Full wwPDB X-ray Structure Validation Report ⓘ

Jul 3, 2024 – 02:38 PM EDT

PDB ID	:	1YJW
Title	:	Crystal Structure Of Quinupristin Bound To The G2099A Mutant 50S Ribosomal Subunit Of Haloarcula Marismortui
Authors	:	Tu, D.; Blaha, G.; Moore, P.B.; Steitz, T.A.
Deposited on	:	2005-01-15
Resolution	:	2.90 Å(reported)

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

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

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

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

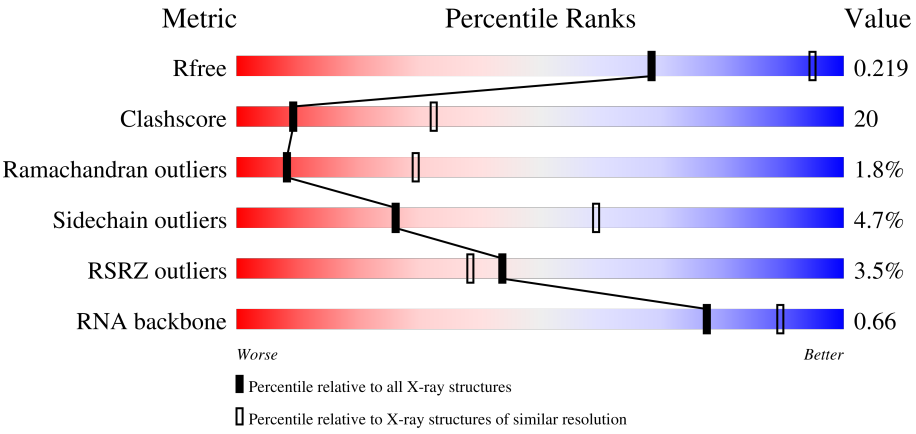
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.37.1
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

1 Overall quality at a glance (i)

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

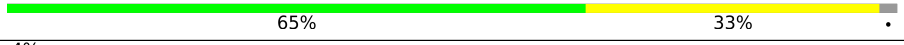
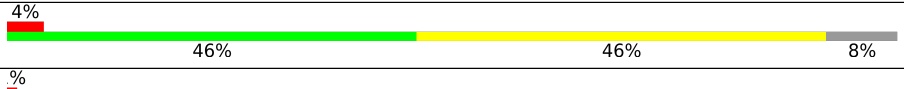
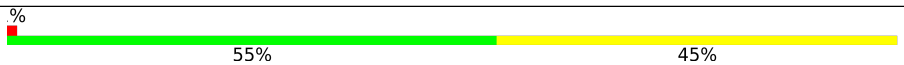
The reported resolution of this entry is 2.90 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1957 (2.90-2.90)
Clashscore	141614	2172 (2.90-2.90)
Ramachandran outliers	138981	2115 (2.90-2.90)
Sidechain outliers	138945	2117 (2.90-2.90)
RSRZ outliers	127900	1906 (2.90-2.90)
RNA backbone	3102	1007 (3.16-2.64)

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	0	2922	
2	1	57	
3	2	50	
4	3	92	

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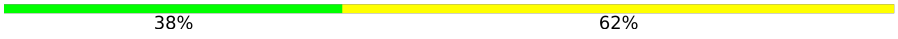
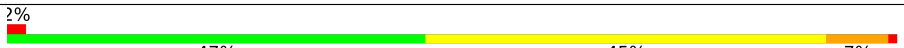
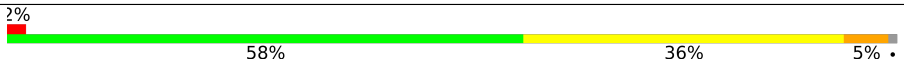
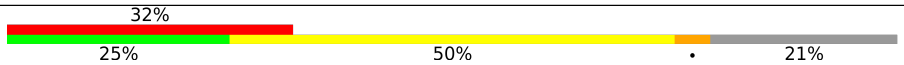
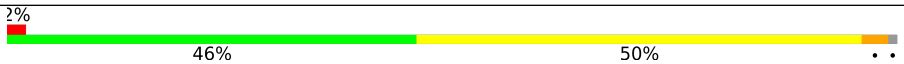
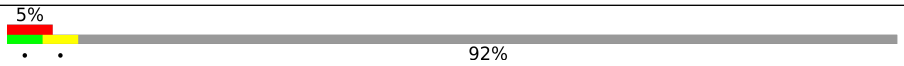
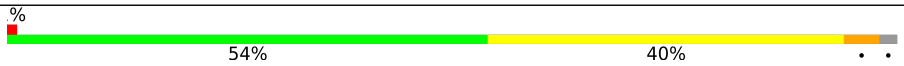
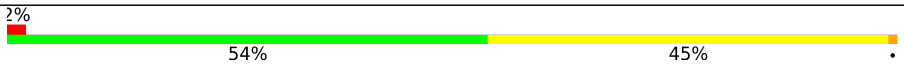
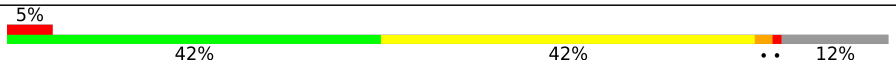
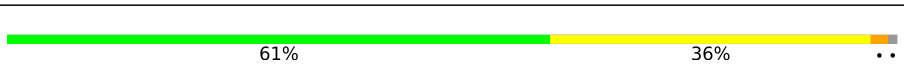
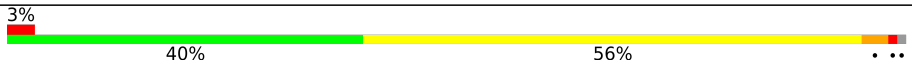
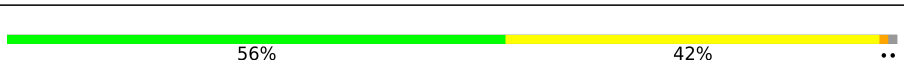
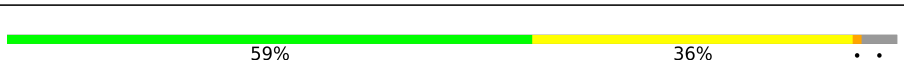
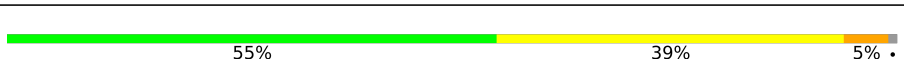
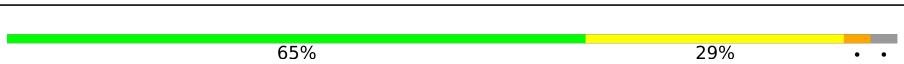
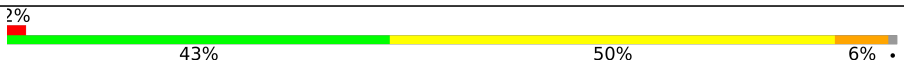
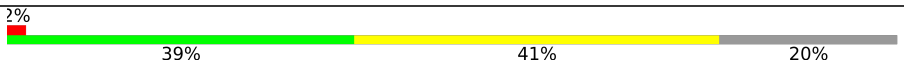
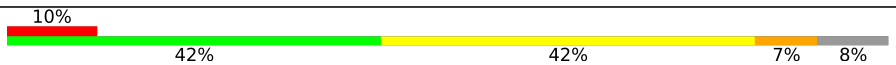
Mol	Chain	Length	Quality of chain
5	4	8	
6	9	122	
7	A	240	
8	B	338	
9	C	246	
10	D	177	
11	E	178	
12	F	120	
13	G	348	
14	H	177	
15	I	162	
16	J	145	
17	K	132	
18	L	165	
19	M	195	
20	N	187	
21	O	116	
22	P	149	
23	Q	96	
24	R	155	
25	S	85	
26	T	120	
27	U	66	
28	V	71	
29	W	154	

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Mol	Chain	Length	Quality of chain
30	X	92	8% 30% 47% 12% 11%
31	Y	241	2% 32% 24% 41%
32	Z	83	47% 37% 12%

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
35	NA	0	3120	-	-	-	X
35	NA	0	3134	-	-	-	X
35	NA	0	3174	-	-	-	X
35	NA	0	3175	-	-	-	X
35	NA	0	3183	-	-	-	X
35	NA	9	203	-	-	-	X
35	NA	R	202	-	-	-	X
36	CL	0	3189	-	-	X	-
36	CL	N	201	-	-	X	-

2 Entry composition (i)

There are 38 unique types of molecules in this entry. The entry contains 99111 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 23S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	0	2754	Total	C	N	O	P	0	0	0
			59020	26349	10873	19053	2745			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
0	2099	A	G	conflict	GB 55229667

- Molecule 2 is a protein called 50S ribosomal protein L37e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	1	56	Total	C	N	O	S	0	0	0
			431	258	86	83	4			

- Molecule 3 is a protein called 50S ribosomal protein L39e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	2	46	Total	C	N	O	S	0	0	0
			396	239	89	67	1			

- Molecule 4 is a protein called 50S ribosomal protein L44e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	3	92	Total	C	N	O	S	0	0	0
			755	458	153	137	7			

- Molecule 5 is a protein called QUINUPRISTIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	4	8	Total	C	N	O	S	0	0	0
			73	53	9	10	1			

- Molecule 6 is a RNA chain called 5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	9	122	Total	C	N	O	P	0	0	0
			2599	1160	471	847	121			

- Molecule 7 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	A	237	Total	C	N	O	S	0	0	0
			1753	1072	352	324	5			

- Molecule 8 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	B	337	Total	C	N	O	S	0	0	0
			2625	1616	493	511	5			

- Molecule 9 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	C	246	Total	C	N	O	S	0	0	0
			1859	1131	344	383	1			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	73	LEU	GLN	conflict	UNP P12735

- Molecule 10 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	D	140	Total	C	N	O	S	0	0	0
			1094	685	195	210	4			

- Molecule 11 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	E	172	Total	C	N	O	S	0	0	0
			1357	840	224	289	4			

- Molecule 12 is a protein called 50S ribosomal protein L7Ae.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	F	119	Total	C	N	O	S	0	0	0
			890	551	141	197	1			

- Molecule 13 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	G	29	Total	C	N	O	S	0	0	0
			240	149	39	51	1			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
G	248	ASP	ALA	conflict	UNP P15825

- Molecule 14 is a protein called 50S ribosomal protein L10e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	H	160	Total	C	N	O	S	0	0	0
			1282	798	240	238	6			

- Molecule 15 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	I	70	Total	C	N	O	S	0	0	0
			519	323	81	114	1			

- Molecule 16 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	J	142	Total	C	N	O	S	0	0	0
			1120	696	199	222	3			

- Molecule 17 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	K	132	Total	C	N	O	S	0	0	0
			992	609	187	192	4			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
K	44	LEU	HIS	conflict	UNP P22450

- Molecule 18 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	L	145	Total	C	N	O	0	0	0
			1118	670	222	226			

- Molecule 19 is a protein called 50S ribosomal protein L15e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	M	194	Total	C	N	O	S	0	0	0
			1558	942	332	283	1			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M	13	GLU	LYS	conflict	UNP P60618

- Molecule 20 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	N	186	Total	C	N	O	S	0	0	0
			1445	895	262	286	2			

- Molecule 21 is a protein called 50S ribosomal protein L18e.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	O	115	Total	C	N	O	0	0	0
			865	529	161	175			

- Molecule 22 is a protein called 50S ribosomal protein L19e.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
22	P	143	Total	C	N	O	0	0	0
			1136	683	229	224			

- Molecule 23 is a protein called 50S ribosomal protein L21e.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
23	Q	95	Total	C	N	O	0	0	0
			735	450	141	144			

- Molecule 24 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	R	150	Total	C	N	O	S	0	0	0
			1149	713	209	223	4			

- Molecule 25 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	S	81	Total	C	N	O	S	0	0	0
			641	389	111	138	3			

- Molecule 26 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
26	T	119	Total	C	N	O	0	0	0
			950	568	180	202			

- Molecule 27 is a protein called 50S ribosomal protein L24e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	U	53	Total	C	N	O	S	0	0	0
			410	244	75	86	5			

- Molecule 28 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	V	65	Total	C	N	O	S	0	0	0
			499	304	94	100	1			

- Molecule 29 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	W	154	Total	C	N	O	S	0	0	0
			1196	737	209	244	6			

- Molecule 30 is a protein called 50S ribosomal protein L31e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	X	82	Total	C	N	O	S	0	0	0
			654	402	129	122	1			

- Molecule 31 is a protein called 50S ribosomal protein L32e.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
31	Y	142	Total	C	N	O	0	0	0
			1130	686	228	216			

- Molecule 32 is a protein called 50S ribosomal protein L37Ae.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	Z	73	Total	C	N	O	S	0	0	0
			578	346	116	111	5			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Z	10	ARG	-	expression tag	UNP P60619

- Molecule 33 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	0	109	Total	Mg	0	0
			109	109		
33	3	1	Total	Mg	0	0
			1	1		
33	4	1	Total	Mg	0	0
			1	1		
33	9	1	Total	Mg	0	0
			1	1		
33	A	1	Total	Mg	0	0
			1	1		
33	B	1	Total	Mg	0	0
			1	1		
33	K	1	Total	Mg	0	0
			1	1		
33	T	1	Total	Mg	0	0
			1	1		
33	Y	1	Total	Mg	0	0
			1	1		

- Molecule 34 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	0	2	Total	K	0	0
			2	2		

- Molecule 35 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
35	0	74	Total Na 74 74	0	0
35	9	2	Total Na 2 2	0	0
35	A	1	Total Na 1 1	0	0
35	C	1	Total Na 1 1	0	0
35	H	1	Total Na 1 1	0	0
35	J	1	Total Na 1 1	0	0
35	L	1	Total Na 1 1	0	0
35	M	1	Total Na 1 1	0	0
35	Q	1	Total Na 1 1	0	0
35	R	2	Total Na 2 2	0	0
35	S	1	Total Na 1 1	0	0

- Molecule 36 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
36	0	10	Total Cl 10 10	0	0
36	3	1	Total Cl 1 1	0	0
36	A	1	Total Cl 1 1	0	0
36	B	1	Total Cl 1 1	0	0
36	J	3	Total Cl 3 3	0	0
36	L	1	Total Cl 1 1	0	0
36	M	1	Total Cl 1 1	0	0
36	N	1	Total Cl 1 1	0	0
36	O	1	Total Cl 1 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
36	R	1	Total Cl 1 1	0	0
36	Y	1	Total Cl 1 1	0	0

- Molecule 37 is CADMIUM ION (three-letter code: CD) (formula: Cd).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
37	1	1	Total Cd 1 1	0	0
37	3	1	Total Cd 1 1	0	0
37	O	1	Total Cd 1 1	0	0
37	U	1	Total Cd 1 1	0	0
37	Z	1	Total Cd 1 1	0	0

- Molecule 38 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
38	0	5842	Total O 5842 5842	0	0
38	1	60	Total O 60 60	0	0
38	2	49	Total O 49 49	0	0
38	3	69	Total O 69 69	0	0
38	4	2	Total O 2 2	0	0
38	9	143	Total O 143 143	0	0
38	A	123	Total O 123 123	0	0
38	B	146	Total O 146 146	0	0
38	C	185	Total O 185 185	0	0
38	D	49	Total O 49 49	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
38	E	42	Total O 42 42	0	0
38	F	26	Total O 26 26	0	0
38	G	20	Total O 20 20	0	0
38	H	69	Total O 69 69	0	0
38	I	9	Total O 9 9	0	0
38	J	55	Total O 55 55	0	0
38	K	59	Total O 59 59	0	0
38	L	82	Total O 82 82	0	0
38	M	129	Total O 129 129	0	0
38	N	60	Total O 60 60	0	0
38	O	42	Total O 42 42	0	0
38	P	72	Total O 72 72	0	0
38	Q	48	Total O 48 48	0	0
38	R	85	Total O 85 85	0	0
38	S	30	Total O 30 30	0	0
38	T	39	Total O 39 39	0	0
38	U	29	Total O 29 29	0	0
38	V	13	Total O 13 13	0	0
38	W	69	Total O 69 69	0	0
38	X	26	Total O 26 26	0	0
38	Y	101	Total O 101 101	0	0

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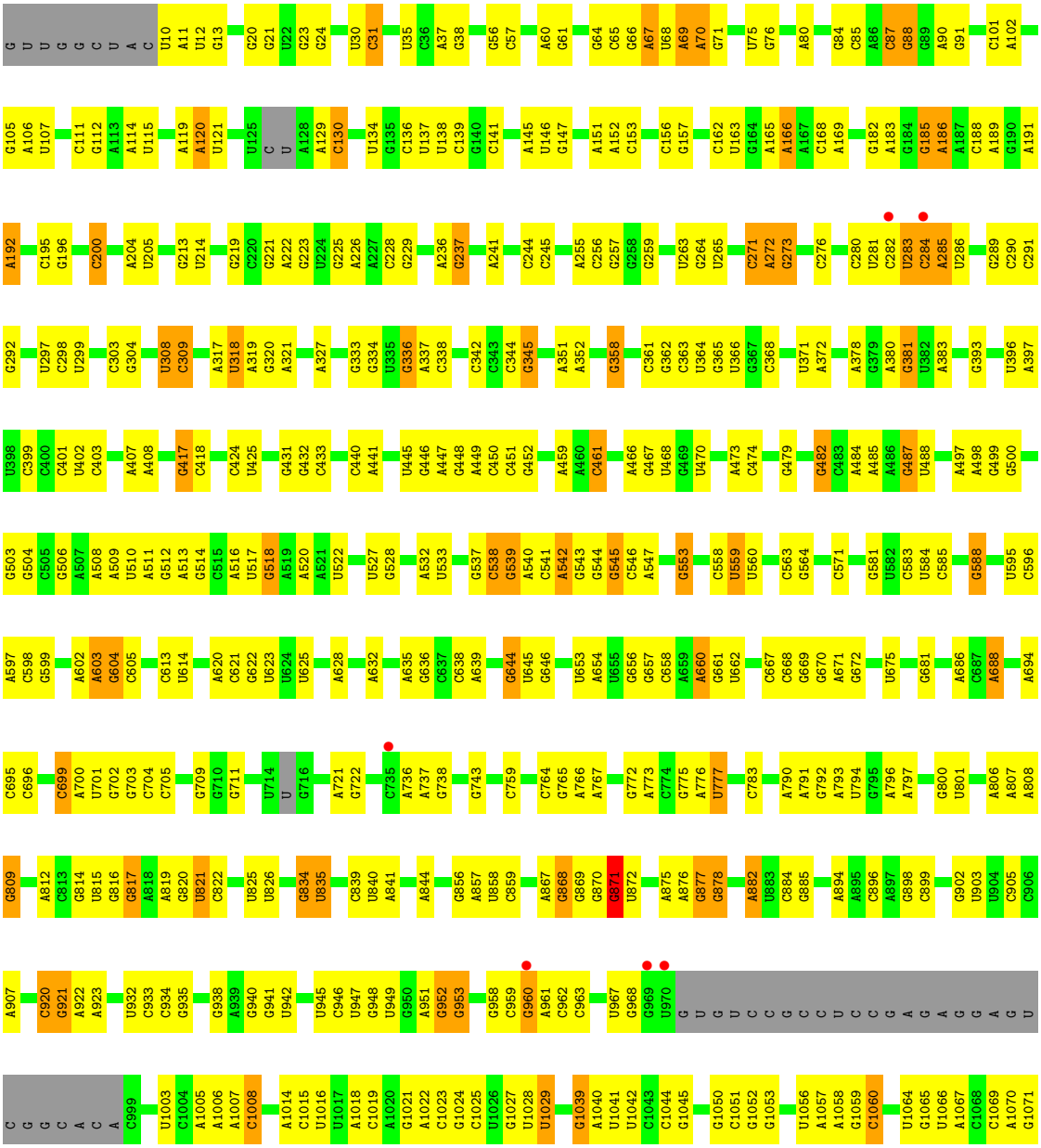
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
38	Z	37	Total O 37 37	0	0

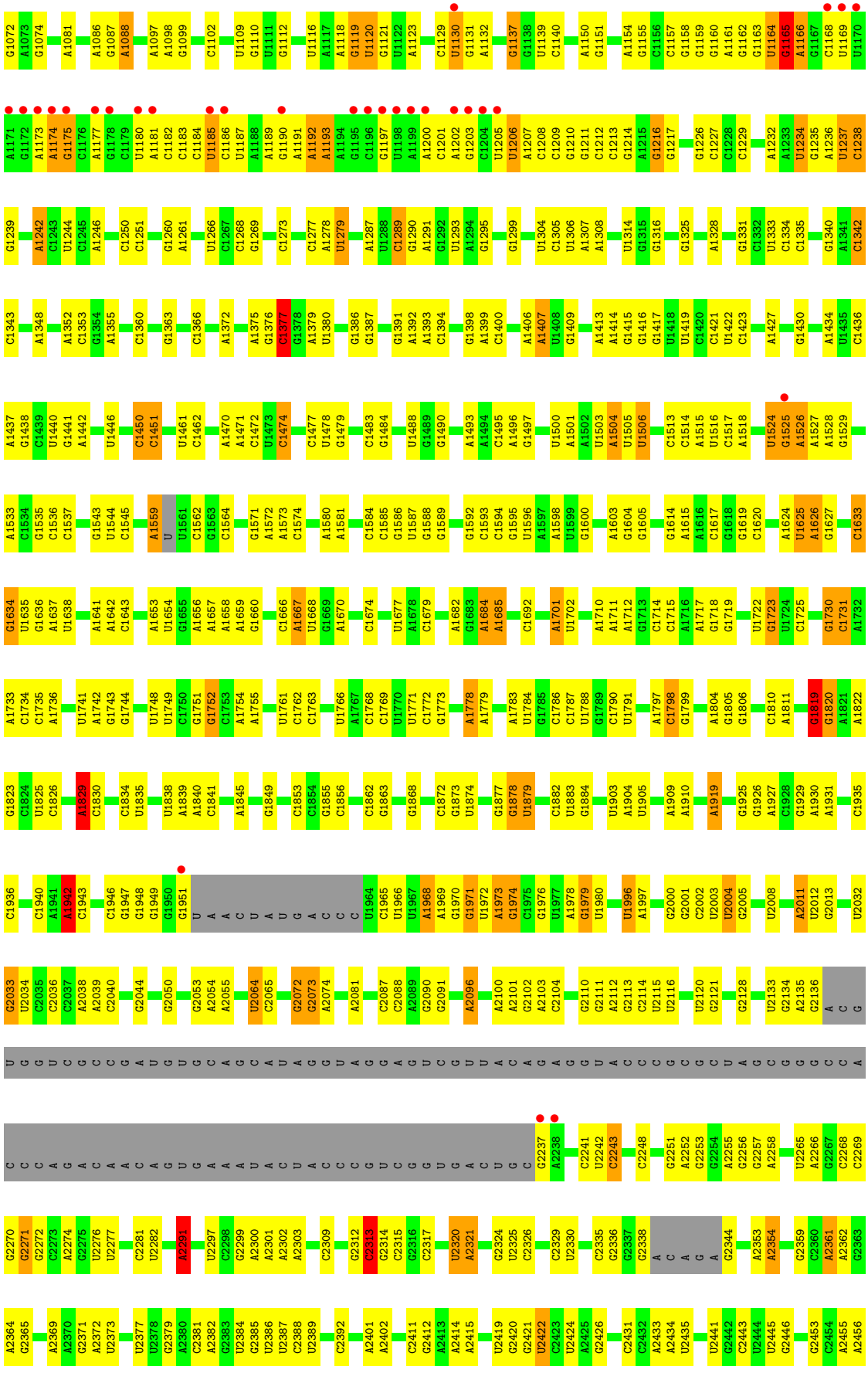
3 Residue-property plots (i)

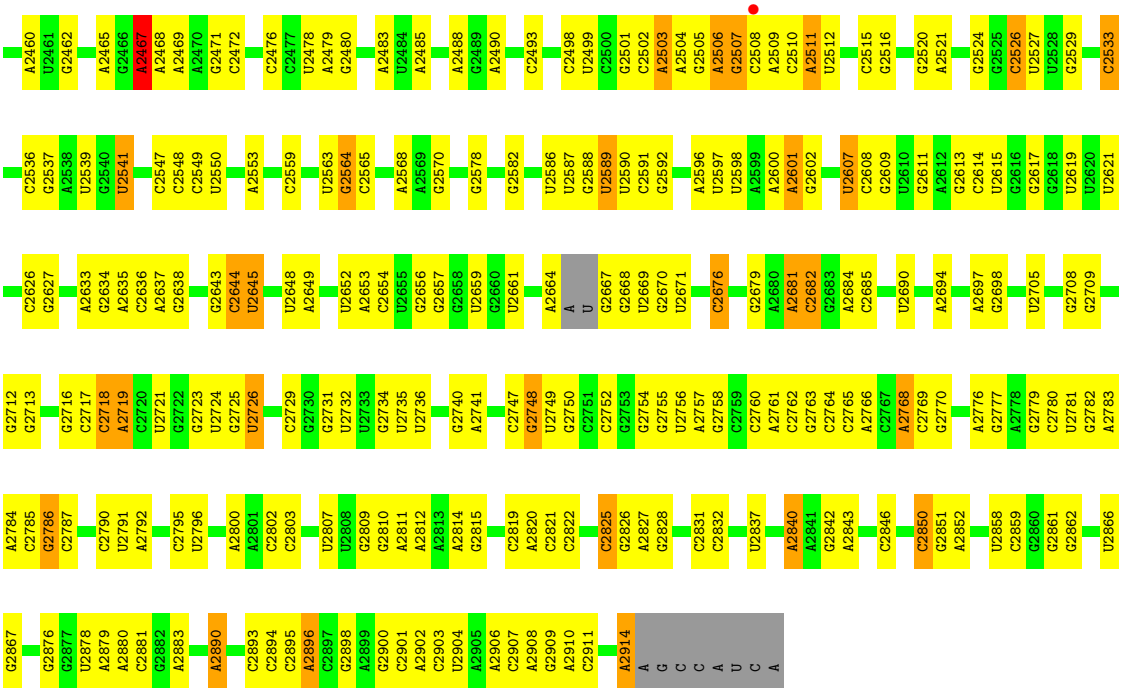
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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: 23S RIBOSOMAL RNA

Chain 0:





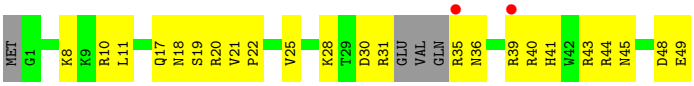


• Molecule 2: 50S ribosomal protein L37e

Chain 1:

• Molecule 3: 50S ribosomal protein L39e

Chain 2:



• Molecule 4: 50S ribosomal protein L44e

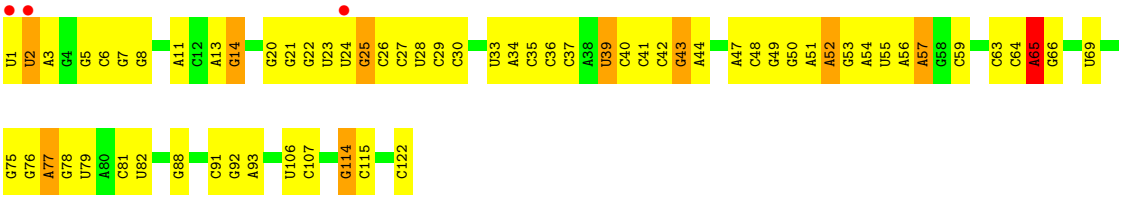
Chain 3:

• Molecule 5: QUINUPRISTIN

Chain 4:

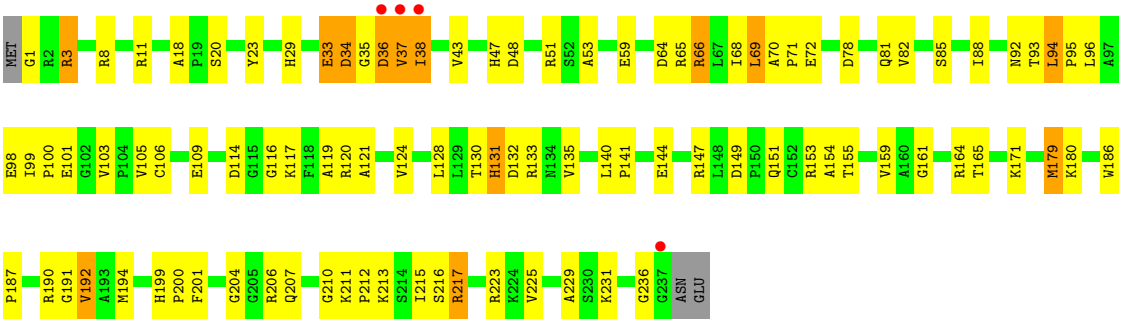
• Molecule 6: 5S RIBOSOMAL RNA

Chain 9:



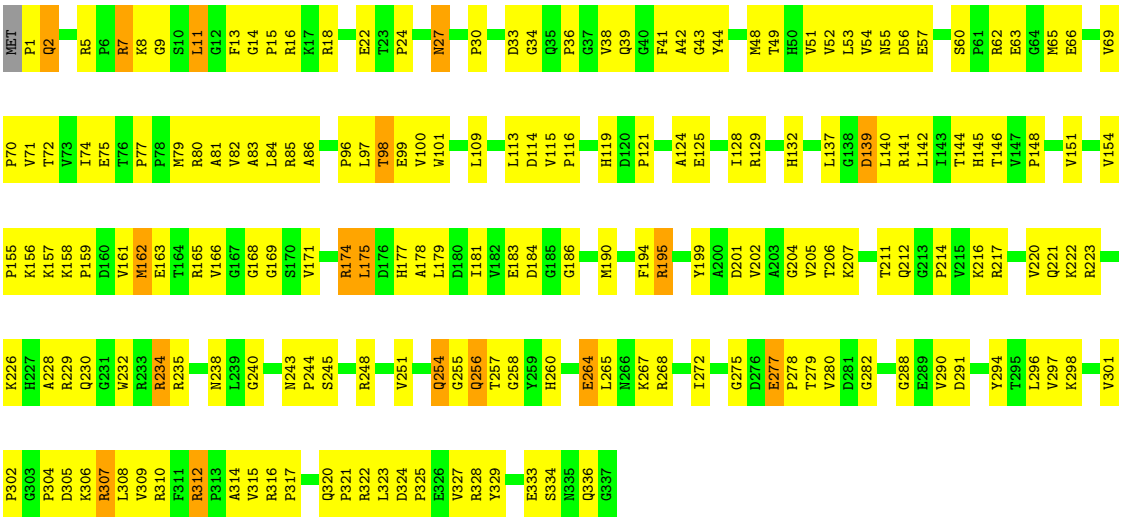
• Molecule 7: 50S ribosomal protein L2

Chain A:



• Molecule 8: 50S ribosomal protein L3

Chain B:

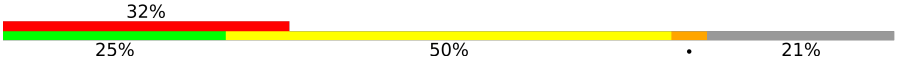


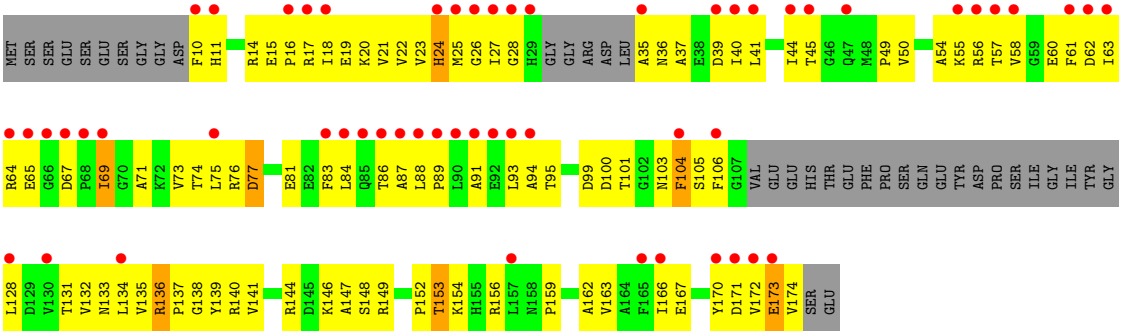
• Molecule 9: 50S ribosomal protein L4

Chain C:

• Molecule 10: 50S ribosomal protein L5

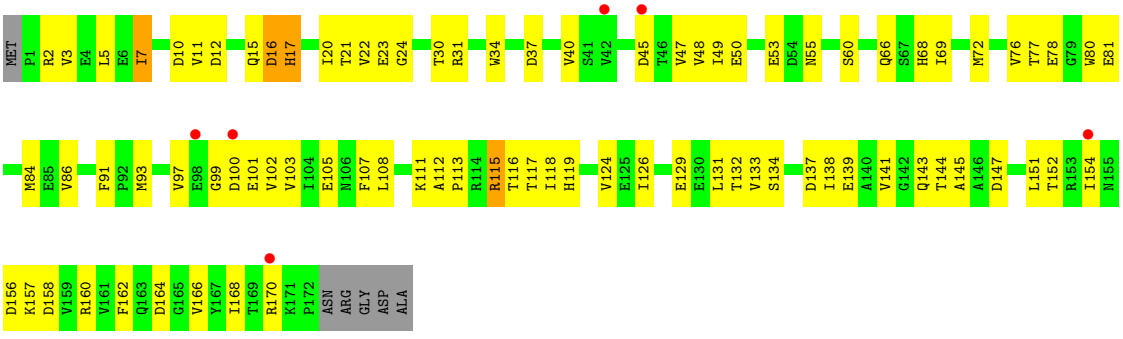
Chain D:





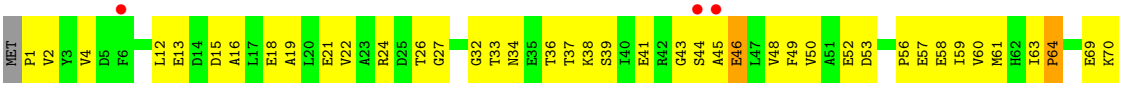
• Molecule 11: 50S ribosomal protein L6

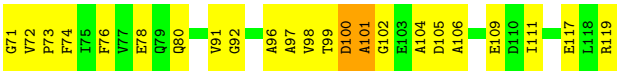
Chain E:



• Molecule 12: 50S ribosomal protein L7Ae

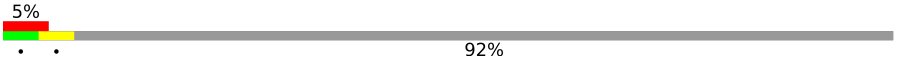
Chain F:

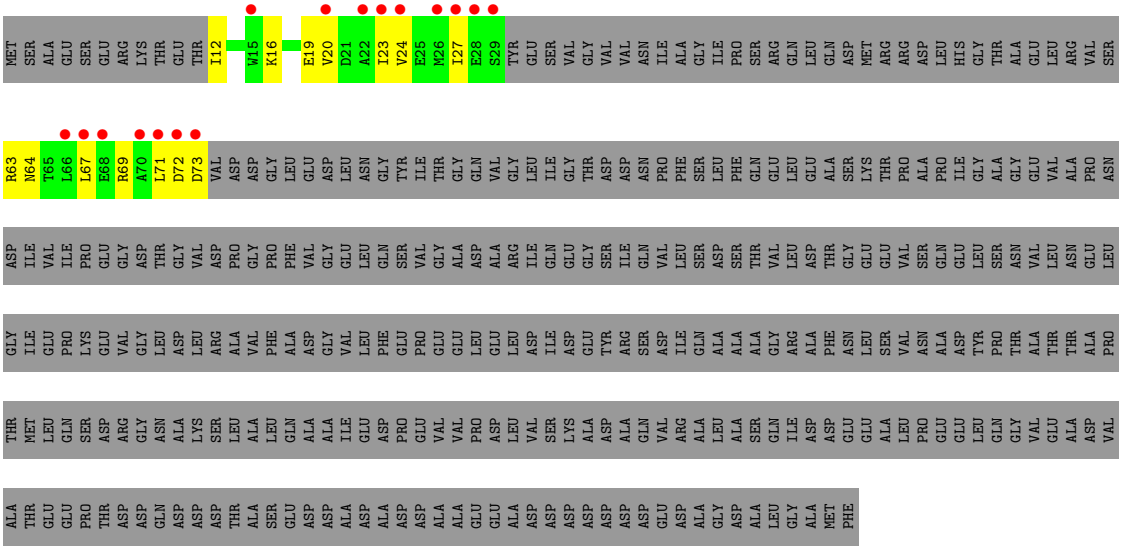




• Molecule 13: 50S ribosomal protein L10

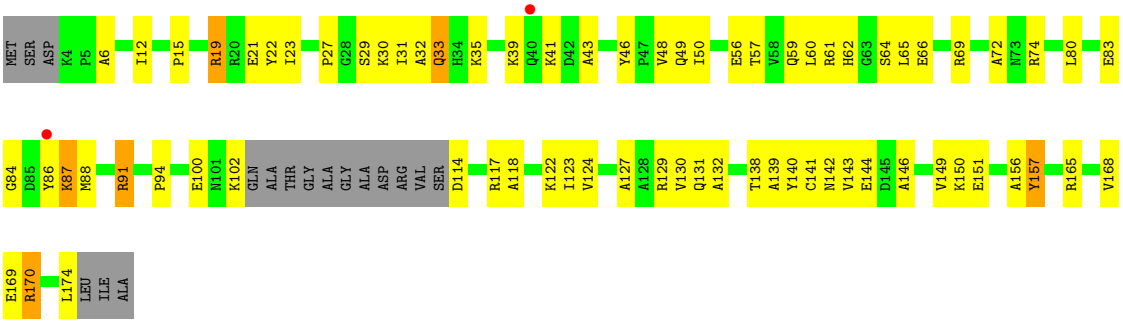
Chain G:





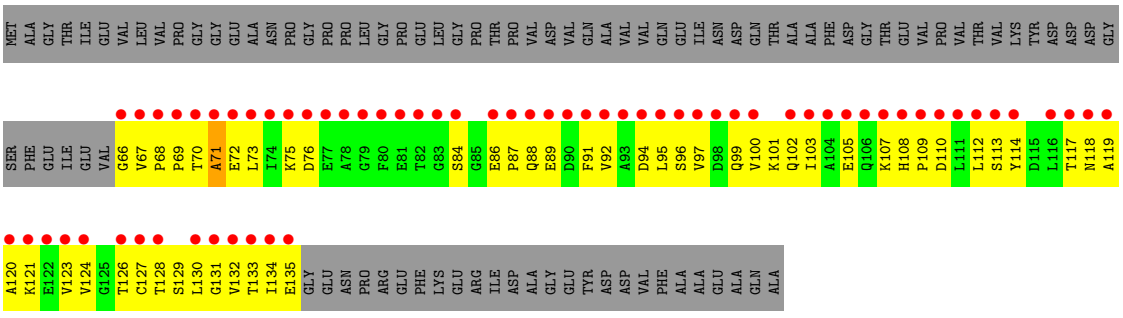
• Molecule 14: 50S ribosomal protein L10e

Chain H:



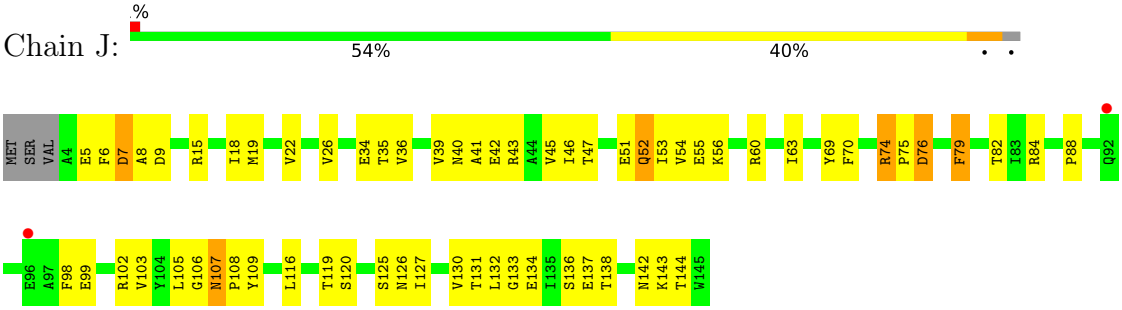
• Molecule 15: 50S ribosomal protein L11

Chain I:



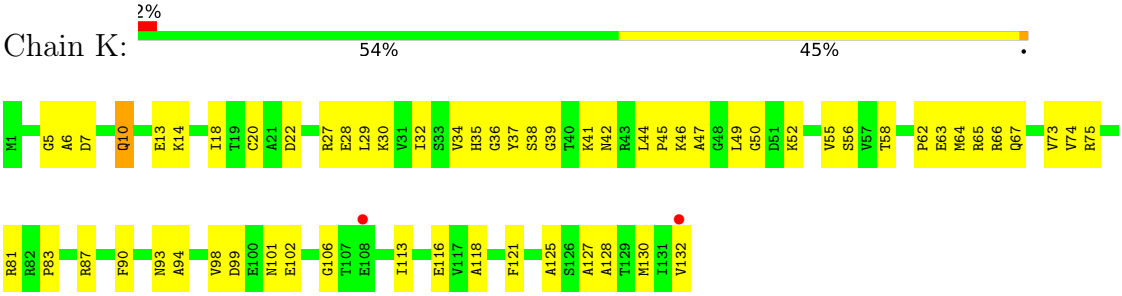
• Molecule 16: 50S ribosomal protein L13

Chain J:



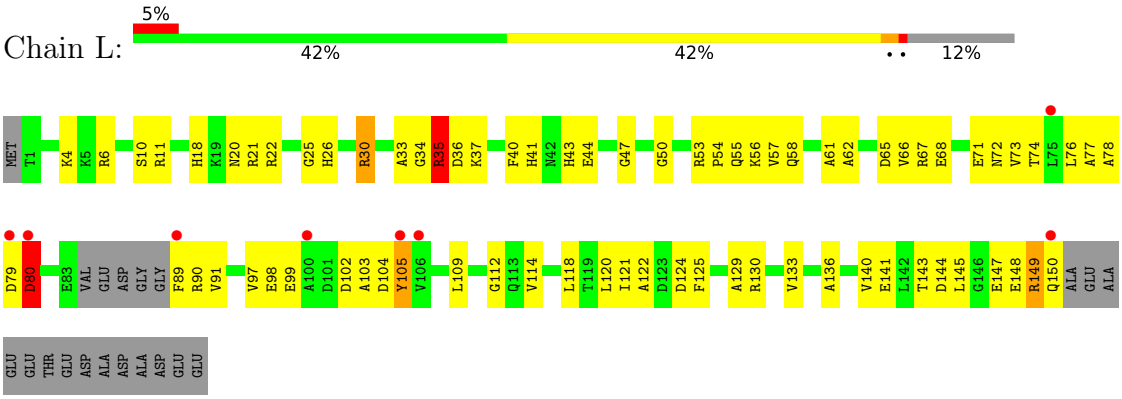
• Molecule 17: 50S ribosomal protein L14

Chain K:



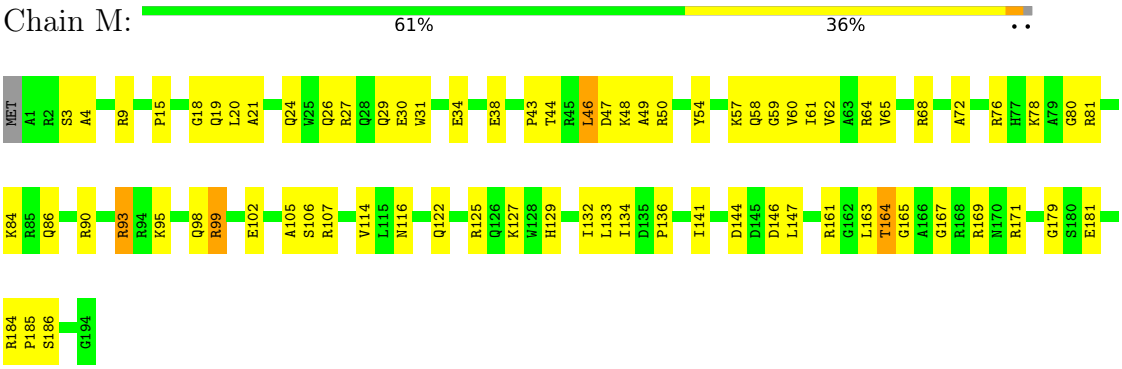
• Molecule 18: 50S ribosomal protein L15

Chain L:



• Molecule 19: 50S ribosomal protein L15e

Chain M:

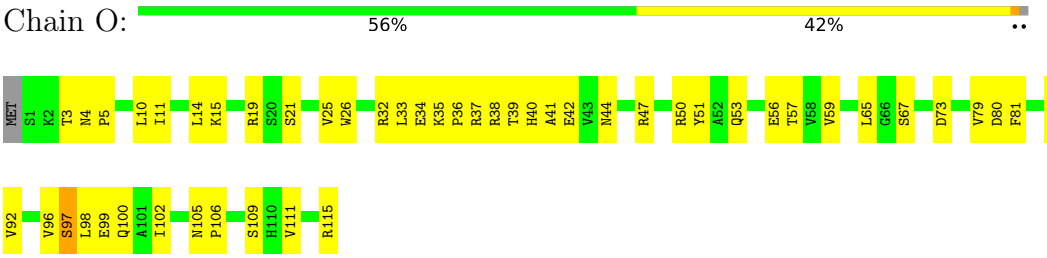


• Molecule 20: 50S ribosomal protein L18

Chain N:

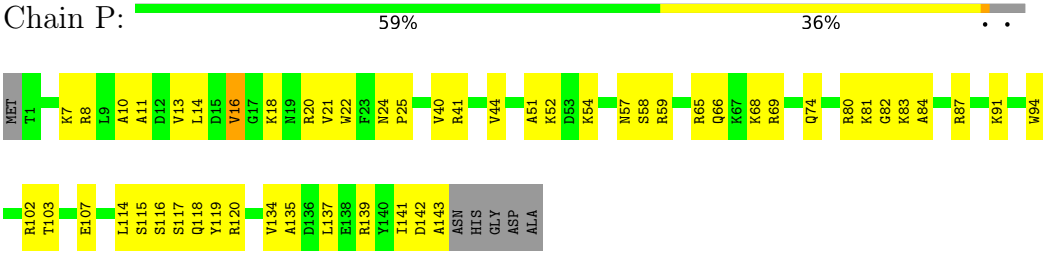
• Molecule 21: 50S ribosomal protein L18e

Chain O:



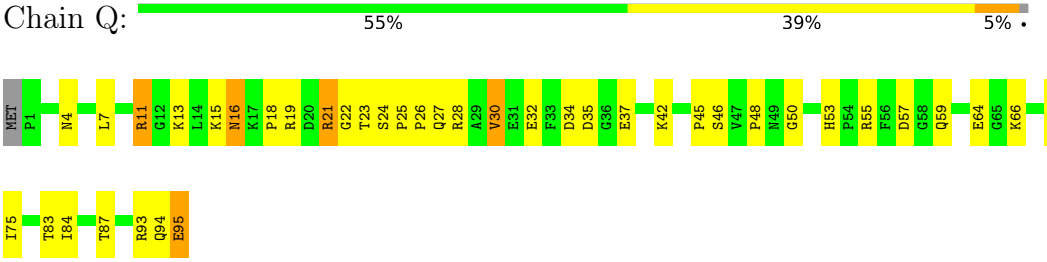
• Molecule 22: 50S ribosomal protein L19e

Chain P:



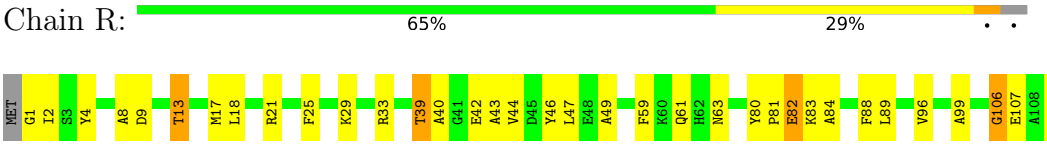
• Molecule 23: 50S ribosomal protein L21e

Chain Q:



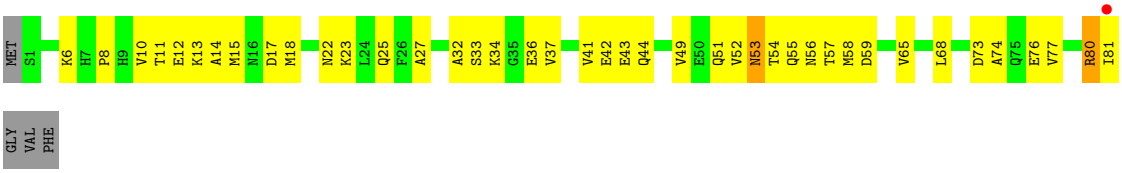
• Molecule 24: 50S ribosomal protein L22

Chain R:



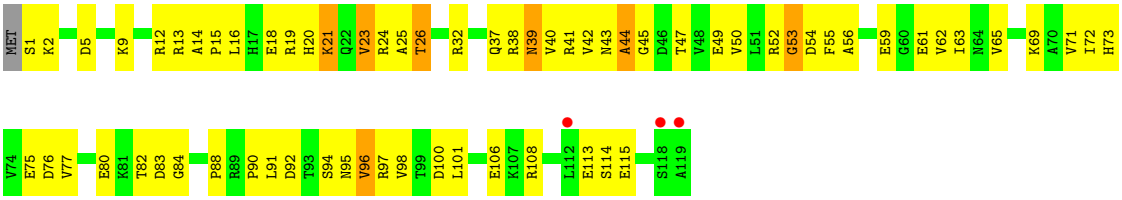
• Molecule 25: 50S ribosomal protein L23

Chain S:



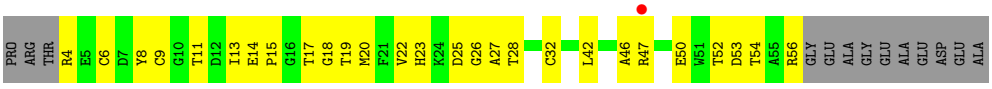
• Molecule 26: 50S ribosomal protein L24

Chain T:



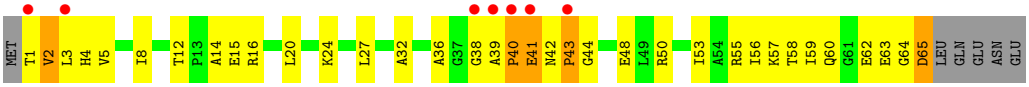
• Molecule 27: 50S ribosomal protein L24e

Chain U:



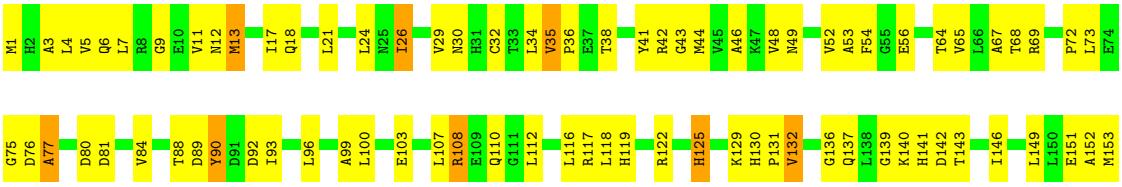
• Molecule 28: 50S ribosomal protein L29

Chain V:

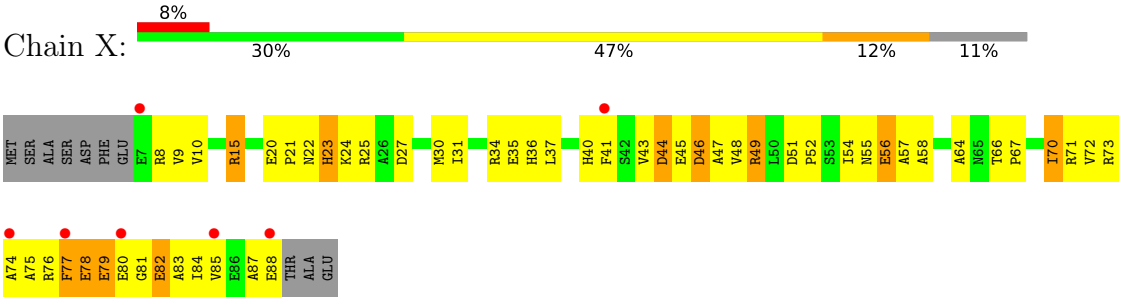


• Molecule 29: 50S ribosomal protein L30

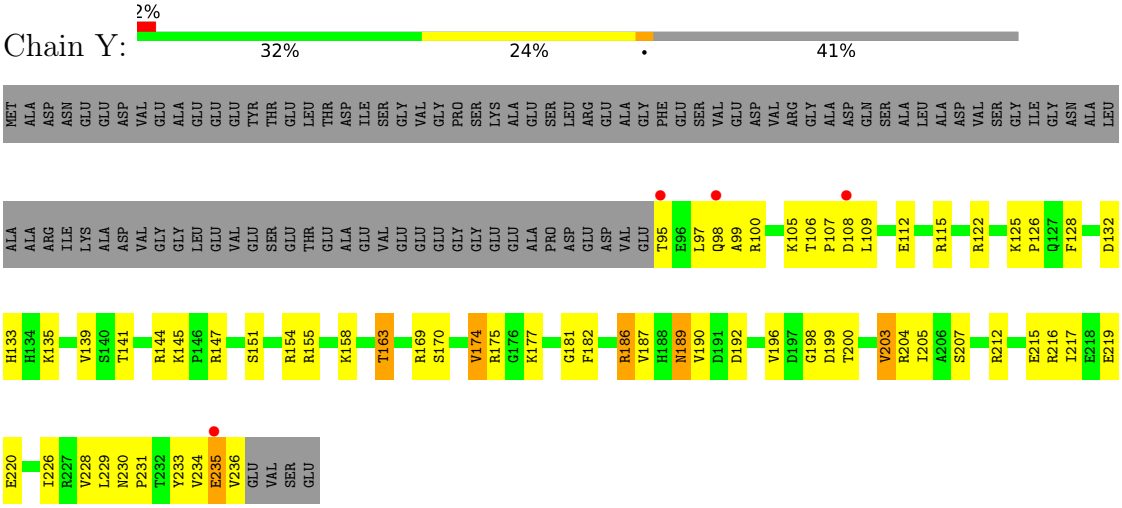
Chain W:



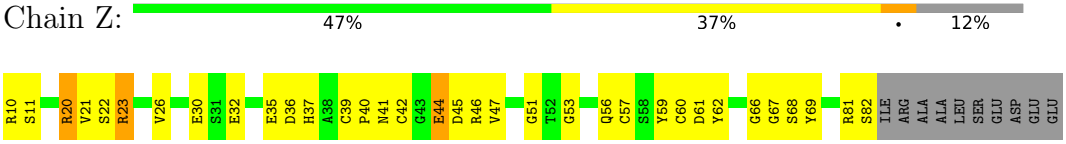
• Molecule 30: 50S ribosomal protein L31e



• Molecule 31: 50S ribosomal protein L32e



• Molecule 32: 50S ribosomal protein L37Ae



4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α, β, γ	211.69Å 299.78Å 573.88Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	29.98 – 2.90 49.95 – 2.89	Depositor EDS
% Data completeness (in resolution range)	83.8 (29.98-2.90) 83.4 (49.95-2.89)	Depositor EDS
R_{merge}	0.13	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.29 (at 2.91Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.171 , 0.223 0.171 , 0.219	Depositor DCC
R_{free} test set	3279 reflections (0.98%)	wwPDB-VP
Wilson B-factor (Å^2)	43.6	Xtriage
Anisotropy	0.168	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 67.9	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	99111	wwPDB-VP
Average B, all atoms (Å^2)	49.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.39% 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: MHV, MHW, OMG, MG, PSU, CD, 1MA, NA, UR3, OMU, 004, MHT, K, MHU, CL, DBB

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|>5$	RMSZ	#$\|Z\|>5$
1	0	0.37	0/65957	0.69	13/102867 (0.0%)
2	1	0.38	0/438	0.61	0/578
3	2	0.34	0/401	0.56	0/529
4	3	0.37	0/771	0.57	0/1024
5	4	1.63	0/13	1.38	0/15
6	9	0.35	0/2904	0.69	1/4526 (0.0%)
7	A	0.33	0/1786	0.65	0/2408
8	B	0.33	0/2690	0.63	0/3652
9	C	0.36	0/1884	0.63	0/2551
10	D	0.32	0/1111	0.56	0/1498
11	E	0.33	0/1382	0.58	0/1880
12	F	0.33	0/901	0.57	0/1224
13	G	0.30	0/241	0.48	0/324
14	H	0.34	0/1302	0.64	0/1743
15	I	0.31	0/526	0.55	0/716
16	J	0.35	0/1136	0.59	0/1530
17	K	0.35	0/1001	0.67	0/1347
18	L	0.32	0/1130	0.63	0/1509
19	M	0.34	0/1582	0.60	0/2117
20	N	0.30	0/1474	0.64	0/1999
21	O	0.34	0/874	0.60	0/1181
22	P	0.33	0/1147	0.54	0/1528
23	Q	0.35	0/749	0.66	0/1005
24	R	0.34	0/1172	0.63	0/1578
25	S	0.34	0/648	0.59	0/875
26	T	0.32	0/958	0.61	0/1289
27	U	0.32	0/417	0.58	0/562
28	V	0.29	0/502	0.55	0/675
29	W	0.36	0/1219	0.62	0/1655
30	X	0.33	0/664	0.61	0/895
31	Y	0.35	0/1146	0.62	0/1536
32	Z	0.35	0/589	0.67	0/787

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
All	All	0.36	0/98715	0.67	14/147603 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	0	0	20
6	9	0	1
29	W	0	1
All	All	0	22

There are no bond length outliers.

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	0	1504	A	C1'-O4'-C4'	-6.45	104.74	109.90
1	0	1942	A	C5'-C4'-C3'	6.01	125.61	116.00
1	0	871	G	C5'-C4'-O4'	-5.83	102.10	109.10
1	0	2291	A	N9-C1'-C2'	5.68	121.39	114.00
1	0	2726	U	N1-C1'-C2'	5.63	121.33	114.00
6	9	39	U	N1-C1'-C2'	5.52	121.18	114.00
1	0	1819	G	C5'-C4'-C3'	5.43	124.69	116.00
1	0	2313	C	C5'-C4'-O4'	5.37	115.55	109.10
1	0	1120	U	C5'-C4'-C3'	-5.29	107.54	116.00
1	0	841	A	C1'-O4'-C4'	-5.28	105.68	109.90
1	0	1971	G	N9-C1'-C2'	5.16	120.71	114.00
1	0	2467	A	C1'-O4'-C4'	-5.12	105.81	109.90
1	0	1165	G	C1'-O4'-C4'	-5.09	105.83	109.90
1	0	2313	C	C1'-O4'-C4'	-5.01	105.89	109.90

There are no chirality outliers.

All (22) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1039	G	Sidechain
1	0	1377	C	Sidechain
1	0	1430	G	Sidechain
1	0	1653	A	Sidechain
1	0	1829	A	Sidechain

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Mol	Chain	Res	Type	Group
1	0	1863	G	Sidechain
1	0	1877	G	Sidechain
1	0	1878	G	Sidechain
1	0	1970	G	Sidechain
1	0	2493	C	Sidechain
1	0	2503	A	Sidechain
1	0	2506	A	Sidechain
1	0	2607	U	Sidechain
1	0	482	G	Sidechain
1	0	518	G	Sidechain
1	0	792	G	Sidechain
1	0	817	G	Sidechain
1	0	867	A	Sidechain
1	0	868	G	Sidechain
1	0	952	G	Sidechain
6	9	65	A	Sidechain
29	W	90	TYR	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	0	59020	0	29811	1125	0
2	1	431	0	426	27	0
3	2	396	0	413	30	0
4	3	755	0	728	38	0
5	4	73	0	64	1	0
6	9	2599	0	1325	72	0
7	A	1753	0	1766	116	0
8	B	2625	0	2533	203	0
9	C	1859	0	1816	140	0
10	D	1094	0	1085	111	0
11	E	1357	0	1266	79	0
12	F	890	0	843	56	0
13	G	240	0	231	19	0
14	H	1282	0	1292	88	0
15	I	519	0	500	62	0
16	J	1120	0	1098	75	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
17	K	992	0	1031	72	0
18	L	1118	0	1076	82	0
19	M	1558	0	1566	82	0
20	N	1445	0	1401	145	0
21	O	865	0	873	48	0
22	P	1136	0	1123	57	0
23	Q	735	0	729	45	0
24	R	1149	0	1122	59	0
25	S	641	0	605	39	0
26	T	950	0	923	71	0
27	U	410	0	364	35	0
28	V	499	0	511	43	0
29	W	1196	0	1137	116	0
30	X	654	0	653	59	0
31	Y	1130	0	1133	69	0
32	Z	578	0	539	24	0
33	0	109	0	0	0	0
33	3	1	0	0	0	0
33	4	1	0	0	0	0
33	9	1	0	0	0	0
33	A	1	0	0	0	0
33	B	1	0	0	0	0
33	K	1	0	0	0	0
33	T	1	0	0	0	0
33	Y	1	0	0	0	0
34	0	2	0	0	0	0
35	0	74	0	0	0	0
35	9	2	0	0	0	0
35	A	1	0	0	0	0
35	C	1	0	0	0	0
35	H	1	0	0	0	0
35	J	1	0	0	0	0
35	L	1	0	0	0	0
35	M	1	0	0	0	0
35	Q	1	0	0	0	0
35	R	2	0	0	0	0
35	S	1	0	0	0	0
36	0	10	0	0	2	0
36	3	1	0	0	0	0
36	A	1	0	0	0	0
36	B	1	0	0	0	0
36	J	3	0	0	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
36	L	1	0	0	0	0
36	M	1	0	0	0	0
36	N	1	0	0	2	0
36	O	1	0	0	0	0
36	R	1	0	0	0	0
36	Y	1	0	0	0	0
37	1	1	0	0	0	0
37	3	1	0	0	0	0
37	O	1	0	0	0	0
37	U	1	0	0	0	0
37	Z	1	0	0	0	0
38	0	5842	0	0	196	0
38	1	60	0	0	8	0
38	2	49	0	0	5	0
38	3	69	0	0	11	0
38	4	2	0	0	0	0
38	9	143	0	0	9	0
38	A	123	0	0	19	0
38	B	146	0	0	20	0
38	C	185	0	0	37	0
38	D	49	0	0	22	0
38	E	42	0	0	11	0
38	F	26	0	0	5	0
38	G	20	0	0	2	0
38	H	69	0	0	15	0
38	I	9	0	0	3	0
38	J	55	0	0	4	0
38	K	59	0	0	11	0
38	L	82	0	0	21	0
38	M	129	0	0	12	0
38	N	60	0	0	11	0
38	O	42	0	0	7	0
38	P	72	0	0	5	0
38	Q	48	0	0	7	0
38	R	85	0	0	6	0
38	S	30	0	0	5	0
38	T	39	0	0	8	0
38	U	29	0	0	3	0
38	V	13	0	0	3	0
38	W	69	0	0	12	0
38	X	26	0	0	6	0
38	Y	101	0	0	16	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	Z	37	0	0	2	0
All	All	99111	0	59983	2986	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 20.

