Full wwPDB X-ray Structure Validation Report ⓘ

Oct 12, 2021 – 10:12 AM EDT

PDB ID	:	1YI2
Title	:	Crystal Structure Of Erythromycin Bound To The G2099A Mutant 50S Ribosomal Subunit Of Haloarcula Marismortui
Authors	:	Tu, D.; Blaha, G.; Moore, P.B.; Steitz, T.A.
Deposited on	:	2005-01-11
Resolution	:	2.65 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 following versions of software and data (see references ⓘ) were used in the production of this report:

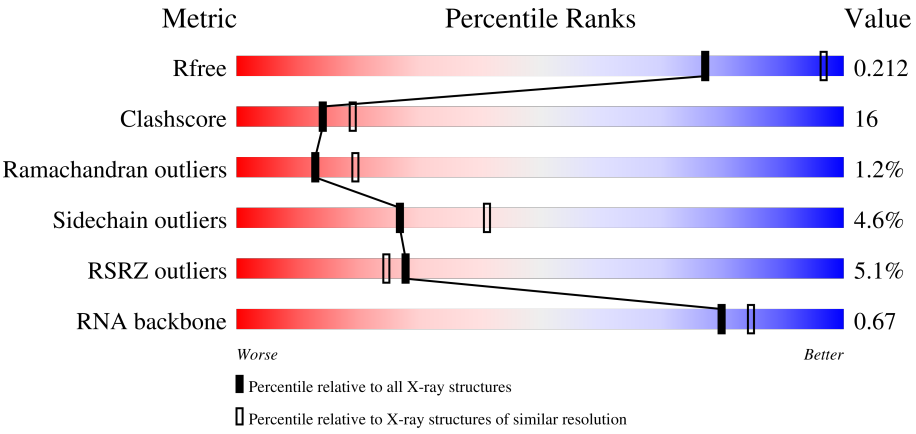
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.23.2
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.23.2

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 2.65 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	1332 (2.68-2.64)
Clashscore	141614	1374 (2.68-2.64)
Ramachandran outliers	138981	1349 (2.68-2.64)
Sidechain outliers	138945	1349 (2.68-2.64)
RSRZ outliers	127900	1318 (2.68-2.64)
RNA backbone	3102	1010 (2.96-2.36)

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	62% 27% 5% • 6%
2	9	122	4% 55% 35% 8% •
3	A	240	6% 63% 31% 5% •
4	B	338	2% 51% 44% •

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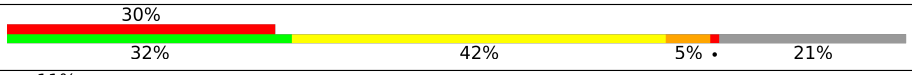
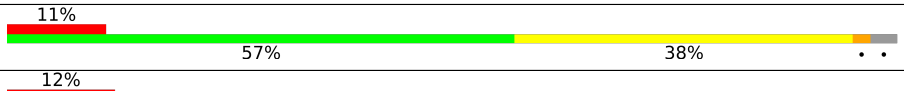
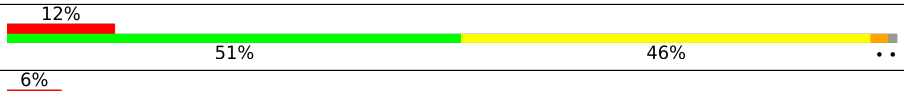
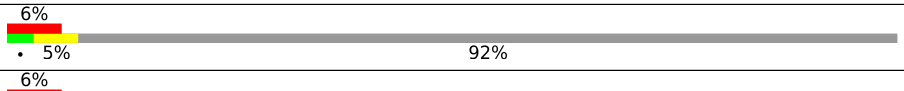
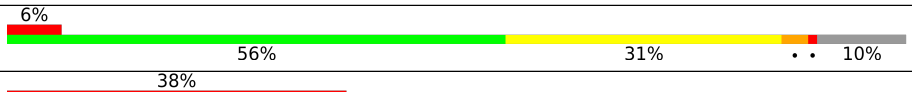
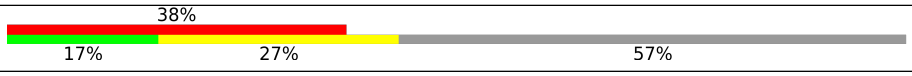
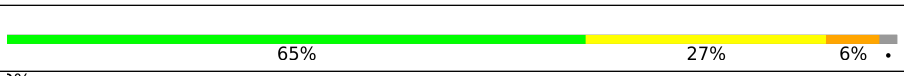
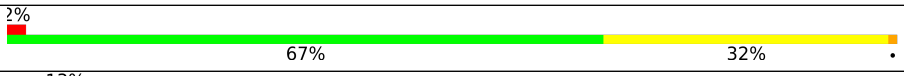
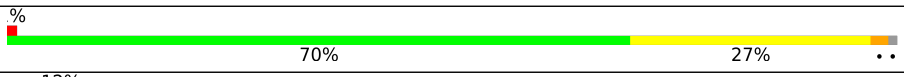
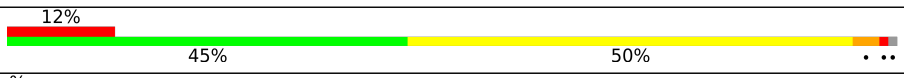
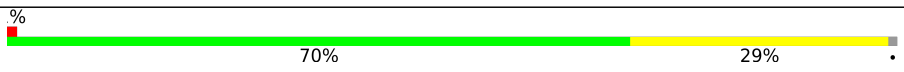
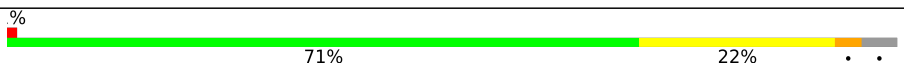
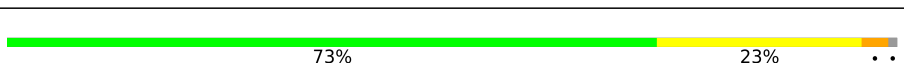
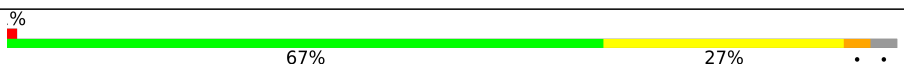
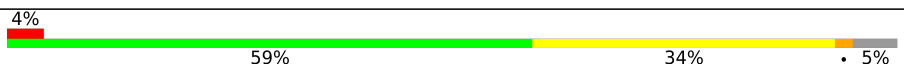
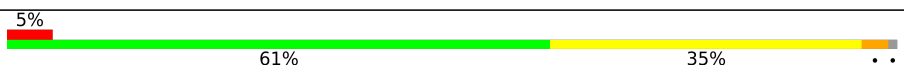
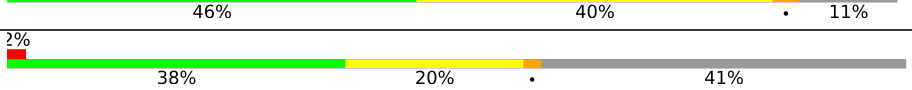
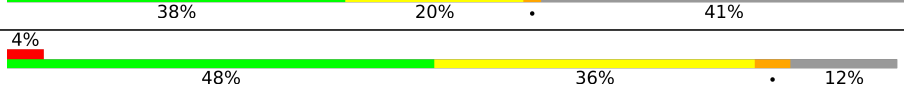
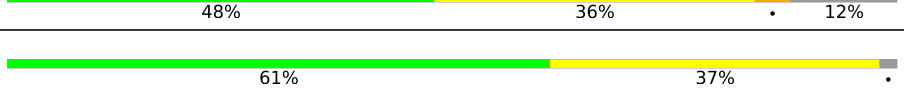
Mol	Chain	Length	Quality of chain
5	C	246	
6	D	177	
7	E	178	
8	F	120	
9	G	348	
10	H	177	
11	I	162	
12	J	145	
13	K	132	
14	L	165	
15	M	195	
16	N	187	
17	O	116	
18	P	149	
19	Q	96	
20	R	155	
21	S	85	
22	T	120	
23	U	66	
24	V	71	
25	W	154	
26	X	92	
27	Y	241	
28	Z	83	
29	1	57	

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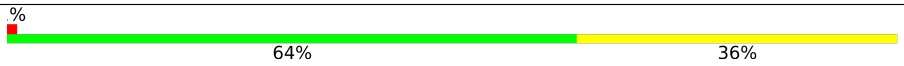
Mol	Chain	Length	Quality of chain
30	2	50	
31	3	92	

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	R	8586	-	-	-	X

2 Entry composition (i)

There are 38 unique types of molecules in this entry. The entry contains 99086 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 are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
0	628	1MA	A	modified residue	GB 55229667
0	2099	A	G	engineered mutation	GB 55229667
0	2587	OMU	U	modified residue	GB 55229667
0	2588	OMG	G	modified residue	GB 55229667
0	2619	UR3	U	modified residue	GB 55229667
0	2621	PSU	U	modified residue	GB 55229667

- Molecule 2 is a RNA chain called 5S Ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	9	122	Total	C	N	O	P	0	0	0
			2599	1160	471	847	121			

- Molecule 3 is a protein called 50S ribosomal protein L2P.

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

- Molecule 4 is a protein called 50S ribosomal protein L3P.

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

- Molecule 5 is a protein called 50S ribosomal protein L4E.

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

- Molecule 6 is a protein called 50S ribosomal protein L5P.

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

- Molecule 7 is a protein called 50S ribosomal protein L6P.

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

- Molecule 8 is a protein called 50S ribosomal protein L7AE.

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

- Molecule 9 is a protein called ACIDIC RIBOSOMAL PROTEIN P0 HOMOLOG.

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

- Molecule 10 is a protein called 50S RIBOSOMAL PROTEIN L10E.

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

- Molecule 11 is a protein called 50S RIBOSOMAL PROTEIN L11P.

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

- Molecule 12 is a protein called 50S ribosomal protein L13P.

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

- Molecule 13 is a protein called 50S ribosomal protein L14P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	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 14 is a protein called 50S ribosomal protein L15P.

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

- Molecule 15 is a protein called 50S Ribosomal Protein L15E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	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	GB 55231501

- Molecule 16 is a protein called 50S ribosomal protein L18P.

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

- Molecule 17 is a protein called 50S ribosomal protein L18e.

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

- Molecule 18 is a protein called 50S ribosomal protein L19E.

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

- Molecule 19 is a protein called 50S ribosomal protein L21e.

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

- Molecule 20 is a protein called 50S ribosomal protein L22P.

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

- Molecule 21 is a protein called 50S ribosomal protein L23P.

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

- Molecule 22 is a protein called 50S ribosomal protein L24P.

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

- Molecule 23 is a protein called 50S ribosomal protein L24E.

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

- Molecule 24 is a protein called 50S ribosomal protein L29P.

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

- Molecule 25 is a protein called 50S ribosomal protein L30P.

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

- Molecule 26 is a protein called 50S ribosomal protein L31e.

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

- Molecule 27 is a protein called 50S ribosomal protein L32E.

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

- Molecule 28 is a protein called 50S ribosomal protein L37Ae.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	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	SER	conflict	GB 55231162

- Molecule 29 is a protein called 50S ribosomal protein L37e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	1	56	Total	C	N	O	S	0	0	0
			431	258	86	83	4			

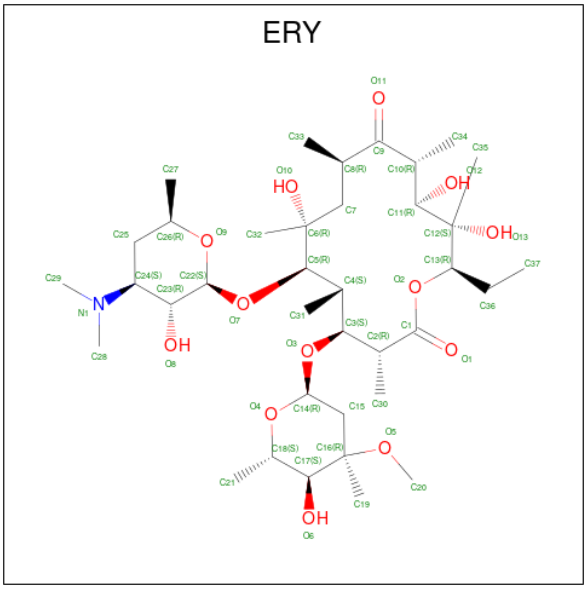
- Molecule 30 is a protein called 50S ribosomal protein L39e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	2	46	Total	C	N	O	S	0	0	0
			396	239	89	67	1			

- Molecule 31 is a protein called 50S ribosomal protein L44E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	3	92	Total	C	N	O	S	0	0	0
			755	458	153	137	7			

- Molecule 32 is ERYTHROMYCIN A (three-letter code: ERY) (formula: $C_{37}H_{67}NO_{13}$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
32	0	1	Total	C	N	O	0	0
			51	37	1	13		

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	0	108	Total	Mg	0	0
			108	108		
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		
33	2	1	Total	Mg	0	0
			1	1		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
33	3	1	Total Mg 1 1	0	0

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

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

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

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
35	0	71	Total Na 71 71	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	2	Total Na 2 2	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	3	Total Na 3 3	0	0
35	S	1	Total Na 1 1	0	0
35	T	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

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
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
36	R	1	Total Cl 1 1	0	0
36	Y	1	Total Cl 1 1	0	0
36	3	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	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
37	1	1	Total Cd 1 1	0	0
37	3	1	Total Cd 1 1	0	0

- Molecule 38 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
38	0	5869	Total O 5869 5869	0	0
38	9	138	Total O 138 138	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
38	A	121	Total O 121 121	0	0
38	B	151	Total O 151 151	0	0
38	C	168	Total O 168 168	0	0
38	D	50	Total O 50 50	0	0
38	E	42	Total O 42 42	0	0
38	F	28	Total O 28 28	0	0
38	G	19	Total O 19 19	0	0
38	H	71	Total O 71 71	0	0
38	I	9	Total O 9 9	0	0
38	J	55	Total O 55 55	0	0
38	K	61	Total O 61 61	0	0
38	L	81	Total O 81 81	0	0
38	M	124	Total O 124 124	0	0
38	N	67	Total O 67 67	0	0
38	O	43	Total O 43 43	0	0
38	P	66	Total O 66 66	0	0
38	Q	49	Total O 49 49	0	0
38	R	80	Total O 80 80	0	0
38	S	37	Total O 37 37	0	0
38	T	37	Total O 37 37	0	0
38	U	27	Total O 27 27	0	0

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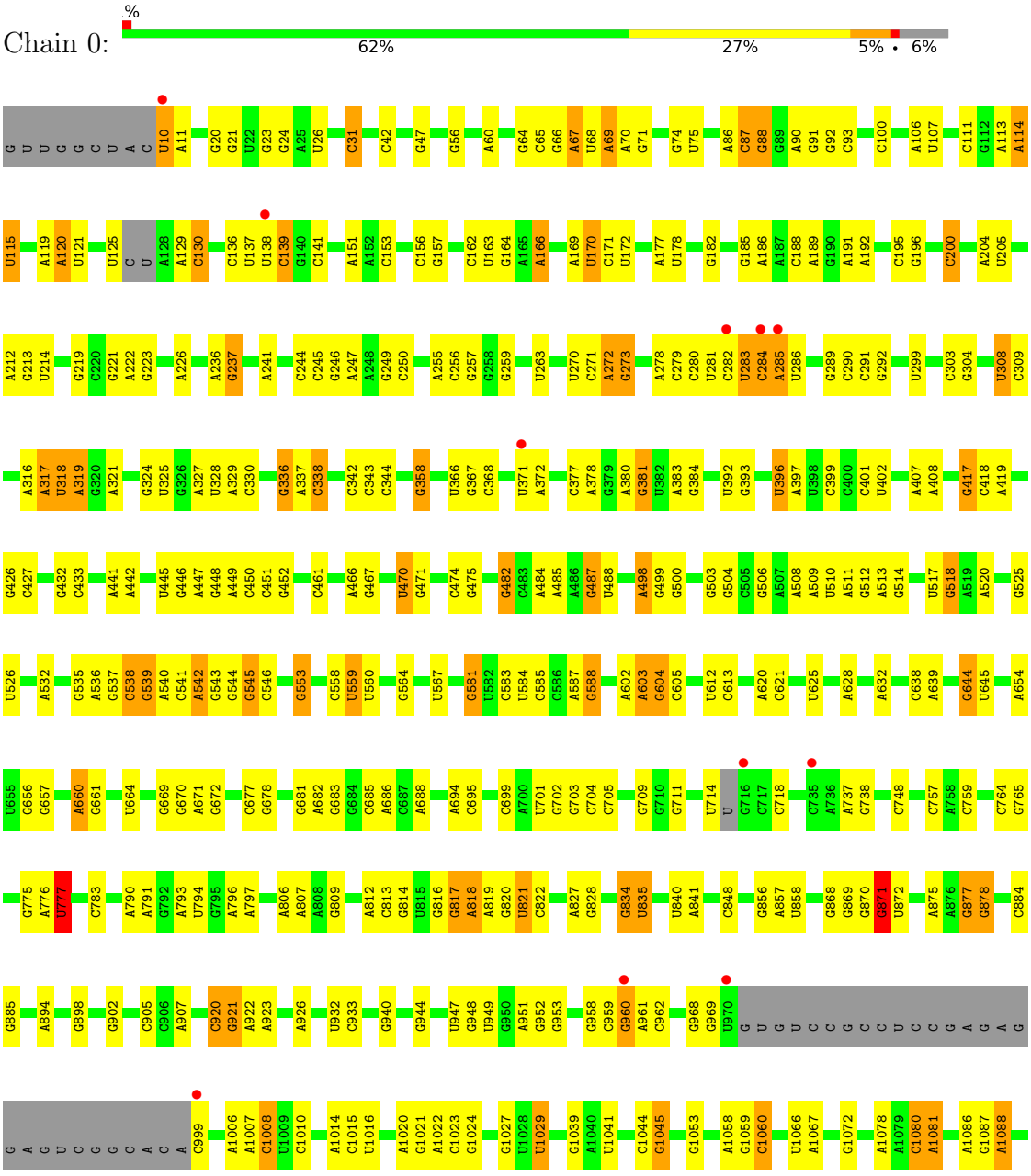
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
38	V	14	Total O 14 14	0	0
38	W	73	Total O 73 73	0	0
38	X	27	Total O 27 27	0	0
38	Y	94	Total O 94 94	0	0
38	Z	30	Total O 30 30	0	0
38	1	54	Total O 54 54	0	0
38	2	45	Total O 45 45	0	0
38	3	78	Total O 78 78	0	0

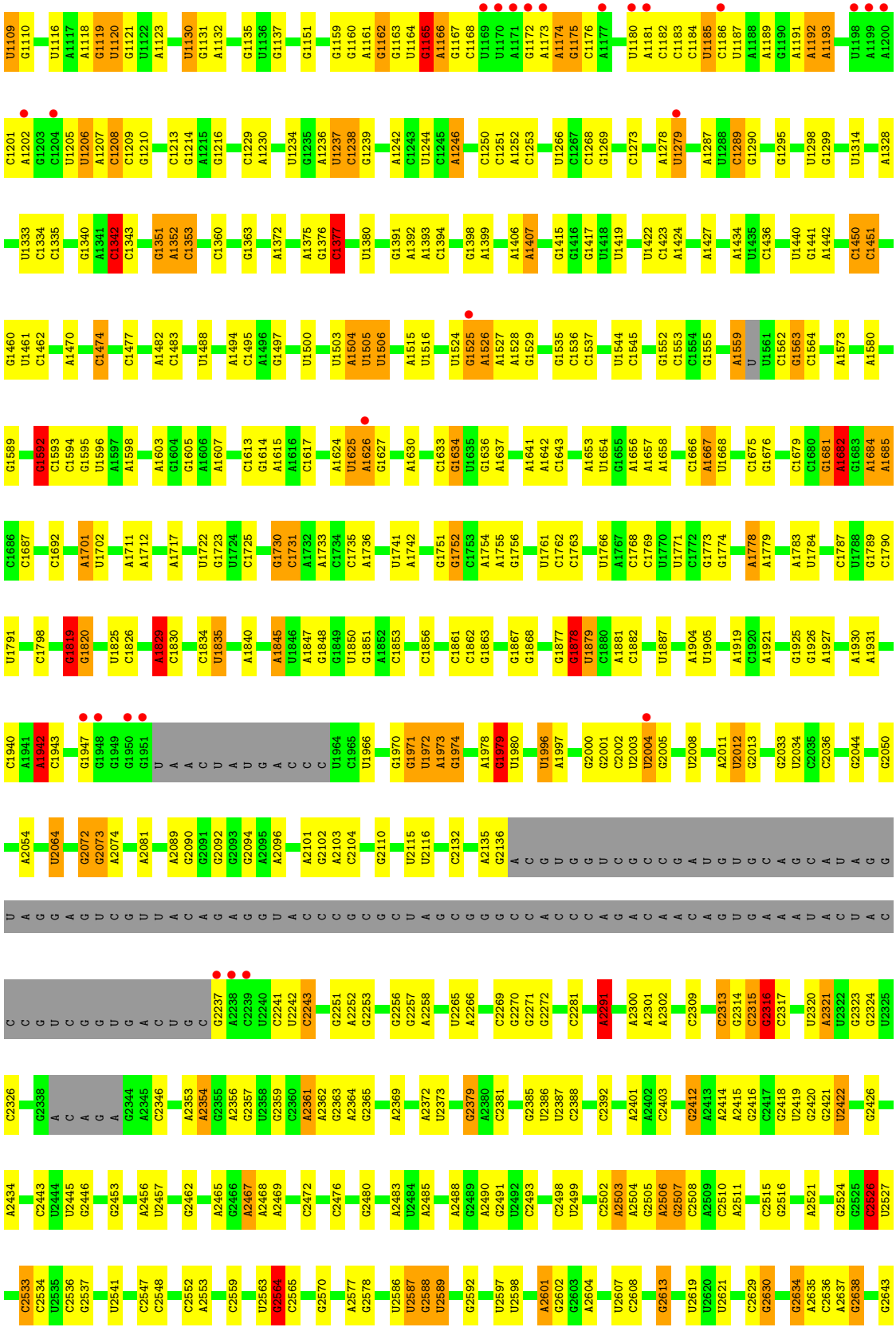
3 Residue-property plots (i)

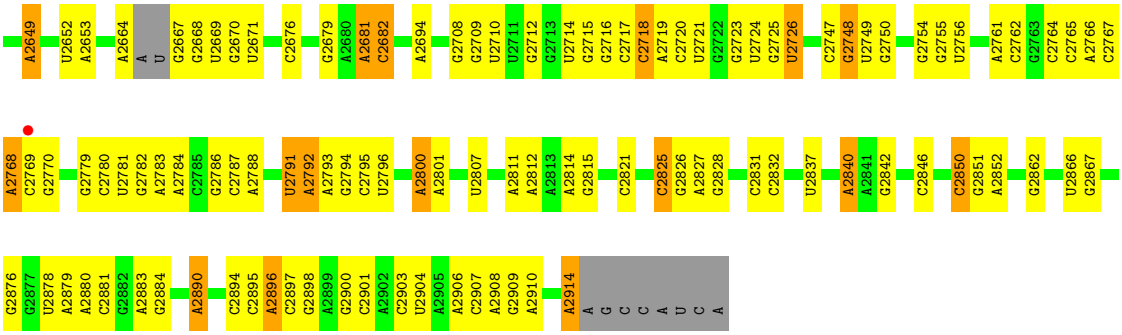
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density.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

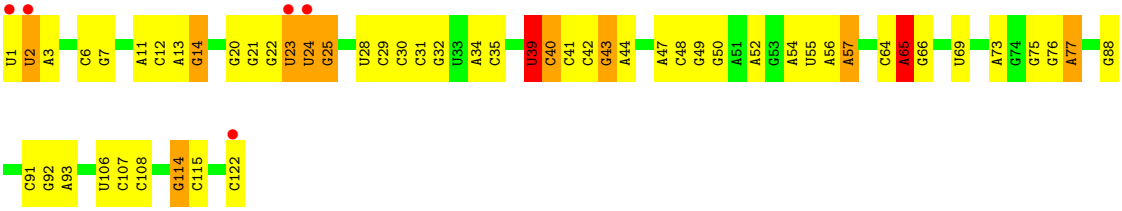






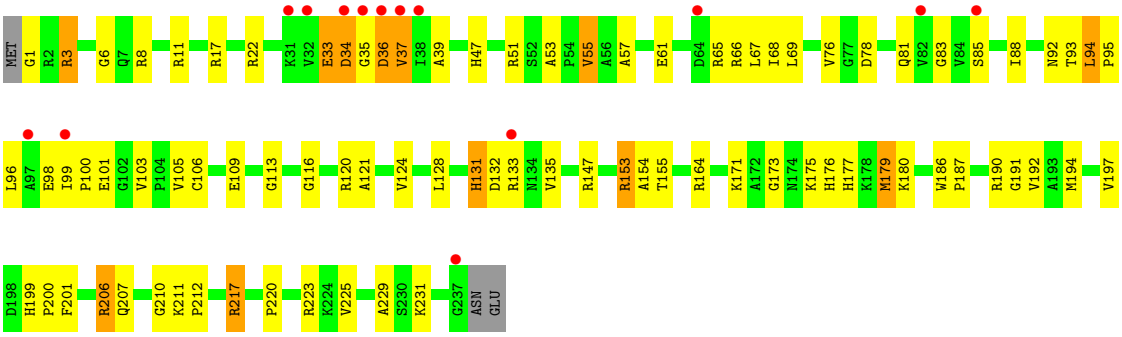
• Molecule 2: 5S Ribosomal RNA

Chain 9:



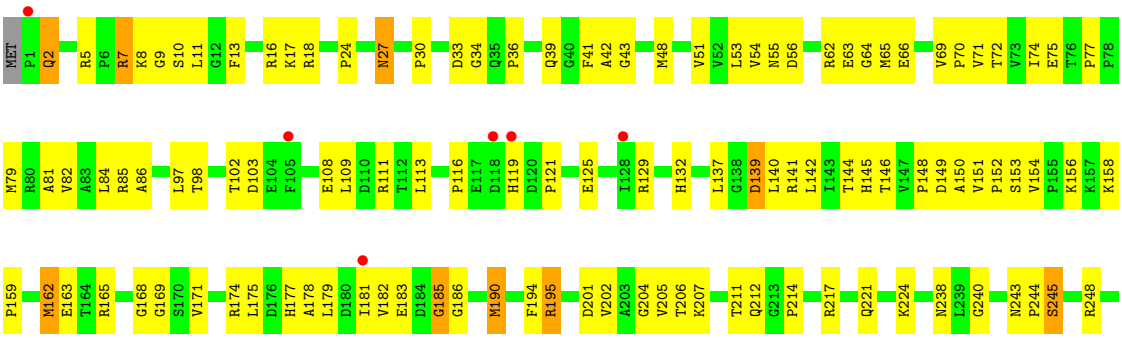
• Molecule 3: 50S ribosomal protein L2P

Chain A:

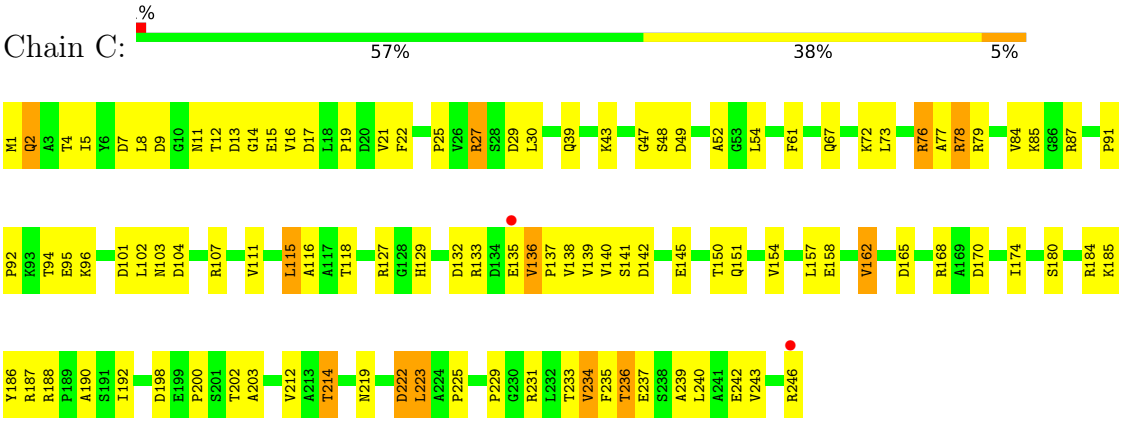


• Molecule 4: 50S ribosomal protein L3P

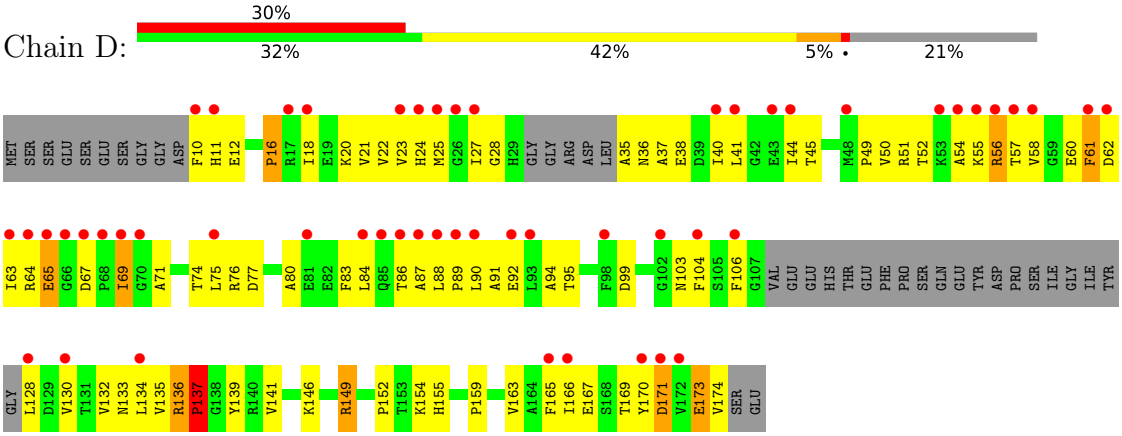
Chain B:



