Full wwPDB X-ray Structure Validation Report (i)

Mar 9, 2026 – 06:19 AM UTC

PDB ID	:	2ZJP / pdb_00002zjp
Title	:	Thiopeptide antibiotic Nosiheptide bound to the large ribosomal subunit of Deinococcus radiodurans
Authors	:	Harms, J.M.; Wilson, D.N.; Schluenzen, F.; Connell, S.R.; Stachelhaus, T.; Zaborowska, Z.; Spahn, C.M.T.; Fucini, P.
Deposited on	:	2008-03-07
Resolution	:	3.70 Å(reported)

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

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

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

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

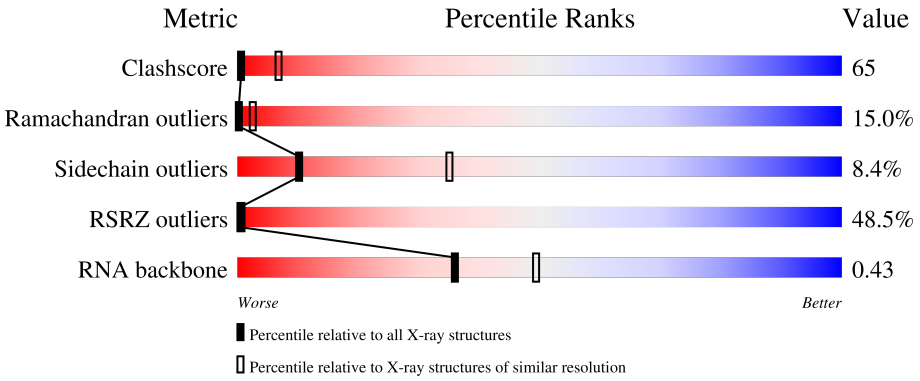
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (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 3.70 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))
Clashscore	190562	1171 (3.80-3.60)
Ramachandran outliers	187476	1129 (3.80-3.60)
Sidechain outliers	187428	1126 (3.80-3.60)
RSRZ outliers	180081	1130 (3.80-3.60)
RNA backbone	3983	1007 (4.30-3.08)

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	1	55	96% 95%
2	2	47	98% 96%
3	3	66	95% 92% 5%
4	4	37	54% 22% 70% 8%
5	5	13	8% 23% 62% 15%

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Mol	Chain	Length	Quality of chain
6	A	274	51% 24% 51% 12% 12%
7	B	211	22% 20% 55% 20%
8	C	205	28% 11% 58% 26%
9	D	180	27% 12% 69% 16%
10	E	185	25% 26% 57% 8% 8%
11	F	144	31% 47% 49%
12	G	174	39% 9% 46% 24% 18%
13	H	134	11% 10% 68% 20%
14	I	156	32% 18% 43% 27% 10%
15	J	142	35% 17% 54% 21%
16	K	116	19% 9% 55% 28% 5%
17	L	114	41% 14% 55% 19% 9%
18	M	166	15% 8% 34% 19% 35%
19	N	118	45% 15% 56% 25%
20	O	100	27% 9% 61% 22% 6%
21	P	134	16% 14% 61% 17% 5%
22	Q	95	25% 15% 54% 27%
23	R	115	20% 8% 62% 24%
24	S	237	28% 15% 47% 11% 26%
25	T	91	36% 21% 60% 10% 8%
26	U	81	41% 15% 44% 25% 5% 11%
27	V	67	16% 16% 69% 13%
28	W	55	38% 18% 65% 16%
29	X	2880	58% 10% 53% 22% 8% 7%
30	Y	60	13% 15% 63% 17%

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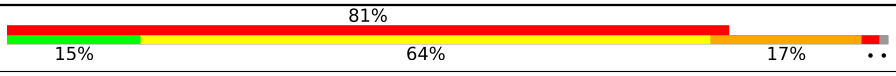
Mol	Chain	Length	Quality of chain
31	Z	123	

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
33	NO1	5	14	-	X	-	-
34	MG	X	2881	-	-	-	X
34	MG	X	2883	-	-	-	X
34	MG	X	2889	-	-	-	X
34	MG	X	2892	-	-	-	X
34	MG	X	2896	-	-	-	X
34	MG	X	2901	-	-	-	X
34	MG	X	2906	-	-	-	X
34	MG	Z	124	-	-	-	X
34	MG	Z	125	-	-	-	X
34	MG	Z	129	-	-	-	X
5	MH6	5	10	-	X	-	-
5	DHA	5	12	-	X	-	-
5	DBU	5	4	-	X	-	-

2 Entry composition (i)

There are 34 unique types of molecules in this entry. The entry contains 84444 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 50S RIBOSOMAL PROTEIN L33.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
1	1	53	Total C 53 53	0	0	53

- Molecule 2 is a protein called 50S RIBOSOMAL PROTEIN L34.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
2	2	46	Total C 46 46	0	0	46

- Molecule 3 is a protein called 50S RIBOSOMAL PROTEIN L35.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
3	3	63	Total C 63 63	0	0	63

- Molecule 4 is a protein called 50S RIBOSOMAL PROTEIN L36.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
4	4	37	Total C N O S 297 179 66 47 5	0	0	0

- Molecule 5 is a protein called NOSIHEPTIDE.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
5	5	13	Total C N O S 69 40 12 11 6	0	0	1

- Molecule 6 is a protein called 50S RIBOSOMAL PROTEIN L2.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
6	A	240	Total C N O S 1826 1137 366 321 2	0	0	0

- Molecule 7 is a protein called 50S RIBOSOMAL PROTEIN L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	B	205	Total	C	N	O	S	0	0	0
			1539	965	295	271	8			

- Molecule 8 is a protein called 50S RIBOSOMAL PROTEIN L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	C	197	Total	C	N	O	S	0	0	0
			1506	935	287	282	2			

- Molecule 9 is a protein called 50S RIBOSOMAL PROTEIN L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	D	177	Total	C	N	O	S	0	0	0
			1400	892	247	254	7			

- Molecule 10 is a protein called 50S RIBOSOMAL PROTEIN L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	E	171	Total	C	N	O	S	0	0	0
			1286	812	237	236	1			

- Molecule 11 is a protein called 50S RIBOSOMAL PROTEIN L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	F	144	Total	C	N	O	S	0	0	0
			1044	663	179	197	5			

- Molecule 12 is a protein called 50S RIBOSOMAL PROTEIN L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	G	142	Total	C	N	O	S	0	0	0
			1114	704	209	198	3			

- Molecule 13 is a protein called 50S RIBOSOMAL PROTEIN L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	H	134	Total	C	N	O	S	0	0	0
			997	614	198	180	5			

- Molecule 14 is a protein called 50S RIBOSOMAL PROTEIN L15.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
14	I	141	Total	C	N	O	0	0	0
			1067	655	216	196			

- Molecule 15 is a protein called 50S RIBOSOMAL PROTEIN L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	J	136	Total	C	N	O	S	0	0	0
			1090	696	202	185	7			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J	1	MET	-	initiating methionine	UNP Q9RXJ5

- Molecule 16 is a protein called 50S RIBOSOMAL PROTEIN L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	K	113	Total	C	N	O	S	0	0	0
			878	541	178	157	2			

- Molecule 17 is a protein called 50S RIBOSOMAL PROTEIN L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
17	L	104	Total	C	N	O	0	0	0
			779	476	161	142			

- Molecule 18 is a protein called 50S RIBOSOMAL PROTEIN L19.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	M	108	Total	C	N	O	0	0	0
			871	543	172	156			

- Molecule 19 is a protein called 50S RIBOSOMAL PROTEIN L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	N	117	Total	C	N	O	S	0	0	0
			978	608	210	159	1			

- Molecule 20 is a protein called 50S RIBOSOMAL PROTEIN L21.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
20	O	94	Total	C	N	O	0	0	0
			741	465	139	137			

- Molecule 21 is a protein called 50S RIBOSOMAL PROTEIN L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	P	127	Total	C	N	O	S	0	0	0
			1014	639	199	174	2			

- Molecule 22 is a protein called 50S RIBOSOMAL PROTEIN L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	Q	93	Total	C	N	O	S	0	0	0
			726	458	136	130	2			

- Molecule 23 is a protein called 50S RIBOSOMAL PROTEIN L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	R	110	Total	C	N	O	S	0	0	0
			825	513	160	151	1			

- Molecule 24 is a protein called 50S RIBOSOMAL PROTEIN L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	S	175	Total	C	N	O	S	0	0	0
			1345	849	236	254	6			

- Molecule 25 is a protein called 50S RIBOSOMAL PROTEIN L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	T	84	Total	C	N	O	S	0	0	0
			625	393	122	109	1			

- Molecule 26 is a protein called 50S RIBOSOMAL PROTEIN L28.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
26	U	72	Total	C	N	O	0	0	0
			552	341	116	95			

- Molecule 27 is a protein called 50S RIBOSOMAL PROTEIN L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	V	66	Total	C	N	O	S	0	0	0
			533	327	107	96	3			

- Molecule 28 is a protein called 50S RIBOSOMAL PROTEIN L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	W	55	Total	C	N	O	S	0	0	0
			424	264	82	76	2			

- Molecule 29 is a RNA chain called RIBOSOMAL 23S RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	X	2686	Total	C	N	O	P	0	0	0
			57651	25718	10642	18606	2685			

- Molecule 30 is a protein called 50S RIBOSOMAL PROTEIN L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	Y	58	Total	C	N	O	S	0	0	0
			457	281	94	77	5			

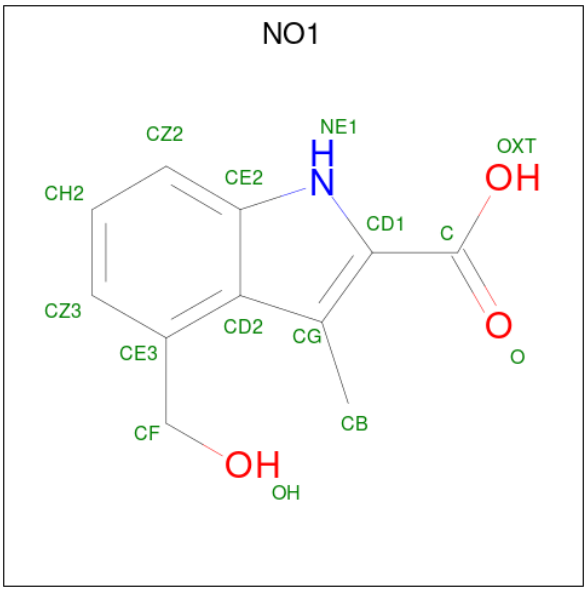
- Molecule 31 is a RNA chain called RIBOSOMAL 5S RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	Z	122	Total	C	N	O	P	0	0	0
			2598	1161	476	840	121			

- Molecule 32 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	4	1	Total	Zn	0	0
			1	1		
32	Y	1	Total	Zn	0	0
			1	1		

- Molecule 33 is 4-(hydroxymethyl)-3-methyl-1H-indole-2-carboxylic acid (CCD ID: NO1) (formula: $C_{11}H_{11}NO_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
33	5	1	Total C N O 13 11 1 1	0	0

- Molecule 34 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

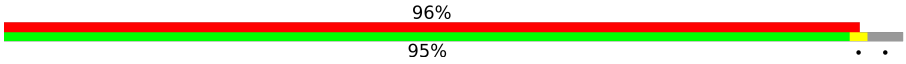
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
34	M	1	Total Mg 1 1	0	0
34	X	28	Total Mg 28 28	0	0
34	Z	6	Total Mg 6 6	0	0

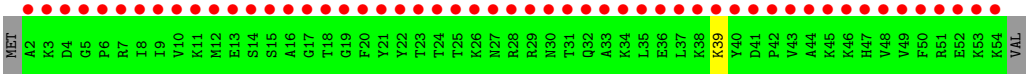
3 Residue-property plots (i)

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: 50S RIBOSOMAL PROTEIN L33

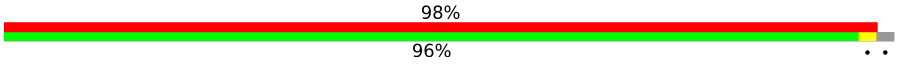
Chain 1:

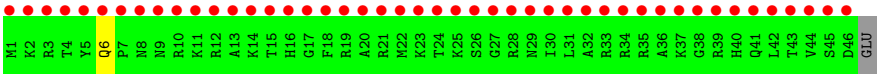




• Molecule 2: 50S RIBOSOMAL PROTEIN L34

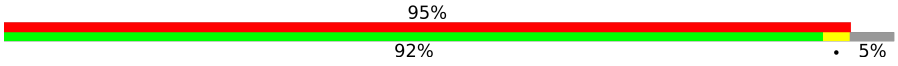
Chain 2:

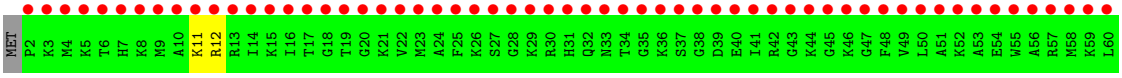


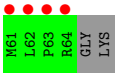


• Molecule 3: 50S RIBOSOMAL PROTEIN L35

Chain 3:

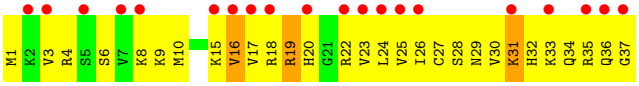






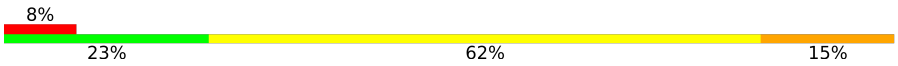
• Molecule 4: 50S RIBOSOMAL PROTEIN L36

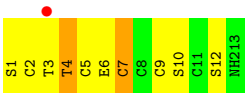
Chain 4:



• Molecule 5: NOSIHEPTIDE

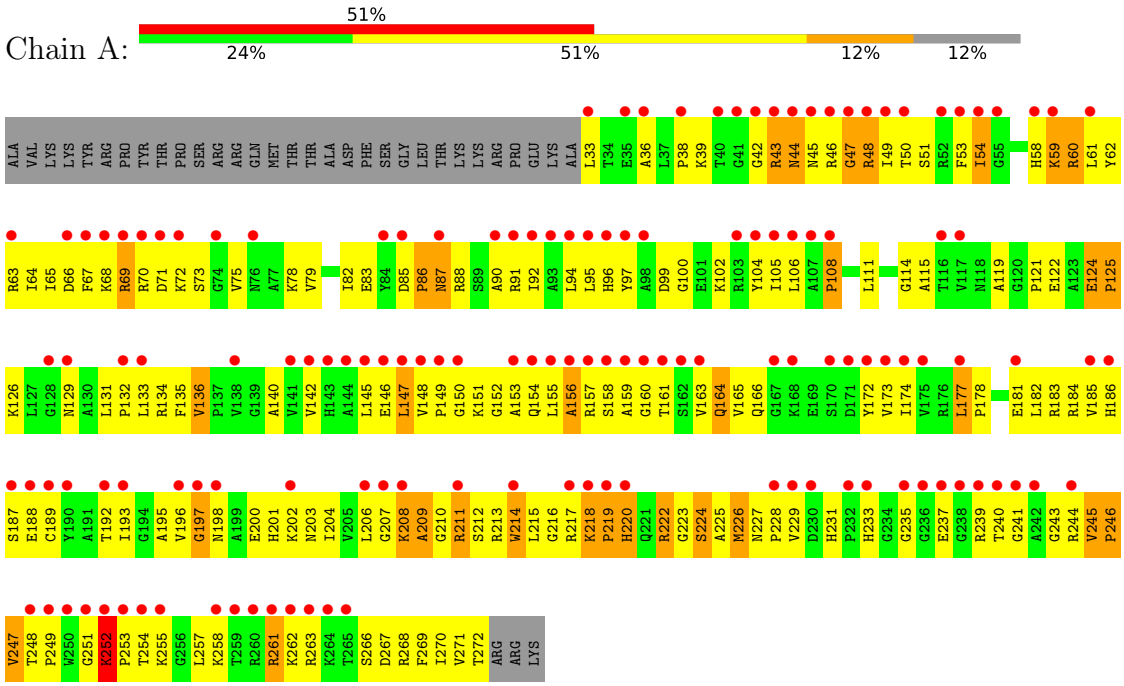
Chain 5:





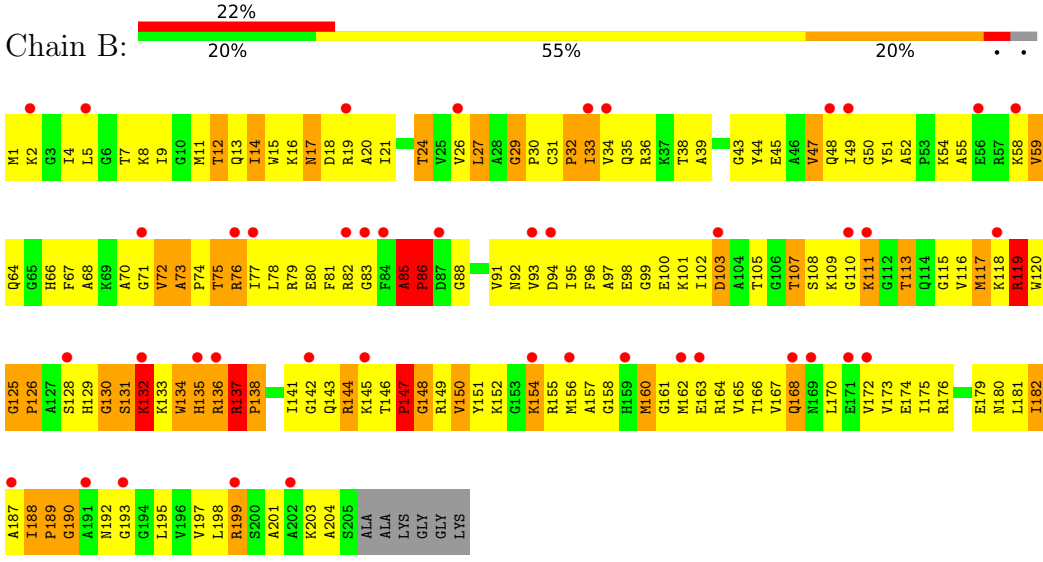
• Molecule 6: 50S RIBOSOMAL PROTEIN L2

Chain A:



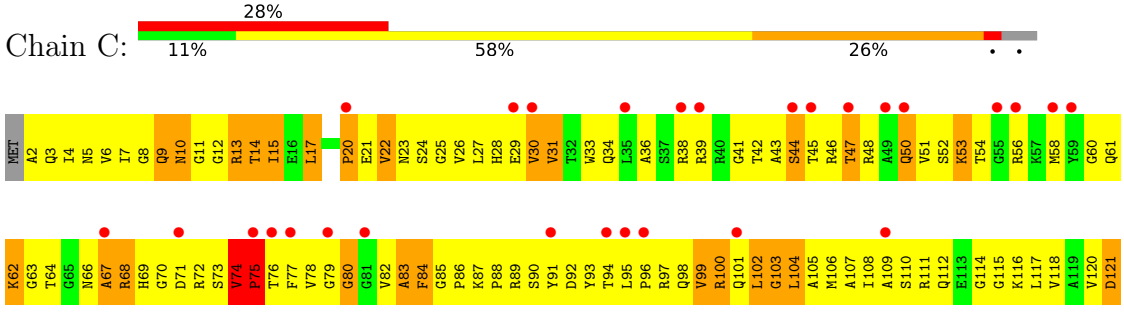
• Molecule 7: 50S RIBOSOMAL PROTEIN L3

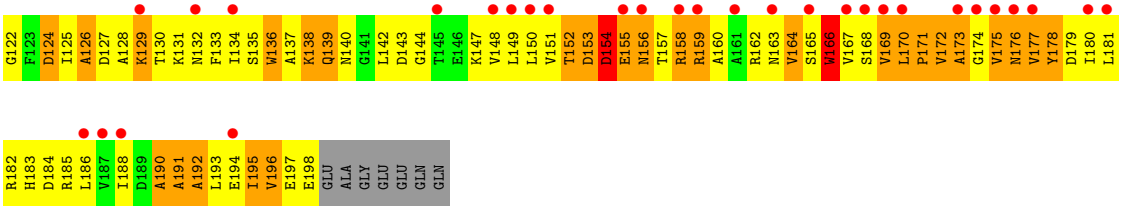
Chain B:



• Molecule 8: 50S RIBOSOMAL PROTEIN L4

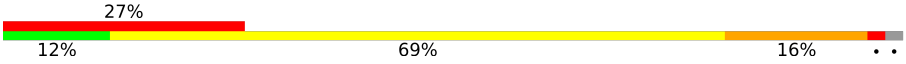
Chain C:

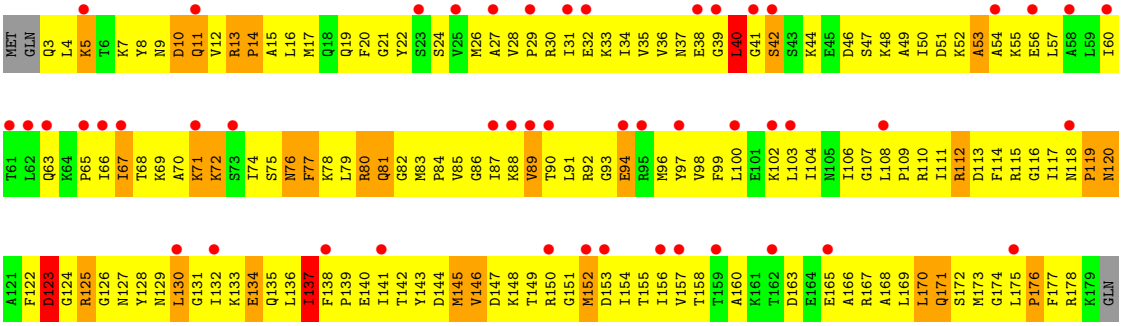




• Molecule 9: 50S RIBOSOMAL PROTEIN L5

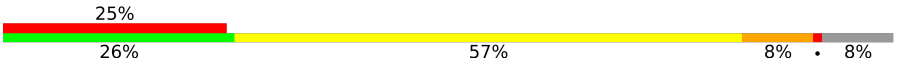
Chain D:

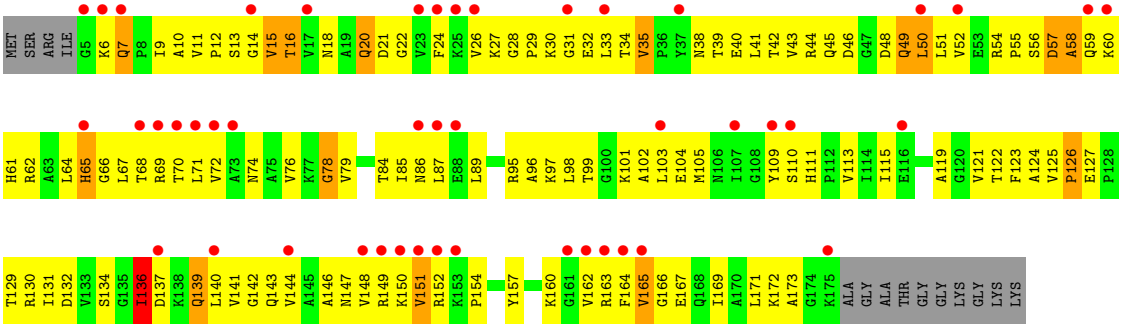




• Molecule 10: 50S RIBOSOMAL PROTEIN L6

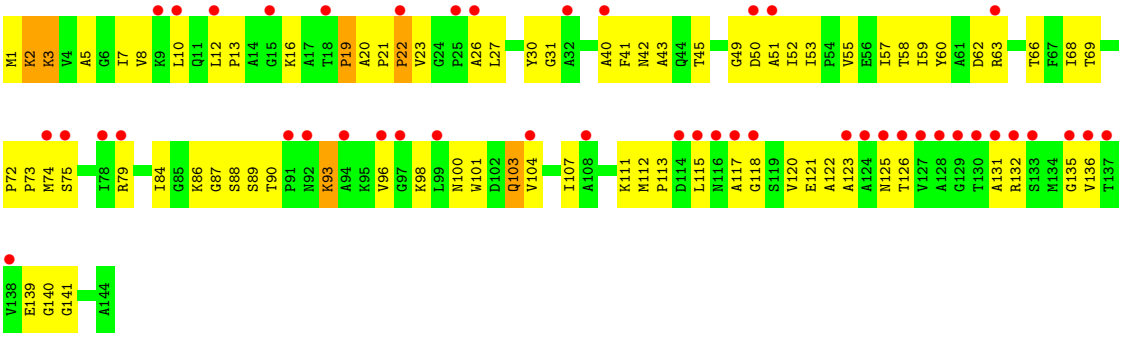
Chain E:



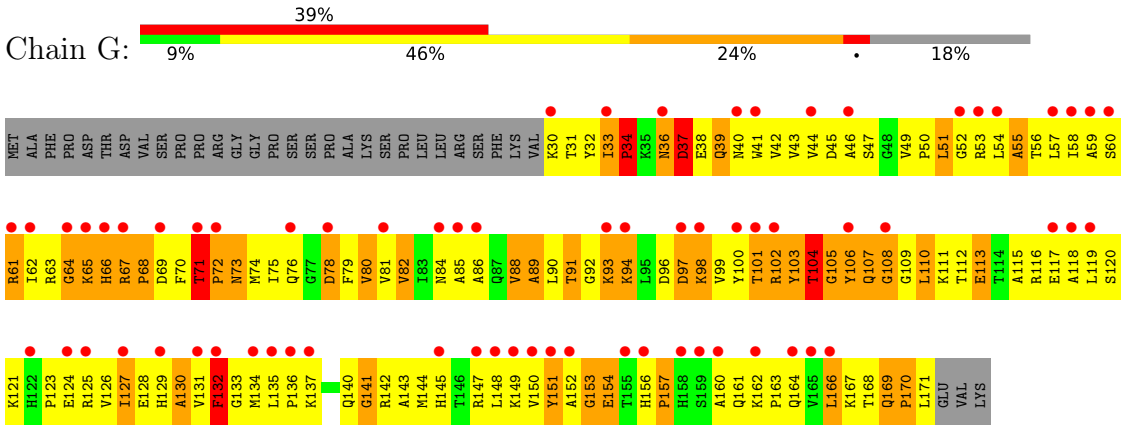


• Molecule 11: 50S RIBOSOMAL PROTEIN L11

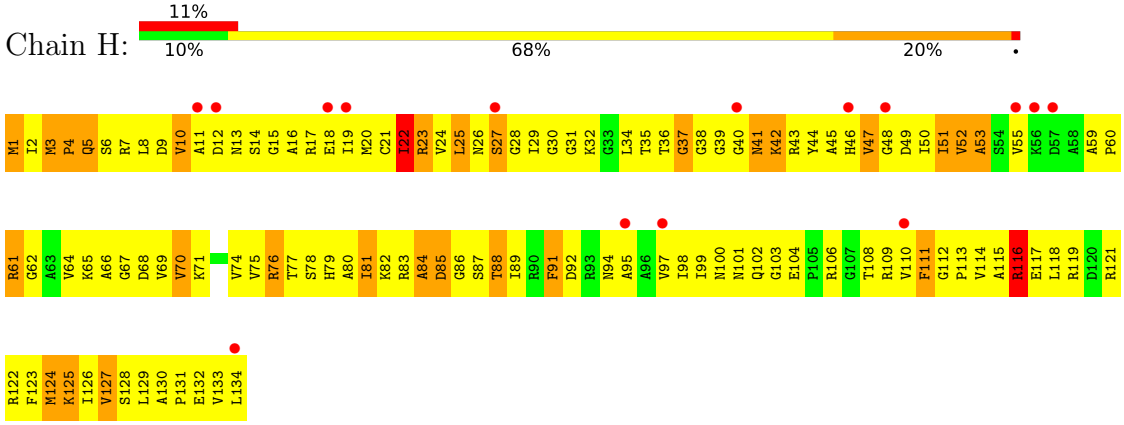
Chain F:



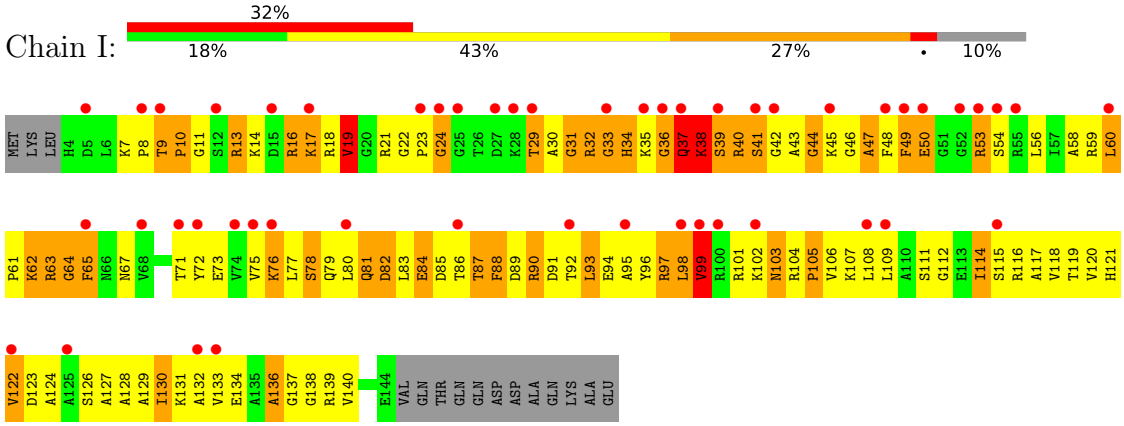
• Molecule 12: 50S RIBOSOMAL PROTEIN L13



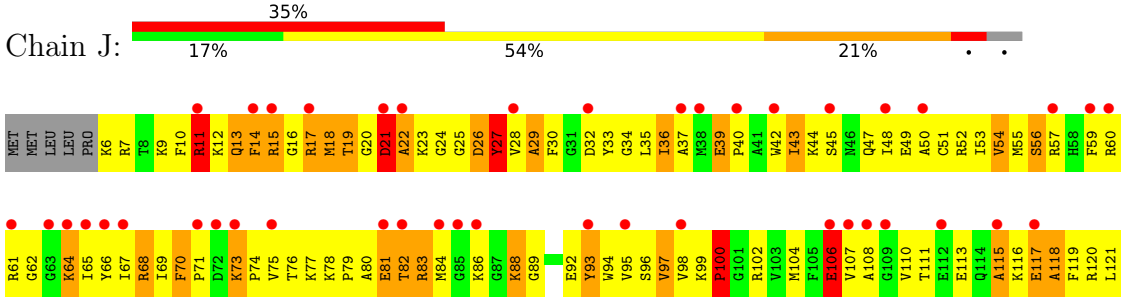
• Molecule 13: 50S RIBOSOMAL PROTEIN L14

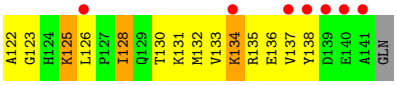


• Molecule 14: 50S RIBOSOMAL PROTEIN L15



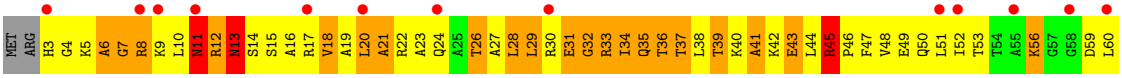
• Molecule 15: 50S RIBOSOMAL PROTEIN L16





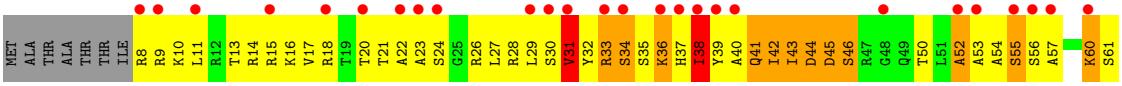
• Molecule 16: 50S RIBOSOMAL PROTEIN L17

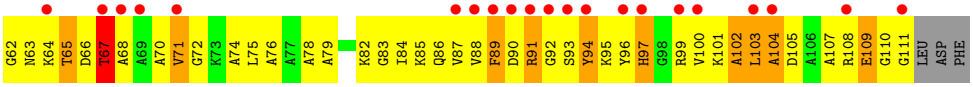
Chain K:



• Molecule 17: 50S RIBOSOMAL PROTEIN L18

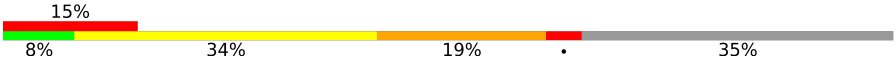
Chain L:

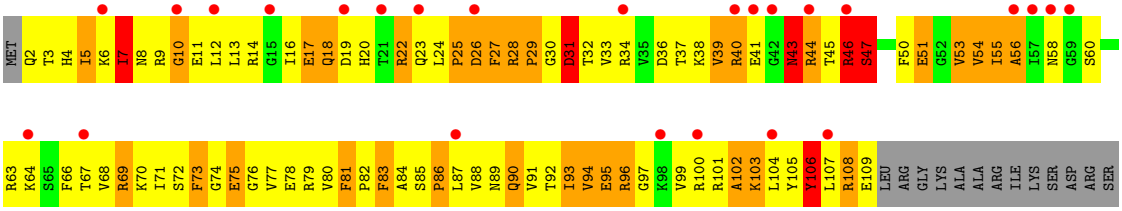




• Molecule 18: 50S RIBOSOMAL PROTEIN L19

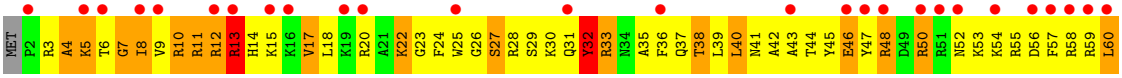
Chain M:

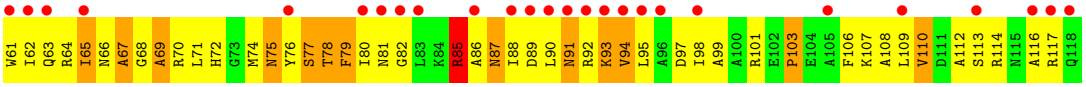




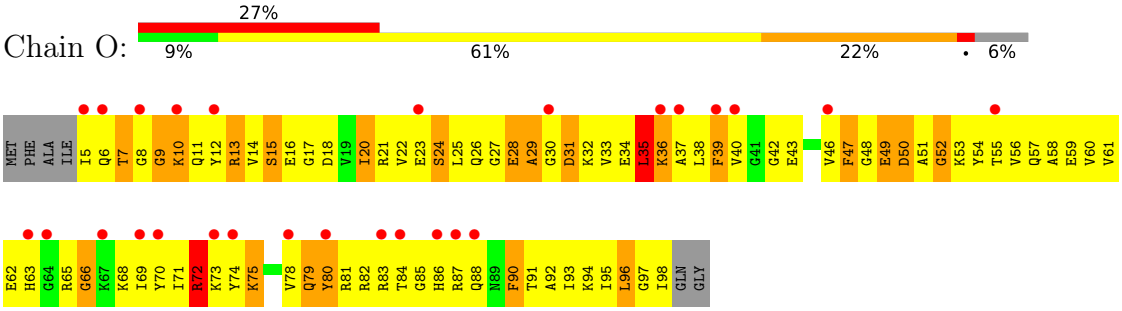
• Molecule 19: 50S RIBOSOMAL PROTEIN L20

Chain N:

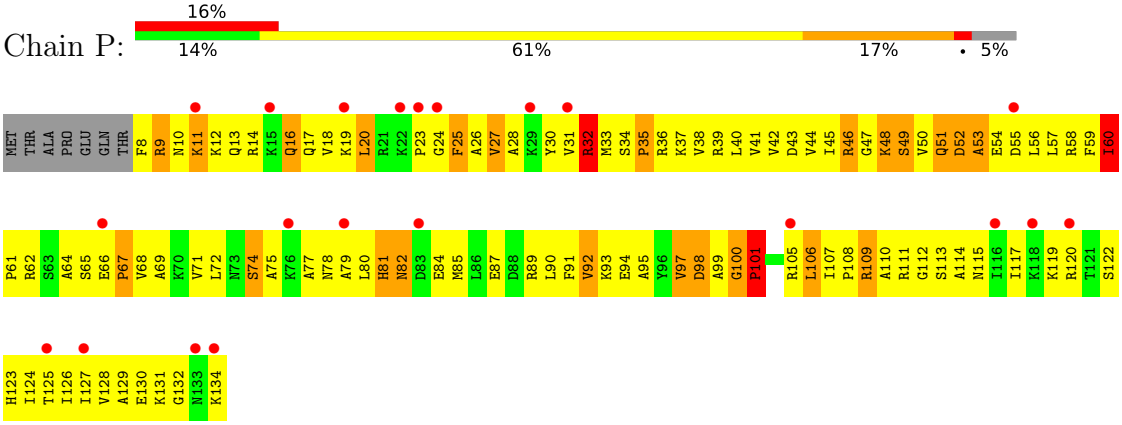




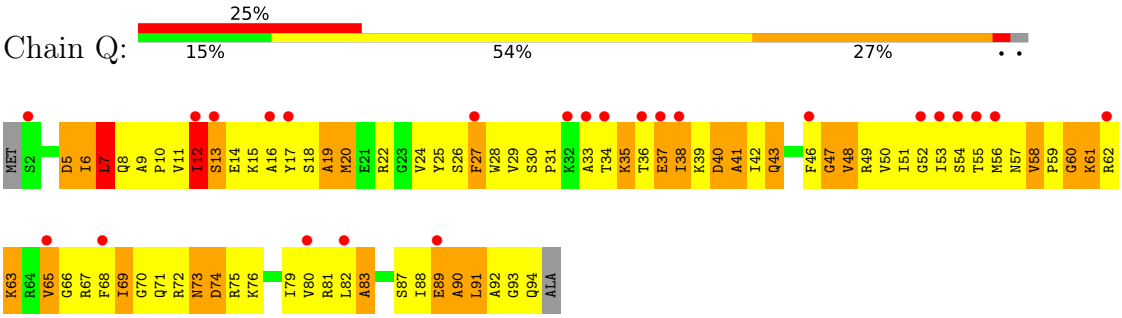
• Molecule 20: 50S RIBOSOMAL PROTEIN L21



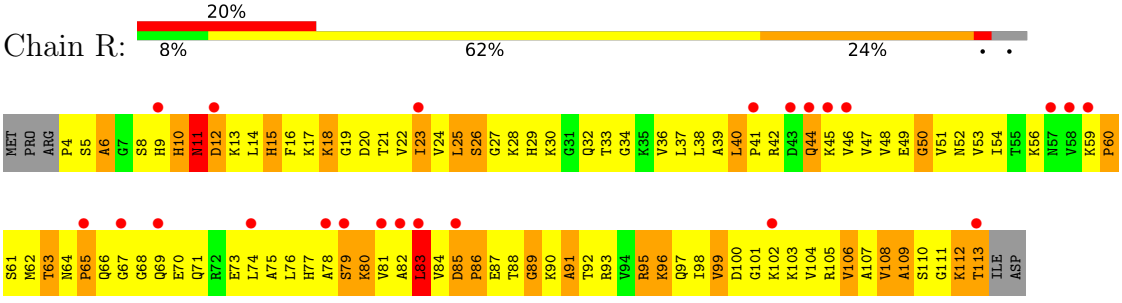
• Molecule 21: 50S RIBOSOMAL PROTEIN L22



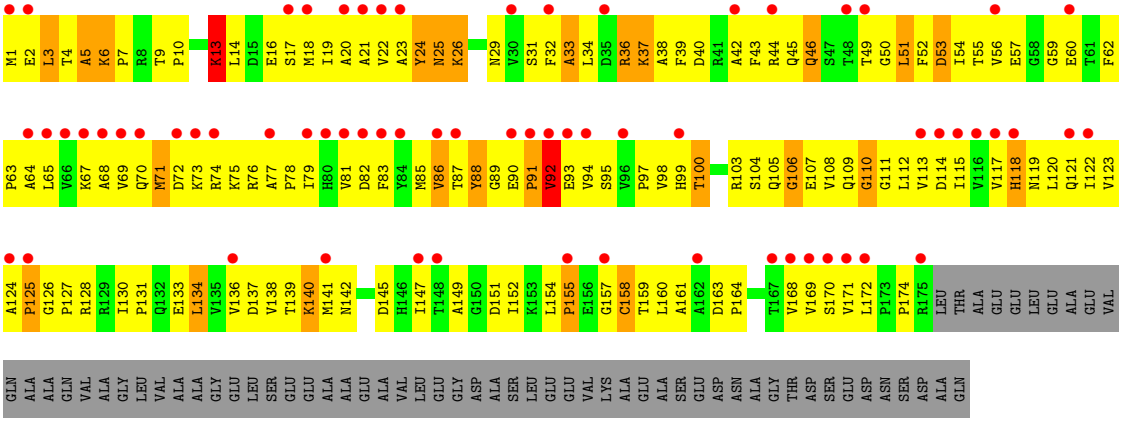
• Molecule 22: 50S RIBOSOMAL PROTEIN L23



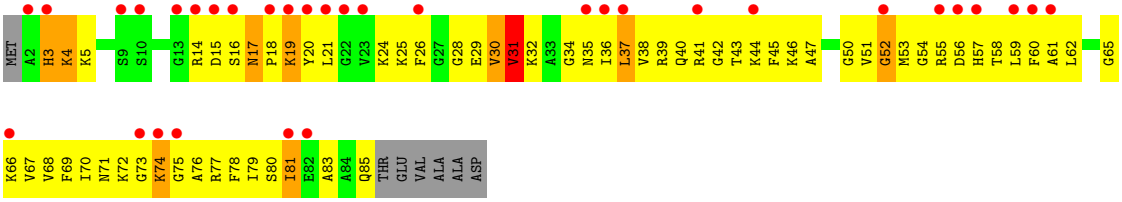
• Molecule 23: 50S RIBOSOMAL PROTEIN L24



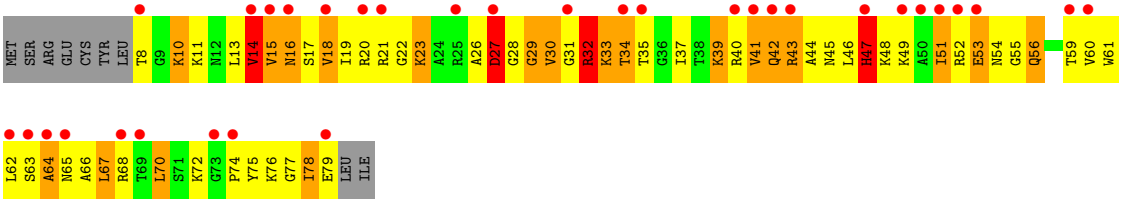
• Molecule 24: 50S RIBOSOMAL PROTEIN L25



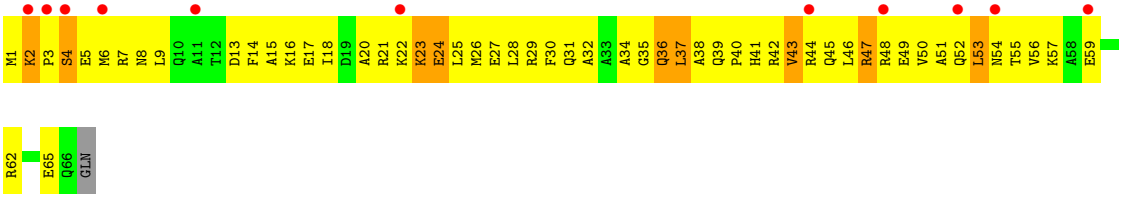
• Molecule 25: 50S RIBOSOMAL PROTEIN L27



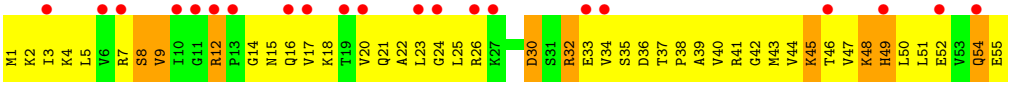
• Molecule 26: 50S RIBOSOMAL PROTEIN L28



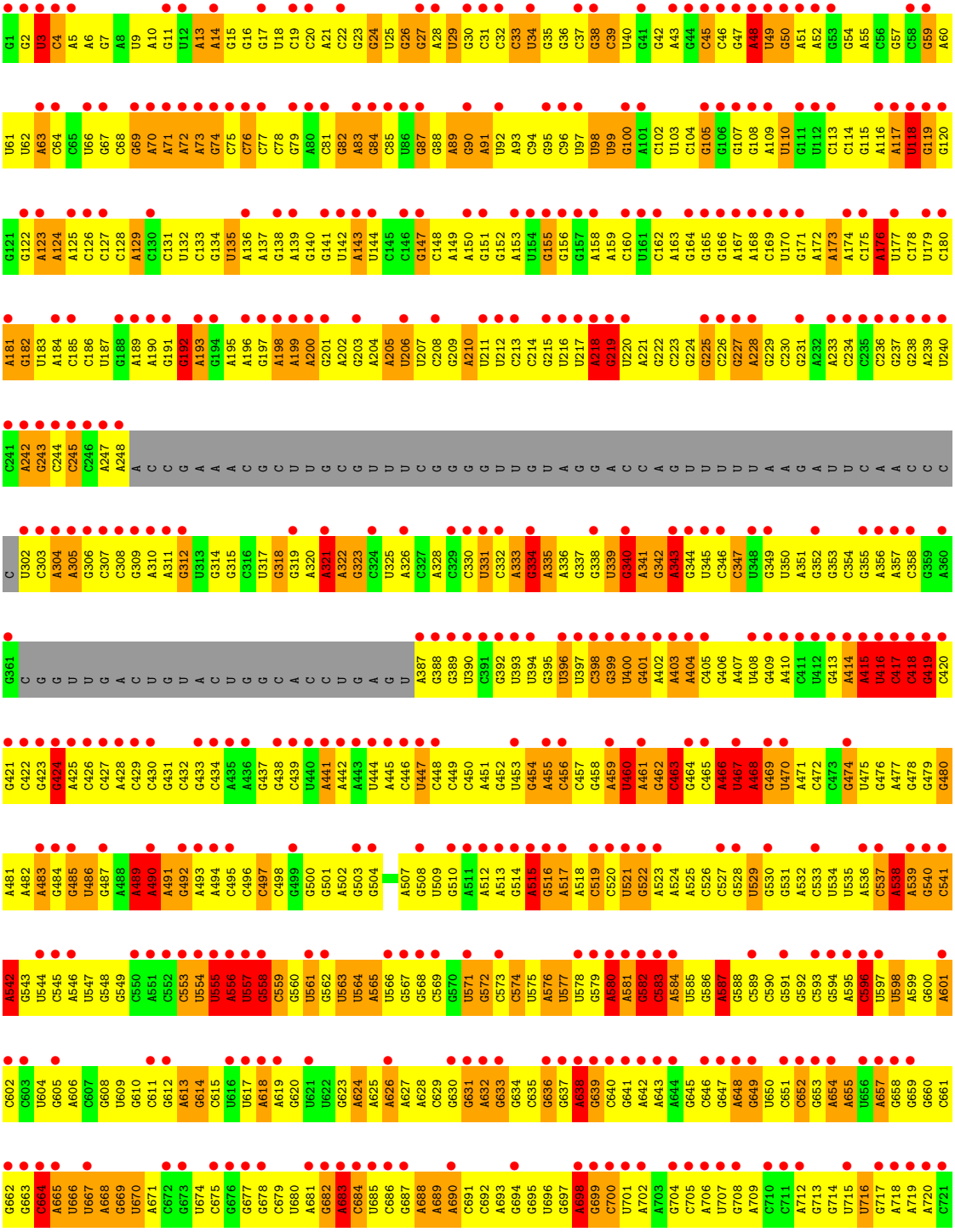
• Molecule 27: 50S RIBOSOMAL PROTEIN L29

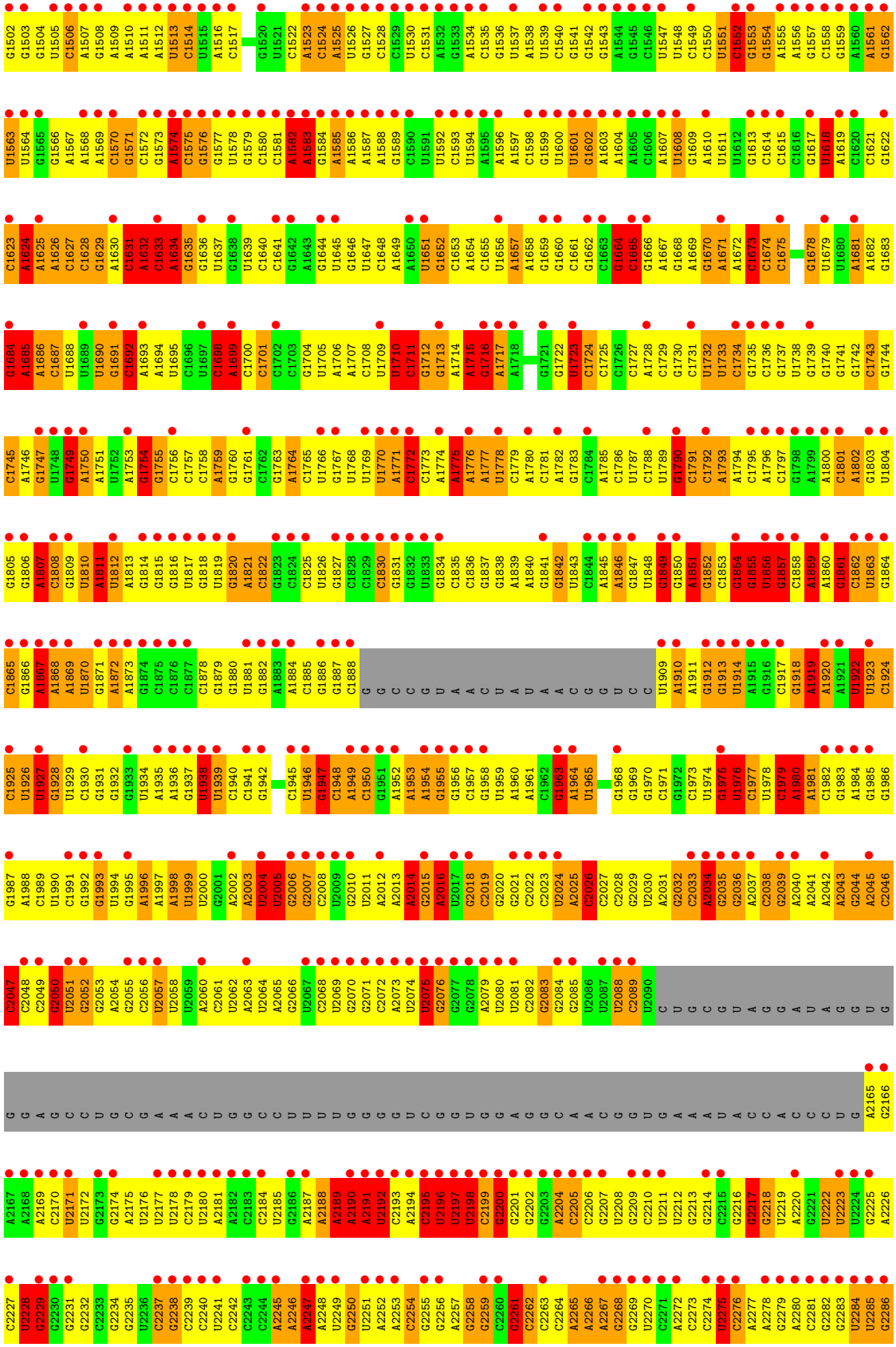


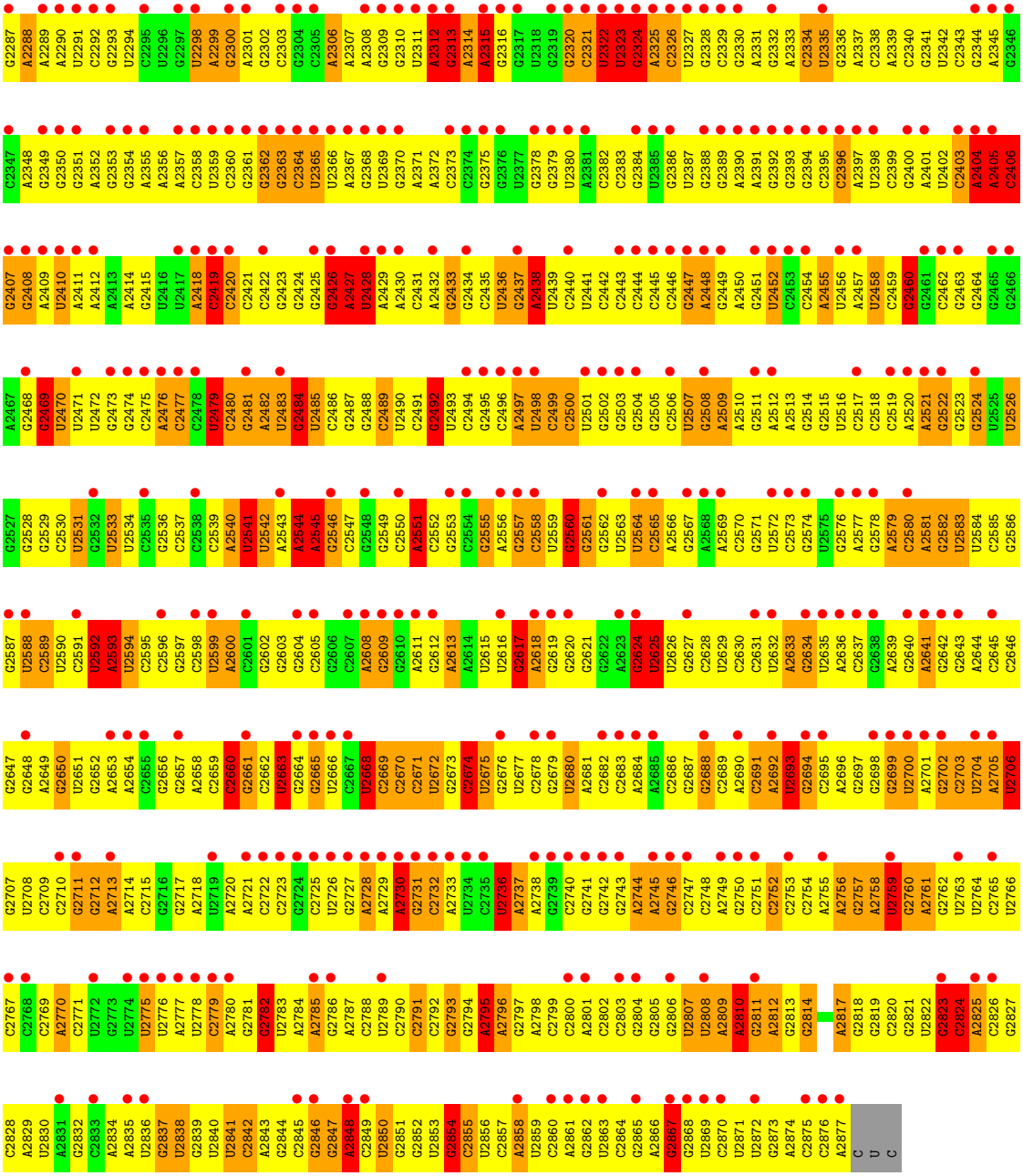
• Molecule 28: 50S RIBOSOMAL PROTEIN L30



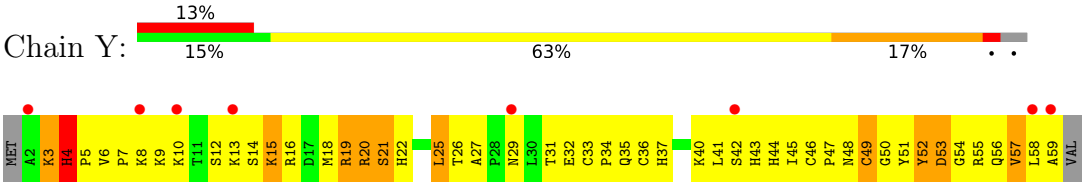
• Molecule 29: RIBOSOMAL 23S RNA



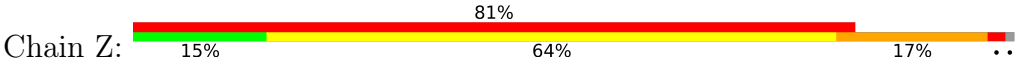


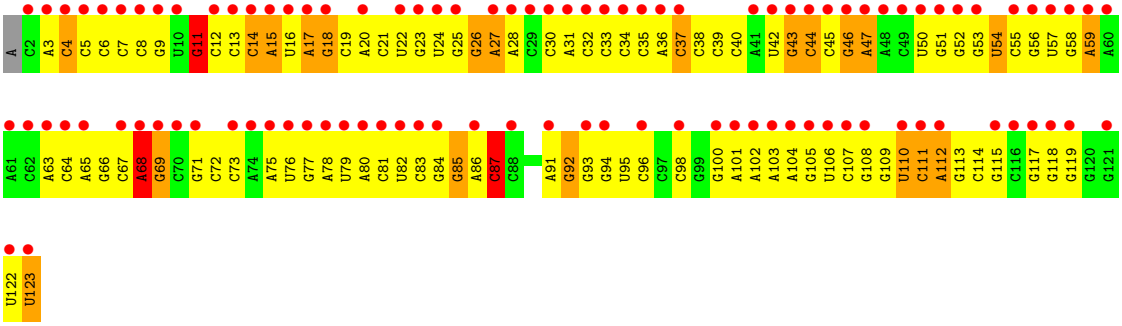


• Molecule 30: 50S RIBOSOMAL PROTEIN L32



• Molecule 31: RIBOSOMAL 5S RNA




A C2 A3 C4 C5 C6 C7 C8 G9 U10 G11 C12 C13 C14 A15 U16 A17 G18 C19 A20 C21 U22 G23 U24 G25 G26 A27 A28 C29 C30 A31 C32 C33 C34 C35 A36 C37 C38 C39 C40 A41 U42 G43 C44 C45 G46 A47 A48 C49 U50 G51 G52 G53 U54 C55 G56 U57 G58 A59 A60
A61 C62 A63 C64 A65 G66 C67 A68 G69 C70 G71 C72 C73 A74 A75 U76 G77 A78 U79 A80 C81 U82 C83 G84 G85 A86 C87 C88 A91 G92 G93 G94 U95 C96 C97 C98 G99 G100 A101 A102 A103 A104 G105 U106 C107 G108 G109 U110 C111 A112 G113 C114 G115 C116 G117 G118 G119 G120 G121
U122 U123

4 Data and refinement statistics (i)

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α, β, γ	169.90Å 408.90Å 694.50Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.00 – 3.70 30.00 – 3.70	Depositor EDS
% Data completeness (in resolution range)	85.6 (30.00-3.70) 88.8 (30.00-3.70)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.14	Depositor
$< I/\sigma(I) >$ [1]	1.77 (at 3.65Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.300 , 0.340 0.323 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å^2)	109.2	Xtriage
Anisotropy	0.214	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.19 , 118.4	EDS
L-test for twinning[2]	$< \|L\| > = 0.39$, $< L^2 > = 0.22$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.83	EDS
Total number of atoms	84444	wwPDB-VP
Average B, all atoms (Å^2)	114.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.15% 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

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: DBU, MH6, MG, DHA, NO1, 3GL, BB9, NH2, ZN

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
4	4	0.58	0/298	0.94	2/390 (0.5%)
5	5	3.52	1/12 (8.3%)	2.72	1/12 (8.3%)
6	A	0.58	0/1862	1.03	9/2510 (0.4%)
7	B	0.97	2/1567 (0.1%)	1.38	22/2105 (1.0%)
8	C	0.68	0/1529	1.16	12/2070 (0.6%)
9	D	0.49	0/1419	0.94	2/1903 (0.1%)
10	E	0.55	0/1308	0.97	1/1771 (0.1%)
11	F	0.52	0/1063	0.93	2/1440 (0.1%)
12	G	0.70	0/1138	1.23	11/1539 (0.7%)
13	H	1.05	2/1007 (0.2%)	1.51	18/1352 (1.3%)
14	I	0.66	0/1081	1.13	8/1448 (0.6%)
15	J	0.73	0/1113	1.34	20/1486 (1.3%)
16	K	1.12	1/886 (0.1%)	1.54	17/1188 (1.4%)
17	L	0.65	0/785	1.09	5/1048 (0.5%)
18	M	1.02	3/884 (0.3%)	1.41	16/1186 (1.3%)
19	N	0.76	0/994	1.20	9/1323 (0.7%)
20	O	0.64	0/750	1.09	4/1000 (0.4%)
21	P	0.97	1/1027 (0.1%)	1.47	11/1373 (0.8%)
22	Q	0.62	0/737	1.06	5/988 (0.5%)
23	R	0.61	0/835	1.11	6/1121 (0.5%)
24	S	0.60	0/1370	0.99	3/1862 (0.2%)
25	T	0.60	0/633	1.02	4/838 (0.5%)
26	U	0.60	0/556	1.18	6/741 (0.8%)
27	V	0.55	0/537	1.01	2/714 (0.3%)
28	W	0.75	0/426	1.23	5/568 (0.9%)
29	X	0.58	3/64561 (0.0%)	0.99	371/100708 (0.4%)
30	Y	0.94	0/469	1.43	6/629 (1.0%)
31	Z	0.43	0/2904	0.74	1/4525 (0.0%)
All	All	0.63	13/91751 (0.0%)	1.04	579/137838 (0.4%)

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
5	5	1	0
19	N	0	1
29	X	1	199
30	Y	0	1
31	Z	0	4
All	All	2	205

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	5	1	SER	CA-CB	-7.80	1.37	1.53
18	M	103	LYS	CA-C	7.38	1.58	1.52
7	B	113	THR	CA-CB	6.91	1.63	1.52
13	H	10	VAL	CA-CB	-6.29	1.46	1.53
29	X	557	U	C1'-N1	6.25	1.56	1.47
13	H	22	ILE	CA-CB	-6.22	1.48	1.55
18	M	93	ILE	CA-CB	-5.75	1.48	1.54
29	X	2322	U	O5'-C5'	5.63	1.50	1.42
7	B	117	MET	SD-CE	-5.45	1.66	1.79
18	M	55	ILE	CA-CB	-5.35	1.49	1.54
16	K	15	SER	N-CA	-5.18	1.40	1.46
29	X	728	G	C3'-O3'	5.05	1.49	1.42
21	P	100	GLY	C-O	-5.01	1.17	1.24

All (579) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	X	1055	A	N9-C1'-C2'	-22.98	77.53	112.00
29	X	557	U	N1-C1'-C2'	17.00	139.50	114.00
21	P	60	ILE	CA-C-N	16.79	136.43	118.97
21	P	60	ILE	C-N-CA	16.79	136.43	118.97
29	X	417	C	N1-C1'-C2'	15.49	137.23	114.00
29	X	731	A	N9-C1'-C2'	11.84	129.76	112.00
13	H	85	ASP	N-CA-C	-11.72	98.23	111.71
7	B	188	ILE	CA-C-N	11.47	134.18	119.84
7	B	188	ILE	C-N-CA	11.47	134.18	119.84
29	X	2324	G	N9-C1'-C2'	11.46	129.19	112.00
29	X	556	A	N9-C1'-C2'	10.97	130.46	114.00
29	X	558	G	C3'-C2'-C1'	-10.93	90.37	101.30

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Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	X	1056	U	O4'-C4'-C3'	-10.80	93.20	104.00
29	X	1865	C	O4'-C4'-C3'	-10.72	93.28	104.00
29	X	1288	A	N9-C1'-C2'	10.32	127.49	112.00
29	X	2706	U	C2'-C3'-O3'	10.18	124.78	109.50
19	N	40	LEU	N-CA-C	-10.04	96.20	111.56
13	H	106	ARG	N-CA-C	-9.98	99.66	112.23
12	G	94	LYS	N-CA-C	-9.88	99.53	114.16
29	X	460	U	N1-C1'-C2'	9.82	128.73	114.00
18	M	90	GLN	OE1-CD-NE2	-9.80	112.80	122.60
7	B	193	GLY	N-CA-C	-9.77	101.72	115.30
12	G	120	SER	N-CA-C	-9.60	101.57	113.38
29	X	728	G	P-O3'-C3'	9.59	134.58	120.20
24	S	163	ASP	CA-C-N	9.55	128.90	118.97
24	S	163	ASP	C-N-CA	9.55	128.90	118.97
21	P	51	GLN	N-CA-C	-9.41	100.71	110.97
16	K	29	LEU	N-CA-C	-9.31	102.49	114.04
29	X	415	A	N9-C1'-C2'	9.23	125.85	112.00
29	X	1285	A	N9-C1'-C2'	9.22	127.83	114.00
15	J	14	PHE	N-CA-C	9.08	122.08	109.18
29	X	1854	G	P-O3'-C3'	-9.03	106.66	120.20
29	X	2693	U	N1-C1'-C2'	9.02	127.53	114.00
29	X	1044	U	O4'-C4'-C3'	-8.97	97.13	106.10
29	X	729	A	O4'-C4'-C3'	-8.95	95.05	104.00
29	X	1441	A	C2'-C3'-O3'	8.77	122.65	109.50
13	H	70	VAL	N-CA-C	8.70	123.04	108.86
29	X	728	G	N9-C1'-C2'	8.70	125.05	112.00
29	X	777	A	C2'-C3'-O3'	8.69	122.54	109.50
29	X	2404	A	C2'-C3'-O3'	8.69	122.53	109.50
29	X	2854	G	C4'-C3'-O3'	-8.69	96.37	109.40
30	Y	13	LYS	N-CA-C	-8.65	101.09	112.34
15	J	39	GLU	CA-C-N	8.58	130.56	119.84
15	J	39	GLU	C-N-CA	8.58	130.56	119.84
29	X	2795	A	N9-C1'-C2'	8.57	124.86	112.00
29	X	460	U	C3'-C2'-O2'	-8.52	101.82	114.60
14	I	50	GLU	N-CA-C	-8.52	101.69	114.64
14	I	63	ARG	N-CA-C	-8.51	104.02	114.75
26	U	33	LYS	N-CA-C	-8.49	102.85	113.55
29	X	1632	A	N9-C1'-C2'	8.48	126.72	114.00
8	C	170	LEU	CA-C-N	8.46	130.42	119.84
8	C	170	LEU	C-N-CA	8.46	130.42	119.84
29	X	765	C	C2'-C3'-O3'	8.45	122.18	109.50
29	X	556	A	P-O3'-C3'	8.44	132.87	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	X	2824	C	C2'-C3'-O3'	8.42	122.14	109.50
29	X	557	U	C3'-C2'-C1'	8.42	109.92	101.50
16	K	19	ALA	N-CA-C	-8.36	101.40	111.69
7	B	125	GLY	CA-C-N	8.33	130.25	119.84
7	B	125	GLY	C-N-CA	8.33	130.25	119.84
29	X	2688	G	C3'-C2'-O2'	8.32	123.19	110.70
29	X	1853	C	P-O3'-C3'	-8.30	107.75	120.20
29	X	1055	A	C4'-C3'-O3'	8.29	125.44	113.00
29	X	2320	G	P-O3'-C3'	-8.29	107.77	120.20
29	X	1142	G	C1'-C2'-O2'	-8.26	99.41	111.80
20	O	72	ARG	N-CA-C	8.22	121.81	108.41
29	X	818	G	C4'-C3'-O3'	-8.20	100.70	113.00
29	X	2034	A	C4'-C3'-O3'	-8.08	97.28	109.40
29	X	752	G	C2'-C3'-O3'	-8.06	97.41	109.50
29	X	1745	C	C3'-C2'-O2'	7.98	122.67	110.70
29	X	1142	G	N9-C1'-C2'	7.98	125.97	114.00
29	X	418	C	N1-C1'-C2'	7.95	123.92	112.00
13	H	53	ALA	N-CA-C	7.94	120.58	108.52
29	X	842	A	C4'-C3'-O3'	-7.92	101.11	113.00
7	B	107	THR	N-CA-C	7.92	121.76	109.96
29	X	2016	A	C3'-C2'-O2'	7.90	122.55	110.70
28	W	9	VAL	N-CA-C	-7.86	105.66	113.20
29	X	2823	G	C2'-C3'-O3'	7.85	121.28	109.50
29	X	556	A	C4'-C3'-O3'	7.84	121.16	109.40
29	X	489	A	N9-C1'-C2'	7.82	123.73	112.00
16	K	37	THR	N-CA-C	-7.77	98.78	110.28
29	X	2476	A	C4'-C3'-O3'	-7.77	101.34	113.00
30	Y	4	HIS	CA-C-N	-7.77	111.97	119.89
30	Y	4	HIS	C-N-CA	-7.77	111.97	119.89
15	J	15	ARG	N-CA-C	7.72	117.36	108.49
29	X	555	U	O4'-C4'-C3'	-7.71	96.29	104.00
15	J	115	ALA	N-CA-C	-7.69	102.95	113.18
29	X	1141	U	C2'-C3'-O3'	7.64	120.97	109.50
12	G	76	GLN	N-CA-C	-7.59	102.92	114.16
29	X	2560	G	N9-C1'-C2'	7.57	125.36	114.00
29	X	780	U	C2'-C3'-O3'	7.55	125.02	113.70
29	X	2189	A	P-O3'-C3'	7.54	131.51	120.20
29	X	2197	U	C3'-C2'-C1'	-7.49	93.81	101.30
18	M	56	ALA	N-CA-C	7.48	120.66	108.55
22	Q	20	MET	N-CA-C	-7.47	103.62	112.89
15	J	118	ALA	N-CA-C	-7.46	103.28	112.38
29	X	2867	G	C2'-C3'-O3'	7.46	120.68	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	X	1919	A	C4'-C3'-O3'	-7.45	101.83	113.00
29	X	2405	A	C2'-C3'-O3'	-7.44	102.54	113.70
29	X	1975	G	C2'-C3'-O3'	7.44	120.66	109.50
6	A	177	LEU	CA-C-N	7.41	127.08	119.82
6	A	177	LEU	C-N-CA	7.41	127.08	119.82
16	K	35	GLN	N-CA-C	-7.40	97.67	109.59
29	X	2323	U	P-O3'-C3'	7.39	131.29	120.20
19	N	69	ALA	N-CA-C	-7.39	102.39	111.33
16	K	90	ARG	CA-C-N	7.36	129.04	119.84
16	K	90	ARG	C-N-CA	7.36	129.04	119.84
29	X	1852	G	P-O3'-C3'	-7.31	109.24	120.20
29	X	1979	C	C1'-C2'-O2'	-7.31	100.84	111.80
29	X	2322	U	N1-C1'-C2'	7.30	122.95	112.00
15	J	97	VAL	N-CA-C	7.29	124.51	109.34
29	X	1775	A	C2'-C3'-O3'	7.26	120.40	109.50
12	G	89	ALA	N-CA-C	7.26	119.91	107.93
29	X	417	C	C3'-C2'-C1'	7.26	108.76	101.50
29	X	1685	A	C5'-C4'-C3'	-7.24	104.33	115.20
29	X	1857	G	P-O3'-C3'	-7.24	109.35	120.20
29	X	1031	C	C2'-C3'-O3'	7.23	120.35	109.50
16	K	45	ARG	CA-C-N	7.20	126.70	118.85
16	K	45	ARG	C-N-CA	7.20	126.70	118.85
29	X	1313	U	N1-C1'-C2'	7.19	124.78	114.00
29	X	463	C	C2'-C3'-O3'	-7.18	102.92	113.70
19	N	48	ARG	N-CA-C	7.10	121.53	113.01
29	X	2323	U	C4'-C3'-O3'	7.09	123.63	113.00
29	X	2593	A	N9-C1'-C2'	7.07	124.60	114.00
8	C	64	THR	N-CA-C	-7.06	104.69	113.38
9	D	171	GLN	N-CA-C	7.06	118.63	111.07
29	X	2759	U	C2'-C3'-O3'	-7.06	103.11	113.70
17	L	34	SER	N-CA-C	-7.05	103.66	112.90
29	X	2703	C	C1'-C2'-O2'	7.05	118.98	108.40
27	V	24	GLU	N-CA-C	-7.04	103.69	111.36
29	X	1685	A	C2'-C3'-O3'	7.03	120.05	109.50
15	J	82	THR	CB-CA-C	-7.02	107.68	117.23
29	X	1055	A	P-O3'-C3'	7.01	130.72	120.20
29	X	558	G	C4'-C3'-O3'	6.99	123.48	113.00
29	X	1006	C	C2'-C3'-O3'	6.97	124.16	113.70
26	U	53	GLU	N-CA-C	6.96	119.14	108.07
29	X	1264	C	N1-C1'-C2'	6.96	124.44	114.00
20	O	90	PHE	N-CA-C	6.96	117.42	108.24
29	X	1963	G	C2'-C3'-O3'	6.93	119.89	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	X	1849	G	N9-C1'-C2'	6.89	122.34	112.00
17	L	65	THR	N-CA-C	-6.89	105.43	114.31
29	X	2198	U	N1-C1'-C2'	6.86	122.29	112.00
29	X	1474	A	C2'-C3'-O3'	6.86	119.79	109.50
29	X	2075	U	N1-C1'-C2'	6.85	122.28	112.00
29	X	664	C	C2'-C3'-O3'	6.85	119.77	109.50
13	H	15	GLY	N-CA-C	-6.84	106.34	114.48
29	X	2841	U	C2'-C3'-O3'	6.79	119.68	109.50
29	X	459	A	N9-C1'-C2'	6.76	122.15	112.00
29	X	804	C	N1-C1'-C2'	6.75	124.13	114.00
5	5	1	SER	CB-CA-C	6.75	122.93	110.10
29	X	555	U	C3'-C2'-C1'	-6.75	94.55	101.30
29	X	583	C	C2'-C3'-O3'	6.72	119.58	109.50
29	X	1856	U	P-O3'-C3'	-6.72	110.13	120.20
29	X	1333	G	N9-C1'-C2'	6.70	122.05	112.00
29	X	853	C	C3'-C2'-O2'	6.69	120.73	110.70
7	B	179	GLU	N-CA-C	-6.68	104.49	114.64
23	R	86	PRO	N-CA-C	-6.67	107.74	114.68
29	X	1299	A	C2'-C3'-O3'	6.67	119.51	109.50
29	X	1678	G	O4'-C4'-C3'	-6.67	97.33	104.00
18	M	90	GLN	CG-CD-NE2	6.67	126.40	116.40
29	X	1036	G	C2'-C3'-O3'	6.66	119.50	109.50
29	X	1442	C	C2'-C3'-O3'	6.66	119.49	109.50
29	X	1790	G	C2'-C3'-O3'	6.65	119.48	109.50
13	H	52	VAL	N-CA-C	-6.65	100.95	109.80
29	X	1979	C	C2'-C3'-O3'	6.65	119.47	109.50
29	X	728	G	O3'-P-O5'	6.64	113.96	104.00
29	X	2617	G	N9-C1'-C2'	6.64	121.96	112.00
22	Q	19	ALA	N-CA-C	-6.63	105.10	113.72
29	X	2004	U	C4'-C3'-O3'	6.62	119.34	109.40
29	X	2313	G	N9-C1'-C2'	6.61	121.92	112.00
29	X	638	A	C4'-C3'-O3'	6.59	119.29	109.40
29	X	2848	A	N9-C1'-C2'	6.59	123.88	114.00
29	X	1197	U	C3'-C2'-O2'	6.59	120.58	110.70
29	X	1261	G	C2'-C3'-O3'	6.57	119.35	109.50
29	X	2190	A	C4'-C3'-O3'	6.56	122.84	113.00
29	X	2460	G	C4'-C3'-O3'	-6.56	103.16	113.00
7	B	47	VAL	N-CA-C	6.55	117.74	108.17
12	G	71	THR	CA-C-N	6.55	128.03	119.84
12	G	71	THR	C-N-CA	6.55	128.03	119.84
14	I	97	ARG	N-CA-C	-6.54	104.40	112.38
29	X	561	U	N1-C1'-C2'	6.53	121.79	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	X	2428	U	N1-C1'-C2'	6.52	123.78	114.00
15	J	17	ARG	N-CA-C	6.52	118.05	108.14
29	X	1870	U	P-O3'-C3'	-6.51	110.43	120.20
7	B	168	GLN	N-CA-C	6.51	120.14	109.85
29	X	467	U	N1-C1'-C2'	6.51	121.76	112.00
29	X	1859	A	P-O3'-C3'	-6.50	110.45	120.20
18	M	55	ILE	CB-CA-C	-6.50	103.78	110.93
7	B	27	LEU	N-CA-C	-6.49	99.44	109.76
17	L	82	LYS	N-CA-C	-6.47	105.28	113.43
29	X	731	A	O4'-C4'-C3'	6.47	110.47	104.00
13	H	51	ILE	N-CA-C	6.44	117.40	108.12
29	X	2025	A	C2'-C3'-O3'	-6.44	104.03	113.70
29	X	2660	C	O4'-C1'-C2'	6.44	112.24	105.80
29	X	1265	G	N9-C1'-C2'	6.43	123.65	114.00
29	X	2014	A	C2'-C3'-O3'	6.43	119.14	109.50
25	T	17	ASN	CA-C-N	6.42	127.86	119.84
25	T	17	ASN	C-N-CA	6.42	127.86	119.84
8	C	99	VAL	N-CA-C	-6.41	104.02	111.00
29	X	1582	A	N9-C1'-C2'	6.41	121.61	112.00
6	A	136	VAL	CA-C-N	6.39	126.34	119.76
6	A	136	VAL	C-N-CA	6.39	126.34	119.76
7	B	102	ILE	N-CA-C	6.39	117.92	108.65
29	X	1250	A	N9-C1'-C2'	6.38	121.57	112.00
29	X	1280	U	N1-C1'-C2'	6.38	121.57	112.00
29	X	1710	U	C2'-C3'-O3'	6.37	119.06	109.50
14	I	130	ILE	N-CA-C	-6.37	104.54	110.53
22	Q	58	VAL	CA-C-N	6.36	127.78	120.98
22	Q	58	VAL	C-N-CA	6.36	127.78	120.98
29	X	1469	U	C2'-C3'-O3'	-6.35	104.17	113.70
29	X	2492	G	C4'-C3'-O3'	-6.35	103.48	113.00
7	B	119	ARG	N-CA-C	-6.34	105.56	113.55
29	X	2558	C	C4'-C3'-O3'	-6.34	103.49	113.00
7	B	187	ALA	N-CA-C	6.32	120.00	109.95
15	J	70	PHE	CA-C-N	6.32	127.74	119.84
15	J	70	PHE	C-N-CA	6.32	127.74	119.84
21	P	43	ASP	N-CA-C	6.31	120.07	112.38
7	B	109	LYS	N-CA-C	-6.30	101.78	110.35
29	X	2198	U	P-O5'-C5'	-6.30	111.45	120.90
29	X	804	C	C2'-C3'-O3'	6.30	118.94	109.50
29	X	728	G	C2'-C3'-O3'	6.29	123.14	113.70
29	X	730	C	N1-C1'-C2'	6.29	121.44	112.00
29	X	1325	U	C2'-C3'-O3'	-6.29	100.07	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	X	1265	G	C4'-C3'-O3'	-6.29	99.97	109.40
29	X	971	A	C4'-C3'-O3'	-6.28	103.58	113.00
29	X	1624	A	N9-C1'-C2'	6.27	121.40	112.00
29	X	2544	A	N9-C1'-C2'	6.27	121.41	112.00
18	M	75	GLU	N-CA-C	6.26	119.78	108.69
29	X	1398	G	N9-C1'-C2'	6.26	121.39	112.00
29	X	2680	U	C1'-C2'-O2'	6.25	117.78	108.40
29	X	1920	A	C2'-C3'-O3'	-6.25	104.32	113.70
29	X	2484	G	C1'-C2'-O2'	6.25	117.78	108.40
29	X	1337	G	N9-C1'-C2'	6.24	121.36	112.00
8	C	17	LEU	CA-C-N	6.24	127.64	119.84
8	C	17	LEU	C-N-CA	6.24	127.64	119.84
29	X	1830	C	C2'-C3'-O3'	-6.23	104.35	113.70
29	X	1265	G	C3'-C2'-O2'	-6.22	105.26	114.60
24	S	164	PRO	N-CA-C	6.22	122.36	113.47
29	X	1664	G	N9-C1'-C2'	6.21	121.32	112.00
29	X	218	A	C2'-C3'-O3'	6.21	118.82	109.50
12	G	153	GLY	N-CA-C	6.20	120.44	112.13
6	A	147	LEU	N-CA-C	-6.20	105.41	114.39
29	X	1266	G	N9-C1'-C2'	6.19	123.29	114.00
29	X	1772	C	N1-C1'-C2'	6.19	121.29	112.00
29	X	334	G	C2'-C3'-O3'	6.19	118.78	109.50
19	N	4	ALA	N-CA-C	6.18	120.60	107.67
18	M	31	ASP	N-CA-C	6.18	118.89	110.55
29	X	2791	C	C4'-C3'-O3'	-6.18	103.73	113.00
29	X	1869	A	P-O5'-C5'	-6.17	111.65	120.90
29	X	340	G	C4'-C3'-O3'	6.16	118.64	109.40
29	X	730	C	P-O3'-C3'	6.16	129.44	120.20
15	J	19	THR	N-CA-C	6.15	118.65	108.99
29	X	1870	U	O4'-C4'-C3'	-6.15	97.85	104.00
29	X	596	C	N1-C1'-C2'	6.15	121.22	112.00
11	F	141	GLY	CA-C-N	6.14	126.15	119.89
11	F	141	GLY	C-N-CA	6.14	126.15	119.89
29	X	2469	G	N9-C1'-C2'	6.13	123.19	114.00
7	B	138	PRO	N-CA-C	-6.12	101.86	111.34
13	H	4	PRO	N-CA-C	6.12	125.07	112.47
29	X	1139	A	N9-C1'-C2'	6.11	121.17	112.00
18	M	81	PHE	CA-C-N	6.11	127.47	119.84
18	M	81	PHE	C-N-CA	6.11	127.47	119.84
29	X	538	A	N9-C1'-C2'	6.10	121.15	112.00
29	X	955	G	N9-C1'-C2'	6.09	121.14	112.00
29	X	1684	G	C4'-C3'-O3'	-6.08	100.29	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	X	2854	G	N9-C1'-C2'	6.07	123.10	114.00
7	B	32	PRO	N-CA-C	6.06	121.80	111.68
29	X	804	C	C4'-C3'-O3'	-6.06	100.31	109.40
29	X	1264	C	C1'-C2'-O2'	-6.06	102.71	111.80
29	X	2592	U	C2'-C3'-O3'	-6.05	104.63	113.70
29	X	1979	C	N1-C1'-C2'	6.04	123.06	114.00
29	X	490	A	C2'-C3'-O3'	6.03	118.55	109.50
29	X	747	A	C5'-C4'-C3'	6.03	125.04	116.00
29	X	2200	G	P-O5'-C5'	-6.02	111.87	120.90
29	X	1582	A	C4'-C3'-O3'	-6.02	103.97	113.00
7	B	111	LYS	N-CA-C	6.02	120.62	113.28
29	X	1749	G	C4'-C3'-O3'	-6.00	104.00	113.00
29	X	1947	G	N9-C1'-C2'	6.00	123.00	114.00
29	X	2229	G	C4'-C3'-O3'	-6.00	104.00	113.00
29	X	459	A	C4'-C3'-O3'	-6.00	104.00	113.00
29	X	1977	C	C3'-C2'-O2'	6.00	119.69	110.70
29	X	1056	U	O4'-C1'-N1	5.99	117.49	108.50
29	X	466	A	C2'-C3'-O3'	5.98	118.47	109.50
16	K	72	ASP	N-CA-C	5.98	118.51	107.99
23	R	109	ALA	N-CA-C	-5.98	104.83	111.71
29	X	840	U	C2'-C3'-O3'	-5.98	104.73	113.70
29	X	1141	U	N1-C1'-C2'	5.97	122.96	114.00
18	M	55	ILE	N-CA-C	5.97	118.89	113.10
29	X	419	G	O3'-P-O5'	5.97	112.95	104.00
29	X	1692	C	C3'-C2'-O2'	5.96	119.64	110.70
29	X	1552	C	C2'-C3'-O3'	5.96	118.44	109.50
15	J	48	ILE	N-CA-C	-5.96	105.27	111.58
21	P	58	ARG	N-CA-C	5.95	117.77	111.28
29	X	2545	A	C1'-C2'-O2'	-5.95	102.87	111.80
29	X	596	C	C4'-C3'-O3'	-5.95	104.08	113.00
8	C	158	ARG	N-CA-C	-5.95	104.88	111.36
20	O	50	ASP	N-CA-C	-5.95	105.74	112.87
15	J	82	THR	N-CA-C	5.94	118.59	108.67
29	X	2189	A	C2'-C3'-O3'	5.94	122.61	113.70
19	N	38	THR	N-CA-C	-5.93	103.99	111.11
29	X	2438	A	C3'-C2'-O2'	5.93	119.60	110.70
18	M	18	GLN	N-CA-C	-5.93	104.89	111.71
29	X	1861	G	P-O3'-C3'	-5.93	111.30	120.20
7	B	132	LYS	N-CA-C	-5.92	98.18	110.80
29	X	2005	U	C2'-C3'-O3'	-5.92	100.62	109.50
29	X	727	U	C3'-C2'-C1'	5.92	107.22	101.30
28	W	9	VAL	CB-CA-C	-5.92	104.84	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	X	1854	G	C2'-C3'-O3'	-5.92	104.83	113.70
6	A	211	ARG	N-CA-C	-5.91	104.02	111.11
29	X	2663	U	C5'-C4'-C3'	-5.91	107.13	116.00
16	K	34	ILE	CA-C-N	-5.91	114.36	122.93
16	K	34	ILE	C-N-CA	-5.91	114.36	122.93
29	X	416	U	N1-C1'-C2'	5.91	120.86	112.00
29	X	1288	A	O4'-C4'-C3'	-5.91	98.09	104.00
29	X	219	G	N9-C1'-C2'	5.91	120.86	112.00
21	P	98	ASP	N-CA-C	-5.91	101.46	110.14
29	X	1357	U	C4'-C3'-O3'	-5.89	104.16	113.00
29	X	1632	A	C2'-C3'-O3'	5.89	118.34	109.50
27	V	23	LYS	N-CA-C	-5.89	104.26	112.45
29	X	2705	A	C4'-C3'-O3'	-5.89	104.16	113.00
29	X	878	C	N1-C1'-C2'	5.89	120.83	112.00
29	X	2196	U	P-O3'-C3'	5.88	129.02	120.20
29	X	1618	U	N1-C1'-C2'	5.88	122.82	114.00
29	X	2034	A	N9-C1'-C2'	5.88	122.81	114.00
29	X	1998	A	C1'-C2'-O2'	5.87	117.20	108.40
18	M	94	VAL	N-CA-C	-5.86	107.79	113.53
29	X	878	C	C2'-C3'-O3'	-5.85	104.93	113.70
29	X	2608	A	N9-C1'-C2'	5.84	120.76	112.00
29	X	2406	C	C4'-C3'-O3'	-5.83	104.25	113.00
29	X	1723	U	C2'-C3'-O3'	5.83	122.45	113.70
29	X	2842	C	C2'-C3'-O3'	-5.83	104.95	113.70
29	X	176	A	N9-C1'-C2'	5.83	122.75	114.00
29	X	557	U	C2'-C3'-O3'	5.83	118.24	109.50
29	X	1852	G	O4'-C4'-C3'	-5.83	98.17	104.00
26	U	51	ILE	N-CA-C	5.82	116.97	108.58
29	X	1313	U	C2'-C3'-O3'	5.82	118.24	109.50
29	X	2075	U	C4'-C3'-O3'	-5.82	104.26	113.00
29	X	1475	U	C4'-C3'-O3'	-5.82	104.28	113.00
29	X	2624	G	C2'-C3'-O3'	-5.81	104.98	113.70
15	J	36	ILE	N-CA-C	5.81	117.72	108.89
29	X	2043	A	C2'-C3'-O3'	-5.81	104.99	113.70
21	P	101	PRO	N-CA-C	-5.80	100.52	112.47
29	X	118	U	C4'-C3'-O3'	-5.80	104.30	113.00
29	X	730	C	C4'-C3'-O3'	5.80	121.70	113.00
29	X	312	G	C4'-C3'-O3'	-5.79	104.31	113.00
29	X	873	U	C2'-C3'-O3'	-5.79	105.01	113.70
29	X	925	U	C4'-C3'-O3'	5.79	118.08	109.40
29	X	1353	A	N9-C1'-C2'	5.78	120.67	112.00
10	E	65	HIS	N-CA-C	-5.78	104.67	110.97

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	X	3	U	C2'-C3'-O3'	5.78	122.37	113.70
29	X	542	A	C2'-C3'-O3'	-5.78	105.03	113.70
29	X	2674	C	C4'-C3'-O3'	-5.78	104.33	113.00
29	X	729	A	C3'-C2'-C1'	-5.78	95.52	101.30
29	X	765	C	C1'-C2'-O2'	-5.78	103.13	111.80
18	M	40	ARG	N-CA-C	5.78	120.06	113.19
29	X	118	U	N1-C1'-C2'	5.77	120.66	112.00
21	P	97	VAL	N-CA-C	5.77	116.17	107.75
29	X	2191	A	N9-C1'-C2'	5.76	120.65	112.00
29	X	2321	C	O3'-P-O5'	5.76	112.64	104.00
29	X	1052	C	P-O5'-C5'	-5.75	112.28	120.90
29	X	2315	A	N9-C1'-C2'	5.75	120.62	112.00
29	X	1716	G	C2'-C3'-O3'	5.75	118.12	109.50
15	J	73	LYS	CA-C-N	5.74	127.02	119.84
15	J	73	LYS	C-N-CA	5.74	127.02	119.84
29	X	1698	C	N1-C1'-C2'	5.74	122.61	114.00
4	4	28	SER	N-CA-C	-5.70	104.27	111.11
29	X	2580	C	C4'-C3'-O3'	-5.70	104.45	113.00
29	X	1854	G	O4'-C4'-C3'	-5.70	98.30	104.00
29	X	574	C	C2'-C3'-O3'	-5.70	105.16	113.70
29	X	538	A	C2'-C3'-O3'	5.69	122.24	113.70
29	X	780	U	C5'-C4'-C3'	-5.69	107.46	116.00
12	G	103	TYR	N-CA-C	5.69	118.90	107.41
29	X	1632	A	C4'-C3'-O3'	-5.69	100.87	109.40
29	X	2437	G	C4'-C3'-O3'	-5.69	104.47	113.00
29	X	417	C	P-O3'-C3'	5.68	128.73	120.20
29	X	557	U	O4'-C1'-C2'	-5.68	100.12	105.80
8	C	50	GLN	N-CA-C	-5.68	106.39	113.55
29	X	1056	U	C5'-C4'-C3'	5.68	124.52	116.00
29	X	1264	C	C3'-C2'-O2'	-5.68	106.08	114.60
29	X	1439	G	C2'-C3'-O3'	5.68	122.21	113.70
29	X	1249	G	C4'-C3'-O3'	-5.67	104.49	113.00
29	X	1429	A	N9-C1'-C2'	5.67	120.51	112.00
16	K	103	ARG	N-CA-C	5.67	118.47	110.14
7	B	33	ILE	CB-CA-C	-5.66	106.23	112.68
29	X	2312	A	C2'-C3'-O3'	5.65	117.98	109.50
13	H	22	ILE	CB-CA-C	-5.65	106.08	111.44
29	X	1631	C	N1-C1'-C2'	5.64	120.46	112.00
29	X	2313	G	C4'-C3'-O3'	-5.64	104.55	113.00
29	X	564	U	C3'-C2'-O2'	5.63	119.14	110.70
29	X	2837	G	C2'-C3'-O3'	-5.62	105.27	113.70
29	X	2190	A	N9-C1'-C2'	-5.62	103.58	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
14	I	38	LYS	CA-C-N	5.61	132.26	121.54
14	I	38	LYS	C-N-CA	5.61	132.26	121.54
26	U	18	VAL	N-CA-C	5.61	116.98	108.80
29	X	1033	G	N9-C1'-C2'	5.60	120.40	112.00
13	H	84	ALA	N-CA-C	5.60	119.21	112.38
29	X	1182	U	C2'-C3'-O3'	5.59	122.08	113.70
29	X	1938	U	O4'-C1'-C2'	5.58	111.38	105.80
16	K	41	ALA	N-CA-C	-5.57	104.59	111.33
13	H	117	GLU	N-CA-C	-5.57	105.36	111.82
29	X	416	U	O4'-C4'-C3'	-5.57	98.43	104.00
29	X	752	G	C4'-C3'-O3'	5.57	117.75	109.40
29	X	2033	C	N1-C1'-C2'	5.56	120.34	112.00
29	X	2188	A	C4'-C3'-C2'	5.56	108.16	102.60
29	X	968	C	C4'-C3'-O3'	-5.55	104.67	113.00
7	B	85	ALA	CA-C-N	5.54	126.76	119.84
7	B	85	ALA	C-N-CA	5.54	126.76	119.84
19	N	67	ALA	N-CA-C	-5.54	106.22	112.87
9	D	67	ILE	CB-CA-C	-5.53	105.94	111.80
6	A	124	GLU	CA-C-N	5.53	126.75	119.84
6	A	124	GLU	C-N-CA	5.53	126.75	119.84
12	G	80	VAL	N-CA-C	5.53	116.53	107.24
29	X	1848	U	P-O5'-C5'	-5.52	112.62	120.90
29	X	789	G	C2'-C3'-O3'	5.51	117.77	109.50
29	X	321	A	C4'-C3'-O3'	-5.51	104.73	113.00
29	X	2704	U	C2'-C3'-O3'	-5.51	105.43	113.70
29	X	557	U	P-O3'-C3'	5.51	128.46	120.20
29	X	2699	G	C4'-C3'-O3'	-5.50	104.74	113.00
29	X	2545	A	C3'-C2'-O2'	5.50	122.85	114.60
29	X	2705	A	N9-C1'-C2'	5.50	120.25	112.00
29	X	1865	C	P-O3'-C3'	-5.48	111.98	120.20
29	X	312	G	N9-C1'-C2'	5.48	120.22	112.00
12	G	66	HIS	N-CA-C	-5.47	105.47	111.82
23	R	40	LEU	CA-C-N	5.47	124.93	119.24
23	R	40	LEU	C-N-CA	5.47	124.93	119.24
29	X	805	G	N9-C1'-C2'	5.47	120.20	112.00
29	X	2026	C	C4'-C3'-O3'	-5.46	104.82	113.00
29	X	1699	A	C4'-C3'-O3'	-5.45	104.83	113.00
21	P	109	ARG	N-CA-C	5.45	116.54	108.86
29	X	1633	C	N1-C1'-C2'	5.44	122.17	114.00
15	J	43	ILE	N-CA-C	5.44	115.61	107.51
29	X	2192	U	N1-C1'-C2'	5.44	120.16	112.00
29	X	577	U	N1-C1'-C2'	5.43	120.15	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	X	1976	U	C3'-C2'-O2'	5.42	118.84	110.70
29	X	1583	A	C4'-C3'-O3'	-5.42	104.87	113.00
29	X	2043	A	C5'-C4'-C3'	5.42	124.12	116.00
29	X	2228	U	N1-C1'-C2'	5.41	122.12	114.00
29	X	521	U	C2'-C3'-O3'	-5.41	105.59	113.70
29	X	1855	G	P-O3'-C3'	-5.41	112.09	120.20
29	X	2668	U	C2'-C3'-O3'	-5.40	101.41	109.50
13	H	111	PHE	N-CA-C	5.39	119.14	107.49
29	X	1409	U	C4'-C3'-O3'	5.39	117.49	109.40
29	X	1807	A	N9-C1'-C2'	5.39	120.09	112.00
18	M	43	ASN	N-CA-C	-5.39	103.31	111.56
8	C	169	VAL	N-CA-C	5.38	116.53	109.58
29	X	1342	U	N1-C1'-C2'	5.38	122.08	114.00
29	X	683	A	C2'-C3'-O3'	5.38	117.57	109.50
15	J	128	ILE	N-CA-C	5.38	116.66	108.80
29	X	490	A	C1'-C2'-O2'	-5.38	103.74	111.80
29	X	2426	G	C2'-C3'-O3'	5.38	117.56	109.50
29	X	1854	G	C4'-C3'-O3'	5.37	121.06	113.00
29	X	1673	C	C1'-C2'-O2'	5.37	116.46	108.40
29	X	1143	A	N9-C1'-C2'	5.37	120.05	112.00
29	X	2665	G	C4'-C3'-O3'	-5.37	104.95	113.00
28	W	12	ARG	CA-C-N	5.37	125.37	119.90
28	W	12	ARG	C-N-CA	5.37	125.37	119.90
29	X	580	A	N9-C1'-C2'	5.36	122.05	114.00
29	X	2189	A	C4'-C3'-C2'	-5.36	97.24	102.60
29	X	424	G	C4'-C3'-O3'	5.35	117.42	109.40
29	X	818	G	N9-C1'-C2'	5.35	120.02	112.00
30	Y	54	GLY	N-CA-C	-5.34	100.51	113.18
29	X	2680	U	N1-C1'-C2'	-5.34	103.99	112.00
23	R	99	VAL	N-CA-C	-5.34	105.98	112.76
29	X	1224	A	C2'-C3'-O3'	5.34	117.51	109.50
29	X	1846	A	P-O3'-C3'	5.33	128.20	120.20
29	X	1867	A	C2'-C3'-O3'	5.33	121.70	113.70
29	X	2589	C	C4'-C3'-O3'	-5.33	105.01	113.00
29	X	417	C	C4'-C3'-O3'	5.32	117.38	109.40
29	X	521	U	C4'-C3'-O3'	-5.32	105.02	113.00
29	X	2551	A	C4'-C3'-O3'	-5.32	101.42	109.40
29	X	727	U	N1-C1'-C2'	5.32	119.98	112.00
20	O	52	GLY	N-CA-C	-5.31	106.21	113.27
30	Y	15	LYS	N-CA-C	-5.31	100.26	110.56
8	C	74	VAL	CA-C-N	5.31	126.47	119.84
8	C	74	VAL	C-N-CA	5.31	126.47	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	X	522	G	C4'-C3'-O3'	-5.31	105.04	113.00
29	X	682	G	C2'-C3'-O3'	-5.31	105.74	113.70
29	X	1047	G	P-O3'-C3'	-5.30	112.25	120.20
29	X	1862	C	C4'-C3'-C2'	5.30	107.90	102.60
29	X	587	A	C3'-C2'-O2'	5.30	118.65	110.70
29	X	2299	A	C2'-C3'-O3'	-5.29	105.76	113.70
4	4	31	LYS	N-CA-C	-5.29	106.52	112.87
13	H	25	LEU	CA-CB-CG	5.29	134.82	116.30
29	X	490	A	C4'-C3'-O3'	-5.29	101.46	109.40
18	M	7	ILE	N-CA-C	5.29	120.34	109.34
25	T	17	ASN	N-CA-C	5.29	116.80	108.23
25	T	52	GLY	N-CA-C	-5.29	105.52	112.82
29	X	2217	G	N9-C1'-C2'	5.29	121.93	114.00
16	K	80	MET	N-CA-C	5.28	117.12	111.36
26	U	43	ARG	N-CA-C	5.28	116.30	108.86
16	K	12	ARG	N-CA-C	-5.28	101.46	108.74
29	X	842	A	C2'-C3'-O3'	-5.28	105.78	113.70
29	X	2323	U	O4'-C1'-N1	5.27	116.40	108.50
23	R	6	ALA	N-CA-C	5.26	122.01	110.80
29	X	1919	A	N9-C1'-C2'	5.25	119.88	112.00
29	X	2589	C	N1-C1'-C2'	5.25	119.88	112.00
29	X	192	G	C2'-C3'-O3'	5.25	117.37	109.50
13	H	127	VAL	CB-CA-C	-5.25	104.98	112.22
29	X	1634	A	C2'-C3'-O3'	5.25	117.37	109.50
29	X	1300	A	C4'-C3'-O3'	-5.24	105.14	113.00
29	X	1927	U	N1-C1'-C2'	5.24	119.86	112.00
13	H	22	ILE	N-CA-C	-5.24	107.05	111.56
29	X	1624	A	C4'-C3'-O3'	-5.24	105.14	113.00
6	A	261	ARG	N-CA-C	5.23	115.15	108.24
29	X	1754	G	C2'-C3'-O3'	-5.23	105.86	113.70
29	X	2480	C	C2'-C3'-O3'	-5.23	105.86	113.70
13	H	125	LYS	N-CA-C	5.22	117.38	111.11
29	X	48	A	C2'-C3'-O3'	5.22	117.33	109.50
29	X	398	C	C4'-C3'-O3'	-5.21	105.18	113.00
18	M	58	ASN	N-CA-C	5.21	117.58	110.24
21	P	68	VAL	CB-CA-C	-5.21	105.11	112.14
29	X	2303	C	C4'-C3'-O3'	-5.21	105.19	113.00
29	X	1331	G	C3'-C2'-O2'	5.20	118.50	110.70
29	X	2033	C	C4'-C3'-O3'	-5.20	105.20	113.00
21	P	25	PHE	N-CA-C	5.20	116.79	107.80
29	X	2837	G	C1'-C2'-O2'	5.20	116.19	108.40
18	M	97	GLY	N-CA-C	5.19	120.28	111.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	X	2588	U	C2'-C3'-O3'	-5.19	105.91	113.70
29	X	415	A	O4'-C4'-C3'	5.19	109.19	104.00
29	X	1392	U	N1-C1'-C2'	5.19	119.78	112.00
29	X	398	C	N1-C1'-C2'	5.19	119.78	112.00
7	B	59	VAL	N-CA-C	5.18	116.75	108.87
26	U	23	LYS	N-CA-C	5.18	117.87	109.79
29	X	1337	G	C4'-C3'-O3'	-5.18	105.23	113.00
29	X	1855	G	C5'-C4'-C3'	5.18	123.77	116.00
28	W	33	GLU	N-CA-C	-5.17	100.65	108.67
29	X	1810	U	C4'-C3'-O3'	-5.17	105.25	113.00
31	Z	11	G	C3'-C2'-O2'	5.17	118.45	110.70
29	X	2541	U	C3'-C2'-O2'	5.16	118.45	110.70
29	X	769	C	C2'-C3'-O3'	-5.16	105.96	113.70
29	X	797	A	C4'-C3'-O3'	-5.16	105.26	113.00
13	H	76	ARG	N-CA-C	5.16	118.55	107.67
30	Y	50	GLY	N-CA-C	-5.15	108.11	115.64
29	X	1863	U	P-O3'-C3'	-5.15	112.47	120.20
14	I	37	GLN	CB-CA-C	-5.15	109.13	116.34
29	X	2190	A	C3'-C2'-C1'	-5.15	96.15	101.30
29	X	2580	C	C2'-C3'-O3'	-5.15	105.98	113.70
19	N	85	ARG	N-CA-C	-5.15	105.16	111.75
29	X	2674	C	C3'-C2'-O2'	5.14	118.42	110.70
29	X	340	G	N9-C1'-C2'	5.14	121.71	114.00
29	X	872	G	N9-C1'-C2'	5.13	119.70	112.00
29	X	2196	U	C4'-C3'-O3'	5.13	120.70	113.00
19	N	87	ASN	N-CA-C	-5.13	105.18	111.75
29	X	2057	U	C4'-C3'-O3'	-5.13	105.30	113.00
22	Q	73	ASN	N-CA-C	-5.12	107.69	114.04
29	X	801	A	C4'-C3'-O3'	-5.12	105.32	113.00
29	X	1407	G	N9-C1'-C2'	5.12	119.68	112.00
29	X	1807	A	C4'-C3'-O3'	-5.11	105.33	113.00
29	X	1867	A	P-O3'-C3'	5.11	127.87	120.20
17	L	36	LYS	N-CA-C	-5.10	106.80	112.57
29	X	343	A	N9-C1'-C2'	5.10	119.65	112.00
29	X	2428	U	O4'-C1'-C2'	5.10	110.90	105.80
29	X	860	U	N1-C1'-C2'	5.10	119.64	112.00
19	N	103	PRO	N-CA-C	-5.09	106.19	113.47
29	X	2823	G	N9-C1'-C2'	5.08	121.62	114.00
13	H	116	ARG	N-CA-C	-5.08	107.05	113.20
29	X	1314	A	N9-C1'-C2'	5.08	119.62	112.00
29	X	1711	C	C4'-C3'-O3'	5.08	117.02	109.40
8	C	100	ARG	N-CA-C	-5.08	105.64	111.07

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	X	731	A	C3'-C2'-C1'	5.08	106.38	101.30
29	X	2479	U	C1'-C2'-O2'	-5.07	100.80	108.40
29	X	1302	C	C3'-C2'-O2'	5.06	118.30	110.70
29	X	2261	G	C2'-C3'-O3'	5.06	117.09	109.50
29	X	2730	A	N9-C1'-C2'	5.06	119.59	112.00
29	X	1285	A	O4'-C1'-C2'	5.06	110.86	105.80
29	X	2524	G	C2'-C3'-O3'	-5.06	106.11	113.70
14	I	37	GLN	N-CA-C	5.05	115.48	108.00
29	X	2275	U	C4'-C3'-O3'	5.05	116.98	109.40
29	X	2782	G	C3'-C2'-O2'	5.05	118.28	110.70
16	K	66	VAL	N-CA-C	-5.04	106.16	113.07
29	X	558	G	C1'-O4'-C4'	-5.03	104.87	109.90
29	X	1628	C	C1'-C2'-O2'	5.03	115.95	108.40
12	G	51	LEU	N-CA-C	5.03	117.50	111.71
29	X	580	A	O4'-C1'-C2'	5.03	110.83	105.80
29	X	1618	U	C1'-C2'-O2'	-5.03	104.26	111.80
29	X	2460	G	N9-C1'-C2'	5.03	119.54	112.00
15	J	134	LYS	N-CA-C	5.02	116.77	108.48
17	L	97	HIS	N-CA-C	5.02	116.13	108.30
16	K	79	VAL	CB-CA-C	-5.01	105.37	112.14
29	X	1288	A	C1'-C2'-O2'	-5.00	100.90	108.40

All (2) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
5	5	1	SER	CA
29	X	2592	U	C1'

All (205) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
19	N	32	TYR	Sidechain
29	X	1000	G	Sidechain
29	X	1006	C	Sidechain
29	X	1030	U	Sidechain
29	X	1054	C	Sidechain
29	X	1057	A	Sidechain
29	X	1136	G	Sidechain
29	X	1153	A	Sidechain
29	X	1166	A	Sidechain
29	X	1174	G	Sidechain
29	X	1197	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	1200	G	Sidechain
29	X	1206	G	Sidechain
29	X	1212	U	Sidechain
29	X	1216	G	Sidechain
29	X	1235	C	Sidechain
29	X	1250	A	Sidechain
29	X	1264	C	Sidechain
29	X	1278	A	Sidechain
29	X	1280	U	Sidechain
29	X	1285	A	Sidechain
29	X	1289	A	Sidechain
29	X	1294	G	Sidechain
29	X	1301	U	Sidechain
29	X	1310	C	Sidechain
29	X	1317	G	Sidechain
29	X	1325	U	Sidechain
29	X	1333	G	Sidechain
29	X	1334	A	Sidechain
29	X	1338	G	Sidechain
29	X	1342	U	Sidechain
29	X	1357	U	Sidechain
29	X	1373	G	Sidechain
29	X	1408	A	Sidechain
29	X	1429	A	Sidechain
29	X	1467	U	Sidechain
29	X	1470	G	Sidechain
29	X	1574	A	Sidechain
29	X	1582	A	Sidechain
29	X	1629	G	Sidechain
29	X	1631	C	Sidechain
29	X	1632	A	Sidechain
29	X	1634	A	Sidechain
29	X	1649	A	Sidechain
29	X	1665	C	Sidechain
29	X	1673	C	Sidechain
29	X	1674	C	Sidechain
29	X	1675	C	Sidechain
29	X	1681	A	Sidechain
29	X	1687	C	Sidechain
29	X	1690	U	Sidechain
29	X	1692	C	Sidechain
29	X	1698	C	Sidechain

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Mol	Chain	Res	Type	Group
29	X	1715	A	Sidechain
29	X	1743	C	Sidechain
29	X	1749	G	Sidechain
29	X	1759	A	Sidechain
29	X	1770	U	Sidechain
29	X	1775	A	Sidechain
29	X	1811	A	Sidechain
29	X	1849	G	Sidechain
29	X	1851	A	Sidechain
29	X	1918	G	Sidechain
29	X	1922	U	Sidechain
29	X	1934	U	Sidechain
29	X	1947	G	Sidechain
29	X	1973	C	Sidechain
29	X	1979	C	Sidechain
29	X	1980	A	Sidechain
29	X	1981	A	Sidechain
29	X	1996	A	Sidechain
29	X	1999	U	Sidechain
29	X	2007	G	Sidechain
29	X	2024	U	Sidechain
29	X	2036	G	Sidechain
29	X	2047	C	Sidechain
29	X	2050	G	Sidechain
29	X	2189	A	Sidechain
29	X	2192	U	Sidechain
29	X	2195	C	Sidechain
29	X	2196	U	Sidechain
29	X	2222	U	Sidechain
29	X	2223	U	Sidechain
29	X	2247	A	Sidechain
29	X	2250	G	Sidechain
29	X	2258	G	Sidechain
29	X	228	A	Sidechain
29	X	2315	A	Sidechain
29	X	2322	U	Sidechain
29	X	2323	U	Sidechain
29	X	2324	G	Sidechain
29	X	2334	C	Sidechain
29	X	2335	U	Sidechain
29	X	2363	G	Sidechain
29	X	2365	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	24	G	Sidechain
29	X	2418	A	Sidechain
29	X	2419	C	Sidechain
29	X	2427	A	Sidechain
29	X	2428	U	Sidechain
29	X	2433	G	Sidechain
29	X	2436	U	Sidechain
29	X	2447	G	Sidechain
29	X	2460	G	Sidechain
29	X	2469	G	Sidechain
29	X	2479	U	Sidechain
29	X	2489	C	Sidechain
29	X	2492	G	Sidechain
29	X	2500	C	Sidechain
29	X	2507	U	Sidechain
29	X	2526	U	Sidechain
29	X	2531	U	Sidechain
29	X	2540	A	Sidechain
29	X	2541	U	Sidechain
29	X	2542	U	Sidechain
29	X	2544	A	Sidechain
29	X	2555	G	Sidechain
29	X	2579	A	Sidechain
29	X	2583	U	Sidechain
29	X	2592	U	Sidechain
29	X	2599	U	Sidechain
29	X	26	G	Sidechain
29	X	2600	A	Sidechain
29	X	2617	G	Sidechain
29	X	2618	A	Sidechain
29	X	2624	G	Sidechain
29	X	2625	U	Sidechain
29	X	2641	A	Sidechain
29	X	2663	U	Sidechain
29	X	2671	C	Sidechain
29	X	2672	U	Sidechain
29	X	2674	C	Sidechain
29	X	2675	U	Sidechain
29	X	2702	G	Sidechain
29	X	2706	U	Sidechain
29	X	2736	U	Sidechain
29	X	2752	C	Sidechain

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Mol	Chain	Res	Type	Group
29	X	2785	A	Sidechain
29	X	2793	G	Sidechain
29	X	2809	A	Sidechain
29	X	2810	A	Sidechain
29	X	2814	G	Sidechain
29	X	2817	A	Sidechain
29	X	2838	U	Sidechain
29	X	2848	A	Sidechain
29	X	2854	G	Sidechain
29	X	2856	U	Sidechain
29	X	321	A	Sidechain
29	X	331	U	Sidechain
29	X	339	U	Sidechain
29	X	347	C	Sidechain
29	X	396	U	Sidechain
29	X	415	A	Sidechain
29	X	462	G	Sidechain
29	X	468	A	Sidechain
29	X	474	G	Sidechain
29	X	489	A	Sidechain
29	X	515	A	Sidechain
29	X	529	U	Sidechain
29	X	557	U	Sidechain
29	X	563	U	Sidechain
29	X	565	A	Sidechain
29	X	576	A	Sidechain
29	X	578	U	Sidechain
29	X	582	G	Sidechain
29	X	587	A	Sidechain
29	X	596	C	Sidechain
29	X	598	U	Sidechain
29	X	618	A	Sidechain
29	X	683	A	Sidechain
29	X	688	A	Sidechain
29	X	689	A	Sidechain
29	X	690	A	Sidechain
29	X	698	A	Sidechain
29	X	716	U	Sidechain
29	X	731	A	Sidechain
29	X	765	C	Sidechain
29	X	767	G	Sidechain
29	X	800	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	810	U	Sidechain
29	X	814	G	Sidechain
29	X	818	G	Sidechain
29	X	820	U	Sidechain
29	X	823	U	Sidechain
29	X	824	U	Sidechain
29	X	829	C	Sidechain
29	X	837	U	Sidechain
29	X	839	U	Sidechain
29	X	842	A	Sidechain
29	X	843	G	Sidechain
29	X	844	G	Sidechain
29	X	853	C	Sidechain
29	X	873	U	Sidechain
29	X	878	C	Sidechain
29	X	924	C	Sidechain
29	X	939	C	Sidechain
29	X	956	A	Sidechain
29	X	974	U	Sidechain
29	X	978	U	Sidechain
29	X	994	A	Sidechain
30	Y	52	TYR	Sidechain
31	Z	68	A	Sidechain
31	Z	85	G	Sidechain
31	Z	87	C	Sidechain
31	Z	92	G	Sidechain

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	1	53	0	0	2	0
2	2	46	0	0	1	0
3	3	63	0	0	2	0
4	4	297	0	328	68	0
5	5	69	0	34	3	0
6	A	1826	0	1885	319	0
7	B	1539	0	1600	311	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
8	C	1506	0	1525	353	0
9	D	1400	0	1481	317	0
10	E	1286	0	1336	211	0
11	F	1044	0	1088	102	0
12	G	1114	0	1144	291	0
13	H	997	0	1046	212	0
14	I	1067	0	1103	252	0
15	J	1090	0	1125	269	0
16	K	878	0	930	211	0
17	L	779	0	820	189	0
18	M	871	0	894	225	0
19	N	978	0	1020	210	0
20	O	741	0	756	195	0
21	P	1014	0	1096	208	0
22	Q	726	0	753	151	0
23	R	825	0	881	220	0
24	S	1345	0	1372	231	0
25	T	625	0	655	121	0
26	U	552	0	604	153	0
27	V	533	0	558	97	0
28	W	424	0	470	71	0
29	X	57651	0	29048	4652	0
30	Y	457	0	460	110	0
31	Z	2598	0	1328	177	0
32	4	1	0	0	0	0
32	Y	1	0	0	0	0
33	5	13	0	7	0	0
34	M	1	0	0	0	0
34	X	28	0	0	0	0
34	Z	6	0	0	0	0
All	All	84444	0	55347	9100	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 65.