All (2986) 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)
6:9:6:C:H5”	20:N:37:ARG:NH1	1.59	1.16
1:0:156:C:H5”	19:M:171:ARG:HD3	1.25	1.15
6:9:6:C:H5”	20:N:37:ARG:HH12	0.97	1.14
1:0:1160:G:H5’	1:0:1161:A:H5’	1.26	1.07
1:0:871:G:H5’	1:0:871:G:H8	1.10	1.06
24:R:18:LEU:HB2	24:R:143:VAL:HG12	1.34	1.05
9:C:236:THR:HG22	9:C:239:ALA:H	1.18	1.04
10:D:25:MET:HE3	10:D:37:ALA:HB1	1.33	1.03
10:D:154:LYS:H	10:D:154:LYS:HD2	1.18	1.03
1:0:871:G:H5’	1:0:871:G:C8	1.94	1.02
28:V:12:THR:HG22	28:V:15:GLU:HG3	1.39	1.01
14:H:59:GLN:HE21	14:H:129:ARG:HE	1.08	1.00
9:C:127:ARG:NH2	9:C:225:PRO:HG2	1.76	1.00
14:H:174:LEU:HA	38:H:369:HOH:O	1.59	0.99
1:0:870:G:H2’	1:0:871:G:H5”	1.41	0.99
8:B:264:GLU:HG2	8:B:267:LYS:HE2	1.41	0.98
1:0:796:A:HO2’	32:Z:10:ARG:N	1.60	0.98
1:0:381:G:H5”	38:0:4902:HOH:O	1.67	0.95
1:0:1119:G:H2’	16:J:52:GLN:NE2	1.80	0.95
15:I:127:CYS:HB3	15:I:132:VAL:HB	1.45	0.95
31:Y:187:VAL:HG23	31:Y:192:ASP:HB2	1.47	0.95
1:0:21:G:H5’	24:R:2:ILE:HA	1.49	0.94
29:W:6:GLN:HB2	29:W:26:ILE:HD12	1.49	0.94
22:P:59:ARG:NH2	22:P:66:GLN:HE22	1.66	0.93
17:K:10:GLN:H	17:K:10:GLN:NE2	1.66	0.93
10:D:134:LEU:HD11	10:D:166:ILE:HD11	1.46	0.93
30:X:72:VAL:HG22	30:X:85:VAL:HG12	1.50	0.93
30:X:37:LEU:HD13	30:X:85:VAL:HG21	1.47	0.92
1:0:1116:U:HO2’	1:0:1118:A:H2	0.92	0.92
1:0:56:G:H5”	28:V:50:ARG:HH12	1.34	0.92
1:0:1474:C:H6	1:0:1474:C:H5’	1.35	0.92
19:M:164:THR:HG22	19:M:167:GLY:H	1.32	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:W:4:LEU:HD22	29:W:52:VAL:HG21	1.53	0.91
16:J:76:ASP:HA	38:J:4028:HOH:O	1.71	0.91
7:A:35:GLY:O	7:A:36:ASP:HB3	1.70	0.90
29:W:88:THR:HB	38:W:4041:HOH:O	1.69	0.90
1:0:1116:U:H3	1:0:1246:A:H62	1.18	0.90
1:0:2717:C:H2'	1:0:2718:C:H5"	1.53	0.90
32:Z:46:ARG:HD2	32:Z:59:TYR:HB2	1.52	0.90
1:0:1119:G:H2'	16:J:52:GLN:HE22	1.32	0.90
1:0:1242:A:H5'	16:J:82:THR:HG23	1.54	0.90
1:0:2756:U:H3	1:0:2896:A:H2	1.17	0.90
17:K:10:GLN:H	17:K:10:GLN:HE21	0.91	0.90
6:9:14:G:H5'	6:9:14:G:H8	1.36	0.90
17:K:10:GLN:HE21	17:K:10:GLN:N	1.70	0.89
1:0:1751:G:H2'	1:0:1752:G:H5"	1.54	0.89
8:B:62:ARG:HA	8:B:65:MET:HE3	1.53	0.89
17:K:74:VAL:HG11	17:K:113:ILE:HG12	1.53	0.89
1:0:545:G:H5'	1:0:545:G:H8	1.39	0.88
6:9:76:G:H3'	6:9:77:A:H5"	1.54	0.88
29:W:72:PRO:HG2	29:W:77:ALA:HB3	1.53	0.88
1:0:870:G:C2'	1:0:871:G:H5"	2.03	0.88
1:0:2586:U:H3	1:0:2592:G:H22	1.16	0.88
14:H:102:LYS:HD3	14:H:122:LYS:HD3	1.56	0.88
9:C:115:LEU:HD21	9:C:243:VAL:HG13	1.56	0.88
26:T:71:VAL:HG11	26:T:90:PRO:HB3	1.56	0.88
29:W:21:LEU:HD13	29:W:26:ILE:HD11	1.56	0.88
20:N:47:LEU:HD11	20:N:127:LEU:HD21	1.54	0.88
21:O:42:GLU:HB2	38:O:4021:HOH:O	1.73	0.88
1:0:2717:C:C2'	1:0:2718:C:H5"	2.04	0.87
14:H:59:GLN:NE2	14:H:129:ARG:HE	1.71	0.87
16:J:74:ARG:HB3	16:J:74:ARG:HH11	1.37	0.87
1:0:1160:G:C5'	1:0:1161:A:H5'	2.05	0.87
8:B:320:GLN:NE2	8:B:321:PRO:HD2	1.89	0.87
22:P:115:SER:H	22:P:118:GLN:NE2	1.73	0.87
1:0:542:A:H5'	1:0:542:A:H8	1.38	0.86
27:U:9:CYS:HA	27:U:52:THR:HG23	1.57	0.86
38:0:9537:HOH:O	17:K:39:GLY:HA2	1.74	0.86
1:0:200:C:H2'	38:0:4592:HOH:O	1.76	0.86
9:C:1:MET:HG2	9:C:2:GLN:H	1.41	0.86
1:0:962:C:H1'	20:N:5:ARG:HH12	1.38	0.85
1:0:1160:G:H5'	1:0:1161:A:C5'	2.05	0.85
3:2:41:HIS:H	3:2:45:ASN:HD22	1.23	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:877:G:H5'	1:0:878:G:OP1	1.76	0.85
19:M:99:ARG:HD2	19:M:167:GLY:HA2	1.58	0.85
9:C:236:THR:HA	38:C:522:HOH:O	1.76	0.85
29:W:4:LEU:HD23	29:W:54:PHE:HB3	1.56	0.84
14:H:30:LYS:H	14:H:62:HIS:HD2	1.21	0.84
1:0:1701:A:H4'	1:0:1702:U:H5"	1.59	0.84
9:C:236:THR:HG22	9:C:239:ALA:N	1.90	0.84
14:H:12:ILE:HD12	14:H:57:THR:HG22	1.57	0.84
17:K:81:ARG:HB2	17:K:87:ARG:NH1	1.92	0.84
26:T:9:LYS:HE3	26:T:13:ARG:NH1	1.92	0.84
8:B:201:ASP:HB2	8:B:312:ARG:HD2	1.60	0.84
1:0:2291:A:C8	1:0:2309:C:H5'	2.12	0.84
29:W:88:THR:HG22	29:W:89:ASP:H	1.42	0.84
7:A:135:VAL:HG21	7:A:147:ARG:HG2	1.57	0.83
14:H:12:ILE:HG23	14:H:129:ARG:NE	1.91	0.83
14:H:88:MET:HA	14:H:139:ALA:HA	1.59	0.83
17:K:98:VAL:HG13	17:K:102:GLU:HA	1.61	0.83
9:C:236:THR:H	9:C:239:ALA:HB3	1.44	0.83
1:0:558:C:C2'	1:0:559:U:H5"	2.08	0.83
20:N:48:VAL:CG1	20:N:55:ASP:HB3	2.08	0.83
17:K:98:VAL:CG1	17:K:102:GLU:HA	2.09	0.82
19:M:102:GLU:OE1	19:M:164:THR:HG21	1.79	0.82
12:F:53:ASP:OD1	12:F:80:GLN:HB2	1.80	0.82
18:L:79:ASP:HB3	38:L:358:HOH:O	1.78	0.82
1:0:1679:C:H5'	38:0:7104:HOH:O	1.79	0.82
1:0:1684:A:H1'	3:2:43:ARG:HH22	1.44	0.82
6:9:28:U:H5"	20:N:40:ASN:ND2	1.95	0.82
30:X:30:MET:HE1	30:X:55:ASN:HA	1.61	0.82
1:0:21:G:C5'	24:R:2:ILE:HA	2.10	0.81
1:0:1559:A:H1'	38:0:7360:HOH:O	1.78	0.81
38:0:8709:HOH:O	10:D:99:ASP:HA	1.79	0.81
8:B:217:ARG:HG3	8:B:257:THR:HG22	1.62	0.81
1:0:1878:G:H1'	38:0:8000:HOH:O	1.80	0.81
1:0:506:G:H22	1:0:509:A:C5'	1.93	0.81
1:0:282:C:H1'	1:0:368:C:N4	1.95	0.81
6:9:29:C:H2'	6:9:30:C:H5'	1.62	0.81
1:0:962:C:H1'	20:N:5:ARG:NH1	1.94	0.81
9:C:162:VAL:HG12	9:C:192:ILE:HD11	1.61	0.81
6:9:6:C:C5'	20:N:37:ARG:NH1	2.44	0.81
28:V:12:THR:HG23	28:V:14:ALA:H	1.45	0.80
8:B:162:MET:HE1	8:B:308:LEU:HD21	1.63	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:E:97:VAL:HG12	38:E:4024:HOH:O	1.81	0.80
20:N:37:ARG:HH21	20:N:105:GLY:CA	1.94	0.80
1:0:1162:G:H1'	15:I:112:LEU:HD11	1.61	0.80
9:C:2:GLN:HB3	38:C:417:HOH:O	1.81	0.80
1:0:1184:C:H1'	38:0:6617:HOH:O	1.82	0.80
38:0:6579:HOH:O	13:G:12:ILE:HA	1.81	0.80
18:L:35:ARG:HH12	18:L:43:HIS:HB3	1.46	0.80
1:0:2533:C:H5'	1:0:2533:C:H6	1.44	0.80
1:0:544:G:H2'	1:0:545:G:H5"	1.62	0.80
1:0:1835:U:H5	1:0:1840:A:N7	1.80	0.80
4:3:60:LYS:HG3	4:3:61:PRO:HD2	1.65	0.79
8:B:275:GLY:O	8:B:291:ASP:HA	1.82	0.79
29:W:52:VAL:HG22	29:W:53:ALA:H	1.47	0.79
1:0:157:G:H4'	19:M:95:LYS:HE2	1.64	0.79
17:K:81:ARG:HB2	17:K:87:ARG:HH11	1.47	0.79
17:K:63:GLU:HB2	38:K:4034:HOH:O	1.83	0.79
29:W:13:MET:HE1	29:W:18:GLN:HA	1.64	0.79
1:0:2716:G:H5"	8:B:206:THR:HG21	1.63	0.79
20:N:164:ASP:OD1	20:N:167:ASP:HA	1.84	0.79
7:A:100:PRO:HG2	7:A:103:VAL:HG21	1.64	0.78
10:D:57:THR:HG23	10:D:63:ILE:HA	1.64	0.78
10:D:28:GLY:HA2	10:D:69:ILE:HG23	1.63	0.78
23:Q:75:ILE:HD13	23:Q:84:ILE:HD11	1.66	0.78
24:R:18:LEU:HB2	24:R:143:VAL:CG1	2.14	0.78
14:H:49:GLN:HG3	14:H:140:TYR:CE2	2.19	0.78
28:V:56:ILE:O	28:V:60:GLN:HG3	1.84	0.78
1:0:2890:A:H1'	27:U:56:ARG:NH2	1.98	0.78
22:P:59:ARG:HH22	22:P:66:GLN:HE22	1.28	0.78
1:0:1666:C:H2'	1:0:1667:A:H5'	1.66	0.78
1:0:1118:A:H8	1:0:1118:A:H3'	1.48	0.78
16:J:75:PRO:HG2	16:J:105:LEU:HD21	1.65	0.78
28:V:1:THR:HG23	28:V:2:VAL:H	1.49	0.78
1:0:470:U:O2'	2:1:16:HIS:HD2	1.66	0.77
12:F:46:GLU:OE1	12:F:100:ASP:HA	1.85	0.77
20:N:80:SER:HB2	38:N:4032:HOH:O	1.84	0.77
1:0:1244:U:OP1	16:J:18:ILE:HD13	1.85	0.77
22:P:13:VAL:HG21	22:P:41:ARG:HG2	1.66	0.77
15:I:117:THR:HG22	15:I:121:LYS:HE3	1.66	0.77
1:0:506:G:H22	1:0:509:A:H5'	1.50	0.77
1:0:1209:C:H2'	1:0:1210:G:H8	1.48	0.77
1:0:31:C:H2'	38:0:4091:HOH:O	1.84	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:F:91:VAL:HG12	12:F:92:GLY:N	2.00	0.77
8:B:248:ARG:O	8:B:251:VAL:HG22	1.85	0.77
30:X:71:ARG:HD3	38:X:4023:HOH:O	1.83	0.77
9:C:242:GLU:HG3	38:C:581:HOH:O	1.83	0.76
1:0:2908:A:H2'	1:0:2909:G:O4'	1.84	0.76
6:9:56:A:H2'	6:9:57:A:H5"	1.66	0.76
15:I:97:VAL:HG12	15:I:101:LYS:HE3	1.68	0.76
14:H:12:ILE:HG23	14:H:129:ARG:CZ	2.15	0.76
1:0:1163:G:H5'	15:I:110:ASP:O	1.85	0.76
1:0:1834:C:H2'	1:0:1840:A:N6	2.00	0.76
12:F:27:GLY:HA3	12:F:101:ALA:O	1.85	0.76
30:X:76:ARG:HH11	30:X:76:ARG:HG3	1.50	0.76
7:A:191:GLY:HA2	7:A:194:MET:HE3	1.65	0.76
14:H:30:LYS:H	14:H:62:HIS:CD2	2.04	0.76
29:W:64:THR:O	29:W:68:THR:HG22	1.86	0.76
1:0:559:U:H6	1:0:559:U:H5'	1.49	0.76
1:0:1834:C:H2'	1:0:1840:A:H62	1.51	0.76
29:W:21:LEU:HD21	29:W:48:VAL:HG11	1.68	0.76
1:0:1701:A:H5'	38:0:7068:HOH:O	1.85	0.76
1:0:2780:C:H1'	11:E:143:GLN:HE21	1.51	0.76
8:B:140:LEU:HD23	38:B:559:HOH:O	1.86	0.76
8:B:320:GLN:HE21	8:B:321:PRO:HD2	1.47	0.76
17:K:30:LYS:O	17:K:55:VAL:HG13	1.86	0.76
1:0:182:G:H5'	38:0:4531:HOH:O	1.86	0.75
1:0:1293:U:H5'	31:Y:154:ARG:HH21	1.48	0.75
19:M:24:GLN:NE2	19:M:27:ARG:HH11	1.84	0.75
1:0:1118:A:H3'	1:0:1118:A:C8	2.21	0.75
7:A:81:GLN:HB2	7:A:92:ASN:ND2	2.02	0.75
1:0:56:G:H5"	28:V:50:ARG:NH1	2.00	0.75
8:B:86:ALA:HA	38:B:559:HOH:O	1.85	0.75
12:F:96:ALA:HA	38:F:4009:HOH:O	1.86	0.75
29:W:21:LEU:HD21	29:W:48:VAL:CG1	2.15	0.75
8:B:18:ARG:HG3	8:B:256:GLN:HG3	1.67	0.75
1:0:545:G:H5'	1:0:545:G:C8	2.21	0.75
6:9:14:G:H5'	6:9:14:G:C8	2.20	0.75
19:M:164:THR:HG22	19:M:167:GLY:N	2.01	0.75
1:0:383:A:H4'	38:0:4914:HOH:O	1.86	0.75
20:N:113:SER:HB2	38:N:4044:HOH:O	1.86	0.75
1:0:1474:C:H5'	1:0:1474:C:C6	2.22	0.74
7:A:36:ASP:OD2	7:A:85:SER:HB2	1.87	0.74
8:B:27:ASN:HD22	8:B:27:ASN:H	1.34	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B:321:PRO:HA	38:B:578:HOH:O	1.88	0.74
14:H:49:GLN:OE1	14:H:169:GLU:HG3	1.87	0.74
2:1:25:LYS:HD2	3:2:49:GLU:H	1.52	0.74
16:J:74:ARG:HH11	16:J:74:ARG:CB	1.99	0.74
31:Y:187:VAL:HG23	31:Y:192:ASP:CB	2.17	0.74
1:0:10:U:H3'	38:0:5221:HOH:O	1.85	0.74
1:0:1741:U:H5'	1:0:1742:A:OP1	1.87	0.74
10:D:99:ASP:HB3	10:D:103:ASN:H	1.52	0.74
17:K:14:LYS:HB2	17:K:45:PRO:HG2	1.69	0.74
1:0:2364:A:H5"	23:Q:15:LYS:HD3	1.70	0.74
4:3:25:VAL:HG22	4:3:68:LYS:HG3	1.68	0.74
6:9:48:C:H4'	20:N:141:ARG:NH2	2.03	0.74
9:C:236:THR:HG21	38:C:525:HOH:O	1.88	0.74
20:N:48:VAL:HG11	20:N:55:ASP:HB3	1.70	0.74
16:J:39:VAL:HG13	16:J:106:GLY:O	1.88	0.73
6:9:92:G:H2'	6:9:93:A:C8	2.22	0.73
23:Q:25:PRO:HB2	38:Q:223:HOH:O	1.88	0.73
1:0:711:G:H1'	38:0:5573:HOH:O	1.87	0.73
1:0:1667:A:H5'	1:0:1667:A:H8	1.54	0.73
1:0:2748:G:H2'	38:0:8252:HOH:O	1.89	0.73
1:0:2768:A:H2'	1:0:2769:C:O4'	1.87	0.73
29:W:151:GLU:O	29:W:154:ARG:HB3	1.88	0.73
18:L:143:THR:HG21	38:L:371:HOH:O	1.87	0.73
18:L:148:GLU:HA	38:L:376:HOH:O	1.88	0.73
1:0:544:G:C2'	1:0:545:G:H5"	2.18	0.73
28:V:42:ASN:HB3	38:V:4008:HOH:O	1.88	0.73
1:0:1130:U:H5'	38:0:6544:HOH:O	1.89	0.73
1:0:1884:G:O6	7:A:190:ARG:HD2	1.87	0.73
1:0:558:C:H2'	1:0:559:U:H5"	1.69	0.73
15:I:96:SER:H	15:I:99:GLN:NE2	1.87	0.73
28:V:12:THR:HG22	28:V:15:GLU:CG	2.19	0.73
14:H:62:HIS:HA	14:H:65:LEU:HD23	1.71	0.72
23:Q:75:ILE:CD1	23:Q:84:ILE:HD11	2.18	0.72
1:0:1603:A:H5'	1:0:1605:G:O4'	1.89	0.72
16:J:107:ASN:ND2	16:J:109:TYR:H	1.85	0.72
20:N:47:LEU:HD13	20:N:97:VAL:HG11	1.69	0.72
28:V:39:ALA:N	28:V:40:PRO:HD2	2.05	0.72
24:R:132:ARG:HG2	24:R:133:ALA:N	2.05	0.72
14:H:6:ALA:HA	14:H:61:ARG:HH12	1.53	0.72
20:N:169:PRO:O	20:N:172:PHE:HB3	1.88	0.72
22:P:143:ALA:HA	38:P:272:HOH:O	1.88	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1165:G:H4'	1:0:1174:A:O2'	1.89	0.72
14:H:6:ALA:HA	14:H:61:ARG:NH1	2.04	0.72
29:W:132:VAL:HG21	29:W:140:LYS:O	1.89	0.72
8:B:179:LEU:O	8:B:183:GLU:HG2	1.89	0.72
10:D:25:MET:SD	10:D:40:ILE:HD11	2.30	0.72
12:F:58:GLU:OE1	19:M:27:ARG:NH2	2.23	0.72
29:W:52:VAL:HG22	29:W:53:ALA:N	2.05	0.72
29:W:88:THR:HG23	29:W:110:GLN:NE2	2.04	0.72
10:D:135:VAL:HG21	10:D:139:TYR:CD1	2.24	0.72
27:U:47:ARG:HG3	38:U:8826:HOH:O	1.90	0.72
1:0:1450:C:H4'	1:0:1451:C:OP2	1.88	0.71
6:9:48:C:H4'	20:N:141:ARG:HH21	1.55	0.71
1:0:821:U:H2'	1:0:822:C:H6	1.54	0.71
8:B:190:MET:HE2	8:B:194:PHE:CD1	2.25	0.71
31:Y:174:VAL:HG12	31:Y:177:LYS:HD2	1.71	0.71
1:0:694:A:H2'	1:0:695:C:H5'	1.72	0.71
6:9:54:A:O2'	6:9:55:U:H5'	1.90	0.71
6:9:114:G:O6	20:N:11:ARG:HD3	1.91	0.71
14:H:165:ARG:HD3	38:H:319:HOH:O	1.89	0.71
1:0:2270:G:H4'	7:A:223:ARG:HH12	1.55	0.71
8:B:36:PRO:HA	8:B:168:GLY:HA3	1.73	0.71
22:P:103:THR:O	22:P:107:GLU:HG3	1.91	0.71
1:0:2812:A:H2	1:0:2814:A:H62	1.37	0.71
8:B:212:GLN:HB2	8:B:257:THR:HG21	1.70	0.71
9:C:145:GLU:HG3	38:C:525:HOH:O	1.88	0.71
21:O:32:ARG:O	21:O:32:ARG:HD3	1.90	0.71
3:2:22:PRO:HG2	3:2:25:VAL:HG23	1.73	0.71
1:0:1819:G:H2'	1:0:1820:G:H4'	1.72	0.71
1:0:2320:U:H4'	1:0:2321:A:O4'	1.90	0.71
9:C:142:ASP:OD1	9:C:237:GLU:HB3	1.91	0.71
1:0:156:C:H5"	19:M:171:ARG:CD	2.15	0.71
14:H:32:ALA:HB3	14:H:69:ARG:HH12	1.54	0.71
1:0:960:G:H4'	38:0:6208:HOH:O	1.90	0.70
9:C:233:THR:HG22	9:C:234:VAL:H	1.56	0.70
10:D:146:LYS:NZ	20:N:107:ASN:HD21	1.89	0.70
20:N:38:LYS:HE2	20:N:107:ASN:ND2	2.05	0.70
1:0:1206:U:H5'	1:0:1206:U:H6	1.56	0.70
29:W:137:GLN:HE21	29:W:141:HIS:HE1	1.38	0.70
16:J:19:MET:HE3	16:J:132:LEU:HD11	1.72	0.70
29:W:6:GLN:HB2	29:W:26:ILE:CD1	2.20	0.70
1:0:259:G:H21	19:M:58:GLN:NE2	1.88	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:F:2:VAL:HG22	12:F:57:GLU:OE1	1.92	0.70
14:H:59:GLN:HE21	14:H:129:ARG:NE	1.88	0.70
19:M:65:VAL:HG21	19:M:105:ALA:HB2	1.74	0.70
24:R:39:THR:HB	24:R:42:GLU:HG3	1.72	0.70
1:0:814:G:H4'	38:0:5765:HOH:O	1.90	0.70
1:0:1377:C:H5'	1:0:1377:C:H6	1.56	0.70
20:N:61:ALA:HB3	20:N:88:ALA:HB2	1.72	0.70
1:0:2578:G:H5'	1:0:2578:G:H8	1.55	0.70
8:B:55:ASN:HB3	8:B:63:GLU:HA	1.74	0.70
8:B:162:MET:HE2	8:B:310:ARG:HD3	1.73	0.70
18:L:133:VAL:HA	38:L:375:HOH:O	1.91	0.70
1:0:2637:A:H5'	38:0:9419:HOH:O	1.91	0.70
25:S:51:GLN:HE21	25:S:53:ASN:HD21	1.40	0.70
30:X:72:VAL:HG22	30:X:85:VAL:CG1	2.19	0.70
12:F:63:ILE:HB	12:F:64:PRO:HD3	1.72	0.70
16:J:19:MET:HE2	16:J:79:PHE:HA	1.72	0.70
25:S:42:GLU:HG2	25:S:49:VAL:HG23	1.74	0.70
27:U:14:GLU:O	27:U:17:THR:HB	1.92	0.70
30:X:78:GLU:HG2	30:X:79:GLU:H	1.56	0.70
22:P:59:ARG:HH22	22:P:66:GLN:NE2	1.89	0.69
7:A:88:ILE:HD13	7:A:100:PRO:HD3	1.72	0.69
9:C:1:MET:HG2	9:C:2:GLN:N	2.07	0.69
24:R:99:ALA:HB1	24:R:109:MET:CE	2.22	0.69
1:0:558:C:H2'	1:0:559:U:C5'	2.21	0.69
38:0:4849:HOH:O	26:T:53:GLY:HA3	1.92	0.69
7:A:68:ILE:HD11	38:A:443:HOH:O	1.92	0.69
16:J:107:ASN:C	16:J:107:ASN:HD22	1.95	0.69
17:K:29:LEU:HB3	17:K:55:VAL:HG11	1.73	0.69
1:0:558:C:O2'	1:0:559:U:H5"	1.92	0.69
1:0:2783:A:H3'	38:0:9678:HOH:O	1.93	0.69
29:W:88:THR:HG23	29:W:110:GLN:HE21	1.58	0.69
30:X:43:VAL:HG11	30:X:82:GLU:HA	1.74	0.69
1:0:1187:U:H2'	38:0:6627:HOH:O	1.92	0.69
9:C:246:ARG:HD2	38:C:584:HOH:O	1.93	0.69
1:0:57:C:H5"	38:0:4173:HOH:O	1.93	0.68
32:Z:26:VAL:O	32:Z:30:GLU:HG3	1.93	0.68
7:A:94:LEU:HG	7:A:99:ILE:HD11	1.75	0.68
15:I:101:LYS:O	15:I:105:GLU:HG3	1.94	0.68
18:L:35:ARG:HB2	18:L:35:ARG:NH1	2.08	0.68
24:R:119:VAL:HG21	24:R:142:ASP:CG	2.13	0.68
1:0:2506:A:O2'	1:0:2507:G:H8	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:200:PRO:HD3	38:A:513:HOH:O	1.92	0.68
1:0:2426:G:H1'	38:0:8683:HOH:O	1.92	0.68
12:F:61:MET:HB3	19:M:19:GLN:OE1	1.93	0.68
11:E:145:ALA:HB1	11:E:168:ILE:HD11	1.76	0.68
15:I:88:GLN:HA	15:I:91:PHE:CE2	2.28	0.68
7:A:199:HIS:HD2	7:A:201:PHE:H	1.42	0.68
29:W:5:VAL:HG11	29:W:153:MET:HE3	1.74	0.68
32:Z:37:HIS:HB2	32:Z:47:VAL:HB	1.75	0.68
1:0:214:U:H5'	38:0:4638:HOH:O	1.92	0.68
1:0:236:A:H4'	1:0:237:G:H5'	1.75	0.68
1:0:399:C:H5'	19:M:179:GLY:O	1.93	0.68
8:B:304:PRO:HD2	8:B:307:ARG:HD2	1.76	0.68
15:I:118:ASN:HA	15:I:121:LYS:HD2	1.75	0.68
17:K:74:VAL:CG1	17:K:113:ILE:HG12	2.22	0.68
27:U:17:THR:HG22	27:U:18:GLY:N	2.07	0.68
32:Z:57:CYS:SG	32:Z:59:TYR:HB3	2.32	0.68
1:0:447:A:P	26:T:1:SER:HB2	2.34	0.68
38:0:4764:HOH:O	19:M:58:GLN:HG3	1.93	0.68
7:A:51:ARG:HB2	38:A:435:HOH:O	1.94	0.68
24:R:8:ALA:HB1	24:R:13:THR:HG21	1.74	0.68
7:A:88:ILE:O	7:A:88:ILE:HG22	1.92	0.68
10:D:25:MET:HE3	10:D:37:ALA:CB	2.20	0.68
17:K:13:GLU:OE2	17:K:44:LEU:HB2	1.93	0.68
29:W:88:THR:HG22	29:W:89:ASP:N	2.08	0.68
1:0:450:C:OP1	9:C:184:ARG:NH2	2.24	0.68
1:0:1189:A:H1'	1:0:1209:C:O4'	1.94	0.68
8:B:141:ARG:HD2	8:B:163:GLU:OE2	1.94	0.68
10:D:154:LYS:HD2	10:D:154:LYS:N	2.02	0.68
1:0:21:G:H5"	24:R:1:GLY:O	1.95	0.67
9:C:61:PHE:HB3	38:C:459:HOH:O	1.93	0.67
29:W:84:VAL:HG12	38:W:4041:HOH:O	1.93	0.67
1:0:1157:C:H2'	1:0:1158:G:H8	1.56	0.67
1:0:2533:C:H5'	1:0:2533:C:C6	2.28	0.67
10:D:65:GLU:HA	38:D:225:HOH:O	1.93	0.67
24:R:96:VAL:HG13	24:R:106:GLY:HA3	1.75	0.67
1:0:1417:G:O2'	3:2:11:LEU:HD22	1.94	0.67
11:E:137:ASP:OD1	11:E:139:GLU:HB2	1.94	0.67
18:L:136:ALA:HB3	38:L:375:HOH:O	1.94	0.67
8:B:162:MET:CE	8:B:308:LEU:HD21	2.23	0.67
9:C:132:ASP:HB3	38:C:516:HOH:O	1.93	0.67
10:D:84:LEU:HA	10:D:87:ALA:HB3	1.74	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:146:LYS:HZ3	20:N:107:ASN:HD21	1.42	0.67
18:L:67:ARG:O	18:L:71:GLU:HG3	1.95	0.67
1:0:1160:G:O2'	1:0:1190:G:H1'	1.95	0.67
1:0:2036:C:O4'	17:K:44:LEU:HG	1.94	0.67
7:A:161:GLY:O	32:Z:68:SER:HB2	1.95	0.67
2:1:21:ARG:HD2	2:1:37:CYS:SG	2.35	0.67
10:D:159:PRO:O	10:D:163:VAL:HG23	1.94	0.67
1:0:1654:U:H2'	7:A:47:HIS:HD2	1.59	0.67
1:0:2635:A:O2'	1:0:2636:C:H5'	1.95	0.67
4:3:70:ARG:HG2	4:3:77:ALA:HB2	1.77	0.67
8:B:140:LEU:HA	38:B:559:HOH:O	1.94	0.67
16:J:107:ASN:HD21	16:J:109:TYR:HB2	1.60	0.67
1:0:111:C:O2'	2:1:20:ARG:HG2	1.94	0.67
1:0:2524:G:H21	1:0:2526:C:N4	1.92	0.67
8:B:139:ASP:HB2	8:B:165:ARG:HE	1.60	0.67
10:D:146:LYS:NZ	20:N:107:ASN:ND2	2.43	0.67
17:K:34:VAL:HG22	17:K:47:ALA:HB2	1.77	0.67
19:M:99:ARG:CD	19:M:167:GLY:HA2	2.24	0.67
17:K:132:VAL:HG11	27:U:22:VAL:HG22	1.76	0.67
19:M:78:LYS:HE2	38:M:358:HOH:O	1.95	0.67
29:W:80:ASP:O	29:W:84:VAL:HG23	1.95	0.67
1:0:338:C:H4'	9:C:174:ILE:CD1	2.25	0.66
1:0:542:A:H5'	1:0:542:A:C8	2.27	0.66
1:0:1189:A:H1'	1:0:1209:C:C1'	2.25	0.66
1:0:1790:C:H2'	1:0:1791:U:H6	1.60	0.66
7:A:211:LYS:HB3	7:A:212:PRO:HD2	1.76	0.66
9:C:233:THR:HG22	9:C:234:VAL:N	2.10	0.66
24:R:39:THR:HG23	24:R:107:GLU:O	1.95	0.66
29:W:5:VAL:HG11	29:W:153:MET:CE	2.26	0.66
1:0:871:G:H8	1:0:871:G:C5'	1.99	0.66
7:A:64:ASP:OD1	7:A:66:ARG:HD2	1.95	0.66
16:J:6:PHE:HB3	16:J:109:TYR:OH	1.94	0.66
20:N:164:ASP:CG	20:N:167:ASP:HA	2.16	0.66
1:0:21:G:H4'	24:R:2:ILE:HG22	1.78	0.66
1:0:1593:C:OP1	22:P:117:SER:HB3	1.96	0.66
8:B:62:ARG:HA	8:B:65:MET:CE	2.23	0.66
9:C:180:SER:HB2	38:C:534:HOH:O	1.94	0.66
11:E:132:THR:HB	38:E:4031:HOH:O	1.95	0.66
14:H:23:ILE:HG23	14:H:123:ILE:HD11	1.77	0.66
17:K:28:GLU:HG2	17:K:58:THR:HB	1.78	0.66
28:V:64:GLY:O	28:V:65:ASP:HB2	1.96	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Y:151:SER:HB3	31:Y:154:ARG:HB3	1.78	0.66
1:0:2508:C:H2'	38:0:9086:HOH:O	1.95	0.66
1:0:657:G:OP1	9:C:27:ARG:NH2	2.28	0.66
1:0:1666:C:O2'	1:0:1667:A:H5"	1.95	0.66
21:O:21:SER:OG	21:O:106:PRO:HB2	1.94	0.66
29:W:129:LYS:HG2	38:W:4056:HOH:O	1.96	0.66
1:0:1121:G:H4'	38:0:6523:HOH:O	1.94	0.66
9:C:139:VAL:HG13	38:C:580:HOH:O	1.95	0.66
10:D:64:ARG:HB3	10:D:67:ASP:OD2	1.95	0.66
1:0:1007:A:H2'	14:H:22:TYR:CZ	2.31	0.66
8:B:62:ARG:CA	8:B:65:MET:HE3	2.25	0.66
20:N:34:LEU:HA	20:N:47:LEU:HD23	1.77	0.66
20:N:120:GLU:HG3	20:N:136:LEU:HD13	1.76	0.66
23:Q:26:PRO:O	23:Q:30:VAL:HG23	1.95	0.66
3:2:22:PRO:HG2	3:2:25:VAL:CG2	2.25	0.66
20:N:37:ARG:HD3	36:N:201:CL:CL	2.32	0.66
22:P:65:ARG:HD3	22:P:69:ARG:NH1	2.10	0.66
1:0:1372:A:H3'	38:0:6994:HOH:O	1.95	0.66
1:0:1615:A:H4'	38:0:7429:HOH:O	1.95	0.66
14:H:49:GLN:HB2	14:H:170:ARG:HD2	1.77	0.66
17:K:22:ASP:HB2	38:K:4013:HOH:O	1.96	0.66
4:3:62:THR:HB	38:3:248:HOH:O	1.95	0.65
7:A:199:HIS:CD2	7:A:201:PHE:H	2.14	0.65
7:A:200:PRO:HG2	7:A:225:VAL:HG21	1.78	0.65
1:0:447:A:OP1	26:T:2:LYS:HG2	1.97	0.65
1:0:1053:G:OP1	14:H:15:PRO:HG3	1.96	0.65
1:0:2414:A:H2'	1:0:2415:A:C8	2.29	0.65
10:D:25:MET:HE1	10:D:41:LEU:HG	1.78	0.65
15:I:120:ALA:O	15:I:124:VAL:HG23	1.96	0.65
20:N:78:MET:HB2	20:N:79:PRO:HD3	1.78	0.65
22:P:134:VAL:O	22:P:137:LEU:HB3	1.95	0.65
1:0:513:A:N3	38:0:5181:HOH:O	2.29	0.65
3:2:49:GLU:HB2	38:2:145:HOH:O	1.94	0.65
14:H:12:ILE:O	14:H:12:ILE:HG22	1.96	0.65
1:0:541:C:C2'	1:0:542:A:H5"	2.26	0.65
2:1:46:ARG:HA	38:1:246:HOH:O	1.96	0.65
9:C:5:ILE:HD11	9:C:16:VAL:CG2	2.27	0.65
28:V:55:ARG:O	28:V:59:ILE:HG12	1.95	0.65
1:0:645:U:OP2	18:L:4:LYS:HE2	1.96	0.65
7:A:121:ALA:O	7:A:124:VAL:HG22	1.96	0.65
21:O:47:ARG:HH11	21:O:47:ARG:HG3	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:R:18:LEU:HD12	24:R:143:VAL:HG11	1.78	0.65
27:U:52:THR:HG22	27:U:54:THR:H	1.61	0.65
1:0:2850:C:H6	1:0:2850:C:H5'	1.62	0.65
10:D:23:VAL:HG21	10:D:45:THR:HG21	1.77	0.65
27:U:9:CYS:SG	27:U:11:THR:HG23	2.36	0.65
1:0:447:A:OP2	26:T:1:SER:HB2	1.97	0.65
38:0:6613:HOH:O	15:I:87:PRO:HD3	1.96	0.65
10:D:35:ALA:HB1	38:D:218:HOH:O	1.95	0.65
23:Q:66:LYS:HB2	23:Q:70:ALA:O	1.97	0.65
25:S:77:VAL:O	25:S:80:ARG:HG2	1.97	0.65
7:A:109:GLU:HG2	7:A:116:GLY:H	1.61	0.65
11:E:118:ILE:HG23	11:E:144:THR:HG21	1.79	0.65
16:J:103:VAL:HG12	38:J:4028:HOH:O	1.97	0.65
18:L:22:ARG:HG2	38:L:329:HOH:O	1.96	0.65
1:0:272:A:H5'	1:0:273:G:OP2	1.96	0.65
7:A:66:ARG:HH11	7:A:66:ARG:HB2	1.61	0.65
21:O:10:LEU:HD13	21:O:99:GLU:HG3	1.79	0.65
38:0:7889:HOH:O	2:1:1:THR:HB	1.96	0.65
11:E:22:VAL:O	11:E:76:VAL:HG11	1.97	0.65
1:0:281:U:H2'	1:0:282:C:O4'	1.97	0.64
17:K:74:VAL:HG13	17:K:113:ILE:HG23	1.79	0.64
18:L:35:ARG:HB2	18:L:35:ARG:HH11	1.61	0.64
1:0:2769:C:C2'	1:0:2770:G:H5'	2.27	0.64
10:D:35:ALA:C	10:D:37:ALA:H	1.99	0.64
11:E:37:ASP:OD1	16:J:125:SER:HB3	1.97	0.64
26:T:24:ARG:HH21	26:T:39:ASN:HD22	1.44	0.64
14:H:146:ALA:O	14:H:149:VAL:HG12	1.98	0.64
4:3:87:ARG:HD2	4:3:89:GLU:OE2	1.98	0.64
20:N:67:ALA:HA	20:N:71:TRP:HB3	1.80	0.64
20:N:139:TRP:HA	20:N:139:TRP:CE3	2.31	0.64
29:W:137:GLN:HE21	29:W:141:HIS:CE1	2.15	0.64
17:K:75:ARG:CZ	38:K:4039:HOH:O	2.45	0.64
1:0:709:G:O2'	21:O:25:VAL:HG12	1.97	0.64
11:E:100:ASP:HB2	38:E:4025:HOH:O	1.96	0.64
11:E:20:ILE:HD11	11:E:40:VAL:HG11	1.80	0.64
16:J:54:VAL:HG11	16:J:138:THR:HG21	1.80	0.64
19:M:64:ARG:HD2	38:M:325:HOH:O	1.97	0.64
8:B:7:ARG:NH1	8:B:11:LEU:HD22	2.13	0.64
8:B:314:ALA:HB3	8:B:317:PRO:HG3	1.80	0.64
12:F:34:ASN:HA	19:M:4:ALA:HB2	1.78	0.64
20:N:132:ASN:O	20:N:135:VAL:HG12	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:259:G:H21	19:M:58:GLN:HE22	1.45	0.64
7:A:217:ARG:HG2	7:A:229:ALA:HB2	1.80	0.64
11:E:81:GLU:HG2	11:E:134:SER:HB3	1.79	0.64
14:H:100:GLU:HB3	14:H:124:VAL:HG11	1.78	0.64
1:0:1116:U:O2'	1:0:1118:A:H2	1.73	0.63
1:0:1119:G:N2	1:0:1246:A:C2	2.64	0.63
1:0:2524:G:H21	1:0:2526:C:H41	1.44	0.63
1:0:2807:U:P	8:B:27:ASN:HD21	2.21	0.63
6:9:20:G:H3'	38:9:323:HOH:O	1.98	0.63
8:B:162:MET:HG3	8:B:310:ARG:HD3	1.80	0.63
29:W:90:TYR:N	29:W:90:TYR:CD1	2.65	0.63
22:P:20:ARG:NH1	22:P:54:LYS:HD3	2.13	0.63
25:S:11:THR:H	25:S:14:ALA:HB3	1.64	0.63
27:U:46:ALA:HB1	27:U:52:THR:HG21	1.80	0.63
30:X:37:LEU:CD1	30:X:85:VAL:HG21	2.27	0.63
30:X:71:ARG:HB3	30:X:88:GLU:OE1	1.99	0.63
1:0:280:C:H2'	1:0:281:U:O4'	1.99	0.63
11:E:133:VAL:HG12	11:E:141:VAL:HG13	1.80	0.63
15:I:87:PRO:C	15:I:89:GLU:H	2.02	0.63
16:J:42:GLU:O	16:J:131:THR:HG23	1.99	0.63
18:L:72:ASN:HB2	38:L:351:HOH:O	1.98	0.63
20:N:47:LEU:HD12	20:N:92:ALA:HB1	1.78	0.63
26:T:9:LYS:HE3	26:T:13:ARG:CZ	2.27	0.63
29:W:4:LEU:CD2	29:W:54:PHE:HB3	2.25	0.63
30:X:76:ARG:O	30:X:77:PHE:HB3	1.97	0.63
7:A:211:LYS:HB2	38:A:504:HOH:O	1.97	0.63
18:L:121:ILE:HG12	18:L:141:GLU:HB2	1.79	0.63
20:N:139:TRP:HA	20:N:139:TRP:HE3	1.63	0.63
23:Q:18:PRO:O	23:Q:21:ARG:HB2	1.98	0.63
30:X:21:PRO:HG2	30:X:24:LYS:HD3	1.81	0.63
8:B:5:ARG:NH1	8:B:8:LYS:HE2	2.14	0.63
1:0:588:G:O6	29:W:154:ARG:NH1	2.32	0.63
1:0:1164:U:OP1	15:I:69:PRO:HA	1.98	0.63
1:0:2598:U:H5"	17:K:36:GLY:HA2	1.80	0.63
11:E:2:ARG:HH21	11:E:48:VAL:HG21	1.62	0.63
29:W:13:MET:HE3	29:W:17:ILE:HG22	1.81	0.63
1:0:1751:G:C2'	1:0:1752:G:H5"	2.29	0.63
14:H:114:ASP:HB2	38:H:346:HOH:O	1.98	0.63
26:T:43:ASN:ND2	26:T:108:ARG:CZ	2.62	0.63
1:0:603:A:H5"	1:0:604:G:OP1	1.98	0.63
1:0:1641:A:H2'	1:0:1642:A:H5'	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:338:C:H4'	9:C:174:ILE:HD11	1.81	0.62
1:0:1819:G:H5'	38:0:7788:HOH:O	1.98	0.62
1:0:2112:A:H2'	1:0:2113:G:C8	2.34	0.62
7:A:29:HIS:CB	7:A:153:ARG:HH12	2.10	0.62
12:F:38:LYS:NZ	19:M:3:SER:HA	2.13	0.62
14:H:49:GLN:HB3	14:H:170:ARG:HG3	1.80	0.62
25:S:53:ASN:HD22	25:S:53:ASN:N	1.96	0.62
29:W:81:ASP:OD1	29:W:92:ASP:HB2	1.99	0.62
1:0:2547:C:OP2	8:B:5:ARG:NH1	2.32	0.62
16:J:19:MET:HE1	16:J:132:LEU:HD21	1.81	0.62
1:0:541:C:H2'	1:0:542:A:C5'	2.29	0.62
13:G:71:LEU:C	13:G:73:ASP:H	2.01	0.62
14:H:30:LYS:N	14:H:62:HIS:HD2	1.94	0.62
16:J:39:VAL:HG11	16:J:107:ASN:HB2	1.80	0.62
1:0:2276:U:H5'	38:0:4469:HOH:O	1.99	0.62
1:0:2894:C:O2'	1:0:2895:C:H5'	1.99	0.62
15:I:119:ALA:O	15:I:123:VAL:HG23	2.00	0.62
1:0:1348:A:H3'	38:0:6915:HOH:O	1.99	0.62
1:0:1666:C:C2'	1:0:1667:A:H5'	2.30	0.62
38:3:235:HOH:O	19:M:84:LYS:HE2	1.98	0.62
7:A:96:LEU:HD22	7:A:128:LEU:HD13	1.80	0.62
8:B:264:GLU:HG2	8:B:267:LYS:CE	2.22	0.62
1:0:138:U:OP2	1:0:139:C:H5	1.83	0.62
6:9:56:A:C2'	6:9:57:A:H5"	2.29	0.62
10:D:104:PHE:CE2	10:D:132:VAL:HB	2.35	0.62
15:I:129:SER:O	15:I:130:LEU:HD23	2.00	0.62
16:J:46:ILE:HD11	16:J:53:ILE:CG2	2.29	0.62
20:N:58:LEU:N	20:N:58:LEU:HD12	2.15	0.62
22:P:98:ILE:HD12	22:P:102:ARG:NE	2.14	0.62
6:9:35:C:H5"	38:9:348:HOH:O	1.99	0.62
8:B:162:MET:CE	8:B:310:ARG:HD3	2.29	0.62
12:F:91:VAL:HG12	12:F:92:GLY:H	1.65	0.62
16:J:99:GLU:HA	38:J:4030:HOH:O	1.98	0.62
16:J:130:VAL:HG12	16:J:131:THR:N	2.12	0.62
14:H:57:THR:HA	14:H:130:VAL:O	2.00	0.62
14:H:61:ARG:HH11	14:H:61:ARG:HG3	1.63	0.62
20:N:73:ALA:HB1	20:N:74:PRO:CD	2.30	0.62
25:S:33:SER:OG	25:S:36:GLU:HG3	2.00	0.62
1:0:1242:A:H5'	16:J:82:THR:CG2	2.28	0.62
1:0:2862:G:H4'	8:B:336:GLN:O	2.00	0.62
8:B:145:HIS:HD2	8:B:146:THR:O	1.83	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:C:140:VAL:HB	38:C:522:HOH:O	2.00	0.62
11:E:21:THR:HG23	11:E:30:THR:OG1	1.99	0.62
28:V:44:GLY:O	28:V:48:GLU:HG2	1.99	0.62
29:W:4:LEU:HD22	29:W:52:VAL:CG2	2.26	0.62
1:0:1328:A:OP1	31:Y:169:ARG:HD2	2.00	0.62
1:0:2766:A:H5'	38:0:9658:HOH:O	1.99	0.62
7:A:191:GLY:HA2	7:A:194:MET:CE	2.29	0.62
7:A:211:LYS:HD3	38:A:505:HOH:O	1.99	0.62
19:M:125:ARG:NH1	38:M:390:HOH:O	2.32	0.62
31:Y:235:GLU:CD	31:Y:235:GLU:H	2.02	0.62
1:0:2420:G:O2'	1:0:2421:G:H5'	1.99	0.61
4:3:74:CYS:N	38:3:258:HOH:O	2.31	0.61
8:B:41:PHE:HA	8:B:79:MET:HE2	1.80	0.61
21:O:73:ASP:HA	21:O:92:VAL:O	2.00	0.61
1:0:1717:A:H5"	22:P:54:LYS:HB2	1.82	0.61
17:K:62:PRO:HG3	17:K:65:ARG:HH21	1.65	0.61
18:L:143:THR:HG22	18:L:144:ASP:N	2.15	0.61
22:P:14:LEU:HD13	22:P:51:ALA:HB2	1.80	0.61
22:P:20:ARG:HH12	22:P:54:LYS:HD3	1.64	0.61
28:V:57:LYS:HA	28:V:60:GLN:HE21	1.65	0.61
29:W:13:MET:CE	29:W:17:ILE:HG22	2.30	0.61
6:9:14:G:O2'	20:N:1:ALA:HB2	2.01	0.61
25:S:33:SER:O	25:S:37:VAL:HG23	2.00	0.61
1:0:541:C:H2'	1:0:542:A:H5"	1.82	0.61
1:0:1234:U:N3	8:B:244:PRO:HB3	2.15	0.61
26:T:69:LYS:O	26:T:71:VAL:HG23	2.00	0.61
1:0:621:C:H5'	31:Y:132:ASP:OD2	2.01	0.61
1:0:2756:U:N3	1:0:2896:A:H2	1.96	0.61
38:0:7475:HOH:O	7:A:165:THR:HG23	2.00	0.61
1:0:2453:G:H3'	38:0:8942:HOH:O	2.01	0.61
4:3:55:VAL:HB	4:3:56:PRO:HD2	1.83	0.61
8:B:202:VAL:HG11	8:B:301:VAL:HG13	1.81	0.61
11:E:11:VAL:HG12	11:E:12:ASP:N	2.14	0.61
18:L:53:ARG:NH2	18:L:57:VAL:HG12	2.16	0.61
19:M:30:GLU:O	19:M:34:GLU:HG3	2.01	0.61
29:W:21:LEU:HB3	29:W:26:ILE:HG12	1.83	0.61
9:C:150:THR:HA	9:C:203:ALA:O	2.00	0.61
18:L:61:ALA:HA	38:L:365:HOH:O	2.01	0.61
18:L:143:THR:HG22	18:L:145:LEU:H	1.66	0.61
1:0:602:A:O2'	1:0:605:C:H4'	2.00	0.61
1:0:1919:A:H4'	38:0:8068:HOH:O	1.99	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2472:C:O2'	1:0:2634:G:H4'	2.00	0.61
9:C:188:ARG:HD3	38:C:558:HOH:O	2.00	0.61
14:H:49:GLN:HG3	14:H:140:TYR:CD2	2.35	0.61
26:T:55:PHE:CD2	26:T:77:VAL:HG13	2.35	0.61
29:W:6:GLN:HG2	29:W:29:VAL:HA	1.82	0.61
1:0:1701:A:H4'	1:0:1702:U:C5'	2.30	0.61
1:0:2036:C:C1'	17:K:44:LEU:HG	2.30	0.61
8:B:294:TYR:HE2	38:B:629:HOH:O	1.82	0.61
9:C:78:ARG:HH11	9:C:78:ARG:HG3	1.66	0.61
12:F:26:THR:HG21	12:F:102:GLY:C	2.21	0.61
29:W:65:VAL:CG1	29:W:116:LEU:HD13	2.30	0.61
1:0:1544:U:H2'	1:0:1545:C:H6	1.66	0.60
1:0:2004:U:H4'	38:0:8178:HOH:O	2.00	0.60
38:0:7680:HOH:O	8:B:254:GLN:HG3	2.00	0.60
38:0:9805:HOH:O	27:U:56:ARG:HD3	2.01	0.60
2:1:25:LYS:HE2	38:2:147:HOH:O	2.00	0.60
1:0:308:U:C4	1:0:342:C:H1'	2.36	0.60
1:0:660:A:H4'	1:0:661:G:O5'	2.01	0.60
1:0:794:U:H3	1:0:819:A:H61	1.49	0.60
8:B:80:ARG:HD3	38:B:572:HOH:O	2.02	0.60
8:B:154:VAL:HG12	8:B:156:LYS:HG2	1.83	0.60
8:B:195:ARG:HG2	8:B:323:LEU:HD22	1.82	0.60
13:G:27:ILE:HD13	13:G:71:LEU:HD23	1.82	0.60
24:R:111:ILE:HG23	24:R:145:LEU:HD11	1.83	0.60
1:0:1972:U:H2'	1:0:1973:A:H5'	1.83	0.60
8:B:74:ILE:HG13	38:B:539:HOH:O	2.00	0.60
15:I:84:SER:HB3	15:I:92:VAL:CG2	2.32	0.60
16:J:133:GLY:O	16:J:137:GLU:HG3	2.00	0.60
1:0:2445:U:H2'	1:0:2446:G:C8	2.37	0.60
6:9:13:A:O2'	6:9:14:G:H5"	2.01	0.60
16:J:26:VAL:HG13	16:J:36:VAL:HG11	1.82	0.60
8:B:66:GLU:OE1	8:B:328:ARG:HD2	2.00	0.60
11:E:3:VAL:HG22	11:E:49:ILE:HB	1.81	0.60
14:H:23:ILE:HG23	14:H:123:ILE:CD1	2.31	0.60
24:R:47:LEU:HB2	24:R:89:LEU:HD21	1.83	0.60
26:T:43:ASN:HD22	26:T:108:ARG:NH2	1.98	0.60
26:T:73:HIS:HD2	26:T:88:PRO:HG3	1.66	0.60
1:0:470:U:O2'	2:1:16:HIS:CD2	2.53	0.60
1:0:544:G:C3'	1:0:545:G:H5"	2.32	0.60
1:0:1205:U:H2'	1:0:1206:U:C5'	2.31	0.60
16:J:45:VAL:HG23	16:J:130:VAL:O	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:M:164:THR:HG23	19:M:165:GLY:N	2.15	0.60
1:0:1130:U:H2'	1:0:1131:G:O4'	2.01	0.60
8:B:217:ARG:HG3	8:B:257:THR:CG2	2.30	0.60
15:I:108:HIS:N	15:I:109:PRO:HD2	2.16	0.60
16:J:75:PRO:HG2	16:J:105:LEU:CD2	2.32	0.60
26:T:52:ARG:HB2	26:T:95:ASN:HB3	1.82	0.60
11:E:107:PHE:CE2	11:E:108:LEU:HD13	2.37	0.60
19:M:15:PRO:HA	19:M:20:LEU:HD23	1.84	0.60
22:P:8:ARG:HG3	38:P:208:HOH:O	2.02	0.60
1:0:1058:A:H2'	1:0:1060:C:H5"	1.84	0.60
4:3:65:THR:HG23	4:3:67:LEU:HG	1.84	0.60
8:B:312:ARG:HD3	8:B:315:VAL:HG13	1.82	0.60
20:N:15:GLU:OE1	20:N:17:ARG:HD2	2.02	0.60
31:Y:189:ASN:ND2	31:Y:192:ASP:H	2.00	0.60
1:0:1400:C:H4'	30:X:56:GLU:HG2	1.83	0.60
1:0:1768:C:H2'	1:0:1769:C:O4'	2.02	0.60
1:0:2248:C:H3'	38:0:8518:HOH:O	2.01	0.60
26:T:24:ARG:HH21	26:T:39:ASN:ND2	1.99	0.60
31:Y:105:LYS:HE2	31:Y:198:GLY:O	2.02	0.60
1:0:2112:A:H2'	1:0:2113:G:H8	1.67	0.59
7:A:36:ASP:O	7:A:38:ILE:N	2.34	0.59
17:K:34:VAL:HG21	17:K:46:LYS:O	2.02	0.59
19:M:133:LEU:O	19:M:134:ILE:HD13	2.01	0.59
23:Q:94:GLN:O	23:Q:95:GLU:HB2	2.02	0.59
29:W:125:HIS:HE1	38:W:4003:HOH:O	1.85	0.59
1:0:2382:A:H5'	38:0:8765:HOH:O	2.01	0.59
38:9:357:HOH:O	20:N:147:ILE:HD12	2.01	0.59
13:G:23:ILE:O	13:G:27:ILE:HG13	2.02	0.59
20:N:154:LEU:C	20:N:156:GLU:H	2.05	0.59
28:V:12:THR:CG2	28:V:15:GLU:HG3	2.23	0.59
28:V:39:ALA:C	28:V:41:GLU:H	2.05	0.59
1:0:820:G:C5	7:A:171:LYS:HB2	2.38	0.59
20:N:179:LEU:HA	20:N:184:ILE:HD12	1.84	0.59
26:T:71:VAL:HG11	26:T:90:PRO:CB	2.30	0.59
30:X:43:VAL:HG22	30:X:76:ARG:NH1	2.17	0.59
1:0:1379:A:H1'	38:0:7015:HOH:O	2.01	0.59
1:0:2679:G:H2'	1:0:2681:A:OP2	2.03	0.59
1:0:2827:A:H2'	1:0:2828:G:O4'	2.02	0.59
6:9:28:U:H5"	20:N:40:ASN:HD21	1.66	0.59
8:B:57:GLU:O	8:B:63:GLU:HB3	2.03	0.59
16:J:107:ASN:HD22	16:J:109:TYR:H	1.50	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:L:30:ARG:NH2	38:L:332:HOH:O	2.35	0.59
20:N:37:ARG:CZ	38:N:4040:HOH:O	2.49	0.59
1:0:90:A:H2'	1:0:91:G:O4'	2.03	0.59
7:A:43:VAL:HG21	7:A:59:GLU:HG3	1.84	0.59
13:G:16:LYS:O	13:G:20:VAL:HG23	2.02	0.59
18:L:114:VAL:HG11	38:L:375:HOH:O	2.02	0.59
21:O:38:ARG:NH1	38:O:4017:HOH:O	2.35	0.59
22:P:80:ARG:HG2	22:P:87:ARG:CZ	2.33	0.59
26:T:41:ARG:HG2	26:T:41:ARG:HH11	1.66	0.59
1:0:407:A:H5'	38:0:4968:HOH:O	2.03	0.59
1:0:583:C:H2'	1:0:584:U:C6	2.38	0.59
8:B:85:ARG:NH1	38:B:546:HOH:O	2.35	0.59
20:N:47:LEU:HD12	20:N:92:ALA:CB	2.32	0.59
20:N:73:ALA:HB1	20:N:74:PRO:HD2	1.85	0.59
30:X:25:ARG:HD3	30:X:64:ALA:O	2.03	0.59
1:0:2521:A:OP2	14:H:6:ALA:HB3	2.02	0.59
7:A:37:VAL:HG22	38:A:431:HOH:O	2.02	0.59
12:F:91:VAL:CG1	12:F:92:GLY:N	2.66	0.59
26:T:43:ASN:HD22	26:T:108:ARG:CZ	2.16	0.59
28:V:5:VAL:HG23	38:V:4002:HOH:O	2.02	0.59
1:0:2851:G:O2'	1:0:2852:A:H5'	2.03	0.59
12:F:69:GLU:O	12:F:70:LYS:HG2	2.03	0.59
14:H:168:VAL:HG13	38:H:324:HOH:O	2.02	0.59
18:L:35:ARG:NH1	18:L:43:HIS:HB3	2.17	0.59
1:0:1377:C:H5'	1:0:1377:C:C6	2.38	0.59
1:0:1477:C:H5'	1:0:1868:G:C5'	2.33	0.59
8:B:125:GLU:O	8:B:129:ARG:HG3	2.01	0.59
9:C:107:ARG:NE	38:C:504:HOH:O	2.23	0.59
14:H:72:ALA:HB2	14:H:156:ALA:HB2	1.85	0.59
18:L:62:ALA:HB2	18:L:103:ALA:CB	2.33	0.59
19:M:134:ILE:HG23	19:M:141:ILE:HD13	1.84	0.59
21:O:41:ALA:HA	38:O:4020:HOH:O	2.02	0.59
1:0:1835:U:C5	1:0:1840:A:N7	2.68	0.58
1:0:2559:C:H4'	38:0:9699:HOH:O	2.02	0.58
20:N:38:LYS:HD2	20:N:114:LYS:HE3	1.83	0.58
30:X:76:ARG:HG3	30:X:76:ARG:NH1	2.18	0.58
18:L:144:ASP:HA	18:L:147:GLU:HG3	1.84	0.58
19:M:80:GLY:O	19:M:81:ARG:HD2	2.02	0.58
27:U:4:ARG:N	38:U:8801:HOH:O	2.35	0.58
29:W:35:VAL:HG23	29:W:41:TYR:CD2	2.38	0.58
1:0:512:G:O3'	1:0:513:A:H8	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:547:A:H3'	38:0:5256:HOH:O	2.02	0.58
9:C:246:ARG:HB3	9:C:246:ARG:NH1	2.18	0.58
20:N:86:LEU:O	20:N:90:LEU:HG	2.03	0.58
22:P:135:ALA:HB1	22:P:139:ARG:HH12	1.67	0.58
24:R:39:THR:HB	24:R:42:GLU:CG	2.33	0.58
31:Y:141:THR:HG23	38:Y:449:HOH:O	2.01	0.58
1:0:1213:C:O2'	1:0:1214:G:H5'	2.03	0.58
11:E:10:ASP:HA	38:E:4004:HOH:O	2.03	0.58
22:P:7:LYS:HD3	22:P:21:VAL:CG2	2.33	0.58
31:Y:234:VAL:HG12	31:Y:235:GLU:N	2.18	0.58
1:0:1189:A:H1'	1:0:1209:C:H1'	1.86	0.58
1:0:1191:A:H2'	1:0:1193:A:H5'	1.86	0.58
1:0:2831:C:H2'	1:0:2832:C:H5'	1.84	0.58
1:0:2852:A:H5"	38:0:9773:HOH:O	2.03	0.58
10:D:44:ILE:HG23	10:D:45:THR:HG23	1.85	0.58
1:0:138:U:H5"	1:0:139:C:OP2	2.04	0.58
1:0:396:U:O2'	1:0:418:C:H4'	2.04	0.58
1:0:506:G:H22	1:0:509:A:H5"	1.66	0.58
1:0:603:A:H1'	1:0:605:C:C2	2.38	0.58
1:0:1157:C:H2'	1:0:1158:G:C8	2.36	0.58
1:0:2073:G:OP2	1:0:2490:A:H5'	2.04	0.58
1:0:2721:U:H4'	17:K:87:ARG:HG3	1.86	0.58
1:0:2904:U:H4'	30:X:8:ARG:NH1	2.19	0.58
8:B:217:ARG:CG	8:B:257:THR:HG22	2.32	0.58
8:B:238:ASN:HD22	8:B:240:GLY:H	1.52	0.58
10:D:91:ALA:HB1	38:D:233:HOH:O	2.03	0.58
10:D:163:VAL:HA	38:D:247:HOH:O	2.03	0.58
14:H:31:ILE:HA	14:H:66:GLU:OE1	2.04	0.58
1:0:656:G:OP2	21:O:37:ARG:HD2	2.04	0.58
1:0:1097:A:H5"	29:W:125:HIS:NE2	2.19	0.58
1:0:1596:U:H2'	1:0:1598:A:OP2	2.03	0.58
38:0:8081:HOH:O	7:A:213:LYS:HB2	2.04	0.58
7:A:33:GLU:O	7:A:34:ASP:HB2	2.04	0.58
8:B:74:ILE:HD13	8:B:309:VAL:HG21	1.86	0.58
28:V:1:THR:HG23	28:V:2:VAL:N	2.19	0.58
1:0:962:C:H5"	38:0:6215:HOH:O	2.03	0.58
1:0:1060:C:H6	1:0:1060:C:H5'	1.68	0.58
1:0:1118:A:H62	1:0:1244:U:H3	1.51	0.58
1:0:1790:C:H2'	1:0:1791:U:C6	2.37	0.58
1:0:1862:C:H1'	38:0:7955:HOH:O	2.03	0.58
38:0:4090:HOH:O	26:T:9:LYS:HB2	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:41:LEU:HA	10:D:44:ILE:HG22	1.86	0.58
15:I:134:ILE:HG22	15:I:135:GLU:N	2.18	0.58
18:L:41:HIS:H	18:L:41:HIS:CD2	2.20	0.58
18:L:130:ARG:HA	38:L:374:HOH:O	2.04	0.58
20:N:86:LEU:HD12	20:N:125:ALA:HB2	1.85	0.58
24:R:99:ALA:HB1	24:R:109:MET:HE3	1.83	0.58
1:0:281:U:H3'	38:0:4801:HOH:O	2.04	0.58
1:0:1375:A:C2'	1:0:1376:G:H5'	2.34	0.58
12:F:16:ALA:HA	12:F:111:ILE:HD13	1.86	0.58
16:J:52:GLN:HG3	16:J:53:ILE:N	2.19	0.58
31:Y:187:VAL:HB	38:Y:478:HOH:O	2.02	0.58
1:0:407:A:H3'	38:0:4970:HOH:O	2.04	0.57
1:0:1182:C:H1'	1:0:1192:A:H8	1.69	0.57
1:0:1189:A:H3'	38:0:6620:HOH:O	2.03	0.57
1:0:1266:U:H4'	31:Y:115:ARG:HH21	1.69	0.57
1:0:2755:G:H1'	38:0:9634:HOH:O	2.03	0.57
2:1:25:LYS:O	2:1:25:LYS:HG2	2.04	0.57
9:C:5:ILE:HD11	9:C:16:VAL:HG23	1.85	0.57
10:D:58:VAL:CG1	10:D:60:GLU:HG2	2.34	0.57
29:W:88:THR:HG23	29:W:110:GLN:HB3	1.84	0.57
1:0:482:G:H4'	1:0:508:A:N1	2.19	0.57
1:0:1667:A:H2'	1:0:1668:U:C6	2.39	0.57
1:0:2434:A:O3'	4:3:28:GLY:HA3	2.04	0.57
1:0:517:U:H2'	1:0:518:G:H5'	1.86	0.57
1:0:1015:C:H2'	1:0:1016:U:C6	2.39	0.57
1:0:2135:A:O2'	1:0:2136:G:H5'	2.03	0.57
1:0:2361:A:H5'	1:0:2361:A:H8	1.69	0.57
1:0:2812:A:H2	1:0:2814:A:N6	2.01	0.57
38:0:9100:HOH:O	14:H:61:ARG:HG3	2.03	0.57
10:D:50:VAL:O	10:D:71:ALA:HA	2.04	0.57
20:N:154:LEU:HD11	20:N:157:PRO:HA	1.86	0.57
23:Q:28:ARG:HG2	38:Q:223:HOH:O	2.03	0.57
26:T:16:LEU:HA	26:T:19:ARG:HG3	1.86	0.57
31:Y:234:VAL:HG12	31:Y:235:GLU:H	1.69	0.57
1:0:1878:G:C1'	38:0:8000:HOH:O	2.45	0.57
14:H:12:ILE:HD12	14:H:57:THR:CG2	2.33	0.57
22:P:18:LYS:HE2	38:P:208:HOH:O	2.04	0.57
29:W:21:LEU:HD22	29:W:26:ILE:CD1	2.34	0.57
1:0:12:U:H2'	1:0:13:G:H5'	1.86	0.57
1:0:2243:C:H5"	38:0:8513:HOH:O	2.03	0.57
1:0:2270:G:H4'	7:A:223:ARG:NH1	2.18	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:C:19:PRO:HG2	9:C:22:PHE:CD1	2.39	0.57
31:Y:95:THR:N	31:Y:236:VAL:O	2.36	0.57
31:Y:220:GLU:HG3	38:Y:493:HOH:O	2.02	0.57
1:0:2055:A:H4'	24:R:132:ARG:NH2	2.19	0.57
1:0:2064:U:H5'	1:0:2652:U:H4'	1.86	0.57
12:F:50:VAL:HG13	12:F:60:VAL:HG11	1.87	0.57
16:J:19:MET:CE	16:J:132:LEU:HD11	2.35	0.57
22:P:7:LYS:HD3	22:P:21:VAL:HG22	1.86	0.57
30:X:47:ALA:HB1	30:X:82:GLU:HB3	1.86	0.57
1:0:669:G:O2'	1:0:670:G:H5'	2.05	0.57
1:0:958:G:H2'	1:0:959:C:C6	2.38	0.57
1:0:1504:A:H5'	38:0:7284:HOH:O	2.03	0.57
1:0:1741:U:O2'	1:0:2723:G:H4'	2.05	0.57
1:0:2365:G:H4'	23:Q:45:PRO:O	2.03	0.57
38:0:6882:HOH:O	31:Y:186:ARG:HD2	2.02	0.57
8:B:119:HIS:O	8:B:121:PRO:HD3	2.05	0.57
15:I:117:THR:O	15:I:121:LYS:HG3	2.04	0.57
20:N:151:ASP:O	20:N:154:LEU:HB2	2.05	0.57
1:0:1120:U:H5'	1:0:1121:G:OP2	2.04	0.57
3:2:20:ARG:HG3	3:2:21:VAL:H	1.70	0.57
10:D:49:PRO:HA	10:D:73:VAL:HG22	1.87	0.57
13:G:23:ILE:HD13	13:G:67:LEU:HD23	1.86	0.57
22:P:135:ALA:HB1	22:P:139:ARG:NH1	2.19	0.57
31:Y:106:THR:HG23	31:Y:107:PRO:HD2	1.85	0.57
1:0:2276:U:H2'	1:0:2277:U:C6	2.39	0.57
1:0:2548:C:OP2	8:B:5:ARG:NH2	2.38	0.57
3:2:41:HIS:HD2	3:2:44:ARG:H	1.53	0.57
4:3:73:GLU:HB3	38:3:258:HOH:O	2.05	0.57
8:B:132:HIS:HB2	8:B:137:LEU:HD22	1.87	0.57
18:L:80:ASP:HB2	18:L:90:ARG:O	2.04	0.57
19:M:24:GLN:HE21	19:M:27:ARG:HH11	1.52	0.57
30:X:51:ASP:OD2	30:X:52:PRO:HD2	2.05	0.57
1:0:585:C:H5"	38:0:5306:HOH:O	2.05	0.57
1:0:899:C:H5'	38:0:6055:HOH:O	2.04	0.57
1:0:1205:U:H2'	1:0:1206:U:H5'	1.86	0.57
1:0:1209:C:H2'	1:0:1210:G:C8	2.36	0.57
1:0:2718:C:H6	1:0:2718:C:H5'	1.70	0.57
9:C:98:ARG:NH1	38:C:493:HOH:O	2.36	0.57
24:R:33:ARG:HD2	38:R:331:HOH:O	2.04	0.57
7:A:48:ASP:HB3	38:A:435:HOH:O	2.04	0.56
10:D:88:LEU:HB2	10:D:89:PRO:HD3	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:F:38:LYS:HZ3	19:M:3:SER:HA	1.70	0.56
1:0:583:C:H2'	1:0:584:U:H6	1.69	0.56
1:0:775:G:OP1	2:1:16:HIS:HE1	1.89	0.56
1:0:1766:U:O2	1:0:1778:A:H5'	2.06	0.56
1:0:2846:C:H4'	8:B:156:LYS:HB3	1.86	0.56
1:0:2909:G:H2'	1:0:2910:A:H8	1.70	0.56
7:A:105:VAL:CG1	7:A:154:ALA:HB1	2.35	0.56
8:B:305:ASP:O	8:B:306:LYS:HB2	2.05	0.56
15:I:67:VAL:HG13	15:I:68:PRO:HD2	1.86	0.56
21:O:53:GLN:HG2	21:O:56:GLU:OE1	2.06	0.56
1:0:2667:G:H1'	1:0:2914:A:N3	2.21	0.56
1:0:2769:C:H2'	1:0:2770:G:H5'	1.87	0.56
1:0:2780:C:C1'	11:E:143:GLN:HE21	2.17	0.56
4:3:3:MET:HG3	4:3:4:PRO:HD2	1.86	0.56
4:3:3:MET:O	4:3:90:PHE:HA	2.04	0.56
7:A:94:LEU:HG	7:A:99:ILE:CD1	2.35	0.56
8:B:71:VAL:HG11	8:B:296:LEU:HB3	1.86	0.56
9:C:236:THR:O	9:C:239:ALA:N	2.39	0.56
14:H:66:GLU:HA	38:H:327:HOH:O	2.06	0.56
20:N:35:VAL:HG13	38:N:4040:HOH:O	2.04	0.56
22:P:59:ARG:NH2	22:P:66:GLN:NE2	2.45	0.56
1:0:292:G:H2'	1:0:358:G:N2	2.20	0.56
1:0:681:G:N3	1:0:681:G:H5'	2.20	0.56
1:0:945:U:O2'	29:W:43:GLY:HA3	2.04	0.56
1:0:2812:A:H1'	38:0:5225:HOH:O	2.05	0.56
15:I:100:VAL:HG11	15:I:124:VAL:CG2	2.34	0.56
15:I:124:VAL:HG13	15:I:134:ILE:HD11	1.88	0.56
17:K:87:ARG:NE	38:K:4043:HOH:O	2.39	0.56
1:0:1183:C:N4	1:0:1184:C:H41	2.03	0.56
15:I:124:VAL:O	15:I:124:VAL:HG12	2.04	0.56
16:J:22:VAL:O	16:J:26:VAL:HG23	2.05	0.56
20:N:24:LEU:HD13	23:Q:26:PRO:HB3	1.87	0.56
20:N:49:THR:HG22	20:N:56:ASP:HB2	1.87	0.56
29:W:54:PHE:CZ	29:W:140:LYS:HB2	2.40	0.56
1:0:644:G:H5'	1:0:644:G:N3	2.20	0.56
1:0:871:G:C8	1:0:871:G:C5'	2.80	0.56
1:0:2401:A:H5'	38:0:8818:HOH:O	2.06	0.56
1:0:2565:C:H4'	38:0:9210:HOH:O	2.05	0.56
9:C:156:LEU:O	9:C:160:LEU:HG	2.05	0.56
18:L:55:GLN:HA	18:L:58:GLN:HE21	1.70	0.56
20:N:163:PHE:O	20:N:164:ASP:O	2.23	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Z:22:SER:O	32:Z:26:VAL:HG23	2.05	0.56
3:2:36:ASN:HB3	3:2:39:ARG:HG3	1.88	0.56
9:C:119:ALA:HA	9:C:136:VAL:O	2.05	0.56
11:E:116:THR:HG22	11:E:151:LEU:HD22	1.88	0.56
1:0:870:G:H2'	1:0:871:G:C5'	2.27	0.56
1:0:1398:G:H2'	1:0:1399:A:C8	2.41	0.56
1:0:1461:U:H2'	1:0:1462:C:C6	2.41	0.56
1:0:1701:A:H5"	1:0:1702:U:H3'	1.86	0.56
1:0:1972:U:H2'	1:0:1973:A:C5'	2.36	0.56
1:0:2505:G:O2'	1:0:2506:A:H5'	2.05	0.56
7:A:128:LEU:HG	38:A:450:HOH:O	2.05	0.56
8:B:54:VAL:HB	38:B:536:HOH:O	2.05	0.56
8:B:154:VAL:CG1	8:B:156:LYS:HG2	2.36	0.56
11:E:2:ARG:HE	11:E:48:VAL:HG13	1.69	0.56
11:E:69:ILE:HA	11:E:72:MET:CE	2.36	0.56
18:L:26:HIS:HB2	38:L:327:HOH:O	2.06	0.56
1:0:1677:U:OP2	3:2:8:LYS:NZ	2.38	0.56
4:3:15:ASN:ND2	38:3:208:HOH:O	2.39	0.56
7:A:109:GLU:HG2	7:A:116:GLY:N	2.21	0.56
8:B:7:ARG:HG2	8:B:7:ARG:HH11	1.70	0.56
12:F:13:GLU:OE2	12:F:78:GLU:HG2	2.06	0.56
24:R:39:THR:HG22	24:R:42:GLU:H	1.70	0.56
28:V:39:ALA:N	28:V:40:PRO:CD	2.69	0.56
29:W:26:ILE:O	29:W:26:ILE:HG13	2.06	0.56
1:0:1029:U:O2'	1:0:1273:C:OP1	2.23	0.56
1:0:1180:U:H2'	1:0:1181:A:C8	2.41	0.56
1:0:2769:C:H2'	1:0:2770:G:O4'	2.06	0.56
7:A:51:ARG:NH1	7:A:120:ARG:O	2.39	0.56
14:H:43:ALA:HB1	14:H:140:TYR:CE2	2.41	0.56
15:I:105:GLU:HA	15:I:108:HIS:NE2	2.20	0.56
19:M:78:LYS:HD3	38:M:357:HOH:O	2.06	0.56
23:Q:11:ARG:HD3	38:Q:213:HOH:O	2.06	0.56
27:U:11:THR:HG22	27:U:53:ASP:OD2	2.06	0.56
1:0:24:G:N2	1:0:518:G:H1'	2.21	0.55
1:0:272:A:H3'	38:0:4792:HOH:O	2.05	0.55
1:0:797:A:C4'	32:Z:10:ARG:N	2.69	0.55
1:0:2488:A:H1'	38:0:9047:HOH:O	2.05	0.55
1:0:2563:U:H2'	1:0:2565:C:O5'	2.06	0.55
6:9:34:A:H2'	6:9:35:C:O4'	2.06	0.55
6:9:56:A:O2'	10:D:14:ARG:HD3	2.06	0.55
8:B:314:ALA:CB	8:B:317:PRO:HG3	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:I:97:VAL:CG1	15:I:101:LYS:HE3	2.35	0.55
29:W:34:LEU:HD12	29:W:100:LEU:HD13	1.88	0.55
1:0:1434:A:H2'	1:0:1436:C:C5	2.41	0.55
1:0:2256:G:O2'	1:0:2257:G:H5'	2.05	0.55
8:B:27:ASN:HD22	8:B:27:ASN:N	1.98	0.55
9:C:88:SER:O	9:C:91:PRO:HD3	2.06	0.55
29:W:88:THR:HG22	29:W:90:TYR:HD1	1.70	0.55
1:0:188:C:H5"	19:M:163:LEU:HD21	1.88	0.55
1:0:2507:G:H2'	1:0:2510:C:H42	1.71	0.55
6:9:33:U:H2'	38:9:343:HOH:O	2.06	0.55
16:J:130:VAL:CG1	16:J:131:THR:N	2.69	0.55
23:Q:13:LYS:NZ	38:Q:211:HOH:O	2.37	0.55
1:0:671:A:O2'	1:0:672:G:H2'	2.07	0.55
1:0:1116:U:H3	1:0:1246:A:N6	1.95	0.55
1:0:1787:C:H4'	1:0:2883:A:O4'	2.05	0.55
1:0:2681:A:H4'	1:0:2682:C:H5'	1.88	0.55
1:0:2779:G:H21	11:E:143:GLN:NE2	2.03	0.55
38:0:7406:HOH:O	22:P:117:SER:HB2	2.06	0.55
8:B:265:LEU:HD21	8:B:316:ARG:HD3	1.88	0.55
11:E:68:HIS:O	11:E:72:MET:HG3	2.07	0.55
24:R:44:VAL:HG13	24:R:89:LEU:HD22	1.89	0.55
25:S:57:THR:HG22	25:S:59:ASP:H	1.70	0.55
30:X:47:ALA:HB1	30:X:82:GLU:CB	2.37	0.55
31:Y:155:ARG:NH1	38:Y:463:HOH:O	2.37	0.55
1:0:656:G:H5'	21:O:3:THR:HB	1.88	0.55
1:0:1380:U:H5'	38:0:7016:HOH:O	2.05	0.55
1:0:2502:C:C2'	1:0:2503:A:H5'	2.36	0.55
1:0:2904:U:H4'	30:X:8:ARG:HH12	1.71	0.55
3:2:40:ARG:HG3	3:2:45:ASN:HB2	1.88	0.55
6:9:1:U:H4'	6:9:3:A:OP1	2.06	0.55
17:K:18:ILE:HG22	17:K:93:ASN:HB2	1.88	0.55
20:N:110:THR:HB	20:N:113:SER:OG	2.05	0.55
1:0:380:A:OP2	19:M:9:ARG:HD2	2.07	0.55
1:0:1730:G:H5"	1:0:1731:C:C6	2.42	0.55
1:0:1845:A:OP2	7:A:190:ARG:NH1	2.39	0.55
14:H:168:VAL:CG1	38:H:324:HOH:O	2.54	0.55
20:N:64:SER:C	20:N:66:LEU:H	2.10	0.55
6:9:39:U:H1'	6:9:44:A:H61	1.71	0.55
17:K:98:VAL:HG11	17:K:102:GLU:HA	1.88	0.55
25:S:6:LYS:HB2	25:S:27:ALA:O	2.06	0.55
25:S:43:GLU:HB3	38:S:4013:HOH:O	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:488:U:H2'	38:0:5153:HOH:O	2.07	0.55
1:0:1165:G:H1'	1:0:1174:A:H1'	1.88	0.55
6:9:75:G:H1	6:9:106:U:H3	1.55	0.55
10:D:37:ALA:O	10:D:40:ILE:HG12	2.07	0.55
11:E:2:ARG:HE	11:E:48:VAL:CG1	2.20	0.55
19:M:122:GLN:OE1	19:M:127:LYS:HE2	2.07	0.55
26:T:50:VAL:HG12	26:T:56:ALA:HA	1.88	0.55
28:V:16:ARG:NH2	28:V:63:GLU:HG3	2.22	0.55
1:0:703:G:O2'	1:0:704:C:H5'	2.07	0.55
1:0:814:G:H2'	1:0:815:U:C6	2.41	0.55
1:0:1528:A:H2'	1:0:1529:G:O4'	2.06	0.55
1:0:1926:G:H2'	1:0:1927:A:C8	2.42	0.55
3:2:40:ARG:HG3	3:2:45:ASN:CB	2.37	0.55
10:D:54:ALA:HB2	10:D:69:ILE:HD12	1.88	0.55
12:F:21:GLU:O	12:F:24:ARG:HG2	2.06	0.55
20:N:49:THR:HG22	20:N:58:LEU:HD11	1.89	0.55
23:Q:64:GLU:HG3	23:Q:74:ASP:OD2	2.06	0.55
