA:533:G:H5'	2.55	0.41
41:BV:34:GLU:O	41:BV:36:PRO:HD3	2.20	0.41
45:BZ:72:ARG:HH12	60:BB:104:A:P	2.44	0.41
47:B2:63:VAL:O	47:B2:64:LEU:C	2.63	0.41
48:B3:7:LYS:O	48:B3:54:VAL:HG22	2.20	0.41
57:B1:39:LYS:HG2	57:B1:40:ARG:N	2.34	0.41
59:BA:560:C:H2'	59:BA:561:G:C8	2.56	0.41
59:BA:1128:A:N3	59:BA:2516:G:O2'	2.45	0.41
59:BA:1992:G:C6	59:BA:1997:G:C2	3.09	0.41
59:BA:2741:A:H62	59:BA:2763:G:H21	1.69	0.41
5:CF:11:ASN:HA	5:CF:12:PRO:HD2	1.78	0.41
11:CL:42:THR:HG23	11:CL:43:VAL:H	1.84	0.41
12:CM:54:VAL:O	12:CM:57:ARG:HG2	2.20	0.41
17:CR:52:PRO:O	17:CR:56:THR:HG23	2.20	0.41
20:CA:25:C:H5'	20:CA:524:G:H1'	2.02	0.41
20:CA:259:G:H2'	20:CA:260:G:C8	2.56	0.41
20:CA:357:G:H1'	20:CA:368:U:O2	2.20	0.41
20:CA:441:A:H62	20:CA:493:G:H21	1.68	0.41
20:CA:1001:G:H1	20:CA:1039:C:H42	1.69	0.41
61:CY:701:FUA:H9	61:CY:701:FUA:H213	1.81	0.41
25:DC:146:VAL:O	25:DC:150:ILE:HD13	2.21	0.41
26:DD:3:VAL:N	26:DD:20:ASP:HB2	2.20	0.41
26:DD:165:ILE:HA	26:DD:175:LEU:HD23	2.02	0.41
27:DE:134:ILE:HG13	59:DA:2579:C:H4'	2.01	0.41
28:DF:60:SER:HB3	28:DF:61:GLY:H	1.65	0.41
29:DG:98:ARG:HH11	29:DG:98:ARG:CG	2.29	0.41
31:DJ:50:UNK:O	31:DJ:52:UNK:N	2.53	0.41
33:DN:5:VAL:CG1	33:DN:7:LYS:HZ1	2.33	0.41
34:DO:23:ARG:HD2	34:DO:23:ARG:HA	1.70	0.41
35:DP:60:MET:HB3	59:DA:2392:A:C8	2.56	0.41
35:DP:75:ILE:HG22	35:DP:77:ARG:HB3	2.01	0.41
38:DS:17:ARG:HA	38:DS:20:ARG:HB3	2.02	0.41
44:DY:38:ILE:HD13	44:DY:65:ALA:C	2.45	0.41
45:DZ:51:ALA:HA	45:DZ:55:HIS:HB2	2.03	0.41
46:D0:2:ALA:HA	59:DA:2494:G:H5'	2.03	0.41
52:D8:17:THR:OG1	59:DA:651:G:OP1	2.36	0.41
59:DA:155:C:N4	59:DA:171:G:H1	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:188:G:O2'	59:DA:1365:A:N6	2.53	0.41
59:DA:329:G:P	59:DA:329:G:H8	2.43	0.41
59:DA:634:C:H2'	59:DA:635:C:H6	1.85	0.41
59:DA:712:G:N2	59:DA:719:C:N3	2.57	0.41
59:DA:1024:G:C3'	59:DA:1025:G:H5"	2.45	0.41
59:DA:1076:C:H2'	59:DA:1077:A:C4'	2.51	0.41
59:DA:1324:G:C2	59:DA:1328:G:C6	3.09	0.41
59:DA:1388:G:O2'	59:DA:1526:G:H5'	2.20	0.41
59:DA:1603:A:H2'	59:DA:1603:A:N3	2.35	0.41
59:DA:1625:C:H2'	59:DA:1626:G:O4'	2.20	0.41
59:DA:1948:G:H2'	59:DA:1949:G:C8	2.56	0.41
59:DA:2167:U:C4	59:DA:2168:G:C6	3.09	0.41
59:DA:2180:U:H2'	59:DA:2181:G:C8	2.55	0.41
59:DA:2210:G:N2	59:DA:2211:G:H5'	2.36	0.41
59:DA:2259:G:H2'	59:DA:2260:C:C6	2.55	0.41
59:DA:2328:A:H2'	59:DA:2329:G:H8	1.86	0.41
60:DB:29:A:H2'	60:DB:30:C:H6	1.85	0.41
60:DB:111:U:H2'	60:DB:112:G:C8	2.56	0.41
1:AB:83:MET:HB2	1:AB:234:PRO:HG3	2.03	0.41
1:AB:178:ARG:HH22	7:AH:71:GLY:H	1.68	0.41
1:AB:187:LEU:HD22	1:AB:188:ALA:N	2.36	0.41
2:AC:29:TYR:HE2	13:AN:37:PHE:CD2	2.38	0.41
2:AC:40:ARG:O	2:AC:44:GLU:HG3	2.21	0.41
2:AC:64:VAL:HB	2:AC:99:VAL:HA	2.02	0.41
2:AC:177:THR:HG23	20:AA:1111:A:H2	1.86	0.41
3:AD:64:LEU:HD23	3:AD:203:VAL:HG21	2.03	0.41
3:AD:92:VAL:O	3:AD:96:LEU:HD13	2.21	0.41
3:AD:100:ARG:HH11	3:AD:137:SER:HA	1.86	0.41
5:AF:2:ARG:CZ	5:AF:69:GLU:HB3	2.51	0.41
5:AF:99:ALA:HB2	17:AR:31:LEU:HD21	2.02	0.41
6:AG:81:GLY:C	6:AG:83:ALA:H	2.29	0.41
6:AG:115:ARG:HH12	6:AG:117:ALA:HB3	1.85	0.41
7:AH:12:ARG:HH11	7:AH:26:VAL:HG23	1.85	0.41
8:AI:69:GLY:O	8:AI:73:GLN:N	2.49	0.41
8:AI:85:LEU:HG	8:AI:85:LEU:H	1.65	0.41
8:AI:128:ARG:H	8:AI:128:ARG:HD3	1.86	0.41
9:AJ:43:ARG:HD3	9:AJ:43:ARG:HA	1.70	0.41
10:AK:55:LYS:NZ	20:AA:690:G:N7	2.63	0.41
11:AL:11:VAL:HG22	16:AQ:32:TYR:HB3	2.03	0.41
11:AL:32:PHE:HA	11:AL:85:ILE:O	2.21	0.41
11:AL:95:GLY:C	11:AL:97:ARG:N	2.79	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AL:104:VAL:HG12	11:AL:105:TYR:CD1	2.56	0.41
11:AL:109:GLY:HA3	11:AL:120:TYR:C	2.46	0.41
12:AM:67:GLU:HB2	12:AM:71:ARG:HH21	1.85	0.41
12:AM:73:GLU:O	12:AM:77:ASN:ND2	2.38	0.41
13:AN:53:LEU:HA	13:AN:54:PRO:HD3	1.59	0.41
14:AO:43:LEU:HD21	14:AO:53:HIS:HB2	2.02	0.41
15:AP:36:ILE:HB	15:AP:52:ASP:HB3	2.01	0.41
16:AQ:52:LYS:HE3	16:AQ:52:LYS:HB3	1.64	0.41
20:AA:115:G:O2'	20:AA:116:A:P	2.78	0.41
20:AA:129(A):G:C6	20:AA:186(H):U:H4'	2.56	0.41
20:AA:138:G:H2'	20:AA:139:G:C8	2.56	0.41
20:AA:302:G:H21	20:AA:556:C:H4'	1.86	0.41
20:AA:322:C:H5	20:AA:328:C:H5	1.69	0.41
20:AA:377:G:H1	20:AA:386:C:H42	1.68	0.41
20:AA:429:U:H1'	20:AA:430:A:H5"	2.03	0.41
20:AA:572:A:O2'	20:AA:916:G:O2'	2.26	0.41
20:AA:588:G:H1	20:AA:651:C:N4	2.18	0.41
20:AA:862:C:H1'	20:AA:874:G:H4'	2.02	0.41
20:AA:997:U:H2'	20:AA:998:G:O4'	2.21	0.41
20:AA:1196:U:O2	20:AA:1196:U:H2'	2.21	0.41
20:AA:1440(C):G:N7	39:BT:118:ARG:HD3	2.36	0.41
20:AA:1465:C:H2'	20:AA:1466:C:C6	2.56	0.41
20:AA:1534:A:H2'	20:AA:1535:C:C6	2.55	0.41
23:AY:145:ASP:CG	23:AY:146:LEU:H	2.29	0.41
23:AY:341:VAL:HG23	23:AY:350:GLU:HB2	2.03	0.41
23:AY:354:ARG:HH12	23:AY:378:VAL:HG11	1.86	0.41
23:AY:412:ALA:HB2	23:AY:479:PRO:HA	2.03	0.41
23:AY:617:MET:HA	23:AY:620:VAL:HG22	2.01	0.41
25:BC:42:VAL:HG21	25:BC:190:ILE:HD11	2.01	0.41
25:BC:78:ILE:HG21	25:BC:124:VAL:HG21	2.02	0.41
25:BC:153:ILE:HG12	25:BC:156:GLU:CD	2.45	0.41
26:BD:42:GLY:O	26:BD:43:ARG:HG3	2.21	0.41
26:BD:79:VAL:O	26:BD:96:HIS:HB2	2.21	0.41
26:BD:177:LEU:HD23	26:BD:178:PRO:CD	2.51	0.41
26:BD:183:ARG:HH21	26:BD:269:PHE:HB3	1.86	0.41
26:BD:226:MET:HG2	59:BA:782:A:C2	2.56	0.41
27:BE:32:PRO:O	27:BE:49:LEU:HA	2.21	0.41
27:BE:84:PHE:CZ	27:BE:86:PRO:HB3	2.56	0.41
28:BF:154:VAL:HG13	28:BF:191:ARG:CB	2.51	0.41
28:BF:196:LEU:O	28:BF:200:GLU:HG2	2.21	0.41
30:BH:52:VAL:HG21	30:BH:69:ARG:HA	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:BN:9:VAL:HG21	33:BN:39:ARG:NH1	2.36	0.41
34:BO:18:LYS:HB2	34:BO:45:GLU:CB	2.48	0.41
34:BO:37:ASP:O	34:BO:61:VAL:HA	2.20	0.41
34:BO:63:VAL:C	34:BO:64:ARG:HG3	2.46	0.41
34:BO:64:ARG:NH2	39:BT:70:VAL:HG23	2.36	0.41
36:BQ:21:THR:HG23	36:BQ:101:ARG:HB2	2.03	0.41
36:BQ:72:LYS:HA	36:BQ:73:PRO:HD3	1.78	0.41
36:BQ:76:LYS:H	36:BQ:89:ASN:H	1.69	0.41
37:BR:4:LEU:HD12	59:BA:2822:G:O6	2.21	0.41
38:BS:17:ARG:O	38:BS:21:THR:N	2.54	0.41
38:BS:26:LEU:HD21	38:BS:101:LEU:HD22	2.02	0.41
38:BS:99:LYS:HG2	38:BS:101:LEU:H	1.86	0.41
39:BT:26:ASP:CG	39:BT:27:THR:N	2.79	0.41
39:BT:117:ASP:HB3	39:BT:120:ARG:HG2	2.03	0.41
41:BV:39:LEU:O	41:BV:40:LEU:HB2	2.21	0.41
42:BW:18:ARG:HH11	42:BW:76:VAL:HG13	1.85	0.41
43:BX:12:VAL:HG12	43:BX:17:ALA:HB1	2.01	0.41
44:BY:68:HIS:ND1	44:BY:69:ALA:N	2.69	0.41
44:BY:97:ARG:NH1	44:BY:98:VAL:HG23	2.36	0.41
45:BZ:82:ARG:HB3	45:BZ:82:ARG:CZ	2.51	0.41
45:BZ:133:ILE:HA	45:BZ:134:PRO:HD2	1.94	0.41
46:B0:23:VAL:HA	46:B0:38:VAL:HA	2.03	0.41
46:B0:33:ALA:HB1	59:BA:2352:A:H2	1.85	0.41
46:B0:37:LEU:HG	46:B0:60:PHE:HA	2.02	0.41
46:B0:53:MET:HE2	46:B0:53:MET:HB3	1.77	0.41
47:B2:17:SER:O	47:B2:20:GLU:HB3	2.21	0.41
47:B2:28:LYS:HA	47:B2:28:LYS:HD3	1.79	0.41
49:B5:51:TYR:HD2	49:B5:52:TYR:H	1.67	0.41
51:B7:6:GLN:O	59:BA:686:G:H8	2.03	0.41
53:B9:30:PRO:HB2	59:BA:2527:C:H5"	2.03	0.41
57:B1:27:GLU:HA	57:B1:31:GLY:HA2	2.02	0.41
58:B4:33:VAL:HB	58:B4:34:GLU:H	1.72	0.41
59:BA:29:U:H2'	59:BA:30:G:H8	1.85	0.41
59:BA:195:A:H5"	59:BA:196:A:OP2	2.21	0.41
59:BA:227:A:C5	59:BA:2407:G:H1'	2.56	0.41
59:BA:231:C:H2'	59:BA:232:G:O4'	2.20	0.41
59:BA:242:G:H1'	59:BA:254:G:N1	2.35	0.41
59:BA:489:G:N2	59:BA:1321:A:OP1	2.53	0.41
59:BA:750:A:H4'	59:BA:1617:C:O2	2.21	0.41
59:BA:771:G:O2'	59:BA:1355:G:H4'	2.21	0.41
59:BA:1028:A:N6	59:BA:1125:G:H2'	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1266:G:O2'	59:BA:1267:U:OP2	2.39	0.41
59:BA:1294:U:H2'	59:BA:1295:C:H6	1.86	0.41
59:BA:1499:C:H2'	59:BA:1500:G:O4'	2.20	0.41
59:BA:1999:C:H4'	59:BA:2723:C:O2	2.21	0.41
59:BA:2023:G:C6	59:BA:2040:C:C2	3.09	0.41
59:BA:2109:U:O4	59:BA:2180:U:C4	2.73	0.41
59:BA:2773:C:H2'	59:BA:2774:C:C6	2.55	0.41
59:BA:2795:G:O2'	59:BA:2801:A:N6	2.49	0.41
59:BA:2811:G:H1	59:BA:2889:C:H42	1.68	0.41
59:BA:2835:A:N6	59:BA:2879:C:O5'	2.54	0.41
1:CB:55:PHE:HE1	1:CB:218:ALA:HA	1.86	0.41
1:CB:79:ASP:O	1:CB:80:ILE:C	2.64	0.41
2:CC:157:ILE:HD11	2:CC:164:ARG:N	2.35	0.41
3:CD:54:TYR:HA	3:CD:57:ARG:HE	1.85	0.41
3:CD:135:LEU:H	3:CD:135:LEU:HD13	1.86	0.41
6:CG:8:GLU:HB2	6:CG:9:VAL:H	1.60	0.41
7:CH:11:THR:HG21	20:CA:876:G:H1'	2.03	0.41
7:CH:49:GLU:HG2	7:CH:51:VAL:HG13	2.02	0.41
8:CI:5:TYR:O	8:CI:84:ALA:HA	2.20	0.41
10:CK:38:ASN:HA	10:CK:39:PRO:HD3	1.71	0.41
11:CL:5:PRO:HG2	11:CL:15:ARG:NH2	2.29	0.41
11:CL:20:LYS:HE3	20:CA:555:C:OP1	2.21	0.41
11:CL:82:VAL:HB	11:CL:105:TYR:HB2	2.03	0.41
12:CM:19:LEU:HD13	12:CM:22:ILE:HD12	2.03	0.41
12:CM:108:ARG:HH21	12:CM:114:ARG:CZ	2.34	0.41
14:CO:10:LYS:O	14:CO:14:GLU:HB2	2.21	0.41
16:CQ:61:GLU:HB2	16:CQ:71:PHE:CE1	2.55	0.41
17:CR:71:LYS:HE2	20:CA:719:C:N4	2.36	0.41
18:CS:37:ARG:HD2	20:CA:1220:G:OP1	2.21	0.41
19:CT:10:LEU:HD12	19:CT:11:SER:H	1.86	0.41
20:CA:11:G:O6	20:CA:23:C:N3	2.54	0.41
20:CA:58:C:N3	20:CA:354:G:O6	2.54	0.41
20:CA:68(J):G:H2'	20:CA:68(K):U:O4'	2.20	0.41
20:CA:148:G:H1	20:CA:174:C:H42	1.69	0.41
20:CA:583:A:H2'	20:CA:584:G:O4'	2.20	0.41
20:CA:815:A:C8	20:CA:1529:G:C6	3.09	0.41
20:CA:859:A:H2'	20:CA:860:A:C8	2.56	0.41
20:CA:1145:C:HO2'	20:CA:1146:A:P	2.43	0.41
20:CA:1265:G:O6	20:CA:1270:C:N3	2.53	0.41
20:CA:1285:A:H62	20:CA:1355:G:H5'	1.86	0.41
20:CA:1343:G:H2'	20:CA:1344:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CA:1399:C:C2	20:CA:1502:A:N6	2.89	0.41
20:CA:1422:G:N2	20:CA:1478:C:N3	2.53	0.41
21:CW:64:G:N1	21:CW:65:U:N3	2.69	0.41
21:CW:76:A:P	59:DA:2432:A:H4'	2.61	0.41
23:CY:89:ASP:HB3	23:CY:457:LEU:CD2	2.51	0.41
23:CY:168:ILE:HG23	23:CY:205:TYR:CE2	2.55	0.41
23:CY:201:ILE:HG12	23:CY:206:LEU:H	1.85	0.41
23:CY:524:GLU:OE1	23:CY:564:LYS:HG3	2.20	0.41
25:DC:15:VAL:HG12	25:DC:223:VAL:HG22	2.03	0.41
25:DC:64:SER:HA	25:DC:160:GLY:O	2.21	0.41
25:DC:130:ARG:HA	25:DC:130:ARG:HD3	1.87	0.41
25:DC:139:PRO:HA	25:DC:145:THR:CB	2.51	0.41
25:DC:176:VAL:O	25:DC:178:LYS:HG2	2.21	0.41
26:DD:65:ILE:HD13	26:DD:65:ILE:H	1.86	0.41
26:DD:148:GLU:HA	26:DD:149:PRO:HD3	1.87	0.41
27:DE:171:GLU:H	27:DE:184:VAL:HG12	1.86	0.41
29:DG:165:THR:OG1	29:DG:168:GLU:HG2	2.20	0.41
29:DG:169:ALA:O	29:DG:173:LEU:HG	2.21	0.41
31:DJ:111:UNK:C	31:DJ:116:UNK:HA	2.51	0.41
33:DN:66:LYS:O	33:DN:70:LYS:HB3	2.21	0.41
33:DN:85:ILE:HG22	33:DN:86:PRO:HD2	2.03	0.41
33:DN:126:PRO:HB2	33:DN:127:ASP:H	1.53	0.41
34:DO:12:ASP:HA	34:DO:97:ARG:O	2.21	0.41
34:DO:37:ASP:O	34:DO:61:VAL:HA	2.20	0.41
34:DO:118:ALA:HA	34:DO:119:PRO:HD2	1.79	0.41
35:DP:8:PRO:HG3	59:DA:1242:A:C2	2.56	0.41
35:DP:127:ALA:HB3	35:DP:130:PHE:CZ	2.56	0.41
36:DQ:11:LYS:HD3	36:DQ:87:LYS:HD3	2.02	0.41
36:DQ:72:LYS:N	36:DQ:94:VAL:O	2.54	0.41
36:DQ:83:MET:HE3	36:DQ:83:MET:HB3	1.96	0.41
37:DR:115:GLU:CD	37:DR:116:LEU:H	2.28	0.41
38:DS:99:LYS:HE3	38:DS:101:LEU:HG	2.03	0.41
38:DS:106:ARG:HE	38:DS:108:GLY:HA3	1.86	0.41
38:DS:109:GLY:OXT	59:DA:2376:A:O2'	2.36	0.41
39:DT:26:ASP:HB3	39:DT:90:GLN:C	2.46	0.41
39:DT:50:ILE:HD11	39:DT:102:ILE:HG12	2.02	0.41
42:DW:36:LEU:HD13	42:DW:48:ALA:HA	2.03	0.41
44:DY:6:HIS:NE2	44:DY:30:VAL:HG11	2.36	0.41
44:DY:44:ILE:O	44:DY:62:GLU:HB3	2.21	0.41
45:DZ:81:ARG:O	45:DZ:82:ARG:HB2	2.21	0.41
45:DZ:102:LEU:HD21	45:DZ:124:ILE:HD12	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:DZ:146:ILE:HA	45:DZ:174:VAL:HB	2.03	0.41
48:D3:24:LYS:NZ	59:DA:931:G:H4'	2.36	0.41
49:D5:33:CYS:HA	49:D5:34:PRO:HD2	1.92	0.41
54:De:64:LEU:HD22	54:De:66:GLU:HG3	2.03	0.41
57:D1:14:VAL:HA	57:D1:41:ARG:HG2	2.02	0.41
57:D1:26:ARG:O	57:D1:32:LYS:N	2.33	0.41
57:D1:39:LYS:HG2	57:D1:40:ARG:H	1.86	0.41
57:D1:39:LYS:HG2	57:D1:40:ARG:N	2.34	0.41
59:DA:141(A):A:H1'	59:DA:1408:C:O4'	2.20	0.41
59:DA:223:A:C5	59:DA:422:A:H1'	2.55	0.41
59:DA:270(Q):C:H2'	59:DA:270(Q):C:OP1	2.21	0.41
59:DA:278:A:HO2'	59:DA:279:C:C5'	2.32	0.41
59:DA:314:A:H2'	59:DA:315:G:C8	2.55	0.41
59:DA:413:C:H2'	59:DA:414:C:H6	1.86	0.41
59:DA:459:U:C5	59:DA:470:A:C5	3.08	0.41
59:DA:485:C:H2'	59:DA:486:C:C6	2.54	0.41
59:DA:540:G:C6	59:DA:541:C:C4	3.08	0.41
59:DA:621:A:C2	59:DA:622:G:H1'	2.56	0.41
59:DA:715:G:H2'	59:DA:716:A:C8	2.56	0.41
59:DA:793:A:OP2	59:DA:2071:A:O2'	2.32	0.41
59:DA:812:C:N3	59:DA:1195:G:N2	2.57	0.41
59:DA:817:C:N4	59:DA:1190:G:H1	2.18	0.41
59:DA:945:A:OP2	59:DA:945:A:H4'	2.20	0.41
59:DA:980:A:C4	59:DA:1136:G:O4'	2.73	0.41
59:DA:1069:A:H4'	59:DA:1070:A:H5"	2.03	0.41
59:DA:1695:G:H3'	59:DA:1695:G:N3	2.36	0.41
59:DA:1700:A:H3'	59:DA:1701:A:H8	1.85	0.41
59:DA:1765:C:H2'	59:DA:1766:U:H6	1.86	0.41
59:DA:1801:G:N2	59:DA:2207:C:H4'	2.36	0.41
59:DA:2121:G:H2'	59:DA:2122:U:C6	2.56	0.41
59:DA:2235:G:H2'	59:DA:2236:C:C6	2.56	0.41
59:DA:2713:A:O2'	59:DA:2714:G:H5'	2.21	0.41
60:DB:61:G:H2'	60:DB:62:C:C6	2.56	0.41
7:AH:88:LYS:H	7:AH:91:ARG:HB2	1.86	0.41
8:AI:99:LEU:HD12	8:AI:101:PHE:CE1	2.55	0.41
11:AL:84:LEU:HD13	11:AL:104:VAL:CG1	2.50	0.41
12:AM:40:ASN:HA	12:AM:41:PRO:HD3	1.84	0.41
12:AM:115:LYS:C	20:AA:1228:C:H5'	2.46	0.41
14:AO:49:ASP:OD2	14:AO:52:SER:OG	2.31	0.41
20:AA:263:A:O2'	20:AA:264:U:O5'	2.35	0.41
20:AA:357:G:OP1	20:AA:367:U:H5"	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:603:U:H2'	20:AA:604:G:C8	2.56	0.41
20:AA:615:C:H2'	20:AA:616:G:O4'	2.20	0.41
20:AA:764:C:H2'	20:AA:765:G:C8	2.55	0.41
20:AA:1212:U:H5'	20:AA:1213:A:OP1	2.20	0.41
20:AA:1350:A:H2'	20:AA:1351:U:H6	1.86	0.41
21:AW:14:A:H2'	21:AW:15:G:O4'	2.21	0.41
25:BC:9:ARG:O	25:BC:12:LEU:HB3	2.21	0.41
27:BE:16:ARG:NE	27:BE:173:VAL:HG11	2.34	0.41
27:BE:74:PRO:HG2	27:BE:77:ILE:HA	2.03	0.41
28:BF:40:GLN:HE21	28:BF:40:GLN:HB2	1.62	0.41
28:BF:90:PHE:HB2	59:BA:588:U:H1'	2.02	0.41
29:BG:100:TRP:O	29:BG:104:GLU:HB2	2.20	0.41
29:BG:166:ASP:OD2	29:BG:166:ASP:N	2.52	0.41
30:BH:42:ARG:HA	30:BH:42:ARG:HD2	1.84	0.41
32:BK:112:MET:HB3	32:BK:113:PRO:HD3	2.02	0.41
33:BN:78:TYR:CG	59:BA:2642:G:H5'	2.56	0.41
34:BO:12:ASP:HA	34:BO:97:ARG:O	2.21	0.41
35:BP:24:GLY:HA3	35:BP:33:ARG:NH1	2.36	0.41
39:BT:129:ARG:HA	39:BT:129:ARG:NE	2.36	0.41
40:BU:26:GLY:O	40:BU:29:SER:OG	2.34	0.41
42:BW:1:MET:HB3	42:BW:64:MET:SD	2.61	0.41
43:BX:10:ALA:O	43:BX:29:TRP:HD1	2.04	0.41
45:BZ:57:ILE:HD12	45:BZ:57:ILE:HA	1.94	0.41
57:B1:41:ARG:HE	57:B1:41:ARG:HB3	1.38	0.41
58:B4:12:ALA:HB2	58:B4:28:LYS:O	2.21	0.41
59:BA:137(A):C:H2'	59:BA:137(B):G:H8	1.85	0.41
59:BA:570:G:C5'	59:BA:972:G:H4'	2.47	0.41
59:BA:618(A):G:H2'	59:BA:618(B):C:H6	1.83	0.41
59:BA:1241:A:N7	59:BA:1242:A:C5	2.89	0.41
59:BA:1362:C:H2'	59:BA:1363:C:O4'	2.20	0.41
59:BA:1614:A:OP1	59:BA:1617:C:N4	2.52	0.41
59:BA:1696:G:H2'	59:BA:1697:G:O4'	2.21	0.41
59:BA:2199:A:N6	59:BA:2224:G:O2'	2.54	0.41
59:BA:2211:G:O2'	59:BA:2212:A:H3'	2.21	0.41
59:BA:2492:U:H2'	59:BA:2493:U:O4'	2.20	0.41
59:BA:2541:A:H8	59:BA:2541:A:O5'	2.04	0.41
60:BB:49:C:N4	60:BB:50:G:O6	2.54	0.41
1:CB:187:LEU:HB2	1:CB:201:ILE:HB	2.03	0.41
3:CD:14:ARG:HG2	3:CD:66:ARG:HH12	1.86	0.41
3:CD:179:GLU:H	3:CD:179:GLU:HG2	1.76	0.41
4:CE:39:GLY:HA2	4:CE:69:VAL:HB	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:CE:93:PRO:HG3	7:CH:105:ARG:HG2	2.03	0.41
5:CF:89:MET:HB3	17:CR:76:LEU:HD21	2.03	0.41
6:CG:4:ARG:HG2	20:CA:932:C:OP1	2.21	0.41
6:CG:87:VAL:HG11	6:CG:154:TYR:C	2.46	0.41
7:CH:89:PRO:HG2	20:CA:878:G:H5'	2.03	0.41
9:CJ:49:VAL:HG23	13:CN:41:ARG:HB2	2.03	0.41
11:CL:42:THR:HA	11:CL:52:LEU:HA	2.03	0.41
12:CM:97:PRO:HA	12:CM:110:ARG:HG3	2.03	0.41
15:CP:80:PHE:O	20:CA:458(E):A:H4'	2.20	0.41
19:CT:38:LYS:HD3	19:CT:38:LYS:HA	1.86	0.41
19:CT:72:LEU:HD22	19:CT:76:ALA:HB1	2.02	0.41
20:CA:68(I):G:C2	20:CA:68(J):G:C8	3.09	0.41
20:CA:678:U:H1'	20:CA:777:A:O3'	2.20	0.41
20:CA:774:G:OP1	26:DD:202:LYS:HE3	2.21	0.41
23:CY:70:THR:HG22	23:CY:71:THR:O	2.21	0.41
23:CY:72:CYS:CB	23:CY:79:ILE:HB	2.49	0.41
23:CY:315:LYS:H	23:CY:327:PHE:HB2	1.86	0.41
25:DC:42:VAL:HA	25:DC:217:THR:HA	2.02	0.41
26:DD:226:MET:HE3	59:DA:782:A:C2	2.56	0.41
27:DE:82:ARG:HH22	59:DA:2638:G:P	2.43	0.41
28:DF:37:VAL:O	28:DF:41:LEU:HG	2.21	0.41
28:DF:66:PRO:HD2	28:DF:70:THR:HG23	2.03	0.41
30:DH:94:TYR:CD2	30:DH:107:VAL:HB	2.56	0.41
33:DN:9:VAL:HG11	33:DN:39:ARG:HH12	1.86	0.41
33:DN:62:VAL:HG23	59:DA:1140:C:OP1	2.21	0.41
35:DP:49:ARG:O	52:D8:55:ALA:HB1	2.21	0.41
35:DP:50:ARG:NH2	52:D8:59:LYS:HD2	2.35	0.41
35:DP:56:SER:OG	35:DP:60:MET:SD	2.77	0.41
35:DP:101:VAL:HG12	35:DP:108:LYS:H	1.86	0.41
35:DP:121:LYS:HA	35:DP:122:PRO:HD3	1.88	0.41
36:DQ:24:GLY:O	36:DQ:101:ARG:HA	2.21	0.41
38:DS:19:LYS:HG3	59:DA:2378:A:C2	2.56	0.41
39:DT:64:ARG:NH1	39:DT:103:ARG:HG2	2.36	0.41
42:DW:16:LYS:O	42:DW:20:VAL:HG23	2.20	0.41
43:DX:63:LYS:HE2	43:DX:63:LYS:HB3	1.96	0.41
45:DZ:61:LEU:HD22	45:DZ:63:ASP:HB3	2.03	0.41
52:D8:23:VAL:HA	52:D8:48:PHE:O	2.21	0.41
53:D9:9:ARG:NH1	53:D9:16:VAL:H	2.19	0.41
57:D1:26:ARG:HD2	57:D1:26:ARG:HA	1.80	0.41
59:DA:10:G:N2	59:DA:2801:A:O3'	2.54	0.41
59:DA:529:A:N7	59:DA:2041:U:O4	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:548:A:O5'	59:DA:548:A:H8	2.04	0.41
59:DA:563:G:C6	59:DA:2018:G:C5	3.08	0.41
59:DA:680:G:H2'	59:DA:681:G:C8	2.56	0.41
59:DA:723:G:H2'	59:DA:724:U:C6	2.56	0.41
59:DA:1007:C:H5"	59:DA:1008:C:C3'	2.51	0.41
59:DA:1077:A:N1	59:DA:1088:A:H2'	2.36	0.41
59:DA:1179:C:H2'	59:DA:1180:C:C6	2.55	0.41
59:DA:1539:G:C6	59:DA:1540:G:C5	3.08	0.41
59:DA:1635:G:H2'	59:DA:1636:C:C6	2.55	0.41
59:DA:1689:A:N6	59:DA:1697:G:H2'	2.36	0.41
59:DA:1731:G:O2'	59:DA:1732:A:H8	2.03	0.41
59:DA:2037:G:H2'	59:DA:2038:G:O4'	2.20	0.41
59:DA:2645:G:H3'	59:DA:2646:C:C5'	2.51	0.41
59:DA:2733:A:C8	59:DA:2734:A:C8	3.09	0.41
60:DB:46:A:C5	60:DB:47:C:C4	3.09	0.41
1:AB:108:ILE:HG21	1:AB:152:PHE:CE1	2.56	0.40
1:AB:110:GLN:HA	1:AB:113:HIS:HB2	2.02	0.40
2:AC:184:TYR:HB2	2:AC:201:TYR:CD2	2.57	0.40
4:AE:48:ALA:HA	4:AE:49:PRO:HD3	1.93	0.40
4:AE:52:PRO:O	4:AE:56:GLN:HG2	2.20	0.40
4:AE:64:ARG:HA	4:AE:64:ARG:NE	2.37	0.40
10:AK:89:ALA:O	10:AK:91:ARG:N	2.54	0.40
11:AL:86:ARG:HB3	11:AL:99:HIS:H	1.86	0.40
14:AO:5:LYS:H	14:AO:5:LYS:CD	2.33	0.40
16:AQ:45:HIS:H	16:AQ:72:ARG:C	2.28	0.40
18:AS:43:GLU:CD	18:AS:43:GLU:H	2.29	0.40
18:AS:50:ALA:HA	18:AS:59:PRO:HA	2.03	0.40
19:AT:53:LEU:HA	19:AT:53:LEU:HD23	1.90	0.40
19:AT:84:LEU:O	19:AT:88:VAL:HG23	2.21	0.40
20:AA:599:C:N4	20:AA:639:G:H1	2.13	0.40
20:AA:961:U:C2	20:AA:1201:A:N1	2.87	0.40
20:AA:976:G:N2	20:AA:1362(A):C:OP2	2.23	0.40
20:AA:1372:U:H2'	20:AA:1373:G:O4'	2.20	0.40
23:AY:83:ASP:O	23:AY:85:PRO:HD3	2.19	0.40
23:AY:430:ARG:HB2	23:AY:430:ARG:CZ	2.51	0.40
25:BC:74:ARG:O	25:BC:76:LEU:N	2.46	0.40
27:BE:116:VAL:HG13	27:BE:122:PHE:HB2	2.01	0.40
34:BO:68:GLU:OE2	34:BO:68:GLU:N	2.50	0.40
36:BQ:52:VAL:CG1	59:BA:2482:G:H22	2.34	0.40
37:BR:61:HIS:NE2	59:BA:2870:C:H5'	2.36	0.40
40:BU:49:HIS:CD2	59:BA:559:G:N2	2.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BW:16:LYS:O	42:BW:20:VAL:HG23	2.21	0.40
42:BW:40:ASN:O	42:BW:41:LYS:HG2	2.21	0.40
45:BZ:10:ARG:H	45:BZ:37:VAL:HA	1.86	0.40
57:B1:23:LYS:O	57:B1:23:LYS:NZ	2.53	0.40
57:B1:71:TYR:O	57:B1:74:VAL:HB	2.21	0.40
59:BA:110:G:C2	59:BA:111:A:C8	3.09	0.40
59:BA:274:G:H2'	59:BA:275:G:O4'	2.22	0.40
59:BA:308:G:H2'	59:BA:309:G:O4'	2.22	0.40
59:BA:395:U:O2	59:BA:396:G:N7	2.53	0.40
59:BA:1088:A:N3	59:BA:1088:A:H5'	2.36	0.40
59:BA:1347:G:H2'	59:BA:1348:G:H8	1.85	0.40
59:BA:1539:G:H2'	59:BA:1540:G:O4'	2.21	0.40
59:BA:1663:C:O2'	59:BA:1664:A:H8	2.04	0.40
59:BA:1937:A:H8	59:BA:1937:A:H2'	1.74	0.40
59:BA:1954:G:N3	59:BA:1956:U:N3	2.69	0.40
59:BA:2111:C:H1'	59:BA:2118:U:C4'	2.52	0.40
59:BA:2173:A:P	59:BA:2173:A:H8	2.44	0.40
59:BA:2181:G:H2'	59:BA:2182:G:O4'	2.21	0.40
59:BA:2507:C:H2'	59:BA:2508:G:C8	2.56	0.40
59:BA:2826:A:C5	59:BA:2827:C:C5	3.08	0.40
59:BA:2848:G:HO2'	59:BA:2867:G:H22	1.65	0.40
59:BA:2850:A:H2'	59:BA:2851:A:C8	2.56	0.40
60:BB:73:A:H3'	60:BB:74:U:C5	2.56	0.40
1:CB:27:LYS:HB2	1:CB:194:PRO:CG	2.51	0.40
6:CG:29:LYS:HB3	6:CG:105:VAL:HG21	2.03	0.40
6:CG:87:VAL:HG21	6:CG:154:TYR:HB2	2.03	0.40
6:CG:104:LEU:HD13	6:CG:104:LEU:HA	1.92	0.40
15:CP:49:LEU:HD12	15:CP:49:LEU:HA	1.76	0.40
18:CS:6:LYS:HG2	18:CS:7:LYS:N	2.36	0.40
20:CA:17:U:H2'	20:CA:18:C:C6	2.56	0.40
20:CA:150:C:H2'	20:CA:151:A:O4'	2.21	0.40
20:CA:303:A:H2'	20:CA:304:U:O4'	2.20	0.40