All (9100) 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)
18:M:108:ARG:O	18:M:109:GLU:HG3	1.25	1.33
29:X:1854:G:O2'	29:X:1855:G:H5'	1.31	1.28
29:X:1053:G:H2'	29:X:1054:C:C6	1.71	1.25

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1386:A:H5”	29:X:2191:A:N6	1.48	1.25
29:X:2196:U:H2’	29:X:2197:U:O4’	1.31	1.23
31:Z:43:G:H5’	31:Z:44:C:H5’	1.21	1.17
18:M:99:VAL:HG22	18:M:100:ARG:H	1.10	1.14
29:X:1118:G:H2’	29:X:1119:U:H5”	1.19	1.14
7:B:116:VAL:N	7:B:136:ARG:HE	1.46	1.13
22:Q:12:ILE:HG12	22:Q:13:SER:H	1.04	1.12
19:N:24:PHE:HB2	19:N:29:SER:HB3	1.32	1.12
22:Q:10:PRO:HA	22:Q:27:PHE:HB3	1.17	1.11
29:X:2672:U:H2’	29:X:2673:G:H8	1.00	1.11
7:B:9:ILE:HD11	7:B:27:LEU:HB2	1.26	1.11
13:H:27:SER:HB3	13:H:50:ILE:H	1.11	1.11
18:M:28:ARG:HB2	18:M:29:PRO:HD3	1.25	1.11
13:H:75:VAL:HG12	13:H:118:LEU:HD21	1.14	1.11
29:X:1052:C:C3’	29:X:1053:G:H5”	1.81	1.10
14:I:38:LYS:HG2	29:X:954:U:OP2	1.52	1.10
29:X:1508:G:H5’	29:X:1509:A:H5”	1.17	1.10
29:X:2769:C:H2’	29:X:2770:A:C8	1.85	1.10
30:Y:4:HIS:HB3	30:Y:5:PRO:CD	1.82	1.09
14:I:18:ARG:HB2	14:I:21:ARG:HB2	1.34	1.09
29:X:729:A:H2’	29:X:730:C:O4’	1.50	1.09
29:X:1711:C:H4’	29:X:1712:G:H5”	1.17	1.09
29:X:2672:U:H2’	29:X:2673:G:C8	1.86	1.09
9:D:66:ILE:HD11	31:Z:43:G:H5”	1.31	1.09
11:F:21:PRO:HG2	11:F:22:PRO:HD3	1.35	1.09
15:J:86:LYS:HD2	29:X:2256:G:OP2	1.53	1.08
16:K:20:LEU:HD11	16:K:24:GLN:HE21	1.17	1.08
21:P:37:LYS:HE2	21:P:64:ALA:HB2	1.27	1.08
13:H:47:VAL:HG23	13:H:77:THR:HG23	1.17	1.08
9:D:150:ARG:HG2	9:D:151:GLY:H	1.17	1.08
10:E:87:LEU:HB2	10:E:131:ILE:HB	1.27	1.08
24:S:113:VAL:HA	24:S:171:VAL:HA	1.33	1.08
29:X:1052:C:C2’	29:X:1053:G:H5”	1.84	1.08
29:X:1128:G:H3’	29:X:1129:A:H5”	1.34	1.08
18:M:108:ARG:O	18:M:109:GLU:CG	2.02	1.08
29:X:2194:A:C3’	29:X:2195:C:H5”	1.84	1.08
29:X:2781:G:H2’	29:X:2782:G:H5”	1.30	1.08
28:W:4:LYS:HG3	28:W:52:GLU:HB3	1.29	1.07
9:D:122:PHE:HB3	9:D:129:ASN:HD22	1.15	1.07
23:R:90:LYS:HB2	23:R:108:VAL:HG21	1.35	1.07
29:X:623:G:H3’	29:X:624:A:H5”	1.37	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:116:ARG:HE	12:G:126:VAL:HG13	1.19	1.07
21:P:27:VAL:HG23	21:P:125:THR:HG22	1.37	1.07
29:X:558:G:H3'	29:X:558:G:N3	1.70	1.07
29:X:104:C:H2'	29:X:105:G:H5"	1.36	1.06
29:X:2581:A:H3'	29:X:2582:G:H5"	1.34	1.06
26:U:32:ARG:O	29:X:2375:G:H4'	1.55	1.06
29:X:1118:G:C2'	29:X:1119:U:H5"	1.85	1.06
29:X:2170:C:H3'	29:X:2171:U:H5"	1.36	1.06
29:X:2194:A:H3'	29:X:2195:C:H5"	1.33	1.06
7:B:116:VAL:H	7:B:136:ARG:NE	1.53	1.05
13:H:4:PRO:O	13:H:5:GLN:HB2	1.56	1.05
13:H:2:ILE:HB	13:H:45:ALA:HB3	1.35	1.05
15:J:15:ARG:HD3	15:J:73:LYS:HZ2	1.18	1.05
29:X:758:G:H2'	29:X:759:C:H5"	1.31	1.05
29:X:2195:C:O2'	29:X:2196:U:H5'	1.56	1.05
13:H:10:VAL:HG23	13:H:17:ARG:O	1.57	1.05
29:X:128:C:H2'	29:X:129:A:H5"	1.35	1.05
21:P:95:ALA:HB2	21:P:126:ILE:HD13	1.35	1.04
13:H:8:LEU:HD22	13:H:94:ASN:HB3	1.36	1.04
16:K:79:VAL:HA	16:K:83:VAL:CG1	1.86	1.04
18:M:106:TYR:HE1	18:M:107:LEU:CD2	1.69	1.04
20:O:26:GLN:HG2	20:O:27:GLY:H	0.89	1.04
29:X:2196:U:C2'	29:X:2197:U:O4'	2.04	1.04
6:A:39:LYS:H	6:A:61:LEU:HD22	1.22	1.04
29:X:822:G:C2'	29:X:823:U:H5'	1.88	1.04
29:X:1056:U:O2	29:X:1056:U:C2'	2.01	1.04
29:X:1181:C:H2'	29:X:1182:U:H5"	1.39	1.04
29:X:2195:C:H2'	29:X:2196:U:C6	1.93	1.04
6:A:43:ARG:N	6:A:43:ARG:HH11	1.53	1.03
7:B:116:VAL:HG22	7:B:136:ARG:NE	1.74	1.03
25:T:34:GLY:HA3	29:X:2332:G:H1'	1.07	1.03
29:X:1053:G:H2'	29:X:1054:C:H6	1.01	1.03
28:W:5:LEU:HB2	28:W:25:LEU:HD13	1.37	1.03
29:X:2484:G:O2'	29:X:2485:U:H5'	1.58	1.03
23:R:15:HIS:CD2	29:X:347:C:H4'	1.94	1.02
13:H:27:SER:HB3	13:H:50:ILE:N	1.73	1.02
29:X:3:U:H2'	29:X:4:C:C6	1.95	1.02
29:X:517:A:H5"	29:X:518:A:H5'	1.38	1.02
29:X:2040:A:H2'	29:X:2041:A:H8	1.25	1.02
17:L:26:ARG:NH1	29:X:2357:A:H4'	1.73	1.02
20:O:26:GLN:CG	20:O:27:GLY:H	1.72	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:51:ILE:HD11	22:Q:83:ALA:HA	1.41	1.02
29:X:2736:U:O2'	29:X:2737:A:H5"	1.59	1.02
9:D:175:LEU:HD12	9:D:176:PRO:HD2	1.37	1.02
13:H:23:ARG:NH1	13:H:25:LEU:HA	1.75	1.02
26:U:51:ILE:HG23	26:U:59:THR:HA	1.37	1.02
29:X:717:G:H2'	29:X:739:G:H22	1.21	1.02
14:I:63:ARG:HH11	29:X:2394:G:H3'	1.24	1.01
14:I:85:ASP:HA	14:I:116:ARG:HH12	1.22	1.01
6:A:208:LYS:HE3	29:X:1782:A:H1'	1.40	1.01
8:C:68:ARG:HH12	29:X:2043:A:H62	1.04	1.01
9:D:13:ARG:HB3	9:D:14:PRO:HD3	1.41	1.01
9:D:27:ALA:HB2	31:Z:59:A:H1'	1.40	1.01
29:X:537:C:H1'	29:X:538:A:C6	1.94	1.01
4:4:24:LEU:HG	4:4:35:ARG:HG3	1.42	1.00
29:X:224:G:H4'	29:X:399:G:C6	1.94	1.00
29:X:2323:U:O2	29:X:2323:U:H2'	1.59	1.00
12:G:33:ILE:HB	12:G:34:PRO:HD2	1.42	1.00
12:G:33:ILE:HB	12:G:34:PRO:CD	1.91	1.00
21:P:37:LYS:HB2	29:X:1279:G:N2	1.76	1.00
29:X:591:G:H2'	29:X:592:G:C8	1.96	1.00
7:B:119:ARG:HG2	7:B:119:ARG:HH11	1.24	1.00
16:K:99:ARG:HG2	16:K:99:ARG:HH11	1.24	1.00
29:X:304:A:H2'	29:X:305:A:H5"	1.43	1.00
29:X:1550:C:H2'	29:X:1553:G:N2	1.76	1.00
29:X:2198:U:H2'	29:X:2199:C:O4'	1.60	1.00
15:J:79:PRO:HD2	15:J:88:LYS:HD2	1.43	1.00
27:V:2:LYS:HG3	27:V:3:PRO:HD3	1.44	1.00
17:L:54:ALA:HB3	17:L:75:LEU:HB2	1.44	0.99
18:M:106:TYR:CE1	18:M:107:LEU:CD2	2.45	0.99
18:M:106:TYR:HE1	18:M:107:LEU:HD21	1.24	0.99
6:A:43:ARG:H	6:A:43:ARG:HD2	1.26	0.99
10:E:124:ALA:HB3	10:E:132:ASP:HB3	1.45	0.99
7:B:116:VAL:HG13	7:B:136:ARG:HH21	1.28	0.99
17:L:63:ASN:HB2	17:L:67:THR:HG23	1.43	0.99
20:O:26:GLN:HG2	20:O:27:GLY:N	1.72	0.99
22:Q:73:ASN:HB2	22:Q:75:ARG:HH12	1.26	0.99
29:X:558:G:N3	29:X:558:G:C5'	2.26	0.99
29:X:1850:G:N2	29:X:1867:A:N7	2.08	0.99
29:X:2691:C:H2'	29:X:2692:A:H5"	1.42	0.99
29:X:1056:U:O2	29:X:1056:U:H2'	1.19	0.98
29:X:1467:U:H3'	29:X:1468:A:H5'	1.45	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:871:U:O2'	29:X:2247:A:H2'	1.60	0.98
17:L:40:ALA:HB2	17:L:103:LEU:HD11	1.45	0.98
21:P:66:GLU:HB3	21:P:67:PRO:HD3	1.42	0.98
22:Q:11:VAL:HG23	22:Q:27:PHE:HA	1.41	0.98
23:R:105:ARG:HH22	23:R:112:LYS:HA	1.25	0.98
16:K:102:THR:HA	16:K:109:THR:HA	1.45	0.98
29:X:317:U:H2'	29:X:318:G:H5"	1.45	0.98
21:P:27:VAL:CG2	21:P:125:THR:HG22	1.92	0.98
21:P:57:LEU:HD13	21:P:69:ALA:HA	1.45	0.98
29:X:693:A:H2'	29:X:694:G:C8	1.98	0.98
29:X:1854:G:H2'	29:X:1855:G:OP2	1.61	0.98
26:U:17:SER:HB2	26:U:44:ALA:HA	1.41	0.98
6:A:108:PRO:HA	6:A:196:VAL:HA	1.45	0.97
6:A:229:VAL:HG22	29:X:2056:C:H5"	1.44	0.97
17:L:20:THR:HB	17:L:24:SER:OG	1.63	0.97
15:J:99:LYS:CD	15:J:100:PRO:HD2	1.95	0.97
29:X:1850:G:O2'	29:X:1851:A:H8	1.46	0.97
29:X:2819:G:H2'	29:X:2820:C:C6	1.99	0.97
16:K:63:ARG:NH1	16:K:80:MET:HG2	1.79	0.97
22:Q:35:LYS:O	22:Q:38:ILE:HG23	1.63	0.97
20:O:10:LYS:HD2	20:O:37:ALA:HB3	1.44	0.97
29:X:1052:C:H2'	29:X:1053:G:H5"	1.44	0.97
8:C:5:ASN:HA	8:C:118:VAL:HG21	1.43	0.97
8:C:194:GLU:O	8:C:195:ILE:HG12	1.65	0.97
13:H:23:ARG:NH2	13:H:25:LEU:HD23	1.80	0.97
29:X:1386:A:H5"	29:X:2191:A:H62	1.29	0.97
29:X:2674:C:HO2'	29:X:2675:U:H6	1.02	0.97
9:D:135:GLN:HG3	9:D:151:GLY:HA2	1.43	0.97
29:X:687:G:C2'	29:X:688:A:H5'	1.94	0.96
30:Y:4:HIS:HB3	30:Y:5:PRO:HD3	1.45	0.96
23:R:38:LEU:HB2	23:R:47:VAL:HB	1.46	0.96
8:C:84:PHE:CE1	29:X:596:C:H5'	2.00	0.96
26:U:31:GLY:HA2	26:U:32:ARG:HH11	1.29	0.96
29:X:796:A:H8	29:X:797:A:H4'	1.29	0.96
14:I:39:SER:O	14:I:40:ARG:HB2	1.61	0.96
26:U:37:ILE:HD11	29:X:400:U:OP2	1.66	0.96
29:X:2196:U:H2'	29:X:2197:U:C1'	1.94	0.96
14:I:30:ALA:HB3	14:I:34:HIS:CE1	2.01	0.96
10:E:105:MET:HB2	10:E:113:VAL:HB	1.46	0.96
29:X:531:G:H2'	29:X:532:A:H8	1.29	0.96
29:X:2030:U:H2'	29:X:2031:A:H8	1.30	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:719:A:H2'	29:X:720:A:O4'	1.66	0.96
10:E:27:LYS:HA	10:E:32:GLU:HA	1.45	0.95
29:X:1052:C:H3'	29:X:1053:G:H5"	1.45	0.95
24:S:69:VAL:HG22	24:S:81:VAL:HG13	1.49	0.95
29:X:635:C:H2'	29:X:636:G:H5"	1.45	0.95
15:J:6:LYS:HE3	15:J:7:ARG:HE	1.28	0.95
29:X:2447:G:H22	29:X:2460:G:H2'	1.30	0.95
29:X:2823:G:HO2'	29:X:2824:C:H6	0.99	0.95
7:B:183:LEU:HD21	18:M:16:ILE:HG21	1.46	0.95
12:G:61:ARG:HA	12:G:65:LYS:HB2	1.49	0.95
10:E:43:VAL:HB	10:E:52:VAL:HG13	1.49	0.95
16:K:13:ASN:ND2	16:K:16:ALA:H	1.64	0.95
24:S:104:SER:HA	24:S:139:THR:HA	1.47	0.95
10:E:58:ALA:H	10:E:62:ARG:HG3	1.31	0.94
21:P:35:PRO:O	21:P:39:ARG:HD3	1.67	0.94
27:V:55:THR:O	27:V:59:GLU:HG3	1.67	0.94
14:I:104:ARG:HB3	14:I:105:PRO:HD2	1.48	0.94
7:B:11:MET:O	7:B:12:THR:HB	1.67	0.94
29:X:861:G:H2'	29:X:862:A:H5'	1.49	0.94
29:X:1052:C:H3'	29:X:1053:G:C5'	1.96	0.94
29:X:651:C:H2'	29:X:652:C:H5"	1.49	0.94
10:E:50:LEU:HD23	10:E:51:LEU:H	1.32	0.94
29:X:2769:C:H2'	29:X:2770:A:H8	1.19	0.94
7:B:11:MET:HG2	7:B:24:THR:OG1	1.68	0.94
12:G:49:VAL:HG21	12:G:170:PRO:HG2	1.50	0.94
23:R:106:VAL:HG23	23:R:113:THR:HG21	1.47	0.94
29:X:1107:A:H3'	29:X:1108:U:H5"	1.48	0.94
29:X:2796:A:H2'	29:X:2797:G:C8	2.02	0.94
29:X:590:C:H2'	29:X:591:G:H8	1.33	0.93
11:F:126:THR:HA	29:X:1091:C:H1'	1.49	0.93
16:K:13:ASN:HD21	16:K:16:ALA:H	1.05	0.93
26:U:19:ILE:HG22	26:U:42:GLN:HG3	1.47	0.93
12:G:51:LEU:HD13	12:G:88:VAL:HG21	1.50	0.93
29:X:2212:U:H2'	29:X:2213:G:C8	2.04	0.93
29:X:314:G:H2'	29:X:315:G:H8	1.34	0.93
30:Y:14:SER:O	30:Y:18:MET:HG2	1.69	0.93
11:F:3:LYS:HD2	11:F:3:LYS:H	1.33	0.93
12:G:107:GLN:C	12:G:109:GLY:H	1.77	0.93
28:W:8:SER:HB2	29:X:999:A:H5"	1.51	0.93
29:X:558:G:H3'	29:X:558:G:C4	2.00	0.93
8:C:47:THR:HG23	8:C:85:GLY:H	1.31	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:8:TYR:HB2	9:D:173:MET:HE1	1.51	0.93
26:U:49:LYS:HB2	26:U:61:TRP:HA	1.51	0.93
29:X:1764:A:H2'	29:X:1765:C:H5'	1.49	0.93
12:G:55:ALA:C	12:G:134:MET:HE1	1.94	0.92
20:O:25:LEU:HB2	20:O:32:LYS:HZ3	1.34	0.92
16:K:28:LEU:O	16:K:28:LEU:HD22	1.68	0.92
26:U:48:LYS:HG2	26:U:49:LYS:H	1.32	0.92
17:L:10:LYS:O	17:L:14:ARG:HG3	1.69	0.92
17:L:28:ARG:HH22	31:Z:11:G:P	1.93	0.92
22:Q:12:ILE:HG12	22:Q:13:SER:N	1.80	0.92
29:X:632:A:H2'	29:X:633:G:H5'	1.52	0.92
29:X:914:C:H2'	29:X:915:C:H6	1.34	0.92
29:X:2040:A:H2'	29:X:2041:A:C8	2.03	0.92
22:Q:65:VAL:HG12	22:Q:66:GLY:H	1.33	0.92
8:C:84:PHE:HE1	29:X:596:C:H5'	1.33	0.92
29:X:109:A:H2'	29:X:110:U:H5"	1.48	0.92
29:X:1301:U:H5"	29:X:1302:C:OP2	1.69	0.92
16:K:11:ASN:HD21	16:K:17:ARG:NH1	1.68	0.92
29:X:1681:A:H61	29:X:1979:C:H42	1.18	0.92
29:X:2826:C:H2'	29:X:2827:G:H5'	1.52	0.92
12:G:88:VAL:HG22	12:G:89:ALA:H	1.31	0.92
29:X:205:A:H2'	29:X:206:U:H5'	1.51	0.92
6:A:183:ARG:HA	6:A:183:ARG:HH11	1.35	0.91
18:M:55:ILE:HG22	18:M:104:LEU:HB2	1.52	0.91
29:X:314:G:H2'	29:X:315:G:C8	2.04	0.91
29:X:822:G:H2'	29:X:823:U:H5'	1.49	0.91
12:G:61:ARG:HB3	12:G:61:ARG:HH21	1.31	0.91
29:X:876:A:H2'	29:X:877:G:C8	2.06	0.91
29:X:1053:G:C2'	29:X:1054:C:H6	1.83	0.91
17:L:8:ARG:HG3	17:L:9:ARG:H	1.33	0.91
20:O:38:LEU:HD13	20:O:39:PHE:N	1.85	0.91
22:Q:62:ARG:HH12	22:Q:73:ASN:HD21	1.17	0.91
29:X:1849:G:N3	29:X:1868:A:N6	2.19	0.91
17:L:64:LYS:H	17:L:64:LYS:HD3	1.35	0.91
26:U:14:VAL:HG12	29:X:409:G:H5"	1.50	0.91
29:X:719:A:N6	29:X:738:G:O2'	2.02	0.91
29:X:793:G:H21	29:X:796:A:H62	1.09	0.91
29:X:1441:A:H1'	29:X:1442:C:C5	2.05	0.91
26:U:78:ILE:HD13	26:U:79:GLU:N	1.84	0.91
29:X:623:G:C3'	29:X:624:A:H5"	2.01	0.91
23:R:97:GLN:HB2	23:R:101:GLY:HA2	1.53	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:663:G:H3'	29:X:664:C:H5"	1.51	0.91
13:H:116:ARG:HG3	13:H:116:ARG:HH11	1.31	0.90
29:X:2691:C:C2'	29:X:2692:A:H5"	2.01	0.90
6:A:95:LEU:HD12	6:A:105:ILE:HD12	1.53	0.90
6:A:67:PHE:HB3	6:A:153:ALA:H	1.34	0.90
6:A:208:LYS:CE	29:X:1782:A:H1'	2.01	0.90
29:X:2757:G:H5"	29:X:2758:A:H5"	1.53	0.90
29:X:1386:A:H5"	29:X:2191:A:C6	2.06	0.90
29:X:1468:A:H5"	29:X:1472:C:N4	1.86	0.90
8:C:102:LEU:O	8:C:102:LEU:HD23	1.72	0.90
15:J:12:LYS:O	15:J:13:GLN:HB2	1.72	0.90
24:S:19:ILE:HG12	24:S:36:ARG:HA	1.54	0.90
29:X:1683:G:O2'	29:X:1684:G:H5'	1.70	0.90
29:X:1982:C:H4'	29:X:2703:C:O2	1.72	0.90
16:K:36:THR:HG23	16:K:37:THR:O	1.71	0.90
29:X:2189:A:H61	29:X:2195:C:H41	1.20	0.90
24:S:19:ILE:HG22	24:S:20:ALA:H	1.37	0.90
31:Z:16:U:H1'	31:Z:109:G:H21	1.36	0.90
9:D:81:GLN:HG2	9:D:82:GLY:H	1.38	0.90
12:G:149:LYS:NZ	29:X:7:G:H5'	1.86	0.90
29:X:922:A:H2'	29:X:923:A:C8	2.07	0.90
9:D:10:ASP:O	9:D:14:PRO:HD2	1.72	0.89
14:I:56:LEU:HD11	29:X:2338:C:O2'	1.71	0.89
16:K:87:TYR:CD1	16:K:90:ARG:HD2	2.06	0.89
29:X:1193:G:C2'	29:X:1194:U:H5"	2.02	0.89
29:X:1711:C:H4'	29:X:1712:G:C5'	2.01	0.89
29:X:2819:G:H2'	29:X:2820:C:H6	1.34	0.89
9:D:38:GLU:HB3	9:D:87:ILE:HB	1.53	0.89
29:X:1281:A:H1'	29:X:2592:U:C4	2.08	0.89
29:X:1978:U:H3'	29:X:1979:C:H5"	1.54	0.89
24:S:105:GLN:O	24:S:142:ASN:HA	1.72	0.89
29:X:796:A:C8	29:X:797:A:H4'	2.07	0.89
29:X:1299:A:H2'	29:X:1301:U:OP2	1.71	0.89
29:X:2195:C:C6	29:X:2196:U:C5	2.60	0.89
29:X:2775:U:H5'	29:X:2776:U:H5"	1.52	0.89
29:X:2781:G:C2'	29:X:2782:G:H5"	2.01	0.89
6:A:222:ARG:CB	6:A:222:ARG:HH21	1.84	0.89
29:X:2708:U:H2'	29:X:2709:C:C6	2.07	0.89
9:D:75:SER:H	9:D:79:LEU:HD22	1.38	0.89
12:G:67:ARG:HE	12:G:70:PHE:HA	1.37	0.89
24:S:120:LEU:HD23	24:S:121:GLN:N	1.87	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1427:G:H2'	29:X:1428:G:H1'	1.52	0.89
29:X:1681:A:C2	29:X:2706:U:C2	2.59	0.89
29:X:1859:A:H2'	29:X:1860:A:C8	2.08	0.89
29:X:1886:G:H2'	29:X:1887:G:H8	1.37	0.89
6:A:252:LYS:HE3	6:A:253:PRO:HD3	1.52	0.89
18:M:38:LYS:HB3	18:M:46:ARG:HB3	1.53	0.89
7:B:144:ARG:HH11	29:X:2551:A:H2'	1.35	0.89
25:T:29:GLU:O	25:T:67:VAL:HG23	1.71	0.89
29:X:2642:G:C2'	29:X:2643:G:H5'	2.02	0.89
6:A:99:ASP:OD1	29:X:1506:C:H2'	1.72	0.89
7:B:82:ARG:HH21	29:X:2616:U:H5"	1.37	0.89
12:G:61:ARG:HG2	12:G:65:LYS:HD2	1.55	0.89
20:O:11:GLN:NE2	20:O:38:LEU:HB3	1.87	0.89
29:X:1922:U:H1'	29:X:2570:C:O2'	1.73	0.89
4:4:29:ASN:HD21	4:4:31:LYS:HD3	1.35	0.88
6:A:160:GLY:HA3	29:X:1812:U:C4	2.07	0.88
18:M:28:ARG:HB2	18:M:29:PRO:CD	2.03	0.88
24:S:1:MET:CE	24:S:52:PHE:HB3	2.03	0.88
6:A:68:LYS:HD3	6:A:68:LYS:H	1.35	0.88
29:X:729:A:H3'	29:X:729:A:N3	1.86	0.88
29:X:758:G:C2'	29:X:759:C:H5"	2.02	0.88
29:X:2195:C:H2'	29:X:2196:U:H6	1.31	0.88
29:X:469:G:N2	29:X:480:G:H2'	1.87	0.88
6:A:126:LYS:HB2	6:A:129:ASN:ND2	1.88	0.88
29:X:666:U:H2'	29:X:667:U:H4'	1.53	0.88
29:X:693:A:H2'	29:X:694:G:H8	1.34	0.88
29:X:765:C:C4	29:X:1772:C:H1'	2.09	0.88
29:X:1193:G:H2'	29:X:1194:U:H5"	1.51	0.88
29:X:2239:C:H2'	29:X:2240:C:H6	1.39	0.88
9:D:4:LEU:HD21	9:D:173:MET:HE3	1.55	0.88
29:X:38:G:H1	29:X:453:U:H3	1.20	0.88
29:X:2736:U:H4'	29:X:2737:A:OP1	1.71	0.88
15:J:131:LYS:HD2	24:S:76:ARG:NH2	1.88	0.88
29:X:104:C:C2'	29:X:105:G:H5"	2.04	0.88
29:X:1885:C:H2'	29:X:1886:G:H5'	1.53	0.88
10:E:126:PRO:HG3	10:E:130:ARG:HD3	1.52	0.88
16:K:32:GLY:HA2	16:K:115:LEU:HD12	1.54	0.88
24:S:6:LYS:HB2	24:S:31:SER:O	1.74	0.88
29:X:1624:A:O2'	29:X:1625:A:H5'	1.72	0.88
29:X:1625:A:H1'	29:X:1632:A:O2'	1.74	0.88
10:E:126:PRO:HG2	10:E:127:GLU:H	1.38	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:47:VAL:HG11	13:H:115:ALA:CB	2.04	0.88
17:L:42:ILE:HD11	17:L:87:VAL:HG13	1.55	0.88
17:L:54:ALA:O	17:L:71:VAL:HG23	1.74	0.88
18:M:101:ARG:O	18:M:103:LYS:N	2.07	0.88
9:D:122:PHE:HD2	9:D:129:ASN:H	1.22	0.88
23:R:85:ASP:H	23:R:86:PRO:HD3	1.39	0.88
29:X:427:C:H1'	29:X:1856:U:H1'	1.53	0.88
29:X:585:U:H4'	29:X:2481:G:N7	1.89	0.88
29:X:958:G:H2'	29:X:959:C:C6	2.09	0.88
16:K:96:ARG:HB2	29:X:2857:C:H5'	1.55	0.87
17:L:33:ARG:HG3	17:L:38:ILE:HB	1.56	0.87
22:Q:62:ARG:NH1	22:Q:73:ASN:HD21	1.72	0.87
29:X:1674:C:H2'	29:X:1675:C:C6	2.09	0.87
18:M:101:ARG:HG2	18:M:101:ARG:HH21	1.39	0.87
18:M:106:TYR:CE2	29:X:1745:C:H5'	2.09	0.87
8:C:48:ARG:HB2	8:C:51:VAL:HG22	1.56	0.87
28:W:8:SER:HB2	29:X:999:A:C5'	2.05	0.87
29:X:1588:A:H2'	29:X:1589:G:H8	1.39	0.87
29:X:2642:G:H2'	29:X:2643:G:H5'	1.55	0.87
30:Y:51:TYR:CE1	30:Y:55:ARG:HB2	2.09	0.87
7:B:189:PRO:HA	29:X:2659:C:H5'	1.55	0.87
29:X:48:A:H4'	29:X:49:U:O5'	1.74	0.87
7:B:34:VAL:HG21	7:B:78:LEU:HD22	1.56	0.87
9:D:167:ARG:HA	9:D:170:LEU:HD12	1.55	0.87
7:B:116:VAL:HG13	7:B:136:ARG:NH2	1.87	0.87
20:O:36:LYS:HZ3	20:O:54:TYR:HB3	1.38	0.87
22:Q:62:ARG:HH12	22:Q:73:ASN:ND2	1.72	0.87
29:X:1508:G:C5'	29:X:1509:A:H5"	2.04	0.87
29:X:731:A:H2'	29:X:732:G:O4'	1.75	0.87
29:X:2604:G:H2'	29:X:2605:C:C6	2.09	0.86
6:A:60:ARG:HD3	6:A:87:ASN:HD21	1.40	0.86
17:L:36:LYS:HE2	17:L:65:THR:HG22	1.57	0.86
29:X:555:U:H3'	29:X:555:U:H6	1.40	0.86
29:X:2498:U:H4'	29:X:2499:C:OP1	1.74	0.86
12:G:42:VAL:HG13	12:G:166:LEU:O	1.74	0.86
17:L:18:ARG:CZ	29:X:2357:A:H61	1.88	0.86
10:E:57:ASP:HB3	10:E:62:ARG:HE	1.39	0.86
29:X:460:U:O4	29:X:592:G:H1'	1.75	0.86
8:C:162:ARG:NH1	29:X:333:A:H5"	1.90	0.86
29:X:1992:G:H2'	29:X:1993:G:H5'	1.56	0.86
13:H:29:ILE:HA	13:H:34:LEU:HD23	1.58	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:132:GLU:HB2	18:M:73:PHE:HE1	1.40	0.86
11:F:2:LYS:HD3	11:F:2:LYS:N	1.89	0.86
11:F:104:VAL:HA	11:F:107:ILE:HD12	1.57	0.86
24:S:122:ILE:HG22	24:S:160:LEU:HD23	1.56	0.86
29:X:219:G:N2	29:X:231:G:H2'	1.91	0.86
29:X:813:A:H4'	29:X:814:G:O5'	1.73	0.86
29:X:1468:A:H8	29:X:1468:A:O5'	1.59	0.86
6:A:62:TYR:CE1	29:X:1808:C:H3'	2.11	0.86
6:A:255:LYS:HE2	29:X:1835:C:H5'	1.58	0.86
13:H:47:VAL:CG2	13:H:77:THR:HG23	2.05	0.86
16:K:13:ASN:HD22	16:K:14:SER:N	1.71	0.86
18:M:99:VAL:HG22	18:M:100:ARG:N	1.87	0.86
29:X:627:A:H2'	29:X:628:A:C8	2.10	0.86
29:X:648:A:H5'	29:X:649:G:H4'	1.58	0.86
8:C:166:TRP:H	8:C:166:TRP:HE3	1.23	0.86
12:G:105:GLY:O	12:G:110:LEU:HD12	1.76	0.86
14:I:38:LYS:NZ	29:X:954:U:OP2	2.08	0.86
29:X:929:A:H2	31:Z:81:C:O2	1.57	0.86
9:D:118:ASN:HD21	9:D:120:ASN:HD22	1.19	0.85
13:H:23:ARG:HH12	13:H:25:LEU:HA	1.38	0.85
18:M:82:PRO:O	18:M:84:ALA:N	2.09	0.85
19:N:55:ARG:HD3	29:X:1166:A:H5"	1.58	0.85
20:O:10:LYS:HD2	20:O:37:ALA:CB	2.05	0.85
29:X:2811:G:H2'	29:X:2812:A:H8	1.40	0.85
6:A:247:VAL:HG23	6:A:248:THR:HG23	1.56	0.85
18:M:106:TYR:CE1	18:M:107:LEU:HG	2.10	0.85
6:A:70:ARG:HH22	6:A:149:PRO:HA	1.40	0.85
16:K:49:GLU:O	16:K:52:ILE:HG12	1.75	0.85
22:Q:61:LYS:HB2	22:Q:72:ARG:HD3	1.57	0.85
23:R:4:PRO:N	29:X:34:U:HO2'	1.74	0.85
26:U:27:ASP:HA	26:U:32:ARG:CZ	2.06	0.85
29:X:876:A:H2'	29:X:877:G:H8	1.42	0.85
7:B:116:VAL:H	7:B:136:ARG:HE	0.90	0.85
8:C:162:ARG:NH2	29:X:333:A:H3'	1.91	0.85
16:K:5:LYS:HE3	29:X:2795:A:H4'	1.58	0.85
29:X:1223:G:H4'	29:X:1224:A:H5"	1.58	0.85
29:X:1539:U:H2'	29:X:1540:C:C6	2.10	0.85
7:B:14:ILE:HG12	18:M:20:HIS:CD2	2.11	0.85
12:G:73:ASN:HD21	29:X:547:U:H1'	1.39	0.85
13:H:3:MET:HE1	29:X:1978:U:O2	1.76	0.85
15:J:99:LYS:HD2	15:J:100:PRO:HD2	1.57	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:33:ARG:CG	17:L:38:ILE:HB	2.07	0.85
17:L:43:ILE:N	17:L:43:ILE:HD12	1.91	0.85
21:P:71:VAL:HG12	21:P:126:ILE:HG22	1.59	0.85
23:R:14:LEU:HD13	23:R:39:ALA:HB1	1.57	0.85
25:T:21:LEU:HD11	25:T:41:ARG:NE	1.90	0.85
13:H:75:VAL:CG1	13:H:118:LEU:HD21	2.05	0.85
24:S:127:PRO:O	24:S:128:ARG:HG2	1.76	0.85
29:X:537:C:C5	29:X:2759:U:H3'	2.11	0.85
29:X:1281:A:H1'	29:X:2592:U:C5	2.11	0.85
9:D:118:ASN:HD21	9:D:120:ASN:ND2	1.73	0.85
18:M:28:ARG:CB	18:M:29:PRO:HD3	1.95	0.85
29:X:841:G:H2'	29:X:842:A:C8	2.11	0.85
12:G:92:GLY:C	12:G:93:LYS:HD2	2.02	0.85
29:X:2662:C:H2'	29:X:2663:U:H6	1.41	0.85
29:X:2796:A:H2'	29:X:2797:G:H8	1.38	0.85
19:N:66:ASN:HB3	19:N:76:TYR:HB2	1.59	0.85
29:X:868:U:H2'	29:X:869:C:C6	2.12	0.85
7:B:115:GLY:O	7:B:119:ARG:HB2	1.76	0.85
15:J:77:LYS:O	15:J:79:PRO:HD3	1.77	0.85
20:O:65:ARG:HH11	20:O:65:ARG:HG3	1.42	0.85
15:J:26:ASP:HB3	15:J:68:ARG:HH22	1.41	0.84
21:P:31:VAL:HG21	21:P:124:ILE:HG13	1.59	0.84
29:X:1052:C:C3'	29:X:1053:G:C5'	2.55	0.84
6:A:244:ARG:O	6:A:252:LYS:HE2	1.77	0.84
9:D:166:ALA:O	9:D:170:LEU:HG	1.77	0.84
17:L:68:ALA:HB1	17:L:102:ALA:CB	2.05	0.84
29:X:88:G:H3'	29:X:89:A:H5"	1.57	0.84
29:X:2404:A:H1'	29:X:2406:C:C4	2.12	0.84
31:Z:80:A:H2'	31:Z:81:C:O4'	1.77	0.84
29:X:2030:U:H2'	29:X:2031:A:C8	2.12	0.84
26:U:32:ARG:HG2	26:U:33:LYS:H	1.41	0.84
6:A:99:ASP:HB3	29:X:1507:A:O4'	1.77	0.84
20:O:22:VAL:HG22	29:X:1173:G:H4'	1.57	0.84
24:S:122:ILE:HA	24:S:161:ALA:H	1.41	0.84
29:X:1072:U:H1'	29:X:1081:A:H1'	1.60	0.84
14:I:86:THR:C	14:I:88:PHE:H	1.85	0.84
10:E:50:LEU:HD23	10:E:51:LEU:N	1.92	0.84
18:M:27:PHE:HB3	18:M:93:ILE:HD12	1.60	0.84
20:O:11:GLN:HA	20:O:38:LEU:O	1.77	0.84
23:R:11:ASN:C	23:R:11:ASN:HD22	1.83	0.84
29:X:400:U:O2'	29:X:401:G:H5"	1.76	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:39:GLU:HG2	31:Z:92:G:H22	1.42	0.84
24:S:94:VAL:O	24:S:121:GLN:HG3	1.78	0.84
29:X:162:C:H2'	29:X:163:A:H8	1.43	0.84
16:K:98:LEU:CD2	30:Y:56:GLN:HG2	2.08	0.84
29:X:109:A:C2'	29:X:110:U:H5"	2.08	0.84
6:A:39:LYS:H	6:A:61:LEU:CD2	1.89	0.83
29:X:1118:G:H2'	29:X:1119:U:C5'	2.07	0.83
29:X:1388:C:H2'	29:X:1389:C:H6	1.41	0.83
20:O:36:LYS:HD2	20:O:54:TYR:C	2.02	0.83
21:P:41:VAL:O	21:P:44:VAL:HG22	1.76	0.83
21:P:95:ALA:HB2	21:P:126:ILE:CD1	2.08	0.83
29:X:1125:G:H2'	29:X:1126:A:H8	1.42	0.83
10:E:163:ARG:HD3	10:E:167:GLU:HB3	1.59	0.83
18:M:106:TYR:CE1	18:M:107:LEU:HD21	2.08	0.83
29:X:38:G:H2'	29:X:39:C:C6	2.13	0.83
29:X:679:C:H2'	29:X:680:U:C6	2.13	0.83
29:X:1053:G:H1	29:X:1124:U:H3	1.26	0.83
29:X:2075:U:O2'	29:X:2076:G:H5"	1.77	0.83
10:E:6:LYS:HB3	10:E:69:ARG:HD2	1.59	0.83
14:I:78:SER:HB3	14:I:112:GLY:HA3	1.61	0.83
21:P:35:PRO:HD3	21:P:122:SER:OG	1.79	0.83
25:T:34:GLY:CA	29:X:2332:G:H1'	2.02	0.83
29:X:712:A:H2'	29:X:713:G:O4'	1.77	0.83
29:X:1061:A:C2'	29:X:1062:G:H5'	2.08	0.83
8:C:22:VAL:HG13	8:C:106:MET:HG2	1.59	0.83
15:J:27:TYR:HB3	15:J:137:VAL:HG21	1.61	0.83
29:X:224:G:H4'	29:X:399:G:C5	2.12	0.83
29:X:558:G:C8	29:X:559:C:C5	2.66	0.83
29:X:2811:G:H2'	29:X:2812:A:C8	2.13	0.83
6:A:249:PRO:HG3	29:X:2218:G:O4'	1.77	0.83
12:G:107:GLN:O	12:G:109:GLY:N	2.12	0.83
29:X:553:C:H5'	29:X:554:U:OP1	1.77	0.83
29:X:1687:C:O2'	29:X:1977:C:H4'	1.79	0.83
10:E:96:ALA:HB1	10:E:103:LEU:HD11	1.60	0.83
16:K:64:ARG:NH2	29:X:2684:A:H2	1.76	0.83
18:M:94:VAL:O	18:M:95:GLU:HB3	1.79	0.83
24:S:51:LEU:HA	24:S:64:ALA:O	1.78	0.83
29:X:531:G:H2'	29:X:532:A:C8	2.14	0.83
6:A:39:LYS:N	6:A:61:LEU:HD22	1.93	0.83
17:L:33:ARG:NH1	17:L:103:LEU:HB2	1.92	0.83
17:L:60:LYS:HB2	17:L:63:ASN:O	1.79	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:22:ARG:HD3	18:M:24:LEU:HD21	1.61	0.83
23:R:85:ASP:H	23:R:86:PRO:CD	1.91	0.83
29:X:555:U:H3'	29:X:555:U:C6	2.14	0.83
29:X:577:U:H5'	29:X:956:A:H62	1.44	0.83
29:X:931:G:H4'	31:Z:83:C:H4'	1.61	0.83
29:X:1011:A:C2	29:X:1166:A:C2	2.66	0.83
15:J:84:MET:HG2	29:X:2229:G:H5'	1.59	0.83
15:J:99:LYS:O	15:J:102:ARG:HB2	1.79	0.83
17:L:91:ARG:CZ	29:X:2355:A:H61	1.92	0.83
24:S:97:PRO:HA	24:S:119:ASN:HA	1.59	0.83
29:X:1185:C:H2'	29:X:1186:G:H3'	1.61	0.83
6:A:258:LYS:NZ	6:A:261:ARG:HH21	1.76	0.82
12:G:59:ALA:HB2	12:G:134:MET:HE3	1.61	0.82
29:X:426:C:H4'	29:X:1863:U:O2'	1.77	0.82
29:X:1128:G:H3'	29:X:1129:A:C5'	2.08	0.82
29:X:2604:G:H2'	29:X:2605:C:H6	1.43	0.82
7:B:136:ARG:HD3	29:X:1673:C:OP1	1.78	0.82
29:X:930:A:H8	29:X:930:A:O5'	1.60	0.82
29:X:1018:C:H3'	29:X:1019:U:C5'	2.09	0.82
29:X:1281:A:H1'	29:X:2592:U:O4	1.78	0.82
7:B:181:LEU:HD21	18:M:12:LEU:HD22	1.61	0.82
8:C:78:VAL:HG13	29:X:460:U:O2'	1.79	0.82
19:N:66:ASN:ND2	19:N:70:ARG:HH12	1.76	0.82
25:T:40:GLN:NE2	25:T:43:THR:HA	1.94	0.82
28:W:40:VAL:HG23	29:X:940:G:O2'	1.79	0.82
29:X:1468:A:O5'	29:X:1468:A:C8	2.33	0.82
7:B:146:THR:HB	7:B:147:PRO:HD2	1.61	0.82
13:H:85:ASP:OD1	13:H:86:GLY:N	2.12	0.82
29:X:1128:G:C3'	29:X:1129:A:H5"	2.10	0.82
29:X:1734:C:H5"	29:X:1735:G:C8	2.15	0.82
29:X:1998:A:H4'	30:Y:3:LYS:HZ2	1.43	0.82
29:X:2010:G:H2'	29:X:2011:U:C6	2.14	0.82
15:J:102:ARG:HG3	15:J:102:ARG:HH11	1.44	0.82
29:X:403:A:H5"	29:X:404:A:OP1	1.79	0.82
9:D:13:ARG:NH1	9:D:14:PRO:HG3	1.93	0.82
12:G:100:TYR:HB2	12:G:116:ARG:NH1	1.93	0.82
16:K:87:TYR:HE1	16:K:94:TYR:HD2	1.23	0.82
29:X:1388:C:H2'	29:X:1389:C:C6	2.14	0.82
8:C:74:VAL:O	8:C:76:THR:N	2.12	0.82
9:D:92:ARG:HH12	31:Z:46:G:H4'	1.41	0.82
13:H:116:ARG:NH1	18:M:38:LYS:HE2	1.95	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:116:LYS:HE2	15:J:132:MET:HE2	1.60	0.82
29:X:558:G:N3	29:X:558:G:H5"	1.93	0.82
16:K:87:TYR:CE1	16:K:94:TYR:HD2	1.97	0.82
29:X:2195:C:C4	29:X:2196:U:C4	2.68	0.82
12:G:142:ARG:HH12	29:X:538:A:H5'	1.41	0.82
23:R:90:LYS:CB	23:R:108:VAL:HG21	2.09	0.82
29:X:2496:C:O2'	29:X:2497:A:H3'	1.80	0.82
15:J:79:PRO:CD	15:J:88:LYS:HD2	2.09	0.82
29:X:687:G:O2'	29:X:688:A:H5'	1.78	0.82
29:X:1817:U:H2'	29:X:1818:G:H8	1.42	0.82
29:X:2451:G:O6	29:X:2455:A:H4'	1.80	0.82
31:Z:53:G:H21	31:Z:54:U:H5	1.28	0.82
15:J:37:ALA:HB2	15:J:104:MET:HE2	1.62	0.81
15:J:86:LYS:HD2	29:X:2256:G:P	2.19	0.81
21:P:66:GLU:HB3	21:P:67:PRO:CD	2.10	0.81
24:S:115:ILE:HA	24:S:169:VAL:HG12	1.62	0.81
29:X:1034:U:H2'	29:X:1035:G:H5'	1.62	0.81
29:X:1288:A:H2'	29:X:1289:A:O4'	1.80	0.81
4:4:6:SER:HB2	29:X:2445:C:H5"	1.62	0.81
9:D:122:PHE:CB	9:D:129:ASN:HD22	1.93	0.81
11:F:55:VAL:HG22	11:F:69:THR:HA	1.61	0.81
6:A:186:HIS:HD2	6:A:188:GLU:HB2	1.45	0.81
12:G:97:ASP:O	12:G:99:VAL:HG23	1.79	0.81
13:H:89:ILE:HG23	18:M:79:ARG:HD3	1.62	0.81
15:J:15:ARG:HD3	15:J:73:LYS:NZ	1.95	0.81
15:J:42:TRP:HB3	15:J:95:VAL:HG11	1.62	0.81
29:X:648:A:H4'	29:X:649:G:O4'	1.78	0.81
29:X:691:C:H2'	29:X:692:C:H6	1.45	0.81
29:X:2306:A:H2'	29:X:2307:A:C8	2.15	0.81
12:G:66:HIS:O	19:N:67:ALA:HB1	1.79	0.81
19:N:61:TRP:HZ3	19:N:94:VAL:N	1.78	0.81
29:X:546:A:H2'	29:X:547:U:H6	1.44	0.81
29:X:2699:G:O2'	29:X:2700:U:H5'	1.80	0.81
20:O:36:LYS:NZ	20:O:54:TYR:HB3	1.94	0.81
20:O:57:GLN:H	20:O:97:GLY:CA	1.93	0.81
21:P:80:LEU:HD21	21:P:87:GLU:HB3	1.61	0.81
22:Q:61:LYS:H	22:Q:72:ARG:HA	1.44	0.81
24:S:64:ALA:HA	24:S:85:MET:HA	1.62	0.81
29:X:1542:G:N2	29:X:1562:G:H1	1.78	0.81
7:B:120:TRP:CD1	7:B:155:ARG:HB3	2.16	0.81
11:F:21:PRO:CG	11:F:22:PRO:HD3	2.10	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:103:ARG:NH1	16:K:110:MET:HE2	1.96	0.81
24:S:18:MET:HA	24:S:36:ARG:H	1.46	0.81
29:X:559:C:H2'	29:X:560:G:O4'	1.80	0.81
29:X:1051:U:H2'	29:X:1052:C:C6	2.15	0.81
7:B:21:ILE:HG23	7:B:185:LYS:HZ2	1.46	0.81
9:D:35:VAL:O	9:D:154:ILE:HA	1.80	0.81
12:G:125:ARG:HH12	29:X:2760:G:H22	1.26	0.81
15:J:15:ARG:CD	15:J:73:LYS:HG3	2.10	0.81
26:U:70:LEU:HB3	26:U:79:GLU:OE2	1.80	0.81
29:X:1526:U:H2'	29:X:1527:G:O4'	1.81	0.81
29:X:1849:G:H1'	29:X:1868:A:H61	1.46	0.81
29:X:2826:C:C2'	29:X:2827:G:H5'	2.10	0.81
6:A:85:ASP:OD2	6:A:92:ILE:HD12	1.80	0.81
7:B:72:VAL:HG12	7:B:73:ALA:N	1.95	0.81
12:G:145:HIS:CE1	12:G:148:LEU:HD23	2.16	0.81
25:T:21:LEU:HD11	25:T:41:ARG:CZ	2.10	0.81
29:X:826:U:H2'	29:X:827:C:C6	2.16	0.81
8:C:162:ARG:CZ	29:X:333:A:H3'	2.11	0.81
9:D:150:ARG:HG2	9:D:151:GLY:N	1.96	0.81
13:H:23:ARG:CZ	13:H:25:LEU:HD23	2.09	0.81
29:X:947:C:H2'	29:X:948:C:C6	2.16	0.81
7:B:154:LYS:HE3	29:X:2598:C:O2'	1.81	0.81
15:J:34:GLY:HA2	15:J:106:GLU:HA	1.62	0.81
17:L:36:LYS:HB3	17:L:64:LYS:HB2	1.60	0.81
24:S:10:PRO:O	24:S:14:LEU:HG	1.79	0.81
29:X:752:G:H4'	29:X:753:U:OP1	1.80	0.81
29:X:822:G:O2'	29:X:823:U:H5'	1.80	0.81
29:X:1857:G:N2	29:X:1860:A:OP2	2.14	0.81
9:D:122:PHE:HB3	9:D:129:ASN:ND2	1.94	0.80
12:G:56:THR:N	12:G:134:MET:HE1	1.96	0.80
29:X:496:C:C2'	29:X:497:C:H5"	2.09	0.80
29:X:717:G:H2'	29:X:739:G:N2	1.96	0.80
29:X:2581:A:H3'	29:X:2582:G:C5'	2.10	0.80
9:D:74:ILE:HA	9:D:79:LEU:HB3	1.61	0.80
10:E:89:LEU:HD12	10:E:129:THR:HA	1.63	0.80
24:S:141:MET:HA	24:S:145:ASP:OD1	1.80	0.80
29:X:2219:U:O2'	29:X:2220:A:H5'	1.81	0.80
6:A:73:SER:HA	6:A:119:ALA:HB3	1.64	0.80
8:C:26:VAL:HA	14:I:18:ARG:HH11	1.46	0.80
12:G:44:VAL:HG12	12:G:45:ASP:N	1.94	0.80
13:H:116:ARG:HH22	18:M:41:GLU:HG3	1.46	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:40:ARG:NH2	29:X:577:U:OP1	2.13	0.80
29:X:482:A:H2'	29:X:483:A:O4'	1.80	0.80
29:X:716:U:H2'	29:X:717:G:O4'	1.82	0.80
29:X:956:A:C4	29:X:2427:A:C2	2.69	0.80
8:C:74:VAL:HG23	8:C:76:THR:OG1	1.81	0.80
28:W:4:LYS:CG	28:W:52:GLU:HB3	2.09	0.80
29:X:1333:G:N2	29:X:1344:C:H41	1.80	0.80
29:X:2245:A:H1'	29:X:2251:U:O4	1.80	0.80
30:Y:16:ARG:HD3	30:Y:20:ARG:CZ	2.11	0.80
30:Y:25:LEU:N	30:Y:25:LEU:HD12	1.96	0.80
17:L:76:ALA:HB2	17:L:107:ALA:HA	1.62	0.80
19:N:99:ALA:HB2	19:N:106:PHE:CD1	2.17	0.80
29:X:2286:G:N2	29:X:2290:A:H61	1.78	0.80
8:C:22:VAL:HA	8:C:106:MET:HG3	1.64	0.80
17:L:64:LYS:HD3	17:L:64:LYS:N	1.97	0.80
24:S:100:THR:HG23	24:S:138:VAL:HG21	1.63	0.80
24:S:117:VAL:HG22	24:S:168:VAL:HA	1.64	0.80
29:X:689:A:C8	29:X:2422:C:H1'	2.16	0.80
29:X:2642:G:H2'	29:X:2643:G:C5'	2.12	0.80
31:Z:50:U:H2'	31:Z:51:G:H8	1.47	0.80
10:E:89:LEU:HD13	10:E:95:ARG:HA	1.63	0.80
12:G:30:LYS:N	29:X:1006:C:N4	2.29	0.80
15:J:125:LYS:H	15:J:125:LYS:HD2	1.46	0.80
16:K:79:VAL:HA	16:K:83:VAL:HG11	1.63	0.80
18:M:7:ILE:HD12	18:M:12:LEU:HD11	1.64	0.80
29:X:76:C:H5'	29:X:76:C:H6	1.46	0.80
29:X:689:A:H8	29:X:2052:G:H21	1.30	0.80
7:B:201:ALA:HB1	7:B:204:ALA:HB2	1.64	0.80
23:R:98:ILE:HG22	23:R:99:VAL:H	1.45	0.80
29:X:1763:G:H2'	29:X:1764:A:H4'	1.64	0.80
30:Y:25:LEU:HD12	30:Y:25:LEU:H	1.46	0.80
16:K:82:GLU:O	16:K:85:PRO:HD2	1.81	0.80
8:C:68:ARG:HH12	29:X:2043:A:N6	1.80	0.79
10:E:126:PRO:HG3	10:E:130:ARG:CD	2.12	0.79
16:K:36:THR:HG23	16:K:37:THR:N	1.96	0.79
21:P:91:PHE:O	21:P:93:LYS:N	2.15	0.79
29:X:701:U:H5'	29:X:1771:A:H2	1.48	0.79
7:B:31:CYS:HB2	7:B:49:ILE:HD11	1.62	0.79
18:M:25:PRO:O	18:M:27:PHE:CD2	2.36	0.79
23:R:93:ARG:HH12	23:R:108:VAL:C	1.89	0.79
29:X:128:C:C2'	29:X:129:A:H5"	2.12	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1094:C:H2'	29:X:1096:A:C5'	2.10	0.79
29:X:2074:U:H3'	29:X:2075:U:H5"	1.63	0.79
29:X:2189:A:H61	29:X:2195:C:N4	1.79	0.79
16:K:5:LYS:HE3	29:X:2795:A:C4'	2.13	0.79
24:S:1:MET:HE2	24:S:52:PHE:HB3	1.64	0.79
25:T:32:LYS:HB3	25:T:35:ASN:ND2	1.96	0.79
29:X:482:A:O2'	29:X:483:A:H5'	1.82	0.79
29:X:1416:A:H2'	29:X:1417:C:H6	1.47	0.79
14:I:18:ARG:HB2	14:I:21:ARG:CB	2.12	0.79
21:P:27:VAL:HG13	29:X:504:G:H4'	1.64	0.79
24:S:10:PRO:O	24:S:13:LYS:HG3	1.82	0.79
7:B:75:THR:HG23	7:B:76:ARG:H	1.45	0.79
7:B:156:MET:HE1	29:X:2033:C:H1'	1.64	0.79
29:X:3:U:H2'	29:X:4:C:H6	1.48	0.79
29:X:635:C:C2'	29:X:636:G:H5"	2.12	0.79
29:X:666:U:H2'	29:X:667:U:C4'	2.13	0.79
29:X:1750:A:C8	29:X:2675:U:H1'	2.18	0.79
26:U:19:ILE:HD11	29:X:394:U:OP1	1.81	0.79
29:X:1225:G:H2'	29:X:1249:G:N2	1.97	0.79
7:B:62:PRO:HG3	29:X:2767:C:H1'	1.64	0.79
15:J:37:ALA:HA	15:J:130:THR:HG22	1.64	0.79
17:L:54:ALA:N	17:L:75:LEU:HD13	1.98	0.79
21:P:85:MET:CE	21:P:130:GLU:HG3	2.13	0.79
29:X:685:U:O2'	29:X:686:C:H5'	1.83	0.79
29:X:1057:A:H2'	29:X:1057:A:N3	1.98	0.79
29:X:2170:C:H3'	29:X:2171:U:C5'	2.12	0.79
29:X:2807:U:H4'	29:X:2808:U:H5"	1.63	0.79
9:D:106:ILE:HG23	9:D:110:ARG:HD2	1.64	0.79
14:I:67:ASN:HD21	29:X:2383:C:H4'	1.47	0.79
27:V:14:PHE:O	27:V:18:ILE:HG13	1.83	0.79
7:B:123:ALA:O	7:B:124:GLY:O	1.99	0.79
9:D:153:ASP:C	9:D:154:ILE:HD12	2.07	0.79
12:G:67:ARG:HH21	12:G:70:PHE:C	1.91	0.79
14:I:32:ARG:CZ	20:O:81:ARG:HE	1.95	0.79
15:J:15:ARG:HD2	15:J:73:LYS:HG3	1.63	0.79
29:X:1058:G:H2'	29:X:1121:G:H1	1.47	0.79
8:C:27:LEU:O	8:C:30:VAL:HB	1.83	0.79
8:C:28:HIS:ND1	14:I:17:LYS:HA	1.98	0.79
11:F:19:PRO:HG2	11:F:21:PRO:HG2	1.64	0.79
14:I:76:LYS:HG3	14:I:111:SER:HB2	1.65	0.79
22:Q:12:ILE:CG1	22:Q:13:SER:H	1.80	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:105:ARG:NH2	23:R:112:LYS:HA	1.98	0.79
29:X:143:A:H2'	29:X:144:U:C6	2.18	0.79
29:X:405:C:H2'	29:X:406:G:H8	1.47	0.79
29:X:1061:A:H2'	29:X:1062:G:H5'	1.62	0.79
29:X:2689:C:O2'	29:X:2690:A:H5'	1.83	0.79
30:Y:19:ARG:O	30:Y:21:SER:N	2.15	0.79
22:Q:51:ILE:CD1	22:Q:83:ALA:HA	2.12	0.78
28:W:2:LYS:HB3	28:W:54:GLN:CB	2.13	0.78
29:X:78:C:O2	29:X:357:A:H2	1.66	0.78
29:X:1069:G:H2'	29:X:1070:G:H5"	1.65	0.78
29:X:1324:G:H1'	29:X:1326:U:O4	1.82	0.78
29:X:2189:A:H2	29:X:2196:U:H3	1.31	0.78
29:X:2793:G:O2'	29:X:2794:G:H5'	1.83	0.78
14:I:63:ARG:NH1	29:X:2394:G:H3'	1.98	0.78
15:J:18:MET:HG2	15:J:19:THR:H	1.48	0.78
15:J:69:ILE:CG2	15:J:104:MET:HA	2.13	0.78
17:L:40:ALA:HB1	17:L:75:LEU:HD22	1.65	0.78
29:X:215:G:H21	29:X:632:A:H8	1.28	0.78
29:X:1854:G:C2'	29:X:1855:G:OP2	2.27	0.78
8:C:112:GLN:HA	8:C:116:LYS:HB3	1.65	0.78
29:X:653:G:H2'	29:X:654:A:H5"	1.64	0.78
29:X:1324:G:H1'	29:X:1326:U:C4	2.17	0.78
29:X:1623:C:H4'	29:X:1624:A:O5'	1.82	0.78
29:X:2624:G:H4'	29:X:2712:G:O2'	1.83	0.78
6:A:68:LYS:H	6:A:68:LYS:CD	1.95	0.78
7:B:91:VAL:HB	7:B:93:VAL:HG12	1.66	0.78
10:E:28:GLY:HA3	10:E:79:VAL:HB	1.65	0.78
13:H:115:ALA:HB3	13:H:118:LEU:HD13	1.64	0.78
28:W:2:LYS:HB3	28:W:54:GLN:HB3	1.65	0.78
29:X:648:A:H5"	29:X:649:G:OP1	1.81	0.78
29:X:1051:U:H2'	29:X:1052:C:H6	1.47	0.78
7:B:39:ALA:HA	7:B:44:TYR:N	1.98	0.78
9:D:65:PRO:HB3	9:D:89:VAL:HG22	1.64	0.78
12:G:128:GLU:HG3	12:G:145:HIS:NE2	1.98	0.78
14:I:85:ASP:HA	14:I:116:ARG:NH1	1.98	0.78
16:K:79:VAL:HA	16:K:83:VAL:HG13	1.62	0.78
26:U:32:ARG:HG2	26:U:34:THR:H	1.48	0.78
29:X:1071:U:H1'	29:X:1073:G:H5'	1.64	0.78
29:X:2447:G:O2'	29:X:2448:A:H5'	1.81	0.78
30:Y:42:SER:O	30:Y:43:HIS:HB2	1.81	0.78
12:G:36:ASN:O	12:G:38:GLU:N	2.15	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:216:U:H2'	29:X:217:U:C6	2.19	0.78
6:A:252:LYS:HE3	6:A:253:PRO:CD	2.13	0.78
11:F:7:ILE:HG22	11:F:8:VAL:H	1.48	0.78
12:G:154:GLU:C	12:G:157:PRO:HD2	2.08	0.78
29:X:24:G:H2'	29:X:25:U:O4'	1.84	0.78
29:X:501:G:H2'	29:X:502:A:H8	1.48	0.78
29:X:1094:C:H2'	29:X:1096:A:H5'	1.64	0.78
7:B:101:LYS:HA	7:B:170:LEU:O	1.82	0.78
9:D:74:ILE:HG12	9:D:80:ARG:C	2.08	0.78
24:S:63:PRO:C	24:S:86:VAL:HG23	2.09	0.78
29:X:925:U:H4'	29:X:926:C:OP1	1.83	0.78
29:X:1736:C:H2'	29:X:1737:G:C8	2.18	0.78
8:C:137:ALA:HA	8:C:142:LEU:HD12	1.66	0.78
13:H:41:ASN:ND2	29:X:2653:A:O2'	2.16	0.78
13:H:85:ASP:OD1	13:H:87:SER:N	2.14	0.78
19:N:66:ASN:HD22	19:N:70:ARG:HH12	1.32	0.78
22:Q:62:ARG:O	22:Q:63:LYS:HB3	1.83	0.78
24:S:71:MET:HA	24:S:78:PRO:HA	1.64	0.78
29:X:555:U:OP2	29:X:556:A:H2'	1.83	0.78
29:X:1073:G:H1'	29:X:1099:A:N7	1.98	0.78
29:X:1992:G:C2'	29:X:1993:G:H5'	2.14	0.78
6:A:222:ARG:HH21	6:A:222:ARG:HB3	1.47	0.78
12:G:142:ARG:HH12	29:X:538:A:C5'	1.95	0.78
20:O:20:ILE:HD12	20:O:21:ARG:HG2	1.66	0.78
24:S:36:ARG:HG2	24:S:40:ASP:OD1	1.84	0.78
29:X:533:C:H1'	29:X:563:U:O2'	1.84	0.78
29:X:558:G:N3	29:X:558:G:C3'	2.46	0.78
29:X:2817:A:C2	29:X:2851:G:C2	2.72	0.78
8:C:66:ASN:HB3	29:X:1268:U:H2'	1.65	0.77
29:X:516:G:O2'	29:X:517:A:H8	1.66	0.77
31:Z:15:A:N6	31:Z:72:C:H5'	1.97	0.77
6:A:60:ARG:HD3	6:A:87:ASN:ND2	1.98	0.77
16:K:81:ASP:O	16:K:85:PRO:HG2	1.83	0.77
17:L:10:LYS:HB3	17:L:14:ARG:HE	1.49	0.77
21:P:92:VAL:HG13	21:P:126:ILE:HD11	1.67	0.77
23:R:24:VAL:O	23:R:30:LYS:HA	1.82	0.77
27:V:20:ALA:O	27:V:23:LYS:HB3	1.84	0.77
29:X:1350:G:H2'	29:X:1351:G:H8	1.48	0.77
29:X:2015:G:H4'	29:X:2016:A:OP1	1.84	0.77
29:X:2019:C:O2'	29:X:2020:G:H5'	1.85	0.77
6:A:183:ARG:HH11	6:A:183:ARG:CA	1.97	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:104:LEU:N	8:C:104:LEU:HD23	2.00	0.77
10:E:18:ASN:HB3	10:E:20:GLN:HE21	1.47	0.77
16:K:39:THR:O	16:K:42:LYS:N	2.18	0.77
29:X:1734:C:C5	29:X:1735:G:H1'	2.19	0.77
30:Y:15:LYS:O	30:Y:18:MET:N	2.16	0.77
31:Z:34:C:H2'	31:Z:35:C:C6	2.19	0.77
8:C:104:LEU:O	8:C:108:ILE:HD13	1.84	0.77
9:D:26:MET:HE1	31:Z:33:C:H5'	1.66	0.77
10:E:103:LEU:HD21	10:E:105:MET:HE3	1.66	0.77
13:H:22:ILE:HG22	13:H:23:ARG:N	1.99	0.77
13:H:83:ARG:HD2	13:H:89:ILE:HD11	1.66	0.77
15:J:52:ARG:HA	15:J:55:MET:HE3	1.64	0.77
29:X:2492:G:C2	29:X:2493:U:C2	2.73	0.77
9:D:46:ASP:O	9:D:50:ILE:HG13	1.84	0.77
14:I:117:ALA:HA	14:I:137:GLY:O	1.84	0.77
15:J:35:LEU:HD11	15:J:130:THR:HB	1.65	0.77
17:L:87:VAL:HG12	17:L:88:VAL:H	1.50	0.77
18:M:106:TYR:CE1	18:M:107:LEU:CG	2.67	0.77
23:R:22:VAL:HG11	23:R:80:LYS:HE3	1.66	0.77
29:X:861:G:C2'	29:X:862:A:H5'	2.15	0.77
29:X:2284:U:H2'	29:X:2285:U:H5"	1.65	0.77
7:B:60:ASN:HB3	7:B:62:PRO:HD2	1.67	0.77
10:E:96:ALA:HA	10:E:104:GLU:O	1.85	0.77
20:O:10:LYS:HG3	20:O:11:GLN:HG2	1.66	0.77
29:X:741:G:O2'	29:X:743:A:H5"	1.85	0.77
31:Z:36:A:HO2'	31:Z:37:C:H5	1.33	0.77
13:H:10:VAL:HG23	13:H:17:ARG:C	2.09	0.77
22:Q:11:VAL:HG23	22:Q:27:PHE:CA	2.15	0.77
29:X:546:A:H2'	29:X:547:U:C6	2.19	0.77
29:X:1373:G:C2'	29:X:1374:G:H5'	2.14	0.77
29:X:1468:A:H5"	29:X:1472:C:H41	1.48	0.77
29:X:2311:U:H5'	29:X:2315:A:N6	2.00	0.77
29:X:2824:C:H1'	29:X:2843:A:N3	2.00	0.77
9:D:108:LEU:HD11	9:D:117:ILE:HD11	1.67	0.77
10:E:29:PRO:HG2	10:E:79:VAL:O	1.84	0.77
16:K:39:THR:HA	16:K:42:LYS:HG3	1.67	0.77
23:R:85:ASP:OD1	23:R:86:PRO:HD3	1.85	0.77
29:X:1505:U:H2'	29:X:1506:C:H5"	1.66	0.77
29:X:2189:A:N6	29:X:2195:C:N4	2.33	0.77
12:G:110:LEU:HD22	29:X:2621:G:OP1	1.85	0.77
13:H:91:PHE:N	13:H:91:PHE:CD1	2.51	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:86:THR:OG1	14:I:118:VAL:HG12	1.84	0.77
19:N:88:ILE:HG12	20:O:49:GLU:OE1	1.84	0.77
21:P:85:MET:HE3	21:P:130:GLU:HG3	1.66	0.77
8:C:45:THR:HG22	8:C:47:THR:H	1.50	0.77
12:G:36:ASN:C	12:G:38:GLU:H	1.89	0.77
25:T:32:LYS:O	25:T:61:ALA:HB3	1.85	0.77
26:U:27:ASP:HA	26:U:32:ARG:NH2	2.00	0.77
29:X:1949:A:O2'	29:X:2572:U:H5'	1.85	0.77
29:X:2404:A:H1'	29:X:2406:C:C5	2.19	0.77
8:C:117:LEU:O	8:C:188:ILE:HG13	1.84	0.76
17:L:55:SER:O	17:L:71:VAL:HB	1.84	0.76
24:S:13:LYS:HB2	24:S:13:LYS:NZ	2.00	0.76
24:S:19:ILE:CG1	24:S:36:ARG:HA	2.15	0.76
29:X:841:G:C5	29:X:842:A:N6	2.53	0.76
29:X:1998:A:H1'	30:Y:3:LYS:CG	2.15	0.76
29:X:2858:A:H3'	29:X:2859:U:H5'	1.67	0.76
7:B:82:ARG:NH2	29:X:2616:U:H5"	2.00	0.76
9:D:67:ILE:HG21	9:D:84:PRO:HB3	1.67	0.76
11:F:19:PRO:HD2	11:F:22:PRO:HG2	1.67	0.76
29:X:1053:G:C2'	29:X:1054:C:C6	2.61	0.76
29:X:2642:G:O2'	29:X:2643:G:H5'	1.85	0.76
31:Z:15:A:C6	31:Z:72:C:H5'	2.19	0.76
8:C:74:VAL:O	8:C:77:PHE:N	2.18	0.76
9:D:79:LEU:HD21	29:X:2289:A:H2	1.50	0.76
9:D:108:LEU:HA	9:D:111:ILE:CD1	2.15	0.76
17:L:89:PHE:HB2	17:L:91:ARG:HH21	1.49	0.76
18:M:39:VAL:HG12	18:M:45:THR:HG23	1.65	0.76
26:U:29:GLY:C	26:U:31:GLY:H	1.93	0.76
28:W:1:MET:O	28:W:34:VAL:HG12	1.84	0.76
29:X:1284:G:C2	29:X:1633:C:H4'	2.21	0.76
29:X:1561:A:H2'	29:X:1562:G:O4'	1.84	0.76
29:X:2212:U:H2'	29:X:2213:G:H8	1.51	0.76
21:P:37:LYS:HB2	29:X:1279:G:H22	1.48	0.76
22:Q:58:VAL:O	22:Q:74:ASP:HA	1.86	0.76
25:T:43:THR:H	29:X:2310:G:H4'	1.49	0.76
26:U:31:GLY:HA2	26:U:32:ARG:NH1	1.97	0.76
29:X:1929:U:H2'	29:X:1930:C:C6	2.20	0.76
29:X:1998:A:H1'	30:Y:3:LYS:HG2	1.65	0.76
10:E:30:LYS:HG2	10:E:79:VAL:O	1.86	0.76
12:G:93:LYS:HB3	12:G:96:ASP:O	1.85	0.76
29:X:577:U:H5'	29:X:956:A:N6	2.00	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1252:C:H2'	29:X:1253:C:H5"	1.68	0.76
29:X:2447:G:N2	29:X:2460:G:H2'	2.00	0.76
29:X:2546:G:H2'	29:X:2547:C:C6	2.21	0.76
29:X:2581:A:H5'	29:X:2582:G:OP2	1.85	0.76
29:X:2663:U:C2	29:X:2664:G:C8	2.74	0.76
12:G:107:GLN:HA	12:G:110:LEU:HG	1.68	0.76
14:I:11:GLY:H	14:I:14:LYS:HB3	1.51	0.76
18:M:78:GLU:O	18:M:79:ARG:HG2	1.84	0.76
26:U:32:ARG:HG2	26:U:33:LYS:N	2.00	0.76
29:X:98:U:H5'	29:X:99:U:H5"	1.67	0.76
29:X:305:A:H2'	29:X:306:G:H5'	1.66	0.76
29:X:914:C:H2'	29:X:915:C:C6	2.20	0.76
6:A:62:TYR:HE1	29:X:1809:G:OP1	1.69	0.76
7:B:119:ARG:HH11	7:B:119:ARG:CG	1.99	0.76
16:K:63:ARG:CZ	16:K:80:MET:HG2	2.15	0.76
20:O:83:ARG:O	20:O:84:THR:HG23	1.84	0.76
29:X:1144:U:H2'	29:X:1147:G:OP1	1.86	0.76
29:X:1770:U:C2	29:X:1774:A:N7	2.54	0.76
8:C:95:LEU:HD23	8:C:96:PRO:HD2	1.68	0.76
8:C:112:GLN:HA	8:C:116:LYS:HD3	1.67	0.76
9:D:119:PRO:HG2	9:D:120:ASN:H	1.51	0.76
15:J:36:ILE:O	15:J:130:THR:HB	1.85	0.76
19:N:82:GLY:HA3	19:N:113:SER:OG	1.85	0.76
29:X:2652:G:O2'	29:X:2653:A:H5'	1.83	0.76
29:X:2828:C:O2'	29:X:2829:A:H5'	1.86	0.76
21:P:72:LEU:HG	21:P:72:LEU:O	1.85	0.76
29:X:490:A:H1'	29:X:491:A:C8	2.21	0.76
29:X:1151:U:C5'	29:X:1153:A:H5'	2.15	0.76
29:X:1597:A:H2'	29:X:1598:C:C6	2.21	0.76
29:X:2387:U:H2'	29:X:2388:G:C8	2.21	0.76
29:X:2821:G:H2'	29:X:2822:U:C6	2.21	0.76
4:4:29:ASN:ND2	4:4:31:LYS:HD3	2.02	0.75
15:J:69:ILE:HG23	15:J:104:MET:HA	1.67	0.75
29:X:651:C:C2'	29:X:652:C:H5"	2.14	0.75
29:X:1039:A:N6	29:X:1136:G:H2'	2.01	0.75
29:X:1134:C:H2'	29:X:1135:C:H6	1.51	0.75
29:X:2323:U:O2	29:X:2323:U:C2'	2.30	0.75
29:X:2594:U:N1	30:Y:7:PRO:HA	2.01	0.75
7:B:98:GLU:HG2	7:B:174:GLU:HA	1.65	0.75
20:O:11:GLN:HE22	20:O:38:LEU:HB3	1.49	0.75
12:G:104:THR:OG1	12:G:110:LEU:HD13	1.87	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:91:PRO:O	24:S:92:VAL:HG13	1.85	0.75
26:U:33:LYS:NZ	29:X:2400:G:H21	1.83	0.75
29:X:1467:U:H3'	29:X:1468:A:C5'	2.16	0.75
14:I:32:ARG:CZ	20:O:81:ARG:NE	2.49	0.75
25:T:36:ILE:HD11	29:X:2343:C:O2	1.87	0.75
29:X:978:U:H2'	29:X:979:A:C8	2.22	0.75
29:X:2275:U:H4'	29:X:2276:C:OP1	1.85	0.75
29:X:2756:A:O2'	29:X:2757:G:OP2	2.05	0.75
9:D:4:LEU:HD12	9:D:5:LYS:H	1.52	0.75
12:G:82:VAL:CG2	12:G:150:VAL:HG22	2.16	0.75
14:I:45:LYS:HA	29:X:683:A:H5"	1.67	0.75
18:M:108:ARG:C	18:M:109:GLU:HG3	2.09	0.75
21:P:17:GLN:HG3	21:P:18:VAL:HG23	1.69	0.75
24:S:19:ILE:CD1	24:S:36:ARG:HA	2.15	0.75
29:X:356:A:H2'	29:X:357:A:C8	2.21	0.75
29:X:416:U:O2'	29:X:417:C:H5	1.70	0.75
29:X:1113:C:H2'	29:X:1114:A:H8	1.51	0.75
8:C:147:LYS:HB3	8:C:183:HIS:HB3	1.69	0.75
12:G:70:PHE:CB	19:N:64:ARG:HG2	2.16	0.75
12:G:162:LYS:N	12:G:163:PRO:CD	2.50	0.75
25:T:44:LYS:HE3	29:X:871:U:OP1	1.86	0.75
29:X:321:A:C2	29:X:323:G:H1'	2.20	0.75
29:X:939:C:H5"	29:X:940:G:O5'	1.85	0.75
6:A:38:PRO:HA	6:A:61:LEU:HD22	1.68	0.75
12:G:105:GLY:O	12:G:106:TYR:C	2.29	0.75
12:G:107:GLN:C	12:G:109:GLY:N	2.42	0.75
18:M:55:ILE:HG22	18:M:104:LEU:CB	2.16	0.75
19:N:29:SER:O	19:N:30:LYS:HD3	1.87	0.75
22:Q:43:GLN:HA	22:Q:48:VAL:O	1.86	0.75
22:Q:66:GLY:C	22:Q:68:PHE:H	1.92	0.75
24:S:6:LYS:H	24:S:7:PRO:HD3	1.51	0.75
26:U:52:ARG:HD2	26:U:79:GLU:C	2.11	0.75
29:X:1373:G:H2'	29:X:1374:G:H5'	1.67	0.75
29:X:1427:G:H2'	29:X:1428:G:C1'	2.15	0.75
29:X:1851:A:H62	29:X:1866:G:H21	1.35	0.75
29:X:2493:U:H2'	29:X:2494:C:C6	2.21	0.75
29:X:2563:U:H2'	29:X:2564:U:H5"	1.67	0.75
29:X:2859:U:H2'	29:X:2860:C:H5'	1.69	0.75
10:E:43:VAL:CG2	10:E:52:VAL:HG22	2.16	0.75
21:P:40:LEU:HB3	30:Y:25:LEU:HD11	1.67	0.75
22:Q:26:SER:HB3	22:Q:79:ILE:HG23	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:91:PRO:HD3	24:S:127:PRO:HD3	1.69	0.75
29:X:1095:A:C3'	29:X:1096:A:H5"	2.17	0.75
29:X:1501:C:H2'	29:X:1502:G:O4'	1.87	0.75
6:A:44:ASN:H	6:A:44:ASN:HD22	1.34	0.75
7:B:174:GLU:HB3	7:B:183:LEU:HD12	1.69	0.75
9:D:16:LEU:O	9:D:20:PHE:N	2.19	0.75
15:J:19:THR:HB	31:Z:93:G:H5'	1.69	0.75
29:X:1964:A:H5"	29:X:1965:U:OP2	1.87	0.75
29:X:2426:G:H4'	29:X:2427:A:O5'	1.86	0.75
29:X:2763:U:O2'	29:X:2764:U:H5'	1.87	0.75
6:A:157:ARG:HG3	29:X:1810:U:H3'	1.69	0.74
7:B:147:PRO:HD3	29:X:1141:U:C4	2.22	0.74
24:S:69:VAL:HG13	24:S:81:VAL:HG22	1.68	0.74
29:X:496:C:H2'	29:X:497:C:H5"	1.67	0.74
29:X:1061:A:O2'	29:X:1062:G:H5'	1.87	0.74
29:X:2171:U:H2'	29:X:2172:U:C6	2.22	0.74
7:B:152:LYS:HB2	12:G:106:TYR:HB3	1.68	0.74
10:E:66:GLY:HA3	29:X:2728:A:H4'	1.69	0.74
23:R:18:LYS:HE2	23:R:19:GLY:N	2.01	0.74
29:X:631:G:H4'	29:X:632:A:H5"	1.67	0.74
29:X:1479:G:H2'	29:X:1480:G:H8	1.53	0.74
29:X:1482:U:H2'	29:X:1483:G:C8	2.22	0.74
29:X:2713:A:O2'	29:X:2714:A:H5'	1.87	0.74
4:4:35:ARG:HH11	29:X:2722:C:P	2.10	0.74
8:C:138:LYS:C	8:C:140:ASN:H	1.95	0.74
9:D:32:GLU:HB3	9:D:157:VAL:HG12	1.67	0.74
29:X:1850:G:N2	29:X:1867:A:C8	2.54	0.74
29:X:2222:U:H2'	29:X:2223:U:C6	2.22	0.74
16:K:40:LYS:NZ	29:X:1290:A:H5"	2.02	0.74
17:L:26:ARG:HH12	29:X:2357:A:H4'	1.51	0.74
27:V:2:LYS:CG	27:V:3:PRO:HD3	2.16	0.74
29:X:860:U:O2	29:X:860:U:H2'	1.86	0.74
6:A:263:ARG:HG3	29:X:1791:C:OP1	1.87	0.74
9:D:80:ARG:HD3	9:D:83:MET:HB3	1.68	0.74
10:E:11:VAL:HG12	10:E:15:VAL:HG21	1.67	0.74
13:H:42:LYS:HA	29:X:2653:A:O3'	1.87	0.74
14:I:84:GLU:OE1	14:I:97:ARG:HD2	1.88	0.74
15:J:106:GLU:CD	15:J:106:GLU:N	2.46	0.74
19:N:74:MET:O	19:N:75:ASN:HB3	1.88	0.74
29:X:1060:C:H2'	29:X:1061:A:H8	1.51	0.74
29:X:1586:A:H2'	29:X:1587:A:C8	2.22	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:106:ILE:HG21	9:D:139:PRO:HB3	1.70	0.74
29:X:487:G:H22	29:X:489:A:H3'	1.52	0.74
29:X:1226:A:OP2	29:X:1249:G:N2	2.20	0.74
29:X:1683:G:C2'	29:X:1684:G:H5'	2.17	0.74
29:X:1764:A:C2'	29:X:1765:C:H5'	2.18	0.74
18:M:32:THR:HG22	18:M:33:VAL:N	2.03	0.74
29:X:1969:G:H2'	29:X:1970:G:H8	1.53	0.74
6:A:94:LEU:HD11	6:A:102:LYS:HB3	1.69	0.74
12:G:88:VAL:HG22	12:G:89:ALA:N	2.02	0.74
13:H:41:ASN:ND2	13:H:41:ASN:H	1.85	0.74
14:I:38:LYS:HZ3	29:X:954:U:P	2.10	0.74
14:I:40:ARG:NH2	29:X:577:U:P	2.61	0.74
21:P:71:VAL:HG12	21:P:126:ILE:CG2	2.17	0.74
23:R:9:HIS:CD2	29:X:338:G:H4'	2.23	0.74
23:R:78:ALA:C	23:R:80:LYS:H	1.96	0.74
26:U:27:ASP:CA	26:U:32:ARG:HD3	2.18	0.74
29:X:389:G:H2'	29:X:390:U:C6	2.22	0.74
29:X:1086:C:H3'	29:X:1087:C:H5"	1.68	0.74
29:X:1656:U:O2'	29:X:1657:A:H5"	1.87	0.74
29:X:2779:C:H2'	29:X:2780:A:C8	2.23	0.74
12:G:162:LYS:N	12:G:163:PRO:HD2	2.02	0.74
14:I:85:ASP:CA	14:I:116:ARG:HH12	2.00	0.74
19:N:61:TRP:CZ3	19:N:94:VAL:N	2.55	0.74
29:X:1411:C:H2'	29:X:1412:C:H6	1.52	0.74
29:X:2695:C:H2'	29:X:2696:A:H8	1.52	0.74
4:4:8:LYS:H	4:4:34:GLN:HE22	1.35	0.74
7:B:123:ALA:O	7:B:124:GLY:C	2.27	0.74
13:H:42:LYS:HA	29:X:2654:A:P	2.28	0.74
16:K:99:ARG:HH11	16:K:99:ARG:CG	1.98	0.74
18:M:25:PRO:O	18:M:26:ASP:C	2.31	0.74
18:M:104:LEU:HD23	18:M:106:TYR:CZ	2.23	0.74
20:O:28:GLU:O	20:O:30:GLY:N	2.20	0.74
29:X:640:C:H4'	29:X:660:G:N3	2.03	0.74
6:A:166:GLN:HB2	6:A:174:ILE:HB	1.70	0.73
9:D:134:GLU:HG2	9:D:136:LEU:H	1.52	0.73
10:E:54:ARG:HH11	10:E:57:ASP:HB3	1.52	0.73
21:P:107:ILE:HG21	21:P:117:ILE:HD11	1.70	0.73
24:S:89:GLY:O	24:S:90:GLU:HG2	1.88	0.73
29:X:978:U:H2'	29:X:979:A:H8	1.52	0.73
29:X:1974:U:O5'	29:X:1974:U:H6	1.69	0.73
29:X:2561:G:H8	29:X:2561:G:H5'	1.53	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:75:VAL:HG11	6:A:97:TYR:HB3	1.69	0.73
24:S:168:VAL:HG12	24:S:169:VAL:HG13	1.70	0.73
29:X:2703:C:O2'	29:X:2704:U:H5'	1.88	0.73
6:A:218:LYS:HD2	6:A:219:PRO:O	1.89	0.73
11:F:7:ILE:O	11:F:8:VAL:HG23	1.89	0.73
14:I:76:LYS:HB3	14:I:79:GLN:HG2	1.68	0.73
19:N:59:ARG:O	19:N:63:GLN:HG3	1.88	0.73
29:X:30:G:H2'	29:X:31:C:C6	2.23	0.73
29:X:824:U:O2	29:X:1263:G:H3'	1.88	0.73
29:X:843:G:H1'	29:X:2427:A:C6	2.23	0.73
29:X:1737:G:H2'	29:X:1738:U:H6	1.53	0.73
29:X:2602:G:O2'	29:X:2603:G:H5'	1.88	0.73
6:A:124:GLU:O	6:A:126:LYS:HG3	1.88	0.73
6:A:252:LYS:H	6:A:253:PRO:HD2	1.53	0.73
10:E:95:ARG:NH2	10:E:97:LYS:HE2	2.03	0.73
15:J:11:ARG:NH2	29:X:920:G:H21	1.86	0.73
22:Q:17:TYR:HE1	22:Q:94:GLN:HB2	1.52	0.73
24:S:136:VAL:HG21	24:S:152:ILE:HD13	1.69	0.73
29:X:223:C:H2'	29:X:224:G:H5'	1.69	0.73
29:X:1072:U:C1'	29:X:1081:A:H1'	2.18	0.73
7:B:70:ALA:HB3	7:B:72:VAL:HG23	1.70	0.73
10:E:137:ASP:O	10:E:141:VAL:HG23	1.88	0.73
14:I:72:TYR:HA	14:I:105:PRO:HG2	1.71	0.73
18:M:34:ARG:NH1	18:M:81:PHE:HB3	2.02	0.73
25:T:74:LYS:O	25:T:76:ALA:N	2.22	0.73
26:U:20:ARG:HD3	26:U:43:ARG:CZ	2.17	0.73
29:X:1429:A:H1'	29:X:1603:A:C6	2.24	0.73
29:X:2266:A:C2	29:X:2268:G:H1'	2.22	0.73
29:X:2324:G:H4'	29:X:2326:C:H5"	1.70	0.73
29:X:2405:A:H2'	29:X:2405:A:N3	2.03	0.73
29:X:2594:U:C6	29:X:2594:U:H5'	2.22	0.73
14:I:45:LYS:HE3	14:I:47:ALA:HB3	1.69	0.73
17:L:33:ARG:CZ	17:L:103:LEU:HB2	2.18	0.73
20:O:93:ILE:HD12	20:O:93:ILE:O	1.88	0.73
25:T:26:PHE:HE2	29:X:870:C:H1'	1.53	0.73
29:X:170:U:H2'	29:X:171:G:H8	1.52	0.73
29:X:638:A:H4'	29:X:639:G:H5'	1.69	0.73
29:X:647:G:O2'	29:X:648:A:H5'	1.88	0.73
29:X:1622:G:H4'	29:X:1624:A:C2	2.23	0.73
8:C:23:ASN:N	8:C:106:MET:SD	2.58	0.73
8:C:48:ARG:H	8:C:48:ARG:HD2	1.52	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:104:THR:HG22	29:X:2620:G:OP1	1.88	0.73
13:H:8:LEU:HD22	13:H:94:ASN:CB	2.17	0.73
14:I:87:THR:O	14:I:93:LEU:HD13	1.88	0.73
29:X:516:G:HO2'	29:X:517:A:H8	1.33	0.73
29:X:554:U:O2	29:X:554:U:H2'	1.87	0.73
29:X:1563:U:H2'	29:X:1564:U:C6	2.24	0.73
29:X:1817:U:H2'	29:X:1818:G:C8	2.22	0.73
29:X:2335:U:H2'	29:X:2336:G:H8	1.53	0.73
29:X:2561:G:H5'	29:X:2561:G:C8	2.23	0.73
29:X:2659:C:H2'	29:X:2660:C:H6	1.54	0.73
17:L:66:ASP:C	17:L:68:ALA:H	1.95	0.73
18:M:44:ARG:HD2	18:M:46:ARG:NH2	2.03	0.73
29:X:198:A:H5"	29:X:199:A:H5'	1.69	0.73
29:X:417:C:O3'	29:X:418:C:H4'	1.87	0.73
29:X:1542:G:H22	29:X:1562:G:H1	1.33	0.73
29:X:1736:C:H2'	29:X:1737:G:H8	1.54	0.73
29:X:1979:C:H6	29:X:1979:C:OP1	1.72	0.73
29:X:1999:U:H1'	30:Y:6:VAL:CG2	2.18	0.73
7:B:154:LYS:HZ1	7:B:156:MET:CE	2.01	0.73
9:D:13:ARG:HB3	9:D:14:PRO:CD	2.18	0.73
9:D:13:ARG:HG2	9:D:17:MET:HE1	1.71	0.73
12:G:82:VAL:HG21	12:G:150:VAL:HG22	1.71	0.73
14:I:126:SER:O	14:I:129:ALA:HB3	1.89	0.73
16:K:100:VAL:HG12	16:K:101:GLY:N	2.02	0.73
17:L:57:ALA:HB1	31:Z:119:G:H4'	1.69	0.73
18:M:24:LEU:HB3	18:M:25:PRO:HD2	1.69	0.73
18:M:46:ARG:HG3	18:M:47:SER:H	1.51	0.73
22:Q:90:ALA:C	22:Q:92:ALA:H	1.95	0.73
23:R:11:ASN:O	23:R:13:LYS:N	2.22	0.73
26:U:78:ILE:HD13	26:U:79:GLU:H	1.53	0.73
6:A:149:PRO:HG2	29:X:2200:G:O2'	1.87	0.73
10:E:64:LEU:HA	10:E:67:LEU:HD12	1.70	0.73
26:U:45:ASN:OD1	29:X:2210:C:H5"	1.89	0.73
29:X:1021:A:N3	29:X:1164:C:H1'	2.04	0.73
29:X:1573:G:O5'	29:X:1574:A:H5"	1.89	0.73
29:X:2194:A:C2'	29:X:2195:C:H5"	2.17	0.73
29:X:2618:A:H1'	29:X:2758:A:C2	2.24	0.73
10:E:54:ARG:HH11	10:E:62:ARG:NE	1.87	0.72
13:H:43:ARG:NH2	29:X:1979:C:OP2	2.21	0.72
16:K:85:PRO:O	16:K:88:ALA:HB2	1.89	0.72
18:M:63:ARG:HB3	29:X:2662:C:OP1	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:39:ALA:O	29:X:84:G:H5'	1.88	0.72
27:V:1:MET:HG3	27:V:2:LYS:HG2	1.70	0.72
29:X:242:A:H2'	29:X:243:G:O4'	1.90	0.72
29:X:1151:U:H5'	29:X:1153:A:H5'	1.69	0.72
29:X:1181:C:C2'	29:X:1182:U:H5"	2.18	0.72
29:X:2197:U:C4	29:X:2198:U:C4	2.77	0.72
29:X:2333:A:N1	29:X:2343:C:N3	2.37	0.72
12:G:116:ARG:NE	12:G:126:VAL:HG13	2.01	0.72
16:K:64:ARG:NH2	29:X:2684:A:C2	2.56	0.72
29:X:2873:G:H2'	29:X:2874:A:H8	1.54	0.72
6:A:58:HIS:O	6:A:59:LYS:HB2	1.87	0.72
6:A:68:LYS:HB3	6:A:152:GLY:HA2	1.70	0.72
6:A:243:GLY:H	6:A:244:ARG:HH11	1.36	0.72
12:G:84:ASN:O	12:G:152:ALA:HA	1.90	0.72
16:K:20:LEU:HD11	16:K:24:GLN:NE2	2.00	0.72
19:N:22:LYS:HG3	19:N:23:GLY:H	1.54	0.72
29:X:525:A:C8	29:X:526:C:C6	2.77	0.72
29:X:1001:A:H1'	29:X:1167:A:H2	1.54	0.72
29:X:1036:G:C4	29:X:1145:C:H1'	2.24	0.72
29:X:2065:A:H2'	29:X:2066:G:O4'	1.87	0.72
29:X:2195:C:C5	29:X:2196:U:C5	2.76	0.72
29:X:2598:C:O2'	29:X:2599:U:H5'	1.90	0.72
29:X:2675:U:O2	29:X:2676:G:C8	2.42	0.72
6:A:173:VAL:CG2	6:A:187:SER:HB3	2.19	0.72
17:L:63:ASN:CB	17:L:67:THR:HG23	2.19	0.72
29:X:497:C:H5'	29:X:497:C:H6	1.53	0.72
29:X:788:G:H5'	29:X:790:A:H1'	1.71	0.72
29:X:1051:U:H2'	29:X:1052:C:O4'	1.89	0.72
29:X:1275:A:C2	30:Y:10:LYS:HE2	2.24	0.72
29:X:1999:U:H1'	30:Y:6:VAL:HG21	1.72	0.72
14:I:32:ARG:NH1	20:O:81:ARG:HH21	1.85	0.72
29:X:1953:A:H5'	29:X:1954:A:OP1	1.88	0.72
29:X:2044:G:HO2'	29:X:2046:C:H5	1.38	0.72
6:A:50:THR:HG23	29:X:1796:A:H1'	1.72	0.72
6:A:133:LEU:HD12	6:A:187:SER:HA	1.71	0.72
7:B:67:PHE:HE1	7:B:78:LEU:HD21	1.54	0.72
18:M:99:VAL:CG2	18:M:100:ARG:H	1.95	0.72
19:N:88:ILE:HG23	20:O:49:GLU:HB2	1.71	0.72
24:S:3:LEU:HD21	24:S:32:PHE:CD2	2.25	0.72
26:U:48:LYS:HG2	26:U:49:LYS:N	2.04	0.72
29:X:28:A:H1'	29:X:523:A:C2	2.25	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:199:A:N6	29:X:209:G:H1'	2.04	0.72
29:X:687:G:H2'	29:X:688:A:H5'	1.70	0.72
29:X:1391:A:HO2'	29:X:1392:U:H3'	1.54	0.72
7:B:144:ARG:HG3	29:X:2036:G:OP1	1.90	0.72
8:C:176:ASN:HB2	29:X:626:A:O2'	1.89	0.72
9:D:39:GLY:HA2	9:D:86:GLY:HA2	1.70	0.72
13:H:116:ARG:HH11	18:M:38:LYS:HE2	1.53	0.72
17:L:54:ALA:HB3	17:L:75:LEU:CB	2.20	0.72
25:T:43:THR:HG22	25:T:46:LYS:HG2	1.70	0.72
29:X:793:G:H21	29:X:796:A:N6	1.87	0.72
29:X:1522:C:H2'	29:X:1523:A:C4'	2.20	0.72
29:X:2324:G:C6	29:X:2326:C:N4	2.57	0.72
6:A:243:GLY:C	6:A:244:ARG:HD3	2.14	0.72
10:E:124:ALA:HB3	10:E:132:ASP:CB	2.19	0.72
14:I:71:THR:HB	14:I:104:ARG:HD3	1.71	0.72
15:J:44:LYS:HD3	15:J:47:GLN:OE1	1.90	0.72
15:J:47:GLN:HE21	29:X:2464:G:C5'	2.03	0.72
16:K:6:ALA:HB1	29:X:2848:A:H2	1.54	0.72
16:K:21:ALA:O	16:K:47:PHE:CE2	2.42	0.72
21:P:8:PHE:O	21:P:9:ARG:HB2	1.89	0.72
29:X:317:U:C2'	29:X:318:G:H5"	2.17	0.72
29:X:1693:A:C2	29:X:1976:U:H5'	2.24	0.72
29:X:1850:G:HO2'	29:X:1851:A:H8	0.73	0.72
29:X:1885:C:C2'	29:X:1886:G:H5'	2.20	0.72
29:X:2197:U:O4	29:X:2198:U:O4	2.08	0.72
29:X:2396:C:H5'	29:X:2396:C:H6	1.55	0.72
4:4:19:ARG:HG3	4:4:19:ARG:HH11	1.53	0.72
9:D:150:ARG:CG	9:D:151:GLY:H	1.99	0.72
11:F:20:ALA:N	11:F:21:PRO:HD2	2.05	0.72
16:K:39:THR:O	16:K:42:LYS:HB2	1.90	0.72
20:O:7:THR:HG23	20:O:20:ILE:CD1	2.19	0.72
20:O:61:VAL:HG23	20:O:94:LYS:H	1.54	0.72
20:O:71:ILE:HD13	29:X:1003:C:H4'	1.70	0.72
24:S:100:THR:OG1	24:S:138:VAL:HG11	1.90	0.72
29:X:865:A:H61	29:X:937:C:H42	1.37	0.72
29:X:967:G:N2	29:X:970:A:H3'	2.05	0.72
29:X:1312:G:H5"	29:X:1313:U:OP1	1.90	0.72
29:X:2383:C:H2'	29:X:2384:G:O4'	1.89	0.72
29:X:2437:G:O2'	29:X:2438:A:N7	2.20	0.72
9:D:115:ARG:O	9:D:178:ARG:HG2	1.89	0.72
13:H:116:ARG:HH11	13:H:116:ARG:CG	2.03	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:39:GLU:HG2	31:Z:92:G:N2	2.05	0.72
15:J:69:ILE:HG21	15:J:104:MET:HG2	1.70	0.72
17:L:38:ILE:HD12	17:L:39:TYR:H	1.54	0.72
23:R:44:GLN:O	23:R:77:HIS:HA	1.90	0.72
24:S:94:VAL:HG12	24:S:95:SER:H	1.55	0.72
29:X:1119:U:H5'	29:X:1119:U:H6	1.54	0.72
29:X:2625:U:H6	29:X:2625:U:OP2	1.73	0.72
7:B:137:ARG:HH22	29:X:2034:A:P	2.12	0.71
12:G:125:ARG:HH12	29:X:2760:G:N2	1.86	0.71
14:I:7:LYS:HD3	14:I:7:LYS:N	2.04	0.71
14:I:32:ARG:NH2	20:O:81:ARG:HE	1.87	0.71
15:J:100:PRO:HB3	24:S:74:ARG:HG2	1.72	0.71
26:U:53:GLU:HB2	26:U:56:GLN:O	1.90	0.71
29:X:762:A:C6	29:X:1634:A:C2	2.78	0.71
29:X:1093:U:H2'	29:X:1094:C:O4'	1.90	0.71
29:X:1355:A:OP2	29:X:1618:U:O4	2.08	0.71
29:X:1834:G:H2'	29:X:1835:C:C6	2.24	0.71
29:X:2677:U:H2'	29:X:2678:C:H6	1.55	0.71
6:A:254:THR:O	29:X:1836:C:H5'	1.89	0.71
7:B:105:THR:HG21	7:B:199:ARG:NH2	2.05	0.71
14:I:11:GLY:H	14:I:14:LYS:CB	2.03	0.71
15:J:21:ASP:HA	15:J:99:LYS:HE2	1.72	0.71
16:K:10:LEU:HD23	16:K:17:ARG:HB2	1.70	0.71
24:S:123:VAL:HG23	24:S:161:ALA:HA	1.70	0.71
29:X:417:C:N1	29:X:419:G:C8	2.58	0.71
29:X:438:G:H2'	29:X:439:C:H6	1.55	0.71
29:X:1070:G:H2'	29:X:1071:U:C5	2.25	0.71
7:B:146:THR:O	7:B:147:PRO:C	2.33	0.71
8:C:128:ALA:HB2	8:C:159:ARG:CZ	2.20	0.71
12:G:90:LEU:HD13	12:G:94:LYS:HE2	1.70	0.71
14:I:45:LYS:CE	14:I:47:ALA:HB3	2.20	0.71
17:L:43:ILE:HD12	17:L:43:ILE:H	1.53	0.71
31:Z:108:G:O2'	31:Z:109:G:H5'	1.90	0.71
4:4:36:GLN:HE22	29:X:1135:C:H1'	1.53	0.71
6:A:132:PRO:HB2	6:A:134:ARG:HG2	1.71	0.71
8:C:48:ARG:C	8:C:50:GLN:H	1.97	0.71
12:G:149:LYS:HZ1	29:X:7:G:H5'	1.55	0.71
19:N:7:GLY:O	19:N:9:VAL:N	2.24	0.71
22:Q:53:ILE:CD1	22:Q:80:VAL:HG12	2.19	0.71
23:R:100:ASP:C	23:R:102:LYS:H	1.97	0.71
29:X:1347:C:O2'	29:X:1348:C:H5'	1.91	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1670:G:H4'	29:X:1671:A:OP1	1.89	0.71
29:X:2546:G:H2'	29:X:2547:C:H6	1.56	0.71
7:B:15:TRP:NE1	7:B:20:ALA:HB2	2.05	0.71
15:J:64:LYS:NZ	15:J:110:VAL:HG13	2.04	0.71
23:R:93:ARG:NH1	23:R:108:VAL:O	2.24	0.71
29:X:427:C:H2'	29:X:428:A:C8	2.25	0.71
29:X:862:A:H2'	29:X:863:C:C6	2.26	0.71
29:X:1482:U:H2'	29:X:1483:G:H8	1.53	0.71
29:X:1586:A:H2'	29:X:1587:A:H8	1.52	0.71
29:X:1673:C:H2'	29:X:1674:C:H6	1.54	0.71
30:Y:35:GLN:C	30:Y:37:HIS:H	1.99	0.71
12:G:63:ARG:C	12:G:63:ARG:HE	1.98	0.71
16:K:106:ASP:OD1	16:K:108:VAL:HB	1.89	0.71
29:X:1350:G:H2'	29:X:1351:G:C8	2.25	0.71
29:X:1404:C:H5'	29:X:1405:A:OP2	1.90	0.71
10:E:11:VAL:CG1	10:E:15:VAL:HG21	2.19	0.71
17:L:33:ARG:HH12	17:L:103:LEU:HB2	1.53	0.71
17:L:39:TYR:HA	17:L:55:SER:HB3	1.71	0.71
18:M:103:LYS:HG3	29:X:2698:G:H4'	1.71	0.71
19:N:61:TRP:CZ3	19:N:93:LYS:HA	2.26	0.71
24:S:69:VAL:CG2	24:S:81:VAL:HG13	2.21	0.71
29:X:162:C:H2'	29:X:163:A:C8	2.24	0.71
9:D:138:PHE:HB2	9:D:141:ILE:HB	1.71	0.71
15:J:125:LYS:HZ2	15:J:125:LYS:HB3	1.56	0.71
23:R:22:VAL:HG12	23:R:23:ILE:N	2.05	0.71
24:S:100:THR:HG23	24:S:138:VAL:CG2	2.20	0.71
26:U:22:GLY:HA3	26:U:39:LYS:HE2	1.73	0.71
29:X:343:A:H1'	29:X:346:C:N4	2.05	0.71
29:X:1807:A:O2'	29:X:1808:C:H4'	1.91	0.71
29:X:1913:G:H5"	29:X:1914:U:OP1	1.91	0.71
29:X:2594:U:C2	30:Y:7:PRO:HA	2.26	0.71
29:X:2703:C:HO2'	29:X:2704:U:H5'	1.56	0.71
6:A:43:ARG:N	6:A:43:ARG:NH1	2.34	0.71
10:E:7:GLN:O	10:E:9:ILE:HG13	1.90	0.71
14:I:98:LEU:O	14:I:99:VAL:HG13	1.91	0.71
16:K:83:VAL:HG22	16:K:84:ALA:N	2.06	0.71
17:L:37:HIS:HE1	17:L:57:ALA:HB2	1.54	0.71
23:R:14:LEU:CD1	23:R:39:ALA:HB1	2.19	0.71
26:U:32:ARG:HE	26:U:32:ARG:N	1.88	0.71
27:V:38:ALA:C	27:V:40:PRO:HD3	2.15	0.71
29:X:1411:C:H2'	29:X:1412:C:C6	2.25	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1779:C:H2'	29:X:1780:A:C8	2.25	0.71
29:X:2502:G:O2'	29:X:2503:G:H5'	1.91	0.71
7:B:26:VAL:HB	7:B:182:ILE:HG23	1.71	0.71
10:E:56:SER:HB2	10:E:61:HIS:CD2	2.24	0.71
24:S:120:LEU:HD23	24:S:121:GLN:H	1.53	0.71
27:V:24:GLU:HG2	27:V:28:LEU:HD23	1.73	0.71
29:X:136:A:H2'	29:X:137:A:O4'	1.91	0.71
29:X:701:U:O2	29:X:800:U:H4'	1.91	0.71
29:X:829:C:H2'	29:X:830:C:C6	2.26	0.71
29:X:1302:C:H2'	29:X:1303:U:C6	2.25	0.71
29:X:1355:A:N9	29:X:1410:U:H1'	2.05	0.71
12:G:51:LEU:HD11	12:G:127:ILE:HG13	1.73	0.70
18:M:104:LEU:HD22	18:M:107:LEU:HD11	1.72	0.70
29:X:416:U:O2'	29:X:417:C:C5	2.43	0.70
29:X:558:G:C4	29:X:558:G:C3'	2.74	0.70
8:C:26:VAL:HA	14:I:18:ARG:NH1	2.06	0.70
9:D:75:SER:N	9:D:79:LEU:HD22	2.05	0.70
12:G:51:LEU:CD1	12:G:88:VAL:HG21	2.21	0.70
15:J:53:ILE:O	15:J:54:VAL:C	2.34	0.70
21:P:31:VAL:HG21	21:P:124:ILE:CD1	2.21	0.70
21:P:77:ALA:C	21:P:78:ASN:HD22	1.98	0.70
26:U:62:LEU:CD2	26:U:67:LEU:HB2	2.21	0.70
29:X:173:A:H5'	29:X:174:A:OP2	1.91	0.70
29:X:487:G:N2	29:X:489:A:H3'	2.06	0.70
29:X:558:G:N3	29:X:558:G:O5'	2.24	0.70
29:X:561:U:O4'	29:X:1233:A:C2	2.44	0.70
29:X:1443:G:H2'	29:X:1444:C:C6	2.27	0.70
29:X:1698:C:O2'	29:X:1753:A:H2'	1.91	0.70
29:X:2198:U:C2	29:X:2199:C:C6	2.79	0.70
29:X:2824:C:H1'	29:X:2843:A:C4	2.26	0.70
13:H:64:VAL:C	13:H:65:LYS:HD2	2.17	0.70
17:L:28:ARG:O	17:L:42:ILE:HD13	1.90	0.70
18:M:103:LYS:O	18:M:104:LEU:HB2	1.91	0.70
23:R:25:LEU:CD1	23:R:25:LEU:H	2.04	0.70
29:X:814:G:H5"	29:X:815:A:OP2	1.92	0.70
29:X:958:G:H2'	29:X:959:C:H6	1.55	0.70
29:X:1225:G:H1'	29:X:1250:A:N6	2.06	0.70
29:X:1976:U:C2	29:X:1977:C:C6	2.80	0.70
29:X:2228:U:H1'	29:X:2254:C:N4	2.06	0.70
29:X:2324:G:O2'	29:X:2361:G:H5'	1.91	0.70
29:X:2663:U:N3	29:X:2664:G:C8	2.59	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2791:C:O2'	29:X:2792:C:H5'	1.91	0.70
31:Z:72:C:O2'	31:Z:73:C:H5'	1.91	0.70
6:A:262:LYS:CE	29:X:2206:C:H1'	2.20	0.70
8:C:171:PRO:HD2	29:X:626:A:H2	1.57	0.70
11:F:86:LYS:HE3	29:X:1076:U:OP1	1.91	0.70
11:F:89:SER:HA	29:X:1075:C:O2'	1.89	0.70
17:L:64:LYS:HG2	17:L:65:THR:HG23	1.73	0.70
23:R:102:LYS:HE2	29:X:100:G:O6	1.91	0.70
29:X:165:G:H1'	29:X:1378:A:C6	2.26	0.70
29:X:438:G:H2'	29:X:439:C:C6	2.26	0.70
29:X:554:U:O2	29:X:554:U:C2'	2.38	0.70
29:X:1440:G:H3'	29:X:1441:A:H5"	1.74	0.70
29:X:1610:A:H2'	29:X:1611:U:C6	2.26	0.70
29:X:1681:A:N6	29:X:1979:C:H42	1.89	0.70
29:X:2463:G:N2	29:X:2464:G:H1'	2.05	0.70
30:Y:15:LYS:O	30:Y:18:MET:HB2	1.92	0.70
6:A:147:LEU:HD21	6:A:155:LEU:HD11	1.73	0.70
9:D:104:ILE:HG21	9:D:174:GLY:HA3	1.73	0.70
12:G:72:PRO:O	12:G:73:ASN:C	2.34	0.70
13:H:23:ARG:HH12	13:H:25:LEU:CA	2.04	0.70
13:H:100:ASN:HD21	13:H:104:GLU:HB2	1.56	0.70
15:J:66:TYR:HB2	15:J:106:GLU:CD	2.15	0.70
16:K:33:ARG:HB2	16:K:114:GLU:HB3	1.73	0.70
20:O:78:VAL:O	20:O:79:GLN:HB2	1.92	0.70
29:X:81:C:H2'	29:X:82:G:O4'	1.92	0.70
29:X:732:G:P	29:X:732:G:H8	2.13	0.70
29:X:1710:U:H5'	29:X:1711:C:C5	2.26	0.70
29:X:2528:G:C2	29:X:2529:G:N7	2.60	0.70
29:X:2687:G:H2'	29:X:2688:G:O4'	1.92	0.70
29:X:2787:A:H2'	29:X:2788:C:H6	1.56	0.70
30:Y:58:LEU:H	30:Y:58:LEU:HD12	1.57	0.70
7:B:137:ARG:NH2	29:X:2034:A:OP1	2.24	0.70
9:D:22:TYR:CG	9:D:28:VAL:HG22	2.27	0.70
9:D:74:ILE:HG12	9:D:80:ARG:O	1.92	0.70
16:K:99:ARG:HG2	16:K:99:ARG:NH1	2.02	0.70
16:K:99:ARG:HB3	16:K:99:ARG:CZ	2.22	0.70
19:N:13:ARG:NE	29:X:1264:C:H5"	2.07	0.70
21:P:31:VAL:HG21	21:P:124:ILE:CG1	2.22	0.70
21:P:109:ARG:HG3	29:X:761:G:OP2	1.92	0.70
25:T:43:THR:CG2	25:T:46:LYS:HG2	2.22	0.70
29:X:1337:G:H1'	29:X:1632:A:N6	2.07	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2189:A:C6	29:X:2195:C:N4	2.60	0.70
29:X:2404:A:H4'	29:X:2405:A:C5'	2.22	0.70
8:C:48:ARG:O	8:C:51:VAL:HG22	1.91	0.70
23:R:14:LEU:C	23:R:16:PHE:H	1.99	0.70
28:W:1:MET:SD	28:W:55:GLU:OXT	2.50	0.70
29:X:1094:C:C2'	29:X:1096:A:H5'	2.20	0.70
29:X:1373:G:H1	29:X:2192:U:H3	1.37	0.70
29:X:1466:C:H2'	29:X:1467:U:O4'	1.92	0.70
29:X:1700:C:H2'	29:X:1701:C:C6	2.26	0.70
29:X:2559:U:C4	29:X:2560:G:N7	2.60	0.70
29:X:2764:U:H2'	29:X:2765:C:C6	2.27	0.70
6:A:73:SER:HA	6:A:119:ALA:CB	2.22	0.70
6:A:157:ARG:CG	29:X:1810:U:H3'	2.21	0.70
7:B:61:LYS:N	7:B:62:PRO:CD	2.55	0.70
10:E:105:MET:CB	10:E:113:VAL:HB	2.21	0.70
11:F:20:ALA:H	11:F:21:PRO:HD2	1.57	0.70
14:I:53:ARG:O	14:I:53:ARG:HD3	1.91	0.70
14:I:104:ARG:HB3	14:I:105:PRO:CD	2.22	0.70
15:J:47:GLN:NE2	29:X:2464:G:H5"	2.06	0.70
16:K:63:ARG:HH12	16:K:80:MET:HG2	1.57	0.70
17:L:87:VAL:HG12	17:L:88:VAL:N	2.06	0.70
23:R:59:LYS:HD2	23:R:62:MET:HG3	1.73	0.70
29:X:1069:G:C2'	29:X:1070:G:H5"	2.22	0.70
29:X:1314:A:H2'	29:X:1315:A:H3'	1.74	0.70
29:X:1574:A:H2'	29:X:1575:C:H5"	1.73	0.70
29:X:2084:G:H2'	29:X:2085:G:C8	2.27	0.70
31:Z:39:C:H5'	31:Z:40:C:OP2	1.92	0.70
6:A:53:PHE:HA	6:A:217:ARG:NH2	2.07	0.70
13:H:116:ARG:HH22	18:M:41:GLU:CG	2.04	0.70
18:M:95:GLU:HG3	18:M:95:GLU:O	1.92	0.70
23:R:106:VAL:CG2	23:R:113:THR:HG21	2.19	0.70
29:X:192:G:H4'	29:X:193:A:O5'	1.91	0.70
29:X:834:A:H5"	29:X:835:U:H6	1.56	0.70
29:X:1685:A:N6	29:X:1693:A:H61	1.89	0.70
29:X:2788:C:O2'	29:X:2789:U:H5'	1.90	0.70
7:B:19:ARG:NH1	7:B:185:LYS:HZ1	1.90	0.70
10:E:115:ILE:HD13	10:E:148:VAL:HG22	1.71	0.70
12:G:110:LEU:N	12:G:110:LEU:HD23	2.05	0.70
18:M:100:ARG:CZ	29:X:2824:C:OP1	2.39	0.70
21:P:110:ALA:HB2	29:X:761:G:O5'	1.91	0.70
25:T:45:PHE:HA	25:T:77:ARG:HB2	1.74	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:306:G:N2	29:X:355:G:H1'	2.07	0.70
9:D:46:ASP:HB2	9:D:49:ALA:HB3	1.74	0.69
10:E:89:LEU:HB2	10:E:129:THR:HA	1.72	0.69
14:I:80:LEU:HD21	14:I:89:ASP:OD1	1.91	0.69
15:J:22:ALA:HB2	15:J:99:LYS:O	1.90	0.69
18:M:106:TYR:HE1	18:M:107:LEU:CG	2.03	0.69
22:Q:73:ASN:HB2	22:Q:75:ARG:NH1	2.05	0.69
23:R:97:GLN:OE1	23:R:101:GLY:HA3	1.92	0.69
7:B:120:TRP:O	7:B:121:ASN:HB2	1.89	0.69
8:C:166:TRP:HE3	8:C:166:TRP:N	1.89	0.69
9:D:65:PRO:HB2	9:D:87:ILE:CG2	2.22	0.69
13:H:23:ARG:CZ	13:H:25:LEU:HA	2.21	0.69
13:H:26:ASN:HD22	13:H:38:GLY:H	1.38	0.69
20:O:73:LYS:HE3	29:X:1003:C:OP1	1.92	0.69
28:W:22:ALA:HA	29:X:942:U:O2'	1.93	0.69
29:X:742:G:O2'	29:X:776:G:H4'	1.92	0.69
29:X:1018:C:H3'	29:X:1019:U:H5"	1.74	0.69
29:X:2710:C:O2'	29:X:2711:G:H5'	1.91	0.69
31:Z:31:A:H2'	31:Z:32:C:C6	2.26	0.69
6:A:68:LYS:HD3	6:A:68:LYS:N	2.06	0.69
8:C:26:VAL:O	8:C:30:VAL:HG23	1.91	0.69
16:K:98:LEU:HD21	30:Y:56:GLN:HG2	1.74	0.69
18:M:106:TYR:HD1	18:M:107:LEU:N	1.90	0.69
21:P:33:MET:HE2	21:P:37:LYS:NZ	2.07	0.69
23:R:93:ARG:HG2	23:R:93:ARG:HH11	1.56	0.69
29:X:242:A:O2'	29:X:243:G:H4'	1.92	0.69
29:X:541:C:O2'	29:X:542:A:OP2	2.08	0.69
21:P:37:LYS:HG3	29:X:1279:G:H1	1.56	0.69
22:Q:7:LEU:HD21	27:V:26:MET:HG3	1.74	0.69
22:Q:19:ALA:O	22:Q:22:ARG:HG2	1.92	0.69
23:R:47:VAL:HG12	23:R:47:VAL:O	1.91	0.69
29:X:2:G:H2'	29:X:3:U:C6	2.27	0.69
29:X:33:C:O2'	29:X:34:U:H5"	1.92	0.69
29:X:71:A:N6	29:X:110:U:H4'	2.05	0.69
29:X:417:C:C2	29:X:419:G:C5	2.80	0.69
29:X:451:A:H2'	29:X:452:G:C8	2.27	0.69
29:X:1539:U:H2'	29:X:1540:C:H6	1.52	0.69
29:X:1778:U:H2'	29:X:1779:C:H6	1.56	0.69
8:C:197:GLU:HG2	8:C:198:GLU:HG3	1.74	0.69
15:J:35:LEU:HD12	15:J:36:ILE:N	2.08	0.69
22:Q:22:ARG:NH1	22:Q:24:VAL:HG21	2.06	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:91:ALA:O	23:R:92:THR:HG23	1.93	0.69
29:X:490:A:O2'	29:X:491:A:H3'	1.93	0.69
29:X:1656:U:C2'	29:X:1657:A:H5"	2.23	0.69
29:X:2395:C:H2'	29:X:2396:C:H5'	1.74	0.69
29:X:2811:G:C6	29:X:2812:A:N6	2.60	0.69
29:X:2847:G:H2'	29:X:2848:A:C8	2.27	0.69
12:G:58:ILE:O	12:G:62:ILE:HD12	1.92	0.69
13:H:20:MET:O	13:H:21:CYS:C	2.35	0.69
13:H:47:VAL:HG23	13:H:77:THR:CG2	2.11	0.69
16:K:87:TYR:HE1	16:K:94:TYR:CD2	2.07	0.69
29:X:236:C:H2'	29:X:237:G:H8	1.57	0.69
29:X:244:C:H2'	29:X:245:C:H5"	1.74	0.69
12:G:30:LYS:N	29:X:1006:C:H42	1.91	0.69
13:H:91:PHE:HD1	13:H:91:PHE:H	1.41	0.69
21:P:14:ARG:HA	21:P:17:GLN:HE21	1.58	0.69
23:R:40:LEU:HB2	23:R:45:LYS:HB2	1.75	0.69
25:T:36:ILE:HG23	25:T:59:LEU:O	1.93	0.69
29:X:109:A:C3'	29:X:110:U:H5"	2.23	0.69
29:X:451:A:H2'	29:X:452:G:H8	1.58	0.69
29:X:731:A:C2'	29:X:732:G:O4'	2.40	0.69
29:X:840:U:H4'	29:X:841:G:C2	2.26	0.69
29:X:1223:G:H4'	29:X:1224:A:C5'	2.22	0.69
29:X:2239:C:H2'	29:X:2240:C:C6	2.27	0.69
29:X:2307:A:H2'	29:X:2308:A:C8	2.28	0.69
6:A:150:GLY:C	6:A:152:GLY:H	2.00	0.69
8:C:175:VAL:O	8:C:176:ASN:HB2	1.92	0.69
10:E:146:ALA:O	10:E:150:LYS:HG3	1.92	0.69
12:G:105:GLY:C	12:G:110:LEU:HD12	2.16	0.69
12:G:106:TYR:CZ	12:G:108:GLY:HA2	2.27	0.69
14:I:83:LEU:O	14:I:84:GLU:HB2	1.91	0.69
16:K:106:ASP:O	16:K:107:GLY:C	2.35	0.69
17:L:101:LYS:O	17:L:104:ALA:HB3	1.93	0.69
18:M:82:PRO:O	18:M:85:SER:N	2.24	0.69
21:P:110:ALA:HB3	29:X:760:U:O3'	1.93	0.69
23:R:100:ASP:OD1	23:R:102:LYS:HB3	1.93	0.69
23:R:105:ARG:HH22	23:R:112:LYS:CA	2.03	0.69
24:S:94:VAL:HG12	24:S:95:SER:N	2.06	0.69
29:X:230:C:C2'	29:X:231:G:H5'	2.23	0.69
29:X:857:U:H2'	29:X:858:G:O4'	1.92	0.69
29:X:1194:U:H5'	29:X:1194:U:H6	1.58	0.69
29:X:1194:U:H2'	29:X:1195:U:C6	2.28	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1310:C:H2'	29:X:1311:C:H6	1.56	0.69
29:X:1835:C:H2'	29:X:1836:C:C6	2.28	0.69
29:X:2194:A:H2'	29:X:2195:C:O4'	1.93	0.69
29:X:2198:U:C4	29:X:2199:C:C5	2.81	0.69
31:Z:17:A:H1'	31:Z:112:A:C8	2.28	0.69
8:C:67:ALA:O	8:C:68:ARG:CB	2.40	0.69
8:C:162:ARG:HD2	29:X:333:A:H5'	1.75	0.69
13:H:47:VAL:HG11	13:H:115:ALA:HB1	1.74	0.69
21:P:106:LEU:HD23	21:P:106:LEU:C	2.18	0.69
29:X:585:U:H4'	29:X:2481:G:C8	2.28	0.69
29:X:1623:C:O2'	29:X:1624:A:OP2	2.07	0.69
29:X:1655:C:H4'	29:X:2689:C:O2	1.92	0.69
29:X:2018:G:O2'	29:X:2019:C:OP1	2.11	0.69
29:X:2321:C:O2'	29:X:2353:G:H5"	1.93	0.69
29:X:2513:A:C2	29:X:2514:G:H1'	2.28	0.69
9:D:9:ASN:O	9:D:13:ARG:N	2.26	0.69
9:D:60:ILE:HG22	9:D:140:GLU:HB2	1.75	0.69
9:D:123:ASP:HB2	9:D:127:ASN:O	1.92	0.69
10:E:27:LYS:HG2	10:E:32:GLU:HB3	1.74	0.69
14:I:90:ARG:O	14:I:121:HIS:HB2	1.93	0.69
17:L:37:HIS:HB3	31:Z:30:C:OP1	1.93	0.69
17:L:101:LYS:HG2	17:L:105:ASP:OD2	1.93	0.69
25:T:34:GLY:HA3	29:X:2332:G:C1'	2.03	0.69
29:X:541:C:N3	29:X:572:G:C8	2.61	0.69
29:X:1193:G:H2'	29:X:1194:U:C5'	2.24	0.69
29:X:1479:G:H2'	29:X:1480:G:C8	2.28	0.69
31:Z:43:G:C5'	31:Z:44:C:H5'	2.13	0.69
8:C:3:GLN:OE1	8:C:116:LYS:HE3	1.92	0.68
13:H:42:LYS:HA	29:X:2654:A:OP1	1.93	0.68
21:P:111:ARG:O	21:P:113:SER:N	2.22	0.68
22:Q:7:LEU:HD22	22:Q:7:LEU:C	2.17	0.68
29:X:947:C:H2'	29:X:948:C:H6	1.57	0.68
29:X:1373:G:O2'	29:X:1374:G:H5'	1.93	0.68
29:X:2026:C:H2'	29:X:2027:C:H6	1.58	0.68
29:X:2055:G:O2'	29:X:2056:C:H5'	1.92	0.68
29:X:2787:A:O2'	29:X:2788:C:H5'	1.91	0.68
8:C:5:ASN:HA	8:C:118:VAL:CG2	2.20	0.68
12:G:55:ALA:HB1	12:G:134:MET:CE	2.23	0.68
19:N:93:LYS:HD3	20:O:5:ILE:HG22	1.75	0.68
24:S:71:MET:CB	24:S:78:PRO:HA	2.23	0.68
24:S:154:LEU:HD11	24:S:160:LEU:HG	1.73	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:160:C:O2	29:X:445:A:H2	1.76	0.68
29:X:1522:C:H2'	29:X:1523:A:C5'	2.24	0.68
29:X:1812:U:O2	29:X:1812:U:H2'	1.91	0.68
29:X:1919:A:H2	29:X:1926:U:C4	2.11	0.68
29:X:1937:G:N3	29:X:2530:C:H5'	2.08	0.68
29:X:2603:G:C6	29:X:2604:G:N7	2.62	0.68
7:B:14:ILE:HD12	7:B:183:LEU:HD13	1.74	0.68
10:E:163:ARG:HB2	10:E:167:GLU:HG2	1.73	0.68
19:N:66:ASN:HB2	19:N:70:ARG:NH1	2.08	0.68
24:S:138:VAL:HA	24:S:141:MET:HE2	1.74	0.68
29:X:346:C:H2'	29:X:347:C:H6	1.58	0.68
29:X:822:G:H2'	29:X:823:U:C5'	2.23	0.68
8:C:62:LYS:HD3	8:C:62:LYS:C	2.18	0.68
12:G:84:ASN:C	12:G:86:ALA:H	2.01	0.68
16:K:99:ARG:CG	16:K:99:ARG:NH1	2.57	0.68
29:X:149:A:H2'	29:X:150:A:C8	2.28	0.68
29:X:632:A:H2'	29:X:633:G:C5'	2.23	0.68
29:X:2198:U:H2'	29:X:2199:C:C1'	2.23	0.68
29:X:2492:G:H2'	29:X:2493:U:C6	2.29	0.68
11:F:53:ILE:HG12	11:F:72:PRO:HB3	1.73	0.68
14:I:18:ARG:CG	14:I:21:ARG:HD3	2.24	0.68
21:P:37:LYS:HE2	21:P:64:ALA:CB	2.16	0.68
21:P:109:ARG:HG2	29:X:760:U:O2'	1.93	0.68
23:R:27:GLY:O	23:R:30:LYS:HG2	1.93	0.68
29:X:169:C:H2'	29:X:170:U:H5'	1.74	0.68
29:X:817:A:H2'	29:X:819:C:N4	2.08	0.68
29:X:1011:A:O2'	29:X:1012:A:H5'	1.93	0.68
29:X:1856:U:C2'	29:X:1857:G:O5'	2.42	0.68
29:X:2311:U:O2	29:X:2311:U:H3'	1.93	0.68
29:X:2555:G:OP1	29:X:2555:G:H3'	1.93	0.68
29:X:2558:C:H2'	29:X:2559:U:H6	1.59	0.68
9:D:118:ASN:ND2	9:D:120:ASN:HD22	1.92	0.68
12:G:113:GLU:CD	12:G:113:GLU:N	2.52	0.68
13:H:132:GLU:HB2	18:M:73:PHE:CE1	2.28	0.68
14:I:67:ASN:HB2	29:X:643:A:H4'	1.75	0.68
19:N:57:PHE:CE2	29:X:1006:C:C2	2.82	0.68
29:X:421:G:H2'	29:X:422:C:C6	2.28	0.68
29:X:739:G:O2'	29:X:740:A:P	2.51	0.68
29:X:874:A:H2	31:Z:80:A:C2	2.12	0.68
29:X:1710:U:H4'	29:X:1711:C:OP2	1.92	0.68
29:X:1919:A:H2	29:X:1926:U:N3	1.92	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2048:C:H2'	29:X:2049:C:C6	2.28	0.68
8:C:95:LEU:HD23	8:C:96:PRO:CD	2.23	0.68
9:D:75:SER:CB	9:D:79:LEU:HD22	2.23	0.68
13:H:85:ASP:CG	13:H:87:SER:H	2.01	0.68
19:N:7:GLY:O	19:N:8:ILE:HG13	1.92	0.68
23:R:22:VAL:HG11	23:R:80:LYS:CE	2.24	0.68
26:U:27:ASP:N	26:U:32:ARG:HD3	2.07	0.68
27:V:7:ARG:HA	27:V:14:PHE:HZ	1.56	0.68
29:X:1333:G:N2	29:X:1344:C:N4	2.41	0.68
29:X:1835:C:H2'	29:X:1836:C:H6	1.57	0.68
29:X:2074:U:H3'	29:X:2075:U:C5'	2.22	0.68
29:X:2197:U:C4	29:X:2198:U:C5	2.81	0.68
8:C:39:ARG:HE	8:C:91:TYR:HD2	1.40	0.68
11:F:13:PRO:HA	11:F:52:ILE:HA	1.76	0.68
19:N:33:ARG:NE	29:X:1265:G:N3	2.41	0.68
29:X:575:U:H2'	29:X:576:A:O4'	1.93	0.68
29:X:1333:G:H8	29:X:1333:G:OP2	1.77	0.68
29:X:2024:U:O2'	29:X:2025:A:H5'	1.94	0.68
29:X:2387:U:H2'	29:X:2388:G:H8	1.54	0.68
7:B:144:ARG:NH1	29:X:2551:A:H2'	2.09	0.68
8:C:54:THR:OG1	8:C:73:SER:HB3	1.94	0.68
8:C:163:ASN:ND2	8:C:166:TRP:HB2	2.09	0.68
9:D:108:LEU:CD1	9:D:117:ILE:HD11	2.24	0.68
10:E:68:THR:O	10:E:72:VAL:HG23	1.94	0.68
11:F:3:LYS:HD2	11:F:3:LYS:N	2.08	0.68
19:N:75:ASN:HD21	19:N:77:SER:HB3	1.59	0.68
26:U:19:ILE:HA	26:U:42:GLN:HA	1.75	0.68
29:X:38:G:H2'	29:X:39:C:H6	1.57	0.68
29:X:653:G:C2'	29:X:654:A:H5"	2.22	0.68
29:X:1791:C:O2'	29:X:1792:C:H5"	1.94	0.68
29:X:1974:U:H2'	29:X:1975:G:H5'	1.75	0.68
29:X:2671:C:O2'	29:X:2672:U:H5'	1.94	0.68
29:X:2861:A:H2'	29:X:2862:G:H8	1.58	0.68
31:Z:63:A:O2'	31:Z:64:C:H5'	1.94	0.68
13:H:116:ARG:HH21	18:M:40:ARG:HB2	1.59	0.68
15:J:40:PRO:HG3	15:J:99:LYS:NZ	2.07	0.68
18:M:100:ARG:NH1	29:X:2824:C:OP1	2.27	0.68
25:T:72:LYS:HD3	31:Z:14:C:H5"	1.75	0.68
26:U:11:LYS:NZ	26:U:75:TYR:HB2	2.09	0.68
29:X:1790:G:C2	29:X:1811:A:N7	2.61	0.68
29:X:1920:A:C6	29:X:1922:U:H5	2.12	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2320:G:H2'	29:X:2321:C:C6	2.29	0.68
29:X:2712:G:H3'	29:X:2713:A:H5'	1.76	0.68
7:B:122:PHE:O	7:B:123:ALA:HB2	1.93	0.67
9:D:13:ARG:CB	9:D:14:PRO:HD3	2.23	0.67
18:M:31:ASP:OD2	18:M:31:ASP:N	2.26	0.67
19:N:24:PHE:CB	19:N:29:SER:HB3	2.17	0.67
26:U:32:ARG:HE	26:U:32:ARG:H	1.41	0.67
29:X:417:C:C2	29:X:419:G:N7	2.62	0.67
29:X:1851:A:H62	29:X:1866:G:N2	1.91	0.67
29:X:1980:A:C2	29:X:1981:A:C5	2.82	0.67
31:Z:20:A:H2'	31:Z:21:C:C6	2.29	0.67
6:A:255:LYS:HE2	29:X:1835:C:C5'	2.23	0.67
7:B:129:HIS:CE1	29:X:1692:C:N3	2.62	0.67
9:D:36:VAL:O	9:D:89:VAL:HG23	1.94	0.67
11:F:122:ALA:HB1	29:X:1092:U:H4'	1.75	0.67
12:G:40:ASN:HB3	12:G:78:ASP:HB3	1.74	0.67
15:J:50:ALA:O	15:J:54:VAL:HG23	1.93	0.67
24:S:19:ILE:HG22	24:S:20:ALA:N	2.09	0.67
29:X:617:U:H3'	29:X:617:U:O2	1.94	0.67
29:X:1033:G:O2'	29:X:1034:U:H5'	1.93	0.67
29:X:1071:U:H1'	29:X:1073:G:C5'	2.24	0.67
7:B:113:THR:OG1	29:X:2798:A:OP1	2.11	0.67
11:F:10:LEU:HD22	11:F:27:LEU:HD21	1.77	0.67
11:F:104:VAL:HA	11:F:107:ILE:CD1	2.25	0.67
17:L:95:LYS:HB3	17:L:95:LYS:NZ	2.09	0.67
19:N:61:TRP:HZ3	19:N:93:LYS:HA	1.59	0.67
19:N:66:ASN:HA	19:N:69:ALA:CB	2.24	0.67
21:P:106:LEU:HD23	21:P:107:ILE:N	2.10	0.67
24:S:127:PRO:HA	24:S:130:ILE:HD11	1.75	0.67
26:U:33:LYS:HZ2	29:X:2400:G:H21	1.41	0.67
29:X:17:G:C2	29:X:534:U:O2	2.47	0.67
29:X:2284:U:C2'	29:X:2285:U:H5"	2.25	0.67
31:Z:123:U:OP1	31:Z:123:U:H3'	1.93	0.67
9:D:142:THR:O	9:D:146:VAL:HG13	1.94	0.67
15:J:121:LEU:O	15:J:125:LYS:HE2	1.94	0.67
26:U:54:ASN:C	26:U:56:GLN:H	2.01	0.67
27:V:46:LEU:O	27:V:50:VAL:HG23	1.94	0.67
29:X:404:A:H1'	29:X:424:G:H1'	1.77	0.67
29:X:496:C:H2'	29:X:497:C:C5'	2.24	0.67
29:X:580:A:H1'	29:X:582:G:C8	2.28	0.67
29:X:2217:G:H5"	29:X:2218:G:OP1	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2677:U:H2'	29:X:2678:C:C6	2.29	0.67
4:4:10:MET:CE	4:4:32:HIS:HA	2.24	0.67
7:B:111:LYS:HB2	7:B:160:MET:HG2	1.75	0.67
12:G:93:LYS:HD2	12:G:93:LYS:N	2.09	0.67
17:L:33:ARG:NH2	17:L:103:LEU:HB2	2.10	0.67
19:N:11:ARG:HH22	29:X:29:U:H4'	1.59	0.67
24:S:18:MET:HA	24:S:36:ARG:N	2.09	0.67
26:U:19:ILE:HG22	26:U:41:VAL:O	1.93	0.67
29:X:73:A:H4'	29:X:74:G:O5'	1.94	0.67
29:X:691:C:H2'	29:X:692:C:C6	2.30	0.67
29:X:2329:C:H2'	29:X:2330:G:O4'	1.94	0.67
29:X:2824:C:H1'	29:X:2843:A:C2	2.29	0.67
6:A:157:ARG:HD2	29:X:1810:U:C6	2.30	0.67
7:B:70:ALA:CB	7:B:72:VAL:HG23	2.25	0.67
8:C:3:GLN:HB2	8:C:116:LYS:HD2	1.76	0.67
11:F:3:LYS:H	11:F:3:LYS:CD	2.07	0.67
12:G:101:THR:HG23	12:G:103:TYR:CD1	2.29	0.67
18:M:99:VAL:HG21	18:M:104:LEU:HD21	1.75	0.67
19:N:6:THR:O	19:N:9:VAL:HB	1.95	0.67
21:P:94:GLU:HG2	21:P:127:ILE:HB	1.77	0.67
29:X:405:C:H2'	29:X:406:G:C8	2.30	0.67
29:X:571:U:O2'	29:X:581:A:O4'	2.12	0.67
29:X:758:G:H2'	29:X:759:C:C5'	2.19	0.67
29:X:981:C:N4	29:X:982:C:H41	1.92	0.67
29:X:1117:G:H2'	29:X:1118:G:C8	2.30	0.67
29:X:1454:U:H2'	29:X:1455:C:H6	1.59	0.67
29:X:1956:G:H2'	29:X:1957:C:C6	2.30	0.67
29:X:2659:C:H2'	29:X:2660:C:C6	2.29	0.67
29:X:2826:C:H2'	29:X:2827:G:C5'	2.23	0.67
8:C:84:PHE:CE1	29:X:596:C:C5'	2.77	0.67
12:G:132:PHE:CZ	12:G:142:ARG:HA	2.30	0.67
21:P:36:ARG:NH2	30:Y:20:ARG:CZ	2.58	0.67
29:X:1139:A:O2'	29:X:1140:A:O4'	2.11	0.67
29:X:1252:C:C2'	29:X:1253:C:H5"	2.25	0.67
30:Y:25:LEU:H	30:Y:25:LEU:CD1	2.08	0.67
6:A:66:ASP:OD1	6:A:69:ARG:HB2	1.95	0.67
6:A:200:GLU:HG3	6:A:202:LYS:H	1.60	0.67
7:B:137:ARG:NH2	29:X:2034:A:P	2.67	0.67
7:B:150:VAL:CG2	7:B:154:LYS:HG2	2.24	0.67
9:D:37:ASN:ND2	9:D:87:ILE:O	2.27	0.67
9:D:175:LEU:HD23	9:D:177:PHE:HE1	1.60	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:31:GLU:O	16:K:33:ARG:N	2.24	0.67
21:P:10:ASN:O	21:P:12:LYS:N	2.28	0.67
22:Q:5:ASP:O	22:Q:7:LEU:HD12	1.95	0.67
29:X:774:A:H8	29:X:774:A:O5'	1.77	0.67
29:X:795:A:H5"	29:X:796:A:OP1	1.94	0.67
29:X:1511:A:H2'	29:X:1512:A:C8	2.30	0.67
29:X:2555:G:H3'	29:X:2555:G:N3	2.09	0.67
29:X:2695:C:H2'	29:X:2696:A:C8	2.30	0.67
29:X:2806:G:O4'	29:X:2858:A:C2	2.48	0.67
9:D:36:VAL:HG22	9:D:154:ILE:HG13	1.77	0.67
10:E:105:MET:HE1	10:E:131:ILE:HD11	1.76	0.67
13:H:97:VAL:O	13:H:99:ILE:HG23	1.95	0.67
14:I:13:ARG:HG2	14:I:13:ARG:HH21	1.59	0.67
15:J:77:LYS:HG3	15:J:78:LYS:N	2.10	0.67
21:P:37:LYS:HB2	29:X:1279:G:C2	2.30	0.67
24:S:73:LYS:C	24:S:75:LYS:H	2.03	0.67
29:X:1355:A:H1'	29:X:1410:U:H4'	1.77	0.67
29:X:2015:G:O2'	29:X:2016:A:O5'	2.12	0.67
29:X:2366:U:H6	29:X:2366:U:H3'	1.59	0.67
6:A:142:VAL:HG12	6:A:193:ILE:HA	1.76	0.67
7:B:99:GLY:N	7:B:172:VAL:O	2.26	0.67
7:B:151:TYR:HB3	12:G:106:TYR:CD2	2.29	0.67
8:C:104:LEU:N	8:C:104:LEU:CD2	2.58	0.67
17:L:33:ARG:N	17:L:94:TYR:CE1	2.62	0.67
17:L:37:HIS:CE1	17:L:57:ALA:HB2	2.29	0.67
18:M:37:THR:O	18:M:87:LEU:HD22	1.94	0.67
19:N:75:ASN:ND2	19:N:77:SER:HB3	2.10	0.67
24:S:6:LYS:H	24:S:7:PRO:CD	2.08	0.67
27:V:31:GLN:O	27:V:35:GLY:N	2.27	0.67
29:X:33:C:O2'	29:X:34:U:OP1	2.13	0.67
29:X:469:G:H22	29:X:481:A:P	2.18	0.67
29:X:1923:U:H1'	29:X:1924:C:H5	1.58	0.67
29:X:2205:C:C2'	29:X:2206:C:H5'	2.24	0.67
29:X:2334:C:O5'	29:X:2334:C:H6	1.77	0.67
12:G:103:TYR:CD2	12:G:111:LYS:HA	2.30	0.66
13:H:23:ARG:HD3	29:X:2540:A:O2'	1.94	0.66
15:J:44:LYS:HB2	15:J:47:GLN:HG3	1.75	0.66
16:K:13:ASN:HD21	16:K:16:ALA:N	1.87	0.66
18:M:106:TYR:CD1	18:M:107:LEU:HG	2.30	0.66
29:X:568:G:H2'	29:X:569:C:O4'	1.95	0.66
29:X:738:G:H8	29:X:738:G:O5'	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:813:A:C1'	29:X:815:A:H5'	2.25	0.66
29:X:1542:G:N2	29:X:1562:G:N1	2.39	0.66
29:X:1715:A:O2'	29:X:1716:G:H5"	1.94	0.66
29:X:2006:G:O2'	29:X:2007:G:H5'	1.96	0.66
4:4:18:ARG:HD3	4:4:23:VAL:HG22	1.76	0.66
8:C:176:ASN:ND2	8:C:178:TYR:HB3	2.10	0.66
9:D:163:ASP:HA	9:D:166:ALA:HB3	1.77	0.66
20:O:11:GLN:OE1	20:O:38:LEU:HD12	1.94	0.66
29:X:304:A:C2'	29:X:305:A:H5"	2.21	0.66
29:X:623:G:H3'	29:X:624:A:C5'	2.22	0.66
29:X:1302:C:H2'	29:X:1303:U:H6	1.59	0.66
29:X:1463:A:H2'	29:X:1464:A:H8	1.60	0.66
29:X:1819:U:H2'	29:X:1820:G:O4'	1.95	0.66
6:A:209:ALA:HB2	29:X:1781:C:O2'	1.95	0.66
8:C:4:ILE:HB	8:C:10:ASN:OD1	1.95	0.66
8:C:111:ARG:NH1	8:C:181:LEU:HA	2.10	0.66
12:G:149:LYS:NZ	29:X:7:G:C5'	2.59	0.66
14:I:18:ARG:HD2	14:I:21:ARG:HG3	1.76	0.66
14:I:73:GLU:OE1	14:I:73:GLU:N	2.28	0.66
22:Q:68:PHE:O	22:Q:69:ILE:HD12	1.93	0.66
29:X:496:C:O2'	29:X:497:C:H5"	1.96	0.66
29:X:682:G:H5"	29:X:683:A:OP2	1.94	0.66
29:X:1841:G:H2'	29:X:1842:G:H5'	1.76	0.66
29:X:1854:G:HO2'	29:X:1855:G:H5'	1.56	0.66
29:X:2662:C:H2'	29:X:2663:U:C6	2.28	0.66
29:X:2708:U:H2'	29:X:2709:C:H6	1.61	0.66
29:X:2823:G:O2'	29:X:2824:C:H6	1.75	0.66
6:A:258:LYS:NZ	6:A:261:ARG:NH2	2.43	0.66
7:B:147:PRO:HD3	29:X:1141:U:C5	2.30	0.66
8:C:47:THR:HG23	8:C:85:GLY:N	2.09	0.66
12:G:50:PRO:HA	12:G:89:ALA:HB3	1.76	0.66
12:G:104:THR:O	12:G:107:GLN:NE2	2.29	0.66
29:X:417:C:C5	29:X:419:G:C4	2.84	0.66
29:X:417:C:C6	29:X:419:G:N9	2.64	0.66
29:X:501:G:H2'	29:X:502:A:C8	2.28	0.66
29:X:590:C:H2'	29:X:591:G:C8	2.22	0.66
29:X:2238:G:O2'	29:X:2239:C:H5'	1.96	0.66
6:A:79:VAL:HB	6:A:114:GLY:H	1.60	0.66
8:C:147:LYS:HB2	8:C:184:ASP:H	1.60	0.66
11:F:90:THR:HG21	11:F:93:LYS:HD2	1.78	0.66
14:I:58:ALA:O	14:I:59:ARG:HB2	1.94	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:20:LEU:CD1	16:K:24:GLN:HE21	2.01	0.66
16:K:90:ARG:O	16:K:92:GLY:N	2.29	0.66
19:N:7:GLY:C	19:N:9:VAL:H	2.03	0.66
22:Q:40:ASP:O	22:Q:41:ALA:C	2.38	0.66
29:X:192:G:C1'	29:X:193:A:H4'	2.26	0.66
29:X:760:U:C5	30:Y:3:LYS:HG3	2.31	0.66
29:X:765:C:N3	29:X:1772:C:H1'	2.11	0.66
29:X:923:A:H2	29:X:2256:G:N3	1.93	0.66
29:X:1071:U:H5"	29:X:1072:U:OP1	1.96	0.66
29:X:1355:A:C8	29:X:1410:U:H1'	2.29	0.66
29:X:2046:C:H2'	29:X:2047:C:H5'	1.78	0.66
29:X:2790:C:H2'	29:X:2791:C:C6	2.30	0.66
6:A:223:GLY:HA2	6:A:226:MET:SD	2.35	0.66
9:D:63:GLN:HG2	31:Z:44:C:O2'	1.95	0.66
9:D:152:MET:CE	9:D:154:ILE:HD11	2.25	0.66
10:E:18:ASN:HB3	10:E:20:GLN:NE2	2.10	0.66
12:G:162:LYS:NZ	29:X:5:A:H1'	2.11	0.66
13:H:27:SER:CB	13:H:50:ILE:H	1.98	0.66
18:M:33:VAL:HG22	18:M:51:GLU:HB2	1.78	0.66
22:Q:43:GLN:OE1	22:Q:49:ARG:HA	1.96	0.66
23:R:59:LYS:HB3	23:R:62:MET:HB2	1.78	0.66
24:S:103:ARG:HD3	24:S:108:VAL:CG2	2.26	0.66
27:V:49:GLU:O	27:V:53:LEU:HG	1.95	0.66
29:X:1138:A:H2'	29:X:1139:A:H5"	1.77	0.66
29:X:1419:G:H2'	29:X:1420:A:C8	2.30	0.66
29:X:1690:U:H2'	29:X:1691:G:H5'	1.77	0.66
6:A:211:ARG:HG2	6:A:211:ARG:HH11	1.59	0.66
7:B:147:PRO:C	7:B:149:ARG:H	2.04	0.66
7:B:154:LYS:O	7:B:156:MET:HG3	1.96	0.66
15:J:99:LYS:CE	15:J:100:PRO:HD2	2.24	0.66
16:K:48:VAL:HG13	16:K:49:GLU:N	2.10	0.66
18:M:46:ARG:CG	18:M:47:SER:H	2.07	0.66
25:T:24:LYS:HE3	29:X:2334:C:O2'	1.95	0.66
29:X:71:A:C6	29:X:110:U:H4'	2.30	0.66
29:X:802:A:OP1	29:X:802:A:H3'	1.96	0.66
29:X:1095:A:H2'	29:X:1096:A:H5"	1.78	0.66
29:X:1775:A:H8	29:X:1775:A:O5'	1.78	0.66
29:X:1850:G:C2'	29:X:1851:A:H8	2.06	0.66
29:X:2269:G:H2'	29:X:2270:U:O4'	1.94	0.66
29:X:2497:A:H5"	29:X:2498:U:OP2	1.95	0.66
29:X:2594:U:H2'	29:X:2595:C:H6	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2691:C:C2’	29:X:2692:A:C5’	2.72	0.66
29:X:2876:C:H2’	29:X:2877:A:C8	2.31	0.66
3:3:12:ARG:CA	14:I:62:LYS:HD3	2.26	0.66
9:D:33:LYS:HD2	9:D:90:THR:HG23	1.78	0.66
10:E:6:LYS:HB3	10:E:69:ARG:CD	2.26	0.66
10:E:148:VAL:C	10:E:150:LYS:H	2.02	0.66
11:F:75:SER:O	11:F:79:ARG:HG3	1.94	0.66
17:L:28:ARG:HD2	17:L:90:ASP:CG	2.20	0.66
23:R:107:ALA:CB	23:R:111:GLY:HA2	2.26	0.66
29:X:732:G:C8	29:X:732:G:OP2	2.49	0.66
29:X:1774:A:C2	29:X:2566:A:C4	2.84	0.66
29:X:2084:G:H2’	29:X:2085:G:H8	1.60	0.66
29:X:2700:U:H2’	29:X:2701:A:H8	1.59	0.66
16:K:60:LEU:CD1	29:X:1469:U:H2’	2.26	0.66
16:K:84:ALA:HB3	16:K:85:PRO:HD3	1.78	0.66
20:O:9:GLY:O	20:O:10:LYS:HB3	1.94	0.66
21:P:105:ARG:NH1	21:P:119:LYS:NZ	2.44	0.66
22:Q:10:PRO:HA	22:Q:27:PHE:CB	2.11	0.66
24:S:91:PRO:HD3	24:S:127:PRO:CG	2.26	0.66
24:S:91:PRO:HD3	24:S:127:PRO:HG3	1.78	0.66
29:X:799:C:O2’	29:X:800:U:H5’	1.96	0.66
29:X:1072:U:H1’	29:X:1081:A:C1’	2.25	0.66
29:X:1840:A:H2’	29:X:1841:G:O4’	1.96	0.66
6:A:244:ARG:HD2	29:X:1885:C:H5’	1.78	0.66
7:B:14:ILE:HG12	18:M:20:HIS:HD2	1.58	0.66
7:B:162:MET:CE	29:X:2796:A:H5”	2.25	0.66
13:H:88:THR:HB	18:M:80:VAL:HB	1.77	0.66
15:J:35:LEU:HD11	15:J:130:THR:CB	2.25	0.66
24:S:113:VAL:HG13	24:S:171:VAL:HG22	1.76	0.66
26:U:62:LEU:HD23	26:U:67:LEU:HB2	1.78	0.66
29:X:117:A:H4’	29:X:118:U:O5’	1.96	0.66
29:X:230:C:H2’	29:X:231:G:H5’	1.77	0.66
29:X:640:C:C4’	29:X:660:G:H21	2.08	0.66
29:X:653:G:C3’	29:X:654:A:H5”	2.25	0.66
29:X:2569:A:O2’	29:X:2570:C:H5’	1.96	0.66
29:X:2598:C:H2’	29:X:2599:U:C6	2.31	0.66
7:B:16:LYS:O	7:B:17:ASN:HB2	1.96	0.65
8:C:34:GLN:NE2	8:C:177:VAL:HB	2.12	0.65
8:C:190:ALA:C	8:C:192:ALA:H	2.04	0.65
12:G:98:LYS:HG3	12:G:116:ARG:HD3	1.78	0.65
15:J:128:ILE:O	15:J:128:ILE:HD12	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:96:ARG:HB2	29:X:2857:C:C5'	2.26	0.65
18:M:22:ARG:HD2	18:M:83:PHE:O	1.96	0.65
20:O:5:ILE:HD11	20:O:8:GLY:O	1.96	0.65
20:O:65:ARG:HG2	20:O:87:ARG:HD3	1.78	0.65
24:S:64:ALA:N	24:S:86:VAL:HG23	2.10	0.65
27:V:32:ALA:HB2	27:V:37:LEU:HD12	1.76	0.65
29:X:482:A:C2'	29:X:483:A:H5'	2.26	0.65
29:X:2691:C:H2'	29:X:2692:A:C5'	2.22	0.65
11:F:87:GLY:HA3	29:X:1075:C:H5"	1.78	0.65
13:H:29:ILE:CA	13:H:34:LEU:HD23	2.26	0.65
14:I:72:TYR:HB3	14:I:107:LYS:HB2	1.79	0.65
15:J:6:LYS:HE3	15:J:7:ARG:NE	2.06	0.65
16:K:83:VAL:HG23	16:K:87:TYR:CE2	2.31	0.65
29:X:1016:C:C5	29:X:1154:A:H1'	2.32	0.65
29:X:1463:A:H2'	29:X:1464:A:C8	2.31	0.65
29:X:1724:C:N3	29:X:1747:G:C6	2.63	0.65
29:X:2210:C:H2'	29:X:2211:U:H6	1.60	0.65
4:4:1:MET:H1	29:X:2505:G:C2'	2.09	0.65
8:C:68:ARG:NH1	29:X:2043:A:H62	1.86	0.65
10:E:126:PRO:HG2	10:E:127:GLU:N	2.10	0.65
14:I:101:ARG:HD3	29:X:637:G:O6	1.95	0.65
18:M:22:ARG:HD3	18:M:24:LEU:CD2	2.25	0.65
18:M:53:VAL:HG12	18:M:54:VAL:N	2.11	0.65
21:P:71:VAL:CG1	21:P:126:ILE:HG22	2.27	0.65
26:U:20:ARG:HB3	26:U:43:ARG:NH2	2.11	0.65
26:U:33:LYS:HZ2	29:X:2375:G:H1'	1.61	0.65
29:X:457:C:O2'	29:X:458:G:H5'	1.96	0.65
29:X:1358:C:H2'	29:X:1359:G:H5'	1.78	0.65
29:X:1923:U:H1'	29:X:1924:C:C5	2.31	0.65
29:X:2625:U:OP2	29:X:2625:U:C6	2.49	0.65
7:B:136:ARG:O	7:B:137:ARG:HB2	1.97	0.65
15:J:77:LYS:HG3	15:J:78:LYS:H	1.60	0.65
17:L:36:LYS:NZ	17:L:99:ARG:HH11	1.95	0.65
21:P:62:ARG:HH11	21:P:62:ARG:HG3	1.61	0.65
29:X:1181:C:H2'	29:X:1182:U:C5'	2.22	0.65
29:X:1984:A:H4'	29:X:2668:U:H2'	1.78	0.65
29:X:2195:C:C6	29:X:2196:U:H5	2.15	0.65
29:X:2302:G:H1	29:X:2311:U:H5	1.45	0.65
29:X:2335:U:H2'	29:X:2336:G:C8	2.31	0.65
29:X:2585:C:C2'	29:X:2586:G:H5'	2.26	0.65
6:A:262:LYS:HE2	29:X:2206:C:H1'	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:133:LYS:HG2	7:B:137:ARG:HB3	1.79	0.65
9:D:131:GLY:HA3	29:X:2283:G:O3'	1.97	0.65
12:G:49:VAL:O	12:G:89:ALA:HB3	1.97	0.65
12:G:61:ARG:CZ	12:G:65:LYS:HD2	2.26	0.65
12:G:101:THR:HG23	12:G:103:TYR:CE1	2.32	0.65
17:L:57:ALA:CB	31:Z:119:G:H4'	2.26	0.65
21:P:35:PRO:O	21:P:39:ARG:CD	2.44	0.65
25:T:45:PHE:HZ	25:T:77:ARG:NH2	1.95	0.65
29:X:1122:A:H2	29:X:1123:G:H1'	1.62	0.65
29:X:2628:C:H2'	29:X:2629:U:C6	2.32	0.65
7:B:77:ILE:HD12	18:M:3:THR:HG22	1.78	0.65
10:E:30:LYS:HB2	10:E:79:VAL:HA	1.77	0.65
10:E:43:VAL:HG21	10:E:52:VAL:HG22	1.77	0.65
12:G:52:GLY:O	12:G:55:ALA:HB3	1.97	0.65
12:G:125:ARG:NH1	29:X:2760:G:H1	1.94	0.65
15:J:39:GLU:CG	31:Z:92:G:H22	2.10	0.65
25:T:69:PHE:CE2	29:X:870:C:H5'	2.32	0.65
26:U:32:ARG:CG	26:U:33:LYS:H	2.01	0.65
26:U:54:ASN:ND2	26:U:76:LYS:O	2.29	0.65
29:X:197:G:N3	29:X:210:A:H2	1.95	0.65
29:X:884:C:O5'	29:X:884:C:H6	1.78	0.65
29:X:1255:A:H2'	29:X:1256:C:C6	2.32	0.65
29:X:1467:U:H3'	29:X:1467:U:H6	1.60	0.65
29:X:1926:U:O2'	29:X:1927:U:H5"	1.96	0.65
29:X:2766:U:O2'	29:X:2767:C:H5'	1.96	0.65
12:G:73:ASN:O	12:G:140:GLN:OE1	2.15	0.65
13:H:83:ARG:HE	18:M:40:ARG:NH2	1.95	0.65
15:J:77:LYS:H	15:J:89:GLY:HA3	1.61	0.65
24:S:91:PRO:HD3	24:S:127:PRO:CD	2.27	0.65
25:T:45:PHE:HZ	25:T:77:ARG:HH21	1.43	0.65
29:X:172:A:H3'	29:X:173:A:H5'	1.78	0.65
29:X:537:C:H1'	29:X:538:A:N6	2.11	0.65
29:X:619:A:H2'	29:X:620:G:O4'	1.96	0.65
29:X:831:G:H5'	29:X:852:U:OP1	1.97	0.65
29:X:1066:G:H2'	29:X:1067:G:C8	2.31	0.65
29:X:1248:G:H2'	29:X:1249:G:O4'	1.97	0.65
29:X:1588:A:H2'	29:X:1589:G:C8	2.28	0.65
29:X:2445:C:C2	29:X:2464:G:N2	2.64	0.65
6:A:222:ARG:HB2	6:A:222:ARG:NH2	2.11	0.65
8:C:166:TRP:N	8:C:166:TRP:CE3	2.64	0.65
12:G:44:VAL:HG12	12:G:45:ASP:H	1.59	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:106:VAL:HG23	23:R:113:THR:CG2	2.24	0.65
29:X:859:U:H1'	29:X:860:U:C4	2.31	0.65
29:X:874:A:C2	31:Z:80:A:H2	2.14	0.65
29:X:1095:A:H3'	29:X:1096:A:H5"	1.77	0.65
29:X:1775:A:H4'	29:X:1776:A:O5'	1.96	0.65
6:A:48:ARG:H	6:A:48:ARG:HD2	1.60	0.65
6:A:146:GLU:HG2	6:A:153:ALA:HA	1.78	0.65
7:B:189:PRO:HA	29:X:2659:C:C5'	2.27	0.65
16:K:13:ASN:ND2	16:K:14:SER:N	2.43	0.65
17:L:11:LEU:HA	17:L:14:ARG:HD2	1.77	0.65
20:O:32:LYS:HB2	20:O:58:ALA:O	1.96	0.65
21:P:105:ARG:NH1	29:X:1336:G:OP1	2.28	0.65
29:X:1391:A:O2'	29:X:1392:U:H3'	1.95	0.65
29:X:1522:C:H2'	29:X:1523:A:H4'	1.76	0.65
29:X:2048:C:H2'	29:X:2049:C:H6	1.60	0.65
6:A:177:LEU:HD12	6:A:181:GLU:HB3	1.79	0.65
11:F:7:ILE:HG22	11:F:8:VAL:N	2.11	0.65
14:I:118:VAL:O	14:I:138:GLY:HA3	1.97	0.65
19:N:62:ILE:O	19:N:66:ASN:OD1	2.14	0.65
21:P:32:ARG:HH21	21:P:33:MET:HA	1.62	0.65
23:R:14:LEU:O	23:R:16:PHE:N	2.28	0.65
23:R:107:ALA:HB1	23:R:111:GLY:HA2	1.79	0.65
24:S:3:LEU:C	24:S:3:LEU:HD12	2.22	0.65
29:X:538:A:O2'	29:X:539:A:OP1	2.15	0.65
29:X:853:C:O5'	29:X:853:C:H6	1.80	0.65
29:X:871:U:O2'	29:X:2247:A:C2'	2.43	0.65
29:X:1050:G:H2'	29:X:1051:U:H5'	1.78	0.65
29:X:1608:U:H2'	29:X:1609:G:H8	1.61	0.65
29:X:2029:G:H5'	30:Y:19:ARG:HA	1.79	0.65
29:X:2063:A:H2'	29:X:2064:U:C6	2.32	0.65
29:X:2082:C:H2'	29:X:2083:G:H5"	1.78	0.65
31:Z:53:G:N2	31:Z:54:U:H5	1.93	0.65
8:C:56:ARG:HA	8:C:71:ASP:OD2	1.97	0.64
12:G:169:GLN:HB2	12:G:170:PRO:HD2	1.79	0.64
18:M:60:SER:C	18:M:64:LYS:HB2	2.22	0.64
22:Q:15:LYS:HA	22:Q:18:SER:OG	1.96	0.64
22:Q:20:MET:HE3	22:Q:92:ALA:O	1.98	0.64
24:S:13:LYS:O	24:S:16:GLU:O	2.15	0.64
26:U:32:ARG:H	26:U:32:ARG:NE	1.94	0.64
27:V:37:LEU:HD21	27:V:40:PRO:HA	1.79	0.64
29:X:507:A:H8	29:X:507:A:O5'	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:539:A:N6	29:X:2025:A:H1'	2.12	0.64
29:X:577:U:H4'	29:X:956:A:N6	2.11	0.64
9:D:40:LEU:HA	9:D:150:ARG:NH2	2.13	0.64
15:J:99:LYS:HE3	15:J:100:PRO:HD2	1.78	0.64
18:M:105:TYR:O	18:M:108:ARG:HG3	1.96	0.64
19:N:72:HIS:CD2	19:N:110:VAL:HG21	2.32	0.64
20:O:23:GLU:O	20:O:24:SER:HB3	1.97	0.64
21:P:72:LEU:HD12	21:P:126:ILE:HG12	1.80	0.64
29:X:1166:A:H2'	29:X:1167:A:H5"	1.79	0.64
29:X:1221:C:H2'	29:X:1222:G:H8	1.62	0.64
29:X:1373:G:N2	29:X:2193:C:H1'	2.12	0.64
29:X:1442:C:N4	29:X:1585:A:H3'	2.12	0.64
29:X:1508:G:H5'	29:X:1509:A:C5'	2.10	0.64
29:X:1672:A:H3'	29:X:1673:C:C5	2.32	0.64
29:X:1998:A:H4'	30:Y:3:LYS:NZ	2.11	0.64
29:X:2007:G:C2	29:X:2023:C:C2	2.85	0.64
29:X:2445:C:O2'	29:X:2446:C:H5'	1.98	0.64
31:Z:64:C:H2'	31:Z:65:A:H8	1.62	0.64
4:4:29:ASN:OD1	4:4:31:LYS:N	2.30	0.64
6:A:126:LYS:HB2	6:A:129:ASN:HD22	1.61	0.64
8:C:153:ASP:HA	8:C:158:ARG:HH21	1.63	0.64
10:E:64:LEU:O	10:E:67:LEU:HB2	1.98	0.64
14:I:61:PRO:HB3	29:X:2372:A:H5"	1.78	0.64
15:J:15:ARG:HD2	15:J:74:PRO:HD2	1.79	0.64
15:J:102:ARG:HG3	15:J:102:ARG:NH1	2.05	0.64
15:J:119:PHE:HD1	15:J:132:MET:SD	2.20	0.64
21:P:72:LEU:CD1	21:P:126:ILE:HG12	2.27	0.64
23:R:84:VAL:HA	23:R:90:LYS:CD	2.27	0.64
26:U:46:LEU:HB2	29:X:2209:G:H5"	1.79	0.64
29:X:150:A:H2'	29:X:151:G:O4'	1.97	0.64
29:X:585:U:O2'	29:X:2481:G:C6	2.50	0.64
29:X:2457:A:H1'	29:X:2507:U:O2'	1.98	0.64
7:B:9:ILE:HD11	7:B:27:LEU:CB	2.16	0.64
8:C:137:ALA:HB1	8:C:142:LEU:HB2	1.79	0.64
18:M:32:THR:HG22	18:M:33:VAL:H	1.63	0.64
21:P:10:ASN:O	21:P:11:LYS:C	2.39	0.64
24:S:141:MET:SD	24:S:147:ILE:HG12	2.37	0.64
29:X:537:C:H1'	29:X:538:A:N1	2.13	0.64
29:X:969:U:O2	31:Z:92:G:H5"	1.96	0.64
29:X:1572:C:O2'	29:X:1573:G:H5'	1.97	0.64
29:X:1740:G:O2'	29:X:1741:G:H5'	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2265:A:H4'	29:X:2266:A:O5'	1.98	0.64
8:C:29:GLU:CD	14:I:18:ARG:HH22	2.06	0.64
9:D:33:LYS:H	9:D:157:VAL:HB	1.61	0.64
9:D:138:PHE:CZ	9:D:152:MET:SD	2.91	0.64
12:G:150:VAL:C	12:G:151:TYR:HD1	2.06	0.64
20:O:56:VAL:HA	20:O:97:GLY:HA3	1.79	0.64
20:O:85:GLY:H	29:X:1238:A:H5'	1.62	0.64
23:R:105:ARG:HH12	23:R:113:THR:N	1.94	0.64
29:X:1003:C:O2'	29:X:1004:A:H5'	1.97	0.64
29:X:1053:G:C4	29:X:1054:C:C5	2.86	0.64
29:X:1281:A:C1'	29:X:2592:U:C5	2.80	0.64
29:X:1301:U:C5'	29:X:1302:C:OP2	2.44	0.64
29:X:1467:U:C3'	29:X:1468:A:H5'	2.22	0.64
14:I:45:LYS:HE3	14:I:47:ALA:CB	2.28	0.64
19:N:36:PHE:O	19:N:39:LEU:HB2	1.98	0.64
24:S:100:THR:CG2	24:S:138:VAL:HG21	2.26	0.64
26:U:53:GLU:O	26:U:78:ILE:HG22	1.97	0.64
28:W:8:SER:CB	29:X:999:A:H5"	2.25	0.64
29:X:757:U:O2'	29:X:758:G:H5'	1.97	0.64
29:X:1682:A:C2'	29:X:1683:G:H5'	2.28	0.64
29:X:1686:A:C2	29:X:1977:C:H1'	2.32	0.64
29:X:1926:U:H4'	29:X:1927:U:O5'	1.97	0.64
29:X:2205:C:O2'	29:X:2206:C:H5'	1.98	0.64
29:X:2237:C:H4'	29:X:2238:G:OP2	1.98	0.64
6:A:245:VAL:HG12	6:A:251:GLY:N	2.12	0.64
7:B:130:GLY:O	7:B:131:SER:OG	2.15	0.64
8:C:22:VAL:HA	8:C:106:MET:CG	2.26	0.64
10:E:124:ALA:CB	10:E:132:ASP:HB3	2.25	0.64
14:I:32:ARG:NH2	20:O:79:GLN:HA	2.13	0.64
14:I:117:ALA:HA	14:I:137:GLY:C	2.23	0.64
18:M:24:LEU:HD13	18:M:91:VAL:HG21	1.78	0.64
20:O:25:LEU:HB2	20:O:32:LYS:NZ	2.11	0.64
20:O:36:LYS:HE3	20:O:55:THR:C	2.23	0.64
20:O:47:PHE:O	20:O:51:ALA:HB2	1.98	0.64
21:P:94:GLU:CD	21:P:127:ILE:HD12	2.23	0.64
23:R:10:HIS:O	23:R:11:ASN:HB2	1.95	0.64
26:U:17:SER:CB	26:U:44:ALA:HA	2.21	0.64
29:X:580:A:H1'	29:X:582:G:H8	1.63	0.64
29:X:1226:A:O2'	29:X:1227:A:H5'	1.98	0.64
29:X:1261:G:O2'	29:X:1262:U:OP1	2.14	0.64
29:X:1749:G:O2'	29:X:1750:A:P	2.55	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2813:G:H2'	29:X:2814:G:O4'	1.98	0.64
12:G:41:TRP:HB3	12:G:164:GLN:O	1.98	0.64
13:H:3:MET:SD	13:H:44:TYR:HE1	2.21	0.64
18:M:37:THR:CG2	18:M:39:VAL:HG13	2.28	0.64
18:M:60:SER:CA	18:M:64:LYS:HB2	2.28	0.64
21:P:100:GLY:C	21:P:101:PRO:O	2.38	0.64
24:S:86:VAL:HG12	24:S:87:THR:H	1.61	0.64
28:W:16:GLN:O	28:W:20:VAL:HG23	1.98	0.64
29:X:198:A:H4'	29:X:199:A:OP2	1.97	0.64
29:X:819:C:O3'	29:X:843:G:N2	2.31	0.64
29:X:1737:G:H2'	29:X:1738:U:C6	2.33	0.64
29:X:1882:G:H21	29:X:1885:C:H41	1.46	0.64
29:X:2751:C:H2'	29:X:2752:C:C6	2.32	0.64
6:A:222:ARG:CB	6:A:222:ARG:NH2	2.57	0.64
6:A:226:MET:HE2	6:A:231:HIS:HB2	1.79	0.64
7:B:120:TRP:CG	7:B:155:ARG:HB3	2.33	0.64
7:B:150:VAL:HG21	7:B:154:LYS:HE2	1.78	0.64
7:B:162:MET:HE1	29:X:2796:A:H5"	1.79	0.64
8:C:112:GLN:CA	8:C:116:LYS:HD3	2.28	0.64
15:J:40:PRO:CG	15:J:99:LYS:NZ	2.60	0.64
17:L:31:VAL:HG23	17:L:38:ILE:HD13	1.79	0.64
21:P:32:ARG:C	21:P:32:ARG:NE	2.56	0.64
22:Q:58:VAL:O	22:Q:75:ARG:N	2.30	0.64
24:S:71:MET:CA	24:S:78:PRO:HA	2.26	0.64
29:X:834:A:H5"	29:X:835:U:C6	2.31	0.64
29:X:890:U:H2'	29:X:891:A:H8	1.62	0.64
29:X:1324:G:H2'	29:X:1325:U:C6	2.33	0.64
29:X:1683:G:H2'	29:X:1684:G:O4'	1.97	0.64
29:X:1778:U:H2'	29:X:1779:C:C6	2.32	0.64
29:X:2195:C:C5	29:X:2196:U:C4	2.85	0.64
29:X:2420:C:O2'	29:X:2421:C:H5'	1.96	0.64
29:X:2563:U:C2'	29:X:2564:U:H5"	2.26	0.64
29:X:2726:U:H2'	29:X:2727:G:H5'	1.80	0.64
7:B:21:ILE:HG23	7:B:185:LYS:NZ	2.12	0.64
8:C:67:ALA:O	29:X:1268:U:H5	1.80	0.64
9:D:143:TYR:HA	9:D:146:VAL:HG22	1.80	0.64
10:E:44:ARG:HH22	10:E:46:ASP:HB2	1.63	0.64
12:G:84:ASN:N	12:G:153:GLY:O	2.27	0.64
14:I:63:ARG:NH1	29:X:2395:C:OP2	2.31	0.64
16:K:30:ARG:C	16:K:31:GLU:HG2	2.22	0.64
19:N:68:GLY:C	19:N:71:LEU:H	2.06	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:22:VAL:CG2	29:X:1173:G:H4'	2.28	0.64
20:O:35:LEU:CD2	20:O:52:GLY:HA2	2.27	0.64
29:X:176:A:H3'	29:X:177:U:C5	2.32	0.64
29:X:1226:A:C2	29:X:1250:A:H1'	2.33	0.64
29:X:1341:G:H2'	29:X:1343:C:C5	2.33	0.64
29:X:2046:C:C2'	29:X:2047:C:H5'	2.27	0.64
29:X:2196:U:O2'	29:X:2197:U:O4'	2.15	0.64
29:X:2211:U:O2'	29:X:2212:U:H5'	1.98	0.64
29:X:2869:U:O5'	29:X:2869:U:H6	1.80	0.64
7:B:116:VAL:HG22	7:B:136:ARG:CZ	2.28	0.63
7:B:141:ILE:HG22	7:B:150:VAL:HB	1.79	0.63
9:D:74:ILE:HG23	9:D:79:LEU:O	1.98	0.63
9:D:122:PHE:HA	29:X:2282:G:H4'	1.80	0.63
14:I:123:ASP:OD1	14:I:123:ASP:O	2.16	0.63
20:O:20:ILE:HD12	20:O:21:ARG:N	2.13	0.63
23:R:105:ARG:NH2	23:R:111:GLY:O	2.31	0.63
24:S:105:GLN:HB2	24:S:139:THR:O	1.98	0.63
27:V:24:GLU:HG2	27:V:28:LEU:CD2	2.27	0.63
29:X:67:G:H2'	29:X:68:C:C6	2.32	0.63
29:X:396:U:O4	29:X:398:C:C2	2.51	0.63
29:X:1855:G:O2'	29:X:1856:U:H5'	1.99	0.63
29:X:2494:C:O2'	29:X:2495:G:H5'	1.97	0.63
29:X:2787:A:H2'	29:X:2788:C:C6	2.33	0.63
30:Y:19:ARG:C	30:Y:21:SER:H	2.05	0.63
6:A:83:GLU:OE1	6:A:104:TYR:HE2	1.82	0.63
8:C:107:ALA:O	8:C:110:SER:HB2	1.98	0.63
8:C:162:ARG:HD2	29:X:333:A:C5'	2.28	0.63
10:E:89:LEU:HD12	10:E:129:THR:CA	2.28	0.63
13:H:115:ALA:HB3	13:H:118:LEU:CD1	2.26	0.63
15:J:28:VAL:H	15:J:137:VAL:HG21	1.63	0.63
20:O:57:GLN:H	20:O:97:GLY:HA2	1.60	0.63
23:R:59:LYS:CD	23:R:62:MET:HG3	2.29	0.63
24:S:19:ILE:HB	24:S:34:LEU:CD1	2.29	0.63
24:S:46:GLN:HB3	24:S:50:GLY:HA3	1.79	0.63
27:V:5:GLU:HA	27:V:8:ASN:HB2	1.80	0.63
29:X:437:G:O2'	29:X:438:G:H5'	1.98	0.63
29:X:545:C:O2'	29:X:546:A:H5'	1.98	0.63
29:X:1122:A:C2	29:X:1123:G:H1'	2.33	0.63
29:X:1685:A:H61	29:X:1693:A:H61	1.46	0.63
29:X:1807:A:H1'	29:X:1809:G:C8	2.32	0.63
31:Z:50:U:H2'	31:Z:51:G:C8	2.30	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:222:ARG:HG3	29:X:1780:A:OP1	1.97	0.63
7:B:32:PRO:O	7:B:49:ILE:HA	1.97	0.63
7:B:150:VAL:HG21	7:B:154:LYS:HG2	1.80	0.63
10:E:163:ARG:HB2	10:E:167:GLU:CG	2.29	0.63
11:F:1:MET:HB2	11:F:2:LYS:HD3	1.78	0.63
14:I:117:ALA:O	14:I:118:VAL:HG13	1.97	0.63
16:K:21:ALA:O	16:K:47:PHE:HE2	1.81	0.63
17:L:28:ARG:HA	17:L:88:VAL:O	1.99	0.63
19:N:37:GLN:NE2	29:X:572:G:N3	2.46	0.63
19:N:39:LEU:HA	19:N:42:ALA:HB3	1.81	0.63
19:N:92:ARG:HG3	19:N:92:ARG:HH11	1.62	0.63
29:X:591:G:H2'	29:X:592:G:H8	1.61	0.63
29:X:597:U:H2'	29:X:598:U:C6	2.33	0.63
29:X:1039:A:H61	29:X:1136:G:H2'	1.61	0.63
29:X:1937:G:N3	29:X:2530:C:C5'	2.61	0.63
29:X:2178:U:O2'	29:X:2179:C:H5'	1.98	0.63
29:X:2267:A:H4'	29:X:2268:G:OP1	1.98	0.63
30:Y:12:SER:HB2	30:Y:15:LYS:N	2.13	0.63
31:Z:12:C:H2'	31:Z:13:C:O4'	1.98	0.63
6:A:243:GLY:N	6:A:244:ARG:HH11	1.96	0.63
11:F:100:ASN:HB3	11:F:103:GLN:HE22	1.64	0.63
17:L:89:PHE:HB2	17:L:91:ARG:NH2	2.13	0.63
18:M:8:ASN:HA	29:X:2851:G:O5'	1.97	0.63
26:U:15:VAL:HG23	26:U:16:ASN:H	1.63	0.63
27:V:7:ARG:HA	27:V:14:PHE:CZ	2.33	0.63
28:W:37:THR:O	28:W:41:ARG:HG3	1.98	0.63
29:X:97:U:H5'	29:X:98:U:OP2	1.98	0.63
29:X:417:C:H4'	29:X:418:C:H5'	1.79	0.63
29:X:524:A:O2'	29:X:525:A:H5'	1.98	0.63
29:X:566:U:O2'	29:X:567:G:H5'	1.99	0.63
29:X:577:U:C5'	29:X:956:A:N6	2.62	0.63
29:X:817:A:H2'	29:X:819:C:C4	2.33	0.63
29:X:2225:G:C2	29:X:2405:A:H1'	2.33	0.63
29:X:2411:A:H2'	29:X:2412:A:C8	2.33	0.63
29:X:2873:G:H2'	29:X:2874:A:C8	2.32	0.63
9:D:7:LYS:HA	9:D:10:ASP:HB2	1.80	0.63
10:E:126:PRO:CG	10:E:130:ARG:HD3	2.26	0.63
16:K:49:GLU:OE1	16:K:95:THR:HG22	1.98	0.63
17:L:105:ASP:O	17:L:109:GLU:HG2	1.98	0.63
19:N:89:ASP:OD1	20:O:47:PHE:HB3	1.98	0.63
22:Q:82:LEU:HD11	22:Q:88:ILE:CG2	2.27	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:V:50:VAL:O	27:V:54:ASN:ND2	2.31	0.63
29:X:542:A:H5'	29:X:543:G:O4'	1.98	0.63
29:X:865:A:N6	29:X:937:C:H42	1.97	0.63
29:X:1053:G:N2	29:X:1124:U:O2	2.30	0.63
29:X:2379:G:O2'	29:X:2380:U:H5'	1.98	0.63
29:X:2447:G:HO2'	29:X:2448:A:H8	1.41	0.63
7:B:189:PRO:HG3	29:X:2658:A:O2'	1.99	0.63
9:D:143:TYR:HA	9:D:146:VAL:CG2	2.28	0.63
15:J:131:LYS:HD2	24:S:76:ARG:CZ	2.28	0.63
16:K:91:PRO:O	16:K:92:GLY:C	2.40	0.63
19:N:12:ARG:O	19:N:13:ARG:C	2.41	0.63
19:N:106:PHE:O	19:N:110:VAL:HG23	1.99	0.63
27:V:35:GLY:O	27:V:36:GLN:HB2	1.98	0.63
29:X:631:G:H4'	29:X:632:A:C5'	2.28	0.63
29:X:998:C:H4'	29:X:1012:A:H4'	1.81	0.63
29:X:1416:A:H2'	29:X:1417:C:C6	2.33	0.63
29:X:1949:A:H1'	29:X:2572:U:C5'	2.28	0.63
29:X:2023:C:O2'	29:X:2024:U:H5'	1.99	0.63
29:X:2665:G:H2'	29:X:2666:U:C6	2.33	0.63
6:A:149:PRO:CG	29:X:2200:G:O2'	2.46	0.63
7:B:63:MET:HE3	7:B:67:PHE:CE2	2.34	0.63
9:D:26:MET:HE1	31:Z:33:C:C5'	2.29	0.63
12:G:74:MET:HA	12:G:140:GLN:OE1	1.98	0.63
13:H:35:THR:HG21	29:X:2629:U:H5'	1.79	0.63
17:L:8:ARG:CB	17:L:8:ARG:HH11	2.12	0.63
21:P:109:ARG:NH2	29:X:1996:A:C2	2.66	0.63
22:Q:29:VAL:HG11	22:Q:38:ILE:HD12	1.80	0.63
23:R:82:ALA:O	23:R:83:LEU:HD12	1.99	0.63
24:S:122:ILE:C	24:S:161:ALA:HB2	2.23	0.63
25:T:31:VAL:HG22	25:T:67:VAL:HG23	1.80	0.63
29:X:322:A:O2'	29:X:343:A:H4'	1.97	0.63
29:X:553:C:C5'	29:X:554:U:OP1	2.46	0.63
29:X:1060:C:H2'	29:X:1061:A:C8	2.34	0.63
29:X:1914:U:H6	29:X:1914:U:H5'	1.64	0.63
29:X:2178:U:H2'	29:X:2179:C:H6	1.63	0.63
29:X:2237:C:H2'	29:X:2406:C:OP2	1.99	0.63
31:Z:4:C:H6	31:Z:4:C:H5'	1.64	0.63
7:B:39:ALA:HA	7:B:43:GLY:C	2.24	0.63
9:D:70:ALA:O	9:D:82:GLY:HA2	1.99	0.63
13:H:13:ASN:ND2	13:H:109:ARG:HG2	2.13	0.63
13:H:70:VAL:HG22	13:H:71:LYS:N	2.14	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:21:ASP:C	15:J:99:LYS:HG2	2.24	0.63
15:J:66:TYR:HB2	15:J:106:GLU:OE1	1.99	0.63
19:N:66:ASN:HA	19:N:69:ALA:HB3	1.80	0.63
20:O:26:GLN:HA	20:O:63:HIS:NE2	2.13	0.63
25:T:55:ARG:NH2	29:X:2343:C:OP1	2.31	0.63
28:W:39:ALA:O	28:W:43:MET:HG2	1.99	0.63
29:X:695:G:O2'	29:X:696:U:H5'	1.99	0.63
29:X:1757:C:O2	29:X:1970:G:C2	2.51	0.63
29:X:1976:U:H2'	29:X:1977:C:H6	1.63	0.63
29:X:1991:C:H2'	29:X:1992:G:H8	1.64	0.63
29:X:2210:C:H2'	29:X:2211:U:C6	2.34	0.63
6:A:261:ARG:NH2	29:X:1790:G:H5"	2.14	0.63
6:A:262:LYS:HE2	29:X:2205:C:O2	1.99	0.63
8:C:98:GLN:HE22	29:X:611:C:C4'	2.12	0.63
9:D:29:PRO:C	9:D:169:LEU:HD22	2.24	0.63
10:E:136:ILE:HD12	10:E:136:ILE:N	2.14	0.63
12:G:128:GLU:CG	12:G:145:HIS:NE2	2.62	0.63
13:H:23:ARG:HH12	13:H:25:LEU:CB	2.12	0.63
17:L:18:ARG:HH12	29:X:2272:A:P	2.22	0.63
24:S:122:ILE:CG2	24:S:160:LEU:HD23	2.28	0.63
29:X:417:C:H1'	29:X:419:G:C8	2.34	0.63
29:X:758:G:C3'	29:X:759:C:H5"	2.29	0.63
29:X:1065:A:O2'	29:X:1066:G:H5'	1.98	0.63
29:X:1621:C:O2'	29:X:1626:A:C8	2.50	0.63
29:X:1787:U:H2'	29:X:1788:C:C6	2.33	0.63
6:A:211:ARG:HG2	6:A:211:ARG:NH1	2.13	0.62
7:B:95:ILE:HG22	7:B:96:PHE:CD2	2.33	0.62
9:D:110:ARG:HG2	9:D:110:ARG:HH21	1.64	0.62
18:M:7:ILE:O	18:M:7:ILE:HG22	1.99	0.62
23:R:32:GLN:HE21	23:R:50:GLY:HA2	1.64	0.62
29:X:431:G:H2'	29:X:432:C:C6	2.34	0.62
29:X:502:A:O2'	29:X:503:G:H5'	1.99	0.62
29:X:1071:U:H4'	29:X:1072:U:O5'	1.98	0.62
29:X:2205:C:H2'	29:X:2206:C:H5'	1.81	0.62
29:X:2721:A:H2'	29:X:2722:C:O4'	1.99	0.62
29:X:2748:C:N4	29:X:2749:A:C6	2.66	0.62
31:Z:25:G:H2'	31:Z:26:G:C5	2.34	0.62
6:A:82:ILE:CG2	6:A:91:ARG:HB3	2.28	0.62
6:A:203:ASN:OD1	6:A:204:ILE:HG13	2.00	0.62
12:G:111:LYS:HG3	12:G:111:LYS:O	1.99	0.62