24:R:145:LEU:HD12	24:R:146:ILE:H	1.72	0.55
1:0:2504:A:H4'	14:H:74:ARG:HH11	1.72	0.55
2:1:1:THR:HA	38:1:204:HOH:O	2.07	0.55
9:C:200:PRO:HB3	9:C:212:VAL:HG23	1.88	0.55
10:D:40:ILE:HG13	10:D:41:LEU:N	2.22	0.55
11:E:69:ILE:HA	11:E:72:MET:HE2	1.88	0.55
12:F:56:PRO:CG	19:M:44:THR:HA	2.37	0.55
22:P:13:VAL:HG13	22:P:14:LEU:N	2.22	0.55
27:U:17:THR:CG2	27:U:18:GLY:N	2.70	0.55
29:W:90:TYR:CE2	29:W:99:ALA:HB2	2.42	0.55
29:W:110:GLN:NE2	29:W:110:GLN:HA	2.22	0.55
30:X:70:ILE:HG23	30:X:70:ILE:O	2.07	0.55
1:0:136:C:H2'	1:0:137:U:O4'	2.08	0.54
20:N:176:ARG:O	20:N:180:LEU:HD13	2.07	0.54
27:U:14:GLU:OE1	27:U:15:PRO:HD2	2.07	0.54
28:V:12:THR:HG23	28:V:14:ALA:N	2.18	0.54
1:0:284:C:H4'	1:0:285:A:O5'	2.08	0.54
1:0:308:U:H5'	1:0:309:C:OP1	2.07	0.54
1:0:595:U:H2'	1:0:596:C:H6	1.72	0.54
1:0:1056:U:H2'	1:0:1057:A:O4'	2.07	0.54
1:0:1291:A:H2	38:0:6777:HOH:O	1.89	0.54
8:B:43:GLY:O	8:B:308:LEU:HD12	2.06	0.54
9:C:162:VAL:HG13	9:C:232:LEU:HD21	1.87	0.54
1:0:1537:C:H1'	38:0:7336:HOH:O	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1544:U:H2'	1:0:1545:C:C6	2.42	0.54
9:C:236:THR:O	9:C:237:GLU:C	2.45	0.54
12:F:46:GLU:O	12:F:73:PRO:HD2	2.06	0.54
14:H:102:LYS:HG3	38:H:341:HOH:O	2.06	0.54
31:Y:189:ASN:C	31:Y:189:ASN:HD22	2.09	0.54
1:0:947:U:H2'	1:0:948:G:H8	1.71	0.54
1:0:1187:U:O2'	1:0:1189:A:H2	1.91	0.54
1:0:1535:G:H2'	1:0:1536:C:C6	2.43	0.54
24:R:111:ILE:HG23	24:R:145:LEU:CD1	2.37	0.54
31:Y:99:ALA:HB2	31:Y:233:TYR:CE2	2.43	0.54
1:0:2717:C:H2'	1:0:2718:C:C5'	2.33	0.54
7:A:164:ARG:NE	38:A:456:HOH:O	2.39	0.54
23:Q:53:HIS:ND1	23:Q:55:ARG:HB2	2.23	0.54
31:Y:163:THR:HG23	38:Y:469:HOH:O	2.06	0.54
31:Y:235:GLU:CD	31:Y:235:GLU:N	2.60	0.54
1:0:484:A:N1	1:0:506:G:H4'	2.22	0.54
1:0:2411:C:H4'	38:0:8845:HOH:O	2.06	0.54
1:0:2634:G:OP2	7:A:204:GLY:N	2.38	0.54
9:C:78:ARG:HG3	9:C:78:ARG:NH1	2.23	0.54
9:C:129:HIS:CE1	9:C:231:ARG:HA	2.43	0.54
10:D:10:PHE:CG	10:D:11:HIS:N	2.75	0.54
10:D:174:VAL:HG12	38:D:249:HOH:O	2.07	0.54
22:P:97:ARG:HD2	38:P:252:HOH:O	2.08	0.54
28:V:4:HIS:HB3	38:V:4003:HOH:O	2.08	0.54
29:W:21:LEU:HD21	29:W:48:VAL:HG13	1.90	0.54
29:W:34:LEU:CD1	29:W:100:LEU:HD13	2.38	0.54
29:W:65:VAL:HA	29:W:68:THR:CG2	2.38	0.54
1:0:1714:C:O2'	1:0:1715:C:H5'	2.08	0.54
1:0:2795:C:O2'	1:0:2796:U:H5'	2.07	0.54
8:B:254:GLN:HG2	8:B:255:GLY:N	2.22	0.54
10:D:135:VAL:HG22	10:D:136:ARG:N	2.23	0.54
15:I:130:LEU:HA	38:I:4002:HOH:O	2.06	0.54
27:U:9:CYS:HA	27:U:52:THR:CG2	2.33	0.54
27:U:52:THR:CG2	27:U:54:THR:HB	2.37	0.54
31:Y:212:ARG:HD2	38:Y:402:HOH:O	2.08	0.54
1:0:1942:A:H3'	38:0:8079:HOH:O	2.07	0.54
1:0:2256:G:C2'	1:0:2257:G:H5'	2.38	0.54
1:0:2787:C:H5	38:0:9680:HOH:O	1.90	0.54
7:A:194:MET:HE1	7:A:199:HIS:HB2	1.90	0.54
8:B:238:ASN:ND2	8:B:240:GLY:H	2.05	0.54
10:D:65:GLU:HG3	38:D:225:HOH:O	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:N:154:LEU:O	20:N:155:GLU:HB3	2.07	0.54
1:0:1151:G:OP1	13:G:63:ARG:NH1	2.41	0.54
24:R:25:PHE:CE2	24:R:29:LYS:HE2	2.43	0.54
1:0:447:A:O2'	1:0:448:G:H5'	2.08	0.54
1:0:553:G:H5'	38:0:5266:HOH:O	2.07	0.54
1:0:2111:G:H1'	38:0:5678:HOH:O	2.08	0.54
38:0:4824:HOH:O	26:T:38:ARG:NH1	2.41	0.54
7:A:82:VAL:HG13	7:A:93:THR:HB	1.88	0.54
8:B:41:PHE:CD1	8:B:79:MET:HE2	2.43	0.54
8:B:55:ASN:CB	8:B:63:GLU:HA	2.37	0.54
14:H:50:ILE:HD12	14:H:149:VAL:HG11	1.90	0.54
15:I:94:ASP:OD1	15:I:133:THR:HB	2.08	0.54
20:N:170:GLU:O	20:N:174:GLU:HG3	2.08	0.54
28:V:58:THR:O	28:V:62:GLU:HG3	2.08	0.54
1:0:461:C:N3	1:0:479:G:H5'	2.23	0.53
1:0:1118:A:C8	1:0:1118:A:C3'	2.85	0.53
8:B:223:ARG:HG3	8:B:232:TRP:O	2.08	0.53
9:C:34:ALA:HB3	9:C:220:THR:HG21	1.90	0.53
11:E:80:TRP:O	11:E:134:SER:HA	2.07	0.53
17:K:55:VAL:HG12	17:K:56:SER:N	2.22	0.53
22:P:10:ALA:HA	22:P:13:VAL:HG12	1.89	0.53
29:W:3:ALA:O	29:W:54:PHE:HA	2.08	0.53
1:0:907:A:H4'	1:0:1328:A:C2	2.43	0.53
1:0:1166:A:H1'	1:0:1192:A:C2	2.42	0.53
1:0:2717:C:O2'	1:0:2718:C:H5"	2.07	0.53
38:0:9708:HOH:O	8:B:27:ASN:HB3	2.08	0.53
12:F:19:ALA:O	12:F:22:VAL:HG22	2.08	0.53
17:K:125:ALA:C	17:K:127:ALA:H	2.10	0.53
32:Z:36:ASP:HB3	32:Z:45:ASP:HB3	1.88	0.53
1:0:553:G:O4'	1:0:1325:G:H5'	2.06	0.53
1:0:902:G:N7	18:L:18:HIS:HD2	2.06	0.53
1:0:920:C:H5"	1:0:921:G:O5'	2.08	0.53
1:0:1086:A:C6	29:W:11:VAL:HG11	2.44	0.53
1:0:2670:G:O2'	1:0:2671:U:H5'	2.08	0.53
1:0:2840:A:OP1	8:B:211:THR:HG23	2.08	0.53
38:0:9659:HOH:O	8:B:298:LYS:HD3	2.09	0.53
6:9:56:A:C3'	6:9:57:A:H5"	2.37	0.53
8:B:2:GLN:HA	38:B:506:HOH:O	2.07	0.53
10:D:94:ALA:HA	10:D:174:VAL:O	2.08	0.53
24:R:82:GLU:HG3	24:R:83:LYS:N	2.22	0.53
29:W:107:LEU:O	29:W:112:LEU:HB2	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1242:A:OP2	16:J:60:ARG:NH2	2.41	0.53
1:0:1393:A:H2'	1:0:1394:C:C6	2.44	0.53
1:0:1735:C:OP2	8:B:234:ARG:HG3	2.09	0.53
1:0:1973:A:H2'	1:0:1974:G:O4'	2.09	0.53
1:0:2044:G:OP1	30:X:23:HIS:HE1	1.91	0.53
1:0:2784:A:H1'	11:E:60:SER:OG	2.07	0.53
6:9:64:C:C2'	6:9:65:A:H5'	2.38	0.53
8:B:41:PHE:CZ	8:B:79:MET:HG3	2.44	0.53
8:B:139:ASP:HB2	8:B:165:ARG:NE	2.23	0.53
8:B:199:TYR:CE2	8:B:268:ARG:HB2	2.43	0.53
11:E:158:ASP:OD1	11:E:160:ARG:HB2	2.08	0.53
18:L:149:ARG:O	18:L:150:GLN:HB2	2.08	0.53
26:T:49:GLU:OE2	26:T:97:ARG:NH1	2.42	0.53
31:Y:99:ALA:HB2	31:Y:233:TYR:CZ	2.43	0.53
1:0:192:A:H5'	38:0:4570:HOH:O	2.08	0.53
1:0:1160:G:HO2'	1:0:1190:G:H1'	1.72	0.53
1:0:1595:G:O2'	1:0:1596:U:H5'	2.07	0.53
1:0:2478:U:H2'	1:0:2479:A:C8	2.44	0.53
8:B:51:VAL:CG2	8:B:327:VAL:HG13	2.38	0.53
20:N:37:ARG:HG3	20:N:37:ARG:HH11	1.74	0.53
31:Y:145:LYS:O	31:Y:147:ARG:HG2	2.09	0.53
32:Z:11:SER:HB3	32:Z:23:ARG:HB2	1.91	0.53
1:0:1120:U:H5"	1:0:1120:U:C6	2.43	0.53
1:0:1173:A:H4'	1:0:1174:A:C8	2.44	0.53
1:0:1419:U:H2'	1:0:1685:A:C2	2.44	0.53
1:0:2589:U:H2'	1:0:2590:U:C6	2.44	0.53
6:9:28:U:H2'	6:9:29:C:C6	2.44	0.53
8:B:51:VAL:HG23	8:B:329:TYR:O	2.09	0.53
10:D:154:LYS:H	10:D:154:LYS:CD	1.97	0.53
12:F:57:GLU:O	12:F:61:MET:HG3	2.09	0.53
17:K:74:VAL:HG12	17:K:75:ARG:HG3	1.91	0.53
19:M:61:ILE:CG2	19:M:62:VAL:N	2.72	0.53
29:W:4:LEU:O	29:W:32:CYS:HA	2.09	0.53
29:W:143:THR:N	38:W:4064:HOH:O	2.42	0.53
1:0:1375:A:O2'	1:0:1376:G:H5'	2.09	0.53
1:0:1973:A:H5'	1:0:1973:A:H8	1.74	0.53
1:0:2050:G:H5"	24:R:80:TYR:O	2.09	0.53
1:0:2769:C:H2'	1:0:2770:G:C5'	2.39	0.53
38:0:5169:HOH:O	26:T:82:THR:HA	2.09	0.53
4:3:70:ARG:NH1	4:3:77:ALA:HB2	2.24	0.53
7:A:65:ARG:O	7:A:66:ARG:HG3	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B:16:ARG:NH1	38:B:516:HOH:O	2.41	0.53
8:B:144:THR:HB	38:B:561:HOH:O	2.09	0.53
9:C:214:THR:HG21	38:C:565:HOH:O	2.08	0.53
11:E:24:GLY:HA3	11:E:76:VAL:HB	1.91	0.53
11:E:53:GLU:HB3	11:E:55:ASN:ND2	2.24	0.53
16:J:46:ILE:HD11	16:J:53:ILE:HG23	1.91	0.53
19:M:61:ILE:HA	38:M:330:HOH:O	2.08	0.53
20:N:89:GLY:O	20:N:92:ALA:HB3	2.08	0.53
1:0:1014:A:H2'	1:0:1015:C:H5'	1.91	0.53
1:0:1634:G:H2'	1:0:1635:U:C6	2.44	0.53
1:0:2441:U:H4'	18:L:53:ARG:HD2	1.91	0.53
9:C:27:ARG:HG2	9:C:30:LEU:HD12	1.91	0.53
9:C:115:LEU:HD13	9:C:223:LEU:HD21	1.90	0.53
10:D:63:ILE:HG13	10:D:64:ARG:N	2.24	0.53
12:F:91:VAL:CG1	12:F:92:GLY:H	2.21	0.53
17:K:7:ASP:OD2	17:K:81:ARG:NH2	2.42	0.53
18:L:66:VAL:HG23	18:L:67:ARG:N	2.22	0.53
18:L:104:ASP:O	18:L:105:TYR:HB3	2.08	0.53
20:N:37:ARG:HH21	20:N:105:GLY:HA2	1.72	0.53
29:W:149:LEU:HG	29:W:153:MET:HE2	1.91	0.53
1:0:282:C:H2'	1:0:283:U:O4'	2.09	0.53
1:0:1525:G:H5'	1:0:1526:A:OP2	2.09	0.53
1:0:2326:C:H4'	1:0:2412:G:H4'	1.91	0.53
1:0:2564:G:OP2	1:0:2565:C:H5"	2.09	0.53
6:9:29:C:C2'	6:9:30:C:H5'	2.36	0.53
6:9:69:U:OP1	20:N:4:PRO:HG3	2.09	0.53
8:B:56:ASP:OD1	8:B:322:ARG:HB3	2.08	0.53
8:B:139:ASP:CB	8:B:165:ARG:HE	2.22	0.53
10:D:144:ARG:O	10:D:148:SER:HB3	2.08	0.53
12:F:39:SER:HB3	12:F:45:ALA:HB2	1.91	0.53
16:J:46:ILE:HD11	16:J:53:ILE:HG21	1.90	0.53
20:N:49:THR:CG2	20:N:58:LEU:HD11	2.39	0.53
20:N:171:HIS:CE1	38:N:4031:HOH:O	2.62	0.53
21:O:50:ARG:HD2	21:O:51:TYR:CE1	2.43	0.53
25:S:57:THR:HG22	25:S:59:ASP:N	2.23	0.53
1:0:289:G:O2'	1:0:290:C:H5'	2.09	0.53
1:0:558:C:C2'	1:0:559:U:C5'	2.82	0.53
1:0:812:A:H1'	38:0:5764:HOH:O	2.08	0.53
1:0:1132:A:N6	1:0:1229:C:H2'	2.24	0.53
38:0:4840:HOH:O	9:C:188:ARG:HD2	2.08	0.53
10:D:166:ILE:HB	38:D:247:HOH:O	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:G:63:ARG:O	13:G:67:LEU:HG	2.09	0.53
13:G:71:LEU:O	13:G:73:ASP:N	2.42	0.53
38:K:4042:HOH:O	27:U:20:MET:HE1	2.08	0.53
29:W:52:VAL:CG2	29:W:53:ALA:H	2.20	0.53
29:W:149:LEU:HG	29:W:153:MET:CE	2.39	0.53
1:0:244:C:OP2	12:F:38:LYS:HE3	2.09	0.52
1:0:2598:U:O2	1:0:2600:A:H8	1.92	0.52
1:0:2831:C:C2'	1:0:2832:C:H5'	2.39	0.52
4:3:56:PRO:N	38:3:245:HOH:O	2.42	0.52
6:9:8:G:H4'	23:Q:27:GLN:NE2	2.24	0.52
8:B:84:LEU:HD23	8:B:142:LEU:HD23	1.89	0.52
11:E:84:MET:HG2	11:E:168:ILE:HA	1.90	0.52
1:0:1495:C:H1'	1:0:1573:A:H1'	1.92	0.52
1:0:1734:C:OP1	8:B:234:ARG:HD3	2.09	0.52
1:0:2601:A:N1	17:K:38:SER:HB2	2.24	0.52
4:3:83:TRP:HA	38:3:265:HOH:O	2.09	0.52
7:A:33:GLU:OE1	7:A:33:GLU:N	2.41	0.52
9:C:107:ARG:NH2	38:C:504:HOH:O	2.41	0.52
10:D:35:ALA:HB2	38:D:216:HOH:O	2.10	0.52
10:D:95:THR:OG1	10:D:174:VAL:HG22	2.10	0.52
15:I:133:THR:HG22	15:I:134:ILE:N	2.24	0.52
17:K:62:PRO:HG3	17:K:65:ARG:NH2	2.23	0.52
29:W:48:VAL:O	29:W:48:VAL:HG12	2.09	0.52
29:W:142:ASP:HB2	38:W:4066:HOH:O	2.09	0.52
1:0:538:C:H5"	1:0:539:G:C8	2.44	0.52
1:0:1634:G:H3'	38:0:7450:HOH:O	2.08	0.52
1:0:1946:C:H1'	38:0:8090:HOH:O	2.08	0.52
6:9:39:U:H1'	6:9:44:A:N6	2.24	0.52
10:D:10:PHE:CD1	10:D:11:HIS:N	2.77	0.52
10:D:76:ARG:O	10:D:77:ASP:HB2	2.08	0.52
19:M:134:ILE:O	19:M:136:PRO:HD3	2.09	0.52
29:W:88:THR:HG21	29:W:96:LEU:HD13	1.90	0.52
1:0:255:A:H2'	1:0:256:C:O4'	2.09	0.52
1:0:816:G:C6	1:0:817:G:N1	2.77	0.52
1:0:947:U:H2'	1:0:948:G:C8	2.44	0.52
1:0:1118:A:H8	1:0:1119:G:H5"	1.73	0.52
1:0:1805:G:H2'	1:0:1806:G:H8	1.73	0.52
1:0:2781:U:H2'	1:0:2782:G:H5'	1.91	0.52
1:0:2802:C:H2'	1:0:2803:C:C6	2.44	0.52
8:B:177:HIS:O	8:B:181:ILE:HG13	2.09	0.52
9:C:127:ARG:HG2	9:C:127:ARG:HH11	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:C:214:THR:HG23	38:C:582:HOH:O	2.09	0.52
10:D:18:ILE:HD13	10:D:84:LEU:CD1	2.40	0.52
12:F:50:VAL:CG1	12:F:60:VAL:HG11	2.39	0.52
27:U:52:THR:HG22	27:U:54:THR:N	2.24	0.52
1:0:60:A:H5'	3:2:19:SER:OG	2.09	0.52
1:0:120:A:H2'	1:0:120:A:N3	2.25	0.52
1:0:1304:U:H2'	1:0:1305:C:C6	2.44	0.52
1:0:2740:G:H2'	1:0:2741:A:O4'	2.08	0.52
7:A:179:MET:HG2	7:A:186:TRP:CG	2.45	0.52
11:E:116:THR:CG2	11:E:151:LEU:HD22	2.39	0.52
12:F:105:ASP:O	12:F:109:GLU:HB2	2.09	0.52
20:N:167:ASP:O	20:N:168:LEU:HD23	2.10	0.52
21:O:25:VAL:HG23	21:O:26:TRP:N	2.24	0.52
28:V:39:ALA:O	28:V:41:GLU:N	2.42	0.52
1:0:1087:G:H4'	1:0:1088:A:OP1	2.09	0.52
8:B:307:ARG:HH11	8:B:307:ARG:HB2	1.75	0.52
9:C:7:ASP:OD2	9:C:9:ASP:HB2	2.09	0.52
14:H:141:CYS:HB2	38:H:331:HOH:O	2.08	0.52
1:0:88:G:H8	1:0:88:G:H5'	1.75	0.52
1:0:474:C:O3'	9:C:73:LEU:HD21	2.10	0.52
1:0:1015:C:H2'	1:0:1016:U:H6	1.74	0.52
38:0:6211:HOH:O	20:N:4:PRO:HD2	2.10	0.52
21:O:57:THR:O	21:O:111:VAL:HG23	2.10	0.52
1:0:317:A:H5"	26:T:52:ARG:HD2	1.92	0.52
1:0:790:A:H2'	1:0:791:A:O4'	2.10	0.52
1:0:1730:G:H5"	1:0:1731:C:H6	1.74	0.52
1:0:2781:U:H1'	11:E:139:GLU:OE2	2.10	0.52
8:B:248:ARG:NH2	38:B:611:HOH:O	2.42	0.52
8:B:260:HIS:HE1	38:B:618:HOH:O	1.91	0.52
15:I:88:GLN:NE2	15:I:128:THR:HG21	2.25	0.52
16:J:107:ASN:ND2	16:J:109:TYR:N	2.57	0.52
19:M:99:ARG:HD2	19:M:167:GLY:CA	2.37	0.52
20:N:61:ALA:CB	20:N:88:ALA:HB2	2.39	0.52
28:V:64:GLY:O	28:V:65:ASP:CB	2.57	0.52
29:W:89:ASP:HB2	29:W:90:TYR:CE1	2.44	0.52
1:0:236:A:H4'	1:0:237:G:OP1	2.09	0.52
1:0:581:G:H5'	38:0:5301:HOH:O	2.09	0.52
3:2:48:ASP:O	3:2:49:GLU:HB2	2.09	0.52
8:B:205:VAL:O	8:B:307:ARG:NE	2.43	0.52
11:E:137:ASP:O	11:E:141:VAL:HG23	2.10	0.52
15:I:67:VAL:CG1	15:I:68:PRO:HD2	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:J:107:ASN:HD22	16:J:108:PRO:N	2.06	0.52
20:N:47:LEU:CD1	20:N:97:VAL:HG11	2.39	0.52
21:O:115:ARG:NH1	38:O:4041:HOH:O	2.41	0.52
26:T:1:SER:HA	38:T:4001:HOH:O	2.08	0.52
32:Z:60:CYS:O	32:Z:61:ASP:HB2	2.09	0.52
1:0:1287:A:O4'	29:W:117:ARG:HD3	2.09	0.52
1:0:1947:G:N2	1:0:1966:U:C2	2.78	0.52
1:0:1979:G:H2'	38:0:8127:HOH:O	2.09	0.52
6:9:51:A:H5'	20:N:160:SER:HB3	1.90	0.52
8:B:195:ARG:HD2	8:B:324:ASP:OD1	2.10	0.52
9:C:10:GLY:HA2	9:C:160:LEU:HD21	1.91	0.52
10:D:58:VAL:HG12	10:D:60:GLU:HG2	1.92	0.52
10:D:64:ARG:CD	10:D:67:ASP:HB3	2.40	0.52
10:D:128:LEU:O	10:D:128:LEU:HD23	2.10	0.52
16:J:131:THR:HG22	16:J:133:GLY:N	2.24	0.52
20:N:43:VAL:HG13	20:N:118:ILE:HD11	1.92	0.52
25:S:25:GLN:HG2	25:S:65:VAL:HG22	1.92	0.52
26:T:18:GLU:O	26:T:21:LYS:HG3	2.09	0.52
29:W:56:GLU:O	29:W:143:THR:HG23	2.10	0.52
30:X:49:ARG:HG2	30:X:84:ILE:HG23	1.92	0.52
31:Y:189:ASN:HA	31:Y:217:ILE:HD11	1.90	0.52
1:0:485:A:N3	1:0:487:G:H5"	2.25	0.51
1:0:1446:U:H2'	25:S:55:GLN:NE2	2.25	0.51
1:0:2600:A:H2'	1:0:2601:A:O4'	2.11	0.51
1:0:2768:A:O2'	1:0:2769:C:H5'	2.10	0.51
1:0:2785:C:H4'	1:0:2786:G:OP2	2.11	0.51
7:A:105:VAL:HG11	7:A:154:ALA:HB1	1.91	0.51
7:A:192:VAL:HB	38:A:481:HOH:O	2.10	0.51
8:B:96:PRO:HG3	38:B:546:HOH:O	2.10	0.51
8:B:109:LEU:HG	8:B:113:LEU:HD12	1.93	0.51
16:J:126:ASN:ND2	38:J:4050:HOH:O	2.42	0.51
30:X:66:THR:HG23	30:X:67:PRO:HD2	1.92	0.51
1:0:2840:A:H3'	38:0:9746:HOH:O	2.10	0.51
12:F:36:THR:HG23	12:F:97:ALA:HB2	1.91	0.51
19:M:72:ALA:HB2	19:M:93:ARG:HG2	1.93	0.51
21:O:59:VAL:CG2	21:O:111:VAL:HG21	2.39	0.51
22:P:116:SER:O	22:P:119:TYR:HB3	2.09	0.51
32:Z:56:GLN:HA	32:Z:62:TYR:O	2.10	0.51
1:0:37:A:H2'	1:0:38:G:C8	2.45	0.51
1:0:195:C:H5"	38:M:420:HOH:O	2.09	0.51
1:0:814:G:H2'	1:0:815:U:H6	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1391:G:H2'	1:0:1392:A:H5'	1.92	0.51
1:0:2570:G:H5"	38:0:9222:HOH:O	2.09	0.51
1:0:2724:U:H2'	1:0:2725:G:O4'	2.09	0.51
9:C:19:PRO:HG2	9:C:22:PHE:CE1	2.45	0.51
19:M:27:ARG:NH2	19:M:44:THR:HG23	2.25	0.51
26:T:80:GLU:HG2	38:T:4027:HOH:O	2.10	0.51
30:X:74:ALA:HB2	30:X:85:VAL:HG13	1.92	0.51
1:0:1335:C:OP2	31:Y:207:SER:HB3	2.11	0.51
1:0:1641:A:C2'	1:0:1642:A:H5'	2.40	0.51
1:0:2769:C:O2'	1:0:2770:G:H5'	2.11	0.51
1:0:2781:U:C2'	1:0:2782:G:H5'	2.40	0.51
7:A:65:ARG:C	7:A:66:ARG:HG3	2.31	0.51
8:B:41:PHE:CE1	8:B:79:MET:HG3	2.45	0.51
17:K:118:ALA:HA	17:K:125:ALA:HB2	1.92	0.51
18:L:57:VAL:HG12	18:L:57:VAL:O	2.11	0.51
18:L:77:ALA:HB3	38:L:356:HOH:O	2.11	0.51
1:0:2634:G:H3'	38:0:9414:HOH:O	2.10	0.51
38:0:6579:HOH:O	13:G:12:ILE:HG23	2.10	0.51
2:1:45:ARG:HD2	38:1:244:HOH:O	2.11	0.51
10:D:22:VAL:HG22	10:D:74:THR:HG22	1.92	0.51
11:E:126:ILE:HB	11:E:131:LEU:HD23	1.92	0.51
13:G:20:VAL:O	13:G:24:VAL:HG23	2.10	0.51
17:K:75:ARG:O	17:K:93:ASN:HA	2.10	0.51
25:S:22:ASN:ND2	25:S:68:LEU:HB2	2.25	0.51
26:T:106:GLU:HG3	38:T:4035:HOH:O	2.10	0.51
29:W:38:THR:HG22	38:W:4020:HOH:O	2.10	0.51
1:0:285:A:C2	1:0:368:C:H4'	2.46	0.51
1:0:960:G:H3'	1:0:960:G:N3	2.25	0.51
1:0:2719:A:C2	8:B:70:PRO:HG3	2.46	0.51
38:0:9658:HOH:O	8:B:267:LYS:HD3	2.11	0.51
9:C:47:GLY:HA2	9:C:92:PRO:HB2	1.92	0.51
9:C:235:PHE:HE2	9:C:243:VAL:HG21	1.76	0.51
10:D:35:ALA:C	10:D:37:ALA:N	2.64	0.51
11:E:34:TRP:HB3	38:E:4012:HOH:O	2.10	0.51
12:F:32:GLY:N	38:F:4009:HOH:O	2.43	0.51
20:N:23:ARG:NH1	38:N:4013:HOH:O	2.42	0.51
26:T:49:GLU:HB3	26:T:59:GLU:HG3	1.92	0.51
28:V:42:ASN:N	28:V:43:PRO:HD3	2.25	0.51
32:Z:53:GLY:HA2	32:Z:67:GLY:O	2.11	0.51
1:0:451:C:O2'	1:0:452:G:H5'	2.11	0.51
1:0:820:G:O2'	1:0:856:G:H4'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1024:G:H4'	29:W:41:TYR:OH	2.10	0.51
1:0:1226:G:O2'	1:0:1227:C:H5'	2.10	0.51
1:0:1634:G:H2'	1:0:1635:U:H6	1.76	0.51
1:0:1786:C:OP1	22:P:74:GLN:HG2	2.11	0.51
1:0:2081:A:H4'	16:J:69:TYR:CE1	2.46	0.51
1:0:2325:U:O2'	1:0:2411:C:H1'	2.09	0.51
8:B:258:GLY:H	8:B:260:HIS:CE1	2.28	0.51
11:E:7:ILE:HD11	11:E:11:VAL:C	2.31	0.51
12:F:15:ASP:O	12:F:18:GLU:HB2	2.10	0.51
14:H:61:ARG:NH1	14:H:61:ARG:HG3	2.26	0.51
15:I:105:GLU:HA	15:I:108:HIS:CE1	2.46	0.51
21:O:47:ARG:HG3	21:O:47:ARG:NH1	2.25	0.51
29:W:29:VAL:O	29:W:30:ASN:HB2	2.10	0.51
1:0:168:C:O5'	1:0:168:C:H6	1.93	0.51
1:0:721:A:H5"	21:O:51:TYR:CE2	2.46	0.51
1:0:1667:A:H5'	1:0:1667:A:C8	2.41	0.51
1:0:2326:C:H4'	1:0:2412:G:C4'	2.40	0.51
7:A:94:LEU:HD12	7:A:98:GLU:HB2	1.92	0.51
10:D:101:THR:O	10:D:101:THR:HG22	2.11	0.51
30:X:25:ARG:NH1	38:X:4012:HOH:O	2.44	0.51
1:0:877:G:C5'	1:0:878:G:OP1	2.56	0.51
1:0:1112:G:H1	1:0:1251:C:H42	1.56	0.51
38:0:7612:HOH:O	22:P:81:LYS:HG2	2.10	0.51
8:B:137:LEU:HD21	8:B:140:LEU:HD21	1.92	0.51
9:C:79:ARG:O	9:C:87:ARG:HG2	2.11	0.51
14:H:102:LYS:HD3	14:H:122:LYS:CD	2.35	0.51
15:I:91:PHE:HD2	15:I:131:GLY:HA2	1.75	0.51
23:Q:75:ILE:HA	38:Q:238:HOH:O	2.10	0.51
28:V:38:GLY:O	28:V:41:GLU:HG3	2.11	0.51
29:W:21:LEU:HB3	29:W:26:ILE:CG1	2.41	0.51
1:0:814:G:H1'	38:0:5767:HOH:O	2.09	0.51
1:0:1654:U:H2'	7:A:47:HIS:CD2	2.44	0.51
1:0:1666:C:O2'	1:0:1667:A:C5'	2.59	0.51
1:0:2812:A:C2	1:0:2814:A:N6	2.76	0.51
10:D:40:ILE:HG23	38:D:219:HOH:O	2.10	0.51
10:D:135:VAL:HG22	10:D:136:ARG:H	1.76	0.51
11:E:105:GLU:HG2	11:E:113:PRO:HB3	1.93	0.51
27:U:25:ASP:OD2	27:U:26:GLY:N	2.44	0.51
1:0:1003:U:H4'	14:H:91:ARG:O	2.10	0.50
38:0:8286:HOH:O	24:R:139:PRO:HD2	2.11	0.50
7:A:100:PRO:HG2	7:A:103:VAL:CG2	2.37	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:194:MET:CE	7:A:199:HIS:HB2	2.41	0.50
10:D:140:ARG:O	10:D:144:ARG:HG2	2.11	0.50
15:I:113:SER:HB2	15:I:118:ASN:HB2	1.93	0.50
20:N:49:THR:CG2	20:N:56:ASP:HB2	2.41	0.50
28:V:38:GLY:C	28:V:40:PRO:HD2	2.31	0.50
31:Y:112:GLU:CD	31:Y:115:ARG:NH1	2.64	0.50
1:0:282:C:O2'	1:0:283:U:H5'	2.12	0.50
1:0:2005:G:H3'	1:0:2005:G:OP2	2.11	0.50
1:0:2361:A:H5"	38:0:8725:HOH:O	2.09	0.50
1:0:2387:U:H2'	1:0:2388:C:C6	2.46	0.50
1:0:2467:A:O2'	1:0:2468:A:H2'	2.12	0.50
1:0:2582:G:O3'	17:K:41:LYS:HA	2.11	0.50
38:0:8978:HOH:O	18:L:37:LYS:HE2	2.11	0.50
8:B:81:ALA:O	8:B:186:GLY:HA3	2.10	0.50
10:D:146:LYS:HZ3	20:N:107:ASN:ND2	2.08	0.50
18:L:73:VAL:HG23	18:L:74:THR:N	2.26	0.50
18:L:97:VAL:HG12	18:L:98:GLU:O	2.10	0.50
1:0:69:A:H5'	1:0:69:A:C8	2.46	0.50
1:0:449:A:N7	9:C:43:LYS:HG2	2.26	0.50
1:0:527:U:H2'	1:0:528:G:C8	2.46	0.50
1:0:1279:U:O2	1:0:1279:U:H2'	2.12	0.50
1:0:1441:G:O2'	1:0:1442:A:H5'	2.11	0.50
1:0:1594:C:OP2	22:P:120:ARG:HD2	2.11	0.50
1:0:1761:U:H5"	22:P:83:LYS:HA	1.93	0.50
1:0:2114:C:O2'	1:0:2115:U:H5'	2.11	0.50
1:0:2424:U:H1'	23:Q:7:LEU:HD12	1.94	0.50
1:0:2506:A:O2'	1:0:2507:G:C8	2.62	0.50
9:C:7:ASP:C	9:C:9:ASP:H	2.15	0.50
11:E:77:THR:OG1	11:E:78:GLU:N	2.44	0.50
23:Q:21:ARG:HG2	23:Q:22:GLY:H	1.76	0.50
32:Z:42:CYS:SG	32:Z:44:GLU:HB2	2.51	0.50
1:0:61:G:OP1	3:2:17:GLN:HG2	2.11	0.50
1:0:383:A:H5'	38:0:4994:HOH:O	2.11	0.50
1:0:545:G:H8	1:0:545:G:C5'	2.19	0.50
1:0:941:G:O2'	1:0:942:U:H5'	2.11	0.50
1:0:2252:A:C5	1:0:2253:G:H1'	2.47	0.50
1:0:2587:OMU:H2'	1:0:2589:U:H5"	1.93	0.50
7:A:105:VAL:HG12	7:A:106:CYS:N	2.25	0.50
8:B:199:TYR:HE2	8:B:268:ARG:HB2	1.76	0.50
9:C:7:ASP:O	9:C:9:ASP:N	2.43	0.50
17:K:75:ARG:HH21	17:K:94:ALA:CB	2.25	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:T:26:THR:HA	26:T:39:ASN:HB3	1.93	0.50
31:Y:109:LEU:HA	38:Y:417:HOH:O	2.11	0.50
1:0:764:C:H2'	1:0:765:G:O4'	2.11	0.50
1:0:1421:C:H2'	1:0:1422:U:H6	1.76	0.50
17:K:81:ARG:HH11	17:K:81:ARG:HG2	1.76	0.50
18:L:73:VAL:HG11	18:L:118:LEU:HD21	1.93	0.50
20:N:37:ARG:CD	36:N:201:CL:CL	2.96	0.50
29:W:65:VAL:HG12	29:W:116:LEU:HD13	1.93	0.50
1:0:290:C:O2'	1:0:291:C:H5'	2.12	0.50
1:0:1684:A:O2'	1:0:1685:A:H5"	2.11	0.50
1:0:1711:A:O2'	1:0:1712:A:H5'	2.12	0.50
1:0:2694:A:H4'	11:E:91:PHE:HE1	1.76	0.50
1:0:2880:A:H2'	1:0:2881:C:H5'	1.92	0.50
8:B:48:MET:HG2	8:B:72:THR:HA	1.94	0.50
11:E:103:VAL:HG22	11:E:115:ARG:HB3	1.94	0.50
1:0:522:U:O2'	1:0:1366:C:H5'	2.11	0.50
1:0:2072:G:C6	1:0:2533:C:H1'	2.47	0.50
1:0:2419:U:H5"	1:0:2420:G:H5'	1.94	0.50
6:9:88:G:OP1	29:W:130:HIS:NE2	2.41	0.50
9:C:200:PRO:HB3	9:C:212:VAL:CG2	2.41	0.50
16:J:107:ASN:ND2	16:J:107:ASN:C	2.63	0.50
1:0:466:A:H2'	1:0:467:G:O4'	2.12	0.50
1:0:1527:A:H1'	1:0:1528:A:C8	2.46	0.50
1:0:1853:C:OP1	7:A:231:LYS:HG3	2.11	0.50
1:0:2300:A:H4'	1:0:2301:A:O5'	2.12	0.50
19:M:46:LEU:O	19:M:50:ARG:HG3	2.12	0.50
20:N:43:VAL:O	20:N:84:THR:HG21	2.12	0.50
25:S:81:ILE:HG12	38:S:4028:HOH:O	2.12	0.50
1:0:64:G:H2'	1:0:65:C:O4'	2.12	0.50
1:0:517:U:C2'	1:0:518:G:H5'	2.42	0.50
1:0:1543:G:N1	1:0:1641:A:OP2	2.36	0.50
1:0:1855:G:H8	7:A:144:GLU:OE2	1.94	0.50
1:0:2671:U:H5"	8:B:161:VAL:O	2.12	0.50
1:0:2878:U:H2'	1:0:2879:A:O4'	2.12	0.50
7:A:66:ARG:HH11	7:A:66:ARG:CB	2.24	0.50
12:F:99:THR:HG23	12:F:99:THR:O	2.12	0.50
15:I:134:ILE:HG22	15:I:135:GLU:H	1.77	0.50
17:K:28:GLU:OE2	17:K:58:THR:HG21	2.12	0.50
19:M:169:ARG:NH1	38:M:413:HOH:O	2.43	0.50
24:R:113:HIS:O	24:R:145:LEU:HD12	2.12	0.50
26:T:47:THR:HB	26:T:100:ASP:HB3	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:W:35:VAL:HG22	29:W:36:PRO:O	2.12	0.50
1:0:195:C:H2'	1:0:196:G:H5'	1.94	0.49
1:0:653:U:H5"	38:O:4017:HOH:O	2.11	0.49
1:0:1102:C:H5	38:0:6483:HOH:O	1.94	0.49
1:0:1201:C:H5"	38:0:6630:HOH:O	2.12	0.49
1:0:1333:U:H2'	1:0:1334:C:C6	2.46	0.49
38:9:357:HOH:O	20:N:147:ILE:HB	2.12	0.49
10:D:58:VAL:HB	10:D:62:ASP:HB3	1.94	0.49
11:E:11:VAL:CG1	11:E:12:ASP:N	2.75	0.49
15:I:84:SER:HB3	15:I:92:VAL:HG21	1.94	0.49
18:L:73:VAL:HG23	18:L:74:THR:H	1.77	0.49
26:T:40:VAL:HG22	26:T:41:ARG:N	2.27	0.49
1:0:119:A:H2'	1:0:120:A:H5"	1.94	0.49
1:0:571:C:O5'	1:0:571:C:H6	1.94	0.49
1:0:596:C:H2'	1:0:597:A:H8	1.77	0.49
1:0:598:C:H2'	1:0:599:G:H8	1.76	0.49
1:0:656:G:H3'	21:O:37:ARG:HH12	1.77	0.49
1:0:790:A:H1'	1:0:1710:A:H2'	1.94	0.49
1:0:821:U:H2'	1:0:822:C:C6	2.41	0.49
1:0:1762:C:H2'	1:0:1763:C:H6	1.77	0.49
1:0:2371:G:H5'	38:0:8744:HOH:O	2.11	0.49
9:C:246:ARG:HB3	9:C:246:ARG:HH11	1.77	0.49
13:G:64:ASN:HD22	13:G:64:ASN:N	2.10	0.49
19:M:65:VAL:CG2	19:M:105:ALA:HB2	2.41	0.49
1:0:559:U:H2'	1:0:560:U:O4'	2.12	0.49
1:0:702:G:O2'	1:0:703:G:H5'	2.12	0.49
1:0:1118:A:C8	1:0:1119:G:H5"	2.46	0.49
1:0:1307:A:H2'	1:0:1308:A:C8	2.46	0.49
1:0:1942:A:O2'	1:0:1943:C:H5'	2.11	0.49
2:1:22:CYS:HA	38:1:242:HOH:O	2.11	0.49
13:G:71:LEU:C	13:G:73:ASP:N	2.65	0.49
18:L:89:PHE:N	38:L:357:HOH:O	2.44	0.49
18:L:133:VAL:HB	38:L:374:HOH:O	2.12	0.49
29:W:76:ASP:O	29:W:77:ALA:C	2.49	0.49
31:Y:126:PRO:HG2	31:Y:128:PHE:CE1	2.47	0.49
1:0:595:U:H2'	1:0:596:C:C6	2.47	0.49
1:0:1778:A:H2'	1:0:1779:A:H5'	1.95	0.49
9:C:107:ARG:O	9:C:111:VAL:HG23	2.11	0.49
14:H:80:LEU:O	14:H:84:GLY:HA3	2.13	0.49
14:H:91:ARG:HH11	14:H:138:THR:CB	2.24	0.49
16:J:79:PHE:HB3	16:J:103:VAL:HG11	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:T:38:ARG:HG3	26:T:38:ARG:HH11	1.77	0.49
1:0:189:A:OP1	19:M:171:ARG:NH2	2.45	0.49
1:0:820:G:C6	7:A:171:LYS:HB2	2.48	0.49
1:0:1069:C:H2'	1:0:1070:A:O4'	2.13	0.49
1:0:1715:C:H1'	22:P:57:ASN:HD21	1.77	0.49
1:0:2265:U:H2'	1:0:2266:A:C8	2.48	0.49
1:0:2668:G:H2'	1:0:2669:U:C6	2.48	0.49
10:D:25:MET:CE	10:D:41:LEU:HG	2.42	0.49
14:H:94:PRO:HA	14:H:127:ALA:O	2.13	0.49
15:I:95:LEU:HA	15:I:99:GLN:OE1	2.12	0.49
20:N:34:LEU:HD13	20:N:47:LEU:HD21	1.95	0.49
21:O:14:LEU:HD23	21:O:102:ILE:HD11	1.93	0.49
28:V:1:THR:O	28:V:3:LEU:N	2.45	0.49
29:W:122:ARG:NH2	29:W:154:ARG:OXT	2.43	0.49
1:0:67:A:H5"	1:0:69:A:C8	2.48	0.49
1:0:1039:G:H2'	1:0:1040:A:O4'	2.12	0.49
1:0:1181:A:H2'	1:0:1182:C:H5'	1.94	0.49
1:0:1375:A:H2'	1:0:1376:G:H5'	1.92	0.49
1:0:2533:C:H6	1:0:2533:C:C5'	2.22	0.49
1:0:2764:C:H2'	1:0:2765:C:H6	1.76	0.49
8:B:329:TYR:CE2	27:U:15:PRO:HG2	2.48	0.49
10:D:93:LEU:HD23	38:D:233:HOH:O	2.12	0.49
18:L:145:LEU:HD23	18:L:145:LEU:C	2.32	0.49
20:N:73:ALA:N	38:N:4031:HOH:O	2.45	0.49
20:N:151:ASP:CG	20:N:165:ALA:O	2.51	0.49
23:Q:32:GLU:HA	23:Q:71:TYR:OH	2.12	0.49
1:0:130:C:H2'	38:0:4389:HOH:O	2.12	0.49
1:0:903:U:OP2	18:L:11:ARG:NH1	2.44	0.49
1:0:1316:G:H1'	1:0:1340:G:N2	2.28	0.49
1:0:1416:G:H2'	1:0:1417:G:H5'	1.93	0.49
1:0:1593:C:C6	22:P:120:ARG:HD3	2.47	0.49
1:0:1633:C:H5"	1:0:1634:G:OP1	2.13	0.49
1:0:1783:A:O2'	1:0:1784:U:H5'	2.12	0.49
1:0:1825:U:O2'	1:0:1826:C:H5'	2.13	0.49
1:0:2526:C:O2'	1:0:2527:U:H5'	2.13	0.49
7:A:18:ALA:O	7:A:20:SER:N	2.42	0.49
9:C:151:GLN:O	9:C:154:VAL:HB	2.13	0.49
12:F:100:ASP:O	12:F:101:ALA:O	2.31	0.49
18:L:43:HIS:O	18:L:44:GLU:C	2.51	0.49
19:M:181:GLU:OE1	19:M:181:GLU:N	2.37	0.49
20:N:5:ARG:HG3	23:Q:18:PRO:HB3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:S:57:THR:C	25:S:59:ASP:H	2.16	0.49
30:X:78:GLU:HG2	30:X:79:GLU:N	2.27	0.49
1:0:694:A:C2'	1:0:695:C:H5'	2.41	0.49
1:0:834:G:H3'	1:0:835:U:H4'	1.95	0.49
1:0:1200:A:H1'	38:0:6635:HOH:O	2.13	0.49
1:0:1236:A:C8	16:J:63:ILE:HD11	2.48	0.49
1:0:1497:G:H4'	1:0:1627:G:O2'	2.13	0.49
1:0:1559:A:OP2	1:0:1559:A:H8	1.95	0.49
1:0:2837:U:H1'	8:B:307:ARG:HH12	1.77	0.49
1:0:2896:A:H5"	38:0:9810:HOH:O	2.11	0.49
9:C:2:GLN:HB3	38:C:415:HOH:O	2.13	0.49
9:C:237:GLU:HB2	38:C:523:HOH:O	2.13	0.49
18:L:125:PHE:CZ	18:L:140:VAL:HG13	2.47	0.49
20:N:143:ARG:HA	20:N:172:PHE:CD2	2.48	0.49
26:T:71:VAL:CG1	26:T:90:PRO:HB3	2.36	0.49
29:W:88:THR:CG2	29:W:89:ASP:H	2.20	0.49
1:0:1119:G:H22	1:0:1246:A:H2	1.55	0.49
1:0:1185:U:H2'	1:0:1186:C:C6	2.48	0.49
1:0:1771:U:H5'	32:Z:20:ARG:HH21	1.76	0.49
1:0:2312:G:H2'	1:0:2313:C:H5'	1.94	0.49
1:0:2468:A:H61	4:3:48:ASN:HD21	1.60	0.49
1:0:2636:C:H3'	38:0:9419:HOH:O	2.12	0.49
7:A:153:ARG:HB2	7:A:153:ARG:NH1	2.28	0.49
10:D:138:GLY:N	38:D:245:HOH:O	2.36	0.49
22:P:114:LEU:HA	22:P:118:GLN:NE2	2.28	0.49
1:0:635:A:H2'	1:0:636:G:H5"	1.94	0.49
1:0:654:A:OP2	21:O:38:ARG:HD3	2.12	0.49
1:0:705:C:O2	1:0:705:C:H2'	2.13	0.49
1:0:1299:G:O6	18:L:6:ARG:HD3	2.13	0.49
7:A:153:ARG:CB	7:A:153:ARG:HH11	2.26	0.49
15:I:87:PRO:HD3	38:I:4009:HOH:O	2.13	0.49
29:W:38:THR:O	29:W:42:ARG:HB2	2.13	0.49
31:Y:107:PRO:HB3	31:Y:182:PHE:CD2	2.48	0.49
1:0:130:C:H5'	38:0:4351:HOH:O	2.13	0.48
1:0:226:A:H1'	1:0:393:G:C5	2.48	0.48
1:0:932:U:H2'	1:0:933:C:C6	2.47	0.48
1:0:1811:A:C2	1:0:2752:C:H1'	2.48	0.48
1:0:2578:G:H5'	1:0:2578:G:C8	2.43	0.48
1:0:2896:A:OP1	30:X:15:ARG:NH1	2.46	0.48
38:0:7955:HOH:O	7:A:11:ARG:HA	2.12	0.48
4:3:65:THR:HB	4:3:83:TRP:H	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:C:157:LEU:HD11	9:C:194:PHE:HZ	1.78	0.48
11:E:20:ILE:CD1	11:E:40:VAL:HG11	2.42	0.48
17:K:121:PHE:HB3	38:K:4051:HOH:O	2.12	0.48
18:L:20:ASN:O	18:L:22:ARG:N	2.46	0.48
20:N:37:ARG:HE	20:N:105:GLY:HA3	1.78	0.48
24:R:59:PHE:HZ	24:R:81:PRO:HG3	1.77	0.48
30:X:66:THR:CG2	30:X:67:PRO:HD2	2.44	0.48
32:Z:10:ARG:HA	38:Z:218:HOH:O	2.11	0.48
1:0:396:U:H1'	38:0:4950:HOH:O	2.12	0.48
1:0:808:A:C5	1:0:809:G:H1'	2.48	0.48
1:0:1666:C:C2'	1:0:1667:A:C5'	2.91	0.48
38:0:6469:HOH:O	29:W:119:HIS:HE1	1.96	0.48
13:G:19:GLU:O	13:G:23:ILE:HG13	2.14	0.48
14:H:12:ILE:HG12	14:H:59:GLN:HG2	1.94	0.48
16:J:75:PRO:HD3	16:J:136:SER:OG	2.13	0.48
20:N:64:SER:O	20:N:66:LEU:N	2.46	0.48
22:P:98:ILE:O	22:P:98:ILE:HD13	2.13	0.48
1:0:777:U:O2'	2:1:11:LYS:HG2	2.13	0.48
1:0:1762:C:H4'	38:0:7768:HOH:O	2.13	0.48
1:0:2598:U:O2	1:0:2600:A:C8	2.66	0.48
7:A:186:TRP:CG	7:A:187:PRO:HA	2.48	0.48
8:B:171:VAL:O	8:B:175:LEU:HB2	2.12	0.48
8:B:255:GLY:O	8:B:257:THR:HG23	2.14	0.48
14:H:41:LYS:HD3	14:H:46:TYR:OH	2.12	0.48
18:L:6:ARG:NH2	38:L:308:HOH:O	2.45	0.48
18:L:62:ALA:HB2	18:L:103:ALA:HB2	1.95	0.48
19:M:164:THR:CG2	19:M:167:GLY:H	2.15	0.48
21:O:14:LEU:CD2	21:O:102:ILE:HD11	2.42	0.48
1:0:87:C:H2'	3:2:28:LYS:O	2.13	0.48
1:0:776:A:OP1	2:1:28:HIS:HE1	1.96	0.48
1:0:1277:C:OP2	21:O:19:ARG:NH1	2.47	0.48
1:0:1874:U:OP1	7:A:51:ARG:HD2	2.12	0.48
1:0:1909:A:N1	1:0:2128:G:H1'	2.27	0.48
1:0:2359:G:H3'	38:0:8727:HOH:O	2.12	0.48
3:2:41:HIS:HB3	3:2:44:ARG:HB2	1.96	0.48
4:3:56:PRO:HA	38:3:245:HOH:O	2.13	0.48
9:C:132:ASP:CB	38:C:516:HOH:O	2.58	0.48
14:H:57:THR:HG23	14:H:131:GLN:HA	1.94	0.48
14:H:59:GLN:NE2	14:H:129:ARG:NE	2.52	0.48
19:M:26:GLN:O	19:M:29:GLN:HB2	2.14	0.48
1:0:1278:A:H4'	1:0:1279:U:C4	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2314:G:C2'	1:0:2315:C:H5'	2.42	0.48
1:0:2659:U:H5"	38:0:9492:HOH:O	2.13	0.48
1:0:2909:G:H2'	1:0:2910:A:C8	2.47	0.48
11:E:5:LEU:HD21	11:E:66:GLN:HG3	1.95	0.48
15:I:73:LEU:HD12	15:I:107:LYS:NZ	2.29	0.48
19:M:98:GLN:HB2	19:M:129:HIS:NE2	2.28	0.48
21:O:44:ASN:OD1	21:O:65:LEU:HB2	2.13	0.48
29:W:11:VAL:O	29:W:12:ASN:HB2	2.13	0.48
30:X:46:ASP:OD2	30:X:46:ASP:N	2.45	0.48
1:0:84:G:O2'	1:0:85:C:H5'	2.13	0.48
1:0:228:C:H2'	1:0:229:G:H5'	1.94	0.48
1:0:722:G:H22	1:0:938:G:P	2.37	0.48
1:0:1787:C:OP1	22:P:68:LYS:HE2	2.13	0.48
1:0:2754:G:O2'	1:0:2755:G:H5'	2.14	0.48
9:C:151:GLN:HB3	38:C:527:HOH:O	2.13	0.48
19:M:54:TYR:HB2	19:M:132:ILE:HD13	1.95	0.48
20:N:37:ARG:HH21	20:N:105:GLY:N	2.12	0.48
20:N:116:PHE:HB3	20:N:136:LEU:HD23	1.95	0.48
22:P:142:ASP:O	22:P:143:ALA:O	2.30	0.48
1:0:541:C:H2'	1:0:542:A:H5'	1.94	0.48
1:0:1007:A:H2'	14:H:22:TYR:OH	2.14	0.48
1:0:1051:C:H2'	1:0:1052:G:O4'	2.14	0.48
8:B:83:ALA:HB2	8:B:101:TRP:CD2	2.49	0.48
12:F:4:VAL:HG13	12:F:76:PHE:CE1	2.48	0.48
17:K:99:ASP:OD1	17:K:101:ASN:N	2.47	0.48
18:L:129:ALA:O	18:L:133:VAL:HG23	2.14	0.48
23:Q:93:ARG:HG3	23:Q:93:ARG:HH11	1.79	0.48
1:0:101:C:H2'	1:0:102:A:C8	2.49	0.48
1:0:351:A:O2'	1:0:352:A:H5'	2.13	0.48
1:0:553:G:H3'	38:0:5272:HOH:O	2.14	0.48
1:0:596:C:H2'	1:0:597:A:C8	2.48	0.48
1:0:1636:G:O2'	1:0:1637:A:H5'	2.14	0.48
1:0:1638:U:H5'	38:0:7453:HOH:O	2.14	0.48
1:0:2291:A:N9	1:0:2309:C:H5'	2.29	0.48
4:3:34:LYS:HE2	38:3:222:HOH:O	2.13	0.48
9:C:26:VAL:HG21	9:C:123:LEU:HD11	1.96	0.48
15:I:100:VAL:HG11	15:I:124:VAL:HG22	1.96	0.48
17:K:35:HIS:HB2	17:K:52:LYS:O	2.14	0.48
19:M:184:ARG:HG3	19:M:185:PRO:HA	1.96	0.48
25:S:52:VAL:C	25:S:53:ASN:HD22	2.17	0.48
1:0:105:G:O2'	1:0:106:A:H5'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1018:A:H4'	23:Q:59:GLN:NE2	2.29	0.48
1:0:1041:U:H2'	1:0:1042:U:H5'	1.96	0.48
1:0:1477:C:H5'	1:0:1868:G:H5'	1.96	0.48
1:0:1524:U:OP1	1:0:1524:U:H4'	2.14	0.48
1:0:1882:C:OP1	7:A:192:VAL:HG23	2.14	0.48
1:0:2281:C:H2'	1:0:2282:U:H5'	1.95	0.48
1:0:2456:A:H5'	38:0:8945:HOH:O	2.14	0.48
10:D:67:ASP:O	10:D:69:ILE:HG13	2.13	0.48
11:E:34:TRP:HA	38:E:4013:HOH:O	2.13	0.48
13:G:67:LEU:O	13:G:71:LEU:HG	2.13	0.48
21:O:88:LYS:HB3	38:O:4026:HOH:O	2.13	0.48
24:R:82:GLU:HG3	24:R:83:LYS:H	1.79	0.48
24:R:132:ARG:NH2	38:R:379:HOH:O	2.46	0.48
30:X:71:ARG:HD2	38:X:4026:HOH:O	2.13	0.48
31:Y:115:ARG:NE	38:Y:423:HOH:O	2.47	0.48
32:Z:32:GLU:HA	32:Z:35:GLU:HG3	1.96	0.48
1:0:667:C:H2'	1:0:668:C:H6	1.79	0.48
1:0:1150:A:C2	13:G:20:VAL:HG21	2.49	0.48
1:0:1470:A:OP1	19:M:93:ARG:HD2	2.14	0.48
1:0:2617:G:H4'	38:0:9356:HOH:O	2.14	0.48
38:0:6451:HOH:O	29:W:9:GLY:HA3	2.13	0.48
8:B:27:ASN:H	8:B:27:ASN:ND2	2.06	0.48
8:B:268:ARG:NH2	8:B:325:PRO:HG3	2.29	0.48
9:C:27:ARG:NH1	9:C:29:ASP:OD1	2.43	0.48
11:E:118:ILE:HD13	11:E:124:VAL:HG23	1.95	0.48
15:I:118:ASN:HA	15:I:121:LYS:CD	2.43	0.48
17:K:37:TYR:HD2	38:K:4016:HOH:O	1.97	0.48
19:M:9:ARG:HG3	38:M:338:HOH:O	2.14	0.48
20:N:184:ILE:HG23	20:N:184:ILE:O	2.14	0.48
21:O:105:ASN:HD21	21:O:109:SER:H	1.62	0.48
26:T:92:ASP:OD1	26:T:94:SER:HB3	2.14	0.48
31:Y:133:HIS:HD2	38:Y:440:HOH:O	1.96	0.48
31:Y:144:ARG:CZ	38:Y:451:HOH:O	2.62	0.48
1:0:68:U:O2'	1:0:69:A:H5"	2.14	0.47
1:0:134:U:C2	1:0:145:A:C2	3.02	0.47
1:0:533:U:H3'	38:0:5227:HOH:O	2.14	0.47
1:0:644:G:H1'	38:0:5437:HOH:O	2.12	0.47
1:0:825:U:H5"	1:0:826:U:OP1	2.14	0.47
1:0:1008:C:H5"	14:H:19:ARG:HH12	1.78	0.47
1:0:1406:A:H5'	1:0:1407:A:C8	2.48	0.47
1:0:2729:C:H4'	1:0:2893:C:O2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2735:U:H2'	1:0:2736:U:C6	2.48	0.47
1:0:2825:C:H4'	1:0:2826:G:O5'	2.14	0.47
8:B:80:ARG:O	8:B:82:VAL:HG23	2.14	0.47
18:L:125:PHE:CE1	18:L:140:VAL:HG13	2.49	0.47
27:U:52:THR:HG22	27:U:54:THR:HB	1.95	0.47
1:0:69:A:H5'	1:0:69:A:H8	1.78	0.47
1:0:1503:U:H2'	1:0:1504:A:O4'	2.14	0.47
1:0:1581:A:H61	1:0:1614:G:H1'	1.78	0.47
1:0:1948:G:H2'	1:0:1949:G:O4'	2.14	0.47
1:0:2002:C:H2'	1:0:2003:U:H5'	1.95	0.47
1:0:2100:A:H5'	38:0:8417:HOH:O	2.14	0.47
8:B:212:GLN:OE1	8:B:216:LYS:HD3	2.13	0.47
8:B:301:VAL:HG13	8:B:302:PRO:HD2	1.96	0.47
9:C:104:ASP:O	9:C:108:GLN:HG3	2.14	0.47
12:F:37:THR:O	12:F:41:GLU:HG3	2.14	0.47
12:F:78:GLU:HG3	38:F:4017:HOH:O	2.14	0.47
16:J:6:PHE:O	16:J:8:ALA:N	2.47	0.47
20:N:48:VAL:HG12	20:N:55:ASP:HB3	1.90	0.47
23:Q:23:THR:HG22	23:Q:24:SER:N	2.29	0.47
28:V:12:THR:HB	28:V:15:GLU:OE2	2.14	0.47
29:W:69:ARG:HD2	29:W:117:ARG:O	2.14	0.47
31:Y:144:ARG:NE	38:Y:451:HOH:O	2.46	0.47
31:Y:187:VAL:CG1	31:Y:205:ILE:HA	2.43	0.47
1:0:766:A:HO2'	1:0:767:A:H8	1.62	0.47
38:0:7682:HOH:O	8:B:214:PRO:HD2	2.14	0.47
6:9:3:A:H2'	38:9:330:HOH:O	2.14	0.47
6:9:34:A:O5'	6:9:34:A:H8	1.96	0.47
8:B:1:PRO:O	8:B:2:GLN:HB2	2.13	0.47
8:B:36:PRO:HG3	8:B:169:GLY:H	1.77	0.47
15:I:108:HIS:N	15:I:109:PRO:CD	2.77	0.47
17:K:32:ILE:HD11	17:K:56:SER:HB3	1.96	0.47
17:K:87:ARG:HB2	27:U:19:THR:HG23	1.95	0.47
20:N:7:LYS:HE3	23:Q:21:ARG:O	2.15	0.47
29:W:6:GLN:CB	29:W:26:ILE:HD12	2.34	0.47
1:0:1173:A:H2	38:0:6634:HOH:O	1.96	0.47
1:0:1427:A:H61	1:0:1440:U:H1'	1.80	0.47
1:0:1840:A:H4'	1:0:1841:C:O5'	2.14	0.47
1:0:2241:C:O2'	1:0:2242:U:H5'	2.14	0.47
1:0:2388:C:H2'	1:0:2389:U:O4'	2.14	0.47
6:9:76:G:C3'	6:9:77:A:H5"	2.35	0.47
8:B:30:PRO:HB2	8:B:39:GLN:NE2	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:C:246:ARG:NH2	38:C:583:HOH:O	2.42	0.47
18:L:143:THR:CG2	18:L:144:ASP:N	2.77	0.47
20:N:67:ALA:HA	20:N:71:TRP:CB	2.44	0.47
24:R:99:ALA:CB	24:R:109:MET:HE3	2.45	0.47
1:0:213:G:N2	1:0:225:G:H2'	2.30	0.47
1:0:363:C:O2'	1:0:364:U:H5'	2.15	0.47
1:0:1044:C:H5"	38:0:6098:HOH:O	2.15	0.47
1:0:1154:A:H2'	1:0:1155:G:C8	2.49	0.47
1:0:1735:C:O2'	1:0:1736:A:H5'	2.13	0.47
1:0:2353:A:O2'	20:N:7:LYS:HB3	2.14	0.47
1:0:2520:G:H5'	14:H:64:SER:OG	2.15	0.47
2:1:21:ARG:HD2	2:1:39:PHE:HB2	1.97	0.47
7:A:8:ARG:HG2	38:A:413:HOH:O	2.13	0.47
11:E:16:ASP:O	11:E:17:HIS:HB2	2.14	0.47
14:H:142:ASN:O	14:H:144:GLU:N	2.47	0.47
20:N:37:ARG:NH2	20:N:105:GLY:CA	2.70	0.47
21:O:26:TRP:HA	21:O:26:TRP:CE3	2.49	0.47
24:R:114:VAL:HA	24:R:144:GLU:O	2.14	0.47
29:W:139:GLY:O	29:W:141:HIS:CD2	2.67	0.47
1:0:2780:C:H2'	1:0:2781:U:C6	2.50	0.47
38:0:8077:HOH:O	7:A:236:GLY:HA3	2.14	0.47
9:C:233:THR:CG2	9:C:234:VAL:H	2.26	0.47
10:D:64:ARG:HD3	10:D:67:ASP:HB3	1.96	0.47
14:H:12:ILE:HG12	14:H:59:GLN:CG	2.45	0.47
15:I:87:PRO:CB	15:I:129:SER:C	2.83	0.47
16:J:39:VAL:CG1	16:J:107:ASN:HB2	2.45	0.47
27:U:13:ILE:HG12	27:U:32:CYS:HB3	1.96	0.47
30:X:80:GLU:O	30:X:80:GLU:HG2	2.14	0.47
1:0:101:C:H2'	1:0:102:A:H8	1.80	0.47
1:0:563:C:H2'	1:0:564:G:O4'	2.15	0.47
1:0:625:U:H5"	1:0:1044:C:N4	2.29	0.47
1:0:657:G:H2'	1:0:658:C:C6	2.50	0.47
1:0:946:C:O2'	1:0:947:U:H5'	2.15	0.47
1:0:1116:U:O2'	1:0:1118:A:C2	2.56	0.47
1:0:1416:G:C2'	1:0:1417:G:H5'	2.44	0.47
1:0:1819:G:H2'	1:0:1820:G:C4'	2.40	0.47
1:0:2281:C:C2'	1:0:2282:U:H5'	2.45	0.47
1:0:2365:G:P	23:Q:15:LYS:HG3	2.54	0.47
1:0:2607:U:H4'	38:0:9306:HOH:O	2.14	0.47
3:2:31:ARG:NH1	38:2:127:HOH:O	2.48	0.47
3:2:35:ARG:HB2	38:2:132:HOH:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:30:GLN:NE2	38:3:218:HOH:O	2.43	0.47
6:9:91:C:H2'	6:9:92:G:O4'	2.15	0.47
8:B:52:VAL:O	8:B:53:LEU:HD12	2.15	0.47
10:D:23:VAL:HG21	10:D:45:THR:CG2	2.43	0.47
11:E:81:GLU:HG2	11:E:134:SER:CB	2.44	0.47
14:H:86:TYR:C	14:H:86:TYR:CD1	2.88	0.47
16:J:39:VAL:HG12	16:J:40:ASN:ND2	2.29	0.47
16:J:54:VAL:CG1	16:J:138:THR:HG21	2.45	0.47
17:K:106:GLY:HA3	38:K:4013:HOH:O	2.14	0.47
19:M:15:PRO:HA	19:M:20:LEU:CD2	2.45	0.47
19:M:61:ILE:HG22	19:M:62:VAL:N	2.28	0.47
20:N:11:ARG:HG3	20:N:14:ARG:NH1	2.29	0.47
20:N:94:GLU:HG3	20:N:186:LEU:HD12	1.96	0.47
20:N:100:ALA:O	20:N:129:ILE:HG23	2.15	0.47
26:T:42:VAL:CG1	26:T:62:VAL:HG21	2.44	0.47
26:T:43:ASN:C	26:T:45:GLY:H	2.18	0.47
30:X:43:VAL:HG12	30:X:44:ASP:N	2.30	0.47
31:Y:108:ASP:OD1	31:Y:108:ASP:N	2.48	0.47
1:0:876:A:H2'	1:0:876:A:N3	2.29	0.47
1:0:949:U:H4'	23:Q:95:GLU:HA	1.97	0.47
1:0:1236:A:C2'	1:0:1237:U:H5'	2.45	0.47
1:0:2064:U:H5'	1:0:2652:U:O3'	2.15	0.47
1:0:2114:C:OP1	7:A:1:GLY:HA2	2.15	0.47
1:0:2597:U:H2'	1:0:2598:U:H5'	1.96	0.47
1:0:2656:G:O2'	1:0:2657:G:H5'	2.15	0.47
7:A:164:ARG:CZ	38:A:456:HOH:O	2.62	0.47
8:B:304:PRO:HD2	8:B:307:ARG:CD	2.43	0.47
9:C:127:ARG:HG2	9:C:127:ARG:NH1	2.30	0.47
18:L:78:ALA:N	38:L:356:HOH:O	2.48	0.47
21:O:96:VAL:HG13	21:O:100:GLN:OE1	2.14	0.47
22:P:16:VAL:CG1	22:P:20:ARG:CZ	2.93	0.47
1:0:598:C:H2'	1:0:599:G:C8	2.50	0.47
1:0:960:G:N3	1:0:960:G:C2'	2.77	0.47
1:0:1205:U:H2'	1:0:1206:U:H5"	1.97	0.47
1:0:2324:G:N2	1:0:2377:U:H1'	2.30	0.47
7:A:153:ARG:HB2	7:A:153:ARG:HH11	1.80	0.47
7:A:211:LYS:CB	38:A:504:HOH:O	2.60	0.47
8:B:24:PRO:CG	8:B:204:GLY:HA2	2.45	0.47
8:B:132:HIS:HB2	8:B:137:LEU:CD2	2.45	0.47
10:D:91:ALA:HB2	10:D:106:PHE:CD2	2.50	0.47
11:E:31:ARG:HH12	11:E:68:HIS:CE1	2.33	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:H:117:ARG:O	14:H:118:ALA:C	2.53	0.47
17:K:65:ARG:HD3	38:K:4032:HOH:O	2.15	0.47
18:L:65:ASP:HA	18:L:109:LEU:O	2.14	0.47
18:L:68:GLU:HB2	38:L:350:HOH:O	2.15	0.47
19:M:146:ASP:O	19:M:147:LEU:HD23	2.15	0.47
19:M:164:THR:HB	38:M:409:HOH:O	2.13	0.47
25:S:57:THR:HG22	25:S:58:MET:N	2.29	0.47
28:V:1:THR:O	28:V:4:HIS:CE1	2.68	0.47
1:0:327:A:N3	9:C:206:ASN:ND2	2.63	0.47
1:0:704:C:H2'	1:0:705:C:H6	1.80	0.47
1:0:2541:U:H5'	1:0:2611:G:O6	2.15	0.47
1:0:2596:A:H2	36:0:3189:CL:CL	2.35	0.47
1:0:2900:G:H2'	1:0:2901:C:O4'	2.15	0.47
2:1:1:THR:HG21	38:1:207:HOH:O	2.15	0.47
8:B:124:ALA:O	8:B:128:ILE:HG13	2.14	0.47
10:D:86:THR:HG23	38:D:231:HOH:O	2.14	0.47
14:H:48:VAL:HA	14:H:170:ARG:O	2.15	0.47
16:J:41:ALA:O	16:J:132:LEU:HD12	2.15	0.47
17:K:49:LEU:HA	17:K:73:VAL:HG12	1.97	0.47
20:N:72:GLU:HB3	20:N:171:HIS:HE1	1.80	0.47
20:N:154:LEU:CD1	20:N:157:PRO:HA	2.44	0.47
26:T:44:ALA:HA	26:T:62:VAL:HG12	1.95	0.47
1:0:23:G:H1'	1:0:520:A:N6	2.30	0.46
1:0:65:C:O2'	1:0:66:G:H5'	2.15	0.46
1:0:558:C:H2'	1:0:559:U:H5'	1.93	0.46
1:0:1064:U:H2'	1:0:1065:G:C8	2.50	0.46
1:0:1603:A:C5'	1:0:1605:G:H5'	2.45	0.46
1:0:2314:G:O2'	1:0:2315:C:H5'	2.15	0.46
2:1:45:ARG:HB3	38:1:244:HOH:O	2.14	0.46
3:2:20:ARG:CG	3:2:21:VAL:N	2.79	0.46
7:A:94:LEU:HD23	7:A:94:LEU:N	2.29	0.46
8:B:83:ALA:HA	8:B:100:VAL:O	2.15	0.46
8:B:84:LEU:HB3	8:B:100:VAL:HB	1.98	0.46
10:D:141:VAL:HG13	10:D:144:ARG:HH21	1.80	0.46
11:E:81:GLU:HA	11:E:133:VAL:O	2.15	0.46
12:F:56:PRO:HG2	19:M:44:THR:HA	1.97	0.46
16:J:51:GLU:O	16:J:55:GLU:HG3	2.15	0.46
17:K:49:LEU:HD23	17:K:50:GLY:N	2.30	0.46
1:0:152:A:O2'	1:0:153:C:H5'	2.15	0.46
1:0:806:A:H2'	1:0:807:A:O4'	2.15	0.46
1:0:870:G:OP2	7:A:3:ARG:HD3	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1625:U:H4'	38:0:7442:HOH:O	2.15	0.46
1:0:2039:A:H4'	1:0:2760:C:O2'	2.16	0.46
1:0:2501:G:H1'	38:0:9075:HOH:O	2.16	0.46
1:0:2644:C:O2'	1:0:2645:U:OP1	2.29	0.46
4:3:55:VAL:HB	4:3:56:PRO:CD	2.45	0.46
8:B:41:PHE:HB3	8:B:190:MET:HE1	1.97	0.46
9:C:133:ARG:NE	9:C:138:VAL:HG22	2.30	0.46
10:D:152:PRO:O	10:D:156:ARG:HG2	2.15	0.46
17:K:64:MET:HA	17:K:67:GLN:HE21	1.81	0.46
18:L:55:GLN:HA	18:L:58:GLN:NE2	2.30	0.46
20:N:47:LEU:HD23	20:N:47:LEU:HA	1.71	0.46
21:O:26:TRP:HB2	38:O:4009:HOH:O	2.14	0.46
28:V:1:THR:CG2	28:V:2:VAL:H	2.19	0.46
29:W:69:ARG:NH2	38:W:4068:HOH:O	2.45	0.46
30:X:54:ILE:O	30:X:57:ALA:HB3	2.15	0.46
1:0:553:G:P	31:Y:204:ARG:HH22	2.38	0.46
1:0:1168:C:H5	38:0:6595:HOH:O	1.98	0.46
1:0:1333:U:H2'	1:0:1334:C:H6	1.80	0.46
1:0:2656:G:C2'	1:0:2657:G:H5'	2.45	0.46
7:A:37:VAL:HG13	38:A:432:HOH:O	2.14	0.46
8:B:77:PRO:HG2	8:B:151:VAL:CG2	2.45	0.46
8:B:109:LEU:CG	8:B:113:LEU:HD12	2.46	0.46
9:C:140:VAL:HG12	9:C:141:SER:N	2.30	0.46
10:D:167:GLU:HA	10:D:171:ASP:OD1	2.15	0.46
11:E:170:ARG:NH2	38:E:4042:HOH:O	2.48	0.46
12:F:43:GLY:C	12:F:45:ALA:H	2.18	0.46
14:H:151:GLU:HG3	38:H:359:HOH:O	2.15	0.46
17:K:5:GLY:O	17:K:83:PRO:HD3	2.16	0.46
17:K:66:ARG:HG2	17:K:66:ARG:HH11	1.81	0.46
21:O:26:TRP:HA	21:O:26:TRP:HE3	1.79	0.46
26:T:113:GLU:O	26:T:114:SER:C	2.53	0.46
29:W:80:ASP:HB2	38:W:4039:HOH:O	2.15	0.46
30:X:22:ASN:O	30:X:25:ARG:HG3	2.15	0.46
31:Y:177:LYS:HD3	31:Y:181:GLY:O	2.15	0.46
1:0:31:C:H4'	38:0:4090:HOH:O	2.16	0.46
1:0:106:A:H2'	1:0:107:U:O4'	2.15	0.46
1:0:1236:A:H2'	1:0:1237:U:O4'	2.14	0.46
1:0:1515:A:H2'	1:0:1516:U:C6	2.50	0.46
1:0:1762:C:H2'	1:0:1763:C:C6	2.51	0.46
1:0:2505:G:H8	38:0:9080:HOH:O	1.99	0.46
1:0:2820:A:H2'	1:0:2821:C:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:9:56:A:H1'	10:D:14:ARG:HG2	1.97	0.46
7:A:140:LEU:HB3	7:A:141:PRO:HD2	1.96	0.46
8:B:24:PRO:HD3	38:B:526:HOH:O	2.14	0.46
11:E:145:ALA:HB1	11:E:168:ILE:CD1	2.44	0.46
15:I:96:SER:H	15:I:99:GLN:CD	2.18	0.46
15:I:133:THR:HG22	15:I:134:ILE:H	1.79	0.46
19:M:57:LYS:NZ	19:M:144:ASP:OD2	2.38	0.46
20:N:179:LEU:HA	20:N:184:ILE:CD1	2.44	0.46
31:Y:205:ILE:HB	31:Y:230:ASN:HD21	1.80	0.46
32:Z:51:GLY:HA3	38:Z:226:HOH:O	2.15	0.46
1:0:336:G:O6	26:T:54:ASP:N	2.48	0.46
1:0:541:C:C2'	1:0:542:A:C5'	2.92	0.46
1:0:1483:C:O2'	1:0:1484:G:H5'	2.14	0.46
1:0:2256:G:H2'	1:0:2257:G:C5'	2.46	0.46
17:K:64:MET:HA	17:K:67:GLN:NE2	2.31	0.46
17:K:130:MET:SD	27:U:25:ASP:O	2.73	0.46
19:M:61:ILE:HD12	19:M:61:ILE:N	2.30	0.46
29:W:67:ALA:HB2	29:W:93:ILE:HD13	1.98	0.46
30:X:80:GLU:N	38:X:4025:HOH:O	2.48	0.46
31:Y:196:VAL:CG1	31:Y:226:ILE:HD13	2.45	0.46
31:Y:216:ARG:CD	38:Y:489:HOH:O	2.63	0.46
1:0:121:U:OP2	3:2:10:ARG:NH2	2.48	0.46
1:0:1158:G:O2'	1:0:1159:G:H5'	2.15	0.46
1:0:1185:U:H5'	38:0:6617:HOH:O	2.14	0.46
1:0:1422:U:H4'	38:0:7110:HOH:O	2.14	0.46
1:0:1976:G:H5"	38:0:8114:HOH:O	2.15	0.46
1:0:2455:A:H2'	1:0:2456:A:O4'	2.16	0.46
1:0:2509:A:H2'	1:0:2510:C:O4'	2.15	0.46
38:0:5833:HOH:O	8:B:229:ARG:HD2	2.14	0.46
4:3:11:CYS:HB2	4:3:20:HIS:CE1	2.50	0.46
9:C:120:ASP:O	9:C:124:VAL:HG23	2.16	0.46
10:D:41:LEU:HA	10:D:44:ILE:CG2	2.45	0.46
12:F:50:VAL:HG21	12:F:63:ILE:HG21	1.97	0.46
14:H:69:ARG:HB3	38:H:327:HOH:O	2.14	0.46
19:M:31:TRP:CD1	19:M:64:ARG:NH1	2.84	0.46
20:N:115:VAL:HG22	38:N:4044:HOH:O	2.15	0.46
29:W:4:LEU:HD23	29:W:54:PHE:CB	2.39	0.46
1:0:622:G:O2'	1:0:623:U:H5'	2.16	0.46
1:0:737:A:H2'	1:0:738:G:O4'	2.15	0.46
1:0:1614:G:H2'	38:0:7383:HOH:O	2.14	0.46
1:0:1619:G:H2'	1:0:1620:C:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2549:C:H2'	1:0:2550:U:O4'	2.16	0.46
1:0:2708:G:H2'	1:0:2709:G:O4'	2.16	0.46
38:0:5243:HOH:O	31:Y:135:LYS:HE3	2.16	0.46
38:0:9604:HOH:O	22:P:58:SER:HB3	2.15	0.46
9:C:200:PRO:HA	38:C:552:HOH:O	2.16	0.46
10:D:146:LYS:HZ1	20:N:107:ASN:ND2	2.14	0.46
11:E:15:GLN:HG3	11:E:20:ILE:HG12	1.98	0.46
14:H:50:ILE:HD12	14:H:149:VAL:CG1	2.45	0.46
15:I:102:GLN:HA	15:I:105:GLU:OE2	2.15	0.46
26:T:61:GLU:N	38:T:4021:HOH:O	2.40	0.46
1:0:894:A:C2	9:C:87:ARG:NH2	2.84	0.46
1:0:1471:A:H2'	1:0:1472:C:C6	2.49	0.46
1:0:2004:U:H2'	1:0:2004:U:O2	2.15	0.46
6:9:64:C:H2'	6:9:65:A:H5'	1.97	0.46
26:T:25:ALA:O	26:T:39:ASN:CB	2.64	0.46
26:T:61:GLU:HG3	38:T:4018:HOH:O	2.15	0.46
28:V:24:LYS:O	28:V:27:LEU:HB3	2.16	0.46
29:W:1:MET:HB2	29:W:103:GLU:HG2	1.97	0.46
1:0:417:G:P	38:0:4977:HOH:O	2.73	0.46
1:0:545:G:H2'	1:0:546:C:O4'	2.16	0.46
1:0:699:C:C2	1:0:743:G:N2	2.84	0.46
1:0:962:C:C1'	20:N:5:ARG:NH1	2.73	0.46
1:0:1120:U:H5"	1:0:1120:U:H6	1.81	0.46
1:0:1450:C:O2'	1:0:1493:A:H2'	2.15	0.46
1:0:1878:G:O2'	1:0:1879:U:OP2	2.34	0.46
1:0:2002:C:C2'	1:0:2003:U:H5'	2.45	0.46
1:0:2421:G:H3'	1:0:2422:U:C5'	2.46	0.46
1:0:2453:G:H4'	18:L:50:GLY:C	2.36	0.46
1:0:2831:C:H2'	1:0:2832:C:C5'	2.45	0.46
38:9:312:HOH:O	23:Q:27:GLN:HB2	2.16	0.46
8:B:80:ARG:HA	8:B:186:GLY:O	2.16	0.46
12:F:117:GLU:C	12:F:119:ARG:H	2.18	0.46
25:S:32:ALA:HA	25:S:36:GLU:OE1	2.16	0.46
31:Y:216:ARG:HD3	38:Y:489:HOH:O	2.15	0.46
1:0:37:A:H2'	1:0:38:G:H8	1.80	0.46
1:0:661:G:C5	1:0:686:A:C2	3.04	0.46
1:0:675:U:O2'	9:C:42:ARG:NH1	2.49	0.46
1:0:960:G:H8	38:0:6207:HOH:O	1.98	0.46