20:CA:343:U:O3'	20:CA:344:A:H8	2.04	0.40
20:CA:369:C:OP2	20:CA:388:G:N2	2.51	0.40
20:CA:673:G:H2'	20:CA:674:G:H8	1.80	0.40
20:CA:985:C:H2'	20:CA:986:A:C8	2.57	0.40
20:CA:1225:A:H2'	20:CA:1226:C:C5	2.55	0.40
20:CA:1409:C:H2'	20:CA:1410:G:C8	2.56	0.40
23:CY:14:ASN:ND2	23:CY:80:ASN:HB2	2.36	0.40
23:CY:151:ARG:CZ	23:CY:151:ARG:HB2	2.51	0.40
23:CY:440:VAL:HG13	23:CY:451:ILE:HD13	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:CY:526:VAL:CG2	23:CY:566:THR:HG23	2.51	0.40
23:CY:611:THR:HA	23:CY:642:VAL:HG22	2.03	0.40
26:DD:75:ILE:HA	26:DD:76:PRO:HD2	1.87	0.40
26:DD:258:LYS:HG2	59:DA:1798:U:OP2	2.21	0.40
30:DH:15:VAL:HG11	30:DH:76:VAL:HG13	2.03	0.40
30:DH:70:THR:HA	30:DH:73:ALA:HB3	2.02	0.40
33:DN:100:GLU:HB3	33:DN:117:PHE:CZ	2.56	0.40
34:DO:86:ILE:HD13	34:DO:86:ILE:HA	1.89	0.40
35:DP:52:GLU:CG	35:DP:53:GLY:H	2.34	0.40
38:DS:41:ASP:HB3	38:DS:47:THR:O	2.20	0.40
40:DU:11:ARG:HH12	59:DA:28:A:H2	1.69	0.40
47:D2:20:GLU:O	47:D2:24:LEU:HG	2.21	0.40
52:D8:8:LYS:HA	52:D8:8:LYS:HD3	1.73	0.40
57:D1:37:ILE:HG21	59:DA:200:U:O2'	2.22	0.40
59:DA:277:C:C6	59:DA:278:A:C8	3.09	0.40
59:DA:779:U:H2'	59:DA:780:G:C8	2.56	0.40
59:DA:992:C:N4	59:DA:1162:G:H1	2.16	0.40
59:DA:998:C:H2'	59:DA:999:U:O4'	2.21	0.40
59:DA:1121:C:H2'	59:DA:1122:G:O4'	2.21	0.40
59:DA:1324:G:H1'	59:DA:1616:A:N6	2.37	0.40
59:DA:1474:C:H2'	59:DA:1475:G:C8	2.52	0.40
59:DA:1474:C:C2	59:DA:1475:G:C8	3.09	0.40
59:DA:1806:C:H2'	59:DA:1807:G:H8	1.85	0.40
59:DA:1975:G:HO2'	59:DA:1976:U:P	2.44	0.40
59:DA:2148:G:H2'	59:DA:2149:G:O4'	2.21	0.40
59:DA:2344:U:H4'	59:DA:2345:G:OP1	2.21	0.40
59:DA:2468:G:O2'	59:DA:2469:A:H5"	2.21	0.40
59:DA:2531:A:H2'	59:DA:2532:G:O4'	2.21	0.40
59:DA:2842:G:H2'	59:DA:2843:G:C8	2.56	0.40
1:AB:133:LYS:HD3	20:AA:1158:C:H5"	2.03	0.40
2:AC:32:LEU:HD23	2:AC:59:ARG:HH21	1.85	0.40
2:AC:66:VAL:O	2:AC:102:ASN:N	2.54	0.40
4:AE:127:ASN:O	4:AE:131:ILE:HG12	2.21	0.40
6:AG:121:ALA:O	6:AG:125:MET:HG2	2.22	0.40
8:AI:111:ARG:HD2	13:AN:61:TRP:HE1	1.86	0.40
9:AJ:49:VAL:HG22	9:AJ:50:ILE:N	2.37	0.40
9:AJ:52:GLY:HA2	20:AA:1059:C:O2'	2.21	0.40
11:AL:10:LEU:HB3	16:AQ:32:TYR:CE1	2.56	0.40
11:AL:55:VAL:HG12	11:AL:67:THR:HG22	2.03	0.40
15:AP:15:PRO:HD2	15:AP:42:ARG:NE	2.37	0.40
16:AQ:8:GLY:O	16:AQ:56:VAL:HA	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AR:44:LEU:HD21	17:AR:50:ILE:HG12	2.03	0.40
20:AA:120:A:C6	20:AA:122:G:C2	3.08	0.40
20:AA:180:U:H2'	20:AA:181:G:H5'	2.03	0.40
20:AA:306:G:O2'	20:AA:307:C:H5'	2.20	0.40
20:AA:892:A:H2'	20:AA:893:C:H6	1.86	0.40
21:AW:76:A:H1'	59:BA:2395:C:C2	2.56	0.40
23:AY:197:ARG:HH21	23:AY:198:GLU:HG2	1.86	0.40
23:AY:219:VAL:C	23:AY:221:ALA:H	2.30	0.40
23:AY:428:LEU:C	23:AY:431:LEU:H	2.27	0.40
25:BC:19:LYS:HB3	25:BC:20:VAL:H	1.79	0.40
26:BD:147:LEU:HA	26:BD:185:VAL:CG1	2.50	0.40
28:BF:9:ILE:CG2	28:BF:125:LEU:H	2.30	0.40
30:BH:139:GLN:C	30:BH:141:VAL:H	2.29	0.40
31:BJ:86:UNK:O	31:BJ:87:UNK:C	2.69	0.40
32:BK:3:LYS:O	32:BK:61:ALA:HA	2.21	0.40
33:BN:57:ALA:C	33:BN:59:LYS:H	2.28	0.40
35:BP:27:HIS:CE1	59:BA:814:C:H3'	2.57	0.40
35:BP:87:ASP:OD1	35:BP:87:ASP:N	2.54	0.40
36:BQ:14:ARG:NH2	59:BA:957:A:H3'	2.36	0.40
40:BU:28:ARG:HD3	40:BU:38:THR:HG21	2.03	0.40
41:BV:59:ALA:HB1	41:BV:96:ILE:HA	2.03	0.40
42:BW:41:LYS:HD3	59:BA:2010:G:OP1	2.22	0.40
43:BX:10:ALA:HA	43:BX:11:PRO:HD2	1.93	0.40
45:BZ:110:GLY:HA2	45:BZ:146:ILE:HG13	2.02	0.40
48:B3:31:LEU:HD22	48:B3:32:GLN:HG2	2.03	0.40
52:B8:22:VAL:HB	52:B8:53:PRO:HG3	2.03	0.40
53:B9:2:LYS:HA	53:B9:33:LYS:O	2.21	0.40
59:BA:163:U:H2'	59:BA:164:U:H5'	2.03	0.40
59:BA:370:G:H4'	59:BA:371:A:OP2	2.22	0.40
59:BA:516:C:H2'	59:BA:517:C:C6	2.57	0.40
59:BA:869:G:H2'	59:BA:870:A:O4'	2.20	0.40
59:BA:1077:A:N1	59:BA:1088:A:H2'	2.36	0.40
59:BA:1292:U:H2'	59:BA:1293:C:H6	1.86	0.40
59:BA:1418:G:C2	59:BA:1580:A:N6	2.87	0.40
59:BA:1565:C:H1'	59:BA:1566:A:H8	1.85	0.40
59:BA:1935:G:H1'	59:BA:1937:A:C2	2.56	0.40
59:BA:2554:U:H2'	59:BA:2555:U:C5	2.57	0.40
59:BA:2656:U:O2	59:BA:2656:U:H2'	2.21	0.40
59:BA:2841:C:H2'	59:BA:2842:G:C8	2.55	0.40
6:CG:149:ARG:O	6:CG:149:ARG:HD3	2.21	0.40
7:CH:37:ARG:O	7:CH:41:ARG:HB2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:CL:85:ILE:HD12	11:CL:98:TYR:CB	2.50	0.40
16:CQ:64:PRO:HB3	16:CQ:70:ARG:NH1	2.37	0.40
16:CQ:101:ARG:HG2	20:CA:247:G:OP2	2.22	0.40
17:CR:59:SER:O	17:CR:63:GLN:N	2.47	0.40
20:CA:12:U:O2	20:CA:22:G:N2	2.46	0.40
20:CA:227:G:H2'	20:CA:228:A:C8	2.57	0.40
20:CA:373:A:O4'	20:CA:481:G:H5'	2.21	0.40
20:CA:521:G:O2'	20:CA:536:C:O2'	2.18	0.40
20:CA:713:G:H21	20:CA:777:A:C1'	2.33	0.40
20:CA:885:G:H1	20:CA:912:C:N4	2.16	0.40
20:CA:992:U:H3	20:CA:1044:A:H62	1.69	0.40
20:CA:1253:G:H1	20:CA:1284:C:H42	1.69	0.40
20:CA:1349:A:H2'	20:CA:1350:A:O4'	2.21	0.40
21:CW:21:A:H2'	21:CW:46:G:O6	2.21	0.40
21:CW:72:C:H2'	21:CW:73:A:O4'	2.21	0.40
23:CY:167:PRO:HG2	23:CY:170:ARG:HE	1.85	0.40
23:CY:598:ASP:HA	23:CY:599:PRO:HD2	1.86	0.40
25:DC:11:LEU:O	25:DC:221:PRO:HG3	2.21	0.40
25:DC:78:ILE:HG22	25:DC:97:GLY:O	2.21	0.40
26:DD:78:LYS:O	26:DD:96:HIS:HB2	2.21	0.40
26:DD:147:LEU:HD23	26:DD:148:GLU:N	2.37	0.40
26:DD:242:ARG:HE	59:DA:1826:G:H4'	1.85	0.40
27:DE:39:PRO:HA	27:DE:43:GLY:H	1.87	0.40
27:DE:176:ILE:HD13	27:DE:176:ILE:HA	1.89	0.40
28:DF:29:ASN:O	28:DF:33:LEU:HD22	2.21	0.40
29:DG:107:LEU:HA	29:DG:111:LEU:HD12	2.03	0.40
30:DH:121:ILE:HG22	30:DH:135:GLY:HA2	2.03	0.40
41:DV:74:LYS:NZ	41:DV:74:LYS:HB2	2.36	0.40
45:DZ:67:LEU:HA	45:DZ:68:PRO:HD3	1.99	0.40
45:DZ:82:ARG:CZ	45:DZ:82:ARG:HB3	2.50	0.40
49:D5:45:VAL:HG13	49:D5:51:TYR:N	2.35	0.40
53:D9:1:MET:HG2	59:DA:2477:C:C5	2.56	0.40
53:D9:2:LYS:HE3	53:D9:2:LYS:HB3	1.86	0.40
57:D1:19:GLN:C	57:D1:20:ARG:HG3	2.45	0.40
58:D4:18:CYS:SG	58:D4:20:ASN:HB2	2.61	0.40
59:DA:184:C:H42	59:DA:212:G:H1	1.68	0.40
59:DA:287:C:H2'	59:DA:288:C:O4'	2.22	0.40
59:DA:479:A:H4'	59:DA:480:A:C5'	2.50	0.40
59:DA:680:G:N2	59:DA:797:C:N3	2.56	0.40
59:DA:767:U:H2'	59:DA:768:G:H8	1.85	0.40
59:DA:1207:C:N4	59:DA:1239:G:H1	2.19	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:DA:1613:G:H2'	59:DA:1617:C:H42	1.86	0.40
59:DA:1654:A:H2'	59:DA:1655:A:H8	1.87	0.40
59:DA:2119:A:H61	59:DA:2168:G:H21	1.69	0.40
59:DA:2134:A:N6	59:DA:2157:G:H1'	2.36	0.40
59:DA:2555:U:H2'	59:DA:2556:C:H5'	2.03	0.40
60:DB:49:C:H2'	60:DB:50:G:H8	1.84	0.40
1:AB:71:VAL:CB	1:AB:164:VAL:HG22	2.51	0.40
3:AD:112:VAL:O	3:AD:113:SER:HB2	2.21	0.40
5:AF:97:PHE:O	17:AR:31:LEU:HB2	2.21	0.40
6:AG:87:VAL:HG13	6:AG:151:TYR:O	2.22	0.40
7:AH:90:GLY:O	11:AL:7:ILE:HD13	2.21	0.40
7:AH:127:LEU:HD13	7:AH:127:LEU:HA	1.91	0.40
8:AI:107:ARG:NE	20:AA:1347:G:O4'	2.55	0.40
9:AJ:27:ALA:HB3	9:AJ:34:VAL:HG21	2.03	0.40
12:AM:31:LYS:HA	12:AM:34:LEU:HB2	2.03	0.40
12:AM:57:ARG:HE	12:AM:57:ARG:HB3	1.51	0.40
12:AM:81:LEU:HB3	12:AM:89:GLY:HA3	2.02	0.40
13:AN:29:ARG:O	13:AN:33:VAL:HG21	2.21	0.40
14:AO:41:GLU:OE1	14:AO:44:LYS:HE2	2.21	0.40
14:AO:42:HIS:HE1	14:AO:46:HIS:HD2	1.69	0.40
15:AP:10:GLY:HA2	20:AA:624:C:H4'	2.04	0.40
16:AQ:64:PRO:HG3	20:AA:234:C:H4'	2.03	0.40
20:AA:161:A:H61	20:AA:347:G:HO2'	1.67	0.40
20:AA:427:U:H5"	20:AA:542:G:OP1	2.21	0.40
20:AA:643:C:H2'	20:AA:644:G:C8	2.56	0.40
20:AA:1213:A:C8	20:AA:1215:G:C5	3.08	0.40
20:AA:1242:C:H2'	20:AA:1243:C:H6	1.86	0.40
23:AY:117:GLN:HE22	23:AY:664:GLN:HB3	1.86	0.40
23:AY:319:ASP:HA	23:AY:320:PRO:HD3	1.94	0.40
27:BE:74:PRO:HB2	27:BE:75:VAL:H	1.56	0.40
27:BE:119:ARG:NE	27:BE:159:HIS:O	2.54	0.40
30:BH:70:THR:HA	30:BH:73:ALA:HB3	2.03	0.40
32:BK:117:THR:C	32:BK:119:ASP:H	2.27	0.40
33:BN:78:TYR:HA	33:BN:79:PRO:HD3	1.91	0.40
35:BP:114:ILE:HG12	35:BP:130:PHE:HD1	1.86	0.40
37:BR:28:LEU:HG	37:BR:34:ILE:HD13	2.03	0.40
39:BT:33:LYS:HZ2	39:BT:34:VAL:HG23	1.85	0.40
40:BU:66:ASN:HA	40:BU:76:TYR:HB2	2.04	0.40
40:BU:78:THR:O	40:BU:79:PHE:C	2.64	0.40
42:BW:4:LYS:HA	42:BW:106:ILE:HG12	2.02	0.40
43:BX:31:HIS:HB3	43:BX:34:ALA:HB2	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:BY:15:VAL:HG23	44:BY:23:ARG:O	2.21	0.40
44:BY:73:ARG:NH2	44:BY:81:LYS:H	2.19	0.40
54:Be:107:GLU:O	54:Be:111:ILE:HB	2.21	0.40
57:B1:18:ILE:HG21	59:BA:380:U:C4'	2.49	0.40
57:B1:53:VAL:HG13	57:B1:74:VAL:HG13	2.02	0.40
59:BA:218:A:H2'	59:BA:219:G:O4'	2.21	0.40
59:BA:542:C:H2'	59:BA:543:C:H6	1.86	0.40
59:BA:737:C:H42	59:BA:759:G:H1	1.69	0.40
59:BA:757:U:H2'	59:BA:758:C:O4'	2.21	0.40
59:BA:1364:G:H2'	59:BA:1366:A:OP2	2.21	0.40
59:BA:1479:G:H2'	59:BA:1480:G:O4'	2.22	0.40
59:BA:1532:C:C2	59:BA:1540:G:N2	2.90	0.40
59:BA:1710:C:H2'	59:BA:1711:C:H6	1.87	0.40
59:BA:2072:G:C5	59:BA:2073:C:C5	3.09	0.40
1:CB:108:ILE:HG21	1:CB:152:PHE:CZ	2.56	0.40
3:CD:14:ARG:NH2	20:CA:542:G:O3'	2.54	0.40
3:CD:44:GLY:C	3:CD:46:LYS:H	2.29	0.40
3:CD:57:ARG:NH1	3:CD:205:GLU:OE1	2.55	0.40
4:CE:48:ALA:HA	4:CE:49:PRO:HD3	2.00	0.40
4:CE:135:THR:HG22	4:CE:139:LEU:HD21	2.03	0.40
8:CI:70:LYS:O	8:CI:73:GLN:HB2	2.21	0.40
11:CL:35:GLY:HA2	11:CL:58:VAL:HA	2.04	0.40
11:CL:114:LYS:N	20:CA:538:G:OP1	2.40	0.40
14:CO:18:PHE:HZ	20:CA:750:G:H4'	1.86	0.40
14:CO:39:LEU:HD22	20:CA:740:U:H4'	2.02	0.40
14:CO:48:LYS:NZ	20:CA:808:C:OP2	2.29	0.40
16:CQ:94:ASN:O	16:CQ:98:LEU:HG	2.20	0.40
17:CR:33:ASP:HB3	17:CR:36:ASN:ND2	2.36	0.40
18:CS:75:ALA:HA	18:CS:76:PRO:HD2	1.97	0.40
20:CA:27:G:H1	20:CA:556:C:H42	1.68	0.40
20:CA:134:A:H2'	20:CA:135:C:C6	2.56	0.40
20:CA:200:G:H1	20:CA:217:C:N4	2.18	0.40
20:CA:994:A:H8	20:CA:1216:G:HO2'	1.67	0.40
23:CY:257:PRO:HB2	23:CY:259:PHE:CE1	2.57	0.40
23:CY:413:ILE:HD12	23:CY:413:ILE:HA	1.88	0.40
25:DC:40:GLU:CB	25:DC:217:THR:HB	2.51	0.40
25:DC:43:GLU:HB2	25:DC:216:THR:HG23	2.03	0.40
26:DD:70:TRP:HE1	26:DD:150:LYS:HZ1	1.69	0.40
26:DD:92:ILE:C	26:DD:107:ALA:HB2	2.46	0.40
26:DD:117:VAL:HG12	26:DD:129:ASN:ND2	2.36	0.40
26:DD:148:GLU:OE1	26:DD:151:LYS:HE2	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:DE:120:TRP:CD2	27:DE:155:LYS:HB3	2.56	0.40
27:DE:145:LYS:NZ	59:DA:2054:A:OP1	2.34	0.40
27:DE:176:ILE:HA	27:DE:177:PRO:HD2	1.92	0.40
28:DF:155:LEU:HD11	28:DF:176:LEU:HD22	2.02	0.40
28:DF:157:VAL:HG13	28:DF:194:MET:HG2	2.02	0.40
30:DH:138:LYS:HE2	30:DH:138:LYS:HB2	1.92	0.40
35:DP:22:GLY:HA2	35:DP:23:PRO:HD3	1.84	0.40
35:DP:38:GLN:HB3	59:DA:943:U:P	2.61	0.40
35:DP:60:MET:HA	59:DA:2392:A:H8	1.86	0.40
37:DR:16:HIS:O	37:DR:20:LEU:HB2	2.22	0.40
39:DT:121:ILE:HG23	39:DT:125:ARG:HE	1.85	0.40
40:DU:44:ASN:OD1	41:DV:74:LYS:NZ	2.54	0.40
40:DU:108:GLU:HG2	41:DV:44:LYS:HE3	2.02	0.40
44:DY:38:ILE:HD11	44:DY:64:GLU:CB	2.49	0.40
46:D0:9:SER:OG	46:D0:10:THR:N	2.55	0.40
53:D9:29:ASN:C	53:D9:31:LYS:H	2.30	0.40
57:D1:6:GLU:HG3	57:D1:61:ARG:HB2	2.03	0.40
59:DA:68:G:H2'	59:DA:69:C:O4'	2.21	0.40
59:DA:71:A:H4'	59:DA:72:U:H5"	2.03	0.40
59:DA:365(A):C:H2'	59:DA:366(B):C:O4'	2.21	0.40
59:DA:398:G:H2'	59:DA:399:G:H8	1.86	0.40
59:DA:608:A:H2'	59:DA:609(A):A:C8	2.56	0.40
59:DA:670:A:H4'	59:DA:671:C:H5'	2.03	0.40
59:DA:1064:C:N4	59:DA:1074:G:H1	2.19	0.40
59:DA:1090:U:H2'	59:DA:1091:G:H8	1.83	0.40
59:DA:1283:G:O2'	59:DA:1285:G:N7	2.40	0.40
59:DA:2307:G:O5'	59:DA:2307:G:H8	2.04	0.40
59:DA:2459:A:C5	59:DA:2460:U:C5	3.10	0.40
59:DA:2460:U:H2'	59:DA:2461:C:O4'	2.21	0.40
60:DB:88:C:H2'	60:DB:89(A):G:C8	2.55	0.40
1:AB:87:ARG:NH2	1:AB:233:SER:H	2.20	0.40
1:AB:185:ILE:HD13	1:AB:199:TYR:CD1	2.56	0.40
1:AB:220:ASP:OD1	1:AB:220:ASP:N	2.53	0.40
4:AE:28:PHE:CE1	4:AE:51:VAL:HG22	2.56	0.40
6:AG:27:ILE:HA	6:AG:30:ILE:HD12	2.04	0.40
6:AG:99:LEU:HD22	6:AG:103:TRP:HE1	1.87	0.40
7:AH:109:ILE:HG12	7:AH:111:ILE:HD13	2.03	0.40
10:AK:122:LYS:NZ	20:AA:780:A:OP2	2.30	0.40
15:AP:71:ARG:HB2	15:AP:71:ARG:NH1	2.36	0.40
15:AP:80:PHE:HD2	15:AP:80:PHE:HA	1.80	0.40
19:AT:41:ILE:O	19:AT:45:GLN:HB2	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AA:269:C:H2'	20:AA:270:A:O4'	2.20	0.40
20:AA:865:A:C2	20:AA:918:A:H4'	2.56	0.40
20:AA:966:G:H2'	20:AA:967:C:O4'	2.21	0.40
20:AA:1128:C:O2'	20:AA:1130:A:N7	2.41	0.40
20:AA:1130:A:H61	20:AA:1143:G:N2	2.19	0.40
20:AA:1260:C:OP1	20:AA:1284:C:H4'	2.22	0.40
20:AA:1350:A:H2'	20:AA:1351:U:C6	2.57	0.40
20:AA:1420:C:H2'	20:AA:1421:G:H5'	2.04	0.40
20:AA:1494:G:H2'	20:AA:1495:U:C6	2.57	0.40
21:AW:17:U:H5'	21:AW:18:G:H4'	2.03	0.40
23:AY:108:PHE:HZ	23:AY:122:TRP:CE3	2.39	0.40
23:AY:353:ALA:O	23:AY:354:ARG:HG3	2.21	0.40
23:AY:435:ASP:HA	23:AY:436:PRO:HD2	1.82	0.40
28:BF:15:SER:O	28:BF:17:ARG:HG3	2.21	0.40
28:BF:63:LYS:HG2	28:BF:65:TRP:O	2.22	0.40
29:BG:10:LYS:O	29:BG:14:GLU:N	2.52	0.40
31:BJ:25:UNK:O	31:BJ:27:UNK:N	2.55	0.40
35:BP:24:GLY:HA3	35:BP:33:ARG:HH11	1.87	0.40
36:BQ:109:VAL:H	36:BQ:109:VAL:HG22	1.63	0.40
38:BS:20:ARG:CZ	38:BS:88:ASP:HA	2.51	0.40
38:BS:103:GLU:O	38:BS:105:ALA:N	2.54	0.40
40:BU:2:PRO:HD3	59:BA:444:C:O5'	2.20	0.40
42:BW:110:LYS:HD3	42:BW:110:LYS:C	2.46	0.40
44:BY:31:LEU:HA	44:BY:32:PRO:HA	1.90	0.40
51:B7:34:ARG:CD	51:B7:42:LEU:HD22	2.51	0.40
59:BA:363(G):A:O2'	59:BA:364:C:H6	2.05	0.40
59:BA:499:U:C2	59:BA:503:A:N7	2.90	0.40
59:BA:671:C:H2'	59:BA:672:C:C6	2.56	0.40
59:BA:681:G:H2'	59:BA:682:G:C8	2.56	0.40
59:BA:721:C:H2'	59:BA:722:A:H8	1.86	0.40
59:BA:846:C:H4'	59:BA:847:U:H5"	2.02	0.40
59:BA:1165:U:C2	59:BA:1166:C:C5	3.09	0.40
59:BA:1209:G:O3'	59:BA:1212:G:H5'	2.21	0.40
59:BA:1275:A:OP2	59:BA:1646:C:N4	2.49	0.40
59:BA:1664:A:H3'	59:BA:1665:A:C8	2.52	0.40
59:BA:1748:G:H2'	59:BA:1749:A:H8	1.84	0.40
59:BA:1758:G:H3'	59:BA:1759:A:C8	2.56	0.40
59:BA:2088:G:H1	59:BA:2231:C:H42	1.69	0.40
60:BB:71:C:N4	60:BB:105:G:H1	2.17	0.40
1:CB:15:VAL:HG23	1:CB:16:HIS:CE1	2.56	0.40
4:CE:75:THR:HG21	4:CE:94:ALA:O	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:CF:10:LEU:HD13	5:CF:61:LEU:HD13	2.03	0.40
5:CF:50:TYR:CD2	5:CF:52:ILE:HD11	2.57	0.40
6:CG:57:GLU:OE1	6:CG:57:GLU:N	2.54	0.40
8:CI:46:ALA:HA	8:CI:78:LYS:HB2	2.03	0.40
9:CJ:91:PRO:HB2	9:CJ:94:VAL:HB	2.02	0.40
14:CO:43:LEU:O	14:CO:47:LYS:N	2.54	0.40
16:CQ:65:ILE:HB	16:CQ:69:LYS:HB3	2.03	0.40
20:CA:243:A:H1'	20:CA:244:U:OP2	2.21	0.40
20:CA:272:C:H2'	20:CA:273:A:N7	2.36	0.40
20:CA:810:C:C4	20:CA:811:C:C4	3.10	0.40
20:CA:1096:C:H2'	20:CA:1097:C:C6	2.56	0.40
20:CA:1265:G:C6	20:CA:1266:G:C6	3.10	0.40
23:CY:343:ASN:C	23:CY:345:THR:H	2.29	0.40
23:CY:607:ARG:HA	23:CY:645:ALA:O	2.22	0.40
25:DC:45:HIS:ND1	25:DC:171:ALA:O	2.55	0.40
25:DC:54:ARG:HD2	25:DC:54:ARG:HA	1.80	0.40
25:DC:181:PHE:O	25:DC:185:LYS:HB2	2.22	0.40
26:DD:67:PHE:HZ	26:DD:157:ARG:NH1	2.15	0.40
26:DD:78:LYS:HE3	26:DD:98:VAL:HG22	2.02	0.40
26:DD:161:THR:OG1	26:DD:178:PRO:HG2	2.22	0.40
26:DD:202:LYS:HD3	59:DA:1820:U:C6	2.57	0.40
27:DE:103:ASP:OD2	27:DE:201:THR:HA	2.22	0.40
28:DF:5:ALA:HB3	28:DF:8:GLN:H	1.86	0.40
28:DF:57:VAL:C	28:DF:59:TYR:N	2.78	0.40
29:DG:63:ILE:HA	58:D4:27:THR:HG21	2.03	0.40
29:DG:91:ARG:NH1	59:DA:2314:C:OP1	2.46	0.40
30:DH:25:LYS:H	30:DH:25:LYS:HD2	1.86	0.40
30:DH:86:GLU:HB3	30:DH:132:ARG:HG3	2.04	0.40
32:DK:112:MET:C	32:DK:114:ASP:H	2.29	0.40
37:DR:8:ARG:HA	37:DR:8:ARG:HD3	1.83	0.40
42:DW:1:MET:HG3	42:DW:2:GLU:H	1.87	0.40
48:D3:42:ALA:O	59:DA:851:U:O2'	2.40	0.40
52:D8:25:MET:HG3	52:D8:26:LYS:N	2.36	0.40
54:De:84:LEU:HA	54:De:87:LYS:CD	2.47	0.40
57:D1:13:ILE:O	57:D1:42:GLN:O	2.39	0.40
59:DA:608:A:C8	59:DA:621:A:N6	2.90	0.40
59:DA:684:G:H21	59:DA:788:A:P	2.44	0.40
59:DA:717:G:H2'	59:DA:718:A:O4'	2.22	0.40
59:DA:1663:C:H1'	59:DA:2686:G:O2'	2.21	0.40
59:DA:2632:A:H2'	59:DA:2633:G:H8	1.85	0.40
60:DB:48:A:H2'	60:DB:49:C:C6	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AB:51:LEU:HA	1:AB:54:THR:HB	2.04	0.40
2:AC:116:VAL:O	2:AC:120:VAL:HG23	2.21	0.40
3:AD:155:LEU:HB3	3:AD:158:ILE:HD13	2.03	0.40
7:AH:64:LYS:HG2	7:AH:65:TYR:N	2.36	0.40
8:AI:107:ARG:NH2	20:AA:1347:G:O4'	2.54	0.40
11:AL:57:LYS:HA	11:AL:65:GLU:O	2.22	0.40
20:AA:60:A:N3	20:AA:61:G:H1'	2.37	0.40
20:AA:123:C:OP1	20:AA:312:C:H5'	2.22	0.40
20:AA:243:A:H4'	20:AA:244:U:H3'	2.03	0.40
20:AA:297:G:H2'	20:AA:299:G:N7	2.37	0.40
20:AA:364:A:H2'	20:AA:365:U:O2	2.22	0.40
20:AA:720:C:H3'	20:AA:721:G:H2'	2.03	0.40
20:AA:990:C:H2'	20:AA:991:U:O4'	2.21	0.40
20:AA:1316:G:H1'	20:AA:1360:A:H2	1.87	0.40
20:AA:1353:G:H2'	20:AA:1354:C:C6	2.57	0.40
20:AA:1421:G:H2'	20:AA:1422:G:O4'	2.22	0.40
23:AY:20:HIS:CD2	23:AY:20:HIS:H	2.38	0.40
23:AY:65:ILE:C	23:AY:67:ALA:H	2.30	0.40
23:AY:98:MET:SD	23:AY:125:ALA:HB1	2.62	0.40
23:AY:100:VAL:HG11	23:AY:314:PHE:CZ	2.57	0.40
23:AY:515:GLU:O	23:AY:564:LYS:HB3	2.21	0.40
25:BC:75:VAL:O	25:BC:114:VAL:HA	2.21	0.40
25:BC:169:THR:C	25:BC:171:ALA:N	2.80	0.40
28:BF:11:VAL:HG13	28:BF:127:GLU:CD	2.46	0.40
28:BF:45:ARG:HD3	28:BF:97:TYR:CZ	2.57	0.40
28:BF:60:SER:HB3	28:BF:61:GLY:H	1.73	0.40
30:BH:60:ARG:O	30:BH:64:LEU:HG	2.21	0.40
32:BK:14:ALA:HB3	32:BK:50:ASP:HA	2.04	0.40
32:BK:86:LYS:HE3	32:BK:86:LYS:HB2	1.95	0.40
35:BP:127:ALA:HB3	35:BP:130:PHE:CE1	2.57	0.40
36:BQ:56:ARG:HD3	59:BA:2469:A:O2'	2.21	0.40
36:BQ:77:LYS:HG3	36:BQ:87:LYS:O	2.21	0.40
39:BT:46:GLU:HB2	39:BT:47:GLY:H	1.67	0.40
40:BU:54:LYS:O	40:BU:58:ARG:HG3	2.22	0.40
40:BU:96:ALA:C	40:BU:98:LEU:H	2.30	0.40
49:B5:14:ALA:O	49:B5:17:ASP:HB2	2.21	0.40
52:B8:13:ARG:NH2	59:BA:249:C:O2'	2.55	0.40
59:BA:196:A:C5	59:BA:805:G:C6	3.10	0.40
59:BA:270(W):G:H2'	59:BA:270(X):G:H8	1.86	0.40
59:BA:582:G:H2'	59:BA:583:G:C8	2.57	0.40
59:BA:1016:G:C2	59:BA:1017:G:C8	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1272:A:O2'	59:BA:1273:U:H5"	2.21	0.40
59:BA:1657:C:H2'	59:BA:1658:C:H6	1.86	0.40
59:BA:1802:A:N7	59:BA:1815:A:N7	2.70	0.40
59:BA:1949:G:H2'	59:BA:1950:G:C8	2.57	0.40
59:BA:2041:U:H2'	59:BA:2042:A:O4'	2.21	0.40
59:BA:2081:C:H2'	59:BA:2082:A:H8	1.86	0.40
59:BA:2505:G:H3'	59:BA:2576:G:H22	1.87	0.40
59:BA:712(B):A:H5"	59:BA:2713:A:OP2	2.21	0.40
59:BA:2792:G:C2	59:BA:2805:G:C6	3.09	0.40
3:CD:108:LEU:HD23	3:CD:110:PHE:CE2	2.56	0.40
3:CD:135:LEU:HG	20:CA:620:C:N3	2.36	0.40
8:CI:111:ARG:NH2	20:CA:1368:G:OP1	2.54	0.40
20:CA:68(V):G:H2'	20:CA:68(W):G:O4'	2.21	0.40
20:CA:112:G:H2'	20:CA:113:G:H8	1.86	0.40
20:CA:186(C):G:C6	20:CA:186(O):G:C6	3.10	0.40
20:CA:441:A:H3'	20:CA:442:C:H6	1.86	0.40
20:CA:597:G:H2'	20:CA:598:U:O4'	2.21	0.40
20:CA:946:A:C6	20:CA:947:G:C6	3.10	0.40
21:CW:56:C:H2'	21:CW:57:G:H8	1.86	0.40
23:CY:107:VAL:HA	23:CY:135:PHE:O	2.21	0.40
23:CY:458:HIS:O	23:CY:462:ILE:HG12	2.22	0.40
23:CY:559:PRO:O	23:CY:561:VAL:N	2.55	0.40
25:DC:213:VAL:CG1	25:DC:215:VAL:HG22	2.52	0.40
26:DD:39:LYS:HB3	26:DD:40:THR:H	1.74	0.40
27:DE:61:ARG:HB2	27:DE:62:PRO:CD	2.46	0.40
27:DE:170:LEU:HB3	27:DE:184:VAL:CG1	2.51	0.40
28:DF:24:LEU:HD13	28:DF:119:ARG:HH21	1.85	0.40
28:DF:170:LEU:HD12	28:DF:172:TRP:HE1	1.87	0.40
35:DP:91:PHE:O	35:DP:121:LYS:NZ	2.42	0.40
35:DP:95:VAL:HG23	35:DP:125:VAL:HA	2.04	0.40
36:DQ:24:GLY:O	36:DQ:101:ARG:HD2	2.21	0.40
37:DR:68:ARG:HG3	59:DA:2707:G:O3'	2.21	0.40
38:DS:67:ARG:HH12	38:DS:98:VAL:HB	1.87	0.40
39:DT:29:ARG:HG2	39:DT:30:VAL:N	2.36	0.40
39:DT:44:ASP:OD1	39:DT:44:ASP:N	2.53	0.40
43:DX:61:GLY:HA3	43:DX:73:ARG:O	2.21	0.40
45:DZ:6:LYS:HA	45:DZ:6:LYS:HD3	1.86	0.40
51:D7:17:GLY:O	51:D7:20:ALA:N	2.46	0.40
52:D8:38:GLY:HA2	52:D8:41:ILE:HD12	2.04	0.40
54:De:73:GLU:OE2	54:De:111:ILE:HG13	2.21	0.40
57:D1:20:ARG:HD2	57:D1:21:ARG:H	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:D1:53:VAL:HG21	57:D1:74:VAL:HG22	2.03	0.40
59:DA:60:G:C4	59:DA:74:A:C2	3.09	0.40
59:DA:270(P):U:H4'	59:DA:270(Q):C:OP2	2.21	0.40
59:DA:572:A:H3'	59:DA:573:G:H8	1.86	0.40
59:DA:685:A:H1'	59:DA:688:U:H3	1.87	0.40
59:DA:878:A:H3'	59:DA:879:G:H8	1.85	0.40
59:DA:1023:U:H2'	59:DA:1024:G:H5'	2.04	0.40
59:DA:1278:A:H2'	59:DA:1279:G:O4'	2.22	0.40
59:DA:1366:A:H2'	59:DA:1367:A:O4'	2.22	0.40
59:DA:2068:U:C2	59:DA:2430:A:H2	2.39	0.40
59:DA:2366:A:H3'	59:DA:2367:G:H8	1.87	0.40
59:DA:2437:U:H2'	59:DA:2438:U:O4'	2.22	0.40
59:DA:2485:G:H2'	59:DA:2486:G:C8	2.56	0.40
59:DA:2630:G:H2'	59:DA:2631:G:C8	2.56	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BA:1015:G:O2'	40:DU:118:GLY:O[3_545]	2.09	0.11