15:J:28:VAL:HG21	15:J:135:ARG:HA	1.79	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:W:42:GLY:HA3	29:X:864:C:O2'	1.99	0.62
29:X:1333:G:H22	29:X:1344:C:N4	1.95	0.62
29:X:1376:C:O2'	29:X:1800:A:H1'	1.99	0.62
29:X:1422:C:H2'	29:X:1423:A:H8	1.65	0.62
29:X:2195:C:C4	29:X:2196:U:O4	2.51	0.62
29:X:2691:C:O2'	29:X:2692:A:P	2.57	0.62
29:X:2836:U:O2'	29:X:2837:G:H5'	1.98	0.62
30:Y:29:ASN:C	30:Y:29:ASN:HD22	2.06	0.62
31:Z:67:C:O2'	31:Z:68:A:H5'	2.00	0.62
6:A:90:ALA:HA	6:A:198:ASN:ND2	2.14	0.62
6:A:245:VAL:HA	6:A:251:GLY:HA2	1.81	0.62
7:B:60:ASN:CB	7:B:62:PRO:HD2	2.30	0.62
8:C:130:THR:O	8:C:133:PHE:HB3	1.99	0.62
10:E:57:ASP:O	10:E:58:ALA:HB2	1.99	0.62
12:G:44:VAL:CG1	12:G:45:ASP:N	2.63	0.62
15:J:104:MET:HE1	15:J:128:ILE:HD11	1.81	0.62
18:M:82:PRO:HD2	18:M:85:SER:HB2	1.81	0.62
22:Q:35:LYS:C	22:Q:38:ILE:HG23	2.24	0.62
29:X:649:G:N1	29:X:660:G:N1	2.47	0.62
29:X:1281:A:C1'	29:X:2592:U:H5	2.11	0.62
29:X:1917:C:O2'	29:X:1918:G:H5'	2.00	0.62
29:X:1941:C:O2'	29:X:1942:G:H5'	1.99	0.62
29:X:2415:G:N3	29:X:2577:A:H2	1.96	0.62
6:A:42:GLY:C	6:A:43:ARG:HH11	2.07	0.62
6:A:53:PHE:HA	6:A:217:ARG:HH21	1.65	0.62
6:A:210:GLY:HA2	6:A:213:ARG:HG2	1.82	0.62
8:C:129:LYS:O	8:C:130:THR:HB	1.98	0.62
9:D:41:GLY:HA2	9:D:44:LYS:O	1.99	0.62
9:D:88:LYS:HE3	29:X:2293:G:OP1	1.99	0.62
10:E:103:LEU:CD2	10:E:105:MET:HE3	2.29	0.62
12:G:67:ARG:HB3	12:G:70:PHE:HA	1.81	0.62
12:G:103:TYR:O	12:G:107:GLN:NE2	2.31	0.62
13:H:55:VAL:HG12	13:H:66:ALA:HA	1.82	0.62
14:I:58:ALA:C	14:I:59:ARG:HD2	2.25	0.62
17:L:28:ARG:HG3	17:L:43:ILE:HD13	1.82	0.62
18:M:55:ILE:O	18:M:103:LYS:O	2.18	0.62
22:Q:29:VAL:HG22	22:Q:76:LYS:O	1.98	0.62
24:S:136:VAL:HG22	24:S:152:ILE:HG23	1.81	0.62
25:T:17:ASN:O	25:T:19:LYS:HG2	1.99	0.62
29:X:67:G:H2'	29:X:68:C:H6	1.65	0.62
29:X:1278:A:O2'	29:X:1279:G:O5'	2.16	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1324:G:H1'	29:X:1326:U:C5	2.35	0.62
29:X:1724:C:H3'	29:X:1724:C:OP2	2.00	0.62
29:X:1814:G:O2'	29:X:1815:G:H5'	1.98	0.62
29:X:2404:A:H4'	29:X:2405:A:H5'	1.82	0.62
31:Z:30:C:H2'	31:Z:31:A:O4'	1.98	0.62
10:E:45:GLN:HA	10:E:50:LEU:HG	1.82	0.62
12:G:150:VAL:C	12:G:151:TYR:CD1	2.77	0.62
18:M:11:GLU:O	18:M:12:LEU:C	2.42	0.62
20:O:57:GLN:H	20:O:97:GLY:HA3	1.63	0.62
24:S:69:VAL:HG22	24:S:81:VAL:CG1	2.28	0.62
27:V:56:VAL:HA	27:V:59:GLU:OE1	1.99	0.62
29:X:780:U:H2'	29:X:781:G:H8	1.63	0.62
29:X:986:A:H2'	29:X:987:G:H5'	1.80	0.62
29:X:1682:A:H2'	29:X:1683:G:H5'	1.82	0.62
29:X:1711:C:H5"	29:X:1712:G:OP1	1.99	0.62
29:X:2395:C:H2'	29:X:2396:C:C5'	2.29	0.62
29:X:2438:A:N1	29:X:2439:U:C2	2.68	0.62
30:Y:52:TYR:O	30:Y:53:ASP:OD2	2.16	0.62
7:B:103:ASP:OD2	7:B:201:ALA:HA	2.00	0.62
8:C:148:VAL:HB	8:C:167:VAL:HA	1.82	0.62
13:H:83:ARG:HG2	18:M:40:ARG:HH22	1.62	0.62
14:I:45:LYS:HG2	14:I:46:GLY:H	1.64	0.62
17:L:42:ILE:HG22	17:L:52:ALA:H	1.64	0.62
18:M:51:GLU:HG3	18:M:51:GLU:O	1.98	0.62
20:O:65:ARG:HG3	20:O:65:ARG:NH1	2.11	0.62
23:R:18:LYS:HA	23:R:36:VAL:CG1	2.30	0.62
23:R:25:LEU:O	23:R:79:SER:O	2.18	0.62
29:X:335:A:H2'	29:X:336:A:O4'	2.00	0.62
29:X:532:A:C2	29:X:533:C:C2	2.87	0.62
29:X:1031:C:O2	29:X:1031:C:H2'	1.99	0.62
29:X:1448:A:H61	29:X:1574:A:H61	1.47	0.62
29:X:1682:A:H2'	29:X:1683:G:C5'	2.28	0.62
29:X:2194:A:H3'	29:X:2195:C:C5'	2.21	0.62
4:4:19:ARG:HA	29:X:2736:U:H5"	1.82	0.62
8:C:3:GLN:NE2	8:C:4:ILE:HG12	2.14	0.62
12:G:115:ALA:O	12:G:118:ALA:HB3	2.00	0.62
16:K:32:GLY:HA2	16:K:115:LEU:CD1	2.29	0.62
18:M:24:LEU:HB3	18:M:25:PRO:CD	2.28	0.62
19:N:66:ASN:HB3	19:N:76:TYR:H	1.64	0.62
20:O:25:LEU:CB	20:O:32:LYS:HZ3	2.11	0.62
20:O:71:ILE:HB	20:O:84:THR:OG1	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:136:VAL:HG21	24:S:152:ILE:CD1	2.30	0.62
29:X:104:C:H2'	29:X:105:G:C5'	2.21	0.62
29:X:417:C:C1'	29:X:419:G:C8	2.82	0.62
29:X:485:G:C6	29:X:520:C:N4	2.68	0.62
29:X:575:U:H4'	29:X:822:G:OP2	1.99	0.62
29:X:732:G:H8	29:X:732:G:OP2	1.82	0.62
29:X:1070:G:H2'	29:X:1071:U:C6	2.35	0.62
29:X:1265:G:C2	29:X:1266:G:N2	2.68	0.62
29:X:1987:G:C6	29:X:1988:A:C4	2.88	0.62
31:Z:114:C:O5'	31:Z:114:C:H6	1.82	0.62
4:4:10:MET:HE3	4:4:32:HIS:HA	1.81	0.62
6:A:160:GLY:HA3	29:X:1812:U:O4	2.00	0.62
8:C:12:GLY:O	8:C:14:THR:N	2.32	0.62
8:C:23:ASN:O	8:C:27:LEU:HD13	2.00	0.62
8:C:162:ARG:HG2	8:C:162:ARG:O	1.98	0.62
9:D:108:LEU:HA	9:D:111:ILE:HD11	1.81	0.62
9:D:111:ILE:HB	9:D:114:PHE:HB2	1.81	0.62
12:G:88:VAL:HG13	12:G:89:ALA:N	2.14	0.62
14:I:32:ARG:HD2	20:O:81:ARG:HD2	1.80	0.62
15:J:42:TRP:CB	15:J:95:VAL:HG11	2.29	0.62
15:J:69:ILE:HD13	15:J:104:MET:CG	2.30	0.62
26:U:19:ILE:CG2	26:U:42:GLN:HG3	2.25	0.62
29:X:208:C:C2'	29:X:209:G:H5'	2.30	0.62
29:X:829:C:O2'	29:X:830:C:O4'	2.10	0.62
29:X:1001:A:H1'	29:X:1167:A:C2	2.35	0.62
29:X:1278:A:N6	29:X:1996:A:H5"	2.14	0.62
29:X:1513:U:H5"	29:X:1514:C:OP2	2.00	0.62
29:X:2324:G:H5"	29:X:2326:C:O4'	2.00	0.62
29:X:2639:A:H2'	29:X:2640:G:O4'	1.99	0.62
29:X:2798:A:H2'	29:X:2799:C:H6	1.65	0.62
29:X:2850:U:H5'	29:X:2850:U:H6	1.64	0.62
8:C:171:PRO:O	8:C:173:ALA:N	2.32	0.62
12:G:162:LYS:HZ3	29:X:2873:G:H21	1.48	0.62
15:J:125:LYS:N	15:J:125:LYS:NZ	2.47	0.62
19:N:54:LYS:O	19:N:58:ARG:HG3	2.00	0.62
23:R:85:ASP:N	23:R:86:PRO:CD	2.61	0.62
29:X:321:A:N1	29:X:323:G:H1'	2.14	0.62
29:X:400:U:H1'	29:X:401:G:C5	2.35	0.62
29:X:608:G:O2'	29:X:609:U:H5'	1.99	0.62
29:X:957:G:O2'	29:X:958:G:H5'	2.00	0.62
29:X:1939:U:C4	29:X:1940:C:C4	2.87	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2725:C:O5'	29:X:2725:C:H6	1.83	0.62
4:4:15:LYS:HB2	4:4:26:ILE:HG13	1.80	0.62
6:A:226:MET:HE3	29:X:795:A:C2	2.35	0.62
10:E:89:LEU:HB2	10:E:129:THR:CA	2.29	0.62
15:J:36:ILE:O	15:J:130:THR:CB	2.48	0.62
16:K:79:VAL:CA	16:K:83:VAL:HG13	2.30	0.62
20:O:5:ILE:HG13	20:O:6:GLN:N	2.14	0.62
25:T:41:ARG:HH11	25:T:41:ARG:HG3	1.64	0.62
26:U:70:LEU:HD23	26:U:74:PRO:HA	1.80	0.62
29:X:175:C:H6	29:X:177:U:O4	1.82	0.62
29:X:477:A:C2'	29:X:478:G:H5'	2.30	0.62
29:X:500:G:H8	29:X:500:G:OP1	1.82	0.62
29:X:2080:U:H2'	29:X:2081:U:C6	2.34	0.62
7:B:75:THR:HG23	7:B:76:ARG:N	2.15	0.61
9:D:12:VAL:HG11	9:D:169:LEU:HD13	1.82	0.61
15:J:40:PRO:HB3	15:J:99:LYS:HZ2	1.65	0.61
20:O:68:LYS:HB2	20:O:87:ARG:HE	1.65	0.61
20:O:71:ILE:HG21	29:X:1003:C:H4'	1.80	0.61
25:T:44:LYS:O	25:T:77:ARG:HG3	2.00	0.61
26:U:49:LYS:CB	26:U:61:TRP:HA	2.29	0.61
29:X:116:A:N3	29:X:155:G:H1'	2.15	0.61
29:X:670:U:H2'	29:X:671:A:C8	2.34	0.61
29:X:1058:G:H2'	29:X:1121:G:N1	2.13	0.61
29:X:1212:U:H2'	29:X:1213:U:C6	2.34	0.61
29:X:1276:U:H1'	30:Y:10:LYS:HG3	1.82	0.61
29:X:1474:A:O2'	29:X:1475:U:H5'	1.99	0.61
29:X:1573:G:H3'	29:X:1574:A:H5"	1.81	0.61
29:X:1683:G:H2'	29:X:1684:G:C5'	2.30	0.61
6:A:210:GLY:O	6:A:213:ARG:N	2.33	0.61
10:E:143:GLN:HG2	29:X:2725:C:H1'	1.81	0.61
17:L:102:ALA:O	17:L:104:ALA:N	2.33	0.61
21:P:117:ILE:HG21	29:X:1995:G:H4'	1.81	0.61
25:T:71:ASN:HD22	25:T:77:ARG:CD	2.12	0.61
29:X:119:G:H2'	29:X:120:G:H8	1.65	0.61
29:X:2011:U:H2'	29:X:2012:A:C8	2.34	0.61
29:X:2516:U:H2'	29:X:2517:C:C6	2.35	0.61
30:Y:58:LEU:HD12	30:Y:58:LEU:N	2.14	0.61
4:4:4:ARG:HH12	29:X:2456:U:H3	1.47	0.61
7:B:119:ARG:HD3	7:B:156:MET:O	1.99	0.61
8:C:130:THR:O	8:C:134:ILE:HG13	2.00	0.61
8:C:164:VAL:O	8:C:166:TRP:N	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:81:GLN:HG2	9:D:82:GLY:N	2.14	0.61
10:E:105:MET:HB2	10:E:113:VAL:O	1.99	0.61
13:H:81:ILE:HG22	13:H:89:ILE:O	2.00	0.61
16:K:43:GLU:O	16:K:46:PRO:HD2	2.01	0.61
16:K:103:ARG:O	16:K:107:GLY:HA2	2.01	0.61
20:O:5:ILE:HG13	20:O:6:GLN:H	1.65	0.61
29:X:663:G:C3'	29:X:664:C:H5"	2.27	0.61
29:X:882:C:C2	29:X:883:A:C8	2.88	0.61
29:X:1061:A:H2'	29:X:1062:G:C5'	2.30	0.61
29:X:1467:U:H6	29:X:1468:A:H5'	1.65	0.61
29:X:1827:G:H1'	29:X:1914:U:C2	2.36	0.61
29:X:2082:C:H2'	29:X:2083:G:C5'	2.30	0.61
4:4:36:GLN:NE2	29:X:1135:C:H1'	2.15	0.61
6:A:43:ARG:N	6:A:43:ARG:HD2	2.05	0.61
7:B:162:MET:HE3	29:X:2796:A:H4'	1.81	0.61
11:F:112:MET:CG	11:F:113:PRO:HD3	2.30	0.61
12:G:123:PRO:HA	12:G:126:VAL:HG23	1.82	0.61
12:G:127:ILE:O	12:G:130:ALA:HB3	2.00	0.61
12:G:169:GLN:HB2	12:G:170:PRO:CD	2.30	0.61
15:J:79:PRO:HD2	15:J:88:LYS:CD	2.26	0.61
17:L:8:ARG:NH1	17:L:8:ARG:HB2	2.15	0.61
24:S:10:PRO:HG2	24:S:14:LEU:HD11	1.82	0.61
24:S:51:LEU:HD23	24:S:51:LEU:H	1.64	0.61
29:X:31:C:O3'	29:X:1251:G:H5'	2.00	0.61
29:X:221:A:H2'	29:X:222:G:O4'	2.00	0.61
29:X:421:G:H2'	29:X:422:C:H6	1.65	0.61
29:X:1042:G:H2'	29:X:1043:A:H8	1.64	0.61
29:X:1088:A:C2	29:X:1099:A:C2	2.88	0.61
29:X:1296:G:H22	29:X:1299:A:H5"	1.65	0.61
29:X:1365:U:H6	29:X:1365:U:O5'	1.83	0.61
29:X:2598:C:H2'	29:X:2599:U:H6	1.65	0.61
31:Z:22:U:H2'	31:Z:23:G:C8	2.35	0.61
8:C:9:GLN:O	8:C:10:ASN:HB2	2.00	0.61
8:C:162:ARG:CD	29:X:333:A:H5'	2.29	0.61
14:I:32:ARG:HH21	20:O:81:ARG:HG3	1.64	0.61
15:J:22:ALA:N	15:J:99:LYS:HG2	2.16	0.61
15:J:56:SER:O	15:J:59:PHE:N	2.32	0.61
15:J:79:PRO:O	15:J:80:ALA:HB3	2.00	0.61
16:K:106:ASP:O	16:K:108:VAL:HG23	2.01	0.61
19:N:109:LEU:O	19:N:112:ALA:HB3	2.01	0.61
21:P:85:MET:HE1	21:P:129:ALA:HA	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:25:LEU:HG	23:R:81:VAL:HG23	1.81	0.61
24:S:125:PRO:HG2	24:S:126:GLY:H	1.65	0.61
25:T:26:PHE:CE2	29:X:870:C:H1'	2.35	0.61
26:U:33:LYS:NZ	29:X:2375:G:H1'	2.15	0.61
26:U:45:ASN:O	26:U:46:LEU:HD23	2.00	0.61
28:W:45:LYS:HA	28:W:45:LYS:HE3	1.83	0.61
29:X:872:G:H22	29:X:929:A:P	2.23	0.61
29:X:1062:G:H4'	29:X:2732:C:O2'	2.01	0.61
29:X:1134:C:H2'	29:X:1135:C:C6	2.34	0.61
29:X:1278:A:O2'	29:X:1279:G:P	2.59	0.61
29:X:1599:G:N2	29:X:1600:U:H1'	2.15	0.61
29:X:1699:A:H2'	29:X:1700:C:C6	2.35	0.61
29:X:1802:A:H2'	29:X:1803:G:O4'	2.00	0.61
29:X:2226:A:O2'	29:X:2227:C:H5'	2.00	0.61
29:X:2238:G:O4'	29:X:2406:C:H2'	2.00	0.61
29:X:2817:A:O2'	29:X:2818:G:H5'	2.01	0.61
6:A:258:LYS:HZ2	6:A:261:ARG:NH2	1.99	0.61
7:B:26:VAL:O	7:B:182:ILE:HG22	2.00	0.61
7:B:123:ALA:C	7:B:124:GLY:O	2.40	0.61
12:G:131:VAL:C	12:G:133:GLY:H	2.06	0.61
14:I:63:ARG:O	14:I:64:GLY:C	2.43	0.61
17:L:33:ARG:NH2	17:L:103:LEU:HD12	2.16	0.61
18:M:101:ARG:HG2	18:M:101:ARG:NH2	2.11	0.61
29:X:322:A:H8	29:X:322:A:OP1	1.82	0.61
29:X:445:A:H2'	29:X:446:C:H6	1.65	0.61
29:X:492:G:H1'	29:X:516:G:H21	1.66	0.61
29:X:659:G:H2'	29:X:660:G:C8	2.36	0.61
29:X:718:A:H62	29:X:739:G:H1'	1.64	0.61
29:X:1174:G:H2'	29:X:1175:A:H8	1.65	0.61
29:X:2195:C:C2'	29:X:2196:U:H5'	2.30	0.61
29:X:2522:G:H5'	29:X:2522:G:H8	1.65	0.61
29:X:2585:C:H2'	29:X:2586:G:H5'	1.82	0.61
29:X:2779:C:H2'	29:X:2780:A:N9	2.16	0.61
7:B:198:LEU:HD12	7:B:198:LEU:N	2.16	0.61
10:E:54:ARG:HH11	10:E:62:ARG:HE	1.48	0.61
10:E:165:VAL:C	10:E:167:GLU:H	2.09	0.61
14:I:38:LYS:HG2	29:X:954:U:P	2.38	0.61
15:J:26:ASP:OD1	15:J:27:TYR:N	2.33	0.61
15:J:30:PHE:HB3	15:J:66:TYR:CE2	2.36	0.61
15:J:55:MET:O	15:J:56:SER:C	2.44	0.61
18:M:67:THR:HA	18:M:79:ARG:O	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:32:ARG:NH2	21:P:33:MET:HA	2.15	0.61
21:P:105:ARG:NH1	21:P:119:LYS:HZ1	1.98	0.61
22:Q:56:MET:HE1	29:X:1617:G:OP2	2.00	0.61
23:R:37:LEU:HB2	23:R:47:VAL:HG12	1.83	0.61
24:S:95:SER:HB3	24:S:119:ASN:HD21	1.66	0.61
26:U:46:LEU:O	26:U:47:HIS:ND1	2.34	0.61
29:X:701:U:H5'	29:X:1771:A:C2	2.33	0.61
29:X:1009:C:O5'	29:X:1009:C:H6	1.83	0.61
29:X:1225:G:H2'	29:X:1249:G:H22	1.65	0.61
10:E:9:ILE:HG21	10:E:50:LEU:HB3	1.81	0.61
10:E:154:PRO:HA	10:E:160:LYS:O	2.00	0.61
12:G:104:THR:CG2	29:X:2620:G:H5"	2.30	0.61
17:L:36:LYS:N	17:L:36:LYS:HD2	2.16	0.61
18:M:33:VAL:HG22	18:M:51:GLU:CB	2.31	0.61
19:N:114:ARG:C	19:N:116:ALA:H	2.08	0.61
21:P:34:SER:O	21:P:37:LYS:N	2.33	0.61
22:Q:59:PRO:O	22:Q:75:ARG:NH2	2.34	0.61
29:X:310:A:N3	29:X:330:C:O2'	2.33	0.61
29:X:1142:G:O2'	29:X:1143:A:O4'	2.19	0.61
29:X:1448:A:N6	29:X:1574:A:H61	1.99	0.61
29:X:2020:G:C6	29:X:2021:G:C6	2.89	0.61
7:B:116:VAL:HG22	7:B:136:ARG:CD	2.31	0.61
9:D:148:LYS:HG3	9:D:149:THR:N	2.16	0.61
11:F:27:LEU:HD23	11:F:57:ILE:HD12	1.83	0.61
14:I:107:LYS:HE3	29:X:647:G:O6	2.01	0.61
17:L:35:SER:C	17:L:36:LYS:HD2	2.25	0.61
22:Q:6:ILE:HG22	22:Q:7:LEU:N	2.14	0.61
25:T:38:VAL:HG21	25:T:79:ILE:HD11	1.82	0.61
29:X:697:G:C2	29:X:787:A:C2	2.89	0.61
29:X:719:A:H61	29:X:738:G:C2'	2.14	0.61
29:X:1140:A:N6	29:X:2549:G:H4'	2.16	0.61
29:X:1553:G:H2'	29:X:1554:G:C8	2.35	0.61
29:X:1670:G:O2'	29:X:1671:A:O5'	2.14	0.61
29:X:1674:C:H2'	29:X:1675:C:H6	1.64	0.61
29:X:2026:C:C2	29:X:2027:C:C5	2.88	0.61
29:X:2205:C:H2'	29:X:2206:C:C5'	2.31	0.61
7:B:115:GLY:O	7:B:119:ARG:CB	2.46	0.61
9:D:69:LYS:HE2	9:D:84:PRO:HG3	1.83	0.61
21:P:87:GLU:HA	21:P:90:LEU:HG	1.82	0.61
22:Q:35:LYS:HD3	22:Q:53:ILE:HG23	1.81	0.61
23:R:92:THR:CB	23:R:95:ARG:HH22	2.13	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:93:ARG:HH22	23:R:108:VAL:CG1	2.13	0.61
23:R:96:LYS:O	23:R:104:VAL:HG12	2.01	0.61
25:T:45:PHE:CZ	25:T:77:ARG:NH2	2.69	0.61
29:X:555:U:C6	29:X:555:U:C3'	2.84	0.61
29:X:558:G:N3	29:X:558:G:C4'	2.63	0.61
29:X:820:U:P	29:X:843:G:H21	2.24	0.61
29:X:1171:A:H2'	29:X:1172:U:C6	2.36	0.61
29:X:1317:G:O2'	29:X:1318:A:H5'	2.01	0.61
29:X:1541:G:H2'	29:X:1542:G:C8	2.35	0.61
29:X:1700:C:H2'	29:X:1701:C:H6	1.66	0.61
29:X:1995:G:O5'	29:X:1995:G:H8	1.84	0.61
29:X:2083:G:H2'	29:X:2084:G:C8	2.36	0.61
29:X:2241:U:C4	29:X:2258:G:N1	2.69	0.61
29:X:2604:G:C2	29:X:2605:C:C2	2.89	0.61
7:B:34:VAL:CG2	7:B:78:LEU:HD22	2.30	0.60
10:E:66:GLY:CA	29:X:2728:A:H4'	2.31	0.60
12:G:42:VAL:HG12	12:G:43:VAL:N	2.14	0.60
12:G:131:VAL:C	12:G:133:GLY:N	2.57	0.60
16:K:72:ASP:HB3	16:K:75:VAL:CG2	2.31	0.60
17:L:67:THR:O	17:L:70:ALA:HB3	2.00	0.60
19:N:3:ARG:HB3	29:X:457:C:H5"	1.84	0.60
24:S:51:LEU:CA	24:S:64:ALA:O	2.48	0.60
28:W:3:ILE:HD11	28:W:44:VAL:CG2	2.32	0.60
29:X:698:A:H5"	29:X:699:G:OP1	2.01	0.60
29:X:1426:U:H2'	29:X:1427:G:H5'	1.82	0.60
29:X:1476:G:C6	29:X:1477:C:C4	2.89	0.60
29:X:1681:A:H61	29:X:1979:C:N4	1.95	0.60
29:X:1868:A:H2'	29:X:1869:A:O4'	2.00	0.60
29:X:1993:G:H2'	29:X:1994:U:O5'	2.01	0.60
29:X:2226:A:H2'	29:X:2227:C:H6	1.66	0.60
7:B:154:LYS:CE	7:B:156:MET:SD	2.88	0.60
7:B:181:LEU:CD2	18:M:12:LEU:HD22	2.31	0.60
9:D:32:GLU:HB3	9:D:157:VAL:CG1	2.31	0.60
9:D:108:LEU:O	9:D:111:ILE:HG13	2.00	0.60
12:G:156:HIS:HB2	12:G:157:PRO:HD3	1.81	0.60
13:H:7:ARG:HD3	13:H:18:GLU:CD	2.26	0.60
16:K:10:LEU:O	16:K:11:ASN:OD1	2.18	0.60
24:S:64:ALA:HB2	24:S:85:MET:HE2	1.82	0.60
24:S:87:THR:O	24:S:88:TYR:HB2	2.01	0.60
26:U:31:GLY:CA	26:U:32:ARG:HH11	2.09	0.60
29:X:125:A:H5"	29:X:126:C:O4'	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1337:G:O2'	29:X:1632:A:C6	2.53	0.60
29:X:1373:G:H2'	29:X:1374:G:C5'	2.31	0.60
29:X:1525:A:H3'	29:X:1526:U:H6	1.66	0.60
29:X:2240:C:H1'	29:X:2367:A:H1'	1.82	0.60
29:X:2270:U:O2'	29:X:2353:G:H1'	2.01	0.60
29:X:2564:U:H5'	29:X:2565:C:OP1	2.01	0.60
7:B:142:GLY:C	7:B:143:GLN:NE2	2.60	0.60
7:B:195:LEU:HB3	18:M:2:GLN:HG2	1.83	0.60
8:C:56:ARG:HD3	8:C:71:ASP:OD2	2.01	0.60
9:D:135:GLN:HG3	9:D:151:GLY:CA	2.26	0.60
14:I:30:ALA:H	14:I:34:HIS:CD2	2.19	0.60
14:I:38:LYS:HA	29:X:953:G:H5"	1.84	0.60
16:K:7:GLY:O	16:K:8:ARG:HG2	2.01	0.60
17:L:13:THR:HB	29:X:2313:G:H1'	1.83	0.60
17:L:42:ILE:HD11	17:L:87:VAL:CG1	2.31	0.60
18:M:63:ARG:HB2	18:M:63:ARG:NH1	2.16	0.60
18:M:82:PRO:HD2	18:M:85:SER:CB	2.32	0.60
22:Q:40:ASP:O	22:Q:42:ILE:N	2.34	0.60
26:U:31:GLY:O	26:U:32:ARG:O	2.19	0.60
29:X:538:A:H3'	29:X:538:A:N3	2.16	0.60
29:X:657:A:H2'	29:X:658:G:O4'	2.01	0.60
29:X:793:G:N2	29:X:796:A:H62	1.91	0.60
29:X:879:A:H2'	29:X:879:A:N3	2.16	0.60
29:X:1271:C:O2'	29:X:1272:G:H5'	2.01	0.60
29:X:1442:C:C5	29:X:1585:A:H5"	2.37	0.60
29:X:1525:A:H3'	29:X:1526:U:C6	2.36	0.60
29:X:1745:C:N3	29:X:2696:A:O2'	2.34	0.60
29:X:1888:C:H2'	29:X:1913:G:N7	2.16	0.60
29:X:2299:A:H2'	29:X:2299:A:N3	2.16	0.60
29:X:2324:G:O2'	29:X:2325:A:OP2	2.19	0.60
29:X:2576:G:H2'	29:X:2577:A:C8	2.36	0.60
30:Y:46:CYS:C	30:Y:48:ASN:H	2.09	0.60
31:Z:42:U:H1'	31:Z:47:A:N6	2.16	0.60
6:A:261:ARG:HH22	29:X:1790:G:H5"	1.66	0.60
6:A:271:VAL:HG12	6:A:272:THR:HG23	1.84	0.60
8:C:127:ASP:HB2	8:C:129:LYS:HG2	1.83	0.60
12:G:61:ARG:HH21	12:G:61:ARG:CB	2.10	0.60
14:I:65:PHE:HB3	29:X:642:A:O2'	2.02	0.60
15:J:11:ARG:HH21	29:X:920:G:H21	1.49	0.60
15:J:99:LYS:CG	15:J:100:PRO:HD2	2.31	0.60
15:J:119:PHE:CD1	15:J:132:MET:SD	2.94	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:82:GLU:C	16:K:85:PRO:HD2	2.26	0.60
21:P:49:SER:O	21:P:52:ASP:N	2.34	0.60
22:Q:12:ILE:CG1	22:Q:13:SER:N	2.45	0.60
23:R:60:PRO:C	23:R:62:MET:H	2.09	0.60
24:S:19:ILE:HB	24:S:34:LEU:HD12	1.82	0.60
25:T:43:THR:N	29:X:2310:G:H4'	2.15	0.60
25:T:56:ASP:OD1	29:X:2343:C:H4'	2.01	0.60
29:X:445:A:H2'	29:X:446:C:C6	2.36	0.60
29:X:1714:A:H1'	29:X:1961:A:OP1	2.01	0.60
29:X:1850:G:O2'	29:X:1851:A:O4'	2.20	0.60
29:X:2436:U:O2	29:X:2474:G:C2	2.54	0.60
29:X:2691:C:O2'	29:X:2692:A:H8	1.83	0.60
29:X:2700:U:H5'	29:X:2700:U:H6	1.66	0.60
29:X:2784:A:C2	29:X:2866:A:C4	2.90	0.60
4:4:17:VAL:HG12	4:4:18:ARG:N	2.16	0.60
6:A:46:ARG:HD3	6:A:46:ARG:C	2.27	0.60
13:H:10:VAL:CG2	13:H:17:ARG:C	2.75	0.60
14:I:53:ARG:HG3	14:I:53:ARG:HH21	1.66	0.60
15:J:36:ILE:HD12	15:J:133:VAL:HG11	1.82	0.60
15:J:80:ALA:O	15:J:81:GLU:HB3	2.02	0.60
18:M:55:ILE:HA	18:M:104:LEU:HD12	1.82	0.60
20:O:20:ILE:HD12	20:O:21:ARG:H	1.67	0.60
25:T:52:GLY:N	25:T:62:LEU:HD21	2.17	0.60
28:W:36:ASP:CG	28:W:41:ARG:HH12	2.08	0.60
29:X:48:A:O2'	29:X:49:U:OP2	2.19	0.60
29:X:774:A:O5'	29:X:774:A:C8	2.55	0.60
29:X:1034:U:C2'	29:X:1035:G:H5'	2.29	0.60
29:X:2171:U:H4'	29:X:2171:U:OP1	2.01	0.60
29:X:2522:G:H21	29:X:2625:U:H5"	1.66	0.60
29:X:2861:A:H2'	29:X:2862:G:C8	2.37	0.60
31:Z:6:C:H2'	31:Z:7:C:H6	1.65	0.60
7:B:144:ARG:HG2	7:B:145:LYS:H	1.65	0.60
8:C:107:ALA:HB1	8:C:180:ILE:HD13	1.83	0.60
9:D:30:ARG:O	9:D:158:THR:HB	2.01	0.60
9:D:135:GLN:HA	9:D:138:PHE:CE1	2.37	0.60
12:G:104:THR:OG1	12:G:110:LEU:CD1	2.48	0.60
15:J:76:THR:HA	15:J:89:GLY:O	2.01	0.60
17:L:95:LYS:HB3	17:L:95:LYS:HZ3	1.65	0.60
23:R:16:PHE:HB3	23:R:82:ALA:HB1	1.82	0.60
24:S:91:PRO:C	24:S:92:VAL:HG22	2.27	0.60
24:S:106:GLY:HA2	24:S:109:GLN:OE1	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:48:A:OP1	29:X:50:G:H5'	2.02	0.60
29:X:322:A:O2'	29:X:343:A:C4'	2.50	0.60
29:X:486:U:H4'	29:X:519:C:H2'	1.84	0.60
29:X:683:A:O2'	29:X:684:C:O5'	2.20	0.60
29:X:736:G:H2'	29:X:737:C:O4'	2.01	0.60
29:X:939:C:H4'	29:X:940:G:OP2	2.00	0.60
29:X:1026:U:O2'	29:X:1027:C:H5'	2.02	0.60
29:X:1095:A:C2'	29:X:1096:A:H5"	2.30	0.60
29:X:1102:G:O2'	29:X:1103:C:H5'	2.01	0.60
29:X:1439:G:H2'	29:X:1440:G:C8	2.37	0.60
29:X:1763:G:N2	29:X:1765:C:H5"	2.17	0.60
29:X:2222:U:H2'	29:X:2223:U:H6	1.64	0.60
29:X:2237:C:O2'	29:X:2238:G:OP1	2.15	0.60
29:X:2426:G:H3'	29:X:2479:U:OP2	2.01	0.60
31:Z:54:U:H2'	31:Z:55:C:O4'	2.02	0.60
6:A:182:LEU:HD12	6:A:269:PHE:HD2	1.67	0.60
6:A:244:ARG:HD2	29:X:1885:C:C5'	2.32	0.60
10:E:84:THR:HA	10:E:134:SER:HA	1.83	0.60
12:G:89:ALA:C	12:G:90:LEU:HD12	2.26	0.60
14:I:11:GLY:N	14:I:14:LYS:HB3	2.15	0.60
17:L:42:ILE:CG2	17:L:52:ALA:H	2.15	0.60
24:S:20:ALA:HA	24:S:33:ALA:HA	1.84	0.60
24:S:100:THR:CG2	24:S:138:VAL:HG11	2.31	0.60
24:S:112:LEU:HD12	24:S:113:VAL:H	1.66	0.60
29:X:222:G:O2'	29:X:223:C:H5'	2.01	0.60
29:X:310:A:H2	29:X:331:U:C4'	2.14	0.60
29:X:624:A:H5'	29:X:624:A:N3	2.16	0.60
29:X:1107:A:H3'	29:X:1108:U:C5'	2.29	0.60
29:X:1753:A:H8	29:X:1753:A:O5'	1.84	0.60
29:X:1793:A:H2'	29:X:1794:A:C8	2.36	0.60
29:X:1939:U:H1'	29:X:2531:U:OP1	2.01	0.60
29:X:2022:C:H2'	29:X:2023:C:H6	1.67	0.60
29:X:2426:G:C2	29:X:2480:C:N4	2.70	0.60
29:X:2630:C:O2'	29:X:2631:C:H5'	2.01	0.60
29:X:2764:U:H2'	29:X:2765:C:H6	1.65	0.60
30:Y:12:SER:C	30:Y:14:SER:N	2.53	0.60
30:Y:46:CYS:C	30:Y:48:ASN:N	2.58	0.60
4:4:31:LYS:H	4:4:31:LYS:HD2	1.67	0.60
6:A:254:THR:HB	29:X:1835:C:O2'	2.01	0.60
11:F:79:ARG:HB3	11:F:84:ILE:O	2.02	0.60
12:G:70:PHE:HB2	19:N:64:ARG:HG2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:70:VAL:HG22	13:H:71:LYS:O	2.02	0.60
17:L:85:LYS:HG2	17:L:86:GLN:HE21	1.67	0.60
18:M:34:ARG:CZ	18:M:66:PHE:CZ	2.84	0.60
21:P:77:ALA:C	21:P:78:ASN:ND2	2.59	0.60
23:R:25:LEU:C	23:R:25:LEU:HD22	2.26	0.60
29:X:415:A:C2'	29:X:416:U:H5'	2.31	0.60
29:X:543:G:C5	29:X:544:U:C4	2.90	0.60
29:X:577:U:C5'	29:X:956:A:H62	2.12	0.60
29:X:1050:G:H2'	29:X:1051:U:C5'	2.32	0.60
29:X:1230:C:O2'	29:X:1231:A:H5'	2.01	0.60
29:X:1369:G:N2	29:X:1370:U:H1'	2.17	0.60
29:X:1608:U:H2'	29:X:1609:G:C8	2.37	0.60
29:X:2169:A:H2'	29:X:2170:C:C6	2.37	0.60
29:X:2309:G:C2'	29:X:2310:G:H5'	2.32	0.60
29:X:2397:A:H2'	29:X:2398:U:C6	2.37	0.60
29:X:2656:G:C2	29:X:2711:G:C2	2.90	0.60
31:Z:15:A:O2'	31:Z:17:A:H5"	2.01	0.60
7:B:7:THR:N	7:B:27:LEU:O	2.32	0.60
10:E:54:ARG:HG2	10:E:54:ARG:HH21	1.67	0.60
12:G:104:THR:HB	29:X:2620:G:H5"	1.82	0.60
15:J:6:LYS:HG2	15:J:7:ARG:HG2	1.84	0.60
15:J:69:ILE:HG21	15:J:104:MET:HA	1.84	0.60
19:N:10:ARG:O	19:N:11:ARG:C	2.45	0.60
19:N:81:ASN:O	19:N:85:ARG:HD3	2.02	0.60
24:S:105:GLN:HG3	24:S:139:THR:CG2	2.31	0.60
25:T:71:ASN:HB2	25:T:77:ARG:HH11	1.66	0.60
29:X:357:A:H2'	29:X:358:C:H5'	1.84	0.60
29:X:767:G:O2'	29:X:768:U:H5'	2.02	0.60
29:X:1596:A:H2'	29:X:1597:A:O4'	2.01	0.60
29:X:1775:A:O5'	29:X:1775:A:C8	2.55	0.60
29:X:2043:A:H1'	29:X:2481:G:O4'	2.02	0.60
29:X:2194:A:C3'	29:X:2195:C:C5'	2.71	0.60
29:X:2358:C:C4	29:X:2359:U:C4	2.89	0.60
29:X:2427:A:O2'	29:X:2428:U:OP1	2.18	0.60
29:X:2448:A:N6	29:X:2460:G:H1'	2.17	0.60
29:X:2728:A:H2'	29:X:2729:A:C8	2.37	0.60
30:Y:35:GLN:O	30:Y:37:HIS:N	2.34	0.60
1:1:39:LYS:CA	29:X:2323:U:H5'	2.31	0.60
7:B:201:ALA:CB	7:B:204:ALA:HB2	2.31	0.60
9:D:171:GLN:HA	9:D:175:LEU:HB3	1.83	0.60
19:N:93:LYS:O	19:N:94:VAL:HG23	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:14:VAL:O	20:O:15:SER:CB	2.50	0.60
22:Q:35:LYS:HD3	22:Q:53:ILE:CG2	2.32	0.60
23:R:25:LEU:CD1	23:R:81:VAL:HG23	2.32	0.60
29:X:865:A:H61	29:X:937:C:N4	2.00	0.60
29:X:1445:A:H2'	29:X:1446:U:O4'	2.02	0.60
29:X:1705:U:O2	29:X:1717:A:H5"	2.02	0.60
29:X:2665:G:C2	29:X:2704:U:O2	2.55	0.60
29:X:2742:G:O2'	29:X:2743:G:H5'	2.02	0.60
4:4:25:VAL:HB	4:4:34:GLN:HB2	1.82	0.59
6:A:173:VAL:HG23	6:A:187:SER:HB3	1.82	0.59
8:C:104:LEU:CD2	8:C:104:LEU:H	2.15	0.59
10:E:71:LEU:HA	10:E:74:ASN:HD22	1.67	0.59
11:F:2:LYS:HD3	11:F:2:LYS:H	1.67	0.59
13:H:116:ARG:NH1	18:M:38:LYS:CE	2.65	0.59
21:P:49:SER:HB3	21:P:52:ASP:CG	2.27	0.59
22:Q:34:THR:O	22:Q:38:ILE:HG22	2.02	0.59
22:Q:48:VAL:HG21	22:Q:82:LEU:HD13	1.84	0.59
24:S:123:VAL:HG23	24:S:161:ALA:CA	2.32	0.59
27:V:44:ARG:O	27:V:47:ARG:HB2	2.00	0.59
29:X:731:A:C3'	29:X:732:G:O4'	2.49	0.59
29:X:732:G:H8	29:X:732:G:O5'	1.85	0.59
29:X:981:C:N4	29:X:982:C:N4	2.49	0.59
29:X:1107:A:C3'	29:X:1108:U:H5"	2.29	0.59
29:X:1570:C:H5'	29:X:1571:G:OP2	2.01	0.59
29:X:1684:G:N2	29:X:1977:C:N4	2.50	0.59
29:X:1974:U:H2'	29:X:1975:G:C5'	2.32	0.59
29:X:2065:A:H3'	29:X:2066:G:H8	1.65	0.59
6:A:160:GLY:H	6:A:196:VAL:HG23	1.65	0.59
6:A:240:THR:HG21	29:X:2577:A:OP1	2.02	0.59
7:B:154:LYS:HE3	7:B:156:MET:SD	2.42	0.59
9:D:16:LEU:O	9:D:20:PHE:HD1	1.85	0.59
9:D:26:MET:HE1	31:Z:33:C:C4'	2.32	0.59
9:D:29:PRO:HG2	9:D:165:GLU:HB3	1.83	0.59
9:D:57:LEU:HA	9:D:60:ILE:HD11	1.84	0.59
11:F:98:LYS:HZ3	11:F:139:GLU:HB2	1.68	0.59
12:G:116:ARG:HE	12:G:126:VAL:CG1	2.07	0.59
12:G:124:GLU:HG3	12:G:152:ALA:HB2	1.85	0.59
13:H:1:MET:N	29:X:1682:A:H1'	2.17	0.59
13:H:11:ALA:O	13:H:110:VAL:HG13	2.01	0.59
13:H:76:ARG:O	13:H:94:ASN:HA	2.02	0.59
15:J:76:THR:HB	15:J:88:LYS:O	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:131:LYS:HD2	24:S:76:ARG:HH22	1.64	0.59
17:L:27:LEU:O	17:L:88:VAL:N	2.36	0.59
17:L:33:ARG:N	17:L:94:TYR:HE1	1.99	0.59
29:X:50:G:H1'	29:X:116:A:N6	2.17	0.59
29:X:73:A:H5"	29:X:74:G:O4'	2.03	0.59
29:X:133:C:H2'	29:X:134:G:H5'	1.84	0.59
29:X:683:A:H4'	29:X:684:C:H5'	1.85	0.59
29:X:690:A:N1	29:X:815:A:C5	2.70	0.59
29:X:1486:A:H2'	29:X:1487:C:C6	2.37	0.59
29:X:1541:G:H2'	29:X:1542:G:H8	1.66	0.59
29:X:1556:A:H2'	29:X:1557:G:H8	1.67	0.59
29:X:1603:A:H2'	29:X:1604:A:C8	2.38	0.59
29:X:2578:G:C2	29:X:2579:A:C8	2.90	0.59
30:Y:20:ARG:C	30:Y:22:HIS:H	2.08	0.59
31:Z:52:G:N2	31:Z:53:G:H1'	2.16	0.59
7:B:26:VAL:HB	7:B:182:ILE:CG2	2.32	0.59
7:B:63:MET:O	7:B:64:GLN:C	2.45	0.59
7:B:93:VAL:C	7:B:95:ILE:H	2.10	0.59
9:D:114:PHE:HZ	9:D:176:PRO:CG	2.14	0.59
9:D:114:PHE:HZ	9:D:176:PRO:HG3	1.67	0.59
12:G:154:GLU:O	12:G:157:PRO:HD2	2.02	0.59
13:H:55:VAL:HG11	13:H:65:LYS:O	2.02	0.59
15:J:28:VAL:HG23	15:J:137:VAL:CG2	2.32	0.59
19:N:4:ALA:O	19:N:5:LYS:O	2.20	0.59
20:O:49:GLU:C	20:O:51:ALA:H	2.09	0.59
21:P:33:MET:CE	21:P:37:LYS:NZ	2.65	0.59
21:P:47:GLY:O	21:P:48:LYS:HB3	2.02	0.59
29:X:165:G:H1'	29:X:1378:A:N1	2.17	0.59
29:X:633:G:C5	29:X:634:G:N7	2.70	0.59
29:X:1163:C:H2'	29:X:1164:C:H6	1.67	0.59
29:X:1920:A:C6	29:X:1922:U:C5	2.90	0.59
29:X:2669:C:N4	29:X:2693:U:O2'	2.35	0.59
29:X:2756:A:H4'	29:X:2757:G:O5'	2.02	0.59
6:A:54:ILE:HD12	6:A:216:GLY:HA2	1.83	0.59
6:A:172:TYR:CE1	6:A:186:HIS:HB3	2.37	0.59
6:A:186:HIS:CE1	29:X:2201:G:H4'	2.37	0.59
7:B:134:TRP:O	7:B:135:HIS:C	2.44	0.59
7:B:154:LYS:NZ	7:B:156:MET:CE	2.66	0.59
7:B:164:ARG:O	29:X:2753:C:H5"	2.03	0.59
8:C:58:MET:HE3	8:C:71:ASP:O	2.01	0.59
9:D:9:ASN:O	9:D:14:PRO:HD2	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:125:ARG:HG3	29:X:2294:U:O2'	2.02	0.59
10:E:97:LYS:HD2	10:E:104:GLU:OE1	2.03	0.59
12:G:39:GLN:HG3	12:G:39:GLN:O	2.01	0.59
23:R:23:ILE:HD12	23:R:23:ILE:O	2.03	0.59
24:S:73:LYS:O	24:S:75:LYS:N	2.33	0.59
25:T:18:PRO:C	25:T:19:LYS:HG2	2.28	0.59
27:V:32:ALA:CB	27:V:37:LEU:HD12	2.32	0.59
29:X:192:G:H1'	29:X:193:A:H4'	1.83	0.59
29:X:403:A:H4'	29:X:404:A:O5'	2.02	0.59
29:X:1068:A:C8	29:X:1097:A:H2'	2.37	0.59
29:X:1682:A:O2'	29:X:1683:G:H5'	2.01	0.59
29:X:1854:G:C6	29:X:1864:G:C6	2.90	0.59
29:X:2864:C:O2'	29:X:2865:G:H5'	2.01	0.59
30:Y:4:HIS:CB	30:Y:5:PRO:HD3	2.27	0.59
8:C:5:ASN:HD22	8:C:5:ASN:N	1.97	0.59
9:D:108:LEU:HD23	9:D:111:ILE:CD1	2.32	0.59
10:E:147:ASN:HA	10:E:150:LYS:HD2	1.84	0.59
11:F:131:ALA:HB1	11:F:136:VAL:HG23	1.82	0.59
19:N:93:LYS:O	19:N:94:VAL:CB	2.50	0.59
27:V:41:HIS:CD2	27:V:42:ARG:N	2.70	0.59
29:X:102:C:O2'	29:X:103:U:H5'	2.02	0.59
29:X:210:A:H61	29:X:441:A:H62	1.51	0.59
29:X:497:C:H5'	29:X:497:C:C6	2.35	0.59
29:X:591:G:C2'	29:X:592:G:C8	2.81	0.59
29:X:792:U:O2'	29:X:793:G:H5'	2.02	0.59
29:X:983:G:N1	29:X:984:A:N6	2.51	0.59
29:X:1474:A:H4'	29:X:1475:U:O5'	2.01	0.59
29:X:1693:A:N3	29:X:1976:U:H5'	2.17	0.59
29:X:1856:U:O2'	29:X:1857:G:O5'	2.21	0.59
29:X:2560:G:C4	29:X:2589:C:C4	2.90	0.59
6:A:132:PRO:O	6:A:136:VAL:HG23	2.02	0.59
8:C:61:GLN:HE21	8:C:61:GLN:HA	1.66	0.59
9:D:13:ARG:CG	9:D:17:MET:HE1	2.32	0.59
9:D:29:PRO:O	9:D:169:LEU:HD22	2.03	0.59
9:D:72:LYS:HA	9:D:81:GLN:C	2.28	0.59
10:E:98:LEU:HD12	10:E:99:THR:H	1.67	0.59
12:G:149:LYS:HZ3	29:X:7:G:H5'	1.68	0.59
16:K:28:LEU:O	16:K:28:LEU:CD2	2.46	0.59
18:M:82:PRO:C	18:M:84:ALA:N	2.58	0.59
19:N:89:ASP:O	19:N:90:LEU:HG	2.03	0.59
23:R:18:LYS:HA	23:R:36:VAL:HG11	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:33:LYS:HZ2	29:X:2400:G:N2	1.99	0.59
29:X:341:A:C8	29:X:341:A:H3'	2.38	0.59
29:X:640:C:H4'	29:X:660:G:H21	1.68	0.59
29:X:826:U:H2'	29:X:827:C:H6	1.66	0.59
29:X:914:C:O2'	29:X:915:C:H5'	2.03	0.59
29:X:1579:G:O2'	29:X:1580:C:H5'	2.02	0.59
29:X:2046:C:O2	29:X:2430:A:C2	2.56	0.59
29:X:2309:G:H2'	29:X:2310:G:H5'	1.85	0.59
29:X:2322:U:H2'	29:X:2323:U:C6	2.37	0.59
29:X:2484:G:HO2'	29:X:2485:U:H6	1.51	0.59
7:B:141:ILE:HG13	29:X:2034:A:H4'	1.84	0.59
7:B:147:PRO:O	7:B:149:ARG:N	2.28	0.59
11:F:74:MET:HE1	11:F:107:ILE:HA	1.85	0.59
12:G:141:GLY:HA2	12:G:144:MET:HE3	1.85	0.59
12:G:151:TYR:CE2	12:G:160:ALA:HB3	2.38	0.59
16:K:10:LEU:HD23	16:K:17:ARG:CB	2.33	0.59
18:M:46:ARG:HG3	18:M:47:SER:N	2.17	0.59
21:P:49:SER:C	21:P:51:GLN:N	2.58	0.59
24:S:113:VAL:HG22	24:S:171:VAL:HG22	1.84	0.59
27:V:37:LEU:CD1	29:X:60:A:H4'	2.33	0.59
29:X:490:A:O2'	29:X:491:A:C5'	2.50	0.59
29:X:1173:G:H2'	29:X:1174:G:H8	1.67	0.59
29:X:1419:G:H2'	29:X:1420:A:H8	1.67	0.59
29:X:1661:C:O2'	29:X:1662:G:H5'	2.03	0.59
29:X:1715:A:H4'	29:X:1716:G:O5'	2.02	0.59
29:X:2424:G:O2'	29:X:2425:G:H5'	2.02	0.59
29:X:2522:G:N3	29:X:2745:A:H2'	2.18	0.59
29:X:2673:G:C6	29:X:2696:A:N1	2.71	0.59
29:X:2820:C:O2'	29:X:2821:G:H5'	2.02	0.59
31:Z:16:U:C1'	31:Z:109:G:H21	2.13	0.59
9:D:12:VAL:O	9:D:16:LEU:HG	2.02	0.59
12:G:102:ARG:NH2	12:G:112:THR:HG21	2.17	0.59
13:H:40:GLY:HA3	29:X:2545:A:H61	1.67	0.59
14:I:13:ARG:HH11	29:X:1218:C:C4'	2.16	0.59
14:I:76:LYS:CG	14:I:111:SER:HB2	2.33	0.59
18:M:73:PHE:O	18:M:75:GLU:N	2.35	0.59
21:P:66:GLU:O	21:P:67:PRO:C	2.46	0.59
23:R:91:ALA:O	23:R:92:THR:CG2	2.50	0.59
23:R:93:ARG:NH1	23:R:93:ARG:HG2	2.17	0.59
24:S:70:GLN:O	24:S:79:ILE:HG22	2.02	0.59
26:U:52:ARG:HE	26:U:79:GLU:HB3	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:751:G:C6	29:X:752:G:C2	2.90	0.59
29:X:784:U:H2'	29:X:785:U:C6	2.38	0.59
29:X:981:C:O5'	29:X:981:C:H6	1.86	0.59
29:X:1099:A:H4'	29:X:1100:G:H8	1.68	0.59
29:X:1151:U:H5"	29:X:1153:A:H5'	1.83	0.59
29:X:2194:A:H2'	29:X:2195:C:H5"	1.85	0.59
29:X:2426:G:C4	29:X:2480:C:C5	2.90	0.59
29:X:2457:A:O4'	29:X:2507:U:H4'	2.03	0.59
29:X:2485:U:O2'	29:X:2486:C:H5'	2.03	0.59
31:Z:26:G:H5"	31:Z:27:A:OP1	2.02	0.59
31:Z:58:G:H4'	31:Z:59:A:H5"	1.85	0.59
7:B:78:LEU:O	7:B:79:ARG:HD3	2.03	0.59
7:B:161:GLY:O	7:B:163:GLU:HG3	2.03	0.59
9:D:38:GLU:OE1	9:D:152:MET:HB3	2.03	0.59
10:E:27:LYS:HG2	10:E:32:GLU:CB	2.32	0.59
13:H:28:GLY:HA3	13:H:35:THR:OG1	2.02	0.59
17:L:102:ALA:C	17:L:104:ALA:N	2.58	0.59
18:M:32:THR:O	18:M:51:GLU:HB2	2.03	0.59
23:R:84:VAL:HA	23:R:90:LYS:HD3	1.85	0.59
29:X:731:A:H3'	29:X:732:G:O4'	2.02	0.59
29:X:802:A:H4'	29:X:803:C:OP1	2.00	0.59
29:X:1053:G:C5	29:X:1054:C:C5	2.90	0.59
29:X:1055:A:C4	29:X:1055:A:H3'	2.38	0.59
29:X:1326:U:H2'	29:X:1626:A:C2	2.38	0.59
29:X:1672:A:H3'	29:X:1673:C:C6	2.38	0.59
29:X:2558:C:H2'	29:X:2559:U:C6	2.36	0.59
29:X:2602:G:C2	29:X:2603:G:C8	2.90	0.59
29:X:2635:U:N3	29:X:2644:A:N7	2.50	0.59
6:A:208:LYS:HE2	29:X:1782:A:N3	2.17	0.59
7:B:34:VAL:HG12	7:B:72:VAL:HG11	1.83	0.59
8:C:175:VAL:HG23	8:C:176:ASN:N	2.18	0.59
17:L:20:THR:CG2	17:L:23:ALA:HB3	2.32	0.59
21:P:10:ASN:OD1	21:P:13:GLN:HG2	2.03	0.59
21:P:32:ARG:C	21:P:32:ARG:HE	2.10	0.59
21:P:33:MET:HE2	21:P:37:LYS:HZ3	1.68	0.59
21:P:49:SER:HB3	21:P:52:ASP:OD2	2.03	0.59
25:T:25:LYS:HB2	25:T:37:LEU:HG	1.84	0.59
25:T:72:LYS:HD3	31:Z:14:C:C5'	2.33	0.59
26:U:32:ARG:HG2	26:U:34:THR:N	2.17	0.59
29:X:409:G:O2'	29:X:410:A:H5'	2.03	0.59
29:X:588:G:O2'	29:X:2002:A:OP1	2.17	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:839:U:OP1	29:X:2408:G:OP2	2.21	0.59
29:X:871:U:C2'	29:X:2247:A:H2'	2.32	0.59
29:X:1367:A:C8	29:X:1368:G:C8	2.90	0.59
29:X:1371:G:H1'	29:X:1387:G:H1	1.66	0.59
29:X:1710:U:O4	29:X:1960:A:C8	2.56	0.59
29:X:2194:A:H2'	29:X:2195:C:C4'	2.32	0.59
29:X:2690:A:C8	29:X:2694:G:O4'	2.56	0.59
31:Z:43:G:H5'	31:Z:44:C:C5'	2.14	0.59
6:A:172:TYR:HA	6:A:186:HIS:HA	1.84	0.58
6:A:208:LYS:HE3	6:A:208:LYS:HA	1.84	0.58
11:F:42:ASN:HA	11:F:45:THR:OG1	2.02	0.58
14:I:18:ARG:HD2	14:I:21:ARG:CD	2.32	0.58
14:I:63:ARG:O	14:I:64:GLY:O	2.21	0.58
16:K:27:ALA:C	16:K:29:LEU:H	2.11	0.58
16:K:59:ASP:O	16:K:60:LEU:C	2.46	0.58
18:M:8:ASN:OD1	29:X:2850:U:O2'	2.21	0.58
18:M:106:TYR:CD1	18:M:107:LEU:N	2.70	0.58
20:O:57:GLN:HE21	20:O:98:ILE:HG13	1.67	0.58
22:Q:7:LEU:HD23	27:V:30:PHE:HE2	1.67	0.58
27:V:7:ARG:HD2	27:V:8:ASN:N	2.18	0.58
28:W:22:ALA:CB	28:W:43:MET:HE1	2.33	0.58
28:W:35:SER:HB3	28:W:40:VAL:HG21	1.85	0.58
29:X:13:A:C2	29:X:535:U:C2	2.90	0.58
29:X:759:C:OP1	29:X:759:C:H4'	2.02	0.58
29:X:973:U:OP1	29:X:973:U:H3'	2.03	0.58
29:X:1336:G:O2'	29:X:1337:G:H5'	2.03	0.58
29:X:1339:U:C5	29:X:1664:G:O2'	2.56	0.58
29:X:1979:C:H2'	29:X:1980:A:O4'	2.02	0.58
29:X:2038:C:H2'	29:X:2483:U:C4'	2.33	0.58
29:X:2447:G:O2'	29:X:2448:A:H8	1.84	0.58
29:X:2448:A:H2'	29:X:2449:G:O4'	2.03	0.58
29:X:2625:U:H6	29:X:2625:U:P	2.26	0.58
29:X:2703:C:O5'	29:X:2703:C:H6	1.84	0.58
6:A:244:ARG:HD3	6:A:244:ARG:N	2.17	0.58
7:B:61:LYS:HB3	7:B:62:PRO:HD3	1.83	0.58
9:D:3:GLN:O	9:D:4:LEU:HB3	2.03	0.58
9:D:70:ALA:C	9:D:72:LYS:H	2.10	0.58
12:G:62:ILE:HG13	12:G:80:VAL:HG21	1.84	0.58
15:J:15:ARG:HD3	15:J:73:LYS:HG3	1.82	0.58
15:J:125:LYS:HB2	29:X:2463:G:O2'	2.02	0.58
19:N:47:TYR:HA	19:N:50:ARG:NH1	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:17:GLY:HA2	20:O:94:LYS:HA	1.85	0.58
21:P:14:ARG:HA	21:P:17:GLN:HG2	1.84	0.58
21:P:28:ALA:HB2	21:P:71:VAL:HG22	1.85	0.58
21:P:75:ALA:O	21:P:128:VAL:HG21	2.04	0.58
23:R:29:HIS:CD2	23:R:51:VAL:HG22	2.38	0.58
24:S:105:GLN:HG3	24:S:139:THR:HG22	1.84	0.58
29:X:965:G:O2'	29:X:2253:A:N1	2.34	0.58
29:X:1926:U:C6	29:X:1928:G:H5'	2.38	0.58
29:X:2198:U:C2'	29:X:2199:C:O4'	2.44	0.58
29:X:2871:U:H2'	29:X:2872:U:C6	2.39	0.58
6:A:33:LEU:N	6:A:83:GLU:OE2	2.35	0.58
7:B:33:ILE:HD12	7:B:88:GLY:O	2.03	0.58
8:C:128:ALA:HB2	8:C:159:ARG:NE	2.19	0.58
12:G:57:LEU:CD2	12:G:170:PRO:HA	2.33	0.58
12:G:113:GLU:CD	12:G:113:GLU:H	2.11	0.58
15:J:23:LYS:HD3	29:X:876:A:P	2.43	0.58
19:N:31:GLN:NE2	29:X:589:C:H4'	2.17	0.58
19:N:66:ASN:CB	19:N:76:TYR:HB2	2.31	0.58
20:O:27:GLY:C	20:O:28:GLU:HG3	2.27	0.58
23:R:22:VAL:HG13	23:R:81:VAL:O	2.03	0.58
23:R:38:LEU:HB2	23:R:47:VAL:CB	2.28	0.58
29:X:180:C:O5'	29:X:180:C:H6	1.85	0.58
29:X:341:A:H3'	29:X:341:A:H8	1.68	0.58
29:X:768:U:H2'	29:X:769:C:H6	1.68	0.58
29:X:861:G:H1'	29:X:944:A:N3	2.19	0.58
29:X:872:G:N2	29:X:929:A:O5'	2.36	0.58
29:X:1147:G:H2'	29:X:1148:G:H8	1.68	0.58
29:X:1187:A:H2'	29:X:1188:A:O4'	2.02	0.58
29:X:1467:U:C6	29:X:1468:A:H5'	2.37	0.58
29:X:1583:A:H8	29:X:1583:A:OP2	1.86	0.58
31:Z:18:G:O2'	31:Z:19:C:H5'	2.03	0.58
31:Z:95:U:H2'	31:Z:96:C:C6	2.39	0.58
12:G:61:ARG:HG2	12:G:65:LYS:CD	2.30	0.58
12:G:61:ARG:NE	12:G:65:LYS:HD2	2.17	0.58
14:I:129:ALA:O	14:I:133:VAL:HG23	2.04	0.58
15:J:17:ARG:O	15:J:18:MET:HB2	2.01	0.58
15:J:34:GLY:O	15:J:133:VAL:HG22	2.04	0.58
17:L:102:ALA:O	17:L:103:LEU:C	2.46	0.58
19:N:74:MET:SD	19:N:110:VAL:HG13	2.44	0.58
27:V:52:GLN:C	27:V:54:ASN:H	2.10	0.58
29:X:152:G:O2'	29:X:153:A:H5'	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:654:A:N3	29:X:655:A:H5'	2.18	0.58
29:X:840:U:H2'	29:X:2051:U:C2	2.38	0.58
29:X:965:G:N3	29:X:2253:A:C2	2.71	0.58
29:X:1288:A:N6	29:X:1309:G:H5'	2.18	0.58
29:X:1621:C:C4'	29:X:1626:A:C6	2.86	0.58
29:X:1764:A:H2'	29:X:1765:C:C5'	2.30	0.58
29:X:2190:A:C8	29:X:2190:A:H3'	2.39	0.58
29:X:2484:G:H2'	29:X:2485:U:OP2	2.02	0.58
29:X:2490:U:O2'	29:X:2491:C:H5'	2.04	0.58
29:X:2810:A:C2	29:X:2853:U:C4	2.91	0.58
7:B:145:LYS:NZ	29:X:2015:G:H2'	2.18	0.58
8:C:151:VAL:O	8:C:152:THR:HB	2.02	0.58
9:D:8:TYR:O	9:D:12:VAL:HB	2.02	0.58
9:D:92:ARG:CA	9:D:96:MET:HB2	2.34	0.58
12:G:115:ALA:O	12:G:118:ALA:N	2.36	0.58
14:I:47:ALA:HA	14:I:49:PHE:CE2	2.38	0.58
16:K:79:VAL:HG13	16:K:80:MET:N	2.17	0.58
18:M:107:LEU:O	18:M:109:GLU:N	2.28	0.58
19:N:25:TRP:CE3	19:N:26:GLY:N	2.72	0.58
19:N:61:TRP:HZ3	19:N:93:LYS:CA	2.16	0.58
25:T:39:ARG:NH2	29:X:2342:U:O2	2.36	0.58
27:V:37:LEU:HD11	29:X:60:A:H4'	1.85	0.58
29:X:244:C:C3'	29:X:245:C:H5"	2.33	0.58
29:X:717:G:H1'	29:X:740:A:N6	2.18	0.58
29:X:765:C:O2'	29:X:766:A:OP2	2.17	0.58
29:X:972:C:H5'	29:X:973:U:OP2	2.03	0.58
29:X:1769:U:O4	29:X:1775:A:H1'	2.04	0.58
29:X:2301:A:C4	29:X:2302:G:C8	2.92	0.58
29:X:2594:U:C6	30:Y:7:PRO:HA	2.38	0.58
7:B:72:VAL:HG12	7:B:73:ALA:H	1.66	0.58
13:H:76:ARG:HB2	13:H:95:ALA:HB3	1.85	0.58
16:K:27:ALA:O	16:K:31:GLU:N	2.36	0.58
18:M:82:PRO:O	18:M:83:PHE:C	2.47	0.58
18:M:104:LEU:HB3	18:M:107:LEU:HD12	1.84	0.58
24:S:86:VAL:HG12	24:S:87:THR:N	2.18	0.58
25:T:70:ILE:N	25:T:78:PHE:O	2.36	0.58
26:U:66:ALA:O	26:U:70:LEU:HB2	2.04	0.58
27:V:32:ALA:HA	27:V:37:LEU:HB2	1.86	0.58
29:X:37:C:H2'	29:X:38:G:H8	1.69	0.58
29:X:536:A:N6	29:X:2605:C:H4'	2.18	0.58
29:X:1255:A:C6	29:X:1256:C:N4	2.72	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1327:C:O5'	29:X:1327:C:H6	1.87	0.58
29:X:1673:C:H2'	29:X:1674:C:C6	2.37	0.58
29:X:1731:C:H2'	29:X:1732:U:H5"	1.85	0.58
29:X:1804:U:H2'	29:X:1805:G:H8	1.69	0.58
29:X:2259:G:H4'	29:X:2306:A:H5'	1.86	0.58
29:X:2627:G:O2'	29:X:2628:C:H5'	2.04	0.58
30:Y:6:VAL:CG2	30:Y:7:PRO:HD2	2.34	0.58
4:4:18:ARG:CD	4:4:23:VAL:HG22	2.32	0.58
6:A:142:VAL:HG12	6:A:193:ILE:HD13	1.86	0.58
6:A:244:ARG:O	6:A:252:LYS:CE	2.50	0.58
8:C:134:ILE:O	8:C:137:ALA:HB3	2.04	0.58
12:G:85:ALA:HB1	12:G:127:ILE:HD13	1.84	0.58
13:H:110:VAL:HG23	13:H:129:LEU:HB2	1.85	0.58
19:N:93:LYS:O	19:N:94:VAL:HB	2.04	0.58
21:P:94:GLU:OE2	21:P:127:ILE:HD12	2.04	0.58
23:R:82:ALA:O	23:R:83:LEU:O	2.21	0.58
25:T:42:GLY:HA3	29:X:2310:G:O4'	2.04	0.58
29:X:571:U:O2'	29:X:581:A:C1'	2.52	0.58
29:X:1213:U:H2'	29:X:1214:C:C6	2.39	0.58
29:X:1227:A:H4'	29:X:1252:C:H4'	1.86	0.58
29:X:1724:C:O2'	29:X:1725:C:H5'	2.03	0.58
29:X:2308:A:H2'	29:X:2309:G:C8	2.39	0.58
29:X:2438:A:C6	29:X:2439:U:C2	2.92	0.58
29:X:2661:G:O2'	29:X:2662:C:H5'	2.03	0.58
31:Z:36:A:O2'	31:Z:37:C:H5	1.87	0.58
31:Z:107:C:H2'	31:Z:108:G:O4'	2.03	0.58
4:4:18:ARG:HH11	4:4:23:VAL:HG22	1.67	0.58
13:H:47:VAL:CG1	13:H:115:ALA:CB	2.80	0.58
14:I:18:ARG:HB2	14:I:21:ARG:HD3	1.84	0.58
15:J:64:LYS:HZ3	15:J:110:VAL:HG13	1.68	0.58
17:L:18:ARG:NE	29:X:2357:A:H61	2.01	0.58
23:R:32:GLN:NE2	23:R:50:GLY:HA2	2.19	0.58
23:R:90:LYS:CG	23:R:108:VAL:HG21	2.33	0.58
23:R:98:ILE:C	23:R:100:ASP:N	2.60	0.58
29:X:230:C:O2'	29:X:231:G:H5'	2.04	0.58
29:X:350:U:H6	29:X:350:U:O5'	1.87	0.58
29:X:478:G:C6	29:X:479:G:N7	2.72	0.58
29:X:538:A:C2	29:X:2025:A:C6	2.92	0.58
29:X:1399:C:H2'	29:X:1400:A:H8	1.67	0.58
29:X:1442:C:O2'	29:X:1443:G:OP1	2.17	0.58
29:X:1722:G:C6	29:X:1723:U:N3	2.72	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1724:C:H2'	29:X:1725:C:C6	2.39	0.58
29:X:2560:G:C4	29:X:2589:C:N4	2.72	0.58
6:A:257:LEU:HD22	29:X:1795:C:OP1	2.03	0.58
7:B:145:LYS:HE3	29:X:583:C:O2	2.04	0.58
7:B:146:THR:C	7:B:148:GLY:N	2.60	0.58
9:D:74:ILE:HG23	9:D:80:ARG:HA	1.86	0.58
9:D:124:GLY:HA2	9:D:163:ASP:OD2	2.03	0.58
12:G:42:VAL:CG1	12:G:43:VAL:N	2.67	0.58
15:J:39:GLU:HB3	15:J:128:ILE:CG2	2.34	0.58
17:L:72:GLY:O	17:L:107:ALA:HB2	2.04	0.58
18:M:27:PHE:HB3	18:M:93:ILE:CD1	2.33	0.58
19:N:29:SER:O	19:N:30:LYS:CD	2.52	0.58
19:N:79:PHE:CE2	19:N:95:LEU:HD21	2.38	0.58
21:P:31:VAL:HG11	21:P:124:ILE:HD11	1.86	0.58
27:V:2:LYS:HA	27:V:6:MET:HE2	1.86	0.58
27:V:22:LYS:HA	27:V:25:LEU:HB3	1.84	0.58
29:X:166:G:N2	29:X:183:U:C5	2.72	0.58
29:X:170:U:H2'	29:X:171:G:C8	2.38	0.58
29:X:717:G:N2	29:X:739:G:C4	2.71	0.58
29:X:968:C:N4	29:X:970:A:C4	2.72	0.58
29:X:1030:U:H4'	29:X:1132:C:O2	2.03	0.58
29:X:2234:G:H2'	29:X:2235:G:O4'	2.04	0.58
29:X:2241:U:H4'	29:X:2307:A:C2	2.38	0.58
29:X:2327:U:O4	29:X:2361:G:C2	2.56	0.58
29:X:2669:C:N4	29:X:2693:U:O3'	2.37	0.58
7:B:156:MET:CE	29:X:2033:C:H1'	2.33	0.58
8:C:117:LEU:HD23	8:C:118:VAL:N	2.19	0.58
9:D:57:LEU:HD23	9:D:60:ILE:HD11	1.85	0.58
12:G:79:PHE:CE2	12:G:147:ARG:HG2	2.39	0.58
15:J:18:MET:HG2	15:J:19:THR:N	2.19	0.58
15:J:26:ASP:HB3	15:J:68:ARG:NH2	2.16	0.58
16:K:60:LEU:O	16:K:61:HIS:C	2.47	0.58
19:N:39:LEU:HA	19:N:42:ALA:CB	2.34	0.58
20:O:12:TYR:HB2	20:O:39:PHE:HA	1.86	0.58
23:R:48:VAL:HG12	23:R:50:GLY:H	1.68	0.58
23:R:100:ASP:C	23:R:102:LYS:N	2.55	0.58
24:S:54:ILE:HG22	24:S:54:ILE:O	2.02	0.58
25:T:31:VAL:HG22	25:T:67:VAL:CG2	2.34	0.58
29:X:21:A:C6	29:X:22:C:C4	2.92	0.58
29:X:405:C:C2	29:X:406:G:C8	2.92	0.58
29:X:471:A:C2	29:X:481:A:C4	2.92	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:666:U:H3'	29:X:667:U:H5"	1.85	0.58
29:X:760:U:C6	30:Y:3:LYS:HG3	2.39	0.58
29:X:834:A:H5'	29:X:835:U:H5	1.69	0.58
29:X:940:G:OP1	29:X:940:G:H4'	2.04	0.58
29:X:1072:U:H4'	29:X:1073:G:OP2	2.03	0.58
29:X:1339:U:H5	29:X:1664:G:O2'	1.86	0.58
29:X:1685:A:H2'	29:X:1691:G:N7	2.18	0.58
29:X:1745:C:H2'	29:X:1746:A:C8	2.38	0.58
29:X:1777:A:O2'	29:X:1778:U:OP1	2.19	0.58
29:X:1937:G:H2'	29:X:1939:U:O4	2.03	0.58
29:X:1937:G:N2	29:X:2530:C:OP1	2.37	0.58
29:X:2366:U:H3'	29:X:2366:U:C6	2.38	0.58
29:X:2687:G:H8	29:X:2687:G:O5'	1.87	0.58
30:Y:6:VAL:HG22	30:Y:7:PRO:HD2	1.86	0.58
30:Y:26:THR:O	30:Y:27:ALA:C	2.47	0.58
4:4:4:ARG:O	4:4:36:GLN:HA	2.04	0.57
4:4:17:VAL:HG12	4:4:18:ARG:H	1.68	0.57
9:D:65:PRO:HB2	9:D:87:ILE:HG22	1.86	0.57
13:H:47:VAL:O	13:H:47:VAL:HG12	2.03	0.57
14:I:54:SER:OG	14:I:59:ARG:CZ	2.52	0.57
17:L:76:ALA:HB1	17:L:111:GLY:N	2.19	0.57
19:N:61:TRP:O	19:N:65:ILE:HG13	2.04	0.57
21:P:105:ARG:NH1	29:X:1337:G:OP2	2.37	0.57
26:U:47:HIS:ND1	29:X:410:A:OP1	2.37	0.57
29:X:558:G:P	29:X:558:G:O4'	2.62	0.57
29:X:766:A:O2'	29:X:767:G:H5'	2.04	0.57
29:X:810:U:H3'	29:X:810:U:C6	2.39	0.57
29:X:991:A:H8	29:X:991:A:O5'	1.87	0.57
29:X:1774:A:C2	29:X:2566:A:C5	2.92	0.57
29:X:2222:U:C2	29:X:2223:U:C5	2.92	0.57
29:X:2298:U:H4'	29:X:2299:A:C8	2.38	0.57
29:X:2404:A:P	29:X:2406:C:H5'	2.44	0.57
29:X:2470:U:H2'	29:X:2470:U:O2	2.04	0.57
29:X:2624:G:H4'	29:X:2712:G:HO2'	1.69	0.57
29:X:2800:C:H2'	29:X:2801:A:H5'	1.85	0.57
7:B:31:CYS:CB	7:B:49:ILE:HD11	2.32	0.57
7:B:116:VAL:H	7:B:136:ARG:CD	2.14	0.57
8:C:48:ARG:HB2	8:C:51:VAL:CG2	2.30	0.57
8:C:48:ARG:HD2	8:C:48:ARG:N	2.17	0.57
8:C:147:LYS:CB	8:C:183:HIS:HB3	2.33	0.57
8:C:175:VAL:O	8:C:176:ASN:CB	2.52	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:44:ARG:HH22	10:E:46:ASP:CB	2.17	0.57
16:K:47:PHE:O	16:K:50:GLN:HB2	2.04	0.57
21:P:99:ALA:HA	21:P:122:SER:HA	1.86	0.57
22:Q:22:ARG:CZ	22:Q:24:VAL:HG21	2.34	0.57
23:R:98:ILE:C	23:R:100:ASP:H	2.11	0.57
25:T:31:VAL:HG23	25:T:65:GLY:O	2.05	0.57
28:W:5:LEU:HA	28:W:51:LEU:HD23	1.84	0.57
29:X:577:U:OP1	29:X:956:A:N6	2.37	0.57
29:X:683:A:O2'	29:X:684:C:P	2.63	0.57
29:X:760:U:O2	29:X:1997:A:H1'	2.03	0.57
29:X:1168:G:H2'	29:X:1169:C:C6	2.39	0.57
29:X:1685:A:C6	29:X:1976:U:C5	2.92	0.57
29:X:1976:U:O2'	29:X:1977:C:H5'	2.04	0.57
29:X:2031:A:C2'	29:X:2032:G:O5'	2.51	0.57
29:X:2053:G:C2	29:X:2421:C:C2	2.92	0.57
29:X:2603:G:C6	29:X:2604:G:C5	2.93	0.57
6:A:46:ARG:NE	29:X:1383:C:OP1	2.36	0.57
9:D:38:GLU:HG2	9:D:57:LEU:HD11	1.86	0.57
16:K:40:LYS:HG3	29:X:1668:G:OP1	2.04	0.57
16:K:60:LEU:O	16:K:63:ARG:N	2.37	0.57
18:M:60:SER:HA	18:M:64:LYS:HB2	1.85	0.57
18:M:82:PRO:C	18:M:84:ALA:H	2.12	0.57
19:N:25:TRP:CE3	19:N:26:GLY:HA3	2.38	0.57
19:N:78:THR:O	19:N:79:PHE:C	2.47	0.57
21:P:93:LYS:HB2	21:P:129:ALA:HB3	1.87	0.57
29:X:82:G:N2	29:X:100:G:H2'	2.18	0.57
29:X:554:U:H5"	29:X:556:A:C2	2.39	0.57
29:X:704:G:H2'	29:X:705:C:H6	1.68	0.57
29:X:788:G:O2'	29:X:789:G:OP2	2.18	0.57
29:X:848:A:O2'	29:X:849:G:H5'	2.03	0.57
29:X:1277:G:O6	29:X:1278:A:N6	2.37	0.57
29:X:2000:U:H4'	30:Y:8:LYS:O	2.04	0.57
29:X:2633:A:H5"	29:X:2634:G:OP1	2.04	0.57
6:A:94:LEU:O	6:A:94:LEU:HG	2.04	0.57
7:B:55:ALA:HB3	7:B:58:LYS:HE3	1.87	0.57
7:B:77:ILE:CD1	18:M:3:THR:HG22	2.34	0.57
8:C:185:ARG:HG2	8:C:185:ARG:HH21	1.70	0.57
9:D:136:LEU:HD21	9:D:149:THR:HG23	1.86	0.57
10:E:6:LYS:HD3	10:E:69:ARG:HH21	1.67	0.57
13:H:119:ARG:HG3	13:H:119:ARG:HH11	1.69	0.57
14:I:32:ARG:HD2	20:O:81:ARG:CD	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:107:VAL:HG21	15:J:115:ALA:HB1	1.87	0.57
21:P:62:ARG:HG3	21:P:62:ARG:NH1	2.18	0.57
26:U:45:ASN:HA	29:X:2210:C:OP1	2.04	0.57
29:X:227:G:H2'	29:X:228:A:C8	2.38	0.57
29:X:310:A:H2	29:X:331:U:H4'	1.68	0.57
29:X:417:C:C6	29:X:419:G:C8	2.93	0.57
29:X:1348:C:H2'	29:X:1349:A:H8	1.69	0.57
29:X:1666:G:H2'	29:X:1667:A:H8	1.67	0.57
29:X:1968:G:H2'	29:X:1969:G:O5'	2.04	0.57
29:X:2197:U:C4	29:X:2198:U:O4	2.57	0.57
29:X:2306:A:C5	29:X:2367:A:N1	2.73	0.57
29:X:2333:A:N6	29:X:2343:C:H42	2.02	0.57
29:X:2441:U:H2'	29:X:2442:C:H6	1.69	0.57
29:X:2663:U:N3	29:X:2664:G:N7	2.51	0.57
29:X:2817:A:N1	29:X:2851:G:C6	2.73	0.57
6:A:92:ILE:CG2	6:A:104:TYR:HB3	2.35	0.57
7:B:34:VAL:HG12	7:B:72:VAL:HG21	1.85	0.57
8:C:130:THR:HA	8:C:160:ALA:HB1	1.87	0.57
11:F:112:MET:HG2	11:F:113:PRO:HD3	1.87	0.57
14:I:45:LYS:HD3	14:I:46:GLY:N	2.17	0.57
19:N:42:ALA:O	19:N:43:ALA:C	2.46	0.57
21:P:52:ASP:O	21:P:55:ASP:N	2.37	0.57
26:U:19:ILE:O	29:X:393:U:H4'	2.05	0.57
26:U:51:ILE:HD13	26:U:59:THR:HG22	1.86	0.57
27:V:13:ASP:O	27:V:16:LYS:HB3	2.04	0.57
27:V:41:HIS:CD2	27:V:42:ARG:H	2.22	0.57
29:X:422:C:H2'	29:X:423:G:H8	1.70	0.57
29:X:957:G:C4	29:X:958:G:C8	2.93	0.57
29:X:1355:A:O2'	29:X:1356:G:OP1	2.23	0.57
29:X:1428:G:H22	29:X:1602:G:C5'	2.17	0.57
29:X:2047:C:O2	29:X:2429:A:C6	2.57	0.57
31:Z:18:G:C2	31:Z:19:C:C6	2.93	0.57
8:C:28:HIS:CE1	14:I:21:ARG:NH1	2.73	0.57
9:D:132:ILE:HG22	9:D:133:LYS:N	2.20	0.57
13:H:70:VAL:CG2	13:H:71:LYS:N	2.67	0.57
21:P:57:LEU:HD13	21:P:69:ALA:CA	2.29	0.57
21:P:91:PHE:CE1	21:P:131:LYS:HA	2.40	0.57
24:S:19:ILE:HG12	24:S:36:ARG:CA	2.32	0.57
29:X:42:G:H2'	29:X:43:A:C8	2.40	0.57
29:X:116:A:C8	29:X:117:A:C8	2.92	0.57
29:X:204:A:N7	29:X:2386:G:H5'	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:239:A:H2'	29:X:240:U:O4'	2.04	0.57
29:X:492:G:H1'	29:X:516:G:N2	2.19	0.57
29:X:517:A:H5"	29:X:518:A:C5'	2.26	0.57
29:X:517:A:C5'	29:X:518:A:H5'	2.26	0.57
29:X:877:G:H1'	29:X:926:C:N4	2.18	0.57
29:X:1742:G:H2'	29:X:1743:C:H6	1.68	0.57
29:X:1758:C:O2'	29:X:1759:A:H5'	2.04	0.57
29:X:2594:U:H5'	29:X:2594:U:H6	1.65	0.57
29:X:2697:G:O2'	29:X:2698:G:H5'	2.05	0.57
29:X:2708:U:C2'	29:X:2709:C:C6	2.84	0.57
7:B:70:ALA:O	7:B:71:GLY:C	2.46	0.57
9:D:152:MET:HE3	9:D:154:ILE:HD11	1.85	0.57
12:G:42:VAL:HG11	12:G:168:THR:OG1	2.05	0.57
14:I:101:ARG:HD3	29:X:637:G:C6	2.40	0.57
15:J:9:LYS:HG3	29:X:884:C:OP1	2.04	0.57
15:J:47:GLN:HE21	29:X:2464:G:H5'	1.70	0.57
22:Q:54:SER:HB2	29:X:1354:A:H1'	1.87	0.57
22:Q:57:ASN:C	22:Q:58:VAL:HG23	2.30	0.57
24:S:90:GLU:N	24:S:127:PRO:HG2	2.20	0.57
24:S:155:PRO:HG2	24:S:158:CYS:SG	2.44	0.57
25:T:32:LYS:CB	25:T:35:ASN:ND2	2.67	0.57
25:T:47:ALA:HB1	25:T:51:VAL:O	2.04	0.57
29:X:729:A:N3	29:X:730:C:OP2	2.38	0.57
29:X:2849:C:O2	29:X:2849:C:H2'	2.05	0.57
7:B:151:TYR:HB3	12:G:106:TYR:CE2	2.39	0.57
8:C:73:SER:C	8:C:74:VAL:CG1	2.78	0.57
9:D:39:GLY:HA2	9:D:86:GLY:CA	2.35	0.57
10:E:139:GLN:C	10:E:143:GLN:HG3	2.30	0.57
11:F:112:MET:N	11:F:113:PRO:CD	2.68	0.57
12:G:40:ASN:HB3	12:G:78:ASP:CB	2.35	0.57
13:H:47:VAL:H	13:H:77:THR:HG21	1.69	0.57
14:I:128:ALA:HA	14:I:131:LYS:HB2	1.86	0.57
15:J:6:LYS:CE	15:J:7:ARG:HE	2.10	0.57
22:Q:61:LYS:HD3	29:X:1325:U:OP2	2.05	0.57
22:Q:65:VAL:HG12	22:Q:66:GLY:N	2.14	0.57
27:V:22:LYS:HA	27:V:25:LEU:CB	2.35	0.57
29:X:428:A:H2'	29:X:429:C:C6	2.40	0.57
29:X:1069:G:C3'	29:X:1070:G:H5"	2.35	0.57
29:X:1923:U:O2'	29:X:1924:C:P	2.62	0.57
29:X:2340:C:H2'	29:X:2341:G:H5'	1.87	0.57
29:X:2741:G:O2'	29:X:2742:G:H5'	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2791:C:H2'	29:X:2792:C:H6	1.70	0.57
31:Z:39:C:N4	31:Z:51:G:O4'	2.38	0.57
12:G:70:PHE:HB2	19:N:64:ARG:NE	2.19	0.57
12:G:104:THR:OG1	12:G:110:LEU:HB3	2.05	0.57
13:H:116:ARG:HB2	13:H:133:VAL:HG12	1.87	0.57
16:K:53:THR:O	16:K:56:LYS:HB3	2.04	0.57
17:L:33:ARG:H	17:L:94:TYR:HE1	1.52	0.57
18:M:13:LEU:O	18:M:14:ARG:C	2.48	0.57
18:M:32:THR:HG21	18:M:91:VAL:CG1	2.35	0.57
19:N:11:ARG:HH22	29:X:29:U:C4'	2.17	0.57
19:N:28:ARG:HE	29:X:542:A:H8	1.53	0.57
20:O:34:GLU:HB2	20:O:56:VAL:CG2	2.35	0.57
25:T:25:LYS:HB2	25:T:37:LEU:CB	2.34	0.57
27:V:45:GLN:NE2	27:V:49:GLU:OE2	2.38	0.57
29:X:138:G:O2'	29:X:139:A:H5'	2.04	0.57
29:X:178:C:C2'	29:X:179:U:H5'	2.35	0.57
29:X:805:G:N7	29:X:2419:C:H1'	2.20	0.57
29:X:1057:A:N3	29:X:1057:A:C2'	2.68	0.57
29:X:1226:A:N1	29:X:1250:A:H1'	2.20	0.57
29:X:1251:G:O2'	29:X:1252:C:H5'	2.05	0.57
29:X:1319:C:C2'	29:X:1320:A:H5'	2.35	0.57
29:X:1391:A:H2'	29:X:1393:G:N7	2.20	0.57
29:X:1426:U:C2'	29:X:1427:G:H5'	2.34	0.57
29:X:1978:U:C3'	29:X:1979:C:H5"	2.32	0.57
29:X:2038:C:H2'	29:X:2483:U:H5'	1.87	0.57
29:X:2446:C:H2'	29:X:2447:G:O4'	2.04	0.57
29:X:2489:C:C4	29:X:2490:U:C5	2.93	0.57
29:X:2522:G:H2'	29:X:2523:G:C8	2.39	0.57
6:A:246:PRO:C	6:A:248:THR:H	2.11	0.57
7:B:133:LYS:HG3	7:B:137:ARG:HG2	1.86	0.57
7:B:136:ARG:HG2	7:B:136:ARG:HH11	1.69	0.57
13:H:116:ARG:NH2	18:M:40:ARG:HB2	2.19	0.57
16:K:33:ARG:HB2	16:K:114:GLU:CB	2.35	0.57
22:Q:12:ILE:HD13	22:Q:12:ILE:N	2.20	0.57
24:S:137:ASP:OD2	24:S:138:VAL:N	2.38	0.57
25:T:40:GLN:HE21	25:T:43:THR:HA	1.68	0.57
29:X:2044:G:O2'	29:X:2046:C:H5	1.87	0.57
29:X:2759:U:H4'	29:X:2760:G:H5"	1.86	0.57
29:X:2862:G:O2'	29:X:2863:U:H5'	2.05	0.57
8:C:74:VAL:CG2	8:C:76:THR:OG1	2.52	0.56
10:E:9:ILE:HD12	10:E:50:LEU:C	2.30	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:90:LEU:HD12	12:G:90:LEU:N	2.20	0.56
13:H:70:VAL:HG21	13:H:98:ILE:CG2	2.35	0.56
14:I:18:ARG:HG3	14:I:21:ARG:HD3	1.86	0.56
15:J:51:CYS:SG	15:J:126:LEU:HD21	2.45	0.56
16:K:11:ASN:ND2	16:K:17:ARG:NH1	2.47	0.56
16:K:13:ASN:HD22	16:K:13:ASN:C	2.11	0.56
20:O:24:SER:O	20:O:25:LEU:C	2.48	0.56
23:R:82:ALA:C	23:R:83:LEU:HG	2.30	0.56
29:X:244:C:C2'	29:X:245:C:H5"	2.34	0.56
29:X:433:G:N2	29:X:434:C:H1'	2.20	0.56
29:X:1053:G:H2'	29:X:1054:C:O4'	2.04	0.56
29:X:1247:U:C2'	29:X:1248:G:H5'	2.35	0.56
29:X:1286:U:C6	29:X:1986:G:H4'	2.40	0.56
29:X:1429:A:H2	29:X:1599:G:H21	1.53	0.56
29:X:2850:U:C2	29:X:2851:G:C8	2.93	0.56
6:A:145:LEU:HD12	6:A:146:GLU:H	1.69	0.56
8:C:104:LEU:O	8:C:107:ALA:HB3	2.04	0.56
8:C:128:ALA:O	8:C:130:THR:N	2.38	0.56
8:C:151:VAL:HG23	8:C:186:LEU:HD11	1.85	0.56
8:C:179:ASP:O	8:C:182:ARG:HB3	2.05	0.56
9:D:57:LEU:HA	9:D:60:ILE:CD1	2.34	0.56
10:E:96:ALA:HB1	10:E:103:LEU:CD1	2.34	0.56
13:H:48:GLY:N	13:H:74:VAL:O	2.38	0.56
23:R:22:VAL:HG12	23:R:23:ILE:H	1.69	0.56
23:R:86:PRO:HD3	23:R:90:LYS:HD3	1.87	0.56
26:U:28:GLY:HA3	26:U:32:ARG:CA	2.35	0.56
26:U:46:LEU:C	29:X:2209:G:H4'	2.29	0.56
29:X:2021:G:C2	29:X:2022:C:C2	2.94	0.56
29:X:2628:C:O2'	29:X:2629:U:H5'	2.05	0.56
30:Y:35:GLN:C	30:Y:37:HIS:N	2.62	0.56
31:Z:75:A:C2	31:Z:76:U:H1'	2.40	0.56
6:A:208:LYS:HE3	29:X:1782:A:C1'	2.26	0.56
6:A:218:LYS:HD2	6:A:218:LYS:C	2.29	0.56
7:B:31:CYS:HB3	7:B:49:ILE:HG12	1.87	0.56
8:C:20:PRO:HG2	8:C:21:GLU:H	1.70	0.56
8:C:86:PRO:HB3	29:X:1261:G:OP1	2.05	0.56
8:C:115:GLY:HA3	8:C:185:ARG:HD2	1.87	0.56
9:D:71:LYS:HB2	29:X:2291:U:OP1	2.04	0.56
10:E:52:VAL:HG11	10:E:68:THR:HG21	1.87	0.56
10:E:103:LEU:HD23	10:E:115:ILE:HD12	1.86	0.56
11:F:13:PRO:HA	11:F:52:ILE:HG12	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:40:ALA:O	11:F:43:ALA:HB3	2.05	0.56
13:H:116:ARG:HG3	13:H:116:ARG:NH1	2.11	0.56
15:J:56:SER:O	15:J:57:ARG:C	2.48	0.56
17:L:33:ARG:HG2	17:L:38:ILE:HB	1.87	0.56
18:M:43:ASN:O	18:M:44:ARG:C	2.47	0.56
21:P:26:ALA:HB1	21:P:74:SER:HB3	1.88	0.56
22:Q:36:THR:O	22:Q:37:GLU:C	2.48	0.56
23:R:59:LYS:O	23:R:60:PRO:O	2.24	0.56
23:R:98:ILE:HG22	23:R:99:VAL:N	2.19	0.56
24:S:63:PRO:HB2	24:S:86:VAL:CG2	2.34	0.56
24:S:72:ASP:O	24:S:75:LYS:O	2.23	0.56
26:U:14:VAL:HB	26:U:47:HIS:NE2	2.21	0.56
26:U:70:LEU:HD22	26:U:79:GLU:HG2	1.87	0.56
28:W:25:LEU:O	28:W:26:ARG:HD3	2.05	0.56
28:W:37:THR:HG21	29:X:940:G:OP1	2.06	0.56
29:X:10:A:H2'	29:X:11:G:C8	2.41	0.56
29:X:174:A:C4	29:X:175:C:O2	2.58	0.56
29:X:588:G:C2	29:X:1275:A:C5	2.93	0.56
29:X:706:A:H2'	29:X:707:U:C6	2.40	0.56
29:X:788:G:H5'	29:X:790:A:C1'	2.35	0.56
29:X:799:C:C2'	29:X:800:U:H5'	2.35	0.56
29:X:1039:A:C5	29:X:1136:G:N2	2.73	0.56
29:X:1041:G:O2'	29:X:1042:G:H5'	2.06	0.56
29:X:1216:G:C6	29:X:1217:U:C4	2.93	0.56
29:X:1247:U:O2'	29:X:1248:G:H5'	2.06	0.56
29:X:1253:C:H5'	29:X:1253:C:H6	1.71	0.56
29:X:1275:A:N3	30:Y:10:LYS:HE2	2.20	0.56
29:X:1750:A:N7	29:X:2675:U:H1'	2.20	0.56
29:X:1782:A:N6	29:X:1820:G:H2'	2.21	0.56
29:X:1783:G:N1	29:X:1820:G:H1'	2.19	0.56
29:X:1804:U:H2'	29:X:1805:G:C8	2.40	0.56
29:X:1886:G:H2'	29:X:1887:G:C8	2.29	0.56
29:X:1919:A:C2	29:X:1926:U:C4	2.93	0.56
29:X:1982:C:O2'	29:X:1983:G:H5'	2.06	0.56
29:X:2165:A:H2'	29:X:2166:G:H8	1.70	0.56
29:X:2325:A:O2'	29:X:2326:C:OP2	2.18	0.56
29:X:2426:G:C4	29:X:2480:C:C4	2.93	0.56
29:X:2676:G:C2	29:X:2690:A:C2	2.94	0.56
29:X:2691:C:HO2'	29:X:2692:A:H8	1.50	0.56
29:X:2702:G:O2'	29:X:2703:C:H5'	2.05	0.56
29:X:2737:A:N3	29:X:2737:A:H2'	2.21	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:19:C:H2'	31:Z:20:A:O4'	2.05	0.56
6:A:249:PRO:HB3	29:X:2218:G:H5'	1.87	0.56
7:B:120:TRP:O	7:B:121:ASN:CB	2.53	0.56
7:B:134:TRP:O	7:B:135:HIS:O	2.23	0.56
12:G:118:ALA:O	12:G:121:LYS:HG3	2.04	0.56
15:J:27:TYR:HB3	15:J:137:VAL:CG2	2.34	0.56
17:L:60:LYS:HG2	17:L:62:GLY:H	1.70	0.56
20:O:49:GLU:C	20:O:51:ALA:N	2.63	0.56
26:U:52:ARG:HD2	26:U:79:GLU:HA	1.88	0.56
28:W:18:LYS:O	28:W:21:GLN:HB3	2.06	0.56
29:X:201:G:H2'	29:X:202:A:H8	1.69	0.56
29:X:553:C:H2'	29:X:557:U:C5	2.41	0.56
29:X:1337:G:O2'	29:X:1632:A:N1	2.38	0.56
29:X:1846:A:H2'	29:X:1847:G:O4'	2.05	0.56
29:X:2332:G:C6	29:X:2344:G:N2	2.74	0.56
29:X:2333:A:C2	29:X:2343:C:N3	2.73	0.56
29:X:2691:C:O2'	29:X:2692:A:O5'	2.23	0.56
8:C:31:VAL:O	8:C:34:GLN:HB2	2.05	0.56
8:C:47:THR:HA	8:C:82:VAL:HB	1.87	0.56
8:C:58:MET:SD	8:C:69:HIS:HB2	2.45	0.56
9:D:92:ARG:NH1	31:Z:47:A:C8	2.73	0.56
10:E:28:GLY:HA3	10:E:79:VAL:CB	2.35	0.56
10:E:51:LEU:HD12	10:E:52:VAL:H	1.69	0.56
12:G:161:GLN:C	12:G:163:PRO:HD2	2.29	0.56
15:J:30:PHE:HB3	15:J:66:TYR:CD2	2.40	0.56
17:L:94:TYR:CD2	17:L:94:TYR:N	2.73	0.56
19:N:61:TRP:HZ3	19:N:93:LYS:C	2.14	0.56
20:O:75:LYS:HZ2	20:O:75:LYS:CB	2.18	0.56
22:Q:14:GLU:HG3	22:Q:15:LYS:N	2.19	0.56
27:V:31:GLN:HA	27:V:34:ALA:HB3	1.87	0.56
28:W:2:LYS:HB3	28:W:54:GLN:HB2	1.85	0.56
29:X:73:A:O2'	29:X:74:G:OP2	2.22	0.56
29:X:629:C:H2'	29:X:630:G:O4'	2.05	0.56
29:X:715:U:O2'	29:X:716:U:H5'	2.04	0.56
29:X:1088:A:H2	29:X:1099:A:C2	2.23	0.56
29:X:1200:G:H2'	29:X:1201:G:C8	2.40	0.56
29:X:1470:G:O2'	29:X:1471:G:H5'	2.06	0.56
29:X:1683:G:C2'	29:X:1684:G:C5'	2.84	0.56
29:X:2228:U:H1'	29:X:2254:C:H41	1.69	0.56
29:X:2314:A:O2'	29:X:2315:A:H8	1.88	0.56
29:X:2506:C:O2'	29:X:2507:U:H5'	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:63:ARG:HG2	6:A:63:ARG:HH11	1.71	0.56
9:D:155:THR:HG21	29:X:2293:G:H4'	1.88	0.56
11:F:5:ALA:HB2	11:F:60:TYR:O	2.06	0.56
15:J:35:LEU:HD12	15:J:36:ILE:H	1.70	0.56
16:K:3:HIS:CE1	29:X:2796:A:OP2	2.59	0.56
16:K:39:THR:O	16:K:40:LYS:C	2.47	0.56
17:L:36:LYS:HA	17:L:36:LYS:HE3	1.87	0.56
18:M:43:ASN:ND2	18:M:43:ASN:C	2.63	0.56
20:O:10:LYS:HE3	20:O:11:GLN:HG2	1.87	0.56
22:Q:75:ARG:HH11	22:Q:75:ARG:HG3	1.70	0.56
23:R:105:ARG:NH1	23:R:113:THR:N	2.53	0.56
24:S:122:ILE:HB	24:S:159:THR:O	2.06	0.56
26:U:13:LEU:HG	26:U:14:VAL:N	2.20	0.56
29:X:140:G:H2'	29:X:141:G:C8	2.41	0.56
29:X:176:A:H2'	29:X:177:U:C5	2.39	0.56
29:X:207:U:O5'	29:X:207:U:H6	1.89	0.56
29:X:998:C:H1'	29:X:1012:A:H1'	1.86	0.56
29:X:1053:G:C4	29:X:1054:C:C6	2.93	0.56
29:X:1129:A:OP1	29:X:1129:A:H4'	2.05	0.56
29:X:1621:C:H4'	29:X:1626:A:C6	2.40	0.56
29:X:1856:U:H3	29:X:1861:G:H1	1.54	0.56
29:X:2007:G:H2'	29:X:2008:C:C6	2.41	0.56
29:X:2029:G:C5'	30:Y:19:ARG:HA	2.36	0.56
29:X:2407:G:H5"	29:X:2408:G:OP1	2.06	0.56
29:X:2592:U:O2'	29:X:2592:U:C6	2.51	0.56
29:X:2825:A:C2	29:X:2826:C:C2	2.93	0.56
8:C:48:ARG:CB	8:C:51:VAL:HG22	2.31	0.56
8:C:102:LEU:HD21	8:C:106:MET:HE3	1.88	0.56
10:E:9:ILE:HD12	10:E:51:LEU:N	2.21	0.56
13:H:83:ARG:HG2	18:M:40:ARG:NH2	2.20	0.56
14:I:18:ARG:CB	14:I:21:ARG:HB2	2.21	0.56
14:I:61:PRO:O	14:I:62:LYS:HB2	2.06	0.56
15:J:116:LYS:CE	15:J:132:MET:HE2	2.34	0.56
16:K:87:TYR:CE1	16:K:94:TYR:CD2	2.87	0.56
19:N:93:LYS:HD3	20:O:5:ILE:CG2	2.36	0.56
20:O:13:ARG:HE	20:O:95:ILE:HG13	1.71	0.56
23:R:90:LYS:HD2	23:R:108:VAL:HG21	1.87	0.56
24:S:64:ALA:CA	24:S:85:MET:HA	2.34	0.56
26:U:48:LYS:HB2	26:U:48:LYS:NZ	2.21	0.56
29:X:76:C:H5'	29:X:76:C:C6	2.35	0.56
29:X:170:U:O2'	29:X:171:G:H5'	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:689:A:H8	29:X:2422:C:H1'	1.66	0.56
29:X:1288:A:H61	29:X:1309:G:H5'	1.70	0.56
29:X:1635:G:O2'	29:X:1636:G:H5'	2.06	0.56
29:X:2081:U:H2'	29:X:2082:C:O4'	2.06	0.56
29:X:2807:U:H4'	29:X:2808:U:C5'	2.33	0.56
7:B:68:ALA:C	7:B:70:ALA:H	2.13	0.56
9:D:11:GLN:O	9:D:15:ALA:HB3	2.05	0.56
13:H:83:ARG:HE	18:M:40:ARG:CZ	2.19	0.56
14:I:109:LEU:HD22	29:X:648:A:OP2	2.06	0.56
15:J:27:TYR:CZ	15:J:133:VAL:HG11	2.41	0.56
18:M:33:VAL:O	18:M:92:THR:HG22	2.06	0.56
18:M:101:ARG:NH2	29:X:1745:C:OP1	2.34	0.56
21:P:31:VAL:CG2	21:P:124:ILE:HG13	2.34	0.56
21:P:109:ARG:HG3	21:P:110:ALA:H	1.71	0.56
25:T:29:GLU:HG2	29:X:935:C:H4'	1.87	0.56
27:V:27:GLU:O	27:V:31:GLN:HG3	2.05	0.56
29:X:24:G:C2	29:X:25:U:C2	2.94	0.56
29:X:48:A:H1'	29:X:50:G:N3	2.21	0.56
29:X:349:G:H2'	29:X:350:U:C6	2.41	0.56
29:X:466:A:H4'	29:X:467:U:O5'	2.04	0.56
29:X:956:A:H5'	29:X:957:G:OP2	2.06	0.56
29:X:1154:A:O2'	29:X:1155:G:OP1	2.22	0.56
29:X:2083:G:H1	29:X:2172:U:H3	1.54	0.56
29:X:2266:A:N1	29:X:2268:G:H1'	2.20	0.56
29:X:2399:C:O5'	29:X:2399:C:H6	1.89	0.56
30:Y:33:CYS:O	30:Y:37:HIS:HA	2.05	0.56
31:Z:67:C:C2'	31:Z:68:A:H5'	2.36	0.56
7:B:63:MET:O	7:B:66:HIS:N	2.38	0.56
7:B:72:VAL:O	7:B:73:ALA:HB2	2.05	0.56
8:C:78:VAL:C	8:C:80:GLY:H	2.14	0.56
8:C:111:ARG:HH12	8:C:181:LEU:HA	1.71	0.56
8:C:139:GLN:HA	8:C:139:GLN:HE21	1.70	0.56
9:D:13:ARG:CZ	9:D:14:PRO:HG3	2.35	0.56
10:E:148:VAL:C	10:E:150:LYS:N	2.64	0.56
12:G:49:VAL:CG1	12:G:50:PRO:HD2	2.36	0.56
12:G:106:TYR:O	12:G:110:LEU:HG	2.04	0.56
13:H:7:ARG:HD3	13:H:18:GLU:OE1	2.05	0.56
13:H:62:GLY:O	13:H:65:LYS:NZ	2.37	0.56
14:I:76:LYS:HE3	14:I:111:SER:HB3	1.88	0.56
14:I:130:ILE:HA	14:I:140:VAL:HG21	1.87	0.56
15:J:14:PHE:HE2	29:X:2257:A:OP1	1.89	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:37:THR:HG22	18:M:39:VAL:HG13	1.88	0.56
20:O:38:LEU:HD13	20:O:39:PHE:H	1.70	0.56
21:P:109:ARG:NH2	29:X:1996:A:N3	2.53	0.56
29:X:477:A:H2'	29:X:478:G:H5'	1.86	0.56
29:X:674:U:H2'	29:X:675:C:O4'	2.06	0.56
29:X:760:U:C4	30:Y:3:LYS:HG3	2.40	0.56
29:X:1064:C:H2'	29:X:1065:A:O4'	2.06	0.56
29:X:1270:C:H2'	29:X:1271:C:C6	2.41	0.56
29:X:1549:C:H2'	29:X:1550:C:O4'	2.06	0.56
29:X:2190:A:H8	29:X:2191:A:OP2	1.89	0.56
29:X:2431:C:O2'	29:X:2432:A:H5'	2.06	0.56
29:X:2523:G:H2'	29:X:2524:G:H8	1.71	0.56
31:Z:20:A:H2'	31:Z:21:C:H6	1.68	0.56
6:A:156:ALA:HA	6:A:161:THR:HG21	1.87	0.56
7:B:119:ARG:CG	7:B:119:ARG:NH1	2.64	0.56
9:D:4:LEU:CD1	9:D:5:LYS:H	2.17	0.56
14:I:22:GLY:HA2	29:X:674:U:H1'	1.87	0.56
14:I:81:GLN:O	14:I:83:LEU:N	2.39	0.56
16:K:85:PRO:O	16:K:88:ALA:N	2.35	0.56
18:M:106:TYR:CE1	18:M:107:LEU:HD23	2.38	0.56
20:O:7:THR:HG23	20:O:20:ILE:HD13	1.86	0.56
21:P:33:MET:CE	21:P:37:LYS:HZ3	2.19	0.56
23:R:56:LYS:HB3	23:R:69:GLN:HG2	1.88	0.56
24:S:154:LEU:HD13	24:S:158:CYS:O	2.06	0.56
26:U:23:LYS:HB2	26:U:35:THR:HG23	1.88	0.56
27:V:40:PRO:HD2	29:X:94:C:O2'	2.06	0.56
29:X:335:A:N6	29:X:349:G:O2'	2.38	0.56
29:X:594:G:H2'	29:X:595:A:N7	2.20	0.56
29:X:750:C:O2'	29:X:751:G:H5'	2.06	0.56
29:X:825:C:H1'	29:X:1263:G:C2	2.41	0.56
29:X:829:C:N3	29:X:1206:G:C2	2.73	0.56
29:X:1732:U:H4'	29:X:1733:U:OP2	2.05	0.56
29:X:2322:U:O2'	29:X:2323:U:H1'	2.05	0.56
29:X:2604:G:C6	29:X:2605:C:C4	2.94	0.56
6:A:42:GLY:C	6:A:43:ARG:NH1	2.63	0.55
7:B:11:MET:HG2	7:B:24:THR:HG1	1.66	0.55
7:B:76:ARG:NH1	18:M:4:HIS:HB2	2.21	0.55
9:D:92:ARG:N	9:D:96:MET:HB2	2.21	0.55
11:F:90:THR:CB	11:F:93:LYS:HB2	2.36	0.55
14:I:75:VAL:O	14:I:108:LEU:HD12	2.06	0.55
16:K:45:ARG:O	16:K:49:GLU:HG3	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:79:VAL:O	16:K:83:VAL:HG13	2.06	0.55
22:Q:82:LEU:HD11	22:Q:88:ILE:HG22	1.87	0.55
24:S:3:LEU:HD21	24:S:32:PHE:CG	2.40	0.55
28:W:48:LYS:O	28:W:50:LEU:N	2.39	0.55
29:X:39:C:H2'	29:X:40:U:C6	2.41	0.55
29:X:983:G:C6	29:X:984:A:C6	2.94	0.55
29:X:1089:C:H1'	29:X:1099:A:H2	1.71	0.55
29:X:1622:G:H4'	29:X:1624:A:N3	2.21	0.55
29:X:2722:C:N4	29:X:2743:G:N2	2.54	0.55
6:A:149:PRO:CB	29:X:2200:G:O2'	2.55	0.55
6:A:186:HIS:CD2	6:A:188:GLU:HB2	2.35	0.55
8:C:30:VAL:HG11	8:C:177:VAL:HG21	1.88	0.55
8:C:98:GLN:NE2	29:X:611:C:O5'	2.35	0.55
8:C:135:SER:O	8:C:136:TRP:C	2.49	0.55
9:D:8:TYR:OH	9:D:30:ARG:HB3	2.06	0.55
13:H:7:ARG:HA	13:H:19:ILE:O	2.06	0.55
16:K:24:GLN:HE22	16:K:40:LYS:HD3	1.72	0.55
17:L:36:LYS:NZ	17:L:99:ARG:NH1	2.54	0.55
18:M:39:VAL:CG1	18:M:45:THR:HG23	2.36	0.55
19:N:66:ASN:HB3	19:N:76:TYR:CB	2.32	0.55
20:O:69:ILE:HG22	20:O:70:TYR:N	2.21	0.55
24:S:59:GLY:C	24:S:60:GLU:HG3	2.31	0.55
26:U:10:LYS:HG2	26:U:11:LYS:N	2.20	0.55
26:U:51:ILE:HG12	26:U:59:THR:HB	1.88	0.55
29:X:334:G:O2'	29:X:335:A:OP2	2.22	0.55
29:X:521:U:OP2	29:X:522:G:O6	2.24	0.55
29:X:596:C:O3'	29:X:597:U:H6	1.89	0.55
29:X:820:U:O2'	29:X:821:A:H5'	2.06	0.55
29:X:932:G:H2'	29:X:933:G:H8	1.70	0.55
29:X:1052:C:H3'	29:X:1053:G:H5'	1.86	0.55
29:X:1598:C:O5'	29:X:1598:C:H6	1.90	0.55
29:X:1791:C:H5'	29:X:1792:C:OP1	2.06	0.55
29:X:2075:U:O2	29:X:2075:U:H2'	2.05	0.55
29:X:2618:A:C5	29:X:2619:G:H1'	2.40	0.55
31:Z:5:C:H2'	31:Z:6:C:O4'	2.07	0.55
6:A:158:SER:HB3	29:X:1810:U:H5"	1.87	0.55
12:G:57:LEU:HD22	12:G:170:PRO:HA	1.88	0.55
12:G:162:LYS:NZ	29:X:2873:G:H21	2.04	0.55
15:J:61:ARG:HG2	15:J:61:ARG:HH11	1.70	0.55
16:K:39:THR:O	16:K:42:LYS:CB	2.55	0.55
19:N:52:ASN:O	19:N:55:ARG:N	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:68:GLY:HA2	19:N:71:LEU:HB2	1.88	0.55
23:R:97:GLN:OE1	23:R:101:GLY:CA	2.54	0.55
27:V:41:HIS:HD2	27:V:42:ARG:H	1.52	0.55
27:V:50:VAL:HA	27:V:53:LEU:HD12	1.88	0.55
29:X:68:C:H3'	29:X:69:G:H8	1.71	0.55
29:X:638:A:O2'	29:X:639:G:C8	2.57	0.55
29:X:1194:U:H5'	29:X:1194:U:C6	2.41	0.55
29:X:1281:A:N3	29:X:2592:U:O4	2.39	0.55
29:X:1411:C:O2'	29:X:1412:C:H5'	2.06	0.55
29:X:1683:G:N7	29:X:1684:G:C5	2.75	0.55
29:X:2010:G:H2'	29:X:2011:U:H6	1.70	0.55
29:X:2177:U:H2'	29:X:2178:U:C6	2.40	0.55
29:X:2324:G:C4	29:X:2326:C:C5	2.94	0.55
29:X:2506:C:O5'	29:X:2506:C:H6	1.90	0.55
29:X:2523:G:H2'	29:X:2524:G:C8	2.40	0.55
6:A:182:LEU:O	6:A:183:ARG:HD2	2.06	0.55
7:B:47:VAL:O	7:B:80:GLU:HA	2.05	0.55
9:D:40:LEU:HB3	9:D:150:ARG:NE	2.21	0.55
9:D:122:PHE:CD2	9:D:129:ASN:HB2	2.42	0.55
21:P:80:LEU:O	21:P:84:GLU:N	2.40	0.55
23:R:84:VAL:HG13	23:R:88:THR:O	2.06	0.55
29:X:564:U:H2'	29:X:565:A:C8	2.42	0.55
29:X:648:A:C5'	29:X:649:G:H4'	2.32	0.55
29:X:755:C:H2'	29:X:756:C:C6	2.42	0.55
29:X:930:A:O5'	29:X:930:A:C8	2.50	0.55
29:X:1073:G:C1'	29:X:1099:A:N7	2.68	0.55
29:X:1141:U:O2'	29:X:1142:G:P	2.64	0.55
29:X:1197:U:H2'	29:X:1198:C:O4'	2.06	0.55
29:X:1263:G:H4'	29:X:1264:C:OP1	2.06	0.55
29:X:1281:A:OP1	29:X:1989:C:OP1	2.23	0.55
29:X:1452:U:O2'	29:X:1453:A:H5'	2.06	0.55
6:A:163:VAL:HG22	6:A:178:PRO:HD3	1.89	0.55
7:B:147:PRO:HG3	29:X:1141:U:C6	2.42	0.55
8:C:48:ARG:C	8:C:50:GLN:N	2.60	0.55
15:J:98:VAL:HG13	15:J:102:ARG:HG2	1.88	0.55
19:N:23:GLY:O	19:N:24:PHE:C	2.50	0.55
19:N:32:TYR:O	19:N:35:ALA:HB3	2.06	0.55
20:O:36:LYS:HE3	20:O:55:THR:O	2.07	0.55
21:P:39:ARG:HD2	21:P:97:VAL:HB	1.89	0.55
23:R:15:HIS:ND1	23:R:16:PHE:HD2	2.05	0.55
25:T:71:ASN:HD22	25:T:77:ARG:HD3	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:416:U:O2'	29:X:419:G:H1'	2.06	0.55
29:X:636:G:H5'	29:X:636:G:H8	1.71	0.55
29:X:871:U:H2'	29:X:2247:A:N3	2.22	0.55
29:X:927:C:O2	31:Z:103:A:H4'	2.06	0.55
29:X:1304:U:O2'	29:X:1305:C:H5'	2.06	0.55
29:X:2405:A:H4'	29:X:2406:C:OP2	2.07	0.55
30:Y:12:SER:C	30:Y:14:SER:H	2.15	0.55
6:A:182:LEU:HD12	6:A:269:PHE:CD2	2.42	0.55
7:B:54:LYS:CB	7:B:75:THR:O	2.55	0.55
12:G:96:ASP:OD1	12:G:97:ASP:N	2.40	0.55
14:I:17:LYS:HE2	29:X:1258:G:P	2.46	0.55
15:J:123:GLY:HA2	15:J:126:LEU:HD12	1.88	0.55
19:N:62:ILE:HA	19:N:65:ILE:HD12	1.88	0.55
24:S:117:VAL:HG23	24:S:117:VAL:O	2.05	0.55
29:X:172:A:H3'	29:X:173:A:C5'	2.37	0.55
29:X:457:C:C2'	29:X:458:G:H5'	2.37	0.55
29:X:1335:A:O2'	29:X:1336:G:H5'	2.07	0.55
29:X:1377:G:N2	29:X:1380:C:OP2	2.33	0.55
29:X:1581:C:O2'	29:X:1582:A:H8	1.89	0.55
29:X:2560:G:C6	29:X:2589:C:C2	2.95	0.55
29:X:2708:U:C4	29:X:2709:C:N4	2.74	0.55
29:X:2811:G:C4	29:X:2812:A:N7	2.75	0.55
5:5:7:BB9:SG	11:F:21:PRO:HB3	2.47	0.55
6:A:223:GLY:HA2	6:A:226:MET:HG3	1.87	0.55
8:C:44:SER:OG	29:X:37:C:H1'	2.06	0.55
8:C:97:ARG:O	8:C:101:GLN:HG2	2.07	0.55
9:D:152:MET:HE2	9:D:154:ILE:HD11	1.89	0.55
11:F:19:PRO:HG2	11:F:21:PRO:CG	2.33	0.55
11:F:103:GLN:O	11:F:107:ILE:HG13	2.07	0.55
12:G:70:PHE:CE1	19:N:67:ALA:HB3	2.41	0.55
14:I:18:ARG:CB	14:I:21:ARG:HD3	2.37	0.55
14:I:119:THR:HG23	14:I:139:ARG:O	2.07	0.55
16:K:43:GLU:OE1	16:K:44:LEU:HA	2.07	0.55
17:L:91:ARG:NH2	29:X:2355:A:H61	2.04	0.55
26:U:48:LYS:HE3	29:X:2074:U:H1'	1.88	0.55
29:X:178:C:H2'	29:X:179:U:H5'	1.88	0.55
29:X:645:G:H2'	29:X:646:C:C6	2.42	0.55
29:X:1046:U:H5"	29:X:1046:U:H6	1.71	0.55
29:X:1422:C:H2'	29:X:1423:A:C8	2.42	0.55
29:X:1842:G:H5'	29:X:1842:G:H8	1.71	0.55
29:X:2007:G:N2	29:X:2023:C:N1	2.54	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2343:C:H2'	29:X:2344:G:O4'	2.06	0.55
29:X:2528:G:N3	29:X:2529:G:C8	2.75	0.55
31:Z:35:C:H2'	31:Z:36:A:O4'	2.07	0.55
8:C:83:ALA:O	8:C:85:GLY:N	2.40	0.55
9:D:133:LYS:O	9:D:134:GLU:C	2.50	0.55
12:G:55:ALA:HB1	12:G:134:MET:HE1	1.89	0.55
12:G:69:ASP:C	12:G:70:PHE:HD2	2.15	0.55
12:G:106:TYR:CZ	12:G:108:GLY:CA	2.89	0.55
13:H:100:ASN:C	13:H:100:ASN:OD1	2.49	0.55
14:I:13:ARG:HE	29:X:1218:C:C1'	2.20	0.55
14:I:120:VAL:C	14:I:121:HIS:HD2	2.15	0.55
15:J:33:TYR:O	15:J:106:GLU:HB2	2.07	0.55
15:J:83:ARG:HH22	29:X:970:A:H62	1.54	0.55
18:M:106:TYR:CD1	18:M:106:TYR:C	2.85	0.55
18:M:107:LEU:C	18:M:109:GLU:H	2.14	0.55
19:N:10:ARG:O	19:N:13:ARG:HB3	2.07	0.55
19:N:76:TYR:HE2	29:X:1164:C:H5'	1.72	0.55
22:Q:90:ALA:C	22:Q:92:ALA:N	2.64	0.55
24:S:34:LEU:HD12	24:S:34:LEU:C	2.32	0.55
27:V:31:GLN:O	27:V:34:ALA:HB3	2.06	0.55
28:W:37:THR:HB	28:W:38:PRO:HD2	1.88	0.55
28:W:47:VAL:O	28:W:48:LYS:C	2.50	0.55
29:X:119:G:H2'	29:X:120:G:C8	2.42	0.55
29:X:230:C:H2'	29:X:231:G:C5'	2.37	0.55
29:X:874:A:H2'	29:X:875:G:O4'	2.07	0.55
29:X:1170:U:O2'	29:X:1171:A:H5'	2.06	0.55
29:X:1869:A:H2'	29:X:1870:U:O4'	2.06	0.55
29:X:2007:G:N2	29:X:2023:C:C2	2.75	0.55
29:X:2011:U:H2'	29:X:2012:A:O4'	2.07	0.55
29:X:2054:A:H2'	29:X:2055:G:H8	1.71	0.55
29:X:2187:A:H2'	29:X:2188:A:C8	2.42	0.55
29:X:2199:C:O2	29:X:2199:C:H2'	2.05	0.55
29:X:2327:U:O2'	29:X:2328:G:H5'	2.07	0.55
29:X:2807:U:H5'	29:X:2807:U:H6	1.71	0.55
29:X:2835:A:OP2	29:X:2836:U:C5	2.60	0.55
29:X:2859:U:H2'	29:X:2860:C:C5'	2.37	0.55
6:A:149:PRO:HG3	6:A:186:HIS:NE2	2.22	0.55
7:B:91:VAL:HG13	7:B:180:ASN:ND2	2.21	0.55
8:C:86:PRO:HB3	29:X:1261:G:P	2.47	0.55
9:D:71:LYS:O	9:D:72:LYS:HB2	2.06	0.55
11:F:111:LYS:O	11:F:115:LEU:HG	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:16:ALA:HB2	13:H:64:VAL:CG1	2.37	0.55
13:H:23:ARG:HH22	13:H:25:LEU:HD23	1.68	0.55
14:I:40:ARG:CZ	29:X:577:U:P	2.95	0.55
16:K:45:ARG:HB3	16:K:46:PRO:HD3	1.89	0.55
17:L:76:ALA:HB2	17:L:107:ALA:CA	2.33	0.55
18:M:104:LEU:HD23	18:M:106:TYR:OH	2.07	0.55
19:N:55:ARG:HG2	29:X:1166:A:OP1	2.07	0.55
21:P:91:PHE:O	21:P:92:VAL:C	2.50	0.55
24:S:39:PHE:HA	24:S:42:ALA:HB3	1.89	0.55
29:X:210:A:N6	29:X:441:A:H62	2.05	0.55
29:X:305:A:C2'	29:X:306:G:H5'	2.36	0.55
29:X:915:C:H2'	29:X:916:U:H6	1.72	0.55
29:X:1498:G:N2	29:X:1523:A:H1'	2.22	0.55
29:X:2198:U:C6	29:X:2198:U:OP2	2.59	0.55
29:X:2501:U:H5'	29:X:2502:G:OP2	2.06	0.55
29:X:2602:G:N3	29:X:2603:G:C8	2.74	0.55
29:X:2810:A:N6	29:X:2854:G:O4'	2.40	0.55
6:A:219:PRO:HB2	29:X:1781:C:OP1	2.07	0.55
7:B:80:GLU:OE2	29:X:2615:U:H4'	2.07	0.55
8:C:109:ALA:O	8:C:110:SER:C	2.49	0.55
9:D:128:TYR:HD2	9:D:156:ILE:HD12	1.70	0.55
11:F:12:LEU:HD22	11:F:22:PRO:HB3	1.88	0.55
11:F:19:PRO:HG2	11:F:22:PRO:HD3	1.88	0.55
11:F:19:PRO:HG2	11:F:22:PRO:CD	2.37	0.55
12:G:86:ALA:HB2	12:G:152:ALA:HB1	1.88	0.55
12:G:131:VAL:O	12:G:133:GLY:N	2.39	0.55
14:I:76:LYS:HG3	14:I:111:SER:CB	2.35	0.55
15:J:43:ILE:O	15:J:95:VAL:HA	2.07	0.55
19:N:39:LEU:HB3	20:O:72:ARG:HH22	1.72	0.55
23:R:28:LYS:HG2	23:R:29:HIS:N	2.22	0.55
25:T:14:ARG:HG3	25:T:15:ASP:OD2	2.07	0.55
26:U:28:GLY:O	26:U:30:VAL:N	2.39	0.55
29:X:165:G:H2'	29:X:166:G:H5'	1.89	0.55
29:X:238:G:O2'	29:X:239:A:H5'	2.07	0.55
29:X:580:A:O2'	29:X:581:A:O5'	2.25	0.55
29:X:1429:A:O2'	29:X:1430:G:H4'	2.06	0.55
29:X:2070:G:H2'	29:X:2071:G:H8	1.71	0.55
29:X:2241:U:O4'	29:X:2306:A:H2	1.90	0.55
29:X:2264:C:H5'	29:X:2267:A:N6	2.22	0.55
7:B:131:SER:C	7:B:132:LYS:HG2	2.31	0.54
10:E:109:TYR:O	10:E:110:SER:C	2.50	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:119:LEU:HD13	12:G:126:VAL:HG22	1.88	0.54
14:I:13:ARG:HH11	29:X:1218:C:H5'	1.73	0.54
17:L:72:GLY:HA3	17:L:103:LEU:HA	1.89	0.54
19:N:86:ALA:C	19:N:88:ILE:N	2.62	0.54
20:O:78:VAL:O	20:O:79:GLN:CB	2.54	0.54
22:Q:50:VAL:HG13	22:Q:81:ARG:O	2.07	0.54
26:U:15:VAL:O	26:U:16:ASN:C	2.50	0.54
26:U:63:SER:O	26:U:64:ALA:C	2.50	0.54
29:X:604:U:H2'	29:X:605:G:H8	1.73	0.54
29:X:677:G:O2'	29:X:678:G:H5'	2.07	0.54
29:X:990:A:H2'	29:X:993:C:H42	1.73	0.54
29:X:1025:A:O2'	29:X:1026:U:H5'	2.07	0.54
29:X:1118:G:C3'	29:X:1119:U:H5"	2.37	0.54
29:X:1272:G:H2'	29:X:1273:G:H8	1.72	0.54
29:X:1285:A:HO2'	29:X:1286:U:P	2.30	0.54
29:X:1420:A:H2'	29:X:1421:U:C6	2.43	0.54
29:X:1734:C:H5"	29:X:1735:G:H8	1.70	0.54
29:X:1909:U:H5	29:X:1911:A:N6	2.04	0.54
29:X:1920:A:C5	29:X:1922:U:C5	2.96	0.54
29:X:2235:G:N2	29:X:2254:C:C5	2.74	0.54
29:X:2301:A:H2'	29:X:2302:G:H8	1.73	0.54
6:A:268:ARG:O	6:A:269:PHE:HB2	2.08	0.54
8:C:112:GLN:CB	8:C:116:LYS:HD3	2.37	0.54
8:C:147:LYS:HB2	8:C:184:ASP:N	2.21	0.54
9:D:92:ARG:NH1	31:Z:47:A:H8	2.05	0.54
9:D:123:ASP:C	9:D:125:ARG:N	2.64	0.54
12:G:68:PRO:O	12:G:70:PHE:CE2	2.61	0.54
18:M:99:VAL:O	18:M:100:ARG:HG2	2.07	0.54
18:M:106:TYR:CD2	29:X:1745:C:H5'	2.41	0.54
19:N:45:TYR:O	19:N:46:GLU:C	2.49	0.54
25:T:40:GLN:NE2	25:T:43:THR:CA	2.69	0.54
29:X:1194:U:H6	29:X:1194:U:C5'	2.19	0.54
29:X:1234:C:O2	29:X:1242:A:C2	2.61	0.54
29:X:1416:A:O2'	29:X:1417:C:H5'	2.07	0.54
29:X:1442:C:C4	29:X:1585:A:H5"	2.41	0.54
29:X:1687:C:HO2'	29:X:1977:C:H4'	1.73	0.54
29:X:2201:G:O2'	29:X:2202:G:H5'	2.07	0.54
6:A:226:MET:HE2	6:A:231:HIS:CB	2.37	0.54
6:A:244:ARG:HG2	29:X:1884:A:O2'	2.06	0.54
7:B:107:THR:O	7:B:190:GLY:CA	2.56	0.54
9:D:92:ARG:CZ	31:Z:45:C:H2'	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:59:ALA:CB	12:G:134:MET:HE3	2.35	0.54
12:G:101:THR:HG1	12:G:103:TYR:HE1	1.54	0.54
12:G:151:TYR:HE2	12:G:160:ALA:HB3	1.71	0.54
13:H:83:ARG:CD	13:H:89:ILE:HD11	2.35	0.54
18:M:34:ARG:NH1	18:M:88:VAL:HG21	2.23	0.54
18:M:55:ILE:CG2	18:M:104:LEU:HB2	2.33	0.54
19:N:79:PHE:HE2	19:N:95:LEU:HD21	1.71	0.54
19:N:93:LYS:O	19:N:93:LYS:HD2	2.07	0.54
22:Q:13:SER:HB3	29:X:1351:G:H5"	1.88	0.54
23:R:4:PRO:HA	29:X:34:U:H1'	1.88	0.54
29:X:353:G:H2'	29:X:354:C:O4'	2.07	0.54
29:X:639:G:H8	29:X:639:G:O5'	1.90	0.54
29:X:677:G:C2	29:X:678:G:C8	2.96	0.54
29:X:800:U:C5	29:X:804:C:N3	2.76	0.54
29:X:862:A:H2'	29:X:863:C:H6	1.69	0.54
29:X:944:A:O2'	29:X:945:G:H5'	2.06	0.54
29:X:1742:G:H2'	29:X:1743:C:C6	2.42	0.54
29:X:2604:G:C5	29:X:2605:C:C4	2.96	0.54
9:D:125:ARG:HH22	29:X:2281:C:H1'	1.72	0.54
11:F:62:ASP:C	11:F:63:ARG:HD3	2.32	0.54
13:H:35:THR:HG22	29:X:2629:U:OP1	2.07	0.54
13:H:125:LYS:HA	13:H:128:SER:OG	2.07	0.54
15:J:113:GLU:HA	15:J:116:LYS:HB2	1.88	0.54
17:L:33:ARG:O	17:L:99:ARG:CZ	2.55	0.54
18:M:68:VAL:HG23	18:M:68:VAL:O	2.07	0.54
19:N:40:LEU:O	19:N:41:ASN:C	2.48	0.54
25:T:44:LYS:HG2	25:T:45:PHE:CE1	2.42	0.54
28:W:14:GLY:O	28:W:17:VAL:HG23	2.07	0.54
29:X:15:G:C4	29:X:16:G:C8	2.96	0.54
29:X:804:C:O2'	29:X:805:G:C5'	2.54	0.54
29:X:1998:A:N3	30:Y:3:LYS:HB3	2.22	0.54
29:X:2081:U:O5'	29:X:2081:U:H6	1.90	0.54
29:X:2357:A:H2'	29:X:2358:C:H5'	1.90	0.54
29:X:2370:G:H2'	29:X:2403:C:N4	2.22	0.54
29:X:2820:C:H2'	29:X:2821:G:H8	1.73	0.54
31:Z:104:A:C5	31:Z:105:G:N7	2.76	0.54
6:A:50:THR:HG22	6:A:51:SER:N	2.22	0.54
9:D:49:ALA:O	9:D:52:LYS:N	2.40	0.54
9:D:136:LEU:O	9:D:137:ILE:HG23	2.06	0.54
12:G:44:VAL:CG1	12:G:45:ASP:H	2.20	0.54
13:H:112:GLY:H	13:H:131:PRO:HG2	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:97:ARG:O	14:I:98:LEU:HB3	2.08	0.54
15:J:28:VAL:HB	15:J:137:VAL:HB	1.90	0.54
19:N:3:ARG:HD3	29:X:458:G:OP1	2.06	0.54
19:N:47:TYR:HD1	19:N:50:ARG:HH12	1.56	0.54
21:P:26:ALA:CB	21:P:74:SER:HB3	2.37	0.54
24:S:13:LYS:HB2	24:S:13:LYS:HZ2	1.69	0.54
24:S:51:LEU:CB	24:S:64:ALA:O	2.55	0.54
24:S:63:PRO:O	24:S:85:MET:SD	2.65	0.54
24:S:107:GLU:HA	24:S:111:GLY:O	2.07	0.54
25:T:20:TYR:O	25:T:21:LEU:HB2	2.07	0.54
25:T:40:GLN:HE22	25:T:43:THR:HA	1.69	0.54
26:U:45:ASN:ND2	29:X:409:G:H1'	2.23	0.54
26:U:49:LYS:HD3	26:U:61:TRP:CE2	2.42	0.54
29:X:113:C:O2'	29:X:114:C:H5'	2.06	0.54
29:X:322:A:O2'	29:X:323:G:OP2	2.25	0.54
29:X:357:A:H3'	29:X:358:C:O4'	2.08	0.54
29:X:558:G:H8	29:X:559:C:C5	2.23	0.54
29:X:664:C:H3'	29:X:665:A:C2	2.42	0.54
29:X:699:G:C5'	29:X:700:C:OP2	2.56	0.54
29:X:932:G:H2'	29:X:933:G:C8	2.42	0.54
29:X:1040:A:C8	29:X:1041:G:C8	2.95	0.54
29:X:1086:C:C3'	29:X:1087:C:H5"	2.36	0.54
29:X:1224:A:H4'	29:X:1225:G:OP2	2.08	0.54
29:X:1471:G:O2'	29:X:1472:C:H5'	2.07	0.54
29:X:1640:C:H2'	29:X:1641:C:H6	1.72	0.54
29:X:1811:A:H4'	29:X:1812:U:H5"	1.88	0.54
29:X:2396:C:H5'	29:X:2396:C:C6	2.41	0.54
29:X:2603:G:N1	29:X:2604:G:C5	2.75	0.54
31:Z:4:C:C2'	31:Z:5:C:H5'	2.38	0.54
7:B:136:ARG:HG2	7:B:137:ARG:N	2.23	0.54
7:B:141:ILE:CG2	7:B:150:VAL:HB	2.37	0.54
8:C:112:GLN:HA	8:C:116:LYS:CD	2.36	0.54
13:H:100:ASN:OD1	13:H:102:GLN:N	2.33	0.54
15:J:79:PRO:HD3	15:J:88:LYS:HZ2	1.73	0.54
16:K:100:VAL:CG1	16:K:101:GLY:N	2.68	0.54
18:M:36:ASP:C	18:M:36:ASP:OD1	2.50	0.54
18:M:91:VAL:HG12	18:M:92:THR:H	1.72	0.54
19:N:22:LYS:NZ	19:N:22:LYS:HB3	2.23	0.54
19:N:52:ASN:HA	19:N:55:ARG:HE	1.73	0.54
20:O:13:ARG:HG2	20:O:14:VAL:H	1.72	0.54
23:R:53:VAL:HG21	23:R:74:LEU:CD2	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:48:A:H1'	29:X:50:G:C4	2.42	0.54
29:X:490:A:O2'	29:X:491:A:O5'	2.20	0.54
29:X:759:C:C6	29:X:759:C:H5'	2.43	0.54
29:X:831:G:C2	29:X:1204:G:O6	2.61	0.54
29:X:968:C:C4	29:X:970:A:C5	2.96	0.54
29:X:1211:G:H2'	29:X:1212:U:H6	1.73	0.54
29:X:1266:G:H5'	29:X:1267:A:OP2	2.07	0.54
29:X:2043:A:O2'	29:X:2481:G:H5'	2.08	0.54
29:X:2217:G:H5'	29:X:2218:G:N7	2.22	0.54
29:X:2231:G:O2'	29:X:2232:G:H5'	2.08	0.54
29:X:2799:C:N3	29:X:2800:C:C2	2.75	0.54
8:C:28:HIS:O	8:C:29:GLU:C	2.51	0.54
9:D:122:PHE:HD2	9:D:129:ASN:N	2.00	0.54
10:E:38:ASN:ND2	10:E:64:LEU:CD1	2.71	0.54
10:E:163:ARG:HD3	10:E:167:GLU:CB	2.36	0.54
11:F:20:ALA:N	11:F:21:PRO:CD	2.69	0.54
12:G:69:ASP:C	12:G:70:PHE:CD2	2.86	0.54
13:H:47:VAL:HG11	13:H:115:ALA:HB2	1.85	0.54
14:I:53:ARG:NH2	29:X:228:A:H5'	2.23	0.54
15:J:28:VAL:HG23	15:J:137:VAL:HG21	1.89	0.54
15:J:136:GLU:HA	15:J:138:TYR:CE2	2.43	0.54
17:L:31:VAL:HA	17:L:38:ILE:CD1	2.38	0.54
20:O:61:VAL:HG23	20:O:94:LYS:N	2.21	0.54
21:P:106:LEU:C	21:P:106:LEU:CD2	2.80	0.54
22:Q:39:LYS:O	22:Q:42:ILE:CG2	2.56	0.54
24:S:70:GLN:O	24:S:79:ILE:CG2	2.55	0.54
25:T:40:GLN:HG2	25:T:57:HIS:O	2.08	0.54
29:X:213:C:H2'	29:X:214:C:H6	1.72	0.54
29:X:318:G:H5'	29:X:318:G:C8	2.42	0.54
29:X:318:G:H5'	29:X:318:G:H8	1.71	0.54
29:X:343:A:H1'	29:X:346:C:H42	1.73	0.54
29:X:503:G:H2'	29:X:504:G:O4'	2.08	0.54
29:X:537:C:H5	29:X:2759:U:H3'	1.70	0.54
29:X:925:U:O2'	29:X:926:C:H5'	2.08	0.54
29:X:957:G:N3	29:X:958:G:C8	2.76	0.54
29:X:994:A:O2'	29:X:995:A:OP1	2.24	0.54
29:X:1221:C:H2'	29:X:1222:G:C8	2.42	0.54
29:X:1287:A:N1	29:X:1662:G:H5'	2.23	0.54
29:X:2528:G:C2	29:X:2529:G:C5	2.95	0.54
29:X:2594:U:C2	29:X:2595:C:C5	2.96	0.54
29:X:2859:U:C5	29:X:2860:C:C6	2.96	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2862:G:C2	29:X:2863:U:C2	2.96	0.54
31:Z:77:G:H2'	31:Z:78:A:C8	2.43	0.54
8:C:101:GLN:O	8:C:103:GLY:N	2.41	0.54
8:C:112:GLN:O	8:C:116:LYS:HE2	2.08	0.54
12:G:106:TYR:CE2	12:G:108:GLY:HA3	2.42	0.54
13:H:16:ALA:HB2	13:H:64:VAL:HG11	1.89	0.54
15:J:14:PHE:O	15:J:15:ARG:HG3	2.07	0.54
15:J:69:ILE:HD13	15:J:104:MET:SD	2.48	0.54
16:K:87:TYR:CD1	16:K:90:ARG:CD	2.85	0.54
18:M:24:LEU:HD11	18:M:34:ARG:NH2	2.23	0.54
20:O:29:ALA:O	20:O:31:ASP:N	2.40	0.54
22:Q:26:SER:HB3	22:Q:79:ILE:HG12	1.89	0.54
22:Q:33:ALA:O	22:Q:34:THR:C	2.51	0.54
23:R:108:VAL:HG12	23:R:109:ALA:N	2.23	0.54
29:X:141:G:O2'	29:X:142:U:H5'	2.08	0.54
29:X:332:C:H2'	29:X:351:A:O2'	2.07	0.54
29:X:590:C:C2	29:X:591:G:N7	2.76	0.54
29:X:648:A:H4'	29:X:649:G:C4'	2.37	0.54
29:X:1310:C:H2'	29:X:1311:C:C6	2.41	0.54
29:X:1451:C:H2'	29:X:1452:U:C6	2.43	0.54
29:X:1592:U:H2'	29:X:1593:C:H5'	1.90	0.54
29:X:2438:A:C6	29:X:2439:U:N3	2.76	0.54
29:X:2486:C:O2'	29:X:2487:G:H5'	2.08	0.54
29:X:2597:G:C6	29:X:2598:C:C4	2.96	0.54
29:X:2656:G:N2	29:X:2711:G:C4	2.75	0.54
31:Z:64:C:H2'	31:Z:65:A:C8	2.41	0.54
31:Z:65:A:O2'	31:Z:66:G:H5'	2.08	0.54
7:B:85:ALA:O	7:B:86:PRO:O	2.26	0.54
7:B:197:VAL:C	7:B:198:LEU:HD12	2.33	0.54
8:C:112:GLN:NE2	8:C:116:LYS:HB2	2.23	0.54
9:D:33:LYS:HD2	9:D:90:THR:CG2	2.37	0.54
10:E:39:THR:C	10:E:41:LEU:H	2.15	0.54
10:E:72:VAL:O	10:E:76:VAL:HG23	2.08	0.54
12:G:128:GLU:OE1	12:G:129:HIS:NE2	2.41	0.54
15:J:17:ARG:NH1	29:X:969:U:H5"	2.22	0.54
15:J:128:ILE:HD13	15:J:130:THR:HG23	1.90	0.54
16:K:63:ARG:HH11	16:K:63:ARG:HG3	1.73	0.54
16:K:72:ASP:O	16:K:75:VAL:HB	2.08	0.54
17:L:35:SER:OG	17:L:36:LYS:N	2.41	0.54
19:N:82:GLY:HA3	19:N:113:SER:HG	1.72	0.54
21:P:117:ILE:CG2	29:X:1995:G:O3'	2.56	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:61:LYS:N	22:Q:72:ARG:HA	2.19	0.54
24:S:13:LYS:HB2	24:S:13:LYS:HZ3	1.71	0.54
26:U:46:LEU:HB2	29:X:2209:G:H4'	1.90	0.54
26:U:46:LEU:C	26:U:47:HIS:CG	2.86	0.54
27:V:48:ARG:O	27:V:52:GLN:HG3	2.08	0.54
29:X:455:A:H2	29:X:1258:G:N3	2.06	0.54
29:X:531:G:O2'	29:X:532:A:H5'	2.08	0.54
29:X:534:U:O2'	29:X:535:U:H5'	2.08	0.54
29:X:540:G:N3	29:X:2004:U:O2'	2.40	0.54
29:X:813:A:N9	29:X:815:A:H5'	2.23	0.54
29:X:876:A:H8	29:X:876:A:O5'	1.91	0.54
29:X:1099:A:H4'	29:X:1100:G:C8	2.42	0.54
29:X:1681:A:C2	29:X:2706:U:N1	2.75	0.54
29:X:2275:U:C4'	29:X:2276:C:OP1	2.56	0.54
29:X:2502:G:C2'	29:X:2503:G:H5'	2.38	0.54
29:X:2690:A:OP1	29:X:2692:A:P	2.66	0.54
6:A:153:ALA:O	6:A:157:ARG:NH2	2.41	0.54
8:C:112:GLN:HA	8:C:116:LYS:CB	2.37	0.54
12:G:137:LYS:HG2	12:G:137:LYS:O	2.07	0.54
14:I:93:LEU:O	14:I:97:ARG:HG3	2.08	0.54
15:J:106:GLU:N	15:J:106:GLU:OE1	2.41	0.54
16:K:108:VAL:O	16:K:108:VAL:HG12	2.07	0.54
17:L:33:ARG:CZ	17:L:103:LEU:HD12	2.37	0.54
20:O:88:GLN:NE2	29:X:1004:A:N3	2.56	0.54
23:R:22:VAL:HG21	23:R:80:LYS:HZ1	1.72	0.54
23:R:105:ARG:HH12	23:R:112:LYS:HA	1.73	0.54
24:S:149:ALA:C	24:S:151:ASP:H	2.16	0.54
25:T:29:GLU:OE2	29:X:935:C:H4'	2.07	0.54
26:U:48:LYS:HG3	29:X:1801:C:N4	2.23	0.54
29:X:464:G:N2	29:X:465:C:C2	2.76	0.54
29:X:649:G:N2	29:X:661:C:H1'	2.23	0.54
29:X:1011:A:H2'	29:X:1012:A:O4'	2.07	0.54
29:X:1278:A:HO2'	29:X:1279:G:P	2.31	0.54
29:X:1465:G:H2'	29:X:1466:C:C6	2.43	0.54
29:X:1581:C:O2'	29:X:1582:A:O5'	2.26	0.54
29:X:1656:U:H2'	29:X:1657:A:H5"	1.90	0.54
29:X:1993:G:C2'	29:X:1994:U:O5'	2.56	0.54
29:X:2030:U:O2'	29:X:2031:A:H5'	2.08	0.54
29:X:2849:C:O2	29:X:2850:U:C5	2.61	0.54
31:Z:118:G:O2'	31:Z:119:G:H5'	2.07	0.54
6:A:43:ARG:H	6:A:43:ARG:CD	2.12	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:155:GLU:O	8:C:157:THR:N	2.41	0.53
11:F:2:LYS:N	11:F:2:LYS:CD	2.61	0.53
13:H:78:SER:HA	13:H:91:PHE:O	2.07	0.53
14:I:31:GLY:O	14:I:32:ARG:C	2.50	0.53
20:O:11:GLN:CD	20:O:38:LEU:HB3	2.32	0.53
21:P:14:ARG:HA	21:P:17:GLN:NE2	2.23	0.53
21:P:27:VAL:HA	21:P:125:THR:HA	1.90	0.53
22:Q:38:ILE:O	22:Q:42:ILE:HG22	2.08	0.53
26:U:22:GLY:HA3	26:U:39:LYS:CD	2.38	0.53
26:U:33:LYS:O	26:U:34:THR:HB	2.08	0.53
26:U:49:LYS:HD3	26:U:61:TRP:CD1	2.42	0.53
29:X:182:G:C2'	29:X:183:U:OP2	2.55	0.53
29:X:189:A:O2'	29:X:190:A:H5'	2.08	0.53
29:X:357:A:N7	29:X:358:C:H1'	2.23	0.53
29:X:430:C:H6	29:X:430:C:O5'	1.91	0.53
29:X:683:A:HO2'	29:X:684:C:P	2.30	0.53
29:X:699:G:H5'	29:X:700:C:OP2	2.07	0.53
29:X:888:G:C6	29:X:889:C:C2	2.97	0.53
29:X:1139:A:O2'	29:X:1140:A:O5'	2.25	0.53
29:X:1737:G:O2'	29:X:1738:U:H5'	2.08	0.53
29:X:1811:A:H4'	29:X:1812:U:C5'	2.38	0.53
29:X:1923:U:H4'	29:X:1924:C:O5'	2.08	0.53
29:X:2226:A:H2'	29:X:2227:C:C6	2.42	0.53
29:X:2450:A:H2'	29:X:2451:G:H5'	1.90	0.53
29:X:2604:G:C4	29:X:2605:C:C5	2.96	0.53
29:X:2670:C:C6	29:X:2847:G:N1	2.76	0.53
29:X:2699:G:O2'	29:X:2700:U:C5'	2.53	0.53
29:X:2762:G:C2	29:X:2763:U:C6	2.96	0.53
29:X:2798:A:C4	29:X:2799:C:C5	2.96	0.53
6:A:210:GLY:O	6:A:211:ARG:C	2.51	0.53
6:A:257:LEU:HB3	29:X:1794:A:O3'	2.08	0.53
8:C:7:ILE:HB	8:C:120:VAL:H	1.72	0.53
8:C:28:HIS:C	8:C:30:VAL:N	2.64	0.53
8:C:149:LEU:O	8:C:186:LEU:HD12	2.08	0.53
10:E:171:LEU:N	10:E:171:LEU:HD12	2.23	0.53
14:I:45:LYS:CG	14:I:46:GLY:N	2.71	0.53
16:K:91:PRO:O	16:K:92:GLY:O	2.26	0.53
16:K:95:THR:HG22	16:K:95:THR:O	2.08	0.53
18:M:106:TYR:CD1	18:M:107:LEU:HD23	2.42	0.53
25:T:44:LYS:HG2	25:T:45:PHE:CD1	2.42	0.53
26:U:22:GLY:HA3	26:U:39:LYS:CE	2.36	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:133:C:C2'	29:X:134:G:H5'	2.37	0.53
29:X:1071:U:H4'	29:X:1072:U:C5'	2.38	0.53
29:X:1345:G:H4'	29:X:1346:C:OP1	2.07	0.53
29:X:1446:U:H3	29:X:1577:G:H1	1.55	0.53
29:X:2178:U:H2'	29:X:2179:C:C6	2.42	0.53
29:X:2485:U:O2'	29:X:2486:C:C5'	2.56	0.53
29:X:2551:A:O5'	29:X:2553:G:H4'	2.09	0.53
8:C:48:ARG:O	8:C:51:VAL:CG2	2.56	0.53
8:C:138:LYS:C	8:C:140:ASN:N	2.62	0.53
10:E:11:VAL:HG12	10:E:15:VAL:CG2	2.36	0.53
10:E:12:PRO:O	10:E:15:VAL:HG22	2.08	0.53
12:G:141:GLY:O	12:G:142:ARG:C	2.51	0.53
13:H:26:ASN:HD22	13:H:38:GLY:N	2.05	0.53
14:I:63:ARG:HD2	29:X:2394:G:OP1	2.08	0.53
15:J:15:ARG:CD	15:J:73:LYS:HZ2	2.07	0.53
15:J:35:LEU:N	15:J:119:PHE:CE1	2.77	0.53
15:J:99:LYS:HD2	15:J:100:PRO:CD	2.34	0.53
15:J:128:ILE:HD12	15:J:128:ILE:C	2.34	0.53
18:M:82:PRO:HB2	18:M:85:SER:HB2	1.89	0.53
23:R:90:LYS:HD2	23:R:108:VAL:CG2	2.38	0.53
23:R:108:VAL:HG12	23:R:109:ALA:H	1.74	0.53
24:S:157:GLY:O	24:S:158:CYS:C	2.50	0.53
29:X:310:A:C2	29:X:331:U:H4'	2.43	0.53
29:X:402:A:C8	29:X:2392:G:H4'	2.43	0.53
29:X:516:G:O2'	29:X:517:A:P	2.67	0.53
29:X:640:C:C4	29:X:641:G:N7	2.77	0.53
29:X:783:G:H1'	29:X:1392:U:C4	2.43	0.53
29:X:968:C:C4	29:X:970:A:C4	2.97	0.53
29:X:1842:G:O2'	29:X:1843:U:H5'	2.08	0.53
29:X:1982:C:OP1	29:X:2703:C:O2'	2.26	0.53
29:X:2037:A:N1	29:X:2595:C:C4	2.76	0.53
29:X:2040:A:C2'	29:X:2041:A:H8	2.11	0.53
29:X:2055:G:HO2'	29:X:2056:C:H5'	1.71	0.53
29:X:2266:A:O2'	29:X:2267:A:H3'	2.08	0.53
29:X:2337:A:H2'	29:X:2338:C:C6	2.44	0.53
29:X:2395:C:C2'	29:X:2396:C:C5'	2.86	0.53
29:X:2646:C:H2'	29:X:2647:G:O4'	2.08	0.53
29:X:2780:A:O2'	29:X:2781:G:H5'	2.07	0.53
31:Z:122:U:O5'	31:Z:122:U:H6	1.92	0.53
4:4:9:LYS:H	4:4:9:LYS:HD2	1.74	0.53
8:C:23:ASN:CG	8:C:26:VAL:HG23	2.33	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:144:GLY:HA3	8:C:166:TRP:NE1	2.23	0.53
9:D:4:LEU:HD11	9:D:173:MET:CE	2.38	0.53
12:G:43:VAL:O	12:G:167:LYS:HA	2.08	0.53
13:H:26:ASN:HB3	13:H:38:GLY:H	1.73	0.53
13:H:100:ASN:O	13:H:102:GLN:N	2.41	0.53
14:I:32:ARG:NH1	20:O:81:ARG:NH2	2.55	0.53
14:I:32:ARG:NH2	20:O:79:GLN:C	2.65	0.53
15:J:79:PRO:CG	15:J:88:LYS:HD2	2.39	0.53
17:L:33:ARG:NH1	17:L:99:ARG:O	2.41	0.53
17:L:91:ARG:HG2	17:L:92:GLY:N	2.24	0.53
19:N:24:PHE:CD1	29:X:543:G:H5'	2.43	0.53
19:N:31:GLN:HE22	29:X:589:C:H4'	1.73	0.53
22:Q:7:LEU:O	22:Q:7:LEU:HD13	2.08	0.53
23:R:25:LEU:H	23:R:25:LEU:HD13	1.72	0.53
26:U:46:LEU:HB2	29:X:2209:G:C5'	2.37	0.53
29:X:13:A:O2'	29:X:15:G:N7	2.40	0.53
29:X:810:U:C6	29:X:810:U:C3'	2.92	0.53
29:X:822:G:C2'	29:X:823:U:C5'	2.76	0.53
29:X:889:C:H2'	29:X:890:U:O4'	2.08	0.53
29:X:913:A:O5'	29:X:913:A:H8	1.91	0.53
29:X:957:G:H2'	29:X:958:G:H8	1.74	0.53
29:X:1386:A:C5'	29:X:2191:A:C6	2.88	0.53
29:X:1749:G:C2'	29:X:1750:A:OP1	2.57	0.53
29:X:1782:A:C6	29:X:1821:A:H5'	2.43	0.53
29:X:2266:A:N6	29:X:2323:U:H3	2.07	0.53
29:X:2352:A:H2'	29:X:2353:G:C8	2.44	0.53
29:X:2395:C:C2'	29:X:2396:C:H5"	2.39	0.53
29:X:2517:C:O2'	29:X:2518:C:H5'	2.08	0.53
29:X:2557:G:H2'	29:X:2558:C:C6	2.43	0.53
29:X:2620:G:H2'	29:X:2621:G:H8	1.73	0.53
29:X:2760:G:C2'	29:X:2761:A:OP1	2.56	0.53
7:B:75:THR:CG2	7:B:76:ARG:H	2.11	0.53
8:C:90:SER:O	8:C:91:TYR:C	2.51	0.53
12:G:60:SER:O	12:G:64:GLY:N	2.37	0.53
14:I:73:GLU:HG2	14:I:101:ARG:CB	2.38	0.53
14:I:105:PRO:O	14:I:106:VAL:CG2	2.56	0.53
16:K:3:HIS:ND1	16:K:5:LYS:HD2	2.24	0.53
16:K:13:ASN:ND2	16:K:14:SER:H	2.07	0.53
18:M:101:ARG:O	18:M:101:ARG:HG3	2.09	0.53
18:M:106:TYR:CD1	18:M:107:LEU:CD2	2.90	0.53
19:N:37:GLN:HE22	29:X:572:G:H21	1.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:37:GLN:HE22	29:X:572:G:N2	2.06	0.53
19:N:66:ASN:HB3	19:N:76:TYR:N	2.23	0.53
20:O:42:GLY:O	20:O:43:GLU:HB2	2.09	0.53
21:P:79:ALA:O	21:P:85:MET:HB2	2.09	0.53
23:R:5:SER:O	23:R:6:ALA:HB3	2.07	0.53
23:R:9:HIS:ND1	29:X:337:G:O2'	2.42	0.53
24:S:4:THR:HG22	24:S:57:GLU:HB2	1.90	0.53
26:U:52:ARG:HH12	26:U:67:LEU:HD13	1.73	0.53
29:X:583:C:O2'	29:X:584:A:OP2	2.27	0.53
29:X:719:A:N6	29:X:738:G:C2'	2.69	0.53
29:X:780:U:H2'	29:X:781:G:C8	2.42	0.53
29:X:1492:A:O2'	29:X:1493:A:C8	2.61	0.53
29:X:1522:C:H2'	29:X:1523:A:H5"	1.90	0.53
29:X:1693:A:O2'	29:X:1694:A:H5'	2.08	0.53
29:X:2034:A:H2'	29:X:2593:A:H61	1.73	0.53
29:X:2204:A:H4'	29:X:2205:C:O5'	2.09	0.53
29:X:2536:G:O2'	29:X:2537:C:H5'	2.09	0.53
29:X:2818:G:C6	29:X:2819:G:C5	2.97	0.53
6:A:64:ILE:C	6:A:65:ILE:HG13	2.33	0.53
6:A:99:ASP:OD1	29:X:1507:A:H5'	2.09	0.53
8:C:8:GLY:O	8:C:9:GLN:HB3	2.09	0.53
9:D:75:SER:HB2	9:D:79:LEU:HD22	1.89	0.53
12:G:128:GLU:HG2	12:G:129:HIS:HD2	1.73	0.53
12:G:132:PHE:HZ	12:G:142:ARG:HA	1.71	0.53
13:H:133:VAL:HG12	13:H:133:VAL:O	2.08	0.53
15:J:40:PRO:HG3	15:J:99:LYS:CE	2.39	0.53
16:K:11:ASN:HD21	16:K:17:ARG:HH11	1.52	0.53
16:K:48:VAL:CG1	16:K:49:GLU:N	2.71	0.53
17:L:38:ILE:HG13	17:L:39:TYR:N	2.23	0.53
17:L:64:LYS:N	17:L:64:LYS:CD	2.71	0.53
18:M:34:ARG:CZ	18:M:66:PHE:CE2	2.91	0.53
21:P:85:MET:HE2	21:P:130:GLU:HG3	1.86	0.53
21:P:98:ASP:HB3	29:X:24:G:O2'	2.07	0.53
23:R:54:ILE:HD13	23:R:71:GLN:HA	1.91	0.53
24:S:141:MET:HA	24:S:145:ASP:CG	2.34	0.53
25:T:39:ARG:NE	29:X:2334:C:O2'	2.41	0.53
29:X:525:A:C8	29:X:526:C:C5	2.97	0.53
29:X:737:C:H2'	29:X:738:G:C8	2.44	0.53
29:X:762:A:C5	29:X:1634:A:C2	2.97	0.53
29:X:812:G:H2'	29:X:813:A:C8	2.44	0.53
29:X:976:C:H4'	29:X:2252:A:C1'	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1189:G:H2'	29:X:1190:C:O4'	2.09	0.53
29:X:1286:U:O3'	29:X:1288:A:OP2	2.27	0.53
29:X:1325:U:H5"	29:X:1326:U:OP1	2.09	0.53
29:X:1487:C:O5'	29:X:1487:C:H6	1.92	0.53
29:X:1505:U:H3'	29:X:1505:U:H6	1.72	0.53
29:X:1552:C:O2'	29:X:1553:G:O5'	2.25	0.53
29:X:1787:U:H2'	29:X:1788:C:H6	1.73	0.53
29:X:1979:C:OP1	29:X:1979:C:C6	2.58	0.53
31:Z:35:C:O2'	31:Z:36:A:H5'	2.09	0.53
4:4:17:VAL:HG23	4:4:26:ILE:HG12	1.91	0.53
4:4:23:VAL:C	4:4:24:LEU:HD12	2.34	0.53
7:B:29:GLY:O	7:B:30:PRO:C	2.51	0.53
7:B:144:ARG:NH1	29:X:2551:A:N3	2.56	0.53
8:C:62:LYS:HD3	8:C:63:GLY:N	2.24	0.53
12:G:103:TYR:CD1	12:G:103:TYR:N	2.76	0.53
15:J:27:TYR:CB	15:J:137:VAL:HG11	2.39	0.53
16:K:40:LYS:HZ2	29:X:1290:A:H5"	1.73	0.53
17:L:10:LYS:C	17:L:14:ARG:HG3	2.33	0.53
17:L:30:SER:C	17:L:31:VAL:HG12	2.34	0.53
18:M:94:VAL:O	18:M:95:GLU:CB	2.51	0.53
20:O:28:GLU:C	20:O:30:GLY:H	2.17	0.53
23:R:49:GLU:HA	23:R:73:GLU:OE2	2.08	0.53
24:S:21:ALA:O	24:S:22:VAL:HG13	2.09	0.53
24:S:123:VAL:HG23	24:S:161:ALA:CB	2.39	0.53
29:X:27:G:H1'	29:X:523:A:N6	2.23	0.53
29:X:303:C:O5'	29:X:303:C:H6	1.92	0.53
29:X:320:A:H1'	29:X:340:G:O2'	2.09	0.53
29:X:982:C:O2'	29:X:983:G:H5'	2.09	0.53
29:X:1141:U:O2'	29:X:1142:G:OP1	2.26	0.53
29:X:1289:A:C5	29:X:1308:C:O2	2.61	0.53
29:X:1372:A:C5	29:X:1373:G:N7	2.77	0.53
29:X:2213:G:O2'	29:X:2214:G:H5'	2.08	0.53
29:X:2245:A:H1'	29:X:2251:U:C4	2.43	0.53
29:X:2357:A:C2'	29:X:2358:C:H5'	2.39	0.53
29:X:2827:G:O2'	29:X:2828:C:H5'	2.07	0.53
29:X:2834:A:O2'	29:X:2835:A:H5'	2.09	0.53
30:Y:4:HIS:CB	30:Y:5:PRO:CD	2.72	0.53
6:A:150:GLY:C	6:A:152:GLY:N	2.65	0.53
6:A:262:LYS:HE3	29:X:2206:C:H1'	1.91	0.53
7:B:154:LYS:NZ	7:B:156:MET:SD	2.81	0.53
9:D:110:ARG:HG2	9:D:110:ARG:NH2	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:45:GLN:HG3	10:E:49:GLN:O	2.08	0.53
10:E:85:ILE:HG22	10:E:86:ASN:N	2.23	0.53
11:F:132:ARG:HG2	11:F:132:ARG:HH11	1.74	0.53
12:G:107:GLN:HB3	29:X:1142:G:H5'	1.91	0.53
13:H:69:VAL:O	13:H:69:VAL:HG12	2.08	0.53
14:I:18:ARG:HD2	14:I:21:ARG:CG	2.37	0.53
14:I:30:ALA:H	14:I:34:HIS:CG	2.27	0.53
15:J:83:ARG:HH22	29:X:970:A:N6	2.06	0.53
15:J:84:MET:HG2	29:X:2229:G:C5'	2.34	0.53
22:Q:38:ILE:O	22:Q:39:LYS:C	2.51	0.53
25:T:3:HIS:HD2	25:T:5:LYS:HD3	1.74	0.53
25:T:73:GLY:O	25:T:74:LYS:HB2	2.07	0.53
26:U:21:ARG:C	26:U:39:LYS:HD2	2.33	0.53
26:U:52:ARG:HD2	26:U:79:GLU:CA	2.39	0.53
29:X:122:G:C2'	29:X:123:A:H5"	2.39	0.53
29:X:201:G:H2'	29:X:202:A:C8	2.43	0.53
29:X:787:A:H5'	29:X:791:G:O4'	2.08	0.53
29:X:789:G:O6	29:X:2055:G:OP1	2.27	0.53
29:X:1285:A:O2'	29:X:1286:U:OP1	2.27	0.53
29:X:1465:G:O2'	29:X:1466:C:H5'	2.08	0.53
29:X:2014:A:O2'	29:X:2015:G:P	2.67	0.53
29:X:2625:U:OP2	29:X:2625:U:O4'	2.26	0.53
31:Z:15:A:N1	31:Z:71:G:O2'	2.41	0.53
6:A:223:GLY:C	6:A:225:ALA:H	2.16	0.53
7:B:35:GLN:HB3	7:B:48:GLN:OE1	2.08	0.53
8:C:44:SER:CB	29:X:37:C:H1'	2.39	0.53
9:D:138:PHE:HB2	9:D:141:ILE:CB	2.37	0.53
10:E:89:LEU:CD1	10:E:129:THR:HA	2.35	0.53
13:H:37:GLY:C	13:H:39:GLY:H	2.16	0.53
15:J:78:LYS:HA	29:X:968:C:OP1	2.09	0.53
16:K:100:VAL:HG12	16:K:101:GLY:H	1.73	0.53
17:L:66:ASP:C	17:L:68:ALA:N	2.64	0.53
18:M:107:LEU:C	18:M:109:GLU:N	2.67	0.53
20:O:61:VAL:CG2	20:O:94:LYS:H	2.21	0.53
21:P:134:LYS:OXT	21:P:134:LYS:HG2	2.07	0.53
23:R:105:ARG:O	23:R:106:VAL:HG13	2.08	0.53
24:S:68:ALA:H	24:S:82:ASP:HB2	1.73	0.53
25:T:31:VAL:HG13	25:T:67:VAL:HG22	1.91	0.53
29:X:637:G:H8	29:X:637:G:O5'	1.90	0.53
29:X:688:A:C8	29:X:815:A:N6	2.77	0.53
29:X:1324:G:H2'	29:X:1325:U:H6	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1324:G:H4'	29:X:1325:U:OP1	2.09	0.53
29:X:1454:U:H2'	29:X:1455:C:C6	2.41	0.53
29:X:1621:C:H5'	29:X:1626:A:N6	2.23	0.53
29:X:1879:G:O2'	29:X:1880:G:H5'	2.08	0.53
29:X:1998:A:C1'	30:Y:3:LYS:HG2	2.36	0.53
29:X:2081:U:H2'	29:X:2082:C:H6	1.74	0.53
29:X:2618:A:H1'	29:X:2758:A:N3	2.24	0.53
29:X:2650:G:C6	29:X:2651:U:C4	2.97	0.53
4:4:25:VAL:HG21	4:4:34:GLN:HE21	1.73	0.53
8:C:62:LYS:HE3	29:X:2042:A:O2'	2.09	0.53
8:C:73:SER:O	8:C:74:VAL:HG12	2.08	0.53
8:C:138:LYS:O	8:C:140:ASN:N	2.42	0.53
8:C:162:ARG:CZ	29:X:333:A:H5"	2.39	0.53
9:D:108:LEU:HB2	9:D:109:PRO:HD3	1.91	0.53
10:E:9:ILE:CG2	10:E:50:LEU:HB3	2.38	0.53
12:G:55:ALA:HB1	12:G:134:MET:HE2	1.89	0.53
12:G:82:VAL:HG23	12:G:149:LYS:O	2.09	0.53
15:J:22:ALA:N	15:J:99:LYS:CG	2.72	0.53
16:K:20:LEU:O	16:K:21:ALA:C	2.52	0.53
19:N:17:VAL:O	19:N:18:LEU:C	2.52	0.53
19:N:66:ASN:CB	19:N:76:TYR:H	2.22	0.53
20:O:20:ILE:HD11	20:O:23:GLU:OE2	2.08	0.53
20:O:25:LEU:HD12	20:O:32:LYS:NZ	2.24	0.53
21:P:46:ARG:HH11	21:P:46:ARG:HG2	1.74	0.53
24:S:55:THR:CG2	24:S:59:GLY:HA2	2.39	0.53
27:V:36:GLN:OE1	27:V:36:GLN:HA	2.09	0.53
28:W:15:ASN:O	28:W:16:GLN:C	2.52	0.53
28:W:23:LEU:O	28:W:32:ARG:CZ	2.57	0.53
28:W:49:HIS:CE1	28:W:50:LEU:HG	2.43	0.53
29:X:37:C:H2'	29:X:38:G:C8	2.44	0.53
29:X:417:C:C4	29:X:419:G:C4	2.97	0.53
29:X:418:C:OP2	29:X:418:C:O4'	2.27	0.53
29:X:478:G:O2'	29:X:479:G:H5'	2.09	0.53
29:X:507:A:C6	29:X:508:G:C5	2.97	0.53
29:X:538:A:H2'	29:X:2025:A:C2	2.44	0.53
29:X:985:G:O2'	29:X:986:A:C8	2.61	0.53
29:X:1504:G:H2'	29:X:1505:U:C2	2.44	0.53
29:X:1671:A:C6	29:X:1672:A:N7	2.77	0.53
29:X:1987:G:H2'	29:X:1988:A:O4'	2.09	0.53
29:X:2187:A:C6	29:X:2188:A:C6	2.97	0.53
29:X:2324:G:N2	29:X:2361:G:C8	2.78	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2355:A:H2'	29:X:2356:A:O4'	2.10	0.53
29:X:2571:G:C5	29:X:2572:U:C4	2.96	0.53
29:X:2760:G:H2'	29:X:2761:A:OP1	2.08	0.53
31:Z:65:A:H2'	31:Z:66:G:H8	1.74	0.53
7:B:131:SER:O	7:B:132:LYS:HG2	2.08	0.52
7:B:188:ILE:HG23	7:B:189:PRO:HD2	1.91	0.52
8:C:67:ALA:O	8:C:68:ARG:HB3	2.08	0.52
9:D:12:VAL:C	9:D:16:LEU:HG	2.34	0.52
9:D:69:LYS:HG2	9:D:84:PRO:HG3	1.91	0.52
9:D:117:ILE:HD12	9:D:175:LEU:HD11	1.90	0.52
12:G:84:ASN:O	12:G:86:ALA:N	2.41	0.52
13:H:97:VAL:HG11	13:H:126:ILE:CD1	2.39	0.52
16:K:97:ILE:C	16:K:98:LEU:HD12	2.35	0.52
21:P:66:GLU:O	21:P:69:ALA:HB3	2.09	0.52
21:P:105:ARG:HD3	29:X:1336:G:OP1	2.09	0.52
28:W:18:LYS:O	28:W:21:GLN:N	2.42	0.52
28:W:22:ALA:C	28:W:24:GLY:N	2.65	0.52
28:W:44:VAL:HG12	28:W:44:VAL:O	2.08	0.52
29:X:70:A:OP1	29:X:110:U:H2'	2.09	0.52
29:X:78:C:O2'	29:X:79:G:H5'	2.08	0.52
29:X:346:C:H2'	29:X:347:C:C6	2.43	0.52
29:X:825:C:H1'	29:X:1263:G:N2	2.24	0.52
29:X:1969:G:N3	29:X:1970:G:C8	2.76	0.52
29:X:1999:U:H1'	30:Y:6:VAL:HG22	1.90	0.52
29:X:2407:G:H4'	29:X:2408:G:C4	2.44	0.52
7:B:116:VAL:HG22	7:B:136:ARG:CG	2.40	0.52
8:C:63:GLY:N	29:X:2043:A:OP1	2.26	0.52
9:D:8:TYR:HD1	9:D:173:MET:SD	2.33	0.52
10:E:64:LEU:HD23	10:E:67:LEU:HD12	1.90	0.52
10:E:89:LEU:N	10:E:129:THR:O	2.41	0.52
16:K:90:ARG:NH1	16:K:90:ARG:HB2	2.23	0.52
20:O:68:LYS:HE3	20:O:85:GLY:CA	2.39	0.52
23:R:28:LYS:O	23:R:29:HIS:HB2	2.09	0.52
23:R:91:ALA:C	23:R:92:THR:HG23	2.35	0.52
24:S:71:MET:HE2	24:S:71:MET:O	2.09	0.52
24:S:130:ILE:N	24:S:130:ILE:HD12	2.25	0.52
25:T:40:GLN:NE2	25:T:44:LYS:H	2.06	0.52
29:X:28:A:C2	29:X:523:A:C1'	2.92	0.52
29:X:469:G:O2'	29:X:470:U:P	2.67	0.52
29:X:487:G:H22	29:X:489:A:C3'	2.20	0.52
29:X:712:A:H4'	29:X:1651:U:C4	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:731:A:H2'	29:X:732:G:C4'	2.39	0.52
29:X:772:G:H2'	29:X:773:G:H8	1.74	0.52
29:X:840:U:H4'	29:X:841:G:N2	2.24	0.52
29:X:843:G:H1'	29:X:2427:A:N6	2.22	0.52
29:X:1068:A:H3'	29:X:1069:G:C8	2.44	0.52
29:X:1182:U:H2'	29:X:1183:C:O4'	2.09	0.52
29:X:1399:C:H2'	29:X:1400:A:C8	2.45	0.52
29:X:1744:G:O6	29:X:1747:G:C6	2.62	0.52
29:X:1785:A:H2'	29:X:1786:C:C6	2.44	0.52
29:X:2170:C:H2'	29:X:2171:U:H4'	1.91	0.52
6:A:166:GLN:HG3	6:A:174:ILE:HG22	1.90	0.52
7:B:19:ARG:NH1	7:B:185:LYS:NZ	2.57	0.52
9:D:33:LYS:HB2	9:D:91:LEU:O	2.09	0.52
9:D:57:LEU:HA	9:D:60:ILE:HG12	1.91	0.52
11:F:122:ALA:CB	29:X:1092:U:H4'	2.40	0.52
14:I:54:SER:OG	14:I:59:ARG:NH1	2.41	0.52
15:J:77:LYS:CG	15:J:78:LYS:H	2.20	0.52
16:K:27:ALA:C	16:K:29:LEU:N	2.67	0.52
16:K:85:PRO:O	16:K:88:ALA:CB	2.55	0.52
16:K:90:ARG:HB2	16:K:90:ARG:HH11	1.75	0.52
17:L:38:ILE:HD11	17:L:40:ALA:H	1.73	0.52
18:M:14:ARG:O	18:M:17:GLU:HB3	2.08	0.52
18:M:106:TYR:HD1	18:M:106:TYR:C	2.17	0.52
21:P:32:ARG:HH21	21:P:33:MET:CA	2.22	0.52
27:V:42:ARG:O	27:V:43:VAL:C	2.52	0.52
29:X:172:A:H2	29:X:227:G:H22	1.55	0.52
29:X:427:C:H5"	29:X:1862:C:O2'	2.09	0.52
29:X:451:A:O2'	29:X:452:G:H5'	2.09	0.52
29:X:456:C:O2'	29:X:457:C:H5'	2.10	0.52
29:X:486:U:C4'	29:X:519:C:H2'	2.39	0.52
29:X:507:A:O2'	29:X:508:G:H5'	2.09	0.52
29:X:648:A:H5'	29:X:649:G:C4'	2.36	0.52
29:X:1153:A:N3	29:X:1155:G:C5	2.77	0.52
29:X:1578:U:O2'	29:X:1579:G:H5'	2.10	0.52
29:X:2082:C:C2'	29:X:2083:G:H5"	2.38	0.52
29:X:2829:A:C2	29:X:2830:U:C2	2.96	0.52
30:Y:45:ILE:HG21	30:Y:57:VAL:HG23	1.89	0.52
30:Y:58:LEU:H	30:Y:58:LEU:CD1	2.21	0.52
31:Z:58:G:H4'	31:Z:59:A:C5'	2.39	0.52
8:C:33:TRP:CB	8:C:95:LEU:HD12	2.40	0.52
8:C:54:THR:CB	8:C:73:SER:HB3	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:152:THR:O	8:C:153:ASP:O	2.28	0.52
9:D:42:SER:C	9:D:44:LYS:H	2.18	0.52
10:E:41:LEU:CD2	10:E:68:THR:OG1	2.58	0.52
12:G:97:ASP:O	12:G:99:VAL:N	2.43	0.52
12:G:110:LEU:HD13	29:X:2621:G:OP1	2.09	0.52
13:H:34:LEU:HD22	13:H:50:ILE:CD1	2.39	0.52
14:I:30:ALA:O	14:I:31:GLY:O	2.27	0.52
14:I:54:SER:O	14:I:59:ARG:NH2	2.43	0.52
15:J:86:LYS:HB2	29:X:2255:G:O3'	2.10	0.52
16:K:10:LEU:CD2	16:K:17:ARG:HB2	2.40	0.52
16:K:60:LEU:HD11	29:X:1469:U:H2'	1.91	0.52
19:N:20:ARG:HD2	19:N:39:LEU:HD13	1.91	0.52
19:N:36:PHE:CZ	20:O:81:ARG:NH1	2.77	0.52
19:N:68:GLY:O	19:N:71:LEU:N	2.42	0.52
19:N:72:HIS:HD2	19:N:110:VAL:HG21	1.73	0.52
19:N:91:ASN:O	19:N:92:ARG:HB2	2.09	0.52
20:O:50:ASP:HA	20:O:53:LYS:HE3	1.90	0.52
26:U:32:ARG:HD2	26:U:34:THR:O	2.08	0.52
28:W:5:LEU:HB2	28:W:25:LEU:CD1	2.24	0.52
29:X:309:G:N2	29:X:350:U:C5	2.78	0.52
29:X:930:A:H5"	31:Z:100:G:O2'	2.08	0.52
29:X:1313:U:H4'	29:X:1314:A:O5'	2.08	0.52
29:X:1354:A:O2'	29:X:1355:A:OP1	2.18	0.52
29:X:1785:A:H2'	29:X:1786:C:H6	1.75	0.52
29:X:2046:C:C5	29:X:2047:C:N4	2.78	0.52
29:X:2442:C:O2'	29:X:2443:C:H5'	2.09	0.52
31:Z:104:A:C6	31:Z:105:G:C5	2.98	0.52
6:A:48:ARG:N	6:A:48:ARG:HH11	2.08	0.52
7:B:116:VAL:CG2	7:B:136:ARG:HG3	2.39	0.52
7:B:119:ARG:NH1	7:B:120:TRP:CZ2	2.78	0.52
8:C:147:LYS:HB3	8:C:183:HIS:CB	2.38	0.52
12:G:53:ARG:NH2	12:G:171:LEU:HB2	2.25	0.52
12:G:103:TYR:CE2	12:G:111:LYS:CB	2.93	0.52
14:I:9:THR:O	14:I:13:ARG:HD2	2.10	0.52
14:I:13:ARG:NE	29:X:1218:C:O4'	2.38	0.52
15:J:26:ASP:HB2	29:X:919:U:OP1	2.10	0.52
15:J:64:LYS:HZ1	15:J:110:VAL:HG13	1.72	0.52
17:L:95:LYS:HD2	29:X:2273:C:H5'	1.92	0.52
18:M:53:VAL:CG1	18:M:54:VAL:N	2.72	0.52
19:N:47:TYR:HB2	20:O:72:ARG:O	2.09	0.52
19:N:95:LEU:HD11	19:N:109:LEU:HD13	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:8:GLY:O	20:O:9:GLY:O	2.27	0.52
21:P:35:PRO:CD	21:P:122:SER:OG	2.55	0.52
23:R:21:THR:O	23:R:83:LEU:HA	2.10	0.52
23:R:51:VAL:HG21	23:R:76:LEU:HD11	1.92	0.52
23:R:85:ASP:H	23:R:90:LYS:HD3	1.75	0.52
25:T:34:GLY:O	29:X:2332:G:N3	2.41	0.52
26:U:37:ILE:CD1	29:X:400:U:OP2	2.50	0.52
29:X:105:G:H5'	29:X:105:G:C8	2.44	0.52
29:X:143:A:H2'	29:X:144:U:H6	1.68	0.52
29:X:427:C:H1'	29:X:1856:U:C1'	2.33	0.52
29:X:539:A:H4'	29:X:540:G:C8	2.45	0.52
29:X:835:U:O2	29:X:835:U:H2'	2.07	0.52
29:X:1150:C:O5'	29:X:1150:C:H6	1.93	0.52
29:X:1238:A:C2	29:X:1239:A:C2	2.97	0.52
29:X:1493:A:H2'	29:X:1494:G:O4'	2.09	0.52
29:X:1625:A:H1'	29:X:1632:A:H1'	1.91	0.52
29:X:1683:G:O6	29:X:1684:G:C2	2.63	0.52
29:X:1949:A:H1'	29:X:2572:U:H5'	1.90	0.52
29:X:1974:U:O5'	29:X:1974:U:C6	2.58	0.52
29:X:2395:C:O2'	29:X:2396:C:H5"	2.09	0.52
29:X:2504:G:C2	29:X:2518:C:C2	2.97	0.52
29:X:2681:A:C5	29:X:2682:C:C5	2.97	0.52
8:C:5:ASN:N	8:C:5:ASN:ND2	2.58	0.52
8:C:129:LYS:C	8:C:131:LYS:H	2.18	0.52
9:D:14:PRO:O	9:D:15:ALA:C	2.53	0.52
12:G:51:LEU:CD1	12:G:127:ILE:HG13	2.39	0.52
12:G:103:TYR:CE2	12:G:111:LYS:HB2	2.45	0.52
12:G:104:THR:CB	29:X:2620:G:H5"	2.40	0.52
14:I:86:THR:C	14:I:88:PHE:N	2.54	0.52
16:K:10:LEU:C	16:K:11:ASN:CG	2.75	0.52
16:K:103:ARG:HG3	29:X:1300:A:OP2	2.09	0.52
17:L:33:ARG:HH11	17:L:100:VAL:HA	1.74	0.52
22:Q:43:GLN:O	22:Q:47:GLY:N	2.42	0.52
23:R:18:LYS:HE2	23:R:19:GLY:H	1.74	0.52
23:R:60:PRO:O	23:R:62:MET:N	2.40	0.52
24:S:1:MET:O	24:S:3:LEU:N	2.38	0.52
25:T:25:LYS:HB2	25:T:37:LEU:CG	2.39	0.52
29:X:583:C:H1'	29:X:2038:C:C6	2.44	0.52
29:X:649:G:N2	29:X:660:G:N2	2.57	0.52
29:X:841:G:H2'	29:X:842:A:N7	2.23	0.52
29:X:1026:U:H2'	29:X:1027:C:C6	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1374:G:O2'	29:X:1375:C:H5'	2.09	0.52
29:X:1712:G:H3'	29:X:1712:G:N3	2.25	0.52
29:X:2057:U:H1'	29:X:2577:A:H1'	1.89	0.52
29:X:2074:U:O5'	29:X:2075:U:H5"	2.10	0.52
6:A:255:LYS:CE	29:X:1835:C:H5'	2.35	0.52
7:B:73:ALA:O	7:B:74:PRO:C	2.52	0.52
9:D:138:PHE:HZ	9:D:152:MET:SD	2.33	0.52
12:G:46:ALA:HB2	12:G:54:LEU:HD21	1.90	0.52
12:G:84:ASN:C	12:G:86:ALA:N	2.67	0.52
14:I:67:ASN:ND2	29:X:2383:C:H4'	2.22	0.52
15:J:69:ILE:HD13	15:J:104:MET:HB3	1.92	0.52
16:K:90:ARG:O	16:K:90:ARG:HG3	2.08	0.52
17:L:17:VAL:HB	29:X:2313:G:C2	2.45	0.52
18:M:104:LEU:HB3	18:M:107:LEU:CD1	2.39	0.52
19:N:3:ARG:HD2	29:X:461:A:O2'	2.10	0.52
19:N:27:SER:OG	29:X:2003:A:OP1	2.28	0.52
19:N:88:ILE:O	20:O:48:GLY:HA3	2.10	0.52
19:N:91:ASN:HA	20:O:10:LYS:NZ	2.25	0.52
20:O:35:LEU:O	20:O:36:LYS:HB2	2.09	0.52
20:O:69:ILE:CG2	20:O:70:TYR:N	2.72	0.52
22:Q:42:ILE:HG23	22:Q:43:GLN:H	1.74	0.52
29:X:513:A:C2	29:X:515:A:C2	2.98	0.52
29:X:689:A:H8	29:X:2052:G:N2	2.04	0.52
29:X:780:U:O2'	29:X:781:G:C5'	2.58	0.52