1:0:1804:A:H2'	1:0:1805:G:C8	2.51	0.46
1:0:1878:G:H5"	38:0:7982:HOH:O	2.16	0.46
1:0:2717:C:OP1	8:B:207:LYS:HG3	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:9:440:HOH:O	20:N:65:ASP:HB3	2.14	0.46
7:A:101:GLU:OE2	7:A:131:HIS:HB2	2.16	0.46
7:A:130:THR:N	38:A:450:HOH:O	2.48	0.46
8:B:55:ASN:CG	8:B:63:GLU:HA	2.36	0.46
10:D:128:LEU:HB2	38:D:235:HOH:O	2.15	0.46
23:Q:4:ASN:ND2	38:Q:205:HOH:O	2.49	0.46
26:T:32:ARG:NH1	26:T:38:ARG:HH12	2.14	0.46
26:T:82:THR:C	26:T:84:GLY:H	2.20	0.46
30:X:31:ILE:O	30:X:35:GLU:HG3	2.16	0.46
31:Y:122:ARG:NH2	38:Y:427:HOH:O	2.49	0.46
1:0:700:A:C2	18:L:71:GLU:HG2	2.51	0.45
1:0:1071:G:H4'	31:Y:154:ARG:HH22	1.80	0.45
1:0:1161:A:O5'	1:0:1161:A:H8	1.98	0.45
9:C:84:VAL:O	9:C:85:LYS:HB2	2.15	0.45
29:W:88:THR:HG22	29:W:90:TYR:CD1	2.51	0.45
1:0:130:C:H1'	38:0:4353:HOH:O	2.16	0.45
1:0:169:A:H1'	4:3:48:ASN:ND2	2.32	0.45
1:0:245:C:H2'	38:0:4738:HOH:O	2.16	0.45
1:0:407:A:H2'	1:0:408:A:C8	2.51	0.45
1:0:932:U:H2'	1:0:933:C:H6	1.81	0.45
1:0:1603:A:H5'	1:0:1605:G:C4'	2.46	0.45
1:0:2335:C:H2'	1:0:2336:G:C8	2.51	0.45
1:0:2802:C:H2'	1:0:2803:C:H6	1.81	0.45
3:2:41:HIS:CD2	3:2:44:ARG:H	2.33	0.45
6:9:5:G:O2'	6:9:6:C:H5'	2.17	0.45
7:A:132:ASP:OD1	7:A:133:ARG:N	2.49	0.45
9:C:133:ARG:HH11	9:C:133:ARG:HG3	1.81	0.45
10:D:23:VAL:HG23	10:D:23:VAL:O	2.16	0.45
18:L:91:VAL:CG1	18:L:120:LEU:HD23	2.47	0.45
18:L:122:ALA:HB3	18:L:125:PHE:CZ	2.52	0.45
19:M:134:ILE:CG2	19:M:141:ILE:HD13	2.46	0.45
24:R:39:THR:HB	24:R:42:GLU:CD	2.36	0.45
26:T:73:HIS:HD2	26:T:88:PRO:CG	2.27	0.45
8:B:280:VAL:CG1	8:B:334:SER:HA	2.46	0.45
11:E:86:VAL:CG1	11:E:129:GLU:HA	2.46	0.45
15:I:87:PRO:HB3	15:I:129:SER:C	2.36	0.45
22:P:98:ILE:HD12	22:P:102:ARG:CZ	2.46	0.45
31:Y:112:GLU:HA	31:Y:112:GLU:OE1	2.17	0.45
31:Y:132:ASP:OD1	31:Y:135:LYS:HD2	2.16	0.45
1:0:2895:C:H2'	38:0:9813:HOH:O	2.17	0.45
38:0:4093:HOH:O	26:T:9:LYS:CD	2.64	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:9:6:C:O2'	20:N:33:ARG:NH2	2.46	0.45
8:B:38:VAL:HA	8:B:166:VAL:HG22	1.99	0.45
8:B:75:GLU:C	8:B:77:PRO:HD3	2.37	0.45
8:B:82:VAL:HG12	8:B:101:TRP:CE3	2.51	0.45
9:C:111:VAL:HB	38:C:506:HOH:O	2.15	0.45
14:H:149:VAL:HG13	38:H:358:HOH:O	2.16	0.45
20:N:42:HIS:CG	20:N:62:HIS:HE1	2.35	0.45
20:N:151:ASP:OD1	20:N:154:LEU:HD13	2.16	0.45
25:S:73:ASP:OD1	25:S:76:GLU:HG3	2.17	0.45
1:0:166:A:N7	18:L:25:GLY:HA2	2.31	0.45
1:0:264:G:H1'	1:0:265:U:H5	1.81	0.45
1:0:1450:C:C4'	1:0:1451:C:OP2	2.62	0.45
1:0:1496:A:H5'	1:0:1572:A:H1'	1.98	0.45
1:0:1733:A:H4'	8:B:212:GLN:HA	1.99	0.45
1:0:2053:G:H4'	24:R:136:TRP:CE2	2.52	0.45
1:0:2335:C:H2'	1:0:2336:G:H8	1.81	0.45
1:0:2421:G:H3'	1:0:2422:U:H5"	1.97	0.45
2:1:36:SER:O	2:1:46:ARG:HD3	2.16	0.45
8:B:305:ASP:O	8:B:306:LYS:CB	2.64	0.45
9:C:14:GLY:O	9:C:15:GLU:HB3	2.16	0.45
15:I:87:PRO:C	15:I:89:GLU:N	2.68	0.45
20:N:11:ARG:O	20:N:15:GLU:HG3	2.15	0.45
20:N:144:GLY:O	20:N:147:ILE:CG2	2.65	0.45
21:O:11:ILE:HD13	21:O:34:GLU:HG3	1.98	0.45
22:P:115:SER:O	22:P:116:SER:C	2.54	0.45
24:R:96:VAL:O	24:R:99:ALA:HB3	2.16	0.45
29:W:117:ARG:HB3	29:W:117:ARG:HH11	1.82	0.45
31:Y:112:GLU:OE2	31:Y:115:ARG:NH1	2.50	0.45
1:0:60:A:O2'	1:0:61:G:H5'	2.17	0.45
1:0:285:A:H2'	1:0:286:U:O4'	2.17	0.45
1:0:839:C:O2'	5:4:9:MHT:H7	2.15	0.45
1:0:907:A:H4'	1:0:1328:A:N1	2.31	0.45
1:0:962:C:H2'	1:0:963:C:H5'	1.99	0.45
1:0:1139:U:H2'	1:0:1140:C:C6	2.52	0.45
1:0:1942:A:H4'	38:0:8081:HOH:O	2.16	0.45
1:0:2001:G:O2'	1:0:2002:C:H5'	2.16	0.45
1:0:2104:C:O2	1:0:2485:A:N1	2.49	0.45
1:0:2353:A:H4'	1:0:2354:A:O5'	2.16	0.45
38:0:6697:HOH:O	16:J:46:ILE:HA	2.16	0.45
7:A:165:THR:O	7:A:165:THR:HG22	2.16	0.45
8:B:329:TYR:HE2	27:U:15:PRO:HG2	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:J:127:ILE:HG22	36:J:202:CL:CL	2.54	0.45
20:N:110:THR:HB	20:N:113:SER:HG	1.81	0.45
1:0:146:U:O2'	1:0:147:G:H5'	2.17	0.45
1:0:281:U:O2'	1:0:282:C:H5'	2.17	0.45
1:0:297:U:H2'	1:0:298:C:C6	2.51	0.45
1:0:821:U:H5"	38:0:5786:HOH:O	2.15	0.45
1:0:858:U:H2'	1:0:859:C:H6	1.82	0.45
1:0:958:G:H2'	1:0:959:C:H6	1.82	0.45
1:0:1186:C:H42	1:0:1190:G:H22	1.63	0.45
1:0:1625:U:H5"	38:0:7441:HOH:O	2.16	0.45
1:0:1872:C:H2'	7:A:23:TYR:HD1	1.82	0.45
1:0:2266:A:OP2	19:M:90:ARG:NH2	2.50	0.45
1:0:2478:U:H2'	1:0:2479:A:H8	1.82	0.45
1:0:2498:C:O2'	1:0:2499:U:H5'	2.16	0.45
1:0:2511:A:H5'	1:0:2511:A:H8	1.82	0.45
1:0:2515:C:H2'	1:0:2516:G:O4'	2.16	0.45
1:0:2690:U:O2'	11:E:111:LYS:HE3	2.17	0.45
1:0:2910:A:H5"	38:0:9822:HOH:O	2.17	0.45
8:B:14:GLY:HA2	8:B:15:PRO:C	2.37	0.45
8:B:24:PRO:HG2	8:B:204:GLY:HA2	1.98	0.45
9:C:57:PRO:HD2	9:C:73:LEU:HD22	1.98	0.45
9:C:165:ASP:O	9:C:168:ARG:HB3	2.17	0.45
10:D:21:VAL:HA	10:D:131:THR:O	2.17	0.45
16:J:74:ARG:NH1	16:J:76:ASP:HB2	2.32	0.45
18:L:91:VAL:HB	38:L:358:HOH:O	2.16	0.45
19:M:18:GLY:O	19:M:21:ALA:HB3	2.16	0.45
20:N:38:LYS:HE2	20:N:107:ASN:HD21	1.80	0.45
20:N:72:GLU:O	20:N:72:GLU:HG2	2.17	0.45
24:R:18:LEU:HD22	24:R:21:ARG:NE	2.32	0.45
24:R:114:VAL:HG13	24:R:114:VAL:O	2.17	0.45
1:0:1183:C:H41	1:0:1192:A:H5'	1.81	0.45
1:0:1903:U:O2'	1:0:1904:A:C8	2.69	0.45
9:C:29:ASP:HB2	21:O:3:THR:HG22	1.98	0.45
9:C:130:GLU:OE1	9:C:130:GLU:HA	2.17	0.45
20:N:72:GLU:H	20:N:171:HIS:CE1	2.34	0.45
20:N:144:GLY:O	20:N:147:ILE:HG22	2.16	0.45
21:O:96:VAL:HG12	21:O:97:SER:N	2.31	0.45
22:P:40:VAL:O	22:P:44:VAL:HG23	2.17	0.45
26:T:24:ARG:NH2	26:T:39:ASN:HD22	2.14	0.45
26:T:75:GLU:O	26:T:76:ASP:HB2	2.16	0.45
29:W:21:LEU:HD22	29:W:26:ILE:HD13	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:X:20:GLU:OE1	30:X:21:PRO:HD2	2.17	0.45
30:X:45:GLU:HG3	38:X:4017:HOH:O	2.16	0.45
30:X:73:ARG:HB2	30:X:88:GLU:OE2	2.17	0.45
1:0:558:C:HO2'	1:0:559:U:H5"	1.81	0.45
1:0:1261:A:H4'	38:0:6453:HOH:O	2.17	0.45
1:0:1414:A:H2'	1:0:1415:G:O4'	2.17	0.45
1:0:1588:G:C6	1:0:1589:G:N1	2.84	0.45
1:0:1624:A:H5'	1:0:1626:A:O4'	2.16	0.45
1:0:2032:U:O2'	1:0:2033:G:H5"	2.16	0.45
1:0:2054:A:C2	24:R:128:ARG:NH2	2.85	0.45
1:0:2361:A:H2'	1:0:2362:A:O4'	2.17	0.45
2:1:28:HIS:HB3	2:1:31:LYS:HB2	1.99	0.45
6:9:30:C:OP1	10:D:137:PRO:O	2.34	0.45
7:A:29:HIS:HB3	7:A:153:ARG:HH12	1.82	0.45
8:B:79:MET:HE1	38:B:561:HOH:O	2.16	0.45
9:C:133:ARG:HD2	38:C:518:HOH:O	2.15	0.45
11:E:11:VAL:HG13	11:E:23:GLU:O	2.16	0.45
12:F:1:PRO:H3	12:F:4:VAL:CG2	2.30	0.45
17:K:75:ARG:HE	17:K:94:ALA:HB3	1.82	0.45
19:M:47:ASP:CG	19:M:48:LYS:N	2.71	0.45
20:N:12:ARG:HH21	20:N:17:ARG:HD3	1.80	0.45
26:T:38:ARG:NH1	26:T:38:ARG:HG3	2.31	0.45
1:0:363:C:H2'	1:0:364:U:C6	2.52	0.45
1:0:657:G:H2'	1:0:658:C:H6	1.81	0.45
1:0:902:G:N7	18:L:18:HIS:CD2	2.85	0.45
1:0:1268:C:H2'	1:0:1269:G:H8	1.82	0.45
1:0:1500:U:P	22:P:41:ARG:HH22	2.40	0.45
1:0:2782:G:O6	1:0:2790:C:H5"	2.16	0.45
2:1:25:LYS:HD2	3:2:49:GLU:N	2.25	0.45
8:B:297:VAL:HB	38:B:539:HOH:O	2.17	0.45
9:C:235:PHE:CE2	9:C:243:VAL:HG21	2.52	0.45
12:F:43:GLY:O	12:F:45:ALA:N	2.46	0.45
12:F:50:VAL:CG2	12:F:63:ILE:HG21	2.47	0.45
26:T:71:VAL:HG12	26:T:72:ILE:N	2.32	0.45
29:W:154:ARG:HB3	29:W:154:ARG:HE	1.64	0.45
1:0:1028:U:H1'	38:0:6270:HOH:O	2.17	0.44
1:0:1175:G:H1'	1:0:1193:A:H2'	1.99	0.44
1:0:1659:A:H2'	1:0:1660:G:O4'	2.16	0.44
1:0:1761:U:H4'	22:P:82:GLY:O	2.18	0.44
1:0:1940:C:H4'	38:0:8079:HOH:O	2.16	0.44
1:0:2054:A:N3	24:R:128:ARG:NH2	2.65	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2256:G:H2'	1:0:2257:G:H5'	1.98	0.44
1:0:2614:C:O2'	1:0:2615:U:H5'	2.17	0.44
9:C:54:LEU:HD23	9:C:79:ARG:HG3	1.99	0.44
10:D:128:LEU:HD23	10:D:128:LEU:C	2.37	0.44
12:F:48:VAL:CG2	12:F:74:PHE:HB3	2.47	0.44
19:M:49:ALA:C	19:M:54:TYR:HB3	2.38	0.44
25:S:13:LYS:HE2	38:S:4005:HOH:O	2.17	0.44
26:T:55:PHE:CG	26:T:77:VAL:HG13	2.51	0.44
30:X:75:ALA:O	30:X:83:ALA:HA	2.17	0.44
1:0:24:G:H22	1:0:518:G:H1'	1.82	0.44
1:0:1930:A:H2'	1:0:1931:A:C8	2.52	0.44
1:0:1940:C:H1'	38:0:8074:HOH:O	2.17	0.44
1:0:2781:U:H2'	1:0:2782:G:C5'	2.47	0.44
1:0:2821:C:H4'	8:B:116:PRO:HB3	1.99	0.44
8:B:84:LEU:HD23	8:B:142:LEU:CD2	2.46	0.44
8:B:98:THR:HG22	8:B:99:GLU:H	1.81	0.44
9:C:246:ARG:NE	38:C:583:HOH:O	2.39	0.44
18:L:56:LYS:HA	38:L:302:HOH:O	2.16	0.44
18:L:124:ASP:OD1	18:L:149:ARG:NH2	2.50	0.44
20:N:86:LEU:HD21	20:N:180:LEU:CD1	2.47	0.44
20:N:119:GLN:O	20:N:123:ILE:HG13	2.17	0.44
29:W:7:LEU:CD1	29:W:53:ALA:HB2	2.48	0.44
1:0:1490:G:H4'	1:0:1533:A:OP1	2.17	0.44
1:0:1909:A:H2'	1:0:1910:A:C8	2.53	0.44
1:0:2712:G:O2'	1:0:2713:G:H5'	2.18	0.44
1:0:2911:C:H3'	38:0:9823:HOH:O	2.16	0.44
3:2:19:SER:O	3:2:36:ASN:ND2	2.51	0.44
8:B:7:ARG:CD	8:B:9:GLY:O	2.65	0.44
8:B:217:ARG:CD	8:B:257:THR:HG22	2.47	0.44
8:B:240:GLY:HA3	38:B:608:HOH:O	2.17	0.44
9:C:131:PHE:CD2	9:C:232:LEU:HD22	2.52	0.44
9:C:246:ARG:NH1	38:C:584:HOH:O	2.49	0.44
11:E:126:ILE:HB	11:E:131:LEU:CD2	2.48	0.44
18:L:10:SER:O	18:L:11:ARG:HB3	2.18	0.44
19:M:125:ARG:HD3	38:M:390:HOH:O	2.16	0.44
24:R:29:LYS:HD3	38:R:332:HOH:O	2.17	0.44
24:R:33:ARG:NH2	38:R:332:HOH:O	2.50	0.44
28:V:42:ASN:O	28:V:44:GLY:N	2.50	0.44
1:0:499:G:O2'	1:0:500:G:H5'	2.16	0.44
1:0:2344:G:H2'	1:0:2344:G:N3	2.33	0.44
6:9:52:A:H2'	6:9:53:G:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:9:114:G:H2'	6:9:115:C:C6	2.53	0.44
9:C:72:LYS:HG2	9:C:77:ALA:HA	1.98	0.44
38:C:542:HOH:O	26:T:2:LYS:HE2	2.17	0.44
18:L:67:ARG:HB2	18:L:112:GLY:HA3	1.99	0.44
20:N:23:ARG:NH2	20:N:55:ASP:OD1	2.50	0.44
25:S:15:MET:O	25:S:18:MET:HB3	2.18	0.44
29:W:46:ALA:O	29:W:49:ASN:HB2	2.17	0.44
30:X:10:VAL:HG11	30:X:36:HIS:HE1	1.82	0.44
31:Y:133:HIS:HA	31:Y:139:VAL:HG12	1.98	0.44
1:0:380:A:H2'	38:0:4901:HOH:O	2.15	0.44
1:0:401:C:H2'	1:0:402:U:C6	2.53	0.44
1:0:1019:C:H5'	38:0:6251:HOH:O	2.16	0.44
1:0:1137:G:H1'	38:0:6562:HOH:O	2.17	0.44
1:0:1250:C:O2'	1:0:1251:C:H5'	2.17	0.44
1:0:1478:U:H2'	1:0:1479:G:H8	1.82	0.44
1:0:2038:A:H5"	8:B:222:LYS:HG3	1.99	0.44
1:0:2055:A:H4'	24:R:132:ARG:HH21	1.82	0.44
38:0:7957:HOH:O	7:A:11:ARG:HG2	2.18	0.44
6:9:42:C:H5'	6:9:43:G:OP2	2.17	0.44
8:B:42:ALA:HB3	8:B:79:MET:SD	2.57	0.44
8:B:142:LEU:HD21	8:B:178:ALA:HB1	2.00	0.44
8:B:243:ASN:HA	8:B:244:PRO:C	2.38	0.44
8:B:336:GLN:NE2	38:B:643:HOH:O	2.49	0.44
10:D:27:ILE:HB	10:D:69:ILE:O	2.17	0.44
10:D:56:ARG:N	38:D:225:HOH:O	2.50	0.44
11:E:162:PHE:N	11:E:162:PHE:CD1	2.85	0.44
12:F:106:ALA:HB3	38:F:4024:HOH:O	2.18	0.44
14:H:114:ASP:N	38:H:344:HOH:O	2.50	0.44
16:J:19:MET:CE	16:J:132:LEU:HD21	2.47	0.44
16:J:45:VAL:HG22	16:J:46:ILE:N	2.33	0.44
19:M:60:VAL:C	19:M:61:ILE:HD12	2.37	0.44
22:P:83:LYS:HG3	22:P:84:ALA:H	1.81	0.44
24:R:39:THR:O	24:R:40:ALA:C	2.55	0.44
29:W:26:ILE:O	29:W:26:ILE:CG1	2.64	0.44
1:0:797:A:H5'	32:Z:10:ARG:N	2.32	0.44
1:0:1025:C:P	29:W:108:ARG:NH1	2.91	0.44
1:0:1421:C:O2'	1:0:1422:U:H5'	2.17	0.44
1:0:1517:C:O2'	1:0:1518:A:H5'	2.18	0.44
1:0:1730:G:C5'	1:0:1731:C:C6	3.01	0.44
1:0:2064:U:H4'	1:0:2653:A:OP1	2.17	0.44
1:0:2637:A:H5'	38:0:9422:HOH:O	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:36:ASP:C	7:A:38:ILE:H	2.20	0.44
7:A:38:ILE:HD13	7:A:38:ILE:HA	1.85	0.44
7:A:53:ALA:HB3	38:A:435:HOH:O	2.17	0.44
8:B:115:VAL:HA	8:B:116:PRO:HD3	1.75	0.44
8:B:221:GLN:HE22	17:K:42:ASN:ND2	2.16	0.44
9:C:39:GLN:O	9:C:43:LYS:HD3	2.18	0.44
10:D:140:ARG:N	38:D:240:HOH:O	2.49	0.44
10:D:153:THR:O	10:D:156:ARG:HB2	2.17	0.44
11:E:154:ILE:HD11	11:E:157:LYS:HE2	1.99	0.44
18:L:54:PRO:HG2	18:L:57:VAL:CG2	2.47	0.44
20:N:170:GLU:HA	20:N:173:ASP:OD2	2.18	0.44
28:V:20:LEU:HD11	28:V:53:ILE:HG23	1.99	0.44
30:X:36:HIS:CE1	30:X:40:HIS:CD2	3.06	0.44
31:Y:219:GLU:HG3	31:Y:220:GLU:N	2.32	0.44
1:0:185:G:H4'	1:0:186:A:OP1	2.17	0.44
1:0:271:C:H41	1:0:378:A:H2	1.63	0.44
1:0:1181:A:C2'	1:0:1182:C:H5'	2.47	0.44
1:0:1234:U:C4	8:B:244:PRO:HB3	2.53	0.44
1:0:2268:C:H2'	1:0:2269:C:C6	2.53	0.44
1:0:2858:U:H2'	1:0:2859:C:C6	2.52	0.44
6:9:106:U:O5'	6:9:106:U:H6	2.01	0.44
10:D:15:GLU:HA	10:D:16:PRO:HD3	1.88	0.44
10:D:41:LEU:CA	10:D:44:ILE:HG22	2.46	0.44
15:I:91:PHE:HA	15:I:131:GLY:CA	2.48	0.44
17:K:27:ARG:HD2	38:K:4015:HOH:O	2.18	0.44
19:M:76:ARG:HG2	19:M:76:ARG:HH11	1.81	0.44
25:S:57:THR:CG2	25:S:58:MET:N	2.80	0.44
27:U:9:CYS:CA	27:U:52:THR:HG23	2.36	0.44
29:W:4:LEU:HD23	29:W:4:LEU:HA	1.77	0.44
30:X:22:ASN:C	30:X:24:LYS:H	2.21	0.44
1:0:163:U:O3'	1:0:896:C:H4'	2.17	0.44
1:0:545:G:C8	1:0:545:G:C5'	2.99	0.44
1:0:559:U:H6	1:0:559:U:C5'	2.27	0.44
1:0:658:C:O2'	1:0:662:U:OP1	2.32	0.44
1:0:1180:U:H4'	15:I:86:GLU:HG2	2.00	0.44
1:0:1437:A:O2'	1:0:1438:G:H5'	2.18	0.44
1:0:1584:C:O2'	1:0:1585:C:H5'	2.17	0.44
1:0:1754:A:H2'	1:0:1755:A:O4'	2.18	0.44
1:0:2072:G:H3'	1:0:2073:G:C5'	2.48	0.44
1:0:2506:A:N6	1:0:2511:A:O2'	2.48	0.44
3:2:35:ARG:HG2	38:2:133:HOH:O	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:69:TYR:HB2	4:3:78:HIS:CE1	2.53	0.44
6:9:11:A:P	23:Q:19:ARG:HH21	2.40	0.44
8:B:69:VAL:HA	8:B:70:PRO:HD3	1.84	0.44
9:C:133:ARG:HE	9:C:138:VAL:HG22	1.83	0.44
10:D:140:ARG:HH11	10:D:140:ARG:HG3	1.82	0.44
12:F:49:PHE:HE1	12:F:98:VAL:HG23	1.83	0.44
13:G:63:ARG:N	38:G:4014:HOH:O	2.50	0.44
15:I:134:ILE:C	15:I:135:GLU:HG3	2.38	0.44
17:K:62:PRO:CG	17:K:65:ARG:HH21	2.31	0.44
20:N:143:ARG:NH1	20:N:173:ASP:OD1	2.50	0.44
26:T:96:VAL:HG13	26:T:97:ARG:N	2.33	0.44
31:Y:187:VAL:CG2	31:Y:192:ASP:HB2	2.33	0.44
1:0:736:A:H2'	1:0:737:A:O4'	2.18	0.44
1:0:858:U:H2'	1:0:859:C:C6	2.52	0.44
1:0:1386:G:O2'	1:0:1387:G:H5'	2.18	0.44
1:0:1513:C:O2'	1:0:1514:C:H5'	2.17	0.44
1:0:2819:C:O4'	8:B:96:PRO:HB2	2.18	0.44
4:3:16:GLU:HG3	4:3:18:GLN:HE21	1.82	0.44
4:3:20:HIS:HA	4:3:70:ARG:O	2.18	0.44
7:A:70:ALA:HA	7:A:71:PRO:HD3	1.80	0.44
21:O:80:ASP:OD1	21:O:81:PHE:N	2.50	0.44
30:X:41:PHE:CZ	30:X:74:ALA:HB3	2.53	0.44
31:Y:100:ARG:NH1	31:Y:215:GLU:HA	2.33	0.44
1:0:35:U:H5'	9:C:47:GLY:O	2.18	0.43
1:0:485:A:O2'	1:0:487:G:H5'	2.18	0.43
1:0:844:A:C6	1:0:882:A:C5	3.06	0.43
1:0:952:G:N3	1:0:2302:A:H2'	2.33	0.43
1:0:1415:G:H5'	2:1:12:ASN:O	2.18	0.43
1:0:1573:A:H2'	1:0:1574:C:O4'	2.18	0.43
1:0:2433:A:H2'	1:0:2434:A:C8	2.52	0.43
1:0:2524:G:N2	1:0:2526:C:H41	2.12	0.43
1:0:2866:U:H4'	1:0:2867:G:H5'	2.00	0.43
7:A:223:ARG:HG3	38:A:514:HOH:O	2.17	0.43
9:C:218:VAL:N	38:C:583:HOH:O	2.50	0.43
10:D:166:ILE:HD12	38:D:247:HOH:O	2.17	0.43
17:K:41:LYS:O	17:K:42:ASN:HB2	2.18	0.43
19:M:59:GLY:HA3	19:M:141:ILE:CD1	2.47	0.43
25:S:76:GLU:HB3	38:S:4029:HOH:O	2.18	0.43
26:T:9:LYS:CE	26:T:13:ARG:NH1	2.73	0.43
28:V:4:HIS:O	28:V:8:ILE:HG13	2.18	0.43
31:Y:182:PHE:HD2	31:Y:200:THR:O	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Z:10:ARG:HG3	32:Z:11:SER:N	2.33	0.43
1:0:688:A:N7	18:L:65:ASP:OD2	2.51	0.43
1:0:1119:G:H8	16:J:52:GLN:HE22	1.66	0.43
1:0:1174:A:C5	1:0:1201:C:H4'	2.52	0.43
1:0:2274:A:H1'	19:M:86:GLN:NE2	2.33	0.43
1:0:2809:G:H2'	1:0:2810:G:O4'	2.18	0.43
2:1:10:LYS:HG3	38:1:212:HOH:O	2.18	0.43
9:C:44:GLN:HA	38:C:439:HOH:O	2.18	0.43
10:D:64:ARG:HD3	10:D:67:ASP:CB	2.48	0.43
12:F:33:THR:HG21	12:F:59:ILE:O	2.17	0.43
14:H:83:GLU:HA	38:H:330:HOH:O	2.18	0.43
19:M:34:GLU:HB3	19:M:38:GLU:HG3	1.99	0.43
24:R:9:ASP:O	24:R:13:THR:HG22	2.17	0.43
25:S:14:ALA:HA	25:S:25:GLN:NE2	2.33	0.43
26:T:25:ALA:O	26:T:39:ASN:HB2	2.18	0.43
1:0:256:C:H2'	1:0:257:G:O4'	2.18	0.43
1:0:445:U:H2'	1:0:446:G:H8	1.82	0.43
1:0:1207:A:N6	38:0:6642:HOH:O	2.51	0.43
1:0:1839:A:H5'	1:0:2643:G:H4'	2.00	0.43
1:0:2091:G:O3'	8:B:235:ARG:HD3	2.17	0.43
1:0:2460:A:H5"	4:3:58:GLY:O	2.18	0.43
38:0:8248:HOH:O	8:B:216:LYS:HA	2.18	0.43
4:3:56:PRO:CA	38:3:245:HOH:O	2.66	0.43
9:C:168:ARG:NH2	9:C:190:ALA:O	2.51	0.43
10:D:39:ASP:HB2	38:D:219:HOH:O	2.18	0.43
14:H:27:PRO:HD3	14:H:123:ILE:HG22	2.01	0.43
16:J:84:ARG:HB2	16:J:98:PHE:CE1	2.53	0.43
21:O:35:LYS:HB3	21:O:36:PRO:HD2	2.00	0.43
22:P:22:TRP:CH2	22:P:24:ASN:HA	2.53	0.43
1:0:299:U:H5'	38:0:5026:HOH:O	2.19	0.43
1:0:667:C:H2'	1:0:668:C:C6	2.54	0.43
1:0:793:A:H5"	22:P:83:LYS:HG2	1.99	0.43
1:0:1098:A:H2'	1:0:1099:G:O4'	2.17	0.43
1:0:1119:G:N2	1:0:1246:A:H2	2.13	0.43
1:0:1119:G:H8	16:J:52:GLN:NE2	2.16	0.43
1:0:1211:G:H2'	1:0:1212:C:H6	1.83	0.43
1:0:1517:C:O2	1:0:1670:A:C2	2.71	0.43
1:0:1674:C:P	25:S:34:LYS:HG3	2.59	0.43
1:0:1718:G:O2'	1:0:1719:G:H5'	2.19	0.43
1:0:2372:A:H2'	1:0:2373:U:C6	2.53	0.43
1:0:2443:C:H1'	18:L:56:LYS:HE3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2521:A:P	14:H:6:ALA:HB3	2.59	0.43
4:3:22:VAL:HG11	4:3:67:LEU:HD13	2.00	0.43
6:9:106:U:O2'	6:9:107:C:H5'	2.19	0.43
7:A:149:ASP:OD1	7:A:151:GLN:HB2	2.17	0.43
7:A:215:ILE:HG13	7:A:216:SER:N	2.33	0.43
8:B:190:MET:HG2	8:B:272:ILE:CG2	2.48	0.43
9:C:133:ARG:NH2	38:C:517:HOH:O	2.50	0.43
10:D:81:GLU:C	10:D:83:PHE:H	2.22	0.43
11:E:84:MET:HE1	11:E:133:VAL:HG21	2.01	0.43
16:J:39:VAL:HG11	16:J:107:ASN:CB	2.47	0.43
19:M:184:ARG:CG	19:M:185:PRO:HA	2.49	0.43
24:R:46:TYR:O	24:R:49:ALA:HB3	2.17	0.43
29:W:5:VAL:O	29:W:52:VAL:HG23	2.18	0.43
29:W:24:LEU:HD21	29:W:44:MET:SD	2.58	0.43
29:W:122:ARG:HG3	29:W:152:ALA:O	2.18	0.43
1:0:165:A:H5"	18:L:33:ALA:HB2	2.01	0.43
1:0:371:U:H2'	1:0:372:A:H8	1.82	0.43
1:0:613:C:H2'	1:0:614:U:H6	1.83	0.43
1:0:922:A:N7	1:0:2281:C:H5'	2.34	0.43
1:0:1478:U:H2'	1:0:1479:G:C8	2.53	0.43
1:0:1617:C:C4	1:0:1643:C:H4'	2.53	0.43
1:0:2299:G:C6	1:0:2300:A:C6	3.07	0.43
1:0:2609:G:N2	8:B:238:ASN:HD21	2.17	0.43
1:0:2861:G:H4'	8:B:282:GLY:N	2.34	0.43
1:0:2906:A:H5'	1:0:2907:C:O4'	2.18	0.43
8:B:84:LEU:O	8:B:99:GLU:HA	2.18	0.43
9:C:175:LYS:HD3	9:C:184:ARG:O	2.19	0.43
16:J:108:PRO:HG2	16:J:109:TYR:CD1	2.54	0.43
19:M:99:ARG:NH1	38:M:375:HOH:O	2.49	0.43
20:N:163:PHE:O	20:N:164:ASP:OD1	2.36	0.43
23:Q:35:ASP:N	23:Q:35:ASP:OD1	2.51	0.43
25:S:8:PRO:HD2	28:V:32:ALA:HA	2.00	0.43
30:X:34:ARG:NH1	30:X:48:VAL:O	2.40	0.43
1:0:10:U:O4	1:0:532:A:OP2	2.36	0.43
1:0:69:A:C2'	1:0:70:A:OP2	2.67	0.43
1:0:204:A:C2'	1:0:205:U:H5'	2.49	0.43
1:0:1052:G:H2'	1:0:1052:G:N3	2.33	0.43
1:0:1102:C:H4'	38:0:6484:HOH:O	2.18	0.43
1:0:1123:A:C2	1:0:1129:C:H4'	2.54	0.43
1:0:1641:A:H2'	1:0:1642:A:C5'	2.46	0.43
1:0:1735:C:H5'	8:B:235:ARG:NH2	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:9:3:A:H2	6:9:21:G:N3	2.17	0.43
10:D:24:HIS:CE1	10:D:26:GLY:H	2.37	0.43
10:D:173:GLU:OE1	10:D:174:VAL:HG23	2.19	0.43
11:E:107:PHE:CZ	11:E:152:THR:HB	2.53	0.43
12:F:48:VAL:HG12	12:F:97:ALA:CB	2.48	0.43
15:I:99:GLN:O	15:I:103:ILE:HG13	2.18	0.43
17:K:6:ALA:HB3	17:K:116:GLU:HG2	2.01	0.43
24:R:84:ALA:O	24:R:88:PHE:HD1	2.01	0.43
25:S:80:ARG:NH1	38:S:4029:HOH:O	2.51	0.43
27:U:6:CYS:C	27:U:8:TYR:H	2.22	0.43
30:X:30:MET:CE	30:X:58:ALA:HB3	2.48	0.43
30:X:30:MET:CE	30:X:55:ASN:HA	2.39	0.43
30:X:78:GLU:CG	30:X:79:GLU:H	2.28	0.43
31:Y:133:HIS:HA	31:Y:139:VAL:CG1	2.48	0.43
1:0:297:U:H2'	1:0:298:C:H6	1.82	0.43
1:0:1023:C:H2'	1:0:1024:G:O4'	2.18	0.43
1:0:1066:U:H2'	1:0:1067:A:C8	2.54	0.43
1:0:1421:C:H2'	1:0:1422:U:C6	2.52	0.43
1:0:1427:A:H61	1:0:1440:U:C1'	2.30	0.43
1:0:1477:C:H5'	1:0:1868:G:H5"	2.01	0.43
1:0:1845:A:O3'	7:A:187:PRO:HB2	2.19	0.43
1:0:2731:G:H2'	1:0:2732:U:O4'	2.18	0.43
1:0:2761:A:C4	1:0:2763:G:C8	3.07	0.43
7:A:95:PRO:HA	7:A:153:ARG:HA	1.99	0.43
7:A:164:ARG:HA	32:Z:69:TYR:CE1	2.54	0.43
8:B:157:LYS:O	8:B:159:PRO:HD3	2.18	0.43
9:C:136:VAL:HA	9:C:137:PRO:C	2.38	0.43
9:C:194:PHE:HA	9:C:234:VAL:HG13	2.01	0.43
11:E:47:VAL:HG11	11:E:69:ILE:HD13	2.00	0.43
23:Q:93:ARG:HG3	23:Q:93:ARG:NH1	2.33	0.43
25:S:11:THR:O	25:S:15:MET:HG2	2.18	0.43
25:S:18:MET:HG3	25:S:74:ALA:HB1	2.00	0.43
1:0:396:U:OP2	4:3:38:ARG:HD2	2.19	0.43
1:0:1506:U:H6	1:0:1506:U:H5'	1.83	0.43
1:0:1603:A:H5"	1:0:1604:G:H3'	2.00	0.43
1:0:1925:G:O2'	1:0:1926:G:H5'	2.19	0.43
6:9:59:C:H4'	38:9:364:HOH:O	2.19	0.43
9:C:233:THR:CG2	9:C:234:VAL:N	2.78	0.43
11:E:2:ARG:HG3	11:E:50:GLU:HB3	2.00	0.43
17:K:30:LYS:C	17:K:55:VAL:HG13	2.37	0.43
18:L:34:GLY:C	18:L:36:ASP:H	2.22	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:M:107:ARG:NH1	38:M:378:HOH:O	2.49	0.43
20:N:108:SER:HA	20:N:109:PRO:HD3	1.82	0.43
25:S:10:VAL:HG11	28:V:36:ALA:HA	2.00	0.43
1:0:468:U:H3'	38:0:5101:HOH:O	2.18	0.43
1:0:968:G:H1'	14:H:35:LYS:HD2	2.00	0.43
1:0:1213:C:C2'	1:0:1214:G:H5'	2.49	0.43
1:0:1571:G:H1'	1:0:1627:G:N2	2.34	0.43
1:0:1600:G:H4'	38:0:7411:HOH:O	2.17	0.43
1:0:2039:A:H2'	1:0:2040:C:C6	2.54	0.43
1:0:2754:G:HO2'	1:0:2755:G:H5'	1.82	0.43
6:9:8:G:H4'	23:Q:27:GLN:HE21	1.84	0.43
8:B:13:PHE:O	8:B:16:ARG:HD2	2.19	0.43
8:B:22:GLU:HA	8:B:205:VAL:HG21	2.01	0.43
8:B:278:PRO:HD3	8:B:294:TYR:CE2	2.54	0.43
10:D:14:ARG:NH1	38:D:209:HOH:O	2.50	0.43
12:F:56:PRO:HG2	19:M:43:PRO:O	2.18	0.43
14:H:69:ARG:HD3	38:H:327:HOH:O	2.19	0.43
15:I:126:THR:HG22	15:I:126:THR:O	2.19	0.43
26:T:37:GLN:HB3	38:T:4017:HOH:O	2.19	0.43
1:0:213:G:O2'	1:0:214:U:OP2	2.37	0.43
1:0:361:C:H2'	1:0:362:G:O4'	2.19	0.43
1:0:1314:U:H5"	1:0:1316:G:O4'	2.18	0.43
1:0:2120:U:H2'	1:0:2121:G:O4'	2.19	0.43
1:0:2712:G:H5'	38:0:9537:HOH:O	2.18	0.43
1:0:2764:C:H2'	1:0:2765:C:C6	2.53	0.43
1:0:2898:G:H4'	8:B:288:GLY:HA2	2.00	0.43
6:9:29:C:H2'	6:9:30:C:C5'	2.43	0.43
7:A:105:VAL:HG13	7:A:155:THR:O	2.18	0.43
10:D:20:LYS:HA	10:D:75:LEU:O	2.19	0.43
12:F:46:GLU:N	38:F:4011:HOH:O	2.52	0.43
14:H:6:ALA:CA	14:H:61:ARG:HH12	2.26	0.43
14:H:49:GLN:HB3	14:H:170:ARG:CG	2.48	0.43
14:H:49:GLN:CB	14:H:170:ARG:HG3	2.46	0.43
20:N:82:TYR:CD2	20:N:82:TYR:C	2.92	0.43
21:O:32:ARG:HD3	21:O:32:ARG:C	2.39	0.43
24:R:4:TYR:CE1	24:R:17:MET:HE2	2.53	0.43
26:T:14:ALA:HA	26:T:15:PRO:HD3	1.93	0.43
26:T:71:VAL:HG13	26:T:91:LEU:O	2.19	0.43
27:U:17:THR:HG22	27:U:18:GLY:H	1.84	0.43
30:X:76:ARG:O	30:X:77:PHE:CB	2.64	0.43
1:0:1289:C:O2'	1:0:1290:G:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1427:A:N6	1:0:1440:U:H1'	2.34	0.42
1:0:1702:U:H1'	38:0:7352:HOH:O	2.20	0.42
1:0:1849:G:H1'	1:0:2011:A:N1	2.34	0.42
1:0:1929:G:H1'	38:0:8072:HOH:O	2.18	0.42
1:0:2402:A:H1'	38:0:8828:HOH:O	2.19	0.42
38:0:6158:HOH:O	21:O:39:THR:HB	2.18	0.42
6:9:3:A:OP2	6:9:25:G:N2	2.52	0.42
9:C:95:GLU:CD	9:C:95:GLU:H	2.23	0.42
9:C:115:LEU:HD21	9:C:243:VAL:CG1	2.36	0.42
11:E:132:THR:HG23	11:E:132:THR:O	2.19	0.42
15:I:95:LEU:O	15:I:134:ILE:HG23	2.18	0.42
17:K:98:VAL:HG13	17:K:102:GLU:CA	2.40	0.42
20:N:114:LYS:O	20:N:117:ALA:HB3	2.19	0.42
20:N:158:LEU:C	20:N:159:TYR:HD1	2.22	0.42
21:O:14:LEU:HG	21:O:102:ILE:HD11	2.00	0.42
21:O:25:VAL:HG23	21:O:26:TRP:CE3	2.54	0.42
27:U:23:HIS:HB2	27:U:27:ALA:HB3	2.00	0.42
29:W:69:ARG:HG3	29:W:118:LEU:HD23	2.01	0.42
29:W:140:LYS:C	29:W:141:HIS:HD2	2.23	0.42
30:X:15:ARG:HB3	30:X:15:ARG:HH11	1.84	0.42
31:Y:97:LEU:C	31:Y:98:GLN:HG2	2.39	0.42
1:0:111:C:H2'	1:0:112:G:O4'	2.19	0.42
1:0:960:G:N3	1:0:960:G:H2'	2.33	0.42
1:0:2039:A:OP2	8:B:234:ARG:NH2	2.52	0.42
1:0:2815:G:C5	16:J:102:ARG:HG2	2.54	0.42
6:9:26:C:O2'	6:9:27:C:H5'	2.19	0.42
6:9:44:A:O4'	10:D:76:ARG:NE	2.48	0.42
9:C:16:VAL:HG21	9:C:237:GLU:OE1	2.19	0.42
9:C:35:VAL:HG23	9:C:220:THR:HG22	2.01	0.42
10:D:81:GLU:C	10:D:83:PHE:N	2.72	0.42
15:I:71:ALA:O	15:I:75:LYS:HG3	2.19	0.42
16:J:15:ARG:NH1	16:J:43:ARG:NH1	2.67	0.42
19:M:46:LEU:HD22	19:M:50:ARG:HD2	2.00	0.42
20:N:48:VAL:HG11	20:N:55:ASP:CB	2.46	0.42
21:O:105:ASN:HD21	21:O:109:SER:N	2.16	0.42
26:T:65:VAL:HG22	26:T:72:ILE:HG22	2.01	0.42
28:V:1:THR:O	28:V:2:VAL:C	2.56	0.42
28:V:12:THR:HG22	28:V:15:GLU:H	1.83	0.42
31:Y:229:LEU:O	31:Y:231:PRO:HD3	2.19	0.42
1:0:87:C:C2	3:2:30:ASP:OD2	2.72	0.42
1:0:221:G:H2'	1:0:222:A:C8	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:553:G:P	31:Y:204:ARG:NH2	2.92	0.42
1:0:953:G:H2'	38:0:6189:HOH:O	2.19	0.42
1:0:1123:A:C6	1:0:1238:C:H5'	2.54	0.42
38:0:5339:HOH:O	31:Y:158:LYS:HD3	2.18	0.42
4:3:91:GLN:O	4:3:92:GLU:HB2	2.20	0.42
7:A:66:ARG:CB	7:A:66:ARG:NH1	2.83	0.42
8:B:63:GLU:O	8:B:63:GLU:HG3	2.19	0.42
8:B:175:LEU:C	8:B:175:LEU:CD2	2.88	0.42
9:C:49:ASP:HB3	9:C:52:ALA:HB2	2.00	0.42
10:D:19:GLU:HG3	38:D:210:HOH:O	2.19	0.42
11:E:31:ARG:NH1	38:E:4034:HOH:O	2.52	0.42
18:L:35:ARG:O	18:L:40:PHE:HA	2.19	0.42
18:L:66:VAL:CG2	18:L:67:ARG:N	2.83	0.42
21:O:79:VAL:O	21:O:80:ASP:HB2	2.19	0.42
26:T:63:ILE:HD11	26:T:75:GLU:HB2	2.01	0.42
29:W:21:LEU:HD22	29:W:26:ILE:HD11	2.00	0.42
29:W:48:VAL:HG12	29:W:52:VAL:CG1	2.50	0.42
1:0:162:C:H2'	1:0:163:U:H5'	2.02	0.42
1:0:503:G:H2'	1:0:504:G:H8	1.83	0.42
1:0:694:A:H4'	1:0:2441:U:OP1	2.20	0.42
1:0:1772:C:H5'	1:0:1773:G:C5	2.55	0.42
1:0:1805:G:H2'	1:0:1806:G:C8	2.53	0.42
1:0:2090:G:H2'	1:0:2091:G:C8	2.54	0.42
1:0:2445:U:H2'	1:0:2446:G:H8	1.79	0.42
1:0:2653:A:H2'	1:0:2654:C:C6	2.55	0.42
1:0:2676:C:H4'	16:J:70:PHE:CE1	2.54	0.42
1:0:2842:G:H2'	1:0:2843:A:H5'	2.01	0.42
4:3:69:TYR:CZ	4:3:80:ARG:HD2	2.55	0.42
8:B:278:PRO:HD3	8:B:294:TYR:CZ	2.53	0.42
8:B:320:GLN:NE2	8:B:321:PRO:CD	2.72	0.42
10:D:36:ASN:C	38:D:222:HOH:O	2.57	0.42
10:D:55:LYS:O	10:D:56:ARG:HB2	2.19	0.42
20:N:154:LEU:HG	20:N:155:GLU:N	2.34	0.42
28:V:39:ALA:C	28:V:41:GLU:N	2.72	0.42
29:W:48:VAL:CG1	29:W:48:VAL:O	2.67	0.42
31:Y:108:ASP:OD1	31:Y:199:ASP:HB3	2.19	0.42
1:0:20:G:H21	24:R:117:HIS:HD2	1.66	0.42
1:0:303:C:H2'	1:0:304:G:O4'	2.20	0.42
1:0:541:C:O2'	1:0:542:A:H5"	2.20	0.42
1:0:1041:U:H4'	1:0:1295:G:H5'	2.01	0.42
1:0:1163:G:N2	38:I:4004:HOH:O	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1935:C:H2'	1:0:1936:C:H6	1.84	0.42
1:0:2502:C:H2'	1:0:2503:A:H5'	2.01	0.42
4:3:8:ASN:O	4:3:9:THR:HB	2.19	0.42
8:B:223:ARG:O	8:B:228:ALA:HB2	2.20	0.42
12:F:70:LYS:C	12:F:72:VAL:H	2.22	0.42
15:I:87:PRO:O	15:I:89:GLU:HG3	2.19	0.42
17:K:65:ARG:O	17:K:66:ARG:HB2	2.19	0.42
21:O:25:VAL:CG2	21:O:26:TRP:N	2.81	0.42
22:P:91:LYS:O	22:P:95:GLU:HG3	2.20	0.42
24:R:59:PHE:O	24:R:63:ASN:HB3	2.19	0.42
27:U:14:GLU:HA	27:U:15:PRO:HD2	1.94	0.42
29:W:122:ARG:HG3	29:W:122:ARG:HH11	1.84	0.42
1:0:318:U:O2'	1:0:338:C:H2'	2.19	0.42
1:0:396:U:C1'	38:0:4950:HOH:O	2.66	0.42
1:0:1183:C:O2	1:0:1183:C:H2'	2.19	0.42
1:0:1874:U:P	7:A:51:ARG:HD2	2.59	0.42
7:A:69:LEU:HD11	7:A:159:VAL:HG13	2.01	0.42
8:B:277:GLU:N	8:B:278:PRO:CD	2.83	0.42
16:J:34:GLU:HA	16:J:34:GLU:OE1	2.19	0.42
16:J:52:GLN:HG3	16:J:53:ILE:H	1.83	0.42
17:K:28:GLU:HG2	17:K:58:THR:CB	2.47	0.42
24:R:4:TYR:N	38:R:308:HOH:O	2.53	0.42
29:W:65:VAL:HG11	29:W:116:LEU:HD13	2.02	0.42
29:W:119:HIS:O	29:W:153:MET:HB3	2.19	0.42
1:0:431:G:O2'	1:0:432:G:H5'	2.20	0.42
1:0:1268:C:O2'	31:Y:169:ARG:HB2	2.20	0.42
1:0:1666:C:H2'	1:0:1667:A:H8	1.84	0.42
1:0:1798:C:H1'	22:P:66:GLN:OE1	2.20	0.42
1:0:2115:U:H2'	1:0:2116:U:C6	2.54	0.42
1:0:2820:A:OP1	8:B:98:THR:HG23	2.18	0.42
1:0:2822:C:O2'	1:0:2827:A:H4'	2.19	0.42
2:1:8:GLN:HE22	2:1:11:LYS:NZ	2.18	0.42
6:9:55:U:H4'	6:9:56:A:C8	2.55	0.42
7:A:72:GLU:HG3	32:Z:66:GLY:HA2	2.02	0.42
7:A:223:ARG:O	7:A:223:ARG:HG2	2.20	0.42
9:C:16:VAL:HG12	9:C:17:ASP:N	2.35	0.42
10:D:54:ALA:HB2	10:D:69:ILE:CD1	2.48	0.42
10:D:172:VAL:HG12	10:D:173:GLU:N	2.35	0.42
14:H:29:SER:HA	14:H:62:HIS:CD2	2.55	0.42
14:H:32:ALA:C	14:H:33:GLN:HG3	2.38	0.42
14:H:146:ALA:O	14:H:150:LYS:HG3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:N:74:PRO:HG2	20:N:159:TYR:CZ	2.55	0.42
21:O:96:VAL:CG1	21:O:97:SER:N	2.83	0.42
23:Q:24:SER:HB3	23:Q:28:ARG:HH21	1.83	0.42
24:R:29:LYS:CD	38:R:335:HOH:O	2.68	0.42
26:T:41:ARG:HG2	26:T:41:ARG:NH1	2.33	0.42
30:X:9:VAL:HG22	30:X:88:GLU:OE2	2.20	0.42
31:Y:125:LYS:HB2	31:Y:126:PRO:HD2	2.01	0.42
1:0:474:C:O3'	9:C:73:LEU:CD2	2.67	0.42
1:0:951:A:H5"	23:Q:42:LYS:HD3	2.02	0.42
1:0:963:C:O2	1:0:1005:A:N1	2.53	0.42
1:0:1186:C:H5"	38:0:6619:HOH:O	2.20	0.42
1:0:1201:C:H2'	1:0:1202:A:H5'	2.02	0.42
1:0:1334:C:H2'	1:0:1335:C:H6	1.84	0.42
1:0:1743:G:H2'	1:0:1744:G:O4'	2.19	0.42
1:0:2087:C:O2'	1:0:2088:C:H5'	2.20	0.42
1:0:2251:G:H2'	1:0:2252:A:C8	2.54	0.42
10:D:23:VAL:CG2	10:D:73:VAL:HB	2.49	0.42
11:E:101:GLU:HB2	11:E:116:THR:O	2.19	0.42
20:N:143:ARG:NH1	20:N:173:ASP:OD2	2.52	0.42
23:Q:16:ASN:HB2	38:Q:215:HOH:O	2.19	0.42
24:R:145:LEU:HD12	24:R:146:ILE:N	2.34	0.42
28:V:1:THR:C	28:V:3:LEU:N	2.73	0.42
30:X:81:GLY:O	30:X:82:GLU:HB3	2.20	0.42
1:0:69:A:H2'	1:0:70:A:OP2	2.19	0.42
1:0:934:C:H2'	1:0:935:G:C8	2.54	0.42
1:0:962:C:C2'	1:0:963:C:H5'	2.50	0.42
1:0:1181:A:H2'	1:0:1182:C:C5'	2.49	0.42
1:0:1268:C:O2'	1:0:1269:G:H5'	2.20	0.42
1:0:1377:C:H2'	1:0:1723:G:O6	2.20	0.42
1:0:1903:U:O2'	1:0:1904:A:N7	2.51	0.42
1:0:2133:U:H4'	1:0:2134:G:C5'	2.49	0.42
1:0:2237:G:H1'	38:0:8506:HOH:O	2.19	0.42
4:3:6:ARG:O	4:3:7:PHE:HB3	2.20	0.42
4:3:69:TYR:O	4:3:77:ALA:HA	2.20	0.42
6:9:27:C:H2'	6:9:28:U:O4'	2.20	0.42
6:9:57:A:C8	10:D:141:VAL:HG21	2.54	0.42
8:B:226:LYS:O	8:B:230:GLN:HG2	2.20	0.42
10:D:170:TYR:O	10:D:171:ASP:HB3	2.20	0.42
11:E:101:GLU:HB3	11:E:117:THR:HA	2.01	0.42
11:E:119:HIS:HE1	11:E:147:ASP:OD2	2.02	0.42
12:F:52:GLU:OE1	12:F:78:GLU:OE1	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:L:72:ASN:O	18:L:76:LEU:HG	2.20	0.42
20:N:151:ASP:HB3	38:N:4054:HOH:O	2.19	0.42
24:R:61:GLN:HE21	24:R:61:GLN:HB2	1.63	0.42
26:T:73:HIS:CD2	26:T:88:PRO:CG	3.03	0.42
29:W:73:LEU:HD12	29:W:73:LEU:HA	1.73	0.42
30:X:25:ARG:HG2	38:X:4011:HOH:O	2.20	0.42
31:Y:170:SER:OG	31:Y:175:ARG:HG3	2.19	0.42
1:0:183:A:H1'	19:M:161:ARG:NH1	2.35	0.42
1:0:432:G:O2'	1:0:433:C:H5'	2.20	0.42
1:0:967:U:O2	14:H:35:LYS:HE3	2.19	0.42
1:0:1018:A:H4'	23:Q:59:GLN:HE22	1.85	0.42
1:0:1169:U:H3	1:0:1177:A:H61	1.68	0.42
1:0:1422:U:H2'	1:0:1423:C:C6	2.54	0.42
1:0:1838:U:O4'	1:0:2644:C:C2	2.73	0.42
1:0:1943:C:O4'	7:A:212:PRO:HA	2.20	0.42
1:0:2096:A:C8	1:0:2539:U:C2	3.07	0.42
1:0:2353:A:H1'	23:Q:21:ARG:HH12	1.85	0.42
1:0:2846:C:OP1	8:B:158:LYS:HD3	2.19	0.42
4:3:11:CYS:HB2	4:3:20:HIS:NE2	2.34	0.42
1:0:333:G:O2'	1:0:334:G:H5'	2.20	0.41
1:0:424:C:H2'	1:0:425:U:C6	2.55	0.41
1:0:1163:G:H2'	1:0:1164:U:C5	2.54	0.41
1:0:1797:A:H2'	1:0:1799:G:O5'	2.20	0.41
1:0:2134:G:N2	1:0:2242:U:C2	2.89	0.41
1:0:2443:C:O3'	18:L:56:LYS:HE3	2.20	0.41
1:0:2456:A:H1'	38:0:8946:HOH:O	2.20	0.41
2:1:41:LYS:NZ	38:1:236:HOH:O	2.53	0.41
6:9:47:A:C2	6:9:48:C:C2	3.07	0.41
7:A:192:VAL:HG12	7:A:207:GLN:HB3	2.01	0.41
8:B:145:HIS:CD2	8:B:146:THR:O	2.68	0.41
9:C:32:GLY:O	9:C:36:ARG:HB2	2.20	0.41
9:C:140:VAL:CG1	9:C:141:SER:N	2.82	0.41
10:D:99:ASP:CB	10:D:103:ASN:HB2	2.50	0.41
14:H:56:GLU:HA	14:H:132:ALA:HB2	2.02	0.41
16:J:46:ILE:O	16:J:46:ILE:CG1	2.67	0.41
17:K:113:ILE:HD12	17:K:128:ALA:CB	2.49	0.41
19:M:57:LYS:HG2	19:M:58:GLN:H	1.85	0.41
20:N:21:HIS:HB3	38:N:4011:HOH:O	2.19	0.41
23:Q:16:ASN:HD22	23:Q:16:ASN:HA	1.60	0.41
24:R:40:ALA:O	24:R:44:VAL:HG23	2.19	0.41
1:0:80:A:H5"	26:T:41:ARG:CZ	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1021:G:O2'	1:0:1022:A:H5'	2.19	0.41
1:0:1050:G:C6	1:0:1051:C:C4	3.08	0.41
1:0:1968:A:H2'	1:0:1969:A:C8	2.55	0.41
1:0:2303:A:H4'	38:0:8645:HOH:O	2.20	0.41
36:0:3189:CL:CL	38:K:4017:HOH:O	2.59	0.41
3:2:36:ASN:HB3	3:2:39:ARG:NE	2.34	0.41
8:B:221:GLN:HE22	17:K:42:ASN:HD22	1.68	0.41
9:C:236:THR:CG2	9:C:239:ALA:H	2.08	0.41
14:H:157:TYR:CD1	14:H:157:TYR:C	2.93	0.41
20:N:83:LEU:HD13	20:N:175:LEU:HD23	2.02	0.41
23:Q:32:GLU:O	23:Q:93:ARG:NH2	2.53	0.41
24:R:43:ALA:O	24:R:47:LEU:HG	2.20	0.41
1:0:440:C:H2'	1:0:441:A:C8	2.55	0.41
1:0:638:C:H2'	1:0:639:A:C8	2.56	0.41
1:0:876:A:N3	1:0:876:A:C2'	2.84	0.41
1:0:1197:G:H1'	1:0:1203:G:N2	2.35	0.41
1:0:1948:G:N2	1:0:1965:C:H1'	2.34	0.41
1:0:2064:U:H2'	1:0:2065:C:H6	1.84	0.41
1:0:2379:G:H5'	1:0:2381:C:O4'	2.21	0.41
1:0:2511:A:H2'	1:0:2512:U:O4'	2.20	0.41
6:9:2:U:OP2	6:9:3:A:H5'	2.21	0.41
7:A:217:ARG:HH11	7:A:217:ARG:CG	2.33	0.41
9:C:27:ARG:NH2	21:O:4:ASN:ND2	2.68	0.41
9:C:93:LYS:O	9:C:98:ARG:NH2	2.52	0.41
10:D:40:ILE:O	10:D:44:ILE:HG22	2.20	0.41
12:F:21:GLU:O	12:F:24:ARG:CG	2.67	0.41
14:H:43:ALA:O	14:H:170:ARG:NH1	2.53	0.41
16:J:56:LYS:HE2	16:J:60:ARG:NH2	2.35	0.41
20:N:62:HIS:HB3	20:N:65:ASP:OD1	2.21	0.41
21:O:4:ASN:HA	21:O:5:PRO:HD3	1.84	0.41
21:O:33:LEU:HA	21:O:40:HIS:NE2	2.36	0.41
29:W:117:ARG:CB	29:W:117:ARG:NH1	2.83	0.41
1:0:30:U:OP2	9:C:181:ALA:HB2	2.19	0.41
1:0:903:U:O4	18:L:18:HIS:HB2	2.20	0.41
1:0:1206:U:H2'	1:0:1207:A:O4'	2.20	0.41
1:0:1472:C:O5'	1:0:1472:C:H6	2.03	0.41
1:0:1771:U:O2'	1:0:1773:G:N7	2.51	0.41
38:0:4093:HOH:O	26:T:9:LYS:HD3	2.19	0.41
6:9:81:C:O2'	6:9:82:U:H5'	2.20	0.41
8:B:5:ARG:HH11	8:B:8:LYS:HE2	1.83	0.41
8:B:154:VAL:HA	8:B:155:PRO:HD3	1.81	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:159:PRO:O	10:D:162:ALA:HB3	2.21	0.41
11:E:7:ILE:HG22	11:E:45:ASP:O	2.20	0.41
14:H:91:ARG:NH1	14:H:138:THR:OG1	2.53	0.41
16:J:116:LEU:HB2	16:J:119:THR:HG21	2.02	0.41
16:J:131:THR:HG22	16:J:134:GLU:H	1.84	0.41
17:K:20:CYS:HB2	17:K:29:LEU:HG	2.02	0.41
20:N:32:PRO:HD2	20:N:99:GLU:O	2.20	0.41
20:N:114:LYS:O	20:N:118:ILE:HG13	2.21	0.41
20:N:155:GLU:O	20:N:156:GLU:HG3	2.20	0.41
22:P:59:ARG:HG2	22:P:59:ARG:HH11	1.85	0.41
25:S:37:VAL:O	25:S:41:VAL:HG23	2.20	0.41
25:S:73:ASP:O	25:S:77:VAL:HG23	2.20	0.41
26:T:39:ASN:ND2	38:T:4017:HOH:O	2.54	0.41
29:W:21:LEU:CD1	29:W:26:ILE:HD11	2.40	0.41
1:0:320:G:H2'	1:0:321:A:C8	2.55	0.41
1:0:646:G:H5"	9:C:96:LYS:HD2	2.03	0.41
1:0:820:G:H5'	1:0:821:U:H5'	2.02	0.41
1:0:1041:U:C2'	1:0:1042:U:H5'	2.51	0.41
1:0:1112:G:H1	1:0:1251:C:N4	2.18	0.41
1:0:2697:A:H2'	1:0:2698:G:O4'	2.19	0.41
1:0:2866:U:C4	27:U:50:GLU:HB3	2.55	0.41
6:9:20:G:O2'	6:9:21:G:H5'	2.20	0.41
9:C:13:ASP:OD1	9:C:13:ASP:O	2.39	0.41
9:C:218:VAL:HG12	38:C:583:HOH:O	2.20	0.41
13:G:69:ARG:NH1	38:G:4016:HOH:O	2.53	0.41
14:H:41:LYS:O	14:H:87:LYS:HE2	2.20	0.41
15:I:88:GLN:HE21	15:I:128:THR:HG21	1.85	0.41
20:N:163:PHE:CZ	20:N:171:HIS:ND1	2.88	0.41
31:Y:203:VAL:HG12	31:Y:228:VAL:HG22	2.00	0.41
1:0:11:A:H5'	1:0:12:U:OP2	2.20	0.41
1:0:595:U:O2'	1:0:596:C:H5'	2.21	0.41
1:0:1216:G:O2'	1:0:1217:G:H5'	2.21	0.41
1:0:1819:G:H2'	1:0:1820:G:C5'	2.51	0.41
1:0:1972:U:C2'	1:0:1973:A:C5'	2.99	0.41
1:0:2271:G:N3	1:0:2271:G:H2'	2.35	0.41
1:0:2392:C:H4'	38:0:8782:HOH:O	2.19	0.41
1:0:2471:G:N3	1:0:2633:A:H2	2.19	0.41
1:0:2568:A:H8	1:0:2568:A:O5'	2.03	0.41
7:A:210:GLY:HA3	38:A:490:HOH:O	2.19	0.41
8:B:114:ASP:O	8:B:115:VAL:C	2.59	0.41
9:C:211:ASP:HB3	38:C:575:HOH:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:E:166:VAL:HG12	38:E:4041:HOH:O	2.20	0.41
16:J:88:PRO:HA	36:J:203:CL:CL	2.58	0.41
17:K:55:VAL:CG1	17:K:56:SER:N	2.83	0.41
22:P:18:LYS:O	22:P:21:VAL:HG13	2.20	0.41
29:W:131:PRO:HB2	38:W:4057:HOH:O	2.21	0.41
31:Y:190:VAL:HG23	38:Y:482:HOH:O	2.20	0.41
1:0:75:U:H2'	1:0:76:G:C8	2.55	0.41
1:0:283:U:C5	1:0:284:C:N3	2.88	0.41
1:0:291:C:H2'	1:0:292:G:O4'	2.21	0.41
1:0:440:C:O2'	1:0:441:A:H5'	2.19	0.41
1:0:695:C:H2'	1:0:696:C:C6	2.55	0.41
1:0:783:C:OP1	7:A:180:LYS:HE3	2.21	0.41
1:0:940:G:C5	1:0:1027:G:C2	3.09	0.41
1:0:1166:A:H61	1:0:1180:U:H3	1.69	0.41
1:0:2000:G:O2'	1:0:2001:G:H5'	2.21	0.41
1:0:2297:U:H1'	38:0:8672:HOH:O	2.19	0.41
1:0:2502:C:H2'	1:0:2503:A:O4'	2.20	0.41
2:1:28:HIS:CD2	2:1:31:LYS:HG3	2.55	0.41
8:B:60:SER:C	8:B:62:ARG:H	2.24	0.41
8:B:280:VAL:HG13	8:B:333:GLU:O	2.19	0.41
9:C:139:VAL:CG1	38:C:580:HOH:O	2.62	0.41
15:I:70:THR:O	15:I:72:GLU:N	2.53	0.41
20:N:147:ILE:O	20:N:150:TYR:HB3	2.20	0.41
21:O:11:ILE:O	21:O:15:LYS:HG3	2.20	0.41
22:P:11:ALA:HB2	22:P:18:LYS:HA	2.03	0.41
22:P:24:ASN:HA	22:P:25:PRO:HD3	1.90	0.41
23:Q:50:GLY:HA3	23:Q:87:THR:OG1	2.21	0.41
28:V:12:THR:CG2	28:V:15:GLU:H	2.34	0.41
28:V:42:ASN:N	28:V:43:PRO:CD	2.83	0.41
1:0:241:A:C2	1:0:378:A:H4'	2.56	0.41
1:0:948:G:C6	1:0:949:U:C4	3.08	0.41
1:0:1181:A:H5'	15:I:89:GLU:OE2	2.19	0.41
1:0:1477:C:H4'	1:0:1868:G:OP1	2.20	0.41
1:0:1882:C:H5"	7:A:192:VAL:HG21	2.03	0.41
1:0:1926:G:H2'	1:0:1927:A:H8	1.84	0.41
1:0:2661:U:H3	1:0:2812:A:H62	1.67	0.41
6:9:49:G:O2'	6:9:50:G:H5'	2.21	0.41
6:9:63:C:O2'	6:9:64:C:H5'	2.21	0.41
8:B:195:ARG:NE	8:B:323:LEU:HD13	2.36	0.41
10:D:17:ARG:NH2	38:D:240:HOH:O	2.52	0.41
10:D:147:ALA:HA	20:N:15:GLU:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:H:117:ARG:HB3	38:H:347:HOH:O	2.20	0.41
16:J:142:ASN:O	16:J:144:THR:N	2.54	0.41
20:N:37:ARG:HH11	20:N:37:ARG:CG	2.31	0.41
20:N:115:VAL:HG13	38:N:4043:HOH:O	2.20	0.41
26:T:98:VAL:HG11	26:T:101:LEU:HD23	2.01	0.41
29:W:65:VAL:HA	29:W:68:THR:HG22	2.02	0.41
32:Z:10:ARG:CG	32:Z:11:SER:H	2.33	0.41
1:0:473:A:O2'	1:0:474:C:H5'	2.21	0.41
1:0:539:G:H2'	1:0:540:A:C8	2.56	0.41
1:0:542:A:H2'	1:0:543:G:O4'	2.21	0.41
1:0:772:G:H2'	1:0:773:A:O4'	2.20	0.41
1:0:1501:A:H4'	38:0:7280:HOH:O	2.20	0.41
1:0:1787:C:O2'	1:0:1788:U:H5'	2.21	0.41
1:0:1829:A:H2'	1:0:1830:C:H5'	2.03	0.41
1:0:1883:U:C2'	1:0:1884:G:H5'	2.51	0.41
1:0:1904:A:H2'	1:0:1905:U:O4'	2.20	0.41
1:0:2329:C:O2'	1:0:2330:U:H5'	2.21	0.41
1:0:2384:U:H5"	38:0:5594:HOH:O	2.21	0.41
1:0:2388:C:H5'	23:Q:83:THR:O	2.20	0.41
1:0:2626:C:H2'	1:0:2627:G:C8	2.56	0.41
1:0:2694:A:H4'	11:E:91:PHE:CE1	2.55	0.41
1:0:2851:G:H2'	1:0:2902:A:H61	1.85	0.41
2:1:28:HIS:O	2:1:32:LYS:N	2.47	0.41
7:A:206:ARG:NH1	38:A:498:HOH:O	2.54	0.41
8:B:13:PHE:CD1	8:B:13:PHE:N	2.89	0.41
8:B:162:MET:HG3	8:B:310:ARG:NH1	2.36	0.41
9:C:20:ASP:HB2	38:C:420:HOH:O	2.20	0.41
11:E:72:MET:HA	38:E:4032:HOH:O	2.21	0.41
11:E:99:GLY:N	38:E:4024:HOH:O	2.53	0.41
14:H:60:LEU:O	14:H:65:LEU:HD21	2.21	0.41
15:I:70:THR:C	15:I:72:GLU:N	2.74	0.41
20:N:33:ARG:HD2	20:N:103:ASP:OD2	2.20	0.41
26:T:12:ARG:NH1	38:T:4007:HOH:O	2.50	0.41
26:T:20:HIS:O	26:T:23:VAL:HG23	2.21	0.41
30:X:43:VAL:HG12	30:X:47:ALA:HB3	2.03	0.41
31:Y:204:ARG:HA	31:Y:230:ASN:OD1	2.20	0.41
1:0:137:U:OP1	1:0:259:G:O2'	2.39	0.41
1:0:344:C:H2'	1:0:345:G:O4'	2.21	0.41
1:0:1355:A:H5"	38:Y:453:HOH:O	2.21	0.41
1:0:1748:U:C5	1:0:1749:U:C4	3.09	0.41
1:0:1761:U:H2'	1:0:1762:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1951:G:N2	38:0:8099:HOH:O	2.54	0.41
1:0:1996:U:O2'	1:0:1997:A:H5'	2.20	0.41
1:0:2644:C:O2'	1:0:2645:U:H5'	2.21	0.41
9:C:25:PRO:HG2	38:C:422:HOH:O	2.21	0.41
9:C:80:VAL:HA	9:C:81:PRO:HD3	1.88	0.41
9:C:180:SER:C	9:C:182:ARG:H	2.24	0.41
11:E:107:PHE:CD2	11:E:108:LEU:HD13	2.56	0.41
11:E:154:ILE:HG23	11:E:154:ILE:O	2.20	0.41
12:F:38:LYS:HZ1	19:M:3:SER:HA	1.86	0.41
16:J:45:VAL:HA	16:J:130:VAL:O	2.21	0.41
18:L:148:GLU:HG3	38:L:377:HOH:O	2.20	0.41
19:M:106:SER:HB2	19:M:114:VAL:CG2	2.51	0.41
25:S:44:GLN:OE1	25:S:44:GLN:HA	2.21	0.41
29:W:21:LEU:CD2	29:W:48:VAL:HG11	2.46	0.41
30:X:30:MET:HE2	30:X:58:ALA:HB3	2.03	0.41
1:0:800:G:H2'	1:0:801:U:C6	2.57	0.40
1:0:1074:G:H4'	1:0:1260:G:C6	2.56	0.40
1:0:1174:A:H5'	38:0:6594:HOH:O	2.21	0.40
1:0:1235:G:OP2	1:0:2550:U:H4'	2.21	0.40
1:0:1363:G:OP1	9:C:76:ARG:NH2	2.54	0.40
1:0:1413:A:H2'	1:0:1414:A:O4'	2.20	0.40
1:0:1783:A:C2'	1:0:1784:U:H5'	2.51	0.40
1:0:2338:G:H1'	10:D:105:SER:OG	2.20	0.40
1:0:2431:C:H5'	18:L:47:GLY:HA2	2.02	0.40
1:0:2507:G:H2'	1:0:2510:C:N4	2.36	0.40
1:0:2591:C:H2'	1:0:2592:G:O4'	2.21	0.40
1:0:2734:G:O2'	1:0:2735:U:H5'	2.20	0.40
7:A:36:ASP:C	7:A:38:ILE:N	2.74	0.40
8:B:27:ASN:N	8:B:27:ASN:ND2	2.67	0.40
14:H:87:LYS:O	14:H:140:TYR:HD1	2.04	0.40
15:I:66:GLY:O	15:I:67:VAL:C	2.58	0.40
15:I:127:CYS:CB	15:I:132:VAL:HB	2.34	0.40
20:N:58:LEU:N	20:N:58:LEU:CD1	2.83	0.40
20:N:166:ALA:O	20:N:167:ASP:HB2	2.21	0.40
22:P:141:ILE:O	22:P:143:ALA:N	2.49	0.40
25:S:34:LYS:HG2	25:S:54:THR:HG23	2.03	0.40
27:U:28:THR:HB	38:U:8814:HOH:O	2.20	0.40
30:X:76:ARG:NH1	30:X:76:ARG:CG	2.83	0.40
32:Z:39:CYS:HA	32:Z:40:PRO:HD3	1.92	0.40
1:0:222:A:H2'	1:0:223:G:O4'	2.20	0.40
1:0:263:U:O4'	12:F:59:ILE:HD13	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:694:A:H2'	1:0:695:C:C5'	2.45	0.40
1:0:1058:A:H2'	1:0:1060:C:C5'	2.51	0.40
1:0:1586:G:O2'	1:0:1587:U:H5'	2.20	0.40
1:0:1657:A:H2'	1:0:1658:A:C8	2.56	0.40
1:0:1674:C:OP2	25:S:34:LYS:HE3	2.22	0.40
1:0:1702:U:H5'	38:0:7620:HOH:O	2.20	0.40
1:0:1733:A:C2	1:0:1734:C:H1'	2.56	0.40
1:0:1822:A:O2'	1:0:1823:G:H5'	2.21	0.40
1:0:1883:U:O2'	1:0:1884:G:H5'	2.21	0.40
1:0:2385:G:H2'	1:0:2386:U:C6	2.57	0.40
1:0:2684:A:H2'	1:0:2685:C:C6	2.56	0.40
6:9:1:U:C4'	6:9:3:A:OP1	2.70	0.40
6:9:81:C:C2'	6:9:82:U:H5'	2.50	0.40
7:A:190:ARG:NH2	7:A:207:GLN:OE1	2.54	0.40
9:C:4:THR:HB	9:C:135:GLU:OE1	2.21	0.40
9:C:138:VAL:O	9:C:234:VAL:HA	2.21	0.40
11:E:138:ILE:HG23	11:E:139:GLU:N	2.35	0.40
15:I:114:TYR:CD1	15:I:114:TYR:N	2.89	0.40
16:J:9:ASP:H	16:J:35:THR:HB	1.86	0.40
18:L:144:ASP:CA	18:L:147:GLU:HG3	2.51	0.40
23:Q:46:SER:O	23:Q:48:PRO:HD3	2.22	0.40
24:R:119:VAL:HG12	24:R:119:VAL:O	2.21	0.40
26:T:96:VAL:CG1	26:T:97:ARG:N	2.84	0.40
27:U:52:THR:HG21	27:U:54:THR:HB	2.02	0.40
29:W:154:ARG:C	38:W:4068:HOH:O	2.59	0.40
1:0:276:C:H6	1:0:276:C:O5'	2.04	0.40
1:0:365:G:C6	1:0:366:U:C4	3.10	0.40
1:0:821:U:H1'	38:0:5789:HOH:O	2.21	0.40
1:0:1164:U:H3	1:0:1192:A:H2	1.69	0.40
1:0:1197:G:N2	38:0:6630:HOH:O	2.52	0.40
1:0:1268:C:H2'	1:0:1269:G:C8	2.57	0.40
1:0:1306:U:OP1	9:C:184:ARG:HD2	2.21	0.40
1:0:1342:C:C2'	1:0:1343:C:H5'	2.52	0.40
1:0:1810:C:H1'	27:U:42:LEU:HD22	2.04	0.40
1:0:1976:G:H1'	1:0:2005:G:N2	2.37	0.40
1:0:2255:A:O2'	1:0:2256:G:H5'	2.21	0.40
1:0:2705:U:O4'	11:E:112:ALA:HB2	2.21	0.40
1:0:2757:A:H2'	1:0:2758:G:O4'	2.20	0.40
3:2:40:ARG:HH11	3:2:40:ARG:HG2	1.85	0.40
6:9:2:U:OP2	6:9:2:U:H4'	2.22	0.40
7:A:105:VAL:HG11	7:A:154:ALA:CB	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B:44:TYR:OH	8:B:148:PRO:HG3	2.22	0.40
18:L:54:PRO:HG2	18:L:57:VAL:HG21	2.03	0.40
18:L:91:VAL:HG13	18:L:120:LEU:HD23	2.04	0.40
22:P:59:ARG:HD3	38:P:226:HOH:O	2.20	0.40
24:R:18:LEU:HD12	24:R:143:VAL:CG1	2.47	0.40
25:S:53:ASN:N	25:S:53:ASN:ND2	2.67	0.40
27:U:6:CYS:HA	27:U:13:ILE:HD11	2.03	0.40
29:W:75:GLY:HA3	38:W:4031:HOH:O	2.21	0.40
1:0:402:U:H2'	1:0:403:C:C6	2.56	0.40
1:0:459:A:H4'	38:0:5069:HOH:O	2.21	0.40
38:0:8830:HOH:O	23:Q:50:GLY:HA2	2.21	0.40
3:2:8:LYS:NZ	25:S:56:ASN:O	2.50	0.40
6:9:36:C:H2'	6:9:37:C:O4'	2.22	0.40
7:A:105:VAL:CG1	7:A:106:CYS:N	2.84	0.40
8:B:36:PRO:HB3	8:B:174:ARG:HA	2.03	0.40
8:B:41:PHE:HB3	8:B:190:MET:CE	2.50	0.40
8:B:265:LEU:CD2	8:B:316:ARG:HD3	2.50	0.40
8:B:279:THR:OG1	8:B:290:VAL:O	2.35	0.40
9:C:193:LEU:HA	9:C:211:ASP:O	2.21	0.40
10:D:135:VAL:HG23	38:D:239:HOH:O	2.21	0.40
13:G:64:ASN:N	13:G:64:ASN:ND2	2.70	0.40
20:N:71:TRP:CE3	20:N:175:LEU:CD2	3.05	0.40
29:W:130:HIS:O	29:W:136:GLY:HA3	2.21	0.40
31:Y:186:ARG:HH11	31:Y:186:ARG:HG2	1.86	0.40
1:0:962:C:H2'	1:0:963:C:C5'	2.52	0.40
1:0:1500:U:OP2	22:P:41:ARG:NH2	2.55	0.40
1:0:2435:U:OP1	4:3:28:GLY:HA3	2.22	0.40
1:0:2529:G:H5'	38:0:9120:HOH:O	2.22	0.40
1:0:2776:A:H2'	1:0:2777:G:O4'	2.21	0.40
6:9:28:U:H5"	20:N:40:ASN:HD22	1.81	0.40
6:9:78:G:O2'	6:9:79:U:OP2	2.40	0.40
7:A:114:ASP:HB2	7:A:117:LYS:HE2	2.02	0.40
8:B:51:VAL:HG21	8:B:327:VAL:HG13	2.02	0.40
8:B:214:PRO:C	8:B:220:VAL:HG22	2.42	0.40
9:C:78:ARG:HD3	38:C:472:HOH:O	2.22	0.40
9:C:160:LEU:O	9:C:161:ASP:HB2	2.22	0.40
9:C:170:ASP:O	9:C:171:GLU:HG3	2.22	0.40
11:E:93:MET:HE2	11:E:93:MET:HB2	1.90	0.40
17:K:75:ARG:HG2	17:K:90:PHE:CD2	2.56	0.40
19:M:24:GLN:HE22	19:M:27:ARG:HH11	1.67	0.40
23:Q:34:ASP:O	23:Q:37:GLU:HG3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:S:17:ASP:HB3	25:S:23:LYS:HB2	2.03	0.40
30:X:43:VAL:CG2	30:X:76:ARG:NH1	2.83	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
2	1	54/57 (95%)	49 (91%)	5 (9%)	0	100 100
3	2	42/50 (84%)	41 (98%)	1 (2%)	0	100 100
4	3	90/92 (98%)	82 (91%)	7 (8%)	1 (1%)	14 42
5	4	2/8 (25%)	2 (100%)	0	0	100 100
7	A	235/240 (98%)	203 (86%)	28 (12%)	4 (2%)	9 31
8	B	335/338 (99%)	294 (88%)	36 (11%)	5 (2%)	10 34
9	C	244/246 (99%)	218 (89%)	21 (9%)	5 (2%)	7 27
10	D	134/177 (76%)	92 (69%)	39 (29%)	3 (2%)	6 24
11	E	170/178 (96%)	158 (93%)	11 (6%)	1 (1%)	25 58
12	F	117/120 (98%)	100 (86%)	12 (10%)	5 (4%)	2 10
13	G	25/348 (7%)	23 (92%)	1 (4%)	1 (4%)	3 11
14	H	156/177 (88%)	139 (89%)	14 (9%)	3 (2%)	8 28
15	I	68/162 (42%)	50 (74%)	16 (24%)	2 (3%)	4 18
16	J	140/145 (97%)	127 (91%)	10 (7%)	3 (2%)	7 26
17	K	130/132 (98%)	120 (92%)	10 (8%)	0	100 100
18	L	141/165 (86%)	113 (80%)	24 (17%)	4 (3%)	5 19
19	M	192/195 (98%)	175 (91%)	17 (9%)	0	100 100
20	N	184/187 (98%)	154 (84%)	21 (11%)	9 (5%)	2 8