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
1	AB	233/235 (99%)	154 (66%)	51 (22%)	28 (12%)	0 4
1	CB	233/235 (99%)	159 (68%)	50 (22%)	24 (10%)	0 5
2	AC	205/207 (99%)	154 (75%)	32 (16%)	19 (9%)	0 6
2	CC	205/207 (99%)	156 (76%)	36 (18%)	13 (6%)	1 12
3	AD	206/208 (99%)	149 (72%)	31 (15%)	26 (13%)	0 4

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
3	CD	206/208 (99%)	153 (74%)	32 (16%)	21 (10%)	0 6
4	AE	149/151 (99%)	117 (78%)	22 (15%)	10 (7%)	1 11
4	CE	149/151 (99%)	117 (78%)	25 (17%)	7 (5%)	2 17
5	AF	99/101 (98%)	75 (76%)	15 (15%)	9 (9%)	0 7
5	CF	99/101 (98%)	74 (75%)	16 (16%)	9 (9%)	0 7
6	AG	153/155 (99%)	121 (79%)	25 (16%)	7 (5%)	2 17
6	CG	153/155 (99%)	124 (81%)	22 (14%)	7 (5%)	2 17
7	AH	136/138 (99%)	97 (71%)	27 (20%)	12 (9%)	0 7
7	CH	136/138 (99%)	97 (71%)	28 (21%)	11 (8%)	1 8
8	AI	125/127 (98%)	93 (74%)	27 (22%)	5 (4%)	2 19
8	CI	125/127 (98%)	99 (79%)	22 (18%)	4 (3%)	3 24
9	AJ	97/99 (98%)	75 (77%)	13 (13%)	9 (9%)	0 6
9	CJ	97/99 (98%)	75 (77%)	17 (18%)	5 (5%)	1 14
10	AK	117/119 (98%)	82 (70%)	21 (18%)	14 (12%)	0 4
10	CK	117/119 (98%)	82 (70%)	22 (19%)	13 (11%)	0 5
11	AL	123/125 (98%)	38 (31%)	52 (42%)	33 (27%)	0 0
11	CL	123/125 (98%)	47 (38%)	43 (35%)	33 (27%)	0 0
12	AM	123/125 (98%)	93 (76%)	20 (16%)	10 (8%)	1 8
12	CM	123/125 (98%)	91 (74%)	25 (20%)	7 (6%)	1 13
13	AN	58/60 (97%)	44 (76%)	7 (12%)	7 (12%)	0 4
13	CN	58/60 (97%)	44 (76%)	10 (17%)	4 (7%)	1 10
14	AO	86/88 (98%)	65 (76%)	14 (16%)	7 (8%)	1 8
14	CO	86/88 (98%)	60 (70%)	21 (24%)	5 (6%)	1 13
15	AP	82/84 (98%)	66 (80%)	15 (18%)	1 (1%)	10 41
15	CP	82/84 (98%)	64 (78%)	14 (17%)	4 (5%)	1 16
16	AQ	98/100 (98%)	70 (71%)	18 (18%)	10 (10%)	0 6
16	CQ	98/100 (98%)	70 (71%)	18 (18%)	10 (10%)	0 6
17	AR	68/70 (97%)	51 (75%)	10 (15%)	7 (10%)	0 5
17	CR	68/70 (97%)	48 (71%)	13 (19%)	7 (10%)	0 5
18	AS	77/79 (98%)	41 (53%)	23 (30%)	13 (17%)	0 2
18	CS	77/79 (98%)	46 (60%)	17 (22%)	14 (18%)	0 1

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
19	AT	97/99 (98%)	82 (84%)	11 (11%)	4 (4%)	2 19
19	CT	97/99 (98%)	79 (81%)	12 (12%)	6 (6%)	1 12
23	AY	663/687 (96%)	451 (68%)	138 (21%)	74 (11%)	0 5
23	CY	663/687 (96%)	461 (70%)	134 (20%)	68 (10%)	0 5
24	AU	2/6 (33%)	1 (50%)	1 (50%)	0	100 100
24	CU	2/6 (33%)	1 (50%)	0	1 (50%)	0 0
25	BC	226/228 (99%)	110 (49%)	66 (29%)	50 (22%)	0 1
25	DC	226/228 (99%)	123 (54%)	59 (26%)	44 (20%)	0 1
26	BD	273/275 (99%)	174 (64%)	47 (17%)	52 (19%)	0 1
26	DD	273/275 (99%)	165 (60%)	61 (22%)	47 (17%)	0 2
27	BE	203/205 (99%)	128 (63%)	40 (20%)	35 (17%)	0 2
27	DE	203/205 (99%)	122 (60%)	45 (22%)	36 (18%)	0 1
28	BF	206/208 (99%)	130 (63%)	46 (22%)	30 (15%)	0 3
28	DF	206/208 (99%)	128 (62%)	44 (21%)	34 (16%)	0 2
29	BG	179/181 (99%)	122 (68%)	48 (27%)	9 (5%)	1 15
29	DG	179/181 (99%)	134 (75%)	36 (20%)	9 (5%)	1 15
30	BH	165/167 (99%)	118 (72%)	27 (16%)	20 (12%)	0 4
30	DH	165/167 (99%)	111 (67%)	33 (20%)	21 (13%)	0 3
32	BK	138/140 (99%)	96 (70%)	30 (22%)	12 (9%)	0 7
32	DK	138/140 (99%)	97 (70%)	34 (25%)	7 (5%)	1 15
33	BN	136/138 (99%)	86 (63%)	28 (21%)	22 (16%)	0 2
33	DN	136/138 (99%)	88 (65%)	35 (26%)	13 (10%)	0 6
34	BO	120/122 (98%)	86 (72%)	24 (20%)	10 (8%)	0 7
34	DO	120/122 (98%)	87 (72%)	25 (21%)	8 (7%)	1 11
35	BP	144/146 (99%)	85 (59%)	39 (27%)	20 (14%)	0 3
35	DP	144/146 (99%)	81 (56%)	38 (26%)	25 (17%)	0 2
36	BQ	139/141 (99%)	96 (69%)	27 (19%)	16 (12%)	0 5
36	DQ	139/141 (99%)	97 (70%)	29 (21%)	13 (9%)	0 6
37	BR	115/117 (98%)	80 (70%)	27 (24%)	8 (7%)	1 10
37	DR	115/117 (98%)	83 (72%)	20 (17%)	12 (10%)	0 5
38	BS	97/99 (98%)	56 (58%)	21 (22%)	20 (21%)	0 1

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
38	DS	97/99 (98%)	56 (58%)	21 (22%)	20 (21%)	0 1
39	BT	136/138 (99%)	80 (59%)	31 (23%)	25 (18%)	0 1
39	DT	136/138 (99%)	85 (62%)	29 (21%)	22 (16%)	0 2
40	BU	115/117 (98%)	84 (73%)	25 (22%)	6 (5%)	1 14
40	DU	115/117 (98%)	90 (78%)	16 (14%)	9 (8%)	1 8
41	BV	99/101 (98%)	66 (67%)	16 (16%)	17 (17%)	0 2
41	DV	99/101 (98%)	63 (64%)	22 (22%)	14 (14%)	0 3
42	BW	111/113 (98%)	85 (77%)	11 (10%)	15 (14%)	0 3
42	DW	111/113 (98%)	85 (77%)	15 (14%)	11 (10%)	0 6
43	BX	91/93 (98%)	72 (79%)	15 (16%)	4 (4%)	2 17
43	DX	91/93 (98%)	72 (79%)	14 (15%)	5 (6%)	1 13
44	BY	105/107 (98%)	51 (49%)	30 (29%)	24 (23%)	0 1
44	DY	105/107 (98%)	46 (44%)	26 (25%)	33 (31%)	0 0
45	BZ	183/185 (99%)	132 (72%)	33 (18%)	18 (10%)	0 6
45	DZ	183/185 (99%)	132 (72%)	32 (18%)	19 (10%)	0 5
46	B0	82/84 (98%)	59 (72%)	16 (20%)	7 (8%)	0 7
46	D0	82/84 (98%)	57 (70%)	15 (18%)	10 (12%)	0 4
47	B2	69/71 (97%)	51 (74%)	14 (20%)	4 (6%)	1 13
47	D2	69/71 (97%)	56 (81%)	10 (14%)	3 (4%)	2 18
48	B3	58/60 (97%)	48 (83%)	6 (10%)	4 (7%)	1 10
48	D3	58/60 (97%)	42 (72%)	10 (17%)	6 (10%)	0 5
49	B5	57/59 (97%)	43 (75%)	11 (19%)	3 (5%)	1 14
49	D5	57/59 (97%)	41 (72%)	12 (21%)	4 (7%)	1 10
50	B6	48/50 (96%)	28 (58%)	13 (27%)	7 (15%)	0 3
50	D6	48/50 (96%)	29 (60%)	8 (17%)	11 (23%)	0 1
51	B7	47/49 (96%)	35 (74%)	8 (17%)	4 (8%)	0 7
51	D7	47/49 (96%)	32 (68%)	9 (19%)	6 (13%)	0 3
52	B8	62/64 (97%)	35 (56%)	17 (27%)	10 (16%)	0 2
52	D8	62/64 (97%)	36 (58%)	18 (29%)	8 (13%)	0 3
53	B9	35/37 (95%)	18 (51%)	12 (34%)	5 (14%)	0 3
53	D9	35/37 (95%)	24 (69%)	8 (23%)	3 (9%)	0 7

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
54	Be	70/102 (69%)	38 (54%)	24 (34%)	8 (11%)	0 5
54	De	70/102 (69%)	41 (59%)	23 (33%)	6 (9%)	0 7
57	B1	91/93 (98%)	60 (66%)	19 (21%)	12 (13%)	0 3
57	D1	91/93 (98%)	56 (62%)	18 (20%)	17 (19%)	0 1
58	B4	33/35 (94%)	15 (46%)	13 (39%)	5 (15%)	0 2
58	D4	33/35 (94%)	17 (52%)	9 (27%)	7 (21%)	0 1
All	All	13260/13576 (98%)	9009 (68%)	2708 (20%)	1543 (12%)	0 4

All (1543) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	AB	9	GLU
1	AB	76	GLN
1	AB	165	VAL
1	AB	194	PRO
2	AC	4	LYS
2	AC	26	LYS
2	AC	49	SER
3	AD	4	TYR
3	AD	5	ILE
3	AD	24	GLU
3	AD	28	SER
3	AD	34	GLU
3	AD	43	HIS
3	AD	62	GLN
3	AD	63	LYS
3	AD	69	GLY
3	AD	113	SER
3	AD	156	GLU
4	AE	36	ASP
4	AE	125	SER
5	AF	69	GLU
5	AF	70	ASP
6	AG	37	ASN
7	AH	22	GLU
7	AH	103	VAL
7	AH	107	LEU
8	AI	58	HIS
9	AJ	88	LEU
9	AJ	92	THR

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Mol	Chain	Res	Type
10	AK	42	TRP
10	AK	109	VAL
10	AK	120	ARG
11	AL	6	THR
11	AL	7	ILE
11	AL	13	LYS
11	AL	39	VAL
11	AL	43	VAL
11	AL	48	PRO
11	AL	55	VAL
11	AL	78	GLN
11	AL	94	PRO
11	AL	102	ARG
11	AL	104	VAL
11	AL	107	ALA
11	AL	115	LYS
11	AL	123	LYS
12	AM	3	ARG
12	AM	6	GLY
12	AM	113	PRO
13	AN	3	ARG
14	AO	19	PRO
15	AP	28	ARG
16	AQ	28	PRO
16	AQ	55	ASP
16	AQ	69	LYS
17	AR	36	ASN
17	AR	37	VAL
17	AR	45	SER
18	AS	37	ARG
18	AS	38	SER
18	AS	53	ASN
18	AS	70	LYS
19	AT	74	LYS
23	AY	22	ASP
23	AY	84	THR
23	AY	87	HIS
23	AY	92	ILE
23	AY	171	GLU
23	AY	224	ASP
23	AY	244	ALA
23	AY	266	ASN

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Mol	Chain	Res	Type
23	AY	330	VAL
23	AY	331	TYR
23	AY	384	ILE
23	AY	395	PRO
23	AY	448	GLN
23	AY	518	PRO
23	AY	527	ASN
23	AY	565	VAL
23	AY	568	TYR
23	AY	628	ARG
23	AY	659	LEU
23	AY	681	LYS
25	BC	17	PRO
25	BC	42	VAL
25	BC	52	PRO
25	BC	66	PRO
25	BC	96	GLY
25	BC	109	MET
25	BC	114	VAL
25	BC	115	VAL
25	BC	139	PRO
25	BC	141	PRO
25	BC	142	LYS
25	BC	162	ILE
25	BC	167	ASP
25	BC	182	PRO
25	BC	210	LEU
25	BC	223	VAL
25	BC	227	PRO
26	BD	24	ILE
26	BD	36	PRO
26	BD	43	ARG
26	BD	79	VAL
26	BD	87	ASN
26	BD	89	SER
26	BD	98	VAL
26	BD	99	ASP
26	BD	118	VAL
26	BD	123	ALA
26	BD	166	GLN
26	BD	226	MET
26	BD	242	ARG

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Mol	Chain	Res	Type
26	BD	273	ARG
27	BE	12	THR
27	BE	14	ILE
27	BE	45	THR
27	BE	54	GLN
27	BE	56	PRO
27	BE	61	ARG
27	BE	66	HIS
27	BE	67	PHE
27	BE	68	ALA
27	BE	72	VAL
27	BE	74	PRO
27	BE	75	VAL
27	BE	126	PRO
27	BE	144	ARG
27	BE	147	PRO
27	BE	162	ALA
28	BF	3	GLU
28	BF	8	GLN
28	BF	10	PRO
28	BF	11	VAL
28	BF	66	PRO
28	BF	67	GLN
28	BF	84	VAL
28	BF	90	PHE
28	BF	134	GLY
28	BF	149	ASP
29	BG	87	PRO
29	BG	96	ARG
30	BH	41	MET
30	BH	84	SER
30	BH	123	PHE
30	BH	124	GLU
30	BH	156	ALA
30	BH	170	ARG
32	BK	5	VAL
32	BK	116	ASN
33	BN	17	ASP
33	BN	18	ALA
33	BN	56	ASN
33	BN	69	GLN
33	BN	111	PRO

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Mol	Chain	Res	Type
33	BN	126	PRO
33	BN	130	HIS
33	BN	133	GLN
34	BO	48	PRO
34	BO	80	ASP
35	BP	9	ASN
35	BP	57	THR
35	BP	110	TYR
35	BP	149	GLU
36	BQ	2	LEU
36	BQ	20	ALA
36	BQ	52	VAL
36	BQ	90	VAL
36	BQ	140	ALA
37	BR	5	LYS
38	BS	13	ARG
38	BS	32	LEU
38	BS	48	LEU
38	BS	53	SER
38	BS	98	VAL
38	BS	100	ALA
38	BS	106	ARG
39	BT	28	VAL
39	BT	30	VAL
39	BT	38	ASN
39	BT	49	VAL
39	BT	68	TYR
39	BT	78	LEU
39	BT	86	ILE
39	BT	90	GLN
40	BU	9	VAL
41	BV	15	GLU
41	BV	46	VAL
41	BV	49	THR
41	BV	50	PRO
41	BV	96	ILE
41	BV	97	LYS
42	BW	15	ARG
42	BW	73	ALA
42	BW	77	ASP
44	BY	32	PRO
44	BY	53	PRO

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Mol	Chain	Res	Type
44	BY	56	PRO
44	BY	66	PRO
44	BY	78	ALA
44	BY	97	ARG
44	BY	102	CYS
45	BZ	71	VAL
45	BZ	72	ARG
45	BZ	73	GLN
45	BZ	81	ARG
47	B2	47	ASN
47	B2	48	HIS
48	B3	51	ALA
49	B5	56	LYS
50	B6	7	ILE
50	B6	9	LEU
50	B6	31	PRO
52	B8	3	LYS
52	B8	30	ARG
52	B8	49	VAL
52	B8	62	LEU
53	B9	10	ILE
53	B9	20	HIS
57	B1	20	ARG
57	B1	87	PRO
1	CB	35	GLU
1	CB	165	VAL
1	CB	194	PRO
1	CB	195	ASP
1	CB	235	SER
2	CC	12	LEU
2	CC	49	SER
2	CC	130	VAL
2	CC	207	VAL
3	CD	4	TYR
3	CD	5	ILE
3	CD	28	SER
3	CD	34	GLU
3	CD	43	HIS
3	CD	113	SER
5	CF	38	GLU
5	CF	70	ASP
6	CG	12	LEU

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Mol	Chain	Res	Type
6	CG	15	ASP
7	CH	22	GLU
10	CK	42	TRP
10	CK	43	SER
10	CK	109	VAL
10	CK	111	ASP
10	CK	120	ARG
11	CL	7	ILE
11	CL	36	VAL
11	CL	37	CYS
11	CL	39	VAL
11	CL	43	VAL
11	CL	78	GLN
11	CL	81	SER
11	CL	94	PRO
11	CL	96	VAL
11	CL	104	VAL
11	CL	108	ALA
11	CL	115	LYS
11	CL	116	SER
11	CL	122	THR
11	CL	123	LYS
12	CM	6	GLY
12	CM	12	ASN
12	CM	107	ALA
12	CM	113	PRO
15	CP	66	PRO
16	CQ	14	LYS
16	CQ	49	GLU
16	CQ	55	ASP
16	CQ	69	LYS
17	CR	36	ASN
18	CS	37	ARG
18	CS	38	SER
18	CS	41	VAL
18	CS	70	LYS
19	CT	46	GLU
23	CY	9	LEU
23	CY	84	THR
23	CY	87	HIS
23	CY	92	ILE
23	CY	111	SER

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Mol	Chain	Res	Type
23	CY	128	TYR
23	CY	129	LYS
23	CY	171	GLU
23	CY	301	ILE
23	CY	330	VAL
23	CY	331	TYR
23	CY	384	ILE
23	CY	395	PRO
23	CY	436	PRO
23	CY	448	GLN
23	CY	498	ILE
23	CY	501	THR
23	CY	555	LEU
23	CY	565	VAL
23	CY	568	TYR
23	CY	614	GLU
23	CY	649	LEU
23	CY	681	LYS
25	DC	17	PRO
25	DC	52	PRO
25	DC	54	ARG
25	DC	66	PRO
25	DC	80	LYS
25	DC	96	GLY
25	DC	109	MET
25	DC	114	VAL
25	DC	139	PRO
25	DC	141	PRO
25	DC	142	LYS
25	DC	162	ILE
25	DC	167	ASP
25	DC	177	GLY
25	DC	182	PRO
25	DC	212	SER
25	DC	223	VAL
25	DC	227	PRO
26	DD	9	TYR
26	DD	24	ILE
26	DD	36	PRO
26	DD	52	ARG
26	DD	79	VAL
26	DD	99	ASP

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Mol	Chain	Res	Type
26	DD	118	VAL
26	DD	123	ALA
26	DD	166	GLN
26	DD	236	GLY
26	DD	246	PRO
26	DD	273	ARG
27	DE	12	THR
27	DE	13	ARG
27	DE	56	PRO
27	DE	60	ASN
27	DE	61	ARG
27	DE	66	HIS
27	DE	68	ALA
27	DE	72	VAL
27	DE	74	PRO
27	DE	75	VAL
27	DE	77	ILE
27	DE	126	PRO
27	DE	143	ASN
27	DE	144	ARG
27	DE	155	LYS
28	DF	3	GLU
28	DF	9	ILE
28	DF	10	PRO
28	DF	52	LYS
28	DF	66	PRO
28	DF	149	ASP
28	DF	153	SER
28	DF	192	LEU
29	DG	43	LEU
29	DG	96	ARG
29	DG	117	PHE
30	DH	40	GLU
30	DH	42	ARG
30	DH	108	GLY
30	DH	170	ARG
30	DH	176	ALA
32	DK	5	VAL
33	DN	17	ASP
33	DN	18	ALA
33	DN	126	PRO
33	DN	133	GLN

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Mol	Chain	Res	Type
34	DO	28	SER
35	DP	13	ASN
35	DP	31	ALA
35	DP	49	ARG
35	DP	50	ARG
35	DP	57	THR
35	DP	65	ARG
35	DP	71	VAL
36	DQ	14	ARG
36	DQ	52	VAL
36	DQ	90	VAL
37	DR	4	LEU
37	DR	8	ARG
38	DS	43	GLU
38	DS	47	THR
38	DS	98	VAL
38	DS	100	ALA
38	DS	101	LEU
38	DS	106	ARG
38	DS	108	GLY
39	DT	28	VAL
39	DT	30	VAL
39	DT	35	LYS
39	DT	36	GLU
39	DT	50	ILE
39	DT	86	ILE
39	DT	91	ARG
40	DU	116	ALA
41	DV	16	PRO
41	DV	29	PRO
41	DV	46	VAL
41	DV	50	PRO
41	DV	96	ILE
42	DW	11	ARG
42	DW	12	ILE
42	DW	73	ALA
42	DW	77	ASP
44	DY	28	LYS
44	DY	32	PRO
44	DY	38	ILE
44	DY	50	ARG
44	DY	56	PRO

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Mol	Chain	Res	Type
44	DY	66	PRO
44	DY	77	PRO
44	DY	78	ALA
44	DY	97	ARG
44	DY	107	ASP
45	DZ	71	VAL
45	DZ	72	ARG
45	DZ	73	GLN
45	DZ	81	ARG
45	DZ	95	PRO
45	DZ	152	ALA
46	D0	56	ASP
48	D3	41	PRO
48	D3	52	HIS
49	D5	56	LYS
50	D6	9	LEU
50	D6	16	CYS
50	D6	33	LYS
51	D7	9	ARG
51	D7	18	PHE
51	D7	45	ALA
52	D8	18	ALA
52	D8	30	ARG
52	D8	49	VAL
52	D8	62	LEU
54	De	65	LYS
57	D1	21	ARG
57	D1	52	ARG
1	AB	15	VAL
1	AB	34	ALA
1	AB	129	GLU
1	AB	186	ALA
1	AB	195	ASP
1	AB	229	VAL
2	AC	44	GLU
2	AC	48	TYR
2	AC	51	GLY
2	AC	60	ALA
2	AC	73	PRO
2	AC	76	VAL
2	AC	130	VAL
2	AC	161	GLU

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Mol	Chain	Res	Type
3	AD	27	TYR
3	AD	44	GLY
3	AD	134	ASP
3	AD	186	LEU
4	AE	6	PHE
4	AE	85	GLY
4	AE	104	ALA
5	AF	85	VAL
6	AG	15	ASP
6	AG	80	VAL
7	AH	27	PRO
7	AH	92	ARG
7	AH	134	ILE
9	AJ	51	ARG
9	AJ	55	LYS
9	AJ	59	SER
10	AK	12	ARG
10	AK	36	ASP
10	AK	43	SER
10	AK	90	GLY
10	AK	91	ARG
11	AL	19	ARG
11	AL	31	PRO
11	AL	34	ARG
11	AL	35	GLY
11	AL	37	CYS
11	AL	50	SER
11	AL	66	VAL
11	AL	80	HIS
11	AL	116	SER
11	AL	121	GLY
11	AL	125	PRO
12	AM	12	ASN
12	AM	101	GLN
16	AQ	12	SER
16	AQ	34	LYS
16	AQ	53	LEU
18	AS	45	VAL
18	AS	66	MET
18	AS	67	VAL
19	AT	71	THR
19	AT	94	ALA

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Mol	Chain	Res	Type
23	AY	20	HIS
23	AY	21	ILE
23	AY	25	LYS
23	AY	39	ILE
23	AY	40	HIS
23	AY	66	THR
23	AY	86	GLY
23	AY	129	LYS
23	AY	205	TYR
23	AY	258	VAL
23	AY	297	GLU
23	AY	436	PRO
23	AY	471	LYS
23	AY	475	ASN
23	AY	476	VAL
23	AY	521	SER
23	AY	555	LEU
23	AY	615	GLU
23	AY	631	ILE
23	AY	658	ASP
23	AY	661	SER
23	AY	668	SER
25	BC	33	LEU
25	BC	43	GLU
25	BC	59	VAL
25	BC	60	ARG
25	BC	71	LYS
25	BC	80	LYS
25	BC	94	TYR
25	BC	113	ALA
25	BC	119	ASP
25	BC	175	PRO
25	BC	177	GLY
25	BC	212	SER
25	BC	214	TYR
25	BC	218	THR
26	BD	23	GLU
26	BD	42	GLY
26	BD	45	ASN
26	BD	53	PHE
26	BD	165	ILE
26	BD	197	GLY

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Mol	Chain	Res	Type
26	BD	222	ARG
26	BD	223	GLY
26	BD	224	ALA
26	BD	232	PRO
26	BD	239	ARG
26	BD	244	ARG
26	BD	246	PRO
27	BE	11	MET
27	BE	13	ARG
27	BE	60	ASN
27	BE	63	LEU
27	BE	119	ARG
27	BE	121	ASN
27	BE	185	LYS
27	BE	186	GLY
28	BF	103	LYS
28	BF	192	LEU
30	BH	13	LYS
30	BH	15	VAL
30	BH	171	LEU
30	BH	173	PRO
30	BH	174	GLY
32	BK	30	HIS
32	BK	78	ILE
32	BK	96	VAL
33	BN	8	GLN
33	BN	64	GLY
33	BN	70	LYS
34	BO	28	SER
34	BO	49	ARG
34	BO	96	THR
35	BP	31	ALA
35	BP	50	ARG
35	BP	54	GLY
35	BP	103	ALA
36	BQ	109	VAL
36	BQ	115	MET
36	BQ	127	ILE
37	BR	6	SER
37	BR	57	ARG
37	BR	93	GLY
38	BS	15	ARG

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Mol	Chain	Res	Type
38	BS	43	GLU
38	BS	47	THR
38	BS	101	LEU
38	BS	104	GLY
38	BS	108	GLY
39	BT	3	ARG
39	BT	36	GLU
39	BT	50	ILE
39	BT	83	ILE
40	BU	88	ILE
40	BU	90	VAL
40	BU	97	ASP
41	BV	29	PRO
41	BV	48	GLY
41	BV	78	LYS
41	BV	80	GLN
42	BW	11	ARG
42	BW	12	ILE
42	BW	61	ASN
42	BW	63	ASP
43	BX	12	VAL
44	BY	38	ILE
44	BY	60	PHE
44	BY	74	PRO
44	BY	80	GLY
45	BZ	78	LYS
45	BZ	142	SER
45	BZ	168	GLU
46	B0	11	ARG
46	B0	49	LYS
46	B0	83	PRO
47	B2	50	ILE
48	B3	52	HIS
49	B5	23	HIS
50	B6	27	LYS
50	B6	33	LYS
50	B6	49	HIS
51	B7	44	PRO
52	B8	19	SER
52	B8	48	PHE
53	B9	2	LYS
53	B9	33	LYS

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Mol	Chain	Res	Type
54	Be	62	VAL
54	Be	100	LYS
57	B1	23	LYS
57	B1	34	THR
57	B1	36	GLY
57	B1	52	ARG
57	B1	53	VAL
57	B1	94	LEU
58	B4	14	ILE
58	B4	33	VAL
1	CB	9	GLU
1	CB	17	PHE
1	CB	20	GLU
1	CB	94	ASN
1	CB	128	GLU
1	CB	230	VAL
2	CC	51	GLY
2	CC	96	GLY
2	CC	161	GLU
3	CD	3	ARG
3	CD	21	LEU
3	CD	27	TYR
3	CD	30	LYS
3	CD	84	LYS
4	CE	85	GLY
6	CG	3	ARG
6	CG	8	GLU
6	CG	80	VAL
7	CH	27	PRO
7	CH	29	SER
7	CH	80	ILE
7	CH	100	ILE
7	CH	134	ILE
8	CI	127	LYS
9	CJ	51	ARG
9	CJ	88	LEU
10	CK	36	ASP
10	CK	41	THR
10	CK	107	SER
10	CK	121	PRO
11	CL	34	ARG
11	CL	35	GLY

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Mol	Chain	Res	Type
11	CL	55	VAL
11	CL	66	VAL
11	CL	69	TYR
11	CL	91	LYS
12	CM	99	ARG
12	CM	118	ALA
13	CN	14	PRO
14	CO	19	PRO
14	CO	44	LYS
16	CQ	12	SER
16	CQ	28	PRO
16	CQ	53	LEU
17	CR	37	VAL
18	CS	29	ARG
18	CS	45	VAL
18	CS	63	THR
18	CS	67	VAL
18	CS	77	THR
18	CS	78	ARG
19	CT	71	THR
23	CY	148	LEU
23	CY	205	TYR
23	CY	206	LEU
23	CY	333	GLY
23	CY	393	ASP
23	CY	401	SER
23	CY	554	PRO
23	CY	631	ILE
23	CY	652	MET
23	CY	668	SER
25	DC	20	VAL
25	DC	42	VAL
25	DC	43	GLU
25	DC	53	ARG
25	DC	55	SER
25	DC	59	VAL
25	DC	60	ARG
25	DC	81	GLY
25	DC	176	VAL
25	DC	210	LEU
25	DC	214	TYR
25	DC	218	THR

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Mol	Chain	Res	Type
25	DC	228	HIS
26	DD	23	GLU
26	DD	43	ARG
26	DD	45	ASN
26	DD	53	PHE
26	DD	89	SER
26	DD	127	VAL
26	DD	158	ALA
26	DD	163	ALA
26	DD	165	ILE
26	DD	197	GLY
26	DD	226	MET
26	DD	232	PRO
26	DD	237	GLU
26	DD	239	ARG
27	DE	14	ILE
27	DE	18	ASP
27	DE	54	GLN
27	DE	67	PHE
27	DE	90	THR
27	DE	119	ARG
27	DE	162	ALA
27	DE	186	GLY
28	DF	5	ALA
28	DF	7	TYR
28	DF	11	VAL
28	DF	16	GLY
28	DF	22	ALA
28	DF	46	ARG
28	DF	48	THR
28	DF	67	GLN
28	DF	69	HIS
28	DF	84	VAL
28	DF	105	VAL
28	DF	134	GLY
28	DF	158	THR
28	DF	172	TRP
28	DF	179	GLU
29	DG	142	PRO
30	DH	13	LYS
30	DH	41	MET
32	DK	51	ALA

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Mol	Chain	Res	Type
33	DN	23	LEU
33	DN	28	THR
33	DN	56	ASN
33	DN	130	HIS
34	DO	5	GLN
34	DO	26	LYS
34	DO	29	ASN
35	DP	25	SER
35	DP	28	GLY
35	DP	54	GLY
35	DP	103	ALA
36	DQ	18	LYS
36	DQ	53	ALA
36	DQ	135	ASP
37	DR	5	LYS
37	DR	12	ARG
37	DR	88	ARG
38	DS	14	VAL
38	DS	15	ARG
38	DS	32	LEU
38	DS	48	LEU
38	DS	93	LYS
38	DS	104	GLY
39	DT	3	ARG
39	DT	29	ARG
39	DT	31	SER
39	DT	49	VAL
39	DT	90	GLN
39	DT	104	ASN
40	DU	86	ALA
40	DU	90	VAL
40	DU	97	ASP
41	DV	8	GLY
41	DV	67	GLY
42	DW	61	ASN
42	DW	75	TYR
44	DY	41	GLY
44	DY	53	PRO
44	DY	60	PHE
44	DY	74	PRO
44	DY	80	GLY
44	DY	88	LYS

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Mol	Chain	Res	Type
44	DY	89	PHE
44	DY	91	GLU
44	DY	101	LYS
44	DY	102	CYS
45	DZ	108	PRO
45	DZ	168	GLU
45	DZ	186	GLU
46	D0	13	GLY
47	D2	48	HIS
48	D3	29	ARG
49	D5	23	HIS
50	D6	7	ILE
50	D6	17	LYS
50	D6	31	PRO
50	D6	37	ARG
52	D8	19	SER
52	D8	64	TYR
53	D9	33	LYS
57	D1	12	PRO
57	D1	22	GLY
57	D1	23	LYS
57	D1	34	THR
57	D1	85	LEU
57	D1	87	PRO
57	D1	94	LEU
58	D4	4	GLY
1	AB	17	PHE
1	AB	20	GLU
1	AB	94	ASN
1	AB	95	GLN
1	AB	100	GLY
1	AB	175	ARG
1	AB	183	PRO
1	AB	235	SER
2	AC	112	SER
2	AC	162	GLN
3	AD	21	LEU
3	AD	88	VAL
3	AD	89	THR
3	AD	197	PRO
4	AE	126	ARG
5	AF	14	LEU

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Mol	Chain	Res	Type
5	AF	96	PRO
6	AG	10	ARG
6	AG	100	ALA
7	AH	90	GLY
7	AH	99	GLU
8	AI	24	GLY
9	AJ	14	LYS
9	AJ	37	PRO
9	AJ	57	LYS
11	AL	18	VAL
11	AL	64	TYR
11	AL	69	TYR
11	AL	96	VAL
12	AM	99	ARG
12	AM	107	ALA
13	AN	58	LYS
18	AS	65	ASN
18	AS	77	THR
18	AS	80	TYR
23	AY	6	GLU
23	AY	91	THR
23	AY	111	SER
23	AY	128	TYR
23	AY	148	LEU
23	AY	203	GLU
23	AY	245	ALA
23	AY	257	PRO
23	AY	320	PRO
23	AY	437	THR
23	AY	498	ILE
23	AY	574	GLU
23	AY	660	ARG
25	BC	11	LEU
25	BC	53	ARG
25	BC	67	HIS
25	BC	81	GLY
25	BC	164	PHE
25	BC	176	VAL
25	BC	179	ALA
25	BC	222	SER
25	BC	228	HIS
26	BD	25	THR

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Mol	Chain	Res	Type
26	BD	119	ALA
26	BD	127	VAL
26	BD	178	PRO
26	BD	247	ALA
26	BD	260	ARG
26	BD	272	ALA
27	BE	39	PRO
27	BE	77	ILE
27	BE	129	HIS
27	BE	130	GLY
28	BF	5	ALA
28	BF	14	PRO
28	BF	48	THR
28	BF	52	LYS
28	BF	72	ARG
28	BF	150	GLY
29	BG	48	GLU
29	BG	84	LYS
30	BH	16	SER
30	BH	126	PRO
30	BH	137	ASP
32	BK	89	HIS
32	BK	122	ALA
33	BN	42	TRP
33	BN	51	PHE
33	BN	58	ASP
34	BO	14	THR
34	BO	23	ARG
35	BP	21	ARG
35	BP	23	PRO
35	BP	29	LYS
35	BP	43	GLY
35	BP	141	ALA
35	BP	145	PRO
36	BQ	54	MET
36	BQ	111	GLU
37	BR	11	ASN
37	BR	58	GLY
37	BR	108	GLY
38	BS	14	VAL
38	BS	24	LEU
38	BS	93	LYS

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Mol	Chain	Res	Type
38	BS	105	ALA
39	BT	29	ARG
39	BT	35	LYS
39	BT	46	GLU
39	BT	80	SER
39	BT	91	ARG
41	BV	16	PRO
41	BV	18	LEU
41	BV	55	ALA
42	BW	14	PRO
42	BW	42	ARG
42	BW	65	LEU
42	BW	75	TYR
42	BW	110	LYS
43	BX	4	ALA
44	BY	67	LEU
44	BY	77	PRO
45	BZ	92	SER
45	BZ	93	ASP
45	BZ	108	PRO
45	BZ	152	ALA
45	BZ	166	SER
46	B0	3	HIS
47	B2	17	SER
48	B3	29	ARG
51	B7	45	ALA
52	B8	64	TYR
54	Be	68	GLY
54	Be	81	ILE
57	B1	12	PRO
57	B1	35	THR
57	B1	40	ARG
1	CB	70	PHE
1	CB	191	ASP
1	CB	229	VAL
2	CC	112	SER
3	CD	24	GLU
3	CD	32	ALA
3	CD	33	MET
3	CD	197	PRO
4	CE	6	PHE
4	CE	126	ARG