29:X:1031:C:H41	29:X:1153:A:N6	2.07	0.52
29:X:1270:C:H2'	29:X:1271:C:H6	1.75	0.52
29:X:1296:G:H2'	29:X:1298:G:OP2	2.09	0.52
29:X:1302:C:O2'	29:X:1303:U:H5'	2.10	0.52
29:X:1459:U:C5	29:X:1475:U:O2	2.62	0.52
29:X:1695:U:O2	29:X:1974:U:O4'	2.28	0.52
29:X:1827:G:N2	29:X:1913:G:H1'	2.25	0.52
29:X:2366:U:C6	29:X:2366:U:C3'	2.93	0.52
29:X:2426:G:O2'	29:X:2427:A:OP2	2.27	0.52
29:X:2492:G:C5	29:X:2493:U:C4	2.97	0.52
29:X:2528:G:C2	29:X:2529:G:C8	2.97	0.52
6:A:75:VAL:HG21	6:A:99:ASP:OD2	2.10	0.52
6:A:164:GLN:C	6:A:164:GLN:OE1	2.53	0.52
7:B:1:MET:HG3	7:B:83:GLY:O	2.09	0.52
7:B:134:TRP:CD1	7:B:134:TRP:H	2.27	0.52
8:C:28:HIS:CE1	14:I:21:ARG:HH11	2.28	0.52
10:E:65:HIS:C	10:E:67:LEU:N	2.67	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:81:VAL:HA	12:G:149:LYS:O	2.10	0.52
12:G:106:TYR:CE2	12:G:108:GLY:CA	2.92	0.52
15:J:44:LYS:HB2	15:J:47:GLN:CG	2.37	0.52
16:K:36:THR:HG22	16:K:41:ALA:HB2	1.91	0.52
16:K:37:THR:OG1	16:K:40:LYS:HB2	2.09	0.52
17:L:8:ARG:CB	17:L:8:ARG:NH1	2.73	0.52
17:L:11:LEU:HD23	17:L:14:ARG:HD2	1.92	0.52
17:L:89:PHE:CD1	17:L:89:PHE:N	2.73	0.52
19:N:17:VAL:HG21	19:N:32:TYR:HE1	1.74	0.52
19:N:108:ALA:O	19:N:112:ALA:HB2	2.09	0.52
20:O:14:VAL:O	20:O:15:SER:HB2	2.08	0.52
20:O:38:LEU:O	20:O:39:PHE:HB3	2.08	0.52
20:O:39:PHE:HE2	20:O:51:ALA:HB1	1.75	0.52
22:Q:88:ILE:O	22:Q:89:GLU:C	2.52	0.52
29:X:159:A:HO2'	29:X:160:C:H5'	1.75	0.52
29:X:168:A:C2	29:X:169:C:C4	2.97	0.52
29:X:233:A:O2'	29:X:234:C:H5'	2.09	0.52
29:X:659:G:H2'	29:X:660:G:H8	1.73	0.52
29:X:739:G:O2'	29:X:740:A:OP2	2.28	0.52
29:X:834:A:H5'	29:X:835:U:C5	2.45	0.52
29:X:888:G:H2'	29:X:889:C:O4'	2.10	0.52
29:X:915:C:H2'	29:X:916:U:C6	2.45	0.52
29:X:1391:A:O2'	29:X:1392:U:P	2.67	0.52
29:X:1856:U:H2'	29:X:1857:G:O5'	2.09	0.52
29:X:1918:G:C6	29:X:1945:C:C5	2.98	0.52
29:X:2594:U:H6	29:X:2594:U:C5'	2.22	0.52
31:Z:16:U:O2'	31:Z:110:U:O2	2.28	0.52
8:C:99:VAL:O	8:C:103:GLY:N	2.42	0.52
9:D:158:THR:C	9:D:160:ALA:H	2.18	0.52
14:I:35:LYS:O	14:I:36:GLY:O	2.27	0.52
14:I:63:ARG:NE	29:X:2394:G:H5"	2.25	0.52
17:L:38:ILE:CD1	17:L:40:ALA:H	2.23	0.52
18:M:34:ARG:CZ	18:M:66:PHE:HZ	2.23	0.52
19:N:3:ARG:HD3	29:X:457:C:O3'	2.10	0.52
23:R:75:ALA:O	23:R:76:LEU:HD23	2.10	0.52
24:S:23:ALA:HA	24:S:83:PHE:O	2.10	0.52
24:S:59:GLY:O	24:S:60:GLU:HG3	2.09	0.52
26:U:45:ASN:HB3	29:X:409:G:O2'	2.10	0.52
29:X:195:A:H2	29:X:212:U:H4'	1.74	0.52
29:X:357:A:OP2	29:X:358:C:C2	2.63	0.52
29:X:400:U:H1'	29:X:401:G:C4	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:471:A:H2'	29:X:472:C:O4'	2.10	0.52
29:X:1358:C:C2'	29:X:1359:G:H5'	2.40	0.52
29:X:1524:C:H3'	29:X:1525:A:O4'	2.10	0.52
29:X:1621:C:H4'	29:X:1626:A:N6	2.25	0.52
29:X:1734:C:H3'	29:X:1735:G:O4'	2.09	0.52
29:X:1755:G:O2'	29:X:1756:C:H5'	2.09	0.52
29:X:2379:G:N2	29:X:2380:U:H1'	2.25	0.52
7:B:4:ILE:CG2	7:B:4:ILE:O	2.57	0.52
8:C:68:ARG:O	8:C:69:HIS:ND1	2.43	0.52
10:E:54:ARG:NE	10:E:62:ARG:HG2	2.25	0.52
10:E:167:GLU:HG3	10:E:169:ILE:HG12	1.92	0.52
13:H:114:VAL:O	13:H:115:ALA:C	2.53	0.52
13:H:116:ARG:HH11	18:M:38:LYS:CE	2.20	0.52
14:I:32:ARG:NH2	20:O:79:GLN:CA	2.73	0.52
14:I:108:LEU:HB2	14:I:122:VAL:HG11	1.91	0.52
15:J:21:ASP:O	15:J:22:ALA:O	2.28	0.52
16:K:48:VAL:O	16:K:49:GLU:C	2.53	0.52
17:L:87:VAL:C	17:L:88:VAL:HG23	2.34	0.52
18:M:5:ILE:N	18:M:5:ILE:HD12	2.25	0.52
18:M:32:THR:CG2	18:M:91:VAL:HG12	2.40	0.52
18:M:104:LEU:CD2	18:M:106:TYR:OH	2.58	0.52
19:N:60:LEU:HD11	19:N:64:ARG:NH1	2.25	0.52
20:O:34:GLU:HB2	20:O:56:VAL:HG23	1.91	0.52
20:O:75:LYS:HB2	20:O:75:LYS:NZ	2.25	0.52
21:P:10:ASN:O	21:P:10:ASN:CG	2.53	0.52
23:R:8:SER:O	23:R:9:HIS:C	2.53	0.52
23:R:11:ASN:C	23:R:11:ASN:ND2	2.55	0.52
23:R:16:PHE:HB3	23:R:82:ALA:CB	2.40	0.52
23:R:85:ASP:C	23:R:87:GLU:H	2.18	0.52
23:R:112:LYS:O	23:R:113:THR:HG23	2.09	0.52
27:V:4:SER:HB3	27:V:7:ARG:NH2	2.25	0.52
27:V:24:GLU:O	27:V:28:LEU:HD23	2.10	0.52
29:X:29:U:OP1	29:X:592:G:H4'	2.09	0.52
29:X:114:C:H4'	29:X:125:A:O4'	2.10	0.52
29:X:653:G:C3'	29:X:654:A:C5'	2.88	0.52
29:X:666:U:C2'	29:X:667:U:H4'	2.34	0.52
29:X:677:G:O3'	29:X:952:A:OP1	2.27	0.52
29:X:689:A:H1'	29:X:2422:C:O4'	2.09	0.52
29:X:796:A:H2'	29:X:797:A:O3'	2.10	0.52
29:X:1188:A:H8	29:X:1188:A:O5'	1.93	0.52
29:X:1305:C:H2'	29:X:1306:U:O4'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1343:C:O2'	29:X:1344:C:H5'	2.10	0.52
29:X:1574:A:O2'	29:X:1575:C:H3'	2.09	0.52
29:X:1882:G:H21	29:X:1885:C:N4	2.06	0.52
29:X:1927:U:H1'	29:X:1938:U:C4'	2.39	0.52
29:X:2245:A:O2'	29:X:2246:A:OP2	2.22	0.52
29:X:2370:G:H2'	29:X:2403:C:H41	1.75	0.52
29:X:2498:U:C4'	29:X:2499:C:OP1	2.54	0.52
29:X:2585:C:O2'	29:X:2586:G:H5'	2.09	0.52
29:X:2721:A:C2'	29:X:2722:C:H5'	2.39	0.52
31:Z:4:C:O2'	31:Z:5:C:H5'	2.10	0.52
6:A:226:MET:CE	6:A:231:HIS:HB2	2.39	0.51
7:B:38:THR:HG22	7:B:39:ALA:N	2.26	0.51
8:C:34:GLN:HE22	8:C:178:TYR:H	1.56	0.51
8:C:148:VAL:HB	8:C:167:VAL:HG12	1.92	0.51
14:I:10:PRO:HA	14:I:14:LYS:HB2	1.92	0.51
15:J:59:PHE:CZ	15:J:110:VAL:HG21	2.45	0.51
16:K:3:HIS:HE1	29:X:2795:A:O3'	1.93	0.51
16:K:49:GLU:OE2	29:X:2814:G:O2'	2.26	0.51
19:N:8:ILE:HG22	19:N:11:ARG:NH2	2.24	0.51
20:O:25:LEU:HD12	20:O:32:LYS:HZ3	1.75	0.51
24:S:3:LEU:HD12	24:S:4:THR:N	2.25	0.51
24:S:3:LEU:HB2	24:S:34:LEU:HB3	1.92	0.51
24:S:73:LYS:C	24:S:75:LYS:N	2.68	0.51
29:X:70:A:H1'	29:X:72:A:N7	2.25	0.51
29:X:176:A:H2'	29:X:177:U:H5	1.74	0.51
29:X:342:G:H4'	29:X:343:A:OP1	2.09	0.51
29:X:882:C:O2'	29:X:883:A:H5'	2.10	0.51
29:X:1004:A:N1	29:X:1173:G:C6	2.78	0.51
29:X:1032:A:H62	29:X:1151:U:H3	1.58	0.51
29:X:1273:G:C6	29:X:1274:C:C4	2.98	0.51
29:X:1328:C:H2'	29:X:1329:U:H6	1.75	0.51
29:X:1592:U:C2'	29:X:1593:C:H5'	2.40	0.51
29:X:1685:A:C6	29:X:1976:U:C6	2.98	0.51
29:X:2284:U:C3'	29:X:2285:U:H5"	2.39	0.51
29:X:2311:U:C5'	29:X:2315:A:N6	2.71	0.51
29:X:2477:C:H5'	29:X:2477:C:H6	1.75	0.51
29:X:2522:G:H2'	29:X:2523:G:H8	1.75	0.51
31:Z:68:A:H4'	31:Z:69:G:N7	2.25	0.51
6:A:158:SER:OG	29:X:1811:A:C5'	2.58	0.51
6:A:214:TRP:HB3	29:X:1582:A:H1'	1.92	0.51
7:B:152:LYS:NZ	29:X:2598:C:OP1	2.37	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:3:GLN:CB	8:C:116:LYS:HD2	2.40	0.51
8:C:89:ARG:NH2	29:X:1260:A:OP1	2.42	0.51
8:C:97:ARG:O	8:C:100:ARG:N	2.44	0.51
8:C:109:ALA:O	8:C:112:GLN:N	2.43	0.51
12:G:40:ASN:HB3	12:G:78:ASP:CG	2.35	0.51
14:I:17:LYS:O	14:I:18:ARG:HG3	2.11	0.51
14:I:120:VAL:HG12	14:I:122:VAL:HG13	1.92	0.51
17:L:43:ILE:N	17:L:43:ILE:CD1	2.61	0.51
25:T:53:MET:HA	25:T:58:THR:O	2.09	0.51
27:V:7:ARG:HD2	27:V:7:ARG:C	2.34	0.51
29:X:66:U:H1'	29:X:87:G:N2	2.25	0.51
29:X:531:G:N3	29:X:532:A:C8	2.79	0.51
29:X:532:A:C2	29:X:533:C:N3	2.79	0.51
29:X:635:C:C3'	29:X:636:G:H5"	2.39	0.51
29:X:985:G:HO2'	29:X:986:A:H8	1.54	0.51
29:X:1095:A:H2'	29:X:1096:A:O4'	2.10	0.51
29:X:1164:C:H2'	29:X:1165:G:O4'	2.09	0.51
29:X:1437:A:H2'	29:X:1438:G:H8	1.75	0.51
29:X:1467:U:H3'	29:X:1467:U:C6	2.44	0.51
29:X:1656:U:H4'	29:X:2678:C:H4'	1.93	0.51
29:X:1873:A:H4'	29:X:2069:U:H4'	1.92	0.51
29:X:1932:G:C2	29:X:1941:C:N3	2.78	0.51
29:X:2026:C:H2'	29:X:2027:C:C6	2.43	0.51
29:X:2456:U:H4'	29:X:2458:U:O4	2.10	0.51
29:X:2507:U:C6	29:X:2509:A:C8	2.98	0.51
29:X:2671:C:N3	29:X:2672:U:C5	2.78	0.51
29:X:2708:U:C2'	29:X:2709:C:H6	2.22	0.51
30:Y:44:HIS:N	30:Y:44:HIS:CD2	2.78	0.51
31:Z:114:C:O5'	31:Z:114:C:C6	2.63	0.51
6:A:53:PHE:O	6:A:54:ILE:O	2.27	0.51
8:C:101:GLN:C	8:C:103:GLY:N	2.68	0.51
10:E:140:LEU:O	10:E:141:VAL:C	2.52	0.51
11:F:90:THR:HB	11:F:93:LYS:HB2	1.92	0.51
12:G:75:ILE:HG21	12:G:144:MET:HG2	1.91	0.51
12:G:125:ARG:NH1	29:X:2760:G:H22	2.03	0.51
12:G:162:LYS:HZ2	29:X:5:A:H1'	1.75	0.51
14:I:88:PHE:O	14:I:93:LEU:HB2	2.10	0.51
23:R:32:GLN:NE2	23:R:50:GLY:CA	2.73	0.51
23:R:56:LYS:HE3	29:X:493:A:H4'	1.92	0.51
23:R:65:PRO:C	23:R:67:GLY:N	2.68	0.51
25:T:3:HIS:CG	25:T:4:LYS:H	2.28	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:168:A:C2	29:X:169:C:C2	2.97	0.51
29:X:191:G:O2'	29:X:192:G:H5'	2.11	0.51
29:X:224:G:C4'	29:X:399:G:C6	2.83	0.51
29:X:1043:A:O2'	29:X:1045:G:OP2	2.27	0.51
29:X:1768:U:O2'	29:X:1769:U:H5'	2.11	0.51
29:X:1790:G:N3	29:X:1791:C:H5	2.07	0.51
29:X:2321:C:O2'	29:X:2353:G:OP1	2.24	0.51
29:X:2849:C:O2'	29:X:2850:U:H5"	2.10	0.51
6:A:183:ARG:NH1	6:A:266:SER:O	2.43	0.51
9:D:76:ASN:O	9:D:77:PHE:O	2.27	0.51
10:E:43:VAL:HG23	10:E:52:VAL:HG22	1.91	0.51
12:G:33:ILE:O	12:G:69:ASP:CG	2.54	0.51
13:H:85:ASP:CG	13:H:86:GLY:N	2.69	0.51
15:J:100:PRO:CB	24:S:74:ARG:HG2	2.40	0.51
17:L:10:LYS:HD3	17:L:14:ARG:HH21	1.74	0.51
20:O:7:THR:HG23	20:O:20:ILE:HD11	1.92	0.51
21:P:30:TYR:CG	29:X:518:A:N6	2.79	0.51
24:S:51:LEU:HD23	24:S:51:LEU:N	2.26	0.51
26:U:48:LYS:HG3	29:X:1801:C:H42	1.75	0.51
29:X:45:C:OP2	29:X:192:G:H3'	2.10	0.51
29:X:211:U:O2'	29:X:212:U:H5'	2.09	0.51
29:X:466:A:O2'	29:X:467:U:OP2	2.22	0.51
29:X:484:G:C2	29:X:485:G:C5	2.99	0.51
29:X:613:A:O2'	29:X:614:G:OP2	2.28	0.51
29:X:768:U:C5	29:X:769:C:C5	2.98	0.51
29:X:1102:G:H2'	29:X:1103:C:C6	2.46	0.51
29:X:1218:C:O2'	29:X:1219:C:H5'	2.10	0.51
29:X:1347:C:C2'	29:X:1348:C:H5'	2.40	0.51
29:X:1918:G:H1'	29:X:1947:G:N2	2.26	0.51
29:X:2240:C:N3	29:X:2241:U:C5	2.78	0.51
29:X:2484:G:O2'	29:X:2485:U:H6	1.93	0.51
30:Y:19:ARG:NH1	30:Y:19:ARG:HB2	2.25	0.51
31:Z:86:A:H2'	31:Z:87:C:O5'	2.10	0.51
6:A:214:TRP:C	6:A:215:LEU:HD12	2.36	0.51
7:B:98:GLU:HG3	7:B:175:ILE:HG13	1.92	0.51
8:C:30:VAL:HG11	8:C:177:VAL:HG11	1.92	0.51
8:C:131:LYS:O	8:C:134:ILE:HB	2.10	0.51
8:C:190:ALA:C	8:C:192:ALA:N	2.67	0.51
12:G:49:VAL:HG13	12:G:50:PRO:HD2	1.92	0.51
13:H:88:THR:O	18:M:79:ARG:HD2	2.10	0.51
15:J:34:GLY:HA2	15:J:106:GLU:CA	2.38	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:44:LYS:HB2	15:J:47:GLN:OE1	2.10	0.51
17:L:63:ASN:HB3	17:L:67:THR:N	2.26	0.51
19:N:40:LEU:C	19:N:42:ALA:N	2.67	0.51
19:N:66:ASN:O	19:N:70:ARG:HG3	2.10	0.51
20:O:27:GLY:O	20:O:28:GLU:HG3	2.10	0.51
20:O:79:GLN:HA	20:O:79:GLN:OE1	2.10	0.51
22:Q:8:GLN:O	22:Q:9:ALA:HB2	2.09	0.51
22:Q:58:VAL:N	22:Q:75:ARG:O	2.44	0.51
26:U:41:VAL:HG23	26:U:42:GLN:N	2.26	0.51
29:X:23:G:C6	29:X:528:G:C6	2.98	0.51
29:X:741:G:H4'	29:X:742:G:OP2	2.09	0.51
29:X:1555:A:H2'	29:X:1556:A:O4'	2.11	0.51
29:X:1685:A:C2	29:X:1691:G:H1'	2.45	0.51
29:X:2225:G:N1	29:X:2405:A:H1'	2.24	0.51
29:X:2492:G:C4	29:X:2493:U:C5	2.99	0.51
29:X:2628:C:H2'	29:X:2629:U:H6	1.76	0.51
1:1:39:LYS:CA	29:X:2323:U:C5'	2.89	0.51
6:A:62:TYR:CE1	29:X:1809:G:OP1	2.57	0.51
7:B:31:CYS:HB2	7:B:49:ILE:CD1	2.35	0.51
8:C:87:LYS:HE3	8:C:88:PRO:HD3	1.92	0.51
8:C:103:GLY:O	8:C:106:MET:N	2.44	0.51
8:C:158:ARG:O	8:C:159:ARG:C	2.53	0.51
9:D:96:MET:O	9:D:100:LEU:HB2	2.11	0.51
12:G:119:LEU:O	12:G:123:PRO:HG3	2.09	0.51
12:G:140:GLN:HG2	12:G:144:MET:HE2	1.91	0.51
13:H:116:ARG:NH1	13:H:116:ARG:CG	2.67	0.51
14:I:107:LYS:HG3	14:I:108:LEU:N	2.25	0.51
15:J:23:LYS:HD3	29:X:876:A:OP1	2.11	0.51
18:M:103:LYS:O	18:M:104:LEU:CB	2.59	0.51
19:N:86:ALA:O	19:N:87:ASN:C	2.54	0.51
19:N:93:LYS:O	19:N:94:VAL:CG2	2.58	0.51
22:Q:62:ARG:O	22:Q:70:GLY:HA3	2.11	0.51
24:S:51:LEU:HB3	24:S:64:ALA:O	2.10	0.51
26:U:15:VAL:HG12	26:U:46:LEU:CD2	2.41	0.51
26:U:27:ASP:HA	26:U:32:ARG:NE	2.24	0.51
29:X:63:A:C2	29:X:64:C:C6	2.98	0.51
29:X:219:G:H22	29:X:231:G:H2'	1.71	0.51
29:X:490:A:H1'	29:X:491:A:N7	2.26	0.51
29:X:593:C:N4	29:X:594:G:C6	2.78	0.51
29:X:1071:U:H6	29:X:1071:U:OP1	1.93	0.51
29:X:1102:G:H2'	29:X:1103:C:H6	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1125:G:H2'	29:X:1126:A:C8	2.33	0.51
29:X:1283:C:H5"	29:X:1284:G:H5'	1.93	0.51
29:X:1763:G:H2'	29:X:1764:A:C4'	2.38	0.51
29:X:1774:A:N1	29:X:2566:A:N3	2.59	0.51
29:X:2331:A:H2'	29:X:2332:G:H5'	1.93	0.51
29:X:2827:G:H2'	29:X:2828:C:C6	2.46	0.51
30:Y:46:CYS:O	30:Y:48:ASN:N	2.44	0.51
6:A:96:HIS:NE2	6:A:97:TYR:O	2.43	0.51
6:A:210:GLY:O	6:A:213:ARG:HB2	2.10	0.51
8:C:162:ARG:CZ	29:X:334:G:H21	2.24	0.51
8:C:162:ARG:HH11	29:X:333:A:H5"	1.74	0.51
10:E:150:LYS:O	10:E:151:VAL:C	2.53	0.51
12:G:70:PHE:CD1	19:N:64:ARG:HA	2.46	0.51
14:I:76:LYS:HB3	14:I:79:GLN:CG	2.39	0.51
21:P:33:MET:SD	21:P:64:ALA:HA	2.50	0.51
21:P:39:ARG:HE	21:P:97:VAL:HB	1.75	0.51
21:P:52:ASP:N	21:P:52:ASP:OD2	2.42	0.51
22:Q:57:ASN:O	22:Q:58:VAL:HG23	2.11	0.51
24:S:97:PRO:O	24:S:134:LEU:HB3	2.11	0.51
27:V:6:MET:HE1	27:V:52:GLN:HB3	1.93	0.51
29:X:208:C:O2'	29:X:209:G:H5'	2.11	0.51
29:X:444:U:O2'	29:X:445:A:H5'	2.10	0.51
29:X:537:C:O2'	29:X:538:A:C2	2.62	0.51
29:X:669:G:H8	29:X:669:G:OP2	1.94	0.51
29:X:697:G:H2'	29:X:787:A:H61	1.76	0.51
29:X:889:C:H2'	29:X:890:U:C6	2.45	0.51
29:X:1174:G:O2'	29:X:1175:A:H5'	2.11	0.51
29:X:1919:A:O4'	29:X:1923:U:C4	2.63	0.51
29:X:2184:C:H2'	29:X:2185:U:H6	1.75	0.51
29:X:2661:G:O6	29:X:2708:U:H1'	2.10	0.51
29:X:2849:C:O2	29:X:2850:U:C6	2.64	0.51
7:B:105:THR:HG21	7:B:199:ARG:HH22	1.76	0.51
8:C:14:THR:O	8:C:15:ILE:HB	2.11	0.51
12:G:63:ARG:HE	12:G:63:ARG:CA	2.24	0.51
12:G:156:HIS:N	12:G:157:PRO:CD	2.74	0.51
13:H:24:VAL:HG22	13:H:45:ALA:HB2	1.92	0.51
14:I:18:ARG:O	14:I:19:VAL:C	2.54	0.51
15:J:9:LYS:O	15:J:10:PHE:HB2	2.11	0.51
15:J:83:ARG:HG2	15:J:83:ARG:HH11	1.75	0.51
16:K:34:ILE:HG13	16:K:113:ILE:HG22	1.92	0.51
16:K:52:ILE:HG13	16:K:53:THR:N	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:24:PHE:HD2	19:N:28:ARG:O	1.93	0.51
22:Q:12:ILE:CD1	22:Q:12:ILE:H	2.23	0.51
29:X:10:A:N1	29:X:2608:A:C2	2.79	0.51
29:X:407:A:H2'	29:X:408:U:C6	2.45	0.51
29:X:417:C:N3	29:X:419:G:C5	2.79	0.51
29:X:428:A:N1	29:X:2388:G:C6	2.78	0.51
29:X:510:G:N2	29:X:512:A:H3'	2.26	0.51
29:X:512:A:C5	29:X:515:A:N7	2.78	0.51
29:X:732:G:C8	29:X:732:G:O5'	2.64	0.51
29:X:783:G:O4'	29:X:1392:U:C5	2.64	0.51
29:X:1123:G:H2'	29:X:1124:U:O4'	2.11	0.51
29:X:1141:U:N3	29:X:2008:C:H5"	2.26	0.51
29:X:1842:G:H2'	29:X:1843:U:O4'	2.10	0.51
29:X:2074:U:C4	29:X:2075:U:C4	2.99	0.51
29:X:2324:G:C5	29:X:2326:C:C5	2.99	0.51
29:X:2458:U:H5"	29:X:2459:C:OP2	2.11	0.51
29:X:2676:G:C6	29:X:2690:A:N1	2.79	0.51
31:Z:31:A:C2	31:Z:58:G:C2	2.99	0.51
6:A:217:ARG:O	6:A:218:LYS:C	2.52	0.51
8:C:136:TRP:O	8:C:140:ASN:HB2	2.11	0.51
9:D:32:GLU:N	9:D:157:VAL:O	2.44	0.51
9:D:34:ILE:HD13	9:D:156:ILE:HA	1.92	0.51
9:D:97:TYR:HD2	9:D:100:LEU:HD23	1.75	0.51
10:E:140:LEU:O	10:E:144:VAL:HG23	2.10	0.51
12:G:107:GLN:CA	12:G:110:LEU:HG	2.39	0.51
15:J:35:LEU:HB2	15:J:119:PHE:CD1	2.46	0.51
17:L:108:ARG:O	17:L:109:GLU:HB3	2.11	0.51
19:N:74:MET:O	19:N:75:ASN:CB	2.56	0.51
20:O:48:GLY:O	20:O:50:ASP:N	2.44	0.51
24:S:94:VAL:CG1	24:S:95:SER:H	2.23	0.51
25:T:29:GLU:O	25:T:31:VAL:N	2.44	0.51
29:X:81:C:H5"	29:X:307:C:H5'	1.93	0.51
29:X:105:G:H5'	29:X:105:G:H8	1.74	0.51
29:X:126:C:N4	29:X:127:C:N4	2.59	0.51
29:X:476:G:H2'	29:X:477:A:C8	2.46	0.51
29:X:502:A:H2'	29:X:503:G:O4'	2.11	0.51
29:X:652:C:N4	29:X:657:A:H61	2.08	0.51
29:X:1177:U:C2	29:X:1198:C:O2	2.64	0.51
29:X:1373:G:N2	29:X:1374:G:H1'	2.25	0.51
29:X:1430:G:H2'	29:X:1431:U:C6	2.45	0.51
29:X:1459:U:O2'	29:X:1460:G:P	2.69	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1968:G:C2'	29:X:1969:G:O5'	2.59	0.51
29:X:1997:A:H2'	29:X:1998:A:C8	2.46	0.51
29:X:2311:U:H5'	29:X:2315:A:H61	1.74	0.51
29:X:2680:U:H3'	29:X:2681:A:H5"	1.93	0.51
31:Z:111:C:H5'	31:Z:111:C:H6	1.76	0.51
8:C:82:VAL:O	8:C:82:VAL:HG12	2.11	0.51
9:D:38:GLU:CB	9:D:87:ILE:HB	2.33	0.51
10:E:76:VAL:C	10:E:78:GLY:N	2.67	0.51
10:E:96:ALA:HB2	10:E:105:MET:HE2	1.92	0.51
11:F:1:MET:N	11:F:31:GLY:HA2	2.26	0.51
11:F:3:LYS:O	11:F:3:LYS:HG2	2.11	0.51
17:L:34:SER:HB2	17:L:94:TYR:OH	2.11	0.51
17:L:50:THR:HB	31:Z:117:G:O4'	2.11	0.51
20:O:83:ARG:HG2	20:O:83:ARG:HH21	1.76	0.51
21:P:38:VAL:HG22	21:P:64:ALA:HB1	1.93	0.51
23:R:14:LEU:C	23:R:16:PHE:N	2.64	0.51
29:X:208:C:N4	29:X:209:G:N2	2.59	0.51
29:X:401:G:H5'	29:X:402:A:OP2	2.11	0.51
29:X:640:C:H4'	29:X:660:G:N2	2.26	0.51
29:X:971:A:C4'	29:X:2436:U:H4'	2.40	0.51
29:X:1217:U:O2'	29:X:1218:C:H5'	2.11	0.51
29:X:1402:G:N2	29:X:1412:C:C2	2.79	0.51
29:X:1503:G:N2	29:X:1504:G:C2	2.78	0.51
29:X:1699:A:C2	29:X:1700:C:C2	2.99	0.51
29:X:1879:G:H2'	29:X:1880:G:O4'	2.11	0.51
29:X:1928:G:N2	29:X:1929:U:C2	2.79	0.51
29:X:2020:G:H2'	29:X:2021:G:C8	2.46	0.51
29:X:2088:U:H2'	29:X:2089:C:C6	2.46	0.51
29:X:2262:C:H5"	29:X:2368:G:O2'	2.11	0.51
4:4:27:CYS:SG	4:4:29:ASN:N	2.84	0.50
8:C:34:GLN:HE21	8:C:177:VAL:HB	1.73	0.50
8:C:78:VAL:HG13	29:X:460:U:HO2'	1.77	0.50
8:C:108:ILE:O	8:C:109:ALA:C	2.54	0.50
10:E:139:GLN:O	10:E:142:GLY:N	2.44	0.50
11:F:27:LEU:CD2	11:F:57:ILE:HD12	2.41	0.50
12:G:127:ILE:O	12:G:128:GLU:C	2.54	0.50
21:P:74:SER:OG	29:X:498:C:O2	2.27	0.50
22:Q:58:VAL:HG13	29:X:1353:A:N6	2.26	0.50
23:R:25:LEU:CD1	23:R:25:LEU:N	2.71	0.50
29:X:320:A:O2'	29:X:340:G:H2'	2.11	0.50
29:X:577:U:C4'	29:X:956:A:N6	2.74	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:717:G:C2'	29:X:739:G:N2	2.68	0.50
29:X:1774:A:N1	29:X:2566:A:C4	2.79	0.50
29:X:1806:G:C6	29:X:1807:A:N6	2.79	0.50
29:X:1830:C:N4	29:X:1881:U:H3'	2.26	0.50
29:X:1920:A:N1	29:X:1922:U:H5	2.09	0.50
29:X:2530:C:H2'	29:X:2531:U:C6	2.47	0.50
29:X:2726:U:C2'	29:X:2727:G:H5'	2.41	0.50
4:4:18:ARG:HH11	4:4:23:VAL:CG2	2.23	0.50
6:A:158:SER:OG	29:X:1811:A:H5'	2.11	0.50
7:B:82:ARG:HH22	29:X:2617:G:P	2.34	0.50
7:B:136:ARG:CD	29:X:1673:C:OP1	2.54	0.50
8:C:136:TRP:O	8:C:137:ALA:C	2.54	0.50
9:D:106:ILE:CG2	9:D:139:PRO:HB3	2.38	0.50
9:D:148:LYS:HG3	9:D:149:THR:H	1.77	0.50
12:G:61:ARG:CA	12:G:65:LYS:HB2	2.32	0.50
13:H:2:ILE:HG12	13:H:45:ALA:O	2.11	0.50
14:I:89:ASP:OD2	14:I:120:VAL:HA	2.10	0.50
17:L:33:ARG:HH22	17:L:103:LEU:HB2	1.75	0.50
17:L:87:VAL:C	17:L:88:VAL:CG2	2.84	0.50
18:M:6:LYS:O	18:M:7:ILE:HG12	2.11	0.50
20:O:58:ALA:HB2	20:O:95:ILE:HD13	1.92	0.50
23:R:25:LEU:H	23:R:25:LEU:HD12	1.76	0.50
23:R:78:ALA:C	23:R:80:LYS:N	2.64	0.50
28:W:22:ALA:HB3	28:W:43:MET:HE1	1.92	0.50
29:X:27:G:N2	29:X:522:G:O2'	2.45	0.50
29:X:201:G:N7	29:X:433:G:H4'	2.27	0.50
29:X:647:G:O2'	29:X:648:A:C5'	2.59	0.50
29:X:1474:A:H4'	29:X:1475:U:C5'	2.41	0.50
29:X:1626:A:H5"	29:X:1627:C:OP2	2.12	0.50
29:X:1693:A:C2	29:X:1976:U:C5'	2.92	0.50
29:X:1887:G:O2'	29:X:1888:C:H5'	2.11	0.50
29:X:1998:A:H1'	30:Y:3:LYS:CB	2.41	0.50
29:X:2264:C:N4	29:X:2325:A:C2	2.80	0.50
29:X:2546:G:C4	29:X:2547:C:C5	3.00	0.50
29:X:2612:G:H2'	29:X:2613:A:O4'	2.11	0.50
29:X:2645:C:H2'	29:X:2646:C:H5'	1.93	0.50
30:Y:35:GLN:HG3	30:Y:51:TYR:CD2	2.46	0.50
6:A:257:LEU:HD13	29:X:1795:C:P	2.51	0.50
8:C:115:GLY:HA3	8:C:185:ARG:CD	2.41	0.50
10:E:54:ARG:NH1	10:E:57:ASP:HB3	2.22	0.50
12:G:140:GLN:O	12:G:141:GLY:C	2.51	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:13:ARG:HG2	14:I:13:ARG:NH2	2.26	0.50
14:I:29:THR:O	14:I:29:THR:HG22	2.10	0.50
14:I:48:PHE:O	14:I:49:PHE:O	2.29	0.50
16:K:20:LEU:O	16:K:22:ARG:N	2.44	0.50
18:M:95:GLU:O	18:M:96:ARG:C	2.53	0.50
22:Q:55:THR:O	22:Q:56:MET:HG2	2.12	0.50
28:W:8:SER:HB2	29:X:999:A:H5'	1.88	0.50
29:X:168:A:O2'	29:X:169:C:H5'	2.11	0.50
29:X:766:A:H8	29:X:766:A:O5'	1.94	0.50
29:X:956:A:N9	29:X:2427:A:C2	2.79	0.50
29:X:983:G:C6	29:X:984:A:N6	2.79	0.50
29:X:1173:G:H2'	29:X:1174:G:C8	2.45	0.50
29:X:1923:U:O2'	29:X:1924:C:OP2	2.28	0.50
29:X:1926:U:O2	29:X:1926:U:H2'	2.11	0.50
29:X:2061:C:O5'	29:X:2061:C:H6	1.95	0.50
29:X:2471:U:N3	29:X:2472:U:C4	2.79	0.50
29:X:2756:A:C6	29:X:2762:G:H1'	2.46	0.50
29:X:2794:G:C5	29:X:2796:A:C6	3.00	0.50
4:4:35:ARG:NH1	29:X:2722:C:P	2.83	0.50
6:A:68:LYS:HB3	6:A:152:GLY:CA	2.41	0.50
6:A:249:PRO:HD3	29:X:2218:G:C4'	2.42	0.50
7:B:93:VAL:O	7:B:95:ILE:N	2.44	0.50
7:B:105:THR:HB	7:B:166:THR:HG23	1.93	0.50
7:B:154:LYS:HD2	7:B:156:MET:CG	2.41	0.50
8:C:33:TRP:O	8:C:36:ALA:HB3	2.11	0.50
8:C:34:GLN:OE1	8:C:176:ASN:ND2	2.45	0.50
8:C:94:THR:HG21	29:X:618:A:OP1	2.12	0.50
9:D:51:ASP:O	9:D:55:LYS:HG2	2.11	0.50
9:D:53:ALA:O	9:D:54:ALA:C	2.54	0.50
9:D:88:LYS:HE2	31:Z:44:C:N4	2.27	0.50
9:D:123:ASP:C	9:D:125:ARG:H	2.18	0.50
13:H:60:PRO:O	13:H:61:ARG:HB2	2.12	0.50
17:L:87:VAL:CG1	17:L:88:VAL:H	2.21	0.50
19:N:36:PHE:HZ	20:O:81:ARG:NH1	2.09	0.50
20:O:36:LYS:HE3	20:O:56:VAL:HG13	1.93	0.50
23:R:25:LEU:O	23:R:26:SER:OG	2.27	0.50
24:S:147:ILE:HB	24:S:169:VAL:HG22	1.93	0.50
26:U:41:VAL:HG23	26:U:42:GLN:H	1.76	0.50
29:X:73:A:C5'	29:X:74:G:O4'	2.60	0.50
29:X:202:A:H2'	29:X:203:G:O4'	2.10	0.50
29:X:679:C:H2'	29:X:680:U:H6	1.74	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:704:G:H2'	29:X:705:C:C6	2.47	0.50
29:X:750:C:C2'	29:X:751:G:H5'	2.41	0.50
29:X:789:G:H4'	29:X:790:A:O5'	2.11	0.50
29:X:841:G:C6	29:X:842:A:N6	2.80	0.50
29:X:1006:C:H4'	29:X:1007:A:OP1	2.09	0.50
29:X:1047:G:C6	29:X:1131:G:C6	3.00	0.50
29:X:1253:C:H6	29:X:1253:C:C5'	2.25	0.50
29:X:1734:C:C4	29:X:1735:G:H1'	2.46	0.50
29:X:1811:A:O2'	29:X:1812:U:P	2.69	0.50
29:X:1938:U:C5	29:X:2536:G:N2	2.80	0.50
29:X:2035:G:O2'	29:X:2036:G:H5'	2.11	0.50
29:X:2310:G:N2	29:X:2364:C:C4	2.79	0.50
29:X:2447:G:N2	29:X:2460:G:C2'	2.73	0.50
29:X:2680:U:O5'	29:X:2680:U:H6	1.94	0.50
29:X:2845:C:C2'	29:X:2846:G:H5'	2.40	0.50
8:C:67:ALA:O	8:C:68:ARG:HB2	2.11	0.50
8:C:83:ALA:O	8:C:84:PHE:C	2.54	0.50
8:C:106:MET:HG2	8:C:106:MET:O	2.12	0.50
9:D:40:LEU:HD12	9:D:85:VAL:O	2.12	0.50
9:D:108:LEU:O	9:D:109:PRO:C	2.53	0.50
9:D:163:ASP:HA	9:D:166:ALA:CB	2.42	0.50
12:G:61:ARG:CG	12:G:65:LYS:HD2	2.35	0.50
13:H:10:VAL:CG2	13:H:17:ARG:O	2.47	0.50
14:I:8:PRO:O	14:I:13:ARG:HD2	2.12	0.50
14:I:18:ARG:HB2	14:I:21:ARG:CG	2.41	0.50
14:I:130:ILE:HG12	14:I:140:VAL:HG11	1.93	0.50
15:J:45:SER:N	15:J:94:TRP:O	2.43	0.50
15:J:117:GLU:C	15:J:119:PHE:N	2.66	0.50
17:L:91:ARG:NH1	29:X:2355:A:H61	2.10	0.50
19:N:20:ARG:HD2	19:N:39:LEU:CD1	2.41	0.50
19:N:66:ASN:C	19:N:68:GLY:H	2.20	0.50
24:S:94:VAL:CG1	24:S:95:SER:N	2.75	0.50
29:X:653:G:H3'	29:X:654:A:C5'	2.40	0.50
29:X:987:G:H5'	29:X:1167:A:N6	2.26	0.50
29:X:988:G:N3	29:X:1012:A:H2	2.10	0.50
29:X:1339:U:O2'	29:X:1993:G:H1'	2.12	0.50
29:X:1466:C:O2'	29:X:1467:U:C4'	2.60	0.50
29:X:1468:A:H8	29:X:1468:A:P	2.35	0.50
29:X:1657:A:N6	29:X:1658:A:C6	2.79	0.50
29:X:2367:A:H5'	29:X:2368:G:OP2	2.11	0.50
29:X:2522:G:N2	29:X:2625:U:H5"	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2691:C:O2'	29:X:2692:A:C8	2.62	0.50
29:X:2729:A:N1	29:X:2730:A:N6	2.60	0.50
29:X:2867:G:OP2	29:X:2867:G:H8	1.93	0.50
6:A:218:LYS:NZ	29:X:794:A:H5'	2.26	0.50
7:B:59:VAL:HG12	7:B:60:ASN:O	2.11	0.50
8:C:195:ILE:O	8:C:196:VAL:HB	2.12	0.50
9:D:46:ASP:HB2	9:D:49:ALA:CB	2.40	0.50
9:D:66:ILE:HD11	31:Z:43:G:C5'	2.22	0.50
9:D:69:LYS:HG2	9:D:84:PRO:HA	1.94	0.50
12:G:70:PHE:HE1	19:N:67:ALA:HB3	1.76	0.50
15:J:43:ILE:N	15:J:95:VAL:CG1	2.74	0.50
16:K:87:TYR:O	16:K:88:ALA:C	2.54	0.50
22:Q:12:ILE:N	22:Q:12:ILE:CD1	2.74	0.50
22:Q:35:LYS:C	22:Q:38:ILE:CG2	2.84	0.50
22:Q:57:ASN:O	22:Q:58:VAL:CG2	2.60	0.50
24:S:103:ARG:HD3	24:S:108:VAL:HG23	1.93	0.50
28:W:40:VAL:HG23	29:X:940:G:HO2'	1.75	0.50
29:X:15:G:H4'	30:Y:21:SER:HB3	1.92	0.50
29:X:33:C:C2'	29:X:34:U:H5"	2.42	0.50
29:X:417:C:C6	29:X:419:G:C4	2.99	0.50
29:X:455:A:C2	29:X:1258:G:N3	2.79	0.50
29:X:706:A:H2'	29:X:707:U:H6	1.75	0.50
29:X:733:G:O2'	29:X:734:G:H5'	2.12	0.50
29:X:1012:A:N7	29:X:1013:G:C4	2.80	0.50
29:X:1495:G:H5'	29:X:1574:A:C2	2.47	0.50
29:X:2198:U:N3	29:X:2199:C:C5	2.79	0.50
29:X:2300:G:H3'	29:X:2300:G:N3	2.26	0.50
29:X:2432:A:H2'	29:X:2433:G:H8	1.75	0.50
29:X:2485:U:O2'	29:X:2486:C:O5'	2.29	0.50
29:X:2542:U:C6	29:X:2544:A:OP2	2.65	0.50
30:Y:51:TYR:HE1	30:Y:55:ARG:HD3	1.77	0.50
9:D:35:VAL:HG12	9:D:36:VAL:N	2.27	0.50
9:D:75:SER:H	9:D:79:LEU:CD2	2.18	0.50
13:H:23:ARG:NH2	13:H:25:LEU:CD2	2.65	0.50
14:I:78:SER:HB3	14:I:112:GLY:CA	2.37	0.50
15:J:49:GLU:O	15:J:50:ALA:C	2.54	0.50
16:K:98:LEU:HD12	16:K:98:LEU:N	2.27	0.50
17:L:29:LEU:HA	17:L:41:GLN:O	2.12	0.50
18:M:76:GLY:C	18:M:77:VAL:HG23	2.36	0.50
19:N:107:LYS:O	19:N:110:VAL:HB	2.12	0.50
22:Q:28:TRP:CE3	22:Q:75:ARG:HB3	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:55:GLY:O	26:U:56:GLN:HB3	2.12	0.50
29:X:88:G:O5'	29:X:89:A:H5"	2.11	0.50
29:X:302:U:H2'	29:X:303:C:C6	2.47	0.50
29:X:542:A:N6	29:X:2003:A:H1'	2.27	0.50
29:X:689:A:C2'	29:X:690:A:H5'	2.42	0.50
29:X:851:C:C2	29:X:952:A:N1	2.80	0.50
29:X:1002:C:H2'	29:X:1003:C:H6	1.77	0.50
29:X:1226:A:C6	29:X:1250:A:H1'	2.47	0.50
29:X:1793:A:H8	29:X:1793:A:O5'	1.94	0.50
29:X:2028:C:O2'	29:X:2029:G:O5'	2.27	0.50
29:X:2039:G:H2'	29:X:2039:G:N3	2.26	0.50
29:X:2348:A:H2'	29:X:2349:G:C8	2.47	0.50
29:X:2350:G:C2	29:X:2351:G:C8	2.99	0.50
29:X:2382:C:O2	29:X:2382:C:H2'	2.11	0.50
6:A:142:VAL:CG1	6:A:193:ILE:HD13	2.42	0.50
6:A:172:TYR:HD2	6:A:184:ARG:O	1.94	0.50
8:C:194:GLU:O	8:C:195:ILE:CG1	2.51	0.50
11:F:10:LEU:N	11:F:10:LEU:HD23	2.27	0.50
11:F:121:GLU:O	11:F:125:ASN:ND2	2.44	0.50
12:G:93:LYS:HG2	12:G:97:ASP:CB	2.42	0.50
13:H:4:PRO:O	13:H:5:GLN:CB	2.39	0.50
15:J:62:GLY:HA3	15:J:64:LYS:HE3	1.92	0.50
18:M:2:GLN:N	29:X:2795:A:C2	2.80	0.50
18:M:26:ASP:O	18:M:27:PHE:O	2.29	0.50
21:P:85:MET:CE	21:P:130:GLU:H	2.24	0.50
29:X:75:C:C2'	29:X:76:C:H5"	2.42	0.50
29:X:446:C:H2'	29:X:447:U:O4'	2.12	0.50
29:X:475:U:O2'	29:X:699:G:O6	2.30	0.50
29:X:617:U:O2	29:X:617:U:C3'	2.60	0.50
29:X:651:C:H42	29:X:658:G:H1	1.60	0.50
29:X:742:G:H1'	29:X:776:G:O3'	2.12	0.50
29:X:998:C:O2	29:X:1011:A:H2	1.95	0.50
29:X:1091:C:O2'	29:X:1092:U:H5'	2.12	0.50
29:X:1526:U:H3'	29:X:1527:G:C8	2.47	0.50
29:X:1681:A:H2	29:X:2706:U:H1'	1.75	0.50
29:X:1683:G:H2'	29:X:1684:G:H5'	1.91	0.50
29:X:1724:C:C2	29:X:1747:G:C6	3.00	0.50
29:X:1963:G:C2	29:X:1965:U:C2	2.99	0.50
29:X:2058:U:H2'	29:X:2217:G:N2	2.26	0.50
4:4:25:VAL:CB	4:4:34:GLN:HB2	2.41	0.50
7:B:11:MET:SD	29:X:2661:G:C8	3.05	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:70:ALA:HB3	7:B:72:VAL:CG2	2.42	0.50
7:B:75:THR:O	7:B:76:ARG:HB2	2.11	0.50
7:B:119:ARG:HD2	7:B:158:GLY:H	1.76	0.50
8:C:73:SER:C	8:C:74:VAL:HG13	2.37	0.50
9:D:99:PHE:O	9:D:102:LYS:HB2	2.12	0.50
10:E:150:LYS:O	10:E:152:ARG:N	2.44	0.50
12:G:127:ILE:H	12:G:127:ILE:HD12	1.77	0.50
12:G:153:GLY:C	12:G:157:PRO:HG2	2.37	0.50
15:J:27:TYR:HB3	15:J:137:VAL:HG11	1.94	0.50
15:J:47:GLN:HE21	29:X:2464:G:H5"	1.66	0.50
15:J:92:GLU:OE1	15:J:92:GLU:HA	2.11	0.50
16:K:51:LEU:HD21	16:K:70:ILE:HG12	1.94	0.50
21:P:47:GLY:O	21:P:48:LYS:CB	2.59	0.50
29:X:141:G:H2'	29:X:142:U:C6	2.47	0.50
29:X:347:C:O2	29:X:347:C:H2'	2.12	0.50
29:X:579:G:H4'	29:X:994:A:C2	2.47	0.50
29:X:731:A:N3	29:X:731:A:H5"	2.26	0.50
29:X:749:C:H2'	29:X:750:C:H6	1.76	0.50
29:X:1053:G:C5	29:X:1054:C:C4	3.00	0.50
29:X:1226:A:H2'	29:X:1227:A:O4'	2.12	0.50
29:X:1473:U:H1'	29:X:1474:A:C5	2.47	0.50
29:X:1603:A:H2'	29:X:1604:A:H8	1.76	0.50
29:X:1744:G:N1	29:X:1747:G:OP2	2.34	0.50
29:X:1746:A:C2'	29:X:1747:G:O5'	2.60	0.50
29:X:2081:U:H2'	29:X:2082:C:C6	2.46	0.50
29:X:2175:A:H2'	29:X:2176:U:H6	1.76	0.50
29:X:2363:G:H5"	29:X:2365:U:OP1	2.12	0.50
29:X:2468:G:H2'	29:X:2469:G:O4'	2.11	0.50
29:X:2519:C:O2'	29:X:2520:A:H5'	2.11	0.50
29:X:2529:G:C6	29:X:2530:C:C4	3.00	0.50
29:X:2625:U:O4	29:X:2712:G:C6	2.65	0.50
29:X:2673:G:C6	29:X:2696:A:C6	3.00	0.50
29:X:2697:G:C2	29:X:2698:G:C4	3.00	0.50
7:B:72:VAL:CG1	7:B:73:ALA:H	2.24	0.49
7:B:155:ARG:HH11	7:B:155:ARG:HG3	1.77	0.49
9:D:175:LEU:HD12	9:D:176:PRO:CD	2.26	0.49
11:F:27:LEU:HD12	11:F:27:LEU:N	2.27	0.49
11:F:30:TYR:HB3	11:F:59:ILE:HD13	1.94	0.49
13:H:26:ASN:ND2	13:H:38:GLY:H	2.08	0.49
15:J:21:ASP:CA	15:J:99:LYS:HE2	2.41	0.49
16:K:40:LYS:O	16:K:43:GLU:HB3	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:72:ASP:O	16:K:75:VAL:N	2.45	0.49
17:L:87:VAL:CG1	17:L:88:VAL:N	2.74	0.49
18:M:46:ARG:CG	18:M:47:SER:N	2.75	0.49
22:Q:54:SER:OG	22:Q:79:ILE:HB	2.12	0.49
23:R:36:VAL:O	23:R:37:LEU:HD23	2.12	0.49
24:S:23:ALA:HB3	24:S:32:PHE:HE1	1.77	0.49
26:U:40:ARG:NE	29:X:178:C:OP1	2.45	0.49
26:U:41:VAL:CG2	26:U:43:ARG:HH22	2.23	0.49
26:U:52:ARG:CD	26:U:79:GLU:HA	2.42	0.49
29:X:36:G:N2	29:X:457:C:C2	2.79	0.49
29:X:74:G:N2	29:X:110:U:O2	2.43	0.49
29:X:81:C:C4	29:X:82:G:C2	2.99	0.49
29:X:333:A:H1'	29:X:351:A:N9	2.27	0.49
29:X:469:G:O2'	29:X:470:U:OP2	2.29	0.49
29:X:540:G:HO2'	29:X:542:A:H2	1.57	0.49
29:X:830:C:H2'	29:X:831:G:O4'	2.12	0.49
29:X:1152:C:C2'	29:X:1153:A:OP1	2.60	0.49
29:X:1460:G:H8	29:X:1460:G:OP2	1.95	0.49
29:X:1513:U:OP2	29:X:1514:C:H5	1.94	0.49
29:X:1524:C:H3'	29:X:1525:A:H5"	1.92	0.49
29:X:1623:C:HO2'	29:X:1624:A:P	2.31	0.49
29:X:1998:A:C4'	30:Y:3:LYS:NZ	2.75	0.49
29:X:2081:U:H3	29:X:2174:G:H1	1.60	0.49
29:X:2264:C:H42	29:X:2325:A:H2	1.60	0.49
29:X:2710:C:C2'	29:X:2711:G:H5'	2.42	0.49
29:X:2794:G:O2'	29:X:2795:A:H5"	2.11	0.49
30:Y:12:SER:HB2	30:Y:15:LYS:H	1.76	0.49
8:C:6:VAL:HG23	8:C:118:VAL:HG23	1.94	0.49
8:C:45:THR:HG22	8:C:47:THR:N	2.24	0.49
8:C:84:PHE:HE1	29:X:596:C:C5'	2.15	0.49
10:E:149:ARG:HD3	10:E:164:PHE:HE1	1.77	0.49
10:E:163:ARG:HB2	10:E:167:GLU:CB	2.42	0.49
12:G:73:ASN:ND2	29:X:547:U:H1'	2.17	0.49
12:G:136:PRO:HG2	12:G:144:MET:HE1	1.93	0.49
13:H:27:SER:CB	13:H:50:ILE:HG13	2.41	0.49
14:I:13:ARG:HH11	29:X:1218:C:C5'	2.26	0.49
14:I:73:GLU:HG2	14:I:101:ARG:HB2	1.94	0.49
14:I:80:LEU:O	14:I:83:LEU:O	2.29	0.49
15:J:125:LYS:N	15:J:125:LYS:HZ3	2.09	0.49
17:L:35:SER:HB2	31:Z:31:A:P	2.52	0.49
17:L:91:ARG:NH2	29:X:2355:A:N1	2.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:10:LYS:HG3	20:O:11:GLN:N	2.27	0.49
20:O:28:GLU:C	20:O:30:GLY:N	2.69	0.49
21:P:49:SER:O	21:P:51:GLN:N	2.45	0.49
22:Q:60:GLY:HA3	22:Q:73:ASN:ND2	2.27	0.49
23:R:25:LEU:HD13	23:R:25:LEU:N	2.26	0.49
23:R:105:ARG:HH22	23:R:111:GLY:C	2.20	0.49
24:S:100:THR:OG1	24:S:138:VAL:CG1	2.57	0.49
25:T:71:ASN:HD22	25:T:77:ARG:HH11	1.59	0.49
27:V:13:ASP:HA	27:V:16:LYS:HB3	1.93	0.49
29:X:337:G:O2'	29:X:338:G:H5'	2.12	0.49
29:X:415:A:C3'	29:X:416:U:H5'	2.43	0.49
29:X:956:A:H1'	29:X:2427:A:H2	1.76	0.49
29:X:1299:A:C2'	29:X:1301:U:OP2	2.54	0.49
29:X:2671:C:N3	29:X:2672:U:C4	2.81	0.49
6:A:249:PRO:CG	29:X:2218:G:O4'	2.56	0.49
7:B:11:MET:CG	7:B:24:THR:OG1	2.52	0.49
7:B:122:PHE:O	7:B:123:ALA:CB	2.60	0.49
8:C:162:ARG:O	29:X:334:G:H2'	2.11	0.49
9:D:71:LYS:O	9:D:72:LYS:CB	2.59	0.49
9:D:96:MET:HE2	9:D:97:TYR:CD2	2.47	0.49
12:G:162:LYS:HD3	29:X:2873:G:H1'	1.94	0.49
13:H:2:ILE:O	13:H:45:ALA:N	2.43	0.49
18:M:10:GLY:O	18:M:13:LEU:N	2.43	0.49
20:O:58:ALA:CB	20:O:95:ILE:HD13	2.41	0.49
21:P:30:TYR:CD1	29:X:518:A:N6	2.80	0.49
22:Q:35:LYS:HA	22:Q:38:ILE:CG2	2.43	0.49
23:R:24:VAL:HB	23:R:29:HIS:O	2.12	0.49
24:S:55:THR:HG23	24:S:59:GLY:HA2	1.93	0.49
24:S:110:GLY:O	24:S:174:PRO:HB3	2.12	0.49
27:V:2:LYS:HA	27:V:6:MET:CE	2.42	0.49
28:W:9:VAL:O	28:W:9:VAL:HG12	2.12	0.49
29:X:98:U:H3'	29:X:98:U:H6	1.77	0.49
29:X:172:A:C6	29:X:175:C:C5	3.01	0.49
29:X:199:A:H61	29:X:209:G:H1'	1.77	0.49
29:X:529:U:N3	29:X:530:G:N7	2.61	0.49
29:X:531:G:O2'	29:X:532:A:C5'	2.60	0.49
29:X:963:G:C6	29:X:977:G:C6	3.00	0.49
29:X:1713:G:C6	29:X:1714:A:C5	3.00	0.49
29:X:2057:U:C1'	29:X:2577:A:H1'	2.42	0.49
29:X:2197:U:N3	29:X:2198:U:C5	2.81	0.49
29:X:2462:C:H2'	29:X:2463:G:O4'	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2633:A:N6	29:X:2645:C:OP2	2.43	0.49
29:X:2847:G:C2	29:X:2848:A:N6	2.80	0.49
30:Y:15:LYS:O	30:Y:18:MET:CB	2.60	0.49
6:A:45:ASN:ND2	29:X:1797:C:O2	2.45	0.49
6:A:70:ARG:NH2	6:A:189:CYS:SG	2.86	0.49
7:B:105:THR:CB	7:B:166:THR:OG1	2.61	0.49
8:C:82:VAL:O	8:C:83:ALA:C	2.55	0.49
8:C:98:GLN:HE22	29:X:611:C:C5'	2.26	0.49
8:C:125:ILE:O	8:C:126:ALA:HB3	2.12	0.49
9:D:26:MET:HB3	31:Z:59:A:C2	2.48	0.49
9:D:27:ALA:CB	31:Z:59:A:H1'	2.29	0.49
10:E:30:LYS:HG2	10:E:79:VAL:C	2.37	0.49
10:E:140:LEU:HA	10:E:143:GLN:HB2	1.94	0.49
16:K:83:VAL:CG2	16:K:84:ALA:N	2.76	0.49
20:O:39:PHE:CE2	20:O:51:ALA:HB1	2.48	0.49
24:S:105:GLN:N	24:S:139:THR:O	2.41	0.49
29:X:15:G:H4'	30:Y:21:SER:CB	2.42	0.49
29:X:39:C:H2'	29:X:40:U:H6	1.77	0.49
29:X:148:C:H2'	29:X:149:A:O4'	2.12	0.49
29:X:155:G:O2'	29:X:156:G:H5'	2.12	0.49
29:X:181:A:H4'	29:X:182:G:OP1	2.12	0.49
29:X:553:C:C4	29:X:557:U:C2	3.01	0.49
29:X:633:G:H2'	29:X:634:G:H8	1.77	0.49
29:X:767:G:C2'	29:X:768:U:H5'	2.42	0.49
29:X:996:C:OP2	29:X:997:C:OP2	2.30	0.49
29:X:1567:A:N6	29:X:1568:A:C6	2.80	0.49
29:X:1776:A:OP1	29:X:1965:U:H5'	2.13	0.49
29:X:1800:A:C6	29:X:1802:A:C6	3.00	0.49
29:X:2002:A:H2'	29:X:2003:A:O5'	2.12	0.49
29:X:2039:G:C6	29:X:2556:A:C4	3.01	0.49
29:X:2046:C:C4	29:X:2047:C:C4	3.00	0.49
29:X:2550:C:N4	29:X:2553:G:C8	2.80	0.49
29:X:2616:U:H2'	29:X:2617:G:O4'	2.12	0.49
29:X:2664:G:N1	29:X:2665:G:C5	2.80	0.49
29:X:2775:U:H5'	29:X:2776:U:C5'	2.33	0.49
30:Y:4:HIS:HB3	30:Y:5:PRO:HD2	1.87	0.49
31:Z:11:G:O6	31:Z:114:C:N3	2.46	0.49
6:A:173:VAL:HG21	6:A:187:SER:HB3	1.91	0.49
6:A:223:GLY:HA2	6:A:226:MET:CG	2.43	0.49
6:A:245:VAL:HG12	6:A:251:GLY:CA	2.42	0.49
7:B:32:PRO:O	7:B:49:ILE:HG13	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:2:ALA:CB	8:C:13:ARG:HA	2.42	0.49
8:C:47:THR:HA	8:C:82:VAL:O	2.12	0.49
8:C:172:VAL:O	8:C:174:GLY:N	2.45	0.49
9:D:108:LEU:HD13	9:D:176:PRO:HG3	1.94	0.49
11:F:41:PHE:C	11:F:43:ALA:H	2.20	0.49
15:J:78:LYS:NZ	29:X:2438:A:N3	2.60	0.49
17:L:38:ILE:CD1	17:L:39:TYR:H	2.23	0.49
25:T:37:LEU:N	25:T:37:LEU:HD12	2.27	0.49
25:T:80:SER:C	25:T:81:ILE:HG13	2.38	0.49
29:X:75:C:H2'	29:X:76:C:H5"	1.95	0.49
29:X:219:G:O2'	29:X:220:U:C5	2.65	0.49
29:X:520:C:C4	29:X:521:U:C4	3.00	0.49
29:X:539:A:N6	29:X:2025:A:C1'	2.75	0.49
29:X:613:A:O2'	29:X:614:G:P	2.70	0.49
29:X:828:C:H2'	29:X:829:C:C6	2.48	0.49
29:X:830:C:O2'	29:X:852:U:H5"	2.12	0.49
29:X:836:G:H2'	29:X:837:U:O4'	2.12	0.49
29:X:1329:U:C2	29:X:1330:G:C8	3.01	0.49
29:X:1370:U:H2'	29:X:1371:G:C8	2.47	0.49
29:X:1373:G:N2	29:X:1374:G:C1'	2.76	0.49
29:X:1467:U:C3'	29:X:1467:U:C6	2.95	0.49
29:X:1536:G:O2'	29:X:1537:U:H5'	2.13	0.49
29:X:1635:G:C2	29:X:1636:G:C8	3.00	0.49
29:X:1947:G:H4'	29:X:1948:C:OP2	2.12	0.49
29:X:2175:A:H2'	29:X:2176:U:C6	2.48	0.49
29:X:2333:A:C2	29:X:2343:C:C2	3.00	0.49
29:X:2843:A:N6	29:X:2844:G:N1	2.60	0.49
6:A:60:ARG:HA	29:X:1584:G:H5'	1.94	0.49
6:A:163:VAL:CG2	6:A:178:PRO:HD3	2.42	0.49
8:C:162:ARG:HD2	29:X:331:U:O2'	2.13	0.49
9:D:112:ARG:O	9:D:113:ASP:HB2	2.13	0.49
10:E:52:VAL:O	10:E:65:HIS:NE2	2.45	0.49
10:E:98:LEU:HD12	10:E:99:THR:N	2.27	0.49
12:G:90:LEU:HD23	12:G:93:LYS:O	2.13	0.49
14:I:50:GLU:OE1	29:X:678:G:H4'	2.13	0.49
14:I:134:GLU:C	14:I:136:ALA:H	2.21	0.49
15:J:11:ARG:NH2	15:J:15:ARG:HH22	2.09	0.49
15:J:77:LYS:CG	15:J:78:LYS:N	2.75	0.49
19:N:66:ASN:C	19:N:68:GLY:N	2.70	0.49
22:Q:26:SER:CB	22:Q:79:ILE:HG12	2.41	0.49
23:R:83:LEU:C	23:R:90:LYS:HE2	2.37	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:90:LYS:HB2	23:R:108:VAL:CG2	2.24	0.49
24:S:6:LYS:N	24:S:7:PRO:CD	2.74	0.49
24:S:73:LYS:O	24:S:74:ARG:HB2	2.11	0.49
25:T:40:GLN:NE2	25:T:44:LYS:N	2.61	0.49
26:U:29:GLY:C	26:U:31:GLY:N	2.63	0.49
27:V:4:SER:HB3	27:V:7:ARG:HH21	1.76	0.49
27:V:17:GLU:O	27:V:53:LEU:HD13	2.12	0.49
29:X:5:A:N6	29:X:6:A:N6	2.60	0.49
29:X:42:G:H2'	29:X:43:A:O4'	2.12	0.49
29:X:75:C:H2'	29:X:76:C:C5'	2.43	0.49
29:X:88:G:C3'	29:X:89:A:H5"	2.35	0.49
29:X:223:C:C2'	29:X:224:G:H5'	2.40	0.49
29:X:454:G:C6	29:X:456:C:N4	2.81	0.49
29:X:540:G:O6	29:X:2006:G:OP1	2.30	0.49
29:X:931:G:H2'	29:X:932:G:H5'	1.95	0.49
29:X:1065:A:C2'	29:X:1066:G:H5'	2.42	0.49
29:X:1226:A:OP2	29:X:1248:G:N1	2.45	0.49
29:X:1644:G:H2'	29:X:1645:U:C6	2.48	0.49
29:X:1710:U:H5'	29:X:1711:C:H5	1.76	0.49
29:X:1776:A:OP1	29:X:1965:U:C5'	2.61	0.49
29:X:2073:A:C5	29:X:2074:U:C4	3.00	0.49
29:X:2228:U:H4'	29:X:2229:G:OP2	2.11	0.49
29:X:2307:A:H2'	29:X:2308:A:H8	1.74	0.49
29:X:2311:U:C4'	29:X:2315:A:N6	2.75	0.49
29:X:2324:G:C5	29:X:2326:C:C4	3.01	0.49
29:X:2437:G:H1'	29:X:2438:A:N7	2.28	0.49
29:X:2441:U:H2'	29:X:2442:C:C6	2.47	0.49
29:X:2442:C:H2'	29:X:2443:C:C6	2.47	0.49
29:X:2602:G:C2'	29:X:2603:G:H5'	2.42	0.49
29:X:2651:U:O2	29:X:2652:G:C8	2.65	0.49
4:4:22:ARG:HG2	4:4:22:ARG:HH11	1.77	0.49
6:A:258:LYS:HZ2	6:A:261:ARG:CZ	2.26	0.49
7:B:136:ARG:HG2	7:B:136:ARG:NH1	2.26	0.49
8:C:67:ALA:N	29:X:1268:U:C5	2.71	0.49
9:D:11:GLN:O	9:D:15:ALA:CB	2.60	0.49
9:D:104:ILE:CG2	9:D:174:GLY:HA3	2.42	0.49
11:F:90:THR:CG2	11:F:93:LYS:HD2	2.40	0.49
14:I:119:THR:HG23	14:I:139:ARG:HB3	1.94	0.49
15:J:125:LYS:HZ2	15:J:125:LYS:CB	2.23	0.49
18:M:32:THR:CG2	18:M:33:VAL:N	2.73	0.49
19:N:68:GLY:HA2	19:N:71:LEU:CB	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:46:PHE:O	22:Q:47:GLY:C	2.56	0.49
29:X:28:A:N3	29:X:523:A:C4	2.81	0.49
29:X:115:G:C6	29:X:117:A:N6	2.81	0.49
29:X:242:A:H2'	29:X:243:G:C4'	2.42	0.49
29:X:1145:C:C6	29:X:1147:G:OP2	2.65	0.49
29:X:1164:C:H3'	29:X:1165:G:C8	2.48	0.49
29:X:1237:G:H2'	29:X:1238:A:C8	2.48	0.49
29:X:1391:A:N7	29:X:1393:G:C6	2.81	0.49
29:X:2189:A:H2	29:X:2196:U:N3	2.06	0.49
29:X:2488:G:O2'	29:X:2489:C:H5'	2.13	0.49
29:X:2505:G:C2	29:X:2517:C:O2	2.65	0.49
29:X:2658:A:O2'	29:X:2659:C:H5'	2.13	0.49
29:X:2827:G:C5	29:X:2828:C:C4	3.00	0.49
31:Z:37:C:H2'	31:Z:38:C:O4'	2.13	0.49
7:B:150:VAL:CG2	7:B:151:TYR:N	2.75	0.49
8:C:7:ILE:O	8:C:120:VAL:HB	2.12	0.49
8:C:7:ILE:HG21	8:C:121:ASP:O	2.12	0.49
8:C:23:ASN:OD1	8:C:26:VAL:HG23	2.13	0.49
10:E:29:PRO:CG	10:E:79:VAL:O	2.59	0.49
10:E:54:ARG:NH1	10:E:62:ARG:NE	2.58	0.49
12:G:55:ALA:CB	12:G:134:MET:HE1	2.43	0.49
13:H:43:ARG:N	29:X:2654:A:OP1	2.42	0.49
14:I:90:ARG:HA	14:I:121:HIS:ND1	2.28	0.49
15:J:29:ALA:O	15:J:30:PHE:HB2	2.12	0.49
18:M:60:SER:O	18:M:64:LYS:N	2.46	0.49
19:N:27:SER:C	19:N:29:SER:N	2.70	0.49
20:O:68:LYS:HB2	20:O:87:ARG:HH21	1.77	0.49
20:O:86:HIS:CG	20:O:87:ARG:N	2.79	0.49
21:P:114:ALA:O	21:P:115:ASN:OD1	2.31	0.49
23:R:25:LEU:CG	23:R:81:VAL:HG23	2.42	0.49
24:S:37:LYS:O	24:S:40:ASP:HB2	2.13	0.49
25:T:43:THR:HG22	25:T:46:LYS:CG	2.42	0.49
28:W:7:ARG:O	28:W:8:SER:O	2.31	0.49
29:X:185:C:H2'	29:X:186:C:H6	1.77	0.49
29:X:690:A:N1	29:X:815:A:C4	2.81	0.49
29:X:690:A:O3'	29:X:2054:A:H5'	2.13	0.49
29:X:760:U:C4	29:X:2592:U:O2	2.66	0.49
29:X:1031:C:P	29:X:1045:G:H21	2.35	0.49
29:X:1115:C:O5'	29:X:1115:C:H6	1.96	0.49
29:X:1200:G:H2'	29:X:1201:G:H8	1.76	0.49
29:X:1231:A:H2'	29:X:1232:U:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1514:C:O4'	29:X:1593:C:H4'	2.13	0.49
29:X:1725:C:C2	29:X:1742:G:C2	3.01	0.49
29:X:1969:G:C4	29:X:1970:G:C8	3.01	0.49
29:X:2029:G:C6	29:X:2030:U:O4	2.65	0.49
29:X:2195:C:N1	29:X:2196:U:C5	2.81	0.49
29:X:2280:A:H2'	29:X:2281:C:C6	2.48	0.49
29:X:2500:C:H5'	29:X:2544:A:H4'	1.95	0.49
29:X:2511:G:H8	29:X:2511:G:O5'	1.95	0.49
29:X:2579:A:H2'	29:X:2580:C:C6	2.48	0.49
29:X:2821:G:C6	29:X:2846:G:N1	2.81	0.49
29:X:2876:C:H2'	29:X:2877:A:C5	2.48	0.49
30:Y:19:ARG:HG2	30:Y:20:ARG:N	2.28	0.49
4:4:3:VAL:HA	4:4:35:ARG:O	2.13	0.49
6:A:53:PHE:HE1	6:A:218:LYS:HE3	1.78	0.49
7:B:62:PRO:HA	29:X:2767:C:O4'	2.13	0.49
7:B:120:TRP:CD2	7:B:155:ARG:HD2	2.48	0.49
7:B:137:ARG:O	7:B:138:PRO:C	2.53	0.49
8:C:107:ALA:CB	8:C:180:ILE:HD13	2.42	0.49
9:D:57:LEU:HA	9:D:60:ILE:CG1	2.43	0.49
9:D:94:GLU:O	9:D:98:VAL:HG23	2.13	0.49
11:F:57:ILE:HG23	11:F:66:THR:O	2.12	0.49
13:H:23:ARG:HH22	13:H:25:LEU:CG	2.25	0.49
16:K:97:ILE:HA	16:K:112:LEU:O	2.13	0.49
17:L:54:ALA:H	17:L:75:LEU:HD13	1.73	0.49
19:N:25:TRP:CE3	19:N:26:GLY:CA	2.96	0.49
22:Q:20:MET:SD	22:Q:92:ALA:HA	2.52	0.49
22:Q:58:VAL:HG13	22:Q:59:PRO:HD2	1.94	0.49
23:R:54:ILE:HA	23:R:70:GLU:O	2.13	0.49
23:R:92:THR:C	23:R:95:ARG:HH22	2.19	0.49
29:X:464:G:C2	29:X:465:C:C2	3.01	0.49
29:X:490:A:N3	29:X:491:A:C5	2.81	0.49
29:X:749:C:O2'	29:X:750:C:H5'	2.13	0.49
29:X:1313:U:O2'	29:X:1314:A:P	2.71	0.49
29:X:1386:A:H2'	29:X:1387:G:O4'	2.12	0.49
29:X:1409:U:H5"	29:X:1410:U:OP2	2.12	0.49
29:X:1432:G:H2'	29:X:1594:U:O4	2.13	0.49
29:X:1701:C:H6	29:X:1701:C:OP2	1.96	0.49
29:X:1928:G:C2	29:X:1929:U:N3	2.81	0.49
29:X:1940:C:H2'	29:X:1941:C:C6	2.47	0.49
29:X:2470:U:O2	29:X:2470:U:C2'	2.60	0.49
29:X:2555:G:N3	29:X:2555:G:C3'	2.75	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2579:A:C2	29:X:2580:C:C4	3.01	0.49
6:A:206:LEU:O	6:A:207:GLY:C	2.56	0.49
8:C:158:ARG:HD3	8:C:169:VAL:HG13	1.95	0.49
11:F:100:ASN:OD1	11:F:101:TRP:N	2.46	0.49
12:G:55:ALA:O	12:G:56:THR:C	2.55	0.49
17:L:8:ARG:CG	17:L:9:ARG:H	2.09	0.49
17:L:32:TYR:C	17:L:94:TYR:OH	2.56	0.49
17:L:68:ALA:HB1	17:L:102:ALA:HB3	1.88	0.49
17:L:75:LEU:O	17:L:76:ALA:C	2.56	0.49
20:O:20:ILE:HG13	20:O:21:ARG:O	2.12	0.49
21:P:48:LYS:O	21:P:49:SER:C	2.55	0.49
21:P:65:SER:O	21:P:66:GLU:C	2.55	0.49
22:Q:62:ARG:O	22:Q:63:LYS:CB	2.59	0.49
23:R:25:LEU:O	23:R:25:LEU:HD13	2.11	0.49
23:R:29:HIS:CG	23:R:51:VAL:HG22	2.48	0.49
24:S:62:PHE:HB3	24:S:85:MET:SD	2.52	0.49
24:S:67:LYS:NZ	31:Z:106:U:H4'	2.28	0.49
25:T:70:ILE:O	25:T:78:PHE:N	2.46	0.49
26:U:46:LEU:C	26:U:47:HIS:ND1	2.71	0.49
29:X:633:G:C4	29:X:634:G:C8	3.00	0.49
29:X:640:C:H4'	29:X:660:G:C2	2.47	0.49
29:X:1466:C:C2'	29:X:1467:U:O4'	2.60	0.49
29:X:1570:C:C5'	29:X:1571:G:OP2	2.60	0.49
29:X:1586:A:C6	29:X:1587:A:C6	3.00	0.49
29:X:1947:G:O2'	29:X:1950:C:P	2.71	0.49
29:X:2213:G:H2'	29:X:2214:G:H8	1.78	0.49
29:X:2432:A:O2'	29:X:2433:G:H5'	2.13	0.49
29:X:2617:G:O2'	29:X:2618:A:H8	1.96	0.49
29:X:2832:G:H2'	29:X:2834:A:OP2	2.13	0.49
30:Y:4:HIS:O	30:Y:5:PRO:C	2.53	0.49
31:Z:53:G:H2'	31:Z:54:U:O5'	2.12	0.49
6:A:97:TYR:OH	6:A:105:ILE:HD11	2.13	0.48
6:A:247:VAL:CG2	6:A:248:THR:HG23	2.36	0.48
7:B:49:ILE:HG21	7:B:81:PHE:HE2	1.78	0.48
7:B:195:LEU:HB2	18:M:3:THR:HG23	1.95	0.48
8:C:84:PHE:CD1	29:X:596:C:H5'	2.43	0.48
9:D:79:LEU:HD21	29:X:2289:A:C2	2.39	0.48
10:E:65:HIS:C	10:E:67:LEU:H	2.21	0.48
11:F:131:ALA:HB1	11:F:136:VAL:CG2	2.43	0.48
13:H:23:ARG:HH22	13:H:25:LEU:CA	2.26	0.48
14:I:45:LYS:HG2	14:I:46:GLY:N	2.25	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:77:LEU:HD23	14:I:112:GLY:O	2.13	0.48
14:I:86:THR:O	14:I:88:PHE:N	2.46	0.48
15:J:20:GLY:O	15:J:21:ASP:O	2.30	0.48
16:K:5:LYS:NZ	29:X:2795:A:H1'	2.28	0.48
18:M:94:VAL:O	18:M:94:VAL:HG12	2.13	0.48
22:Q:25:TYR:OH	22:Q:87:SER:HA	2.12	0.48
28:W:12:ARG:HG2	28:W:12:ARG:HH11	1.78	0.48
28:W:32:ARG:O	28:W:32:ARG:HG3	2.12	0.48
29:X:199:A:H5"	29:X:200:A:OP2	2.13	0.48
29:X:322:A:O2'	29:X:323:G:P	2.71	0.48
29:X:627:A:H2'	29:X:628:A:H8	1.69	0.48
29:X:651:C:C3'	29:X:652:C:H5"	2.43	0.48
29:X:836:G:H2'	29:X:837:U:C6	2.48	0.48
29:X:1289:A:C6	29:X:1308:C:O2	2.66	0.48
29:X:1402:G:H2'	29:X:1403:U:O4'	2.13	0.48
29:X:1485:U:H2'	29:X:1486:A:C8	2.47	0.48
29:X:1687:C:H1'	29:X:1976:U:O2	2.13	0.48
29:X:1766:U:H2'	29:X:1767:G:O4'	2.12	0.48
29:X:1872:A:O2'	29:X:1873:A:H5'	2.13	0.48
29:X:2032:G:N2	29:X:2599:U:C2	2.81	0.48
29:X:2046:C:C4	29:X:2047:C:N4	2.81	0.48
29:X:2363:G:H3'	29:X:2365:U:OP1	2.12	0.48
29:X:2506:C:C2'	29:X:2507:U:H5'	2.42	0.48
29:X:2636:A:H2'	29:X:2637:C:H5'	1.95	0.48
29:X:2712:G:H3'	29:X:2713:A:C5'	2.41	0.48
29:X:2725:C:H2'	29:X:2726:U:C6	2.48	0.48
6:A:67:PHE:HB3	6:A:153:ALA:N	2.16	0.48
7:B:131:SER:O	7:B:132:LYS:CB	2.61	0.48
8:C:74:VAL:O	8:C:75:PRO:C	2.56	0.48
8:C:158:ARG:O	8:C:160:ALA:N	2.46	0.48
9:D:122:PHE:CE2	9:D:129:ASN:O	2.66	0.48
10:E:65:HIS:O	10:E:67:LEU:N	2.46	0.48
11:F:58:THR:HB	11:F:66:THR:OG1	2.13	0.48
12:G:104:THR:O	12:G:105:GLY:O	2.31	0.48
12:G:134:MET:HG2	29:X:1017:C:O2	2.13	0.48
14:I:38:LYS:NZ	29:X:954:U:P	2.82	0.48
14:I:53:ARG:HG2	29:X:227:G:O2'	2.13	0.48
16:K:68:GLN:O	16:K:71:HIS:CE1	2.66	0.48
18:M:101:ARG:C	18:M:103:LYS:H	2.10	0.48
23:R:22:VAL:CG1	23:R:23:ILE:N	2.73	0.48
23:R:92:THR:HB	23:R:95:ARG:HH22	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:T:29:GLU:OE2	29:X:935:C:H5'	2.13	0.48
29:X:678:G:C5	29:X:679:C:C5	3.02	0.48
29:X:782:U:O2'	29:X:783:G:H5'	2.13	0.48
29:X:872:G:O2'	29:X:873:U:H6	1.96	0.48
29:X:956:A:C1'	29:X:2427:A:H2	2.26	0.48
29:X:1088:A:H2'	29:X:1089:C:O4'	2.13	0.48
29:X:1166:A:C2'	29:X:1167:A:H5"	2.42	0.48
29:X:1278:A:C2	29:X:1280:U:N3	2.81	0.48
29:X:1282:A:N6	29:X:1995:G:N2	2.61	0.48
29:X:1541:G:H2'	29:X:1542:G:O4'	2.12	0.48
29:X:2228:U:C1'	29:X:2254:C:N4	2.75	0.48
29:X:2793:G:N2	29:X:2804:G:C4	2.81	0.48
6:A:133:LEU:HB2	6:A:173:VAL:HG21	1.95	0.48
6:A:226:MET:HE3	29:X:795:A:H2	1.75	0.48
7:B:119:ARG:HE	7:B:158:GLY:HA3	1.78	0.48
8:C:45:THR:HG22	8:C:47:THR:OG1	2.13	0.48
9:D:111:ILE:HA	9:D:137:ILE:CG2	2.43	0.48
10:E:66:GLY:HA3	29:X:2728:A:O2'	2.13	0.48
10:E:98:LEU:HD11	10:E:101:LYS:CA	2.42	0.48
12:G:70:PHE:HB3	19:N:64:ARG:HG2	1.93	0.48
13:H:92:ASP:OD2	18:M:69:ARG:NH1	2.45	0.48
15:J:71:PRO:HA	15:J:96:SER:HB2	1.95	0.48
15:J:125:LYS:HD2	15:J:125:LYS:N	2.23	0.48
18:M:25:PRO:O	18:M:26:ASP:O	2.31	0.48
18:M:32:THR:HG21	18:M:91:VAL:HG12	1.95	0.48
19:N:10:ARG:O	19:N:13:ARG:N	2.46	0.48
20:O:30:GLY:O	20:O:31:ASP:C	2.57	0.48
21:P:35:PRO:HD2	21:P:120:ARG:HB2	1.95	0.48
21:P:100:GLY:O	21:P:101:PRO:O	2.30	0.48
24:S:91:PRO:O	24:S:92:VAL:HG22	2.13	0.48
25:T:58:THR:CG2	25:T:59:LEU:N	2.76	0.48
26:U:49:LYS:HB3	26:U:61:TRP:CE3	2.47	0.48
27:V:3:PRO:C	27:V:5:GLU:H	2.21	0.48
29:X:81:C:C2'	29:X:82:G:O4'	2.60	0.48
29:X:529:U:C2	29:X:530:G:C8	3.00	0.48
29:X:612:G:H2'	29:X:668:A:H61	1.77	0.48
29:X:754:G:N1	29:X:755:C:C4	2.81	0.48
29:X:772:G:H2'	29:X:773:G:C8	2.48	0.48
29:X:841:G:H4'	29:X:844:G:N1	2.27	0.48
29:X:1008:G:H2'	29:X:1009:C:C6	2.48	0.48
29:X:1119:U:H5'	29:X:1119:U:C6	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1423:A:O2'	29:X:1424:U:H5'	2.13	0.48
29:X:1466:C:O2'	29:X:1467:U:H4'	2.13	0.48
29:X:1666:G:H2'	29:X:1667:A:C8	2.46	0.48
29:X:2354:G:H2'	29:X:2356:A:N7	2.29	0.48
29:X:2791:C:O2	29:X:2858:A:O2'	2.31	0.48
29:X:2827:G:C6	29:X:2828:C:N3	2.82	0.48
29:X:2852:G:O2'	29:X:2853:U:H5'	2.13	0.48
6:A:44:ASN:HD22	6:A:44:ASN:N	1.98	0.48
7:B:5:LEU:HD12	7:B:5:LEU:N	2.28	0.48
7:B:9:ILE:CD1	7:B:27:LEU:HB2	2.19	0.48
8:C:58:MET:HB2	8:C:70:GLY:O	2.14	0.48
8:C:137:ALA:O	8:C:140:ASN:HB2	2.13	0.48
9:D:79:LEU:HD11	29:X:2289:A:N1	2.28	0.48
9:D:92:ARG:HH12	31:Z:46:G:C4'	2.18	0.48
9:D:129:ASN:ND2	29:X:2282:G:H1'	2.29	0.48
12:G:101:THR:OG1	12:G:103:TYR:HE1	1.95	0.48
12:G:128:GLU:HG2	12:G:129:HIS:CD2	2.48	0.48
12:G:162:LYS:HZ1	29:X:5:A:H1'	1.77	0.48
13:H:26:ASN:ND2	13:H:38:GLY:HA3	2.29	0.48
14:I:41:SER:HB2	29:X:845:U:P	2.53	0.48
14:I:47:ALA:C	14:I:49:PHE:H	2.20	0.48
14:I:119:THR:HG22	14:I:121:HIS:CD2	2.48	0.48
14:I:120:VAL:C	14:I:121:HIS:CD2	2.92	0.48
20:O:71:ILE:HB	20:O:84:THR:HG1	1.78	0.48
21:P:32:ARG:NE	21:P:32:ARG:O	2.46	0.48
29:X:6:A:H2'	29:X:7:G:O4'	2.14	0.48
29:X:26:G:N1	29:X:27:G:N2	2.61	0.48
29:X:33:C:O2'	29:X:34:U:P	2.72	0.48
29:X:392:G:H4'	29:X:2211:U:H5"	1.96	0.48
29:X:961:G:C5	29:X:962:C:C4	3.01	0.48
29:X:1226:A:O5'	29:X:1226:A:H8	1.97	0.48
29:X:1265:G:HO2'	29:X:1266:G:P	2.36	0.48
29:X:1298:G:C6	29:X:1342:U:C6	3.01	0.48
29:X:1631:C:H2'	29:X:1631:C:O2	2.13	0.48
29:X:1678:G:C6	29:X:1679:U:C4	3.01	0.48
29:X:1706:A:O2'	29:X:1707:A:H5'	2.14	0.48
29:X:1785:A:O2'	29:X:1786:C:H5'	2.13	0.48
29:X:2190:A:C8	29:X:2190:A:C3'	2.88	0.48
29:X:2204:A:H4'	29:X:2205:C:C6	2.47	0.48
29:X:2247:A:H5'	29:X:2248:A:P	2.53	0.48
29:X:2266:A:H62	29:X:2323:U:H3	1.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2371:A:OP2	29:X:2401:A:N6	2.41	0.48
29:X:2530:C:C4	29:X:2531:U:C4	3.01	0.48
30:Y:42:SER:O	30:Y:43:HIS:CB	2.57	0.48
4:4:15:LYS:HZ2	29:X:2733:A:C2'	2.26	0.48
6:A:251:GLY:C	6:A:252:LYS:HG3	2.38	0.48
7:B:61:LYS:H	7:B:62:PRO:CD	2.26	0.48
8:C:147:LYS:HD3	8:C:183:HIS:HA	1.93	0.48
9:D:100:LEU:O	9:D:103:LEU:HB3	2.14	0.48
11:F:41:PHE:HE1	11:F:55:VAL:HG21	1.78	0.48
11:F:90:THR:OG1	11:F:93:LYS:HB2	2.13	0.48
14:I:23:PRO:O	14:I:24:GLY:O	2.31	0.48
14:I:85:ASP:O	14:I:86:THR:C	2.57	0.48
15:J:19:THR:HG21	15:J:40:PRO:HB3	1.95	0.48
15:J:37:ALA:CB	15:J:98:VAL:HG11	2.43	0.48
15:J:40:PRO:CG	15:J:99:LYS:HZ1	2.26	0.48
15:J:40:PRO:CB	15:J:99:LYS:HZ2	2.26	0.48
15:J:59:PHE:CE2	15:J:118:ALA:HB2	2.49	0.48
20:O:12:TYR:O	20:O:13:ARG:HB2	2.12	0.48
22:Q:6:ILE:O	22:Q:7:LEU:O	2.30	0.48
22:Q:17:TYR:O	22:Q:20:MET:HB3	2.13	0.48
25:T:36:ILE:HA	25:T:60:PHE:HA	1.95	0.48
29:X:82:G:C2	29:X:100:G:H2'	2.49	0.48
29:X:218:A:H5'	29:X:220:U:H1'	1.95	0.48
29:X:320:A:N3	29:X:340:G:O2'	2.40	0.48
29:X:321:A:C2	29:X:323:G:C1'	2.94	0.48
29:X:344:G:C5	29:X:345:U:C5	3.01	0.48
29:X:483:A:H2'	29:X:484:G:H5'	1.95	0.48
29:X:691:C:O2'	29:X:692:C:H5'	2.13	0.48
29:X:927:C:O2'	31:Z:103:A:H5"	2.14	0.48
29:X:1122:A:O2'	29:X:1123:G:H4'	2.13	0.48
29:X:1373:G:O6	29:X:1385:C:N3	2.47	0.48
29:X:1578:U:C2	29:X:1579:G:C8	3.01	0.48
29:X:1842:G:C2	29:X:1843:U:C2	3.02	0.48
29:X:2262:C:C2	29:X:2368:G:C2	3.01	0.48
29:X:2484:G:C2'	29:X:2485:U:OP2	2.61	0.48
29:X:2594:U:C6	29:X:2594:U:C5'	2.93	0.48
29:X:2629:U:O2'	29:X:2630:C:H5'	2.13	0.48
29:X:2728:A:H2'	29:X:2729:A:H8	1.76	0.48
29:X:2823:G:O2'	29:X:2824:C:P	2.71	0.48
31:Z:15:A:N1	31:Z:71:G:H2'	2.28	0.48
7:B:15:TRP:NE1	18:M:86:PRO:HD2	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:12:VAL:O	9:D:13:ARG:C	2.56	0.48
10:E:54:ARG:HG2	10:E:54:ARG:NH2	2.27	0.48
10:E:71:LEU:HA	10:E:74:ASN:ND2	2.28	0.48
10:E:147:ASN:O	10:E:150:LYS:HB2	2.13	0.48
12:G:119:LEU:CD1	12:G:126:VAL:HG22	2.44	0.48
14:I:73:GLU:O	14:I:75:VAL:HG23	2.13	0.48
18:M:100:ARG:O	29:X:2823:G:H3'	2.14	0.48
21:P:12:LYS:HE3	29:X:319:G:OP1	2.13	0.48
21:P:34:SER:O	21:P:35:PRO:C	2.55	0.48
24:S:64:ALA:HB2	24:S:85:MET:CE	2.44	0.48
26:U:27:ASP:C	26:U:32:ARG:HD3	2.39	0.48
26:U:75:TYR:C	26:U:77:GLY:H	2.20	0.48
29:X:580:A:O2'	29:X:581:A:P	2.71	0.48
29:X:663:G:H2'	29:X:664:C:C4'	2.43	0.48
29:X:689:A:H2'	29:X:690:A:H5'	1.95	0.48
29:X:704:G:O2'	29:X:705:C:H5'	2.14	0.48
29:X:989:G:C2	29:X:997:C:C2	3.02	0.48
29:X:1053:G:C2'	29:X:1054:C:O4'	2.62	0.48
29:X:2239:C:O2'	29:X:2240:C:H5'	2.13	0.48
4:4:1:MET:CB	29:X:2505:G:H1'	2.44	0.48
4:4:19:ARG:HG3	4:4:19:ARG:NH1	2.22	0.48
6:A:231:HIS:CD2	6:A:233:HIS:HB2	2.49	0.48
8:C:97:ARG:HA	8:C:100:ARG:HG3	1.96	0.48
8:C:135:SER:O	8:C:138:LYS:HB2	2.13	0.48
9:D:74:ILE:CA	9:D:79:LEU:HB3	2.35	0.48
13:H:42:LYS:H	29:X:2654:A:H5'	1.78	0.48
17:L:18:ARG:CZ	29:X:2357:A:N6	2.68	0.48
17:L:29:LEU:HD13	17:L:75:LEU:HD21	1.96	0.48
22:Q:66:GLY:O	22:Q:68:PHE:N	2.47	0.48
23:R:4:PRO:CA	29:X:34:U:H1'	2.43	0.48
25:T:14:ARG:O	25:T:15:ASP:HB2	2.14	0.48
25:T:30:VAL:O	25:T:31:VAL:O	2.31	0.48
25:T:44:LYS:CE	29:X:871:U:OP1	2.60	0.48
27:V:56:VAL:O	27:V:59:GLU:HB2	2.12	0.48
29:X:78:C:O2	29:X:357:A:C2	2.57	0.48
29:X:115:G:OP1	29:X:122:G:N1	2.45	0.48
29:X:191:G:H2'	29:X:192:G:O4'	2.14	0.48
29:X:242:A:C2'	29:X:243:G:H4'	2.44	0.48
29:X:330:C:O2'	29:X:331:U:H5'	2.14	0.48
29:X:496:C:C2'	29:X:497:C:C5'	2.85	0.48
29:X:590:C:C2	29:X:591:G:C8	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:663:G:H2'	29:X:664:C:H4'	1.95	0.48
29:X:701:U:O2	29:X:800:U:C4'	2.60	0.48
29:X:745:C:C2'	29:X:746:G:H5'	2.43	0.48
29:X:757:U:C2	29:X:767:G:C2	3.02	0.48
29:X:786:U:O2'	29:X:791:G:H4'	2.14	0.48
29:X:816:U:C4	29:X:817:A:N7	2.82	0.48
29:X:876:A:H2'	29:X:877:G:O4'	2.14	0.48
29:X:1051:U:C2'	29:X:1052:C:O4'	2.59	0.48
29:X:1147:G:H2'	29:X:1148:G:C8	2.47	0.48
29:X:1319:C:H2'	29:X:1320:A:H5'	1.94	0.48
29:X:1379:A:H2'	29:X:1380:C:H6	1.79	0.48
29:X:1530:U:H2'	29:X:1531:C:O4'	2.14	0.48
29:X:1917:C:C2'	29:X:1918:G:H5'	2.43	0.48
29:X:2240:C:O2'	29:X:2241:U:H5'	2.13	0.48
29:X:2489:C:C5	29:X:2490:U:C5	3.02	0.48
29:X:2790:C:O2'	30:Y:43:HIS:CD2	2.66	0.48
29:X:2802:C:H2'	29:X:2803:C:H6	1.79	0.48
6:A:46:ARG:HD3	6:A:47:GLY:N	2.28	0.48
6:A:49:ILE:HG22	29:X:792:U:OP1	2.14	0.48
6:A:243:GLY:N	6:A:244:ARG:NH1	2.61	0.48
6:A:254:THR:CB	29:X:1835:C:O2'	2.61	0.48
7:B:131:SER:HB3	7:B:132:LYS:H	1.38	0.48
7:B:134:TRP:CE2	29:X:1675:C:OP1	2.67	0.48
8:C:148:VAL:N	8:C:166:TRP:O	2.37	0.48
9:D:13:ARG:HH21	9:D:17:MET:CE	2.27	0.48
9:D:46:ASP:C	9:D:48:LYS:H	2.20	0.48
10:E:103:LEU:CG	10:E:115:ILE:HD12	2.44	0.48
13:H:2:ILE:HD12	13:H:8:LEU:HD21	1.96	0.48
15:J:80:ALA:HB1	15:J:81:GLU:OE1	2.14	0.48
18:M:99:VAL:CG2	18:M:100:ARG:N	2.61	0.48
19:N:27:SER:C	19:N:29:SER:H	2.21	0.48
20:O:33:VAL:HA	20:O:56:VAL:O	2.14	0.48
20:O:83:ARG:O	20:O:84:THR:CG2	2.58	0.48
21:P:101:PRO:HA	29:X:26:G:OP1	2.13	0.48
22:Q:7:LEU:CD2	27:V:30:PHE:HE2	2.26	0.48
23:R:85:ASP:OD1	23:R:86:PRO:CD	2.60	0.48
23:R:105:ARG:HH12	23:R:112:LYS:C	2.21	0.48
25:T:20:TYR:HB3	25:T:21:LEU:H	1.52	0.48
26:U:52:ARG:NH1	26:U:67:LEU:HD13	2.28	0.48
28:W:35:SER:O	28:W:40:VAL:HG11	2.14	0.48
29:X:69:G:H1'	29:X:72:A:H1'	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:159:A:O2'	29:X:160:C:H5'	2.13	0.48
29:X:309:G:N1	29:X:350:U:H5	2.12	0.48
29:X:400:U:O2'	29:X:401:G:C5'	2.56	0.48
29:X:415:A:O2'	29:X:416:U:H5'	2.14	0.48
29:X:478:G:C4	29:X:479:G:C8	3.02	0.48
29:X:596:C:N1	29:X:684:C:H1'	2.29	0.48
29:X:638:A:C4	29:X:647:G:N2	2.76	0.48
29:X:944:A:C2	29:X:945:G:H1'	2.49	0.48
29:X:1108:U:H2'	29:X:1109:A:O4'	2.13	0.48
29:X:1142:G:C8	29:X:2008:C:O2'	2.63	0.48
29:X:2029:G:C6	29:X:2030:U:C4	3.01	0.48
29:X:2061:C:H2'	29:X:2062:U:H6	1.79	0.48
29:X:2448:A:H61	29:X:2460:G:H1'	1.76	0.48
29:X:2696:A:H2'	29:X:2697:G:H8	1.78	0.48
29:X:2728:A:N1	29:X:2737:A:N7	2.62	0.48
29:X:2837:G:O2'	29:X:2838:U:H5'	2.13	0.48
29:X:2853:U:H6	29:X:2853:U:O5'	1.96	0.48
30:Y:58:LEU:O	30:Y:59:ALA:C	2.56	0.48
31:Z:91:A:O2'	31:Z:92:G:H5'	2.13	0.48
4:4:6:SER:CB	29:X:2445:C:H5"	2.40	0.48
7:B:75:THR:OG1	7:B:76:ARG:N	2.44	0.48
7:B:131:SER:HB3	7:B:133:LYS:H	1.78	0.48
9:D:36:VAL:HA	9:D:153:ASP:O	2.14	0.48
9:D:80:ARG:HG2	9:D:81:GLN:N	2.29	0.48
9:D:92:ARG:NE	31:Z:45:C:H2'	2.28	0.48
9:D:96:MET:HE2	9:D:97:TYR:CE2	2.48	0.48
9:D:106:ILE:O	9:D:110:ARG:HB2	2.14	0.48
10:E:38:ASN:ND2	10:E:64:LEU:HD11	2.28	0.48
11:F:19:PRO:HB2	11:F:21:PRO:HD2	1.95	0.48
13:H:29:ILE:HG21	13:H:123:PHE:CE1	2.49	0.48
14:I:72:TYR:C	14:I:73:GLU:OE1	2.56	0.48
16:K:108:VAL:O	16:K:109:THR:C	2.57	0.48
18:M:81:PHE:HA	18:M:82:PRO:HD3	1.57	0.48
20:O:9:GLY:O	20:O:10:LYS:CB	2.62	0.48
21:P:80:LEU:CD2	21:P:87:GLU:HB3	2.37	0.48
23:R:11:ASN:ND2	23:R:12:ASP:OD1	2.46	0.48
23:R:88:THR:O	23:R:89:GLY:C	2.57	0.48
29:X:177:U:C4	29:X:225:G:N2	2.82	0.48
29:X:322:A:HO2'	29:X:323:G:P	2.37	0.48
29:X:600:G:C6	29:X:602:C:C4	3.02	0.48
29:X:1141:U:C2	29:X:2008:C:H5"	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1552:C:H4'	29:X:1553:G:OP1	2.14	0.48
29:X:1592:U:H2'	29:X:1593:C:C5'	2.44	0.48
29:X:2005:U:H4'	29:X:2006:G:OP1	2.13	0.48
29:X:2624:G:C4'	29:X:2712:G:O2'	2.60	0.48
29:X:2691:C:O2'	29:X:2692:A:C5'	2.62	0.48
29:X:2753:C:N3	29:X:2754:C:C5	2.82	0.48
29:X:2874:A:H2'	29:X:2875:C:C6	2.48	0.48
6:A:48:ARG:H	6:A:48:ARG:HH11	1.61	0.48
6:A:136:VAL:HG12	6:A:140:ALA:HB3	1.96	0.48
10:E:38:ASN:OD1	10:E:64:LEU:HD22	2.14	0.48
11:F:100:ASN:H	11:F:103:GLN:NE2	2.11	0.48
15:J:40:PRO:HG3	15:J:99:LYS:HZ1	1.77	0.48
16:K:87:TYR:HD1	16:K:90:ARG:HD2	1.75	0.48
18:M:2:GLN:N	29:X:2795:A:N1	2.62	0.48
18:M:71:ILE:O	18:M:71:ILE:HG22	2.12	0.48
19:N:47:TYR:HA	19:N:50:ARG:HH12	1.78	0.48
19:N:53:LYS:HA	19:N:56:ASP:HB2	1.96	0.48
21:P:28:ALA:CB	21:P:71:VAL:HG22	2.44	0.48
21:P:39:ARG:NE	21:P:97:VAL:HB	2.29	0.48
22:Q:38:ILE:HG12	22:Q:39:LYS:N	2.28	0.48
22:Q:40:ASP:CG	22:Q:41:ALA:N	2.70	0.48
24:S:71:MET:HB2	24:S:78:PRO:HA	1.94	0.48
25:T:59:LEU:HD12	25:T:79:ILE:HD12	1.96	0.48
26:U:15:VAL:HA	26:U:45:ASN:O	2.13	0.48
29:X:116:A:O2'	29:X:155:G:H5'	2.13	0.48
29:X:134:G:C2'	29:X:135:U:H5"	2.44	0.48
29:X:487:G:N2	29:X:489:A:C3'	2.76	0.48
29:X:958:G:H2'	29:X:959:C:C5	2.48	0.48
29:X:1086:C:H2'	29:X:1086:C:O2	2.13	0.48
29:X:1182:U:H2'	29:X:1183:C:C6	2.49	0.48
29:X:1287:A:C2	29:X:1662:G:O4'	2.67	0.48
29:X:1435:G:O2'	29:X:1436:G:H5'	2.13	0.48
29:X:1485:U:O5'	29:X:1485:U:H6	1.96	0.48
29:X:1525:A:C5	29:X:1526:U:H1'	2.48	0.48
29:X:1629:G:C6	29:X:1635:G:O6	2.67	0.48
29:X:1937:G:H21	29:X:2530:C:H5"	1.79	0.48
29:X:2079:A:H61	29:X:2175:A:N6	2.11	0.48
29:X:2205:C:H2'	29:X:2206:C:O4'	2.13	0.48
29:X:2238:G:C8	29:X:2406:C:C4	3.01	0.48
29:X:2594:U:H2'	29:X:2595:C:C6	2.45	0.48
29:X:2660:C:C2	29:X:2704:U:O4	2.66	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:38:PRO:CA	6:A:61:LEU:HD22	2.43	0.47
8:C:29:GLU:CD	14:I:18:ARG:NH2	2.72	0.47
8:C:197:GLU:HG2	8:C:198:GLU:N	2.27	0.47
9:D:83:MET:HG3	9:D:84:PRO:HD2	1.96	0.47
11:F:23:VAL:HG13	11:F:27:LEU:HB2	1.95	0.47
14:I:77:LEU:C	14:I:79:GLN:N	2.71	0.47
15:J:10:PHE:O	29:X:883:A:H4'	2.13	0.47
15:J:32:ASP:O	15:J:134:LYS:O	2.32	0.47
19:N:66:ASN:HA	19:N:69:ALA:HB2	1.93	0.47
20:O:20:ILE:O	20:O:90:PHE:HB2	2.13	0.47
24:S:90:GLU:OE1	24:S:90:GLU:HA	2.13	0.47
27:V:51:ALA:HA	29:X:71:A:H1'	1.94	0.47
29:X:131:C:O2'	29:X:132:U:H5'	2.14	0.47
29:X:314:G:H2'	29:X:315:G:O4'	2.12	0.47
29:X:502:A:C2'	29:X:503:G:H5'	2.44	0.47
29:X:755:C:H2'	29:X:756:C:H6	1.78	0.47
29:X:801:A:O2'	29:X:802:A:P	2.72	0.47
29:X:973:U:H4'	29:X:2475:C:O2'	2.14	0.47
29:X:995:A:O2'	29:X:996:C:OP1	2.32	0.47
29:X:1050:G:C2'	29:X:1051:U:C5'	2.92	0.47
29:X:1115:C:O2'	29:X:1116:U:H5'	2.14	0.47
29:X:1337:G:C6	29:X:1341:G:C6	3.02	0.47
29:X:1355:A:O4'	29:X:1410:U:O2'	2.17	0.47
29:X:1380:C:H2'	29:X:1381:G:H5'	1.95	0.47
29:X:1779:C:H2'	29:X:1780:A:H8	1.74	0.47
29:X:1855:G:C2	29:X:1863:U:O2	2.67	0.47
29:X:2032:G:C2'	29:X:2033:C:H5'	2.44	0.47
29:X:2219:U:C2	29:X:2220:A:C8	3.02	0.47
29:X:2238:G:C2'	29:X:2239:C:H5'	2.44	0.47
29:X:2241:U:C2'	29:X:2242:C:O5'	2.63	0.47
29:X:2463:G:H2'	29:X:2464:G:O4'	2.13	0.47
29:X:2473:G:H2'	29:X:2474:G:C8	2.49	0.47
30:Y:41:LEU:O	30:Y:42:SER:C	2.56	0.47
31:Z:25:G:H2'	31:Z:26:G:N7	2.28	0.47
6:A:48:ARG:HD3	29:X:1797:C:H4'	1.96	0.47
7:B:113:THR:HB	29:X:1671:A:N3	2.29	0.47
8:C:54:THR:HG21	8:C:72:ARG:H	1.78	0.47
8:C:58:MET:HE3	8:C:71:ASP:C	2.40	0.47
8:C:154:ASP:O	8:C:157:THR:OG1	2.31	0.47
9:D:75:SER:O	9:D:79:LEU:HB2	2.14	0.47
9:D:119:PRO:O	9:D:120:ASN:C	2.56	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:150:ARG:HH11	9:D:150:ARG:HG3	1.79	0.47
11:F:12:LEU:C	11:F:52:ILE:HG23	2.39	0.47
13:H:40:GLY:HA3	29:X:2545:A:N6	2.28	0.47
13:H:67:GLY:O	13:H:68:ASP:C	2.55	0.47
13:H:77:THR:C	13:H:79:HIS:N	2.70	0.47
13:H:123:PHE:O	13:H:124:MET:C	2.56	0.47
14:I:32:ARG:NH2	20:O:81:ARG:HG3	2.29	0.47
15:J:60:ARG:HG2	15:J:60:ARG:HH11	1.79	0.47
16:K:44:LEU:HD23	16:K:113:ILE:CD1	2.44	0.47
20:O:35:LEU:O	20:O:36:LYS:CB	2.61	0.47
21:P:59:PHE:N	21:P:59:PHE:CD1	2.82	0.47
22:Q:31:PRO:HA	22:Q:76:LYS:HB2	1.95	0.47
22:Q:42:ILE:O	22:Q:43:GLN:C	2.57	0.47
22:Q:90:ALA:O	22:Q:92:ALA:N	2.46	0.47
23:R:14:LEU:HD21	23:R:41:PRO:HA	1.95	0.47
24:S:51:LEU:HD23	24:S:65:LEU:HD13	1.96	0.47
27:V:29:ARG:HB3	27:V:29:ARG:CZ	2.44	0.47
28:W:5:LEU:CB	28:W:25:LEU:HD13	2.28	0.47
29:X:182:G:O2'	29:X:183:U:OP2	2.32	0.47
29:X:558:G:H2'	29:X:559:C:O4'	2.13	0.47
29:X:626:A:O4'	29:X:626:A:OP2	2.32	0.47
29:X:718:A:N6	29:X:739:G:H1'	2.29	0.47
29:X:848:A:C6	29:X:849:G:C5	3.03	0.47
29:X:883:A:C6	29:X:884:C:N3	2.83	0.47
29:X:1276:U:C1'	30:Y:10:LYS:HG3	2.44	0.47
29:X:1289:A:C2	29:X:1290:A:C5	3.01	0.47
29:X:1495:G:H5'	29:X:1574:A:H2	1.78	0.47
29:X:1583:A:OP2	29:X:1583:A:C8	2.66	0.47
29:X:1750:A:N3	29:X:1750:A:H2'	2.29	0.47
29:X:1757:C:N3	29:X:1970:G:C6	2.83	0.47
29:X:1767:G:C2	29:X:1768:U:C6	3.02	0.47
29:X:1837:G:O2'	29:X:1838:G:H5'	2.13	0.47
29:X:2010:G:C5	29:X:2011:U:C4	3.02	0.47
29:X:2049:C:H2'	29:X:2050:G:H8	1.80	0.47
29:X:2442:C:H2'	29:X:2443:C:H6	1.79	0.47
6:A:49:ILE:CG2	29:X:792:U:OP1	2.63	0.47
6:A:154:GLN:O	29:X:1810:U:C2	2.67	0.47
7:B:1:MET:HG2	7:B:2:LYS:N	2.29	0.47
8:C:50:GLN:HB2	29:X:814:G:OP1	2.14	0.47
9:D:49:ALA:O	9:D:50:ILE:C	2.57	0.47
9:D:52:LYS:HG3	9:D:147:ASP:HB2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:103:LEU:CD2	10:E:115:ILE:HD12	2.44	0.47
13:H:46:HIS:O	13:H:47:VAL:C	2.56	0.47
16:K:63:ARG:NH1	16:K:63:ARG:HG3	2.29	0.47
20:O:26:GLN:HG3	20:O:63:HIS:CD2	2.50	0.47
21:P:114:ALA:HB2	29:X:1630:A:N1	2.29	0.47
24:S:95:SER:HB3	24:S:119:ASN:ND2	2.29	0.47
25:T:24:LYS:N	25:T:37:LEU:O	2.46	0.47
25:T:46:LYS:NZ	25:T:76:ALA:HA	2.29	0.47
25:T:55:ARG:HD2	29:X:2363:G:OP1	2.15	0.47
26:U:28:GLY:HA3	26:U:32:ARG:HA	1.95	0.47
26:U:68:ARG:NH1	29:X:413:G:O6	2.43	0.47
27:V:7:ARG:C	27:V:9:LEU:H	2.21	0.47
29:X:28:A:C2	29:X:523:A:H1'	2.50	0.47
29:X:192:G:O2'	29:X:193:A:H5"	2.15	0.47
29:X:344:G:C4	29:X:345:U:C5	3.02	0.47
29:X:405:C:O2'	29:X:406:G:H5'	2.13	0.47
29:X:452:G:C2	29:X:453:U:C2	3.02	0.47
29:X:690:A:C2	29:X:815:A:C2	3.03	0.47
29:X:787:A:H2	29:X:800:U:O2'	1.98	0.47
29:X:868:U:H3	29:X:934:G:H1	1.61	0.47
29:X:930:A:C8	29:X:930:A:H3'	2.49	0.47
29:X:1045:G:C6	29:X:1133:G:C2	3.02	0.47
29:X:1068:A:C3'	29:X:1069:G:H8	2.26	0.47
29:X:1224:A:O2'	29:X:1225:G:P	2.72	0.47
29:X:1301:U:C2	29:X:1340:C:O2	2.67	0.47
29:X:1348:C:C2	29:X:1349:A:C8	3.03	0.47
29:X:1348:C:O2'	29:X:1349:A:H5'	2.14	0.47
29:X:1882:G:N2	29:X:1885:C:H41	2.11	0.47
29:X:1922:U:O2'	29:X:2571:G:C1'	2.63	0.47
29:X:2007:G:O2'	29:X:2008:C:H5'	2.13	0.47
29:X:2392:G:H2'	29:X:2393:G:O4'	2.15	0.47
29:X:2519:C:C2'	29:X:2520:A:H5'	2.44	0.47
29:X:2597:G:O2'	29:X:2598:C:H5'	2.14	0.47
6:A:108:PRO:HD2	6:A:111:LEU:HD12	1.95	0.47
7:B:98:GLU:HG2	7:B:174:GLU:CA	2.40	0.47
7:B:133:LYS:HG2	7:B:137:ARG:CB	2.43	0.47
9:D:4:LEU:HD11	9:D:173:MET:HE1	1.95	0.47
9:D:33:LYS:N	9:D:157:VAL:HB	2.28	0.47
9:D:134:GLU:CD	9:D:136:LEU:HB2	2.40	0.47
12:G:56:THR:HG23	29:X:1017:C:O4'	2.13	0.47
13:H:35:THR:HG21	29:X:2629:U:C5'	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:59:ARG:HG3	29:X:2371:A:C8	2.49	0.47
15:J:25:GLY:O	15:J:26:ASP:O	2.32	0.47
17:L:30:SER:O	17:L:31:VAL:HG12	2.15	0.47
19:N:11:ARG:O	19:N:14:HIS:HB2	2.14	0.47
21:P:23:PRO:O	21:P:24:GLY:C	2.57	0.47
21:P:52:ASP:O	21:P:53:ALA:C	2.55	0.47
24:S:142:ASN:H	24:S:145:ASP:CG	2.22	0.47
26:U:40:ARG:CD	29:X:178:C:OP1	2.61	0.47
29:X:413:G:C2'	29:X:414:A:H5"	2.45	0.47
29:X:509:U:H2'	29:X:510:G:H5'	1.96	0.47
29:X:591:G:C6	29:X:1272:G:N1	2.83	0.47
29:X:807:A:H2'	29:X:808:C:H6	1.78	0.47
29:X:1312:G:H8	29:X:1312:G:O5'	1.96	0.47
29:X:1451:C:H2'	29:X:1452:U:H6	1.79	0.47
29:X:1709:U:O5'	29:X:1709:U:H6	1.96	0.47
29:X:2309:G:H2'	29:X:2310:G:C5'	2.44	0.47
29:X:2333:A:N6	29:X:2343:C:N4	2.62	0.47
29:X:2440:C:H2'	29:X:2441:U:H6	1.79	0.47
29:X:2542:U:O2	29:X:2545:A:C5	2.67	0.47
29:X:2557:G:H2'	29:X:2558:C:H6	1.79	0.47
30:Y:40:LYS:HG3	30:Y:41:LEU:N	2.30	0.47
6:A:49:ILE:HG23	6:A:49:ILE:O	2.14	0.47
6:A:247:VAL:C	6:A:248:THR:HG23	2.39	0.47
7:B:4:ILE:O	7:B:4:ILE:HG23	2.11	0.47
7:B:14:ILE:CD1	7:B:183:LEU:HD13	2.41	0.47
9:D:75:SER:O	9:D:76:ASN:C	2.57	0.47
12:G:91:THR:HG21	29:X:1151:U:C6	2.49	0.47
15:J:99:LYS:O	15:J:100:PRO:C	2.58	0.47
21:P:97:VAL:CG1	21:P:122:SER:HB3	2.45	0.47
24:S:122:ILE:HD12	24:S:158:CYS:HB3	1.96	0.47
25:T:32:LYS:HB3	25:T:35:ASN:HD21	1.78	0.47
25:T:54:GLY:N	25:T:58:THR:O	2.45	0.47
26:U:48:LYS:HB2	26:U:48:LYS:HZ3	1.79	0.47
27:V:43:VAL:HA	27:V:46:LEU:HD12	1.95	0.47
29:X:558:G:H8	29:X:559:C:C4	2.32	0.47
29:X:759:C:H1'	29:X:761:G:N2	2.29	0.47
29:X:785:U:H6	29:X:785:U:O5'	1.97	0.47
29:X:873:U:O4	29:X:929:A:N7	2.48	0.47
29:X:919:U:H2'	29:X:920:G:H8	1.79	0.47
29:X:986:A:H2'	29:X:987:G:C5'	2.45	0.47
29:X:1333:G:OP2	29:X:1333:G:C8	2.61	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1542:G:H2'	29:X:1543:G:C8	2.49	0.47
29:X:1685:A:H61	29:X:1693:A:N6	2.12	0.47
29:X:2006:G:C2	29:X:2024:U:O2	2.67	0.47
29:X:2463:G:C2	29:X:2464:G:H1'	2.49	0.47
30:Y:29:ASN:C	30:Y:29:ASN:ND2	2.72	0.47
30:Y:33:CYS:SG	30:Y:34:PRO:HD2	2.55	0.47
6:A:62:TYR:C	6:A:63:ARG:HG3	2.38	0.47
6:A:243:GLY:H	6:A:244:ARG:HD3	1.80	0.47
8:C:26:VAL:CA	14:I:18:ARG:HH11	2.23	0.47
8:C:137:ALA:C	8:C:142:LEU:HB2	2.39	0.47
10:E:9:ILE:HB	10:E:50:LEU:O	2.14	0.47
12:G:142:ARG:HH12	29:X:538:A:H5"	1.76	0.47
13:H:47:VAL:HG22	13:H:74:VAL:HG12	1.97	0.47
16:K:38:LEU:HD21	16:K:42:LYS:CE	2.45	0.47
16:K:103:ARG:NH1	16:K:110:MET:CE	2.74	0.47
16:K:113:ILE:HG23	16:K:113:ILE:O	2.14	0.47
17:L:8:ARG:HH11	17:L:8:ARG:HB3	1.79	0.47
20:O:11:GLN:CA	20:O:38:LEU:O	2.58	0.47
21:P:39:ARG:HG2	21:P:39:ARG:HH11	1.80	0.47
21:P:49:SER:C	21:P:51:GLN:H	2.21	0.47
21:P:60:ILE:HA	21:P:61:PRO:HD3	1.52	0.47
21:P:100:GLY:HA2	29:X:25:U:H5"	1.96	0.47
22:Q:12:ILE:HD11	29:X:1351:G:OP1	2.15	0.47
22:Q:62:ARG:HG2	22:Q:62:ARG:HH11	1.79	0.47
23:R:18:LYS:HE2	23:R:18:LYS:N	2.29	0.47
29:X:191:G:H21	29:X:193:A:H1'	1.79	0.47
29:X:236:C:H1'	29:X:632:A:O2'	2.13	0.47
29:X:303:C:O5'	29:X:303:C:C6	2.67	0.47
29:X:352:G:O2'	29:X:353:G:H5'	2.14	0.47
29:X:454:G:H4'	29:X:455:A:OP1	2.13	0.47
29:X:807:A:H2'	29:X:808:C:C6	2.50	0.47
29:X:1391:A:HO2'	29:X:1392:U:P	2.38	0.47
29:X:1838:G:C2	29:X:1878:C:C2	3.03	0.47
29:X:2208:U:H2'	29:X:2209:G:H8	1.79	0.47
29:X:2240:C:C1'	29:X:2367:A:H1'	2.43	0.47
29:X:2265:A:H4'	29:X:2266:A:C5'	2.45	0.47
29:X:2516:U:H2'	29:X:2517:C:H6	1.78	0.47
29:X:2583:U:C4	29:X:2584:U:C5	3.02	0.47
29:X:2811:G:C6	29:X:2858:A:N6	2.82	0.47
29:X:2869:U:H2'	29:X:2870:C:O4'	2.14	0.47
31:Z:25:G:H2'	31:Z:26:G:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:4:25:VAL:HB	4:4:34:GLN:H	1.79	0.47
6:A:108:PRO:HB2	6:A:195:ALA:O	2.14	0.47
6:A:244:ARG:C	6:A:252:LYS:NZ	2.73	0.47
7:B:16:LYS:HD2	7:B:173:VAL:HG13	1.96	0.47
7:B:33:ILE:HG21	7:B:36:ARG:NH1	2.30	0.47
7:B:137:ARG:HH21	7:B:137:ARG:HG3	1.79	0.47
8:C:34:GLN:O	8:C:38:ARG:HG3	2.15	0.47
8:C:150:LEU:HD13	8:C:167:VAL:HB	1.96	0.47
9:D:12:VAL:HG11	9:D:169:LEU:CD1	2.44	0.47
9:D:106:ILE:CG2	9:D:110:ARG:HD2	2.42	0.47
10:E:39:THR:C	10:E:41:LEU:N	2.73	0.47
11:F:115:LEU:HD13	11:F:123:ALA:HB1	1.96	0.47
12:G:104:THR:HG21	29:X:2620:G:H5"	1.96	0.47
12:G:123:PRO:O	12:G:126:VAL:HG23	2.14	0.47
13:H:30:GLY:O	13:H:31:GLY:C	2.57	0.47
13:H:82:LYS:NZ	29:X:2662:C:O2	2.47	0.47
13:H:92:ASP:OD2	18:M:69:ARG:NH2	2.46	0.47
14:I:105:PRO:C	14:I:106:VAL:HG23	2.40	0.47
14:I:119:THR:HA	14:I:139:ARG:H	1.79	0.47
15:J:40:PRO:CG	15:J:99:LYS:HZ2	2.27	0.47
15:J:125:LYS:H	15:J:125:LYS:CD	2.21	0.47
16:K:29:LEU:O	16:K:78:LYS:NZ	2.45	0.47
16:K:36:THR:CG2	16:K:37:THR:O	2.55	0.47
16:K:93:GLY:HA3	29:X:2855:C:O2	2.15	0.47
17:L:20:THR:CB	17:L:24:SER:OG	2.48	0.47
17:L:33:ARG:HE	17:L:38:ILE:HG21	1.79	0.47
17:L:66:ASP:O	17:L:68:ALA:N	2.47	0.47
17:L:95:LYS:NZ	17:L:95:LYS:CB	2.77	0.47
17:L:100:VAL:HG13	17:L:101:LYS:N	2.29	0.47
21:P:108:PRO:HG2	29:X:1631:C:H1'	1.95	0.47
22:Q:6:ILE:O	22:Q:7:LEU:C	2.57	0.47
22:Q:36:THR:O	22:Q:39:LYS:N	2.48	0.47
24:S:103:ARG:HD3	24:S:108:VAL:HG21	1.97	0.47
24:S:112:LEU:O	24:S:172:LEU:N	2.48	0.47
26:U:67:LEU:HD12	26:U:67:LEU:O	2.15	0.47
28:W:47:VAL:HB	28:W:50:LEU:HD12	1.96	0.47
29:X:78:C:H2'	29:X:79:G:H8	1.80	0.47
29:X:103:U:O2'	29:X:104:C:H5'	2.15	0.47
29:X:182:G:O2'	29:X:183:U:P	2.72	0.47
29:X:303:C:H3'	29:X:304:A:H5"	1.96	0.47
29:X:457:C:H2'	29:X:458:G:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:589:C:N4	29:X:590:C:N4	2.62	0.47
29:X:623:G:O2'	29:X:626:A:N6	2.48	0.47
29:X:736:G:C2	29:X:737:C:H1'	2.50	0.47
29:X:984:A:H1'	29:X:1202:U:C5	2.50	0.47
29:X:998:C:H4'	29:X:1012:A:C4'	2.45	0.47
29:X:1023:U:H3'	29:X:1023:U:H6	1.79	0.47
29:X:1038:U:O2'	29:X:1039:A:H5'	2.14	0.47
29:X:1044:U:C4	29:X:2730:A:N3	2.83	0.47
29:X:1053:G:C6	29:X:1054:C:C4	3.03	0.47
29:X:1094:C:H2'	29:X:1096:A:H5"	1.95	0.47
29:X:1272:G:H2'	29:X:1273:G:C8	2.50	0.47
29:X:1299:A:O2'	29:X:1300:A:OP1	2.27	0.47
29:X:1302:C:O5'	29:X:1302:C:H6	1.98	0.47
29:X:1327:C:N4	29:X:1328:C:N4	2.62	0.47
29:X:1468:A:H5"	29:X:1472:C:H42	1.74	0.47
29:X:1707:A:H2'	29:X:1708:C:O4'	2.14	0.47
29:X:1775:A:O2'	29:X:1776:A:OP2	2.32	0.47
29:X:1811:A:H1'	29:X:1813:A:C6	2.49	0.47
29:X:1947:G:O2'	29:X:1950:C:OP2	2.30	0.47
29:X:1992:G:O2'	29:X:1993:G:H5'	2.13	0.47
29:X:1999:U:C1'	30:Y:6:VAL:HG21	2.44	0.47
29:X:2189:A:C2	29:X:2196:U:N3	2.79	0.47
29:X:2293:G:O2'	29:X:2294:U:H5'	2.15	0.47
29:X:2325:A:C2	29:X:2362:G:C6	3.02	0.47
29:X:2594:U:C4	30:Y:6:VAL:O	2.68	0.47
29:X:2697:G:N1	29:X:2698:G:C5	2.82	0.47
29:X:2702:G:C2'	29:X:2703:C:H5'	2.45	0.47
29:X:2826:C:O2'	29:X:2827:G:H5'	2.13	0.47
30:Y:3:LYS:N	30:Y:3:LYS:HD2	2.30	0.47
30:Y:12:SER:O	30:Y:15:LYS:N	2.41	0.47
31:Z:68:A:C6	31:Z:110:U:C2	3.03	0.47
31:Z:71:G:N2	31:Z:72:C:H1'	2.29	0.47
4:4:15:LYS:O	4:4:17:VAL:HG23	2.15	0.47
6:A:66:ASP:O	6:A:67:PHE:HD2	1.95	0.47
7:B:85:ALA:HB3	7:B:86:PRO:CD	2.45	0.47
8:C:122:GLY:C	8:C:124:ASP:N	2.73	0.47
9:D:42:SER:O	9:D:78:LYS:NZ	2.47	0.47
13:H:28:GLY:C	13:H:35:THR:HG1	2.21	0.47
16:K:5:LYS:CE	29:X:2795:A:H4'	2.35	0.47
16:K:26:THR:HG23	16:K:75:VAL:HG11	1.97	0.47
17:L:45:ASP:CG	17:L:46:SER:H	2.23	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:68:LYS:CB	20:O:87:ARG:HH21	2.28	0.47
25:T:24:LYS:HZ2	29:X:2335:U:P	2.37	0.47
27:V:42:ARG:NH1	27:V:45:GLN:NE2	2.62	0.47
29:X:165:G:C1'	29:X:1378:A:C6	2.95	0.47
29:X:174:A:N3	29:X:175:C:O2	2.48	0.47
29:X:657:A:O2'	29:X:658:G:H5'	2.15	0.47
29:X:797:A:N7	29:X:805:G:C4	2.82	0.47
29:X:1366:A:C6	29:X:1367:A:C6	3.02	0.47
29:X:1729:C:H2'	29:X:1730:G:C8	2.50	0.47
29:X:1919:A:C6	29:X:1928:G:C4	3.02	0.47
29:X:2073:A:H3'	29:X:2074:U:C6	2.49	0.47
29:X:2196:U:H2'	29:X:2197:U:C6	2.50	0.47
29:X:2488:G:C2	29:X:2489:C:C2	3.03	0.47
29:X:2493:U:H2'	29:X:2494:C:C5	2.50	0.47
29:X:2750:G:C8	29:X:2751:C:H5	2.33	0.47
31:Z:32:C:H2'	31:Z:33:C:H5'	1.96	0.47
31:Z:34:C:H2'	31:Z:35:C:H6	1.79	0.47
6:A:60:ARG:HD3	6:A:87:ASN:CG	2.40	0.47
6:A:257:LEU:HD13	29:X:1795:C:OP1	2.15	0.47
7:B:60:ASN:O	7:B:64:GLN:HG3	2.15	0.47
7:B:105:THR:OG1	7:B:166:THR:OG1	2.24	0.47
7:B:107:THR:O	7:B:190:GLY:HA3	2.15	0.47
8:C:173:ALA:HB1	8:C:193:LEU:HD13	1.96	0.47
9:D:122:PHE:HE2	9:D:129:ASN:O	1.98	0.47
10:E:149:ARG:HA	10:E:162:VAL:HB	1.97	0.47
12:G:62:ILE:HG13	12:G:80:VAL:CG2	2.45	0.47
12:G:103:TYR:N	12:G:103:TYR:HD1	2.12	0.47
13:H:27:SER:OG	13:H:49:ASP:HA	2.15	0.47
13:H:113:PRO:HB2	13:H:134:LEU:HD12	1.97	0.47
13:H:125:LYS:O	13:H:128:SER:HB2	2.15	0.47
16:K:26:THR:O	16:K:29:LEU:N	2.42	0.47
18:M:106:TYR:CD1	18:M:107:LEU:CG	2.96	0.47
23:R:105:ARG:HH12	23:R:112:LYS:CA	2.27	0.47
29:X:33:C:O5'	29:X:33:C:H6	1.97	0.47
29:X:71:A:O2'	29:X:72:A:OP1	2.32	0.47
29:X:133:C:H2'	29:X:134:G:C5'	2.43	0.47
29:X:309:G:C2	29:X:350:U:C5	3.03	0.47
29:X:540:G:O2'	29:X:542:A:H2	1.98	0.47
29:X:574:C:H4'	29:X:1266:G:C6	2.50	0.47
29:X:654:A:C2	29:X:655:A:H5'	2.50	0.47
29:X:681:A:N3	29:X:683:A:N6	2.63	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:820:U:C2	29:X:821:A:C8	3.02	0.47
29:X:979:A:O2'	29:X:980:G:H5'	2.15	0.47
29:X:1138:A:C2'	29:X:1139:A:H5"	2.44	0.47
29:X:1246:G:C5	29:X:1247:U:C5	3.03	0.47
29:X:1292:A:H2'	29:X:1293:A:O4'	2.15	0.47
29:X:1301:U:C4'	29:X:1302:C:OP2	2.62	0.47
29:X:1818:G:H2'	29:X:1819:U:C6	2.50	0.47
29:X:1935:A:N3	29:X:2539:C:O2'	2.44	0.47
29:X:1953:A:N3	29:X:1955:G:N7	2.63	0.47
29:X:2043:A:H1'	29:X:2481:G:C1'	2.45	0.47
29:X:2174:G:H2'	29:X:2175:A:C8	2.50	0.47
29:X:2277:A:H2'	29:X:2278:A:O4'	2.15	0.47
29:X:2504:G:C2	29:X:2518:C:N3	2.83	0.47
30:Y:6:VAL:HG22	30:Y:7:PRO:CD	2.45	0.47
31:Z:100:G:C2	31:Z:101:A:H1'	2.50	0.47
4:4:3:VAL:HG21	29:X:2518:C:H4'	1.97	0.47
6:A:96:HIS:HE2	29:X:1517:C:H1'	1.80	0.47
6:A:149:PRO:HA	6:A:189:CYS:SG	2.54	0.47
6:A:262:LYS:HE2	29:X:2205:C:C2	2.49	0.47
7:B:119:ARG:HD2	7:B:158:GLY:N	2.30	0.47
7:B:144:ARG:O	7:B:145:LYS:C	2.58	0.47
7:B:154:LYS:CE	29:X:2598:C:H1'	2.45	0.47
8:C:43:ALA:HB1	8:C:86:PRO:HB2	1.97	0.47
9:D:130:LEU:HD22	9:D:132:ILE:CD1	2.45	0.47
10:E:52:VAL:HG11	10:E:68:THR:CG2	2.45	0.47
11:F:1:MET:CB	11:F:2:LYS:HD3	2.44	0.47
12:G:51:LEU:O	12:G:55:ALA:HB2	2.15	0.47
12:G:63:ARG:O	12:G:63:ARG:NE	2.40	0.47
14:I:119:THR:HG22	14:I:121:HIS:NE2	2.30	0.47
15:J:99:LYS:HG3	15:J:100:PRO:HD2	1.96	0.47
17:L:15:ARG:NH1	17:L:15:ARG:HG2	2.29	0.47
18:M:22:ARG:HH11	18:M:24:LEU:HD23	1.80	0.47
19:N:8:ILE:O	19:N:12:ARG:HG3	2.15	0.47
19:N:17:VAL:O	19:N:20:ARG:N	2.42	0.47
21:P:39:ARG:CD	21:P:97:VAL:HB	2.45	0.47
23:R:108:VAL:CG1	23:R:109:ALA:H	2.28	0.47
23:R:110:SER:OG	23:R:111:GLY:N	2.46	0.47
29:X:9:U:H2'	29:X:10:A:H8	1.78	0.47
29:X:33:C:O2	29:X:466:A:C2	2.68	0.47
29:X:162:C:O2'	29:X:163:A:H5'	2.14	0.47
29:X:165:G:C2'	29:X:166:G:H5'	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:388:G:O2'	29:X:389:G:H5'	2.14	0.47
29:X:468:A:H61	29:X:481:A:H5"	1.80	0.47
29:X:490:A:O2'	29:X:492:G:H5"	2.16	0.47
29:X:668:A:O2'	29:X:669:G:O4'	2.33	0.47
29:X:743:A:O2'	29:X:744:C:H5'	2.15	0.47
29:X:929:A:O2'	31:Z:101:A:H4'	2.15	0.47
29:X:992:A:H5"	29:X:993:C:OP2	2.15	0.47
29:X:1018:C:C3'	29:X:1019:U:C5'	2.90	0.47
29:X:1175:A:C2	29:X:1176:U:C2	3.03	0.47
29:X:1327:C:C4	29:X:1328:C:N4	2.83	0.47
29:X:1592:U:O2'	29:X:1593:C:H5'	2.14	0.47
29:X:1820:G:H4'	29:X:1821:A:OP1	2.14	0.47
29:X:1919:A:C5	29:X:1928:G:C5	3.03	0.47
29:X:1927:U:H1'	29:X:1938:U:O4'	2.14	0.47
29:X:1930:C:O2'	29:X:1931:G:H5'	2.15	0.47
29:X:2422:C:O2'	29:X:2423:G:H5'	2.14	0.47
29:X:2652:G:C2'	29:X:2653:A:H5'	2.45	0.47
6:A:131:LEU:HD21	6:A:193:ILE:HG12	1.97	0.46
6:A:270:ILE:HG13	6:A:271:VAL:N	2.30	0.46
7:B:130:GLY:O	7:B:131:SER:CB	2.64	0.46
8:C:41:GLY:HA3	8:C:89:ARG:O	2.15	0.46
8:C:103:GLY:O	8:C:104:LEU:C	2.58	0.46
8:C:190:ALA:O	8:C:192:ALA:N	2.48	0.46
10:E:124:ALA:O	10:E:132:ASP:HB3	2.15	0.46
12:G:132:PHE:CE1	12:G:142:ARG:HA	2.50	0.46
13:H:47:VAL:H	13:H:77:THR:CG2	2.28	0.46
14:I:14:LYS:HG3	14:I:14:LYS:O	2.15	0.46
14:I:77:LEU:O	14:I:79:GLN:N	2.48	0.46
14:I:82:ASP:H	14:I:114:ILE:HG21	1.80	0.46
15:J:43:ILE:C	15:J:95:VAL:HG13	2.39	0.46
19:N:43:ALA:HB3	20:O:74:TYR:HB3	1.97	0.46
21:P:36:ARG:NH2	29:X:1279:G:OP2	2.34	0.46
21:P:36:ARG:CZ	30:Y:20:ARG:CZ	2.93	0.46
21:P:57:LEU:CD1	21:P:69:ALA:HA	2.31	0.46
22:Q:19:ALA:C	22:Q:22:ARG:HG2	2.40	0.46
24:S:133:GLU:O	24:S:134:LEU:HB2	2.15	0.46
27:V:48:ARG:HG3	29:X:75:C:H5"	1.97	0.46
27:V:52:GLN:NE2	29:X:76:C:OP1	2.49	0.46
27:V:62:ARG:HG2	27:V:62:ARG:NH1	2.30	0.46
28:W:12:ARG:HH11	28:W:12:ARG:CG	2.29	0.46
29:X:136:A:C2	29:X:137:A:H1'	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:186:C:C2	29:X:187:U:C6	3.03	0.46
29:X:538:A:N3	29:X:2025:A:C6	2.83	0.46
29:X:580:A:C8	29:X:584:A:N6	2.83	0.46
29:X:758:G:C2	29:X:766:A:C6	3.03	0.46
29:X:831:G:H4'	29:X:851:C:O3'	2.15	0.46
29:X:1053:G:H4'	29:X:1054:C:OP1	2.14	0.46
29:X:1067:G:H21	29:X:1114:A:H62	1.63	0.46
29:X:1581:C:O2'	29:X:1582:A:C8	2.68	0.46
29:X:1709:U:HO2'	29:X:1710:U:H6	1.61	0.46
29:X:1760:G:C2	29:X:1761:G:C8	3.03	0.46
29:X:2015:G:HO2'	29:X:2016:A:P	2.39	0.46
29:X:2320:G:H2'	29:X:2321:C:H6	1.75	0.46
29:X:2326:C:H2'	29:X:2327:U:C6	2.50	0.46
29:X:2415:G:N3	29:X:2577:A:C2	2.81	0.46
29:X:2445:C:C6	29:X:2464:G:N2	2.83	0.46
29:X:2819:G:N1	29:X:2849:C:C4	2.83	0.46
29:X:2821:G:O6	29:X:2846:G:C6	2.68	0.46
30:Y:32:GLU:HG3	30:Y:37:HIS:O	2.15	0.46
7:B:108:SER:HB3	7:B:163:GLU:H	1.81	0.46
8:C:28:HIS:O	8:C:30:VAL:N	2.48	0.46
8:C:44:SER:HB2	29:X:37:C:H1'	1.97	0.46
9:D:154:ILE:HD12	9:D:154:ILE:N	2.29	0.46
10:E:7:GLN:HB3	10:E:51:LEU:HD13	1.98	0.46
12:G:123:PRO:HA	12:G:126:VAL:CG2	2.44	0.46
14:I:53:ARG:O	14:I:58:ALA:HB2	2.15	0.46
15:J:11:ARG:HH11	15:J:11:ARG:HG3	1.81	0.46
17:L:38:ILE:CG1	17:L:39:TYR:N	2.77	0.46
20:O:36:LYS:HD2	20:O:55:THR:N	2.30	0.46
20:O:47:PHE:O	20:O:51:ALA:CB	2.63	0.46
20:O:61:VAL:O	20:O:62:GLU:HB2	2.16	0.46
20:O:85:GLY:N	29:X:1238:A:H5'	2.28	0.46
21:P:65:SER:O	21:P:69:ALA:N	2.39	0.46
22:Q:68:PHE:O	22:Q:69:ILE:C	2.57	0.46
23:R:95:ARG:HH11	23:R:95:ARG:HG3	1.80	0.46
23:R:102:LYS:HE2	29:X:100:G:C6	2.50	0.46
24:S:1:MET:C	24:S:3:LEU:H	2.23	0.46
29:X:20:C:H2'	29:X:21:A:H8	1.80	0.46
29:X:59:G:C5	29:X:62:U:C4	3.03	0.46
29:X:541:C:O2'	29:X:542:A:P	2.73	0.46
29:X:543:G:H2'	29:X:544:U:C6	2.50	0.46
29:X:559:C:C2	29:X:560:G:H1'	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1007:A:C6	29:X:1171:A:C2	3.03	0.46
29:X:1017:C:N3	29:X:1018:C:C5	2.83	0.46
29:X:1319:C:O2'	29:X:1320:A:H5'	2.14	0.46
29:X:1450:G:C2	29:X:1573:G:N3	2.83	0.46
29:X:1569:A:N1	29:X:1571:G:H1'	2.30	0.46
29:X:1691:G:H4'	29:X:1692:C:OP1	2.15	0.46
29:X:2048:C:O2'	29:X:2049:C:H5'	2.16	0.46
29:X:2447:G:H22	29:X:2460:G:C2'	2.15	0.46
6:A:36:ALA:HB2	6:A:63:ARG:NH1	2.31	0.46
7:B:67:PHE:CE1	7:B:78:LEU:HD21	2.42	0.46
9:D:69:LYS:HG2	9:D:84:PRO:CA	2.45	0.46
10:E:124:ALA:HB3	10:E:132:ASP:CG	2.40	0.46
12:G:107:GLN:HA	12:G:110:LEU:CG	2.42	0.46
14:I:7:LYS:O	14:I:7:LYS:HG2	2.16	0.46
15:J:6:LYS:HE3	15:J:7:ARG:CG	2.46	0.46
15:J:24:GLY:HA3	29:X:919:U:O3'	2.15	0.46
15:J:36:ILE:CG2	15:J:37:ALA:N	2.78	0.46
15:J:39:GLU:HB3	15:J:128:ILE:HG22	1.97	0.46
15:J:43:ILE:N	15:J:95:VAL:HG13	2.31	0.46
16:K:48:VAL:CG1	16:K:49:GLU:H	2.29	0.46
17:L:8:ARG:HG3	17:L:9:ARG:N	2.16	0.46
17:L:32:TYR:CG	17:L:32:TYR:O	2.68	0.46
17:L:37:HIS:O	17:L:37:HIS:CG	2.69	0.46
17:L:37:HIS:CB	31:Z:30:C:OP1	2.61	0.46
21:P:80:LEU:HD21	21:P:87:GLU:CB	2.38	0.46
23:R:90:LYS:HG3	23:R:90:LYS:O	2.14	0.46
29:X:574:C:C5'	29:X:1266:G:O6	2.64	0.46
29:X:749:C:O5'	29:X:749:C:H6	1.97	0.46
29:X:853:C:O2'	29:X:854:G:H5'	2.16	0.46
29:X:959:C:O2'	29:X:960:U:H5'	2.16	0.46
29:X:968:C:N4	29:X:970:A:C5	2.83	0.46
29:X:998:C:C4'	29:X:1012:A:H4'	2.43	0.46
29:X:1121:G:H2'	29:X:1122:A:C8	2.50	0.46
29:X:1316:G:C2	29:X:1317:G:C8	3.04	0.46
29:X:1379:A:H2'	29:X:1380:C:C6	2.50	0.46
29:X:1400:A:H5'	29:X:1484:G:H4'	1.97	0.46
29:X:1432:G:H21	29:X:1596:A:H62	1.64	0.46
29:X:1573:G:O6	29:X:1574:A:N6	2.49	0.46
29:X:1579:G:C2'	29:X:1580:C:H5'	2.45	0.46
29:X:1948:C:C4	29:X:1949:A:C5	3.03	0.46
29:X:1979:C:H2'	29:X:1979:C:O2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2298:U:O2'	29:X:2299:A:C4	2.68	0.46
29:X:2391:A:H2'	29:X:2392:G:O4'	2.14	0.46
29:X:2642:G:C2'	29:X:2643:G:C5'	2.78	0.46
6:A:249:PRO:HD3	29:X:2218:G:H5'	1.96	0.46
8:C:53:LYS:HD3	8:C:53:LYS:HA	1.69	0.46
9:D:128:TYR:O	9:D:156:ILE:HB	2.16	0.46
10:E:84:THR:HG23	10:E:84:THR:O	2.16	0.46
12:G:110:LEU:N	12:G:110:LEU:CD2	2.75	0.46
12:G:154:GLU:N	12:G:157:PRO:HG2	2.31	0.46
14:I:103:ASN:ND2	14:I:104:ARG:HG3	2.31	0.46
16:K:10:LEU:C	16:K:11:ASN:OD1	2.58	0.46
17:L:97:HIS:CD2	31:Z:50:U:O3'	2.68	0.46
18:M:10:GLY:O	18:M:11:GLU:C	2.58	0.46
18:M:101:ARG:C	18:M:103:LYS:N	2.72	0.46
19:N:12:ARG:O	19:N:15:LYS:N	2.49	0.46
23:R:22:VAL:HG21	23:R:80:LYS:NZ	2.29	0.46
23:R:32:GLN:HE21	23:R:50:GLY:CA	2.27	0.46
23:R:93:ARG:HB2	29:X:310:A:OP1	2.14	0.46
29:X:30:G:H4'	29:X:1228:G:H5'	1.97	0.46
29:X:333:A:O4'	29:X:351:A:H1'	2.15	0.46
29:X:558:G:H5"	29:X:558:G:C2	2.49	0.46
29:X:810:U:H2'	29:X:811:G:O4'	2.16	0.46
29:X:857:U:H3'	29:X:858:G:H8	1.80	0.46
29:X:1153:A:N3	29:X:1155:G:N7	2.62	0.46
29:X:1551:U:H5'	29:X:1552:C:C6	2.51	0.46
29:X:1658:A:C8	29:X:1659:G:C8	3.04	0.46
29:X:1754:G:OP1	29:X:1754:G:H4'	2.15	0.46
29:X:1980:A:N1	29:X:1981:A:C6	2.83	0.46
29:X:2204:A:H4'	29:X:2205:C:H6	1.79	0.46
29:X:2324:G:C2'	29:X:2325:A:OP2	2.63	0.46
29:X:2331:A:N7	29:X:2345:A:C6	2.83	0.46
29:X:2335:U:C2	29:X:2341:G:N1	2.83	0.46
29:X:2502:G:O6	29:X:2520:A:C2	2.68	0.46
29:X:2611:A:C2	29:X:2767:C:C2	3.04	0.46
29:X:2648:G:N2	29:X:2649:A:H1'	2.29	0.46
29:X:2656:G:N2	29:X:2711:G:N3	2.64	0.46
29:X:2708:U:C3'	29:X:2709:C:H6	2.29	0.46
29:X:2782:G:O6	29:X:2867:G:O6	2.34	0.46
29:X:2850:U:N3	29:X:2851:G:N7	2.62	0.46
31:Z:71:G:H2'	31:Z:71:G:N3	2.30	0.46
6:A:86:PRO:C	6:A:88:ARG:H	2.24	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:15:TRP:CD1	7:B:20:ALA:HB2	2.51	0.46
7:B:51:TYR:O	7:B:52:ALA:C	2.59	0.46
7:B:98:GLU:CG	7:B:174:GLU:HA	2.40	0.46
9:D:134:GLU:OE2	9:D:136:LEU:HB2	2.16	0.46
9:D:135:GLN:HA	9:D:138:PHE:HE1	1.78	0.46
10:E:24:PHE:N	10:E:24:PHE:CD1	2.83	0.46
11:F:49:GLY:O	11:F:50:ASP:HB2	2.15	0.46
12:G:46:ALA:CB	12:G:54:LEU:HD21	2.45	0.46
12:G:111:LYS:O	12:G:113:GLU:OE2	2.34	0.46
13:H:133:VAL:O	13:H:134:LEU:C	2.57	0.46
15:J:79:PRO:O	15:J:80:ALA:CB	2.64	0.46
16:K:5:LYS:O	16:K:6:ALA:O	2.34	0.46
17:L:104:ALA:O	17:L:105:ASP:C	2.59	0.46
18:M:67:THR:HG23	18:M:79:ARG:O	2.16	0.46
22:Q:43:GLN:CA	22:Q:48:VAL:O	2.61	0.46
23:R:16:PHE:HZ	23:R:46:VAL:HG22	1.80	0.46
23:R:95:ARG:HG3	23:R:95:ARG:NH1	2.31	0.46
24:S:149:ALA:C	24:S:151:ASP:N	2.73	0.46
25:T:35:ASN:O	25:T:60:PHE:HA	2.15	0.46
29:X:30:G:O2'	29:X:31:C:H5'	2.15	0.46
29:X:192:G:O2'	29:X:193:A:C5'	2.64	0.46
29:X:200:A:C2	29:X:421:G:O4'	2.69	0.46
29:X:422:C:H2'	29:X:423:G:C8	2.50	0.46
29:X:441:A:N7	29:X:442:A:C5	2.82	0.46
29:X:452:G:H2'	29:X:453:U:O4'	2.16	0.46
29:X:575:U:H2'	29:X:576:A:H8	1.81	0.46
29:X:633:G:C4	29:X:634:G:N7	2.84	0.46
29:X:1101:U:O5'	29:X:1101:U:H6	1.97	0.46
29:X:1228:G:O2'	29:X:1229:C:H5'	2.15	0.46
29:X:1734:C:C6	29:X:1735:G:H1'	2.50	0.46
29:X:1821:A:H2'	29:X:1822:C:O5'	2.16	0.46
29:X:1969:G:H2'	29:X:1970:G:C8	2.42	0.46
29:X:2060:A:H1'	29:X:2414:A:O4'	2.16	0.46
29:X:2496:C:O2'	29:X:2497:A:O5'	2.33	0.46
29:X:2859:U:O2	30:Y:52:TYR:CE2	2.68	0.46
4:4:9:LYS:HD2	4:4:9:LYS:N	2.31	0.46
6:A:43:ARG:HH11	6:A:43:ARG:CA	2.27	0.46
6:A:188:GLU:OE2	29:X:2201:G:H5"	2.15	0.46
6:A:217:ARG:HG2	6:A:218:LYS:H	1.80	0.46
7:B:5:LEU:N	7:B:5:LEU:CD1	2.78	0.46
7:B:144:ARG:O	7:B:148:GLY:HA2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:181:LEU:HD13	18:M:16:ILE:HD11	1.97	0.46
8:C:42:THR:HB	29:X:454:G:H21	1.79	0.46
8:C:46:ARG:O	8:C:47:THR:C	2.58	0.46
14:I:40:ARG:O	14:I:41:SER:CB	2.64	0.46
16:K:76:VAL:O	16:K:80:MET:HB2	2.16	0.46
16:K:103:ARG:HD2	29:X:1300:A:OP2	2.15	0.46
18:M:22:ARG:CD	18:M:83:PHE:O	2.63	0.46
19:N:12:ARG:O	19:N:14:HIS:N	2.49	0.46
19:N:14:HIS:CD2	19:N:32:TYR:CE1	3.04	0.46
19:N:31:GLN:O	19:N:32:TYR:C	2.57	0.46
19:N:91:ASN:HB2	19:N:92:ARG:H	1.49	0.46
19:N:91:ASN:ND2	20:O:11:GLN:NE2	2.64	0.46
21:P:13:GLN:HA	21:P:16:GLN:OE1	2.15	0.46
21:P:27:VAL:CB	21:P:125:THR:HG22	2.45	0.46
22:Q:88:ILE:O	22:Q:90:ALA:N	2.49	0.46
23:R:11:ASN:O	23:R:12:ASP:C	2.59	0.46
25:T:85:GLN:OE1	25:T:85:GLN:HA	2.16	0.46
26:U:27:ASP:HA	26:U:32:ARG:HD3	1.97	0.46
27:V:15:ALA:HA	27:V:18:ILE:HD12	1.97	0.46
29:X:67:G:H2'	29:X:68:C:O4'	2.15	0.46
29:X:714:G:C6	29:X:745:C:N4	2.83	0.46
29:X:759:C:C1'	29:X:761:G:H21	2.29	0.46
29:X:789:G:C6	29:X:806:A:N7	2.84	0.46
29:X:938:G:O2'	29:X:939:C:O5'	2.32	0.46
29:X:987:G:H4'	29:X:1167:A:N7	2.31	0.46
29:X:1013:G:N2	29:X:1165:G:H1'	2.31	0.46
29:X:1044:U:C4	29:X:2730:A:C2	3.03	0.46
29:X:1561:A:C8	29:X:1562:G:C8	3.04	0.46
29:X:1858:C:H2'	29:X:1859:A:O4'	2.15	0.46
29:X:2023:C:C2	29:X:2024:U:C6	3.04	0.46
29:X:2194:A:H2'	29:X:2195:C:C5'	2.44	0.46
29:X:2279:G:O2'	29:X:2280:A:H5'	2.15	0.46
29:X:2311:U:O2	29:X:2311:U:C3'	2.62	0.46
29:X:2745:A:H3'	29:X:2745:A:N3	2.30	0.46
29:X:2811:G:C5	29:X:2858:A:N6	2.83	0.46
29:X:2862:G:N2	29:X:2863:U:O2	2.49	0.46
7:B:116:VAL:CG1	7:B:136:ARG:NH2	2.71	0.46
7:B:125:GLY:O	7:B:126:PRO:O	2.33	0.46
10:E:18:ASN:C	10:E:20:GLN:H	2.22	0.46
10:E:51:LEU:HD12	10:E:52:VAL:N	2.31	0.46
10:E:57:ASP:O	10:E:58:ALA:CB	2.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:150:VAL:O	12:G:151:TYR:CD1	2.69	0.46
14:I:32:ARG:NH2	20:O:81:ARG:NE	2.60	0.46
14:I:117:ALA:O	14:I:118:VAL:CG1	2.64	0.46
15:J:15:ARG:HA	29:X:922:A:N7	2.31	0.46
15:J:78:LYS:CA	29:X:968:C:OP1	2.63	0.46
15:J:80:ALA:C	15:J:81:GLU:CD	2.84	0.46
16:K:3:HIS:CE1	16:K:5:LYS:HD2	2.50	0.46
19:N:99:ALA:HB2	19:N:106:PHE:CE1	2.51	0.46
20:O:35:LEU:HD22	20:O:36:LYS:O	2.16	0.46
20:O:75:LYS:CB	20:O:75:LYS:NZ	2.78	0.46
21:P:11:LYS:O	21:P:12:LYS:C	2.59	0.46
21:P:34:SER:HA	21:P:35:PRO:HD2	1.62	0.46
27:V:26:MET:O	27:V:27:GLU:C	2.58	0.46
29:X:167:A:P	29:X:182:G:H22	2.39	0.46
29:X:322:A:H2'	29:X:323:G:OP1	2.16	0.46
29:X:416:U:H4'	29:X:419:G:O2'	2.16	0.46
29:X:588:G:N2	29:X:1275:A:C4	2.84	0.46
29:X:801:A:C2'	29:X:802:A:OP2	2.63	0.46
29:X:813:A:C4'	29:X:814:G:O5'	2.54	0.46
29:X:953:G:H1'	29:X:1203:A:C2	2.50	0.46
29:X:1032:A:O2'	29:X:1134:C:H5"	2.16	0.46
29:X:1137:A:H4'	29:X:1138:A:C5'	2.44	0.46
29:X:1298:G:O6	29:X:1342:U:C6	2.68	0.46
29:X:1465:G:H2'	29:X:1466:C:H6	1.79	0.46
29:X:1691:G:C4'	29:X:1692:C:OP1	2.64	0.46
29:X:1742:G:C4	29:X:1743:C:C5	3.04	0.46
29:X:1827:G:C4	29:X:1914:U:C4	3.03	0.46
29:X:2070:G:C2	29:X:2212:U:C2	3.04	0.46
6:A:145:LEU:HD12	6:A:146:GLU:N	2.31	0.46
7:B:97:ALA:HB3	7:B:100:GLU:HG3	1.98	0.46
8:C:2:ALA:HA	8:C:13:ARG:CA	2.46	0.46
8:C:112:GLN:CD	8:C:116:LYS:HD3	2.41	0.46
8:C:144:GLY:CA	8:C:166:TRP:NE1	2.78	0.46
9:D:70:ALA:HB3	9:D:83:MET:H	1.80	0.46
10:E:124:ALA:N	10:E:132:ASP:O	2.48	0.46
11:F:132:ARG:HG2	11:F:132:ARG:NH1	2.29	0.46
12:G:42:VAL:HG22	12:G:166:LEU:HB2	1.96	0.46
13:H:75:VAL:HG23	13:H:76:ARG:HG3	1.97	0.46
13:H:99:ILE:HD12	13:H:103:GLY:HA2	1.98	0.46
13:H:119:ARG:HG3	13:H:119:ARG:NH1	2.31	0.46
14:I:97:ARG:O	14:I:98:LEU:CB	2.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:69:ILE:HD13	15:J:104:MET:CB	2.46	0.46
15:J:82:THR:O	15:J:83:ARG:CB	2.63	0.46
16:K:49:GLU:OE1	16:K:95:THR:CG2	2.62	0.46
18:M:72:SER:O	18:M:73:PHE:C	2.59	0.46
19:N:10:ARG:O	19:N:12:ARG:N	2.49	0.46
20:O:35:LEU:HD23	20:O:52:GLY:HA2	1.95	0.46
23:R:68:GLY:C	23:R:69:GLN:HG3	2.41	0.46
24:S:51:LEU:H	24:S:51:LEU:CD2	2.22	0.46
26:U:48:LYS:NZ	26:U:48:LYS:CB	2.78	0.46
27:V:52:GLN:C	27:V:54:ASN:N	2.73	0.46
29:X:28:A:C2	29:X:523:A:N9	2.83	0.46
29:X:330:C:H2'	29:X:331:U:O4'	2.16	0.46
29:X:357:A:C2'	29:X:358:C:H5'	2.45	0.46
29:X:761:G:C8	29:X:763:A:C8	3.04	0.46
29:X:820:U:OP1	29:X:843:G:N2	2.49	0.46
29:X:879:A:N6	29:X:926:C:C5	2.83	0.46
29:X:1081:A:C6	29:X:1108:U:H4'	2.51	0.46
29:X:1298:G:C6	29:X:1342:U:C5	3.04	0.46
29:X:1551:U:H5'	29:X:1552:C:C5	2.51	0.46
29:X:1621:C:H4'	29:X:1626:A:C5	2.51	0.46
29:X:1629:G:H3'	29:X:1633:C:H42	1.81	0.46
29:X:2031:A:H2'	29:X:2032:G:O5'	2.16	0.46
29:X:2062:U:C2	29:X:2063:A:C8	3.04	0.46
29:X:2195:C:C5	29:X:2196:U:O4	2.68	0.46
29:X:2341:G:O2'	29:X:2342:U:H5'	2.16	0.46
29:X:2486:C:C2	29:X:2562:G:C2	3.04	0.46
29:X:2494:C:N3	29:X:2549:G:C6	2.83	0.46
29:X:2624:G:C5'	29:X:2712:G:O2'	2.63	0.46
29:X:2721:A:O2'	29:X:2722:C:H5'	2.15	0.46
29:X:2806:G:C1'	29:X:2858:A:C2	2.99	0.46
31:Z:36:A:C2	31:Z:51:G:C6	3.03	0.46
6:A:63:ARG:HG2	6:A:63:ARG:NH1	2.30	0.46
7:B:136:ARG:NH2	7:B:157:ALA:HB2	2.31	0.46
8:C:2:ALA:HA	8:C:13:ARG:HA	1.97	0.46
8:C:136:TRP:O	8:C:140:ASN:ND2	2.40	0.46
10:E:58:ALA:H	10:E:62:ARG:CG	2.15	0.46
10:E:150:LYS:C	10:E:152:ARG:N	2.74	0.46
12:G:56:THR:O	12:G:57:LEU:C	2.57	0.46
14:I:90:ARG:NH2	14:I:93:LEU:HD11	2.31	0.46
15:J:50:ALA:O	15:J:54:VAL:CG2	2.64	0.46
18:M:93:ILE:HG22	18:M:95:GLU:H	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:8:ILE:HG22	19:N:11:ARG:HH21	1.80	0.46
21:P:25:PHE:CD2	21:P:25:PHE:O	2.68	0.46
24:S:63:PRO:HB2	24:S:86:VAL:HG21	1.98	0.46
26:U:15:VAL:HG12	26:U:46:LEU:HD23	1.98	0.46
26:U:27:ASP:H	26:U:32:ARG:HH21	1.64	0.46
28:W:15:ASN:O	28:W:18:LYS:N	2.49	0.46
29:X:15:G:C6	29:X:16:G:N7	2.84	0.46
29:X:520:C:O2'	29:X:1249:G:H5"	2.16	0.46
29:X:573:C:O2'	29:X:574:C:H5'	2.16	0.46
29:X:649:G:N2	29:X:661:C:C2	2.84	0.46
29:X:983:G:H3'	29:X:984:A:H5"	1.97	0.46
29:X:1414:G:H2'	29:X:1415:C:O4'	2.15	0.46
29:X:1596:A:C2	29:X:1597:A:H1'	2.51	0.46
29:X:1652:G:C4	29:X:1653:C:C5	3.03	0.46
29:X:1724:C:OP2	29:X:1724:C:H6	1.99	0.46
29:X:1937:G:N3	29:X:2530:C:H5"	2.29	0.46
29:X:2006:G:N2	29:X:2024:U:C2	2.84	0.46
29:X:2045:A:H4'	29:X:2046:C:OP1	2.16	0.46
29:X:2050:G:N1	29:X:2052:G:C5	2.84	0.46
29:X:2429:A:OP1	29:X:2476:A:C8	2.68	0.46
29:X:2563:U:H2'	29:X:2564:U:C5'	2.43	0.46
29:X:2631:C:H2'	29:X:2632:U:O4'	2.15	0.46
29:X:2675:U:H2'	29:X:2676:G:C8	2.50	0.46
29:X:2689:C:HO2'	29:X:2690:A:H5'	1.76	0.46
29:X:2746:G:C2	29:X:2747:C:C6	3.03	0.46
29:X:2807:U:H6	29:X:2807:U:C5'	2.29	0.46
29:X:2818:G:C6	29:X:2819:G:N7	2.84	0.46
29:X:2849:C:H2'	29:X:2850:U:H5'	1.98	0.46
6:A:223:GLY:HA3	6:A:231:HIS:CD2	2.51	0.46
7:B:8:LYS:HG2	7:B:192:ASN:HA	1.97	0.46
7:B:142:GLY:C	7:B:143:GLN:HE21	2.21	0.46
8:C:72:ARG:HG3	8:C:77:PHE:CD2	2.51	0.46
8:C:112:GLN:NE2	8:C:116:LYS:CB	2.79	0.46
9:D:16:LEU:HD12	9:D:28:VAL:CG1	2.46	0.46
11:F:8:VAL:CG1	11:F:57:ILE:HB	2.47	0.46
12:G:60:SER:C	12:G:62:ILE:N	2.72	0.46
12:G:98:LYS:HD2	12:G:98:LYS:HA	1.70	0.46
13:H:23:ARG:HH12	13:H:25:LEU:HB3	1.81	0.46
13:H:47:VAL:CG2	13:H:77:THR:H	2.28	0.46
13:H:131:PRO:O	18:M:73:PHE:CE1	2.69	0.46
14:I:80:LEU:HD11	14:I:89:ASP:OD1	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:42:ILE:HG22	17:L:52:ALA:N	2.30	0.46
17:L:43:ILE:HG22	17:L:44:ASP:H	1.81	0.46
17:L:79:ALA:O	17:L:83:GLY:N	2.43	0.46
18:M:76:GLY:C	18:M:77:VAL:CG2	2.89	0.46
21:P:33:MET:HE2	21:P:37:LYS:HZ1	1.80	0.46
21:P:80:LEU:O	21:P:84:GLU:HA	2.15	0.46
23:R:52:ASN:OD1	23:R:53:VAL:N	2.49	0.46
24:S:131:PRO:HG2	24:S:155:PRO:HG3	1.97	0.46
29:X:91:A:H2'	29:X:92:U:C6	2.51	0.46
29:X:172:A:C2	29:X:227:G:N2	2.84	0.46
29:X:314:G:C2	29:X:326:A:C2	3.05	0.46
29:X:581:A:C2	29:X:2016:A:C2	3.03	0.46
29:X:649:G:O2'	29:X:650:U:H5'	2.16	0.46
29:X:913:A:H2'	29:X:914:C:O5'	2.17	0.46
29:X:944:A:C2'	29:X:945:G:H5'	2.46	0.46
29:X:1012:A:H62	29:X:1013:G:N2	2.13	0.46
29:X:1093:U:H3	29:X:1097:A:H2	1.62	0.46
29:X:1281:A:N6	29:X:1282:A:C2	2.84	0.46
29:X:1684:G:O2'	29:X:1685:A:OP2	2.33	0.46
29:X:1706:A:C5	29:X:1717:A:C6	3.04	0.46
29:X:1801:C:H1'	29:X:2207:G:O2'	2.15	0.46
29:X:2018:G:H4'	29:X:2019:C:OP2	2.15	0.46
29:X:2050:G:H5"	29:X:2051:U:OP2	2.16	0.46
29:X:2434:G:N2	29:X:2435:C:C2	2.84	0.46
29:X:2665:G:N1	29:X:2704:U:O2	2.50	0.46
29:X:2725:C:C4	29:X:2726:U:C4	3.04	0.46
29:X:2847:G:N3	29:X:2848:A:N6	2.64	0.46
4:4:15:LYS:NZ	29:X:2733:A:O2'	2.26	0.45
6:A:50:THR:HG21	29:X:1796:A:N3	2.30	0.45
6:A:53:PHE:CZ	6:A:220:HIS:HA	2.51	0.45
6:A:228:PRO:O	29:X:2057:U:OP1	2.34	0.45
6:A:258:LYS:NZ	6:A:261:ARG:HE	2.14	0.45
8:C:38:ARG:NH2	8:C:178:TYR:CE2	2.82	0.45
8:C:54:THR:CG2	8:C:71:ASP:HB3	2.45	0.45
8:C:101:GLN:C	8:C:103:GLY:H	2.23	0.45
9:D:91:LEU:HB3	9:D:96:MET:HA	1.97	0.45
9:D:134:GLU:HG2	9:D:136:LEU:N	2.26	0.45
9:D:167:ARG:O	9:D:170:LEU:HB2	2.17	0.45
11:F:55:VAL:CG2	11:F:69:THR:HA	2.40	0.45
11:F:117:ALA:HB3	11:F:123:ALA:HB2	1.98	0.45
12:G:64:GLY:HA3	12:G:67:ARG:HD2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:102:ARG:O	12:G:112:THR:HB	2.16	0.45
13:H:77:THR:C	13:H:79:HIS:H	2.23	0.45
14:I:18:ARG:HB2	14:I:21:ARG:CD	2.46	0.45
19:N:7:GLY:O	19:N:9:VAL:HG23	2.17	0.45
19:N:92:ARG:HH11	19:N:92:ARG:CG	2.29	0.45
20:O:27:GLY:C	20:O:28:GLU:CG	2.88	0.45
21:P:18:VAL:HG12	21:P:19:LYS:N	2.32	0.45
21:P:25:PHE:CE2	21:P:27:VAL:HG12	2.52	0.45
21:P:35:PRO:HG3	21:P:99:ALA:HB2	1.99	0.45
21:P:45:ILE:HD11	21:P:57:LEU:HD11	1.98	0.45
22:Q:39:LYS:O	22:Q:42:ILE:HG23	2.16	0.45
23:R:105:ARG:NH1	23:R:112:LYS:HA	2.31	0.45
24:S:64:ALA:HA	24:S:86:VAL:N	2.31	0.45
26:U:20:ARG:HG3	29:X:393:U:OP1	2.16	0.45
29:X:102:C:H2'	29:X:103:U:O4'	2.15	0.45
29:X:227:G:H2'	29:X:228:A:H8	1.81	0.45
29:X:304:A:N7	29:X:356:A:N6	2.63	0.45
29:X:495:C:H2'	29:X:496:C:C6	2.51	0.45
29:X:507:A:N6	29:X:508:G:C6	2.85	0.45
29:X:610:G:H2'	29:X:611:C:O4'	2.16	0.45
29:X:701:U:O2'	29:X:702:A:H5'	2.16	0.45
29:X:976:C:O5'	29:X:2252:A:H1'	2.16	0.45
29:X:1122:A:H2'	29:X:1123:G:O5'	2.16	0.45
29:X:1318:A:C2	29:X:1319:C:C2	3.03	0.45
29:X:1484:G:H2'	29:X:1485:U:C6	2.51	0.45
29:X:1705:U:C2	29:X:1715:A:C2	3.04	0.45
29:X:2047:C:O2	29:X:2429:A:N6	2.49	0.45
29:X:2871:U:H2'	29:X:2872:U:H6	1.80	0.45
4:4:35:ARG:HD2	29:X:2722:C:OP1	2.15	0.45
8:C:28:HIS:ND1	14:I:16:ARG:O	2.49	0.45
8:C:74:VAL:O	8:C:74:VAL:HG23	2.16	0.45
10:E:89:LEU:HD13	10:E:95:ARG:CA	2.38	0.45
11:F:55:VAL:HG13	11:F:68:ILE:C	2.41	0.45
11:F:122:ALA:CA	29:X:1092:U:H4'	2.46	0.45
12:G:132:PHE:CE1	12:G:145:HIS:HB2	2.51	0.45
16:K:34:ILE:HG13	16:K:113:ILE:CG2	2.47	0.45
17:L:36:LYS:HZ1	17:L:99:ARG:HH11	1.64	0.45
17:L:97:HIS:NE2	31:Z:39:C:O2	2.49	0.45
18:M:72:SER:O	18:M:73:PHE:O	2.34	0.45
19:N:3:ARG:HE	29:X:461:A:H4'	1.82	0.45
19:N:24:PHE:CE1	29:X:543:G:H5'	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:38:VAL:O	21:P:42:VAL:HG23	2.15	0.45
22:Q:61:LYS:HA	22:Q:71:GLN:O	2.16	0.45
22:Q:62:ARG:NH1	22:Q:73:ASN:ND2	2.44	0.45
28:W:34:VAL:HG22	28:W:40:VAL:HG11	1.97	0.45
29:X:143:A:C2	29:X:144:U:C2	3.04	0.45
29:X:175:C:C6	29:X:177:U:O4	2.67	0.45
29:X:219:G:O2'	29:X:220:U:OP2	2.34	0.45
29:X:223:C:H2'	29:X:224:G:C5'	2.42	0.45
29:X:389:G:H2'	29:X:390:U:C5	2.50	0.45
29:X:393:U:O2'	29:X:394:U:H5'	2.16	0.45
29:X:441:A:H5'	29:X:442:A:OP2	2.16	0.45
29:X:525:A:H8	29:X:526:C:C5	2.33	0.45
29:X:648:A:C5'	29:X:649:G:C4'	2.94	0.45
29:X:732:G:C2	29:X:733:G:C4	3.04	0.45
29:X:1324:G:OP2	29:X:1324:G:N2	2.28	0.45
29:X:1365:U:O2'	29:X:1586:A:N3	2.40	0.45
29:X:1436:G:H2'	29:X:1437:A:H8	1.82	0.45
29:X:1701:C:C6	29:X:1701:C:OP2	2.70	0.45
29:X:1830:C:H41	29:X:1881:U:H3'	1.81	0.45
29:X:1948:C:C6	29:X:1949:A:C8	3.05	0.45
29:X:2036:G:C2	29:X:2596:C:C2	3.05	0.45
29:X:2312:A:O2'	29:X:2313:G:P	2.73	0.45
29:X:2438:A:C5	29:X:2439:U:C5	3.04	0.45
29:X:2451:G:H2'	29:X:2454:C:H42	1.82	0.45
29:X:2507:U:C5	29:X:2509:A:C8	3.04	0.45
6:A:246:PRO:C	6:A:248:THR:N	2.75	0.45
7:B:92:ASN:O	7:B:93:VAL:C	2.59	0.45
7:B:93:VAL:C	7:B:95:ILE:N	2.74	0.45
7:B:134:TRP:H	7:B:134:TRP:HD1	1.65	0.45
8:C:20:PRO:C	8:C:21:GLU:HG3	2.41	0.45
8:C:162:ARG:HH22	29:X:310:A:H61	1.65	0.45
9:D:169:LEU:O	9:D:170:LEU:C	2.57	0.45
10:E:54:ARG:HE	10:E:57:ASP:HA	1.80	0.45
12:G:61:ARG:CZ	12:G:65:LYS:CD	2.94	0.45
13:H:12:ASP:OD1	13:H:14:SER:CB	2.65	0.45
14:I:76:LYS:HE3	14:I:111:SER:CB	2.46	0.45
15:J:62:GLY:HA3	15:J:64:LYS:CE	2.46	0.45
18:M:14:ARG:O	18:M:18:GLN:N	2.45	0.45
18:M:23:GLN:O	18:M:24:LEU:HD23	2.16	0.45
18:M:78:GLU:O	18:M:79:ARG:CG	2.58	0.45
18:M:91:VAL:HG12	18:M:92:THR:N	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:37:GLN:NE2	29:X:572:G:H21	2.14	0.45
19:N:64:ARG:O	19:N:67:ALA:N	2.49	0.45
19:N:91:ASN:ND2	20:O:11:GLN:HE22	2.15	0.45
21:P:33:MET:SD	21:P:37:LYS:NZ	2.88	0.45
21:P:94:GLU:O	21:P:126:ILE:HD12	2.15	0.45
23:R:23:ILE:HG12	23:R:84:VAL:HG21	1.97	0.45
23:R:40:LEU:HD12	23:R:45:LYS:HB2	1.97	0.45
25:T:31:VAL:HG23	25:T:65:GLY:C	2.42	0.45
29:X:318:G:N1	29:X:321:A:OP2	2.49	0.45
29:X:648:A:H4'	29:X:649:G:O5'	2.16	0.45
29:X:689:A:H1'	29:X:2422:C:C1'	2.46	0.45
29:X:777:A:O2'	29:X:778:G:OP1	2.30	0.45
29:X:815:A:H2'	29:X:816:U:H6	1.81	0.45
29:X:1011:A:C2	29:X:1166:A:N3	2.84	0.45
29:X:1081:A:N7	29:X:1107:A:H2'	2.31	0.45
29:X:1385:C:H1'	29:X:2192:U:C6	2.51	0.45
29:X:1476:G:C6	29:X:1477:C:N3	2.84	0.45
29:X:1673:C:N4	29:X:1674:C:H41	2.15	0.45
29:X:1724:C:OP2	29:X:1724:C:C6	2.70	0.45
29:X:2071:G:O2'	29:X:2072:C:H5'	2.14	0.45
29:X:2507:U:O3'	29:X:2508:G:H8	1.98	0.45
29:X:2563:U:O2'	29:X:2564:U:H5"	2.15	0.45
7:B:105:THR:CG2	7:B:199:ARG:HH21	2.29	0.45
10:E:54:ARG:HH11	10:E:62:ARG:CZ	2.30	0.45
10:E:59:GLN:O	10:E:60:LYS:C	2.60	0.45
11:F:53:ILE:CG1	11:F:72:PRO:HB3	2.43	0.45
12:G:70:PHE:CD2	12:G:70:PHE:N	2.84	0.45
13:H:1:MET:H3	29:X:1682:A:H1'	1.80	0.45
14:I:86:THR:O	14:I:86:THR:HG22	2.15	0.45
19:N:3:ARG:HG2	19:N:3:ARG:HH11	1.81	0.45
19:N:44:THR:O	19:N:48:ARG:HG3	2.15	0.45
19:N:78:THR:O	19:N:81:ASN:N	2.49	0.45
20:O:66:GLY:N	20:O:88:GLN:O	2.42	0.45
21:P:66:GLU:CB	21:P:67:PRO:CD	2.88	0.45
22:Q:43:GLN:HG2	22:Q:48:VAL:O	2.16	0.45
23:R:34:GLY:HA3	23:R:48:VAL:CG1	2.47	0.45
23:R:84:VAL:HA	23:R:90:LYS:CE	2.47	0.45
23:R:93:ARG:NH1	23:R:108:VAL:C	2.68	0.45
24:S:39:PHE:CE1	24:S:81:VAL:HG11	2.52	0.45
25:T:29:GLU:OE2	29:X:935:C:C4'	2.65	0.45
25:T:42:GLY:HA3	29:X:2310:G:C4'	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:19:ILE:CD1	29:X:394:U:OP1	2.60	0.45
29:X:38:G:O2'	29:X:39:C:P	2.73	0.45
29:X:51:A:H2'	29:X:52:A:C8	2.52	0.45
29:X:163:A:H2'	29:X:164:G:C8	2.51	0.45
29:X:176:A:C2'	29:X:177:U:H5	2.29	0.45
29:X:219:G:H2'	29:X:231:G:O6	2.17	0.45
29:X:307:C:O2'	29:X:308:C:H5'	2.16	0.45
29:X:464:G:H2'	29:X:465:C:C6	2.51	0.45
29:X:501:G:C4	29:X:502:A:C8	3.05	0.45
29:X:597:U:H2'	29:X:598:U:H6	1.81	0.45
29:X:623:G:C3'	29:X:624:A:C5'	2.87	0.45
29:X:649:G:H2'	29:X:650:U:O5'	2.15	0.45
29:X:931:G:C6	29:X:932:G:C5	3.04	0.45
29:X:1174:G:H2'	29:X:1175:A:C8	2.50	0.45
29:X:1352:G:O4'	29:X:1406:A:C2	2.69	0.45
29:X:1363:C:O2'	29:X:1364:C:H5'	2.16	0.45
29:X:1459:U:H4'	29:X:1460:G:OP1	2.17	0.45
29:X:1460:G:OP2	29:X:1460:G:C8	2.69	0.45
29:X:1704:G:O2'	29:X:1705:U:H5'	2.16	0.45
29:X:1773:C:H2'	29:X:1774:A:H5'	1.99	0.45
29:X:1815:G:H2'	29:X:1816:G:O4'	2.17	0.45
29:X:1918:G:H21	29:X:1947:G:C1'	2.30	0.45
29:X:1982:C:H5"	29:X:2703:C:O2'	2.17	0.45
29:X:2070:G:H2'	29:X:2071:G:C8	2.51	0.45
29:X:2197:U:N3	29:X:2198:U:C4	2.84	0.45
29:X:2426:G:O2'	29:X:2427:A:H5'	2.16	0.45
29:X:2569:A:O2'	29:X:2570:C:C5'	2.64	0.45
29:X:2586:G:H2'	29:X:2587:G:O4'	2.16	0.45
29:X:2597:G:O6	29:X:2598:C:N4	2.50	0.45
29:X:2665:G:N2	29:X:2704:U:H1'	2.31	0.45
30:Y:45:ILE:HD13	30:Y:57:VAL:HG23	1.99	0.45
4:4:27:CYS:SG	4:4:29:ASN:HB3	2.56	0.45
6:A:100:GLY:HA3	29:X:1516:A:C2	2.52	0.45
6:A:126:LYS:O	6:A:193:ILE:HB	2.17	0.45
6:A:243:GLY:C	6:A:244:ARG:CD	2.87	0.45
8:C:101:GLN:O	8:C:104:LEU:HD23	2.17	0.45
9:D:37:ASN:OD1	29:X:2292:C:O4'	2.34	0.45
9:D:92:ARG:NH1	31:Z:46:G:H4'	2.22	0.45
9:D:108:LEU:HD13	9:D:176:PRO:CG	2.47	0.45
10:E:31:GLY:O	10:E:79:VAL:HG12	2.17	0.45
10:E:89:LEU:HB2	10:E:129:THR:C	2.42	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:106:TYR:O	12:G:108:GLY:N	2.45	0.45
13:H:37:GLY:O	13:H:39:GLY:N	2.43	0.45
15:J:64:LYS:H	15:J:64:LYS:HD2	1.82	0.45
15:J:136:GLU:OE2	24:S:44:ARG:HA	2.15	0.45
16:K:49:GLU:O	16:K:50:GLN:C	2.59	0.45
18:M:56:ALA:O	18:M:66:PHE:HA	2.16	0.45
19:N:40:LEU:O	19:N:42:ALA:N	2.49	0.45
19:N:66:ASN:HB3	19:N:76:TYR:CA	2.46	0.45
23:R:25:LEU:CD1	23:R:80:LYS:HA	2.46	0.45
23:R:90:LYS:CD	23:R:108:VAL:HG21	2.46	0.45
23:R:93:ARG:HH22	23:R:108:VAL:HG12	1.81	0.45
23:R:105:ARG:CZ	23:R:112:LYS:HA	2.47	0.45
25:T:17:ASN:OD1	29:X:2240:C:OP2	2.33	0.45
29:X:171:G:H2'	29:X:172:A:O4'	2.16	0.45
29:X:405:C:C4	29:X:406:G:N7	2.85	0.45
29:X:1048:U:H2'	29:X:1049:C:O4'	2.17	0.45
29:X:1364:C:C2	29:X:1394:G:C2	3.04	0.45
29:X:1422:C:C2	29:X:1423:A:C8	3.04	0.45
29:X:1851:A:N6	29:X:1866:G:H21	2.09	0.45
29:X:2020:G:N1	29:X:2021:G:C6	2.84	0.45
29:X:2061:C:O2'	29:X:2062:U:H5'	2.16	0.45
29:X:2065:A:H3'	29:X:2066:G:C8	2.50	0.45
29:X:2580:C:C2	29:X:2582:G:N7	2.85	0.45
29:X:2597:G:N1	29:X:2598:C:N3	2.65	0.45
29:X:2673:G:H2'	29:X:2674:C:H6	1.81	0.45
29:X:2682:C:N4	29:X:2683:C:H41	2.15	0.45
29:X:2861:A:O2'	29:X:2862:G:H5'	2.16	0.45
8:C:86:PRO:O	8:C:87:LYS:HD2	2.17	0.45
8:C:147:LYS:NZ	29:X:1218:C:OP1	2.50	0.45
12:G:126:VAL:O	12:G:130:ALA:HB2	2.17	0.45
14:I:18:ARG:NH2	29:X:609:U:H1'	2.30	0.45
17:L:38:ILE:HG12	17:L:103:LEU:HD12	1.98	0.45
17:L:60:LYS:O	17:L:61:SER:OG	2.23	0.45
19:N:76:TYR:O	19:N:77:SER:C	2.60	0.45
20:O:11:GLN:HE22	20:O:38:LEU:CB	2.22	0.45
20:O:36:LYS:HZ3	20:O:54:TYR:CB	2.21	0.45
20:O:61:VAL:HB	20:O:92:ALA:CB	2.47	0.45
29:X:114:C:O2'	29:X:115:G:H5'	2.16	0.45
29:X:244:C:H2'	29:X:245:C:O4'	2.17	0.45
29:X:717:G:C2'	29:X:739:G:H22	2.07	0.45
29:X:826:U:C2	29:X:827:C:C5	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:882:C:H2'	29:X:883:A:H8	1.82	0.45
29:X:930:A:C8	29:X:930:A:C3'	3.00	0.45
29:X:988:G:N3	29:X:1012:A:C2	2.84	0.45
29:X:1042:G:H2'	29:X:1043:A:C8	2.48	0.45
29:X:1187:A:H2'	29:X:1188:A:C8	2.52	0.45
29:X:1228:G:C6	29:X:1229:C:C4	3.05	0.45
29:X:1322:G:H1'	29:X:1627:C:O2'	2.15	0.45
29:X:1542:G:N2	29:X:1562:G:H22	2.14	0.45
29:X:1687:C:O2'	29:X:1977:C:C4'	2.57	0.45
29:X:1845:A:C8	29:X:1872:A:N6	2.84	0.45
29:X:1969:G:C2	29:X:1970:G:C8	3.05	0.45
29:X:1986:G:H2'	29:X:1987:G:O5'	2.16	0.45
29:X:2274:C:H2'	29:X:2275:U:H6	1.81	0.45
29:X:2358:C:N4	29:X:2359:U:O4	2.50	0.45
29:X:2371:A:H2	29:X:2403:C:H42	1.65	0.45
29:X:2441:U:C2	29:X:2442:C:C5	3.05	0.45
29:X:2476:A:H1'	29:X:2477:C:H5	1.82	0.45
29:X:2484:G:O2'	29:X:2485:U:C5'	2.47	0.45
29:X:2639:A:H2'	29:X:2640:G:C8	2.51	0.45
29:X:2740:C:O2'	29:X:2741:G:H5'	2.16	0.45
29:X:2779:C:H2'	29:X:2780:A:C1'	2.46	0.45
29:X:2798:A:C4	29:X:2799:C:C6	3.04	0.45
30:Y:12:SER:C	30:Y:15:LYS:H	2.23	0.45
31:Z:84:G:C5	31:Z:85:G:N7	2.85	0.45