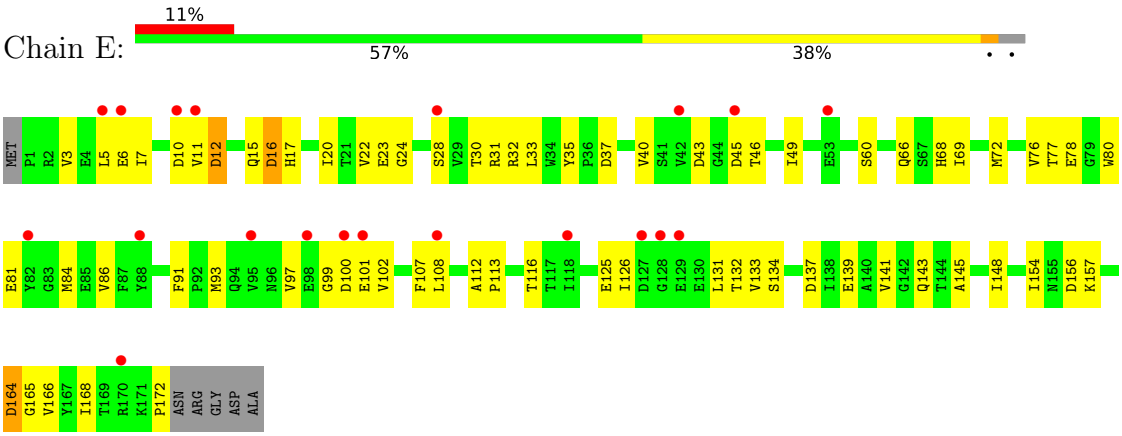
• Molecule 5: 50S ribosomal protein L4E



• Molecule 6: 50S ribosomal protein L5P

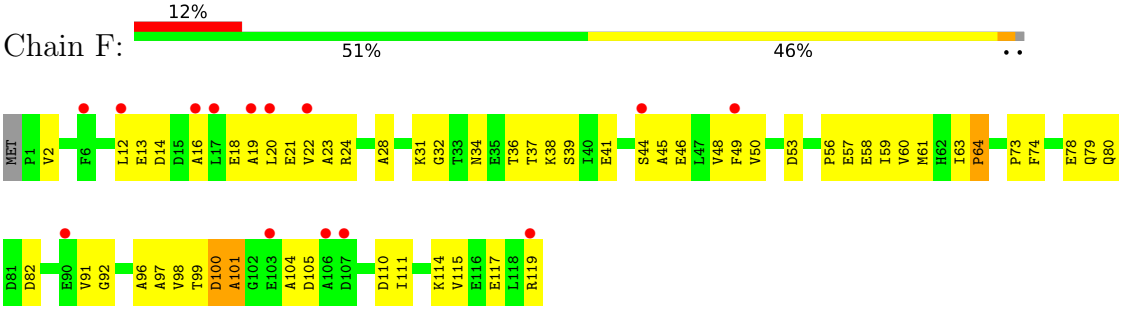


• Molecule 7: 50S ribosomal protein L6P



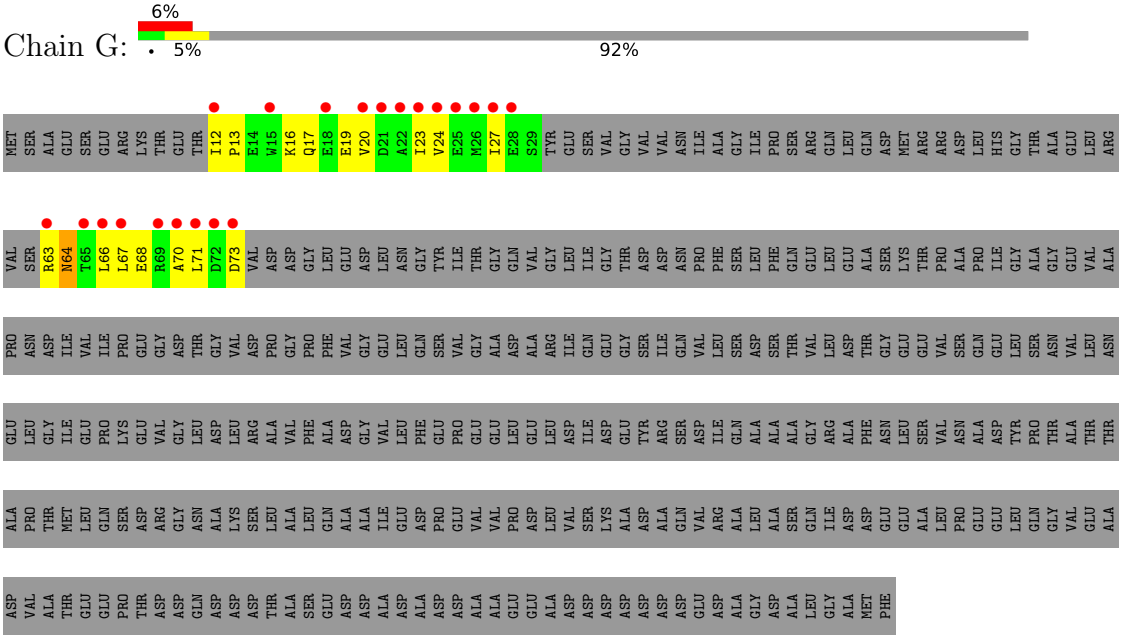
• Molecule 8: 50S ribosomal protein L7AE

Chain F:



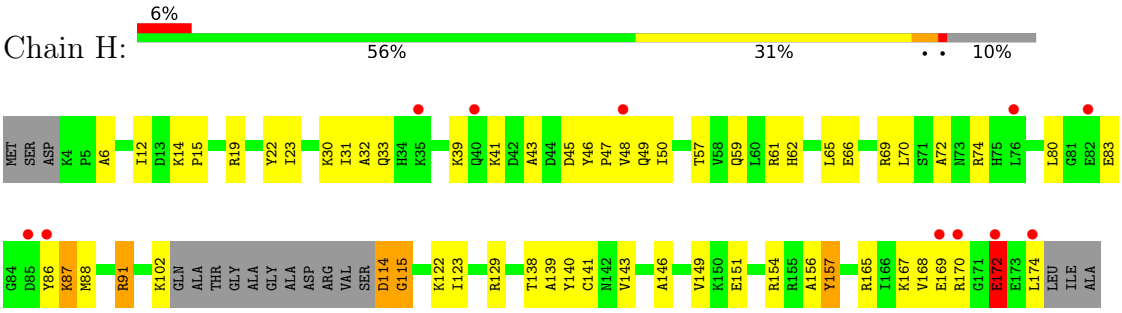
• Molecule 9: ACIDIC RIBOSOMAL PROTEIN P0 HOMOLOG

Chain G:



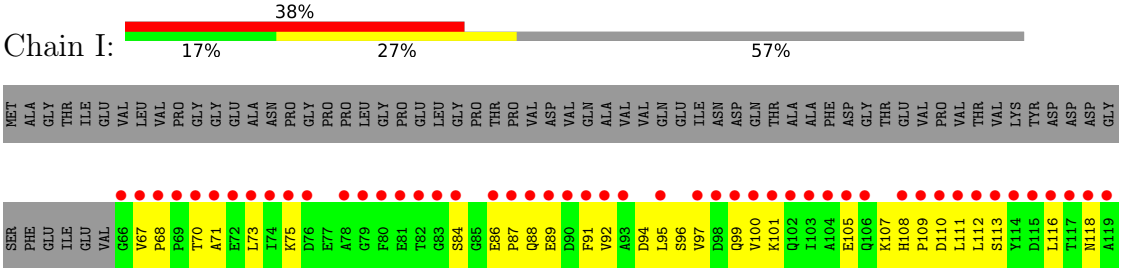
• Molecule 10: 50S RIBOSOMAL PROTEIN L10E

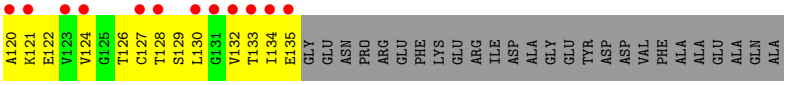
Chain H:



• Molecule 11: 50S RIBOSOMAL PROTEIN L11P

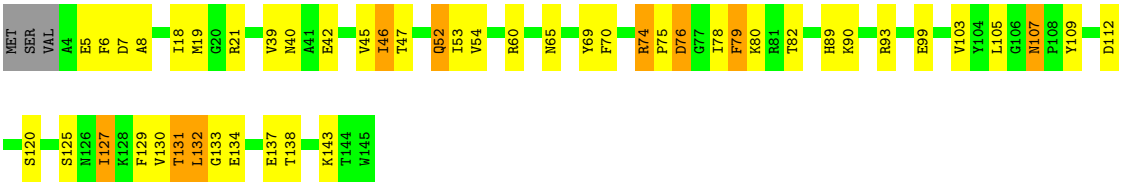
Chain I:





• Molecule 12: 50S ribosomal protein L13P

Chain J:

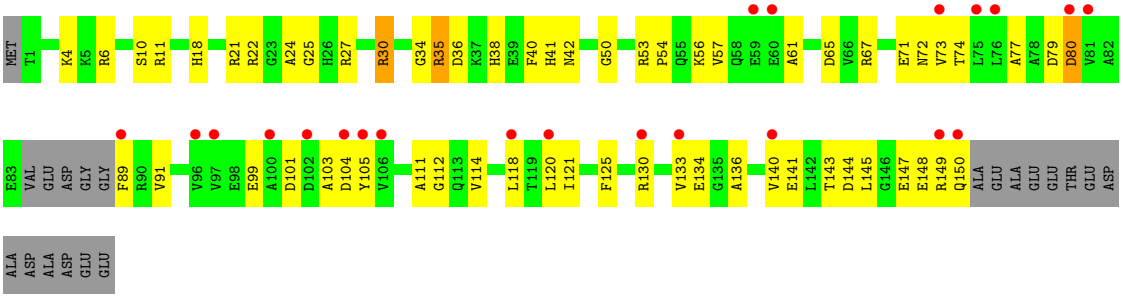


• Molecule 13: 50S ribosomal protein L14P

Chain K:

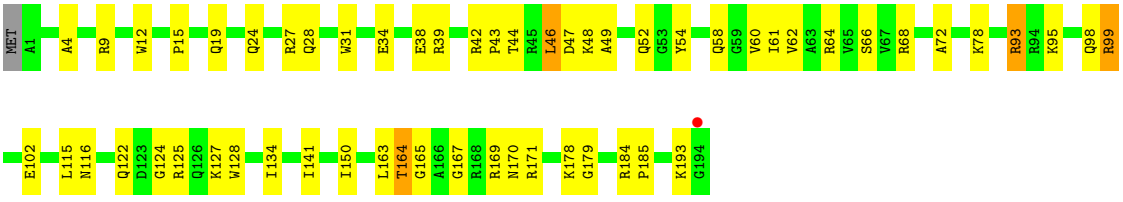
• Molecule 14: 50S ribosomal protein L15P

Chain L:



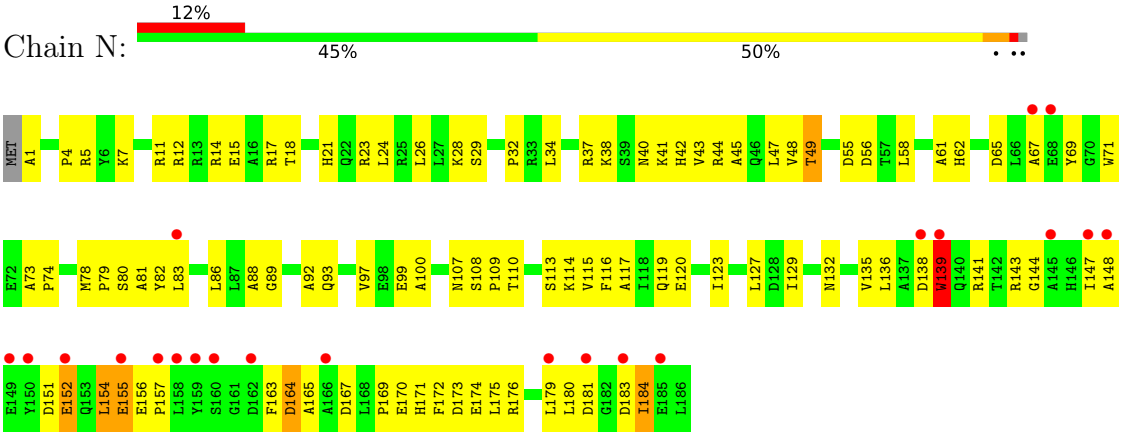
• Molecule 15: 50S Ribosomal Protein L15E

Chain M:



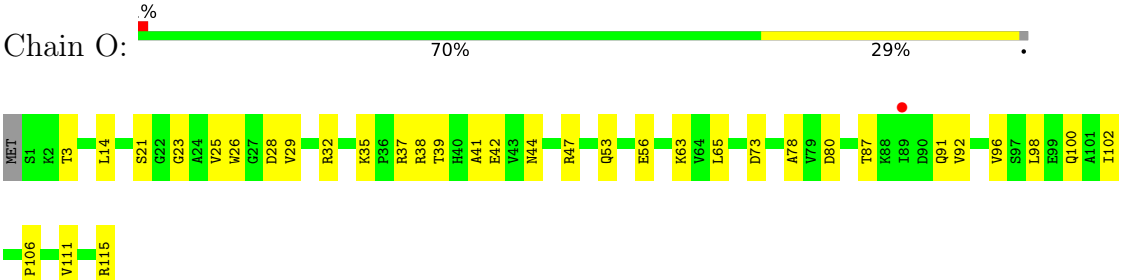
• Molecule 16: 50S ribosomal protein L18P

Chain N:



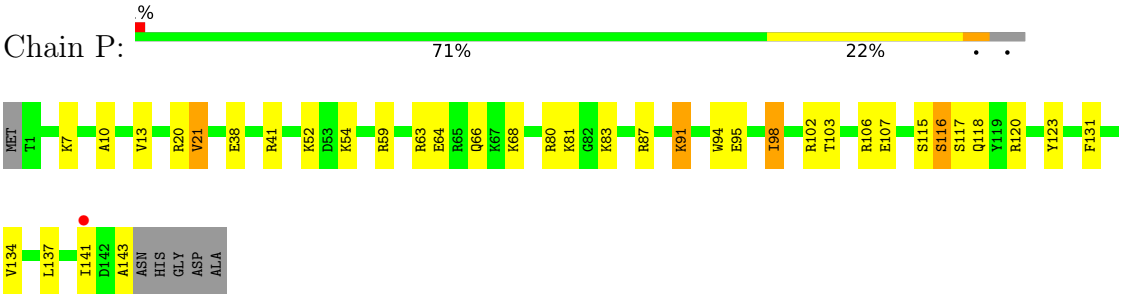
• Molecule 17: 50S ribosomal protein L18e

Chain O:



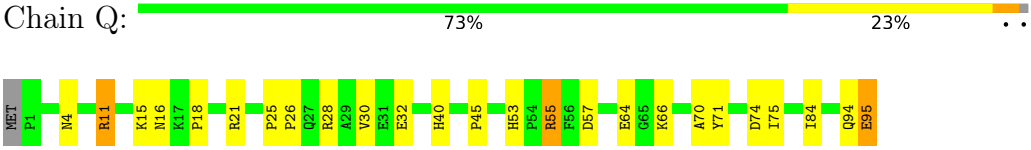
• Molecule 18: 50S ribosomal protein L19E

Chain P:



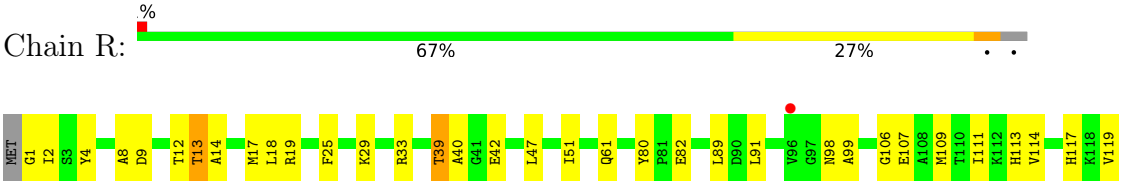
• Molecule 19: 50S ribosomal protein L21e

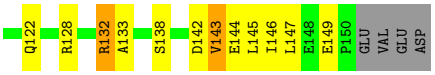
Chain Q:



• Molecule 20: 50S ribosomal protein L22P

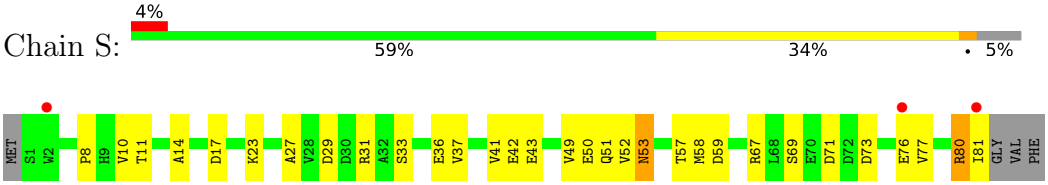
Chain R:





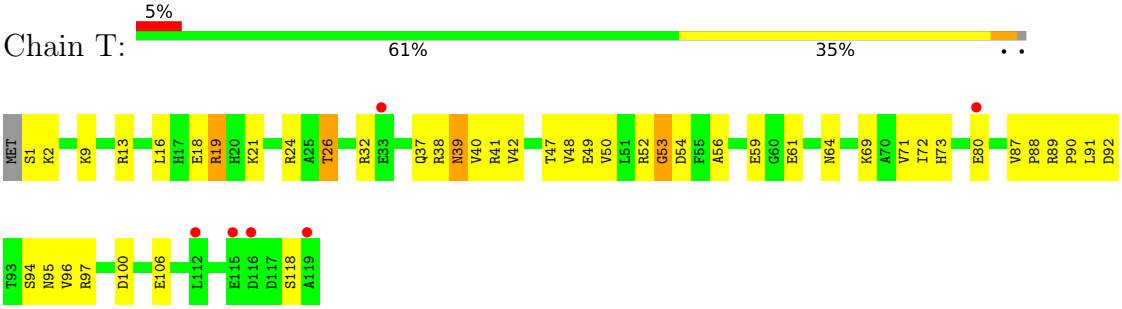
• Molecule 21: 50S ribosomal protein L23P

Chain S:



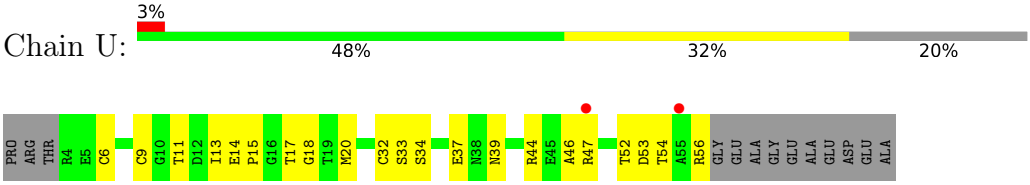
• Molecule 22: 50S ribosomal protein L24P

Chain T:



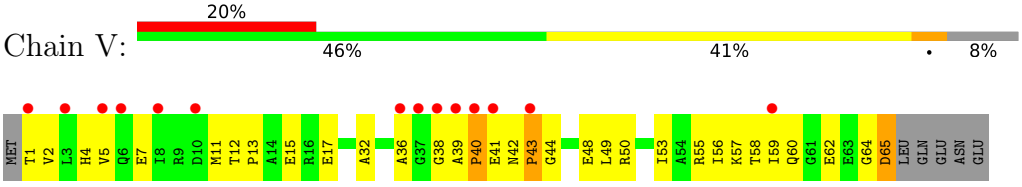
• Molecule 23: 50S ribosomal protein L24E

Chain U:



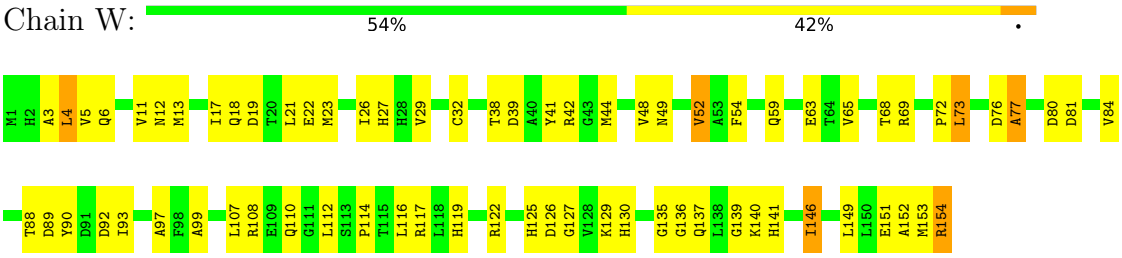
• Molecule 24: 50S ribosomal protein L29P

Chain V:



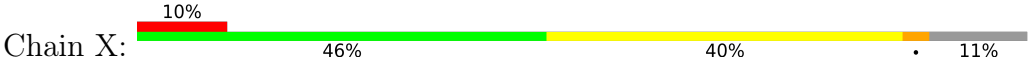
• Molecule 25: 50S ribosomal protein L30P

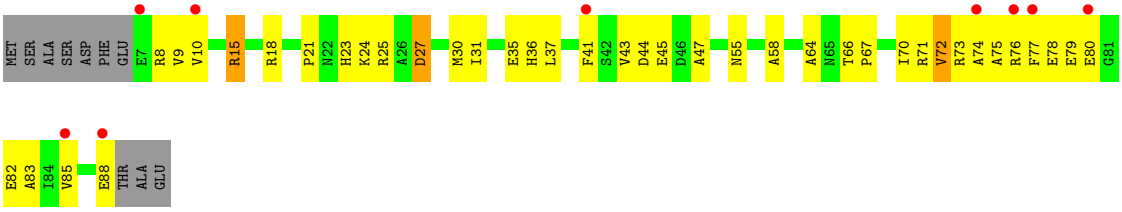
Chain W:



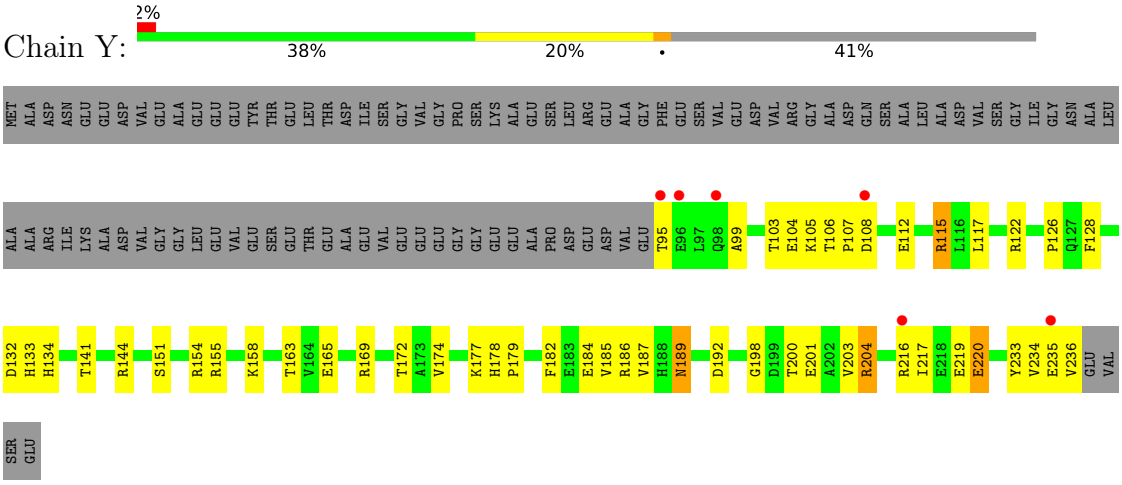
• Molecule 26: 50S ribosomal protein L31e

Chain X:

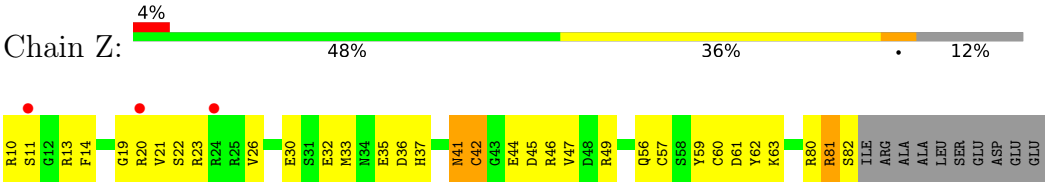




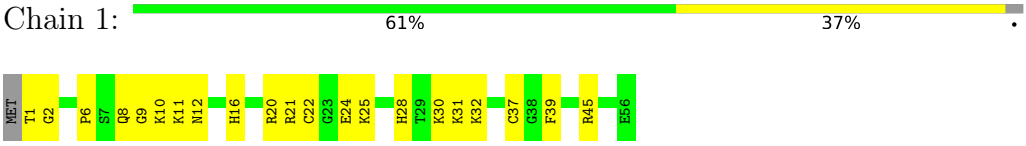
• Molecule 27: 50S ribosomal protein L32E



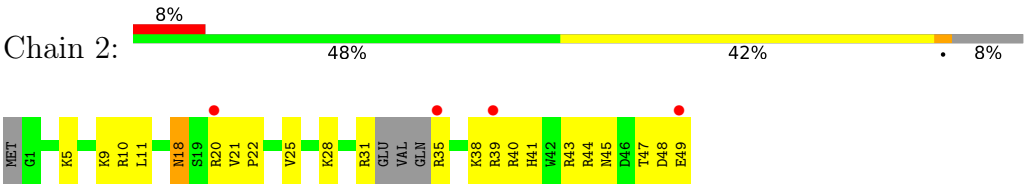
• Molecule 28: 50S ribosomal protein L37Ae



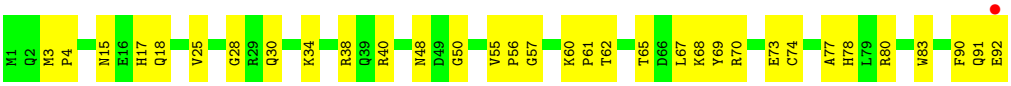
• Molecule 29: 50S ribosomal protein L37e



• Molecule 30: 50S ribosomal protein L39e



• Molecule 31: 50S ribosomal protein L44E


M1
Q2
M3
P4
N15
E16
H17
Q18
V25
G28
R29
Q30
K34
R38
Q39
R40
N48
D49
G50
V55
P56
G57
K60
P61
T62
T65
D66
L67
K68
Y69
R70
E73
C74
A77
H78
L79
R80
W83
F90
Q91
E92

4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α, β, γ	212.44Å 299.99Å 574.18Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.00 – 2.65 49.81 – 2.65	Depositor EDS
% Data completeness (in resolution range)	94.4 (30.00-2.65) 94.5 (49.81-2.65)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.27 (at 2.65Å)	Xtriage
Refinement program	CNS 1.0	Depositor
R, R_{free}	0.176 , 0.214 0.174 , 0.212	Depositor DCC
R_{free} test set	4879 reflections (0.98%)	wwPDB-VP
Wilson B-factor (Å^2)	52.1	Xtriage
Anisotropy	0.185	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 51.6	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	0.95	EDS
Total number of atoms	99086	wwPDB-VP
Average B, all atoms (Å^2)	56.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.42% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: ERY, PSU, MG, OMG, CL, NA, CD, 1MA, K, OMU, UR3

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	0.36	0/65957	0.69	23/102867 (0.0%)
2	9	0.33	0/2904	0.70	2/4526 (0.0%)
3	A	0.32	0/1786	0.64	0/2408
4	B	0.32	0/2690	0.64	0/3652
5	C	0.37	0/1884	0.64	0/2551
6	D	0.31	0/1111	0.55	0/1498
7	E	0.31	0/1382	0.57	0/1880
8	F	0.31	0/901	0.55	0/1224
9	G	0.27	0/241	0.45	0/324
10	H	0.39	0/1302	0.66	1/1743 (0.1%)
11	I	0.30	0/526	0.54	0/716
12	J	0.35	0/1136	0.61	0/1530
13	K	0.33	0/1001	0.68	0/1347
14	L	0.32	0/1130	0.64	0/1509
15	M	0.33	0/1582	0.62	0/2117
16	N	0.29	0/1474	0.61	0/1999
17	O	0.33	0/874	0.59	0/1181
18	P	0.33	0/1147	0.53	0/1528
19	Q	0.35	0/749	0.69	0/1005
20	R	0.34	0/1172	0.63	0/1578
21	S	0.33	0/648	0.57	1/875 (0.1%)
22	T	0.30	0/958	0.62	0/1289
23	U	0.33	0/417	0.55	0/562
24	V	0.29	0/502	0.55	0/675
25	W	0.34	0/1219	0.62	0/1655
26	X	0.34	0/664	0.59	0/895
27	Y	0.35	0/1146	0.62	0/1536
28	Z	0.33	0/589	0.65	0/787
29	1	0.38	0/438	0.63	0/578
30	2	0.33	0/401	0.54	0/529
31	3	0.37	0/771	0.58	0/1024
All	All	0.35	0/98702	0.67	27/147588 (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	1	45
2	9	0	2
All	All	1	47

There are no bond length outliers.