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
21	O	113/116 (97%)	100 (88%)	12 (11%)	1 (1%)	17 48
22	P	141/149 (95%)	127 (90%)	14 (10%)	0	100 100
23	Q	93/96 (97%)	83 (89%)	9 (10%)	1 (1%)	14 42
24	R	148/155 (96%)	133 (90%)	14 (10%)	1 (1%)	22 54
25	S	79/85 (93%)	68 (86%)	11 (14%)	0	100 100
26	T	117/120 (98%)	104 (89%)	10 (8%)	3 (3%)	5 20
27	U	51/66 (77%)	46 (90%)	5 (10%)	0	100 100
28	V	63/71 (89%)	53 (84%)	6 (10%)	4 (6%)	1 4
29	W	152/154 (99%)	138 (91%)	13 (9%)	1 (1%)	22 54
30	X	80/92 (87%)	66 (82%)	9 (11%)	5 (6%)	1 4
31	Y	140/241 (58%)	133 (95%)	7 (5%)	0	100 100
32	Z	71/83 (86%)	54 (76%)	14 (20%)	3 (4%)	3 10
All	All	3707/4445 (83%)	3245 (88%)	397 (11%)	65 (2%)	8 29

All (65) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
7	A	34	ASP
7	A	37	VAL
8	B	184	ASP
9	C	8	LEU
10	D	173	GLU
12	F	101	ALA
20	N	133	ASP
20	N	154	LEU
20	N	164	ASP
20	N	184	ILE
32	Z	20	ARG
32	Z	81	ARG
8	B	139	ASP
12	F	44	SER
13	G	72	ASP
14	H	143	VAL
16	J	143	LYS
18	L	21	ARG
18	L	80	ASP
20	N	65	ASP
26	T	44	ALA