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Mol	Chain	Res	Type
5	CF	34	GLY
7	CH	72	PRO
7	CH	74	PRO
10	CK	35	PRO
10	CK	37	GLY
11	CL	6	THR
11	CL	19	ARG
11	CL	77	LEU
11	CL	102	ARG
11	CL	125	PRO
13	CN	27	CYS
14	CO	23	GLY
14	CO	47	LYS
16	CQ	33	GLY
17	CR	21	LYS
17	CR	33	ASP
18	CS	71	LEU
18	CS	72	GLY
19	CT	74	LYS
23	CY	8	ASP
23	CY	20	HIS
23	CY	21	ILE
23	CY	23	ALA
23	CY	158	GLY
23	CY	188	TYR
23	CY	257	PRO
23	CY	258	VAL
23	CY	444	PRO
23	CY	532	GLY
23	CY	533	VAL
23	CY	559	PRO
23	CY	560	VAL
23	CY	566	THR
23	CY	664	GLN
24	CU	3	SER
25	DC	61	GLY
25	DC	115	VAL
25	DC	116	ALA
25	DC	119	ASP
25	DC	222	SER
26	DD	28	GLU
26	DD	39	LYS

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Mol	Chain	Res	Type
26	DD	48	ARG
26	DD	51	VAL
26	DD	59	LYS
26	DD	87	ASN
26	DD	98	VAL
26	DD	100	GLY
26	DD	109	ASP
26	DD	260	ARG
27	DE	11	MET
27	DE	160	TYR
28	DF	14	PRO
28	DF	178	PRO
29	DG	50	ALA
29	DG	87	PRO
30	DH	47	GLU
30	DH	61	HIS
30	DH	155	SER
30	DH	160	LYS
30	DH	164	TYR
30	DH	165	ALA
30	DH	173	PRO
32	DK	63	ARG
33	DN	128	HIS
34	DO	23	ARG
34	DO	119	PRO
35	DP	9	ASN
35	DP	76	LYS
35	DP	110	TYR
35	DP	149	GLU
36	DQ	20	ALA
36	DQ	80	GLU
37	DR	6	SER
37	DR	83	ILE
38	DS	13	ARG
38	DS	24	LEU
39	DT	68	TYR
39	DT	70	VAL
39	DT	80	SER
39	DT	107	ASP
40	DU	35	ALA
41	DV	48	GLY
41	DV	53	GLU

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Mol	Chain	Res	Type
41	DV	80	GLN
41	DV	81	TYR
41	DV	97	LYS
42	DW	15	ARG
42	DW	63	ASP
42	DW	65	LEU
43	DX	4	ALA
44	DY	29	GLU
44	DY	48	ALA
44	DY	70	SER
45	DZ	21	ALA
45	DZ	146	ILE
45	DZ	151	HIS
46	D0	3	HIS
46	D0	11	ARG
46	D0	33	ALA
46	D0	41	ARG
46	D0	49	LYS
47	D2	50	ILE
50	D6	20	ASN
50	D6	44	ARG
51	D7	42	LEU
52	D8	48	PHE
54	De	62	VAL
54	De	81	ILE
57	D1	20	ARG
57	D1	40	ARG
57	D1	65	SER
58	D4	2	LYS
1	AB	54	THR
1	AB	157	ARG
1	AB	184	VAL
1	AB	215	LEU
1	AB	237	ALA
2	AC	85	ARG
2	AC	96	GLY
3	AD	30	LYS
3	AD	33	MET
5	AF	34	GLY
6	AG	12	LEU
6	AG	33	ASP
7	AH	2	LEU

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Mol	Chain	Res	Type
7	AH	100	ILE
8	AI	12	GLU
8	AI	119	ALA
10	AK	15	ALA
10	AK	35	PRO
11	AL	127	GLU
12	AM	10	PRO
12	AM	21	TYR
12	AM	117	VAL
13	AN	13	THR
13	AN	27	CYS
14	AO	20	GLY
14	AO	24	SER
14	AO	47	LYS
16	AQ	33	GLY
16	AQ	71	PHE
17	AR	55	ARG
18	AS	40	ILE
23	AY	304	ASP
23	AY	341	VAL
23	AY	381	LYS
23	AY	531	GLY
23	AY	567	LEU
23	AY	600	VAL
25	BC	69	LEU
25	BC	76	LEU
26	BD	69	ARG
26	BD	100	GLY
26	BD	158	ALA
26	BD	207	GLY
26	BD	219	PRO
27	BE	17	ASP
27	BE	51	PHE
27	BE	90	THR
27	BE	123	ALA
27	BE	155	LYS
28	BF	7	TYR
28	BF	73	ALA
28	BF	133	ASN
28	BF	172	TRP
28	BF	178	PRO
28	BF	206	ILE

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Mol	Chain	Res	Type
29	BG	82	LEU
29	BG	85	GLY
30	BH	118	PRO
30	BH	138	LYS
30	BH	160	LYS
32	BK	61	ALA
32	BK	90	LYS
32	BK	102	GLU
32	BK	113	PRO
33	BN	3	THR
33	BN	47	ALA
33	BN	88	GLU
34	BO	34	THR
34	BO	72	PRO
35	BP	20	GLY
35	BP	106	LEU
36	BQ	139	GLU
37	BR	28	LEU
38	BS	20	ARG
38	BS	67	ARG
38	BS	85	VAL
39	BT	27	THR
39	BT	31	SER
39	BT	107	ASP
39	BT	128	GLU
40	BU	22	LYS
43	BX	24	GLY
44	BY	26	LYS
44	BY	29	GLU
44	BY	39	VAL
44	BY	70	SER
44	BY	103	GLY
45	BZ	22	GLY
45	BZ	32	HIS
45	BZ	51	ALA
45	BZ	95	PRO
45	BZ	179	ASP
46	B0	17	GLN
46	B0	33	ALA
48	B3	28	LEU
51	B7	42	LEU
52	B8	53	PRO

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Mol	Chain	Res	Type
54	Be	53	PRO
54	Be	65	LYS
58	B4	4	GLY
58	B4	7	PRO
1	CB	34	ALA
1	CB	51	LEU
1	CB	76	GLN
1	CB	100	GLY
1	CB	104	ASN
1	CB	153	ARG
2	CC	20	SER
2	CC	60	ALA
3	CD	47	ARG
3	CD	186	LEU
4	CE	125	SER
5	CF	14	LEU
5	CF	69	GLU
6	CG	10	ARG
7	CH	2	LEU
7	CH	97	VAL
8	CI	24	GLY
8	CI	104	ARG
9	CJ	41	PRO
10	CK	14	VAL
11	CL	79	GLU
13	CN	13	THR
14	CO	15	PHE
17	CR	53	ARG
17	CR	60	ALA
18	CS	80	TYR
19	CT	47	GLY
23	CY	6	GLU
23	CY	39	ILE
23	CY	40	HIS
23	CY	244	ALA
23	CY	288	PRO
23	CY	320	PRO
23	CY	447	GLY
23	CY	615	GLU
25	DC	67	HIS
25	DC	175	PRO
25	DC	215	VAL

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Mol	Chain	Res	Type
26	DD	241	PRO
26	DD	245	PRO
26	DD	272	ALA
27	DE	63	LEU
27	DE	86	PRO
27	DE	121	ASN
27	DE	123	ALA
27	DE	147	PRO
27	DE	193	GLY
28	DF	58	ALA
30	DH	124	GLU
30	DH	137	ASP
30	DH	171	LEU
32	DK	13	PRO
32	DK	122	ALA
33	DN	42	TRP
34	DO	14	THR
35	DP	17	LYS
35	DP	29	LYS
37	DR	107	ASP
38	DS	66	ALA
38	DS	94	TYR
38	DS	105	ALA
39	DT	2	ASN
39	DT	34	VAL
40	DU	32	PHE
40	DU	92	ARG
42	DW	14	PRO
43	DX	12	VAL
44	DY	5	MET
44	DY	75	ILE
44	DY	81	LYS
44	DY	106	LEU
45	DZ	32	HIS
45	DZ	78	LYS
46	D0	17	GLN
46	D0	83	PRO
47	D2	17	SER
50	D6	18	ARG
57	D1	10	LYS
57	D1	53	VAL
58	D4	33	VAL

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Mol	Chain	Res	Type
1	AB	67	THR
1	AB	103	THR
2	AC	75	VAL
3	AD	84	LYS
3	AD	204	ILE
4	AE	100	VAL
4	AE	106	PRO
5	AF	38	GLU
8	AI	101	PHE
9	AJ	32	ALA
10	AK	111	ASP
11	AL	79	GLU
13	AN	15	LYS
14	AO	18	PHE
17	AR	33	ASP
17	AR	87	ARG
23	AY	206	LEU
23	AY	225	GLU
23	AY	347	GLY
23	AY	532	GLY
23	AY	533	VAL
23	AY	688	ILE
25	BC	24	ASP
26	BD	3	VAL
26	BD	9	TYR
26	BD	26	LYS
26	BD	28	GLU
26	BD	76	PRO
26	BD	137	PRO
26	BD	147	LEU
26	BD	200	ASP
26	BD	225	ALA
27	BE	94	GLU
28	BF	46	ARG
28	BF	155	LEU
29	BG	17	PRO
29	BG	24	GLY
29	BG	106	LEU
30	BH	59	ARG
30	BH	107	VAL
30	BH	165	ALA
34	BO	119	PRO

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Mol	Chain	Res	Type
35	BP	60	MET
36	BQ	53	ALA
39	BT	2	ASN
39	BT	34	VAL
39	BT	136	GLN
42	BW	31	GLU
42	BW	80	PRO
42	BW	89	ALA
44	BY	76	CYS
44	BY	81	LYS
44	BY	88	LYS
44	BY	100	ALA
44	BY	101	LYS
46	B0	47	PRO
51	B7	23	ARG
52	B8	60	LEU
53	B9	3	VAL
1	CB	101	MET
1	CB	129	GLU
3	CD	62	GLN
3	CD	135	LEU
4	CE	39	GLY
4	CE	100	VAL
5	CF	13	ASN
5	CF	96	PRO
8	CI	35	GLU
9	CJ	90	LEU
11	CL	47	LYS
11	CL	48	PRO
11	CL	56	ALA
11	CL	67	THR
16	CQ	61	GLU
17	CR	34	TYR
19	CT	99	LEU
23	CY	360	ALA
25	DC	3	LYS
26	DD	3	VAL
26	DD	41	GLY
26	DD	178	PRO
27	DE	17	ASP
27	DE	51	PHE
27	DE	187	ALA

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Mol	Chain	Res	Type
28	DF	45	ARG
28	DF	78	ILE
28	DF	132	VAL
28	DF	133	ASN
28	DF	155	LEU
30	DH	62	LYS
33	DN	111	PRO
34	DO	34	THR
35	DP	23	PRO
35	DP	106	LEU
35	DP	141	ALA
35	DP	145	PRO
36	DQ	85	LYS
36	DQ	115	MET
37	DR	91	GLN
38	DS	85	VAL
39	DT	56	GLY
39	DT	85	LYS
41	DV	24	LYS
41	DV	40	LEU
42	DW	46	PHE
43	DX	13	LEU
43	DX	24	GLY
44	DY	18	GLY
45	DZ	92	SER
45	DZ	166	SER
48	D3	28	LEU
49	D5	28	PRO
50	D6	49	HIS
51	D7	39	ARG
52	D8	53	PRO
53	D9	3	VAL
54	De	68	GLY
57	D1	35	THR
57	D1	64	ALA
58	D4	5	ILE
1	AB	230	VAL
2	AC	13	GLY
3	AD	7	PRO
3	AD	47	ARG
4	AE	65	ASN
7	AH	72	PRO

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Mol	Chain	Res	Type
11	AL	93	LEU
14	AO	5	LYS
23	AY	360	ALA
23	AY	361	ASN
25	BC	37	LYS
25	BC	104	ILE
26	BD	121	PRO
26	BD	243	GLY
26	BD	250	TRP
28	BF	9	ILE
32	BK	51	ALA
33	BN	119	ARG
33	BN	127	ASP
33	BN	128	HIS
35	BP	48	PRO
35	BP	107	LYS
36	BQ	24	GLY
41	BV	19	LYS
44	BY	51	VAL
49	B5	54	GLY
54	Be	60	PHE
57	B1	37	ILE
1	CB	13	ALA
1	CB	26	PRO
2	CC	129	ALA
2	CC	181	ASN
3	CD	40	PRO
9	CJ	37	PRO
11	CL	88	GLY
11	CL	95	GLY
15	CP	43	LYS
16	CQ	31	LEU
23	CY	519	ARG
23	CY	574	GLU
23	CY	598	ASP
23	CY	628	ARG
25	DC	169	THR
26	DD	180	GLY
27	DE	53	PRO
28	DF	150	GLY
28	DF	159	GLY
29	DG	27	ASN

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Mol	Chain	Res	Type
30	DH	15	VAL
30	DH	48	GLY
33	DN	46	VAL
35	DP	20	GLY
35	DP	26	GLY
37	DR	103	ARG
39	DT	83	ILE
40	DU	9	VAL
44	DY	76	CYS
46	D0	74	ARG
57	D1	24	ALA
2	AC	109	PRO
2	AC	174	PRO
3	AD	23	GLY
4	AE	74	GLY
5	AF	37	VAL
7	AH	97	VAL
10	AK	113	PRO
14	AO	23	GLY
16	AQ	30	PRO
18	AS	46	GLY
23	AY	116	PRO
23	AY	638	GLY
23	AY	680	PRO
33	BN	46	VAL
35	BP	71	VAL
41	BV	67	GLY
41	BV	79	VAL
45	BZ	53	ILE
52	B8	45	GLY
4	CE	67	VAL
7	CH	103	VAL
12	CM	85	GLY
15	CP	33	ILE
15	CP	63	GLY
23	CY	202	PRO
23	CY	638	GLY
25	DC	136	GLY
25	DC	221	PRO
26	DD	238	GLY
28	DF	91	GLY
29	DG	85	GLY

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Mol	Chain	Res	Type
35	DP	104	GLY
37	DR	32	GLY
43	DX	7	VAL
44	DY	39	VAL
45	DZ	53	ILE
48	D3	16	PRO
48	D3	27	GLY
54	De	63	ILE
10	AK	14	VAL
23	AY	65	ILE
23	AY	301	ILE
36	BQ	27	VAL
39	BT	70	VAL
5	CF	85	VAL
10	CK	90	GLY
23	CY	341	VAL
26	DD	110	GLY
27	DE	30	PRO
30	DH	154	PRO
36	DQ	127	ILE
37	DR	117	VAL
40	DU	88	ILE
49	D5	7	PRO
51	D7	38	GLY
1	AB	164	VAL
1	AB	174	VAL
5	AF	51	PRO
13	AN	14	PRO
18	AS	59	PRO
25	BC	215	VAL
28	BF	92	PRO
28	BF	105	VAL
33	BN	129	PRO
36	BQ	62	GLY
36	BQ	81	VAL
41	BV	51	VAL
50	B6	48	VAL
2	CC	13	GLY
3	CD	44	GLY
5	CF	72	VAL
6	CG	14	PRO
18	CS	46	GLY

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Mol	Chain	Res	Type
23	CY	69	VAL
23	CY	557	GLY
25	DC	181	PHE
26	DD	235	GLY
29	DG	68	PRO
33	DN	14	VAL
36	DQ	27	VAL
38	DS	81	GLY
44	DY	49	VAL
53	D9	30	PRO
58	D4	10	VAL
58	D4	29	PRO
10	AK	48	ILE
11	AL	95	GLY
13	AN	18	VAL
16	AQ	64	PRO
17	AR	39	VAL
19	AT	47	GLY
25	BC	20	VAL
26	BD	238	GLY
27	BE	175	VAL
28	BF	61	GLY
54	Be	63	ILE
58	B4	10	VAL
13	CN	18	VAL
19	CT	98	PRO
26	DD	137	PRO
32	DK	90	LYS
44	DY	82	PRO
44	DY	98	VAL
45	DZ	39	VAL
45	DZ	165	VAL
54	De	53	PRO
58	D4	15	ILE
25	BC	65	LEU
25	BC	75	VAL
25	BC	181	PHE
40	BU	102	GLU
43	BX	49	VAL
23	CY	531	GLY
23	CY	600	VAL
36	DQ	109	VAL

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Mol	Chain	Res	Type
35	DP	48	PRO
32	DK	22	PRO

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain 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 sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	AB	203/203 (100%)	164 (81%)	39 (19%)	1 8
1	CB	203/203 (100%)	161 (79%)	42 (21%)	1 6
2	AC	161/161 (100%)	132 (82%)	29 (18%)	2 10
2	CC	161/161 (100%)	134 (83%)	27 (17%)	2 13
3	AD	180/180 (100%)	150 (83%)	30 (17%)	2 13
3	CD	180/180 (100%)	151 (84%)	29 (16%)	2 14
4	AE	116/116 (100%)	91 (78%)	25 (22%)	1 6
4	CE	116/116 (100%)	96 (83%)	20 (17%)	2 12
5	AF	90/90 (100%)	83 (92%)	7 (8%)	11 36
5	CF	90/90 (100%)	77 (86%)	13 (14%)	3 18
6	AG	126/126 (100%)	111 (88%)	15 (12%)	5 23
6	CG	126/126 (100%)	117 (93%)	9 (7%)	13 38
7	AH	119/119 (100%)	100 (84%)	19 (16%)	2 14
7	CH	119/119 (100%)	108 (91%)	11 (9%)	8 32
8	AI	98/98 (100%)	82 (84%)	16 (16%)	2 14
8	CI	98/98 (100%)	84 (86%)	14 (14%)	3 18
9	AJ	89/89 (100%)	76 (85%)	13 (15%)	3 17
9	CJ	89/89 (100%)	72 (81%)	17 (19%)	1 8
10	AK	90/90 (100%)	72 (80%)	18 (20%)	1 7
10	CK	90/90 (100%)	72 (80%)	18 (20%)	1 7
11	AL	104/104 (100%)	70 (67%)	34 (33%)	0 2
11	CL	104/104 (100%)	76 (73%)	28 (27%)	0 3

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
12	AM	100/100 (100%)	80 (80%)	20 (20%)	1 7
12	CM	100/100 (100%)	84 (84%)	16 (16%)	2 14
13	AN	49/49 (100%)	43 (88%)	6 (12%)	5 22
13	CN	49/49 (100%)	44 (90%)	5 (10%)	7 28
14	AO	79/79 (100%)	71 (90%)	8 (10%)	7 28
14	CO	79/79 (100%)	67 (85%)	12 (15%)	3 16
15	AP	72/72 (100%)	65 (90%)	7 (10%)	8 30
15	CP	72/72 (100%)	63 (88%)	9 (12%)	4 22
16	AQ	95/95 (100%)	80 (84%)	15 (16%)	2 15
16	CQ	95/95 (100%)	76 (80%)	19 (20%)	1 7
17	AR	61/61 (100%)	51 (84%)	10 (16%)	2 14
17	CR	61/61 (100%)	54 (88%)	7 (12%)	5 24
18	AS	69/69 (100%)	56 (81%)	13 (19%)	1 9
18	CS	69/69 (100%)	54 (78%)	15 (22%)	1 6
19	AT	76/76 (100%)	64 (84%)	12 (16%)	2 15
19	CT	76/76 (100%)	68 (90%)	8 (10%)	6 27
23	AY	563/579 (97%)	462 (82%)	101 (18%)	2 10
23	CY	563/579 (97%)	449 (80%)	114 (20%)	1 7
24	AU	2/2 (100%)	2 (100%)	0	100 100
24	CU	2/2 (100%)	2 (100%)	0	100 100
25	BC	180/180 (100%)	136 (76%)	44 (24%)	1 4
25	DC	180/180 (100%)	136 (76%)	44 (24%)	1 4
26	BD	217/217 (100%)	164 (76%)	53 (24%)	1 4
26	DD	217/217 (100%)	167 (77%)	50 (23%)	1 5
27	BE	165/165 (100%)	133 (81%)	32 (19%)	1 8
27	DE	165/165 (100%)	132 (80%)	33 (20%)	1 7
28	BF	165/165 (100%)	129 (78%)	36 (22%)	1 6
28	DF	165/165 (100%)	135 (82%)	30 (18%)	2 10
29	BG	155/155 (100%)	130 (84%)	25 (16%)	2 14
29	DG	155/155 (100%)	123 (79%)	32 (21%)	1 7
30	BH	136/136 (100%)	117 (86%)	19 (14%)	3 19

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
30	DH	136/136 (100%)	120 (88%)	16 (12%)	5 23
32	BK	105/105 (100%)	88 (84%)	17 (16%)	2 14
32	DK	105/105 (100%)	89 (85%)	16 (15%)	3 16
33	BN	117/117 (100%)	91 (78%)	26 (22%)	1 5
33	DN	117/117 (100%)	88 (75%)	29 (25%)	1 4
34	BO	100/100 (100%)	79 (79%)	21 (21%)	1 6
34	DO	100/100 (100%)	82 (82%)	18 (18%)	2 10
35	BP	112/112 (100%)	87 (78%)	25 (22%)	1 5
35	DP	112/112 (100%)	92 (82%)	20 (18%)	2 10
36	BQ	111/111 (100%)	83 (75%)	28 (25%)	0 4
36	DQ	111/111 (100%)	86 (78%)	25 (22%)	1 5
37	BR	100/100 (100%)	85 (85%)	15 (15%)	3 17
37	DR	100/100 (100%)	81 (81%)	19 (19%)	1 8
38	BS	77/77 (100%)	63 (82%)	14 (18%)	2 10
38	DS	77/77 (100%)	58 (75%)	19 (25%)	1 4
39	BT	120/120 (100%)	92 (77%)	28 (23%)	1 5
39	DT	120/120 (100%)	92 (77%)	28 (23%)	1 5
40	BU	93/93 (100%)	72 (77%)	21 (23%)	1 5
40	DU	93/93 (100%)	70 (75%)	23 (25%)	1 4
41	BV	82/82 (100%)	58 (71%)	24 (29%)	0 2
41	DV	82/82 (100%)	57 (70%)	25 (30%)	0 2
42	BW	92/92 (100%)	71 (77%)	21 (23%)	1 5
42	DW	92/92 (100%)	73 (79%)	19 (21%)	1 6
43	BX	75/75 (100%)	67 (89%)	8 (11%)	6 27
43	DX	75/75 (100%)	60 (80%)	15 (20%)	1 7
44	BY	88/88 (100%)	71 (81%)	17 (19%)	1 8
44	DY	88/88 (100%)	71 (81%)	17 (19%)	1 8
45	BZ	162/162 (100%)	132 (82%)	30 (18%)	1 9
45	DZ	162/162 (100%)	138 (85%)	24 (15%)	3 17
46	B0	66/66 (100%)	55 (83%)	11 (17%)	2 13
46	D0	66/66 (100%)	54 (82%)	12 (18%)	2 10

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
47	B2	66/66 (100%)	59 (89%)	7 (11%)	6 27
47	D2	66/66 (100%)	59 (89%)	7 (11%)	6 27
48	B3	52/52 (100%)	43 (83%)	9 (17%)	2 11
48	D3	52/52 (100%)	45 (86%)	7 (14%)	4 20
49	B5	51/51 (100%)	43 (84%)	8 (16%)	2 15
49	D5	51/51 (100%)	39 (76%)	12 (24%)	1 4
50	B6	49/49 (100%)	38 (78%)	11 (22%)	1 5
50	D6	49/49 (100%)	39 (80%)	10 (20%)	1 7
51	B7	42/42 (100%)	36 (86%)	6 (14%)	3 18
51	D7	42/42 (100%)	38 (90%)	4 (10%)	8 31
52	B8	54/54 (100%)	38 (70%)	16 (30%)	0 2
52	D8	54/54 (100%)	38 (70%)	16 (30%)	0 2
53	B9	34/34 (100%)	29 (85%)	5 (15%)	3 17
53	D9	34/34 (100%)	32 (94%)	2 (6%)	18 44
54	Be	54/54 (100%)	47 (87%)	7 (13%)	4 21
54	De	54/54 (100%)	44 (82%)	10 (18%)	1 9
57	B1	78/78 (100%)	56 (72%)	22 (28%)	0 3
57	D1	78/78 (100%)	58 (74%)	20 (26%)	0 3
58	B4	31/31 (100%)	22 (71%)	9 (29%)	0 2
58	D4	31/31 (100%)	26 (84%)	5 (16%)	2 14
All	All	11142/11174 (100%)	9050 (81%)	2092 (19%)	1 9

All (2092) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	AB	7	VAL
1	AB	9	GLU
1	AB	12	GLU
1	AB	15	VAL
1	AB	17	PHE
1	AB	32	ILE
1	AB	36	ARG
1	AB	42	ILE
1	AB	49	GLU
1	AB	69	LEU

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Mol	Chain	Res	Type
1	AB	70	PHE
1	AB	74	LYS
1	AB	96	ARG
1	AB	103	THR
1	AB	115	LEU
1	AB	128	GLU
1	AB	134	GLU
1	AB	137	ARG
1	AB	141	GLU
1	AB	142	LEU
1	AB	145	LEU
1	AB	154	LEU
1	AB	155	LEU
1	AB	157	ARG
1	AB	162	ILE
1	AB	163	PHE
1	AB	168	THR
1	AB	172	ILE
1	AB	185	ILE
1	AB	187	LEU
1	AB	190	THR
1	AB	191	ASP
1	AB	198	ASP
1	AB	212	GLN
1	AB	213	LEU
1	AB	221	LEU
1	AB	226	ARG
1	AB	230	VAL
1	AB	239	VAL
2	AC	4	LYS
2	AC	5	ILE
2	AC	6	HIS
2	AC	15	THR
2	AC	22	TRP
2	AC	32	LEU
2	AC	38	ARG
2	AC	55	VAL
2	AC	57	ILE
2	AC	67	THR
2	AC	68	VAL
2	AC	70	VAL
2	AC	76	VAL

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Mol	Chain	Res	Type
2	AC	77	ILE
2	AC	84	ILE
2	AC	101	LEU
2	AC	124	ILE
2	AC	125	GLU
2	AC	128	PHE
2	AC	132	ARG
2	AC	134	ILE
2	AC	136	GLN
2	AC	153	VAL
2	AC	167	TRP
2	AC	175	LEU
2	AC	188	LEU
2	AC	196	LEU
2	AC	204	LEU
2	AC	208	ILE
3	AD	3	ARG
3	AD	5	ILE
3	AD	19	LEU
3	AD	30	LYS
3	AD	53	ASP
3	AD	54	TYR
3	AD	57	ARG
3	AD	66	ARG
3	AD	72	GLU
3	AD	80	GLU
3	AD	86	LYS
3	AD	89	THR
3	AD	96	LEU
3	AD	107	ARG
3	AD	108	LEU
3	AD	127	THR
3	AD	134	ASP
3	AD	140	VAL
3	AD	141	ARG
3	AD	150	GLU
3	AD	156	GLU
3	AD	170	VAL
3	AD	177	ASP
3	AD	178	VAL
3	AD	181	MET
3	AD	187	ARG

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Mol	Chain	Res	Type
3	AD	193	ASP
3	AD	196	LEU
3	AD	198	VAL
3	AD	200	GLU
4	AE	11	ILE
4	AE	12	LEU
4	AE	26	PHE
4	AE	31	LEU
4	AE	34	VAL
4	AE	36	ASP
4	AE	41	VAL
4	AE	47	LYS
4	AE	51	VAL
4	AE	63	ARG
4	AE	64	ARG
4	AE	72	GLN
4	AE	75	THR
4	AE	80	ILE
4	AE	89	ILE
4	AE	91	LEU
4	AE	98	THR
4	AE	100	VAL
4	AE	107	ARG
4	AE	110	LEU
4	AE	119	LEU
4	AE	120	THR
4	AE	125	SER
4	AE	139	LEU
4	AE	145	LYS
5	AF	16	GLN
5	AF	31	GLU
5	AF	61	LEU
5	AF	63	TYR
5	AF	64	GLN
5	AF	80	ARG
5	AF	89	MET
6	AG	11	GLN
6	AG	13	GLN
6	AG	24	THR
6	AG	32	ARG
6	AG	42	ILE
6	AG	56	GLN

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Mol	Chain	Res	Type
6	AG	68	ASN
6	AG	79	ARG
6	AG	80	VAL
6	AG	91	VAL
6	AG	94	ARG
6	AG	97	GLN
6	AG	106	GLN
6	AG	122	HIS
6	AG	149	ARG
7	AH	21	LYS
7	AH	31	PHE
7	AH	44	PHE
7	AH	48	TYR
7	AH	51	VAL
7	AH	59	LEU
7	AH	62	TYR
7	AH	63	LEU
7	AH	69	ARG
7	AH	73	ASP
7	AH	82	HIS
7	AH	92	ARG
7	AH	95	VAL
7	AH	103	VAL
7	AH	107	LEU
7	AH	111	ILE
7	AH	120	THR
7	AH	137	VAL
7	AH	138	TRP
8	AI	25	LYS
8	AI	28	VAL
8	AI	40	LEU
8	AI	65	VAL
8	AI	66	ARG
8	AI	79	LEU
8	AI	85	LEU
8	AI	88	TYR
8	AI	95	LYS
8	AI	97	LYS
8	AI	99	LEU
8	AI	102	LEU
8	AI	111	ARG
8	AI	113	LYS

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Mol	Chain	Res	Type
8	AI	118	LYS
8	AI	121	ARG
9	AJ	6	ILE
9	AJ	15	THR
9	AJ	16	LEU
9	AJ	38	ILE
9	AJ	40	LEU
9	AJ	43	ARG
9	AJ	75	ILE
9	AJ	78	ASN
9	AJ	79	ARG
9	AJ	83	GLU
9	AJ	85	LEU
9	AJ	96	ILE
9	AJ	101	VAL
10	AK	29	ILE
10	AK	31	THR
10	AK	33	THR
10	AK	34	ASP
10	AK	40	ILE
10	AK	41	THR
10	AK	48	ILE
10	AK	57	THR
10	AK	77	MET
10	AK	80	VAL
10	AK	81	ASP
10	AK	84	VAL
10	AK	98	LEU
10	AK	110	ASP
10	AK	114	VAL
10	AK	117	ASN
10	AK	120	ARG
10	AK	124	LYS
11	AL	18	VAL
11	AL	20	LYS
11	AL	24	VAL
11	AL	33	ARG
11	AL	34	ARG
11	AL	38	THR
11	AL	42	THR
11	AL	43	VAL
11	AL	44	THR

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Mol	Chain	Res	Type
11	AL	53	ARG
11	AL	54	LYS
11	AL	55	VAL
11	AL	59	ARG
11	AL	60	LEU
11	AL	61	THR
11	AL	67	THR
11	AL	70	ILE
11	AL	75	HIS
11	AL	76	ASN
11	AL	79	GLU
11	AL	80	HIS
11	AL	84	LEU
11	AL	85	ILE
11	AL	90	VAL
11	AL	91	LYS
11	AL	92	ASP
11	AL	96	VAL
11	AL	102	ARG
11	AL	104	VAL
11	AL	105	TYR
11	AL	110	VAL
11	AL	116	SER
11	AL	120	TYR
11	AL	127	GLU
12	AM	7	VAL
12	AM	8	GLU
12	AM	16	ASP
12	AM	19	LEU
12	AM	21	TYR
12	AM	27	LYS
12	AM	56	LEU
12	AM	61	GLU
12	AM	67	GLU
12	AM	69	GLU
12	AM	71	ARG
12	AM	73	GLU
12	AM	82	MET
12	AM	83	ASP
12	AM	110	ARG
12	AM	115	LYS
12	AM	117	VAL

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Mol	Chain	Res	Type
12	AM	120	LYS
12	AM	121	LYS
12	AM	125	ARG
13	AN	7	ILE
13	AN	21	TYR
13	AN	35	ARG
13	AN	40	CYS
13	AN	44	LEU
13	AN	61	TRP
14	AO	3	ILE
14	AO	5	LYS
14	AO	12	ILE
14	AO	31	LEU
14	AO	38	ARG
14	AO	41	GLU
14	AO	82	ILE
14	AO	85	LEU
15	AP	2	VAL
15	AP	27	LYS
15	AP	28	ARG
15	AP	29	ASP
15	AP	67	THR
15	AP	69	THR
15	AP	71	ARG
16	AQ	5	VAL
16	AQ	6	LEU
16	AQ	7	THR
16	AQ	16	GLN
16	AQ	18	THR
16	AQ	24	GLU
16	AQ	32	TYR
16	AQ	48	GLU
16	AQ	52	LYS
16	AQ	59	ILE
16	AQ	63	ARG
16	AQ	66	SER
16	AQ	69	LYS
16	AQ	74	LEU
16	AQ	93	GLN
17	AR	29	PHE
17	AR	37	VAL
17	AR	43	PHE

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Mol	Chain	Res	Type
17	AR	47	THR
17	AR	53	ARG
17	AR	54	ARG
17	AR	69	THR
17	AR	76	LEU
17	AR	83	GLU
17	AR	85	LEU
18	AS	5	LEU
18	AS	19	VAL
18	AS	23	ASN
18	AS	25	LYS
18	AS	28	LYS
18	AS	32	LYS
18	AS	47	HIS
18	AS	51	VAL
18	AS	58	VAL
18	AS	61	TYR
18	AS	62	ILE
18	AS	79	THR
18	AS	81	ARG
19	AT	10	LEU
19	AT	13	LEU
19	AT	24	LEU
19	AT	25	ARG
19	AT	35	THR
19	AT	36	LEU
19	AT	54	LYS
19	AT	56	MET
19	AT	71	THR
19	AT	73	HIS
19	AT	74	LYS
19	AT	80	ARG
23	AY	15	ILE
23	AY	20	HIS
23	AY	29	THR
23	AY	30	GLU
23	AY	32	ILE
23	AY	35	TYR
23	AY	36	THR
23	AY	69	VAL
23	AY	87	HIS
23	AY	92	ILE

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Mol	Chain	Res	Type
23	AY	93	GLU
23	AY	105	ILE
23	AY	112	GLN
23	AY	121	VAL
23	AY	126	GLU
23	AY	130	VAL
23	AY	132	ARG
23	AY	133	ILE
23	AY	139	MET
23	AY	140	ASP
23	AY	146	LEU
23	AY	165	GLN
23	AY	170	ARG
23	AY	174	PHE
23	AY	178	ILE
23	AY	186	TYR
23	AY	188	TYR
23	AY	191	ASP
23	AY	192	LEU
23	AY	197	ARG
23	AY	199	ILE
23	AY	201	ILE
23	AY	203	GLU
23	AY	210	ARG
23	AY	227	ILE
23	AY	229	LEU
23	AY	230	LYS
23	AY	240	GLU
23	AY	252	ASP
23	AY	255	ILE
23	AY	260	LEU
23	AY	264	LEU
23	AY	266	ASN
23	AY	271	LEU
23	AY	273	LEU
23	AY	282	SER
23	AY	299	VAL
23	AY	302	HIS
23	AY	312	LEU
23	AY	314	PHE
23	AY	319	ASP
23	AY	328	ILE

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Mol	Chain	Res	Type
23	AY	341	VAL
23	AY	342	TYR
23	AY	344	THR
23	AY	352	VAL
23	AY	364	GLU
23	AY	367	GLU
23	AY	393	ASP
23	AY	404	VAL
23	AY	406	GLU
23	AY	428	LEU
23	AY	430	ARG
23	AY	431	LEU
23	AY	440	VAL
23	AY	454	MET
23	AY	456	GLU
23	AY	460	GLU
23	AY	464	ASP
23	AY	468	ARG
23	AY	471	LYS
23	AY	475	ASN
23	AY	487	ILE
23	AY	488	THR
23	AY	498	ILE
23	AY	499	ARG
23	AY	506	GLN
23	AY	507	TYR
23	AY	512	ILE
23	AY	517	LEU
23	AY	525	PHE
23	AY	526	VAL
23	AY	529	ILE
23	AY	536	LYS
23	AY	555	LEU
23	AY	556	ILE
23	AY	563	ILE
23	AY	572	TYR
23	AY	574	GLU
23	AY	580	MET
23	AY	584	ILE
23	AY	598	ASP
23	AY	606	MET
23	AY	610	VAL