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	0	1563	G	C2'-C3'-O3'	9.25	129.85	109.50
1	0	1942	A	C5'-C4'-C3'	7.55	128.08	116.00
2	9	39	U	N1-C1'-C2'	7.02	123.12	114.00
1	0	871	G	C5'-C4'-O4'	-6.90	100.82	109.10
1	0	1504	A	C1'-O4'-C4'	-6.19	104.95	109.90
1	0	2291	A	N9-C1'-C2'	6.19	122.04	114.00
1	0	2313	C	C5'-C4'-O4'	6.07	116.38	109.10
1	0	2467	A	C1'-O4'-C4'	-5.84	105.23	109.90
1	0	777	U	O4'-C1'-N1	5.83	112.86	108.20
1	0	1120	U	C5'-C4'-C3'	-5.72	106.84	116.00
1	0	1819	G	C5'-C4'-C3'	5.68	125.08	116.00
1	0	2316	G	C5'-C4'-C3'	-5.63	106.99	116.00
1	0	2526	C	N1-C1'-C2'	5.48	121.13	114.00
1	0	1971	G	N9-C1'-C2'	5.42	121.05	114.00
1	0	1979	G	N9-C1'-C2'	5.41	121.03	114.00
2	9	65	A	N9-C1'-C2'	5.32	120.91	114.00
21	S	27	ALA	N-CA-C	-5.31	96.67	111.00
10	H	115	GLY	N-CA-C	-5.27	99.91	113.10
1	0	2726	U	N1-C1'-C2'	5.26	120.84	114.00
1	0	1878	G	N9-C1'-C2'	-5.24	106.23	112.00
1	0	1592	G	N9-C1'-C2'	5.21	120.77	114.00
1	0	1504	A	N9-C1'-C2'	5.05	120.57	114.00
1	0	841	A	C1'-O4'-C4'	-5.04	105.87	109.90
1	0	1942	A	C4'-C3'-C2'	-5.04	97.56	102.60
1	0	535	G	N9-C1'-C2'	5.04	120.55	114.00
1	0	1165	G	C1'-O4'-C4'	-5.04	105.87	109.90
1	0	2313	C	C1'-O4'-C4'	-5.03	105.88	109.90

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	0	1563	G	C3'

All (47) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1039	G	Sidechain
1	0	1078	A	Sidechain
1	0	1340	G	Sidechain
1	0	1342	C	Sidechain
1	0	1351	G	Sidechain
1	0	1377	C	Sidechain
1	0	1417	G	Sidechain
1	0	1653	A	Sidechain
1	0	1681	G	Sidechain
1	0	1682	A	Sidechain
1	0	1829	A	Sidechain
1	0	1835	U	Sidechain
1	0	1845	A	Sidechain
1	0	1848	G	Sidechain
1	0	1861	C	Sidechain
1	0	1863	G	Sidechain
1	0	1867	G	Sidechain
1	0	1877	G	Sidechain
1	0	1878	G	Sidechain
1	0	1970	G	Sidechain
1	0	1972	U	Sidechain
1	0	221	G	Sidechain
1	0	2315	C	Sidechain
1	0	2316	G	Sidechain
1	0	2412	G	Sidechain
1	0	2465	A	Sidechain
1	0	2493	C	Sidechain
1	0	2503	A	Sidechain
1	0	2506	A	Sidechain
1	0	2526	C	Sidechain
1	0	2552	C	Sidechain
1	0	2564	G	Sidechain
1	0	26	U	Sidechain
1	0	2607	U	Sidechain
1	0	2630	G	Sidechain
1	0	2643	G	Sidechain
1	0	270	U	Sidechain
1	0	2842	G	Sidechain

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Mol	Chain	Res	Type	Group
1	0	396	U	Sidechain
1	0	470	U	Sidechain
1	0	471	G	Sidechain
1	0	482	G	Sidechain
1	0	518	G	Sidechain
1	0	817	G	Sidechain
1	0	818	A	Sidechain
2	9	39	U	Sidechain
2	9	65	A	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	29810	809	0
2	9	2599	0	1325	63	0
3	A	1753	0	1766	111	0
4	B	2625	0	2533	172	0
5	C	1859	0	1816	122	0
6	D	1094	0	1085	92	0
7	E	1357	0	1266	74	0
8	F	890	0	843	60	0
9	G	240	0	231	19	0
10	H	1282	0	1292	70	0
11	I	519	0	500	57	0
12	J	1120	0	1098	55	0
13	K	992	0	1031	53	0
14	L	1118	0	1076	61	0
15	M	1558	0	1566	58	0
16	N	1445	0	1401	112	0
17	O	865	0	873	29	0
18	P	1136	0	1123	41	0
19	Q	735	0	729	22	0
20	R	1149	0	1122	52	0
21	S	641	0	605	25	0
22	T	950	0	923	45	0
23	U	410	0	364	28	0
24	V	499	0	511	33	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
25	W	1196	0	1137	97	0
26	X	654	0	653	48	0
27	Y	1130	0	1133	62	0
28	Z	578	0	539	27	0
29	1	431	0	426	30	0
30	2	396	0	413	32	0
31	3	755	0	728	29	0
32	0	51	0	67	0	0
33	0	108	0	0	0	0
33	2	1	0	0	0	0
33	3	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	71	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	2	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	3	0	0	0	0
35	S	1	0	0	0	0
35	T	1	0	0	0	0
36	0	10	0	0	0	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	1	0
36	L	1	0	0	0	0
36	M	1	0	0	0	0
36	N	1	0	0	1	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

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
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	5869	0	0	162	0
38	1	54	0	0	2	0
38	2	45	0	0	6	0
38	3	78	0	0	10	0
38	9	138	0	0	9	0
38	A	121	0	0	16	0
38	B	151	0	0	20	0
38	C	168	0	0	27	0
38	D	50	0	0	17	0
38	E	42	0	0	11	0
38	F	28	0	0	8	0
38	G	19	0	0	1	0
38	H	71	0	0	17	0
38	I	9	0	0	4	0
38	J	55	0	0	3	0
38	K	61	0	0	11	0
38	L	81	0	0	23	0
38	M	124	0	0	12	0
38	N	67	0	0	13	0
38	O	43	0	0	6	0
38	P	66	0	0	2	0
38	Q	49	0	0	6	0
38	R	80	0	0	7	0
38	S	37	0	0	5	0
38	T	37	0	0	6	0
38	U	27	0	0	4	0
38	V	14	0	0	3	0
38	W	73	0	0	11	0
38	X	27	0	0	9	0
38	Y	94	0	0	14	0
38	Z	30	0	0	1	0
All	All	99086	0	59985	2356	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 16.