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Mol	Chain	Res	Type
28	V	43	PRO
30	X	70	ILE
8	B	245	SER
9	C	58	ALA
12	F	71	GLY
16	J	7	ASP
20	N	183	ASP
23	Q	21	ARG
26	T	53	GLY
26	T	83	ASP
28	V	41	GLU
29	W	77	ALA
30	X	23	HIS
30	X	77	PHE
30	X	87	ALA
4	3	57	GLY
7	A	119	ALA
9	C	232	LEU
10	D	77	ASP
14	H	19	ARG
14	H	39	LYS
15	I	71	ALA
16	J	5	GLU
18	L	35	ARG
18	L	105	TYR
20	N	74	PRO
32	Z	21	VAL
9	C	15	GLU
11	E	17	HIS
12	F	104	ALA
15	I	76	ASP
20	N	139	TRP
21	O	90	ASP
28	V	40	PRO
30	X	78	GLU
28	V	2	VAL
8	B	34	GLY
24	R	106	GLY
8	B	2	GLN
10	D	69	ILE
7	A	192	VAL
9	C	19	PRO

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Mol	Chain	Res	Type
20	N	130	PRO
12	F	64	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	
2	1	46/47 (98%)	46 (100%)	0	100	100
3	2	42/46 (91%)	41 (98%)	1 (2%)	49	79
4	3	79/79 (100%)	79 (100%)	0	100	100
5	4	2/2 (100%)	2 (100%)	0	100	100
7	A	179/182 (98%)	168 (94%)	11 (6%)	18	48
8	B	282/283 (100%)	264 (94%)	18 (6%)	17	45
9	C	193/193 (100%)	181 (94%)	12 (6%)	18	47
10	D	117/148 (79%)	109 (93%)	8 (7%)	16	42
11	E	152/156 (97%)	146 (96%)	6 (4%)	32	66
12	F	93/94 (99%)	90 (97%)	3 (3%)	39	73
13	G	27/283 (10%)	27 (100%)	0	100	100
14	H	134/145 (92%)	128 (96%)	6 (4%)	27	61
15	I	58/130 (45%)	58 (100%)	0	100	100
16	J	118/121 (98%)	110 (93%)	8 (7%)	16	42
17	K	106/106 (100%)	105 (99%)	1 (1%)	78	93
18	L	113/127 (89%)	107 (95%)	6 (5%)	22	54
19	M	158/159 (99%)	151 (96%)	7 (4%)	28	61
20	N	149/150 (99%)	144 (97%)	5 (3%)	37	71
21	O	93/94 (99%)	90 (97%)	3 (3%)	39	73
22	P	113/117 (97%)	109 (96%)	4 (4%)	36	70
23	Q	79/80 (99%)	74 (94%)	5 (6%)	18	46
24	R	117/122 (96%)	113 (97%)	4 (3%)	37	71

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
25	S	71/74 (96%)	68 (96%)	3 (4%)	30 63
26	T	105/106 (99%)	98 (93%)	7 (7%)	16 43
27	U	44/52 (85%)	44 (100%)	0	100 100
28	V	51/57 (90%)	50 (98%)	1 (2%)	55 82
29	W	130/130 (100%)	122 (94%)	8 (6%)	18 47
30	X	66/74 (89%)	58 (88%)	8 (12%)	5 15
31	Y	120/196 (61%)	114 (95%)	6 (5%)	24 57
32	Z	60/68 (88%)	56 (93%)	4 (7%)	16 43
All	All	3097/3621 (86%)	2952 (95%)	145 (5%)	26 59

All (145) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	2	18	ASN
7	A	3	ARG
7	A	33	GLU
7	A	36	ASP
7	A	38	ILE
7	A	66	ARG
7	A	69	LEU
7	A	78	ASP
7	A	94	LEU
7	A	131	HIS
7	A	179	MET
7	A	217	ARG
8	B	7	ARG
8	B	11	LEU
8	B	27	ASN
8	B	33	ASP
8	B	49	THR
8	B	97	LEU
8	B	98	THR
8	B	162	MET
8	B	174	ARG
8	B	175	LEU
8	B	195	ARG
8	B	234	ARG
8	B	254	GLN
8	B	256	GLN

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Mol	Chain	Res	Type
8	B	264	GLU
8	B	277	GLU
8	B	307	ARG
8	B	312	ARG
9	C	2	GLN
9	C	67	GLN
9	C	76	ARG
9	C	78	ARG
9	C	101	ASP
9	C	115	LEU
9	C	187	ARG
9	C	202	THR
9	C	214	THR
9	C	223	LEU
9	C	236	THR
9	C	240	LEU
10	D	24	HIS
10	D	61	PHE
10	D	100	ASP
10	D	104	PHE
10	D	133	ASN
10	D	136	ARG
10	D	149	ARG
10	D	153	THR
11	E	7	ILE
11	E	16	ASP
11	E	102	VAL
11	E	115	ARG
11	E	156	ASP
11	E	164	ASP
12	F	12	LEU
12	F	46	GLU
12	F	100	ASP
14	H	21	GLU
14	H	33	GLN
14	H	87	LYS
14	H	91	ARG
14	H	157	TYR
14	H	170	ARG
16	J	7	ASP
16	J	47	THR
16	J	52	GLN

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Mol	Chain	Res	Type
16	J	74	ARG
16	J	76	ASP
16	J	79	PHE
16	J	107	ASN
16	J	120	SER
17	K	10	GLN
18	L	30	ARG
18	L	35	ARG
18	L	80	ASP
18	L	99	GLU
18	L	102	ASP
18	L	149	ARG
19	M	46	LEU
19	M	68	ARG
19	M	93	ARG
19	M	99	ARG
19	M	116	ASN
19	M	164	THR
19	M	186	SER
20	N	101	VAL
20	N	127	LEU
20	N	138	ASP
20	N	139	TRP
20	N	152	GLU
21	O	67	SER
21	O	97	SER
21	O	98	LEU
22	P	16	VAL
22	P	52	LYS
22	P	94	TRP
22	P	98	ILE
23	Q	11	ARG
23	Q	16	ASN
23	Q	30	VAL
23	Q	57	ASP
23	Q	95	GLU
24	R	13	THR
24	R	39	THR
24	R	82	GLU
24	R	132	ARG
25	S	12	GLU
25	S	53	ASN