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Mol	Chain	Res	Type
23	AY	614	GLU
23	AY	615	GLU
23	AY	617	MET
23	AY	647	VAL
23	AY	666	ARG
23	AY	675	HIS
23	AY	683	VAL
25	BC	15	VAL
25	BC	19	LYS
25	BC	28	ARG
25	BC	31	LYS
25	BC	32	GLU
25	BC	41	THR
25	BC	42	VAL
25	BC	47	LYS
25	BC	48	LEU
25	BC	50	ILE
25	BC	53	ARG
25	BC	59	VAL
25	BC	60	ARG
25	BC	62	THR
25	BC	63	VAL
25	BC	64	SER
25	BC	73	VAL
25	BC	74	ARG
25	BC	82	GLU
25	BC	94	TYR
25	BC	95	VAL
25	BC	101	ILE
25	BC	102	GLN
25	BC	106	ASP
25	BC	112	ASP
25	BC	115	VAL
25	BC	119	ASP
25	BC	120	VAL
25	BC	130	ARG
25	BC	131	ILE
25	BC	145	THR
25	BC	148	PHE
25	BC	150	ILE
25	BC	161	ARG
25	BC	163	GLU

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Mol	Chain	Res	Type
25	BC	164	PHE
25	BC	166	ASN
25	BC	169	THR
25	BC	172	ILE
25	BC	176	VAL
25	BC	185	LYS
25	BC	198	GLU
25	BC	213	VAL
25	BC	215	VAL
26	BD	4	LYS
26	BD	5	LYS
26	BD	9	TYR
26	BD	10	THR
26	BD	12	SER
26	BD	20	ASP
26	BD	23	GLU
26	BD	25	THR
26	BD	26	LYS
26	BD	30	GLU
26	BD	33	LEU
26	BD	34	VAL
26	BD	40	THR
26	BD	51	VAL
26	BD	64	ILE
26	BD	65	ILE
26	BD	67	PHE
26	BD	78	LYS
26	BD	82	ILE
26	BD	87	ASN
26	BD	94	LEU
26	BD	95	LEU
26	BD	96	HIS
26	BD	97	TYR
26	BD	105	ILE
26	BD	106	ILE
26	BD	112	GLN
26	BD	113	VAL
26	BD	115	GLN
26	BD	117	VAL
26	BD	122	ASP
26	BD	131	LEU
26	BD	138	VAL

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Mol	Chain	Res	Type
26	BD	140	THR
26	BD	142	VAL
26	BD	145	VAL
26	BD	148	GLU
26	BD	150	LYS
26	BD	165	ILE
26	BD	169	GLU
26	BD	183	ARG
26	BD	190	TYR
26	BD	193	VAL
26	BD	203	ASN
26	BD	221	VAL
26	BD	233	HIS
26	BD	239	ARG
26	BD	250	TRP
26	BD	254	THR
26	BD	257	LEU
26	BD	259	THR
26	BD	263	ARG
26	BD	268	ARG
27	BE	4	ILE
27	BE	5	LEU
27	BE	26	ILE
27	BE	33	VAL
27	BE	34	VAL
27	BE	38	THR
27	BE	44	TYR
27	BE	49	LEU
27	BE	61	ARG
27	BE	63	LEU
27	BE	72	VAL
27	BE	78	LEU
27	BE	80	GLU
27	BE	85	ASN
27	BE	87	GLU
27	BE	101	ARG
27	BE	109	LYS
27	BE	119	ARG
27	BE	120	TRP
27	BE	121	ASN
27	BE	122	PHE
27	BE	134	ILE

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Mol	Chain	Res	Type
27	BE	145	LYS
27	BE	146	THR
27	BE	154	LYS
27	BE	165	VAL
27	BE	172	VAL
27	BE	175	VAL
27	BE	184	VAL
27	BE	196	VAL
27	BE	197	ILE
27	BE	200	GLU
28	BF	10	PRO
28	BF	12	LEU
28	BF	17	ARG
28	BF	18	ARG
28	BF	19	GLU
28	BF	24	LEU
28	BF	28	ILE
28	BF	33	LEU
28	BF	38	ARG
28	BF	40	GLN
28	BF	43	LYS
28	BF	45	ARG
28	BF	51	THR
28	BF	53	THR
28	BF	57	VAL
28	BF	62	ARG
28	BF	68	LYS
28	BF	72	ARG
28	BF	74	ARG
28	BF	78	ILE
28	BF	82	ILE
28	BF	90	PHE
28	BF	116	ASP
28	BF	124	LEU
28	BF	126	VAL
28	BF	136	THR
28	BF	149	ASP
28	BF	152	GLU
28	BF	154	VAL
28	BF	155	LEU
28	BF	170	LEU
28	BF	175	THR

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Mol	Chain	Res	Type
28	BF	183	VAL
28	BF	186	ILE
28	BF	190	GLU
28	BF	194	MET
29	BG	5	VAL
29	BG	15	VAL
29	BG	16	ARG
29	BG	33	ARG
29	BG	34	LEU
29	BG	38	VAL
29	BG	48	GLU
29	BG	54	GLU
29	BG	55	LYS
29	BG	59	GLU
29	BG	60	LEU
29	BG	63	ILE
29	BG	67	LYS
29	BG	86	MET
29	BG	92	VAL
29	BG	103	LEU
29	BG	107	LEU
29	BG	109	VAL
29	BG	113	ARG
29	BG	133	LEU
29	BG	139	LEU
29	BG	144	ILE
29	BG	155	MET
29	BG	161	THR
29	BG	167	GLU
30	BH	17	VAL
30	BH	34	GLU
30	BH	37	VAL
30	BH	43	VAL
30	BH	44	VAL
30	BH	65	HIS
30	BH	71	LEU
30	BH	85	LYS
30	BH	103	LEU
30	BH	106	THR
30	BH	114	VAL
30	BH	116	GLU
30	BH	121	ILE

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Mol	Chain	Res	Type
30	BH	124	GLU
30	BH	143	GLN
30	BH	157	TYR
30	BH	159	GLU
30	BH	169	VAL
30	BH	171	LEU
32	BK	2	LYS
32	BK	9	LYS
32	BK	34	ILE
32	BK	37	PHE
32	BK	41	PHE
32	BK	57	ILE
32	BK	59	ILE
32	BK	66	THR
32	BK	69	THR
32	BK	78	ILE
32	BK	105	LEU
32	BK	106	GLU
32	BK	117	THR
32	BK	119	ASP
32	BK	125	ARG
32	BK	132	ARG
32	BK	136	VAL
33	BN	1	MET
33	BN	7	LYS
33	BN	8	GLN
33	BN	16	ILE
33	BN	28	THR
33	BN	29	LYS
33	BN	32	THR
33	BN	39	ARG
33	BN	48	MET
33	BN	62	VAL
33	BN	63	THR
33	BN	71	ILE
33	BN	73	THR
33	BN	74	ARG
33	BN	84	LYS
33	BN	85	ILE
33	BN	87	LEU
33	BN	89	LYS
33	BN	90	MET

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Mol	Chain	Res	Type
33	BN	99	LEU
33	BN	109	LYS
33	BN	112	LEU
33	BN	114	ARG
33	BN	119	ARG
33	BN	137	LYS
33	BN	138	LEU
34	BO	3	GLN
34	BO	5	GLN
34	BO	8	LEU
34	BO	9	GLU
34	BO	14	THR
34	BO	17	ARG
34	BO	28	SER
34	BO	29	ASN
34	BO	34	THR
34	BO	38	VAL
34	BO	39	ILE
34	BO	52	VAL
34	BO	69	ILE
34	BO	82	ASN
34	BO	86	ILE
34	BO	89	ASN
34	BO	91	LEU
34	BO	98	VAL
34	BO	107	ARG
34	BO	108	GLU
34	BO	117	LEU
35	BP	5	ASP
35	BP	7	ARG
35	BP	16	ARG
35	BP	18	ARG
35	BP	27	HIS
35	BP	30	THR
35	BP	39	LYS
35	BP	42	SER
35	BP	46	LYS
35	BP	55	ARG
35	BP	60	MET
35	BP	61	ARG
35	BP	68	GLN
35	BP	85	LEU

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Mol	Chain	Res	Type
35	BP	87	ASP
35	BP	98	GLU
35	BP	100	LEU
35	BP	106	LEU
35	BP	107	LYS
35	BP	115	LEU
35	BP	125	VAL
35	BP	126	VAL
35	BP	131	SER
35	BP	135	LEU
35	BP	146	VAL
36	BQ	1	MET
36	BQ	3	MET
36	BQ	7	MET
36	BQ	8	LYS
36	BQ	10	ARG
36	BQ	17	LEU
36	BQ	25	ASP
36	BQ	42	ILE
36	BQ	43	THR
36	BQ	46	GLN
36	BQ	65	PHE
36	BQ	66	ILE
36	BQ	68	ILE
36	BQ	75	THR
36	BQ	79	LEU
36	BQ	80	GLU
36	BQ	90	VAL
36	BQ	91	GLU
36	BQ	93	TYR
36	BQ	96	VAL
36	BQ	105	GLU
36	BQ	109	VAL
36	BQ	116	GLU
36	BQ	127	ILE
36	BQ	128	LYS
36	BQ	131	ILE
36	BQ	137	TYR
36	BQ	141	GLN
37	BR	3	HIS
37	BR	4	LEU
37	BR	5	LYS

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Mol	Chain	Res	Type
37	BR	10	LEU
37	BR	23	ASN
37	BR	44	LEU
37	BR	45	ARG
37	BR	71	GLN
37	BR	79	LEU
37	BR	82	GLU
37	BR	99	LYS
37	BR	100	LEU
37	BR	113	LEU
37	BR	115	GLU
37	BR	117	VAL
38	BS	12	PHE
38	BS	13	ARG
38	BS	18	ILE
38	BS	19	LYS
38	BS	30	ARG
38	BS	47	THR
38	BS	54	LEU
38	BS	69	VAL
38	BS	98	VAL
38	BS	99	LYS
38	BS	101	LEU
38	BS	103	GLU
38	BS	106	ARG
38	BS	107	GLU
39	BT	3	ARG
39	BT	13	ARG
39	BT	15	VAL
39	BT	27	THR
39	BT	30	VAL
39	BT	33	LYS
39	BT	42	ILE
39	BT	48	ILE
39	BT	49	VAL
39	BT	58	ASN
39	BT	59	THR
39	BT	65	LYS
39	BT	70	VAL
39	BT	72	VAL
39	BT	73	GLU
39	BT	74	ARG

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Mol	Chain	Res	Type
39	BT	75	ILE
39	BT	78	LEU
39	BT	80	SER
39	BT	82	LEU
39	BT	83	ILE
39	BT	84	GLN
39	BT	85	LYS
39	BT	95	ARG
39	BT	101	PHE
39	BT	103	ARG
39	BT	115	ARG
39	BT	132	LYS
40	BU	14	HIS
40	BU	16	LYS
40	BU	17	ILE
40	BU	18	LEU
40	BU	20	LEU
40	BU	29	SER
40	BU	51	LYS
40	BU	52	ARG
40	BU	53	ARG
40	BU	54	LYS
40	BU	55	ARG
40	BU	60	LEU
40	BU	64	ARG
40	BU	74	LEU
40	BU	80	ILE
40	BU	90	VAL
40	BU	91	ASP
40	BU	98	LEU
40	BU	101	ARG
40	BU	104	GLN
40	BU	108	GLU
41	BV	1	MET
41	BV	5	VAL
41	BV	6	LYS
41	BV	15	GLU
41	BV	18	LEU
41	BV	19	LYS
41	BV	25	LEU
41	BV	33	VAL
41	BV	37	VAL

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Mol	Chain	Res	Type
41	BV	40	LEU
41	BV	47	VAL
41	BV	57	VAL
41	BV	61	VAL
41	BV	62	LEU
41	BV	70	ILE
41	BV	74	LYS
41	BV	75	PHE
41	BV	78	LYS
41	BV	83	ARG
41	BV	95	LEU
41	BV	96	ILE
41	BV	97	LYS
41	BV	98	GLU
41	BV	99	ILE
42	BW	8	ARG
42	BW	9	TYR
42	BW	15	ARG
42	BW	17	VAL
42	BW	19	LEU
42	BW	28	SER
42	BW	30	GLU
42	BW	39	THR
42	BW	51	LEU
42	BW	61	ASN
42	BW	66	GLU
42	BW	72	LYS
42	BW	75	TYR
42	BW	85	VAL
42	BW	88	ARG
42	BW	95	ILE
42	BW	105	VAL
42	BW	107	LEU
42	BW	109	GLU
42	BW	110	LYS
42	BW	113	LYS
43	BX	5	TYR
43	BX	35	THR
43	BX	54	VAL
43	BX	57	LEU
43	BX	58	HIS
43	BX	59	VAL

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Mol	Chain	Res	Type
43	BX	76	ARG
43	BX	80	ILE
44	BY	5	MET
44	BY	6	HIS
44	BY	8	LYS
44	BY	9	LYS
44	BY	13	VAL
44	BY	28	LYS
44	BY	31	LEU
44	BY	33	LYS
44	BY	39	VAL
44	BY	47	LYS
44	BY	49	VAL
44	BY	50	ARG
44	BY	72	VAL
44	BY	75	ILE
44	BY	85	VAL
44	BY	89	PHE
44	BY	90	LEU
45	BZ	5	LEU
45	BZ	8	TYR
45	BZ	9	TYR
45	BZ	11	GLU
45	BZ	29	TYR
45	BZ	42	VAL
45	BZ	43	GLU
45	BZ	46	LYS
45	BZ	56	VAL
45	BZ	57	ILE
45	BZ	59	LEU
45	BZ	71	VAL
45	BZ	81	ARG
45	BZ	86	VAL
45	BZ	119	GLU
45	BZ	120	ILE
45	BZ	123	ASP
45	BZ	124	ILE
45	BZ	127	LYS
45	BZ	128	VAL
45	BZ	136	PHE
45	BZ	145	GLU
45	BZ	154	ASP

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Mol	Chain	Res	Type
45	BZ	155	LEU
45	BZ	162	GLU
45	BZ	165	VAL
45	BZ	166	SER
45	BZ	174	VAL
45	BZ	181	GLU
45	BZ	186	GLU
46	B0	4	LYS
46	B0	10	THR
46	B0	27	GLU
46	B0	29	GLN
46	B0	31	VAL
46	B0	32	ARG
46	B0	36	ILE
46	B0	37	LEU
46	B0	43	THR
46	B0	67	VAL
46	B0	84	LEU
47	B2	8	LYS
47	B2	35	LEU
47	B2	41	ILE
47	B2	46	GLN
47	B2	47	ASN
47	B2	64	LEU
47	B2	65	ASN
48	B3	9	VAL
48	B3	17	LYS
48	B3	18	ASP
48	B3	28	LEU
48	B3	31	LEU
48	B3	37	LEU
48	B3	48	GLU
48	B3	52	HIS
48	B3	59	VAL
49	B5	3	LYS
49	B5	23	HIS
49	B5	25	LEU
49	B5	36	CYS
49	B5	46	CYS
49	B5	55	ARG
49	B5	57	VAL
49	B5	58	LEU

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Mol	Chain	Res	Type
50	B6	7	ILE
50	B6	9	LEU
50	B6	11	LEU
50	B6	13	CYS
50	B6	18	ARG
50	B6	27	LYS
50	B6	30	THR
50	B6	39	TYR
50	B6	47	THR
50	B6	48	VAL
50	B6	51	GLU
51	B7	1	MET
51	B7	15	THR
51	B7	24	THR
51	B7	40	TRP
51	B7	41	ARG
51	B7	47	ARG
52	B8	4	MET
52	B8	14	VAL
52	B8	15	LYS
52	B8	16	ILE
52	B8	30	ARG
52	B8	31	HIS
52	B8	32	LEU
52	B8	40	GLU
52	B8	42	ARG
52	B8	46	ARG
52	B8	49	VAL
52	B8	50	LEU
52	B8	53	PRO
52	B8	54	GLU
52	B8	59	LYS
52	B8	61	LEU
53	B9	2	LYS
53	B9	10	ILE
53	B9	17	ILE
53	B9	29	ASN
53	B9	32	HIS
54	Be	62	VAL
54	Be	78	LEU
54	Be	81	ILE
54	Be	86	LEU

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Mol	Chain	Res	Type
54	Be	94	GLU
54	Be	106	GLN
54	Be	118	VAL
57	B1	4	VAL
57	B1	5	CYS
57	B1	10	LYS
57	B1	11	ARG
57	B1	14	VAL
57	B1	18	ILE
57	B1	25	LYS
57	B1	27	GLU
57	B1	32	LYS
57	B1	37	ILE
57	B1	39	LYS
57	B1	41	ARG
57	B1	43	TYR
57	B1	46	LEU
57	B1	47	GLN
57	B1	50	ARG
57	B1	58	ILE
57	B1	61	ARG
57	B1	67	ILE
57	B1	69	LYS
57	B1	73	LEU
57	B1	88	LYS
58	B4	1	MET
58	B4	6	HIS
58	B4	8	LYS
58	B4	9	LEU
58	B4	10	VAL
58	B4	14	ILE
58	B4	23	GLU
58	B4	33	VAL
58	B4	34	GLU
1	CB	7	VAL
1	CB	8	LYS
1	CB	9	GLU
1	CB	12	GLU
1	CB	17	PHE
1	CB	21	ARG
1	CB	36	ARG
1	CB	42	ILE

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Mol	Chain	Res	Type
1	CB	49	GLU
1	CB	56	ARG
1	CB	68	ILE
1	CB	69	LEU
1	CB	74	LYS
1	CB	76	GLN
1	CB	96	ARG
1	CB	103	THR
1	CB	106	LYS
1	CB	108	ILE
1	CB	134	GLU
1	CB	141	GLU
1	CB	142	LEU
1	CB	145	LEU
1	CB	146	GLN
1	CB	155	LEU
1	CB	158	LEU
1	CB	163	PHE
1	CB	164	VAL
1	CB	165	VAL
1	CB	168	THR
1	CB	172	ILE
1	CB	174	VAL
1	CB	175	ARG
1	CB	180	LEU
1	CB	185	ILE
1	CB	187	LEU
1	CB	190	THR
1	CB	210	SER
1	CB	213	LEU
1	CB	220	ASP
1	CB	226	ARG
1	CB	230	VAL
1	CB	239	VAL
2	CC	4	LYS
2	CC	5	ILE
2	CC	15	THR
2	CC	33	LEU
2	CC	40	ARG
2	CC	52	LEU
2	CC	55	VAL
2	CC	59	ARG

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Mol	Chain	Res	Type
2	CC	67	THR
2	CC	70	VAL
2	CC	75	VAL
2	CC	84	ILE
2	CC	85	ARG
2	CC	101	LEU
2	CC	110	ASN
2	CC	124	ILE
2	CC	128	PHE
2	CC	132	ARG
2	CC	134	ILE
2	CC	152	ILE
2	CC	157	ILE
2	CC	176	HIS
2	CC	178	LEU
2	CC	201	TYR
2	CC	204	LEU
2	CC	206	GLU
2	CC	208	ILE
3	CD	3	ARG
3	CD	5	ILE
3	CD	8	VAL
3	CD	9	CYS
3	CD	12	CYS
3	CD	19	LEU
3	CD	30	LYS
3	CD	53	ASP
3	CD	54	TYR
3	CD	65	ARG
3	CD	67	ILE
3	CD	72	GLU
3	CD	86	LYS
3	CD	92	VAL
3	CD	101	LEU
3	CD	127	THR
3	CD	131	ARG
3	CD	134	ASP
3	CD	135	LEU
3	CD	140	VAL
3	CD	141	ARG
3	CD	148	VAL
3	CD	150	GLU

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Mol	Chain	Res	Type
3	CD	157	LEU
3	CD	165	MET
3	CD	170	VAL
3	CD	177	ASP
3	CD	196	LEU
3	CD	198	VAL
4	CE	10	MET
4	CE	11	ILE
4	CE	12	LEU
4	CE	31	LEU
4	CE	41	VAL
4	CE	45	PHE
4	CE	51	VAL
4	CE	57	LYS
4	CE	64	ARG
4	CE	72	GLN
4	CE	75	THR
4	CE	78	HIS
4	CE	107	ARG
4	CE	120	THR
4	CE	126	ARG
4	CE	137	GLU
4	CE	139	LEU
4	CE	141	GLN
4	CE	144	THR
4	CE	147	ASP
5	CF	2	ARG
5	CF	14	LEU
5	CF	22	GLU
5	CF	37	VAL
5	CF	40	VAL
5	CF	55	ASP
5	CF	57	GLN
5	CF	65	VAL
5	CF	67	MET
5	CF	69	GLU
5	CF	72	VAL
5	CF	80	ARG
5	CF	89	MET
6	CG	20	ASP
6	CG	35	LYS
6	CG	68	ASN

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Mol	Chain	Res	Type
6	CG	76	ARG
6	CG	80	VAL
6	CG	89	MET
6	CG	94	ARG
6	CG	104	LEU
6	CG	149	ARG
7	CH	39	LEU
7	CH	49	GLU
7	CH	63	LEU
7	CH	69	ARG
7	CH	73	ASP
7	CH	83	ILE
7	CH	107	LEU
7	CH	111	ILE
7	CH	112	LEU
7	CH	120	THR
7	CH	138	TRP
8	CI	32	ASP
8	CI	33	PHE
8	CI	34	ASN
8	CI	40	LEU
8	CI	77	ILE
8	CI	79	LEU
8	CI	85	LEU
8	CI	88	TYR
8	CI	89	ASN
8	CI	91	ASP
8	CI	95	LYS
8	CI	99	LEU
8	CI	104	ARG
8	CI	125	TYR
9	CJ	3	LYS
9	CJ	8	LEU
9	CJ	11	PHE
9	CJ	16	LEU
9	CJ	35	SER
9	CJ	38	ILE
9	CJ	46	ARG
9	CJ	48	THR
9	CJ	50	ILE
9	CJ	65	LEU
9	CJ	74	ILE

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Mol	Chain	Res	Type
9	CJ	75	ILE
9	CJ	78	ASN
9	CJ	79	ARG
9	CJ	81	THR
9	CJ	89	ASP
9	CJ	96	ILE
10	CK	14	VAL
10	CK	29	ILE
10	CK	31	THR
10	CK	33	THR
10	CK	48	ILE
10	CK	57	THR
10	CK	66	LEU
10	CK	67	ASP
10	CK	75	TYR
10	CK	80	VAL
10	CK	84	VAL
10	CK	105	VAL
10	CK	107	SER
10	CK	114	VAL
10	CK	117	ASN
10	CK	122	LYS
10	CK	124	LYS
10	CK	126	ARG
11	CL	9	GLN
11	CL	10	LEU
11	CL	18	VAL
11	CL	24	VAL
11	CL	33	ARG
11	CL	38	THR
11	CL	42	THR
11	CL	43	VAL
11	CL	46	LYS
11	CL	49	ASN
11	CL	52	LEU
11	CL	53	ARG
11	CL	54	LYS
11	CL	55	VAL
11	CL	59	ARG
11	CL	67	THR
11	CL	70	ILE
11	CL	77	LEU

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Mol	Chain	Res	Type
11	CL	79	GLU
11	CL	84	LEU
11	CL	85	ILE
11	CL	92	ASP
11	CL	96	VAL
11	CL	98	TYR
11	CL	104	VAL
11	CL	105	TYR
11	CL	119	LYS
11	CL	127	GLU
12	CM	7	VAL
12	CM	8	GLU
12	CM	17	VAL
12	CM	21	TYR
12	CM	27	LYS
12	CM	48	LEU
12	CM	56	LEU
12	CM	61	GLU
12	CM	65	LYS
12	CM	69	GLU
12	CM	82	MET
12	CM	86	CYS
12	CM	108	ARG
12	CM	110	ARG
12	CM	115	LYS
12	CM	121	LYS
13	CN	18	VAL
13	CN	21	TYR
13	CN	35	ARG
13	CN	40	CYS
13	CN	61	TRP
14	CO	5	LYS
14	CO	6	GLU
14	CO	12	ILE
14	CO	15	PHE
14	CO	26	GLU
14	CO	31	LEU
14	CO	36	ILE
14	CO	38	ARG
14	CO	41	GLU
14	CO	42	HIS
14	CO	83	GLU

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Mol	Chain	Res	Type
14	CO	87	ILE
15	CP	2	VAL
15	CP	14	ASN
15	CP	20	VAL
15	CP	36	ILE
15	CP	54	GLU
15	CP	58	TYR
15	CP	67	THR
15	CP	69	THR
15	CP	71	ARG
16	CQ	6	LEU
16	CQ	10	VAL
16	CQ	16	GLN
16	CQ	19	VAL
16	CQ	23	VAL
16	CQ	24	GLU
16	CQ	48	GLU
16	CQ	49	GLU
16	CQ	52	LYS
16	CQ	59	ILE
16	CQ	63	ARG
16	CQ	68	ARG
16	CQ	69	LYS
16	CQ	70	ARG
16	CQ	74	LEU
16	CQ	75	ARG
16	CQ	76	LEU
16	CQ	89	LEU
16	CQ	93	GLN
17	CR	37	VAL
17	CR	43	PHE
17	CR	51	LEU
17	CR	53	ARG
17	CR	79	LEU
17	CR	83	GLU
17	CR	85	LEU
18	CS	5	LEU
18	CS	6	LYS
18	CS	11	VAL
18	CS	14	HIS
18	CS	19	VAL
18	CS	30	LEU

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Mol	Chain	Res	Type
18	CS	31	ILE
18	CS	38	SER
18	CS	39	THR
18	CS	58	VAL
18	CS	60	VAL
18	CS	61	TYR
18	CS	62	ILE
18	CS	66	MET
18	CS	79	THR
19	CT	13	LEU
19	CT	23	ARG
19	CT	41	ILE
19	CT	50	GLU
19	CT	54	LYS
19	CT	57	ARG
19	CT	64	ASP
19	CT	80	ARG
23	CY	8	ASP
23	CY	14	ASN
23	CY	15	ILE
23	CY	20	HIS
23	CY	22	ASP
23	CY	25	LYS
23	CY	30	GLU
23	CY	33	LEU
23	CY	35	TYR
23	CY	36	THR
23	CY	69	VAL
23	CY	72	CYS
23	CY	80	ASN
23	CY	84	THR
23	CY	87	HIS
23	CY	92	ILE
23	CY	93	GLU
23	CY	117	GLN
23	CY	119	GLU
23	CY	126	GLU
23	CY	132	ARG
23	CY	133	ILE
23	CY	137	ASN
23	CY	139	MET
23	CY	140	ASP

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Mol	Chain	Res	Type
23	CY	146	LEU
23	CY	147	TRP
23	CY	153	MET
23	CY	157	LEU
23	CY	164	MET
23	CY	170	ARG
23	CY	171	GLU
23	CY	172	ASP
23	CY	175	SER
23	CY	177	ILE
23	CY	178	ILE
23	CY	187	THR
23	CY	192	LEU
23	CY	197	ARG
23	CY	199	ILE
23	CY	211	GLU
23	CY	224	ASP
23	CY	225	GLU
23	CY	226	ASN
23	CY	227	ILE
23	CY	228	MET
23	CY	229	LEU
23	CY	230	LYS
23	CY	235	GLU
23	CY	240	GLU
23	CY	260	LEU
23	CY	269	VAL
23	CY	270	GLN
23	CY	273	LEU
23	CY	299	VAL
23	CY	300	GLU
23	CY	301	ILE
23	CY	302	HIS
23	CY	314	PHE
23	CY	316	ILE
23	CY	328	ILE
23	CY	336	THR
23	CY	341	VAL
23	CY	352	VAL
23	CY	355	LEU
23	CY	357	ARG
23	CY	364	GLU

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Mol	Chain	Res	Type
23	CY	366	VAL
23	CY	367	GLU
23	CY	382	GLU
23	CY	384	ILE
23	CY	390	VAL
23	CY	393	ASP
23	CY	397	VAL
23	CY	406	GLU
23	CY	420	ASP
23	CY	422	GLU
23	CY	428	LEU
23	CY	431	LEU
23	CY	440	VAL
23	CY	454	MET
23	CY	456	GLU
23	CY	464	ASP
23	CY	471	LYS
23	CY	487	ILE
23	CY	488	THR
23	CY	498	ILE
23	CY	504	ARG
23	CY	506	GLN
23	CY	512	ILE
23	CY	514	VAL
23	CY	529	ILE
23	CY	536	LYS
23	CY	555	LEU
23	CY	556	ILE
23	CY	563	ILE
23	CY	572	TYR
23	CY	584	ILE
23	CY	598	ASP
23	CY	600	VAL
23	CY	603	GLU
23	CY	606	MET
23	CY	607	ARG
23	CY	610	VAL
23	CY	614	GLU
23	CY	615	GLU
23	CY	617	MET
23	CY	635	GLU
23	CY	647	VAL

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Mol	Chain	Res	Type
23	CY	649	LEU
23	CY	658	ASP
23	CY	659	LEU
23	CY	676	TYR
23	CY	685	GLU
25	DC	9	ARG
25	DC	15	VAL
25	DC	19	LYS
25	DC	20	VAL
25	DC	24	ASP
25	DC	28	ARG
25	DC	32	GLU
25	DC	37	LYS
25	DC	39	ASP
25	DC	41	THR
25	DC	42	VAL
25	DC	47	LYS
25	DC	48	LEU
25	DC	50	ILE
25	DC	60	ARG
25	DC	73	VAL
25	DC	74	ARG
25	DC	94	TYR
25	DC	95	VAL
25	DC	102	GLN
25	DC	104	ILE
25	DC	106	ASP
25	DC	114	VAL
25	DC	115	VAL
25	DC	119	ASP
25	DC	131	ILE
25	DC	138	LEU
25	DC	145	THR
25	DC	153	ILE
25	DC	161	ARG
25	DC	164	PHE
25	DC	166	ASN
25	DC	169	THR
25	DC	172	ILE
25	DC	176	VAL
25	DC	185	LYS
25	DC	189	ASN

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Mol	Chain	Res	Type
25	DC	198	GLU
25	DC	201	LYS
25	DC	211	ARG
25	DC	213	VAL
25	DC	215	VAL
25	DC	216	THR
25	DC	224	ARG
26	DD	4	LYS
26	DD	5	LYS
26	DD	9	TYR
26	DD	13	ARG
26	DD	23	GLU
26	DD	25	THR
26	DD	26	LYS
26	DD	30	GLU
26	DD	33	LEU
26	DD	34	VAL
26	DD	36	PRO
26	DD	40	THR
26	DD	43	ARG
26	DD	44	ASN
26	DD	51	VAL
26	DD	63	ARG
26	DD	64	ILE
26	DD	65	ILE
26	DD	69	ARG
26	DD	71	ASP
26	DD	78	LYS
26	DD	82	ILE
26	DD	87	ASN
26	DD	95	LEU
26	DD	98	VAL
26	DD	101	GLU
26	DD	105	ILE
26	DD	106	ILE
26	DD	113	VAL
26	DD	116	GLN
26	DD	117	VAL
26	DD	136	ILE
26	DD	140	THR
26	DD	142	VAL
26	DD	147	LEU

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Mol	Chain	Res	Type
26	DD	148	GLU
26	DD	150	LYS
26	DD	161	THR
26	DD	164	GLN
26	DD	165	ILE
26	DD	171	ASP
26	DD	173	VAL
26	DD	175	LEU
26	DD	190	TYR
26	DD	212	SER
26	DD	226	MET
26	DD	233	HIS
26	DD	254	THR
26	DD	257	LEU
26	DD	259	THR
27	DE	4	ILE
27	DE	21	VAL
27	DE	24	THR
27	DE	27	LEU
27	DE	33	VAL
27	DE	34	VAL
27	DE	36	ARG
27	DE	38	THR
27	DE	45	THR
27	DE	47	VAL
27	DE	48	GLN
27	DE	49	LEU
27	DE	63	LEU
27	DE	73	GLU
27	DE	78	LEU
27	DE	87	GLU
27	DE	91	VAL
27	DE	109	LYS
27	DE	119	ARG
27	DE	120	TRP
27	DE	127	ASP
27	DE	132	HIS
27	DE	133	LYS
27	DE	134	ILE
27	DE	143	ASN
27	DE	144	ARG
27	DE	154	LYS

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Mol	Chain	Res	Type
27	DE	175	VAL
27	DE	184	VAL
27	DE	196	VAL
27	DE	197	ILE
27	DE	200	GLU
27	DE	202	LYS
28	DF	6	VAL
28	DF	8	GLN
28	DF	9	ILE
28	DF	12	LEU
28	DF	18	ARG
28	DF	19	GLU
28	DF	28	ILE
28	DF	33	LEU
28	DF	35	GLU
28	DF	40	GLN
28	DF	45	ARG
28	DF	46	ARG
28	DF	52	LYS
28	DF	53	THR
28	DF	68	LYS
28	DF	72	ARG
28	DF	74	ARG
28	DF	75	HIS
28	DF	78	ILE
28	DF	82	ILE
28	DF	90	PHE
28	DF	106	ARG
28	DF	124	LEU
28	DF	125	LEU
28	DF	136	THR
28	DF	149	ASP
28	DF	154	VAL
28	DF	175	THR
28	DF	179	GLU
28	DF	186	ILE
29	DG	5	VAL
29	DG	11	TYR
29	DG	15	VAL
29	DG	27	ASN
29	DG	31	VAL
29	DG	33	ARG

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Mol	Chain	Res	Type
29	DG	34	LEU
29	DG	35	GLU
29	DG	45	GLU
29	DG	48	GLU
29	DG	53	LEU
29	DG	54	GLU
29	DG	55	LYS
29	DG	63	ILE
29	DG	67	LYS
29	DG	72	ARG
29	DG	80	PHE
29	DG	86	MET
29	DG	88	ILE
29	DG	92	VAL
29	DG	98	ARG
29	DG	99	MET
29	DG	103	LEU
29	DG	109	VAL
29	DG	113	ARG
29	DG	120	LEU
29	DG	121	ASN
29	DG	143	GLU
29	DG	144	ILE
29	DG	152	LEU
29	DG	153	ARG
29	DG	168	GLU
30	DH	18	GLU
30	DH	34	GLU
30	DH	37	VAL
30	DH	43	VAL
30	DH	52	VAL
30	DH	71	LEU
30	DH	87	LEU
30	DH	103	LEU
30	DH	115	VAL
30	DH	121	ILE
30	DH	122	THR
30	DH	131	VAL
30	DH	144	VAL
30	DH	158	HIS
30	DH	169	VAL
30	DH	171	LEU

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Mol	Chain	Res	Type
32	DK	2	LYS
32	DK	11	GLN
32	DK	34	ILE
32	DK	37	PHE
32	DK	41	PHE
32	DK	42	ASN
32	DK	57	ILE
32	DK	59	ILE
32	DK	65	PHE
32	DK	66	THR
32	DK	78	ILE
32	DK	90	LYS
32	DK	114	ASP
32	DK	117	THR
32	DK	120	LEU
32	DK	132	ARG
33	DN	1	MET
33	DN	5	VAL
33	DN	7	LYS
33	DN	9	VAL
33	DN	14	VAL
33	DN	16	ILE
33	DN	30	ILE
33	DN	32	THR
33	DN	33	LEU
33	DN	35	ARG
33	DN	48	MET
33	DN	58	ASP
33	DN	63	THR
33	DN	69	GLN
33	DN	71	ILE
33	DN	74	ARG
33	DN	76	SER
33	DN	85	ILE
33	DN	87	LEU
33	DN	88	GLU
33	DN	89	LYS
33	DN	90	MET
33	DN	99	LEU
33	DN	112	LEU
33	DN	114	ARG
33	DN	119	ARG

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Mol	Chain	Res	Type
33	DN	127	ASP
33	DN	130	HIS
33	DN	137	LYS
34	DO	8	LEU
34	DO	9	GLU
34	DO	17	ARG
34	DO	24	VAL
34	DO	28	SER
34	DO	31	LYS
34	DO	34	THR
34	DO	38	VAL
34	DO	39	ILE
34	DO	47	ILE
34	DO	52	VAL
34	DO	82	ASN
34	DO	87	ILE
34	DO	91	LEU
34	DO	92	GLU
34	DO	98	VAL
34	DO	108	GLU
34	DO	114	ILE
35	DP	14	LYS
35	DP	18	ARG
35	DP	32	THR
35	DP	39	LYS
35	DP	41	ARG
35	DP	42	SER
35	DP	55	ARG
35	DP	60	MET
35	DP	61	ARG
35	DP	62	LEU
35	DP	84	ASN
35	DP	85	LEU
35	DP	100	LEU
35	DP	106	LEU
35	DP	107	LYS
35	DP	112	LEU
35	DP	115	LEU
35	DP	123	LEU
35	DP	125	VAL
35	DP	135	LEU
36	DQ	1	MET