All (2356) 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)
10:H:172:GLU:HB2	38:H:8591:HOH:O	1.34	1.21
1:0:1160:G:H5'	1:0:1161:A:H5'	1.24	1.17
5:C:236:THR:HG22	5:C:239:ALA:H	1.04	1.16
10:H:174:LEU:HA	38:H:8571:HOH:O	1.50	1.11
2:9:6:C:H5"	16:N:37:ARG:NH1	1.66	1.10
6:D:154:LYS:H	6:D:154:LYS:HD2	1.21	1.03
1:0:1242:A:H5'	12:J:82:THR:HG23	1.35	1.03
1:0:156:C:H5"	15:M:171:ARG:HD3	1.38	1.02
26:X:37:LEU:HD13	26:X:85:VAL:HG21	1.40	1.01
4:B:162:MET:HE3	4:B:308:LEU:HD21	1.40	1.00
13:K:10:GLN:NE2	13:K:10:GLN:H	1.59	0.99
5:C:78:ARG:HH11	5:C:78:ARG:HG3	1.23	0.99
22:T:71:VAL:HG11	22:T:90:PRO:HB3	1.44	0.99
28:Z:46:ARG:HD2	28:Z:59:TYR:HB2	1.43	0.99
1:0:2717:C:H2'	1:0:2718:C:H5"	1.46	0.98
3:A:211:LYS:HB3	3:A:212:PRO:HD2	1.46	0.97
1:0:871:G:C8	1:0:871:G:H5'	1.98	0.97
2:9:56:A:H2'	2:9:57:A:H5"	1.44	0.97
1:0:1559:A:H1'	38:0:5823:HOH:O	1.64	0.96
1:0:871:G:H5'	1:0:871:G:H8	1.29	0.96
10:H:59:GLN:HE21	10:H:129:ARG:HE	1.10	0.96
6:D:134:LEU:HD11	6:D:166:ILE:HD11	1.47	0.95
5:C:127:ARG:NH2	5:C:225:PRO:HG2	1.81	0.95
12:J:76:ASP:HA	38:J:5907:HOH:O	1.67	0.95
2:9:6:C:H5"	16:N:37:ARG:HH12	1.24	0.94
2:9:76:G:H3'	2:9:77:A:H5"	1.47	0.94
18:P:115:SER:H	18:P:118:GLN:HE21	0.96	0.93
15:M:164:THR:HG22	15:M:167:GLY:H	1.33	0.93
16:N:83:LEU:HD13	16:N:175:LEU:HD23	1.51	0.93
16:N:144:GLY:O	16:N:147:ILE:HG22	1.67	0.93
3:A:35:GLY:O	3:A:36:ASP:HB3	1.68	0.93
13:K:10:GLN:HE21	13:K:10:GLN:N	1.65	0.92
1:0:870:G:H2'	1:0:871:G:H5"	1.48	0.92
30:2:41:HIS:H	30:2:45:ASN:HD22	1.13	0.92
1:0:1751:G:H2'	1:0:1752:G:H5"	1.50	0.92
13:K:39:GLY:HA2	38:K:4183:HOH:O	1.70	0.92
4:B:264:GLU:HG2	4:B:267:LYS:HE2	1.50	0.91
1:0:2717:C:C2'	1:0:2718:C:H5"	2.00	0.91
1:0:381:G:H5"	38:0:4294:HOH:O	1.70	0.91
1:0:545:G:H5'	1:0:545:G:H8	1.36	0.90
5:C:236:THR:HG22	5:C:239:ALA:N	1.84	0.90
13:K:74:VAL:HG11	13:K:113:ILE:HG12	1.53	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:212:GLN:HB2	4:B:257:THR:HG21	1.52	0.90
10:H:170:ARG:HD2	38:H:8540:HOH:O	1.72	0.90
15:M:102:GLU:OE1	15:M:164:THR:HG21	1.71	0.90
1:0:21:G:H5'	20:R:2:ILE:HA	1.54	0.90
24:V:12:THR:HG22	24:V:15:GLU:HG3	1.50	0.90
1:0:1474:C:H6	1:0:1474:C:H5'	1.37	0.89
25:W:88:THR:HB	38:W:6679:HOH:O	1.73	0.89
4:B:62:ARG:HA	4:B:65:MET:HE3	1.52	0.89
1:0:2506:A:HO2'	1:0:2507:G:H8	0.89	0.88
4:B:238:ASN:HD22	4:B:240:GLY:H	1.22	0.88
13:K:29:LEU:HB3	13:K:55:VAL:HG11	1.56	0.88
1:0:541:C:H2'	1:0:542:A:H5"	1.55	0.87
7:E:97:VAL:HG12	38:E:4191:HOH:O	1.75	0.87
1:0:1835:U:H5	1:0:1840:A:N7	1.72	0.87
25:W:137:GLN:HE21	25:W:141:HIS:HE1	1.20	0.86
28:Z:10:ARG:HA	38:Z:8714:HOH:O	1.75	0.86
1:0:1160:G:C5'	1:0:1161:A:H5'	2.06	0.86
6:D:28:GLY:HA2	6:D:69:ILE:HG23	1.56	0.86
1:0:962:C:H1'	16:N:5:ARG:NH1	1.90	0.86
1:0:542:A:H5'	1:0:542:A:H8	1.40	0.86
7:E:100:ASP:HB2	38:E:2789:HOH:O	1.74	0.86
11:I:127:CYS:HB3	11:I:132:VAL:HB	1.56	0.85
1:0:2812:A:H2	1:0:2814:A:H62	1.25	0.85
4:B:320:GLN:HE21	4:B:321:PRO:HD2	1.41	0.85
27:Y:187:VAL:HG23	27:Y:192:ASP:HB2	1.58	0.85
1:0:2890:A:H1'	23:U:56:ARG:NH2	1.92	0.85
1:0:2716:G:H5"	4:B:206:THR:HG21	1.59	0.84
5:C:236:THR:H	5:C:239:ALA:HB3	1.43	0.84
1:0:1667:A:H8	1:0:1667:A:H5'	1.39	0.84
17:O:42:GLU:HB2	38:O:2176:HOH:O	1.76	0.84
6:D:25:MET:HE2	6:D:41:LEU:HG	1.60	0.83
1:0:214:U:H5'	38:0:6098:HOH:O	1.78	0.83
4:B:86:ALA:HA	38:B:8879:HOH:O	1.78	0.83
1:0:1116:U:HO2'	1:0:1118:A:H2	0.85	0.83
25:W:72:PRO:HG2	25:W:77:ALA:HB3	1.60	0.83
13:K:98:VAL:CG1	13:K:102:GLU:HA	2.09	0.83
18:P:115:SER:OG	18:P:118:GLN:HG3	1.77	0.83
1:0:282:C:H1'	1:0:368:C:N4	1.92	0.83
5:C:5:ILE:HD11	5:C:16:VAL:HG23	1.58	0.83
1:0:1184:C:H1'	38:0:7413:HOH:O	1.77	0.83
1:0:1187:U:HO2'	1:0:1189:A:H2	1.27	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:73:A:H61	2:9:108:C:H42	1.23	0.83
6:D:25:MET:HE1	6:D:37:ALA:HB1	1.61	0.83
11:I:97:VAL:HG12	11:I:101:LYS:HE3	1.60	0.83
4:B:321:PRO:HA	38:B:8961:HOH:O	1.79	0.82
1:0:1160:G:H5'	1:0:1161:A:C5'	2.07	0.82
22:T:9:LYS:HE3	22:T:13:ARG:NH1	1.93	0.82
3:A:191:GLY:HA2	3:A:194:MET:CE	2.10	0.81
8:F:91:VAL:HG12	8:F:92:GLY:H	1.45	0.81
1:0:2586:U:H3	1:0:2592:G:H22	1.26	0.81
14:L:133:VAL:HA	38:L:8871:HOH:O	1.81	0.81
1:0:21:G:C5'	20:R:2:ILE:HA	2.10	0.81
20:R:8:ALA:HB1	20:R:13:THR:HG21	1.61	0.81
10:H:59:GLN:NE2	10:H:129:ARG:HE	1.79	0.81
24:V:1:THR:HG23	24:V:2:VAL:H	1.46	0.81
1:0:1116:U:O2'	1:0:1118:A:H2	1.64	0.80
1:0:1119:G:H2'	12:J:52:GLN:NE2	1.95	0.80
1:0:1162:G:H1'	11:I:112:LEU:HD11	1.62	0.80
25:W:21:LEU:HD22	25:W:26:ILE:CD1	2.12	0.80
1:0:962:C:H1'	16:N:5:ARG:HH12	1.43	0.80
25:W:6:GLN:HB2	25:W:26:ILE:HD12	1.64	0.80
5:C:132:ASP:HB3	38:C:8564:HOH:O	1.82	0.80
25:W:68:THR:HG23	25:W:69:ARG:HG2	1.63	0.80
6:D:57:THR:HG23	6:D:63:ILE:HA	1.62	0.80
10:H:49:GLN:HE21	10:H:140:TYR:HE2	1.26	0.80
25:W:21:LEU:HD22	25:W:26:ILE:HD11	1.64	0.80
2:9:14:G:H5'	2:9:14:G:H8	1.47	0.79
1:0:1684:A:H1'	30:2:43:ARG:HH22	1.45	0.79
26:X:72:VAL:HG22	26:X:85:VAL:HG12	1.63	0.79
4:B:179:LEU:O	4:B:183:GLU:HG2	1.83	0.79
18:P:115:SER:N	18:P:118:GLN:HE21	1.79	0.79
13:K:10:GLN:H	13:K:10:GLN:HE21	0.85	0.79
1:0:2291:A:C8	1:0:2309:C:H5'	2.18	0.78
12:J:74:ARG:HB3	12:J:74:ARG:HH11	1.48	0.78
25:W:13:MET:HE1	25:W:18:GLN:HA	1.64	0.78
1:0:2270:G:H4'	3:A:223:ARG:HH12	1.48	0.78
3:A:36:ASP:OD2	3:A:85:SER:HB2	1.82	0.78
1:0:871:G:H8	1:0:871:G:C5'	1.97	0.78
1:0:2756:U:H3	1:0:2896:A:H2	1.30	0.78
4:B:201:ASP:HB2	4:B:312:ARG:HD2	1.64	0.78
20:R:99:ALA:HB1	20:R:109:MET:CE	2.14	0.78
26:X:76:ARG:HH11	26:X:76:ARG:HG3	1.49	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:541:C:C2'	1:0:542:A:H5"	2.14	0.77
4:B:140:LEU:HD23	38:B:8879:HOH:O	1.82	0.77
1:0:960:G:H4'	38:0:7379:HOH:O	1.83	0.77
13:K:14:LYS:HB2	13:K:45:PRO:HG2	1.66	0.77
1:0:1701:A:H4'	1:0:1702:U:H5"	1.64	0.77
5:C:242:GLU:HG3	38:C:8583:HOH:O	1.83	0.77
10:H:30:LYS:H	10:H:62:HIS:HD2	1.31	0.77
25:W:21:LEU:HD21	25:W:48:VAL:HG11	1.65	0.77
1:0:2506:A:O2'	1:0:2507:G:H8	1.64	0.77
1:0:182:G:H5'	38:0:5115:HOH:O	1.83	0.77
1:0:236:A:H4'	1:0:237:G:H5'	1.67	0.77
38:0:6824:HOH:O	15:M:178:LYS:HB2	1.84	0.77
14:L:148:GLU:HA	38:L:8870:HOH:O	1.85	0.76
38:9:8673:HOH:O	16:N:23:ARG:HD3	1.83	0.76
1:0:1450:C:H4'	1:0:1451:C:OP2	1.86	0.76
27:Y:174:VAL:HG13	27:Y:177:LYS:HD2	1.65	0.76
13:K:62:PRO:HG3	13:K:65:ARG:HH21	1.50	0.76
12:J:93:ARG:HB3	12:J:93:ARG:HH11	1.48	0.76
1:0:870:G:C2'	1:0:871:G:H5"	2.15	0.76
1:0:1116:U:H3	1:0:1246:A:H62	1.33	0.76
1:0:1118:A:H8	1:0:1118:A:H3'	1.51	0.76
1:0:200:C:H2'	38:0:3429:HOH:O	1.85	0.75
8:F:96:ALA:HA	38:F:3111:HOH:O	1.84	0.75
1:0:877:G:H5'	1:0:878:G:OP1	1.87	0.75
1:0:1183:C:H2'	38:0:6204:HOH:O	1.86	0.75
30:2:39:ARG:HG2	38:2:3143:HOH:O	1.85	0.75
12:J:45:VAL:HG23	12:J:130:VAL:O	1.85	0.75
16:N:113:SER:HB2	38:N:8860:HOH:O	1.85	0.75
1:0:272:A:H3'	38:0:7476:HOH:O	1.87	0.75
1:0:2908:A:H2'	1:0:2909:G:O4'	1.87	0.75
8:F:58:GLU:HA	8:F:61:MET:HE2	1.69	0.75
1:0:2637:A:H5'	38:0:9265:HOH:O	1.85	0.75
8:F:63:ILE:HB	8:F:64:PRO:HD3	1.69	0.75
18:P:59:ARG:NH2	18:P:66:GLN:HE22	1.83	0.75
2:9:56:A:C2'	2:9:57:A:H5"	2.16	0.75
25:W:65:VAL:HA	25:W:68:THR:HG22	1.69	0.75
25:W:4:LEU:HD23	25:W:54:PHE:HB3	1.69	0.75
8:F:91:VAL:HG12	8:F:92:GLY:N	2.01	0.74
1:0:1234:U:N3	4:B:244:PRO:HB3	2.02	0.74
1:0:1603:A:H5'	1:0:1605:G:O4'	1.87	0.74
1:0:2426:G:H1'	38:0:6048:HOH:O	1.86	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:0:5416:HOH:O	9:G:12:ILE:HA	1.88	0.74
6:D:146:LYS:NZ	16:N:107:ASN:HD21	1.84	0.74
13:K:74:VAL:CG1	13:K:113:ILE:HG12	2.15	0.74
1:0:544:G:H2'	1:0:545:G:H5"	1.69	0.74
38:0:7172:HOH:O	3:A:11:ARG:HA	1.88	0.74
3:A:191:GLY:HA2	3:A:194:MET:HE3	1.69	0.74
20:R:99:ALA:HB1	20:R:109:MET:HE1	1.69	0.74
1:0:506:G:H22	1:0:509:A:C5'	2.00	0.74
1:0:2533:C:H5'	1:0:2533:C:H6	1.51	0.74
16:N:48:VAL:CG1	16:N:55:ASP:HB3	2.18	0.74
20:R:39:THR:HG22	20:R:42:GLU:H	1.52	0.74
5:C:78:ARG:HG3	5:C:78:ARG:NH1	2.00	0.74
5:C:236:THR:HA	38:C:8650:HOH:O	1.87	0.74
25:W:137:GLN:HE21	25:W:141:HIS:CE1	2.05	0.74
1:0:657:G:OP1	5:C:27:ARG:NH2	2.20	0.74
5:C:1:MET:HG2	5:C:2:GLN:H	1.52	0.74
1:0:1118:A:H3'	1:0:1118:A:C8	2.22	0.74
1:0:2508:C:H2'	38:0:6705:HOH:O	1.88	0.73
16:N:7:LYS:HE3	19:Q:21:ARG:O	1.87	0.73
3:A:88:ILE:HD13	3:A:100:PRO:HD3	1.70	0.73
11:I:94:ASP:OD1	11:I:133:THR:HB	1.88	0.73
1:0:396:U:H1'	38:0:7576:HOH:O	1.87	0.73
1:0:1474:C:H5'	1:0:1474:C:C6	2.23	0.73
27:Y:187:VAL:HG23	27:Y:192:ASP:CB	2.19	0.73
3:A:105:VAL:HG11	3:A:154:ALA:HB1	1.70	0.73
20:R:39:THR:HG23	20:R:107:GLU:O	1.89	0.73
1:0:450:C:OP1	5:C:184:ARG:NH2	2.21	0.73
1:0:1206:U:H5'	1:0:1206:U:H6	1.54	0.73
8:F:2:VAL:HG22	8:F:57:GLU:OE1	1.89	0.73
25:W:88:THR:HG22	25:W:89:ASP:H	1.52	0.73
1:0:2768:A:H2'	1:0:2769:C:O4'	1.87	0.73
6:D:54:ALA:HB2	6:D:69:ILE:HD12	1.70	0.73
24:V:12:THR:HG22	24:V:15:GLU:CG	2.18	0.73
14:L:77:ALA:HB3	38:L:8830:HOH:O	1.89	0.72
24:V:42:ASN:HB3	38:V:7247:HOH:O	1.87	0.72
1:0:2768:A:H5"	38:0:4399:HOH:O	1.89	0.72
1:0:559:U:H6	1:0:559:U:H5'	1.54	0.72
25:W:88:THR:HG23	25:W:110:GLN:HE21	1.54	0.72
2:9:6:C:C5'	16:N:37:ARG:NH1	2.51	0.72
23:U:9:CYS:HA	23:U:52:THR:HG23	1.71	0.72
28:Z:11:SER:HB3	28:Z:23:ARG:HB2	1.70	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	0.71
10:H:12:ILE:HD12	10:H:57:THR:HG22	1.70	0.71
1:0:2694:A:H4'	7:E:91:PHE:HE1	1.55	0.71
15:M:58:GLN:HG3	38:M:8907:HOH:O	1.88	0.71
1:0:545:G:H5'	1:0:545:G:C8	2.24	0.71
1:0:711:G:H1'	38:0:7045:HOH:O	1.88	0.71
2:9:75:G:H1	2:9:106:U:H3	1.38	0.71
1:0:1666:C:O2'	1:0:1667:A:H5"	1.91	0.71
1:0:281:U:H2'	1:0:282:C:O4'	1.91	0.71
10:H:102:LYS:HD3	10:H:122:LYS:HD3	1.71	0.71
20:R:14:ALA:HB3	20:R:147:LEU:HB2	1.72	0.71
1:0:2054:A:N3	20:R:128:ARG:NH2	2.39	0.70
4:B:36:PRO:HA	4:B:168:GLY:HA3	1.72	0.70
18:P:64:GLU:HG2	38:P:170:HOH:O	1.90	0.70
29:1:8:GLN:HE22	29:1:11:LYS:NZ	1.89	0.70
1:0:1119:G:H2'	12:J:52:GLN:HE22	1.52	0.70
1:0:2364:A:H5"	19:Q:15:LYS:HD3	1.71	0.70
1:0:1819:G:H2'	1:0:1820:G:H4'	1.73	0.70
4:B:18:ARG:HG3	4:B:256:GLN:HG3	1.71	0.70
8:F:50:VAL:HG13	8:F:60:VAL:HG11	1.74	0.70
1:0:2783:A:H3'	38:0:5190:HOH:O	1.91	0.70
1:0:1641:A:H2'	1:0:1642:A:H5'	1.72	0.70
5:C:139:VAL:HG13	38:C:8647:HOH:O	1.91	0.70
1:0:2851:G:O2'	1:0:2852:A:H5'	1.90	0.70
16:N:132:ASN:O	16:N:135:VAL:HG12	1.91	0.70
2:9:69:U:OP1	16:N:4:PRO:HG3	1.92	0.70
5:C:2:GLN:HB3	38:C:8536:HOH:O	1.91	0.70
5:C:236:THR:HG21	38:C:8575:HOH:O	1.92	0.70
1:0:645:U:OP2	14:L:4:LYS:HE2	1.91	0.70
1:0:1701:A:H5'	38:0:6242:HOH:O	1.90	0.70
5:C:236:THR:CG2	5:C:239:ALA:H	1.95	0.70
10:H:12:ILE:O	10:H:12:ILE:HG22	1.90	0.70
13:K:98:VAL:HG13	13:K:102:GLU:HA	1.72	0.70
27:Y:141:THR:HG23	38:Y:8887:HOH:O	1.91	0.69
1:0:56:G:H5"	24:V:50:ARG:NH1	2.07	0.69
16:N:80:SER:HB2	38:N:8837:HOH:O	1.92	0.69
18:P:13:VAL:HG21	18:P:41:ARG:HG2	1.73	0.69
1:0:56:G:H5"	24:V:50:ARG:HH12	1.57	0.69
1:0:1328:A:OP1	27:Y:169:ARG:HD2	1.92	0.69
25:W:21:LEU:HD21	25:W:48:VAL:CG1	2.23	0.69
1:0:1189:A:H1'	1:0:1209:C:C1'	2.22	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1666:C:H2'	1:0:1667:A:H5'	1.74	0.69
1:0:2533:C:H5'	1:0:2533:C:C6	2.26	0.69
1:0:2629:C:N4	3:A:206:ARG:HH21	1.91	0.69
2:9:114:G:O6	16:N:11:ARG:HD3	1.91	0.69
14:L:143:THR:HG22	14:L:144:ASP:N	2.07	0.69
12:J:74:ARG:HH11	12:J:74:ARG:CB	2.06	0.69
16:N:164:ASP:CG	16:N:167:ASP:HA	2.13	0.69
7:E:20:ILE:HD11	7:E:40:VAL:HG11	1.75	0.69
7:E:166:VAL:HG12	38:E:3134:HOH:O	1.92	0.69
10:H:32:ALA:HB3	10:H:69:ARG:HH12	1.56	0.68
11:I:120:ALA:O	11:I:124:VAL:HG23	1.92	0.68
14:L:79:ASP:HB3	38:L:8857:HOH:O	1.91	0.68
10:H:6:ALA:HA	10:H:61:ARG:NH1	2.09	0.68
11:I:73:LEU:HD12	11:I:107:LYS:NZ	2.09	0.68
12:J:19:MET:CE	12:J:132:LEU:HD11	2.24	0.68
1:0:447:A:OP2	22:T:1:SER:HB2	1.93	0.68
1:0:1119:G:N2	1:0:1246:A:C2	2.62	0.68
1:0:1751:G:C2'	1:0:1752:G:H5"	2.23	0.68
1:0:2755:G:H1'	38:0:4650:HOH:O	1.94	0.68
2:9:39:U:H1'	2:9:44:A:H61	1.57	0.68
27:Y:144:ARG:CZ	38:Y:8910:HOH:O	2.41	0.68
26:X:78:GLU:HG2	26:X:79:GLU:H	1.58	0.68
1:0:2548:C:OP2	4:B:5:ARG:NH2	2.26	0.68
16:N:164:ASP:OD1	16:N:167:ASP:HA	1.94	0.68
25:W:22:GLU:HG2	25:W:27:HIS:CD2	2.28	0.68
25:W:81:ASP:OD1	25:W:92:ASP:HB2	1.93	0.68
16:N:47:LEU:HD11	16:N:127:LEU:HD21	1.76	0.68
8:F:53:ASP:OD1	8:F:80:GLN:HB2	1.94	0.68
14:L:143:THR:HG21	38:L:8838:HOH:O	1.92	0.68
31:3:25:VAL:HG22	31:3:68:LYS:HG3	1.75	0.68
1:0:541:C:H2'	1:0:542:A:C5'	2.23	0.67
1:0:2004:U:H4'	38:0:5268:HOH:O	1.93	0.67
1:0:1372:A:H3'	38:0:7141:HOH:O	1.94	0.67
4:B:55:ASN:HB3	4:B:63:GLU:HA	1.76	0.67
25:W:88:THR:HG23	25:W:110:GLN:HB3	1.76	0.67
4:B:320:GLN:NE2	4:B:321:PRO:HD2	2.10	0.67
1:0:544:G:C2'	1:0:545:G:H5"	2.24	0.67
3:A:94:LEU:HG	3:A:99:ILE:HD11	1.76	0.67
4:B:41:PHE:HB3	4:B:190:MET:HE3	1.76	0.67
7:E:81:GLU:HG2	7:E:134:SER:HB3	1.76	0.67
10:H:114:ASP:HB2	38:H:8547:HOH:O	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:165:ARG:HD3	38:H:8583:HOH:O	1.94	0.67
1:0:1130:U:H5'	38:0:7620:HOH:O	1.94	0.67
38:0:6240:HOH:O	28:Z:33:MET:HE3	1.95	0.67
1:0:506:G:H22	1:0:509:A:H5'	1.58	0.67
3:A:105:VAL:CG1	3:A:154:ALA:HB1	2.25	0.67
3:A:200:PRO:HG2	3:A:225:VAL:HG21	1.77	0.67
5:C:140:VAL:HB	38:C:8650:HOH:O	1.94	0.67
15:M:164:THR:HG22	15:M:167:GLY:N	2.07	0.67
17:O:32:ARG:O	17:O:32:ARG:HD3	1.94	0.67
3:A:192:VAL:CG1	3:A:207:GLN:HB3	2.25	0.67
3:A:223:ARG:HG3	38:A:8900:HOH:O	1.94	0.67
14:L:121:ILE:HG12	14:L:141:GLU:HB2	1.77	0.67
1:0:1667:A:H5'	1:0:1667:A:C8	2.28	0.67
15:M:24:GLN:NE2	15:M:27:ARG:HH11	1.92	0.67
24:V:39:ALA:N	24:V:40:PRO:HD2	2.09	0.67
30:2:41:HIS:HD2	30:2:44:ARG:H	1.41	0.67
11:I:88:GLN:HA	11:I:91:PHE:CE2	2.30	0.66
20:R:39:THR:HB	20:R:42:GLU:HG3	1.76	0.66
2:9:35:C:H5"	38:9:8653:HOH:O	1.96	0.66
24:V:4:HIS:HB3	38:V:6622:HOH:O	1.94	0.66
1:0:2840:A:OP1	4:B:211:THR:HG23	1.95	0.66
29:1:8:GLN:HE22	29:1:11:LYS:HZ2	1.40	0.66
31:3:60:LYS:HG3	31:3:61:PRO:HD2	1.77	0.66
4:B:41:PHE:HA	4:B:79:MET:HE2	1.77	0.66
12:J:99:GLU:HA	38:J:7377:HOH:O	1.95	0.66
2:9:14:G:H5'	2:9:14:G:C8	2.29	0.66
13:K:81:ARG:HB2	13:K:87:ARG:NH1	2.11	0.66
15:M:169:ARG:HD2	38:M:8892:HOH:O	1.94	0.66
7:E:11:VAL:HG12	7:E:12:ASP:N	2.10	0.66
1:0:1244:U:OP1	12:J:18:ILE:HD13	1.96	0.66
38:0:3826:HOH:O	10:H:14:LYS:HE2	1.96	0.66
3:A:100:PRO:HG2	3:A:103:VAL:HG21	1.78	0.66
7:E:6:GLU:HA	7:E:46:THR:HG22	1.76	0.66
7:E:31:ARG:HH12	7:E:68:HIS:CG	2.14	0.66
13:K:62:PRO:HG3	13:K:65:ARG:NH2	2.09	0.66
1:0:1189:A:H1'	1:0:1209:C:H1'	1.78	0.66
1:0:1835:U:C5	1:0:1840:A:N7	2.60	0.66
20:R:17:MET:HE1	20:R:19:ARG:NH2	2.11	0.66
4:B:140:LEU:HA	38:B:8879:HOH:O	1.96	0.65
9:G:64:ASN:HD22	9:G:64:ASN:N	1.93	0.65
17:O:21:SER:OG	17:O:106:PRO:HB2	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:T:71:VAL:HG11	22:T:90:PRO:CB	2.24	0.65
25:W:84:VAL:HG12	38:W:6679:HOH:O	1.96	0.65
6:D:136:ARG:HD2	6:D:155:HIS:O	1.96	0.65
11:I:97:VAL:CG1	11:I:101:LYS:HE3	2.27	0.65
25:W:13:MET:HE3	25:W:17:ILE:HG22	1.78	0.65
1:0:272:A:H5'	1:0:273:G:OP2	1.96	0.65
15:M:31:TRP:HA	15:M:34:GLU:HG3	1.79	0.65
16:N:169:PRO:O	16:N:172:PHE:HB3	1.96	0.65
11:I:73:LEU:HD12	11:I:107:LYS:HZ2	1.62	0.65
1:0:338:C:H4'	5:C:174:ILE:CD1	2.27	0.65
1:0:2780:C:H1'	7:E:143:GLN:HE21	1.61	0.65
1:0:2850:C:H6	1:0:2850:C:H5'	1.59	0.65
6:D:99:ASP:HB3	6:D:103:ASN:H	1.61	0.65
1:0:814:G:H4'	38:0:3121:HOH:O	1.96	0.65
2:9:39:U:H1'	2:9:44:A:N6	2.10	0.65
2:9:54:A:O2'	2:9:55:U:H5'	1.96	0.65
16:N:154:LEU:O	16:N:155:GLU:HB3	1.97	0.65
5:C:233:THR:HG22	5:C:234:VAL:H	1.62	0.65
21:S:37:VAL:O	21:S:41:VAL:HG23	1.96	0.65
1:0:871:G:C8	1:0:871:G:C5'	2.73	0.65
1:0:1741:U:H5'	1:0:1742:A:OP1	1.97	0.65
27:Y:133:HIS:HD2	38:Y:8880:HOH:O	1.79	0.65
3:A:191:GLY:HA2	3:A:194:MET:HE2	1.79	0.65
38:C:8559:HOH:O	17:O:3:THR:HG21	1.96	0.65
10:H:61:ARG:HH11	10:H:61:ARG:HG3	1.62	0.65
18:P:115:SER:H	18:P:118:GLN:NE2	1.81	0.65
21:S:43:GLU:HB3	38:S:8545:HOH:O	1.97	0.65
24:V:64:GLY:O	24:V:65:ASP:HB2	1.95	0.65
28:Z:37:HIS:HB2	28:Z:47:VAL:HB	1.77	0.65
25:W:38:THR:HG22	25:W:39:ASP:H	1.61	0.64
1:0:2488:A:H61	1:0:2534:C:H42	1.43	0.64
3:A:95:PRO:HG2	3:A:98:GLU:HG2	1.78	0.64
3:A:121:ALA:O	3:A:124:VAL:HG22	1.97	0.64
6:D:99:ASP:HA	38:D:5675:HOH:O	1.97	0.64
1:0:1634:G:H3'	38:0:3873:HOH:O	1.96	0.64
6:D:163:VAL:HA	38:D:6326:HOH:O	1.96	0.64
11:I:124:VAL:HG13	11:I:134:ILE:HD11	1.79	0.64
14:L:143:THR:HG22	14:L:144:ASP:H	1.62	0.64
3:A:192:VAL:HG12	3:A:207:GLN:HB3	1.79	0.64
4:B:314:ALA:HB3	4:B:317:PRO:HG3	1.79	0.64
16:N:47:LEU:HD13	16:N:97:VAL:HG11	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:81:GLN:HB2	3:A:92:ASN:ND2	2.13	0.64
11:I:108:HIS:HE1	11:I:116:LEU:HD22	1.62	0.64
20:R:18:LEU:HD12	20:R:143:VAL:HG11	1.80	0.64
24:V:44:GLY:O	24:V:48:GLU:HG2	1.97	0.64
28:Z:57:CYS:SG	28:Z:59:TYR:HB3	2.38	0.64
1:0:1086:A:C6	25:W:11:VAL:HG11	2.32	0.64
8:F:46:GLU:OE1	8:F:100:ASP:HA	1.97	0.64
1:0:2827:A:H2'	1:0:2828:G:O4'	1.98	0.64
1:0:2243:C:H5"	38:0:3732:HOH:O	1.98	0.64
38:0:6723:HOH:O	16:N:4:PRO:HD2	1.97	0.64
6:D:154:LYS:H	6:D:154:LYS:CD	2.00	0.64
2:9:73:A:N6	2:9:108:C:H42	1.96	0.64
2:9:92:G:H2'	2:9:93:A:C8	2.33	0.64
4:B:7:ARG:HG2	4:B:7:ARG:HH11	1.63	0.64
13:K:74:VAL:HG12	13:K:75:ARG:HG3	1.80	0.64
38:0:9348:HOH:O	29:1:1:THR:HA	1.98	0.63
3:A:164:ARG:NE	38:A:8886:HOH:O	2.31	0.63
13:K:98:VAL:HG11	13:K:102:GLU:HA	1.79	0.63
1:0:1679:C:H5'	38:0:9314:HOH:O	1.99	0.63
4:B:56:ASP:OD1	4:B:322:ARG:HB3	1.98	0.63
5:C:115:LEU:HD13	5:C:223:LEU:HD21	1.79	0.63
12:J:19:MET:HE1	12:J:132:LEU:HD11	1.80	0.63
1:0:777:U:O2'	29:1:11:LYS:HG2	1.98	0.63
1:0:797:A:C4'	28:Z:10:ARG:N	2.61	0.63
2:9:49:G:H5"	38:9:8665:HOH:O	1.97	0.63
18:P:91:LYS:O	18:P:95:GLU:HG3	1.98	0.63
1:0:1189:A:H1'	1:0:1209:C:O4'	1.99	0.63
4:B:154:VAL:HG12	4:B:156:LYS:HG2	1.79	0.63
6:D:88:LEU:HB2	6:D:89:PRO:HD3	1.81	0.63
27:Y:189:ASN:HA	27:Y:217:ILE:HD11	1.80	0.63
1:0:603:A:H5"	1:0:604:G:OP1	1.99	0.63
1:0:1377:C:H5'	1:0:1377:C:H6	1.64	0.63
5:C:142:ASP:OD1	5:C:237:GLU:HB3	1.99	0.63
38:E:2512:HOH:O	12:J:127:ILE:HD11	1.98	0.63
11:I:70:THR:HA	11:I:107:LYS:HZ3	1.64	0.63
31:3:73:GLU:HB3	38:3:8865:HOH:O	1.97	0.63
20:R:9:ASP:O	20:R:13:THR:HB	1.98	0.63
26:X:74:ALA:HB2	26:X:85:VAL:HG13	1.79	0.63
1:0:558:C:C2'	1:0:559:U:H5"	2.29	0.63
3:A:199:HIS:HD2	3:A:201:PHE:H	1.46	0.63
23:U:14:GLU:OE1	23:U:15:PRO:HD2	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:V:57:LYS:HA	24:V:60:GLN:HE21	1.62	0.63
25:W:4:LEU:HD22	25:W:52:VAL:HG21	1.80	0.63
25:W:88:THR:HG23	25:W:110:GLN:NE2	2.13	0.63
4:B:217:ARG:HG3	4:B:257:THR:HG22	1.80	0.63
10:H:12:ILE:HG23	10:H:129:ARG:CZ	2.29	0.63
13:K:34:VAL:HG22	13:K:47:ALA:HB2	1.81	0.63
14:L:22:ARG:HG2	38:L:8823:HOH:O	1.98	0.63
24:V:13:PRO:O	24:V:17:GLU:HG3	1.99	0.63
1:0:2505:G:O2'	1:0:2506:A:H5'	1.99	0.63
5:C:16:VAL:HG12	5:C:17:ASP:H	1.64	0.63
27:Y:186:ARG:HG2	27:Y:186:ARG:HH11	1.64	0.63
1:0:2320:U:H4'	1:0:2321:A:O4'	1.98	0.62
1:0:2491:G:H1'	38:0:6818:HOH:O	1.98	0.62
1:0:2630:G:O6	3:A:206:ARG:NH2	2.32	0.62
6:D:25:MET:CE	6:D:37:ALA:HB1	2.29	0.62
3:A:211:LYS:HB3	3:A:212:PRO:CD	2.26	0.62