4:4:1:MET:HB2	29:X:2505:G:H1'	1.99	0.45
10:E:98:LEU:HD11	10:E:101:LYS:C	2.41	0.45
10:E:127:GLU:H	10:E:127:GLU:HG2	1.53	0.45
11:F:51:ALA:HB1	11:F:73:PRO:HD2	1.97	0.45
15:J:10:PHE:CD1	15:J:11:ARG:N	2.84	0.45
15:J:52:ARG:HA	15:J:55:MET:CE	2.42	0.45
16:K:45:ARG:O	16:K:48:VAL:HG12	2.17	0.45
16:K:100:VAL:CG1	16:K:101:GLY:H	2.29	0.45
17:L:63:ASN:HB3	17:L:67:THR:H	1.81	0.45
18:M:19:ASP:O	18:M:20:HIS:ND1	2.49	0.45
18:M:34:ARG:CZ	18:M:88:VAL:HG11	2.46	0.45
18:M:103:LYS:CG	29:X:2698:G:H4'	2.43	0.45
19:N:93:LYS:HB3	29:X:1007:A:O3'	2.17	0.45
21:P:92:VAL:O	21:P:93:LYS:C	2.58	0.45
22:Q:14:GLU:CG	22:Q:15:LYS:N	2.79	0.45
22:Q:66:GLY:C	22:Q:68:PHE:N	2.61	0.45
24:S:113:VAL:HG22	24:S:171:VAL:HG13	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:W:17:VAL:O	28:W:20:VAL:HB	2.17	0.45
29:X:70:A:H4'	29:X:71:A:H3'	1.98	0.45
29:X:166:G:N2	29:X:183:U:H5	2.12	0.45
29:X:211:U:H2'	29:X:212:U:O4'	2.16	0.45
29:X:478:G:C2	29:X:479:G:C8	3.05	0.45
29:X:610:G:H8	29:X:610:G:O5'	2.00	0.45
29:X:614:G:O2'	29:X:615:C:H5'	2.17	0.45
29:X:758:G:N2	29:X:766:A:C6	2.85	0.45
29:X:936:A:O2'	29:X:937:C:H5'	2.16	0.45
29:X:989:G:C5	29:X:990:A:N7	2.85	0.45
29:X:1005:U:O2	29:X:1007:A:N7	2.49	0.45
29:X:1373:G:C2'	29:X:1374:G:C5'	2.91	0.45
29:X:1440:G:C6	29:X:1441:A:N6	2.84	0.45
29:X:1550:C:H2'	29:X:1553:G:H22	1.76	0.45
29:X:1575:C:H5"	29:X:1576:G:OP2	2.16	0.45
29:X:1731:C:H2'	29:X:1732:U:C5'	2.47	0.45
29:X:1780:A:H2'	29:X:1781:C:O4'	2.17	0.45
29:X:1838:G:H2'	29:X:1839:A:O4'	2.16	0.45
29:X:1861:G:O2'	29:X:1862:C:H5'	2.16	0.45
29:X:1922:U:C1'	29:X:2570:C:O2'	2.57	0.45
29:X:2440:C:H2'	29:X:2441:U:C6	2.52	0.45
29:X:2595:C:C2	29:X:2596:C:C5	3.05	0.45
29:X:2695:C:C2	29:X:2696:A:C8	3.04	0.45
29:X:2721:A:H2'	29:X:2722:C:C5'	2.47	0.45
31:Z:5:C:H2'	31:Z:6:C:C6	2.51	0.45
31:Z:79:U:O2'	31:Z:80:A:H5'	2.17	0.45
6:A:53:PHE:O	6:A:54:ILE:C	2.60	0.45
6:A:255:LYS:O	29:X:1788:C:H4'	2.16	0.45
7:B:31:CYS:CB	7:B:49:ILE:CD1	2.95	0.45
7:B:60:ASN:HB2	7:B:63:MET:H	1.82	0.45
7:B:152:LYS:HB2	12:G:106:TYR:CB	2.42	0.45
7:B:155:ARG:HG3	7:B:155:ARG:NH1	2.31	0.45
10:E:67:LEU:O	10:E:71:LEU:HG	2.17	0.45
10:E:103:LEU:HB2	10:E:123:PHE:CD2	2.51	0.45
11:F:53:ILE:HG12	11:F:72:PRO:CB	2.45	0.45
12:G:88:VAL:CG2	12:G:89:ALA:N	2.71	0.45
14:I:89:ASP:O	14:I:90:ARG:HB2	2.17	0.45
14:I:90:ARG:HA	14:I:121:HIS:HD1	1.82	0.45
15:J:61:ARG:HG2	15:J:61:ARG:NH1	2.32	0.45
16:K:45:ARG:HB3	16:K:46:PRO:CD	2.46	0.45
18:M:105:TYR:CE1	18:M:108:ARG:NH2	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:105:GLN:O	24:S:141:MET:O	2.35	0.45
25:T:69:PHE:HD2	29:X:870:C:OP1	2.00	0.45
26:U:23:LYS:CB	26:U:35:THR:HG23	2.46	0.45
27:V:47:ARG:O	27:V:50:VAL:N	2.50	0.45
28:W:22:ALA:O	28:W:24:GLY:N	2.50	0.45
28:W:23:LEU:O	28:W:32:ARG:NH1	2.49	0.45
29:X:70:A:H1'	29:X:72:A:C5	2.52	0.45
29:X:89:A:H4'	29:X:90:G:C1'	2.47	0.45
29:X:169:C:C2'	29:X:170:U:H5'	2.45	0.45
29:X:244:C:H3'	29:X:245:C:H5"	1.99	0.45
29:X:314:G:H1	29:X:325:U:H3	1.65	0.45
29:X:717:G:N3	29:X:739:G:C2	2.85	0.45
29:X:813:A:H1'	29:X:815:A:H5'	1.96	0.45
29:X:1068:A:H2'	29:X:1068:A:N3	2.31	0.45
29:X:1265:G:O2'	29:X:1266:G:O5'	2.34	0.45
29:X:1509:A:C8	29:X:1510:A:C8	3.04	0.45
29:X:1807:A:O4'	29:X:1809:G:H1'	2.16	0.45
29:X:1855:G:H4'	29:X:2390:A:H4'	1.98	0.45
29:X:1919:A:N6	29:X:1946:U:H3	2.15	0.45
29:X:2043:A:O2'	29:X:2481:G:C5'	2.65	0.45
29:X:2398:U:H2'	29:X:2399:C:C6	2.52	0.45
29:X:2784:A:O5'	29:X:2784:A:H8	1.99	0.45
29:X:2817:A:H2'	29:X:2818:G:O4'	2.16	0.45
7:B:145:LYS:HZ1	29:X:2015:G:H2'	1.82	0.45
8:C:75:PRO:HB3	8:C:83:ALA:HB2	1.97	0.45
9:D:151:GLY:O	9:D:152:MET:HB3	2.15	0.45
12:G:65:LYS:HE3	12:G:66:HIS:NE2	2.31	0.45
13:H:23:ARG:NH2	13:H:25:LEU:CA	2.80	0.45
13:H:81:ILE:HG23	13:H:81:ILE:O	2.15	0.45
15:J:11:ARG:HH21	29:X:920:G:N2	2.13	0.45
15:J:18:MET:HE3	15:J:19:THR:O	2.17	0.45
16:K:5:LYS:HZ1	29:X:2795:A:H1'	1.82	0.45
16:K:103:ARG:CG	16:K:104:ARG:N	2.79	0.45
18:M:102:ALA:O	18:M:103:LYS:HD3	2.16	0.45
18:M:105:TYR:C	18:M:107:LEU:N	2.75	0.45
19:N:91:ASN:O	19:N:92:ARG:CB	2.64	0.45
20:O:95:ILE:O	20:O:96:LEU:HB2	2.16	0.45
21:P:32:ARG:O	21:P:32:ARG:CZ	2.65	0.45
22:Q:7:LEU:HD23	27:V:30:PHE:CE2	2.51	0.45
23:R:10:HIS:HD2	29:X:347:C:O2'	2.00	0.45
24:S:94:VAL:HG23	24:S:125:PRO:HG3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:20:ARG:HB3	26:U:43:ARG:HH21	1.81	0.45
29:X:18:U:O2'	29:X:563:U:OP1	2.30	0.45
29:X:208:C:H2'	29:X:209:G:H5'	1.98	0.45
29:X:449:C:H2'	29:X:450:C:H6	1.82	0.45
29:X:976:C:C4'	29:X:2252:A:H1'	2.47	0.45
29:X:1141:U:HO2'	29:X:1142:G:P	2.40	0.45
29:X:1325:U:H4'	29:X:1326:U:O5'	2.17	0.45
29:X:1486:A:C6	29:X:1538:A:N1	2.85	0.45
29:X:1646:G:C5	29:X:1647:U:C4	3.04	0.45
29:X:1692:C:N4	29:X:1976:U:O4'	2.49	0.45
29:X:2037:A:N1	29:X:2595:C:N4	2.65	0.45
29:X:2673:G:O2'	29:X:2674:C:H5'	2.16	0.45
29:X:2800:C:C2'	29:X:2801:A:H5'	2.47	0.45
4:4:1:MET:CE	4:4:35:ARG:NH2	2.80	0.45
6:A:38:PRO:HA	6:A:61:LEU:HD13	1.99	0.45
6:A:239:ARG:HB3	29:X:1954:A:O2'	2.17	0.45
6:A:252:LYS:CE	6:A:253:PRO:CD	2.93	0.45
7:B:51:TYR:CG	7:B:52:ALA:N	2.85	0.45
8:C:27:LEU:CD1	8:C:106:MET:SD	3.05	0.45
8:C:108:ILE:O	8:C:111:ARG:N	2.50	0.45
9:D:9:ASN:O	9:D:14:PRO:CD	2.65	0.45
9:D:52:LYS:HE3	9:D:148:LYS:HG3	1.98	0.45
9:D:57:LEU:O	9:D:60:ILE:HG12	2.17	0.45
9:D:108:LEU:HD23	9:D:111:ILE:HD11	1.99	0.45
9:D:116:GLY:HA2	9:D:176:PRO:HB2	1.99	0.45
9:D:138:PHE:HB2	9:D:141:ILE:CG1	2.46	0.45
10:E:6:LYS:HD3	10:E:69:ARG:NH2	2.31	0.45
10:E:15:VAL:O	10:E:16:THR:OG1	2.20	0.45
12:G:50:PRO:HD3	29:X:1152:C:N3	2.32	0.45
12:G:130:ALA:O	29:X:1148:G:O2'	2.35	0.45
13:H:100:ASN:C	13:H:102:GLN:H	2.25	0.45
13:H:100:ASN:OD1	13:H:100:ASN:O	2.34	0.45
14:I:102:LYS:O	14:I:103:ASN:HB3	2.16	0.45
15:J:20:GLY:O	15:J:21:ASP:C	2.59	0.45
17:L:107:ALA:C	17:L:109:GLU:H	2.25	0.45
19:N:28:ARG:NH1	19:N:38:THR:OG1	2.50	0.45
20:O:35:LEU:HD21	20:O:52:GLY:HA2	1.97	0.45
26:U:13:LEU:HG	26:U:14:VAL:H	1.82	0.45
26:U:20:ARG:HD3	26:U:43:ARG:NH2	2.31	0.45
26:U:49:LYS:HD3	26:U:61:TRP:NE1	2.32	0.45
29:X:70:A:H5'	29:X:71:A:OP1	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:227:G:OP1	29:X:2373:C:H4'	2.17	0.45
29:X:353:G:H2'	29:X:354:C:C6	2.52	0.45
29:X:714:G:N1	29:X:745:C:C4	2.85	0.45
29:X:731:A:C2'	29:X:732:G:C4'	2.95	0.45
29:X:751:G:O2'	29:X:752:G:P	2.75	0.45
29:X:789:G:H2'	29:X:789:G:N3	2.31	0.45
29:X:923:A:C2	29:X:2256:G:N3	2.79	0.45
29:X:946:U:H2'	29:X:947:C:C6	2.52	0.45
29:X:984:A:H1'	29:X:1202:U:C6	2.51	0.45
29:X:1122:A:C2'	29:X:1123:G:O5'	2.65	0.45
29:X:1242:A:O2'	29:X:1243:G:H5'	2.17	0.45
29:X:1730:G:O2'	29:X:1731:C:H5'	2.17	0.45
29:X:1953:A:C5'	29:X:1954:A:OP1	2.62	0.45
29:X:1991:C:H6	29:X:1991:C:O5'	1.99	0.45
29:X:2433:G:O2'	29:X:2434:G:H5'	2.17	0.45
29:X:2731:G:O4'	29:X:2731:G:N3	2.50	0.45
29:X:2859:U:C2'	29:X:2860:C:H5'	2.43	0.45
7:B:31:CYS:HA	7:B:32:PRO:HD3	1.76	0.44
8:C:62:LYS:CE	29:X:2042:A:O2'	2.66	0.44
8:C:103:GLY:O	8:C:105:ALA:N	2.50	0.44
8:C:104:LEU:HA	8:C:107:ALA:HB3	1.99	0.44
9:D:38:GLU:O	9:D:40:LEU:HG	2.17	0.44
9:D:81:GLN:CG	9:D:82:GLY:H	2.15	0.44
10:E:15:VAL:HG23	10:E:16:THR:N	2.31	0.44
12:G:125:ARG:O	12:G:126:VAL:C	2.60	0.44
14:I:37:GLN:HE21	14:I:37:GLN:HB3	1.51	0.44
14:I:109:LEU:HD13	29:X:638:A:C6	2.52	0.44
15:J:44:LYS:HB2	15:J:47:GLN:CD	2.42	0.44
16:K:79:VAL:CA	16:K:83:VAL:CG1	2.76	0.44
17:L:17:VAL:HB	29:X:2313:G:N3	2.32	0.44
21:P:45:ILE:HG22	21:P:92:VAL:HG11	1.98	0.44
21:P:49:SER:O	21:P:50:VAL:C	2.58	0.44
22:Q:53:ILE:HD12	22:Q:80:VAL:HG12	1.96	0.44
23:R:28:LYS:HG2	23:R:29:HIS:H	1.82	0.44
23:R:101:GLY:C	23:R:103:LYS:H	2.25	0.44
24:S:105:GLN:CB	24:S:139:THR:O	2.64	0.44
25:T:29:GLU:OE2	29:X:935:C:C5'	2.65	0.44
26:U:78:ILE:CD1	26:U:79:GLU:N	2.69	0.44
27:V:42:ARG:HH12	27:V:45:GLN:HE22	1.65	0.44
29:X:124:A:H2'	29:X:125:A:C8	2.52	0.44
29:X:242:A:N6	29:X:441:A:C8	2.85	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:542:A:H5'	29:X:543:G:C1'	2.46	0.44
29:X:633:G:C6	29:X:634:G:N7	2.85	0.44
29:X:757:U:C2	29:X:767:G:N2	2.85	0.44
29:X:780:U:H6	29:X:780:U:H5"	1.82	0.44
29:X:812:G:H2'	29:X:813:A:H8	1.81	0.44
29:X:1066:G:H2'	29:X:1067:G:O4'	2.17	0.44
29:X:1502:G:N1	29:X:1503:G:C5	2.85	0.44
29:X:1552:C:H1'	29:X:1553:G:N3	2.32	0.44
29:X:1749:G:N3	29:X:1749:G:O4'	2.50	0.44
29:X:1787:U:O2'	29:X:1788:C:H5'	2.17	0.44
29:X:2084:G:O2'	29:X:2085:G:H5'	2.17	0.44
29:X:2324:G:C4'	29:X:2326:C:H5"	2.43	0.44
29:X:2336:G:H1'	29:X:2339:A:H62	1.82	0.44
29:X:2394:G:H2'	29:X:2395:C:C6	2.52	0.44
29:X:2419:C:C4	29:X:2420:C:H1'	2.51	0.44
29:X:2499:C:C6	29:X:2546:G:H1'	2.52	0.44
29:X:2787:A:O2'	29:X:2788:C:C5'	2.63	0.44
4:4:1:MET:N	29:X:2505:G:C2'	2.79	0.44
6:A:133:LEU:CB	6:A:173:VAL:HG21	2.47	0.44
6:A:150:GLY:O	6:A:151:LYS:HB3	2.18	0.44
7:B:174:GLU:HB3	7:B:183:LEU:CD1	2.45	0.44
8:C:137:ALA:CB	8:C:142:LEU:HB2	2.47	0.44
8:C:176:ASN:HD21	8:C:178:TYR:HB3	1.81	0.44
9:D:92:ARG:NH1	31:Z:45:C:H2'	2.32	0.44
13:H:12:ASP:OD1	13:H:12:ASP:C	2.60	0.44
13:H:28:GLY:O	13:H:35:THR:OG1	2.29	0.44
13:H:42:LYS:CA	29:X:2653:A:O3'	2.63	0.44
14:I:34:HIS:O	14:I:35:LYS:HG3	2.16	0.44
15:J:36:ILE:HD12	15:J:133:VAL:CG1	2.47	0.44
15:J:52:ARG:HD2	15:J:53:ILE:N	2.32	0.44
15:J:64:LYS:HD3	15:J:108:ALA:O	2.17	0.44
16:K:40:LYS:O	16:K:43:GLU:N	2.50	0.44
16:K:43:GLU:OE1	16:K:43:GLU:C	2.59	0.44
16:K:60:LEU:HG	16:K:64:ARG:HG3	1.99	0.44
17:L:104:ALA:O	17:L:108:ARG:N	2.37	0.44
20:O:15:SER:OG	20:O:96:LEU:HA	2.17	0.44
20:O:75:LYS:HZ2	20:O:75:LYS:HB2	1.80	0.44
24:S:23:ALA:O	24:S:24:TYR:HB3	2.16	0.44
26:U:27:ASP:CA	26:U:32:ARG:NH2	2.76	0.44
28:W:3:ILE:HD11	28:W:44:VAL:HG21	1.98	0.44
29:X:95:G:O2'	29:X:96:C:H5'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:729:A:C2	29:X:730:C:OP2	2.70	0.44
29:X:740:A:OP1	29:X:1445:A:O2'	2.33	0.44
29:X:780:U:H5"	29:X:780:U:C6	2.52	0.44
29:X:953:G:C6	29:X:954:U:N3	2.85	0.44
29:X:1039:A:H61	29:X:1136:G:C2'	2.29	0.44
29:X:1056:U:O2'	29:X:1058:G:C8	2.70	0.44
29:X:1284:G:N2	29:X:1633:C:H1'	2.33	0.44
29:X:1601:U:O2'	29:X:1602:G:OP1	2.29	0.44
29:X:1664:G:O5'	29:X:1665:C:OP1	2.35	0.44
29:X:1685:A:C5	29:X:1976:U:C4	3.06	0.44
29:X:1691:G:H5'	29:X:1692:C:OP1	2.17	0.44
29:X:1910:A:H8	29:X:1910:A:O5'	2.00	0.44
29:X:1928:G:C2	29:X:1929:U:C2	3.05	0.44
29:X:2270:U:O2'	29:X:2353:G:N3	2.47	0.44
29:X:2286:G:H21	29:X:2290:A:H61	1.58	0.44
29:X:2292:C:O2'	29:X:2293:G:H5'	2.17	0.44
29:X:2529:G:C6	29:X:2530:C:N4	2.85	0.44
29:X:2529:G:N1	29:X:2530:C:C4	2.85	0.44
29:X:2700:U:H2'	29:X:2701:A:C8	2.47	0.44
30:Y:20:ARG:C	30:Y:22:HIS:N	2.76	0.44
5:5:3:THR:HG21	5:5:7:BB9:HN1	1.83	0.44
6:A:42:GLY:H	6:A:43:ARG:NH1	2.16	0.44
6:A:201:HIS:HA	6:A:204:ILE:HD12	1.98	0.44
8:C:28:HIS:CE1	14:I:17:LYS:HA	2.53	0.44
8:C:47:THR:HB	8:C:48:ARG:HD2	1.98	0.44
8:C:103:GLY:C	8:C:105:ALA:N	2.74	0.44
8:C:129:LYS:C	8:C:131:LYS:N	2.75	0.44
8:C:136:TRP:CD1	8:C:137:ALA:N	2.86	0.44
9:D:10:ASP:C	9:D:14:PRO:HD2	2.40	0.44
9:D:79:LEU:HD11	29:X:2289:A:C2	2.52	0.44
9:D:114:PHE:CZ	9:D:176:PRO:HG3	2.51	0.44
10:E:103:LEU:HG	10:E:115:ILE:HD12	1.98	0.44
10:E:165:VAL:C	10:E:167:GLU:N	2.72	0.44
13:H:83:ARG:NH2	18:M:79:ARG:NH2	2.65	0.44
13:H:116:ARG:HG3	18:M:38:LYS:HE2	1.99	0.44
14:I:58:ALA:C	14:I:60:LEU:H	2.25	0.44
15:J:122:ALA:O	15:J:125:LYS:HD2	2.17	0.44
16:K:87:TYR:HD1	16:K:90:ARG:CD	2.29	0.44
16:K:90:ARG:CD	16:K:94:TYR:HB2	2.46	0.44
19:N:3:ARG:HH11	19:N:3:ARG:CG	2.31	0.44
20:O:6:GLN:O	20:O:7:THR:CB	2.65	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:79:GLN:O	20:O:80:TYR:O	2.36	0.44
20:O:83:ARG:C	20:O:84:THR:HG23	2.41	0.44
21:P:105:ARG:O	21:P:117:ILE:N	2.46	0.44
24:S:19:ILE:HD11	24:S:36:ARG:HA	1.94	0.44
25:T:41:ARG:HH11	25:T:41:ARG:CG	2.26	0.44
26:U:17:SER:HB2	26:U:44:ALA:CA	2.30	0.44
29:X:474:G:N2	29:X:477:A:OP2	2.42	0.44
29:X:539:A:N3	29:X:540:G:O6	2.50	0.44
29:X:562:G:H2'	29:X:563:U:O4'	2.17	0.44
29:X:1055:A:H8	29:X:1055:A:H2'	1.20	0.44
29:X:1068:A:H3'	29:X:1069:G:H8	1.81	0.44
29:X:1112:U:O2'	29:X:1113:C:H5'	2.17	0.44
29:X:1337:G:C5	29:X:1341:G:O6	2.71	0.44
29:X:1370:U:O2'	29:X:1371:G:H5'	2.17	0.44
29:X:1419:G:C2	29:X:1613:G:C2	3.06	0.44
29:X:1422:C:O2'	29:X:1423:A:H5'	2.17	0.44
29:X:1628:C:N3	29:X:1629:G:C8	2.85	0.44
29:X:1672:A:C2	29:X:1673:C:H1'	2.52	0.44
29:X:1790:G:O2'	29:X:1791:C:H5"	2.17	0.44
29:X:1926:U:O2	29:X:1926:U:C2'	2.65	0.44
29:X:2053:G:H2'	29:X:2054:A:C8	2.53	0.44
29:X:2229:G:O4'	29:X:2229:G:N3	2.50	0.44
29:X:2290:A:N3	29:X:2290:A:H2'	2.32	0.44
29:X:2364:C:OP1	29:X:2365:U:OP2	2.35	0.44
29:X:2450:A:N6	29:X:2451:G:C2	2.86	0.44
29:X:2661:G:C2'	29:X:2662:C:H5'	2.46	0.44
30:Y:19:ARG:CG	30:Y:20:ARG:N	2.80	0.44
31:Z:4:C:H2'	31:Z:5:C:H5'	1.98	0.44
4:4:8:LYS:HE3	29:X:2446:C:OP1	2.17	0.44
4:4:10:MET:HE1	4:4:32:HIS:HA	1.96	0.44
6:A:86:PRO:C	6:A:88:ARG:N	2.75	0.44
6:A:131:LEU:HG	6:A:136:VAL:HG22	2.00	0.44
6:A:172:TYR:HD2	6:A:184:ARG:C	2.26	0.44
7:B:34:VAL:HG23	7:B:48:GLN:OE1	2.17	0.44
7:B:97:ALA:N	7:B:100:GLU:OE2	2.51	0.44
7:B:165:VAL:HG21	29:X:2658:A:H5'	1.99	0.44
9:D:37:ASN:HA	9:D:87:ILE:O	2.18	0.44
10:E:11:VAL:HG13	10:E:15:VAL:HG21	1.99	0.44
10:E:149:ARG:HD3	10:E:164:PHE:CE1	2.51	0.44
13:H:23:ARG:NE	29:X:2541:U:O2'	2.38	0.44
14:I:108:LEU:O	14:I:109:LEU:HD23	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:39:VAL:HG12	18:M:45:THR:CG2	2.39	0.44
22:Q:15:LYS:HA	22:Q:18:SER:HG	1.82	0.44
22:Q:75:ARG:NH1	22:Q:75:ARG:HG3	2.31	0.44
23:R:56:LYS:HD3	23:R:69:GLN:HE21	1.82	0.44
24:S:21:ALA:O	24:S:32:PHE:HB2	2.16	0.44
25:T:68:VAL:O	25:T:80:SER:N	2.37	0.44
27:V:26:MET:HA	27:V:29:ARG:NH2	2.33	0.44
28:W:3:ILE:HD11	28:W:44:VAL:HG22	1.99	0.44
29:X:83:A:N3	29:X:98:U:O2	2.50	0.44
29:X:167:A:H2'	29:X:168:A:C8	2.52	0.44
29:X:196:A:O2'	29:X:197:G:H5'	2.18	0.44
29:X:665:A:H3'	29:X:665:A:N3	2.33	0.44
29:X:688:A:C2	29:X:689:A:N7	2.86	0.44
29:X:804:C:HO2'	29:X:805:G:C5'	2.29	0.44
29:X:868:U:C4	29:X:869:C:N4	2.85	0.44
29:X:931:G:H2'	29:X:932:G:C5'	2.47	0.44
29:X:1250:A:O2'	29:X:1251:G:O4'	2.35	0.44
29:X:1448:A:C6	29:X:1576:G:C2	3.05	0.44
29:X:1968:G:C4	29:X:1969:G:C8	3.06	0.44
29:X:1981:A:O3'	29:X:2704:U:H4'	2.17	0.44
29:X:2038:C:H2'	29:X:2483:U:C5'	2.46	0.44
29:X:2068:C:H2'	29:X:2069:U:O4'	2.16	0.44
29:X:2359:U:C4	29:X:2360:C:C5	3.05	0.44
29:X:2501:U:H3	29:X:2522:G:H1	1.65	0.44
29:X:2570:C:H2'	29:X:2571:G:C8	2.52	0.44
29:X:2829:A:H2'	29:X:2830:U:C6	2.52	0.44
29:X:2866:A:N6	29:X:2867:G:N1	2.66	0.44
31:Z:22:U:H2'	31:Z:23:G:H8	1.79	0.44
31:Z:112:A:H2'	31:Z:113:G:C8	2.51	0.44
4:4:19:ARG:HG2	29:X:2736:U:O5'	2.17	0.44
6:A:129:ASN:O	6:A:192:THR:HG23	2.17	0.44
6:A:161:THR:HG21	29:X:1811:A:OP1	2.18	0.44
7:B:67:PHE:CE1	7:B:78:LEU:HD11	2.52	0.44
7:B:116:VAL:HG22	7:B:136:ARG:HG3	1.99	0.44
9:D:75:SER:HB2	9:D:79:LEU:HD13	1.98	0.44
10:E:96:ALA:CB	10:E:105:MET:HE2	2.47	0.44
12:G:42:VAL:CG1	12:G:43:VAL:H	2.30	0.44
14:I:53:ARG:HH21	14:I:53:ARG:CG	2.29	0.44
17:L:39:TYR:O	17:L:40:ALA:C	2.59	0.44
19:N:79:PHE:CD2	19:N:80:ILE:HD13	2.52	0.44
20:O:68:LYS:HA	20:O:87:ARG:HB3	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:13:GLN:O	21:P:16:GLN:HG2	2.18	0.44
21:P:56:LEU:HD22	30:Y:27:ALA:HB1	2.00	0.44
21:P:66:GLU:O	21:P:69:ALA:N	2.51	0.44
21:P:110:ALA:HB2	29:X:761:G:P	2.58	0.44
23:R:60:PRO:O	23:R:65:PRO:HG3	2.17	0.44
23:R:93:ARG:HH12	23:R:108:VAL:CA	2.31	0.44
24:S:53:ASP:OD2	24:S:53:ASP:N	2.48	0.44
24:S:136:VAL:CG1	24:S:152:ILE:HG12	2.48	0.44
29:X:829:C:H2'	29:X:830:C:H6	1.80	0.44
29:X:931:G:C2'	29:X:932:G:H5'	2.47	0.44
29:X:989:G:N2	29:X:997:C:C2	2.85	0.44
29:X:1086:C:H3'	29:X:1087:C:C5'	2.42	0.44
29:X:1187:A:H3'	29:X:1188:A:C8	2.52	0.44
29:X:1759:A:C2	29:X:1968:G:C6	3.06	0.44
29:X:2165:A:H2'	29:X:2166:G:C8	2.51	0.44
29:X:2293:G:H2'	29:X:2294:U:C6	2.52	0.44
29:X:2482:A:H4'	29:X:2483:U:OP1	2.17	0.44
29:X:2536:G:H2'	29:X:2537:C:C6	2.52	0.44
30:Y:46:CYS:HB3	30:Y:49:CYS:SG	2.58	0.44
31:Z:75:A:C6	31:Z:76:U:C2	3.06	0.44
8:C:173:ALA:C	8:C:175:VAL:H	2.25	0.44
9:D:16:LEU:HD22	9:D:20:PHE:CE1	2.53	0.44
9:D:49:ALA:C	9:D:51:ASP:N	2.73	0.44
12:G:50:PRO:CA	12:G:89:ALA:HB3	2.45	0.44
15:J:36:ILE:HD11	15:J:133:VAL:HG21	2.00	0.44
17:L:15:ARG:HD2	17:L:91:ARG:HH11	1.82	0.44
18:M:41:GLU:OE1	18:M:46:ARG:HB2	2.17	0.44
19:N:18:LEU:HD12	19:N:18:LEU:HA	1.69	0.44
20:O:70:TYR:CE2	20:O:83:ARG:NH1	2.85	0.44
21:P:117:ILE:HG23	29:X:1995:G:O3'	2.18	0.44
24:S:10:PRO:C	24:S:14:LEU:HG	2.42	0.44
24:S:32:PHE:O	24:S:33:ALA:HB2	2.15	0.44
24:S:149:ALA:HB1	24:S:160:LEU:HD13	1.99	0.44
28:W:14:GLY:O	28:W:17:VAL:CG2	2.65	0.44
29:X:219:G:O2'	29:X:220:U:H5	2.01	0.44
29:X:340:G:OP2	29:X:340:G:H8	2.01	0.44
29:X:512:A:C4	29:X:515:A:N7	2.85	0.44
29:X:536:A:N1	29:X:2605:C:O4'	2.51	0.44
29:X:613:A:C2'	29:X:614:G:OP2	2.65	0.44
29:X:965:G:H2'	29:X:966:A:O4'	2.18	0.44
29:X:1007:A:C2	29:X:1008:G:C8	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1096:A:H2'	29:X:1097:A:O4'	2.16	0.44
29:X:1407:G:H4'	29:X:1619:A:H4'	1.98	0.44
29:X:1482:U:OP2	29:X:1562:G:O2'	2.36	0.44
29:X:1557:G:O2'	29:X:1558:C:H5'	2.18	0.44
29:X:1745:C:O2'	29:X:1746:A:H5'	2.17	0.44
29:X:1958:G:H2'	29:X:1959:U:C6	2.52	0.44
29:X:2062:U:H2'	29:X:2063:A:C8	2.52	0.44
29:X:2222:U:N3	29:X:2223:U:C4	2.85	0.44
29:X:2445:C:N1	29:X:2464:G:N2	2.66	0.44
29:X:2560:G:H1	29:X:2589:C:H2'	1.82	0.44
29:X:2590:U:O2	29:X:2590:U:H2'	2.18	0.44
29:X:2620:G:H2'	29:X:2621:G:C8	2.52	0.44
29:X:2641:A:H2'	29:X:2642:G:O4'	2.16	0.44
29:X:2660:C:C2	29:X:2704:U:C4	3.06	0.44
29:X:2720:A:C2	29:X:2744:A:C4	3.06	0.44
29:X:2786:G:O2'	29:X:2787:A:H5'	2.18	0.44
6:A:42:GLY:O	29:X:1806:G:OP1	2.35	0.44
6:A:223:GLY:O	6:A:226:MET:HG3	2.18	0.44
6:A:267:ASP:OD1	6:A:268:ARG:N	2.50	0.44
8:C:130:THR:O	8:C:131:LYS:C	2.61	0.44
9:D:15:ALA:O	9:D:19:GLN:HB2	2.18	0.44
9:D:119:PRO:HG2	9:D:120:ASN:N	2.26	0.44
9:D:138:PHE:CE2	9:D:152:MET:SD	3.10	0.44
10:E:98:LEU:HD12	10:E:102:ALA:O	2.18	0.44
11:F:7:ILE:CG2	11:F:8:VAL:H	2.26	0.44
11:F:86:LYS:HE3	29:X:1076:U:P	2.58	0.44
12:G:36:ASN:C	12:G:38:GLU:N	2.59	0.44
13:H:121:ARG:O	13:H:122:ARG:HB2	2.18	0.44
15:J:52:ARG:HB2	15:J:67:ILE:HD11	2.00	0.44
16:K:46:PRO:HG2	16:K:47:PHE:H	1.82	0.44
16:K:90:ARG:NE	16:K:94:TYR:HB2	2.32	0.44
21:P:45:ILE:HD11	21:P:57:LEU:HD21	1.99	0.44
22:Q:52:GLY:H	22:Q:81:ARG:HB3	1.82	0.44
23:R:65:PRO:C	23:R:67:GLY:H	2.24	0.44
24:S:3:LEU:HD13	24:S:33:ALA:O	2.18	0.44
25:T:4:LYS:C	25:T:5:LYS:HD2	2.42	0.44
25:T:62:LEU:HD12	29:X:2345:A:H4'	2.00	0.44
29:X:47:G:H2'	29:X:48:A:H2	1.82	0.44
29:X:82:G:H22	29:X:100:G:H2'	1.83	0.44
29:X:85:C:O5'	29:X:85:C:H6	2.01	0.44
29:X:718:A:O2'	29:X:719:A:H5'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:774:A:C8	29:X:774:A:H3'	2.53	0.44
29:X:937:C:H2'	29:X:938:G:O4'	2.16	0.44
29:X:1459:U:O2'	29:X:1460:G:OP1	2.33	0.44
29:X:1499:A:O2'	29:X:1500:U:H5'	2.18	0.44
29:X:1920:A:C2	29:X:1922:U:H5	2.35	0.44
29:X:1984:A:H2'	29:X:1985:G:O4'	2.18	0.44
29:X:2210:C:C4	29:X:2211:U:C4	3.06	0.44
29:X:2265:A:H1'	29:X:2266:A:N9	2.33	0.44
29:X:2312:A:H1'	29:X:2314:A:N7	2.33	0.44
29:X:2392:G:O2'	29:X:2393:G:H5'	2.17	0.44
29:X:2426:G:C5	29:X:2480:C:C4	3.05	0.44
29:X:2482:A:O2'	29:X:2484:G:OP2	2.36	0.44
29:X:2483:U:O5'	29:X:2483:U:H6	2.01	0.44
29:X:2626:U:O2'	29:X:2627:G:H5'	2.18	0.44
29:X:2721:A:H2'	29:X:2722:C:H5'	2.00	0.44
29:X:2794:G:C8	29:X:2796:A:N6	2.85	0.44
31:Z:58:G:C4'	31:Z:59:A:H8	2.30	0.44
31:Z:110:U:C3'	31:Z:111:C:H5"	2.47	0.44
6:A:42:GLY:H	6:A:43:ARG:HH12	1.64	0.44
6:A:211:ARG:NH2	29:X:1582:A:OP1	2.51	0.44
7:B:2:LYS:HD3	7:B:95:ILE:HD12	1.99	0.44
9:D:47:SER:HA	9:D:50:ILE:HD12	1.99	0.44
9:D:92:ARG:NE	31:Z:45:C:O2	2.46	0.44
9:D:96:MET:O	9:D:100:LEU:CB	2.65	0.44
10:E:103:LEU:HD21	10:E:105:MET:CE	2.41	0.44
10:E:126:PRO:HG2	10:E:127:GLU:HG2	1.99	0.44
10:E:131:ILE:HG22	10:E:132:ASP:N	2.33	0.44
12:G:105:GLY:O	12:G:107:GLN:N	2.50	0.44
13:H:23:ARG:HH22	13:H:25:LEU:CD2	2.30	0.44
16:K:73:LYS:HA	16:K:76:VAL:HG12	2.00	0.44
19:N:75:ASN:O	19:N:76:TYR:C	2.61	0.44
20:O:38:LEU:HD22	20:O:46:VAL:O	2.17	0.44
20:O:75:LYS:HE2	29:X:985:G:OP1	2.18	0.44
22:Q:14:GLU:O	22:Q:15:LYS:C	2.59	0.44
22:Q:19:ALA:O	22:Q:22:ARG:CG	2.64	0.44
22:Q:49:ARG:C	22:Q:50:VAL:HG23	2.43	0.44
22:Q:91:LEU:HD22	22:Q:91:LEU:N	2.32	0.44
24:S:98:VAL:HG23	24:S:118:HIS:O	2.18	0.44
25:T:41:ARG:HD3	25:T:41:ARG:HA	1.43	0.44
29:X:54:G:C2	29:X:55:A:C8	3.05	0.44
29:X:204:A:N6	29:X:2386:G:O4'	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:428:A:H1'	29:X:1857:G:H5'	2.00	0.44
29:X:431:G:H2'	29:X:432:C:H6	1.81	0.44
29:X:642:A:H2'	29:X:643:A:O4'	2.17	0.44
29:X:815:A:H2'	29:X:816:U:C6	2.53	0.44
29:X:815:A:C6	29:X:816:U:N3	2.86	0.44
29:X:815:A:N1	29:X:816:U:C2	2.86	0.44
29:X:876:A:O2'	29:X:877:G:O4'	2.33	0.44
29:X:947:C:C2	29:X:948:C:C5	3.06	0.44
29:X:1149:G:N3	29:X:1154:A:H2	2.15	0.44
29:X:1278:A:H61	29:X:1996:A:H5"	1.80	0.44
29:X:1495:G:H2'	29:X:1496:G:H8	1.82	0.44
29:X:1856:U:H5"	29:X:2389:G:N3	2.33	0.44
29:X:1922:U:O2'	29:X:1923:U:P	2.76	0.44
29:X:1979:C:C2'	29:X:1980:A:O4'	2.65	0.44
29:X:2018:G:HO2'	29:X:2019:C:P	2.39	0.44
29:X:2042:A:C2	29:X:2482:A:C6	3.05	0.44
29:X:2301:A:O2'	29:X:2302:G:H5'	2.17	0.44
29:X:2423:G:C6	29:X:2424:G:N7	2.86	0.44
29:X:2452:U:O2	29:X:2452:U:H2'	2.18	0.44
29:X:2555:G:P	29:X:2555:G:N2	2.91	0.44
31:Z:30:C:H2'	31:Z:31:A:C8	2.52	0.44
6:A:60:ARG:O	6:A:61:LEU:HD23	2.18	0.44
6:A:88:ARG:HD3	6:A:106:LEU:CD2	2.48	0.44
6:A:183:ARG:HH11	6:A:183:ARG:CB	2.31	0.44
7:B:168:GLN:O	29:X:2710:C:H4'	2.17	0.44
8:C:74:VAL:O	8:C:74:VAL:CG2	2.65	0.44
8:C:79:GLY:O	8:C:80:GLY:O	2.36	0.44
9:D:30:ARG:O	9:D:169:LEU:HD21	2.18	0.44
9:D:131:GLY:HA2	9:D:153:ASP:OD2	2.17	0.44
10:E:109:TYR:C	10:E:111:HIS:N	2.74	0.44
10:E:164:PHE:O	10:E:166:GLY:N	2.51	0.44
12:G:63:ARG:NH2	12:G:75:ILE:HG22	2.33	0.44
14:I:18:ARG:NH2	29:X:609:U:C1'	2.81	0.44
14:I:45:LYS:CD	14:I:46:GLY:N	2.81	0.44
14:I:117:ALA:HA	14:I:137:GLY:CA	2.47	0.44
15:J:125:LYS:HZ2	15:J:125:LYS:N	2.16	0.44
16:K:97:ILE:CG2	16:K:112:LEU:O	2.66	0.44
21:P:30:TYR:CD1	21:P:123:HIS:HE1	2.36	0.44
22:Q:30:SER:O	22:Q:31:PRO:C	2.60	0.44
22:Q:35:LYS:HE3	29:X:1615:C:OP2	2.18	0.44
22:Q:62:ARG:NH1	22:Q:62:ARG:HG2	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:88:ILE:O	22:Q:88:ILE:HD12	2.17	0.44
24:S:22:VAL:HG21	31:Z:77:G:H1'	1.99	0.44
24:S:87:THR:HG21	24:S:90:GLU:O	2.18	0.44
26:U:13:LEU:CG	26:U:14:VAL:N	2.81	0.44
29:X:30:G:H2'	29:X:31:C:H6	1.79	0.44
29:X:33:C:O2'	29:X:34:U:C5'	2.64	0.44
29:X:477:A:H2'	29:X:478:G:C5'	2.47	0.44
29:X:481:A:C6	29:X:482:A:C6	3.06	0.44
29:X:599:A:C2	29:X:681:A:C2	3.05	0.44
29:X:686:C:C2'	29:X:687:G:H5'	2.47	0.44
29:X:805:G:N7	29:X:2419:C:C1'	2.81	0.44
29:X:866:U:O5'	29:X:866:U:H6	2.01	0.44
29:X:969:U:O2'	29:X:970:A:OP2	2.33	0.44
29:X:1153:A:C4	29:X:1155:G:N7	2.86	0.44
29:X:1238:A:O5'	29:X:1238:A:H8	2.01	0.44
29:X:1243:G:H2'	29:X:1244:U:C6	2.53	0.44
29:X:1376:C:C2	29:X:1377:G:C8	3.06	0.44
29:X:1429:A:H1'	29:X:1603:A:N1	2.33	0.44
29:X:1453:A:H2'	29:X:1454:U:O4'	2.18	0.44
29:X:1490:U:H2'	29:X:1491:C:H6	1.82	0.44
29:X:1888:C:H2'	29:X:1913:G:C5	2.53	0.44
29:X:2325:A:HO2'	29:X:2326:C:P	2.39	0.44
29:X:2476:A:O2'	29:X:2477:C:C5	2.71	0.44
29:X:2482:A:O2'	29:X:2484:G:P	2.76	0.44
29:X:2608:A:HO2'	29:X:2609:G:P	2.40	0.44
29:X:2728:A:C2	29:X:2737:A:C5	3.06	0.44
30:Y:45:ILE:O	30:Y:47:PRO:HD3	2.17	0.44
6:A:126:LYS:CB	6:A:129:ASN:HD22	2.31	0.43
8:C:25:GLY:O	8:C:28:HIS:HB3	2.17	0.43
8:C:45:THR:O	8:C:87:LYS:NZ	2.48	0.43
9:D:4:LEU:O	9:D:5:LYS:CB	2.65	0.43
9:D:108:LEU:HD23	9:D:111:ILE:HD12	1.99	0.43
10:E:109:TYR:CE1	10:E:152:ARG:CZ	3.01	0.43
10:E:167:GLU:HG3	10:E:169:ILE:CG1	2.48	0.43
13:H:77:THR:HB	13:H:79:HIS:HB3	2.00	0.43
14:I:49:PHE:CE2	29:X:680:U:OP1	2.71	0.43
16:K:87:TYR:CG	16:K:90:ARG:HD2	2.52	0.43
18:M:7:ILE:HG23	18:M:12:LEU:HD12	2.00	0.43
19:N:62:ILE:HG23	19:N:76:TYR:CE1	2.53	0.43
19:N:114:ARG:C	19:N:116:ALA:N	2.76	0.43
20:O:13:ARG:HD2	20:O:16:GLU:H	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:39:ARG:HG2	21:P:39:ARG:NH1	2.33	0.43
21:P:62:ARG:NH1	21:P:62:ARG:CG	2.79	0.43
21:P:75:ALA:HB1	21:P:128:VAL:HG13	2.00	0.43
23:R:39:ALA:O	23:R:41:PRO:HD3	2.18	0.43
24:S:105:GLN:C	24:S:141:MET:O	2.60	0.43
26:U:11:LYS:HZ1	26:U:75:TYR:HB2	1.82	0.43
26:U:64:ALA:O	26:U:66:ALA:N	2.50	0.43
29:X:1031:C:O2	29:X:1031:C:C2'	2.65	0.43
29:X:1073:G:N1	29:X:1088:A:C2	2.86	0.43
29:X:1153:A:N3	29:X:1155:G:C8	2.86	0.43
29:X:1271:C:C2	29:X:1272:G:C8	3.06	0.43
29:X:1336:G:C2'	29:X:1337:G:H5'	2.48	0.43
29:X:1391:A:HO2'	29:X:1392:U:C3'	2.28	0.43
29:X:1496:G:H2'	29:X:1497:C:C6	2.53	0.43
29:X:1496:G:H4'	29:X:1497:C:OP1	2.18	0.43
29:X:2235:G:N2	29:X:2254:C:C4	2.86	0.43
29:X:2289:A:H3'	29:X:2290:A:C8	2.52	0.43
29:X:2333:A:O2'	29:X:2334:C:H5'	2.18	0.43
29:X:2438:A:N6	29:X:2439:U:N3	2.66	0.43
29:X:2463:G:H21	29:X:2464:G:H1'	1.79	0.43
29:X:2560:G:C2'	29:X:2589:C:H41	2.31	0.43
29:X:2560:G:H4'	29:X:2561:G:C8	2.53	0.43
6:A:217:ARG:HG2	6:A:218:LYS:N	2.33	0.43
6:A:219:PRO:HD2	29:X:1781:C:H5"	2.00	0.43
7:B:117:MET:HE2	29:X:1980:A:H5'	2.00	0.43
7:B:118:LYS:CG	7:B:118:LYS:O	2.66	0.43
9:D:34:ILE:HA	9:D:155:THR:O	2.18	0.43
12:G:96:ASP:O	12:G:98:LYS:N	2.51	0.43
14:I:65:PHE:O	29:X:643:A:H5'	2.18	0.43
15:J:79:PRO:HG2	15:J:88:LYS:HD2	2.00	0.43
15:J:117:GLU:C	15:J:119:PHE:H	2.24	0.43
16:K:33:ARG:HA	16:K:113:ILE:O	2.18	0.43
19:N:29:SER:O	19:N:30:LYS:CG	2.66	0.43
23:R:56:LYS:H	23:R:56:LYS:HG2	1.57	0.43
24:S:136:VAL:HG11	24:S:152:ILE:HG12	1.99	0.43
29:X:27:G:HO2'	29:X:28:A:H8	1.64	0.43
29:X:29:U:H2'	29:X:30:G:C8	2.53	0.43
29:X:238:G:O4'	29:X:619:A:H2	2.01	0.43
29:X:469:G:C2'	29:X:470:U:OP2	2.67	0.43
29:X:475:U:C2	29:X:801:A:N6	2.87	0.43
29:X:579:G:C4'	29:X:994:A:C2	3.02	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1084:A:H8	29:X:1084:A:O5'	2.00	0.43
29:X:1168:G:H2'	29:X:1169:C:H6	1.78	0.43
29:X:1223:G:H5'	29:X:1225:G:O4'	2.17	0.43
29:X:1223:G:C5'	29:X:1224:A:H5"	2.49	0.43
29:X:1450:G:O2'	29:X:1451:C:H5'	2.18	0.43
29:X:1503:G:N1	29:X:1504:G:C6	2.86	0.43
29:X:1513:U:OP2	29:X:1514:C:OP2	2.35	0.43
29:X:1623:C:N4	29:X:1637:U:H2'	2.33	0.43
29:X:1937:G:H2'	29:X:1939:U:C4	2.53	0.43
29:X:2082:C:C2'	29:X:2083:G:C5'	2.96	0.43
29:X:2268:G:C2	29:X:2269:G:C8	3.06	0.43
29:X:2690:A:N7	29:X:2694:G:C8	2.85	0.43
29:X:2736:U:O2'	29:X:2737:A:C5'	2.49	0.43
29:X:2845:C:H2'	29:X:2846:G:H5'	2.00	0.43
31:Z:15:A:N1	31:Z:71:G:C2'	2.81	0.43
2:2:6:GLN:CA	29:X:1628:C:H4'	2.49	0.43
7:B:195:LEU:H	18:M:2:GLN:HB3	1.82	0.43
9:D:65:PRO:CB	9:D:89:VAL:HG22	2.42	0.43
15:J:54:VAL:HG21	15:J:125:LYS:HE3	2.00	0.43
16:K:5:LYS:HE3	29:X:2795:A:O4'	2.18	0.43
17:L:8:ARG:CG	17:L:9:ARG:N	2.79	0.43
17:L:16:LYS:NZ	31:Z:11:G:OP2	2.46	0.43
18:M:44:ARG:HE	18:M:44:ARG:HB3	1.63	0.43
19:N:50:ARG:C	19:N:52:ASN:N	2.73	0.43
20:O:85:GLY:HA3	29:X:1237:G:O3'	2.19	0.43
21:P:111:ARG:NH1	29:X:759:C:O2'	2.51	0.43
22:Q:62:ARG:O	22:Q:70:GLY:CA	2.66	0.43
23:R:4:PRO:N	29:X:34:U:H1'	2.34	0.43
23:R:62:MET:O	23:R:63:THR:C	2.60	0.43
25:T:20:TYR:O	25:T:21:LEU:CB	2.64	0.43
26:U:21:ARG:NH2	29:X:400:U:OP2	2.51	0.43
27:V:7:ARG:C	27:V:9:LEU:N	2.76	0.43
28:W:3:ILE:HG22	28:W:4:LYS:N	2.32	0.43
28:W:22:ALA:O	28:W:23:LEU:C	2.59	0.43
29:X:26:G:C2	29:X:27:G:N2	2.86	0.43
29:X:196:A:H2'	29:X:197:G:O4'	2.18	0.43
29:X:415:A:H2'	29:X:416:U:O4'	2.19	0.43
29:X:599:A:H2'	29:X:600:G:C8	2.53	0.43
29:X:814:G:C5'	29:X:815:A:OP2	2.64	0.43
29:X:976:C:H4'	29:X:2252:A:O4'	2.18	0.43
29:X:1038:U:H2'	29:X:1039:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1078:A:OP1	29:X:1078:A:H3'	2.17	0.43
29:X:1089:C:H1'	29:X:1099:A:C2	2.51	0.43
29:X:1277:G:OP2	29:X:1277:G:H8	2.01	0.43
29:X:1283:C:H5"	29:X:1284:G:C5'	2.48	0.43
29:X:1300:A:C2	29:X:1301:U:C2	3.07	0.43
29:X:1314:A:N7	29:X:1316:G:C8	2.86	0.43
29:X:1602:G:H5'	29:X:1603:A:OP2	2.19	0.43
29:X:1731:C:C3'	29:X:1732:U:C5'	2.97	0.43
29:X:1938:U:H5	29:X:2536:G:N2	2.16	0.43
29:X:2438:A:N3	29:X:2438:A:H2'	2.32	0.43
29:X:2522:G:H2'	29:X:2523:G:O4'	2.18	0.43
29:X:2542:U:H2'	29:X:2544:A:OP2	2.18	0.43
29:X:2687:G:O2'	29:X:2688:G:H5'	2.18	0.43
29:X:2788:C:O2'	29:X:2789:U:C5'	2.63	0.43
29:X:2811:G:O6	29:X:2812:A:N6	2.52	0.43
29:X:2819:G:C2'	29:X:2820:C:C6	2.88	0.43
29:X:2837:G:H2'	29:X:2838:U:H6	1.83	0.43
4:4:17:VAL:CG1	4:4:18:ARG:H	2.32	0.43
6:A:271:VAL:O	6:A:272:THR:OG1	2.31	0.43
8:C:50:GLN:C	8:C:52:SER:N	2.76	0.43
8:C:61:GLN:HA	8:C:61:GLN:NE2	2.32	0.43
8:C:112:GLN:C	8:C:114:GLY:H	2.26	0.43
8:C:137:ALA:CA	8:C:142:LEU:HB2	2.47	0.43
8:C:162:ARG:CZ	29:X:333:A:C3'	2.90	0.43
9:D:12:VAL:HG22	9:D:172:SER:OG	2.18	0.43
9:D:80:ARG:H	9:D:80:ARG:HD2	1.83	0.43
11:F:19:PRO:HD2	11:F:22:PRO:CG	2.45	0.43
12:G:102:ARG:HE	12:G:102:ARG:HB2	1.69	0.43
13:H:28:GLY:CA	13:H:35:THR:OG1	2.65	0.43
14:I:18:ARG:HH22	29:X:609:U:H1'	1.83	0.43
14:I:77:LEU:C	14:I:79:GLN:H	2.25	0.43
15:J:62:GLY:CA	15:J:64:LYS:HE3	2.48	0.43
15:J:98:VAL:HG21	15:J:104:MET:SD	2.58	0.43
16:K:51:LEU:HD11	16:K:69:ASP:HB2	2.00	0.43
19:N:75:ASN:OD1	19:N:78:THR:HB	2.19	0.43
20:O:91:THR:O	20:O:93:ILE:HG23	2.18	0.43
21:P:100:GLY:O	21:P:101:PRO:C	2.59	0.43
24:S:120:LEU:CD2	24:S:121:GLN:N	2.70	0.43
24:S:138:VAL:CA	24:S:141:MET:HE2	2.46	0.43
25:T:47:ALA:H	25:T:53:MET:HE3	1.83	0.43
26:U:16:ASN:OD1	29:X:165:G:OP1	2.36	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:V:14:PHE:CD2	27:V:57:LYS:HB2	2.53	0.43
27:V:37:LEU:HD21	27:V:40:PRO:CA	2.48	0.43
29:X:89:A:H4'	29:X:90:G:O4'	2.18	0.43
29:X:321:A:H2'	29:X:323:G:N7	2.34	0.43
29:X:351:A:C6	29:X:352:G:C4	3.06	0.43
29:X:417:C:H4'	29:X:418:C:C5'	2.47	0.43
29:X:447:U:OP2	29:X:447:U:H6	2.01	0.43
29:X:544:U:H2'	29:X:545:C:C6	2.53	0.43
29:X:918:A:H2'	29:X:919:U:H5"	2.00	0.43
29:X:982:C:C2'	29:X:983:G:H5'	2.49	0.43
29:X:1051:U:C3'	29:X:1051:U:C6	3.02	0.43
29:X:1051:U:C6	29:X:1051:U:H3'	2.52	0.43
29:X:1225:G:H1'	29:X:1250:A:H61	1.80	0.43
29:X:1622:G:C4'	29:X:1624:A:C2	2.99	0.43
29:X:1657:A:N6	29:X:1658:A:N1	2.67	0.43
29:X:1687:C:OP2	29:X:2529:G:OP1	2.36	0.43
29:X:1731:C:C2'	29:X:1732:U:H5"	2.48	0.43
29:X:1732:U:O2'	29:X:1733:U:OP1	2.29	0.43
29:X:1750:A:C2	29:X:1751:A:C5	3.06	0.43
29:X:1753:A:O5'	29:X:1753:A:C8	2.69	0.43
29:X:1759:A:C2	29:X:1968:G:C5	3.07	0.43
29:X:1911:A:N7	29:X:1912:G:C5	2.87	0.43
29:X:2023:C:H2'	29:X:2024:U:H6	1.83	0.43
29:X:2070:G:O2'	29:X:2071:G:H5'	2.18	0.43
29:X:2426:G:N3	29:X:2480:C:N4	2.67	0.43
29:X:2473:G:H2'	29:X:2474:G:H8	1.84	0.43
29:X:2507:U:O3'	29:X:2508:G:C8	2.71	0.43
29:X:2515:G:H2'	29:X:2516:U:O4'	2.19	0.43
29:X:2578:G:N2	29:X:2579:A:H1'	2.33	0.43
29:X:2640:G:H2'	29:X:2641:A:C8	2.53	0.43
29:X:2652:G:C2	29:X:2653:A:C8	3.07	0.43
29:X:2703:C:HO2'	29:X:2704:U:C5'	2.30	0.43
8:C:87:LYS:HB3	8:C:88:PRO:CD	2.48	0.43
8:C:89:ARG:HH22	29:X:1260:A:P	2.41	0.43
8:C:112:GLN:C	8:C:114:GLY:N	2.76	0.43
8:C:112:GLN:HE22	8:C:188:ILE:HD11	1.83	0.43
10:E:41:LEU:HD23	10:E:68:THR:OG1	2.18	0.43
10:E:57:ASP:HB3	10:E:62:ARG:NE	2.21	0.43
10:E:59:GLN:HG3	29:X:2729:A:O2'	2.18	0.43
12:G:116:ARG:HH21	12:G:126:VAL:HA	1.84	0.43
13:H:10:VAL:HG21	13:H:16:ALA:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:12:ASP:OD1	13:H:14:SER:HB3	2.19	0.43
14:I:33:GLY:HA2	20:O:79:GLN:HE21	1.83	0.43
14:I:35:LYS:HG2	29:X:823:U:C5	2.53	0.43
15:J:128:ILE:C	15:J:128:ILE:CD1	2.91	0.43
16:K:9:LYS:O	16:K:10:LEU:HG	2.18	0.43
17:L:90:ASP:CG	17:L:90:ASP:O	2.61	0.43
18:M:100:ARG:HD2	29:X:1744:G:OP1	2.19	0.43
20:O:46:VAL:HG12	20:O:51:ALA:HB2	2.00	0.43
24:S:114:ASP:O	24:S:170:SER:N	2.43	0.43
29:X:186:C:H4'	29:X:694:G:H4'	2.00	0.43
29:X:356:A:C2'	29:X:357:A:C8	2.96	0.43
29:X:463:C:C2	29:X:465:C:C5	3.06	0.43
29:X:571:U:C5	29:X:2019:C:O4'	2.71	0.43
29:X:617:U:H2'	29:X:618:A:H8	1.83	0.43
29:X:746:G:N7	29:X:774:A:C6	2.86	0.43
29:X:886:A:C6	29:X:887:G:C5	3.06	0.43
29:X:951:G:H2'	29:X:952:A:O4'	2.19	0.43
29:X:1002:C:C2	29:X:1003:C:C5	3.06	0.43
29:X:1025:A:H2'	29:X:1026:U:C6	2.53	0.43
29:X:1072:U:O2'	29:X:1073:G:P	2.77	0.43
29:X:1232:U:O5'	29:X:1232:U:H6	2.02	0.43
29:X:1323:G:H1'	29:X:1627:C:H5'	1.99	0.43
29:X:1439:G:O5'	29:X:1439:G:H8	2.02	0.43
29:X:1456:C:C2	29:X:1566:G:C2	3.07	0.43
29:X:1474:A:O2'	29:X:1475:U:OP2	2.33	0.43
29:X:1672:A:C6	29:X:1673:C:O2	2.71	0.43
29:X:1816:G:C6	29:X:1817:U:C4	3.07	0.43
29:X:1838:G:C2	29:X:1878:C:N3	2.87	0.43
29:X:2029:G:H2'	29:X:2030:U:C6	2.54	0.43
29:X:2061:C:H2'	29:X:2062:U:C6	2.53	0.43
29:X:2322:U:H2'	29:X:2323:U:N1	2.33	0.43
29:X:2522:G:C2	29:X:2745:A:H2'	2.53	0.43
29:X:2634:G:H2'	29:X:2643:G:O6	2.19	0.43
29:X:2832:G:N2	29:X:2836:U:C4	2.87	0.43
30:Y:45:ILE:HD13	30:Y:57:VAL:CG2	2.48	0.43
31:Z:39:C:C5	31:Z:40:C:C4	3.06	0.43
4:4:1:MET:HE3	4:4:35:ARG:NH2	2.33	0.43
6:A:42:GLY:N	6:A:43:ARG:NH1	2.66	0.43
6:A:78:LYS:HA	6:A:115:ALA:O	2.18	0.43
6:A:206:LEU:HD22	6:A:211:ARG:NH1	2.33	0.43
7:B:19:ARG:HG3	7:B:19:ARG:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:54:THR:HB	8:C:73:SER:OG	2.18	0.43
8:C:171:PRO:O	8:C:172:VAL:C	2.62	0.43
8:C:176:ASN:CB	29:X:626:A:O2'	2.61	0.43
9:D:68:THR:HG21	29:X:2292:C:H5"	2.00	0.43
10:E:105:MET:HE1	10:E:131:ILE:CD1	2.47	0.43
10:E:124:ALA:O	10:E:132:ASP:N	2.52	0.43
10:E:126:PRO:HG3	10:E:130:ARG:NE	2.33	0.43
12:G:85:ALA:HB1	12:G:127:ILE:CD1	2.48	0.43
13:H:1:MET:C	13:H:2:ILE:HD13	2.43	0.43
13:H:13:ASN:HD22	13:H:109:ARG:CG	2.32	0.43
13:H:37:GLY:C	13:H:39:GLY:N	2.76	0.43
18:M:11:GLU:C	18:M:13:LEU:N	2.76	0.43
19:N:52:ASN:C	19:N:54:LYS:N	2.75	0.43
20:O:15:SER:HB3	20:O:95:ILE:O	2.19	0.43
22:Q:93:GLY:O	22:Q:94:GLN:C	2.62	0.43
23:R:10:HIS:CE1	29:X:338:G:N3	2.86	0.43
23:R:100:ASP:O	23:R:102:LYS:N	2.51	0.43
24:S:1:MET:HE3	24:S:52:PHE:HB3	1.93	0.43
27:V:36:GLN:O	27:V:38:ALA:N	2.50	0.43
27:V:41:HIS:O	27:V:42:ARG:C	2.59	0.43
28:W:39:ALA:HB2	29:X:938:G:H21	1.83	0.43
29:X:174:A:H2'	29:X:175:C:O2	2.19	0.43
29:X:340:G:P	29:X:340:G:O4'	2.77	0.43
29:X:568:G:H2'	29:X:569:C:C6	2.53	0.43
29:X:752:G:C4'	29:X:753:U:OP1	2.57	0.43
29:X:1145:C:C4	29:X:1149:G:O6	2.72	0.43
29:X:1337:G:C2	29:X:1341:G:N1	2.87	0.43
29:X:1660:G:H2'	29:X:1661:C:O4'	2.18	0.43
29:X:1818:G:H2'	29:X:1819:U:H6	1.84	0.43
29:X:2006:G:N2	29:X:2024:U:O2	2.52	0.43
29:X:2204:A:O2'	29:X:2205:C:OP2	2.30	0.43
29:X:2241:U:OP1	29:X:2366:U:O2'	2.35	0.43
29:X:2807:U:H5'	29:X:2807:U:C6	2.52	0.43
6:A:71:ASP:OD2	6:A:72:LYS:HG2	2.19	0.43
6:A:88:ARG:NH2	29:X:1809:G:OP1	2.52	0.43
7:B:181:LEU:HD21	18:M:12:LEU:CD2	2.39	0.43
8:C:50:GLN:C	8:C:52:SER:H	2.26	0.43
9:D:3:GLN:O	9:D:4:LEU:CB	2.67	0.43
9:D:158:THR:C	9:D:160:ALA:N	2.77	0.43
10:E:22:GLY:O	10:E:24:PHE:CD1	2.72	0.43
12:G:67:ARG:HE	12:G:70:PHE:CA	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:84:ASN:O	12:G:152:ALA:CA	2.64	0.43
14:I:77:LEU:HD12	14:I:77:LEU:HA	1.89	0.43
16:K:79:VAL:C	16:K:83:VAL:HG13	2.43	0.43
19:N:6:THR:O	19:N:9:VAL:CB	2.66	0.43
21:P:38:VAL:O	21:P:38:VAL:HG12	2.18	0.43
21:P:107:ILE:HA	21:P:108:PRO:HD3	1.85	0.43
23:R:52:ASN:HD21	23:R:71:GLN:CD	2.27	0.43
24:S:3:LEU:O	24:S:3:LEU:HG	2.18	0.43
24:S:10:PRO:HB2	24:S:14:LEU:HD21	1.99	0.43
27:V:30:PHE:O	27:V:31:GLN:C	2.60	0.43
29:X:13:A:H5"	29:X:14:A:OP1	2.19	0.43
29:X:98:U:H3'	29:X:98:U:C6	2.53	0.43
29:X:168:A:O2'	29:X:169:C:O4'	2.31	0.43
29:X:223:C:C4	29:X:224:G:N7	2.87	0.43
29:X:351:A:N6	29:X:352:G:C2	2.87	0.43
29:X:594:G:C6	29:X:1264:C:C2	3.07	0.43
29:X:784:U:H2'	29:X:785:U:C5	2.54	0.43
29:X:810:U:H3'	29:X:810:U:H6	1.80	0.43
29:X:1004:A:C2	29:X:1173:G:C2	3.06	0.43
29:X:1011:A:C2'	29:X:1012:A:H5'	2.49	0.43
29:X:1137:A:H4'	29:X:1138:A:O5'	2.18	0.43
29:X:1370:U:H2'	29:X:1371:G:O4'	2.18	0.43
29:X:1436:G:H2'	29:X:1437:A:C8	2.54	0.43
29:X:1469:U:H3'	29:X:1470:G:C8	2.53	0.43
29:X:1473:U:C2'	29:X:1474:A:OP2	2.67	0.43
29:X:1554:G:H2'	29:X:1555:A:C8	2.54	0.43
29:X:1621:C:C5'	29:X:1626:A:N6	2.82	0.43
29:X:1665:C:O2'	29:X:1666:G:H5'	2.18	0.43
29:X:1789:U:H1'	29:X:1794:A:H1'	1.99	0.43
29:X:1790:G:O2'	29:X:1791:C:P	2.76	0.43
29:X:1815:G:C6	29:X:1816:G:C5	3.07	0.43
29:X:1826:U:O4'	29:X:1952:A:C2	2.72	0.43
29:X:2020:G:H2'	29:X:2021:G:H8	1.83	0.43
29:X:2179:C:H2'	29:X:2180:U:C6	2.54	0.43
29:X:2315:A:H2	29:X:2364:C:O2	2.02	0.43
29:X:2331:A:C8	29:X:2345:A:N1	2.87	0.43
29:X:2476:A:O2'	29:X:2477:C:OP2	2.37	0.43
29:X:2511:G:N7	29:X:2512:A:N7	2.67	0.43
29:X:2635:U:C5	29:X:2643:G:N2	2.86	0.43
29:X:2714:A:H2'	29:X:2715:C:O4'	2.18	0.43
29:X:2759:U:C5'	29:X:2760:G:OP1	2.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Y:34:PRO:HB2	30:Y:35:GLN:HE21	1.82	0.43
6:A:126:LYS:HB2	6:A:129:ASN:HD21	1.77	0.43
6:A:150:GLY:O	6:A:152:GLY:N	2.52	0.43
8:C:7:ILE:HG22	8:C:8:GLY:N	2.32	0.43
8:C:112:GLN:HA	8:C:116:LYS:CG	2.48	0.43
8:C:142:LEU:O	8:C:143:ASP:C	2.61	0.43
8:C:168:SER:HB2	8:C:183:HIS:NE2	2.34	0.43
8:C:174:GLY:O	8:C:175:VAL:O	2.36	0.43
9:D:4:LEU:CG	9:D:5:LYS:N	2.82	0.43
9:D:10:ASP:O	9:D:12:VAL:N	2.51	0.43
9:D:68:THR:N	9:D:86:GLY:O	2.52	0.43
10:E:44:ARG:HG3	10:E:44:ARG:NH2	2.34	0.43
10:E:126:PRO:HD2	10:E:130:ARG:O	2.19	0.43
11:F:13:PRO:HB2	11:F:16:LYS:HB2	2.00	0.43
12:G:71:THR:HA	12:G:72:PRO:HD3	1.73	0.43
13:H:52:VAL:O	13:H:53:ALA:HB2	2.17	0.43
14:I:86:THR:HG1	14:I:118:VAL:HG12	1.83	0.43
15:J:15:ARG:HB3	15:J:16:GLY:H	1.54	0.43
15:J:35:LEU:HD11	15:J:130:THR:OG1	2.19	0.43
19:N:117:ARG:HH21	19:N:117:ARG:HG3	1.84	0.43
20:O:73:LYS:HB2	20:O:82:ARG:HB2	2.00	0.43
21:P:31:VAL:O	21:P:33:MET:N	2.49	0.43
23:R:10:HIS:O	23:R:11:ASN:CB	2.61	0.43
25:T:31:VAL:CG1	25:T:37:LEU:HD21	2.49	0.43
26:U:27:ASP:HA	26:U:32:ARG:CD	2.49	0.43
29:X:57:G:N2	29:X:69:G:C4	2.86	0.43
29:X:413:G:O2'	29:X:414:A:H5"	2.19	0.43
29:X:507:A:O5'	29:X:507:A:C8	2.66	0.43
29:X:750:C:H2'	29:X:751:G:H5'	2.01	0.43
29:X:970:A:C6	29:X:971:A:C6	3.06	0.43
29:X:1004:A:C2'	29:X:1005:U:H5'	2.48	0.43
29:X:1008:G:C6	29:X:1170:U:N3	2.87	0.43
29:X:1202:U:H2'	29:X:1203:A:H8	1.84	0.43
29:X:1265:G:C4	29:X:1266:G:C2	3.07	0.43
29:X:1281:A:H2'	29:X:1282:A:O4'	2.19	0.43
29:X:1289:A:N7	29:X:1662:G:C2	2.86	0.43
29:X:1426:U:H2'	29:X:1427:G:C5'	2.49	0.43
29:X:1450:G:C4	29:X:1573:G:N2	2.87	0.43
29:X:1629:G:C3'	29:X:1633:C:H42	2.32	0.43
29:X:1644:G:H2'	29:X:1645:U:H6	1.83	0.43
29:X:1742:G:O2'	29:X:1743:C:H5'	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1821:A:C2'	29:X:1822:C:O5'	2.67	0.43
29:X:1858:C:H2'	29:X:1859:A:C8	2.53	0.43
29:X:1987:G:C5	29:X:1988:A:C5	3.06	0.43
29:X:1995:G:H3'	29:X:1995:G:C8	2.54	0.43
29:X:2043:A:O2'	29:X:2481:G:O4'	2.31	0.43
29:X:2526:U:C6	29:X:2545:A:C5	3.06	0.43
29:X:2561:G:O2'	29:X:2562:G:H5'	2.18	0.43
29:X:2784:A:N1	29:X:2866:A:C4	2.87	0.43
29:X:2798:A:N3	29:X:2799:C:C6	2.86	0.43
29:X:2862:G:N2	29:X:2863:U:C2	2.87	0.43
4:4:9:LYS:HE3	4:4:16:VAL:HG23	2.01	0.43
6:A:50:THR:CG2	29:X:1796:A:N3	2.82	0.43
6:A:253:PRO:O	6:A:254:THR:OG1	2.37	0.43
8:C:48:ARG:HB2	8:C:51:VAL:HG13	2.01	0.43
8:C:78:VAL:C	8:C:80:GLY:N	2.75	0.43
8:C:124:ASP:O	8:C:132:ASN:ND2	2.52	0.43
9:D:8:TYR:OH	9:D:30:ARG:HA	2.19	0.43
9:D:70:ALA:C	9:D:72:LYS:N	2.74	0.43
9:D:80:ARG:HD2	9:D:80:ARG:N	2.34	0.43
9:D:102:LYS:O	9:D:107:GLY:N	2.46	0.43
9:D:132:ILE:HG22	9:D:133:LYS:H	1.82	0.43
9:D:148:LYS:CG	9:D:149:THR:H	2.30	0.43
9:D:175:LEU:CD2	9:D:177:PHE:HE1	2.30	0.43
10:E:96:ALA:O	10:E:125:VAL:HG11	2.18	0.43
10:E:165:VAL:O	10:E:167:GLU:N	2.45	0.43
14:I:80:LEU:CD2	14:I:89:ASP:OD1	2.64	0.43
15:J:19:THR:HB	31:Z:93:G:C5'	2.45	0.43
15:J:119:PHE:CD1	15:J:132:MET:HG3	2.53	0.43
16:K:73:LYS:O	16:K:74:ASP:C	2.61	0.43
18:M:105:TYR:C	18:M:107:LEU:H	2.26	0.43
19:N:3:ARG:HD3	29:X:458:G:P	2.59	0.43
21:P:38:VAL:HG12	21:P:42:VAL:HG23	2.01	0.43
22:Q:68:PHE:O	22:Q:69:ILE:O	2.37	0.43
23:R:25:LEU:HD13	23:R:79:SER:O	2.19	0.43
23:R:28:LYS:O	23:R:29:HIS:CB	2.66	0.43
24:S:3:LEU:HB2	24:S:34:LEU:CB	2.49	0.43
24:S:63:PRO:O	24:S:86:VAL:N	2.47	0.43
29:X:98:U:O2'	29:X:100:G:N3	2.50	0.43
29:X:163:A:H2'	29:X:164:G:H8	1.83	0.43
29:X:165:G:H4'	29:X:1378:A:C5	2.53	0.43
29:X:204:A:N6	29:X:2386:G:C8	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:308:C:H2'	29:X:309:G:O4'	2.19	0.43
29:X:510:G:N1	29:X:513:A:OP2	2.43	0.43
29:X:530:G:O2'	29:X:531:G:H5'	2.19	0.43
29:X:649:G:C2	29:X:661:C:C2	3.06	0.43
29:X:661:C:C2	29:X:662:G:C8	3.07	0.43
29:X:994:A:C8	29:X:994:A:H3'	2.54	0.43
29:X:1210:C:H2'	29:X:1211:G:H8	1.83	0.43
29:X:1371:G:H1'	29:X:1387:G:N1	2.32	0.43
29:X:1418:C:H2'	29:X:1419:G:C8	2.54	0.43
29:X:1672:A:C6	29:X:1673:C:C2	3.06	0.43
29:X:1749:G:HO2'	29:X:1750:A:P	2.37	0.43
29:X:1814:G:C2'	29:X:1815:G:H5'	2.49	0.43
29:X:1935:A:C6	29:X:1936:A:N1	2.87	0.43
29:X:2210:C:C2	29:X:2211:U:C6	3.07	0.43
29:X:2429:A:C2	29:X:2430:A:C4	3.07	0.43
29:X:2781:G:C3'	29:X:2782:G:H5"	2.47	0.43
29:X:2789:U:H2'	29:X:2790:C:C6	2.54	0.43
29:X:2803:C:C2	29:X:2804:G:C8	3.07	0.43
29:X:2858:A:H3'	29:X:2859:U:C5'	2.43	0.43
6:A:211:ARG:O	6:A:212:SER:C	2.61	0.43
7:B:105:THR:HB	7:B:166:THR:OG1	2.19	0.43
12:G:61:ARG:HG2	12:G:65:LYS:CG	2.49	0.43
13:H:116:ARG:CB	13:H:133:VAL:HG12	2.48	0.43
14:I:59:ARG:HA	29:X:2371:A:H8	1.84	0.43
19:N:45:TYR:O	19:N:46:GLU:O	2.37	0.43
19:N:70:ARG:HG3	19:N:70:ARG:HH11	1.83	0.43
21:P:79:ALA:HB2	21:P:128:VAL:HG23	2.01	0.43
23:R:40:LEU:HA	23:R:41:PRO:HD2	1.86	0.43
24:S:63:PRO:HB2	24:S:86:VAL:HB	2.00	0.43
29:X:114:C:H2'	29:X:115:G:O4'	2.19	0.43
29:X:311:A:C5	29:X:345:U:H4'	2.54	0.43
29:X:468:A:C2	29:X:470:U:O4	2.72	0.43
29:X:484:G:N2	29:X:485:G:C4	2.87	0.43
29:X:538:A:N7	29:X:2026:C:H4'	2.33	0.43
29:X:774:A:C8	29:X:774:A:C3'	3.02	0.43
29:X:1060:C:N4	29:X:1061:A:N6	2.67	0.43
29:X:1418:C:O2'	29:X:1419:G:H5'	2.18	0.43
29:X:1450:G:C2	29:X:1573:G:C2	3.07	0.43
29:X:1510:A:C8	29:X:1511:A:N7	2.87	0.43
29:X:1538:A:H2'	29:X:1539:U:O4'	2.19	0.43
29:X:1574:A:C2'	29:X:1575:C:H5"	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1668:G:H2'	29:X:1669:A:O4'	2.18	0.43
29:X:1672:A:H3'	29:X:1673:C:H5	1.83	0.43
29:X:1716:G:O2'	29:X:1717:A:P	2.76	0.43
29:X:1739:G:H2'	29:X:1740:G:C8	2.54	0.43
29:X:1968:G:O2'	29:X:1969:G:H5'	2.18	0.43
29:X:2002:A:C2'	29:X:2003:A:O5'	2.64	0.43
29:X:2309:G:O2'	29:X:2310:G:H5'	2.19	0.43
29:X:2571:G:C6	29:X:2572:U:C4	3.07	0.43
29:X:2657:G:C6	29:X:2658:A:C6	3.06	0.43
29:X:2674:C:O2'	29:X:2675:U:H5'	2.19	0.43
29:X:2690:A:C8	29:X:2694:G:C1'	3.02	0.43
29:X:2824:C:H4'	29:X:2825:A:H5'	2.00	0.43
29:X:2852:G:C2'	29:X:2853:U:H5'	2.49	0.43
30:Y:45:ILE:O	30:Y:47:PRO:N	2.52	0.43
31:Z:14:C:H4'	31:Z:17:A:N6	2.34	0.43
31:Z:27:A:H61	31:Z:55:C:C5'	2.32	0.43
31:Z:123:U:H6	31:Z:123:U:P	2.42	0.43
6:A:97:TYR:C	6:A:99:ASP:N	2.75	0.42
7:B:67:PHE:CZ	7:B:78:LEU:HD11	2.54	0.42
7:B:144:ARG:NH1	29:X:2551:A:C4	2.87	0.42
7:B:167:VAL:C	7:B:168:GLN:HG3	2.42	0.42
8:C:151:VAL:CG2	8:C:186:LEU:HD11	2.48	0.42
9:D:57:LEU:CA	9:D:60:ILE:HG12	2.49	0.42
9:D:146:VAL:HB	9:D:147:ASP:H	1.61	0.42
10:E:9:ILE:HD12	10:E:51:LEU:CA	2.49	0.42
12:G:31:THR:HG23	29:X:1006:C:O2	2.19	0.42
12:G:93:LYS:HG2	12:G:97:ASP:HB3	2.02	0.42
12:G:102:ARG:CZ	12:G:112:THR:HG21	2.49	0.42
12:G:162:LYS:NZ	29:X:2873:G:N2	2.66	0.42
14:I:101:ARG:HD3	29:X:637:G:N1	2.34	0.42
15:J:27:TYR:CE2	15:J:133:VAL:HG11	2.54	0.42
16:K:10:LEU:HD22	16:K:13:ASN:O	2.18	0.42
16:K:46:PRO:HG2	16:K:47:PHE:N	2.34	0.42
16:K:83:VAL:H	16:K:83:VAL:HG12	1.57	0.42
16:K:109:THR:O	16:K:110:MET:SD	2.77	0.42
17:L:28:ARG:NH2	31:Z:11:G:P	2.76	0.42
19:N:22:LYS:CG	19:N:23:GLY:H	2.26	0.42
19:N:91:ASN:O	19:N:93:LYS:NZ	2.42	0.42
20:O:70:TYR:CD2	20:O:83:ARG:NH1	2.87	0.42
20:O:78:VAL:O	20:O:78:VAL:HG22	2.18	0.42
20:O:80:TYR:CE2	20:O:82:ARG:NE	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:25:PHE:CD2	21:P:25:PHE:C	2.94	0.42
21:P:34:SER:O	21:P:36:ARG:N	2.52	0.42
23:R:82:ALA:C	23:R:83:LEU:CG	2.92	0.42
25:T:30:VAL:C	25:T:31:VAL:O	2.61	0.42
27:V:15:ALA:HA	27:V:18:ILE:HB	2.01	0.42
28:W:4:LYS:HA	28:W:30:ASP:O	2.19	0.42
29:X:141:G:H2'	29:X:142:U:H6	1.85	0.42
29:X:471:A:C2	29:X:481:A:C5	3.07	0.42
29:X:574:C:H5'	29:X:1266:G:O6	2.19	0.42
29:X:591:G:C2'	29:X:592:G:H8	2.27	0.42
29:X:834:A:C5'	29:X:835:U:C5	3.02	0.42
29:X:957:G:C2	29:X:958:G:C8	3.07	0.42
29:X:984:A:H1'	29:X:1202:U:C4	2.54	0.42
29:X:1022:A:C6	29:X:1024:G:C5	3.07	0.42
29:X:1072:U:O4'	29:X:1081:A:H1'	2.18	0.42
29:X:1134:C:H6	29:X:1134:C:O5'	2.02	0.42
29:X:1195:U:H2'	29:X:1196:G:C8	2.54	0.42
29:X:1279:G:O2'	29:X:1995:G:N1	2.52	0.42
29:X:1653:C:H2'	29:X:1654:A:C8	2.54	0.42
29:X:1653:C:O2'	29:X:1751:A:N3	2.39	0.42
29:X:1655:C:H5"	29:X:2689:C:H1'	2.00	0.42
29:X:1929:U:H2'	29:X:1930:C:H6	1.78	0.42
29:X:2205:C:C2'	29:X:2206:C:C5'	2.94	0.42
29:X:2437:G:O2'	29:X:2438:A:C8	2.55	0.42
29:X:2555:G:P	29:X:2555:G:H21	2.41	0.42
29:X:2649:A:H5'	29:X:2650:G:OP2	2.19	0.42
29:X:2798:A:C5	29:X:2799:C:C5	3.07	0.42
31:Z:110:U:H2'	31:Z:111:C:H5"	2.00	0.42
7:B:131:SER:O	7:B:132:LYS:CG	2.67	0.42
8:C:30:VAL:O	8:C:33:TRP:HB3	2.18	0.42
8:C:38:ARG:NH2	8:C:178:TYR:CD2	2.81	0.42
8:C:92:ASP:OD2	8:C:92:ASP:C	2.61	0.42
8:C:95:LEU:HD23	8:C:96:PRO:N	2.34	0.42
9:D:46:ASP:C	9:D:48:LYS:N	2.76	0.42
10:E:103:LEU:HD21	10:E:131:ILE:HD13	2.01	0.42
11:F:126:THR:HG23	29:X:1091:C:O2	2.19	0.42
12:G:40:ASN:OD1	12:G:42:VAL:HG23	2.19	0.42
12:G:93:LYS:HG2	12:G:97:ASP:HB2	2.01	0.42
14:I:95:ALA:O	14:I:98:LEU:HA	2.19	0.42
17:L:17:VAL:HG13	17:L:18:ARG:N	2.32	0.42
17:L:76:ALA:HB1	17:L:110:GLY:C	2.45	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:54:VAL:HG23	18:M:68:VAL:HG12	2.01	0.42
19:N:69:ALA:HB1	19:N:75:ASN:H	1.84	0.42
21:P:94:GLU:CG	21:P:127:ILE:HB	2.45	0.42
22:Q:12:ILE:C	22:Q:13:SER:O	2.62	0.42
23:R:84:VAL:N	23:R:90:LYS:HE2	2.34	0.42
23:R:92:THR:HA	23:R:107:ALA:O	2.19	0.42
23:R:93:ARG:HH22	23:R:108:VAL:CA	2.31	0.42
24:S:1:MET:HG3	24:S:52:PHE:HD2	1.83	0.42
24:S:4:THR:OG1	24:S:5:ALA:N	2.49	0.42
24:S:91:PRO:HG2	24:S:92:VAL:H	1.83	0.42
25:T:71:ASN:ND2	25:T:77:ARG:HD3	2.34	0.42
26:U:54:ASN:C	26:U:56:GLN:N	2.70	0.42
27:V:42:ARG:HA	27:V:42:ARG:HD2	1.77	0.42
28:W:34:VAL:HG22	28:W:35:SER:N	2.33	0.42
29:X:24:G:N1	29:X:25:U:C2	2.87	0.42
29:X:390:U:O5’	29:X:390:U:H6	2.02	0.42
29:X:404:A:O5’	29:X:404:A:H8	2.02	0.42
29:X:422:C:O2’	29:X:423:G:H5’	2.19	0.42
29:X:537:C:C1’	29:X:538:A:C6	2.84	0.42
29:X:575:U:H2’	29:X:576:A:C8	2.53	0.42
29:X:623:G:N2	29:X:624:A:H1’	2.34	0.42
29:X:759:C:H3’	29:X:759:C:H6	1.84	0.42
29:X:795:A:H5’	29:X:796:A:C2	2.54	0.42
29:X:817:A:C2’	29:X:819:C:C4	3.00	0.42
29:X:1015:U:H5’	29:X:1021:A:N6	2.34	0.42
29:X:1073:G:C6	29:X:1088:A:N1	2.88	0.42
29:X:1094:C:O2’	29:X:1095:A:C8	2.72	0.42
29:X:1128:G:C3’	29:X:1129:A:C5’	2.85	0.42
29:X:1542:G:N2	29:X:1562:G:N2	2.67	0.42
29:X:1644:G:O2’	29:X:1645:U:H5’	2.19	0.42
29:X:1743:C:O2	29:X:1744:G:C8	2.73	0.42
29:X:1818:G:C2	29:X:1819:U:C2	3.07	0.42
29:X:1854:G:C2’	29:X:1855:G:H5’	2.40	0.42
29:X:1918:G:N2	29:X:1947:G:O4’	2.51	0.42
29:X:1924:C:C4	29:X:1925:C:C4	3.07	0.42
29:X:2012:A:H2’	29:X:2014:A:OP1	2.19	0.42
29:X:2012:A:H3’	29:X:2014:A:OP1	2.20	0.42
29:X:2015:G:N1	29:X:2551:A:C8	2.86	0.42
29:X:2034:A:C5	29:X:2593:A:C5	3.07	0.42
29:X:2281:C:N3	29:X:2282:G:N7	2.67	0.42
29:X:2475:C:N4	29:X:2476:A:C2	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2567:G:H8	29:X:2567:G:O5'	2.02	0.42
29:X:2696:A:HO2'	29:X:2697:G:H5'	1.83	0.42
29:X:2863:U:O2'	29:X:2864:C:H5'	2.19	0.42
31:Z:30:C:O2'	31:Z:31:A:H5'	2.18	0.42
6:A:72:LYS:HE2	6:A:97:TYR:CD2	2.54	0.42
6:A:133:LEU:HD13	6:A:173:VAL:HB	2.01	0.42
6:A:183:ARG:NH1	6:A:183:ARG:HB3	2.35	0.42
6:A:186:HIS:C	6:A:188:GLU:H	2.28	0.42
7:B:78:LEU:O	7:B:79:ARG:CD	2.67	0.42
7:B:120:TRP:CE2	7:B:155:ARG:HD2	2.54	0.42
7:B:154:LYS:HZ1	7:B:156:MET:HE1	1.81	0.42
9:D:8:TYR:CB	9:D:173:MET:HE1	2.35	0.42
9:D:28:VAL:O	9:D:30:ARG:HG3	2.19	0.42
11:F:63:ARG:HD3	11:F:63:ARG:N	2.34	0.42
14:I:49:PHE:N	14:I:49:PHE:CD2	2.87	0.42
15:J:21:ASP:N	15:J:99:LYS:HE2	2.33	0.42
15:J:99:LYS:O	15:J:102:ARG:CB	2.60	0.42
15:J:100:PRO:C	15:J:102:ARG:H	2.27	0.42
16:K:11:ASN:HD22	16:K:12:ARG:HG3	1.85	0.42
16:K:40:LYS:O	16:K:41:ALA:C	2.63	0.42
16:K:61:HIS:O	16:K:62:SER:C	2.62	0.42
18:M:105:TYR:O	18:M:107:LEU:N	2.52	0.42
19:N:37:GLN:HA	19:N:40:LEU:HG	1.99	0.42
20:O:38:LEU:HD22	20:O:39:PHE:H	1.84	0.42
22:Q:46:PHE:N	22:Q:46:PHE:CD1	2.87	0.42
23:R:105:ARG:HH12	23:R:113:THR:H	1.67	0.42
25:T:41:ARG:CG	25:T:41:ARG:NH1	2.81	0.42
26:U:52:ARG:O	26:U:53:GLU:HB3	2.19	0.42
29:X:10:A:C2	29:X:2608:A:C2	3.07	0.42
29:X:141:G:H2'	29:X:142:U:O4'	2.19	0.42
29:X:242:A:C2'	29:X:243:G:C4'	2.98	0.42
29:X:417:C:N3	29:X:419:G:C6	2.87	0.42
29:X:539:A:H4'	29:X:540:G:C4	2.54	0.42
29:X:664:C:O3'	29:X:665:A:H3'	2.19	0.42
29:X:698:A:H1'	29:X:701:U:O4	2.19	0.42
29:X:749:C:H2'	29:X:750:C:C6	2.53	0.42
29:X:1241:G:O2'	29:X:1242:A:H5'	2.19	0.42
29:X:1288:A:N6	29:X:1309:G:C5'	2.82	0.42
29:X:1558:C:O2'	29:X:1559:G:H5'	2.19	0.42
29:X:1571:G:OP2	29:X:1571:G:C8	2.73	0.42
29:X:1575:C:H4'	29:X:1576:G:OP1	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1686:A:O3'	29:X:2528:G:H5'	2.19	0.42
29:X:1794:A:H2	29:X:1814:G:N3	2.17	0.42
29:X:1986:G:C2'	29:X:1987:G:O5'	2.67	0.42
29:X:1990:U:H4'	29:X:2799:C:H4'	2.00	0.42
29:X:2378:G:C6	29:X:2397:A:C6	3.07	0.42
29:X:2438:A:C4	29:X:2439:U:C6	3.07	0.42
29:X:2487:G:C4	29:X:2488:G:C8	3.08	0.42
29:X:2533:U:C4	29:X:2534:U:C4	3.07	0.42
29:X:2557:G:C2	29:X:2558:C:C5	3.07	0.42
29:X:2863:U:C4	29:X:2864:C:C5	3.07	0.42
7:B:110:GLY:O	16:K:3:HIS:CD2	2.72	0.42
8:C:154:ASP:HB2	8:C:157:THR:OG1	2.19	0.42
8:C:163:ASN:ND2	8:C:166:TRP:CB	2.80	0.42
13:H:109:ARG:HA	13:H:129:LEU:HD13	2.02	0.42
15:J:28:VAL:O	15:J:29:ALA:HB2	2.19	0.42
15:J:33:TYR:O	15:J:106:GLU:CA	2.67	0.42
15:J:39:GLU:HA	15:J:40:PRO:HD3	1.60	0.42
18:M:25:PRO:HB3	18:M:93:ILE:HD11	2.01	0.42
19:N:12:ARG:C	19:N:14:HIS:N	2.78	0.42
19:N:32:TYR:O	19:N:33:ARG:C	2.61	0.42
20:O:55:THR:OG1	20:O:98:ILE:HD12	2.20	0.42
20:O:59:GLU:O	20:O:60:VAL:C	2.61	0.42
21:P:27:VAL:HG13	21:P:27:VAL:O	2.19	0.42
22:Q:10:PRO:HD3	27:V:30:PHE:CG	2.53	0.42
22:Q:43:GLN:CD	22:Q:49:ARG:HA	2.45	0.42
23:R:25:LEU:CD1	23:R:80:LYS:CA	2.98	0.42
24:S:123:VAL:N	24:S:159:THR:O	2.53	0.42
25:T:52:GLY:N	25:T:62:LEU:CD2	2.82	0.42
29:X:76:C:H6	29:X:76:C:C5'	2.24	0.42
29:X:84:G:N1	29:X:97:U:C2	2.87	0.42
29:X:142:U:H5"	29:X:143:A:OP2	2.19	0.42
29:X:441:A:C8	29:X:442:A:N7	2.87	0.42
29:X:605:G:C2	29:X:606:A:C5	3.08	0.42
29:X:677:G:N3	29:X:678:G:C8	2.87	0.42
29:X:729:A:H2'	29:X:730:C:C4'	2.46	0.42
29:X:994:A:O2'	29:X:995:A:P	2.76	0.42
29:X:1047:G:H1	29:X:1130:U:H3	1.67	0.42
29:X:1050:G:C2'	29:X:1051:U:H5"	2.50	0.42
29:X:1278:A:H1'	29:X:1280:U:C6	2.53	0.42
29:X:1299:A:C6	29:X:1302:C:N3	2.88	0.42
29:X:1373:G:N2	29:X:1374:G:O4'	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1440:G:H3'	29:X:1441:A:C5'	2.46	0.42
29:X:1723:U:O2'	29:X:1724:C:P	2.78	0.42
29:X:1767:G:C6	29:X:1768:U:C5	3.07	0.42
29:X:2196:U:H2'	29:X:2197:U:N1	2.34	0.42
29:X:2671:C:C2	29:X:2672:U:C6	3.07	0.42
29:X:2728:A:C6	29:X:2729:A:C6	3.08	0.42
29:X:2748:C:N4	29:X:2749:A:N6	2.68	0.42
30:Y:16:ARG:HD3	30:Y:20:ARG:NE	2.33	0.42
4:4:26:ILE:HG13	4:4:26:ILE:O	2.20	0.42
6:A:90:ALA:HA	6:A:198:ASN:CG	2.45	0.42
6:A:133:LEU:HB2	6:A:187:SER:CB	2.50	0.42
7:B:151:TYR:CD1	12:G:106:TYR:CZ	3.08	0.42
9:D:26:MET:HB3	31:Z:59:A:N1	2.34	0.42
9:D:112:ARG:O	9:D:113:ASP:CB	2.68	0.42
11:F:101:TRP:HZ3	11:F:140:GLY:HA3	1.83	0.42
14:I:41:SER:HB2	29:X:844:G:O3'	2.20	0.42
15:J:27:TYR:OH	24:S:76:ARG:HG2	2.19	0.42
15:J:70:PHE:HA	15:J:71:PRO:HD3	1.78	0.42
16:K:20:LEU:O	16:K:23:ALA:N	2.52	0.42
23:R:16:PHE:HZ	23:R:46:VAL:CG2	2.32	0.42
23:R:41:PRO:HG2	23:R:42:ARG:H	1.84	0.42
24:S:141:MET:HB3	24:S:145:ASP:HB2	2.01	0.42
25:T:66:LYS:HB3	25:T:66:LYS:HE2	1.80	0.42
27:V:45:GLN:O	27:V:46:LEU:C	2.62	0.42
29:X:103:U:H2'	29:X:104:C:C6	2.54	0.42
29:X:408:U:H2'	29:X:409:G:C8	2.55	0.42
29:X:516:G:C2'	29:X:517:A:OP2	2.66	0.42
29:X:729:A:H3'	29:X:729:A:C4	2.54	0.42
29:X:853:C:C2	29:X:950:G:N1	2.88	0.42
29:X:930:A:H1'	31:Z:82:U:O2'	2.20	0.42
29:X:1139:A:H2	29:X:2496:C:H1'	1.85	0.42
29:X:1166:A:C3'	29:X:1167:A:H5"	2.49	0.42
29:X:1347:C:N3	29:X:1348:C:C5	2.87	0.42
29:X:1745:C:N3	29:X:2697:G:H5'	2.34	0.42
29:X:1885:C:H2'	29:X:1886:G:C5'	2.37	0.42
29:X:2002:A:N7	30:Y:9:LYS:HE2	2.34	0.42
29:X:2021:G:C6	29:X:2022:C:C4	3.07	0.42
29:X:2495:G:H2'	29:X:2496:C:O4'	2.19	0.42
29:X:2511:G:C6	29:X:2512:A:C5	3.07	0.42
29:X:2543:A:N7	29:X:2626:U:O2'	2.50	0.42
29:X:2564:U:H5'	29:X:2565:C:P	2.60	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2573:C:H2'	29:X:2574:G:H8	1.84	0.42
29:X:2663:U:O2	29:X:2664:G:C8	2.72	0.42
29:X:2696:A:N3	29:X:2697:G:C8	2.88	0.42
29:X:2858:A:C3'	29:X:2859:U:H5'	2.45	0.42
31:Z:93:G:N2	31:Z:94:G:H1'	2.34	0.42
31:Z:93:G:H2'	31:Z:94:G:O4'	2.19	0.42
4:4:9:LYS:H	4:4:9:LYS:CD	2.32	0.42
4:4:17:VAL:CG1	4:4:18:ARG:N	2.82	0.42
7:B:45:GLU:O	7:B:82:ARG:HD3	2.19	0.42
8:C:139:GLN:HA	8:C:139:GLN:NE2	2.34	0.42
8:C:180:ILE:HG23	8:C:181:LEU:H	1.85	0.42
10:E:7:GLN:OE1	10:E:7:GLN:N	2.53	0.42
11:F:2:LYS:H	11:F:2:LYS:CD	2.29	0.42
12:G:106:TYR:C	12:G:108:GLY:H	2.26	0.42
12:G:109:GLY:C	12:G:110:LEU:HD23	2.45	0.42
14:I:30:ALA:CB	14:I:34:HIS:CE1	2.88	0.42
14:I:120:VAL:CG1	14:I:122:VAL:HG13	2.48	0.42
16:K:29:LEU:HD23	16:K:29:LEU:HA	1.88	0.42
16:K:36:THR:CG2	16:K:41:ALA:HB2	2.49	0.42
19:N:13:ARG:HE	29:X:1264:C:H5"	1.84	0.42
19:N:25:TRP:O	19:N:28:ARG:HB2	2.19	0.42
19:N:95:LEU:CD1	19:N:109:LEU:HD13	2.49	0.42
20:O:28:GLU:OE1	20:O:28:GLU:N	2.51	0.42
22:Q:16:ALA:O	22:Q:20:MET:N	2.52	0.42
24:S:92:VAL:HG23	24:S:93:GLU:H	1.85	0.42
26:U:29:GLY:O	26:U:31:GLY:N	2.53	0.42
29:X:93:A:H2'	29:X:94:C:O4'	2.20	0.42
29:X:168:A:O2'	29:X:169:C:C5'	2.67	0.42
29:X:193:A:C2	29:X:445:A:C2	3.08	0.42
29:X:205:A:C6	29:X:207:U:C2	3.07	0.42
29:X:1025:A:H2'	29:X:1026:U:H6	1.85	0.42
29:X:1063:C:O2'	29:X:1064:C:H5'	2.19	0.42
29:X:1071:U:H4'	29:X:1072:U:H5"	2.01	0.42
29:X:1183:C:H2'	29:X:1184:G:C8	2.54	0.42
29:X:1187:A:H2'	29:X:1188:A:C1'	2.49	0.42
29:X:1461:C:H2'	29:X:1462:C:C6	2.54	0.42
29:X:1547:U:H2'	29:X:1548:U:C6	2.54	0.42
29:X:1684:G:C2'	29:X:1685:A:OP2	2.67	0.42
29:X:1834:G:H2'	29:X:1835:C:H6	1.83	0.42
29:X:1952:A:H1'	29:X:1956:G:O4'	2.20	0.42
29:X:2225:G:H2'	29:X:2226:A:H8	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2438:A:C6	29:X:2439:U:C4	3.07	0.42
29:X:2511:G:C5	29:X:2512:A:C5	3.08	0.42
29:X:2595:C:O2	29:X:2596:C:C6	2.72	0.42
29:X:2618:A:C4	29:X:2619:G:H1'	2.55	0.42
29:X:2874:A:H2'	29:X:2875:C:H6	1.83	0.42
31:Z:93:G:O2'	31:Z:94:G:H5'	2.20	0.42
6:A:159:ALA:HB1	6:A:197:GLY:O	2.20	0.42
6:A:258:LYS:HZ3	6:A:261:ARG:HH21	1.65	0.42
7:B:117:MET:HA	7:B:121:ASN:O	2.18	0.42
7:B:147:PRO:C	7:B:149:ARG:N	2.70	0.42
8:C:179:ASP:HA	8:C:182:ARG:CB	2.49	0.42
9:D:142:THR:HG22	9:D:144:ASP:H	1.85	0.42
10:E:7:GLN:HB3	10:E:51:LEU:CD1	2.49	0.42
10:E:66:GLY:HA3	29:X:2728:A:C4'	2.42	0.42
12:G:36:ASN:CG	12:G:37:ASP:N	2.78	0.42
12:G:66:HIS:O	12:G:70:PHE:CE1	2.73	0.42
12:G:70:PHE:HB2	19:N:64:ARG:CD	2.49	0.42
12:G:125:ARG:NH1	29:X:2760:G:N1	2.63	0.42
12:G:150:VAL:HG12	12:G:151:TYR:N	2.35	0.42
13:H:43:ARG:CZ	29:X:1979:C:OP2	2.68	0.42
13:H:75:VAL:HG12	13:H:118:LEU:CD2	2.09	0.42
14:I:78:SER:CB	14:I:112:GLY:HA3	2.39	0.42
16:K:108:VAL:HG12	16:K:110:MET:SD	2.60	0.42
19:N:57:PHE:CD2	29:X:1006:C:C2	3.07	0.42
19:N:61:TRP:HZ3	19:N:94:VAL:H	1.41	0.42
20:O:7:THR:OG1	20:O:21:ARG:HG3	2.20	0.42
21:P:75:ALA:HB1	21:P:128:VAL:HG22	2.01	0.42
23:R:92:THR:C	23:R:95:ARG:NH2	2.77	0.42
24:S:3:LEU:O	24:S:56:VAL:HA	2.20	0.42
24:S:100:THR:HG23	24:S:138:VAL:CG1	2.50	0.42
24:S:114:ASP:O	24:S:169:VAL:HA	2.20	0.42
25:T:46:LYS:HZ1	25:T:76:ALA:HA	1.84	0.42
28:W:14:GLY:O	28:W:17:VAL:HB	2.20	0.42
29:X:159:A:H2'	29:X:160:C:C6	2.55	0.42
29:X:353:G:O2'	29:X:354:C:H5'	2.18	0.42
29:X:396:U:O4	29:X:398:C:H2'	2.20	0.42
29:X:478:G:N1	29:X:479:G:C5	2.88	0.42
29:X:584:A:OP2	29:X:2038:C:H5	2.02	0.42
29:X:600:G:H3'	29:X:601:A:H5"	2.01	0.42
29:X:704:G:C2	29:X:785:U:C2	3.08	0.42
29:X:755:C:O2'	29:X:756:C:H5'	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:934:G:H2'	29:X:935:C:O4'	2.18	0.42
29:X:1046:U:O4	29:X:1131:G:O6	2.37	0.42
29:X:1153:A:HO2'	29:X:1154:A:P	2.42	0.42
29:X:1299:A:C6	29:X:1342:U:C2	3.08	0.42
29:X:1355:A:C4	29:X:1410:U:H1'	2.54	0.42
29:X:1427:G:H21	29:X:1604:A:H62	1.67	0.42
29:X:1486:A:C6	29:X:1538:A:C2	3.07	0.42
29:X:1783:G:H1	29:X:1820:G:H1'	1.81	0.42
29:X:1918:G:N2	29:X:1947:G:N9	2.68	0.42
29:X:2040:A:C2'	29:X:2041:A:C8	2.90	0.42
29:X:2046:C:C3'	29:X:2047:C:H5'	2.50	0.42
29:X:2184:C:H2'	29:X:2185:U:C6	2.55	0.42
29:X:2261:G:H4'	29:X:2262:C:OP2	2.19	0.42
29:X:2444:C:O2'	29:X:2445:C:H5'	2.19	0.42
29:X:2603:G:C2	29:X:2604:G:C8	3.08	0.42
29:X:2811:G:C6	29:X:2812:A:C6	3.07	0.42
29:X:2824:C:O2'	29:X:2825:A:P	2.77	0.42
4:4:22:ARG:HG2	4:4:22:ARG:NH1	2.34	0.42
6:A:96:HIS:HE1	6:A:100:GLY:O	2.03	0.42
6:A:102:LYS:HE3	29:X:1516:A:O2'	2.18	0.42
7:B:116:VAL:O	7:B:122:PHE:HB2	2.20	0.42
8:C:98:GLN:HE22	29:X:611:C:H4'	1.82	0.42
8:C:153:ASP:HA	8:C:158:ARG:NH2	2.33	0.42
9:D:33:LYS:O	9:D:157:VAL:HG23	2.20	0.42
10:E:99:THR:HB	10:E:102:ALA:HB3	2.01	0.42
13:H:23:ARG:NH2	13:H:25:LEU:HA	2.34	0.42
14:I:61:PRO:HB3	29:X:2372:A:C5'	2.46	0.42
14:I:71:THR:O	14:I:104:ARG:HD3	2.20	0.42
14:I:92:THR:C	14:I:94:GLU:N	2.76	0.42
15:J:11:ARG:HG3	15:J:11:ARG:NH1	2.35	0.42
16:K:48:VAL:HG13	16:K:49:GLU:H	1.81	0.42
17:L:43:ILE:HG22	17:L:44:ASP:N	2.34	0.42
18:M:87:LEU:HD23	18:M:87:LEU:HA	1.89	0.42
20:O:10:LYS:HE3	20:O:11:GLN:HE21	1.85	0.42
23:R:25:LEU:O	23:R:26:SER:O	2.38	0.42
23:R:27:GLY:H	29:X:321:A:P	2.43	0.42
23:R:66:GLN:HG2	23:R:66:GLN:O	2.19	0.42
25:T:30:VAL:HA	25:T:66:LYS:HA	2.02	0.42
25:T:52:GLY:HA3	25:T:60:PHE:CZ	2.54	0.42
26:U:49:LYS:HB3	26:U:61:TRP:CD2	2.55	0.42
27:V:17:GLU:O	27:V:21:ARG:HD3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:W:18:LYS:HB2	29:X:863:C:H4'	2.01	0.42
29:X:55:A:C2	29:X:113:C:C2	3.07	0.42
29:X:107:G:N2	29:X:108:G:H1'	2.34	0.42
29:X:236:C:H2'	29:X:237:G:C8	2.46	0.42
29:X:349:G:C2	29:X:350:U:C2	3.08	0.42
29:X:541:C:C4	29:X:572:G:C8	3.08	0.42
29:X:559:C:O2	29:X:560:G:H1'	2.19	0.42
29:X:580:A:C5	29:X:2013:A:C6	3.07	0.42
29:X:887:G:O2'	29:X:888:G:H5'	2.20	0.42
29:X:1506:C:H2'	29:X:1507:A:H5'	2.01	0.42
29:X:1550:C:H2'	29:X:1553:G:H21	1.71	0.42
29:X:1567:A:C6	29:X:1568:A:C5	3.08	0.42
29:X:1621:C:O4'	29:X:1626:A:C6	2.73	0.42
29:X:1777:A:O2'	29:X:1778:U:P	2.78	0.42
29:X:1815:G:C4	29:X:1816:G:C8	3.07	0.42
29:X:2000:U:O2'	30:Y:9:LYS:HA	2.20	0.42
29:X:2210:C:C2	29:X:2211:U:C5	3.08	0.42
29:X:2333:A:N1	29:X:2343:C:C4	2.88	0.42
29:X:2419:C:N4	29:X:2420:C:C2	2.88	0.42
31:Z:8:C:O2'	31:Z:9:G:H5'	2.19	0.42
4:4:15:LYS:HB2	4:4:26:ILE:CG1	2.49	0.42
4:4:19:ARG:O	4:4:20:HIS:C	2.62	0.42
6:A:222:ARG:C	6:A:224:SER:N	2.76	0.42
7:B:68:ALA:C	7:B:70:ALA:N	2.77	0.42
7:B:147:PRO:HG3	29:X:1141:U:N1	2.34	0.42
8:C:3:GLN:CG	8:C:116:LYS:HD2	2.50	0.42
8:C:24:SER:O	8:C:25:GLY:C	2.61	0.42
8:C:60:GLY:O	8:C:61:GLN:C	2.63	0.42
8:C:73:SER:O	8:C:74:VAL:CG1	2.68	0.42
9:D:56:GLU:O	9:D:60:ILE:HG23	2.19	0.42
10:E:10:ALA:O	10:E:76:VAL:HG11	2.20	0.42
12:G:154:GLU:H	12:G:157:PRO:HD2	1.83	0.42
12:G:168:THR:O	12:G:169:GLN:O	2.38	0.42
13:H:41:ASN:O	13:H:42:LYS:O	2.37	0.42
13:H:59:ALA:O	13:H:60:PRO:C	2.62	0.42
15:J:99:LYS:O	15:J:100:PRO:O	2.37	0.42
18:M:29:PRO:C	18:M:30:GLY:O	2.61	0.42
19:N:14:HIS:HD2	19:N:32:TYR:CE1	2.37	0.42
23:R:9:HIS:CG	29:X:338:G:H4'	2.52	0.42
23:R:95:ARG:NH1	23:R:106:VAL:HA	2.35	0.42
24:S:19:ILE:HB	24:S:34:LEU:HD11	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:105:GLN:HG3	24:S:139:THR:HG23	2.00	0.42
26:U:26:ALA:C	26:U:27:ASP:OD1	2.63	0.42
28:W:46:THR:HG22	28:W:47:VAL:HG13	2.02	0.42
29:X:54:G:H2'	29:X:55:A:H8	1.85	0.42
29:X:309:G:N1	29:X:350:U:C5	2.88	0.42
29:X:312:G:C6	29:X:328:A:C5	3.07	0.42
29:X:409:G:C2'	29:X:410:A:H5'	2.49	0.42
29:X:416:U:H4'	29:X:419:G:C1'	2.49	0.42
29:X:571:U:O2'	29:X:581:A:H1'	2.20	0.42
29:X:589:C:C4	29:X:590:C:N4	2.87	0.42
29:X:594:G:C6	29:X:1264:C:N3	2.88	0.42
29:X:818:G:H21	29:X:844:G:H1'	1.83	0.42
29:X:861:G:N1	29:X:943:U:O2	2.52	0.42
29:X:970:A:N3	29:X:2436:U:O2'	2.50	0.42
29:X:1059:A:N3	29:X:1059:A:H2'	2.35	0.42
29:X:1108:U:C2	29:X:1109:A:H1'	2.54	0.42
29:X:1281:A:C6	29:X:1996:A:C8	3.08	0.42
29:X:1512:A:H2'	29:X:1514:C:C5	2.55	0.42
29:X:1573:G:C5'	29:X:1574:A:H5"	2.48	0.42
29:X:1639:U:O2'	29:X:1640:C:H5'	2.20	0.42
29:X:1845:A:C2	29:X:1846:A:C4	3.07	0.42
29:X:1949:A:H1'	29:X:2572:U:H4'	2.02	0.42
29:X:2036:G:C6	29:X:2037:A:C5	3.07	0.42
29:X:2039:G:C2	29:X:2040:A:C8	3.07	0.42
29:X:2048:C:H1'	29:X:2428:U:N3	2.35	0.42
31:Z:104:A:C5	31:Z:105:G:C8	3.07	0.42
4:4:10:MET:HE3	4:4:32:HIS:CA	2.49	0.42
4:4:35:ARG:HG2	4:4:37:GLY:O	2.20	0.42
6:A:121:PRO:HB2	6:A:135:PHE:HE1	1.85	0.42
6:A:157:ARG:HG2	29:X:1810:U:H3'	2.00	0.42
7:B:13:GLN:O	7:B:14:ILE:HG13	2.20	0.42
7:B:133:LYS:O	7:B:134:TRP:C	2.63	0.42
7:B:165:VAL:HG21	29:X:2658:A:C5'	2.50	0.42
9:D:40:LEU:HA	9:D:150:ARG:CZ	2.50	0.42
10:E:26:VAL:HG12	10:E:27:LYS:N	2.35	0.42
10:E:136:ILE:N	10:E:136:ILE:CD1	2.82	0.42
12:G:115:ALA:O	12:G:118:ALA:CB	2.68	0.42
12:G:141:GLY:O	12:G:144:MET:HB2	2.20	0.42
13:H:6:SER:HA	29:X:1684:G:OP1	2.20	0.42
13:H:10:VAL:HG12	13:H:12:ASP:OD1	2.20	0.42
13:H:51:ILE:O	13:H:51:ILE:HG13	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:35:LEU:HD12	15:J:35:LEU:C	2.44	0.42
15:J:135:ARG:HB3	15:J:136:GLU:H	1.72	0.42
17:L:14:ARG:O	17:L:17:VAL:HG12	2.20	0.42
20:O:80:TYR:CE2	29:X:1201:G:H5"	2.55	0.42
21:P:40:LEU:HA	21:P:40:LEU:HD23	1.83	0.42
21:P:87:GLU:C	21:P:89:ARG:H	2.28	0.42
22:Q:20:MET:HG3	22:Q:25:TYR:CE1	2.55	0.42
22:Q:61:LYS:HD2	22:Q:72:ARG:CZ	2.49	0.42
23:R:10:HIS:CD2	29:X:347:C:O2'	2.73	0.42
24:S:54:ILE:CD1	24:S:64:ALA:HB3	2.50	0.42
25:T:44:LYS:HE3	25:T:45:PHE:HE1	1.84	0.42
26:U:18:VAL:CG2	29:X:393:U:O2'	2.68	0.42
26:U:52:ARG:HE	26:U:79:GLU:CB	2.32	0.42
27:V:14:PHE:HD2	27:V:57:LYS:HB2	1.83	0.42
27:V:39:GLN:N	27:V:40:PRO:HD3	2.35	0.42
29:X:59:G:H21	29:X:73:A:H2'	1.85	0.42
29:X:176:A:C2'	29:X:177:U:C5	3.03	0.42
29:X:527:C:O2'	29:X:528:G:H5'	2.20	0.42
29:X:575:U:C5	29:X:576:A:N7	2.88	0.42
29:X:685:U:OP1	29:X:814:G:N2	2.53	0.42
29:X:853:C:O2	29:X:950:G:C2	2.73	0.42
29:X:1014:G:H2'	29:X:1015:U:H6	1.84	0.42
29:X:1055:A:C3'	29:X:1055:A:C8	2.79	0.42
29:X:1272:G:O2'	29:X:1273:G:H5'	2.20	0.42
29:X:1312:G:C5'	29:X:1313:U:OP1	2.63	0.42
29:X:1505:U:H3'	29:X:1505:U:C6	2.54	0.42
29:X:1554:G:H2'	29:X:1555:A:H8	1.83	0.42
29:X:1597:A:C2	29:X:1598:C:N3	2.88	0.42
29:X:2068:C:O2'	29:X:2069:U:H5'	2.20	0.42
29:X:2664:G:C2	29:X:2665:G:C8	3.08	0.42
29:X:2702:G:H2'	29:X:2703:C:C6	2.55	0.42
29:X:2803:C:H2'	29:X:2804:G:H8	1.85	0.42
7:B:55:ALA:CB	7:B:58:LYS:HE3	2.49	0.41
7:B:134:TRP:NE1	29:X:1675:C:OP1	2.53	0.41
8:C:134:ILE:O	8:C:135:SER:C	2.63	0.41
9:D:124:GLY:C	9:D:126:GLY:H	2.28	0.41
12:G:84:ASN:O	12:G:85:ALA:HB3	2.19	0.41
12:G:105:GLY:N	12:G:110:LEU:HD12	2.35	0.41
13:H:27:SER:HB3	13:H:50:ILE:HG13	2.02	0.41
13:H:84:ALA:C	13:H:86:GLY:N	2.71	0.41
15:J:19:THR:HB	31:Z:93:G:OP1	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:39:GLU:C	15:J:100:PRO:HD3	2.45	0.41
15:J:107:VAL:HG21	15:J:115:ALA:CB	2.49	0.41
17:L:21:THR:HG22	17:L:22:ALA:N	2.34	0.41
17:L:35:SER:OG	31:Z:30:C:OP1	2.37	0.41
17:L:91:ARG:HE	17:L:91:ARG:HB3	1.51	0.41
18:M:95:GLU:O	18:M:96:ARG:O	2.38	0.41
21:P:107:ILE:O	21:P:107:ILE:HG23	2.18	0.41
22:Q:42:ILE:HG23	22:Q:43:GLN:N	2.34	0.41
25:T:20:TYR:CE1	29:X:2250:G:H5'	2.55	0.41
25:T:31:VAL:HG22	25:T:67:VAL:N	2.35	0.41
26:U:47:HIS:CE1	29:X:409:G:O3'	2.73	0.41
29:X:19:C:H5'	29:X:563:U:OP1	2.19	0.41
29:X:110:U:H6	29:X:110:U:H5'	1.84	0.41
29:X:141:G:C6	29:X:142:U:C4	3.08	0.41
29:X:214:C:C2	29:X:215:G:C8	3.08	0.41
29:X:403:A:H3'	29:X:403:A:OP2	2.20	0.41
29:X:421:G:N2	29:X:433:G:H1'	2.35	0.41
29:X:490:A:O2'	29:X:491:A:H5'	2.20	0.41
29:X:494:A:H3'	29:X:495:C:H6	1.85	0.41
29:X:652:C:H42	29:X:657:A:N6	2.18	0.41
29:X:696:U:N3	29:X:697:G:N7	2.68	0.41
29:X:708:G:C4	29:X:709:A:C8	3.07	0.41
29:X:739:G:O2'	29:X:740:A:O5'	2.38	0.41
29:X:745:C:H2'	29:X:746:G:O4'	2.20	0.41
29:X:871:U:N3	29:X:2247:A:C6	2.88	0.41
29:X:990:A:H2'	29:X:991:A:OP1	2.20	0.41
29:X:1035:G:H3'	29:X:1036:G:H3'	2.02	0.41
29:X:1251:G:N2	29:X:1252:C:C2	2.88	0.41
29:X:1282:A:N6	29:X:1995:G:C2	2.88	0.41
29:X:1665:C:C2	29:X:1666:G:C8	3.08	0.41
29:X:1668:G:O2'	29:X:1669:A:H5'	2.20	0.41
29:X:1738:U:H2'	29:X:1739:G:C8	2.55	0.41
29:X:1994:U:H2'	29:X:1995:G:H5'	2.01	0.41
29:X:2082:C:H2'	29:X:2083:G:H5'	2.01	0.41
29:X:2238:G:C6	29:X:2239:C:C4	3.08	0.41
29:X:2539:C:C4	29:X:2540:A:N7	2.88	0.41
29:X:2710:C:H2'	29:X:2711:G:O4'	2.20	0.41
29:X:2804:G:C2	29:X:2805:G:C4	3.07	0.41
31:Z:56:G:O2'	31:Z:57:U:H5'	2.19	0.41
31:Z:98:C:O5'	31:Z:98:C:H6	2.03	0.41
4:4:30:VAL:C	4:4:32:HIS:N	2.77	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:148:VAL:HA	6:A:149:PRO:HD3	1.88	0.41
8:C:30:VAL:HG12	8:C:31:VAL:N	2.35	0.41
8:C:33:TRP:HB2	8:C:93:TYR:OH	2.19	0.41
8:C:108:ILE:HD12	8:C:180:ILE:HD12	2.01	0.41
12:G:170:PRO:HB2	12:G:171:LEU:H	1.61	0.41
13:H:133:VAL:O	13:H:134:LEU:O	2.38	0.41
14:I:94:GLU:O	14:I:95:ALA:C	2.62	0.41
15:J:11:ARG:HB3	15:J:12:LYS:H	1.62	0.41
15:J:79:PRO:CG	15:J:88:LYS:HB3	2.50	0.41
15:J:80:ALA:O	15:J:81:GLU:OE1	2.38	0.41
15:J:125:LYS:HB2	29:X:2463:G:HO2'	1.85	0.41
15:J:128:ILE:HD13	15:J:130:THR:CG2	2.49	0.41
16:K:44:LEU:O	16:K:45:ARG:C	2.62	0.41
17:L:24:SER:C	17:L:26:ARG:H	2.29	0.41
18:M:33:VAL:HG23	18:M:94:VAL:HG21	2.01	0.41
18:M:60:SER:HA	18:M:64:LYS:CB	2.50	0.41
19:N:101:ARG:O	19:N:103:PRO:HD3	2.20	0.41
21:P:91:PHE:HD1	21:P:129:ALA:O	2.03	0.41
23:R:45:LYS:HA	23:R:76:LEU:O	2.20	0.41
23:R:84:VAL:CA	23:R:90:LYS:HE2	2.50	0.41
24:S:123:VAL:N	24:S:161:ALA:HB2	2.35	0.41
25:T:3:HIS:ND1	25:T:3:HIS:N	2.68	0.41
26:U:15:VAL:HG23	26:U:16:ASN:N	2.34	0.41
27:V:41:HIS:ND1	29:X:95:G:H4'	2.35	0.41
28:W:14:GLY:C	28:W:17:VAL:HG23	2.45	0.41
29:X:168:A:C2	29:X:169:C:N3	2.88	0.41
29:X:203:G:C2	29:X:204:A:C2	3.08	0.41
29:X:221:A:C2	29:X:397:U:C2	3.09	0.41
29:X:394:U:H2'	29:X:395:G:C8	2.54	0.41
29:X:596:C:C6	29:X:684:C:H1'	2.55	0.41
29:X:758:G:C2	29:X:766:A:N1	2.88	0.41
29:X:848:A:N6	29:X:849:G:C6	2.88	0.41
29:X:852:U:H2'	29:X:853:C:C6	2.55	0.41
29:X:865:A:N1	29:X:937:C:N3	2.68	0.41
29:X:939:C:C5'	29:X:940:G:O5'	2.62	0.41
29:X:971:A:H2	29:X:2475:C:C1'	2.33	0.41
29:X:1048:U:O5'	29:X:1048:U:H6	2.02	0.41
29:X:1164:C:H3'	29:X:1165:G:H8	1.85	0.41
29:X:1256:C:O5'	29:X:1256:C:H6	2.03	0.41
29:X:1322:G:O2'	29:X:1323:G:H5'	2.21	0.41
29:X:1324:G:HO2'	29:X:1325:U:C5'	2.32	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1329:U:H2'	29:X:1330:G:H8	1.86	0.41
29:X:1336:G:H2'	29:X:1337:G:H5'	2.03	0.41
29:X:1394:G:O2'	29:X:1395:A:H5'	2.20	0.41
29:X:1419:G:O2'	29:X:1420:A:H5'	2.20	0.41
29:X:1454:U:C2	29:X:1455:C:C5	3.08	0.41
29:X:1542:G:N2	29:X:1562:G:C2	2.88	0.41
29:X:1625:A:C2	29:X:1632:A:C8	3.08	0.41
29:X:1746:A:H2'	29:X:1747:G:O5'	2.20	0.41
29:X:2020:G:C2	29:X:2021:G:C4	3.08	0.41
29:X:2039:G:C5	29:X:2556:A:C4	3.08	0.41
29:X:2241:U:C6	29:X:2258:G:N2	2.88	0.41
29:X:2323:U:O2'	29:X:2324:G:H5'	2.20	0.41
29:X:2411:A:H2'	29:X:2412:A:H8	1.82	0.41
29:X:2426:G:C5	29:X:2480:C:C5	3.08	0.41
29:X:2725:C:H2'	29:X:2726:U:H6	1.86	0.41
29:X:2807:U:O2'	29:X:2808:U:C5'	2.68	0.41
29:X:2824:C:O2	29:X:2824:C:H2'	2.20	0.41
29:X:2839:G:C2	29:X:2840:U:C2	3.08	0.41
29:X:2844:G:H8	29:X:2844:G:O5'	2.03	0.41
30:Y:19:ARG:HB2	30:Y:19:ARG:HH11	1.86	0.41
4:4:10:MET:SD	4:4:32:HIS:CD2	3.14	0.41
6:A:68:LYS:O	6:A:70:ARG:HG3	2.20	0.41
6:A:165:VAL:HG13	6:A:173:VAL:CG1	2.50	0.41
6:A:188:GLU:OE2	29:X:2201:G:OP1	2.38	0.41
7:B:32:PRO:O	7:B:50:GLY:N	2.51	0.41
7:B:120:TRP:CE3	7:B:155:ARG:HD2	2.55	0.41
7:B:188:ILE:HA	7:B:189:PRO:HD3	1.68	0.41
8:C:20:PRO:O	8:C:21:GLU:HG3	2.19	0.41
8:C:54:THR:HG21	8:C:71:ASP:HB3	2.02	0.41
8:C:111:ARG:NH1	8:C:180:ILE:O	2.53	0.41
8:C:144:GLY:HA2	8:C:166:TRP:CD1	2.54	0.41
9:D:70:ALA:N	9:D:85:VAL:HG22	2.36	0.41
10:E:24:PHE:HB2	10:E:35:VAL:O	2.20	0.41
10:E:157:TYR:CE2	29:X:2510:A:H4'	2.55	0.41
13:H:64:VAL:O	13:H:65:LYS:HD2	2.20	0.41
14:I:42:GLY:O	14:I:43:ALA:HB2	2.19	0.41
14:I:77:LEU:HB2	14:I:111:SER:H	1.83	0.41
14:I:117:ALA:CB	14:I:137:GLY:HA3	2.50	0.41
15:J:17:ARG:HB2	29:X:969:U:C5	2.55	0.41
15:J:80:ALA:O	15:J:81:GLU:CB	2.66	0.41
15:J:120:ARG:NH2	29:X:2447:G:OP1	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:15:ARG:HH21	29:X:2272:A:H5'	1.84	0.41
17:L:87:VAL:O	17:L:88:VAL:CG2	2.68	0.41
19:N:7:GLY:C	19:N:8:ILE:HG13	2.46	0.41
19:N:97:ASP:O	19:N:98:ILE:C	2.62	0.41
22:Q:35:LYS:HB3	29:X:1614:C:H5"	2.02	0.41
23:R:27:GLY:N	29:X:321:A:OP1	2.54	0.41
25:T:3:HIS:CG	25:T:4:LYS:N	2.88	0.41
25:T:71:ASN:ND2	25:T:77:ARG:HH11	2.18	0.41
29:X:2:G:H2'	29:X:3:U:C5	2.55	0.41
29:X:20:C:O2'	29:X:21:A:H5'	2.20	0.41
29:X:46:C:N3	29:X:156:G:C2	2.89	0.41
29:X:48:A:P	29:X:50:G:H5'	2.60	0.41
29:X:63:A:H2'	29:X:63:A:N3	2.36	0.41
29:X:208:C:N4	29:X:209:G:H21	2.17	0.41
29:X:310:A:C4	29:X:333:A:N6	2.88	0.41
29:X:354:C:H2'	29:X:355:G:O4'	2.20	0.41
29:X:481:A:N3	29:X:481:A:H2'	2.35	0.41
29:X:487:G:N2	29:X:489:A:C2'	2.83	0.41
29:X:595:A:H2	29:X:822:G:N3	2.18	0.41
29:X:1031:C:O2'	29:X:1032:A:P	2.79	0.41
29:X:1153:A:H1'	29:X:1155:G:C8	2.55	0.41
29:X:1260:A:C6	29:X:1262:U:C2	3.09	0.41
29:X:1350:G:C4	29:X:1351:G:C8	3.08	0.41
29:X:1482:U:C2'	29:X:1483:G:H8	2.28	0.41
29:X:1537:U:H2'	29:X:1538:A:O4'	2.20	0.41
29:X:1554:G:O2'	29:X:1555:A:H5'	2.20	0.41
29:X:1610:A:H2'	29:X:1611:U:H6	1.82	0.41
29:X:1621:C:O2'	29:X:1626:A:N7	2.49	0.41
29:X:1728:A:N1	29:X:1739:G:C6	2.88	0.41
29:X:1789:U:O2'	29:X:1793:A:H1'	2.21	0.41
29:X:1855:G:C2'	29:X:1856:U:H5'	2.50	0.41
29:X:1938:U:H3'	29:X:2530:C:O2'	2.20	0.41
29:X:2007:G:N1	29:X:2023:C:N3	2.68	0.41
29:X:2031:A:N6	29:X:2600:A:C6	2.88	0.41
29:X:2314:A:H2'	29:X:2316:G:N7	2.35	0.41
29:X:2436:U:O2	29:X:2474:G:N2	2.53	0.41
29:X:2791:C:C2	29:X:2806:G:N2	2.88	0.41
29:X:2796:A:C2'	29:X:2797:G:H8	2.20	0.41
29:X:2876:C:H2'	29:X:2877:A:C4	2.55	0.41
31:Z:23:G:O2'	31:Z:24:U:H5'	2.20	0.41
4:4:4:ARG:NH1	29:X:2456:U:H3	2.15	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:88:ARG:NH1	29:X:1810:U:OP2	2.53	0.41
7:B:16:LYS:HB2	7:B:21:ILE:HD12	2.01	0.41
7:B:17:ASN:C	7:B:18:ASP:OD2	2.63	0.41
7:B:54:LYS:HB2	7:B:75:THR:O	2.19	0.41
7:B:176:ARG:NH2	18:M:19:ASP:OD2	2.53	0.41
10:E:40:GLU:OE2	10:E:61:HIS:CE1	2.73	0.41
11:F:100:ASN:HB3	11:F:103:GLN:NE2	2.34	0.41
12:G:94:LYS:O	12:G:117:GLU:HB2	2.20	0.41
12:G:104:THR:OG1	12:G:105:GLY:N	2.53	0.41
12:G:153:GLY:CA	12:G:157:PRO:HG2	2.50	0.41
13:H:13:ASN:ND2	13:H:109:ARG:CG	2.82	0.41
13:H:79:HIS:CD2	13:H:80:ALA:N	2.88	0.41
13:H:116:ARG:NH2	18:M:40:ARG:C	2.78	0.41
14:I:32:ARG:CZ	20:O:79:GLN:HA	2.49	0.41
14:I:58:ALA:O	14:I:59:ARG:CB	2.65	0.41
15:J:12:LYS:HE3	29:X:923:A:C6	2.56	0.41
17:L:10:LYS:O	17:L:13:THR:OG1	2.25	0.41
17:L:63:ASN:CG	17:L:66:ASP:HB2	2.45	0.41
17:L:97:HIS:O	17:L:101:LYS:HB2	2.20	0.41
21:P:91:PHE:O	21:P:91:PHE:CG	2.74	0.41
22:Q:8:GLN:O	27:V:29:ARG:NH1	2.52	0.41
24:S:77:ALA:HA	24:S:78:PRO:HD3	1.87	0.41
26:U:15:VAL:O	26:U:16:ASN:O	2.38	0.41
26:U:51:ILE:HA	26:U:59:THR:O	2.21	0.41
27:V:52:GLN:O	27:V:54:ASN:N	2.52	0.41
28:W:18:LYS:O	28:W:22:ALA:N	2.45	0.41
29:X:11:G:H8	29:X:11:G:O5'	2.03	0.41
29:X:148:C:H3'	29:X:149:A:H8	1.84	0.41
29:X:168:A:H2'	29:X:169:C:C6	2.55	0.41
29:X:168:A:H2'	29:X:169:C:H6	1.84	0.41
29:X:190:A:H2'	29:X:191:G:C8	2.55	0.41
29:X:227:G:C6	29:X:228:A:C6	3.09	0.41
29:X:247:A:H2'	29:X:248:A:C8	2.56	0.41
29:X:304:A:H62	29:X:356:A:N6	2.17	0.41
29:X:467:U:O2	29:X:467:U:H2'	2.20	0.41
29:X:501:G:C5	29:X:502:A:N7	2.88	0.41
29:X:688:A:C6	29:X:689:A:N6	2.88	0.41
29:X:758:G:H3'	29:X:759:C:H5"	2.02	0.41
29:X:956:A:N9	29:X:2427:A:H2	2.17	0.41
29:X:962:C:H2'	29:X:963:G:H5'	2.02	0.41
29:X:1056:U:C2'	29:X:1057:A:OP2	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1159:U:O2'	29:X:1160:C:H5'	2.20	0.41
29:X:1557:G:N2	29:X:1558:C:H1'	2.36	0.41
29:X:1621:C:C4'	29:X:1626:A:N6	2.83	0.41
29:X:2053:G:O2'	29:X:2054:A:H5'	2.20	0.41
29:X:2064:U:O5'	29:X:2064:U:H6	2.04	0.41
29:X:2238:G:C8	29:X:2406:C:C5	3.08	0.41
29:X:2262:C:C5	29:X:2368:G:C4	3.08	0.41
29:X:2333:A:H61	29:X:2343:C:N4	2.18	0.41
29:X:2674:C:O2'	29:X:2675:U:C5'	2.68	0.41
29:X:2750:G:C8	29:X:2751:C:C5	3.08	0.41
31:Z:105:G:O2'	31:Z:106:U:H5'	2.20	0.41
4:4:22:ARG:HD2	4:4:37:GLY:HA3	2.03	0.41
6:A:206:LEU:HD22	6:A:211:ARG:HH12	1.85	0.41
6:A:208:LYS:HB3	29:X:742:G:O6	2.21	0.41
7:B:148:GLY:O	29:X:2036:G:O4'	2.39	0.41
7:B:154:LYS:NZ	7:B:156:MET:HE3	2.33	0.41
8:C:30:VAL:O	8:C:31:VAL:C	2.63	0.41
9:D:4:LEU:O	9:D:5:LYS:HB3	2.20	0.41
9:D:19:GLN:HB3	9:D:20:PHE:CD1	2.55	0.41
9:D:31:ILE:HB	9:D:96:MET:HE1	2.02	0.41
10:E:54:ARG:CZ	10:E:57:ASP:OD2	2.68	0.41
10:E:98:LEU:CD1	10:E:101:LYS:C	2.93	0.41
12:G:100:TYR:HB2	12:G:116:ARG:HH11	1.82	0.41
12:G:135:LEU:O	12:G:136:PRO:C	2.63	0.41
13:H:109:ARG:HG3	13:H:111:PHE:HE1	1.85	0.41
13:H:127:VAL:O	13:H:130:ALA:HB3	2.20	0.41
14:I:92:THR:O	14:I:94:GLU:N	2.54	0.41
15:J:84:MET:HE2	29:X:2228:U:O2'	2.21	0.41
15:J:125:LYS:N	15:J:125:LYS:CD	2.83	0.41
18:M:55:ILE:HB	18:M:103:LYS:O	2.20	0.41
19:N:3:ARG:CG	19:N:3:ARG:NH1	2.82	0.41
19:N:3:ARG:CD	29:X:457:C:O3'	2.68	0.41
20:O:26:GLN:CG	20:O:27:GLY:N	2.46	0.41
22:Q:30:SER:HB2	22:Q:33:ALA:HB2	2.01	0.41
23:R:84:VAL:HA	23:R:90:LYS:HE2	2.01	0.41
24:S:10:PRO:HB2	24:S:14:LEU:CD2	2.51	0.41
24:S:99:HIS:HB3	24:S:100:THR:H	1.66	0.41
29:X:60:A:C5	29:X:61:U:C5	3.08	0.41
29:X:199:A:N1	29:X:201:G:C2	2.89	0.41
29:X:695:G:N2	29:X:809:C:C2	2.89	0.41
29:X:746:G:N7	29:X:774:A:C5	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:990:A:H2'	29:X:993:C:N4	2.35	0.41
29:X:994:A:C8	29:X:994:A:C3'	3.04	0.41
29:X:1032:A:N6	29:X:1151:U:C2	2.89	0.41
29:X:1127:C:C2'	29:X:1128:G:O5'	2.68	0.41
29:X:1200:G:C6	29:X:1201:G:C4	3.09	0.41
29:X:1255:A:H2'	29:X:1256:C:H6	1.80	0.41
29:X:1278:A:O2'	29:X:1279:G:H4'	2.21	0.41
29:X:1555:A:H2'	29:X:1556:A:C8	2.56	0.41
29:X:1782:A:N1	29:X:1821:A:H5'	2.36	0.41
29:X:1793:A:OP2	29:X:1806:G:N1	2.53	0.41
29:X:2228:U:O2'	29:X:2254:C:N4	2.54	0.41
29:X:2237:C:O2'	29:X:2238:G:P	2.79	0.41
29:X:2340:C:C2'	29:X:2341:G:H5'	2.49	0.41
29:X:2378:G:H2'	29:X:2379:G:O4'	2.21	0.41
29:X:2505:G:H8	29:X:2505:G:O5'	2.03	0.41
29:X:2521:A:N1	29:X:2546:G:C6	2.88	0.41
29:X:2674:C:C2	29:X:2675:U:H5	2.38	0.41
29:X:2697:G:C2'	29:X:2698:G:H5'	2.51	0.41
29:X:2717:G:H2'	29:X:2718:A:O4'	2.20	0.41
30:Y:31:THR:O	30:Y:40:LYS:N	2.46	0.41
30:Y:33:CYS:SG	30:Y:34:PRO:CD	3.09	0.41
30:Y:58:LEU:N	30:Y:58:LEU:CD1	2.82	0.41
31:Z:39:C:N4	31:Z:50:U:O2'	2.54	0.41
6:A:131:LEU:N	6:A:131:LEU:HD23	2.36	0.41
6:A:145:LEU:HD11	6:A:185:VAL:HG11	2.03	0.41
6:A:200:GLU:OE2	29:X:1812:U:C2	2.73	0.41
6:A:212:SER:C	6:A:214:TRP:H	2.28	0.41
6:A:212:SER:C	6:A:214:TRP:N	2.79	0.41
7:B:72:VAL:CG1	7:B:73:ALA:N	2.63	0.41
8:C:151:VAL:CG1	8:C:173:ALA:HA	2.51	0.41
9:D:52:LYS:HE3	9:D:148:LYS:CG	2.50	0.41
9:D:123:ASP:O	9:D:125:ARG:N	2.54	0.41
10:E:33:LEU:HG	10:E:34:THR:H	1.84	0.41
11:F:1:MET:HB2	11:F:2:LYS:CD	2.48	0.41
12:G:47:SER:C	12:G:49:VAL:H	2.29	0.41
13:H:9:ASP:N	13:H:9:ASP:OD2	2.52	0.41
13:H:41:ASN:ND2	13:H:41:ASN:N	2.55	0.41
14:I:54:SER:OG	14:I:59:ARG:NH2	2.53	0.41
14:I:59:ARG:HG3	29:X:2371:A:H8	1.85	0.41
14:I:86:THR:N	14:I:116:ARG:NH1	2.68	0.41
18:M:50:PHE:CE2	18:M:70:LYS:HB3	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:58:ALA:HB2	20:O:95:ILE:HA	2.02	0.41
20:O:61:VAL:HB	20:O:92:ALA:HB3	2.03	0.41
21:P:24:GLY:HA3	21:P:128:VAL:HG23	2.02	0.41
21:P:34:SER:O	21:P:37:LYS:HB3	2.19	0.41
21:P:53:ALA:HB1	21:P:72:LEU:HD22	2.02	0.41
22:Q:38:ILE:HG23	22:Q:39:LYS:H	1.85	0.41
23:R:17:LYS:HZ3	29:X:83:A:P	2.43	0.41
23:R:105:ARG:HB3	23:R:106:VAL:H	1.58	0.41
24:S:3:LEU:HD13	24:S:33:ALA:C	2.46	0.41
24:S:5:ALA:O	24:S:6:LYS:HB3	2.20	0.41
26:U:8:THR:HG23	26:U:8:THR:O	2.21	0.41
29:X:104:C:C3'	29:X:105:G:H5"	2.49	0.41
29:X:309:G:H1	29:X:350:U:H5	1.69	0.41
29:X:314:G:C6	29:X:315:G:C6	3.09	0.41
29:X:548:G:C2	29:X:549:G:C8	3.08	0.41
29:X:636:G:H2'	29:X:637:G:H5'	2.03	0.41
29:X:701:U:C5'	29:X:1771:A:C2	3.01	0.41
29:X:759:C:C6	29:X:759:C:C3'	3.04	0.41
29:X:813:A:H1'	29:X:815:A:OP2	2.20	0.41
29:X:834:A:C5'	29:X:835:U:C6	3.01	0.41
29:X:849:G:C8	29:X:850:C:C5	3.09	0.41
29:X:1496:G:O2'	29:X:1497:C:O5'	2.35	0.41
29:X:1742:G:C6	29:X:1743:C:N4	2.88	0.41
29:X:1850:G:H2'	29:X:1851:A:H8	1.84	0.41
29:X:1947:G:H2'	29:X:1950:C:OP1	2.20	0.41
29:X:1975:G:O2'	29:X:1976:U:OP2	2.32	0.41
29:X:1998:A:H1'	30:Y:3:LYS:HB2	2.01	0.41
29:X:2270:U:O5'	29:X:2270:U:H6	2.02	0.41
29:X:2492:G:N2	29:X:2493:U:C2	2.88	0.41
29:X:2500:C:H4'	29:X:2543:A:O2'	2.21	0.41
29:X:2717:G:N2	29:X:2748:C:C2	2.89	0.41
29:X:2806:G:H1'	29:X:2858:A:N3	2.36	0.41
30:Y:52:TYR:O	30:Y:53:ASP:CB	2.68	0.41
31:Z:4:C:H2'	31:Z:5:C:C5'	2.51	0.41
31:Z:68:A:N6	31:Z:110:U:C2	2.88	0.41
6:A:100:GLY:CA	29:X:1516:A:C2	3.03	0.41
6:A:108:PRO:CA	6:A:196:VAL:HA	2.33	0.41
6:A:214:TRP:HA	6:A:214:TRP:CE3	2.55	0.41
7:B:136:ARG:CG	7:B:137:ARG:N	2.84	0.41
7:B:203:LYS:HG2	29:X:2713:A:N1	2.36	0.41
9:D:125:ARG:NH1	29:X:2294:U:O2	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:95:ARG:HH22	10:E:97:LYS:HE2	1.84	0.41
11:F:41:PHE:C	11:F:43:ALA:N	2.79	0.41
14:I:86:THR:H	14:I:116:ARG:NH1	2.19	0.41
15:J:6:LYS:HE2	15:J:6:LYS:HB3	1.80	0.41
15:J:92:GLU:HG3	15:J:93:TYR:CD2	2.56	0.41
16:K:8:ARG:HB3	16:K:9:LYS:H	1.78	0.41
16:K:63:ARG:NH2	16:K:80:MET:HG2	2.36	0.41
18:M:29:PRO:O	18:M:30:GLY:O	2.39	0.41
18:M:36:ASP:HB2	18:M:87:LEU:O	2.20	0.41
18:M:104:LEU:CD2	18:M:106:TYR:CZ	3.01	0.41
19:N:14:HIS:CD2	19:N:32:TYR:CD1	3.08	0.41
21:P:80:LEU:O	21:P:84:GLU:CA	2.69	0.41
23:R:17:LYS:NZ	29:X:83:A:N7	2.61	0.41
23:R:18:LYS:HE2	23:R:18:LYS:C	2.45	0.41
24:S:138:VAL:O	24:S:139:THR:C	2.63	0.41
29:X:586:G:C6	29:X:587:A:C6	3.08	0.41
29:X:756:C:C2'	29:X:757:U:H5'	2.50	0.41
29:X:819:C:O2'	29:X:820:U:H5'	2.21	0.41
29:X:931:G:H4'	31:Z:83:C:C4'	2.39	0.41
29:X:982:C:H2'	29:X:983:G:C5'	2.50	0.41
29:X:1012:A:N6	29:X:1013:G:N3	2.69	0.41
29:X:1033:G:C2'	29:X:1034:U:OP2	2.69	0.41
29:X:1053:G:C6	29:X:1125:G:C6	3.09	0.41
29:X:1090:C:O2'	29:X:1091:C:H5'	2.21	0.41
29:X:1289:A:C2	29:X:1290:A:N7	2.88	0.41
29:X:1386:A:C5'	29:X:2191:A:H62	2.15	0.41
29:X:1419:G:H2'	29:X:1420:A:O4'	2.20	0.41
29:X:1498:G:H2'	29:X:1499:A:C8	2.56	0.41
29:X:1534:A:O2'	29:X:1535:C:H5'	2.20	0.41
29:X:1727:C:O2'	29:X:1728:A:H5'	2.21	0.41
29:X:2028:C:C2'	29:X:2029:G:O5'	2.69	0.41
29:X:2070:G:HO2'	29:X:2071:G:H5'	1.85	0.41
29:X:2206:C:N4	29:X:2207:G:C6	2.89	0.41
29:X:2225:G:H2'	29:X:2226:A:C8	2.55	0.41
29:X:2249:U:H2'	29:X:2250:G:O4'	2.21	0.41
29:X:2410:U:O2	29:X:2412:A:C8	2.73	0.41
29:X:2485:U:C2'	29:X:2486:C:O5'	2.69	0.41
29:X:2492:G:C4	29:X:2493:U:C4	3.09	0.41
29:X:2839:G:C5	29:X:2840:U:C4	3.09	0.41
31:Z:80:A:H3'	31:Z:81:C:H6	1.86	0.41
6:A:182:LEU:HB2	6:A:268:ARG:HB2	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:36:ARG:HG2	7:B:36:ARG:HH11	1.86	0.41
7:B:170:LEU:HA	7:B:170:LEU:HD23	1.70	0.41
7:B:174:GLU:CB	7:B:183:LEU:HD12	2.46	0.41
8:C:137:ALA:HB1	8:C:142:LEU:CB	2.47	0.41
8:C:155:GLU:HB3	8:C:156:ASN:H	1.61	0.41
13:H:5:GLN:HG2	29:X:1685:A:H5"	2.03	0.41
13:H:26:ASN:HB3	13:H:37:GLY:HA2	2.03	0.41
14:I:105:PRO:C	14:I:106:VAL:CG2	2.94	0.41
15:J:69:ILE:O	15:J:69:ILE:HG13	2.20	0.41
15:J:119:PHE:O	15:J:120:ARG:C	2.64	0.41
16:K:26:THR:O	16:K:27:ALA:C	2.63	0.41
16:K:38:LEU:HA	16:K:111:ALA:HB3	2.03	0.41
16:K:68:GLN:HG2	29:X:2686:C:O2'	2.20	0.41
17:L:52:ALA:O	17:L:53:ALA:HB3	2.21	0.41
21:P:107:ILE:HG21	21:P:117:ILE:CD1	2.46	0.41
24:S:60:GLU:O	24:S:62:PHE:CD2	2.74	0.41
24:S:105:GLN:OE1	24:S:140:LYS:HA	2.20	0.41
25:T:50:GLY:O	25:T:62:LEU:HD23	2.20	0.41
26:U:19:ILE:CG2	26:U:41:VAL:O	2.66	0.41
29:X:322:A:H8	29:X:322:A:P	2.43	0.41
29:X:339:U:O4	29:X:343:A:C8	2.73	0.41
29:X:404:A:C5	29:X:405:C:C4	3.08	0.41
29:X:516:G:O2'	29:X:517:A:OP2	2.39	0.41
29:X:580:A:C6	29:X:2013:A:N1	2.89	0.41
29:X:780:U:H6	29:X:780:U:C5'	2.34	0.41
29:X:870:C:H2'	29:X:871:U:O4'	2.21	0.41
29:X:996:C:O2'	29:X:997:C:H5'	2.20	0.41
29:X:1401:G:O2'	29:X:1402:G:H5'	2.21	0.41
29:X:1564:U:O5'	29:X:1564:U:H6	2.04	0.41
29:X:1835:C:H6	29:X:1835:C:O5'	2.04	0.41
29:X:1949:A:O2'	29:X:2572:U:C5'	2.62	0.41
29:X:1963:G:O2'	29:X:1964:A:OP1	2.33	0.41
29:X:2216:G:H8	29:X:2216:G:O5'	2.04	0.41
29:X:2528:G:N3	29:X:2529:G:N7	2.69	0.41
29:X:2558:C:O2'	29:X:2559:U:O4'	2.38	0.41
29:X:2627:G:C6	29:X:2652:G:C6	3.09	0.41
29:X:2633:A:OP1	29:X:2633:A:O4'	2.38	0.41
29:X:2785:A:C8	29:X:2786:G:C8	3.09	0.41
29:X:2811:G:N1	29:X:2812:A:C6	2.88	0.41
31:Z:42:U:H1'	31:Z:47:A:H62	1.85	0.41
31:Z:68:A:H61	31:Z:110:U:H3'	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:108:G:C2'	31:Z:109:G:H5'	2.51	0.41
4:4:25:VAL:CG2	4:4:34:GLN:HB2	2.51	0.41
6:A:54:ILE:O	6:A:54:ILE:HG23	2.21	0.41
6:A:86:PRO:O	6:A:88:ARG:N	2.54	0.41
6:A:184:ARG:HG2	6:A:184:ARG:HH11	1.84	0.41
6:A:261:ARG:HG3	6:A:263:ARG:H	1.85	0.41
7:B:9:ILE:O	7:B:9:ILE:HG22	2.20	0.41
7:B:16:LYS:O	7:B:17:ASN:CB	2.68	0.41
7:B:39:ALA:HB2	7:B:44:TYR:HA	2.03	0.41
7:B:118:LYS:O	7:B:160:MET:HE1	2.21	0.41
7:B:120:TRP:NE1	7:B:155:ARG:HB3	2.35	0.41
8:C:30:VAL:O	8:C:33:TRP:N	2.52	0.41
8:C:172:VAL:C	8:C:174:GLY:N	2.79	0.41
8:C:188:ILE:HG13	8:C:188:ILE:H	1.55	0.41
8:C:197:GLU:O	8:C:198:GLU:C	2.63	0.41
9:D:7:LYS:HB3	9:D:11:GLN:OE1	2.20	0.41
9:D:37:ASN:HD22	9:D:38:GLU:H	1.69	0.41
9:D:135:GLN:CD	9:D:151:GLY:O	2.64	0.41
10:E:109:TYR:O	10:E:111:HIS:N	2.54	0.41
10:E:148:VAL:HG12	10:E:162:VAL:HG21	2.03	0.41
10:E:148:VAL:O	10:E:150:LYS:N	2.54	0.41
10:E:164:PHE:O	10:E:165:VAL:C	2.63	0.41
10:E:171:LEU:N	10:E:171:LEU:CD1	2.84	0.41
11:F:7:ILE:CG2	11:F:8:VAL:N	2.82	0.41
12:G:90:LEU:N	12:G:90:LEU:CD1	2.83	0.41
13:H:23:ARG:HH22	13:H:25:LEU:CB	2.33	0.41
13:H:134:LEU:HA	13:H:134:LEU:HD23	1.82	0.41
14:I:32:ARG:CZ	20:O:81:ARG:CZ	2.98	0.41
14:I:45:LYS:HD3	14:I:45:LYS:C	2.45	0.41
14:I:45:LYS:CA	29:X:683:A:H5"	2.42	0.41
14:I:65:PHE:CE2	29:X:643:A:H4'	2.55	0.41
14:I:94:GLU:H	14:I:94:GLU:HG2	1.48	0.41
14:I:114:ILE:O	14:I:115:SER:HB3	2.20	0.41
15:J:19:THR:CB	31:Z:93:G:H5'	2.47	0.41
17:L:11:LEU:HA	17:L:14:ARG:CD	2.49	0.41
17:L:15:ARG:NH2	29:X:2272:A:H5'	2.35	0.41
17:L:26:ARG:HB3	17:L:88:VAL:HG23	2.02	0.41
17:L:93:SER:O	17:L:94:TYR:C	2.64	0.41
18:M:9:ARG:O	18:M:10:GLY:C	2.60	0.41
18:M:34:ARG:NH1	18:M:66:PHE:CE2	2.89	0.41
18:M:34:ARG:HH11	18:M:81:PHE:HB3	1.80	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:91:ASN:HD22	20:O:11:GLN:NE2	2.16	0.41
20:O:12:TYR:CD2	20:O:40:VAL:HG23	2.56	0.41
20:O:14:VAL:O	20:O:14:VAL:HG12	2.21	0.41
20:O:69:ILE:CG2	20:O:70:TYR:H	2.34	0.41
21:P:78:ASN:C	21:P:80:LEU:N	2.77	0.41
21:P:110:ALA:CB	29:X:761:G:P	3.09	0.41
22:Q:10:PRO:HD3	27:V:30:PHE:CD1	2.55	0.41
22:Q:57:ASN:C	22:Q:58:VAL:CG2	2.93	0.41
23:R:25:LEU:HD22	23:R:26:SER:CB	2.51	0.41
24:S:64:ALA:HA	24:S:86:VAL:H	1.85	0.41
24:S:69:VAL:CG1	24:S:81:VAL:HG22	2.43	0.41
24:S:71:MET:HB2	24:S:77:ALA:O	2.21	0.41
25:T:28:GLY:N	25:T:67:VAL:O	2.38	0.41
25:T:72:LYS:HD3	31:Z:14:C:O5'	2.21	0.41
26:U:11:LYS:HZ3	26:U:75:TYR:HB2	1.84	0.41
26:U:13:LEU:C	26:U:14:VAL:HG22	2.46	0.41
26:U:41:VAL:HG21	26:U:43:ARG:HH22	1.86	0.41
27:V:3:PRO:C	27:V:5:GLU:N	2.78	0.41
27:V:27:GLU:O	27:V:30:PHE:HB2	2.20	0.41
28:W:26:ARG:HH11	28:W:26:ARG:HG3	1.85	0.41
28:W:34:VAL:HG22	28:W:35:SER:H	1.86	0.41
28:W:44:VAL:O	28:W:44:VAL:CG1	2.68	0.41
29:X:13:A:N1	29:X:535:U:C2	2.89	0.41
29:X:32:C:H2'	29:X:33:C:C6	2.56	0.41
29:X:77:C:C2	29:X:78:C:C5	3.09	0.41
29:X:140:G:H2'	29:X:141:G:H8	1.85	0.41
29:X:147:G:O2'	29:X:149:A:N6	2.48	0.41
29:X:167:A:C8	29:X:184:A:C6	3.08	0.41
29:X:219:G:C2'	29:X:220:U:OP2	2.69	0.41
29:X:455:A:H1'	29:X:1215:A:O4'	2.21	0.41
29:X:462:G:O6	29:X:465:C:OP1	2.39	0.41
29:X:517:A:H1'	29:X:519:C:N3	2.35	0.41
29:X:623:G:C2	29:X:624:A:C1'	3.04	0.41
29:X:623:G:C2'	29:X:624:A:H5"	2.50	0.41
29:X:688:A:H2'	29:X:689:A:N3	2.35	0.41
29:X:696:U:C2	29:X:697:G:C8	3.09	0.41
29:X:730:C:H4'	29:X:731:A:OP1	2.21	0.41
29:X:749:C:H3'	29:X:749:C:C6	2.56	0.41
29:X:761:G:C8	29:X:763:A:N7	2.89	0.41
29:X:787:A:H5'	29:X:791:G:C4'	2.50	0.41
29:X:828:C:H2'	29:X:829:C:H6	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:835:U:O2	29:X:835:U:C2'	2.69	0.41
29:X:849:G:C5	29:X:850:C:C5	3.09	0.41
29:X:1038:U:H2'	29:X:1039:A:H8	1.85	0.41
29:X:1251:G:C2	29:X:1252:C:C2	3.09	0.41
29:X:1326:U:C2'	29:X:1626:A:C2	3.02	0.41
29:X:1556:A:H2'	29:X:1557:G:C8	2.53	0.41
29:X:1603:A:C6	29:X:1604:A:C6	3.09	0.41
29:X:1629:G:H2'	29:X:1633:C:H42	1.85	0.41
29:X:1758:C:C2	29:X:1969:G:C2	3.09	0.41
29:X:1816:G:H2'	29:X:1817:U:C6	2.55	0.41
29:X:1953:A:H1'	29:X:1955:G:C8	2.55	0.41
29:X:2036:G:O2'	29:X:2037:A:H5'	2.21	0.41
29:X:2037:A:C2	29:X:2595:C:C4	3.09	0.41
29:X:2170:C:C3'	29:X:2171:U:C5'	2.92	0.41
29:X:2228:U:C1'	29:X:2254:C:H41	2.30	0.41
29:X:2263:C:O2'	29:X:2264:C:H5'	2.21	0.41
29:X:2282:G:C2	29:X:2283:G:C4	3.08	0.41
29:X:2289:A:H3'	29:X:2290:A:H8	1.85	0.41
29:X:2501:U:O2'	29:X:2626:U:H5"	2.20	0.41
29:X:2696:A:O2'	29:X:2697:G:H5'	2.20	0.41
29:X:2784:A:C6	29:X:2866:A:C8	3.09	0.41
29:X:2824:C:O2	29:X:2824:C:C2'	2.69	0.41
29:X:2876:C:O2	29:X:2877:A:C6	2.74	0.41
31:Z:3:A:H2'	31:Z:4:C:H5'	2.02	0.41
3:3:11:LYS:CA	14:I:62:LYS:HE2	2.51	0.41
6:A:132:PRO:HG3	6:A:134:ARG:HE	1.86	0.41
6:A:147:LEU:HD11	6:A:155:LEU:HD21	2.03	0.41
6:A:244:ARG:C	6:A:252:LYS:HZ3	2.29	0.41
7:B:49:ILE:O	7:B:78:LEU:HA	2.20	0.41
8:C:3:GLN:HG2	8:C:116:LYS:HD2	2.03	0.41
8:C:98:GLN:NE2	29:X:611:C:H4'	2.36	0.41
8:C:102:LEU:HD23	8:C:102:LEU:C	2.42	0.41
8:C:112:GLN:HB3	8:C:116:LYS:HD3	2.01	0.41
9:D:12:VAL:HG12	9:D:16:LEU:CD1	2.51	0.41
9:D:118:ASN:O	9:D:128:TYR:OH	2.39	0.41
10:E:121:VAL:HG12	10:E:122:THR:N	2.36	0.41
11:F:117:ALA:HA	29:X:1092:U:O2'	2.21	0.41
12:G:115:ALA:O	12:G:116:ARG:C	2.61	0.41
14:I:36:GLY:HA3	29:X:596:C:N4	2.35	0.41
14:I:43:ALA:O	14:I:44:GLY:C	2.64	0.41
17:L:84:ILE:N	17:L:84:ILE:HD12	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:38:LEU:HD23	20:O:47:PHE:HA	2.02	0.41
22:Q:20:MET:CE	22:Q:92:ALA:O	2.67	0.41
23:R:91:ALA:O	23:R:108:VAL:HG22	2.21	0.41
24:S:151:ASP:O	24:S:152:ILE:C	2.63	0.41
27:V:37:LEU:HD23	27:V:37:LEU:C	2.46	0.41
27:V:48:ARG:NE	29:X:75:C:OP1	2.54	0.41
29:X:15:G:C5	29:X:16:G:N7	2.89	0.41
29:X:214:C:O2'	29:X:215:G:H5'	2.21	0.41
29:X:312:G:C2	29:X:328:A:C4	3.09	0.41
29:X:322:A:O2'	29:X:343:A:H5'	2.21	0.41
29:X:417:C:C4	29:X:419:G:C5	3.09	0.41
29:X:532:A:O2'	29:X:533:C:H5'	2.21	0.41
29:X:715:U:H2'	29:X:716:U:O4'	2.21	0.41
29:X:757:U:C2'	29:X:758:G:H5'	2.51	0.41
29:X:1004:A:C2	29:X:1173:G:C4	3.09	0.41
29:X:1008:G:N1	29:X:1170:U:C2	2.89	0.41
29:X:1391:A:C8	29:X:1393:G:C6	3.09	0.41
29:X:1682:A:C2'	29:X:1683:G:C5'	2.93	0.41
29:X:1993:G:C5	29:X:1994:U:C5	3.09	0.41
29:X:2057:U:H5'	29:X:2058:U:OP2	2.21	0.41
29:X:2088:U:H2'	29:X:2089:C:H6	1.86	0.41
29:X:2187:A:N6	29:X:2188:A:N6	2.69	0.41
29:X:2218:G:O2'	29:X:2219:U:H5'	2.21	0.41
29:X:2375:G:C2	29:X:2400:G:C2	3.09	0.41
31:Z:73:C:C2	31:Z:109:G:C2	3.09	0.41
31:Z:122:U:H5"	31:Z:123:U:OP1	2.21	0.41
6:A:124:GLU:HA	6:A:125:PRO:HD3	1.81	0.40
6:A:214:TRP:CE3	6:A:214:TRP:CA	3.04	0.40
8:C:24:SER:O	8:C:27:LEU:N	2.54	0.40
8:C:27:LEU:HD11	8:C:106:MET:SD	2.62	0.40
8:C:98:GLN:OE1	29:X:611:C:H4'	2.20	0.40
8:C:173:ALA:O	8:C:175:VAL:N	2.44	0.40
9:D:16:LEU:O	9:D:20:PHE:CD1	2.71	0.40
9:D:22:TYR:C	9:D:24:SER:N	2.78	0.40
9:D:123:ASP:O	9:D:126:GLY:N	2.52	0.40
10:E:69:ARG:O	10:E:70:THR:C	2.64	0.40
12:G:134:MET:HB3	29:X:1017:C:H1'	2.02	0.40
13:H:79:HIS:CD2	13:H:80:ALA:O	2.74	0.40
15:J:74:PRO:HB3	15:J:94:TRP:NE1	2.37	0.40
16:K:24:GLN:NE2	16:K:40:LYS:HD3	2.36	0.40
17:L:87:VAL:O	17:L:88:VAL:HG22	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:39:VAL:HA	18:M:45:THR:HA	2.02	0.40
19:N:46:GLU:O	19:N:47:TYR:C	2.63	0.40
20:O:35:LEU:CD2	20:O:35:LEU:C	2.94	0.40
20:O:38:LEU:HA	20:O:46:VAL:O	2.20	0.40
21:P:20:LEU:HD12	21:P:20:LEU:HA	1.78	0.40
21:P:40:LEU:HD22	30:Y:25:LEU:HD11	2.03	0.40
21:P:59:PHE:O	21:P:60:ILE:C	2.64	0.40
22:Q:30:SER:O	22:Q:33:ALA:HB3	2.20	0.40
23:R:36:VAL:HG12	23:R:37:LEU:N	2.36	0.40
23:R:95:ARG:CG	23:R:105:ARG:O	2.69	0.40
24:S:24:TYR:HB3	24:S:29:ASN:HA	2.04	0.40
24:S:43:PHE:O	24:S:44:ARG:C	2.64	0.40
29:X:59:G:N3	29:X:73:A:C2	2.90	0.40
29:X:417:C:C6	29:X:419:G:C1'	3.04	0.40
29:X:426:C:C4'	29:X:1863:U:O2'	2.61	0.40
29:X:651:C:C3'	29:X:652:C:C5'	2.99	0.40
29:X:686:C:O2'	29:X:687:G:H5'	2.21	0.40
29:X:715:U:C2	29:X:716:U:C6	3.10	0.40
29:X:768:U:C6	29:X:769:C:C5	3.09	0.40
29:X:968:C:N4	29:X:970:A:C2	2.89	0.40
29:X:1140:A:N6	29:X:2549:G:C4'	2.83	0.40
29:X:1295:U:O4	29:X:1296:G:C6	2.74	0.40
29:X:1332:G:C6	29:X:1333:G:N1	2.89	0.40
29:X:1336:G:H2'	29:X:1337:G:C5'	2.51	0.40
29:X:1685:A:H4'	29:X:1686:A:O5'	2.20	0.40
29:X:1713:G:C6	29:X:1714:A:C4	3.09	0.40
29:X:1885:C:N4	29:X:1886:G:C4	2.89	0.40
29:X:1976:U:N3	29:X:1977:C:C6	2.88	0.40
29:X:2072:C:O2	29:X:2072:C:H2'	2.21	0.40
29:X:2411:A:C6	29:X:2412:A:C6	3.09	0.40
29:X:2426:G:H4'	29:X:2427:A:C5'	2.51	0.40
29:X:2539:C:N3	29:X:2540:A:C8	2.89	0.40
29:X:2671:C:C4'	29:X:2821:G:N2	2.84	0.40
29:X:2756:A:O2'	29:X:2757:G:P	2.78	0.40
29:X:2790:C:H2'	29:X:2791:C:H6	1.84	0.40
29:X:2797:G:C2'	29:X:2798:A:O5'	2.69	0.40
4:4:35:ARG:NH2	29:X:2723:C:OP2	2.49	0.40
5:5:4:DBU:HG1	29:X:1107:A:H1'	2.03	0.40
7:B:32:PRO:HD2	7:B:50:GLY:O	2.20	0.40
7:B:128:SER:OG	29:X:1976:U:H4'	2.22	0.40
7:B:189:PRO:O	7:B:190:GLY:O	2.40	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:48:ARG:CA	8:C:51:VAL:HG22	2.52	0.40
8:C:74:VAL:HG22	8:C:77:PHE:CD1	2.56	0.40
9:D:4:LEU:HG	9:D:5:LYS:N	2.36	0.40
9:D:93:GLY:N	9:D:96:MET:HB3	2.36	0.40
10:E:70:THR:HG21	29:X:2727:G:H5"	2.03	0.40
10:E:137:ASP:OD2	10:E:139:GLN:HB2	2.22	0.40
11:F:52:ILE:O	11:F:73:PRO:HD3	2.21	0.40
13:H:1:MET:HE2	13:H:44:TYR:CE2	2.56	0.40
14:I:32:ARG:NE	20:O:81:ARG:NE	2.68	0.40
14:I:105:PRO:O	14:I:106:VAL:HG23	2.22	0.40
16:K:27:ALA:O	16:K:29:LEU:N	2.54	0.40
16:K:72:ASP:HB3	16:K:75:VAL:HG23	2.03	0.40
16:K:76:VAL:O	16:K:79:VAL:CG1	2.70	0.40
16:K:87:TYR:O	16:K:90:ARG:HG2	2.21	0.40
17:L:11:LEU:HA	17:L:11:LEU:HD23	1.93	0.40
19:N:52:ASN:O	19:N:53:LYS:C	2.63	0.40
22:Q:57:ASN:HA	22:Q:76:LYS:HA	2.03	0.40
23:R:83:LEU:O	23:R:84:VAL:HG23	2.21	0.40
27:V:22:LYS:HA	27:V:25:LEU:HB2	2.03	0.40
29:X:176:A:C3'	29:X:177:U:C5	3.02	0.40
29:X:310:A:C2	29:X:331:U:C4'	3.00	0.40
29:X:312:G:C6	29:X:328:A:C6	3.10	0.40
29:X:322:A:C2'	29:X:323:G:OP1	2.69	0.40
29:X:883:A:N1	29:X:884:C:C2	2.88	0.40
29:X:1019:U:O2'	29:X:1020:A:H5'	2.21	0.40
29:X:1044:U:N3	29:X:2730:A:C4	2.89	0.40
29:X:1064:C:O5'	29:X:1064:C:H6	2.04	0.40
29:X:1074:G:O2'	29:X:1075:C:H5'	2.21	0.40
29:X:1124:U:O2'	29:X:1125:G:H5'	2.22	0.40
29:X:1137:A:H4'	29:X:1138:A:H5"	2.02	0.40
29:X:1179:A:H2'	29:X:1180:A:C8	2.56	0.40
29:X:1188:A:H8	29:X:1188:A:P	2.43	0.40
29:X:1218:C:H42	29:X:1255:A:N6	2.19	0.40
29:X:1330:G:C4	29:X:1331:G:C8	3.09	0.40
29:X:1405:A:H2'	29:X:1406:A:C8	2.56	0.40
29:X:1567:A:C6	29:X:1568:A:C6	3.10	0.40
29:X:1573:G:OP1	29:X:1574:A:H5'	2.21	0.40
29:X:1634:A:O2'	29:X:1635:G:H5'	2.20	0.40
29:X:1749:G:O2'	29:X:1750:A:OP1	2.39	0.40
29:X:1871:G:H3'	29:X:1871:G:N3	2.36	0.40
29:X:2756:A:O2'	29:X:2761:A:H4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:6:C:H2'	31:Z:7:C:C6	2.50	0.40
7:B:162:MET:CE	29:X:2796:A:H4'	2.50	0.40
8:C:170:LEU:HD12	8:C:170:LEU:HA	1.85	0.40
8:C:182:ARG:HD3	8:C:183:HIS:CE1	2.57	0.40
9:D:34:ILE:O	9:D:91:LEU:HB2	2.22	0.40
9:D:92:ARG:CZ	31:Z:47:A:H8	2.34	0.40
9:D:134:GLU:CG	9:D:136:LEU:H	2.26	0.40
10:E:76:VAL:C	10:E:78:GLY:H	2.29	0.40
11:F:1:MET:HB2	11:F:2:LYS:NZ	2.35	0.40
11:F:88:SER:O	29:X:1075:C:H4'	2.21	0.40
12:G:46:ALA:CB	12:G:54:LEU:CD2	2.99	0.40
12:G:142:ARG:NH1	29:X:538:A:H5"	2.36	0.40
13:H:11:ALA:O	13:H:110:VAL:HA	2.21	0.40
13:H:35:THR:HB	13:H:36:THR:H	1.65	0.40
14:I:96:TYR:C	14:I:98:LEU:N	2.75	0.40
15:J:28:VAL:HG23	15:J:137:VAL:HG23	2.00	0.40
15:J:86:LYS:HB3	29:X:2255:G:H5'	2.03	0.40
16:K:50:GLN:O	16:K:51:LEU:C	2.61	0.40
16:K:79:VAL:CG1	16:K:80:MET:N	2.83	0.40
17:L:44:ASP:O	17:L:45:ASP:C	2.64	0.40
17:L:74:ALA:O	17:L:78:ALA:HB2	2.21	0.40
19:N:108:ALA:HB1	20:O:47:PHE:CE2	2.56	0.40
23:R:53:VAL:HG21	23:R:74:LEU:HD22	2.02	0.40
24:S:94:VAL:HG21	24:S:130:ILE:HG21	2.03	0.40
27:V:2:LYS:HG3	27:V:3:PRO:CD	2.32	0.40
29:X:168:A:N3	29:X:169:C:C6	2.90	0.40
29:X:469:G:H21	29:X:480:G:H2'	1.80	0.40
29:X:474:G:N2	29:X:476:G:H3'	2.36	0.40
29:X:528:G:H2'	29:X:529:U:H6	1.85	0.40
29:X:663:G:H3'	29:X:664:C:C5'	2.37	0.40
29:X:813:A:C4	29:X:815:A:H5'	2.56	0.40
29:X:829:C:C4	29:X:1206:G:N1	2.90	0.40
29:X:1177:U:H2'	29:X:1178:C:C6	2.56	0.40
29:X:1195:U:H2'	29:X:1196:G:H8	1.86	0.40
29:X:1249:G:O2'	29:X:1250:A:O5'	2.38	0.40
29:X:1357:U:O2'	29:X:1358:C:OP1	2.36	0.40
29:X:1380:C:C2'	29:X:1381:G:H5'	2.52	0.40
29:X:1441:A:H4'	29:X:1442:C:O5'	2.21	0.40
29:X:1541:G:C4	29:X:1542:G:C8	3.09	0.40
29:X:1549:C:H2'	29:X:1550:C:C6	2.56	0.40
29:X:1705:U:N3	29:X:1715:A:C2	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1845:A:O2'	29:X:1846:A:H5'	2.20	0.40
29:X:1978:U:H3'	29:X:1979:C:C5'	2.39	0.40
29:X:2082:C:C3'	29:X:2083:G:C5'	2.99	0.40
29:X:2195:C:C2'	29:X:2196:U:C6	2.84	0.40
29:X:2213:G:H2'	29:X:2214:G:C8	2.56	0.40
29:X:2604:G:C6	29:X:2605:C:N4	2.89	0.40
29:X:2670:C:O4'	29:X:2847:G:C5	2.75	0.40
29:X:2690:A:OP1	29:X:2692:A:OP2	2.38	0.40
6:A:64:ILE:O	6:A:65:ILE:HG13	2.21	0.40
6:A:96:HIS:CD2	29:X:1517:C:H4'	2.57	0.40
6:A:227:ASN:OD1	29:X:797:A:H5"	2.22	0.40
7:B:154:LYS:O	7:B:154:LYS:CG	2.69	0.40
8:C:46:ARG:HG2	29:X:463:C:P	2.62	0.40
8:C:191:ALA:O	8:C:194:GLU:O	2.40	0.40
9:D:78:LYS:C	9:D:79:LEU:HD12	2.46	0.40
10:E:38:ASN:HB2	10:E:41:LEU:HB2	2.04	0.40
10:E:109:TYR:HE1	10:E:152:ARG:CZ	2.34	0.40
12:G:151:TYR:HE2	12:G:160:ALA:CB	2.33	0.40
13:H:9:ASP:O	13:H:95:ALA:HA	2.21	0.40
13:H:23:ARG:NH1	13:H:25:LEU:HD23	2.36	0.40
13:H:113:PRO:CB	13:H:134:LEU:HD12	2.52	0.40
14:I:88:PHE:HB3	14:I:93:LEU:HD12	2.03	0.40
14:I:122:VAL:HG21	14:I:124:ALA:O	2.21	0.40
15:J:51:CYS:O	15:J:54:VAL:HB	2.21	0.40
16:K:3:HIS:ND1	16:K:5:LYS:CD	2.83	0.40
16:K:64:ARG:O	16:K:67:ALA:HB3	2.22	0.40
19:N:77:SER:O	19:N:78:THR:C	2.64	0.40
21:P:52:ASP:O	21:P:54:GLU:N	2.55	0.40
21:P:81:HIS:CD2	21:P:82:ASN:N	2.89	0.40
21:P:92:VAL:HG13	21:P:126:ILE:CD1	2.45	0.40
22:Q:88:ILE:HG13	22:Q:92:ALA:HB2	2.04	0.40
24:S:25:ASN:O	24:S:26:LYS:HB3	2.22	0.40
24:S:115:ILE:HG23	24:S:169:VAL:HG12	2.03	0.40
26:U:13:LEU:CG	26:U:14:VAL:H	2.35	0.40
26:U:34:THR:HG23	26:U:35:THR:N	2.35	0.40
27:V:4:SER:O	27:V:8:ASN:HB2	2.22	0.40
27:V:43:VAL:O	27:V:44:ARG:C	2.64	0.40
28:W:23:LEU:HD23	28:W:23:LEU:HA	1.96	0.40
28:W:26:ARG:HG3	28:W:26:ARG:NH1	2.36	0.40
29:X:119:G:C2	29:X:120:G:C5	3.10	0.40
29:X:167:A:H2'	29:X:168:A:H8	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:172:A:C6	29:X:175:C:H5	2.40	0.40
29:X:403:A:H4'	29:X:404:A:C5'	2.51	0.40
29:X:559:C:H2'	29:X:560:G:C4'	2.52	0.40
29:X:632:A:C2	29:X:633:G:C4	3.09	0.40
29:X:638:A:H4'	29:X:639:G:C5'	2.45	0.40
29:X:742:G:C2	29:X:1766:U:N1	2.89	0.40
29:X:753:U:O4'	29:X:1964:A:C4	2.75	0.40
29:X:1162:A:H2'	29:X:1163:C:C6	2.56	0.40
29:X:1358:C:C2'	29:X:1359:G:C5'	3.00	0.40
29:X:1374:G:H4'	29:X:2193:C:O2'	2.21	0.40
29:X:1412:C:H6	29:X:1412:C:O5'	2.04	0.40
29:X:1479:G:O2'	29:X:1480:G:H5'	2.20	0.40
29:X:1578:U:H2'	29:X:1579:G:O4'	2.22	0.40
29:X:1597:A:H2'	29:X:1598:C:C5	2.55	0.40
29:X:1763:G:O2'	29:X:1764:A:H5'	2.21	0.40
29:X:1948:C:C5	29:X:1949:A:C8	3.09	0.40
29:X:1970:G:H2'	29:X:1971:C:H6	1.86	0.40
29:X:1982:C:OP1	29:X:2704:U:H5'	2.20	0.40
29:X:2032:G:C5	29:X:2033:C:C5	3.10	0.40
29:X:2046:C:O2	29:X:2429:A:N1	2.54	0.40
29:X:2238:G:H2'	29:X:2239:C:C5'	2.51	0.40
29:X:2245:A:O2'	29:X:2246:A:P	2.80	0.40
29:X:2288:A:C5	29:X:2289:A:N7	2.89	0.40
29:X:2331:A:C2'	29:X:2332:G:H5'	2.51	0.40
29:X:2511:G:O6	29:X:2512:A:C6	2.74	0.40
29:X:2754:C:O2'	29:X:2755:A:H5'	2.21	0.40
29:X:2790:C:O2'	30:Y:43:HIS:HD2	2.04	0.40
29:X:2800:C:H6	29:X:2800:C:H5"	1.87	0.40
29:X:2870:C:H2'	29:X:2871:U:H6	1.85	0.40
31:Z:80:A:H3'	31:Z:81:C:C6	2.56	0.40
6:A:252:LYS:HE3	6:A:252:LYS:HB2	1.78	0.40
7:B:79:ARG:HD3	7:B:79:ARG:HA	1.87	0.40
8:C:130:THR:HA	8:C:133:PHE:HB3	2.03	0.40
8:C:185:ARG:HG2	8:C:185:ARG:NH2	2.34	0.40
9:D:79:LEU:CD2	29:X:2289:A:H2	2.25	0.40
12:G:91:THR:HB	12:G:92:GLY:H	1.61	0.40
14:I:115:SER:O	14:I:116:ARG:HB2	2.21	0.40
14:I:117:ALA:C	14:I:118:VAL:HG13	2.46	0.40
15:J:80:ALA:C	15:J:81:GLU:OE1	2.64	0.40
15:J:100:PRO:HB2	24:S:74:ARG:HE	1.86	0.40
16:K:51:LEU:HD21	16:K:70:ILE:CG1	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:31:VAL:HA	17:L:38:ILE:HD12	2.03	0.40
18:M:34:ARG:NH2	18:M:66:PHE:HE2	2.20	0.40
19:N:117:ARG:HG3	19:N:117:ARG:NH2	2.36	0.40
23:R:22:VAL:O	23:R:33:THR:HA	2.21	0.40
23:R:105:ARG:NH1	23:R:112:LYS:C	2.80	0.40
24:S:76:ARG:HH11	24:S:76:ARG:HG3	1.87	0.40
26:U:47:HIS:HB2	26:U:48:LYS:H	1.51	0.40
27:V:29:ARG:HB3	27:V:29:ARG:NH1	2.37	0.40
29:X:122:G:H2'	29:X:123:A:H5"	2.04	0.40
29:X:205:A:H2'	29:X:206:U:C5'	2.34	0.40
29:X:317:U:H2'	29:X:318:G:C5'	2.33	0.40
29:X:341:A:C8	29:X:341:A:C3'	3.00	0.40
29:X:387:A:N3	29:X:387:A:H2'	2.36	0.40
29:X:471:A:H2'	29:X:472:C:H5'	2.02	0.40
29:X:599:A:C6	29:X:681:A:N1	2.90	0.40
29:X:780:U:O2'	29:X:781:G:H5'	2.21	0.40
29:X:780:U:O2'	29:X:781:G:O5'	2.39	0.40
29:X:783:G:C1'	29:X:1392:U:C4	3.05	0.40
29:X:1002:C:N4	29:X:1003:C:H41	2.20	0.40
29:X:1050:G:C2'	29:X:1051:U:H5'	2.49	0.40
29:X:1193:G:C3'	29:X:1194:U:H5"	2.48	0.40
29:X:1480:G:H2'	29:X:1481:U:O4'	2.21	0.40
29:X:1505:U:O2	29:X:1506:C:C5	2.74	0.40
29:X:1524:C:H3'	29:X:1525:A:C5'	2.51	0.40
29:X:1813:A:H2'	29:X:1814:G:C8	2.56	0.40
29:X:1836:C:H2'	29:X:1837:G:O4'	2.22	0.40
29:X:1850:G:C2'	29:X:1851:A:C8	2.95	0.40
29:X:2042:A:C5	29:X:2482:A:C2	3.09	0.40
29:X:2285:U:H5'	29:X:2286:G:O4'	2.22	0.40
29:X:2498:U:C4	29:X:2520:A:C5	3.09	0.40
29:X:2571:G:N2	29:X:2582:G:C5	2.89	0.40
29:X:2602:G:OP1	29:X:2801:A:H1'	2.21	0.40
29:X:2691:C:H1'	29:X:2692:A:C8	2.56	0.40
29:X:2791:C:HO2'	29:X:2792:C:H5'	1.83	0.40
29:X:2810:A:N6	29:X:2853:U:H2'	2.36	0.40
31:Z:112:A:H2'	31:Z:113:G:O4'	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
4	4	35/37 (95%)	20 (57%)	12 (34%)	3 (9%)	0 8
5	5	2/13 (15%)	1 (50%)	1 (50%)	0	100 100
6	A	238/274 (87%)	166 (70%)	51 (21%)	21 (9%)	0 8
7	B	203/211 (96%)	143 (70%)	33 (16%)	27 (13%)	0 3
8	C	195/205 (95%)	94 (48%)	55 (28%)	46 (24%)	0 0
9	D	175/180 (97%)	99 (57%)	50 (29%)	26 (15%)	0 2
10	E	169/185 (91%)	110 (65%)	40 (24%)	19 (11%)	0 4
11	F	142/144 (99%)	101 (71%)	33 (23%)	8 (6%)	1 16
12	G	140/174 (80%)	76 (54%)	34 (24%)	30 (21%)	0 1
13	H	132/134 (98%)	106 (80%)	18 (14%)	8 (6%)	1 14
14	I	139/156 (89%)	60 (43%)	41 (30%)	38 (27%)	0 0
15	J	134/142 (94%)	76 (57%)	41 (31%)	17 (13%)	0 4
16	K	111/116 (96%)	70 (63%)	23 (21%)	18 (16%)	0 2
17	L	102/114 (90%)	65 (64%)	23 (22%)	14 (14%)	0 3
18	M	106/166 (64%)	64 (60%)	22 (21%)	20 (19%)	0 1
19	N	115/118 (98%)	65 (56%)	30 (26%)	20 (17%)	0 2
20	O	92/100 (92%)	52 (56%)	23 (25%)	17 (18%)	0 1
21	P	125/134 (93%)	84 (67%)	26 (21%)	15 (12%)	0 4
22	Q	91/95 (96%)	45 (50%)	25 (28%)	21 (23%)	0 0
23	R	108/115 (94%)	61 (56%)	28 (26%)	19 (18%)	0 1
24	S	173/237 (73%)	96 (56%)	50 (29%)	27 (16%)	0 2
25	T	82/91 (90%)	56 (68%)	16 (20%)	10 (12%)	0 4
26	U	70/81 (86%)	34 (49%)	19 (27%)	17 (24%)	0 0
27	V	64/67 (96%)	44 (69%)	12 (19%)	8 (12%)	0 4
28	W	53/55 (96%)	36 (68%)	13 (24%)	4 (8%)	1 11