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Mol	Chain	Res	Type
36	DQ	2	LEU
36	DQ	3	MET
36	DQ	6	ARG
36	DQ	7	MET
36	DQ	10	ARG
36	DQ	12	GLN
36	DQ	27	VAL
36	DQ	35	VAL
36	DQ	42	ILE
36	DQ	43	THR
36	DQ	46	GLN
36	DQ	66	ILE
36	DQ	68	ILE
36	DQ	76	LYS
36	DQ	77	LYS
36	DQ	79	LEU
36	DQ	90	VAL
36	DQ	91	GLU
36	DQ	93	TYR
36	DQ	96	VAL
36	DQ	125	LEU
36	DQ	128	LYS
36	DQ	135	ASP
36	DQ	137	TYR
37	DR	3	HIS
37	DR	4	LEU
37	DR	6	SER
37	DR	14	SER
37	DR	29	LEU
37	DR	36	THR
37	DR	43	GLU
37	DR	44	LEU
37	DR	45	ARG
37	DR	56	LYS
37	DR	65	LEU
37	DR	67	LEU
37	DR	72	ASP
37	DR	79	LEU
37	DR	88	ARG
37	DR	99	LYS
37	DR	100	LEU
37	DR	102	GLU

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Mol	Chain	Res	Type
37	DR	115	GLU
38	DS	12	PHE
38	DS	13	ARG
38	DS	18	ILE
38	DS	24	LEU
38	DS	42	ASP
38	DS	47	THR
38	DS	49	VAL
38	DS	52	SER
38	DS	54	LEU
38	DS	63	THR
38	DS	69	VAL
38	DS	84	GLN
38	DS	87	PHE
38	DS	88	ASP
38	DS	98	VAL
38	DS	99	LYS
38	DS	101	LEU
38	DS	103	GLU
38	DS	106	ARG
39	DT	1	MET
39	DT	3	ARG
39	DT	11	GLU
39	DT	13	ARG
39	DT	27	THR
39	DT	29	ARG
39	DT	30	VAL
39	DT	33	LYS
39	DT	42	ILE
39	DT	48	ILE
39	DT	50	ILE
39	DT	53	ARG
39	DT	58	ASN
39	DT	59	THR
39	DT	65	LYS
39	DT	70	VAL
39	DT	72	VAL
39	DT	73	GLU
39	DT	74	ARG
39	DT	82	LEU
39	DT	83	ILE
39	DT	84	GLN

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Mol	Chain	Res	Type
39	DT	85	LYS
39	DT	90	GLN
39	DT	95	ARG
39	DT	99	LEU
39	DT	102	ILE
39	DT	115	ARG
40	DU	8	VAL
40	DU	11	ARG
40	DU	14	HIS
40	DU	16	LYS
40	DU	18	LEU
40	DU	20	LEU
40	DU	28	ARG
40	DU	38	THR
40	DU	39	LEU
40	DU	51	LYS
40	DU	52	ARG
40	DU	54	LYS
40	DU	55	ARG
40	DU	60	LEU
40	DU	64	ARG
40	DU	65	ILE
40	DU	74	LEU
40	DU	76	TYR
40	DU	90	VAL
40	DU	95	LEU
40	DU	101	ARG
40	DU	104	GLN
40	DU	114	LYS
41	DV	1	MET
41	DV	2	PHE
41	DV	7	THR
41	DV	11	GLN
41	DV	14	VAL
41	DV	19	LYS
41	DV	20	LEU
41	DV	21	ARG
41	DV	24	LYS
41	DV	33	VAL
41	DV	37	VAL
41	DV	39	LEU
41	DV	40	LEU

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Mol	Chain	Res	Type
41	DV	49	THR
41	DV	57	VAL
41	DV	61	VAL
41	DV	62	LEU
41	DV	70	ILE
41	DV	74	LYS
41	DV	78	LYS
41	DV	80	GLN
41	DV	92	THR
41	DV	97	LYS
41	DV	98	GLU
41	DV	99	ILE
42	DW	11	ARG
42	DW	15	ARG
42	DW	17	VAL
42	DW	19	LEU
42	DW	30	GLU
42	DW	34	ASN
42	DW	37	ARG
42	DW	51	LEU
42	DW	66	GLU
42	DW	76	VAL
42	DW	88	ARG
42	DW	95	ILE
42	DW	96	ILE
42	DW	100	THR
42	DW	103	ILE
42	DW	105	VAL
42	DW	107	LEU
42	DW	109	GLU
42	DW	113	LYS
43	DX	8	ILE
43	DX	9	LEU
43	DX	27	THR
43	DX	45	THR
43	DX	53	LYS
43	DX	54	VAL
43	DX	57	LEU
43	DX	59	VAL
43	DX	63	LYS
43	DX	68	ARG
43	DX	76	ARG

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Mol	Chain	Res	Type
43	DX	78	LYS
43	DX	80	ILE
43	DX	87	GLN
43	DX	93	GLU
44	DY	7	VAL
44	DY	9	LYS
44	DY	13	VAL
44	DY	28	LYS
44	DY	31	LEU
44	DY	35	TYR
44	DY	39	VAL
44	DY	45	VAL
44	DY	47	LYS
44	DY	50	ARG
44	DY	75	ILE
44	DY	76	CYS
44	DY	84	ARG
44	DY	85	VAL
44	DY	89	PHE
44	DY	90	LEU
44	DY	97	ARG
45	DZ	11	GLU
45	DZ	29	TYR
45	DZ	32	HIS
45	DZ	42	VAL
45	DZ	52	SER
45	DZ	59	LEU
45	DZ	66	SER
45	DZ	71	VAL
45	DZ	81	ARG
45	DZ	86	VAL
45	DZ	87	ASP
45	DZ	96	VAL
45	DZ	98	MET
45	DZ	119	GLU
45	DZ	123	ASP
45	DZ	124	ILE
45	DZ	126	VAL
45	DZ	127	LYS
45	DZ	133	ILE
45	DZ	150	LEU
45	DZ	162	GLU

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Mol	Chain	Res	Type
45	DZ	165	VAL
45	DZ	175	VAL
45	DZ	185	GLU
46	D0	10	THR
46	D0	27	GLU
46	D0	29	GLN
46	D0	31	VAL
46	D0	32	ARG
46	D0	36	ILE
46	D0	37	LEU
46	D0	41	ARG
46	D0	51	VAL
46	D0	67	VAL
46	D0	75	LEU
46	D0	84	LEU
47	D2	8	LYS
47	D2	35	LEU
47	D2	37	PHE
47	D2	40	SER
47	D2	64	LEU
47	D2	66	GLU
47	D2	70	GLN
48	D3	11	SER
48	D3	17	LYS
48	D3	24	LYS
48	D3	31	LEU
48	D3	37	LEU
48	D3	54	VAL
48	D3	59	VAL
49	D5	3	LYS
49	D5	13	LYS
49	D5	23	HIS
49	D5	25	LEU
49	D5	26	THR
49	D5	29	THR
49	D5	30	LEU
49	D5	44	THR
49	D5	51	TYR
49	D5	55	ARG
49	D5	57	VAL
49	D5	58	LEU
50	D6	9	LEU

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Mol	Chain	Res	Type
50	D6	10	LEU
50	D6	11	LEU
50	D6	18	ARG
50	D6	27	LYS
50	D6	30	THR
50	D6	39	TYR
50	D6	42	TRP
50	D6	43	CYS
50	D6	48	VAL
51	D7	1	MET
51	D7	40	TRP
51	D7	41	ARG
51	D7	42	LEU
52	D8	4	MET
52	D8	6	THR
52	D8	16	ILE
52	D8	17	THR
52	D8	25	MET
52	D8	30	ARG
52	D8	31	HIS
52	D8	34	TRP
52	D8	36	LYS
52	D8	42	ARG
52	D8	49	VAL
52	D8	50	LEU
52	D8	54	GLU
52	D8	56	GLU
52	D8	59	LYS
52	D8	61	LEU
53	D9	22	ARG
53	D9	28	GLU
54	De	62	VAL
54	De	73	GLU
54	De	75	ILE
54	De	78	LEU
54	De	81	ILE
54	De	86	LEU
54	De	94	GLU
54	De	101	GLU
54	De	103	VAL
54	De	118	VAL
57	D1	3	LYS

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Mol	Chain	Res	Type
57	D1	5	CYS
57	D1	20	ARG
57	D1	32	LYS
57	D1	34	THR
57	D1	37	ILE
57	D1	41	ARG
57	D1	43	TYR
57	D1	46	LEU
57	D1	50	ARG
57	D1	51	VAL
57	D1	56	GLN
57	D1	58	ILE
57	D1	60	PHE
57	D1	61	ARG
57	D1	62	VAL
57	D1	67	ILE
57	D1	81	LYS
57	D1	82	LEU
57	D1	94	LEU
58	D4	9	LEU
58	D4	10	VAL
58	D4	30	GLU
58	D4	31	ILE
58	D4	35	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (150) such sidechains are listed below:

Mol	Chain	Res	Type
1	AB	16	HIS
1	AB	25	ASN
1	AB	135	GLN
1	AB	212	GLN
2	AC	69	HIS
2	AC	102	ASN
3	AD	77	ASN
4	AE	127	ASN
5	AF	100	ASN
6	AG	96	GLN
6	AG	97	GLN
6	AG	153	HIS
8	AI	38	GLN
8	AI	117	HIS

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Mol	Chain	Res	Type
10	AK	26	ASN
10	AK	62	GLN
10	AK	93	GLN
10	AK	116	HIS
11	AL	49	ASN
11	AL	76	ASN
12	AM	106	ASN
14	AO	62	GLN
15	AP	16	HIS
15	AP	65	GLN
16	AQ	26	GLN
17	AR	63	GLN
18	AS	23	ASN
19	AT	45	GLN
23	AY	20	HIS
23	AY	87	HIS
23	AY	117	GLN
23	AY	137	ASN
23	AY	190	ASN
23	AY	306	ASN
23	AY	625	ASN
23	AY	684	GLN
25	BC	102	GLN
26	BD	115	GLN
27	BE	132	HIS
27	BE	135	HIS
28	BF	8	GLN
28	BF	40	GLN
28	BF	204	ASN
29	BG	40	ASN
29	BG	58	GLN
30	BH	111	HIS
33	BN	69	GLN
33	BN	133	GLN
34	BO	82	ASN
35	BP	38	GLN
35	BP	128	HIS
36	BQ	13	GLN
36	BQ	46	GLN
37	BR	11	ASN
38	BS	16	ASN
39	BT	84	GLN

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Mol	Chain	Res	Type
40	BU	71	GLN
42	BW	57	ASN
42	BW	111	HIS
44	BY	92	ASN
45	BZ	55	HIS
46	B0	17	GLN
46	B0	70	GLN
47	B2	9	GLN
47	B2	46	GLN
47	B2	65	ASN
50	B6	20	ASN
57	B1	45	ASN
1	CB	25	ASN
1	CB	94	ASN
1	CB	240	GLN
2	CC	139	GLN
2	CC	170	GLN
3	CD	77	ASN
3	CD	119	GLN
3	CD	123	HIS
5	CF	32	ASN
5	CF	94	GLN
6	CG	51	GLN
6	CG	68	ASN
7	CH	15	ASN
8	CI	58	HIS
10	CK	26	ASN
10	CK	38	ASN
10	CK	62	GLN
10	CK	93	GLN
10	CK	116	HIS
11	CL	8	ASN
11	CL	9	GLN
11	CL	75	HIS
12	CM	62	ASN
13	CN	52	GLN
15	CP	76	GLN
16	CQ	16	GLN
17	CR	36	ASN
18	CS	14	HIS
23	CY	14	ASN
23	CY	80	ASN

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Mol	Chain	Res	Type
23	CY	137	ASN
23	CY	154	GLN
23	CY	165	GLN
23	CY	190	ASN
23	CY	421	GLN
23	CY	500	GLN
23	CY	595	GLN
25	DC	57	GLN
26	DD	115	GLN
26	DD	198	ASN
27	DE	35	GLN
27	DE	48	GLN
28	DF	40	GLN
28	DF	67	GLN
28	DF	133	ASN
28	DF	203	GLN
29	DG	40	ASN
29	DG	41	GLN
29	DG	108	ASN
29	DG	121	ASN
29	DG	123	ASN
30	DH	147	ASN
32	DK	29	GLN
32	DK	33	ASN
32	DK	116	ASN
33	DN	131	GLN
34	DO	82	ASN
35	DP	9	ASN
35	DP	13	ASN
36	DQ	45	GLN
36	DQ	89	ASN
38	DS	84	GLN
39	DT	104	ASN
39	DT	136	GLN
40	DU	49	HIS
40	DU	71	GLN
42	DW	57	ASN
43	DX	58	HIS
43	DX	87	GLN
45	DZ	30	ASN
46	D0	3	HIS
46	D0	12	ASN

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Mol	Chain	Res	Type
46	D0	35	ASN
46	D0	70	GLN
47	D2	9	GLN
47	D2	48	HIS
48	D3	33	GLN
49	D5	22	HIS
50	D6	29	ASN
51	D7	6	GLN
51	D7	8	ASN
58	D4	20	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
20	AA	1510/1511 (99%)	305 (20%)	17 (1%)
20	CA	1510/1511 (99%)	285 (18%)	16 (1%)
21	AW	76/77 (98%)	23 (30%)	1 (1%)
21	CW	76/77 (98%)	22 (28%)	1 (1%)
22	AV	22/23 (95%)	8 (36%)	1 (4%)
22	CV	22/23 (95%)	8 (36%)	2 (9%)
59	BA	2878/2879 (99%)	666 (23%)	27 (0%)
59	DA	2878/2879 (99%)	666 (23%)	21 (0%)
60	BB	118/119 (99%)	21 (17%)	1 (0%)
60	DB	118/119 (99%)	17 (14%)	1 (0%)
All	All	9208/9218 (99%)	2021 (21%)	88 (0%)

All (2021) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
20	AA	6	G
20	AA	9	G
20	AA	13	U
20	AA	15	G
20	AA	29	G
20	AA	32	A
20	AA	39	G
20	AA	47	C
20	AA	48	C
20	AA	50	A
20	AA	51	A
20	AA	68(H)	G

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Mol	Chain	Res	Type
20	AA	68(L)	U
20	AA	68(M)	U
20	AA	68(P)	C
20	AA	68(W)	G
20	AA	106	C
20	AA	108	G
20	AA	109	A
20	AA	116	A
20	AA	121	C
20	AA	122	G
20	AA	129(A)	G
20	AA	131	C
20	AA	144	G
20	AA	152	A
20	AA	163	C
20	AA	175	C
20	AA	179	A
20	AA	186(G)	C
20	AA	186(I)	U
20	AA	186(L)	G
20	AA	195	A
20	AA	197	A
20	AA	201(C)	U
20	AA	216	G
20	AA	220	G
20	AA	231	G
20	AA	244	U
20	AA	245	C
20	AA	247	G
20	AA	251	G
20	AA	253	U
20	AA	264	U
20	AA	267	C
20	AA	273	A
20	AA	279	A
20	AA	280	C
20	AA	281	G
20	AA	289	G
20	AA	306	G
20	AA	309	G
20	AA	316	G
20	AA	321	A

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Mol	Chain	Res	Type
20	AA	328	C
20	AA	329	A
20	AA	332	G
20	AA	338	A
20	AA	345	C
20	AA	347	G
20	AA	352	C
20	AA	353	A
20	AA	354	G
20	AA	357	G
20	AA	367	U
20	AA	372	C
20	AA	373	A
20	AA	384	G
20	AA	390	C
20	AA	397	A
20	AA	398	C
20	AA	407	G
20	AA	411	A
20	AA	412	A
20	AA	413	G
20	AA	414	A
20	AA	422	C
20	AA	423	G
20	AA	424	G
20	AA	430	A
20	AA	440	A
20	AA	452	A
20	AA	453	A
20	AA	458	C
20	AA	458(B)	A
20	AA	481	G
20	AA	485	G
20	AA	492	G
20	AA	495	A
20	AA	497	A
20	AA	498	U
20	AA	505	G
20	AA	509	A
20	AA	511	C
20	AA	514	C
20	AA	518	C

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Mol	Chain	Res	Type
20	AA	519	C
20	AA	521	G
20	AA	522	C
20	AA	524	G
20	AA	527	G
20	AA	531	U
20	AA	532	A
20	AA	533	A
20	AA	534	U
20	AA	538	G
20	AA	547	A
20	AA	559	A
20	AA	560	U
20	AA	562	C
20	AA	564	C
20	AA	567	G
20	AA	568	G
20	AA	572	A
20	AA	573	A
20	AA	574	A
20	AA	575	G
20	AA	576	G
20	AA	577	G
20	AA	579	G
20	AA	596	C
20	AA	653	A
20	AA	661	G
20	AA	665	A
20	AA	673	G
20	AA	685	G
20	AA	688	G
20	AA	703	G
20	AA	713	G
20	AA	723	U
20	AA	724	G
20	AA	730	G
20	AA	731	G
20	AA	733	A
20	AA	734	G
20	AA	737	A
20	AA	740	U
20	AA	749	C

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Mol	Chain	Res	Type
20	AA	754	C
20	AA	755	G
20	AA	777	A
20	AA	793	U
20	AA	794	A
20	AA	807	A
20	AA	811	C
20	AA	812	C
20	AA	816	A
20	AA	817	C
20	AA	818	G
20	AA	819	A
20	AA	821	G
20	AA	827	U
20	AA	828	A
20	AA	834	C
20	AA	838(A)	U
20	AA	838(B)	C
20	AA	838(C)	U
20	AA	848	C
20	AA	859	A
20	AA	867	G
20	AA	869	G
20	AA	870	U
20	AA	873	A
20	AA	874	G
20	AA	877	C
20	AA	897	C
20	AA	902	G
20	AA	907	A
20	AA	916	G
20	AA	923	A
20	AA	926	G
20	AA	927	G
20	AA	934	C
20	AA	935	A
20	AA	960	U
20	AA	961	U
20	AA	962	C
20	AA	966	G
20	AA	969	A
20	AA	971	G

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Mol	Chain	Res	Type
20	AA	972	C
20	AA	974	A
20	AA	976	G
20	AA	977	A
20	AA	978	A
20	AA	979	C
20	AA	980	C
20	AA	983	A
20	AA	992	U
20	AA	993	G
20	AA	1004	A
20	AA	1025	U
20	AA	1045	C
20	AA	1046	A
20	AA	1047	G
20	AA	1049	U
20	AA	1054	C
20	AA	1055	A
20	AA	1065	U
20	AA	1066	C
20	AA	1067	A
20	AA	1069	C
20	AA	1081	G
20	AA	1085	U
20	AA	1094	G
20	AA	1095	U
20	AA	1097	C
20	AA	1101	A
20	AA	1102	A
20	AA	1125	U
20	AA	1126	U
20	AA	1129	C
20	AA	1130	A
20	AA	1137	C
20	AA	1138	G
20	AA	1139	G
20	AA	1140	C
20	AA	1146	A
20	AA	1152	A
20	AA	1154	G
20	AA	1158	C
20	AA	1159	U

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Mol	Chain	Res	Type
20	AA	1181	G
20	AA	1187	G
20	AA	1191	A
20	AA	1196	U
20	AA	1197	G
20	AA	1198	G
20	AA	1200	C
20	AA	1201	A
20	AA	1203	C
20	AA	1204	A
20	AA	1212	U
20	AA	1213	A
20	AA	1214	C
20	AA	1220	G
20	AA	1225	A
20	AA	1226	C
20	AA	1227	A
20	AA	1238	A
20	AA	1239	A
20	AA	1247	U
20	AA	1249	C
20	AA	1256	A
20	AA	1257	U
20	AA	1260	C
20	AA	1275	A
20	AA	1279	A
20	AA	1280	A
20	AA	1281	U
20	AA	1283	G
20	AA	1287	A
20	AA	1300	G
20	AA	1301	U
20	AA	1302	U
20	AA	1303	C
20	AA	1305	G
20	AA	1311	G
20	AA	1317	C
20	AA	1320	C
20	AA	1322	C
20	AA	1331	G
20	AA	1338	G
20	AA	1339	A

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Mol	Chain	Res	Type
20	AA	1347	G
20	AA	1362(A)	C
20	AA	1364	U
20	AA	1370	G
20	AA	1377	A
20	AA	1397	C
20	AA	1398	A
20	AA	1402	C
20	AA	1403	C
20	AA	1406	U
20	AA	1413	A
20	AA	1419	G
20	AA	1440(C)	G
20	AA	1440(D)	A
20	AA	1440(E)	G
20	AA	1440(I)	A
20	AA	1440(J)	C
20	AA	1440(K)	G
20	AA	1440(L)	G
20	AA	1475	G
20	AA	1489	G
20	AA	1492	A
20	AA	1493	A
20	AA	1494	G
20	AA	1497	G
20	AA	1499	A
20	AA	1502	A
20	AA	1504	G
20	AA	1505	G
20	AA	1506	U
20	AA	1517	G
20	AA	1519	A
20	AA	1520	G
20	AA	1529	G
20	AA	1530	G
20	AA	1532	U
20	AA	1533	C
20	AA	1534	A
20	AA	1535	C
20	AA	1536	C
20	AA	1538	C
21	AW	8	U

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Mol	Chain	Res	Type
21	AW	16	U
21	AW	17	U
21	AW	18	G
21	AW	19	G
21	AW	20	U
21	AW	20(A)	U
21	AW	21	A
21	AW	22	G
21	AW	25	C
21	AW	30	C
21	AW	36	U
21	AW	42	U
21	AW	46	G
21	AW	47	U
21	AW	48	C
21	AW	49	A
21	AW	50	C
21	AW	51	A
21	AW	58	A
21	AW	59	A
21	AW	60	U
21	AW	61	C
22	AV	5	A
22	AV	12	A
22	AV	15	A
22	AV	16	A
22	AV	18	G
22	AV	19	G
22	AV	23	A
22	AV	24	A
59	BA	12	U
59	BA	15	G
59	BA	17	G
59	BA	34	C
59	BA	35	G
59	BA	46	C
59	BA	49	A
59	BA	55	G
59	BA	58	G
59	BA	61	G
59	BA	66	C
59	BA	73	A

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Mol	Chain	Res	Type
59	BA	75	G
59	BA	78	A
59	BA	84	A
59	BA	87	C
59	BA	90	U
59	BA	98	G
59	BA	99	U
59	BA	101	G
59	BA	102	G
59	BA	104	U
59	BA	110	G
59	BA	118	A
59	BA	119	A
59	BA	120	U
59	BA	141(B)	C
59	BA	155	C
59	BA	162	U
59	BA	171	G
59	BA	181	A
59	BA	188	G
59	BA	196	A
59	BA	197	A
59	BA	199	A
59	BA	201	C
59	BA	205	G
59	BA	216	A
59	BA	221	A
59	BA	222	A
59	BA	227	A
59	BA	228	A
59	BA	229	A
59	BA	230	U
59	BA	233	A
59	BA	242	G
59	BA	248	G
59	BA	252	G
59	BA	255	A
59	BA	256	A
59	BA	264	C
59	BA	265	A
59	BA	266	G
59	BA	270(M)	U

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Mol	Chain	Res	Type
59	BA	270(N)	U
59	BA	270(O)	G
59	BA	270(P)	U
59	BA	270(Q)	C
59	BA	270(R)	C
59	BA	271(C)	G
59	BA	271(D)	U
59	BA	271	G
59	BA	274	G
59	BA	275	G
59	BA	277	C
59	BA	279	C
59	BA	283	A
59	BA	299	A
59	BA	302	C
59	BA	310	A
59	BA	321	G
59	BA	322	A
59	BA	323	G
59	BA	324	A
59	BA	325	G
59	BA	329	G
59	BA	330	A
59	BA	331	A
59	BA	345	A
59	BA	349	G
59	BA	352	G
59	BA	363(A)	G
59	BA	364	C
59	BA	380	U
59	BA	381	G
59	BA	386	G
59	BA	387	U
59	BA	388	G
59	BA	389	G
59	BA	390	A
59	BA	391	G
59	BA	396	G
59	BA	405	U
59	BA	406	G
59	BA	407	G
59	BA	411	G

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Mol	Chain	Res	Type
59	BA	412	A
59	BA	434	U
59	BA	444	C
59	BA	448	U
59	BA	449	A
59	BA	451	C
59	BA	456	C
59	BA	457	A
59	BA	459	U
59	BA	464	U
59	BA	467	G
59	BA	470	A
59	BA	474	G
59	BA	475	U
59	BA	480	A
59	BA	481	G
59	BA	491	G
59	BA	495	G
59	BA	505	A
59	BA	508	G
59	BA	509	C
59	BA	527	C
59	BA	528	A
59	BA	529	A
59	BA	530	G
59	BA	531	C
59	BA	532	A
59	BA	533	G
59	BA	537	C
59	BA	544	C
59	BA	556	G
59	BA	559	G
59	BA	563	G
59	BA	572	A
59	BA	573	G
59	BA	574	C
59	BA	575	A
59	BA	586	A
59	BA	587	C
59	BA	599	G
59	BA	603	A
59	BA	616	A

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Mol	Chain	Res	Type
59	BA	617	G
59	BA	620	G
59	BA	627	A
59	BA	637	A
59	BA	641	C
59	BA	645	C
59	BA	646	A
59	BA	652	U
59	BA	654	U
59	BA	668	G
59	BA	670	A
59	BA	671	C
59	BA	672	C
59	BA	683	C
59	BA	685	A
59	BA	686	G
59	BA	689	A
59	BA	695	G
59	BA	706	A
59	BA	717	G
59	BA	720	C
59	BA	728	G
59	BA	730	C
59	BA	738	G
59	BA	741	G
59	BA	748	G
59	BA	761	A
59	BA	763	G
59	BA	764	A
59	BA	765	G
59	BA	776	G
59	BA	779	U
59	BA	782	A
59	BA	784	A
59	BA	785	G
59	BA	788	A
59	BA	792	G
59	BA	794	G
59	BA	800	A
59	BA	805	G
59	BA	812	C
59	BA	819	A

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Mol	Chain	Res	Type
59	BA	821	A
59	BA	827	U
59	BA	829	A
59	BA	845	G
59	BA	846	C
59	BA	847	U
59	BA	852	G
59	BA	859	G
59	BA	866	A
59	BA	869	G
59	BA	870	A
59	BA	890	A
59	BA	896	A
59	BA	897	C
59	BA	906	G
59	BA	910	A
59	BA	917	A
59	BA	919	G
59	BA	929	G
59	BA	932	G
59	BA	935	C
59	BA	939	G
59	BA	941	A
59	BA	946	G
59	BA	959	A
59	BA	961	C
59	BA	962	G
59	BA	971	C
59	BA	974(A)	G
59	BA	974(B)	C
59	BA	980	A
59	BA	983	A
59	BA	986	C
59	BA	996	A
59	BA	1002	G
59	BA	1007	C
59	BA	1008	C
59	BA	1009	A
59	BA	1012	U
59	BA	1013	C
59	BA	1020	A
59	BA	1022	G

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Mol	Chain	Res	Type
59	BA	1023	U
59	BA	1025	G
59	BA	1026	U
59	BA	1027	A
59	BA	1033	U
59	BA	1041	C
59	BA	1042	G
59	BA	1045	A
59	BA	1046	A
59	BA	1047	G
59	BA	1048	A
59	BA	1061	U
59	BA	1070	A
59	BA	1072	C
59	BA	1075	C
59	BA	1077	A
59	BA	1078	U
59	BA	1079	C
59	BA	1085	A
59	BA	1086	A
59	BA	1088	A
59	BA	1090	U
59	BA	1098	A
59	BA	1106	G
59	BA	1107	G
59	BA	1112	G
59	BA	1123	C
59	BA	1127	A
59	BA	1131	G
59	BA	1135	C
59	BA	1136	G
59	BA	1139	G
59	BA	1155	A
59	BA	1157	G
59	BA	1175	U
59	BA	1176	G
59	BA	1186	G
59	BA	1199	U
59	BA	1204	A
59	BA	1206	G
59	BA	1212	G
59	BA	1215	G

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Mol	Chain	Res	Type
59	BA	1221	C
59	BA	1231	G
59	BA	1236	G
59	BA	1237	A
59	BA	1241	A
59	BA	1242	A
59	BA	1244	G
59	BA	1247	A
59	BA	1248	G
59	BA	1249	U
59	BA	1253	A
59	BA	1255	U
59	BA	1256	G
59	BA	1265	A
59	BA	1271	G
59	BA	1272	A
59	BA	1273	U
59	BA	1274	A
59	BA	1286	A
59	BA	1288	U
59	BA	1289	C
59	BA	1300	U
59	BA	1301	A
59	BA	1302	A
59	BA	1306	C
59	BA	1307	A
59	BA	1312	U
59	BA	1314	C
59	BA	1321	A
59	BA	1325	G
59	BA	1328	G
59	BA	1329	U
59	BA	1332	G
59	BA	1338	G
59	BA	1341	U
59	BA	1343	G
59	BA	1349	A
59	BA	1359	A
59	BA	1365	A
59	BA	1379	A
59	BA	1384	A
59	BA	1385	G

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Mol	Chain	Res	Type
59	BA	1387	C
59	BA	1388	G
59	BA	1395	A
59	BA	1396	U
59	BA	1398	C
59	BA	1416	G
59	BA	1420	U
59	BA	1421	G
59	BA	1423	G
59	BA	1428	C
59	BA	144(B)	A
59	BA	1451	C
59	BA	1453	A
59	BA	1454	U
59	BA	1455	G
59	BA	1458	C
59	BA	1460	A
59	BA	1461	G
59	BA	1463	C
59	BA	1467	C
59	BA	1483	G
59	BA	1490	A
59	BA	1491	G
59	BA	1493	C
59	BA	1494	A
59	BA	1495	A
59	BA	1497	U
59	BA	1498	C
59	BA	1529	A
59	BA	1535	U
59	BA	1536	A
59	BA	1538	G
59	BA	1542	G
59	BA	1543	A
59	BA	1544	C
59	BA	1545	A
59	BA	1546	A
59	BA	1554	A
59	BA	1558	A
59	BA	1559	G
59	BA	1569	A
59	BA	1572	A

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Mol	Chain	Res	Type
59	BA	1576	U
59	BA	1581	G
59	BA	1585	C
59	BA	1587	A
59	BA	1598	C
59	BA	1602	U
59	BA	1603	A
59	BA	1607	C
59	BA	1608	A
59	BA	1610	A
59	BA	1613	G
59	BA	1614	A
59	BA	1615	C
59	BA	1616	A
59	BA	1617	C
59	BA	163(B)	C
59	BA	1631	A
59	BA	1640	C
59	BA	1643	G
59	BA	1648	C
59	BA	1652	A
59	BA	1664	A
59	BA	1668	A
59	BA	1669	A
59	BA	1674	G
59	BA	1675	C
59	BA	1681	G
59	BA	1682	G
59	BA	1690	A
59	BA	1691	C
59	BA	1694	C
59	BA	1696	G
59	BA	1698	A
59	BA	1699	G
59	BA	1702	G
59	BA	1705	G
59	BA	1707	G
59	BA	1729	A
59	BA	1732	A
59	BA	1742	C
59	BA	1756	G
59	BA	1762	A

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Mol	Chain	Res	Type
59	BA	1763	G
59	BA	1764	G
59	BA	1773	A
59	BA	1780	A
59	BA	1781	C
59	BA	1783	A
59	BA	1787	A
59	BA	1791	A
59	BA	1796	U
59	BA	1800	C
59	BA	1802	A
59	BA	1803	A
59	BA	1810	A
59	BA	1811	G
59	BA	1814	G
59	BA	1815	A
59	BA	1816	G
59	BA	1820	U
59	BA	1821	A
59	BA	1829	A
59	BA	1831	G
59	BA	1838	C
59	BA	1840	G
59	BA	1847	A
59	BA	1848	A
59	BA	1851	U
59	BA	1860	G
59	BA	1888	G
59	BA	1889	A
59	BA	1896	G
59	BA	1900	A
59	BA	1901	A
59	BA	1906	G
59	BA	1912	A
59	BA	1913	A
59	BA	1914	C
59	BA	1920	C
59	BA	1929	G
59	BA	1930	G
59	BA	1931	U
59	BA	1936	A
59	BA	1937	A

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Mol	Chain	Res	Type
59	BA	1938	A
59	BA	1939	U
59	BA	1940	U
59	BA	1955	U
59	BA	1956	U
59	BA	1963	U
59	BA	1967	C
59	BA	1970	A
59	BA	1971	A
59	BA	1972	A
59	BA	1977	A
59	BA	1978	A
59	BA	1981	A
59	BA	1982	C
59	BA	1992	G
59	BA	2006	C
59	BA	2013	A
59	BA	2020	A
59	BA	2021	C
59	BA	2022	U
59	BA	2023	G
59	BA	2024	G
59	BA	2031	A
59	BA	2032	G
59	BA	2033	A
59	BA	2034	U
59	BA	2036	C
59	BA	2039	C
59	BA	2040	C
59	BA	2041	U
59	BA	2043	C
59	BA	2044	C
59	BA	2052	G
59	BA	2055	C
59	BA	2056	G
59	BA	2060	A
59	BA	2061	G
59	BA	2062	A
59	BA	2067	G
59	BA	2068	U
59	BA	2069	G
59	BA	2093	G

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Mol	Chain	Res	Type
59	BA	2111	C
59	BA	2115	G
59	BA	2116	G
59	BA	2117	A
59	BA	2118	U
59	BA	2120	G
59	BA	2130	U
59	BA	2132	U
59	BA	2133	G
59	BA	2136	C
59	BA	2144	U
59	BA	2148	G
59	BA	2154	G
59	BA	2158	A
59	BA	2159	G
59	BA	2166	G
59	BA	2168	G
59	BA	2171	A
59	BA	2172	U
59	BA	2173	A
59	BA	2198	A
59	BA	2210	G
59	BA	2211	G
59	BA	2212	A
59	BA	2213	U
59	BA	2215	G
59	BA	2225	A
59	BA	2239	G
59	BA	2245	U
59	BA	2251	G
59	BA	2266	A
59	BA	2268	A
59	BA	2269	A
59	BA	2275	C
59	BA	2278	A
59	BA	2279	G
59	BA	2282	G
59	BA	2283	C
59	BA	2287	A
59	BA	2305	A
59	BA	2308	G
59	BA	2309	A

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Mol	Chain	Res	Type
59	BA	2310	A
59	BA	2319	G
59	BA	2320	A
59	BA	2325	G
59	BA	2327	A
59	BA	2334	G
59	BA	2336	A
59	BA	2343	C
59	BA	2345	G
59	BA	2346	A
59	BA	2347	C
59	BA	2350	C
59	BA	2361	A
59	BA	2371	G
59	BA	2377	A
59	BA	2378	A
59	BA	2379	G
59	BA	2383	G
59	BA	2385	C
59	BA	2391	G
59	BA	2402	C
59	BA	2403	C
59	BA	2406	U
59	BA	2407	G
59	BA	2422	A
59	BA	2423	U
59	BA	2425	A
59	BA	2426	A
59	BA	2427	C
59	BA	2428	G
59	BA	2429	G
59	BA	2430	A
59	BA	2434	A
59	BA	2435	A
59	BA	2436	G
59	BA	2439	A
59	BA	2440	C
59	BA	2441	C
59	BA	2448	A
59	BA	2460	U
59	BA	2469	A
59	BA	2470	G

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Mol	Chain	Res	Type
59	BA	2475	C
59	BA	2476	A
59	BA	2477	C
59	BA	2479	G
59	BA	2480	C
59	BA	2483	C
59	BA	2487	G
59	BA	2491	U
59	BA	2502	G
59	BA	2505	G
59	BA	2509	G
59	BA	2518	A
59	BA	2529	G
59	BA	2530	A
59	BA	2532	G
59	BA	2539	C
59	BA	2542	A
59	BA	2543	G
59	BA	2546	U
59	BA	2554	U
59	BA	2555	U
59	BA	2556	C
59	BA	2566	A
59	BA	2567	G
59	BA	2572	A
59	BA	2573	C
59	BA	2574	G
59	BA	2577	A
59	BA	2578	G
59	BA	2582	G
59	BA	2584	U
59	BA	2585	U
59	BA	2586	C
59	BA	2597	G
59	BA	2602	A
59	BA	2603	G
59	BA	2609	U
59	BA	2610	C
59	BA	2611	U
59	BA	2612	C
59	BA	2615	U
59	BA	2618	G

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Mol	Chain	Res	Type
59	BA	2621	A
59	BA	2623	G
59	BA	2630	G
59	BA	2645	G
59	BA	2646	C
59	BA	2663	G
59	BA	2665	A
59	BA	2667	C
59	BA	2672	G
59	BA	2682	U
59	BA	2689	U
59	BA	2690	C
59	BA	2702	U
59	BA	2703	C
59	BA	2711	A
59	BA	2712	U
59	BA	712(B)	A
59	BA	2713	A
59	BA	2715	C
59	BA	2726	U
59	BA	2727	G
59	BA	2730	C
59	BA	2731	G
59	BA	2733	A
59	BA	2740	A
59	BA	2748	A
59	BA	2751	G
59	BA	2755	C
59	BA	2757	A
59	BA	2764	A
59	BA	2765	A
59	BA	2774	C
59	BA	2777	G
59	BA	2778	A
59	BA	2779	U
59	BA	2780	G
59	BA	2781	A
59	BA	2782	G
59	BA	2790	A
59	BA	2791	C
59	BA	2792	G
59	BA	2793	G