4:B:74:ILE:HD13	4:B:309:VAL:HG21	1.81	0.62
11:I:87:PRO:C	11:I:89:GLU:H	2.02	0.62
23:U:17:THR:HG22	23:U:18:GLY:N	2.14	0.62
27:Y:200:THR:HG22	27:Y:201:GLU:HG3	1.81	0.62
1:0:111:C:O2'	29:1:20:ARG:HG2	1.99	0.62
24:V:56:ILE:O	24:V:60:GLN:HG3	2.00	0.62
1:0:2694:A:H4'	7:E:91:PHE:CE1	2.34	0.62
12:J:107:ASN:ND2	12:J:109:TYR:H	1.97	0.62
3:A:153:ARG:HB2	3:A:153:ARG:HH11	1.64	0.62
16:N:151:ASP:O	16:N:154:LEU:HB2	2.00	0.62
27:Y:187:VAL:CG2	27:Y:192:ASP:HB2	2.29	0.62
30:2:22:PRO:HG2	30:2:25:VAL:HG23	1.82	0.62
38:0:4202:HOH:O	30:2:38:LYS:HE3	1.99	0.62
14:L:136:ALA:HB3	38:L:8871:HOH:O	1.98	0.62
30:2:35:ARG:HB2	38:2:2691:HOH:O	1.99	0.62
1:0:2420:G:O2'	1:0:2421:G:H5'	2.00	0.62
5:C:16:VAL:HG12	5:C:17:ASP:N	2.14	0.62
2:9:29:C:H2'	2:9:30:C:H5'	1.82	0.62
4:B:329:TYR:CE2	23:U:15:PRO:HG2	2.35	0.62
16:N:11:ARG:HG3	16:N:14:ARG:NH1	2.15	0.62
2:9:73:A:H61	2:9:108:C:N4	1.97	0.62
1:0:21:G:H4'	20:R:2:ILE:HG22	1.81	0.62
1:0:282:C:O2'	1:0:283:U:H5'	2.00	0.62
15:M:60:VAL:C	15:M:61:ILE:HD12	2.20	0.62
20:R:25:PHE:CE2	20:R:29:LYS:HE2	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:39:ASN:ND2	23:U:44:ARG:HH11	1.97	0.62
1:0:2502:C:C2'	1:0:2503:A:H5'	2.30	0.61
1:0:2710:U:H1'	38:0:7568:HOH:O	2.00	0.61
4:B:162:MET:HG3	4:B:310:ARG:HD3	1.82	0.61
5:C:115:LEU:HD21	5:C:243:VAL:HG13	1.80	0.61
10:H:31:ILE:HA	10:H:66:GLU:OE1	2.00	0.61
12:J:45:VAL:HG21	12:J:129:PHE:CD1	2.35	0.61
12:J:74:ARG:NH1	12:J:76:ASP:HB2	2.14	0.61
1:0:558:C:O2'	1:0:559:U:H5"	2.00	0.61
16:N:139:TRP:HA	16:N:139:TRP:CE3	2.35	0.61
1:0:870:G:OP2	3:A:3:ARG:HD3	2.00	0.61
1:0:2578:G:H5'	1:0:2578:G:H8	1.65	0.61
3:A:33:GLU:O	3:A:34:ASP:HB2	2.01	0.61
11:I:101:LYS:O	11:I:105:GLU:HG3	2.00	0.61
25:W:6:GLN:HB2	25:W:26:ILE:CD1	2.30	0.61
29:1:10:LYS:HG3	38:1:8732:HOH:O	1.99	0.61
1:0:31:C:H2'	38:0:7636:HOH:O	2.00	0.61
3:A:94:LEU:HG	3:A:99:ILE:CD1	2.30	0.61
4:B:275:GLY:O	4:B:291:ASP:HA	2.01	0.61
4:B:304:PRO:HD2	4:B:307:ARG:HD2	1.82	0.61
1:0:709:G:O2'	17:O:25:VAL:HG12	2.01	0.61
8:F:58:GLU:CD	15:M:27:ARG:HH22	2.02	0.61
20:R:33:ARG:NH1	38:R:8840:HOH:O	2.33	0.61
26:X:31:ILE:O	26:X:35:GLU:HG3	1.99	0.61
1:0:1185:U:H5'	38:0:7413:HOH:O	2.01	0.61
1:0:1477:C:H5'	1:0:1868:G:C5'	2.31	0.61
1:0:1701:A:H4'	1:0:1702:U:C5'	2.29	0.61
4:B:51:VAL:HG13	4:B:53:LEU:HD13	1.82	0.61
12:J:75:PRO:HG2	12:J:105:LEU:HD21	1.83	0.61
18:P:80:ARG:HG2	18:P:87:ARG:CZ	2.31	0.61
30:2:41:HIS:N	30:2:45:ASN:HD22	1.93	0.61
1:0:447:A:P	22:T:1:SER:HB2	2.41	0.61
5:C:12:THR:HB	38:C:8640:HOH:O	2.00	0.61
6:D:41:LEU:HA	6:D:44:ILE:HG22	1.82	0.61
15:M:134:ILE:HG23	15:M:141:ILE:HD13	1.83	0.61
16:N:49:THR:HG22	16:N:56:ASP:HB2	1.82	0.61
5:C:77:ALA:O	5:C:78:ARG:HG3	2.00	0.61
6:D:22:VAL:HG22	6:D:74:THR:HG22	1.83	0.61
8:F:61:MET:HB3	15:M:19:GLN:OE1	2.01	0.61
3:A:96:LEU:HD22	3:A:128:LEU:HD13	1.82	0.60
4:B:108:GLU:HB3	4:B:111:ARG:HD2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:84:LEU:HA	6:D:87:ALA:HB3	1.82	0.60
1:0:1008:C:H5"	10:H:19:ARG:HH12	1.66	0.60
4:B:41:PHE:CD2	4:B:190:MET:HE3	2.36	0.60
14:L:114:VAL:HG11	38:L:8871:HOH:O	1.99	0.60
26:X:37:LEU:CD1	26:X:85:VAL:HG21	2.23	0.60
1:0:31:C:H4'	38:0:7373:HOH:O	2.01	0.60
1:0:1505:U:H6	1:0:1505:U:H5'	1.65	0.60
38:0:6657:HOH:O	27:Y:165:GLU:HB3	2.00	0.60
9:G:16:LYS:O	9:G:20:VAL:HG23	2.01	0.60
11:I:108:HIS:N	11:I:109:PRO:HD2	2.17	0.60
21:S:57:THR:HG22	21:S:59:ASP:H	1.65	0.60
1:0:1080:C:H4'	1:0:1081:A:OP1	2.00	0.60
1:0:470:U:O2'	29:1:16:HIS:HD2	1.85	0.60
1:0:558:C:H2'	1:0:559:U:C5'	2.31	0.60
1:0:797:A:H4'	28:Z:10:ARG:N	2.16	0.60
3:A:36:ASP:HA	3:A:83:GLY:HA3	1.83	0.60
3:A:53:ALA:HB3	38:A:8905:HOH:O	2.02	0.60
6:D:166:ILE:HB	38:D:6326:HOH:O	2.00	0.60
1:0:584:U:H3'	38:0:6051:HOH:O	2.00	0.60
1:0:2081:A:H4'	12:J:69:TYR:CE1	2.36	0.60
1:0:2717:C:H2'	1:0:2718:C:C5'	2.28	0.60
3:A:164:ARG:CZ	38:A:8886:HOH:O	2.48	0.60
4:B:66:GLU:OE1	4:B:328:ARG:HD2	2.01	0.60
8:F:99:THR:HA	38:F:3461:HOH:O	2.01	0.60
16:N:12:ARG:HD3	16:N:18:THR:OG1	2.02	0.60
1:0:136:C:H2'	1:0:137:U:O4'	2.02	0.60
4:B:16:ARG:NH1	38:B:8918:HOH:O	2.34	0.60
5:C:145:GLU:HG3	38:C:8575:HOH:O	2.01	0.60
6:D:50:VAL:O	6:D:71:ALA:HA	2.02	0.60
12:J:131:THR:HB	12:J:134:GLU:HG3	1.82	0.60
13:K:55:VAL:HG12	13:K:56:SER:N	2.16	0.60
14:L:133:VAL:HB	38:L:8856:HOH:O	2.00	0.60
17:O:38:ARG:NH1	38:O:7674:HOH:O	2.33	0.60
17:O:73:ASP:HA	17:O:92:VAL:O	2.00	0.60
1:0:1593:C:H5'	18:P:116:SER:O	2.01	0.60
11:I:129:SER:O	11:I:130:LEU:HD23	2.01	0.60
12:J:93:ARG:HB3	12:J:93:ARG:NH1	2.15	0.60
16:N:71:TRP:HE3	16:N:175:LEU:HD22	1.67	0.60
1:0:396:U:O2'	1:0:418:C:H4'	2.02	0.60
3:A:88:ILE:O	3:A:88:ILE:HG22	2.00	0.60
38:0:9208:HOH:O	3:A:11:ARG:HD3	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:162:MET:CE	4:B:308:LEU:HD21	2.24	0.60
17:O:26:TRP:HB2	38:O:3062:HOH:O	2.02	0.60
25:W:38:THR:HG22	38:W:3580:HOH:O	2.01	0.60
1:0:818:A:O2'	28:Z:13:ARG:HD3	2.02	0.59
1:0:1058:A:H2'	1:0:1060:C:H5"	1.82	0.59
38:0:6978:HOH:O	3:A:211:LYS:HG2	2.01	0.59
3:A:109:GLU:HG2	3:A:116:GLY:N	2.17	0.59
4:B:312:ARG:HD3	4:B:315:VAL:HG13	1.83	0.59
1:0:1168:C:H4'	38:I:5128:HOH:O	2.01	0.59
1:0:2064:U:H5'	1:0:2652:U:H4'	1.84	0.59
1:0:2721:U:H4'	13:K:87:ARG:HG3	1.84	0.59
5:C:246:ARG:NH2	38:C:8627:HOH:O	2.33	0.59
12:J:131:THR:HG22	12:J:134:GLU:H	1.65	0.59
25:W:126:ASP:HB3	25:W:135:GLY:O	2.02	0.59
4:B:62:ARG:CA	4:B:65:MET:HE3	2.29	0.59
12:J:103:VAL:HG12	38:J:5907:HOH:O	2.00	0.59
1:0:621:C:H5'	27:Y:132:ASP:OD2	2.02	0.59
1:0:2036:C:O4'	13:K:44:LEU:HG	2.02	0.59
3:A:66:ARG:HH11	3:A:66:ARG:HB2	1.67	0.59
3:A:94:LEU:HD23	3:A:94:LEU:N	2.18	0.59
7:E:31:ARG:NH1	7:E:68:HIS:CG	2.71	0.59
1:0:2414:A:H2'	1:0:2415:A:C8	2.36	0.59
4:B:221:GLN:HE22	13:K:42:ASN:HD22	1.49	0.59
1:0:506:G:H22	1:0:509:A:H5"	1.68	0.59
1:0:1187:U:O2'	1:0:1189:A:H2	1.84	0.59
1:0:1596:U:H2'	1:0:1598:A:OP2	2.02	0.59
4:B:51:VAL:HG23	4:B:330:VAL:HG22	1.83	0.59
5:C:246:ARG:NE	38:C:8627:HOH:O	2.35	0.59
16:N:47:LEU:CD1	16:N:97:VAL:HG11	2.32	0.59
29:1:25:LYS:O	29:1:25:LYS:HG2	2.02	0.59
3:A:192:VAL:HG13	38:A:8855:HOH:O	2.03	0.59
7:E:20:ILE:HD11	7:E:40:VAL:CG1	2.33	0.59
7:E:23:GLU:HG2	7:E:28:SER:HB3	1.84	0.59
16:N:71:TRP:CE3	16:N:175:LEU:HD22	2.37	0.59
20:R:132:ARG:CZ	38:R:8878:HOH:O	2.51	0.59
25:W:13:MET:CE	25:W:17:ILE:HG22	2.32	0.59
26:X:43:VAL:HG12	26:X:44:ASP:N	2.17	0.59
1:0:188:C:H5"	15:M:163:LEU:HD21	1.84	0.59
1:0:542:A:H5'	1:0:542:A:C8	2.29	0.59
1:0:1053:G:OP1	10:H:15:PRO:HG3	2.03	0.59
7:E:3:VAL:HG22	7:E:49:ILE:HB	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:P:103:THR:O	18:P:107:GLU:HG3	2.03	0.59
23:U:14:GLU:O	23:U:17:THR:HB	2.02	0.59
1:0:1973:A:H5'	1:0:1973:A:H8	1.67	0.59
1:0:2635:A:O2'	1:0:2636:C:H5'	2.03	0.59
2:9:13:A:O2'	2:9:14:G:H5"	2.03	0.59
1:0:681:G:N3	1:0:681:G:H5'	2.18	0.58
38:9:8665:HOH:O	16:N:147:ILE:HB	2.00	0.58
20:R:111:ILE:HG23	20:R:145:LEU:HD11	1.84	0.58
1:0:1278:A:H4'	1:0:1279:U:C4	2.37	0.58
1:0:1787:C:OP1	18:P:68:LYS:HE2	2.03	0.58
38:0:3737:HOH:O	22:T:9:LYS:HD3	2.03	0.58
10:H:49:GLN:HG3	10:H:140:TYR:CE2	2.38	0.58
18:P:134:VAL:O	18:P:137:LEU:HB3	2.03	0.58
27:Y:189:ASN:ND2	27:Y:192:ASP:H	2.01	0.58
1:0:285:A:H2'	1:0:286:U:O4'	2.04	0.58
11:I:87:PRO:O	11:I:89:GLU:HG3	2.03	0.58
26:X:30:MET:HE1	26:X:55:ASN:HA	1.84	0.58
1:0:1159:G:H21	1:0:1189:A:H8	1.52	0.58
1:0:2769:C:C2'	1:0:2770:G:H5'	2.34	0.58
5:C:104:ASP:HA	5:C:107:ARG:HH12	1.68	0.58
1:0:1120:U:H5'	1:0:1121:G:OP2	2.02	0.58
1:0:1183:C:N4	1:0:1184:C:H41	2.01	0.58
1:0:2717:C:O2'	1:0:2718:C:H5"	2.03	0.58
4:B:185:GLY:HA2	38:B:8934:HOH:O	2.04	0.58
16:N:139:TRP:HA	16:N:139:TRP:HE3	1.69	0.58
1:0:2748:G:H5'	38:0:7487:HOH:O	2.02	0.58
1:0:2769:C:H2'	1:0:2770:G:O4'	2.03	0.58
4:B:139:ASP:HB2	4:B:165:ARG:HE	1.68	0.58
11:I:70:THR:HA	11:I:107:LYS:NZ	2.17	0.58
13:K:22:ASP:HB2	38:K:5264:HOH:O	2.04	0.58
5:C:162:VAL:HG13	5:C:192:ILE:HD11	1.83	0.58
13:K:109:LEU:HD13	13:K:113:ILE:HD11	1.85	0.58
18:P:143:ALA:HA	38:P:192:HOH:O	2.02	0.58
4:B:51:VAL:CG2	4:B:327:VAL:HG13	2.34	0.58
1:0:1299:G:O6	14:L:6:ARG:HD3	2.04	0.58
14:L:104:ASP:HB2	38:L:8874:HOH:O	2.03	0.58
1:0:793:A:H5"	18:P:83:LYS:HG2	1.86	0.58
1:0:2265:U:H2'	1:0:2266:A:C8	2.39	0.58
10:H:30:LYS:H	10:H:62:HIS:CD2	2.16	0.58
24:V:38:GLY:C	24:V:40:PRO:HD2	2.24	0.58
1:0:20:G:H21	20:R:117:HIS:HD2	1.52	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:211:LYS:NZ	38:A:8919:HOH:O	2.37	0.57
8:F:16:ALA:HA	8:F:111:ILE:HD13	1.86	0.57
8:F:39:SER:HB3	8:F:45:ALA:HB2	1.86	0.57
20:R:18:LEU:HB2	20:R:143:VAL:CG1	2.33	0.57
27:Y:144:ARG:NH2	38:Y:8910:HOH:O	2.37	0.57
25:W:4:LEU:HD22	25:W:52:VAL:CG2	2.33	0.57
1:0:485:A:N3	1:0:487:G:H5"	2.19	0.57
1:0:1667:A:H2'	1:0:1668:U:C6	2.39	0.57
1:0:1741:U:O2'	1:0:2723:G:H4'	2.05	0.57
1:0:1878:G:H1'	38:0:6077:HOH:O	2.04	0.57
1:0:2241:C:O2'	1:0:2242:U:H5'	2.04	0.57
6:D:64:ARG:HB3	6:D:67:ASP:OD2	2.04	0.57
6:D:149:ARG:NH1	38:D:3066:HOH:O	2.37	0.57
7:E:137:ASP:OD1	7:E:139:GLU:HB2	2.04	0.57
28:Z:11:SER:CB	28:Z:23:ARG:HB2	2.34	0.57
31:3:62:THR:HB	38:3:8854:HOH:O	2.04	0.57
1:0:263:U:O4'	8:F:59:ILE:HD13	2.04	0.57
1:0:1187:U:H2'	38:0:6847:HOH:O	2.04	0.57
6:D:65:GLU:HG3	38:D:6752:HOH:O	2.03	0.57
1:0:1477:C:H5'	1:0:1868:G:H5"	1.86	0.57
4:B:63:GLU:HG3	4:B:63:GLU:O	2.05	0.57
38:K:1387:HOH:O	23:U:20:MET:HE3	2.03	0.57
15:M:61:ILE:HG13	38:M:8922:HOH:O	2.03	0.57
25:W:38:THR:HG22	25:W:39:ASP:N	2.20	0.57
27:Y:155:ARG:NH1	38:Y:8856:HOH:O	2.36	0.57
1:0:1163:G:H5'	11:I:110:ASP:O	2.05	0.57
7:E:68:HIS:O	7:E:72:MET:HG3	2.05	0.57
11:I:100:VAL:HG11	11:I:124:VAL:HG22	1.87	0.57
1:0:121:U:OP2	30:2:10:ARG:NH2	2.35	0.57
4:B:195:ARG:HG2	4:B:323:LEU:HD22	1.86	0.57
7:E:31:ARG:NH1	38:E:5919:HOH:O	2.37	0.57
11:I:113:SER:HB2	11:I:118:ASN:HB2	1.85	0.57
13:K:32:ILE:HD11	13:K:56:SER:HB3	1.86	0.57
13:K:74:VAL:HG13	13:K:113:ILE:HG23	1.85	0.57
15:M:64:ARG:HD2	38:M:8887:HOH:O	2.04	0.57
22:T:71:VAL:CG1	22:T:90:PRO:HB3	2.29	0.57
1:0:1242:A:H5'	12:J:82:THR:CG2	2.23	0.57
1:0:1926:G:H2'	1:0:1927:A:C8	2.40	0.57
5:C:214:THR:HG23	38:C:8636:HOH:O	2.04	0.57
12:J:107:ASN:HD21	12:J:109:TYR:HB2	1.69	0.57
15:M:66:SER:HB3	15:M:128:TRP:CD1	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:39:THR:HB	20:R:42:GLU:CG	2.34	0.57
21:S:33:SER:O	21:S:37:VAL:HG23	2.04	0.57
23:U:52:THR:HG22	23:U:54:THR:N	2.20	0.57
26:X:25:ARG:HD3	26:X:64:ALA:O	2.05	0.57
1:0:1654:U:H2'	3:A:47:HIS:HD2	1.68	0.57
1:0:1766:U:O2	1:0:1778:A:H5'	2.04	0.57
1:0:1834:C:H2'	1:0:1840:A:N6	2.20	0.57
1:0:2748:G:H2'	38:0:7487:HOH:O	2.04	0.57
3:A:105:VAL:HG12	3:A:106:CYS:N	2.20	0.57
6:D:58:VAL:CG1	6:D:60:GLU:HG2	2.35	0.57
25:W:88:THR:HG22	25:W:89:ASP:N	2.19	0.57
26:X:30:MET:CE	26:X:58:ALA:HB3	2.35	0.57
31:3:56:PRO:N	38:3:8853:HOH:O	2.38	0.57
1:0:558:C:H2'	1:0:559:U:H5'	1.87	0.57
1:0:2346:C:O2'	6:D:52:THR:HG21	2.04	0.57
5:C:235:PHE:HE2	5:C:243:VAL:HG21	1.69	0.57
9:G:12:ILE:HG22	9:G:17:GLN:NE2	2.19	0.57
22:T:106:GLU:HG3	38:T:4913:HOH:O	2.05	0.57
26:X:9:VAL:HG22	26:X:88:GLU:OE2	2.04	0.57
27:Y:115:ARG:NE	38:Y:8854:HOH:O	2.37	0.57
1:0:69:A:H5'	1:0:69:A:C8	2.40	0.56
1:0:2502:C:H2'	1:0:2503:A:H5'	1.87	0.56
1:0:2756:U:N3	1:0:2896:A:H2	2.03	0.56
38:0:9071:HOH:O	4:B:214:PRO:HD2	2.05	0.56
3:A:199:HIS:CD2	3:A:201:PHE:H	2.22	0.56
7:E:69:ILE:HA	7:E:72:MET:CE	2.35	0.56
10:H:41:LYS:HE2	10:H:45:ASP:HB2	1.86	0.56
23:U:52:THR:CG2	23:U:54:THR:HB	2.35	0.56
27:Y:200:THR:HG22	27:Y:201:GLU:CG	2.35	0.56
1:0:2094:G:H4'	4:B:245:SER:HB3	1.86	0.56
1:0:2323:G:H5'	38:0:6971:HOH:O	2.05	0.56
6:D:54:ALA:CB	6:D:69:ILE:HD12	2.33	0.56
16:N:37:ARG:NE	38:N:8834:HOH:O	2.38	0.56
28:Z:36:ASP:HB3	28:Z:45:ASP:HB3	1.87	0.56
29:1:21:ARG:HD2	29:1:39:PHE:HB2	1.87	0.56
1:0:244:C:OP2	8:F:38:LYS:HE3	2.04	0.56
1:0:1060:C:H6	1:0:1060:C:H5'	1.70	0.56
1:0:1205:U:H2'	1:0:1206:U:C5'	2.34	0.56
1:0:2676:C:H4'	12:J:70:PHE:CE1	2.40	0.56
38:0:7404:HOH:O	5:C:188:ARG:HD2	2.05	0.56
4:B:212:GLN:HB2	4:B:257:THR:CG2	2.31	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:5:ILE:HD11	5:C:16:VAL:CG2	2.32	0.56
5:C:25:PRO:HG2	38:C:8523:HOH:O	2.05	0.56
10:H:6:ALA:HA	10:H:61:ARG:HH12	1.71	0.56
12:J:52:GLN:HG3	12:J:53:ILE:N	2.21	0.56
14:L:144:ASP:HA	14:L:147:GLU:HG3	1.87	0.56
25:W:6:GLN:HG2	25:W:29:VAL:HA	1.87	0.56
25:W:130:HIS:O	25:W:136:GLY:HA3	2.05	0.56
27:Y:107:PRO:HB3	27:Y:182:PHE:CE2	2.40	0.56
1:0:2781:U:H1'	7:E:139:GLU:OE2	2.05	0.56
1:0:2896:A:H5"	38:0:6055:HOH:O	2.04	0.56
4:B:85:ARG:NH1	38:B:8935:HOH:O	2.39	0.56
4:B:132:HIS:HB2	4:B:137:LEU:HD22	1.87	0.56
6:D:135:VAL:HG22	6:D:136:ARG:N	2.20	0.56
8:F:50:VAL:CG1	8:F:60:VAL:HG11	2.35	0.56
16:N:143:ARG:HA	16:N:172:PHE:CD2	2.40	0.56
24:V:39:ALA:C	24:V:41:GLU:H	2.09	0.56
1:0:280:C:H2'	1:0:281:U:O4'	2.06	0.56
1:0:1132:A:N6	1:0:1229:C:H2'	2.21	0.56
5:C:115:LEU:O	5:C:118:THR:HB	2.06	0.56
6:D:146:LYS:HZ3	16:N:107:ASN:HD21	1.50	0.56
1:0:125:U:H2'	38:0:3747:HOH:O	2.05	0.56
1:0:1118:A:H62	1:0:1244:U:H3	1.52	0.56
2:9:1:U:H5"	2:9:3:A:OP1	2.06	0.56
2:9:44:A:O4'	6:D:76:ARG:NE	2.39	0.56
4:B:137:LEU:HD21	4:B:140:LEU:HD21	1.88	0.56
4:B:248:ARG:O	4:B:251:VAL:HG13	2.05	0.56
4:B:280:VAL:HG13	4:B:333:GLU:O	2.06	0.56
4:B:297:VAL:HB	38:B:8907:HOH:O	2.06	0.56
5:C:233:THR:HG22	5:C:234:VAL:N	2.19	0.56
16:N:154:LEU:HD11	16:N:157:PRO:HA	1.86	0.56
18:P:7:LYS:HD3	18:P:21:VAL:CG2	2.36	0.56
3:A:109:GLU:HG2	3:A:116:GLY:H	1.71	0.56
24:V:39:ALA:N	24:V:40:PRO:CD	2.68	0.56
31:3:17:HIS:O	31:3:18:GLN:HG3	2.06	0.56
1:0:1377:C:H5'	1:0:1377:C:C6	2.41	0.56
4:B:145:HIS:HD2	4:B:146:THR:O	1.87	0.56
26:X:30:MET:HE1	26:X:58:ALA:HB3	1.88	0.56
1:0:447:A:O2'	1:0:448:G:H5'	2.06	0.56
1:0:902:G:N7	14:L:18:HIS:HD2	2.03	0.56
3:A:65:ARG:C	3:A:66:ARG:HG3	2.26	0.56
4:B:141:ARG:HD2	4:B:163:GLU:OE2	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:62:HIS:HA	10:H:65:LEU:HD23	1.87	0.56
27:Y:189:ASN:C	27:Y:189:ASN:HD22	2.09	0.56
29:1:25:LYS:HD2	30:2:48:ASP:HA	1.88	0.56
1:0:2587:OMU:H2'	1:0:2589:U:H5"	1.88	0.56
3:A:39:ALA:HB3	3:A:61:GLU:OE2	2.06	0.56
5:C:1:MET:HG2	5:C:2:GLN:N	2.20	0.56
6:D:135:VAL:HG21	6:D:139:TYR:CD1	2.41	0.56
11:I:129:SER:N	38:I:7330:HOH:O	2.37	0.56
22:T:16:LEU:HA	22:T:19:ARG:HG3	1.88	0.56
28:Z:26:VAL:O	28:Z:30:GLU:HG3	2.06	0.56
1:0:1166:A:H1'	1:0:1192:A:C2	2.41	0.55
1:0:1441:G:O2'	1:0:1442:A:H5'	2.05	0.55
1:0:2559:C:H4'	38:0:7209:HOH:O	2.04	0.55
4:B:238:ASN:HD22	4:B:240:GLY:N	1.97	0.55
6:D:135:VAL:HG22	6:D:136:ARG:H	1.71	0.55
8:F:28:ALA:CB	8:F:99:THR:HG23	2.36	0.55
14:L:145:LEU:O	14:L:148:GLU:HG3	2.06	0.55
15:M:99:ARG:HH21	15:M:170:ASN:HD22	1.54	0.55
26:X:10:VAL:HG11	26:X:36:HIS:HE1	1.70	0.55
1:0:90:A:H2'	1:0:91:G:O4'	2.05	0.55
1:0:2629:C:H41	3:A:206:ARG:HH21	1.54	0.55
1:0:2712:G:H5'	38:K:4183:HOH:O	2.06	0.55
27:Y:184:GLU:OE1	27:Y:204:ARG:NH1	2.40	0.55
1:0:926:A:O2'	14:L:41:HIS:HD2	1.89	0.55
1:0:1819:G:H5'	38:0:4679:HOH:O	2.06	0.55
1:0:1878:G:O2'	1:0:1879:U:C6	2.55	0.55
1:0:2064:U:H5'	1:0:2652:U:O3'	2.07	0.55
38:0:7093:HOH:O	29:1:1:THR:HB	2.05	0.55
4:B:305:ASP:O	4:B:306:LYS:HB2	2.07	0.55
6:D:92:GLU:HB2	38:D:3862:HOH:O	2.07	0.55
7:E:137:ASP:O	7:E:141:VAL:HG23	2.05	0.55
11:I:130:LEU:HA	38:I:7210:HOH:O	2.06	0.55
13:K:14:LYS:CB	13:K:45:PRO:HG2	2.34	0.55
17:O:14:LEU:HD23	17:O:102:ILE:HD11	1.87	0.55
22:T:26:THR:HA	22:T:39:ASN:HB3	1.88	0.55
4:B:154:VAL:CG1	4:B:156:LYS:HG2	2.37	0.55
7:E:107:PHE:CE2	7:E:108:LEU:HD13	2.42	0.55
13:K:81:ARG:HB2	13:K:87:ARG:HH11	1.71	0.55
1:0:417:G:P	38:0:7367:HOH:O	2.64	0.55
9:G:23:ILE:O	9:G:27:ILE:HG13	2.06	0.55
11:I:71:ALA:O	11:I:75:LYS:HG3	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:K:34:VAL:CG2	13:K:47:ALA:HB2	2.36	0.55
13:K:87:ARG:NH1	38:K:4066:HOH:O	2.39	0.55
16:N:37:ARG:NH2	38:N:8834:HOH:O	2.39	0.55
25:W:139:GLY:O	25:W:141:HIS:CD2	2.60	0.55
26:X:25:ARG:NH1	38:X:3861:HOH:O	2.40	0.55
1:0:318:U:O2'	1:0:338:C:H2'	2.06	0.55
1:0:625:U:H5"	1:0:1044:C:N4	2.21	0.55
1:0:656:G:H5'	17:O:3:THR:HB	1.88	0.55
1:0:1182:C:H1'	1:0:1192:A:H8	1.70	0.55
2:9:6:C:OP1	16:N:37:ARG:NH1	2.40	0.55
8:F:37:THR:O	8:F:41:GLU:HG3	2.05	0.55
12:J:19:MET:HE2	12:J:79:PHE:HA	1.88	0.55
20:R:18:LEU:HD12	20:R:143:VAL:CG1	2.36	0.55
23:U:13:ILE:HG12	23:U:32:CYS:HB3	1.89	0.55
27:Y:99:ALA:HB2	27:Y:233:TYR:CZ	2.42	0.55
1:0:282:C:H1'	1:0:368:C:H42	1.71	0.55
1:0:1594:C:OP2	18:P:120:ARG:HD2	2.06	0.55
1:0:2365:G:H4'	19:Q:45:PRO:O	2.07	0.55
11:I:118:ASN:HA	11:I:121:LYS:HD2	1.88	0.55
22:T:47:THR:HB	22:T:100:ASP:HB3	1.88	0.55
1:0:119:A:H2'	1:0:120:A:H5"	1.88	0.55
1:0:536:A:H3'	38:0:5012:HOH:O	2.06	0.55
1:0:796:A:HO2'	28:Z:10:ARG:N	2.04	0.55
1:0:1118:A:C8	1:0:1118:A:C3'	2.86	0.55
1:0:1926:G:H2'	1:0:1927:A:H8	1.72	0.55
1:0:2878:U:H2'	1:0:2879:A:O4'	2.07	0.55
4:B:119:HIS:O	4:B:121:PRO:HD3	2.07	0.55
5:C:78:ARG:HH11	5:C:78:ARG:CG	2.06	0.55
16:N:61:ALA:HB3	16:N:88:ALA:HB2	1.88	0.55
25:W:139:GLY:O	25:W:141:HIS:HD2	1.90	0.55
1:0:1130:U:H2'	1:0:1131:G:O4'	2.07	0.54
2:9:48:C:H4'	16:N:141:ARG:HH21	1.72	0.54
8:F:46:GLU:O	8:F:73:PRO:HD2	2.07	0.54
8:F:48:VAL:HG12	8:F:97:ALA:CB	2.37	0.54
1:0:1044:C:H5"	38:0:9020:HOH:O	2.08	0.54
1:0:1118:A:H8	1:0:1119:G:H5"	1.71	0.54
1:0:2837:U:H1'	4:B:307:ARG:HH12	1.72	0.54
38:0:9689:HOH:O	4:B:254:GLN:HG3	2.06	0.54
2:9:30:C:OP1	6:D:137:PRO:O	2.25	0.54
3:A:217:ARG:HH11	3:A:217:ARG:CG	2.19	0.54
8:F:21:GLU:O	8:F:24:ARG:HG3	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:42:GLU:HG2	21:S:49:VAL:HG23	1.89	0.54
22:T:53:GLY:HA3	38:T:6384:HOH:O	2.05	0.54
25:W:21:LEU:HD13	25:W:26:ILE:HD11	1.88	0.54
27:Y:107:PRO:HB3	27:Y:182:PHE:CD2	2.42	0.54
1:0:1342:C:O2'	1:0:1343:C:H5'	2.08	0.54
1:0:1701:A:H5"	1:0:1702:U:H3'	1.89	0.54
11:I:67:VAL:HG13	11:I:68:PRO:HD2	1.90	0.54
15:M:34:GLU:HB3	15:M:38:GLU:HG3	1.90	0.54
17:O:14:LEU:CD2	17:O:102:ILE:HD11	2.37	0.54
21:S:57:THR:HG22	21:S:59:ASP:N	2.22	0.54
25:W:108:ARG:HG3	25:W:114:PRO:HG3	1.89	0.54
1:0:204:A:H2'	1:0:205:U:H5'	1.88	0.54
38:0:4042:HOH:O	4:B:27:ASN:HB2	2.07	0.54
11:I:124:VAL:O	11:I:124:VAL:HG12	2.07	0.54
1:0:299:U:H5'	38:0:7287:HOH:O	2.07	0.54
1:0:2769:C:O2'	1:0:2770:G:H5'	2.07	0.54
2:9:55:U:H4'	2:9:56:A:H8	1.71	0.54
13:K:75:ARG:CZ	38:K:4172:HOH:O	2.55	0.54
23:U:9:CYS:CA	23:U:52:THR:HG23	2.38	0.54
27:Y:144:ARG:NH1	38:Y:8874:HOH:O	2.39	0.54
31:3:70:ARG:HB3	38:3:8877:HOH:O	2.07	0.54
10:H:48:VAL:HA	10:H:170:ARG:O	2.07	0.54
1:0:553:G:P	27:Y:204:ARG:HH22	2.30	0.54
1:0:2301:A:H5"	1:0:2302:A:H5'	1.90	0.54
20:R:132:ARG:HG2	20:R:133:ALA:N	2.21	0.54
1:0:69:A:H5'	1:0:69:A:H8	1.73	0.54
1:0:500:G:H21	20:R:98:ASN:HD21	1.54	0.54
1:0:1119:G:H8	12:J:52:GLN:HE22	1.54	0.54
1:0:1351:G:OP1	5:C:96:LYS:NZ	2.31	0.54
1:0:1778:A:H2'	1:0:1779:A:H5'	1.89	0.54
38:0:6243:HOH:O	27:Y:158:LYS:HD3	2.07	0.54
6:D:36:ASN:HA	38:D:7500:HOH:O	2.07	0.54
22:T:9:LYS:CE	22:T:13:ARG:NH1	2.68	0.54
1:0:138:U:H5"	1:0:139:C:OP2	2.08	0.54
1:0:485:A:HO2'	1:0:487:G:H8	1.56	0.54
1:0:517:U:H1'	38:0:7523:HOH:O	2.08	0.54
1:0:1010:C:H4'	16:N:4:PRO:HB2	1.89	0.54