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
30	Y	56/60 (93%)	35 (62%)	15 (27%)	6 (11%)	0 5
All	All	3052/3404 (90%)	1859 (61%)	734 (24%)	459 (15%)	0 2

All (459) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	A	54	ILE
6	A	59	LYS
7	B	76	ARG
7	B	85	ALA
7	B	86	PRO
7	B	123	ALA
7	B	126	PRO
7	B	131	SER
7	B	132	LYS
7	B	135	HIS
7	B	137	ARG
7	B	147	PRO
7	B	189	PRO
8	C	9	GLN
8	C	10	ASN
8	C	13	ARG
8	C	68	ARG
8	C	75	PRO
8	C	84	PHE
8	C	129	LYS
8	C	138	LYS
8	C	153	ASP
8	C	154	ASP
8	C	155	GLU
8	C	156	ASN
8	C	164	VAL
8	C	165	SER
8	C	166	TRP
8	C	172	VAL
8	C	173	ALA
8	C	175	VAL
8	C	176	ASN
8	C	192	ALA
9	D	10	ASP
9	D	77	PHE
9	D	119	PRO

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Mol	Chain	Res	Type
9	D	120	ASN
10	E	15	VAL
10	E	16	THR
10	E	58	ALA
10	E	126	PRO
12	G	37	ASP
12	G	65	LYS
12	G	88	VAL
12	G	98	LYS
12	G	104	THR
12	G	166	LEU
12	G	170	PRO
13	H	5	GLN
13	H	27	SER
14	I	29	THR
14	I	36	GLY
14	I	38	LYS
14	I	39	SER
14	I	49	PHE
14	I	76	LYS
14	I	99	VAL
14	I	127	ALA
14	I	132	ALA
15	J	21	ASP
15	J	22	ALA
15	J	26	ASP
15	J	27	TYR
15	J	81	GLU
15	J	83	ARG
15	J	97	VAL
15	J	100	PRO
16	K	6	ALA
16	K	11	ASN
16	K	13	ASN
16	K	32	GLY
17	L	31	VAL
17	L	45	ASP
17	L	96	TYR
17	L	109	GLU
18	M	26	ASP
18	M	27	PHE
18	M	29	PRO