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Mol	Chain	Res	Type
59	BA	2797	U
59	BA	2799	A
59	BA	2805	G
59	BA	2811	G
59	BA	2818	G
59	BA	2820	A
59	BA	2821	A
59	BA	2823	A
59	BA	2827	C
59	BA	2833	G
59	BA	2834	G
59	BA	2835	A
59	BA	2849	U
59	BA	2851	A
59	BA	2856	C
59	BA	2862	G
59	BA	2866	U
59	BA	2872	G
59	BA	2879	C
59	BA	2880	C
59	BA	2881	C
59	BA	2886	G
59	BA	2892	A
59	BA	2894	G
60	BB	2	C
60	BB	13	A
60	BB	14	U
60	BB	15	A
60	BB	16	G
60	BB	25	A
60	BB	27	C
60	BB	41	U
60	BB	42	C
60	BB	47	C
60	BB	48	A
60	BB	52	A
60	BB	56	G
60	BB	57	A
60	BB	66	A
60	BB	67	G
60	BB	71	C
60	BB	72	G

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Mol	Chain	Res	Type
60	BB	73	A
60	BB	74	U
60	BB	90	C
20	CA	6	G
20	CA	7	G
20	CA	9	G
20	CA	32	A
20	CA	39	G
20	CA	47	C
20	CA	48	C
20	CA	51	A
20	CA	54	C
20	CA	59	A
20	CA	68(H)	G
20	CA	68(M)	U
20	CA	68(P)	C
20	CA	68(W)	G
20	CA	101	A
20	CA	109	A
20	CA	116	A
20	CA	117	G
20	CA	121	C
20	CA	129(A)	G
20	CA	131	C
20	CA	134	A
20	CA	151	A
20	CA	156	G
20	CA	163	C
20	CA	179	A
20	CA	183	G
20	CA	186(E)	C
20	CA	186(H)	U
20	CA	186(I)	U
20	CA	186(K)	G
20	CA	195	A
20	CA	197	A
20	CA	201(C)	U
20	CA	216	G
20	CA	233	C
20	CA	244	U
20	CA	247	G
20	CA	251	G

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Mol	Chain	Res	Type
20	CA	267	C
20	CA	272	C
20	CA	279	A
20	CA	280	C
20	CA	281	G
20	CA	289	G
20	CA	295	C
20	CA	301	G
20	CA	309	G
20	CA	315	A
20	CA	321	A
20	CA	328	C
20	CA	329	A
20	CA	332	G
20	CA	345	C
20	CA	347	G
20	CA	352	C
20	CA	353	A
20	CA	354	G
20	CA	356	A
20	CA	364	A
20	CA	367	U
20	CA	372	C
20	CA	373	A
20	CA	390	C
20	CA	392	G
20	CA	397	A
20	CA	398	C
20	CA	408	A
20	CA	412	A
20	CA	413	G
20	CA	414	A
20	CA	422	C
20	CA	423	G
20	CA	424	G
20	CA	427	U
20	CA	429	U
20	CA	440	A
20	CA	452	A
20	CA	453	A
20	CA	458(B)	A
20	CA	458(D)	G

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Mol	Chain	Res	Type
20	CA	458(E)	A
20	CA	485	G
20	CA	492	G
20	CA	495	A
20	CA	497	A
20	CA	498	U
20	CA	505	G
20	CA	508	C
20	CA	510	A
20	CA	511	C
20	CA	512	U
20	CA	518	C
20	CA	521	G
20	CA	524	G
20	CA	527	G
20	CA	529	G
20	CA	531	U
20	CA	532	A
20	CA	533	A
20	CA	547	A
20	CA	562	C
20	CA	564	C
20	CA	565	U
20	CA	567	G
20	CA	568	G
20	CA	572	A
20	CA	573	A
20	CA	574	A
20	CA	575	G
20	CA	576	G
20	CA	577	G
20	CA	596	C
20	CA	619	U
20	CA	644	G
20	CA	653	A
20	CA	665	A
20	CA	666	G
20	CA	669	U
20	CA	688	G
20	CA	690	G
20	CA	694	A
20	CA	695	A

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Mol	Chain	Res	Type
20	CA	701	C
20	CA	702	A
20	CA	714	G
20	CA	749	C
20	CA	753	A
20	CA	777	A
20	CA	778	G
20	CA	787	A
20	CA	793	U
20	CA	794	A
20	CA	805	C
20	CA	815	A
20	CA	816	A
20	CA	817	C
20	CA	818	G
20	CA	819	A
20	CA	821	G
20	CA	828	A
20	CA	838(A)	U
20	CA	838(B)	C
20	CA	848	C
20	CA	859	A
20	CA	867	G
20	CA	873	A
20	CA	874	G
20	CA	885	G
20	CA	888	G
20	CA	902	G
20	CA	926	G
20	CA	927	G
20	CA	934	C
20	CA	946	A
20	CA	960	U
20	CA	961	U
20	CA	964	A
20	CA	966	G
20	CA	968	A
20	CA	969	A
20	CA	971	G
20	CA	972	C
20	CA	974	A
20	CA	976	G

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Mol	Chain	Res	Type
20	CA	977	A
20	CA	978	A
20	CA	979	C
20	CA	980	C
20	CA	981	U
20	CA	983	A
20	CA	992	U
20	CA	993	G
20	CA	998(A)	C
20	CA	1004	A
20	CA	1025	U
20	CA	1028(B)	C
20	CA	1045	C
20	CA	1054	C
20	CA	1055	A
20	CA	1064	G
20	CA	1068	G
20	CA	1070	U
20	CA	1086	U
20	CA	1094	G
20	CA	1095	U
20	CA	1101	A
20	CA	1102	A
20	CA	1108	G
20	CA	1117	G
20	CA	1125	U
20	CA	1126	U
20	CA	1129	C
20	CA	1130	A
20	CA	1137	C
20	CA	1138	G
20	CA	1139	G
20	CA	1140	C
20	CA	1146	A
20	CA	1159	U
20	CA	1171	G
20	CA	1181	G
20	CA	1184	G
20	CA	1190	G
20	CA	1191	A
20	CA	1192	C
20	CA	1193	G

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Mol	Chain	Res	Type
20	CA	1196	U
20	CA	1197	G
20	CA	1200	C
20	CA	1201	A
20	CA	1212	U
20	CA	1213	A
20	CA	1214	C
20	CA	1220	G
20	CA	1225	A
20	CA	1227	A
20	CA	1233	G
20	CA	1238	A
20	CA	1239	A
20	CA	1241	G
20	CA	1256	A
20	CA	1257	U
20	CA	1260	C
20	CA	1273	G
20	CA	1279	A
20	CA	1280	A
20	CA	1281	U
20	CA	1283	G
20	CA	1287	A
20	CA	1300	G
20	CA	1301	U
20	CA	1302	U
20	CA	1317	C
20	CA	1320	C
20	CA	1322	C
20	CA	1331	G
20	CA	1338	G
20	CA	1347	G
20	CA	1353	G
20	CA	1359	C
20	CA	1362(A)	C
20	CA	1364	U
20	CA	1370	G
20	CA	1377	A
20	CA	1394	A
20	CA	1397	C
20	CA	1398	A
20	CA	1411	C

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Mol	Chain	Res	Type
20	CA	1419	G
20	CA	1431	C
20	CA	1440(B)	G
20	CA	1440(C)	G
20	CA	1440(D)	A
20	CA	1440(E)	G
20	CA	1440(G)	C
20	CA	1440(I)	A
20	CA	1440(J)	C
20	CA	1440(K)	G
20	CA	1440(L)	G
20	CA	1466	C
20	CA	1483	A
20	CA	1487	G
20	CA	1489	G
20	CA	1492	A
20	CA	1493	A
20	CA	1494	G
20	CA	1497	G
20	CA	1502	A
20	CA	1503	A
20	CA	1504	G
20	CA	1505	G
20	CA	1506	U
20	CA	1517	G
20	CA	1518	A
20	CA	1520	G
20	CA	1528	U
20	CA	1529	G
20	CA	1530	G
20	CA	1532	U
20	CA	1533	C
20	CA	1534	A
20	CA	1535	C
20	CA	1536	C
20	CA	1538	C
21	CW	8	U
21	CW	16	U
21	CW	17	U
21	CW	18	G
21	CW	19	G
21	CW	20	U

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Mol	Chain	Res	Type
21	CW	20(A)	U
21	CW	21	A
21	CW	22	G
21	CW	25	C
21	CW	36	U
21	CW	42	U
21	CW	46	G
21	CW	47	U
21	CW	48	C
21	CW	50	C
21	CW	51	A
21	CW	58	A
21	CW	59	A
21	CW	60	U
21	CW	61	C
21	CW	68	U
22	CV	9	G
22	CV	12	A
22	CV	16	A
22	CV	18	G
22	CV	19	G
22	CV	21	A
22	CV	23	A
22	CV	24	A
59	DA	7	G
59	DA	10	G
59	DA	12	U
59	DA	15	G
59	DA	17	G
59	DA	28	A
59	DA	34	C
59	DA	35	G
59	DA	46	C
59	DA	49	A
59	DA	55	G
59	DA	58	G
59	DA	61	G
59	DA	64	A
59	DA	73	A
59	DA	75	G
59	DA	84	A
59	DA	90	U

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Mol	Chain	Res	Type
59	DA	98	G
59	DA	99	U
59	DA	101	G
59	DA	102	G
59	DA	104	U
59	DA	110	G
59	DA	117	G
59	DA	118	A
59	DA	119	A
59	DA	120	U
59	DA	138	G
59	DA	140	A
59	DA	149	A
59	DA	181	A
59	DA	188	G
59	DA	196	A
59	DA	197	A
59	DA	199	A
59	DA	205	G
59	DA	215	G
59	DA	216	A
59	DA	221	A
59	DA	222	A
59	DA	227	A
59	DA	229	A
59	DA	230	U
59	DA	233	A
59	DA	248	G
59	DA	249	C
59	DA	250	G
59	DA	252	G
59	DA	256	A
59	DA	261	G
59	DA	265	A
59	DA	266	G
59	DA	270(M)	U
59	DA	270(N)	U
59	DA	270(O)	G
59	DA	270(P)	U
59	DA	270(R)	C
59	DA	270(Y)	G
59	DA	271(C)	G

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Mol	Chain	Res	Type
59	DA	271(D)	U
59	DA	271	G
59	DA	274	G
59	DA	275	G
59	DA	277	C
59	DA	279	C
59	DA	299	A
59	DA	302	C
59	DA	310	A
59	DA	312	G
59	DA	321	G
59	DA	322	A
59	DA	323	G
59	DA	324	A
59	DA	327	G
59	DA	329	G
59	DA	330	A
59	DA	349	G
59	DA	352	G
59	DA	353	G
59	DA	363(A)	G
59	DA	363(C)	G
59	DA	364	C
59	DA	380	U
59	DA	386	G
59	DA	387	U
59	DA	389	G
59	DA	396	G
59	DA	404	C
59	DA	405	U
59	DA	406	G
59	DA	411	G
59	DA	412	A
59	DA	431	U
59	DA	434	U
59	DA	444	C
59	DA	446	G
59	DA	448	U
59	DA	449	A
59	DA	451	C
59	DA	456	C
59	DA	457	A

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Mol	Chain	Res	Type
59	DA	459	U
59	DA	464	U
59	DA	465	G
59	DA	469	G
59	DA	470	A
59	DA	473	G
59	DA	475	U
59	DA	480	A
59	DA	481	G
59	DA	505	A
59	DA	508	G
59	DA	509	C
59	DA	527	C
59	DA	530	G
59	DA	531	C
59	DA	532	A
59	DA	533	G
59	DA	535	C
59	DA	541	C
59	DA	546	C
59	DA	556	G
59	DA	558	G
59	DA	559	G
59	DA	563	G
59	DA	573	G
59	DA	575	A
59	DA	586	A
59	DA	587	C
59	DA	595	C
59	DA	599	G
59	DA	600	G
59	DA	603	A
59	DA	614	U
59	DA	615	G
59	DA	616	A
59	DA	617	G
59	DA	620	G
59	DA	621	A
59	DA	627	A
59	DA	628	G
59	DA	634	C
59	DA	637	A

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Mol	Chain	Res	Type
59	DA	645	C
59	DA	646	A
59	DA	652	U
59	DA	654	U
59	DA	667	U
59	DA	671	C
59	DA	672	C
59	DA	685	A
59	DA	686	G
59	DA	695	G
59	DA	716	A
59	DA	717	G
59	DA	730	C
59	DA	738	G
59	DA	742	G
59	DA	748	G
59	DA	753	C
59	DA	765	G
59	DA	771	G
59	DA	776	G
59	DA	779	U
59	DA	782	A
59	DA	784	A
59	DA	785	G
59	DA	789	A
59	DA	790	C
59	DA	792	G
59	DA	794	G
59	DA	800	A
59	DA	805	G
59	DA	812	C
59	DA	814	C
59	DA	819	A
59	DA	821	A
59	DA	822	U
59	DA	823	G
59	DA	826	U
59	DA	827	U
59	DA	829	A
59	DA	838	C
59	DA	845	G
59	DA	846	C

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Mol	Chain	Res	Type
59	DA	847	U
59	DA	852	G
59	DA	859	G
59	DA	866	A
59	DA	870	A
59	DA	889	C
59	DA	890	A
59	DA	896	A
59	DA	897	C
59	DA	910	A
59	DA	917	A
59	DA	919	G
59	DA	932	G
59	DA	933	A
59	DA	938	G
59	DA	941	A
59	DA	946	G
59	DA	951	C
59	DA	959	A
59	DA	961	C
59	DA	973	A
59	DA	974(A)	G
59	DA	974(B)	C
59	DA	975	G
59	DA	978	G
59	DA	980	A
59	DA	983	A
59	DA	989	G
59	DA	990	A
59	DA	991	C
59	DA	996	A
59	DA	1002	G
59	DA	1005	C
59	DA	1007	C
59	DA	1008	C
59	DA	1009	A
59	DA	1012	U
59	DA	1013	C
59	DA	1022	G
59	DA	1023	U
59	DA	1024	G
59	DA	1025	G

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Mol	Chain	Res	Type
59	DA	1026	U
59	DA	1033	U
59	DA	1042	G
59	DA	1045	A
59	DA	1046	A
59	DA	1047	G
59	DA	1048	A
59	DA	1058	G
59	DA	1066	U
59	DA	1070	A
59	DA	1072	C
59	DA	1075	C
59	DA	1078	U
59	DA	1079	C
59	DA	1085	A
59	DA	1086	A
59	DA	1088	A
59	DA	1090	U
59	DA	1096	A
59	DA	1105	U
59	DA	1107	G
59	DA	1112	G
59	DA	1117	G
59	DA	1123	C
59	DA	1125	G
59	DA	1130	U
59	DA	1135	C
59	DA	1136	G
59	DA	1138	G
59	DA	1139	G
59	DA	114(B)	A
59	DA	1153	C
59	DA	1175	U
59	DA	1176	G
59	DA	1186	G
59	DA	1187	G
59	DA	1194	A
59	DA	1199	U
59	DA	1204	A
59	DA	1206	G
59	DA	1210	A
59	DA	1212	G

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Mol	Chain	Res	Type
59	DA	1214	A
59	DA	1215	G
59	DA	1221	C
59	DA	1226	A
59	DA	1227	G
59	DA	1241	A
59	DA	1244	G
59	DA	1247	A
59	DA	1248	G
59	DA	1249	U
59	DA	1253	A
59	DA	1254	A
59	DA	1256	G
59	DA	1262	A
59	DA	1265	A
59	DA	1271	G
59	DA	1272	A
59	DA	1273	U
59	DA	1274	A
59	DA	1286	A
59	DA	1289	C
59	DA	1300	U
59	DA	1301	A
59	DA	1302	A
59	DA	1305	C
59	DA	1307	A
59	DA	1312	U
59	DA	1314	C
59	DA	1325	G
59	DA	1329	U
59	DA	1332	G
59	DA	1333	C
59	DA	1341	U
59	DA	1343	G
59	DA	1349	A
59	DA	1352	U
59	DA	1355	G
59	DA	1359	A
59	DA	1365	A
59	DA	1368	G
59	DA	1379	A
59	DA	1384	A

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Mol	Chain	Res	Type
59	DA	1385	G
59	DA	1396	U
59	DA	1398	C
59	DA	1404	C
59	DA	1416	G
59	DA	1420	U
59	DA	1421	G
59	DA	1428	C
59	DA	144(B)	A
59	DA	149(B)	A
59	DA	1451	C
59	DA	1453	A
59	DA	1454	U
59	DA	1455	G
59	DA	1460	A
59	DA	1461	G
59	DA	1467	C
59	DA	1480	G
59	DA	1483	G
59	DA	1490	A
59	DA	1491	G
59	DA	1493	C
59	DA	1494	A
59	DA	1495	A
59	DA	1497	U
59	DA	1498	C
59	DA	1499	C
59	DA	1536	A
59	DA	1537	C
59	DA	1538	G
59	DA	1540	G
59	DA	1542	G
59	DA	1543	A
59	DA	1544	C
59	DA	1545	A
59	DA	1546	A
59	DA	1547	C
59	DA	1555	G
59	DA	1558	A
59	DA	1559	G
59	DA	1568	G
59	DA	1569	A

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Mol	Chain	Res	Type
59	DA	1572	A
59	DA	1578	U
59	DA	1579	A
59	DA	1583	A
59	DA	1585	C
59	DA	1602	U
59	DA	1603	A
59	DA	1607	C
59	DA	1608	A
59	DA	1610	A
59	DA	1614	A
59	DA	1615	C
59	DA	1616	A
59	DA	1617	C
59	DA	1618	A
59	DA	1619	G
59	DA	1631	A
59	DA	1639	U
59	DA	1640	C
59	DA	1646	C
59	DA	1648	C
59	DA	1654	A
59	DA	1657	C
59	DA	1659	U
59	DA	1664	A
59	DA	1667	G
59	DA	1668	A
59	DA	1669	A
59	DA	1670	C
59	DA	1674	G
59	DA	1678	G
59	DA	1681	G
59	DA	1694	C
59	DA	1695	G
59	DA	1698	A
59	DA	1699	G
59	DA	1707	G
59	DA	1729	A
59	DA	1732	A
59	DA	1759	A
59	DA	1763	G
59	DA	1764	G

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Mol	Chain	Res	Type
59	DA	1773	A
59	DA	1779	U
59	DA	1780	A
59	DA	1781	C
59	DA	1782	C
59	DA	1783	A
59	DA	1784	A
59	DA	1786	A
59	DA	1787	A
59	DA	1791	A
59	DA	1796	U
59	DA	1799	G
59	DA	1800	C
59	DA	1801	G
59	DA	1802	A
59	DA	1815	A
59	DA	1816	G
59	DA	1820	U
59	DA	1821	A
59	DA	1826	G
59	DA	1829	A
59	DA	1833	U
59	DA	1847	A
59	DA	1848	A
59	DA	1857	G
59	DA	1858	G
59	DA	1878	G
59	DA	1886	C
59	DA	1888	G
59	DA	1889	A
59	DA	1898	U
59	DA	1900	A
59	DA	1905	C
59	DA	1906	G
59	DA	1912	A
59	DA	1913	A
59	DA	1914	C
59	DA	1929	G
59	DA	1930	G
59	DA	1936	A
59	DA	1937	A
59	DA	1938	A

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Mol	Chain	Res	Type
59	DA	1939	U
59	DA	1940	U
59	DA	1943	U
59	DA	1944	U
59	DA	1952	A
59	DA	1954	G
59	DA	1955	U
59	DA	1956	U
59	DA	1963	U
59	DA	1965	C
59	DA	1967	C
59	DA	1970	A
59	DA	1971	A
59	DA	1972	A
59	DA	1976	U
59	DA	1977	A
59	DA	1981	A
59	DA	1982	C
59	DA	1984	G
59	DA	1989	G
59	DA	1992	G
59	DA	1993	U
59	DA	1999	C
59	DA	2013	A
59	DA	2020	A
59	DA	2021	C
59	DA	2022	U
59	DA	2023	G
59	DA	2030	A
59	DA	2031	A
59	DA	2032	G
59	DA	2033	A
59	DA	2034	U
59	DA	2036	C
59	DA	2040	C
59	DA	2041	U
59	DA	2042	A
59	DA	2043	C
59	DA	2044	C
59	DA	2052	G
59	DA	2055	C
59	DA	2056	G

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Mol	Chain	Res	Type
59	DA	2060	A
59	DA	2061	G
59	DA	2062	A
59	DA	2067	G
59	DA	2068	U
59	DA	2069	G
59	DA	2089	U
59	DA	2092	U
59	DA	2093	G
59	DA	2115	G
59	DA	2116	G
59	DA	2117	A
59	DA	2118	U
59	DA	2120	G
59	DA	2131	G
59	DA	2132	U
59	DA	2133	G
59	DA	2136	C
59	DA	2144	U
59	DA	2148	G
59	DA	2154	G
59	DA	2159	G
59	DA	2170	A
59	DA	2171	A
59	DA	2173	A
59	DA	2190	G
59	DA	2198	A
59	DA	2199	A
59	DA	2209	C
59	DA	2210	G
59	DA	2211	G
59	DA	2212	A
59	DA	2213	U
59	DA	2225	A
59	DA	2238	G
59	DA	2239	G
59	DA	2261	C
59	DA	2266	A
59	DA	2268	A
59	DA	2269	A
59	DA	2275	C
59	DA	2278	A

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Mol	Chain	Res	Type
59	DA	2279	G
59	DA	2282	G
59	DA	2283	C
59	DA	2287	A
59	DA	2305	A
59	DA	2308	G
59	DA	2309	A
59	DA	2310	A
59	DA	2311	A
59	DA	2319	G
59	DA	2320	A
59	DA	2322	A
59	DA	2325	G
59	DA	2327	A
59	DA	2334	G
59	DA	2336	A
59	DA	2345	G
59	DA	2346	A
59	DA	2347	C
59	DA	2350	C
59	DA	2358	G
59	DA	2361	A
59	DA	2377	A
59	DA	2383	G
59	DA	2385	C
59	DA	2400	G
59	DA	2402	C
59	DA	2405	G
59	DA	2410	G
59	DA	2411	A
59	DA	2422	A
59	DA	2423	U
59	DA	2425	A
59	DA	2427	C
59	DA	2428	G
59	DA	2429	G
59	DA	2430	A
59	DA	2431	U
59	DA	2435	A
59	DA	2436	G
59	DA	2439	A
59	DA	2441	C

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Mol	Chain	Res	Type
59	DA	2448	A
59	DA	2468	G
59	DA	2469	A
59	DA	2470	G
59	DA	2476	A
59	DA	2477	C
59	DA	2479	G
59	DA	2480	C
59	DA	2482	G
59	DA	2484	G
59	DA	2491	U
59	DA	2497	A
59	DA	2502	G
59	DA	2503	A
59	DA	2504	U
59	DA	2505	G
59	DA	2509	G
59	DA	2517	C
59	DA	2518	A
59	DA	2519	U
59	DA	2529	G
59	DA	2530	A
59	DA	2532	G
59	DA	2542	A
59	DA	2543	G
59	DA	2554	U
59	DA	2556	C
59	DA	2565	A
59	DA	2566	A
59	DA	2567	G
59	DA	2572	A
59	DA	2573	C
59	DA	2574	G
59	DA	2576	G
59	DA	2577	A
59	DA	2584	U
59	DA	2602	A
59	DA	2606	C
59	DA	2609	U
59	DA	2610	C
59	DA	2611	U
59	DA	2612	C

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Mol	Chain	Res	Type
59	DA	2615	U
59	DA	2618	G
59	DA	2630	G
59	DA	2637	U
59	DA	2646	C
59	DA	2663	G
59	DA	2665	A
59	DA	2666	C
59	DA	2667	C
59	DA	2682	U
59	DA	2689	U
59	DA	2702	U
59	DA	2703	C
59	DA	2711	A
59	DA	2712	U
59	DA	712(B)	A
59	DA	2713	A
59	DA	2715	C
59	DA	2716	U
59	DA	2725	A
59	DA	2726	U
59	DA	2727	G
59	DA	2730	C
59	DA	2731	G
59	DA	2732	G
59	DA	2733	A
59	DA	2744	G
59	DA	2755	C
59	DA	2758	A
59	DA	2764	A
59	DA	2765	A
59	DA	2769	C
59	DA	2777	G
59	DA	2778	A
59	DA	2779	U
59	DA	2780	G
59	DA	2781	A
59	DA	2782	G
59	DA	2790	A
59	DA	2791	C
59	DA	2797	U
59	DA	2799	A

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Mol	Chain	Res	Type
59	DA	2815	C
59	DA	2818	G
59	DA	2820	A
59	DA	2821	A
59	DA	2823	A
59	DA	2833	G
59	DA	2834	G
59	DA	2835	A
59	DA	2849	U
59	DA	2851	A
59	DA	2856	C
59	DA	2862	G
59	DA	2866	U
59	DA	2872	G
59	DA	2880	C
59	DA	2886	G
59	DA	2892	A
59	DA	2894	G
60	DB	2	C
60	DB	13	A
60	DB	15	A
60	DB	16	G
60	DB	25	A
60	DB	35	U
60	DB	41	U
60	DB	45	A
60	DB	46	A
60	DB	48	A
60	DB	52	A
60	DB	67	G
60	DB	73	A
60	DB	74	U
60	DB	85	G
60	DB	90	C
60	DB	108	C

All (88) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
20	AA	115	G
20	AA	243	A
20	AA	266	G

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Mol	Chain	Res	Type
20	AA	281	G
20	AA	328	C
20	AA	429	U
20	AA	484	G
20	AA	687	A
20	AA	739	C
20	AA	748	C
20	AA	992	U
20	AA	1064	G
20	AA	1101	A
20	AA	1145	C
20	AA	1504	G
20	AA	1532	U
20	AA	1537	U
21	AW	41	A
22	AV	18	G
59	BA	221	A
59	BA	241	A
59	BA	271(C)	G
59	BA	278	A
59	BA	363(G)	A
59	BA	474	G
59	BA	479	A
59	BA	586	A
59	BA	1007	C
59	BA	1022	G
59	BA	1240	U
59	BA	1542	G
59	BA	1558	A
59	BA	1786	A
59	BA	1912	A
59	BA	1913	A
59	BA	1937	A
59	BA	2039	C
59	BA	2040	C
59	BA	2092	U
59	BA	2171	A
59	BA	2447	G
59	BA	2688	U
59	BA	2750	A
59	BA	2780	G
59	BA	2781	A

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Mol	Chain	Res	Type
59	BA	2791	C
60	BB	66	A
20	CA	115	G
20	CA	186(J)	G
20	CA	243	A
20	CA	266	G
20	CA	328	C
20	CA	484	G
20	CA	687	A
20	CA	748	C
20	CA	992	U
20	CA	1101	A
20	CA	1145	C
20	CA	1200	C
20	CA	1504	G
20	CA	1532	U
20	CA	1535	C
20	CA	1537	U
21	CW	41	A
22	CV	8	A
22	CV	18	G
59	DA	221	A
59	DA	271(C)	G
59	DA	363(G)	A
59	DA	464	U
59	DA	474	G
59	DA	479	A
59	DA	1022	G
59	DA	1240	U
59	DA	1542	G
59	DA	1558	A
59	DA	1786	A
59	DA	1912	A
59	DA	1913	A
59	DA	1937	A
59	DA	2040	C
59	DA	2092	U
59	DA	2212	A
59	DA	2447	G
59	DA	2481	G
59	DA	2518	A
59	DA	2780	G

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Mol	Chain	Res	Type
60	DB	66	A

5.4 Non-standard residues in protein, DNA, RNA chains (i)

8 non-standard protein/DNA/RNA residues 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	$\#\|Z\| > 2$
24	UAL	CU	5	24	6,8,9	2.63	2 (33%)	4,9,11	1.88	1 (25%)
24	KBE	AU	1	24	8,8,9	0.60	0	6,8,10	1.53	1 (16%)
24	5OH	CU	6	24	7,12,13	0.69	0	4,16,18	1.89	2 (50%)
24	KBE	CU	1	24	8,8,9	0.63	0	6,8,10	1.85	1 (16%)
24	UAL	AU	5	24	6,8,9	2.53	2 (33%)	4,9,11	1.53	1 (25%)
24	DPP	AU	2	24	4,5,6	0.44	0	1,5,7	1.18	0
24	5OH	AU	6	24	7,12,13	0.66	0	4,16,18	2.65	1 (25%)
24	DPP	CU	2	24	4,5,6	0.34	0	1,5,7	0.52	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
24	UAL	CU	5	24	-	0/3/7/9	-
24	KBE	AU	1	24	-	1/7/7/8	-
24	5OH	CU	6	24	-	1/2/18/20	0/1/1/1
24	KBE	CU	1	24	-	4/7/7/8	-
24	UAL	AU	5	24	-	0/3/7/9	-
24	DPP	AU	2	24	-	0/2/4/6	-
24	5OH	AU	6	24	-	0/2/18/20	0/1/1/1
24	DPP	CU	2	24	-	0/2/4/6	-

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	CU	5	UAL	C-CA	5.08	1.53	1.45
24	AU	5	UAL	C-CA	5.07	1.53	1.45
24	CU	5	UAL	C1-N1	-3.32	1.35	1.40
24	AU	5	UAL	C1-N1	-2.92	1.35	1.40

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	AU	6	5OH	CR-CB-CA	4.75	117.65	112.61
24	CU	1	KBE	CB-CA-C	4.25	119.03	112.17
24	CU	5	UAL	O-C-CA	-3.68	120.78	125.39
24	AU	1	KBE	CB-CA-C	3.14	117.24	112.17
24	AU	5	UAL	O-C-CA	-2.78	121.90	125.39
24	CU	6	5OH	CR-CB-CA	2.66	115.44	112.61
24	CU	6	5OH	O-C-CA	-2.29	118.88	124.77

There are no chirality outliers.

All (6) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
24	AU	1	KBE	C-CA-CB-N
24	CU	1	KBE	C-CA-CB-N
24	CU	6	5OH	C-CA-CB-CR
24	CU	1	KBE	C-CA-CB-CG
24	CU	1	KBE	N-CB-CG-CD
24	CU	1	KBE	CA-CB-CG-CD

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
24	CU	1	KBE	2	0
24	CU	2	DPP	1	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 6 ligands modelled in this entry, 2 are monoatomic - leaving 4 for Mogul analysis.

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	$\#\|Z\| > 2$
62	GDP	AY	702	-	29,30,30	1.06	1 (3%)	45,47,47	1.71	9 (20%)
62	GDP	CY	702	-	29,30,30	1.06	1 (3%)	45,47,47	1.71	9 (20%)
61	FUA	CY	701	-	39,40,40	1.71	7 (17%)	50,64,64	2.22	15 (30%)
61	FUA	AY	701	-	39,40,40	1.73	7 (17%)	50,64,64	2.00	14 (28%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
62	GDP	AY	702	-	-	2/16/32/32	0/3/3/3
62	GDP	CY	702	-	-	2/16/32/32	0/3/3/3
61	FUA	CY	701	-	-	6/16/92/92	0/4/4/4
61	FUA	AY	701	-	-	7/16/92/92	0/4/4/4

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
61	CY	701	FUA	C29-C22	4.74	1.54	1.47
61	AY	701	FUA	C23-C24	-4.39	1.39	1.53
61	AY	701	FUA	C23-C22	-4.35	1.40	1.51
61	AY	701	FUA	C29-C22	4.22	1.53	1.47
61	CY	701	FUA	C23-C24	-4.19	1.39	1.53
61	CY	701	FUA	C23-C22	-4.04	1.41	1.51
61	CY	701	FUA	C14-C8	-3.54	1.53	1.59
61	AY	701	FUA	C24-C25	-3.54	1.39	1.50
61	CY	701	FUA	C24-C25	-3.25	1.40	1.50
61	AY	701	FUA	C14-C8	-3.10	1.53	1.59
62	CY	702	GDP	C5-N7	-2.85	1.33	1.39
62	AY	702	GDP	C5-N7	-2.83	1.33	1.39
61	AY	701	FUA	O6-C3	-2.57	1.38	1.43
61	CY	701	FUA	C25-C26	2.51	1.40	1.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
61	AY	701	FUA	C25-C26	2.24	1.39	1.32
61	CY	701	FUA	C16-C17	2.04	1.54	1.50

All (47) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
61	CY	701	FUA	C24-C23-C22	6.89	127.40	112.72
61	CY	701	FUA	C13-C12-C11	-6.17	102.94	111.90
61	AY	701	FUA	C24-C23-C22	6.06	125.63	112.72
61	AY	701	FUA	C13-C12-C11	-5.63	103.73	111.90
62	AY	702	GDP	C2-N3-C4	5.33	121.47	112.30
62	CY	702	GDP	C2-N3-C4	5.30	121.44	112.30
61	CY	701	FUA	C1-C10-C5	4.77	114.02	107.77
62	CY	702	GDP	C5-C4-N3	-4.77	120.81	128.39
62	AY	702	GDP	C5-C4-N3	-4.76	120.81	128.39
61	AY	701	FUA	C16-O2-C31	-4.04	110.99	117.00
61	CY	701	FUA	C15-C14-C8	-3.94	112.99	116.84
61	CY	701	FUA	O2-C31-C32	3.68	117.66	111.09
61	AY	701	FUA	C1-C10-C5	3.46	112.30	107.77
61	AY	701	FUA	C21-C14-C8	-3.26	109.53	112.23
61	CY	701	FUA	C16-O2-C31	-3.24	112.18	117.00
62	CY	702	GDP	C2-N1-C6	-3.22	119.27	125.11
62	AY	702	GDP	C2-N1-C6	-3.21	119.28	125.11
61	AY	701	FUA	O2-C31-C32	3.16	116.73	111.09
61	CY	701	FUA	C21-C14-C8	-3.07	109.69	112.23
62	AY	702	GDP	N9-C4-N3	3.07	132.09	125.95
62	CY	702	GDP	N9-C4-N3	3.05	132.05	125.95
61	CY	701	FUA	C20-C8-C14	-2.96	106.72	110.83
61	CY	701	FUA	C10-C9-C11	2.88	120.90	114.94
61	AY	701	FUA	C1-C2-C3	-2.70	106.51	111.59
61	CY	701	FUA	C1-C2-C3	-2.66	106.60	111.59
61	CY	701	FUA	O5-C29-O4	-2.49	117.98	123.90
61	AY	701	FUA	C10-C9-C11	2.47	120.05	114.94
61	CY	701	FUA	C14-C8-C9	-2.42	105.06	109.30
61	AY	701	FUA	C7-C8-C14	-2.40	108.71	110.78
62	AY	702	GDP	O6-C6-C5	-2.38	120.24	126.53
62	CY	702	GDP	O6-C6-C5	-2.37	120.27	126.53
62	CY	702	GDP	C8-N7-C5	2.36	108.47	104.26
62	AY	702	GDP	C8-N7-C5	2.32	108.39	104.26
61	AY	701	FUA	C20-C8-C14	-2.31	107.62	110.83
62	CY	702	GDP	N9-C8-N7	-2.26	109.21	113.40
62	CY	702	GDP	C4-C5-N7	-2.25	107.11	110.67

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
61	AY	701	FUA	O5-C29-O4	-2.24	118.57	123.90
62	AY	702	GDP	N9-C8-N7	-2.24	109.25	113.40
62	AY	702	GDP	C4-C5-N7	-2.22	107.16	110.67
61	AY	701	FUA	C28-C26-C27	2.19	119.64	114.59
62	AY	702	GDP	C5-C6-N1	2.10	118.60	113.25
62	CY	702	GDP	C5-C6-N1	2.10	118.59	113.25
61	CY	701	FUA	C20-C8-C7	2.05	111.20	107.83
61	AY	701	FUA	C15-C14-C8	-2.02	114.86	116.84
61	CY	701	FUA	C19-C10-C5	-2.01	108.47	111.18
61	CY	701	FUA	O5-C29-C22	2.01	121.66	115.83
61	AY	701	FUA	C19-C10-C9	-2.00	108.22	113.19

There are no chirality outliers.

All (17) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
61	AY	701	FUA	C13-C17-C22-C23
61	AY	701	FUA	C13-C17-C22-C29
61	AY	701	FUA	C29-C22-C23-C24
61	CY	701	FUA	C13-C17-C22-C23
61	CY	701	FUA	C13-C17-C22-C29
62	AY	702	GDP	C5'-O5'-PA-O3A
62	AY	702	GDP	C5'-O5'-PA-O1A
62	CY	702	GDP	C5'-O5'-PA-O3A
62	CY	702	GDP	C5'-O5'-PA-O1A
61	CY	701	FUA	C32-C31-O2-C16
61	AY	701	FUA	C32-C31-O2-C16
61	AY	701	FUA	O3-C31-O2-C16
61	CY	701	FUA	O3-C31-O2-C16
61	CY	701	FUA	C29-C22-C23-C24
61	AY	701	FUA	C24-C25-C26-C27
61	AY	701	FUA	C17-C22-C23-C24
61	CY	701	FUA	C17-C22-C23-C24

There are no ring outliers.