1:0:1506:U:H6	1:0:1506:U:H5'	1.72	0.54
2:9:31:C:H1'	38:9:8593:HOH:O	2.08	0.54
3:A:217:ARG:HH11	3:A:217:ARG:HG3	1.73	0.54
5:C:219:ASN:O	5:C:222:ASP:OD1	2.25	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:K:87:ARG:NE	38:K:4854:HOH:O	2.41	0.54
21:S:10:VAL:HG11	24:V:36:ALA:HA	1.89	0.54
1:0:67:A:H5"	1:0:69:A:C8	2.43	0.54
1:0:88:G:H8	1:0:88:G:H5'	1.72	0.54
1:0:1641:A:C2'	1:0:1642:A:H5'	2.38	0.54
2:9:91:C:H2'	2:9:92:G:O4'	2.08	0.54
8:F:101:ALA:HA	38:F:5413:HOH:O	2.08	0.54
11:I:88:GLN:HA	11:I:91:PHE:HE2	1.72	0.54
18:P:115:SER:C	18:P:117:SER:H	2.12	0.54
21:S:33:SER:OG	21:S:36:GLU:HG3	2.08	0.54
23:U:46:ALA:HB1	23:U:52:THR:HG21	1.88	0.54
27:Y:216:ARG:HD3	38:Y:8868:HOH:O	2.08	0.54
1:0:2256:G:H2'	1:0:2257:G:C5'	2.38	0.53
1:0:2604:A:H5'	38:0:5748:HOH:O	2.08	0.53
8:F:28:ALA:HB3	8:F:99:THR:O	2.08	0.53
9:G:64:ASN:N	9:G:64:ASN:ND2	2.55	0.53
22:T:52:ARG:HB2	22:T:95:ASN:HB3	1.90	0.53
25:W:80:ASP:O	25:W:84:VAL:HG23	2.07	0.53
27:Y:112:GLU:OE2	27:Y:115:ARG:NH1	2.41	0.53
27:Y:117:LEU:HD12	27:Y:174:VAL:HG11	1.90	0.53
31:3:48:ASN:ND2	31:3:50:GLY:H	2.05	0.53
1:0:559:U:H5'	1:0:559:U:C6	2.41	0.53
4:B:71:VAL:HG11	4:B:296:LEU:HB3	1.89	0.53
6:D:44:ILE:HG12	6:D:83:PHE:HE1	1.73	0.53
7:E:24:GLY:HA3	7:E:76:VAL:HB	1.91	0.53
7:E:84:MET:HB2	7:E:131:LEU:HB2	1.89	0.53
8:F:91:VAL:CG1	8:F:92:GLY:H	2.17	0.53
18:P:115:SER:O	18:P:117:SER:N	2.41	0.53
1:0:204:A:C2'	1:0:205:U:H5'	2.37	0.53
1:0:407:A:H5'	38:0:5983:HOH:O	2.07	0.53
1:0:1086:A:N6	25:W:11:VAL:HG11	2.23	0.53
1:0:1116:U:O2'	1:0:1118:A:C2	2.48	0.53
1:0:1525:G:H5'	1:0:1526:A:OP2	2.08	0.53
1:0:2256:G:H2'	1:0:2257:G:H5'	1.91	0.53
5:C:118:THR:O	5:C:136:VAL:HG13	2.08	0.53
7:E:172:PRO:HB3	38:E:6931:HOH:O	2.07	0.53
16:N:37:ARG:CZ	38:N:8834:HOH:O	2.56	0.53
16:N:110:THR:HB	16:N:113:SER:OG	2.08	0.53
1:0:328:U:O4'	5:C:202:THR:HG22	2.08	0.53
1:0:602:A:O2'	1:0:605:C:H4'	2.07	0.53
1:0:775:G:OP1	29:1:16:HIS:HE1	1.92	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1527:A:H1'	1:0:1528:A:C8	2.43	0.53
1:0:2346:C:H6	1:0:2346:C:O5'	1.92	0.53
2:9:64:C:H2'	2:9:65:A:H5'	1.90	0.53
19:Q:53:HIS:ND1	19:Q:55:ARG:HB2	2.23	0.53
21:S:52:VAL:C	21:S:53:ASN:HD22	2.11	0.53
12:J:19:MET:HE1	12:J:132:LEU:HD21	1.91	0.53
14:L:21:ARG:N	38:L:8831:HOH:O	2.41	0.53
25:W:125:HIS:HE1	38:W:3071:HOH:O	1.90	0.53
29:1:28:HIS:CE1	29:1:31:LYS:HE2	2.44	0.53
1:0:2256:G:C2'	1:0:2257:G:H5'	2.39	0.53
6:D:95:THR:OG1	6:D:174:VAL:HG22	2.08	0.53
17:O:87:THR:O	17:O:91:GLN:HG3	2.08	0.53
26:X:76:ARG:O	26:X:77:PHE:HB3	2.08	0.53
27:Y:151:SER:HB3	27:Y:154:ARG:HB3	1.91	0.53
1:0:285:A:C2	1:0:368:C:H4'	2.43	0.53
1:0:399:C:H5'	15:M:179:GLY:O	2.09	0.53
1:0:776:A:OP1	29:1:28:HIS:HE1	1.92	0.53
1:0:1185:U:H2'	1:0:1186:C:C6	2.43	0.53
1:0:1266:U:H4'	27:Y:115:ARG:HH21	1.73	0.53
1:0:1289:C:O2'	1:0:1290:G:H5'	2.09	0.53
1:0:1333:U:H2'	1:0:1334:C:C6	2.44	0.53
5:C:39:GLN:O	5:C:43:LYS:HD3	2.09	0.53
10:H:43:ALA:HB1	10:H:140:TYR:CE2	2.44	0.53
1:0:2526:C:O2'	1:0:2527:U:H5'	2.09	0.53
1:0:2904:U:H4'	26:X:8:ARG:NH1	2.24	0.53
4:B:264:GLU:HG2	4:B:267:LYS:CE	2.33	0.53
9:G:20:VAL:O	9:G:24:VAL:HG23	2.09	0.53
21:S:77:VAL:O	21:S:80:ARG:HG2	2.08	0.53
23:U:52:THR:HG22	23:U:54:THR:H	1.74	0.53
25:W:6:GLN:CB	25:W:26:ILE:HD12	2.37	0.53
27:Y:178:HIS:CG	27:Y:179:PRO:HD2	2.44	0.53
1:0:316:A:H5'	22:T:54:ASP:OD2	2.08	0.53
1:0:2649:A:H5'	1:0:2649:A:H8	1.73	0.53
1:0:1205:U:H2'	1:0:1206:U:H5"	1.90	0.53
1:0:2300:A:H4'	1:0:2301:A:O5'	2.09	0.53
5:C:61:PHE:HB3	38:C:8643:HOH:O	2.09	0.53
16:N:152:GLU:C	16:N:154:LEU:H	2.10	0.53
21:S:81:ILE:HG12	38:S:8538:HOH:O	2.08	0.53
8:F:117:GLU:C	8:F:119:ARG:H	2.11	0.52
12:J:130:VAL:HG12	12:J:131:THR:N	2.24	0.52
14:L:61:ALA:HA	38:L:8862:HOH:O	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:11:THR:H	21:S:14:ALA:HB3	1.74	0.52
22:T:18:GLU:O	22:T:21:LYS:HG2	2.09	0.52
27:Y:103:THR:HG22	27:Y:104:GLU:OE2	2.09	0.52
1:0:2064:U:H4'	1:0:2653:A:OP1	2.09	0.52
1:0:2401:A:H5'	38:0:9483:HOH:O	2.10	0.52
38:0:9529:HOH:O	18:P:81:LYS:HG2	2.09	0.52
10:H:50:ILE:HG12	10:H:168:VAL:HG22	1.92	0.52
12:J:74:ARG:O	12:J:78:ILE:HG12	2.09	0.52
12:J:107:ASN:C	12:J:107:ASN:HD22	2.12	0.52
18:P:103:THR:HA	18:P:106:ARG:NH1	2.24	0.52
19:Q:25:PRO:HB2	38:Q:4350:HOH:O	2.08	0.52
22:T:80:GLU:HA	38:T:6653:HOH:O	2.08	0.52
1:0:654:A:OP2	17:O:38:ARG:HD3	2.09	0.52
1:0:794:U:H3	1:0:819:A:H61	1.57	0.52
1:0:1135:G:H5'	38:0:5887:HOH:O	2.08	0.52
1:0:1236:A:H2'	1:0:1237:U:O4'	2.09	0.52
1:0:1636:G:O2'	1:0:1637:A:H5'	2.09	0.52
2:9:34:A:H2'	2:9:35:C:O4'	2.08	0.52
3:A:105:VAL:HG11	3:A:154:ALA:CB	2.38	0.52
3:A:192:VAL:HB	38:A:8892:HOH:O	2.10	0.52
4:B:125:GLU:O	4:B:129:ARG:HG3	2.09	0.52
10:H:146:ALA:O	10:H:149:VAL:HG12	2.09	0.52
26:X:71:ARG:HB3	26:X:88:GLU:OE1	2.09	0.52
1:0:1544:U:H2'	1:0:1545:C:H6	1.75	0.52
1:0:1942:A:O2'	1:0:1943:C:H5'	2.10	0.52
7:E:77:THR:OG1	7:E:78:GLU:N	2.43	0.52
7:E:80:TRP:O	7:E:134:SER:HA	2.09	0.52
7:E:84:MET:HE1	7:E:148:ILE:HD12	1.90	0.52
24:V:64:GLY:O	24:V:65:ASP:CB	2.57	0.52
1:0:1173:A:H2	38:0:6239:HOH:O	1.92	0.52
1:0:1535:G:H2'	1:0:1536:C:C6	2.44	0.52
4:B:30:PRO:HB2	4:B:39:GLN:NE2	2.24	0.52
5:C:104:ASP:HA	5:C:107:ARG:NH1	2.23	0.52
5:C:127:ARG:HD2	5:C:229:PRO:O	2.09	0.52
6:D:64:ARG:CD	6:D:67:ASP:HB3	2.39	0.52
24:V:5:VAL:HG23	38:V:2271:HOH:O	2.09	0.52
1:0:447:A:OP1	22:T:2:LYS:HG2	2.09	0.52
1:0:474:C:O3'	5:C:73:LEU:HD21	2.09	0.52
1:0:2237:G:H1'	38:0:4818:HOH:O	2.10	0.52
1:0:2862:G:H4'	4:B:336:GLN:O	2.09	0.52
38:0:9545:HOH:O	25:W:119:HIS:HE1	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:55:U:H4'	2:9:56:A:C8	2.45	0.52
4:B:254:GLN:HG2	4:B:255:GLY:N	2.24	0.52
6:D:146:LYS:NZ	16:N:107:ASN:ND2	2.55	0.52
8:F:19:ALA:O	8:F:22:VAL:HG22	2.10	0.52
24:V:55:ARG:O	24:V:59:ILE:HG12	2.10	0.52
31:3:65:THR:HG23	31:3:67:LEU:HG	1.90	0.52
31:3:70:ARG:HG2	31:3:77:ALA:HB2	1.92	0.52
1:0:343:C:O2'	1:0:344:C:H5'	2.09	0.52
1:0:588:G:O6	25:W:154:ARG:NH1	2.42	0.52
1:0:2668:G:H2'	1:0:2669:U:C6	2.45	0.52
2:9:49:G:O2'	2:9:50:G:H5'	2.09	0.52
4:B:294:TYR:HE2	38:B:8954:HOH:O	1.93	0.52
6:D:44:ILE:HG23	6:D:45:THR:HG23	1.92	0.52
23:U:52:THR:HG22	23:U:54:THR:HB	1.92	0.52
1:0:638:C:H2'	1:0:639:A:C8	2.45	0.52
1:0:926:A:O2'	14:L:41:HIS:CD2	2.63	0.52
1:0:2715:G:N2	4:B:264:GLU:OE1	2.41	0.52
1:0:407:A:H2'	1:0:408:A:C8	2.45	0.52
1:0:2506:A:H1'	38:0:3728:HOH:O	2.09	0.52
1:0:2524:G:H21	1:0:2526:C:N4	2.08	0.52
3:A:179:MET:HG2	3:A:186:TRP:CG	2.45	0.52
4:B:41:PHE:CB	4:B:190:MET:HE3	2.40	0.52
7:E:145:ALA:HB1	7:E:168:ILE:HD11	1.92	0.52
13:K:34:VAL:HB	38:K:7169:HOH:O	2.10	0.52
27:Y:187:VAL:HB	38:Y:8869:HOH:O	2.10	0.52
28:Z:56:GLN:HA	28:Z:62:TYR:O	2.09	0.52
1:0:960:G:N3	1:0:960:G:H2'	2.25	0.52
3:A:76:VAL:HG23	28:Z:63:LYS:HB3	1.91	0.52
4:B:24:PRO:CG	4:B:204:GLY:HA2	2.40	0.52
4:B:43:GLY:O	4:B:308:LEU:HD12	2.10	0.52
5:C:47:GLY:HA2	5:C:92:PRO:HB2	1.91	0.52
10:H:39:LYS:HD3	38:H:8578:HOH:O	2.09	0.52
1:0:1681:G:H5"	1:0:1682:A:H5'	1.91	0.51
1:0:2718:C:H6	1:0:2718:C:H5'	1.76	0.51
4:B:103:ASP:HB2	38:B:8894:HOH:O	2.10	0.51
22:T:41:ARG:HG2	22:T:41:ARG:HH11	1.75	0.51
29:1:28:HIS:CD2	29:1:31:LYS:HG3	2.45	0.51
1:0:1730:G:H5"	1:0:1731:C:H6	1.76	0.51
3:A:211:LYS:HB2	38:A:8918:HOH:O	2.09	0.51
5:C:111:VAL:HB	38:C:8522:HOH:O	2.10	0.51
5:C:168:ARG:NH2	5:C:190:ALA:O	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:111:ILE:HG23	20:R:145:LEU:CD1	2.39	0.51
23:U:17:THR:CG2	23:U:18:GLY:N	2.73	0.51
25:W:125:HIS:CD2	25:W:127:GLY:H	2.28	0.51
1:0:474:C:O3'	5:C:73:LEU:CD2	2.58	0.51
1:0:1044:C:H5	38:0:6557:HOH:O	1.92	0.51
1:0:1717:A:H5"	18:P:54:LYS:HB2	1.91	0.51
1:0:2073:G:OP2	1:0:2490:A:H5'	2.09	0.51
1:0:2815:G:N7	12:J:80:LYS:NZ	2.58	0.51
2:9:76:G:C3'	2:9:77:A:H5"	2.31	0.51
4:B:195:ARG:CG	4:B:323:LEU:HD22	2.40	0.51
5:C:133:ARG:NE	5:C:135:GLU:O	2.43	0.51
21:S:57:THR:CG2	21:S:58:MET:N	2.73	0.51
25:W:21:LEU:HD22	25:W:26:ILE:HD13	1.90	0.51
27:Y:117:LEU:CD1	27:Y:174:VAL:HG11	2.40	0.51
1:0:2468:A:H61	31:3:48:ASN:HD21	1.57	0.51
4:B:202:VAL:HG11	4:B:301:VAL:HG13	1.93	0.51
5:C:13:ASP:OD1	5:C:13:ASP:O	2.27	0.51
7:E:11:VAL:HG12	7:E:12:ASP:H	1.72	0.51
38:0:6815:HOH:O	3:A:211:LYS:HD3	2.11	0.51
38:0:7373:HOH:O	22:T:9:LYS:HB2	2.10	0.51
8:F:58:GLU:HG3	8:F:61:MET:HE1	1.92	0.51
9:G:67:LEU:O	9:G:71:LEU:HG	2.10	0.51
10:H:172:GLU:CD	38:H:8591:HOH:O	2.48	0.51
13:K:115:ARG:HG3	13:K:116:GLU:N	2.25	0.51
25:W:65:VAL:HA	25:W:68:THR:CG2	2.40	0.51
26:X:71:ARG:HD3	38:X:2171:HOH:O	2.10	0.51
1:0:558:C:H5'	38:0:5218:HOH:O	2.11	0.51
1:0:1979:G:H2'	38:0:3283:HOH:O	2.10	0.51
22:T:38:ARG:NH1	38:T:6217:HOH:O	2.42	0.51
29:1:45:ARG:NH2	38:1:8728:HOH:O	2.32	0.51
4:B:82:VAL:O	4:B:82:VAL:HG12	2.09	0.51
4:B:141:ARG:HG2	4:B:165:ARG:HA	1.93	0.51
6:D:23:VAL:HG23	6:D:23:VAL:O	2.11	0.51
8:F:78:GLU:HG3	38:F:5966:HOH:O	2.10	0.51
16:N:179:LEU:HD23	16:N:184:ILE:HD12	1.93	0.51
22:T:9:LYS:HE3	22:T:13:ARG:CZ	2.41	0.51
26:X:45:GLU:HG3	38:X:6178:HOH:O	2.09	0.51
1:0:482:G:H4'	1:0:508:A:N1	2.26	0.51
1:0:1189:A:H3'	38:0:7628:HOH:O	2.10	0.51
1:0:1682:A:H5"	38:0:9445:HOH:O	2.11	0.51
16:N:86:LEU:HD21	16:N:180:LEU:CD1	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:51:GLN:HB3	21:S:67:ARG:NH1	2.24	0.51
1:0:2533:C:H6	1:0:2533:C:C5'	2.22	0.51
8:F:91:VAL:CG1	8:F:92:GLY:N	2.71	0.51
21:S:23:LYS:HE2	38:S:8532:HOH:O	2.10	0.51
25:W:21:LEU:HB3	25:W:26:ILE:HG12	1.93	0.51
26:X:78:GLU:HG2	26:X:79:GLU:N	2.26	0.51
29:1:21:ARG:HD2	29:1:37:CYS:SG	2.51	0.51
30:2:40:ARG:HD2	30:2:47:THR:HG22	1.92	0.51
1:0:958:G:H2'	1:0:959:C:C6	2.46	0.51
1:0:2256:G:O2'	1:0:2257:G:H5'	2.11	0.51
1:0:2521:A:OP2	10:H:6:ALA:HB3	2.10	0.51
1:0:2781:U:H2'	1:0:2782:G:H5'	1.92	0.51
1:0:2795:C:O2'	1:0:2796:U:H5'	2.09	0.51
38:0:6240:HOH:O	28:Z:49:ARG:HD2	2.11	0.51
38:0:7309:HOH:O	3:A:177:HIS:HE1	1.94	0.51
3:A:51:ARG:NH1	3:A:120:ARG:O	2.44	0.51
4:B:314:ALA:CB	4:B:317:PRO:HG3	2.41	0.51
7:E:99:GLY:N	38:E:4191:HOH:O	2.44	0.51
9:G:12:ILE:N	9:G:13:PRO:HD3	2.26	0.51
1:0:559:U:H2'	1:0:560:U:O4'	2.11	0.50
1:0:944:G:H21	25:W:44:MET:CE	2.24	0.50
1:0:1176:C:H1'	38:0:3909:HOH:O	2.10	0.50
1:0:1625:U:H4'	38:0:4635:HOH:O	2.11	0.50
38:0:6167:HOH:O	4:B:2:GLN:HA	2.10	0.50
3:A:1:GLY:HA2	3:A:197:VAL:HG23	1.93	0.50
16:N:47:LEU:HD12	16:N:92:ALA:HB1	1.92	0.50
1:0:644:G:H5'	1:0:644:G:N3	2.25	0.50
1:0:1014:A:H2'	1:0:1015:C:H5'	1.93	0.50
1:0:2270:G:H4'	3:A:223:ARG:NH1	2.23	0.50
17:O:47:ARG:HH11	17:O:47:ARG:HG3	1.76	0.50
22:T:50:VAL:HG12	22:T:56:ALA:HA	1.94	0.50
26:X:75:ALA:O	26:X:83:ALA:HA	2.10	0.50
28:Z:81:ARG:O	28:Z:82:SER:C	2.50	0.50
5:C:79:ARG:O	5:C:87:ARG:HG2	2.11	0.50
5:C:95:GLU:HG3	38:C:8671:HOH:O	2.11	0.50
13:K:29:LEU:HB3	13:K:55:VAL:CG1	2.37	0.50
15:M:61:ILE:HA	38:M:8922:HOH:O	2.11	0.50
20:R:29:LYS:NZ	38:R:8837:HOH:O	2.43	0.50
1:0:42:C:H1'	38:0:4644:HOH:O	2.10	0.50
1:0:259:G:H21	15:M:58:GLN:NE2	2.09	0.50
1:0:1687:C:O2	29:1:9:GLY:HA2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1825:U:O2'	1:0:1826:C:H5'	2.11	0.50
1:0:2679:G:H2'	1:0:2681:A:OP2	2.12	0.50
4:B:48:MET:HG2	4:B:72:THR:HA	1.93	0.50
4:B:139:ASP:CB	4:B:165:ARG:HE	2.23	0.50
5:C:165:ASP:O	5:C:168:ARG:HB3	2.11	0.50
5:C:180:SER:HB2	38:C:8644:HOH:O	2.12	0.50
7:E:32:ARG:O	7:E:33:LEU:HD23	2.12	0.50
8:F:58:GLU:HA	8:F:61:MET:CE	2.40	0.50
11:I:67:VAL:CG1	11:I:68:PRO:HD2	2.42	0.50
12:J:133:GLY:O	12:J:137:GLU:HG3	2.10	0.50
16:N:48:VAL:HG11	16:N:55:ASP:HB3	1.92	0.50
1:0:558:C:C2'	1:0:559:U:C5'	2.89	0.50
1:0:1201:C:H2'	1:0:1202:A:H5'	1.93	0.50
1:0:1434:A:H2'	1:0:1436:C:C5	2.46	0.50
1:0:1603:A:H5"	1:0:1605:G:H5'	1.93	0.50
1:0:1790:C:H2'	1:0:1791:U:H6	1.75	0.50
4:B:329:TYR:HE2	23:U:15:PRO:HG2	1.77	0.50
8:F:46:GLU:N	38:F:3461:HOH:O	2.43	0.50
12:J:75:PRO:HG2	12:J:105:LEU:CD2	2.41	0.50
26:X:43:VAL:HG12	26:X:47:ALA:HB3	1.93	0.50
28:Z:60:CYS:O	28:Z:61:ASP:HB2	2.10	0.50
1:0:660:A:H4'	1:0:661:G:O5'	2.12	0.50
1:0:2506:A:O2'	1:0:2507:G:O5'	2.29	0.50
1:0:2781:U:C2'	1:0:2782:G:H5'	2.42	0.50
5:C:236:THR:O	5:C:237:GLU:C	2.49	0.50
11:I:133:THR:HG22	11:I:134:ILE:N	2.26	0.50
11:I:134:ILE:HG22	11:I:135:GLU:N	2.26	0.50
27:Y:234:VAL:HG12	27:Y:235:GLU:N	2.27	0.50
1:0:2563:U:H2'	1:0:2565:C:O5'	2.11	0.50
1:0:2601:A:N1	13:K:38:SER:HB2	2.27	0.50
4:B:7:ARG:HD3	4:B:9:GLY:O	2.11	0.50
14:L:104:ASP:HB3	38:L:8862:HOH:O	2.10	0.50
25:W:38:THR:HB	38:W:5390:HOH:O	2.12	0.50
27:Y:106:THR:HG23	27:Y:107:PRO:HD2	1.92	0.50
30:2:22:PRO:HG2	30:2:25:VAL:CG2	2.40	0.50
1:0:1180:U:H4'	11:I:86:GLU:HG2	1.94	0.50
1:0:1537:C:H1'	38:0:6542:HOH:O	2.11	0.50
1:0:1862:C:H1'	38:0:7172:HOH:O	2.12	0.50
5:C:127:ARG:HG2	5:C:127:ARG:HH11	1.76	0.50
5:C:133:ARG:NH2	38:C:8629:HOH:O	2.44	0.50
6:D:35:ALA:N	38:D:5576:HOH:O	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:154:LYS:HD2	6:D:154:LYS:N	2.06	0.50
8:F:58:GLU:OE1	15:M:27:ARG:NH2	2.40	0.50
11:I:134:ILE:C	11:I:135:GLU:HG3	2.32	0.50
25:W:65:VAL:HG12	25:W:116:LEU:HD13	1.92	0.50
31:3:3:MET:O	31:3:90:PHE:HA	2.12	0.50
1:0:2676:C:H4'	12:J:70:PHE:HE1	1.76	0.50
6:D:23:VAL:HG21	6:D:45:THR:CG2	2.42	0.50
6:D:94:ALA:HA	6:D:174:VAL:O	2.11	0.50
15:M:164:THR:HG23	15:M:165:GLY:N	2.26	0.50
17:O:25:VAL:HG23	17:O:26:TRP:N	2.27	0.50
20:R:106:GLY:HA2	20:R:109:MET:HE3	1.93	0.50
22:T:64:ASN:HB3	22:T:73:HIS:HB2	1.93	0.50
27:Y:235:GLU:CD	27:Y:235:GLU:H	2.13	0.50
31:3:69:TYR:HB2	31:3:78:HIS:CE1	2.46	0.50
1:0:2570:G:H5"	38:0:4876:HOH:O	2.12	0.49
2:9:2:U:OP2	2:9:3:A:H5'	2.12	0.49
3:A:210:GLY:HA3	38:A:8883:HOH:O	2.12	0.49
5:C:140:VAL:HG12	5:C:141:SER:N	2.25	0.49
6:D:51:ARG:HD3	38:D:7636:HOH:O	2.10	0.49
14:L:42:ASN:HB2	38:L:8873:HOH:O	2.12	0.49
15:M:24:GLN:HE22	15:M:27:ARG:HH11	1.59	0.49
16:N:11:ARG:NH2	38:N:8819:HOH:O	2.45	0.49
20:R:132:ARG:NH2	38:R:8878:HOH:O	2.45	0.49
25:W:19:ASP:O	25:W:23:MET:HG3	2.12	0.49
1:0:21:G:H5"	20:R:1:GLY:O	2.13	0.49
1:0:694:A:H2'	1:0:695:C:H5'	1.94	0.49
1:0:1342:C:C2'	1:0:1343:C:H5'	2.42	0.49
8:F:48:VAL:HG12	8:F:97:ALA:HB2	1.94	0.49
25:W:110:GLN:NE2	25:W:110:GLN:HA	2.27	0.49
27:Y:126:PRO:HG2	27:Y:128:PHE:CE1	2.46	0.49
1:0:316:A:N3	1:0:336:G:O2'	2.44	0.49
1:0:1528:A:H2'	1:0:1529:G:O4'	2.12	0.49
1:0:2445:U:H2'	1:0:2446:G:C8	2.47	0.49
1:0:2507:G:H2'	1:0:2510:C:H42	1.77	0.49
3:A:190:ARG:NH2	3:A:207:GLN:OE1	2.44	0.49
4:B:258:GLY:H	4:B:260:HIS:CE1	2.29	0.49
4:B:279:THR:OG1	4:B:290:VAL:HB	2.12	0.49
5:C:246:ARG:NH1	38:C:8571:HOH:O	2.45	0.49
6:D:28:GLY:CA	6:D:69:ILE:HG23	2.36	0.49
7:E:5:LEU:HD21	7:E:66:GLN:HG3	1.94	0.49
15:M:184:ARG:HG3	15:M:185:PRO:HA	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:176:ARG:O	16:N:180:LEU:HD13	2.13	0.49
1:0:669:G:O2'	1:0:670:G:H5'	2.12	0.49
1:0:894:A:C2	5:C:87:ARG:NH2	2.81	0.49
1:0:1615:A:H5'	38:0:4158:HOH:O	2.11	0.49
6:D:128:LEU:N	38:D:6007:HOH:O	2.46	0.49
7:E:101:GLU:HB2	7:E:116:THR:O	2.12	0.49
21:S:57:THR:HG22	21:S:58:MET:N	2.27	0.49
1:0:64:G:H2'	1:0:65:C:O4'	2.13	0.49
1:0:284:C:H4'	1:0:285:A:O5'	2.12	0.49
4:B:217:ARG:CG	4:B:257:THR:HG22	2.42	0.49
11:I:108:HIS:N	11:I:109:PRO:CD	2.76	0.49
1:0:281:U:H3'	38:0:7159:HOH:O	2.11	0.49
1:0:1666:C:H2'	1:0:1667:A:C5'	2.42	0.49
1:0:1878:G:O2'	1:0:1879:U:P	2.71	0.49
1:0:2649:A:H5'	1:0:2649:A:C8	2.48	0.49
38:0:4337:HOH:O	3:A:212:PRO:HB2	2.12	0.49
4:B:280:VAL:CG1	4:B:334:SER:HA	2.43	0.49
5:C:200:PRO:HB3	5:C:212:VAL:HG23	1.95	0.49
10:H:49:GLN:HG3	10:H:140:TYR:CD2	2.48	0.49
10:H:151:GLU:OE1	10:H:151:GLU:HA	2.13	0.49
20:R:18:LEU:HB2	20:R:143:VAL:HG13	1.93	0.49
25:W:26:ILE:O	25:W:26:ILE:HG13	2.12	0.49
26:X:21:PRO:HG2	26:X:24:LYS:HD3	1.92	0.49
29:1:25:LYS:HD2	30:2:49:GLU:H	1.77	0.49
1:0:1175:G:H1'	1:0:1193:A:H2'	1.94	0.49
10:H:41:LYS:HE2	10:H:45:ASP:CB	2.43	0.49
14:L:53:ARG:NH2	14:L:57:VAL:HG12	2.27	0.49
22:T:69:LYS:O	22:T:71:VAL:HG23	2.13	0.49
1:0:1733:A:H4'	4:B:212:GLN:HA	1.93	0.49
6:D:25:MET:CE	6:D:41:LEU:HG	2.37	0.49
7:E:69:ILE:HA	7:E:72:MET:HE2	1.94	0.49
10:H:61:ARG:NH1	10:H:61:ARG:HG3	2.28	0.49
14:L:30:ARG:NH2	38:L:8820:HOH:O	2.42	0.49
16:N:65:ASP:HB3	38:N:8824:HOH:O	2.11	0.49
16:N:78:MET:HB2	16:N:79:PRO:HD3	1.94	0.49
16:N:151:ASP:OD1	16:N:154:LEU:HD13	2.13	0.49
16:N:154:LEU:O	16:N:155:GLU:CB	2.61	0.49
16:N:171:HIS:CE1	38:N:8868:HOH:O	2.66	0.49
18:P:10:ALA:HA	18:P:13:VAL:HG12	1.94	0.49
25:W:5:VAL:HG11	25:W:153:MET:HE3	1.95	0.49
25:W:149:LEU:HG	25:W:153:MET:CE	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:1:37:CYS:SG	29:1:39:PHE:HB2	2.53	0.49
1:0:380:A:OP2	15:M:9:ARG:HD2	2.12	0.49
1:0:1544:U:H2'	1:0:1545:C:C6	2.48	0.49
1:0:2403:C:H3'	38:0:5171:HOH:O	2.11	0.49
1:0:2825:C:H4'	1:0:2826:G:O5'	2.13	0.49
7:E:132:THR:HB	38:E:2227:HOH:O	2.13	0.49
14:L:67:ARG:O	14:L:71:GLU:HG3	2.12	0.49
18:P:131:PHE:CD1	18:P:137:LEU:HD13	2.47	0.49
28:Z:80:ARG:O	28:Z:81:ARG:O	2.30	0.49
1:0:714:U:H3'	38:0:6893:HOH:O	2.13	0.49
1:0:757:C:OP1	14:L:27:ARG:HD2	2.12	0.49
1:0:1191:A:H2'	1:0:1193:A:H5'	1.95	0.49
1:0:1450:C:O2'	1:0:1494:A:H5'	2.12	0.49
5:C:27:ARG:HG3	5:C:29:ASP:OD1	2.13	0.49
20:R:119:VAL:HG12	20:R:119:VAL:O	2.12	0.49
25:W:5:VAL:O	25:W:52:VAL:HG22	2.13	0.49
1:0:558:C:H2'	1:0:559:U:H5"	1.94	0.48
1:0:1666:C:C2'	1:0:1667:A:C5'	2.91	0.48
1:0:2894:C:O2'	1:0:2895:C:H5'	2.12	0.48
4:B:5:ARG:NH1	4:B:8:LYS:HE2	2.27	0.48
6:D:56:ARG:N	38:D:6752:HOH:O	2.45	0.48
14:L:67:ARG:HB2	14:L:112:GLY:HA3	1.95	0.48
20:R:119:VAL:HG21	20:R:142:ASP:CG	2.33	0.48
22:T:40:VAL:HG22	22:T:41:ARG:N	2.27	0.48
25:W:41:TYR:HA	25:W:44:MET:HE3	1.95	0.48
1:0:820:G:O2'	1:0:856:G:H4'	2.13	0.48
4:B:17:LYS:O	4:B:260:HIS:HD2	1.96	0.48
5:C:127:ARG:HG2	5:C:127:ARG:NH1	2.28	0.48
11:I:108:HIS:CE1	11:I:116:LEU:HD22	2.44	0.48
14:L:125:PHE:CZ	14:L:140:VAL:HG13	2.48	0.48
1:0:475:G:H5'	5:C:73:LEU:HD23	1.95	0.48
1:0:2251:G:H2'	1:0:2252:A:C8	2.47	0.48
3:A:55:VAL:HG22	3:A:68:ILE:O	2.13	0.48
15:M:46:LEU:HG	38:M:8921:HOH:O	2.13	0.48
15:M:61:ILE:CG2	15:M:62:VAL:N	2.75	0.48
22:T:61:GLU:HG3	38:T:3851:HOH:O	2.13	0.48
27:Y:186:ARG:HG2	27:Y:186:ARG:NH1	2.27	0.48
1:0:538:C:OP2	27:Y:134:HIS:HE1	1.96	0.48
1:0:1589:G:N2	1:0:1605:G:H1'	2.28	0.48
1:0:2004:U:H2'	1:0:2004:U:O2	2.12	0.48
1:0:2670:G:O2'	1:0:2671:U:H5'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:0:5903:HOH:O	18:P:87:ARG:HG2	2.14	0.48
3:A:88:ILE:HD13	3:A:100:PRO:CD	2.41	0.48
4:B:102:THR:HG21	4:B:182:VAL:O	2.13	0.48
5:C:157:LEU:HD22	5:C:162:VAL:CG1	2.43	0.48
19:Q:32:GLU:HA	19:Q:71:TYR:OH	2.13	0.48
26:X:43:VAL:HG12	26:X:44:ASP:H	1.78	0.48
1:0:790:A:H2'	1:0:791:A:O4'	2.13	0.48
1:0:1183:C:H42	1:0:1184:C:H41	1.62	0.48
1:0:1675:C:H5"	30:2:5:LYS:HD2	1.95	0.48
1:0:1972:U:H2'	1:0:1973:A:H5'	1.96	0.48
38:9:8638:HOH:O	16:N:41:LYS:HD3	2.13	0.48
5:C:78:ARG:NH1	5:C:78:ARG:CG	2.70	0.48
5:C:246:ARG:CZ	38:C:8627:HOH:O	2.62	0.48
6:D:91:ALA:HB1	38:D:5198:HOH:O	2.12	0.48
10:H:23:ILE:HG23	10:H:123:ILE:HD11	1.95	0.48
11:I:105:GLU:HA	11:I:108:HIS:NE2	2.28	0.48
12:J:6:PHE:HB3	12:J:109:TYR:OH	2.13	0.48