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Mol	Chain	Res	Type
18	M	47	SER
18	M	53	VAL
18	M	74	GLY
18	M	83	PHE
18	M	95	GLU
18	M	102	ALA
19	N	5	LYS
19	N	8	ILE
19	N	32	TYR
19	N	75	ASN
19	N	91	ASN
19	N	94	VAL
19	N	110	VAL
20	O	7	THR
20	O	9	GLY
20	O	10	LYS
20	O	13	ARG
20	O	15	SER
20	O	29	ALA
20	O	36	LYS
20	O	49	GLU
20	O	80	TYR
20	O	96	LEU
21	P	11	LYS
21	P	92	VAL
22	Q	7	LEU
22	Q	12	ILE
22	Q	41	ALA
22	Q	61	LYS
22	Q	63	LYS
22	Q	74	ASP
23	R	11	ASN
23	R	12	ASP
23	R	60	PRO
23	R	83	LEU
23	R	91	ALA
23	R	96	LYS
24	S	5	ALA
24	S	6	LYS
24	S	13	LYS
24	S	17	SER
24	S	26	LYS

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Mol	Chain	Res	Type
24	S	33	ALA
24	S	36	ARG
24	S	45	GLN
24	S	88	TYR
24	S	92	VAL
24	S	118	HIS
25	T	3	HIS
25	T	4	LYS
25	T	19	LYS
25	T	31	VAL
25	T	75	GLY
26	U	10	LYS
26	U	14	VAL
26	U	16	ASN
26	U	30	VAL
26	U	32	ARG
26	U	34	THR
26	U	56	GLN
26	U	60	VAL
27	V	2	LYS
27	V	36	GLN
28	W	8	SER
28	W	49	HIS
30	Y	4	HIS
30	Y	20	ARG
30	Y	53	ASP
4	4	16	VAL
6	A	47	GLY
6	A	125	PRO
6	A	156	ALA
7	B	12	THR
7	B	17	ASN
7	B	29	GLY
7	B	72	VAL
7	B	94	ASP
7	B	124	GLY
7	B	130	GLY
7	B	148	GLY
7	B	190	GLY
8	C	11	GLY
8	C	22	VAL
8	C	30	VAL

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Mol	Chain	Res	Type
8	C	67	ALA
8	C	80	GLY
8	C	103	GLY
8	C	139	GLN
8	C	159	ARG
8	C	196	VAL
9	D	5	LYS
9	D	40	LEU
9	D	53	ALA
9	D	123	ASP
9	D	137	ILE
9	D	168	ALA
10	E	13	SER
10	E	14	GLY
10	E	49	GLN
10	E	55	PRO
10	E	78	GLY
10	E	119	ALA
10	E	165	VAL
11	F	19	PRO
11	F	118	GLY
12	G	32	TYR
12	G	33	ILE
12	G	55	ALA
12	G	73	ASN
12	G	78	ASP
12	G	107	GLN
12	G	108	GLY
12	G	141	GLY
13	H	32	LYS
13	H	37	GLY
13	H	42	LYS
13	H	101	ASN
14	I	16	ARG
14	I	24	GLY
14	I	31	GLY
14	I	40	ARG
14	I	44	GLY
14	I	47	ALA
14	I	62	LYS
14	I	64	GLY
14	I	82	ASP

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Mol	Chain	Res	Type
14	I	91	ASP
14	I	98	LEU
14	I	114	ILE
15	J	13	GLN
15	J	29	ALA
15	J	111	THR
16	K	18	VAL
16	K	92	GLY
16	K	95	THR
17	L	33	ARG
17	L	46	SER
17	L	52	ALA
17	L	67	THR
17	L	104	ALA
18	M	17	GLU
18	M	46	ARG
18	M	73	PHE
18	M	96	ARG
19	N	7	GLY
19	N	11	ARG
19	N	46	GLU
19	N	78	THR
19	N	79	PHE
20	O	31	ASP
20	O	79	GLN
21	P	9	ARG
21	P	46	ARG
21	P	81	HIS
21	P	112	GLY
22	Q	40	ASP
22	Q	69	ILE
22	Q	83	ALA
22	Q	89	GLU
23	R	10	HIS
23	R	15	HIS
23	R	26	SER
23	R	61	SER
23	R	63	THR
24	S	37	LYS
24	S	38	ALA
25	T	30	VAL
26	U	15	VAL

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Mol	Chain	Res	Type
26	U	27	ASP
26	U	29	GLY
26	U	41	VAL
26	U	65	ASN
26	U	72	LYS
27	V	37	LEU
27	V	65	GLU
28	W	54	GLN
30	Y	36	CYS
6	A	60	ARG
6	A	86	PRO
6	A	108	PRO
6	A	219	PRO
6	A	237	GLU
6	A	241	GLY
6	A	252	LYS
8	C	14	THR
8	C	15	ILE
8	C	47	THR
8	C	102	LEU
8	C	171	PRO
8	C	190	ALA
8	C	191	ALA
8	C	195	ILE
9	D	11	GLN
9	D	42	SER
9	D	71	LYS
9	D	76	ASN
9	D	94	GLU
10	E	7	GLN
10	E	21	ASP
10	E	173	ALA
11	F	26	ALA
11	F	120	VAL
12	G	36	ASN
12	G	39	GLN
12	G	72	PRO
12	G	97	ASP
12	G	169	GLN
14	I	105	PRO
14	I	136	ALA
15	J	11	ARG

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Mol	Chain	Res	Type
15	J	18	MET
15	J	56	SER
15	J	117	GLU
16	K	4	GLY
16	K	20	LEU
16	K	21	ALA
16	K	91	PRO
17	L	103	LEU
18	M	10	GLY
18	M	44	ARG
18	M	108	ARG
19	N	33	ARG
19	N	65	ILE
19	N	77	SER
20	O	35	LEU
20	O	39	PHE
20	O	66	GLY
21	P	35	PRO
21	P	48	LYS
21	P	49	SER
22	Q	6	ILE
22	Q	91	LEU
23	R	50	GLY
23	R	65	PRO
23	R	89	GLY
23	R	108	VAL
24	S	2	GLU
24	S	46	GLN
24	S	106	GLY
24	S	125	PRO
24	S	134	LEU
24	S	140	LYS
24	S	158	CYS
25	T	16	SER
25	T	74	LYS
25	T	83	ALA
27	V	47	ARG
27	V	53	LEU
6	A	87	ASN
6	A	209	ALA
6	A	220	HIS
6	A	224	SER

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Mol	Chain	Res	Type
6	A	235	GLY
7	B	73	ALA
7	B	134	TRP
7	B	136	ARG
7	B	144	ARG
7	B	154	LYS
7	B	185	LYS
8	C	20	PRO
8	C	44	SER
8	C	83	ALA
8	C	121	ASP
8	C	178	TYR
9	D	81	GLN
9	D	134	GLU
10	E	20	GLN
10	E	42	THR
11	F	93	LYS
11	F	135	GLY
12	G	67	ARG
12	G	106	TYR
12	G	130	ALA
12	G	143	ALA
14	I	19	VAL
14	I	32	ARG
14	I	41	SER
14	I	65	PHE
14	I	87	THR
14	I	93	LEU
16	K	56	LYS
16	K	88	ALA
17	L	55	SER
17	L	56	SER
17	L	102	ALA
18	M	28	ARG
18	M	39	VAL
18	M	106	TYR
19	N	12	ARG
19	N	13	ARG
19	N	27	SER
20	O	24	SER
21	P	82	ASN
22	Q	67	ARG

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Mol	Chain	Res	Type
23	R	20	ASP
23	R	79	SER
24	S	25	ASN
24	S	91	PRO
26	U	47	HIS
27	V	43	VAL
30	Y	21	SER
4	4	19	ARG
4	4	33	LYS
7	B	121	ASN
8	C	31	VAL
9	D	145	MET
9	D	146	VAL
9	D	152	MET
10	E	151	VAL
12	G	34	PRO
12	G	68	PRO
12	G	105	GLY
13	H	61	ARG
14	I	9	THR
14	I	17	LYS
14	I	81	GLN
14	I	90	ARG
15	J	106	GLU
16	K	8	ARG
16	K	26	THR
16	K	45	ARG
19	N	10	ARG
19	N	50	ARG
21	P	20	LEU
21	P	53	ALA
22	Q	13	SER
22	Q	43	GLN
23	R	85	ASP
24	S	24	TYR
24	S	110	GLY
26	U	64	ALA
27	V	4	SER
30	Y	19	ARG
6	A	69	ARG
8	C	126	ALA
8	C	152	THR

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Mol	Chain	Res	Type
9	D	72	LYS
9	D	170	LEU
10	E	136	ILE
10	E	139	GLN
12	G	132	PHE
13	H	124	MET
14	I	78	SER
14	I	88	PHE
16	K	7	GLY
20	O	18	ASP
21	P	32	ARG
21	P	132	GLY
22	Q	35	LYS
22	Q	47	GLY
22	Q	90	ALA
24	S	124	ALA
26	U	39	LYS
28	W	48	LYS
6	A	246	PRO
9	D	13	ARG
23	R	64	ASN
9	D	21	GLY
12	G	64	GLY
12	G	127	ILE
17	L	38	ILE
21	P	101	PRO
22	Q	48	VAL
22	Q	60	GLY
6	A	197	GLY
6	A	247	VAL
9	D	176	PRO
11	F	22	PRO
11	F	96	VAL
14	I	10	PRO
14	I	33	GLY
15	J	54	VAL
24	S	86	VAL
24	S	155	PRO
8	C	177	VAL
16	K	83	VAL
22	Q	65	VAL
25	T	81	ILE

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Mol	Chain	Res	Type
9	D	14	PRO
14	I	122	VAL
18	M	86	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	
4	4	35/35 (100%)	35 (100%)	0	100	100
5	5	2/3 (67%)	2 (100%)	0	100	100
6	A	185/215 (86%)	173 (94%)	12 (6%)	15	43
7	B	155/157 (99%)	143 (92%)	12 (8%)	12	38
8	C	157/163 (96%)	147 (94%)	10 (6%)	16	43
9	D	153/156 (98%)	144 (94%)	9 (6%)	18	44
10	E	136/144 (94%)	130 (96%)	6 (4%)	25	50
11	F	107/107 (100%)	104 (97%)	3 (3%)	38	58
12	G	118/146 (81%)	102 (86%)	16 (14%)	3	19
13	H	103/103 (100%)	92 (89%)	11 (11%)	6	27
14	I	108/121 (89%)	98 (91%)	10 (9%)	8	32
15	J	110/116 (95%)	98 (89%)	12 (11%)	6	26
16	K	90/93 (97%)	72 (80%)	18 (20%)	1	9
17	L	74/82 (90%)	62 (84%)	12 (16%)	2	14
18	M	94/134 (70%)	80 (85%)	14 (15%)	3	16
19	N	96/97 (99%)	90 (94%)	6 (6%)	16	43
20	O	75/79 (95%)	69 (92%)	6 (8%)	11	37
21	P	109/115 (95%)	101 (93%)	8 (7%)	13	40
22	Q	75/76 (99%)	69 (92%)	6 (8%)	11	37
23	R	91/96 (95%)	80 (88%)	11 (12%)	5	22
24	S	149/192 (78%)	140 (94%)	9 (6%)	17	44

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
25	T	62/67 (92%)	60 (97%)	2 (3%)	34 56
26	U	57/66 (86%)	49 (86%)	8 (14%)	3 18
27	V	54/55 (98%)	54 (100%)	0	100 100
28	W	48/48 (100%)	45 (94%)	3 (6%)	16 43
30	Y	51/53 (96%)	46 (90%)	5 (10%)	7 30
All	All	2494/2719 (92%)	2285 (92%)	209 (8%)	10 35

All (209) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
6	A	43	ARG
6	A	44	ASN
6	A	48	ARG
6	A	122	GLU
6	A	164	GLN
6	A	208	LYS
6	A	214	TRP
6	A	218	LYS
6	A	222	ARG
6	A	226	MET
6	A	245	VAL
6	A	252	LYS
7	B	14	ILE
7	B	24	THR
7	B	75	THR
7	B	86	PRO
7	B	103	ASP
7	B	119	ARG
7	B	137	ARG
7	B	147	PRO
7	B	150	VAL
7	B	160	MET
7	B	182	ILE
7	B	199	ARG
8	C	17	LEU
8	C	53	LYS
8	C	62	LYS
8	C	74	VAL
8	C	75	PRO
8	C	104	LEU

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Mol	Chain	Res	Type
8	C	124	ASP
8	C	136	TRP
8	C	154	ASP
8	C	166	TRP
9	D	40	LEU
9	D	80	ARG
9	D	89	VAL
9	D	112	ARG
9	D	123	ASP
9	D	125	ARG
9	D	130	LEU
9	D	137	ILE
9	D	145	MET
10	E	35	VAL
10	E	48	ASP
10	E	50	LEU
10	E	57	ASP
10	E	136	ILE
10	E	172	LYS
11	F	2	LYS
11	F	3	LYS
11	F	103	GLN
12	G	34	PRO
12	G	37	ASP
12	G	61	ARG
12	G	71	THR
12	G	82	VAL
12	G	91	THR
12	G	93	LYS
12	G	101	THR
12	G	102	ARG
12	G	104	THR
12	G	110	LEU
12	G	113	GLU
12	G	132	PHE
12	G	151	TYR
12	G	154	GLU
12	G	157	PRO
13	H	1	MET
13	H	3	MET
13	H	22	ILE
13	H	23	ARG

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Mol	Chain	Res	Type
13	H	41	ASN
13	H	47	VAL
13	H	81	ILE
13	H	88	THR
13	H	91	PHE
13	H	108	THR
13	H	116	ARG
14	I	13	ARG
14	I	19	VAL
14	I	34	HIS
14	I	37	GLN
14	I	38	LYS
14	I	53	ARG
14	I	60	LEU
14	I	84	GLU
14	I	99	VAL
14	I	103	ASN
15	J	11	ARG
15	J	21	ASP
15	J	27	TYR
15	J	64	LYS
15	J	65	ILE
15	J	68	ARG
15	J	75	VAL
15	J	88	LYS
15	J	93	TYR
15	J	100	PRO
15	J	106	GLU
15	J	125	LYS
16	K	11	ASN
16	K	13	ASN
16	K	18	VAL
16	K	28	LEU
16	K	31	GLU
16	K	33	ARG
16	K	35	GLN
16	K	36	THR
16	K	39	THR
16	K	43	GLU
16	K	79	VAL
16	K	83	VAL
16	K	95	THR

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Mol	Chain	Res	Type
16	K	96	ARG
16	K	97	ILE
16	K	99	ARG
16	K	109	THR
16	K	113	ILE
17	L	31	VAL
17	L	38	ILE
17	L	41	GLN
17	L	42	ILE
17	L	43	ILE
17	L	44	ASP
17	L	60	LYS
17	L	67	THR
17	L	71	VAL
17	L	89	PHE
17	L	91	ARG
17	L	94	TYR
18	M	5	ILE
18	M	7	ILE
18	M	22	ARG
18	M	25	PRO
18	M	31	ASP
18	M	43	ASN
18	M	46	ARG
18	M	47	SER
18	M	51	GLU
18	M	54	VAL
18	M	69	ARG
18	M	89	ASN
18	M	90	GLN
18	M	106	TYR
19	N	13	ARG
19	N	17	VAL
19	N	22	LYS
19	N	60	LEU
19	N	85	ARG
19	N	93	LYS
20	O	20	ILE
20	O	28	GLU
20	O	35	LEU
20	O	47	PHE
20	O	72	ARG

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Mol	Chain	Res	Type
20	O	75	LYS
21	P	16	GLN
21	P	27	VAL
21	P	32	ARG
21	P	52	ASP
21	P	60	ILE
21	P	67	PRO
21	P	74	SER
21	P	106	LEU
22	Q	5	ASP
22	Q	7	LEU
22	Q	12	ILE
22	Q	27	PHE
22	Q	37	GLU
22	Q	38	ILE
23	R	11	ASN
23	R	18	LYS
23	R	23	ILE
23	R	25	LEU
23	R	44	GLN
23	R	80	LYS
23	R	83	LEU
23	R	95	ARG
23	R	106	VAL
23	R	112	LYS
23	R	113	THR
24	S	3	LEU
24	S	9	THR
24	S	13	LYS
24	S	49	THR
24	S	51	LEU
24	S	53	ASP
24	S	71	MET
24	S	92	VAL
24	S	100	THR
25	T	31	VAL
25	T	37	LEU
26	U	14	VAL
26	U	27	ASP
26	U	32	ARG
26	U	42	GLN
26	U	47	HIS

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Mol	Chain	Res	Type
26	U	67	LEU
26	U	70	LEU
26	U	78	ILE
28	W	30	ASP
28	W	32	ARG
28	W	45	LYS
30	Y	3	LYS
30	Y	4	HIS
30	Y	25	LEU
30	Y	49	CYS
30	Y	57	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (82) such sidechains are listed below:

Mol	Chain	Res	Type
4	4	34	GLN
4	4	36	GLN
6	A	44	ASN
6	A	129	ASN
6	A	154	GLN
6	A	166	GLN
7	B	17	ASN
7	B	121	ASN
7	B	180	ASN
8	C	9	GLN
8	C	61	GLN
8	C	66	ASN
8	C	112	GLN
8	C	132	ASN
8	C	139	GLN
8	C	156	ASN
9	D	9	ASN
9	D	120	ASN
9	D	129	ASN
10	E	20	GLN
10	E	45	GLN
10	E	61	HIS
11	F	103	GLN
11	F	125	ASN
12	G	73	ASN
12	G	140	GLN
13	H	13	ASN

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Mol	Chain	Res	Type
13	H	26	ASN
13	H	41	ASN
13	H	46	HIS
13	H	79	HIS
14	I	34	HIS
14	I	37	GLN
14	I	79	GLN
14	I	81	GLN
14	I	103	ASN
15	J	13	GLN
15	J	58	HIS
16	K	13	ASN
16	K	24	GLN
16	K	71	HIS
17	L	37	HIS
17	L	41	GLN
17	L	63	ASN
17	L	86	GLN
18	M	43	ASN
18	M	48	GLN
19	N	31	GLN
19	N	41	ASN
19	N	52	ASN
19	N	72	HIS
20	O	11	GLN
20	O	44	GLN
20	O	57	GLN
21	P	17	GLN
21	P	78	ASN
21	P	81	HIS
21	P	115	ASN
21	P	133	ASN
22	Q	73	ASN
23	R	10	HIS
23	R	11	ASN
23	R	32	GLN
23	R	44	GLN
23	R	69	GLN
24	S	70	GLN
24	S	80	HIS
24	S	146	HIS
25	T	3	HIS

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Mol	Chain	Res	Type
25	T	17	ASN
25	T	57	HIS
25	T	71	ASN
26	U	56	GLN
27	V	8	ASN
27	V	41	HIS
27	V	45	GLN
28	W	49	HIS
30	Y	4	HIS
30	Y	29	ASN
30	Y	35	GLN
30	Y	43	HIS
30	Y	44	HIS

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
29	X	2680/2880 (93%)	655 (24%)	239 (8%)
31	Z	121/123 (98%)	24 (19%)	1 (0%)
All	All	2801/3003 (93%)	679 (24%)	240 (8%)

All (679) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
29	X	4	C
29	X	13	A
29	X	14	A
29	X	27	G
29	X	29	U
29	X	34	U
29	X	35	G
29	X	39	C
29	X	45	C
29	X	49	U
29	X	50	G
29	X	59	G
29	X	63	A
29	X	69	G
29	X	70	A
29	X	71	A
29	X	72	A

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Mol	Chain	Res	Type
29	X	74	G
29	X	76	C
29	X	82	G
29	X	83	A
29	X	84	G
29	X	87	G
29	X	89	A
29	X	90	G
29	X	91	A
29	X	98	U
29	X	99	U
29	X	100	G
29	X	105	G
29	X	110	U
29	X	117	A
29	X	118	U
29	X	119	G
29	X	123	A
29	X	124	A
29	X	129	A
29	X	135	U
29	X	143	A
29	X	147	G
29	X	155	G
29	X	158	A
29	X	173	A
29	X	176	A
29	X	181	A
29	X	182	G
29	X	193	A
29	X	199	A
29	X	200	A
29	X	205	A
29	X	206	U
29	X	210	A
29	X	218	A
29	X	219	G
29	X	225	G
29	X	227	G
29	X	229	G
29	X	242	A
29	X	243	G

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Mol	Chain	Res	Type
29	X	245	C
29	X	304	A
29	X	305	A
29	X	318	G
29	X	322	A
29	X	323	G
29	X	333	A
29	X	334	G
29	X	335	A
29	X	340	G
29	X	341	A
29	X	342	G
29	X	343	A
29	X	399	G
29	X	400	U
29	X	401	G
29	X	403	A
29	X	404	A
29	X	414	A
29	X	416	U
29	X	417	C
29	X	418	C
29	X	419	G
29	X	420	C
29	X	424	G
29	X	425	A
29	X	441	A
29	X	447	U
29	X	448	C
29	X	455	A
29	X	456	C
29	X	459	A
29	X	460	U
29	X	461	A
29	X	463	C
29	X	466	A
29	X	467	U
29	X	468	A
29	X	470	U
29	X	480	G
29	X	483	A
29	X	485	G

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Mol	Chain	Res	Type
29	X	486	U
29	X	491	A
29	X	492	G
29	X	497	C
29	X	514	G
29	X	515	A
29	X	517	A
29	X	519	C
29	X	537	C
29	X	538	A
29	X	539	A
29	X	540	G
29	X	541	C
29	X	542	A
29	X	554	U
29	X	555	U
29	X	556	A
29	X	557	U
29	X	558	G
29	X	559	C
29	X	571	U
29	X	572	G
29	X	581	A
29	X	582	G
29	X	583	C
29	X	584	A
29	X	601	A
29	X	613	A
29	X	614	G
29	X	624	A
29	X	625	A
29	X	626	A
29	X	631	G
29	X	632	A
29	X	633	G
29	X	636	G
29	X	639	G
29	X	649	G
29	X	652	C
29	X	654	A
29	X	655	A
29	X	657	A

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Mol	Chain	Res	Type
29	X	664	C
29	X	665	A
29	X	666	U
29	X	667	U
29	X	668	A
29	X	669	G
29	X	670	U
29	X	684	C
29	X	699	G
29	X	700	C
29	X	728	G
29	X	729	A
29	X	730	C
29	X	731	A
29	X	732	G
29	X	740	A
29	X	742	G
29	X	743	A
29	X	748	A
29	X	752	G
29	X	753	U
29	X	759	C
29	X	760	U
29	X	766	A
29	X	776	G
29	X	778	G
29	X	781	G
29	X	789	G
29	X	790	A
29	X	795	A
29	X	796	A
29	X	797	A
29	X	798	G
29	X	802	A
29	X	803	C
29	X	804	C
29	X	805	G
29	X	806	A
29	X	807	A
29	X	813	A
29	X	814	G
29	X	815	A

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Mol	Chain	Res	Type
29	X	818	G
29	X	819	C
29	X	825	C
29	X	832	A
29	X	840	U
29	X	841	G
29	X	842	A
29	X	843	G
29	X	844	G
29	X	859	U
29	X	862	A
29	X	872	G
29	X	879	A
29	X	914	C
29	X	919	U
29	X	922	A
29	X	926	C
29	X	927	C
29	X	940	G
29	X	944	A
29	X	952	A
29	X	957	G
29	X	968	C
29	X	969	U
29	X	970	A
29	X	971	A
29	X	972	C
29	X	973	U
29	X	984	A
29	X	985	G
29	X	994	A
29	X	995	A
29	X	996	C
29	X	1006	C
29	X	1007	A
29	X	1016	C
29	X	1019	U
29	X	1022	A
29	X	1023	U
29	X	1024	G
29	X	1032	A
29	X	1033	G