4 monomers are involved in 38 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
62	AY	702	GDP	12	0
62	CY	702	GDP	13	0
61	CY	701	FUA	7	0

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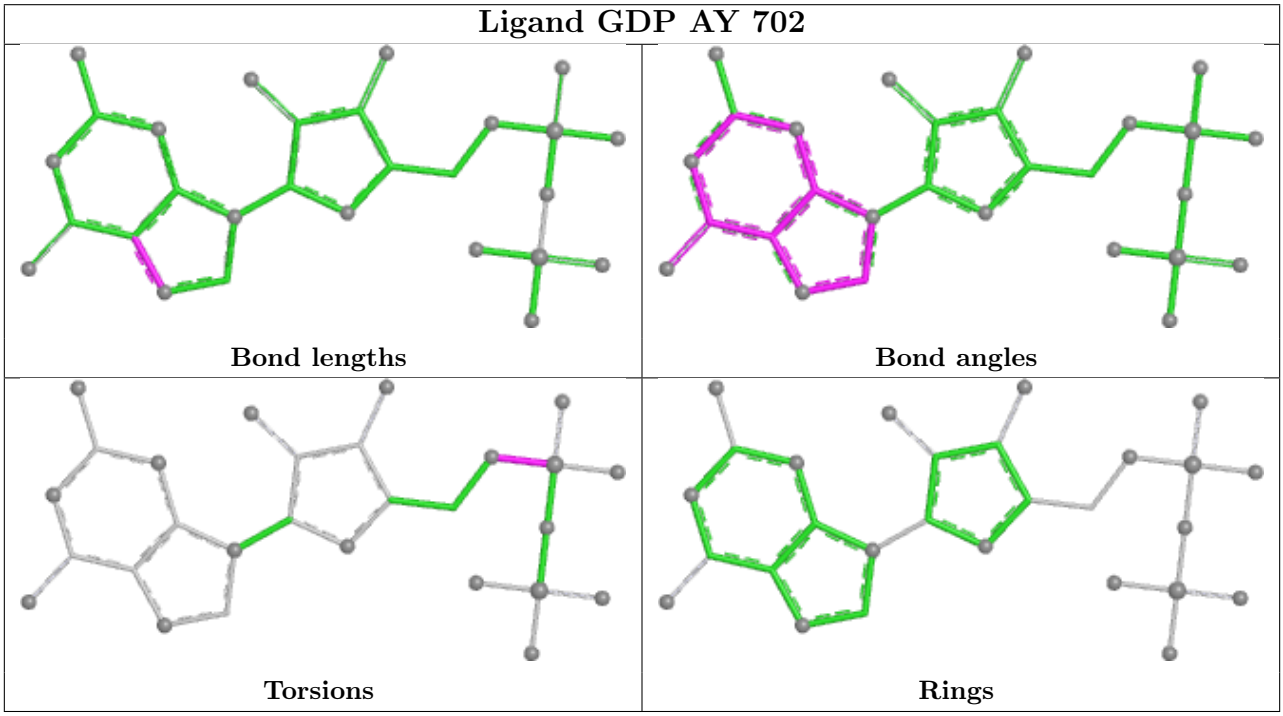
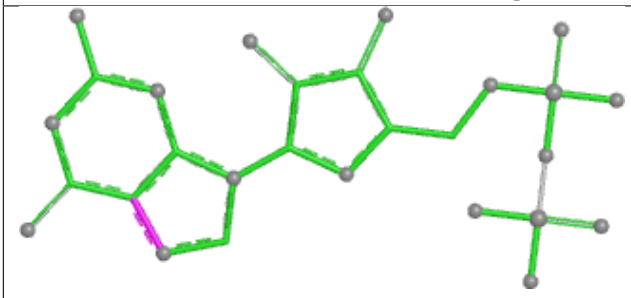
Mol	Chain	Res	Type	Clashes	Symm-Clashes
61	AY	701	FUA	6	0

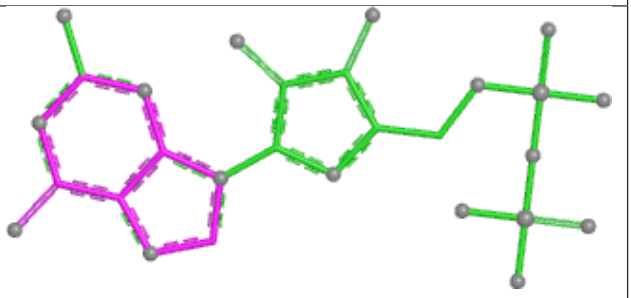
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.



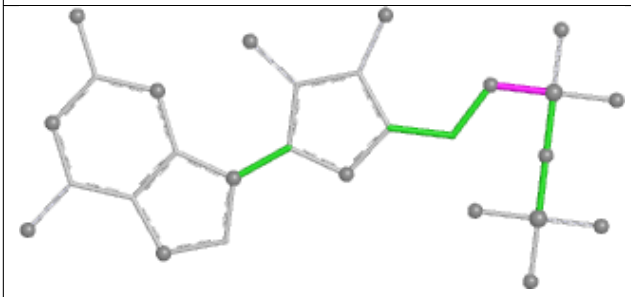
Ligand GDP CY 702



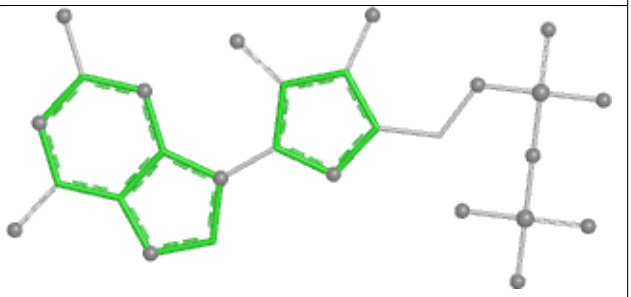
Bond lengths



Bond angles

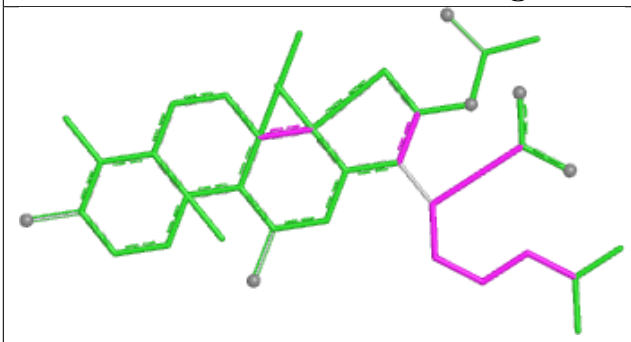


Torsions

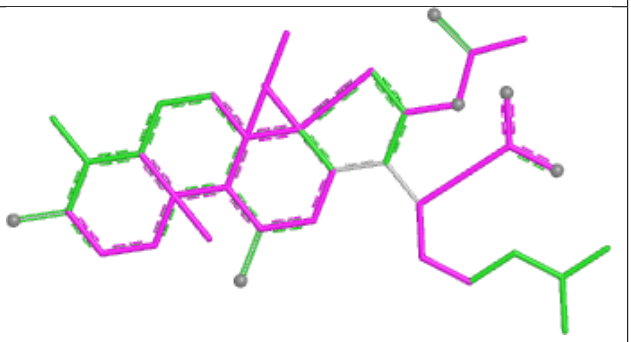


Rings

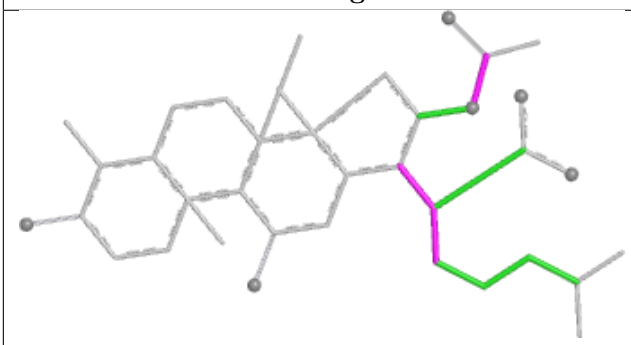
Ligand FUA CY 701



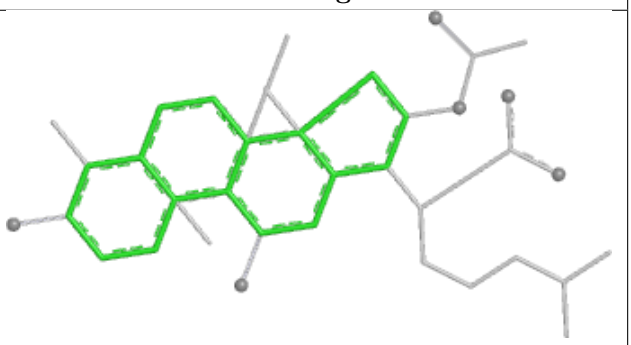
Bond lengths



Bond angles

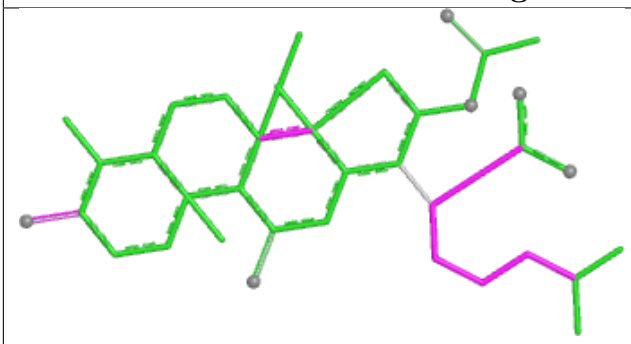


Torsions

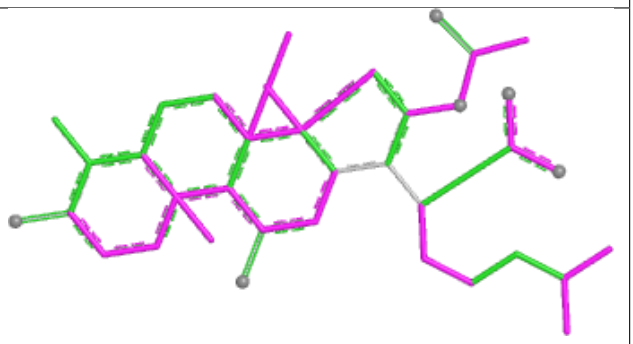


Rings

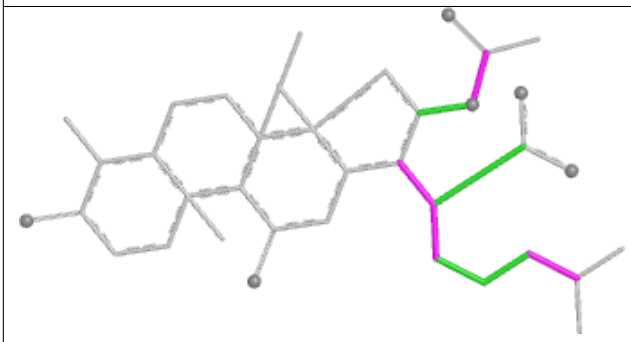
Ligand FUA AY 701



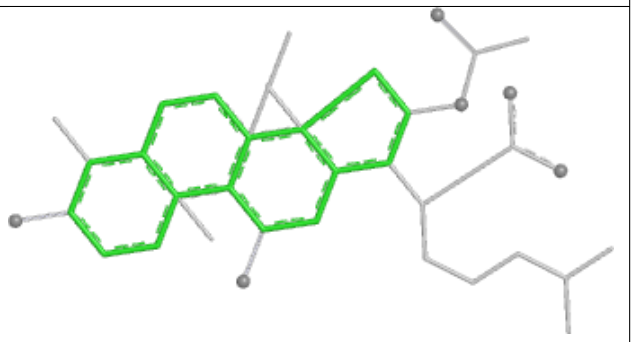
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
54	De	1
54	Be	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	De	30:UNK	C	51:ALA	N	37.69
1	Be	30:UNK	C	51:ALA	N	36.65

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	AB	235/235 (100%)	-1.06	0 100 100	4, 59, 144, 223	0
1	CB	235/235 (100%)	-0.99	1 (0%) 88 72	5, 60, 155, 214	0
2	AC	207/207 (100%)	-0.88	1 (0%) 87 68	4, 63, 136, 190	0
2	CC	207/207 (100%)	-0.97	1 (0%) 87 68	3, 57, 130, 186	0
3	AD	208/208 (100%)	-0.86	1 (0%) 87 68	4, 57, 142, 206	0
3	CD	208/208 (100%)	-0.78	1 (0%) 87 68	14, 72, 144, 196	0
4	AE	151/151 (100%)	-0.73	1 (0%) 84 63	5, 34, 122, 151	0
4	CE	151/151 (100%)	-0.76	0 100 100	4, 35, 133, 165	0
5	AF	101/101 (100%)	-1.11	0 100 100	4, 27, 93, 145	0
5	CF	101/101 (100%)	-1.10	1 (0%) 79 56	5, 37, 115, 163	0
6	AG	155/155 (100%)	-1.18	0 100 100	10, 78, 153, 229	0
6	CG	155/155 (100%)	-1.02	0 100 100	3, 84, 172, 210	0
7	AH	138/138 (100%)	-1.24	0 100 100	3, 31, 89, 166	0
7	CH	138/138 (100%)	-1.19	0 100 100	1, 37, 130, 199	0
8	AI	127/127 (100%)	-0.98	0 100 100	6, 72, 140, 199	0
8	CI	127/127 (100%)	-0.70	3 (2%) 59 35	14, 84, 152, 237	0
9	AJ	99/99 (100%)	-0.55	3 (3%) 52 30	9, 68, 136, 163	0
9	CJ	99/99 (100%)	-0.59	2 (2%) 65 39	13, 65, 154, 217	0
10	AK	119/119 (100%)	-0.92	1 (0%) 82 60	7, 56, 137, 180	0
10	CK	119/119 (100%)	-0.79	1 (0%) 82 60	8, 55, 145, 175	0
11	AL	125/125 (100%)	-0.90	1 (0%) 82 60	5, 39, 105, 171	0
11	CL	125/125 (100%)	-0.92	0 100 100	8, 52, 134, 176	0
12	AM	125/125 (100%)	-0.86	1 (0%) 82 60	23, 90, 167, 199	0
12	CM	125/125 (100%)	-0.90	0 100 100	14, 90, 166, 190	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
13	AN	60/60 (100%)	-1.22	0 100 100	8, 38, 114, 139	0
13	CN	60/60 (100%)	-1.14	0 100 100	8, 42, 131, 166	0
14	AO	88/88 (100%)	-1.24	0 100 100	5, 37, 108, 158	0
14	CO	88/88 (100%)	-1.10	0 100 100	8, 49, 130, 197	0
15	AP	84/84 (100%)	-1.02	0 100 100	18, 68, 131, 171	0
15	CP	84/84 (100%)	-1.08	0 100 100	8, 79, 159, 224	0
16	AQ	100/100 (100%)	-0.88	0 100 100	9, 43, 120, 169	0
16	CQ	100/100 (100%)	-0.84	1 (1%) 79 56	5, 43, 118, 142	0
17	AR	70/70 (100%)	-1.08	0 100 100	7, 30, 134, 185	0
17	CR	70/70 (100%)	-1.07	0 100 100	7, 28, 130, 193	0
18	AS	79/79 (100%)	-0.96	0 100 100	15, 78, 159, 206	0
18	CS	79/79 (100%)	-1.00	1 (1%) 75 50	10, 80, 154, 204	0
19	AT	99/99 (100%)	-0.92	0 100 100	4, 64, 120, 186	0
19	CT	99/99 (100%)	-0.84	0 100 100	16, 71, 155, 187	0
20	AA	1511/1511 (100%)	-1.08	22 (1%) 72 47	3, 62, 163, 289	0
20	CA	1511/1511 (100%)	-1.10	22 (1%) 72 47	5, 63, 173, 323	0
21	AW	77/77 (100%)	-1.19	0 100 100	21, 91, 179, 234	0
21	CW	77/77 (100%)	-1.22	0 100 100	44, 97, 221, 273	0
22	AV	23/23 (100%)	-0.50	1 (4%) 40 21	56, 136, 187, 205	0
22	CV	23/23 (100%)	-0.59	1 (4%) 40 21	66, 119, 215, 230	0
23	AY	667/687 (97%)	-0.95	1 (0%) 92 86	5, 64, 147, 208	0
23	CY	667/687 (97%)	-0.91	5 (0%) 84 63	4, 68, 150, 203	0
24	AU	2/6 (33%)	-0.64	0 100 100	155, 155, 155, 155	0
24	CU	2/6 (33%)	-0.75	0 100 100	81, 81, 81, 88	0
25	BC	228/228 (100%)	-1.03	0 100 100	45, 128, 217, 259	0
25	DC	228/228 (100%)	-1.03	1 (0%) 88 72	33, 153, 230, 287	0
26	BD	275/275 (100%)	-0.89	2 (0%) 84 63	4, 26, 103, 166	0
26	DD	275/275 (100%)	-0.90	0 100 100	4, 25, 107, 210	0
27	BE	205/205 (100%)	-1.12	0 100 100	1, 31, 135, 229	0
27	DE	205/205 (100%)	-1.07	0 100 100	6, 41, 144, 221	0
28	BF	208/208 (100%)	-0.83	1 (0%) 87 68	6, 49, 162, 216	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
28	DF	208/208 (100%)	-0.87	0 100 100	10, 62, 162, 266	0
29	BG	181/181 (100%)	-0.93	0 100 100	11, 91, 152, 197	0
29	DG	181/181 (100%)	-1.01	1 (0%) 85 65	33, 105, 176, 209	0
30	BH	167/167 (100%)	-1.22	0 100 100	3, 47, 130, 224	0
30	DH	167/167 (100%)	-1.03	0 100 100	6, 56, 141, 187	0
31	BJ	0/170	-	-	-	-
31	DJ	0/170	-	-	-	-
32	BK	140/140 (100%)	-0.83	1 (0%) 84 63	17, 104, 194, 230	0
32	DK	140/140 (100%)	-0.94	2 (1%) 73 48	37, 124, 205, 244	0
33	BN	138/138 (100%)	-0.81	0 100 100	59, 83, 108, 111	0
33	DN	138/138 (100%)	-0.83	0 100 100	59, 81, 104, 111	0
34	BO	122/122 (100%)	-1.01	1 (0%) 82 60	5, 33, 94, 148	0
34	DO	122/122 (100%)	-0.96	0 100 100	4, 30, 131, 183	0
35	BP	146/146 (100%)	-0.88	0 100 100	7, 55, 131, 173	0
35	DP	146/146 (100%)	-0.87	1 (0%) 84 63	1, 60, 152, 204	0
36	BQ	141/141 (100%)	-0.95	2 (1%) 73 48	20, 43, 113, 170	0
36	DQ	141/141 (100%)	-0.94	2 (1%) 73 48	8, 32, 107, 219	0
37	BR	117/117 (100%)	-1.07	0 100 100	7, 38, 125, 156	0
37	DR	117/117 (100%)	-1.01	1 (0%) 81 58	2, 38, 126, 213	0
38	BS	99/99 (100%)	-0.90	0 100 100	27, 104, 191, 225	0
38	DS	99/99 (100%)	-0.85	0 100 100	11, 106, 194, 248	0
39	BT	138/138 (100%)	-0.96	0 100 100	6, 53, 139, 225	0
39	DT	138/138 (100%)	-0.85	0 100 100	3, 68, 141, 201	0
40	BU	117/117 (100%)	-1.08	0 100 100	11, 22, 80, 175	0
40	DU	117/117 (100%)	-1.06	1 (0%) 81 58	6, 20, 94, 136	0
41	BV	101/101 (100%)	-1.12	0 100 100	0, 32, 104, 143	0
41	DV	101/101 (100%)	-1.08	0 100 100	2, 32, 117, 147	0
42	BW	113/113 (100%)	-1.00	0 100 100	8, 32, 103, 140	0
42	DW	113/113 (100%)	-0.89	0 100 100	2, 31, 116, 157	0
43	BX	93/93 (100%)	-1.04	0 100 100	5, 51, 118, 172	0
43	DX	93/93 (100%)	-0.96	0 100 100	7, 50, 136, 198	0
44	BY	107/107 (100%)	-0.91	1 (0%) 81 58	12, 69, 151, 213	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
44	DY	107/107 (100%)	-0.95	1 (0%) 81 58	6, 70, 150, 196	0
45	BZ	185/185 (100%)	-1.15	0 100 100	13, 52, 123, 175	0
45	DZ	185/185 (100%)	-1.10	0 100 100	10, 61, 135, 194	0
46	B0	84/84 (100%)	-0.67	1 (1%) 76 52	6, 53, 127, 163	0
46	D0	84/84 (100%)	-0.76	3 (3%) 46 25	7, 58, 132, 217	0
47	B2	71/71 (100%)	-1.24	0 100 100	12, 61, 137, 175	0
47	D2	71/71 (100%)	-1.17	0 100 100	9, 60, 127, 145	0
48	B3	60/60 (100%)	-1.14	0 100 100	8, 31, 96, 111	0
48	D3	60/60 (100%)	-1.04	0 100 100	13, 29, 101, 126	0
49	B5	59/59 (100%)	-1.07	0 100 100	8, 37, 148, 208	0
49	D5	59/59 (100%)	-1.00	0 100 100	6, 44, 156, 223	0
50	B6	50/50 (100%)	-1.09	0 100 100	12, 92, 147, 163	0
50	D6	50/50 (100%)	-0.95	0 100 100	31, 89, 175, 242	0
51	B7	49/49 (100%)	-1.14	0 100 100	9, 16, 135, 218	0
51	D7	49/49 (100%)	-1.00	0 100 100	11, 32, 107, 180	0
52	B8	64/64 (100%)	-0.96	0 100 100	5, 46, 98, 130	0
52	D8	64/64 (100%)	-0.85	0 100 100	7, 56, 123, 178	0
53	B9	37/37 (100%)	-1.03	0 100 100	10, 26, 148, 246	0
53	D9	37/37 (100%)	-0.93	0 100 100	8, 19, 104, 158	0
54	Be	72/102 (70%)	-0.86	2 (2%) 55 32	24, 113, 183, 201	0
54	De	72/102 (70%)	-1.07	0 100 100	18, 114, 206, 259	0
55	Bf	0/31	-	-	-	-
55	Bg	0/31	-	-	-	-
55	Df	0/31	-	-	-	-
55	Dg	0/31	-	-	-	-
56	Bh	0/30	-	-	-	-
56	Dh	0/30	-	-	-	-
57	B1	93/93 (100%)	-0.47	0 100 100	1, 79, 187, 243	0
57	D1	93/93 (100%)	-0.31	1 (1%) 78 54	8, 72, 174, 241	0
58	B4	35/35 (100%)	-1.16	0 100 100	74, 144, 233, 266	0
58	D4	35/35 (100%)	-0.83	1 (2%) 53 31	64, 158, 226, 275	0
59	BA	2879/2879 (100%)	-1.29	12 (0%) 88 72	3, 43, 145, 276	0
59	DA	2879/2879 (100%)	-1.25	14 (0%) 87 68	0, 47, 163, 315	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
60	BB	119/119 (100%)	-1.42	0 100 100	21, 108, 175, 210	0
60	DB	119/119 (100%)	-1.29	0 100 100	23, 97, 186, 258	0
All	All	22686/23318 (97%)	-1.06	125 (0%) 85 65	0, 57, 160, 323	0

All (125) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
9	CJ	58	ASP	5.5
44	DY	107	ASP	5.1
59	BA	382	G	5.0
20	CA	1099	G	4.8
44	BY	107	ASP	4.8
36	DQ	141	GLN	4.6
26	BD	40	THR	4.5
59	DA	383	U	4.5
59	BA	2317	C	4.5
20	AA	942	G	4.4
20	CA	1534	A	4.2
12	AM	124	PRO	4.0
23	AY	690	GLY	3.8
16	CQ	38	ARG	3.7
20	AA	112	G	3.6
20	CA	1367	C	3.6
59	BA	1544	C	3.5
59	DA	426	C	3.5
10	AK	127	LYS	3.5
20	AA	353	A	3.5
20	AA	1235	U	3.5
20	CA	1098	C	3.4
36	DQ	140	ALA	3.4
20	AA	51	A	3.4
59	DA	382	G	3.3
8	CI	117	HIS	3.3
46	D0	3	HIS	3.3
5	CF	54	LYS	3.3
26	BD	42	GLY	3.3
37	DR	69	ASP	3.3
59	BA	790	C	3.2
20	CA	1390	U	3.2
36	BQ	140	ALA	3.2
20	CA	1238	A	3.1

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Mol	Chain	Res	Type	RSRZ
20	AA	47	C	3.1
23	CY	105	ILE	3.1
9	AJ	58	ASP	3.1
54	Be	122	VAL	3.0
28	BF	69	HIS	3.0
20	CA	1167	A	3.0
20	CA	1239	A	3.0
20	CA	1391	U	3.0
59	DA	384	U	3.0
20	AA	1336	C	2.9
54	Be	121	VAL	2.9
8	CI	114	TYR	2.9
23	CY	237	PRO	2.9
59	BA	1008	C	2.9
3	CD	84	LYS	2.9
25	DC	125	GLY	2.8
34	BO	11	ALA	2.8
20	AA	941	G	2.8
40	DU	20	LEU	2.7
23	CY	382	GLU	2.7
59	DA	2242	G	2.7
1	CB	30	ARG	2.7
59	DA	2380	C	2.7
20	AA	951	G	2.7
46	B0	18	ALA	2.7
20	AA	306	G	2.7
59	DA	2334	G	2.7
11	AL	16	GLU	2.7
59	BA	1396	U	2.6
9	CJ	60	ARG	2.6
29	DG	51	ARG	2.6
20	AA	1367	C	2.6
20	CA	328	C	2.6
59	BA	383	U	2.6
59	DA	2132	U	2.6
20	CA	942	G	2.6
8	CI	122	ALA	2.6
59	DA	2146	C	2.6
36	BQ	141	GLN	2.5
58	D4	4	GLY	2.5
20	CA	47	C	2.5
59	BA	380	U	2.5

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Mol	Chain	Res	Type	RSRZ
32	BK	9	LYS	2.5
57	D1	38	SER	2.5
20	CA	315	A	2.5
46	D0	73	GLY	2.5
18	CS	32	LYS	2.4
59	DA	1008	C	2.4
2	AC	190	ARG	2.4
46	D0	7	LEU	2.4
59	DA	425	G	2.3
2	CC	164	ARG	2.3
20	AA	308	C	2.3
32	DK	62	ASP	2.3
20	AA	31	G	2.3
59	BA	381	G	2.3
20	CA	1062	U	2.3
59	DA	1621	U	2.3
35	DP	19	VAL	2.3
22	AV	8	A	2.3
3	AD	84	LYS	2.3
4	AE	49	PRO	2.3
20	CA	1297	C	2.3
20	AA	49	U	2.2
20	AA	307	C	2.2
20	AA	314	C	2.2
20	AA	824	C	2.2
20	CA	330	C	2.2
20	AA	1236	A	2.2
32	DK	9	LYS	2.2
20	CA	353	A	2.2
20	CA	974	A	2.2
59	BA	1545	A	2.2
59	BA	1860	G	2.2
20	AA	390	C	2.2
9	AJ	49	VAL	2.1
20	AA	934	C	2.1
23	CY	622	GLY	2.1
20	AA	1183	A	2.1
59	DA	1379	A	2.1
20	AA	1066	C	2.1
20	CA	1087	G	2.1
23	CY	502	GLY	2.0
9	AJ	55	LYS	2.0

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Mol	Chain	Res	Type	RSRZ
20	CA	1386	G	2.0
22	CV	7	G	2.0
20	CA	1086	U	2.0
20	CA	1235	U	2.0
10	CK	41	THR	2.0
59	BA	2161	C	2.0
59	DA	2804	C	2.0

6.2 Non-standard residues in protein, DNA, RNA chains (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
24	UAL	AU	5	9/10	0.93	0.12	149,151,153,154	0
24	UAL	CU	5	9/10	0.96	0.09	89,90,91,91	0
24	DPP	CU	2	6/7	0.97	0.10	77,79,80,82	0
24	5OH	CU	6	12/13	0.97	0.08	84,88,89,89	0
24	KBE	CU	1	9/10	0.98	0.10	69,74,77,77	0
24	5OH	AU	6	12/13	0.98	0.11	151,153,154,154	0
24	DPP	AU	2	6/7	0.98	0.06	153,153,154,154	0
24	KBE	AU	1	9/10	0.99	0.09	154,155,156,156	0

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
61	FUA	AY	701	37/37	0.97	0.09	154,155,156,156	0
61	FUA	CY	701	37/37	0.97	0.09	199,200,202,202	0
62	GDP	CY	702	28/28	0.97	0.07	78,82,83,84	0

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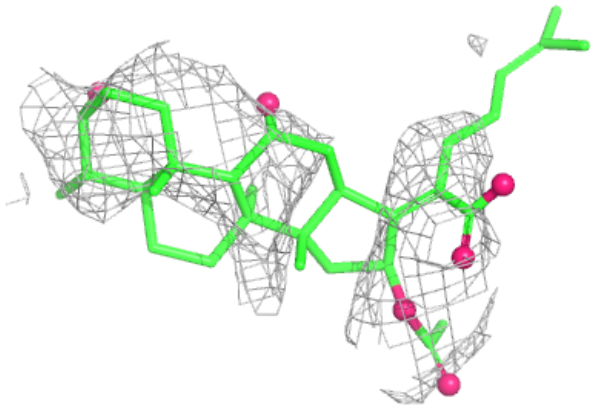
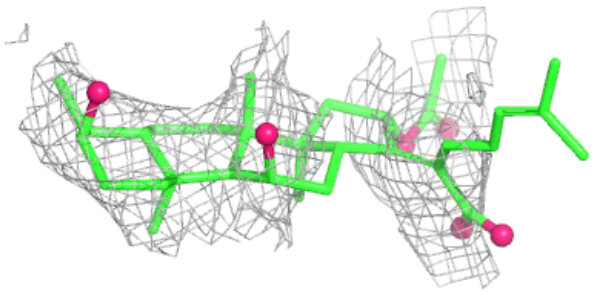
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
62	GDP	AY	702	28/28	0.98	0.04	78,82,83,84	0
63	MG	BA	2901	1/1	1.00	0.11	5,5,5,5	0
63	MG	CY	703	1/1	1.00	0.07	1,1,1,1	0

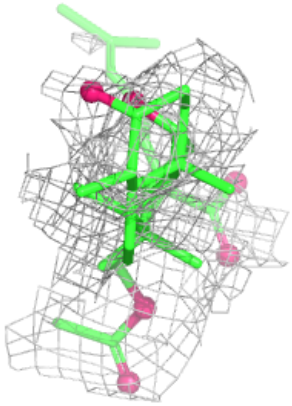
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around FUA AY 701:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

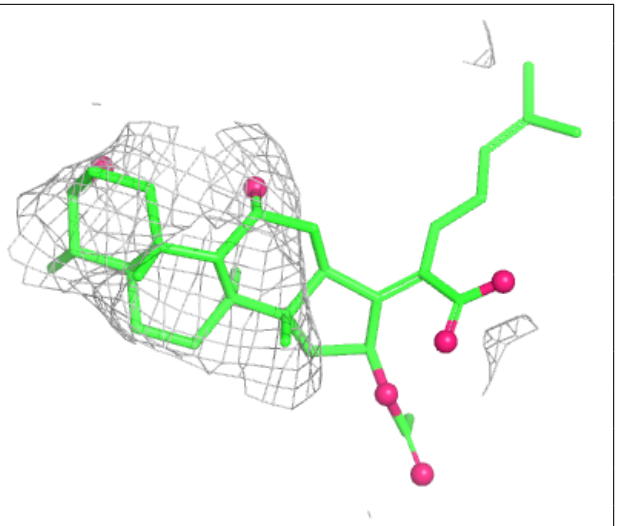


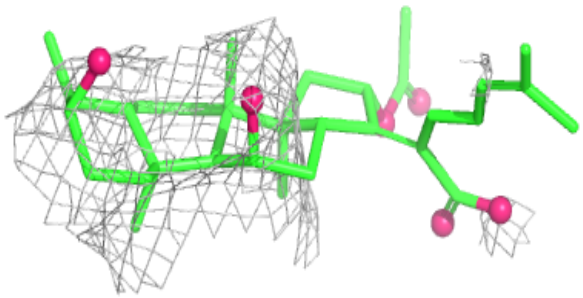


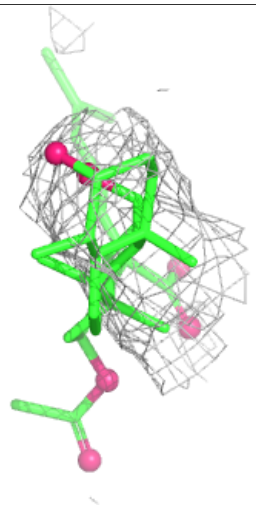


Electron density around FUA CY 701:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

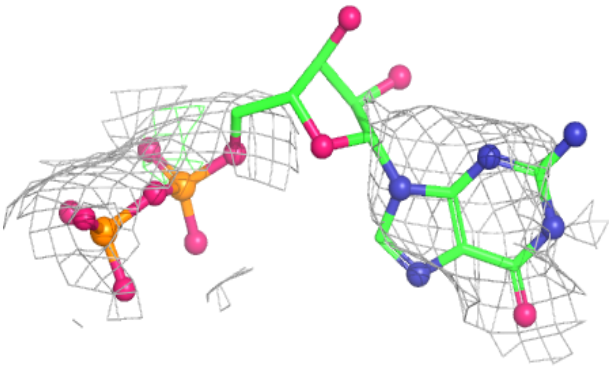


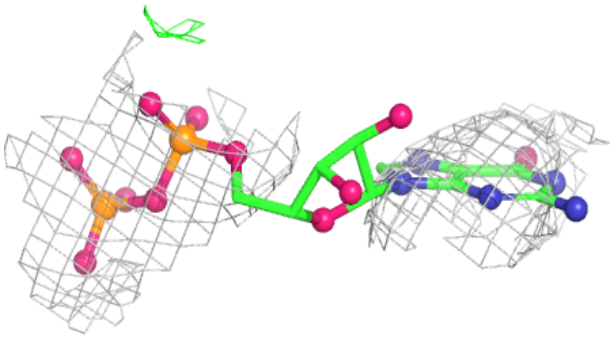


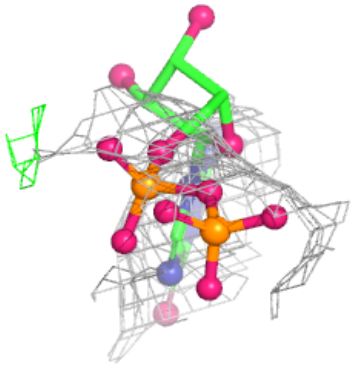


Electron density around GDP CY 702:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

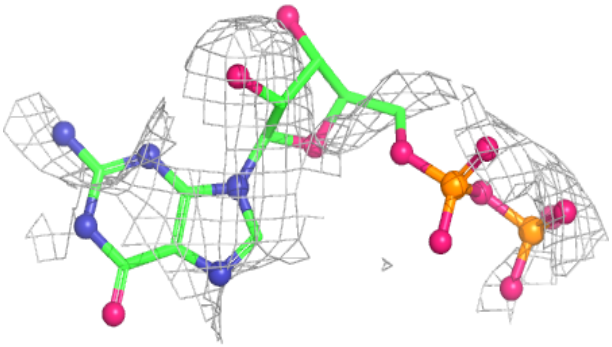


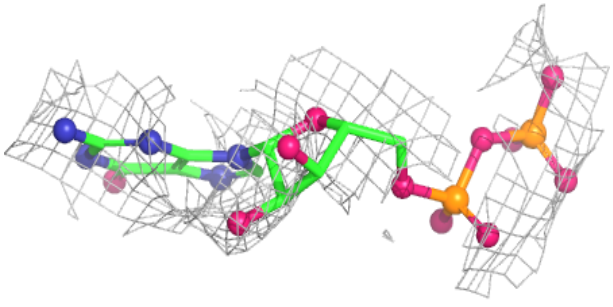


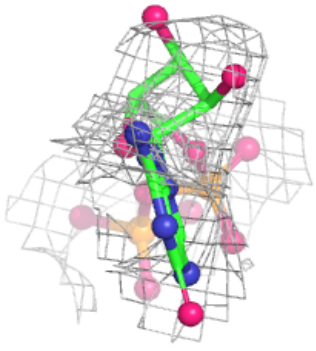


Electron density around GDP AY 702:

$2mF_o$-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.