13:K:30:LYS:O	13:K:55:VAL:HG13	2.13	0.48
16:N:73:ALA:HB1	16:N:74:PRO:CD	2.43	0.48
22:T:87:VAL:HB	38:T:5545:HOH:O	2.13	0.48
27:Y:144:ARG:NE	38:Y:8910:HOH:O	2.46	0.48
1:0:120:A:H2'	1:0:120:A:N3	2.29	0.48
1:0:1118:A:C8	1:0:1119:G:H5"	2.48	0.48
1:0:1787:C:H4'	1:0:2883:A:O4'	2.13	0.48
1:0:2314:G:C2'	1:0:2315:C:H5'	2.44	0.48
1:0:2800:A:H5'	1:0:2801:A:OP2	2.13	0.48
38:0:6088:HOH:O	30:2:20:ARG:HB3	2.13	0.48
4:B:315:VAL:HG23	4:B:316:ARG:HG2	1.96	0.48
11:I:100:VAL:HG11	11:I:124:VAL:CG2	2.43	0.48
14:L:73:VAL:HG11	14:L:118:LEU:HD21	1.95	0.48
14:L:149:ARG:O	14:L:150:GLN:HB2	2.14	0.48
23:U:44:ARG:HB3	38:U:3805:HOH:O	2.13	0.48
30:2:48:ASP:O	30:2:49:GLU:HB2	2.14	0.48
1:0:821:U:H2'	1:0:822:C:H6	1.78	0.48
4:B:171:VAL:O	4:B:175:LEU:HB2	2.14	0.48
5:C:2:GLN:HB3	38:C:8586:HOH:O	2.12	0.48
6:D:21:VAL:HG23	6:D:80:ALA:HB1	1.95	0.48
13:K:125:ALA:C	13:K:127:ALA:H	2.17	0.48
22:T:37:GLN:OE1	22:T:118:SER:HA	2.12	0.48
25:W:151:GLU:O	25:W:154:ARG:HB3	2.13	0.48
31:3:18:GLN:OE1	31:3:73:GLU:HB3	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:377:C:H5	38:0:3296:HOH:O	1.97	0.48
1:0:484:A:N1	1:0:506:G:H4'	2.29	0.48
1:0:952:G:N3	1:0:2302:A:H2'	2.28	0.48
6:D:86:THR:C	6:D:89:PRO:HD2	2.34	0.48
7:E:81:GLU:HG2	7:E:134:SER:CB	2.43	0.48
7:E:126:ILE:HB	7:E:131:LEU:CD2	2.44	0.48
10:H:157:TYR:CD1	10:H:157:TYR:C	2.86	0.48
22:T:71:VAL:HG13	22:T:91:LEU:O	2.13	0.48
1:0:564:G:H1'	38:0:6268:HOH:O	2.12	0.48
1:0:1120:U:H5"	1:0:1120:U:C6	2.49	0.48
1:0:1641:A:H2'	1:0:1642:A:C5'	2.42	0.48
1:0:1972:U:H2'	1:0:1973:A:C5'	2.44	0.48
1:0:2050:G:H5"	20:R:80:TYR:O	2.13	0.48
4:B:62:ARG:HA	4:B:65:MET:CE	2.35	0.48
10:H:12:ILE:HD12	10:H:57:THR:CG2	2.41	0.48
18:P:94:TRP:CZ2	18:P:98:ILE:HG13	2.48	0.48
23:U:47:ARG:HG3	38:U:4381:HOH:O	2.13	0.48
26:X:66:THR:HG23	26:X:67:PRO:HD2	1.95	0.48
27:Y:112:GLU:CD	27:Y:115:ARG:NH1	2.67	0.48
1:0:170:U:H2'	1:0:171:C:H5'	1.94	0.48
1:0:1020:A:H1'	38:Q:6976:HOH:O	2.12	0.48
1:0:2362:A:H2'	1:0:2363:G:C8	2.49	0.48
1:0:2787:C:H2'	1:0:2788:A:O4'	2.13	0.48
1:0:2815:G:OP2	12:J:99:GLU:HG2	2.14	0.48
8:F:28:ALA:HB3	8:F:99:THR:HG23	1.94	0.48
8:F:50:VAL:CG2	8:F:63:ILE:HG21	2.44	0.48
10:H:30:LYS:N	10:H:62:HIS:HD2	2.07	0.48
25:W:88:THR:CG2	25:W:110:GLN:NE2	2.76	0.48
1:0:245:C:H2'	38:0:5530:HOH:O	2.14	0.47
1:0:1881:A:OP1	3:A:199:HIS:HE1	1.97	0.47
1:0:2597:U:H2'	1:0:2598:U:H5'	1.96	0.47
1:0:2909:G:H2'	1:0:2910:A:H8	1.79	0.47
38:0:7373:HOH:O	22:T:9:LYS:HD2	2.13	0.47
2:9:20:G:O2'	2:9:21:G:H5'	2.14	0.47
3:A:8:ARG:HG2	38:A:8850:HOH:O	2.13	0.47
7:E:7:ILE:HD11	7:E:11:VAL:C	2.34	0.47
7:E:7:ILE:HG22	7:E:45:ASP:O	2.14	0.47
18:P:20:ARG:NH1	18:P:54:LYS:HD3	2.28	0.47
28:Z:46:ARG:CD	28:Z:59:TYR:HB2	2.29	0.47
1:0:281:U:O2'	1:0:282:C:H5'	2.14	0.47
1:0:1353:C:P	38:0:4647:HOH:O	2.72	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2421:G:H3'	1:0:2422:U:H5"	1.95	0.47
1:0:2768:A:H3'	38:0:4399:HOH:O	2.14	0.47
1:0:2897:C:H2'	1:0:2898:G:H8	1.78	0.47
38:0:6278:HOH:O	6:D:55:LYS:HB2	2.13	0.47
2:9:29:C:C2'	2:9:30:C:H5'	2.44	0.47
5:C:246:ARG:NH1	5:C:246:ARG:HB3	2.29	0.47
16:N:67:ALA:C	16:N:69:TYR:H	2.16	0.47
16:N:116:PHE:HB3	16:N:136:LEU:HD23	1.96	0.47
20:R:47:LEU:O	20:R:51:ILE:HG13	2.14	0.47
20:R:99:ALA:HB1	20:R:109:MET:HE3	1.93	0.47
24:V:1:THR:O	24:V:4:HIS:CE1	2.67	0.47
26:X:41:PHE:O	26:X:43:VAL:HG23	2.14	0.47
1:0:338:C:H4'	5:C:174:ILE:HD11	1.94	0.47
1:0:1427:A:H61	1:0:1440:U:H1'	1.79	0.47
1:0:2135:A:O2'	1:0:2136:G:H5'	2.14	0.47
1:0:2779:G:H21	7:E:143:GLN:NE2	2.11	0.47
3:A:33:GLU:OE1	3:A:33:GLU:N	2.43	0.47
15:M:48:LYS:HE3	15:M:52:GLN:NE2	2.28	0.47
16:N:170:GLU:O	16:N:174:GLU:HG3	2.14	0.47
16:N:181:ASP:O	16:N:184:ILE:HG22	2.15	0.47
24:V:7:GLU:O	24:V:11:MET:HG3	2.13	0.47
1:0:820:G:C6	3:A:171:LYS:HB2	2.48	0.47
6:D:10:PHE:N	38:D:7345:HOH:O	2.46	0.47
7:E:20:ILE:CD1	7:E:40:VAL:HG11	2.42	0.47
15:M:9:ARG:HG3	38:M:8846:HOH:O	2.14	0.47
21:S:73:ASP:OD1	21:S:76:GLU:HG3	2.14	0.47
1:0:907:A:H4'	1:0:1328:A:C2	2.49	0.47
1:0:1252:A:H2'	1:0:1253:C:O4'	2.15	0.47
1:0:1299:G:H5'	38:0:4049:HOH:O	2.13	0.47
1:0:2001:G:O2'	1:0:2002:C:H5'	2.14	0.47
38:0:3224:HOH:O	11:I:87:PRO:HD2	2.15	0.47
5:C:19:PRO:HG2	5:C:22:PHE:CE1	2.50	0.47
8:F:31:LYS:HE3	38:F:2623:HOH:O	2.14	0.47
10:H:157:TYR:C	10:H:157:TYR:HD1	2.18	0.47
11:I:87:PRO:C	11:I:89:GLU:N	2.66	0.47
25:W:69:ARG:NH2	38:W:4276:HOH:O	2.24	0.47
25:W:129:LYS:HG2	38:W:1990:HOH:O	2.14	0.47
1:0:371:U:H2'	1:0:372:A:H8	1.79	0.47
1:0:949:U:O2'	19:Q:40:HIS:HE1	1.97	0.47
1:0:1205:U:H2'	1:0:1206:U:H5'	1.97	0.47
1:0:1847:A:OP1	3:A:175:LYS:HG3	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2851:G:C2'	1:0:2852:A:H5'	2.45	0.47
38:0:4165:HOH:O	27:Y:186:ARG:HD2	2.14	0.47
3:A:37:VAL:HG13	38:A:8909:HOH:O	2.13	0.47
4:B:24:PRO:HG2	4:B:204:GLY:HA2	1.95	0.47
5:C:22:PHE:HA	5:C:116:ALA:HA	1.96	0.47
8:F:57:GLU:O	8:F:61:MET:HG3	2.14	0.47
13:K:99:ASP:OD1	13:K:101:ASN:N	2.46	0.47
16:N:42:HIS:CG	16:N:62:HIS:HE1	2.32	0.47
27:Y:95:THR:N	27:Y:236:VAL:O	2.46	0.47
1:0:1044:C:H3'	1:0:1045:G:H5"	1.97	0.47
1:0:1163:G:N2	38:0:4693:HOH:O	2.45	0.47
1:0:1287:A:O4'	25:W:117:ARG:HD3	2.15	0.47
1:0:1853:C:O2'	3:A:217:ARG:NH2	2.47	0.47
38:0:7404:HOH:O	5:C:188:ARG:CD	2.61	0.47
3:A:94:LEU:HD12	3:A:98:GLU:HB2	1.96	0.47
3:A:153:ARG:HH11	3:A:153:ARG:CB	2.27	0.47
4:B:205:VAL:O	4:B:307:ARG:NE	2.47	0.47
4:B:270:ILE:O	4:B:271:ASP:HB2	2.15	0.47
5:C:133:ARG:NE	5:C:138:VAL:HG22	2.30	0.47
8:F:111:ILE:O	8:F:115:VAL:HG23	2.15	0.47
10:H:65:LEU:H	10:H:65:LEU:HD22	1.79	0.47
11:I:133:THR:HG22	11:I:134:ILE:H	1.78	0.47
13:K:34:VAL:HG21	13:K:46:LYS:O	2.15	0.47
13:K:65:ARG:HD3	38:K:5358:HOH:O	2.14	0.47
13:K:118:ALA:HA	13:K:125:ALA:HB2	1.97	0.47
16:N:115:VAL:HG23	38:N:8860:HOH:O	2.15	0.47
18:P:98:ILE:HD12	18:P:102:ARG:NE	2.30	0.47
22:T:41:ARG:NH1	22:T:42:VAL:O	2.48	0.47
25:W:149:LEU:HG	25:W:153:MET:HE2	1.97	0.47
26:X:8:ARG:NH1	38:X:2479:HOH:O	2.41	0.47
26:X:76:ARG:HG3	26:X:76:ARG:NH1	2.21	0.47
1:0:449:A:N7	5:C:43:LYS:HG2	2.30	0.47
1:0:475:G:OP1	5:C:73:LEU:HD22	2.15	0.47
1:0:783:C:OP1	3:A:180:LYS:HE3	2.14	0.47
1:0:1497:G:H4'	1:0:1627:G:O2'	2.14	0.47
7:E:69:ILE:HA	7:E:72:MET:HE3	1.97	0.47
13:K:55:VAL:CG1	13:K:56:SER:N	2.77	0.47
14:L:89:PHE:N	38:L:8869:HOH:O	2.48	0.47
22:T:32:ARG:NH1	22:T:38:ARG:HH12	2.13	0.47
1:0:290:C:O2'	1:0:291:C:H5'	2.14	0.47
1:0:920:C:H5'	1:0:921:G:C4	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:41:PHE:CD1	4:B:79:MET:HE2	2.49	0.47
24:V:58:THR:O	24:V:62:GLU:HG3	2.15	0.47
1:0:2252:A:C5	1:0:2253:G:H1'	2.50	0.47
1:0:2392:C:H4'	38:0:4243:HOH:O	2.14	0.47
1:0:2456:A:H5'	38:0:5653:HOH:O	2.15	0.47
6:D:23:VAL:HG12	6:D:130:VAL:HG22	1.97	0.47
10:H:66:GLU:HA	38:H:8580:HOH:O	2.15	0.47
10:H:91:ARG:NH1	10:H:138:THR:OG1	2.43	0.47
14:L:121:ILE:HA	14:L:141:GLU:O	2.14	0.47
25:W:76:ASP:O	25:W:77:ALA:C	2.53	0.47
28:Z:22:SER:O	28:Z:26:VAL:HG23	2.15	0.47
1:0:157:G:H4'	15:M:95:LYS:HE3	1.97	0.46
1:0:612:U:H2'	1:0:613:C:C6	2.50	0.46
3:A:131:HIS:O	3:A:132:ASP:HB2	2.14	0.46
3:A:217:ARG:HG2	3:A:229:ALA:HB2	1.97	0.46
8:F:60:VAL:O	8:F:60:VAL:HG12	2.15	0.46
16:N:163:PHE:O	16:N:164:ASP:O	2.32	0.46
25:W:4:LEU:O	25:W:32:CYS:HA	2.15	0.46
1:0:292:G:H2'	1:0:358:G:N2	2.29	0.46
2:9:28:U:H5"	16:N:40:ASN:ND2	2.30	0.46
6:D:167:GLU:C	6:D:169:THR:H	2.19	0.46
7:E:154:ILE:HD11	7:E:157:LYS:HE2	1.97	0.46
15:M:99:ARG:CD	15:M:167:GLY:HA2	2.44	0.46
22:T:71:VAL:HG12	22:T:72:ILE:N	2.30	0.46
1:0:951:A:C2'	1:0:952:G:H5'	2.45	0.46
1:0:1477:C:C5'	1:0:1868:G:H5"	2.45	0.46
38:0:4936:HOH:O	10:H:61:ARG:HG3	2.15	0.46
3:A:66:ARG:HH11	3:A:66:ARG:CB	2.28	0.46
3:A:105:VAL:HG13	3:A:155:THR:O	2.15	0.46
4:B:84:LEU:HD23	4:B:142:LEU:HD23	1.97	0.46
5:C:4:THR:HG21	5:C:12:THR:HG22	1.96	0.46
7:E:43:ASP:HA	38:E:5864:HOH:O	2.15	0.46
10:H:69:ARG:HB3	38:H:8580:HOH:O	2.15	0.46
26:X:70:ILE:HG23	26:X:70:ILE:O	2.15	0.46
1:0:303:C:H2'	1:0:304:G:O4'	2.16	0.46
1:0:542:A:H2'	1:0:543:G:O4'	2.15	0.46
1:0:1189:A:O2'	1:0:1208:C:H2'	2.15	0.46
2:9:31:C:H2'	2:9:32:G:O4'	2.16	0.46
2:9:49:G:H2'	2:9:50:G:O4'	2.16	0.46
4:B:42:ALA:HB1	4:B:308:LEU:HD11	1.97	0.46
8:F:110:ASP:O	8:F:114:LYS:HG3	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:95:LEU:O	11:I:134:ILE:HG23	2.15	0.46
11:I:126:THR:HG22	11:I:126:THR:O	2.14	0.46
1:0:392:U:C5'	15:M:193:LYS:HB3	2.46	0.46
1:0:1175:G:H8	1:0:1193:A:HO2'	1.63	0.46
1:0:1234:U:C4	4:B:244:PRO:HB3	2.51	0.46
1:0:2638:G:H5'	38:0:4893:HOH:O	2.16	0.46
1:0:2768:A:O2'	1:0:2769:C:H5'	2.15	0.46
2:9:107:C:H5	38:9:8634:HOH:O	1.99	0.46
3:A:153:ARG:HD3	38:A:8828:HOH:O	2.14	0.46
5:C:237:GLU:HB2	38:C:8633:HOH:O	2.15	0.46
6:D:57:THR:HG23	6:D:63:ILE:CA	2.41	0.46
6:D:62:ASP:HA	38:D:4233:HOH:O	2.16	0.46
14:L:104:ASP:O	14:L:105:TYR:HB3	2.15	0.46
15:M:99:ARG:HD2	15:M:167:GLY:HA2	1.96	0.46
16:N:89:GLY:O	16:N:92:ALA:HB3	2.15	0.46
1:0:1209:C:H2'	1:0:1210:G:H8	1.81	0.46
1:0:1503:U:H2'	1:0:1504:A:O4'	2.16	0.46
1:0:2044:G:OP1	26:X:23:HIS:HE1	1.98	0.46
1:0:2434:A:O3'	31:3:28:GLY:HA3	2.15	0.46
38:0:9615:HOH:O	8:F:38:LYS:HE2	2.15	0.46
3:A:132:ASP:OD1	3:A:133:ARG:N	2.45	0.46
4:B:238:ASN:ND2	4:B:240:GLY:H	2.02	0.46
6:D:41:LEU:HA	6:D:44:ILE:CG2	2.44	0.46
13:K:66:ARG:HG2	13:K:66:ARG:HH11	1.81	0.46
14:L:72:ASN:HB2	38:L:8880:HOH:O	2.16	0.46
19:Q:64:GLU:HG3	19:Q:74:ASP:OD2	2.16	0.46
20:R:114:VAL:HG13	20:R:114:VAL:O	2.15	0.46
28:Z:32:GLU:HA	28:Z:35:GLU:HG3	1.96	0.46
31:3:3:MET:HG3	31:3:4:PRO:HD2	1.98	0.46
31:3:18:GLN:HG2	38:3:8816:HOH:O	2.14	0.46
1:0:256:C:H2'	1:0:257:G:O4'	2.16	0.46
1:0:308:U:C4	1:0:342:C:H1'	2.50	0.46
1:0:1151:G:OP1	9:G:63:ARG:NH1	2.48	0.46
1:0:1819:G:H2'	1:0:1820:G:C4'	2.41	0.46
8:F:50:VAL:HG21	8:F:63:ILE:HG21	1.98	0.46
10:H:88:MET:HA	10:H:139:ALA:HA	1.98	0.46
15:M:169:ARG:NH1	38:M:8872:HOH:O	2.48	0.46
18:P:7:LYS:HD3	18:P:21:VAL:HG21	1.98	0.46
25:W:54:PHE:CZ	25:W:140:LYS:HB2	2.50	0.46
1:0:816:G:H5'	1:0:1598:A:H4'	1.97	0.46
1:0:1268:C:O2'	27:Y:169:ARG:HB2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1555:G:H4'	1:0:1630:A:H2	1.79	0.46
1:0:2005:G:H3'	1:0:2005:G:OP2	2.16	0.46
1:0:2385:G:H2'	1:0:2386:U:C6	2.51	0.46
1:0:2421:G:H3'	1:0:2422:U:C5'	2.46	0.46
1:0:2837:U:H2'	38:0:6789:HOH:O	2.16	0.46
3:A:93:THR:HG23	3:A:154:ALA:O	2.16	0.46
5:C:54:LEU:HD23	5:C:79:ARG:HG3	1.98	0.46
7:E:126:ILE:HB	7:E:131:LEU:HD23	1.97	0.46
8:F:99:THR:HG23	8:F:99:THR:O	2.15	0.46
13:K:27:ARG:HD2	38:K:4747:HOH:O	2.16	0.46
21:S:53:ASN:HD22	21:S:53:ASN:N	2.14	0.46
24:V:49:LEU:O	24:V:53:ILE:HG13	2.16	0.46
31:3:15:ASN:ND2	38:3:8851:HOH:O	2.48	0.46
1:0:1123:A:C6	1:0:1238:C:H5'	2.51	0.46
1:0:1427:A:H61	1:0:1440:U:C1'	2.29	0.46
1:0:1595:G:O2'	1:0:1596:U:H5'	2.16	0.46
1:0:2906:A:H5'	1:0:2907:C:O4'	2.16	0.46
38:0:9889:HOH:O	12:J:46:ILE:HA	2.16	0.46
4:B:16:ARG:NE	38:B:8853:HOH:O	2.30	0.46
4:B:162:MET:CE	4:B:310:ARG:HD3	2.46	0.46
12:J:131:THR:HG22	12:J:133:GLY:N	2.31	0.46
14:L:10:SER:O	14:L:11:ARG:HB3	2.15	0.46
15:M:78:LYS:NZ	38:M:8876:HOH:O	2.49	0.46
20:R:39:THR:HB	20:R:42:GLU:CD	2.36	0.46
27:Y:216:ARG:CD	38:Y:8868:HOH:O	2.64	0.46
1:0:166:A:N7	14:L:25:GLY:HA2	2.31	0.46
1:0:1119:G:H8	12:J:52:GLN:NE2	2.14	0.46
1:0:1206:U:H2'	1:0:1207:A:O4'	2.16	0.46
1:0:1398:G:O2'	1:0:1399:A:H5'	2.16	0.46
2:9:64:C:C2'	2:9:65:A:H5'	2.46	0.46
4:B:54:VAL:HB	38:B:8914:HOH:O	2.15	0.46
11:I:94:ASP:HA	11:I:133:THR:O	2.15	0.46
15:M:12:TRP:O	15:M:15:PRO:HD3	2.16	0.46
16:N:163:PHE:O	16:N:164:ASP:OD1	2.34	0.46
19:Q:30:VAL:HG12	19:Q:30:VAL:O	2.16	0.46
25:W:122:ARG:HG3	25:W:122:ARG:HH11	1.81	0.46
26:X:9:VAL:HG13	26:X:88:GLU:OE2	2.16	0.46
27:Y:106:THR:CG2	27:Y:107:PRO:HD2	2.45	0.46
31:3:30:GLN:NE2	38:3:8857:HOH:O	2.47	0.46
1:0:445:U:H2'	1:0:446:G:H8	1.81	0.45
1:0:1007:A:H2'	10:H:22:TYR:CZ	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1029:U:O2'	1:0:1273:C:OP1	2.29	0.45
2:9:88:G:OP1	25:W:130:HIS:NE2	2.46	0.45
3:A:220:PRO:HD2	3:A:223:ARG:HD3	1.97	0.45
6:D:23:VAL:HG21	6:D:45:THR:HG21	1.99	0.45
7:E:11:VAL:CG1	7:E:12:ASP:N	2.77	0.45
17:O:44:ASN:OD1	17:O:65:LEU:HB2	2.16	0.45
19:Q:11:ARG:NH1	38:Q:5620:HOH:O	2.49	0.45
20:R:4:TYR:N	38:R:8844:HOH:O	2.49	0.45
20:R:47:LEU:HB2	20:R:89:LEU:HD21	1.98	0.45
1:0:702:G:O2'	1:0:703:G:H5'	2.16	0.45
1:0:1768:C:H2'	1:0:1769:C:O4'	2.16	0.45
1:0:1850:U:H2'	1:0:1851:G:H8	1.81	0.45
1:0:1996:U:O2'	1:0:1997:A:H5'	2.16	0.45
1:0:2793:A:H2'	1:0:2794:G:H5'	1.98	0.45
2:9:34:A:O5'	2:9:34:A:H8	1.99	0.45
4:B:62:ARG:NH2	4:B:66:GLU:O	2.48	0.45
6:D:40:ILE:HG23	38:D:5583:HOH:O	2.16	0.45
10:H:41:LYS:HD3	10:H:46:TYR:OH	2.16	0.45
10:H:149:VAL:HG13	38:H:8577:HOH:O	2.16	0.45
14:L:143:THR:CG2	14:L:144:ASP:N	2.76	0.45
25:W:4:LEU:HD21	25:W:52:VAL:HG11	1.99	0.45
1:0:65:C:O2'	1:0:66:G:H5'	2.16	0.45
1:0:920:C:H5"	1:0:921:G:O5'	2.17	0.45
1:0:1333:U:H2'	1:0:1334:C:H6	1.82	0.45
1:0:1617:C:C4	1:0:1643:C:H4'	2.51	0.45
1:0:1790:C:H2'	1:0:1791:U:C6	2.50	0.45
1:0:2361:A:H5"	38:0:9001:HOH:O	2.17	0.45
1:0:2419:U:H5"	1:0:2420:G:H5'	1.99	0.45
1:0:2769:C:H2'	1:0:2770:G:H5'	1.99	0.45
1:0:2769:C:H2'	1:0:2770:G:C5'	2.45	0.45
1:0:2900:G:H2'	1:0:2901:C:O4'	2.16	0.45
4:B:190:MET:HE2	4:B:194:PHE:CD1	2.52	0.45
5:C:72:LYS:HG2	5:C:77:ALA:HA	1.97	0.45
7:E:37:ASP:OD1	12:J:125:SER:HB3	2.16	0.45
7:E:139:GLU:CD	38:E:5919:HOH:O	2.54	0.45
12:J:93:ARG:HH11	12:J:93:ARG:CB	2.23	0.45
13:K:82:ARG:NH2	13:K:115:ARG:HG2	2.31	0.45
16:N:147:ILE:HG23	16:N:148:ALA:N	2.31	0.45
16:N:154:LEU:C	16:N:156:GLU:H	2.19	0.45
25:W:4:LEU:CD2	25:W:54:PHE:HB3	2.44	0.45
1:0:24:G:N2	1:0:518:G:H1'	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:249:G:O2'	1:0:250:C:H5'	2.17	0.45
1:0:1352:A:N1	5:C:48:SER:HB3	2.31	0.45
1:0:1419:U:H2'	1:0:1685:A:C2	2.52	0.45
1:0:1559:A:OP2	1:0:1559:A:H8	2.00	0.45
1:0:1845:A:O3'	3:A:187:PRO:HB2	2.16	0.45
2:9:20:G:H3'	38:9:8633:HOH:O	2.16	0.45
5:C:150:THR:HA	5:C:203:ALA:O	2.15	0.45
11:I:84:SER:HB3	11:I:92:VAL:CG2	2.47	0.45
16:N:143:ARG:NH1	16:N:173:ASP:OD2	2.49	0.45
16:N:183:ASP:O	16:N:184:ILE:O	2.34	0.45
1:0:278:A:H2'	1:0:279:C:O4'	2.16	0.45
1:0:289:G:O2'	1:0:290:C:H5'	2.16	0.45
1:0:709:G:O2'	17:O:25:VAL:CG1	2.64	0.45
4:B:248:ARG:NH2	38:B:8824:HOH:O	2.49	0.45
6:D:18:ILE:HD13	6:D:84:LEU:CD1	2.47	0.45
7:E:22:VAL:O	7:E:28:SER:HA	2.17	0.45
11:I:111:LEU:HD22	11:I:122:GLU:OE1	2.16	0.45
12:J:39:VAL:HG12	12:J:40:ASN:ND2	2.31	0.45
16:N:43:VAL:HG11	16:N:81:ALA:HA	1.97	0.45
17:O:39:THR:O	17:O:115:ARG:NH2	2.49	0.45
23:U:13:ILE:HG12	23:U:32:CYS:CB	2.46	0.45
25:W:108:ARG:NH2	38:W:2359:HOH:O	2.50	0.45
1:0:100:C:H4'	22:T:16:LEU:HB2	1.98	0.45
1:0:138:U:OP2	1:0:139:C:H5	2.00	0.45
1:0:2498:C:O2'	1:0:2499:U:H5'	2.15	0.45
1:0:2714:U:H4'	4:B:10:SER:HB2	1.98	0.45
4:B:75:GLU:C	4:B:77:PRO:HD3	2.36	0.45
4:B:148:PRO:HD2	38:B:8880:HOH:O	2.16	0.45
6:D:41:LEU:CA	6:D:44:ILE:HG22	2.46	0.45
9:G:19:GLU:HG2	9:G:66:LEU:HD13	1.99	0.45
15:M:61:ILE:HD12	15:M:61:ILE:N	2.32	0.45
16:N:100:ALA:O	16:N:129:ILE:HG23	2.16	0.45
17:O:41:ALA:HA	38:O:5104:HOH:O	2.17	0.45
1:0:106:A:H2'	1:0:107:U:O4'	2.17	0.45
1:0:426:G:H2'	1:0:427:C:O4'	2.17	0.45
1:0:1853:C:OP1	3:A:231:LYS:HG3	2.16	0.45
3:A:135:VAL:HG21	3:A:147:ARG:HG2	1.98	0.45
4:B:268:ARG:NE	38:B:8909:HOH:O	2.50	0.45
5:C:7:ASP:OD1	5:C:11:ASN:O	2.34	0.45
7:E:31:ARG:HH12	7:E:68:HIS:CE1	2.35	0.45
10:H:172:GLU:CB	38:H:8591:HOH:O	2.20	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:143:THR:CG2	14:L:144:ASP:H	2.28	0.45
15:M:61:ILE:HG22	15:M:62:VAL:N	2.31	0.45
16:N:34:LEU:HA	16:N:47:LEU:HD23	1.99	0.45
16:N:73:ALA:HB1	16:N:74:PRO:HD2	1.97	0.45
29:1:28:HIS:HD2	29:1:30:LYS:H	1.64	0.45
1:0:86:A:C2	30:2:25:VAL:HG13	2.52	0.45
1:0:932:U:H2'	1:0:933:C:C6	2.52	0.45
1:0:1023:C:H2'	1:0:1024:G:O4'	2.16	0.45
1:0:2115:U:H2'	1:0:2116:U:C6	2.52	0.45
6:D:99:ASP:CB	6:D:103:ASN:H	2.30	0.45
7:E:112:ALA:HA	7:E:113:PRO:HD3	1.83	0.45
11:I:94:ASP:HB3	11:I:135:GLU:OE1	2.17	0.45
12:J:42:GLU:O	12:J:131:THR:HG23	2.17	0.45
13:K:98:VAL:CG1	13:K:99:ASP:N	2.80	0.45
24:V:39:ALA:O	24:V:41:GLU:N	2.50	0.45
25:W:38:THR:O	25:W:42:ARG:HB2	2.16	0.45
26:X:30:MET:CE	26:X:55:ASN:HA	2.46	0.45
27:Y:185:VAL:HG12	38:Y:8869:HOH:O	2.17	0.45
1:0:407:A:H8	38:0:4433:HOH:O	2.00	0.45
1:0:512:G:O3'	1:0:513:A:H8	2.00	0.45
1:0:1422:U:H2'	1:0:1423:C:C6	2.52	0.45
1:0:1450:C:C4'	1:0:1451:C:OP2	2.60	0.45
1:0:1482:A:O2'	1:0:1483:C:H5'	2.17	0.45
3:A:179:MET:HA	3:A:179:MET:CE	2.45	0.45
4:B:190:MET:HE2	4:B:194:PHE:HD1	1.82	0.45
6:D:58:VAL:HG12	6:D:60:GLU:HG2	1.98	0.45
6:D:64:ARG:HG2	6:D:67:ASP:HB3	1.99	0.45
14:L:6:ARG:NH2	38:L:8849:HOH:O	2.50	0.45
15:M:134:ILE:CG2	15:M:141:ILE:HD13	2.45	0.45
16:N:67:ALA:C	16:N:69:TYR:N	2.70	0.45
20:R:17:MET:CE	20:R:19:ARG:NH2	2.78	0.45
24:V:1:THR:HG23	24:V:2:VAL:N	2.24	0.45
25:W:39:ASP:HB2	38:W:3580:HOH:O	2.17	0.45
25:W:90:TYR:CE2	25:W:99:ALA:HB2	2.51	0.45
1:0:68:U:O2'	1:0:69:A:H5"	2.17	0.45
1:0:1279:U:O2	1:0:1279:U:H2'	2.16	0.45
1:0:1730:G:C5'	1:0:1731:C:C6	3.00	0.45
10:H:72:ALA:HB2	10:H:156:ALA:HB2	1.99	0.45
16:N:37:ARG:HD3	36:N:8807:CL:CL	2.54	0.45
16:N:61:ALA:CB	16:N:88:ALA:HB2	2.47	0.45
17:O:53:GLN:HG2	17:O:56:GLU:OE1	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:96:VAL:CG1	17:O:100:GLN:HB2	2.47	0.45
20:R:12:THR:HG22	20:R:149:GLU:OE1	2.16	0.45
20:R:29:LYS:HD3	38:R:8830:HOH:O	2.16	0.45
22:T:32:ARG:CZ	22:T:38:ARG:NH1	2.80	0.45
23:U:11:THR:HG22	23:U:53:ASP:OD2	2.16	0.45
25:W:90:TYR:CD1	25:W:90:TYR:N	2.85	0.45
31:3:55:VAL:HB	31:3:56:PRO:HD2	1.98	0.45
1:0:319:A:H4'	1:0:338:C:C4	2.51	0.44
1:0:432:G:O2'	1:0:433:C:H5'	2.16	0.44
1:0:1250:C:O2'	1:0:1251:C:H5'	2.17	0.44
1:0:2002:C:H2'	1:0:2003:U:H5'	1.99	0.44
1:0:2036:C:C1'	13:K:44:LEU:HG	2.47	0.44
4:B:268:ARG:NH2	4:B:325:PRO:HG3	2.32	0.44
8:F:20:LEU:HD13	8:F:49:PHE:CE1	2.52	0.44
8:F:32:GLY:N	38:F:3111:HOH:O	2.50	0.44
8:F:34:ASN:HA	15:M:4:ALA:HB2	2.00	0.44
14:L:91:VAL:HB	38:L:8857:HOH:O	2.17	0.44
14:L:101:ASP:C	14:L:103:ALA:H	2.19	0.44
17:O:26:TRP:HA	17:O:26:TRP:CE3	2.52	0.44
1:0:816:G:C6	1:0:817:G:N1	2.85	0.44
1:0:1940:C:H4'	38:0:7297:HOH:O	2.15	0.44
1:0:2846:C:OP1	4:B:158:LYS:HD3	2.17	0.44
2:9:23:U:O2'	2:9:24:U:H4'	2.17	0.44
6:D:159:PRO:O	6:D:163:VAL:HG23	2.17	0.44
10:H:6:ALA:CA	10:H:61:ARG:HH12	2.29	0.44
10:H:167:LYS:HE2	10:H:169:GLU:OE1	2.18	0.44
13:K:20:CYS:HB2	13:K:29:LEU:HG	2.00	0.44
19:Q:11:ARG:HD3	38:Q:5620:HOH:O	2.16	0.44
25:W:122:ARG:HG3	25:W:152:ALA:O	2.18	0.44
1:0:671:A:O2'	1:0:672:G:H2'	2.17	0.44
1:0:2104:C:O2	1:0:2485:A:N1	2.51	0.44
2:9:47:A:C2	2:9:48:C:C2	3.05	0.44
6:D:170:TYR:O	6:D:171:ASP:HB3	2.17	0.44
27:Y:154:ARG:NH1	27:Y:155:ARG:HG3	2.33	0.44
31:3:74:CYS:N	38:3:8865:HOH:O	2.50	0.44
1:0:656:G:OP2	17:O:37:ARG:HD2	2.18	0.44
1:0:960:G:N3	1:0:960:G:C2'	2.80	0.44
1:0:1771:U:O2'	1:0:1773:G:N7	2.49	0.44
1:0:1882:C:O2'	1:0:2012:U:OP2	2.32	0.44
3:A:135:VAL:HG11	3:A:147:ARG:NH1	2.33	0.44