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Mol	Chain	Res	Type
29	X	1034	U
29	X	1036	G
29	X	1037	U
29	X	1044	U
29	X	1045	G
29	X	1051	U
29	X	1053	G
29	X	1054	C
29	X	1055	A
29	X	1056	U
29	X	1057	A
29	X	1058	G
29	X	1059	A
29	X	1060	C
29	X	1061	A
29	X	1070	G
29	X	1071	U
29	X	1072	U
29	X	1073	G
29	X	1078	A
29	X	1079	G
29	X	1081	A
29	X	1082	G
29	X	1087	C
29	X	1090	C
29	X	1095	A
29	X	1096	A
29	X	1097	A
29	X	1098	G
29	X	1099	A
29	X	1108	U
29	X	1115	C
29	X	1119	U
29	X	1123	G
29	X	1128	G
29	X	1129	A
29	X	1137	A
29	X	1138	A
29	X	1139	A
29	X	1142	G
29	X	1143	A
29	X	1145	C

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Mol	Chain	Res	Type
29	X	1146	G
29	X	1152	C
29	X	1153	A
29	X	1154	A
29	X	1155	G
29	X	1166	A
29	X	1167	A
29	X	1168	G
29	X	1182	U
29	X	1183	C
29	X	1185	C
29	X	1187	A
29	X	1189	G
29	X	1192	A
29	X	1194	U
29	X	1195	U
29	X	1220	G
29	X	1224	A
29	X	1225	G
29	X	1226	A
29	X	1233	A
29	X	1234	C
29	X	1249	G
29	X	1250	A
29	X	1251	G
29	X	1253	C
29	X	1262	U
29	X	1264	C
29	X	1265	G
29	X	1266	G
29	X	1269	G
29	X	1278	A
29	X	1279	G
29	X	1284	G
29	X	1285	A
29	X	1288	A
29	X	1300	A
29	X	1302	C
29	X	1313	U
29	X	1314	A
29	X	1316	G
29	X	1319	C

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Mol	Chain	Res	Type
29	X	1325	U
29	X	1326	U
29	X	1333	G
29	X	1334	A
29	X	1338	G
29	X	1339	U
29	X	1342	U
29	X	1343	C
29	X	1346	C
29	X	1354	A
29	X	1355	A
29	X	1356	G
29	X	1358	C
29	X	1359	G
29	X	1378	A
29	X	1391	A
29	X	1392	U
29	X	1398	G
29	X	1410	U
29	X	1411	C
29	X	1428	G
29	X	1429	A
29	X	1432	G
29	X	1433	A
29	X	1434	U
29	X	1440	G
29	X	1441	A
29	X	1442	C
29	X	1443	G
29	X	1460	G
29	X	1465	G
29	X	1467	U
29	X	1468	A
29	X	1469	U
29	X	1470	G
29	X	1474	A
29	X	1475	U
29	X	1482	U
29	X	1489	C
29	X	1490	U
29	X	1497	C
29	X	1498	G

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Mol	Chain	Res	Type
29	X	1506	C
29	X	1513	U
29	X	1514	C
29	X	1523	A
29	X	1524	C
29	X	1525	A
29	X	1528	C
29	X	1551	U
29	X	1552	C
29	X	1553	G
29	X	1554	G
29	X	1562	G
29	X	1563	U
29	X	1570	C
29	X	1571	G
29	X	1574	A
29	X	1575	C
29	X	1576	G
29	X	1583	A
29	X	1585	A
29	X	1601	U
29	X	1602	G
29	X	1608	U
29	X	1624	A
29	X	1625	A
29	X	1626	A
29	X	1627	C
29	X	1632	A
29	X	1633	C
29	X	1635	G
29	X	1648	C
29	X	1652	G
29	X	1657	A
29	X	1664	G
29	X	1665	C
29	X	1671	A
29	X	1684	G
29	X	1685	A
29	X	1686	A
29	X	1688	U
29	X	1691	G
29	X	1692	C

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Mol	Chain	Res	Type
29	X	1699	A
29	X	1701	C
29	X	1710	U
29	X	1711	C
29	X	1712	G
29	X	1713	G
29	X	1715	A
29	X	1716	G
29	X	1717	A
29	X	1724	C
29	X	1732	U
29	X	1733	U
29	X	1734	C
29	X	1747	G
29	X	1749	G
29	X	1750	A
29	X	1754	G
29	X	1755	G
29	X	1764	A
29	X	1771	A
29	X	1772	C
29	X	1776	A
29	X	1778	U
29	X	1790	G
29	X	1791	C
29	X	1792	C
29	X	1793	A
29	X	1801	C
29	X	1802	A
29	X	1807	A
29	X	1808	C
29	X	1812	U
29	X	1821	A
29	X	1822	C
29	X	1825	C
29	X	1831	G
29	X	1842	G
29	X	1851	A
29	X	1852	G
29	X	1854	G
29	X	1855	G
29	X	1856	U

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Mol	Chain	Res	Type
29	X	1857	G
29	X	1859	A
29	X	1861	G
29	X	1865	C
29	X	1867	A
29	X	1868	A
29	X	1872	A
29	X	1910	A
29	X	1912	G
29	X	1914	U
29	X	1919	A
29	X	1922	U
29	X	1923	U
29	X	1924	C
29	X	1925	C
29	X	1926	U
29	X	1927	U
29	X	1928	G
29	X	1938	U
29	X	1939	U
29	X	1946	U
29	X	1947	G
29	X	1948	C
29	X	1949	A
29	X	1950	C
29	X	1953	A
29	X	1954	A
29	X	1955	G
29	X	1964	A
29	X	1965	U
29	X	1976	U
29	X	1979	C
29	X	1980	A
29	X	1993	G
29	X	2003	A
29	X	2004	U
29	X	2005	U
29	X	2006	G
29	X	2014	A
29	X	2015	G
29	X	2016	A
29	X	2019	C

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Mol	Chain	Res	Type
29	X	2026	C
29	X	2032	G
29	X	2034	A
29	X	2035	G
29	X	2038	C
29	X	2039	G
29	X	2044	G
29	X	2045	A
29	X	2046	C
29	X	2047	C
29	X	2051	U
29	X	2052	G
29	X	2075	U
29	X	2076	G
29	X	2083	G
29	X	2089	C
29	X	2171	U
29	X	2181	A
29	X	2190	A
29	X	2191	A
29	X	2192	U
29	X	2195	C
29	X	2196	U
29	X	2197	U
29	X	2198	U
29	X	2199	C
29	X	2200	G
29	X	2205	C
29	X	2217	G
29	X	2218	G
29	X	2229	G
29	X	2238	G
29	X	2245	A
29	X	2246	A
29	X	2247	A
29	X	2254	C
29	X	2259	G
29	X	2262	C
29	X	2265	A
29	X	2266	A
29	X	2267	A
29	X	2268	G

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Mol	Chain	Res	Type
29	X	2276	C
29	X	2284	U
29	X	2285	U
29	X	2286	G
29	X	2287	G
29	X	2288	A
29	X	2298	U
29	X	2300	G
29	X	2306	A
29	X	2313	G
29	X	2314	A
29	X	2315	A
29	X	2322	U
29	X	2323	U
29	X	2324	G
29	X	2325	A
29	X	2326	C
29	X	2362	G
29	X	2364	C
29	X	2369	U
29	X	2396	C
29	X	2402	U
29	X	2403	C
29	X	2405	A
29	X	2406	C
29	X	2407	G
29	X	2408	G
29	X	2409	A
29	X	2410	U
29	X	2418	A
29	X	2419	C
29	X	2420	C
29	X	2427	A
29	X	2428	U
29	X	2438	A
29	X	2448	A
29	X	2452	U
29	X	2455	A
29	X	2458	U
29	X	2469	G
29	X	2470	U
29	X	2477	C

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Mol	Chain	Res	Type
29	X	2481	G
29	X	2483	U
29	X	2484	G
29	X	2485	U
29	X	2492	G
29	X	2497	A
29	X	2498	U
29	X	2499	C
29	X	2508	G
29	X	2509	A
29	X	2521	A
29	X	2522	G
29	X	2533	U
29	X	2545	A
29	X	2546	G
29	X	2552	C
29	X	2557	G
29	X	2560	G
29	X	2561	G
29	X	2564	U
29	X	2565	C
29	X	2581	A
29	X	2582	G
29	X	2588	U
29	X	2591	C
29	X	2592	U
29	X	2593	A
29	X	2594	U
29	X	2609	G
29	X	2613	A
29	X	2625	U
29	X	2633	A
29	X	2634	G
29	X	2650	G
29	X	2660	C
29	X	2661	G
29	X	2668	U
29	X	2669	C
29	X	2670	C
29	X	2679	G
29	X	2691	C
29	X	2692	A

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Mol	Chain	Res	Type
29	X	2693	U
29	X	2694	G
29	X	2700	U
29	X	2705	A
29	X	2707	G
29	X	2711	G
29	X	2712	G
29	X	2713	A
29	X	2728	A
29	X	2730	A
29	X	2731	G
29	X	2732	C
29	X	2736	U
29	X	2737	A
29	X	2738	A
29	X	2744	A
29	X	2745	A
29	X	2746	G
29	X	2757	G
29	X	2758	A
29	X	2759	U
29	X	2760	G
29	X	2761	A
29	X	2770	A
29	X	2771	C
29	X	2775	U
29	X	2777	A
29	X	2778	U
29	X	2779	C
29	X	2782	G
29	X	2783	U
29	X	2795	A
29	X	2796	A
29	X	2807	U
29	X	2808	U
29	X	2809	A
29	X	2811	G
29	X	2812	A
29	X	2824	C
29	X	2825	A
29	X	2841	U
29	X	2842	C

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Mol	Chain	Res	Type
29	X	2846	G
29	X	2847	G
29	X	2850	U
29	X	2854	G
29	X	2855	C
29	X	2858	A
29	X	2867	G
29	X	2868	G
31	Z	4	C
31	Z	11	G
31	Z	14	C
31	Z	15	A
31	Z	17	A
31	Z	18	G
31	Z	27	A
31	Z	28	A
31	Z	37	C
31	Z	43	G
31	Z	44	C
31	Z	46	G
31	Z	47	A
31	Z	54	U
31	Z	59	A
31	Z	68	A
31	Z	69	G
31	Z	87	C
31	Z	102	A
31	Z	110	U
31	Z	111	C
31	Z	112	A
31	Z	115	G
31	Z	123	U

All (240) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
29	X	3	U
29	X	13	A
29	X	33	C
29	X	38	G
29	X	48	A
29	X	71	A

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Mol	Chain	Res	Type
29	X	73	A
29	X	117	A
29	X	173	A
29	X	176	A
29	X	181	A
29	X	192	G
29	X	198	A
29	X	218	A
29	X	226	C
29	X	322	A
29	X	334	G
29	X	340	G
29	X	341	A
29	X	342	G
29	X	399	G
29	X	403	A
29	X	417	C
29	X	424	G
29	X	454	G
29	X	460	U
29	X	466	A
29	X	467	U
29	X	468	A
29	X	469	G
29	X	485	G
29	X	490	A
29	X	516	G
29	X	538	A
29	X	539	A
29	X	553	C
29	X	554	U
29	X	555	U
29	X	556	A
29	X	557	U
29	X	571	U
29	X	580	A
29	X	582	G
29	X	583	C
29	X	613	A
29	X	631	G
29	X	638	A
29	X	648	A

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Mol	Chain	Res	Type
29	X	664	C
29	X	683	A
29	X	698	A
29	X	699	G
29	X	729	A
29	X	730	C
29	X	739	G
29	X	741	G
29	X	751	G
29	X	752	G
29	X	765	C
29	X	775	U
29	X	777	A
29	X	780	U
29	X	788	G
29	X	789	G
29	X	795	A
29	X	801	A
29	X	802	A
29	X	803	C
29	X	804	C
29	X	813	A
29	X	814	G
29	X	824	U
29	X	842	A
29	X	843	G
29	X	925	U
29	X	939	C
29	X	956	A
29	X	969	U
29	X	971	A
29	X	984	A
29	X	985	G
29	X	994	A
29	X	1006	C
29	X	1023	U
29	X	1031	C
29	X	1033	G
29	X	1036	G
29	X	1044	U
29	X	1053	G
29	X	1055	A

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Mol	Chain	Res	Type
29	X	1071	U
29	X	1072	U
29	X	1096	A
29	X	1122	A
29	X	1141	U
29	X	1142	G
29	X	1152	C
29	X	1153	A
29	X	1154	A
29	X	1182	U
29	X	1186	G
29	X	1194	U
29	X	1223	G
29	X	1224	A
29	X	1225	G
29	X	1233	A
29	X	1249	G
29	X	1260	A
29	X	1261	G
29	X	1263	G
29	X	1264	C
29	X	1265	G
29	X	1266	G
29	X	1278	A
29	X	1285	A
29	X	1299	A
29	X	1301	U
29	X	1313	U
29	X	1315	A
29	X	1324	G
29	X	1325	U
29	X	1338	G
29	X	1342	U
29	X	1345	G
29	X	1354	A
29	X	1355	A
29	X	1391	A
29	X	1409	U
29	X	1439	G
29	X	1441	A
29	X	1442	C
29	X	1459	U

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Mol	Chain	Res	Type
29	X	1473	U
29	X	1474	A
29	X	1496	G
29	X	1552	C
29	X	1561	A
29	X	1575	C
29	X	1601	U
29	X	1607	A
29	X	1618	U
29	X	1623	C
29	X	1626	A
29	X	1632	A
29	X	1633	C
29	X	1634	A
29	X	1651	U
29	X	1664	G
29	X	1670	G
29	X	1684	G
29	X	1685	A
29	X	1691	G
29	X	1698	C
29	X	1710	U
29	X	1711	C
29	X	1715	A
29	X	1716	G
29	X	1723	U
29	X	1732	U
29	X	1733	U
29	X	1749	G
29	X	1775	A
29	X	1777	A
29	X	1790	G
29	X	1791	C
29	X	1811	A
29	X	1820	G
29	X	1867	A
29	X	1913	G
29	X	1922	U
29	X	1923	U
29	X	1926	U
29	X	1927	U
29	X	1938	U

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Mol	Chain	Res	Type
29	X	1947	G
29	X	1953	A
29	X	1963	G
29	X	1975	G
29	X	1979	C
29	X	2004	U
29	X	2005	U
29	X	2014	A
29	X	2015	G
29	X	2018	G
29	X	2034	A
29	X	2044	G
29	X	2045	A
29	X	2050	G
29	X	2088	U
29	X	2196	U
29	X	2197	U
29	X	2204	A
29	X	2217	G
29	X	2228	U
29	X	2237	C
29	X	2245	A
29	X	2261	G
29	X	2265	A
29	X	2267	A
29	X	2275	U
29	X	2312	A
29	X	2322	U
29	X	2323	U
29	X	2324	G
29	X	2404	A
29	X	2405	A
29	X	2418	A
29	X	2426	G
29	X	2427	A
29	X	2428	U
29	X	2469	G
29	X	2482	A
29	X	2497	A
29	X	2498	U
29	X	2521	A
29	X	2545	A

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Mol	Chain	Res	Type
29	X	2551	A
29	X	2560	G
29	X	2592	U
29	X	2593	A
29	X	2633	A
29	X	2660	C
29	X	2668	U
29	X	2669	C
29	X	2691	C
29	X	2693	U
29	X	2706	U
29	X	2712	G
29	X	2736	U
29	X	2756	A
29	X	2770	A
29	X	2807	U
29	X	2810	A
29	X	2823	G
29	X	2824	C
29	X	2841	U
29	X	2848	A
29	X	2854	G
29	X	2867	G
31	Z	26	G

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

Of 10 non-standard protein/DNA/RNA residues modelled in this entry, 1 is modelled with single atom - leaving 9 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	$\#\|Z\| > 2$
5	3GL	5	6	33,5	8,8,10	4.42	6 (75%)	9,10,13	1.46	1 (11%)
5	BB9	5	11	5	2,5,6	0.87	0	1,5,7	1.88	0
5	BB9	5	7	5	2,5,6	3.84	2 (100%)	1,5,7	4.78	1 (100%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
5	MH6	5	10	5	3,4,6	3.51	1 (33%)	2,4,7	3.46	2 (100%)
5	DHA	5	12	5	3,4,5	5.58	2 (66%)	2,4,6	2.84	2 (100%)
5	BB9	5	5	5	2,5,6	4.83	1 (50%)	1,5,7	0.14	0
5	BB9	5	2	5	2,5,6	7.48	1 (50%)	1,5,7	6.06	1 (100%)
5	BB9	5	9	5	2,4,6	1.59	1 (50%)	3,4,7	2.18	2 (66%)
5	DBU	5	4	5	3,4,6	4.98	3 (100%)	3,4,7	2.50	2 (66%)

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
5	3GL	5	6	33,5	-	0/8/8/12	-
5	BB9	5	11	5	-	0/0/4/6	-
5	BB9	5	7	5	-	0/0/4/6	-
5	MH6	5	10	5	-	1/1/2/6	-
5	DHA	5	12	5	-	0/0/2/4	-
5	BB9	5	5	5	-	0/0/4/6	-
5	BB9	5	2	5	-	0/0/4/6	-
5	BB9	5	9	5	-	0/0/2/6	-
5	DBU	5	4	5	-	1/1/2/6	-

All (17) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	5	2	BB9	C-CA	10.55	1.62	1.45
5	5	6	3GL	CG-CD	9.34	1.65	1.52
5	5	12	DHA	C-CA	8.95	1.60	1.45
5	5	5	BB9	C-CA	6.83	1.56	1.45
5	5	4	DBU	CA-N	6.65	1.49	1.33
5	5	10	MH6	CA-N	5.79	1.41	1.27
5	5	6	3GL	OE1-CD	-5.68	1.12	1.30
5	5	7	BB9	O-C	5.01	1.33	1.22
5	5	4	DBU	CG-CB	3.96	1.64	1.49
5	5	4	DBU	C-CA	-3.83	1.38	1.49
5	5	12	DHA	O-C	-3.45	1.14	1.22
5	5	6	3GL	CA-N	-3.40	1.39	1.49
5	5	6	3GL	OH-CG	-2.75	1.37	1.42
5	5	6	3GL	CB-CA	2.55	1.57	1.53
5	5	6	3GL	OE2-CD	-2.55	1.14	1.22

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	5	9	BB9	C-CA	2.12	1.56	1.49
5	5	7	BB9	C-CA	2.10	1.48	1.45

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	5	2	BB9	O-C-CA	-6.06	117.79	125.39
5	5	7	BB9	O-C-CA	-4.78	119.39	125.39
5	5	10	MH6	C-CA-CB	3.83	126.14	118.21
5	5	4	DBU	C-CA-N	-3.68	112.42	116.44
5	5	12	DHA	O-C-CA	-3.37	119.22	125.53
5	5	6	3GL	OH-CG-CB	3.27	116.39	108.31
5	5	10	MH6	OG-CB-CA	3.05	120.27	112.27
5	5	9	BB9	C-CA-N	2.94	119.65	116.44
5	5	9	BB9	C-CA-CB	-2.36	117.11	121.45
5	5	12	DHA	CB-CA-N	2.19	131.03	125.76
5	5	4	DBU	CB-CA-N	2.05	124.08	122.88

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	5	10	MH6	C-CA-CB-OG
5	5	4	DBU	C-CA-CB-CG

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	5	7	BB9	2	0
5	5	4	DBU	1	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 38 ligands modelled in this entry, 37 are monoatomic - leaving 1 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	$\#\|Z\| > 2$
33	NO1	5	14	5	14,14,16	5.62	7 (50%)	19,20,23	3.57	14 (73%)

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
33	NO1	5	14	5	-	0/2/2/6	0/2/2/2

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	5	14	NO1	CD2-CE3	15.11	1.61	1.40
33	5	14	NO1	CF-CE3	-8.01	1.36	1.51
33	5	14	NO1	CH2-CZ3	7.56	1.51	1.38
33	5	14	NO1	CD1-NE1	6.39	1.47	1.38
33	5	14	NO1	CZ3-CE3	-5.27	1.29	1.39
33	5	14	NO1	CE2-NE1	3.24	1.44	1.38
33	5	14	NO1	CD2-CG	-2.13	1.40	1.45

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
33	5	14	NO1	CZ2-CE2-CD2	6.35	135.30	121.75
33	5	14	NO1	CE2-CD2-CE3	-5.77	106.80	120.88
33	5	14	NO1	CF-CE3-CD2	-5.44	114.51	121.67
33	5	14	NO1	CZ2-CE2-NE1	-4.40	121.93	130.83
33	5	14	NO1	CE2-CD2-CG	4.11	115.81	107.50
33	5	14	NO1	CD2-CG-CD1	-3.86	102.53	107.06
33	5	14	NO1	C-CD1-CG	-3.75	125.58	130.11
33	5	14	NO1	CG-CD1-NE1	3.73	112.51	107.43
33	5	14	NO1	CD2-CE2-NE1	-3.67	102.72	108.05
33	5	14	NO1	CH2-CZ3-CE3	3.43	126.53	121.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
33	5	14	NO1	CF-CE3-CZ3	2.92	125.90	120.28
33	5	14	NO1	CE2-NE1-CD1	-2.65	106.17	109.01
33	5	14	NO1	CH2-CZ2-CE2	-2.30	114.00	118.69
33	5	14	NO1	CZ3-CH2-CZ2	-2.17	117.45	120.24

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

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	1	53/55 (96%)	9.08	53 (100%)	0	0	91, 120, 138, 158	0
2	2	46/47 (97%)	12.01	46 (100%)	0	0	42, 90, 116, 151	0
3	3	63/66 (95%)	10.03	63 (100%)	0	0	52, 106, 135, 145	0
4	4	37/37 (100%)	2.24	20 (54%)	0	0	73, 124, 148, 152	0
5	5	3/13 (23%)	1.55	1 (33%)	1	1	84, 84, 84, 84	0
6	A	240/274 (87%)	2.50	139 (57%)	0	0	36, 129, 160, 198	0
7	B	205/211 (97%)	1.19	46 (22%)	2	3	13, 85, 130, 161	0
8	C	197/205 (96%)	1.53	58 (29%)	1	2	24, 110, 147, 170	0
9	D	177/180 (98%)	1.49	49 (27%)	1	2	101, 136, 160, 179	0
10	E	171/185 (92%)	1.52	46 (26%)	1	2	79, 131, 158, 176	0
11	F	144/144 (100%)	1.91	45 (31%)	1	1	117, 148, 172, 188	0
12	G	142/174 (81%)	2.05	68 (47%)	0	1	30, 112, 143, 169	0
13	H	134/134 (100%)	0.85	15 (11%)	10	11	13, 67, 106, 127	0
14	I	141/156 (90%)	1.81	50 (35%)	1	1	13, 128, 156, 181	0
15	J	136/142 (95%)	1.97	50 (36%)	1	1	25, 112, 155, 202	0
16	K	113/116 (97%)	0.92	22 (19%)	3	4	13, 57, 111, 148	0
17	L	104/114 (91%)	2.12	47 (45%)	0	1	73, 125, 149, 167	0
18	M	108/166 (65%)	1.23	25 (23%)	2	2	13, 76, 121, 150	0
19	N	117/118 (99%)	2.07	53 (45%)	0	1	16, 104, 144, 182	0
20	O	94/100 (94%)	1.61	27 (28%)	1	2	28, 117, 151, 160	0
21	P	127/134 (94%)	0.96	21 (16%)	4	6	13, 76, 126, 155	0
22	Q	93/95 (97%)	1.54	24 (25%)	1	2	35, 114, 152, 159	0
23	R	110/115 (95%)	1.24	23 (20%)	2	3	53, 118, 145, 161	0
24	S	175/237 (73%)	1.97	67 (38%)	1	1	78, 136, 159, 184	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
25	T	84/91 (92%)	1.89	33 (39%) 1 1	75, 117, 145, 181	0
26	U	72/81 (88%)	2.23	33 (45%) 0 1	60, 130, 160, 180	0
27	V	66/67 (98%)	1.11	11 (16%) 4 6	83, 126, 158, 168	0
28	W	55/55 (100%)	1.84	21 (38%) 1 1	35, 105, 140, 169	0
29	X	2686/2880 (93%)	2.79	1680 (62%) 0 0	13, 114, 186, 250	0
30	Y	58/60 (96%)	1.07	8 (13%) 6 8	13, 70, 119, 132	0
31	Z	122/123 (99%)	3.26	100 (81%) 0 0	38, 143, 188, 205	0
All	All	6073/6575 (92%)	2.41	2944 (48%) 0 1	13, 116, 174, 250	0

All (2944) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	1	35	LEU	25.0
3	3	32	GLN	21.4
2	2	33	ARG	20.9
1	1	23	THR	20.3
3	3	61	MET	20.0
1	1	25	THR	19.5
2	2	46	ASP	19.2
29	X	514	G	18.9
2	2	32	ALA	18.7
2	2	20	ALA	18.5
1	1	5	GLY	18.5
2	2	10	ARG	18.2
3	3	43	GLY	18.0
2	2	25	LYS	17.5
3	3	54	GLU	17.3
1	1	27	ASN	17.0
29	X	699	G	16.9
3	3	28	GLY	16.6
2	2	19	ARG	16.5
1	1	2	ALA	16.5
2	2	42	LEU	16.4
2	2	18	PHE	16.3
3	3	33	ASN	16.3
3	3	37	SER	16.2
2	2	44	VAL	16.0
2	2	29	ASN	15.9
3	3	3	LYS	15.8
2	2	45	SER	15.7

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Mol	Chain	Res	Type	RSRZ
1	1	8	ILE	15.7
2	2	28	ARG	15.6
29	X	1057	A	15.5
1	1	36	GLU	15.5
1	1	21	TYR	15.5
1	1	42	PRO	15.4
1	1	24	THR	15.3
3	3	21	LYS	15.2
3	3	44	LYS	15.1
2	2	35	ARG	14.7
3	3	9	MET	14.7
3	3	34	THR	14.5
3	3	31	HIS	14.5
2	2	8	ASN	14.5
1	1	41	ASP	14.0
3	3	40	GLU	14.0
14	I	48	PHE	13.7
2	2	13	ALA	13.5
2	2	12	ARG	13.4
3	3	38	GLY	13.3
2	2	14	LYS	13.1
29	X	2409	A	13.1
3	3	14	ILE	12.9
3	3	41	ILE	12.9
3	3	36	LYS	12.7
3	3	45	GLY	12.6
1	1	40	TYR	12.6
2	2	5	TYR	12.6
2	2	36	ALA	12.6
2	2	38	GLY	12.3
2	2	37	LYS	12.3
3	3	55	TRP	12.1
2	2	21	ARG	11.8
1	1	32	GLN	11.8
3	3	17	THR	11.7
29	X	155	G	11.7
1	1	19	GLY	11.4
2	2	30	ILE	11.4
2	2	39	ARG	11.4
11	F	130	THR	11.3
2	2	41	GLN	11.2
3	3	48	PHE	11.1

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Mol	Chain	Res	Type	RSRZ
2	2	17	GLY	11.1
3	3	22	VAL	11.0
1	1	4	ASP	10.9
3	3	4	MET	10.9
2	2	15	THR	10.9
2	2	4	THR	10.8
1	1	51	ARG	10.8
6	A	250	TRP	10.8
29	X	1037	U	10.7
3	3	7	HIS	10.7
1	1	52	GLU	10.7
3	3	47	GLY	10.7
29	X	1091	C	10.6
3	3	5	LYS	10.4
3	3	42	ARG	10.4
2	2	1	MET	10.4
3	3	18	GLY	10.1
19	N	91	ASN	10.1
29	X	2731	G	10.0
29	X	2385	U	10.0
3	3	62	LEU	10.0
3	3	19	THR	9.9
3	3	16	ILE	9.9
29	X	2326	C	9.8
19	N	89	ASP	9.8
3	3	63	PRO	9.7
11	F	114	ASP	9.7
2	2	6	GLN	9.7
3	3	20	GLY	9.6
29	X	1059	A	9.6
29	X	999	A	9.6
2	2	11	LYS	9.4
1	1	22	TYR	9.4
2	2	26	SER	9.4
1	1	44	ALA	9.4
3	3	56	ALA	9.2
2	2	23	LYS	9.2
29	X	1069	G	9.1
1	1	10	VAL	9.1
31	Z	4	C	9.1
22	Q	37	GLU	9.0
1	1	43	VAL	8.9

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Mol	Chain	Res	Type	RSRZ
29	X	631	G	8.8
29	X	2004	U	8.8
3	3	46	LYS	8.8
15	J	140	GLU	8.8
2	2	16	HIS	8.7
19	N	12	ARG	8.7
26	U	50	ALA	8.7
29	X	1090	C	8.7
24	S	92	VAL	8.6
29	X	1092	U	8.6
2	2	2	LYS	8.6
12	G	40	ASN	8.6
29	X	2300	G	8.5
29	X	520	C	8.5
24	S	83	PHE	8.5
29	X	1084	A	8.5
3	3	27	SER	8.4
3	3	26	LYS	8.4
1	1	7	ARG	8.4
29	X	434	C	8.4
29	X	1085	G	8.4
29	X	75	C	8.3
29	X	1615	C	8.3
29	X	1390	G	8.3
29	X	402	A	8.3
15	J	141	ALA	8.3
29	X	311	A	8.2
29	X	700	C	8.1
29	X	1045	G	8.1
29	X	1951	G	8.0
29	X	416	U	8.0
29	X	1060	C	8.0
25	T	15	ASP	8.0
29	X	1432	G	8.0
29	X	2359	U	8.0
1	1	39	LYS	8.0
29	X	1086	C	8.0
29	X	2591	C	7.9
2	2	40	HIS	7.9
29	X	2362	G	7.9
8	C	173	ALA	7.9
29	X	1056	U	7.9

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Mol	Chain	Res	Type	RSRZ
29	X	2328	G	7.8
1	1	20	PHE	7.8
9	D	23	SER	7.8
3	3	24	ALA	7.8
3	3	13	ARG	7.8
29	X	1792	C	7.8
31	Z	8	C	7.8
29	X	964	A	7.7
14	I	49	PHE	7.7
1	1	3	LYS	7.7
29	X	1058	G	7.7
29	X	2324	G	7.7
1	1	16	ALA	7.6
29	X	1992	G	7.6
29	X	2779	C	7.6
29	X	933	G	7.6
20	O	23	GLU	7.6
26	U	16	ASN	7.5
29	X	2444	C	7.5
29	X	1354	A	7.5
29	X	1089	C	7.5
29	X	984	A	7.5
3	3	30	ARG	7.5
29	X	1279	G	7.5
3	3	23	MET	7.5
11	F	136	VAL	7.5
1	1	47	HIS	7.4
29	X	2194	A	7.4
29	X	540	G	7.4
16	K	17	ARG	7.4
24	S	91	PRO	7.3
17	L	55	SER	7.3
2	2	3	ARG	7.3
17	L	39	TYR	7.3
7	B	94	ASP	7.3
2	2	34	ARG	7.3
29	X	1106	A	7.2
3	3	39	ASP	7.2
29	X	2311	U	7.2
29	X	734	G	7.1
29	X	1039	A	7.1
29	X	2290	A	7.1

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Mol	Chain	Res	Type	RSRZ
29	X	2678	C	7.1
29	X	1766	U	7.1
29	X	1586	A	7.1
29	X	2520	A	7.1
29	X	731	A	7.1
1	1	14	SER	7.1
29	X	1888	C	7.1
22	Q	16	ALA	7.0
29	X	2270	U	7.0
31	Z	42	U	7.0
2	2	27	GLY	7.0
29	X	1115	C	7.0
29	X	1061	A	7.0
14	I	60	LEU	7.0
6	A	190	TYR	7.0
29	X	553	C	7.0
29	X	1017	C	7.0
29	X	1913	G	6.9
15	J	14	PHE	6.9
22	Q	53	ILE	6.9
15	J	32	ASP	6.9
3	3	6	THR	6.9
29	X	123	A	6.9
29	X	1512	A	6.9
3	3	2	PRO	6.9
29	X	2330	G	6.8
11	F	128	ALA	6.8
1	1	9	ILE	6.8
29	X	1205	G	6.8
29	X	2071	G	6.8
2	2	22	MET	6.8
6	A	52	ARG	6.8
29	X	928	G	6.8
29	X	931	G	6.8
29	X	1009	C	6.7
1	1	11	LYS	6.7
2	2	9	ASN	6.7
29	X	985	G	6.7
1	1	30	ASN	6.6
29	X	1121	G	6.6
15	J	107	VAL	6.6
1	1	12	MET	6.6

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Mol	Chain	Res	Type	RSRZ
29	X	1651	U	6.6
29	X	435	A	6.6
29	X	1095	A	6.6
29	X	1424	U	6.6
3	3	11	LYS	6.6
29	X	410	A	6.6
29	X	1020	A	6.6
3	3	8	LYS	6.5
29	X	1098	G	6.5
11	F	129	GLY	6.5
29	X	636	G	6.5
11	F	137	THR	6.5
3	3	25	PHE	6.5
29	X	2204	A	6.5
29	X	2519	C	6.5
29	X	841	G	6.5
29	X	2174	G	6.5
3	3	15	LYS	6.4
29	X	840	U	6.4
29	X	919	U	6.4
29	X	1023	U	6.4
29	X	1093	U	6.4
29	X	426	C	6.4
29	X	166	G	6.4
10	E	109	TYR	6.4
24	S	17	SER	6.4
29	X	1753	A	6.4
29	X	19	C	6.4
29	X	1572	C	6.4
3	3	51	ALA	6.4
26	U	52	ARG	6.3
20	O	78	VAL	6.3
29	X	2443	C	6.3
29	X	1409	U	6.3
31	Z	16	U	6.3
10	E	68	THR	6.3
29	X	248	A	6.3
29	X	2039	G	6.3
29	X	2449	G	6.3
29	X	2465	G	6.3
29	X	2253	A	6.3
29	X	74	G	6.2

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Mol	Chain	Res	Type	RSRZ
29	X	1393	G	6.2
29	X	865	A	6.2
29	X	1081	A	6.2
29	X	1378	A	6.2
29	X	427	C	6.2
29	X	1803	G	6.2
6	A	148	VAL	6.2
29	X	1365	U	6.2
29	X	1592	U	6.2
29	X	1146	G	6.2
29	X	2627	G	6.2
2	2	24	THR	6.2
14	I	29	THR	6.2
29	X	1500	U	6.2
29	X	2759	U	6.2
29	X	1080	A	6.1
29	X	1114	A	6.1
29	X	1954	A	6.1
26	U	14	VAL	6.1
29	X	1165	G	6.1
29	X	1120	C	6.1
14	I	33	GLY	6.1
17	L	34	SER	6.1
29	X	647	G	6.1
29	X	417	C	6.1
17	L	100	VAL	6.1
24	S	171	VAL	6.1
29	X	1019	U	6.1
29	X	2035	G	6.1
29	X	2588	U	6.1
21	P	24	GLY	6.0
6	A	54	ILE	6.0
29	X	2195	C	6.0
31	Z	33	C	6.0
6	A	171	ASP	6.0
29	X	2701	A	6.0
6	A	149	PRO	6.0
29	X	573	C	6.0
29	X	1062	G	6.0
29	X	73	A	6.0
31	Z	41	A	6.0
3	3	50	LEU	6.0

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Mol	Chain	Res	Type	RSRZ
6	A	249	PRO	6.0
24	S	93	GLU	6.0
10	E	162	VAL	6.0
29	X	213	C	5.9
29	X	1032	A	5.9
29	X	1362	A	5.9
29	X	953	G	5.9
29	X	554	U	5.9
1	1	31	THR	5.9
6	A	41	GLY	5.9
29	X	1094	C	5.9
29	X	639	G	5.9
29	X	2256	G	5.9
29	X	2268	G	5.9
29	X	2291	U	5.9
29	X	1477	C	5.9
29	X	2477	C	5.9
1	1	37	LEU	5.9
29	X	1107	A	5.9
29	X	2327	U	5.9
29	X	226	C	5.9
29	X	1506	C	5.9
31	Z	2	C	5.9
17	L	103	LEU	5.8
29	X	441	A	5.8
29	X	442	A	5.8
29	X	1353	A	5.8
29	X	836	G	5.8
29	X	1622	G	5.8
29	X	2354	G	5.8
29	X	1150	C	5.8
29	X	3	U	5.8
29	X	1770	U	5.8
29	X	1815	G	5.8
29	X	2255	G	5.8
27	V	48	ARG	5.8
2	2	43	THR	5.8
29	X	1046	U	5.7
29	X	875	G	5.7
29	X	1983	G	5.7
29	X	48	A	5.7
29	X	1499	A	5.7

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Mol	Chain	Res	Type	RSRZ
3	3	57	ARG	5.7
29	X	447	U	5.7
13	H	40	GLY	5.7
29	X	399	G	5.7
29	X	1847	G	5.7
29	X	825	C	5.7
29	X	1162	A	5.7
12	G	129	HIS	5.7
24	S	82	ASP	5.7
29	X	665	A	5.7
29	X	2170	C	5.7
29	X	2289	A	5.7
29	X	2457	A	5.7
31	Z	58	G	5.7
11	F	115	LEU	5.7
12	G	134	MET	5.6
29	X	1587	A	5.6
29	X	612	G	5.6
29	X	1155	G	5.6
29	X	1356	G	5.6
19	N	51	ARG	5.6
9	D	103	LEU	5.6
29	X	443	A	5.6
29	X	1982	C	5.6
29	X	2496	C	5.6
29	X	469	G	5.6
29	X	872	G	5.6
1	1	49	VAL	5.6
6	A	173	VAL	5.6
29	X	537	C	5.6
29	X	2199	C	5.6
29	X	2667	C	5.6
15	J	40	PRO	5.6
29	X	225	G	5.6
6	A	47	GLY	5.6
1	1	46	LYS	5.6
15	J	42	TRP	5.6
29	X	459	A	5.5
29	X	1799	A	5.5
29	X	169	C	5.5
29	X	920	G	5.5
29	X	2332	G	5.5

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Mol	Chain	Res	Type	RSRZ
29	X	702	A	5.5
6	A	239	ARG	5.5
29	X	1364	C	5.5
6	A	236	GLY	5.5
29	X	44	G	5.5
29	X	1510	A	5.5
31	Z	3	A	5.5
10	E	69	ARG	5.5
6	A	42	GLY	5.5
29	X	1033	G	5.5
29	X	1044	U	5.5
29	X	2452	U	5.5
6	A	38	PRO	5.5
29	X	1933	G	5.4
29	X	118	U	5.4
8	C	148	VAL	5.4
29	X	711	C	5.4
29	X	1198	C	5.4
3	3	35	GLY	5.4
29	X	1048	U	5.4
29	X	199	A	5.4
29	X	813	A	5.4
29	X	1099	A	5.4
29	X	1937	G	5.4
29	X	1955	G	5.4
29	X	2777	A	5.4
6	A	220	HIS	5.4
6	A	261	ARG	5.4
29	X	724	C	5.4
29	X	2373	C	5.4
7	B	135	HIS	5.4
29	X	51	A	5.4
29	X	1372	A	5.4
29	X	1525	A	5.4
29	X	2877	A	5.4
29	X	955	G	5.4
29	X	1864	G	5.4
29	X	1375	C	5.4
31	Z	82	U	5.3
29	X	2252	A	5.3
29	X	653	G	5.3
29	X	1716	G	5.3

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Mol	Chain	Res	Type	RSRZ
29	X	2724	G	5.3
29	X	1412	C	5.3
29	X	1828	C	5.3
29	X	2008	C	5.3
6	A	49	ILE	5.3
24	S	113	VAL	5.3
29	X	177	U	5.3
29	X	1161	U	5.3
29	X	2380	U	5.3
6	A	255	LYS	5.3
29	X	423	G	5.3
29	X	987	G	5.3
29	X	1168	G	5.3
29	X	1425	G	5.3
29	X	1912	G	5.3
31	Z	43	G	5.3
29	X	664	C	5.3
29	X	1388	C	5.3
17	L	9	ARG	5.3
9	D	61	THR	5.3
29	X	1065	A	5.3
29	X	864	C	5.3
29	X	1422	C	5.3
29	X	1074	G	5.3
29	X	1526	U	5.3
29	X	1804	U	5.3
29	X	1292	A	5.3
29	X	1532	A	5.3
31	Z	28	A	5.3
14	I	68	VAL	5.2
29	X	940	G	5.2
29	X	873	U	5.2
19	N	92	ARG	5.2
29	X	218	A	5.2
11	F	117	ALA	5.2
29	X	926	C	5.2
29	X	1163	C	5.2
29	X	1164	C	5.2
29	X	1570	C	5.2
31	Z	107	C	5.2
29	X	1689	U	5.2
29	X	485	G	5.2

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Mol	Chain	Res	Type	RSRZ
29	X	1193	G	5.2
29	X	1767	G	5.2
29	X	2203	G	5.2
29	X	356	A	5.2
29	X	2345	A	5.2
15	J	82	THR	5.2
1	1	15	SER	5.2
10	E	72	VAL	5.2
29	X	1600	U	5.2
29	X	2197	U	5.2
29	X	649	G	5.2
29	X	2865	G	5.2
31	Z	94	G	5.2
29	X	2653	A	5.2
3	3	58	MET	5.2
4	4	24	LEU	5.2
19	N	58	ARG	5.2
29	X	411	C	5.1
29	X	420	C	5.1
29	X	1410	U	5.1
29	X	2206	C	5.1
29	X	2635	U	5.1
29	X	1557	G	5.1
29	X	1584	G	5.1
20	O	70	TYR	5.1
24	S	23	ALA	5.1
19	N	48	ARG	5.1
29	X	348	U	5.1
29	X	1034	U	5.1
31	Z	106	U	5.1
29	X	2751	C	5.1
12	G	135	LEU	5.1
6	A	163	VAL	5.1
29	X	879	A	5.1
29	X	1511	A	5.1
29	X	2608	A	5.1
29	X	119	G	5.1
10	E	152	ARG	5.1
29	X	1478	U	5.1
29	X	1481	U	5.1
29	X	2778	U	5.1
9	D	94	GLU	5.1

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Mol	Chain	Res	Type	RSRZ
12	G	69	ASP	5.1
29	X	43	A	5.1
29	X	1574	A	5.1
29	X	2361	G	5.1
23	R	82	ALA	5.1
29	X	179	U	5.1
29	X	2398	U	5.1
29	X	2321	C	5.1
6	A	202	LYS	5.0
29	X	720	A	5.0
29	X	862	A	5.0
6	A	106	LEU	5.0
7	B	159	HIS	5.0
6	A	142	VAL	5.0
29	X	641	G	5.0
29	X	983	G	5.0
29	X	2077	G	5.0
29	X	707	U	5.0
6	A	253	PRO	5.0
29	X	2072	C	5.0
29	X	2193	C	5.0
29	X	1588	A	5.0
29	X	2404	A	5.0
29	X	164	G	5.0
29	X	1515	U	5.0
29	X	2024	U	5.0
29	X	2076	G	5.0
29	X	2196	U	5.0
17	L	90	ASP	5.0
29	X	1514	C	5.0
29	X	2494	C	5.0
29	X	2390	A	5.0
23	R	81	VAL	5.0
29	X	424	G	5.0
29	X	746	G	5.0
29	X	1035	G	5.0
29	X	1636	G	5.0
29	X	2316	G	5.0
29	X	2548	G	5.0
20	O	36	LYS	5.0
29	X	686	C	5.0
29	X	461	A	5.0

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Mol	Chain	Res	Type	RSRZ
29	X	1780	A	5.0
29	X	2381	A	5.0
13	H	46	HIS	5.0
15	J	65	ILE	5.0
19	N	16	LYS	4.9
10	E	151	VAL	4.9
29	X	775	U	4.9
29	X	2067	U	4.9
29	X	2616	U	4.9
29	X	1874	G	4.9
17	L	104	ALA	4.9
29	X	777	A	4.9
29	X	1585	A	4.9
29	X	1869	A	4.9
3	3	59	LYS	4.9
28	W	16	GLN	4.9
29	X	579	G	4.9
29	X	637	G	4.9
29	X	877	G	4.9
29	X	1066	G	4.9
29	X	1031	C	4.9
12	G	61	ARG	4.9
29	X	310	A	4.9
29	X	1416	A	4.9
31	Z	17	A	4.9
29	X	220	U	4.9
29	X	2456	U	4.9
31	Z	122	U	4.9
11	F	123	ALA	4.9
1	1	50	PHE	4.9
29	X	2292	C	4.9
29	X	2870	C	4.9
29	X	591	G	4.9
29	X	793	G	4.9
29	X	967	G	4.9
29	X	1050	G	4.9
29	X	1721	G	4.9
6	A	237	GLU	4.9
29	X	190	A	4.9
29	X	1796	A	4.9
29	X	2036	G	4.9
29	X	2045	A	4.9

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Mol	Chain	Res	Type	RSRZ
31	Z	23	G	4.9
2	2	31	LEU	4.9
6	A	155	LEU	4.8
25	T	36	ILE	4.8
29	X	167	A	4.8
29	X	305	A	4.8
29	X	593	C	4.8
29	X	744	C	4.8
29	X	2391	A	4.8
29	X	2429	A	4.8
29	X	2568	A	4.8
29	X	194	G	4.8
29	X	735	G	4.8
29	X	1958	G	4.8
29	X	2323	U	4.8
26	U	69	THR	4.8
19	N	95	LEU	4.8
26	U	15	VAL	4.8
29	X	546	A	4.8
29	X	721	C	4.8
29	X	1340	C	4.8
29	X	2165	A	4.8
29	X	2476	A	4.8
31	Z	73	C	4.8
6	A	228	PRO	4.8
29	X	111	G	4.8
29	X	732	G	4.8
29	X	811	G	4.8
29	X	1070	G	4.8
30	Y	58	LEU	4.8
17	L	87	VAL	4.8
29	X	97	U	4.8
8	C	56	ARG	4.8
29	X	846	A	4.8
29	X	878	C	4.8
29	X	1601	U	4.8
31	Z	123	U	4.8
29	X	1110	G	4.8
18	M	6	LYS	4.8
16	K	94	TYR	4.7
29	X	184	A	4.7
29	X	360	A	4.7

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Mol	Chain	Res	Type	RSRZ
29	X	551	A	4.7
29	X	1068	A	4.7
29	X	1299	A	4.7
29	X	1329	U	4.7
29	X	59	G	4.7
29	X	215	G	4.7
29	X	1148	G	4.7
29	X	1368	G	4.7
29	X	346	C	4.7
29	X	1049	C	4.7
29	X	1415	C	4.7
29	X	2554	C	4.7
29	X	467	U	4.7
29	X	616	U	4.7
29	X	1697	U	4.7
19	N	76	TYR	4.7
29	X	741	G	4.7
29	X	1100	G	4.7
6	A	50	THR	4.7
18	M	64	LYS	4.7
29	X	830	C	4.7
29	X	870	C	4.7
29	X	1072	U	4.7
29	X	2033	C	4.7
29	X	2395	C	4.7
1	1	26	LYS	4.7
29	X	676	G	4.7
29	X	1133	G	4.7
29	X	2368	G	4.7
29	X	2495	G	4.7
29	X	2638	G	4.7
29	X	1406	A	4.7
6	A	95	LEU	4.7
4	4	26	ILE	4.7
20	O	84	THR	4.7
3	3	52	LYS	4.6
12	G	58	ILE	4.6
19	N	9	VAL	4.6
29	X	831	G	4.6
29	X	1079	G	4.6
29	X	1055	A	4.6
12	G	147	ARG	4.6

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Mol	Chain	Res	Type	RSRZ
15	J	21	ASP	4.6
29	X	1575	C	4.6
3	3	53	ALA	4.6
12	G	71	THR	4.6
16	K	58	GLY	4.6
2	2	7	PRO	4.6
8	C	167	VAL	4.6
29	X	157	G	4.6
29	X	309	G	4.6
29	X	1595	A	4.6
29	X	1761	G	4.6
29	X	1949	A	4.6
29	X	2286	G	4.6
31	Z	61	A	4.6
29	X	1295	U	4.6
6	A	186	HIS	4.6
6	A	233	HIS	4.6
29	X	1524	C	4.6
29	X	1875	C	4.6
29	X	2205	C	4.6
29	X	2454	C	4.6
29	X	557	U	4.6
29	X	2087	U	4.6
31	Z	79	U	4.6
31	Z	110	U	4.6
29	X	1249	G	4.6
29	X	1985	G	4.6
29	X	722	C	4.6
8	C	186	LEU	4.6
6	A	242	ALA	4.5
1	1	18	THR	4.5
29	X	992	A	4.5
29	X	2220	A	4.5
29	X	2280	A	4.5
29	X	934	G	4.5
29	X	1831	G	4.5
29	X	1887	G	4.5
29	X	583	C	4.5
29	X	1491	C	4.5
29	X	1797	C	4.5
31	Z	29	C	4.5
29	X	619	A	4.5

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Mol	Chain	Res	Type	RSRZ
29	X	1564	U	4.5
29	X	1582	A	4.5
19	N	90	LEU	4.5
6	A	211	ARG	4.5
29	X	401	G	4.5
29	X	1579	G	4.5
29	X	1798	G	4.5
29	X	31	C	4.5
3	3	49	VAL	4.5
26	U	8	THR	4.5
29	X	1040	A	4.5
29	X	1199	U	4.5
31	Z	86	A	4.5
15	J	73	LYS	4.5
28	W	20	VAL	4.5
29	X	358	C	4.5
29	X	1830	C	4.5
29	X	1876	C	4.5
29	X	2186	G	4.5
29	X	2609	G	4.5
18	M	59	GLY	4.5
8	C	194	GLU	4.5
28	W	23	LEU	4.5
8	C	71	ASP	4.5
29	X	1454	U	4.5
29	X	1122	A	4.5
29	X	1625	A	4.5
8	C	55	GLY	4.4
25	T	20	TYR	4.4
29	X	2347	C	4.4
31	Z	5	C	4.4
31	Z	14	C	4.4
12	G	66	HIS	4.4
29	X	818	G	4.4
29	X	1149	G	4.4
29	X	2229	G	4.4
29	X	2437	G	4.4
9	D	138	PHE	4.4
29	X	1144	U	4.4
29	X	2483	U	4.4
29	X	885	A	4.4
29	X	1231	A	4.4

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Mol	Chain	Res	Type	RSRZ
29	X	1233	A	4.4
29	X	2780	A	4.4
17	L	37	HIS	4.4
6	A	265	THR	4.4
22	Q	36	THR	4.4
29	X	244	C	4.4
31	Z	30	C	4.4
24	S	81	VAL	4.4
29	X	388	G	4.4
29	X	2279	G	4.4
27	V	2	LYS	4.4
29	X	412	U	4.4
29	X	925	U	4.4
29	X	1563	U	4.4
29	X	1474	A	4.4
24	S	125	PRO	4.4
29	X	1517	C	4.4
29	X	1865	C	4.4
29	X	617	U	4.4
29	X	822	G	4.4
29	X	1431	U	4.4
29	X	2166	G	4.4
29	X	632	A	4.4
29	X	2012	A	4.4
1	1	38	LYS	4.4
8	C	75	PRO	4.4
26	U	43	ARG	4.3
17	L	57	ALA	4.3
29	X	552	C	4.3
29	X	2374	C	4.3
20	O	69	ILE	4.3
29	X	106	G	4.3
29	X	421	G	4.3
29	X	1036	G	4.3
29	X	1189	G	4.3
29	X	1374	G	4.3
29	X	1479	G	4.3
29	X	1850	G	4.3
29	X	2259	G	4.3
29	X	2432	A	4.3
24	S	172	LEU	4.3
24	S	94	VAL	4.3

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Mol	Chain	Res	Type	RSRZ
9	D	27	ALA	4.3
29	X	2768	C	4.3
1	1	13	GLU	4.3
29	X	1124	U	4.3
10	E	24	PHE	4.3
29	X	101	A	4.3
29	X	511	A	4.3
29	X	107	G	4.3
29	X	788	G	4.3
29	X	867	G	4.3
29	X	1373	G	4.3
29	X	1956	G	4.3
29	X	2407	G	4.3
29	X	2481	G	4.3
31	Z	105	G	4.3
23	R	58	VAL	4.3
14	I	50	GLU	4.3
15	J	59	PHE	4.3
19	N	83	LEU	4.3
29	X	1027	C	4.3
29	X	1064	C	4.3
29	X	1531	C	4.3
29	X	2329	C	4.3
31	Z	34	C	4.3
29	X	2776	U	4.3
6	A	185	VAL	4.3
12	G	97	ASP	4.3
29	X	413	G	4.3
29	X	1087	C	4.3
29	X	1152	C	4.3
12	G	57	LEU	4.3
29	X	555	U	4.3
29	X	2017	U	4.3
29	X	247	A	4.2
29	X	795	A	4.2
29	X	1109	A	4.2
29	X	1	G	4.2
29	X	392	G	4.2
29	X	633	G	4.2
29	X	682	G	4.2
29	X	694	G	4.2
29	X	1384	G	4.2

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Mol	Chain	Res	Type	RSRZ
6	A	44	ASN	4.2
11	F	97	GLY	4.2
14	I	42	GLY	4.2
29	X	656	U	4.2
29	X	1447	U	4.2
29	X	1469	U	4.2
29	X	2049	C	4.2
29	X	2364	C	4.2
31	Z	81	C	4.2
1	1	33	ALA	4.2
6	A	98	ALA	4.2
6	A	69	ARG	4.2
10	E	137	ASP	4.2
24	S	69	VAL	4.2
29	X	312	G	4.2
29	X	659	G	4.2
29	X	1196	G	4.2
29	X	1638	G	4.2
29	X	2293	G	4.2
31	Z	51	G	4.2
29	X	757	U	4.2
29	X	1357	U	4.2
26	U	65	ASN	4.2
19	N	65	ILE	4.2
29	X	306	G	4.2
29	X	558	G	4.2
29	X	1246	G	4.2
29	X	2230	G	4.2
29	X	418	C	4.2
29	X	1404	C	4.2
29	X	1497	C	4.2
29	X	2023	C	4.2
29	X	2565	C	4.2
29	X	2637	C	4.2
10	E	37	TYR	4.2
29	X	196	A	4.2
29	X	796	A	4.2
29	X	856	A	4.2
29	X	1188	A	4.2
29	X	1605	A	4.2
29	X	1728	A	4.2
4	4	23	VAL	4.1

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Mol	Chain	Res	Type	RSRZ
12	G	64	GLY	4.1
28	W	13	PRO	4.1
12	G	160	ALA	4.1
25	T	14	ARG	4.1
29	X	1339	U	4.1
29	X	1413	U	4.1
29	X	100	G	4.1
29	X	1498	G	4.1
29	X	1617	G	4.1
4	4	17	VAL	4.1
1	1	6	PRO	4.1
6	A	156	ALA	4.1
29	X	821	A	4.1
29	X	1603	A	4.1
12	G	131	VAL	4.1
6	A	132	PRO	4.1
29	X	1170	U	4.1
29	X	1909	U	4.1
3	3	60	LEU	4.1
29	X	349	G	4.1
29	X	805	G	4.1
29	X	1028	G	4.1
29	X	1553	G	4.1
29	X	1659	G	4.1
29	X	2384	G	4.1
31	Z	117	G	4.1
29	X	398	C	4.1
29	X	803	C	4.1
29	X	1181	C	4.1
29	X	2732	C	4.1
29	X	1433	A	4.1
24	S	116	VAL	4.1
1	1	28	ARG	4.1
3	3	64	ARG	4.1
11	F	133	SER	4.1
15	J	15	ARG	4.1
24	S	68	ALA	4.1
29	X	866	U	4.1
29	X	1426	U	4.1
29	X	2192	U	4.1
6	A	168	LYS	4.1
24	S	86	VAL	4.1

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Mol	Chain	Res	Type	RSRZ
8	C	95	LEU	4.1
14	I	23	PRO	4.1
19	N	8	ILE	4.1
29	X	730	C	4.1
29	X	982	C	4.1
29	X	1598	C	4.1
29	X	1559	G	4.1
29	X	2375	G	4.1
29	X	2502	G	4.1
29	X	2741	G	4.1
29	X	648	A	4.1
29	X	2636	A	4.1
6	A	172	TYR	4.1
26	U	21	ARG	4.1
29	X	12	U	4.0
29	X	826	U	4.0
29	X	1709	U	4.0
27	V	22	LYS	4.0
11	F	99	LEU	4.0
6	A	192	THR	4.0
29	X	2475	C	4.0
29	X	304	A	4.0
29	X	2357	A	4.0
31	Z	103	A	4.0
13	H	11	ALA	4.0
29	X	1014	G	4.0
29	X	1042	G	4.0
29	X	2269	G	4.0
29	X	2392	G	4.0
29	X	2508	G	4.0
29	X	2676	G	4.0
29	X	1482	U	4.0
29	X	2051	U	4.0
9	D	66	ILE	4.0
8	C	161	ALA	4.0
29	X	774	A	4.0
29	X	929	A	4.0
29	X	1429	A	4.0
29	X	2315	A	4.0
29	X	2835	A	4.0
6	A	229	VAL	4.0
1	1	17	GLY	4.0

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Mol	Chain	Res	Type	RSRZ
29	X	961	G	4.0
29	X	1000	G	4.0
29	X	1820	G	4.0
29	X	1866	G	4.0
29	X	2363	G	4.0
29	X	2532	G	4.0
20	O	39	PHE	4.0
1	1	34	LYS	4.0
29	X	1071	U	4.0
4	4	36	GLN	4.0
24	S	70	GLN	4.0
29	X	198	A	4.0
29	X	245	C	4.0
29	X	330	C	4.0
29	X	2845	C	4.0
14	I	53	ARG	4.0
29	X	203	G	4.0
29	X	1008	G	4.0
6	A	188	GLU	4.0
8	C	91	TYR	4.0
22	Q	32	LYS	4.0
29	X	212	U	4.0
29	X	1723	U	4.0
3	3	12	ARG	4.0
17	L	8	ARG	4.0
18	M	34	ARG	4.0
15	J	84	MET	3.9
29	X	683	A	3.9
29	X	833	A	3.9
31	Z	31	A	3.9
25	T	22	GLY	3.9
29	X	1552	C	3.9
29	X	2506	C	3.9
29	X	2607	C	3.9
12	G	136	PRO	3.9
29	X	433	G	3.9
29	X	521	U	3.9
29	X	754	G	3.9
29	X	1131	G	3.9
29	X	1258	G	3.9
29	X	1371	G	3.9
29	X	1495	G	3.9

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Mol	Chain	Res	Type	RSRZ
29	X	2209	G	3.9
29	X	2599	U	3.9
29	X	2643	G	3.9
10	E	149	ARG	3.9
29	X	729	A	3.9
29	X	1281	A	3.9
29	X	1366	A	3.9
29	X	1507	A	3.9
29	X	1693	A	3.9
31	Z	68	A	3.9
9	D	88	LYS	3.9
19	N	118	GLN	3.9
29	X	1160	C	3.9
29	X	1190	C	3.9
29	X	1344	C	3.9
29	X	2183	C	3.9
10	E	65	HIS	3.9
17	L	40	ALA	3.9
29	X	1101	U	3.9
29	X	1194	U	3.9
29	X	2198	U	3.9
9	D	60	ILE	3.9
15	J	11	ARG	3.9
29	X	50	G	3.9
29	X	1543	G	3.9
29	X	1790	G	3.9
29	X	2388	G	3.9
29	X	2546	G	3.9
25	T	57	HIS	3.9
29	X	200	A	3.9
29	X	2073	A	3.9
29	X	2749	A	3.9
3	3	29	LYS	3.9
6	A	217	ARG	3.9
26	U	20	ARG	3.9
29	X	1083	C	3.9
29	X	2538	C	3.9
28	W	54	GLN	3.9
14	I	74	VAL	3.9
29	X	211	U	3.9
29	X	2501	U	3.9
21	P	118	LYS	3.9

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Mol	Chain	Res	Type	RSRZ
29	X	237	G	3.9
29	X	1263	G	3.9
29	X	1387	G	3.9
29	X	1520	G	3.9
29	X	2466	G	3.9
13	H	97	VAL	3.9
29	X	584	A	3.9
29	X	1619	A	3.9
29	X	2397	A	3.9
29	X	2401	A	3.9
29	X	1002	C	3.9
29	X	2826	C	3.9
19	N	117	ARG	3.8
29	X	112	U	3.8
29	X	561	U	3.8
29	X	942	U	3.8
17	L	56	SER	3.8
29	X	1361	G	3.8
29	X	1995	G	3.8
29	X	2200	G	3.8
29	X	2504	G	3.8
12	G	158	HIS	3.8
18	M	12	LEU	3.8
29	X	838	A	3.8
29	X	995	A	3.8
29	X	2512	A	3.8
11	F	125	ASN	3.8
29	X	1052	C	3.8
29	X	206	U	3.8
6	A	206	LEU	3.8
17	L	108	ARG	3.8
30	Y	2	ALA	3.8
29	X	338	G	3.8
29	X	738	G	3.8
29	X	988	G	3.8
29	X	1438	G	3.8
29	X	2661	G	3.8
31	Z	71	G	3.8
9	D	108	LEU	3.8
29	X	1516	A	3.8
29	X	1569	A	3.8
29	X	2556	A	3.8

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Mol	Chain	Res	Type	RSRZ
31	Z	112	A	3.8
19	N	116	ALA	3.8
24	S	32	PHE	3.8
29	X	429	C	3.8
29	X	1363	C	3.8
29	X	1411	C	3.8
29	X	2396	C	3.8
29	X	1077	U	3.8
7	B	145	LYS	3.8
10	E	148	VAL	3.8
11	F	127	VAL	3.8
29	X	238	G	3.8
29	X	484	G	3.8
29	X	753	U	3.8
29	X	863	C	3.8
29	X	1530	U	3.8
29	X	2723	C	3.8
29	X	2774	U	3.8
27	V	11	ALA	3.8
13	H	57	ASP	3.8
12	G	98	LYS	3.8
8	C	169	VAL	3.8
25	T	3	HIS	3.8
6	A	70	ARG	3.7
18	M	46	ARG	3.7
6	A	74	GLY	3.7
29	X	387	A	3.7
29	X	455	A	3.7
29	X	581	A	3.7
29	X	1139	A	3.7
29	X	1583	A	3.7
29	X	1984	A	3.7
29	X	2690	A	3.7
21	P	22	LYS	3.7
29	X	717	G	3.7
29	X	1599	G	3.7
29	X	2021	G	3.7
29	X	2576	G	3.7
31	Z	69	G	3.7
7	B	168	GLN	3.7
29	X	2080	U	3.7
9	D	42	SER	3.7

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Mol	Chain	Res	Type	RSRZ
9	D	73	SER	3.7
19	N	63	GLN	3.7
29	X	185	C	3.7
29	X	651	C	3.7
6	A	36	ALA	3.7
21	P	23	PRO	3.7
29	X	601	A	3.7
29	X	638	A	3.7
29	X	1203	A	3.7
29	X	1915	A	3.7
29	X	2181	A	3.7
31	Z	60	A	3.7
4	4	33	LYS	3.7
15	J	134	LYS	3.7
29	X	1051	U	3.7
29	X	2088	U	3.7
11	F	18	THR	3.7
29	X	1805	G	3.7
29	X	2619	G	3.7
29	X	2846	G	3.7
29	X	405	C	3.7
29	X	1346	C	3.7
29	X	2601	C	3.7
12	G	117	GLU	3.7
25	T	18	PRO	3.7
29	X	2775	U	3.7
8	C	150	LEU	3.7
29	X	705	C	3.7
29	X	1590	C	3.7
31	Z	64	C	3.7
6	A	198	ASN	3.7
29	X	108	G	3.7
29	X	1173	G	3.7
29	X	1236	G	3.7
29	X	1419	G	3.7
29	X	2473	G	3.7
29	X	2746	G	3.7
4	4	3	VAL	3.7
24	S	155	PRO	3.7
29	X	117	A	3.6
29	X	1872	A	3.6
28	W	24	GLY	3.6

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Mol	Chain	Res	Type	RSRZ
29	X	1539	U	3.6
10	E	23	VAL	3.6
29	X	799	C	3.6
29	X	1252	C	3.6
29	X	1540	C	3.6
29	X	2227	C	3.6
29	X	2360	C	3.6
29	X	658	G	3.6
29	X	1223	G	3.6
29	X	1330	G	3.6
29	X	1360	G	3.6
29	X	1484	G	3.6
29	X	1713	G	3.6
29	X	1857	G	3.6
29	X	2287	G	3.6
29	X	2447	G	3.6
31	Z	18	G	3.6
19	N	82	GLY	3.6
8	C	175	VAL	3.6
12	G	81	VAL	3.6
20	O	40	VAL	3.6
29	X	966	A	3.6
31	Z	91	A	3.6
29	X	440	U	3.6
29	X	2763	U	3.6
6	A	235	GLY	3.6
18	M	42	GLY	3.6
12	G	94	LYS	3.6
16	K	9	LYS	3.6
24	S	67	LYS	3.6
10	E	17	VAL	3.6
25	T	23	VAL	3.6
29	X	307	C	3.6
29	X	1756	C	3.6
29	X	1801	C	3.6
29	X	2722	C	3.6
29	X	122	G	3.6
29	X	630	G	3.6
29	X	951	G	3.6
29	X	957	G	3.6
29	X	1666	G	3.6
29	X	2434	G	3.6

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Mol	Chain	Res	Type	RSRZ
29	X	2634	G	3.6
6	A	174	ILE	3.6
8	C	29	GLU	3.6
3	3	10	ALA	3.6
14	I	55	ARG	3.6
14	I	100	ARG	3.6
29	X	425	A	3.6
29	X	1078	A	3.6
29	X	1227	A	3.6
29	X	1523	A	3.6
29	X	1717	A	3.6
29	X	2569	A	3.6
6	A	147	LEU	3.6
10	E	26	VAL	3.6
11	F	12	LEU	3.6
29	X	1537	U	3.6
29	X	2322	U	3.6
8	C	188	ILE	3.6
19	N	61	TRP	3.6
29	X	1620	C	3.6
29	X	2056	C	3.6
29	X	2274	C	3.6
29	X	2875	C	3.6
30	Y	59	ALA	3.6
31	Z	32	C	3.6
6	A	40	THR	3.6
11	F	135	GLY	3.6
20	O	30	GLY	3.6
24	S	167	THR	3.6
6	A	129	ASN	3.6
14	I	12	SER	3.6
29	X	1352	G	3.6
29	X	1527	G	3.6
29	X	2750	G	3.6
31	Z	52	G	3.6
9	D	32	GLU	3.6
29	X	14	A	3.6
29	X	2278	A	3.6
29	X	49	U	3.6
29	X	2249	U	3.6
29	X	2869	U	3.6
6	A	45	ASN	3.5

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Mol	Chain	Res	Type	RSRZ
6	A	154	GLN	3.5
29	X	4	C	3.5
29	X	236	C	3.5
29	X	804	C	3.5
29	X	1145	C	3.5
29	X	1376	C	3.5
31	Z	12	C	3.5
17	L	60	LYS	3.5
30	Y	8	LYS	3.5
29	X	141	G	3.5
29	X	2201	G	3.5
29	X	2610	G	3.5
29	X	642	A	3.5
29	X	891	A	3.5
29	X	986	A	3.5
29	X	1108	U	3.5
29	X	1936	A	3.5
29	X	1964	A	3.5
31	Z	47	A	3.5
24	S	65	LEU	3.5
6	A	46	ARG	3.5
12	G	67	ARG	3.5
25	T	73	GLY	3.5
29	X	175	C	3.5
29	X	880	C	3.5
29	X	1219	C	3.5
29	X	1558	C	3.5
29	X	1950	C	3.5
6	A	68	LYS	3.5
7	B	118	LYS	3.5
17	L	69	ALA	3.5
29	X	415	A	3.5
29	X	1812	U	3.5
29	X	2075	U	3.5
29	X	151	G	3.5
29	X	1206	G	3.5
29	X	1382	G	3.5
31	Z	53	G	3.5
8	C	76	THR	3.5
24	S	66	VAL	3.5
24	S	117	VAL	3.5
30	Y	42	SER	3.5

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Mol	Chain	Res	Type	RSRZ
6	A	262	LYS	3.5
10	E	150	LYS	3.5
15	J	72	ASP	3.5
8	C	59	TYR	3.5
29	X	2478	C	3.5
29	X	2682	C	3.5
7	B	34	VAL	3.5
10	E	153	LYS	3.5
17	L	30	SER	3.5
24	S	87	THR	3.5
29	X	801	A	3.5
29	X	917	U	3.5
29	X	956	A	3.5
29	X	1030	U	3.5
29	X	1594	U	3.5
29	X	1923	U	3.5
17	L	33	ARG	3.5
29	X	120	G	3.5
29	X	736	G	3.5
29	X	1589	G	3.5
6	A	59	LYS	3.5
24	S	168	VAL	3.5
6	A	259	THR	3.5
4	4	18	ARG	3.5
29	X	76	C	3.5
29	X	602	C	3.5
29	X	603	C	3.5
29	X	675	C	3.5
29	X	1917	C	3.5
29	X	1026	U	3.4
29	X	2211	U	3.4
31	Z	57	U	3.4
17	L	48	GLY	3.4
29	X	930	A	3.4
29	X	1171	A	3.4
29	X	1556	A	3.4
29	X	1681	A	3.4
29	X	2367	A	3.4
29	X	2411	A	3.4
31	Z	75	A	3.4
7	B	60	ASN	3.4
29	X	1073	G	3.4

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Mol	Chain	Res	Type	RSRZ
29	X	1284	G	3.4
29	X	2006	G	3.4
29	X	2313	G	3.4
29	X	2393	G	3.4
29	X	2400	G	3.4
29	X	2426	G	3.4
24	S	169	VAL	3.4
29	X	1396	C	3.4
29	X	2215	C	3.4
20	O	10	LYS	3.4
29	X	1076	U	3.4
29	X	1452	U	3.4
29	X	2365	U	3.4
29	X	116	A	3.4
29	X	921	A	3.4
29	X	1771	A	3.4
11	F	26	ALA	3.4
8	C	151	VAL	3.4
9	D	90	THR	3.4
29	X	1041	G	3.4
29	X	1827	G	3.4
6	A	33	LEU	3.4
1	1	48	VAL	3.4
14	I	122	VAL	3.4
29	X	723	C	3.4
29	X	1210	C	3.4
29	X	1283	C	3.4
29	X	1347	C	3.4
29	X	2179	C	3.4
6	A	97	TYR	3.4
7	B	142	GLY	3.4
29	X	2251	U	3.4
18	M	40	ARG	3.4
18	M	44	ARG	3.4
26	U	35	THR	3.4
29	X	71	A	3.4
29	X	174	A	3.4
29	X	698	A	3.4
29	X	1154	A	3.4
29	X	1187	A	3.4
29	X	1868	A	3.4
29	X	2785	A	3.4

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Mol	Chain	Res	Type	RSRZ
31	Z	104	A	3.4
8	C	180	ILE	3.4
23	R	23	ILE	3.4
24	S	141	MET	3.4
22	Q	17	TYR	3.4
11	F	132	ARG	3.4
16	K	93	GLY	3.4
6	A	208	LYS	3.4
29	X	2	G	3.4
29	X	361	G	3.4
29	X	1309	G	3.4
29	X	1430	G	3.4
29	X	2463	G	3.4
29	X	2694	G	3.4
6	A	85	ASP	3.4
29	X	2403	C	3.4
29	X	2573	C	3.4
31	Z	70	C	3.4
8	C	20	PRO	3.4
29	X	142	U	3.4
29	X	701	U	3.4
29	X	1038	U	3.4
29	X	1172	U	3.4
29	X	2808	U	3.4
29	X	1568	A	3.4
27	V	44	ARG	3.4
28	W	49	HIS	3.4
6	A	241	GLY	3.3
24	S	30	VAL	3.3
6	A	263	ARG	3.3
29	X	522	G	3.3
29	X	1414	G	3.3
29	X	1476	G	3.3
29	X	1577	G	3.3
29	X	2214	G	3.3
29	X	2823	G	3.3
31	Z	108	G	3.3
6	A	55	GLY	3.3
21	P	116	ILE	3.3
29	X	154	U	3.3
29	X	390	U	3.3
29	X	400	U	3.3

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Mol	Chain	Res	Type	RSRZ
29	X	1449	C	3.3
29	X	1489	C	3.3
29	X	1772	C	3.3
29	X	2180	U	3.3
29	X	2285	U	3.3
29	X	2833	C	3.3
31	Z	76	U	3.3
8	C	58	MET	3.3
29	X	343	A	3.3
29	X	1596	A	3.3
6	A	43	ARG	3.3
19	N	62	ILE	3.3
24	S	114	ASP	3.3
1	1	45	LYS	3.3
11	F	96	VAL	3.3
29	X	243	G	3.3
29	X	516	G	3.3
29	X	1394	G	3.3
17	L	91	ARG	3.3
29	X	1513	U	3.3
29	X	2074	U	3.3
29	X	2679	G	3.3
29	X	2719	U	3.3
31	Z	121	G	3.3
29	X	495	C	3.3
29	X	975	C	3.3
29	X	1270	C	3.3
29	X	1311	C	3.3
29	X	2243	C	3.3
29	X	2281	C	3.3
29	X	2803	C	3.3
29	X	326	A	3.3
29	X	2412	A	3.3
11	F	108	ALA	3.3
17	L	99	ARG	3.3
26	U	74	PRO	3.3
26	U	62	LEU	3.3
17	L	96	TYR	3.3
29	X	331	U	3.3
29	X	397	U	3.3
29	X	1392	U	3.3
31	Z	22	U	3.3

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Mol	Chain	Res	Type	RSRZ
29	X	127	C	3.3
29	X	927	C	3.3
29	X	998	C	3.3
29	X	1549	C	3.3
29	X	30	G	3.3
29	X	1266	G	3.3
29	X	1565	G	3.3
31	Z	46	G	3.3
6	A	133	LEU	3.3
12	G	85	ALA	3.3
15	J	71	PRO	3.3
29	X	1650	A	3.3
29	X	1718	A	3.3
29	X	2182	A	3.3
10	E	161	GLY	3.3
5	5	3	THR	3.3
6	A	84	TYR	3.3
25	T	66	LYS	3.3
6	A	71	ASP	3.2
29	X	571	U	3.2
29	X	597	U	3.2
29	X	1202	U	3.2
29	X	1863	U	3.2
29	X	2275	U	3.2
29	X	2572	U	3.2
29	X	2789	U	3.2
14	I	35	LYS	3.2
29	X	456	C	3.2
29	X	2747	C	3.2
29	X	2765	C	3.2
29	X	654	A	3.2
29	X	712	A	3.2
29	X	1208	A	3.2
29	X	1952	A	3.2
29	X	2272	A	3.2
29	X	2801	A	3.2
29	X	90	G	3.2
29	X	582	G	3.2
29	X	945	G	3.2
29	X	1401	G	3.2
29	X	2052	G	3.2
29	X	2624	G	3.2

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Mol	Chain	Res	Type	RSRZ
17	L	15	ARG	3.2
15	J	108	ALA	3.2
7	B	172	VAL	3.2
12	G	84	ASN	3.2
14	I	25	GLY	3.2
6	A	161	THR	3.2
18	M	41	GLU	3.2
29	X	86	U	3.2
29	X	785	U	3.2
29	X	1938	U	3.2
14	I	54	SER	3.2
29	X	1103	C	3.2
29	X	1702	C	3.2
29	X	2271	C	3.2
29	X	2446	C	3.2
29	X	2645	C	3.2
12	G	65	LYS	3.2
14	I	17	LYS	3.2
29	X	832	A	3.2
6	A	230	ASP	3.2
29	X	227	G	3.2
29	X	704	G	3.2
29	X	949	G	3.2
29	X	1735	G	3.2
29	X	1814	G	3.2
29	X	1823	G	3.2
29	X	1882	G	3.2
29	X	2283	G	3.2
29	X	2522	G	3.2
20	O	6	GLN	3.2
28	W	10	ILE	3.2
7	B	56	GLU	3.2
22	Q	65	VAL	3.2
24	S	1	MET	3.2
29	X	1656	U	3.2
29	X	1769	U	3.2
25	T	82	GLU	3.2
29	X	436	A	3.2
29	X	869	C	3.2
29	X	1256	C	3.2
29	X	2042	A	3.2
29	X	2244	C	3.2

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Mol	Chain	Res	Type	RSRZ
29	X	2247	A	3.2
31	Z	13	C	3.2
17	L	36	LYS	3.2
12	G	145	HIS	3.2
9	D	100	LEU	3.2
23	R	74	LEU	3.2
29	X	171	G	3.2
29	X	419	G	3.2
29	X	742	G	3.2
29	X	1480	G	3.2
29	X	1602	G	3.2
29	X	2344	G	3.2
29	X	2612	G	3.2
12	G	132	PHE	3.2
10	E	60	LYS	3.2
29	X	715	U	3.2
19	N	57	PHE	3.1
6	A	260	ARG	3.1
29	X	37	C	3.1
29	X	536	A	3.1
29	X	1018	C	3.1
29	X	1063	C	3.1
29	X	1546	C	3.1
29	X	1784	C	3.1
29	X	1829	C	3.1
29	X	2445	C	3.1
29	X	2740	C	3.1
21	P	66	GLU	3.1
7	B	184	VAL	3.1
29	X	510	G	3.1
29	X	2018	G	3.1
6	A	53	PHE	3.1
6	A	105	ILE	3.1
25	T	13	GLY	3.1
31	Z	24	U	3.1
7	B	2	LYS	3.1
4	4	5	SER	3.1
7	B	187	ALA	3.1
17	L	31	VAL	3.1
22	Q	33	ALA	3.1
23	R	46	VAL	3.1
29	X	52	A	3.1

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Mol	Chain	Res	Type	RSRZ
29	X	357	A	3.1
29	X	913	A	3.1
29	X	1097	A	3.1
29	X	1153	A	3.1
29	X	2187	A	3.1
29	X	2248	A	3.1
29	X	2405	A	3.1
29	X	2738	A	3.1
29	X	58	C	3.1
29	X	646	C	3.1
29	X	1795	C	3.1
6	A	143	HIS	3.1
16	K	63	ARG	3.1
1	1	53	LYS	3.1
8	C	81	GLY	3.1
8	C	35	LEU	3.1
22	Q	89	GLU	3.1
25	T	9	SER	3.1
26	U	53	GLU	3.1
29	X	1047	G	3.1
29	X	1533	G	3.1
29	X	1660	G	3.1
29	X	2309	G	3.1
29	X	2353	G	3.1
29	X	2389	G	3.1
29	X	2574	G	3.1
6	A	66	ASP	3.1
14	I	27	ASP	3.1
26	U	27	ASP	3.1
17	L	18	ARG	3.1
24	S	73	LYS	3.1
6	A	128	GLY	3.1
14	I	80	LEU	3.1
22	Q	82	LEU	3.1
29	X	153	A	3.1
29	X	181	A	3.1
29	X	681	A	3.1
29	X	2430	A	3.1
29	X	2618	A	3.1
31	Z	74	A	3.1
27	V	4	SER	3.1
29	X	737	C	3.1

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Mol	Chain	Res	Type	RSRZ
29	X	2453	C	3.1
31	Z	49	C	3.1
9	D	65	PRO	3.1
23	R	43	ASP	3.1
14	I	108	LEU	3.1
15	J	63	GLY	3.1
29	X	727	U	3.1
29	X	1105	U	3.1
29	X	1212	U	3.1
29	X	2177	U	3.1
29	X	11	G	3.1
29	X	733	G	3.1
29	X	858	G	3.1
29	X	1254	G	3.1
29	X	1747	G	3.1
29	X	1963	G	3.1
29	X	2202	G	3.1
29	X	2642	G	3.1
7	B	84	PHE	3.1
25	T	26	PHE	3.1
14	I	45	LYS	3.1
15	J	60	ARG	3.1
29	X	63	A	3.1
29	X	158	A	3.1
29	X	1126	A	3.1
29	X	1560	A	3.1
29	X	1873	A	3.1
29	X	2521	A	3.1
31	Z	65	A	3.1
9	D	62	LEU	3.1
18	M	107	LEU	3.1
29	X	130	C	3.1
29	X	1957	C	3.1
29	X	2535	C	3.1
4	4	16	VAL	3.0
1	1	54	LYS	3.0
4	4	35	ARG	3.0
29	X	170	U	3.0
11	F	118	GLY	3.0
29	X	219	G	3.0
29	X	474	G	3.0
29	X	663	G	3.0

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Mol	Chain	Res	Type	RSRZ
29	X	950	G	3.0
29	X	1237	G	3.0
29	X	1642	G	3.0
29	X	2408	G	3.0
16	K	24	GLN	3.0
22	Q	55	THR	3.0
8	C	67	ALA	3.0
9	D	54	ALA	3.0
29	X	643	A	3.0
29	X	740	A	3.0
29	X	1457	A	3.0
29	X	1845	A	3.0
29	X	2037	A	3.0
29	X	2308	A	3.0
29	X	2713	A	3.0
12	G	41	TRP	3.0
8	C	181	LEU	3.0
29	X	126	C	3.0
29	X	180	C	3.0
29	X	976	C	3.0
29	X	1127	C	3.0
29	X	1623	C	3.0
29	X	1731	C	3.0
31	Z	88	C	3.0
31	Z	111	C	3.0
8	C	174	GLY	3.0
12	G	52	GLY	3.0
9	D	25	VAL	3.0
29	X	444	U	3.0
29	X	1213	U	3.0
10	E	86	ASN	3.0
25	T	21	LEU	3.0
28	W	7	ARG	3.0
29	X	147	G	3.0
29	X	389	G	3.0
29	X	1436	G	3.0
29	X	1450	G	3.0
29	X	2524	G	3.0
29	X	2811	G	3.0
29	X	2867	G	3.0
24	S	122	ILE	3.0
29	X	1025	A	3.0

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Mol	Chain	Res	Type	RSRZ
29	X	1320	A	3.0
29	X	2684	A	3.0
29	X	2848	A	3.0
12	G	149	LYS	3.0
19	N	6	THR	3.0
6	A	170	SER	3.0
11	F	131	ALA	3.0
16	K	3	HIS	3.0
17	L	52	ALA	3.0
29	X	85	C	3.0
29	X	391	C	3.0
29	X	422	C	3.0
29	X	1665	C	3.0
29	X	2735	C	3.0
22	Q	62	ARG	3.0
8	C	163	ASN	3.0
30	Y	29	ASN	3.0
29	X	2223	U	3.0
30	Y	13	LYS	3.0
9	D	39	GLY	3.0
9	D	150	ARG	3.0
19	N	50	ARG	3.0
7	B	169	ASN	3.0
29	X	319	G	3.0
29	X	568	G	3.0
29	X	1067	G	3.0
29	X	1179	A	3.0
29	X	1471	G	3.0
29	X	1749	G	3.0
29	X	1987	G	3.0
29	X	2078	G	3.0
29	X	2730	A	3.0
29	X	2733	A	3.0
29	X	2739	G	3.0
31	Z	118	G	3.0
7	B	171	GLU	3.0
21	P	15	LYS	3.0
21	P	19	LYS	3.0
18	M	10	GLY	3.0
29	X	332	C	3.0
29	X	1593	C	3.0
29	X	2260	C	3.0

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Mol	Chain	Res	Type	RSRZ
29	X	2420	C	3.0
29	X	2558	C	3.0
31	Z	83	C	3.0
11	F	74	MET	3.0
14	I	39	SER	3.0
15	J	28	VAL	3.0
17	L	71	VAL	3.0
22	Q	2	SER	3.0
22	Q	34	THR	3.0
29	X	1276	U	3.0
29	X	1286	U	3.0
29	X	1578	U	3.0
29	X	1817	U	3.0
29	X	1881	U	3.0
29	X	1939	U	3.0
29	X	2417	U	3.0
29	X	2836	U	3.0
22	Q	12	ILE	2.9
16	K	107	GLY	2.9
4	4	25	VAL	2.9
6	A	103	ARG	2.9
14	I	133	VAL	2.9
29	X	125	A	2.9
29	X	1250	A	2.9
29	X	1458	A	2.9
29	X	1846	A	2.9
29	X	2355	A	2.9
29	X	2497	A	2.9
29	X	776	G	2.9
29	X	1494	G	2.9
29	X	1613	G	2.9
29	X	1806	G	2.9
29	X	2085	G	2.9
29	X	2310	G	2.9
29	X	2376	G	2.9
29	X	2378	G	2.9
29	X	2379	G	2.9
29	X	2394	G	2.9
29	X	2868	G	2.9
19	N	56	ASP	2.9
15	J	86	LYS	2.9
16	K	52	ILE	2.9

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Mol	Chain	Res	Type	RSRZ
29	X	1501	C	2.9
24	S	2	GLU	2.9
17	L	89	PHE	2.9
29	X	871	U	2.9
29	X	1112	U	2.9
29	X	1446	U	2.9
29	X	2726	U	2.9
11	F	15	GLY	2.9
10	E	144	VAL	2.9
19	N	94	VAL	2.9
25	T	41	ARG	2.9
12	G	152	ALA	2.9
24	S	124	ALA	2.9
29	X	539	A	2.9
29	X	657	A	2.9
29	X	1012	A	2.9
29	X	1935	A	2.9
29	X	2611	A	2.9
1	1	29	ARG	2.9
4	4	37	GLY	2.9
6	A	48	ARG	2.9
28	W	19	THR	2.9
24	S	64	ALA	2.9
29	X	980	G	2.9
29	X	1082	G	2.9
29	X	2425	G	2.9
29	X	2786	G	2.9
31	Z	9	G	2.9
29	X	162	C	2.9
29	X	234	C	2.9
29	X	851	C	2.9
29	X	1183	C	2.9
29	X	1877	C	2.9
29	X	2710	C	2.9
29	X	1856	U	2.9
29	X	1927	U	2.9
15	J	126	LEU	2.9
10	E	88	GLU	2.9
17	L	24	SER	2.9
26	U	18	VAL	2.9
23	R	102	LYS	2.9
9	D	132	ILE	2.9

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Mol	Chain	Res	Type	RSRZ
29	X	143	A	2.9
29	X	193	A	2.9
29	X	490	A	2.9
29	X	493	A	2.9
29	X	918	A	2.9
9	D	153	ASP	2.9
29	X	96	C	2.9
29	X	1633	C	2.9
29	X	1663	C	2.9
29	X	1941	C	2.9
6	A	141	VAL	2.9
20	O	46	VAL	2.9
22	Q	52	GLY	2.9
29	X	53	G	2.9
29	X	728	G	2.9
29	X	1125	G	2.9
29	X	2319	G	2.9
29	X	2702	G	2.9
31	Z	77	G	2.9
31	Z	115	G	2.9
17	L	67	THR	2.9
6	A	159	ALA	2.9
24	S	147	ILE	2.9
26	U	40	ARG	2.9
23	R	9	HIS	2.8
29	X	404	A	2.8
29	X	644	A	2.8
29	X	807	A	2.8
29	X	1239	A	2.8
29	X	1314	A	2.8
29	X	1555	A	2.8
10	E	5	GLY	2.8
10	E	165	VAL	2.8
15	J	67	ILE	2.8
8	C	149	LEU	2.8
14	I	125	ALA	2.8
19	N	96	ALA	2.8
29	X	2171	U	2.8
29	X	324	C	2.8
29	X	939	C	2.8
29	X	1029	C	2.8
29	X	1451	C	2.8

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Mol	Chain	Res	Type	RSRZ
29	X	1734	C	2.8
31	Z	62	C	2.8
4	4	15	LYS	2.8
9	D	29	PRO	2.8
10	E	6	LYS	2.8
29	X	38	G	2.8
29	X	41	G	2.8
29	X	687	G	2.8
29	X	767	G	2.8
29	X	1117	G	2.8
29	X	1147	G	2.8
29	X	1204	G	2.8
6	A	187	SER	2.8
11	F	116	ASN	2.8
12	G	36	ASN	2.8
12	G	62	ILE	2.8
12	G	46	ALA	2.8
15	J	115	ALA	2.8
29	X	445	A	2.8
29	X	626	A	2.8
29	X	922	A	2.8
29	X	1167	A	2.8
29	X	2002	A	2.8
7	B	49	ILE	2.8
14	I	75	VAL	2.8
27	V	52	GLN	2.8
29	X	34	U	2.8
29	X	2298	U	2.8
29	X	2369	U	2.8
23	R	113	THR	2.8
29	X	448	C	2.8
29	X	519	C	2.8
29	X	569	C	2.8
29	X	755	C	2.8
29	X	1111	C	2.8
29	X	1444	C	2.8
29	X	1824	C	2.8
7	B	154	LYS	2.8
29	X	17	G	2.8
29	X	197	G	2.8
29	X	487	G	2.8
29	X	2173	G	2.8

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Mol	Chain	Res	Type	RSRZ
31	Z	84	G	2.8
10	E	33	LEU	2.8
17	L	38	ILE	2.8
8	C	101	GLN	2.8
10	E	59	GLN	2.8
15	J	109	GLY	2.8
20	O	64	GLY	2.8
14	I	95	ALA	2.8
26	U	47	HIS	2.8
29	X	139	A	2.8
29	X	556	A	2.8
29	X	1408	A	2.8
7	B	87	ASP	2.8
4	4	31	LYS	2.8
19	N	54	LYS	2.8
19	N	93	LYS	2.8
12	G	148	LEU	2.8
29	X	161	U	2.8
29	X	857	U	2.8
29	X	1547	U	2.8
29	X	2410	U	2.8
29	X	2700	U	2.8
29	X	2772	U	2.8
13	H	19	ILE	2.8
19	N	88	ILE	2.8
24	S	79	ILE	2.8
12	G	150	VAL	2.8
19	N	113	SER	2.8
29	X	882	C	2.8
29	X	1925	C	2.8
29	X	2263	C	2.8
7	B	191	ALA	2.8
6	A	244	ARG	2.8
19	N	13	ARG	2.8
29	X	84	G	2.8
29	X	87	G	2.8
29	X	464	G	2.8
29	X	605	G	2.8
29	X	1024	G	2.8
29	X	1338	G	2.8
29	X	2070	G	2.8
29	X	2084	G	2.8

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Mol	Chain	Res	Type	RSRZ
29	X	2282	G	2.8
31	Z	93	G	2.8
6	A	94	LEU	2.8
7	B	5	LEU	2.8
19	N	25	TRP	2.8
29	X	321	A	2.8
29	X	994	A	2.8
29	X	1335	A	2.8
29	X	1534	A	2.8
13	H	55	VAL	2.8
6	A	240	THR	2.8
25	T	2	ALA	2.8
29	X	839	U	2.8
24	S	72	ASP	2.7
6	A	214	TRP	2.7
29	X	246	C	2.7
29	X	545	C	2.7
29	X	589	C	2.7
29	X	1581	C	2.7
29	X	2239	C	2.7
29	X	2422	C	2.7
29	X	2550	C	2.7
7	B	83	GLY	2.7
28	W	11	GLY	2.7
18	M	56	ALA	2.7
24	S	48	THR	2.7
29	X	231	G	2.7
29	X	352	G	2.7
29	X	1123	G	2.7
29	X	1241	G	2.7
29	X	1265	G	2.7
29	X	1542	G	2.7
29	X	1573	G	2.7
29	X	1809	G	2.7
29	X	1854	G	2.7
29	X	2468	G	2.7
29	X	2511	G	2.7
29	X	2567	G	2.7
29	X	2648	G	2.7
6	A	177	LEU	2.7
6	A	58	HIS	2.7
29	X	228	A	2.7

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Mol	Chain	Res	Type	RSRZ
29	X	233	A	2.7
29	X	242	A	2.7
29	X	794	A	2.7
29	X	1021	A	2.7
29	X	1492	A	2.7
29	X	2312	A	2.7
29	X	2729	A	2.7
29	X	1217	U	2.7
29	X	1833	U	2.7
29	X	2366	U	2.7
6	A	138	VAL	2.7
15	J	98	VAL	2.7
6	A	219	PRO	2.7
6	A	232	PRO	2.7
17	L	64	LYS	2.7
19	N	2	PRO	2.7
15	J	22	ALA	2.7
21	P	133	ASN	2.7
29	X	329	C	2.7
29	X	640	C	2.7
29	X	1134	C	2.7
29	X	1442	C	2.7
29	X	2276	C	2.7
31	Z	6	C	2.7
9	D	71	LYS	2.7
21	P	55	ASP	2.7
29	X	515	A	2.7
29	X	673	G	2.7
29	X	1001	A	2.7
29	X	1186	G	2.7
29	X	1435	G	2.7
29	X	1662	G	2.7
29	X	1816	G	2.7
29	X	1860	A	2.7
29	X	2015	G	2.7
29	X	2451	G	2.7
29	X	2557	G	2.7
29	X	2562	G	2.7
25	T	55	ARG	2.7
18	M	21	THR	2.7
26	U	34	THR	2.7
29	X	1748	U	2.7

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Mol	Chain	Res	Type	RSRZ
29	X	1946	U	2.7
6	A	252	LYS	2.7
25	T	19	LYS	2.7
18	M	26	ASP	2.7
23	R	83	LEU	2.7
29	X	77	C	2.7
29	X	308	C	2.7
29	X	611	C	2.7
29	X	937	C	2.7
29	X	962	C	2.7
6	A	153	ALA	2.7
6	A	251	GLY	2.7
20	O	12	TYR	2.7
9	D	87	ILE	2.7
8	C	94	THR	2.7
26	U	79	GLU	2.7
29	X	483	A	2.7
12	G	44	VAL	2.7
25	T	59	LEU	2.7
29	X	201	G	2.7
29	X	334	G	2.7
29	X	562	G	2.7
29	X	662	G	2.7
27	V	3	PRO	2.7
29	X	786	U	2.7
29	X	1443	G	2.7
29	X	1465	G	2.7
29	X	1691	G	2.7
29	X	1886	G	2.7
29	X	2057	U	2.7
29	X	2241	U	2.7
16	K	104	ARG	2.7
20	O	8	GLY	2.7
6	A	189	CYS	2.7
23	R	45	LYS	2.7
22	Q	46	PHE	2.7
29	X	22	C	2.7
29	X	113	C	2.7
29	X	465	C	2.7
29	X	533	C	2.7
29	X	1825	C	2.7
29	X	2184	C	2.7

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Mol	Chain	Res	Type	RSRZ
29	X	2305	C	2.7
29	X	2517	C	2.7
29	X	2849	C	2.7
31	Z	7	C	2.7
17	L	11	LEU	2.7
7	B	93	VAL	2.6
13	H	95	ALA	2.6
13	H	56	LYS	2.6
14	I	102	LYS	2.6
29	X	1140	A	2.6
29	X	1420	A	2.6
29	X	2060	A	2.6
29	X	2190	A	2.6
29	X	2705	A	2.6
31	Z	80	A	2.6
29	X	345	U	2.6
29	X	1010	U	2.6
11	F	10	LEU	2.6
29	X	47	G	2.6
29	X	677	G	2.6
29	X	2688	G	2.6
29	X	2743	G	2.6
28	W	6	VAL	2.6
4	4	22	ARG	2.6
20	O	86	HIS	2.6
8	C	96	PRO	2.6
25	T	52	GLY	2.6
28	W	27	LYS	2.6
14	I	9	THR	2.6
15	J	138	TYR	2.6
29	X	303	C	2.6
29	X	1385	C	2.6
29	X	1858	C	2.6
29	X	2440	C	2.6
31	Z	45	C	2.6
8	C	44	SER	2.6
29	X	1423	A	2.6
29	X	1883	A	2.6
29	X	2167	A	2.6
29	X	2641	A	2.6
29	X	2685	A	2.6
4	4	20	HIS	2.6

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Mol	Chain	Res	Type	RSRZ
20	O	88	GLN	2.6
21	P	29	LYS	2.6
29	X	394	U	2.6
29	X	2224	U	2.6
17	L	92	GLY	2.6
12	G	100	TYR	2.6
12	G	101	THR	2.6
21	P	125	THR	2.6
22	Q	68	PHE	2.6
23	R	12	ASP	2.6
29	X	1245	G	2.6
29	X	1508	G	2.6
29	X	1545	G	2.6
29	X	1684	G	2.6
29	X	1849	G	2.6
29	X	2461	G	2.6
29	X	2806	G	2.6
25	T	35	ASN	2.6
24	S	96	VAL	2.6
24	S	44	ARG	2.6
9	D	102	LYS	2.6
29	X	81	C	2.6
29	X	446	C	2.6
29	X	2876	C	2.6
17	L	68	ALA	2.6
19	N	31	GLN	2.6
18	M	15	GLY	2.6
24	S	157	GLY	2.6
6	A	67	PHE	2.6
8	C	47	THR	2.6
8	C	145	THR	2.6
6	A	35	GLU	2.6
29	X	72	A	2.6
29	X	403	A	2.6
29	X	618	A	2.6
29	X	1022	A	2.6
31	Z	102	A	2.6
19	N	81	ASN	2.6
29	X	816	U	2.6
29	X	1116	U	2.6
16	K	55	ALA	2.6
17	L	29	LEU	2.6

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Mol	Chain	Res	Type	RSRZ
19	N	109	LEU	2.6
28	W	46	THR	2.6
29	X	1104	G	2.6
29	X	1351	G	2.6
29	X	1832	G	2.6
29	X	1841	G	2.6
29	X	2711	G	2.6
6	A	196	VAL	2.6
6	A	264	LYS	2.6
8	C	176	ASN	2.6
12	G	93	LYS	2.6
22	Q	80	VAL	2.6
25	T	74	LYS	2.6
29	X	550	C	2.6
29	X	596	C	2.6
29	X	2048	C	2.6
29	X	2767	C	2.6
6	A	93	ALA	2.6
9	D	11	GLN	2.6
23	R	41	PRO	2.6
24	S	21	ALA	2.6
29	X	5	A	2.6
29	X	168	A	2.6
29	X	923	A	2.6
29	X	1278	A	2.6
29	X	2079	A	2.6
29	X	2168	A	2.6
29	X	2169	A	2.6
29	X	2301	A	2.6
31	Z	27	A	2.6
6	A	197	GLY	2.6
29	X	144	U	2.6
29	X	217	U	2.6
29	X	2863	U	2.6
29	X	2872	U	2.6
18	M	67	THR	2.5
26	U	59	THR	2.5
7	B	132	LYS	2.5
7	B	163	GLU	2.5
12	G	124	GLU	2.5
14	I	98	LEU	2.5
9	D	152	MET	2.5

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Mol	Chain	Res	Type	RSRZ
15	J	38	MET	2.5
29	X	95	G	2.5
29	X	156	G	2.5
29	X	165	G	2.5
29	X	965	G	2.5
29	X	1834	G	2.5
29	X	2370	G	2.5
29	X	2698	G	2.5
12	G	155	THR	2.5
29	X	208	C	2.5
29	X	993	C	2.5
29	X	1328	C	2.5
29	X	1461	C	2.5
29	X	1614	C	2.5
29	X	2240	C	2.5
12	G	159	SER	2.5
24	S	170	SER	2.5
15	J	75	VAL	2.5
26	U	60	VAL	2.5
27	V	59	GLU	2.5
9	D	175	LEU	2.5
10	E	140	LEU	2.5
19	N	60	LEU	2.5
29	X	886	A	2.5
29	X	960	U	2.5
29	X	1015	U	2.5
29	X	1326	U	2.5
29	X	1463	A	2.5
29	X	1604	A	2.5
29	X	1778	U	2.5
29	X	2009	U	2.5
29	X	2034	A	2.5
31	Z	101	A	2.5
16	K	69	ASP	2.5
15	J	50	ALA	2.5
17	L	53	ALA	2.5
24	S	20	ALA	2.5
4	4	2	LYS	2.5
20	O	5	ILE	2.5
25	T	44	LYS	2.5
19	N	20	ARG	2.5
19	N	47	TYR	2.5

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Mol	Chain	Res	Type	RSRZ
21	P	31	VAL	2.5
29	X	105	G	2.5
29	X	138	G	2.5
29	X	340	G	2.5
29	X	1341	G	2.5
29	X	1503	G	2.5
29	X	2578	G	2.5
29	X	2804	G	2.5
29	X	32	C	2.5
29	X	527	C	2.5
29	X	672	C	2.5
29	X	1991	C	2.5
8	C	49	ALA	2.5
15	J	37	ALA	2.5
6	A	108	PRO	2.5
6	A	193	ILE	2.5
7	B	77	ILE	2.5
9	D	31	ILE	2.5
12	G	127	ILE	2.5
16	K	105	GLY	2.5
29	X	66	U	2.5
29	X	83	A	2.5
29	X	595	A	2.5
29	X	706	A	2.5
29	X	823	U	2.5
29	X	1195	U	2.5
29	X	1920	A	2.5
29	X	2335	U	2.5
29	X	2825	A	2.5
29	X	2831	A	2.5
29	X	2861	A	2.5
31	Z	10	U	2.5
7	B	19	ARG	2.5
8	C	158	ARG	2.5
24	S	74	ARG	2.5
11	F	75	SER	2.5
16	K	51	LEU	2.5
24	S	118	HIS	2.5
26	U	63	SER	2.5
15	J	81	GLU	2.5
12	G	78	ASP	2.5
23	R	65	PRO	2.5

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Mol	Chain	Res	Type	RSRZ
26	U	51	ILE	2.5
12	G	108	GLY	2.5
15	J	57	ARG	2.5
28	W	26	ARG	2.5
8	C	187	VAL	2.5
14	I	99	VAL	2.5
17	L	88	VAL	2.5
29	X	1418	C	2.5
29	X	1930	C	2.5
29	X	2580	C	2.5
31	Z	55	C	2.5
6	A	181	GLU	2.5
15	J	106	GLU	2.5
29	X	79	G	2.5
29	X	567	G	2.5
29	X	2640	G	2.5
29	X	1403	U	2.5
29	X	2069	U	2.5
29	X	2666	U	2.5
18	M	98	LYS	2.5
29	X	747	A	2.5
29	X	2040	A	2.5
24	S	77	ALA	2.5
11	F	50	ASP	2.5
14	I	52	GLY	2.5
25	T	56	ASP	2.5
17	L	20	THR	2.5
13	H	27	SER	2.5
22	Q	54	SER	2.5
6	A	175	VAL	2.5
8	C	177	VAL	2.5
9	D	157	VAL	2.5
15	J	137	VAL	2.5
19	N	36	PHE	2.4
6	A	258	LYS	2.4
26	U	49	LYS	2.4
30	Y	10	LYS	2.4
11	F	94	ALA	2.4
9	D	130	LEU	2.4
25	T	37	LEU	2.4
6	A	63	ARG	2.4
15	J	17	ARG	2.4

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Mol	Chain	Res	Type	RSRZ
18	M	19	ASP	2.4
29	X	2605	C	2.4
29	X	943	U	2.4
29	X	1608	U	2.4
29	X	2471	U	2.4
29	X	136	A	2.4
29	X	438	G	2.4
29	X	678	G	2.4
29	X	834	A	2.4
29	X	1224	A	2.4
29	X	1260	A	2.4
29	X	1267	A	2.4
29	X	1322	G	2.4
29	X	1496	G	2.4
29	X	1776	A	2.4
29	X	1818	G	2.4
29	X	2474	G	2.4
29	X	2623	A	2.4
29	X	2862	G	2.4
31	Z	36	A	2.4
21	P	127	ILE	2.4
12	G	59	ALA	2.4
18	M	87	LEU	2.4
24	S	121	GLN	2.4
11	F	126	THR	2.4
17	L	93	SER	2.4
11	F	104	VAL	2.4
26	U	41	VAL	2.4
9	D	97	TYR	2.4
19	N	98	ILE	2.4
6	A	145	LEU	2.4
12	G	122	HIS	2.4
13	H	18	GLU	2.4
6	A	107	ALA	2.4
24	S	42	ALA	2.4
29	X	235	C	2.4
29	X	439	C	2.4
29	X	808	C	2.4
29	X	1075	C	2.4
29	X	1151	U	2.4
29	X	1257	U	2.4
29	X	1808	C	2.4

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Mol	Chain	Res	Type	RSRZ
29	X	2631	C	2.4
29	X	2704	U	2.4
9	D	118	ASN	2.4
29	X	797	A	2.4
29	X	1391	A	2.4
29	X	1453	A	2.4
29	X	1630	A	2.4
6	A	238	GLY	2.4
29	X	409	G	2.4
29	X	1128	G	2.4
29	X	1440	G	2.4
29	X	2297	G	2.4
29	X	2503	G	2.4
29	X	2665	G	2.4
31	Z	25	G	2.4
31	Z	56	G	2.4
9	D	159	THR	2.4
14	I	41	SER	2.4
19	N	5	LYS	2.4
12	G	165	VAL	2.4
13	H	110	VAL	2.4
11	F	78	ILE	2.4
22	Q	38	ILE	2.4
15	J	112	GLU	2.4
15	J	117	GLU	2.4
6	A	144	ALA	2.4
27	V	54	ASN	2.4
6	A	167	GLY	2.4
6	A	207	GLY	2.4
8	C	79	GLY	2.4
11	F	91	PRO	2.4
14	I	24	GLY	2.4
12	G	60	SER	2.4
15	J	45	SER	2.4
15	J	64	LYS	2.4
23	R	79	SER	2.4
22	Q	27	PHE	2.4
29	X	566	U	2.4
29	X	667	U	2.4
29	X	1197	U	2.4
29	X	2178	U	2.4
29	X	2632	U	2.4

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Mol	Chain	Res	Type	RSRZ
14	I	5	ASP	2.4
29	X	20	C	2.4
29	X	1945	C	2.4
29	X	2022	C	2.4
29	X	494	A	2.4
29	X	512	A	2.4
29	X	1386	A	2.4
29	X	1395	A	2.4
29	X	1437	A	2.4
29	X	1468	A	2.4
29	X	1610	A	2.4
29	X	2577	A	2.4
6	A	91	ARG	2.4
9	D	56	GLU	2.4
14	I	37	GLN	2.4
14	I	132	ALA	2.4
23	R	69	GLN	2.4
26	U	42	GLN	2.4
11	F	9	LYS	2.4
29	X	528	G	2.4
29	X	708	G	2.4
29	X	778	G	2.4
29	X	791	G	2.4
29	X	1013	G	2.4
29	X	1240	G	2.4
29	X	1975	G	2.4
29	X	2304	G	2.4
29	X	2742	G	2.4
6	A	150	GLY	2.4
7	B	193	GLY	2.4
23	R	57	ASN	2.4
6	A	248	THR	2.4
7	B	76	ARG	2.4
13	H	12	ASP	2.4
14	I	15	ASP	2.4
7	B	48	GLN	2.3
29	X	2498	U	2.3
6	A	87	ASN	2.3
13	H	48	GLY	2.3
14	I	36	GLY	2.3
14	I	65	PHE	2.3
29	X	28	A	2.3

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Mol	Chain	Res	Type	RSRZ
29	X	160	C	2.3
29	X	684	C	2.3
29	X	719	A	2.3
29	X	1214	C	2.3
29	X	1288	A	2.3
29	X	1367	A	2.3
29	X	1580	C	2.3
29	X	1774	A	2.3
29	X	2191	A	2.3
29	X	2462	C	2.3
29	X	2721	A	2.3
31	Z	15	A	2.3
31	Z	116	C	2.3
7	B	136	ARG	2.3
15	J	61	ARG	2.3
9	D	5	LYS	2.3
12	G	137	LYS	2.3
19	N	86	ALA	2.3
29	X	503	G	2.3
29	X	530	G	2.3
29	X	938	G	2.3
29	X	1157	G	2.3
29	X	1439	G	2.3
29	X	1460	G	2.3
29	X	1644	G	2.3
29	X	1739	G	2.3
29	X	1942	G	2.3
29	X	2320	G	2.3
29	X	2351	G	2.3
29	X	2386	G	2.3
31	Z	100	G	2.3
8	C	50	GLN	2.3
28	W	52	GLU	2.3
6	A	96	HIS	2.3
12	G	156	HIS	2.3
8	C	30	VAL	2.3
9	D	89	VAL	2.3
26	U	68	ARG	2.3
29	X	544	U	2.3
29	X	685	U	2.3
29	X	2428	U	2.3
19	N	19	LYS	2.3

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Mol	Chain	Res	Type	RSRZ
20	O	73	LYS	2.3
19	N	105	ALA	2.3
21	P	79	ALA	2.3
15	J	139	ASP	2.3
29	X	652	C	2.3
29	X	996	C	2.3
29	X	1088	A	2.3
29	X	1238	A	2.3
29	X	1910	A	2.3
29	X	2725	C	2.3
29	X	2755	A	2.3
31	Z	63	A	2.3
12	G	54	LEU	2.3
25	T	75	GLY	2.3
21	P	76	LYS	2.3
29	X	492	G	2.3
29	X	1345	G	2.3
29	X	2238	G	2.3
29	X	2727	G	2.3
6	A	104	TYR	2.3
10	E	73	ALA	2.3
20	O	80	TYR	2.3
10	E	164	PHE	2.3
23	R	44	GLN	2.3
24	S	60	GLU	2.3
29	X	393	U	2.3
29	X	621	U	2.3
29	X	2564	U	2.3
10	E	31	GLY	2.3
28	W	34	VAL	2.3
16	K	11	ASN	2.3
6	A	157	ARG	2.3
10	E	25	LYS	2.3
21	P	11	LYS	2.3
26	U	25	ARG	2.3
29	X	80	A	2.3
29	X	150	A	2.3
29	X	762	A	2.3
29	X	1290	A	2.3
29	X	1867	A	2.3
29	X	1921	A	2.3
31	Z	78	A	2.3

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Mol	Chain	Res	Type	RSRZ
29	X	771	C	2.3
29	X	1606	C	2.3
29	X	2068	C	2.3
29	X	2596	C	2.3
31	Z	37	C	2.3
8	C	77	PHE	2.3
8	C	134	ILE	2.3
9	D	58	ALA	2.3
14	I	72	TYR	2.3
17	L	22	ALA	2.3
20	O	37	ALA	2.3
11	F	22	PRO	2.3
6	A	72	LYS	2.3
8	C	129	LYS	2.3
24	S	80	HIS	2.3
29	X	578	U	2.3
29	X	1268	U	2.3
29	X	1505	U	2.3
6	A	158	SER	2.3
9	D	165	GLU	2.3
10	E	110	SER	2.3
24	S	90	GLU	2.3
29	X	414	A	2.3
29	X	523	A	2.3
29	X	690	A	2.3
29	X	912	A	2.3
29	X	1561	A	2.3
29	X	2245	A	2.3
29	X	2692	A	2.3
29	X	2745	A	2.3
4	4	7	VAL	2.3
11	F	138	VAL	2.3
12	G	72	PRO	2.3
21	P	134	LYS	2.3
23	R	59	LYS	2.3
24	S	22	VAL	2.3
29	X	46	C	2.3
29	X	1466	C	2.3
29	X	1788	C	2.3
29	X	2237	C	2.3
29	X	2419	C	2.3
31	Z	44	C	2.3

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Mol	Chain	Res	Type	RSRZ
8	C	156	ASN	2.2
8	C	170	LEU	2.2
28	W	3	ILE	2.2
10	E	7	GLN	2.2
12	G	106	TYR	2.2
20	O	74	TYR	2.2
24	S	18	MET	2.2
12	G	125	ARG	2.2
29	X	812	G	2.2
29	X	845	U	2.2
29	X	1247	U	2.2
29	X	1325	U	2.2
29	X	1470	G	2.2
29	X	1871	G	2.2
6	A	61	LEU	2.2
14	I	71	THR	2.2
7	B	33	ILE	2.2
29	X	817	A	2.2
29	X	1275	A	2.2
29	X	725	C	2.2
29	X	1054	C	2.2
29	X	1528	C	2.2
29	X	1675	C	2.2
31	Z	67	C	2.2
31	Z	96	C	2.2
15	J	93	TYR	2.2
18	M	23	GLN	2.2
12	G	102	ARG	2.2
19	N	46	GLU	2.2
15	J	85	GLY	2.2
23	R	67	GLY	2.2
26	U	73	GLY	2.2
28	W	12	ARG	2.2
24	S	99	HIS	2.2
7	B	111	LYS	2.2
10	E	175	LYS	2.2
11	F	124	ALA	2.2
23	R	78	ALA	2.2
29	X	216	U	2.2
29	X	453	U	2.2
29	X	2734	U	2.2
7	B	128	SER	2.2

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Mol	Chain	Res	Type	RSRZ
15	J	66	TYR	2.2
7	B	82	ARG	2.2
29	X	69	G	2.2
29	X	191	G	2.2
29	X	344	G	2.2
29	X	739	G	2.2
29	X	773	G	2.2
29	X	887	G	2.2
29	X	1428	G	2.2
29	X	2055	G	2.2
10	E	103	LEU	2.2
11	F	79	ARG	2.2
28	W	17	VAL	2.2
7	B	110	GLY	2.2
29	X	580	A	2.2
29	X	1318	A	2.2
29	X	1544	A	2.2
29	X	2267	A	2.2
29	X	2543	A	2.2
6	A	116	THR	2.2
24	S	49	THR	2.2
24	S	115	ILE	2.2
29	X	64	C	2.2
29	X	972	C	2.2
29	X	1253	C	2.2
29	X	1535	C	2.2
29	X	1736	C	2.2
29	X	2655	C	2.2
31	Z	35	C	2.2
8	C	168	SER	2.2
14	I	115	SER	2.2
8	C	159	ARG	2.2
16	K	30	ARG	2.2
18	M	104	LEU	2.2
24	S	175	ARG	2.2
6	A	117	VAL	2.2
7	B	26	VAL	2.2
10	E	116	GLU	2.2
9	D	141	ILE	2.2
14	I	92	THR	2.2
20	O	55	THR	2.2
29	X	1370	U	2.2

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Mol	Chain	Res	Type	RSRZ
29	X	1645	U	2.2
29	X	1679	U	2.2
11	F	92	ASN	2.2
8	C	109	ALA	2.2
24	S	35	ASP	2.2
27	V	6	MET	2.2
9	D	63	GLN	2.2
10	E	87	LEU	2.2
13	H	134	LEU	2.2
29	X	189	A	2.2
29	X	355	G	2.2
29	X	504	G	2.2
29	X	718	A	2.2
29	X	932	G	2.2
29	X	1441	A	2.2
29	X	1884	A	2.2
29	X	2448	A	2.2
9	D	156	ILE	2.2
10	E	107	ILE	2.2
19	N	80	ILE	2.2
8	C	155	GLU	2.2
29	X	710	C	2.2
29	X	1016	C	2.2
29	X	1529	C	2.2
29	X	2210	C	2.2
29	X	2598	C	2.2
29	X	2683	C	2.2
31	Z	98	C	2.2
14	I	28	LYS	2.2
22	Q	56	MET	2.2
11	F	51	ALA	2.1
12	G	118	ALA	2.1
14	I	109	LEU	2.2
26	U	64	ALA	2.1
20	O	63	HIS	2.1
21	P	105	ARG	2.1
25	T	16	SER	2.1
29	X	92	U	2.1
29	X	408	U	2.1
29	X	470	U	2.1
29	X	852	U	2.1
29	X	1182	U	2.1

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Mol	Chain	Res	Type	RSRZ
29	X	1485	U	2.1
29	X	1914	U	2.1
29	X	2284	U	2.1
10	E	52	VAL	2.1
26	U	31	GLY	2.1
10	E	70	THR	2.1
29	X	70	A	2.1
29	X	513	A	2.1
29	X	517	A	2.1
29	X	1137	A	2.1
29	X	1607	A	2.1
31	Z	59	A	2.1
29	X	1142	G	2.1
29	X	1407	G	2.1
29	X	1562	G	2.1
29	X	1737	G	2.1
29	X	1993	G	2.1
29	X	2007	G	2.1
29	X	2225	G	2.1
29	X	2231	G	2.1
31	Z	119	G	2.1
8	C	38	ARG	2.1
12	G	53	ARG	2.1
6	A	162	SER	2.1
8	C	165	SER	2.1
29	X	2860	C	2.1
12	G	33	ILE	2.1
24	S	56	VAL	2.1
12	G	162	LYS	2.1
24	S	84	TYR	2.1
6	A	254	THR	2.1
10	E	71	LEU	2.1
12	G	119	LEU	2.1
29	X	1819	U	2.1
29	X	2081	U	2.1
31	Z	50	U	2.1
9	D	95	ARG	2.1
12	G	86	ALA	2.1
20	O	87	ARG	2.1
12	G	76	GLN	2.1
25	T	81	ILE	2.1
6	A	218	LYS	2.1

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Mol	Chain	Res	Type	RSRZ
29	X	1750	A	2.1
29	X	1800	A	2.1
29	X	2418	A	2.1
29	X	2654	A	2.1
6	A	146	GLU	2.1
7	B	183	LEU	2.1
16	K	114	GLU	2.1
29	X	508	G	2.1
29	X	1316	G	2.1
29	X	1332	G	2.1
29	X	2664	G	2.1
29	X	2699	G	2.1
29	X	430	C	2.1
29	X	1113	C	2.1
29	X	1235	C	2.1
29	X	1327	C	2.1
19	N	52	ASN	2.1
25	T	10	SER	2.1
7	B	58	LYS	2.1
12	G	164	GLN	2.1
14	I	76	LYS	2.1
16	K	86	LYS	2.1
15	J	95	VAL	2.1
24	S	136	VAL	2.1
29	X	890	U	2.1
29	X	1119	U	2.1
29	X	1244	U	2.1
16	K	20	LEU	2.1
8	C	45	THR	2.1
28	W	33	GLU	2.1
20	O	83	ARG	2.1
29	X	239	A	2.1
29	X	2325	A	2.1
31	Z	20	A	2.1
4	4	8	LYS	2.1
11	F	32	ALA	2.1
15	J	48	ILE	2.1
6	A	76	ASN	2.1
8	C	132	ASN	2.1
16	K	60	LEU	2.1
7	B	156	MET	2.1
10	E	14	GLY	2.1

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Mol	Chain	Res	Type	RSRZ
17	L	94	TYR	2.1
17	L	111	GLY	2.1
29	X	2303	C	2.1
29	X	2753	C	2.1
29	X	2800	C	2.1
21	P	83	ASP	2.1
29	X	67	G	2.1
29	X	499	G	2.1
29	X	814	G	2.1
29	X	861	G	2.1
29	X	1502	G	2.1
29	X	1916	G	2.1
29	X	2010	G	2.1
29	X	2207	G	2.1
29	X	2346	G	2.1
29	X	2349	G	2.1
29	X	2350	G	2.1
29	X	2553	G	2.1
29	X	2587	G	2.1
29	X	2604	G	2.1
29	X	2657	G	2.1
9	D	67	ILE	2.1
29	X	974	U	2.1
11	F	40	ALA	2.1
19	N	43	ALA	2.1
9	D	41	GLY	2.0
29	X	109	A	2.0
29	X	428	A	2.0
29	X	990	A	2.0
29	X	1096	A	2.0
29	X	1259	A	2.0
29	X	1671	A	2.0
29	X	1699	A	2.0
29	X	1782	A	2.0
29	X	2063	A	2.0
29	X	2728	A	2.0
29	X	2858	A	2.0
7	B	199	ARG	2.0
9	D	38	GLU	2.0
11	F	63	ARG	2.0
14	I	86	THR	2.0
18	M	100	ARG	2.0

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Mol	Chain	Res	Type	RSRZ
24	S	148	THR	2.0
18	M	57	ILE	2.0
19	N	15	LYS	2.0
6	A	90	ALA	2.0
17	L	23	ALA	2.0
29	X	146	C	2.0
29	X	541	C	2.0
29	X	889	C	2.0
29	X	1389	C	2.0
29	X	1844	C	2.0
29	X	1862	C	2.0
29	X	2295	C	2.0
7	B	162	MET	2.0
29	X	27	G	2.0
29	X	188	G	2.0
29	X	594	G	2.0
29	X	1294	G	2.0
29	X	1576	G	2.0
29	X	1968	G	2.0
29	X	2317	G	2.0
29	X	2620	G	2.0
29	X	302	U	2.0
29	X	396	U	2.0
29	X	954	U	2.0
6	A	160	GLY	2.0
7	B	71	GLY	2.0
17	L	97	HIS	2.0
6	A	92	ILE	2.0
8	C	39	ARG	2.0
11	F	25	PRO	2.0
20	O	67	LYS	2.0
9	D	162	THR	2.0
7	B	103	ASP	2.0
23	R	85	ASP	2.0
24	S	162	ALA	2.0
25	T	60	PHE	2.0
25	T	61	ALA	2.0
29	X	1192	A	2.0
31	Z	48	A	2.0
18	M	58	ASN	2.0
10	E	163	ARG	2.0
12	G	30	LYS	2.0

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Mol	Chain	Res	Type	RSRZ
12	G	151	TYR	2.0
14	I	8	PRO	2.0
16	K	8	ARG	2.0
19	N	59	ARG	2.0
21	P	120	ARG	2.0
29	X	45	C	2.0
29	X	241	C	2.0
29	X	947	C	2.0
29	X	981	C	2.0
29	X	1641	C	2.0
29	X	2089	C	2.0
29	X	2358	C	2.0
29	X	2695	C	2.0
10	E	50	LEU	2.0
12	G	166	LEU	2.0
7	B	202	ALA	2.0
22	Q	13	SER	2.0
29	X	240	U	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
5	DHA	5	12	5/6	0.27	0.18	83,83,83,83	0
5	NH2	5	13	1/1	0.45	0.13	83,83,83,83	0
5	BB9	5	7	6/7	0.54	0.18	83,83,83,83	0
5	BB9	5	9	5/7	0.61	0.16	83,83,83,83	0
5	MH6	5	10	5/7	0.65	0.12	83,83,83,83	0
5	DBU	5	4	5/7	0.66	0.22	83,83,83,83	0
5	3GL	5	6	9/11	0.67	0.13	83,83,83,83	0
5	BB9	5	2	6/7	0.67	0.17	83,83,83,83	0
5	BB9	5	5	6/7	0.74	0.13	83,83,83,83	0
5	BB9	5	11	6/7	0.89	0.10	83,83,83,83	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
34	MG	Z	128	1/1	0.45	0.19	110,110,110,110	0
34	MG	X	2889	1/1	0.53	0.43	131,131,131,131	0
34	MG	X	2883	1/1	0.61	0.59	104,104,104,104	0
34	MG	X	2901	1/1	0.62	0.66	100,100,100,100	0
34	MG	Z	124	1/1	0.65	0.67	113,113,113,113	0
34	MG	X	2882	1/1	0.67	0.19	112,112,112,112	0
34	MG	X	2896	1/1	0.68	0.77	86,86,86,86	0
34	MG	X	2892	1/1	0.69	0.61	109,109,109,109	0
34	MG	Z	129	1/1	0.69	0.44	101,101,101,101	0
33	NO1	5	14	13/15	0.72	0.20	83,83,83,83	0
34	MG	Z	127	1/1	0.73	0.30	98,98,98,98	0
34	MG	X	2891	1/1	0.76	0.20	84,84,84,84	0
34	MG	X	2881	1/1	0.76	0.94	77,77,77,77	0
34	MG	Z	126	1/1	0.77	0.33	122,122,122,122	0
34	MG	Z	125	1/1	0.78	0.49	83,83,83,83	0
34	MG	X	2906	1/1	0.79	0.72	82,82,82,82	0
34	MG	X	2902	1/1	0.81	0.86	76,76,76,76	0
34	MG	X	2885	1/1	0.81	0.28	98,98,98,98	0
34	MG	X	2897	1/1	0.83	0.71	100,100,100,100	0
34	MG	X	2893	1/1	0.83	0.84	85,85,85,85	0
34	MG	X	2903	1/1	0.84	0.54	82,82,82,82	0
34	MG	X	2904	1/1	0.85	0.33	81,81,81,81	0
34	MG	X	2908	1/1	0.85	0.99	83,83,83,83	0
34	MG	M	167	1/1	0.87	0.39	68,68,68,68	0
34	MG	X	2888	1/1	0.87	0.74	73,73,73,73	0
34	MG	X	2886	1/1	0.88	0.32	80,80,80,80	0
34	MG	X	2887	1/1	0.90	0.95	98,98,98,98	0
34	MG	X	2894	1/1	0.91	0.87	57,57,57,57	0
34	MG	X	2907	1/1	0.91	0.21	66,66,66,66	0
34	MG	X	2900	1/1	0.91	0.24	104,104,104,104	0
32	ZN	Y	61	1/1	0.92	0.09	118,118,118,118	0
34	MG	X	2884	1/1	0.93	0.28	98,98,98,98	0
34	MG	X	2898	1/1	0.93	0.36	57,57,57,57	0
34	MG	X	2899	1/1	0.94	0.38	57,57,57,57	0
34	MG	X	2895	1/1	0.95	0.20	81,81,81,81	0
34	MG	X	2905	1/1	0.96	0.38	123,123,123,123	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
34	MG	X	2890	1/1	0.96	0.19	58,58,58,58	0
32	ZN	4	38	1/1	0.99	0.05	125,125,125,125	0

6.5 Other polymers (i)

There are no such residues in this entry.