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Mol	Chain	Res	Type
25	S	80	ARG
26	T	5	ASP
26	T	21	LYS
26	T	23	VAL
26	T	26	THR
26	T	39	ASN
26	T	96	VAL
26	T	115	GLU
28	V	65	ASP
29	W	13	MET
29	W	26	ILE
29	W	35	VAL
29	W	108	ARG
29	W	125	HIS
29	W	132	VAL
29	W	146	ILE
29	W	154	ARG
30	X	15	ARG
30	X	27	ASP
30	X	44	ASP
30	X	46	ASP
30	X	49	ARG
30	X	56	GLU
30	X	79	GLU
30	X	82	GLU
31	Y	163	THR
31	Y	174	VAL
31	Y	186	ARG
31	Y	189	ASN
31	Y	203	VAL
31	Y	235	GLU
32	Z	23	ARG
32	Z	41	ASN
32	Z	44	GLU
32	Z	82	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (92) such sidechains are listed below:

Mol	Chain	Res	Type
2	1	8	GLN
2	1	16	HIS
2	1	28	HIS

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Mol	Chain	Res	Type
3	2	16	ASN
3	2	18	ASN
3	2	41	HIS
3	2	45	ASN
4	3	15	ASN
4	3	30	GLN
4	3	48	ASN
7	A	47	HIS
7	A	92	ASN
7	A	125	ASN
7	A	199	HIS
8	B	27	ASN
8	B	106	HIS
8	B	145	HIS
8	B	238	ASN
8	B	260	HIS
8	B	320	GLN
8	B	332	ASN
9	C	129	HIS
9	C	163	HIS
10	D	47	GLN
10	D	97	GLN
10	D	103	ASN
10	D	133	ASN
11	E	55	ASN
11	E	90	HIS
11	E	119	HIS
11	E	143	GLN
12	F	80	GLN
13	G	17	GLN
13	G	64	ASN
14	H	34	HIS
14	H	59	GLN
14	H	62	HIS
14	H	73	ASN
14	H	148	HIS
15	I	88	GLN
15	I	108	HIS
16	J	52	GLN
16	J	107	ASN
16	J	126	ASN
17	K	10	GLN

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Mol	Chain	Res	Type
17	K	42	ASN
18	L	18	HIS
18	L	41	HIS
18	L	42	ASN
18	L	58	GLN
18	L	116	HIS
19	M	24	GLN
19	M	58	GLN
19	M	137	ASN
19	M	143	ASN
19	M	170	ASN
19	M	190	ASN
20	N	40	ASN
20	N	93	GLN
20	N	107	ASN
21	O	53	GLN
22	P	50	GLN
22	P	66	GLN
22	P	118	GLN
23	Q	16	ASN
23	Q	40	HIS
23	Q	59	GLN
24	R	61	GLN
24	R	94	ASN
24	R	98	ASN
24	R	113	HIS
24	R	123	GLN
25	S	25	GLN
25	S	53	ASN
26	T	39	ASN
26	T	43	ASN
26	T	73	HIS
27	U	39	ASN
27	U	48	ASN
28	V	60	GLN
29	W	87	HIS
29	W	110	GLN
29	W	119	HIS
29	W	125	HIS
29	W	141	HIS
30	X	23	HIS
30	X	36	HIS

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Mol	Chain	Res	Type
31	Y	129	ASN
31	Y	133	HIS
31	Y	134	HIS
31	Y	149	GLN
31	Y	189	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2745/2922 (93%)	245 (8%)	23 (0%)
6	9	121/122 (99%)	16 (13%)	1 (0%)
All	All	2866/3044 (94%)	261 (9%)	24 (0%)

All (261) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	31	C
1	0	67	A
1	0	69	A
1	0	70	A
1	0	71	G
1	0	87	C
1	0	88	G
1	0	114	A
1	0	115	U
1	0	120	A
1	0	130	C
1	0	141	C
1	0	151	A
1	0	166	A
1	0	185	G
1	0	186	A
1	0	191	A
1	0	192	A
1	0	200	C
1	0	219	G
1	0	237	G
1	0	271	C
1	0	272	A
1	0	273	G
1	0	283	U

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Mol	Chain	Res	Type
1	0	284	C
1	0	285	A
1	0	308	U
1	0	309	C
1	0	319	A
1	0	336	G
1	0	337	A
1	0	345	G
1	0	358	G
1	0	381	G
1	0	397	A
1	0	417	G
1	0	461	C
1	0	487	G
1	0	497	A
1	0	498	A
1	0	510	U
1	0	511	A
1	0	514	G
1	0	516	A
1	0	537	G
1	0	538	C
1	0	539	G
1	0	542	A
1	0	545	G
1	0	553	G
1	0	559	U
1	0	588	G
1	0	604	G
1	0	620	A
1	0	632	A
1	0	644	G
1	0	660	A
1	0	688	A
1	0	701	U
1	0	759	C
1	0	777	U
1	0	809	G
1	0	821	U
1	0	835	U
1	0	840	U
1	0	857	A

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Mol	Chain	Res	Type
1	0	868	G
1	0	869	G
1	0	871	G
1	0	872	U
1	0	875	A
1	0	877	G
1	0	878	G
1	0	882	A
1	0	884	C
1	0	885	G
1	0	898	G
1	0	905	C
1	0	920	C
1	0	921	G
1	0	923	A
1	0	953	G
1	0	960	G
1	0	961	A
1	0	1006	A
1	0	1008	C
1	0	1029	U
1	0	1045	G
1	0	1059	G
1	0	1060	C
1	0	1072	G
1	0	1081	A
1	0	1088	A
1	0	1109	U
1	0	1110	G
1	0	1119	G
1	0	1130	U
1	0	1137	G
1	0	1164	U
1	0	1165	G
1	0	1166	A
1	0	1174	A
1	0	1175	G
1	0	1185	U
1	0	1192	A
1	0	1193	A
1	0	1206	U
1	0	1208	C

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Mol	Chain	Res	Type
1	0	1216	G
1	0	1234	U
1	0	1238	C
1	0	1239	G
1	0	1242	A
1	0	1279	U
1	0	1289	C
1	0	1331	G
1	0	1342	C
1	0	1353	C
1	0	1360	C
1	0	1377	C
1	0	1407	A
1	0	1409	G
1	0	1451	C
1	0	1474	C
1	0	1488	U
1	0	1505	U
1	0	1506	U
1	0	1524	U
1	0	1525	G
1	0	1526	A
1	0	1559	A
1	0	1562	C
1	0	1564	C
1	0	1580	A
1	0	1592	G
1	0	1625	U
1	0	1626	A
1	0	1633	C
1	0	1634	G
1	0	1656	A
1	0	1667	A
1	0	1682	A
1	0	1684	A
1	0	1685	A
1	0	1692	C
1	0	1701	A
1	0	1722	U
1	0	1723	G
1	0	1725	C
1	0	1730	G

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Mol	Chain	Res	Type
1	0	1731	C
1	0	1752	G
1	0	1778	A
1	0	1798	C
1	0	1819	G
1	0	1820	G
1	0	1829	A
1	0	1856	C
1	0	1873	G
1	0	1879	U
1	0	1919	A
1	0	1942	A
1	0	1968	A
1	0	1971	G
1	0	1973	A
1	0	1974	G
1	0	1978	A
1	0	1979	G
1	0	1980	U
1	0	1996	U
1	0	2004	U
1	0	2008	U
1	0	2011	A
1	0	2012	U
1	0	2013	G
1	0	2033	G
1	0	2034	U
1	0	2064	U
1	0	2072	G
1	0	2073	G
1	0	2074	A
1	0	2096	A
1	0	2101	A
1	0	2102	G
1	0	2103	A
1	0	2110	G
1	0	2243	C
1	0	2258	A
1	0	2271	G
1	0	2272	G
1	0	2291	A
1	0	2317	C

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Mol	Chain	Res	Type
1	0	2320	U
1	0	2321	A
1	0	2354	A
1	0	2361	A
1	0	2369	A
1	0	2422	U
1	0	2462	G
1	0	2465	A
1	0	2469	A
1	0	2476	C
1	0	2480	G
1	0	2483	A
1	0	2507	G
1	0	2511	A
1	0	2533	C
1	0	2537	G
1	0	2541	U
1	0	2553	A
1	0	2564	G
1	0	2589	U
1	0	2601	A
1	0	2602	G
1	0	2608	C
1	0	2613	G
1	0	2638	G
1	0	2645	U
1	0	2648	U
1	0	2649	A
1	0	2664	A
1	0	2676	C
1	0	2681	A
1	0	2682	C
1	0	2719	A
1	0	2726	U
1	0	2747	C
1	0	2748	G
1	0	2749	U
1	0	2750	G
1	0	2762	C
1	0	2768	A
1	0	2786	G
1	0	2792	A

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Mol	Chain	Res	Type
1	0	2800	A
1	0	2811	A
1	0	2825	C
1	0	2840	A
1	0	2850	C
1	0	2876	G
1	0	2890	A
1	0	2896	A
1	0	2903	C
1	0	2914	A
6	9	2	U
6	9	7	G
6	9	14	G
6	9	22	G
6	9	23	U
6	9	24	U
6	9	25	G
6	9	40	C
6	9	41	C
6	9	43	G
6	9	52	A
6	9	57	A
6	9	66	G
6	9	77	A
6	9	114	G
6	9	122	C

All (24) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	129	A
1	0	318	U
1	0	603	A
1	0	699	C
1	0	834	G
1	0	857	A
1	0	871	G
1	0	877	G
1	0	1232	A
1	0	1237	U
1	0	1352	A
1	0	1377	C

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Mol	Chain	Res	Type
1	0	1450	C
1	0	1474	C
1	0	1856	C
1	0	2011	A
1	0	2313	C
1	0	2467	A
1	0	2526	C
1	0	2536	C
1	0	2644	C
1	0	2718	C
1	0	2791	U
6	9	65	A

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

10 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
1	OMG	0	2588	1	18,26,27	1.03	2 (11%)	19,38,41	0.69	1 (5%)
5	MHV	4	6	5	7,9,10	2.05	2 (28%)	7,11,13	1.72	2 (28%)
1	OMU	0	2587	35,1	19,22,23	0.22	0	26,31,34	0.42	0
5	DBB	4	3	5	4,5,6	1.05	0	1,5,7	0.24	0
5	MHU	4	5	5	14,15,16	2.86	8 (57%)	18,19,21	1.65	5 (27%)
5	004	4	7	5	9,10,11	2.92	3 (33%)	9,12,14	2.09	3 (33%)
1	1MA	0	628	35,1	16,25,26	1.40	3 (18%)	18,37,40	1.13	2 (11%)
1	PSU	0	2621	1	18,21,22	1.45	2 (11%)	22,30,33	1.26	3 (13%)
1	UR3	0	2619	1	19,22,23	0.45	0	26,32,35	0.63	1 (3%)
5	MHW	4	1	33,5	9,9,10	2.56	4 (44%)	10,11,13	1.22	1 (10%)

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
1	OMG	0	2588	1	-	0/5/27/28	0/3/3/3
5	MHV	4	6	5	-	0/1/12/14	0/1/1/1
1	OMU	0	2587	35,1	-	0/9/27/28	0/2/2/2
5	DBB	4	3	5	-	0/3/4/6	-
5	MHU	4	5	5	-	0/9/12/14	0/1/1/1
5	004	4	7	5	-	2/4/6/8	0/1/1/1
1	1MA	0	628	35,1	-	0/3/25/26	0/3/3/3
1	PSU	0	2621	1	-	0/7/25/26	0/2/2/2
1	UR3	0	2619	1	-	0/7/25/26	0/2/2/2
5	MHW	4	1	33,5	-	0/2/2/4	0/1/1/1

All (24) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	4	7	004	CB-CA	7.09	1.60	1.52
1	0	2621	PSU	C2-N1	4.62	1.43	1.36
5	4	1	MHW	CA-N	4.54	1.42	1.35
5	4	5	MHU	CA-N	4.52	1.55	1.47
5	4	6	MHV	CB-CG	4.38	1.57	1.50
5	4	5	MHU	CE2-CZ	4.18	1.47	1.39
5	4	5	MHU	CD2-CE2	3.96	1.46	1.38
1	0	628	1MA	C2-N3	3.79	1.33	1.29
5	4	5	MHU	CB-CA	3.61	1.62	1.54
5	4	7	004	CD2-CG2	3.45	1.46	1.38
5	4	1	MHW	CB-CA	3.42	1.46	1.40
5	4	5	MHU	CE1-CZ	3.33	1.45	1.39
5	4	5	MHU	CD1-CG	3.28	1.45	1.38
5	4	1	MHW	CG2-CB	3.24	1.45	1.39
1	0	2621	PSU	C6-C5	3.05	1.38	1.35
5	4	1	MHW	CA-C	2.99	1.51	1.48
1	0	2588	OMG	C5-C6	-2.72	1.41	1.47
1	0	628	1MA	C6-N6	2.61	1.34	1.27
5	4	5	MHU	CE1-CD1	2.50	1.43	1.38
5	4	7	004	CG1-CB	2.42	1.42	1.39
1	0	2588	OMG	C8-N7	-2.39	1.31	1.35
5	4	6	MHV	CD2-CG	2.26	1.55	1.50
1	0	628	1MA	C8-N7	-2.16	1.31	1.35
5	4	5	MHU	CZ-NZ	2.03	1.42	1.37

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	4	7	004	CG2-CB-CA	3.82	126.81	120.65
5	4	5	MHU	CB-CA-N	3.45	116.00	110.65
5	4	7	004	CB-CA-N	-3.42	104.21	112.40
1	0	2621	PSU	C6-C5-C4	3.21	120.44	118.20
5	4	5	MHU	O-C-CA	-3.19	116.43	124.78
1	0	2621	PSU	C6-N1-C2	-2.90	119.71	122.68
1	0	628	1MA	N1-C2-N3	2.87	129.37	126.02
5	4	6	MHV	CB-CA-N	-2.83	106.64	112.50
1	0	2621	PSU	O2-C2-N1	2.60	125.65	122.79
1	0	628	1MA	C5-C6-N1	2.51	117.64	113.90
5	4	5	MHU	CG-CB-CA	2.48	117.18	113.63
5	4	5	MHU	CB-CA-C	-2.45	107.00	111.65
5	4	6	MHV	CD2-CE-N	-2.37	104.86	110.03
1	0	2619	UR3	C4-N3-C2	2.35	126.78	124.56
1	0	2588	OMG	O6-C6-C5	2.09	128.45	124.37
5	4	5	MHU	CM-N-CA	2.04	120.00	113.64
5	4	7	004	CG1-CB-CA	-2.04	117.36	120.65
5	4	1	MHW	CE-N-CA	2.02	120.17	116.69

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	4	7	004	C-CA-CB-CG1
5	4	7	004	C-CA-CB-CG2

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	0	2587	OMU	1	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 232 ligands modelled in this entry, 232 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

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	0	2749/2922 (94%)	-0.23	37 (1%) 77 77	18, 42, 85, 147	0
2	1	56/57 (98%)	-0.56	0 100 100	23, 28, 34, 41	0
3	2	46/50 (92%)	0.10	2 (4%) 35 31	24, 56, 82, 96	0
4	3	92/92 (100%)	0.02	1 (1%) 80 80	30, 48, 61, 79	0
5	4	2/8 (25%)	-0.11	0 100 100	49, 49, 49, 54	0
6	9	122/122 (100%)	-0.14	3 (2%) 57 55	36, 57, 84, 148	0
7	A	237/240 (98%)	-0.11	4 (1%) 70 69	21, 44, 80, 100	0
8	B	337/338 (99%)	-0.13	0 100 100	23, 50, 76, 86	0
9	C	246/246 (100%)	-0.32	0 100 100	19, 39, 62, 72	0
10	D	140/177 (79%)	1.73	56 (40%) 0 0	47, 94, 117, 125	0
11	E	172/178 (96%)	0.47	6 (3%) 44 38	41, 61, 83, 88	0
12	F	119/120 (99%)	0.35	3 (2%) 57 55	41, 63, 88, 104	0
13	G	29/348 (8%)	2.33	16 (55%) 0 0	71, 87, 95, 96	0
14	H	160/177 (90%)	0.10	2 (1%) 77 77	36, 52, 88, 105	0
15	I	70/162 (43%)	4.05	65 (92%) 0 0	108, 118, 136, 138	0
16	J	142/145 (97%)	-0.08	2 (1%) 75 75	34, 46, 66, 86	0
17	K	132/132 (100%)	-0.22	2 (1%) 73 73	26, 46, 65, 75	0
18	L	145/165 (87%)	0.38	8 (5%) 25 21	22, 60, 100, 114	0
19	M	194/195 (99%)	-0.48	0 100 100	25, 36, 52, 59	0
20	N	186/187 (99%)	0.05	5 (2%) 54 50	34, 58, 100, 110	0
21	O	115/116 (99%)	-0.13	0 100 100	33, 47, 66, 71	0
22	P	143/149 (95%)	-0.03	0 100 100	33, 49, 61, 73	0
23	Q	95/96 (98%)	-0.15	0 100 100	28, 39, 54, 66	0
24	R	150/155 (96%)	-0.20	0 100 100	28, 40, 58, 67	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
25	S	81/85 (95%)	0.01	1 (1%) 79 79	37, 52, 71, 79	0
26	T	119/120 (99%)	0.21	3 (2%) 57 55	35, 51, 80, 94	0
27	U	53/66 (80%)	0.08	1 (1%) 66 65	39, 51, 67, 78	0
28	V	65/71 (91%)	0.69	7 (10%) 5 4	46, 66, 105, 112	0
29	W	154/154 (100%)	-0.17	0 100 100	27, 42, 59, 71	0
30	X	82/92 (89%)	0.36	7 (8%) 10 8	38, 55, 76, 96	0
31	Y	142/241 (58%)	-0.10	4 (2%) 53 49	24, 40, 62, 81	0
32	Z	73/83 (87%)	-0.19	0 100 100	39, 53, 69, 87	0
All	All	6648/7489 (88%)	-0.03	235 (3%) 44 38	18, 46, 91, 148	0

All (235) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
15	I	88	GLN	8.5
15	I	132	VAL	8.5
15	I	128	THR	7.7
15	I	70	THR	7.4
15	I	66	GLY	7.1
10	D	63	ILE	7.0
15	I	104	ALA	6.7
15	I	119	ALA	6.2
28	V	1	THR	6.1
15	I	68	PRO	6.0
15	I	112	LEU	5.9
15	I	118	ASN	5.9
15	I	113	SER	5.9
15	I	106	GLN	5.5
15	I	91	PHE	5.4
15	I	108	HIS	5.4
15	I	74	ILE	5.3
15	I	111	LEU	5.3
15	I	117	THR	5.2
10	D	27	ILE	5.1
10	D	93	LEU	5.1
1	0	1198	U	5.1
15	I	80	PHE	5.0
15	I	79	GLY	5.0
15	I	99	GLN	5.0
1	0	1203	G	5.0

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Mol	Chain	Res	Type	RSRZ
15	I	69	PRO	5.0
1	0	1172	G	4.9
10	D	172	VAL	4.8
10	D	64	ARG	4.8
15	I	110	ASP	4.8
10	D	29	HIS	4.7
10	D	61	PHE	4.6
15	I	127	CYS	4.6
10	D	57	THR	4.6
28	V	39	ALA	4.5
18	L	80	ASP	4.5
15	I	133	THR	4.5
6	9	1	U	4.5
15	I	72	GLU	4.4
15	I	73	LEU	4.4
15	I	97	VAL	4.4
15	I	76	ASP	4.3
10	D	171	ASP	4.3
10	D	18	ILE	4.3
15	I	102	GLN	4.2
30	X	88	GLU	4.2
13	G	23	ILE	4.2
15	I	131	GLY	4.2
7	A	37	VAL	4.1
10	D	88	LEU	4.1
10	D	66	GLY	4.1
15	I	100	VAL	4.1
10	D	26	GLY	4.0
10	D	90	LEU	4.0
15	I	121	LYS	4.0
1	0	1196	C	3.9
15	I	109	PRO	3.9
13	G	26	MET	3.9
10	D	10	PHE	3.9
15	I	67	VAL	3.8
1	0	1202	A	3.8
1	0	1197	G	3.7
10	D	87	ALA	3.7
15	I	135	GLU	3.7
13	G	24	VAL	3.7
13	G	68	GLU	3.7
15	I	71	ALA	3.6

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Mol	Chain	Res	Type	RSRZ
10	D	85	GLN	3.6
10	D	44	ILE	3.6
13	G	27	ILE	3.6
10	D	69	ILE	3.6
1	0	1204	C	3.6
10	D	170	TYR	3.6
15	I	75	LYS	3.5
15	I	103	ILE	3.5
15	I	134	ILE	3.5
15	I	120	ALA	3.5
15	I	107	LYS	3.4
10	D	92	GLU	3.4
13	G	71	LEU	3.4
15	I	98	ASP	3.4
1	0	1199	A	3.4
18	L	106	VAL	3.3
15	I	93	ALA	3.3
1	0	1186	C	3.3
28	V	40	PRO	3.3
10	D	62	ASP	3.3
15	I	130	LEU	3.3
15	I	92	VAL	3.3
1	0	1951	G	3.3
15	I	116	LEU	3.3
15	I	105	GLU	3.2
10	D	84	LEU	3.2
15	I	78	ALA	3.2
1	0	1177	A	3.2
1	0	1169	U	3.2
15	I	95	LEU	3.1
15	I	114	TYR	3.1
27	U	47	ARG	3.1
13	G	73	ASP	3.1
3	2	35	ARG	3.1
10	D	83	PHE	3.1
15	I	96	SER	3.1
1	0	1171	A	3.1
10	D	75	LEU	3.1
10	D	45	THR	3.0
1	0	1170	U	3.0
10	D	134	LEU	3.0
31	Y	95	THR	3.0

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Mol	Chain	Res	Type	RSRZ
10	D	17	ARG	3.0
10	D	89	PRO	3.0
6	9	24	U	3.0
1	0	284	C	3.0
15	I	84	SER	3.0
28	V	38	GLY	2.9
15	I	90	ASP	2.9
26	T	119	ALA	2.9
15	I	94	ASP	2.9
10	D	11	HIS	2.9
10	D	128	LEU	2.9
13	G	70	ALA	2.9
1	0	970	U	2.8
15	I	126	THR	2.8
1	0	2237	G	2.8
10	D	67	ASP	2.8
10	D	25	MET	2.8
30	X	41	PHE	2.8
10	D	58	VAL	2.8
10	D	40	ILE	2.7
7	A	38	ILE	2.7
18	L	105	TYR	2.7
10	D	106	PHE	2.7
15	I	82	THR	2.7
14	H	40	GLN	2.7
31	Y	235	GLU	2.7
10	D	56	ARG	2.7
20	N	183	ASP	2.6
10	D	55	LYS	2.6
7	A	237	GLY	2.6
15	I	124	VAL	2.6
14	H	86	TYR	2.6
1	0	735	C	2.6
30	X	85	VAL	2.6
15	I	86	GLU	2.6
20	N	166	ALA	2.6
13	G	72	ASP	2.5
10	D	35	ALA	2.5
16	J	92	GLN	2.5
11	E	45	ASP	2.5
30	X	80	GLU	2.5
1	0	1195	G	2.5

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Mol	Chain	Res	Type	RSRZ
10	D	104	PHE	2.5
15	I	89	GLU	2.5
10	D	166	ILE	2.5
13	G	15	TRP	2.5
13	G	67	LEU	2.5
25	S	81	ILE	2.5
18	L	79	ASP	2.5
10	D	68	PRO	2.5
1	0	282	C	2.4
20	N	158	LEU	2.4
1	0	2508	C	2.4
13	G	66	LEU	2.4
15	I	77	GLU	2.4
28	V	41	GLU	2.4
1	0	1180	U	2.4
26	T	112	LEU	2.4
10	D	86	THR	2.4
15	I	122	GLU	2.4
30	X	74	ALA	2.4
1	0	1181	A	2.4
12	F	6	PHE	2.3
18	L	150	GLN	2.3
6	9	2	U	2.3
31	Y	108	ASP	2.3
10	D	65	GLU	2.3
10	D	41	LEU	2.3
26	T	118	SER	2.3
10	D	165	PHE	2.3
1	0	1168	C	2.3
1	0	1173	A	2.3
1	0	1200	A	2.3
12	F	44	SER	2.3
1	0	1175	G	2.3
1	0	1185	U	2.3
28	V	43	PRO	2.3
28	V	3	LEU	2.3
1	0	1525	G	2.3
10	D	47	GLN	2.3
15	I	83	GLY	2.2
15	I	87	PRO	2.2
13	G	22	ALA	2.2
30	X	7	GLU	2.2

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Mol	Chain	Res	Type	RSRZ
11	E	170	ARG	2.2
1	0	960	G	2.2
3	2	39	ARG	2.2
1	0	1205	U	2.2
7	A	36	ASP	2.2
16	J	96	GLU	2.2
1	0	2238	A	2.2
18	L	89	PHE	2.2
11	E	100	ASP	2.2
10	D	94	ALA	2.2
18	L	100	ALA	2.2
13	G	29	SER	2.2
1	0	1174	A	2.2
10	D	130	VAL	2.2
20	N	185	GLU	2.2
1	0	969	G	2.1
10	D	39	ASP	2.1
18	L	75	LEU	2.1
10	D	28	GLY	2.1
30	X	77	PHE	2.1
10	D	157	LEU	2.1
10	D	173	GLU	2.1
10	D	16	PRO	2.1
15	I	123	VAL	2.1
17	K	132	VAL	2.1
11	E	154	ILE	2.1
1	0	1190	G	2.1
10	D	24	HIS	2.1
12	F	45	ALA	2.1
11	E	98	GLU	2.1
15	I	81	GLU	2.1
1	0	1130	U	2.1
20	N	159	TYR	2.0
17	K	108	GLU	2.0
1	0	1178	G	2.0
4	3	92	GLU	2.0
11	E	42	VAL	2.0
31	Y	98	GLN	2.0
13	G	28	GLU	2.0
10	D	91	ALA	2.0
13	G	20	VAL	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	DBB	4	3	6/7	0.94	0.18	51,51,52,53	0
5	MHV	4	6	9/10	0.94	0.18	53,55,59,59	0
5	MHU	4	5	15/16	0.95	0.17	56,59,62,63	0
5	004	4	7	10/11	0.95	0.20	45,48,49,51	0
5	MHW	4	1	9/10	0.96	0.20	46,47,49,50	0
1	1MA	0	628	23/24	0.98	0.15	25,28,31,32	0
1	OMU	0	2587	21/22	0.98	0.15	29,32,37,38	0
1	OMG	0	2588	24/25	0.98	0.14	28,31,34,35	0
1	UR3	0	2619	21/22	0.98	0.13	30,35,39,42	0
1	PSU	0	2621	20/21	0.98	0.14	33,35,37,38	0

6.3 Carbohydrates (i)

There are no monosaccharides 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
35	NA	0	3183	1/1	0.09	0.92	81,81,81,81	0
35	NA	0	3174	1/1	0.53	0.47	75,75,75,75	0
35	NA	R	202	1/1	0.60	0.59	75,75,75,75	0
35	NA	0	3134	1/1	0.61	0.61	72,72,72,72	0
35	NA	0	3175	1/1	0.71	0.45	54,54,54,54	0
35	NA	9	203	1/1	0.73	0.70	85,85,85,85	0
35	NA	0	3140	1/1	0.74	0.35	47,47,47,47	0
35	NA	0	3137	1/1	0.76	0.30	81,81,81,81	0
33	MG	0	3105	1/1	0.77	0.26	47,47,47,47	0
35	NA	0	3120	1/1	0.80	0.52	36,36,36,36	0
35	NA	0	3121	1/1	0.80	0.30	50,50,50,50	0
35	NA	0	3141	1/1	0.81	0.12	37,37,37,37	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
35	NA	C	301	1/1	0.82	0.25	32,32,32,32	0
35	NA	0	3117	1/1	0.83	0.43	56,56,56,56	0
35	NA	0	3170	1/1	0.83	0.35	72,72,72,72	0
35	NA	9	202	1/1	0.84	0.13	31,31,31,31	0
35	NA	0	3147	1/1	0.84	0.25	44,44,44,44	0
33	MG	0	3063	1/1	0.85	0.39	37,37,37,37	0
35	NA	0	3165	1/1	0.85	0.33	60,60,60,60	0
35	NA	0	3156	1/1	0.86	0.28	55,55,55,55	0
33	MG	0	3082	1/1	0.86	0.18	46,46,46,46	0
33	MG	0	3071	1/1	0.87	0.08	55,55,55,55	0
35	NA	0	3184	1/1	0.87	0.15	45,45,45,45	0
33	MG	0	3097	1/1	0.87	0.44	79,79,79,79	0
36	CL	0	3192	1/1	0.87	0.43	88,88,88,88	0
35	NA	0	3173	1/1	0.88	0.23	53,53,53,53	0
35	NA	0	3122	1/1	0.88	0.17	47,47,47,47	0
35	NA	0	3164	1/1	0.88	0.34	75,75,75,75	0
33	MG	0	3050	1/1	0.88	0.19	72,72,72,72	0
35	NA	0	3118	1/1	0.88	0.15	39,39,39,39	0
36	CL	0	3194	1/1	0.88	0.18	58,58,58,58	0
33	MG	0	3108	1/1	0.89	0.11	46,46,46,46	0
35	NA	0	3161	1/1	0.89	0.48	54,54,54,54	0
33	MG	0	3093	1/1	0.89	0.16	45,45,45,45	0
35	NA	0	3138	1/1	0.89	0.31	41,41,41,41	0
33	MG	0	3092	1/1	0.90	0.16	42,42,42,42	0
33	MG	0	3047	1/1	0.90	0.20	62,62,62,62	0
35	NA	H	201	1/1	0.90	0.15	38,38,38,38	0
35	NA	0	3166	1/1	0.90	0.14	35,35,35,35	0
35	NA	0	3160	1/1	0.90	0.47	48,48,48,48	0
33	MG	0	3049	1/1	0.90	0.25	58,58,58,58	0
35	NA	0	3159	1/1	0.91	0.07	49,49,49,49	0
35	NA	0	3171	1/1	0.91	0.36	65,65,65,65	0
35	NA	0	3132	1/1	0.91	0.21	39,39,39,39	0
33	MG	T	201	1/1	0.91	0.11	45,45,45,45	0
33	MG	0	3034	1/1	0.91	0.09	29,29,29,29	0
35	NA	0	3154	1/1	0.91	0.36	40,40,40,40	0
33	MG	0	3051	1/1	0.91	0.12	58,58,58,58	0
36	CL	A	303	1/1	0.91	0.19	58,58,58,58	0
35	NA	0	3167	1/1	0.92	0.51	43,43,43,43	0
35	NA	0	3185	1/1	0.92	0.32	38,38,38,38	0
33	MG	0	3084	1/1	0.92	0.11	49,49,49,49	0
33	MG	0	3066	1/1	0.92	0.07	34,34,34,34	0
35	NA	0	3125	1/1	0.92	0.25	39,39,39,39	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
33	MG	0	3061	1/1	0.92	0.06	52,52,52,52	0
35	NA	R	201	1/1	0.92	0.10	33,33,33,33	0
33	MG	0	3077	1/1	0.92	0.17	58,58,58,58	0
35	NA	0	3179	1/1	0.92	0.23	64,64,64,64	0
35	NA	0	3181	1/1	0.92	0.31	46,46,46,46	0
33	MG	0	3046	1/1	0.92	0.11	52,52,52,52	0
35	NA	0	3145	1/1	0.93	0.06	55,55,55,55	0
33	MG	0	3101	1/1	0.93	0.08	73,73,73,73	0
35	NA	0	3148	1/1	0.93	0.13	29,29,29,29	0
33	MG	0	3069	1/1	0.93	0.08	56,56,56,56	0
33	MG	0	3087	1/1	0.93	0.29	75,75,75,75	0
35	NA	0	3157	1/1	0.93	0.56	71,71,71,71	0
33	MG	0	3089	1/1	0.93	0.13	47,47,47,47	0
34	K	0	3111	1/1	0.93	0.12	62,62,62,62	0
35	NA	0	3176	1/1	0.93	0.63	60,60,60,60	0
35	NA	0	3114	1/1	0.93	0.20	50,50,50,50	0
35	NA	0	3143	1/1	0.93	0.26	47,47,47,47	0
35	NA	0	3182	1/1	0.93	0.16	40,40,40,40	0
33	MG	0	3086	1/1	0.94	0.05	41,41,41,41	0
33	MG	9	201	1/1	0.94	0.09	53,53,53,53	0
33	MG	K	201	1/1	0.94	0.07	46,46,46,46	0
35	NA	0	3144	1/1	0.94	0.13	44,44,44,44	0
33	MG	0	3060	1/1	0.94	0.08	27,27,27,27	0
35	NA	0	3168	1/1	0.94	0.20	40,40,40,40	0
33	MG	0	3073	1/1	0.94	0.07	28,28,28,28	0
35	NA	0	3130	1/1	0.94	0.42	61,61,61,61	0
33	MG	0	3103	1/1	0.94	0.08	60,60,60,60	0
35	NA	L	201	1/1	0.94	0.71	61,61,61,61	0
35	NA	Q	101	1/1	0.94	0.09	33,33,33,33	0
35	NA	0	3115	1/1	0.94	0.11	29,29,29,29	0
35	NA	0	3135	1/1	0.94	0.31	60,60,60,60	0
35	NA	0	3116	1/1	0.94	0.41	33,33,33,33	0
35	NA	0	3177	1/1	0.94	0.30	58,58,58,58	0
36	CL	0	3195	1/1	0.94	0.27	88,88,88,88	0
33	MG	0	3076	1/1	0.94	0.10	50,50,50,50	0
36	CL	O	202	1/1	0.94	0.18	74,74,74,74	0
33	MG	0	3001	1/1	0.95	0.07	30,30,30,30	0
33	MG	0	3083	1/1	0.95	0.07	25,25,25,25	0
35	NA	0	3139	1/1	0.95	0.17	62,62,62,62	0
35	NA	J	201	1/1	0.95	0.09	61,61,61,61	0
35	NA	0	3123	1/1	0.95	0.12	27,27,27,27	0
33	MG	0	3106	1/1	0.95	0.24	42,42,42,42	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
35	NA	0	3126	1/1	0.95	0.10	28,28,28,28	0
35	NA	0	3127	1/1	0.95	0.17	26,26,26,26	0
36	CL	0	3187	1/1	0.95	0.19	57,57,57,57	0
33	MG	0	3094	1/1	0.95	0.10	73,73,73,73	0
33	MG	0	3041	1/1	0.95	0.20	38,38,38,38	0
33	MG	0	3098	1/1	0.95	0.20	48,48,48,48	0
35	NA	0	3150	1/1	0.95	0.09	42,42,42,42	0
36	CL	J	203	1/1	0.95	0.14	63,63,63,63	0
36	CL	L	202	1/1	0.95	0.11	46,46,46,46	0
33	MG	0	3090	1/1	0.95	0.08	41,41,41,41	0
35	NA	A	302	1/1	0.96	0.16	38,38,38,38	0
33	MG	0	3085	1/1	0.96	0.18	41,41,41,41	0
35	NA	0	3112	1/1	0.96	0.14	21,21,21,21	0
33	MG	0	3035	1/1	0.96	0.05	50,50,50,50	0
33	MG	0	3052	1/1	0.96	0.05	35,35,35,35	0
33	MG	0	3088	1/1	0.96	0.21	48,48,48,48	0
33	MG	0	3008	1/1	0.96	0.04	33,33,33,33	0
33	MG	0	3011	1/1	0.96	0.08	21,21,21,21	0
33	MG	0	3015	1/1	0.96	0.06	38,38,38,38	0
36	CL	0	3191	1/1	0.96	0.12	51,51,51,51	0
33	MG	3	101	1/1	0.96	0.04	40,40,40,40	0
35	NA	0	3163	1/1	0.96	0.21	44,44,44,44	0
33	MG	0	3033	1/1	0.96	0.09	31,31,31,31	0
35	NA	0	3142	1/1	0.96	0.07	26,26,26,26	0
36	CL	J	202	1/1	0.96	0.18	55,55,55,55	0
33	MG	0	3002	1/1	0.96	0.04	26,26,26,26	0
36	CL	J	204	1/1	0.96	0.11	57,57,57,57	0
33	MG	0	3096	1/1	0.96	0.16	49,49,49,49	0
34	K	0	3110	1/1	0.96	0.20	86,86,86,86	0
33	MG	0	3059	1/1	0.97	0.14	44,44,44,44	0
33	MG	0	3099	1/1	0.97	0.22	53,53,53,53	0
35	NA	0	3158	1/1	0.97	0.53	43,43,43,43	0
33	MG	0	3010	1/1	0.97	0.07	24,24,24,24	0
35	NA	0	3136	1/1	0.97	0.32	50,50,50,50	0
33	MG	0	3027	1/1	0.97	0.11	40,40,40,40	0
33	MG	0	3045	1/1	0.97	0.08	58,58,58,58	0
33	MG	0	3091	1/1	0.97	0.06	26,26,26,26	0
33	MG	0	3107	1/1	0.97	0.09	49,49,49,49	0
35	NA	0	3119	1/1	0.97	0.09	40,40,40,40	0
35	NA	M	201	1/1	0.97	0.13	30,30,30,30	0
33	MG	0	3065	1/1	0.97	0.10	38,38,38,38	0
33	MG	0	3109	1/1	0.97	0.11	20,20,20,20	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
35	NA	0	3169	1/1	0.97	0.14	35,35,35,35	0
33	MG	0	3056	1/1	0.97	0.09	42,42,42,42	0
36	CL	0	3188	1/1	0.97	0.14	57,57,57,57	0
33	MG	0	3067	1/1	0.97	0.11	41,41,41,41	0
35	NA	0	3146	1/1	0.97	0.12	26,26,26,26	0
36	CL	0	3193	1/1	0.97	0.13	56,56,56,56	0
33	MG	B	401	1/1	0.97	0.09	32,32,32,32	0
33	MG	0	3095	1/1	0.97	0.11	49,49,49,49	0
35	NA	0	3149	1/1	0.97	0.12	35,35,35,35	0
33	MG	0	3068	1/1	0.97	0.09	59,59,59,59	0
35	NA	0	3151	1/1	0.97	0.05	30,30,30,30	0
35	NA	0	3180	1/1	0.97	0.38	45,45,45,45	0
35	NA	0	3153	1/1	0.97	0.14	43,43,43,43	0
36	CL	N	201	1/1	0.97	0.13	57,57,57,57	0
33	MG	0	3058	1/1	0.97	0.06	27,27,27,27	0
36	CL	R	203	1/1	0.97	0.15	43,43,43,43	0
33	MG	0	3081	1/1	0.98	0.16	41,41,41,41	0
33	MG	0	3013	1/1	0.98	0.10	37,37,37,37	0
33	MG	0	3053	1/1	0.98	0.13	48,48,48,48	0
33	MG	4	102	1/1	0.98	0.08	46,46,46,46	0
33	MG	0	3054	1/1	0.98	0.09	24,24,24,24	0
33	MG	A	301	1/1	0.98	0.08	44,44,44,44	0
33	MG	0	3055	1/1	0.98	0.13	40,40,40,40	0
33	MG	0	3014	1/1	0.98	0.07	31,31,31,31	0
33	MG	0	3057	1/1	0.98	0.08	32,32,32,32	0
33	MG	Y	301	1/1	0.98	0.12	34,34,34,34	0
33	MG	0	3006	1/1	0.98	0.05	46,46,46,46	0
33	MG	0	3038	1/1	0.98	0.08	28,28,28,28	0
33	MG	0	3039	1/1	0.98	0.10	33,33,33,33	0
35	NA	0	3113	1/1	0.98	0.26	44,44,44,44	0
33	MG	0	3040	1/1	0.98	0.14	70,70,70,70	0
33	MG	0	3062	1/1	0.98	0.07	51,51,51,51	0
33	MG	0	3016	1/1	0.98	0.11	23,23,23,23	0
35	NA	0	3152	1/1	0.98	0.11	34,34,34,34	0
33	MG	0	3064	1/1	0.98	0.18	96,96,96,96	0
33	MG	0	3043	1/1	0.98	0.06	35,35,35,35	0
35	NA	0	3155	1/1	0.98	0.20	39,39,39,39	0
33	MG	0	3044	1/1	0.98	0.06	37,37,37,37	0
33	MG	0	3017	1/1	0.98	0.05	26,26,26,26	0
35	NA	S	101	1/1	0.98	0.13	10,10,10,10	0
36	CL	0	3186	1/1	0.98	0.16	43,43,43,43	0
33	MG	0	3018	1/1	0.98	0.09	34,34,34,34	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
33	MG	0	3021	1/1	0.98	0.10	32,32,32,32	0
36	CL	0	3189	1/1	0.98	0.07	39,39,39,39	0
33	MG	0	3100	1/1	0.98	0.05	35,35,35,35	0
35	NA	0	3124	1/1	0.98	0.12	48,48,48,48	0
35	NA	0	3162	1/1	0.98	0.40	49,49,49,49	0
33	MG	0	3048	1/1	0.98	0.07	48,48,48,48	0
33	MG	0	3025	1/1	0.98	0.03	42,42,42,42	0
36	CL	3	103	1/1	0.98	0.08	53,53,53,53	0
33	MG	0	3104	1/1	0.98	0.06	40,40,40,40	0
36	CL	B	402	1/1	0.98	0.12	40,40,40,40	0
35	NA	0	3128	1/1	0.98	0.13	22,22,22,22	0
33	MG	0	3075	1/1	0.98	0.07	38,38,38,38	0
35	NA	0	3131	1/1	0.98	0.12	39,39,39,39	0
33	MG	0	3012	1/1	0.98	0.07	25,25,25,25	0
35	NA	0	3133	1/1	0.98	0.16	50,50,50,50	0
33	MG	0	3032	1/1	0.98	0.07	40,40,40,40	0
35	NA	0	3172	1/1	0.98	0.13	58,58,58,58	0
36	CL	Y	302	1/1	0.98	0.11	30,30,30,30	0
37	CD	3	102	1/1	0.98	0.05	55,55,55,55	0
37	CD	O	201	1/1	0.98	0.07	70,70,70,70	0
33	MG	0	3102	1/1	0.99	0.08	23,23,23,23	0
33	MG	0	3079	1/1	0.99	0.03	42,42,42,42	0
33	MG	0	3080	1/1	0.99	0.09	65,65,65,65	0
33	MG	0	3004	1/1	0.99	0.07	27,27,27,27	0
33	MG	0	3042	1/1	0.99	0.10	31,31,31,31	0
33	MG	0	3026	1/1	0.99	0.07	19,19,19,19	0
33	MG	0	3009	1/1	0.99	0.07	22,22,22,22	0
33	MG	0	3028	1/1	0.99	0.09	39,39,39,39	0
36	CL	0	3190	1/1	0.99	0.12	46,46,46,46	0
33	MG	0	3029	1/1	0.99	0.08	33,33,33,33	0
33	MG	0	3030	1/1	0.99	0.08	31,31,31,31	0
35	NA	0	3178	1/1	0.99	0.10	29,29,29,29	0
33	MG	0	3031	1/1	0.99	0.08	28,28,28,28	0
35	NA	0	3129	1/1	0.99	0.10	25,25,25,25	0
33	MG	0	3005	1/1	0.99	0.10	27,27,27,27	0
33	MG	0	3019	1/1	0.99	0.05	23,23,23,23	0
33	MG	0	3020	1/1	0.99	0.08	22,22,22,22	0
33	MG	0	3003	1/1	0.99	0.12	31,31,31,31	0
33	MG	0	3070	1/1	0.99	0.06	25,25,25,25	0
33	MG	0	3036	1/1	0.99	0.05	32,32,32,32	0
33	MG	0	3072	1/1	0.99	0.08	47,47,47,47	0
36	CL	M	202	1/1	0.99	0.08	31,31,31,31	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
33	MG	0	3037	1/1	0.99	0.07	44,44,44,44	0
33	MG	0	3074	1/1	0.99	0.10	20,20,20,20	0
33	MG	0	3022	1/1	0.99	0.08	36,36,36,36	0
33	MG	0	3023	1/1	0.99	0.06	34,34,34,34	0
37	CD	1	101	1/1	0.99	0.08	56,56,56,56	0
33	MG	0	3024	1/1	0.99	0.06	12,12,12,12	0
33	MG	0	3078	1/1	0.99	0.04	22,22,22,22	0
33	MG	0	3007	1/1	1.00	0.07	12,12,12,12	0
37	CD	U	8701	1/1	1.00	0.08	60,60,60,60	0
37	CD	Z	101	1/1	1.00	0.11	59,59,59,59	0

6.5 Other polymers (i)

There are no such residues in this entry.