4:B:36:PRO:CA	4:B:168:GLY:HA3	2.45	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:175:LEU:O	4:B:175:LEU:HD23	2.18	0.44
16:N:15:GLU:HB3	16:N:17:ARG:HG3	2.00	0.44
19:Q:4:ASN:ND2	38:Q:7115:HOH:O	2.51	0.44
22:T:49:GLU:HB3	22:T:59:GLU:HG2	1.99	0.44
22:T:73:HIS:CD2	22:T:88:PRO:HG3	2.52	0.44
25:W:11:VAL:O	25:W:12:ASN:HB2	2.17	0.44
25:W:21:LEU:HB3	25:W:26:ILE:CG1	2.48	0.44
25:W:107:LEU:O	25:W:112:LEU:HB2	2.17	0.44
30:2:31:ARG:NH1	38:2:7177:HOH:O	2.50	0.44
1:0:587:A:H5"	38:0:7237:HOH:O	2.17	0.44
1:0:1783:A:O2'	1:0:1784:U:H5'	2.17	0.44
1:0:2667:G:H1'	1:0:2914:A:N3	2.32	0.44
1:0:2754:G:C2'	1:0:2755:G:H5'	2.48	0.44
2:9:14:G:O2'	16:N:1:ALA:HB2	2.17	0.44
3:A:173:GLY:O	3:A:176:HIS:HB3	2.17	0.44
5:C:127:ARG:CZ	5:C:225:PRO:HG2	2.46	0.44
6:D:35:ALA:C	6:D:37:ALA:H	2.21	0.44
8:F:49:PHE:HE1	8:F:98:VAL:HG23	1.82	0.44
14:L:57:VAL:HG12	14:L:57:VAL:O	2.17	0.44
20:R:113:HIS:HE1	20:R:144:GLU:CD	2.20	0.44
20:R:122:GLN:HB3	20:R:138:SER:HB2	2.00	0.44
23:U:6:CYS:HB2	23:U:32:CYS:HB3	1.99	0.44
23:U:37:GLU:HB3	38:U:408:HOH:O	2.17	0.44
1:0:241:A:C2	1:0:378:A:H4'	2.53	0.44
1:0:1562:C:N4	38:0:5823:HOH:O	2.49	0.44
1:0:1613:C:H2'	1:0:1614:G:O4'	2.17	0.44
1:0:1942:A:H3'	38:0:7297:HOH:O	2.18	0.44
1:0:2453:G:H4'	14:L:50:GLY:C	2.38	0.44
1:0:2515:C:H2'	1:0:2516:G:O4'	2.17	0.44
1:0:2724:U:H2'	1:0:2725:G:O4'	2.17	0.44
3:A:135:VAL:HG21	3:A:147:ARG:NH1	2.33	0.44
6:D:38:GLU:HB3	6:D:49:PRO:HG3	1.99	0.44
10:H:12:ILE:HG23	10:H:129:ARG:NE	2.32	0.44
15:M:78:LYS:HD3	38:M:8940:HOH:O	2.17	0.44
16:N:147:ILE:CG2	16:N:148:ALA:N	2.81	0.44
19:Q:64:GLU:OE1	19:Q:64:GLU:HA	2.17	0.44
1:0:1213:C:O2'	1:0:1214:G:H5'	2.17	0.44
1:0:1268:C:O2'	1:0:1269:G:H5'	2.17	0.44
1:0:1393:A:H2'	1:0:1394:C:C6	2.53	0.44
1:0:1441:G:H1'	38:0:7711:HOH:O	2.18	0.44
1:0:1552:G:H2'	1:0:1553:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1593:C:OP1	18:P:117:SER:HB3	2.18	0.44
1:0:2359:G:H3'	38:0:5649:HOH:O	2.17	0.44
3:A:186:TRP:CG	3:A:187:PRO:HA	2.53	0.44
4:B:74:ILE:HG13	38:B:8907:HOH:O	2.17	0.44
4:B:81:ALA:O	4:B:186:GLY:HA3	2.17	0.44
4:B:307:ARG:HH11	4:B:307:ARG:HB2	1.83	0.44
7:E:22:VAL:HG12	7:E:76:VAL:HG11	2.00	0.44
7:E:23:GLU:HG2	7:E:28:SER:CB	2.47	0.44
8:F:79:GLN:HG3	8:F:82:ASP:OD2	2.18	0.44
11:I:127:CYS:C	11:I:129:SER:H	2.21	0.44
16:N:119:GLN:O	16:N:123:ILE:HG13	2.18	0.44
17:O:63:LYS:HG3	17:O:80:ASP:O	2.18	0.44
21:S:81:ILE:HG23	38:S:8538:HOH:O	2.17	0.44
1:0:553:G:OP2	27:Y:204:ARG:NH2	2.48	0.44
1:0:738:G:H3'	38:0:6999:HOH:O	2.18	0.44
1:0:834:G:H3'	1:0:835:U:H4'	1.99	0.44
1:0:951:A:O2'	1:0:952:G:H5'	2.17	0.44
1:0:1184:C:O2'	1:0:1185:U:OP2	2.32	0.44
1:0:1754:A:H2'	1:0:1755:A:O4'	2.18	0.44
38:0:9106:HOH:O	5:C:103:ASN:HB3	2.17	0.44
4:B:84:LEU:HD23	4:B:178:ALA:HB1	2.00	0.44
4:B:312:ARG:HG2	4:B:313:PRO:N	2.32	0.44
5:C:84:VAL:O	5:C:85:LYS:HB2	2.18	0.44
5:C:214:THR:HB	38:C:8525:HOH:O	2.17	0.44
5:C:222:ASP:OD1	5:C:222:ASP:N	2.48	0.44
7:E:133:VAL:HG12	7:E:141:VAL:HG13	2.00	0.44
19:Q:25:PRO:HA	19:Q:26:PRO:HD3	1.81	0.44
30:2:40:ARG:HG3	30:2:45:ASN:CB	2.48	0.44
31:3:70:ARG:HD3	38:3:8877:HOH:O	2.17	0.44
1:0:583:C:H2'	1:0:584:U:H6	1.83	0.44
1:0:1015:C:H2'	1:0:1016:U:C6	2.52	0.44
1:0:1391:G:H2'	1:0:1392:A:H5'	1.99	0.44
1:0:2846:C:H4'	4:B:156:LYS:HB3	2.00	0.44
3:A:217:ARG:CG	3:A:217:ARG:NH1	2.77	0.44
4:B:7:ARG:HH11	4:B:7:ARG:CG	2.26	0.44
9:G:23:ILE:HD13	9:G:67:LEU:HD23	1.99	0.44
12:J:90:LYS:HB2	36:J:8802:CL:CL	2.55	0.44
13:K:63:GLU:CG	38:K:6344:HOH:O	2.64	0.44
14:L:125:PHE:CE1	14:L:140:VAL:HG13	2.53	0.44
18:P:38:GLU:HA	18:P:41:ARG:NH1	2.33	0.44
18:P:115:SER:C	18:P:117:SER:N	2.71	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:T:92:ASP:OD1	22:T:94:SER:HB3	2.18	0.44
26:X:80:GLU:HB3	38:X:5564:HOH:O	2.16	0.44
1:0:585:C:H6	38:0:6051:HOH:O	2.00	0.43
1:0:2720:C:O2	13:K:87:ARG:NH2	2.50	0.43
1:0:2781:U:H2'	1:0:2782:G:C5'	2.48	0.43
2:9:3:A:H2	2:9:21:G:N3	2.16	0.43
2:9:114:G:H2'	2:9:115:C:C6	2.53	0.43
3:A:57:ALA:HA	3:A:67:LEU:HD23	2.00	0.43
5:C:157:LEU:HD22	5:C:162:VAL:HG12	2.00	0.43
6:D:58:VAL:HB	6:D:62:ASP:HB3	1.99	0.43
7:E:125:GLU:HB2	7:E:132:THR:CG2	2.48	0.43
8:F:36:THR:HG23	8:F:97:ALA:HB2	2.00	0.43
11:I:87:PRO:HD3	38:I:6825:HOH:O	2.18	0.43
12:J:74:ARG:HH12	12:J:76:ASP:HB2	1.78	0.43
12:J:107:ASN:HD22	12:J:109:TYR:H	1.63	0.43
17:O:25:VAL:O	17:O:29:VAL:HG23	2.18	0.43
19:Q:18:PRO:O	19:Q:21:ARG:HB2	2.18	0.43
30:2:49:GLU:HB2	38:2:719:HOH:O	2.17	0.43
31:3:91:GLN:O	31:3:92:GLU:HB2	2.18	0.43
1:0:23:G:H1'	1:0:520:A:N6	2.33	0.43
1:0:93:C:H5"	24:V:1:THR:HG21	1.99	0.43
1:0:321:A:H1'	38:0:6985:HOH:O	2.18	0.43
1:0:441:A:H1'	1:0:442:A:N7	2.33	0.43
1:0:2356:A:H2'	1:0:2357:G:O4'	2.18	0.43
1:0:2850:C:H5'	1:0:2850:C:C6	2.47	0.43
3:A:192:VAL:CG1	3:A:192:VAL:O	2.65	0.43
6:D:99:ASP:HB2	6:D:103:ASN:O	2.18	0.43
7:E:11:VAL:HG11	7:E:22:VAL:HG13	2.00	0.43
7:E:154:ILE:HG23	7:E:154:ILE:O	2.18	0.43
8:F:60:VAL:HG13	8:F:63:ILE:HG13	2.00	0.43
16:N:24:LEU:HD13	19:Q:26:PRO:HB3	2.00	0.43
16:N:114:LYS:O	16:N:117:ALA:HB3	2.18	0.43
21:S:10:VAL:HG11	24:V:36:ALA:CA	2.48	0.43
26:X:74:ALA:CB	26:X:85:VAL:HG22	2.48	0.43
1:0:162:C:H2'	1:0:163:U:H5'	2.00	0.43
1:0:812:A:H2'	1:0:813:C:O4'	2.17	0.43
1:0:1209:C:H4'	38:0:5241:HOH:O	2.19	0.43
1:0:1363:G:OP1	5:C:76:ARG:NH2	2.45	0.43
4:B:177:HIS:O	4:B:181:ILE:HG13	2.18	0.43
5:C:7:ASP:OD2	5:C:9:ASP:HB2	2.18	0.43
10:H:70:LEU:O	10:H:74:ARG:HB2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:26:TRP:HA	17:O:26:TRP:HE3	1.82	0.43
25:W:3:ALA:O	25:W:54:PHE:HA	2.19	0.43
25:W:48:VAL:HG12	25:W:52:VAL:HB	1.99	0.43
26:X:74:ALA:HB2	26:X:85:VAL:CG1	2.48	0.43
28:Z:46:ARG:O	28:Z:57:CYS:HA	2.17	0.43
29:1:2:GLY:O	29:1:6:PRO:HG2	2.18	0.43
30:2:40:ARG:HA	30:2:45:ASN:ND2	2.34	0.43
1:0:661:G:C5	1:0:686:A:C2	3.06	0.43
1:0:2326:C:H4'	1:0:2412:G:H4'	2.01	0.43
1:0:2379:G:H5'	1:0:2381:C:O4'	2.18	0.43
38:0:4697:HOH:O	16:N:21:HIS:HD2	2.01	0.43
2:9:57:A:C8	6:D:141:VAL:HG21	2.53	0.43
3:A:211:LYS:CB	38:A:8918:HOH:O	2.67	0.43
4:B:69:VAL:HA	4:B:70:PRO:HD3	1.87	0.43
5:C:7:ASP:C	5:C:9:ASP:H	2.21	0.43
6:D:35:ALA:HB3	38:D:3279:HOH:O	2.18	0.43
6:D:146:LYS:HZ1	16:N:107:ASN:HD21	1.64	0.43
7:E:132:THR:HG23	7:E:132:THR:O	2.18	0.43
9:G:71:LEU:C	9:G:73:ASP:H	2.21	0.43
16:N:38:LYS:HD2	16:N:114:LYS:HE3	2.01	0.43
25:W:5:VAL:HG11	25:W:153:MET:CE	2.48	0.43
30:2:20:ARG:CG	30:2:21:VAL:N	2.82	0.43
1:0:47:G:N3	1:0:114:A:C2	2.87	0.43
1:0:503:G:H2'	1:0:504:G:H8	1.84	0.43
1:0:581:G:H5'	38:0:7630:HOH:O	2.18	0.43
1:0:1242:A:OP2	12:J:60:ARG:NH2	2.45	0.43
1:0:1878:G:O2'	1:0:1879:U:OP2	2.37	0.43
3:A:37:VAL:HG22	38:A:8895:HOH:O	2.18	0.43
3:A:211:LYS:CB	3:A:212:PRO:HD2	2.33	0.43
4:B:16:ARG:NH2	38:B:8853:HOH:O	2.40	0.43
5:C:129:HIS:CE1	5:C:231:ARG:HA	2.54	0.43
10:H:149:VAL:HG22	38:H:8577:HOH:O	2.19	0.43
11:I:130:LEU:HB2	11:I:132:VAL:HG23	1.99	0.43
14:L:134:GLU:HG3	38:L:8856:HOH:O	2.18	0.43
15:M:95:LYS:HG2	15:M:99:ARG:HB3	1.99	0.43
16:N:73:ALA:N	38:N:8868:HOH:O	2.51	0.43
25:W:6:GLN:HA	25:W:52:VAL:HG23	2.00	0.43
26:X:9:VAL:HG13	26:X:88:GLU:OE1	2.19	0.43
28:Z:13:ARG:NH1	28:Z:14:PHE:CZ	2.86	0.43
30:2:5:LYS:O	30:2:9:LYS:HG3	2.18	0.43
1:0:291:C:H2'	1:0:292:G:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:949:U:H4'	19:Q:95:GLU:HA	1.99	0.43
2:9:28:U:H2'	2:9:29:C:C6	2.54	0.43
3:A:113:GLY:HA2	3:A:153:ARG:NH2	2.34	0.43
4:B:243:ASN:HA	4:B:244:PRO:C	2.39	0.43
6:D:76:ARG:O	6:D:77:ASP:HB2	2.19	0.43
15:M:115:LEU:HD23	15:M:150:ILE:HD12	2.00	0.43
21:S:50:GLU:OE2	21:S:69:SER:HB3	2.19	0.43
25:W:48:VAL:HG12	25:W:48:VAL:O	2.18	0.43
26:X:18:ARG:NH1	38:X:4132:HOH:O	2.48	0.43
28:Z:42:CYS:SG	28:Z:44:GLU:HB2	2.58	0.43
1:0:1087:G:H4'	1:0:1088:A:OP1	2.19	0.43
1:0:1589:G:H4'	38:0:6807:HOH:O	2.18	0.43
1:0:1878:G:O2'	1:0:1879:U:H6	2.01	0.43
1:0:2132:C:H1'	15:M:124:GLY:HA3	2.01	0.43
1:0:2265:U:H2'	1:0:2266:A:H8	1.81	0.43
2:9:42:C:H5'	2:9:43:G:OP2	2.18	0.43
4:B:41:PHE:HA	4:B:79:MET:CE	2.47	0.43
8:F:14:ASP:O	8:F:18:GLU:HG3	2.18	0.43
18:P:120:ARG:NH2	18:P:123:TYR:CD2	2.87	0.43
23:U:9:CYS:HA	23:U:52:THR:CG2	2.45	0.43
1:0:226:A:H1'	1:0:393:G:C5	2.54	0.43
1:0:1299:G:N7	14:L:6:ARG:NH1	2.67	0.43
1:0:1380:U:H5'	38:0:9209:HOH:O	2.19	0.43
1:0:2456:A:H2'	1:0:2457:U:C6	2.53	0.43
38:0:5479:HOH:O	4:B:298:LYS:HD3	2.18	0.43
5:C:118:THR:HG22	5:C:137:PRO:HB3	2.00	0.43
5:C:142:ASP:OD1	5:C:236:THR:HG23	2.18	0.43
6:D:67:ASP:O	6:D:69:ILE:HG13	2.18	0.43
15:M:47:ASP:CG	15:M:48:LYS:N	2.72	0.43
19:Q:28:ARG:HG2	38:Q:4350:HOH:O	2.18	0.43
29:1:22:CYS:SG	29:1:24:GLU:HB2	2.58	0.43
1:0:87:C:H2'	30:2:28:LYS:O	2.19	0.43
1:0:195:C:H2'	1:0:196:G:H5'	2.01	0.43
1:0:451:C:O2'	1:0:452:G:H5'	2.19	0.43
1:0:1131:G:C6	1:0:1230:A:C4	3.07	0.43
1:0:1167:G:O2'	1:0:1168:C:H5'	2.18	0.43
1:0:1172:G:H5"	38:0:7212:HOH:O	2.19	0.43
1:0:1925:G:O2'	1:0:1926:G:H5'	2.19	0.43
1:0:2896:A:OP1	26:X:15:ARG:NH1	2.51	0.43
38:9:8665:HOH:O	16:N:147:ILE:HD12	2.18	0.43
7:E:10:ASP:HA	38:E:3707:HOH:O	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:22:VAL:CG2	8:F:104:ALA:HB2	2.49	0.43
10:H:66:GLU:O	10:H:70:LEU:HB2	2.19	0.43
10:H:87:LYS:HB2	10:H:87:LYS:NZ	2.33	0.43
20:R:61:GLN:CD	38:R:8837:HOH:O	2.56	0.43
31:3:34:LYS:HD2	31:3:34:LYS:N	2.33	0.43
1:0:920:C:H4'	1:0:921:G:C2	2.53	0.43
1:0:1021:G:O2'	1:0:1022:A:H5'	2.19	0.43
1:0:1470:A:OP1	15:M:93:ARG:HD2	2.18	0.43
1:0:1943:C:O4'	3:A:212:PRO:HA	2.19	0.43
1:0:2387:U:H2'	1:0:2388:C:C6	2.54	0.43
2:9:92:G:C6	2:9:93:A:C6	3.07	0.43
8:F:60:VAL:O	8:F:60:VAL:CG1	2.67	0.43
16:N:49:THR:HB	16:N:58:LEU:CD1	2.49	0.43
23:U:34:SER:HA	23:U:37:GLU:OE1	2.19	0.43
25:W:65:VAL:CA	25:W:68:THR:HG22	2.42	0.43
27:Y:105:LYS:HE2	27:Y:198:GLY:O	2.19	0.43
29:1:25:LYS:HD2	30:2:48:ASP:CA	2.48	0.43
1:0:703:G:O2'	1:0:704:C:H5'	2.19	0.42
1:0:827:A:H2'	1:0:828:G:O4'	2.19	0.42
1:0:1109:U:O4	12:J:21:ARG:HA	2.19	0.42
1:0:1163:G:N2	38:0:6005:HOH:O	2.51	0.42
1:0:2831:C:H2'	1:0:2832:C:H5'	2.01	0.42
4:B:217:ARG:CD	4:B:257:THR:HG22	2.49	0.42
5:C:107:ARG:NH1	5:C:107:ARG:HB3	2.34	0.42
16:N:120:GLU:HG3	16:N:136:LEU:HD13	2.01	0.42
20:R:18:LEU:HG	20:R:91:LEU:HD13	2.00	0.42
1:0:324:G:O2'	1:0:325:U:H5'	2.20	0.42
1:0:488:U:H2'	38:0:3984:HOH:O	2.18	0.42
1:0:612:U:H2'	1:0:613:C:H6	1.84	0.42
1:0:969:G:H1	1:0:999:C:H42	1.67	0.42
1:0:1684:A:O2'	1:0:1685:A:H5"	2.18	0.42
1:0:1702:U:H5'	38:0:3411:HOH:O	2.19	0.42
1:0:2415:A:O2'	16:N:29:SER:HB3	2.19	0.42
1:0:2504:A:H4'	10:H:74:ARG:HH11	1.84	0.42
38:0:3737:HOH:O	22:T:9:LYS:CD	2.65	0.42
38:0:6207:HOH:O	23:U:56:ARG:HD3	2.19	0.42
3:A:51:ARG:HB2	38:A:8905:HOH:O	2.18	0.42
3:A:101:GLU:OE2	3:A:131:HIS:HB2	2.18	0.42
5:C:27:ARG:HG2	5:C:30:LEU:HD12	2.01	0.42
6:D:86:THR:O	6:D:90:LEU:HG	2.19	0.42
14:L:73:VAL:HG23	14:L:74:THR:N	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:98:GLN:O	15:M:102:GLU:HG3	2.19	0.42
18:P:94:TRP:CH2	18:P:98:ILE:HG13	2.54	0.42
20:R:106:GLY:HA2	20:R:109:MET:CE	2.49	0.42
22:T:24:ARG:HH21	22:T:39:ASN:HD22	1.67	0.42
1:0:1174:A:C5	1:0:1201:C:H4'	2.54	0.42
1:0:2784:A:H1'	7:E:60:SER:OG	2.19	0.42
1:0:2883:A:H2'	1:0:2884:G:O4'	2.20	0.42
2:9:56:A:C3'	2:9:57:A:H5"	2.48	0.42
2:9:57:A:O2'	6:D:152:PRO:HD2	2.19	0.42
3:A:128:LEU:HD21	3:A:131:HIS:HE1	1.85	0.42
4:B:102:THR:CG2	4:B:182:VAL:HG12	2.50	0.42
5:C:133:ARG:HD2	38:C:8613:HOH:O	2.19	0.42
6:D:20:LYS:HA	6:D:75:LEU:O	2.20	0.42
7:E:15:GLN:HG3	7:E:20:ILE:HG12	2.00	0.42
7:E:81:GLU:HA	7:E:133:VAL:O	2.20	0.42
16:N:44:ARG:HG3	16:N:45:ALA:N	2.34	0.42
21:S:29:ASP:OD1	21:S:31:ARG:NH1	2.52	0.42
25:W:125:HIS:HD2	25:W:127:GLY:H	1.67	0.42
27:Y:122:ARG:NH2	38:Y:8834:HOH:O	2.51	0.42
1:0:682:A:H2'	1:0:683:G:O4'	2.19	0.42
1:0:1406:A:H4'	1:0:1407:A:H5"	2.01	0.42
1:0:2092:G:H2'	1:0:2613:G:OP1	2.20	0.42
3:A:17:ARG:HD2	38:A:8838:HOH:O	2.20	0.42
4:B:72:THR:HB	38:B:8907:HOH:O	2.19	0.42
6:D:104:PHE:CE2	6:D:132:VAL:HB	2.55	0.42
7:E:93:MET:HE1	7:E:165:GLY:N	2.35	0.42
10:H:50:ILE:HG21	38:H:8577:HOH:O	2.19	0.42
22:T:38:ARG:HG3	22:T:38:ARG:HH11	1.84	0.42
1:0:10:U:O4	1:0:532:A:OP2	2.38	0.42
1:0:419:A:H1'	1:0:1921:A:C2	2.54	0.42
1:0:1495:C:H1'	1:0:1573:A:H1'	2.02	0.42
1:0:1624:A:H5'	1:0:1626:A:O4'	2.19	0.42
1:0:1730:G:H5"	1:0:1731:C:C6	2.52	0.42
1:0:1761:U:H5'	18:P:81:LYS:O	2.20	0.42
1:0:2719:A:C2	4:B:70:PRO:HG3	2.54	0.42
7:E:31:ARG:HH12	7:E:68:HIS:CD2	2.37	0.42
8:F:20:LEU:O	8:F:23:ALA:HB3	2.19	0.42
8:F:56:PRO:CG	15:M:44:THR:HA	2.50	0.42
17:O:35:LYS:HD3	38:O:3360:HOH:O	2.18	0.42
21:S:17:ASP:HB3	21:S:23:LYS:HB2	2.01	0.42
28:Z:19:GLY:O	28:Z:23:ARG:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:255:A:H2'	1:0:256:C:O4'	2.19	0.42
1:0:1201:C:H5"	38:0:6193:HOH:O	2.19	0.42
1:0:1423:C:O2'	1:0:1424:A:H5'	2.19	0.42
1:0:1657:A:H2'	1:0:1658:A:C8	2.55	0.42
1:0:1762:C:H2'	1:0:1763:C:H6	1.84	0.42
1:0:2326:C:H4'	1:0:2412:G:C4'	2.49	0.42
1:0:2453:G:H5"	38:L:8842:HOH:O	2.19	0.42
1:0:2503:A:OP1	10:H:154:ARG:NH2	2.45	0.42
4:B:55:ASN:HB3	4:B:64:GLY:H	1.85	0.42
16:N:38:LYS:HE3	16:N:38:LYS:HB2	1.77	0.42
16:N:163:PHE:HZ	16:N:171:HIS:HD1	1.65	0.42
17:O:78:ALA:C	17:O:98:LEU:HD13	2.40	0.42
1:0:212:A:O4'	1:0:214:U:C6	2.73	0.42
1:0:812:A:H1'	38:0:3936:HOH:O	2.18	0.42
1:0:1167:G:H4'	11:I:130:LEU:HD22	2.02	0.42
1:0:1334:C:H2'	1:0:1335:C:H6	1.85	0.42
1:0:1377:C:H1'	38:0:9033:HOH:O	2.19	0.42
1:0:1461:U:H2'	1:0:1462:C:C6	2.54	0.42
1:0:1730:G:H5'	1:0:1731:C:C5	2.54	0.42
1:0:2072:G:C6	1:0:2533:C:H1'	2.54	0.42
1:0:2694:A:C4'	7:E:91:PHE:HE1	2.26	0.42
1:0:2821:C:H4'	4:B:116:PRO:HB3	2.01	0.42
1:0:2866:U:H4'	1:0:2867:G:H5'	2.01	0.42
38:0:4592:HOH:O	3:A:6:GLY:HA3	2.20	0.42
38:0:7503:HOH:O	31:3:60:LYS:HG3	2.18	0.42
5:C:154:VAL:O	5:C:158:GLU:HG3	2.20	0.42
6:D:35:ALA:C	6:D:37:ALA:N	2.73	0.42
6:D:170:TYR:CD1	6:D:170:TYR:N	2.88	0.42
7:E:11:VAL:CG1	7:E:12:ASP:H	2.33	0.42
7:E:16:ASP:O	7:E:17:HIS:HB2	2.19	0.42
9:G:63:ARG:N	38:G:2569:HOH:O	2.53	0.42
10:H:80:LEU:HD12	10:H:86:TYR:CD2	2.55	0.42
10:H:83:GLU:HA	38:H:8584:HOH:O	2.20	0.42
12:J:45:VAL:HG22	12:J:46:ILE:N	2.34	0.42
15:M:28:GLN:HA	15:M:31:TRP:HB2	2.01	0.42
16:N:24:LEU:O	16:N:28:LYS:HG3	2.20	0.42
16:N:62:HIS:O	16:N:65:ASP:OD1	2.37	0.42
16:N:82:TYR:CD2	16:N:82:TYR:C	2.93	0.42
25:W:88:THR:HG22	25:W:90:TYR:HD1	1.85	0.42
30:2:18:ASN:O	30:2:18:ASN:ND2	2.53	0.42
31:3:70:ARG:CB	38:3:8877:HOH:O	2.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:222:A:H2'	1:0:223:G:O4'	2.19	0.42
1:0:327:A:H4'	1:0:329:A:C8	2.55	0.42
1:0:371:U:H2'	1:0:372:A:C8	2.55	0.42
1:0:470:U:O2'	29:1:16:HIS:CD2	2.68	0.42
1:0:1119:G:H22	1:0:1246:A:H2	1.58	0.42
1:0:2547:C:OP2	4:B:5:ARG:NH1	2.53	0.42
1:0:2716:G:C5'	4:B:206:THR:HG21	2.42	0.42
5:C:129:HIS:HD2	5:C:165:ASP:OD2	2.01	0.42
5:C:138:VAL:O	5:C:234:VAL:HA	2.20	0.42
6:D:91:ALA:HB2	6:D:106:PHE:CD2	2.54	0.42
14:L:36:ASP:HB2	38:L:8836:HOH:O	2.19	0.42
16:N:179:LEU:HD23	16:N:184:ILE:CD1	2.50	0.42
26:X:25:ARG:HD2	38:X:3861:HOH:O	2.19	0.42
26:X:43:VAL:HG11	26:X:82:GLU:HA	2.02	0.42
1:0:130:C:H5'	38:0:5173:HOH:O	2.19	0.42
1:0:189:A:OP1	15:M:171:ARG:NH2	2.52	0.42
1:0:366:U:H2'	1:0:367:G:O4'	2.19	0.42
1:0:485:A:O2'	1:0:487:G:H5'	2.20	0.42
1:0:544:G:H2'	1:0:545:G:C5'	2.46	0.42
1:0:1298:U:H2'	1:0:1299:G:C8	2.54	0.42
1:0:1375:A:C2'	1:0:1376:G:H5'	2.50	0.42
1:0:1702:U:H1'	38:0:5732:HOH:O	2.20	0.42
1:0:2472:C:O2'	1:0:2634:G:H4'	2.20	0.42
9:G:64:ASN:O	9:G:68:GLU:HG3	2.20	0.42
9:G:71:LEU:C	9:G:73:ASP:N	2.73	0.42
10:H:46:TYR:HA	10:H:47:PRO:HD3	1.78	0.42
11:I:96:SER:H	11:I:99:GLN:NE2	2.18	0.42
15:M:72:ALA:HB2	15:M:93:ARG:HG2	2.00	0.42
21:S:57:THR:HG23	38:S:8530:HOH:O	2.19	0.42
23:U:33:SER:O	23:U:37:GLU:HG3	2.20	0.42
25:W:4:LEU:HD23	25:W:4:LEU:HA	1.85	0.42
25:W:48:VAL:CG1	25:W:48:VAL:O	2.67	0.42
27:Y:189:ASN:CA	27:Y:217:ILE:HD11	2.47	0.42
1:0:247:A:H2'	38:0:3902:HOH:O	2.19	0.42
1:0:567:U:H5"	38:W:5817:HOH:O	2.19	0.42
1:0:922:A:N7	1:0:2281:C:H5'	2.35	0.42
1:0:1415:G:H5'	29:1:12:ASN:O	2.19	0.42
1:0:1829:A:H2'	1:0:1830:C:H5'	2.02	0.42
2:9:3:A:OP2	2:9:25:G:N2	2.53	0.42
3:A:192:VAL:HG12	3:A:192:VAL:O	2.19	0.42
4:B:271:ASP:HB3	4:B:296:LEU:HD12	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:320:GLN:NE2	4:B:321:PRO:CD	2.80	0.42
5:C:185:LYS:HD3	5:C:186:TYR:CE1	2.55	0.42
7:E:24:GLY:CA	7:E:76:VAL:HB	2.50	0.42
7:E:108:LEU:HD11	7:E:164:ASP:HB2	2.02	0.42
10:H:139:ALA:HB3	10:H:149:VAL:HG21	2.02	0.42
10:H:141:CYS:HB2	38:H:8545:HOH:O	2.20	0.42
12:J:107:ASN:ND2	12:J:107:ASN:C	2.73	0.42
16:N:21:HIS:HB2	38:N:8833:HOH:O	2.19	0.42
16:N:58:LEU:N	16:N:58:LEU:HD12	2.35	0.42
17:O:23:GLY:C	38:O:3062:HOH:O	2.59	0.42
23:U:47:ARG:CG	38:U:4381:HOH:O	2.67	0.42
25:W:21:LEU:CD2	25:W:48:VAL:HG11	2.42	0.42
26:X:76:ARG:NH1	26:X:76:ARG:CG	2.81	0.42
27:Y:126:PRO:HG2	27:Y:128:PHE:CZ	2.55	0.42
27:Y:220:GLU:HG2	38:Y:8847:HOH:O	2.19	0.42
1:0:172:U:H5'	38:0:4135:HOH:O	2.18	0.41
1:0:177:A:H2'	1:0:178:U:O4'	2.19	0.41
1:0:317:A:OP1	22:T:52:ARG:O	2.38	0.41
1:0:1181:A:H2'	1:0:1182:C:O4'	2.20	0.41
1:0:1887:U:OP1	28:Z:21:VAL:HG23	2.20	0.41
1:0:2324:G:H4'	1:0:2418:G:O2'	2.20	0.41
1:0:2681:A:H4'	1:0:2682:C:H5'	2.02	0.41
1:0:2880:A:H2'	1:0:2881:C:H5'	2.02	0.41
4:B:55:ASN:CB	4:B:63:GLU:HA	2.46	0.41
4:B:146:THR:O	4:B:159:PRO:HB3	2.19	0.41
5:C:49:ASP:HB3	5:C:52:ALA:HB2	2.02	0.41
7:E:145:ALA:HB1	7:E:168:ILE:CD1	2.49	0.41
16:N:86:LEU:HD21	16:N:180:LEU:HD11	2.02	0.41
21:S:8:PRO:HD2	24:V:32:ALA:HA	2.02	0.41
22:T:38:ARG:NH1	22:T:38:ARG:HG3	2.35	0.41
29:1:8:GLN:NE2	29:1:11:LYS:NZ	2.64	0.41
30:2:11:LEU:HD23	30:2:11:LEU:HA	1.85	0.41
1:0:74:G:H2'	1:0:75:U:C6	2.54	0.41
1:0:1460:G:OP1	3:A:17:ARG:NH1	2.52	0.41
1:0:1789:G:H2'	1:0:1790:C:O5'	2.20	0.41
38:0:3224:HOH:O	11:I:87:PRO:CD	2.68	0.41
4:B:153:SER:HB2	4:B:287:TYR:CZ	2.54	0.41
5:C:102:LEU:HD12	38:C:8515:HOH:O	2.20	0.41
5:C:188:ARG:NH2	38:C:8524:HOH:O	2.53	0.41
11:I:88:GLN:NE2	11:I:128:THR:HG21	2.35	0.41
14:L:35:ARG:O	14:L:40:PHE:HA	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:122:GLN:OE1	15:M:127:LYS:HE2	2.19	0.41
27:Y:108:ASP:OD1	27:Y:108:ASP:N	2.52	0.41
1:0:130:C:H2'	38:0:3149:HOH:O	2.19	0.41
1:0:677:C:O2'	1:0:678:G:H5'	2.20	0.41
1:0:1515:A:H2'	1:0:1516:U:C6	2.55	0.41
1:0:1625:U:H6	1:0:1625:U:H3'	1.85	0.41
1:0:1654:U:H2'	3:A:47:HIS:CD2	2.54	0.41
1:0:1819:G:H2'	1:0:1820:G:C5'	2.50	0.41
1:0:2036:C:C4'	13:K:44:LEU:HG	2.51	0.41
1:0:2353:A:H4'	1:0:2354:A:O5'	2.19	0.41
1:0:2445:U:H2'	1:0:2446:G:H8	1.84	0.41
2:9:11:A:O2'	2:9:12:C:H3'	2.19	0.41
4:B:30:PRO:HB2	4:B:39:GLN:HE21	1.85	0.41
4:B:149:ASP:HB2	38:B:8880:HOH:O	2.21	0.41
9:G:12:ILE:HG22	9:G:17:GLN:HE21	1.83	0.41
16:N:151:ASP:OD2	16:N:165:ALA:O	2.38	0.41
25:W:26:ILE:O	25:W:26:ILE:CG1	2.67	0.41
25:W:69:ARG:NE	38:W:4276:HOH:O	2.48	0.41
25:W:73:LEU:HD12	25:W:73:LEU:HA	1.67	0.41
29:1:28:HIS:O	29:1:32:LYS:N	2.52	0.41
1:0:113:A:H2'	1:0:115:U:O4	2.20	0.41
1:0:137:U:OP1	1:0:259:G:O2'	2.38	0.41
1:0:538:C:H5"	1:0:539:G:C8	2.55	0.41
1:0:664:U:O4	1:0:681:G:H5"	2.20	0.41
1:0:1711:A:O2'	1:0:1712:A:H5'	2.20	0.41
1:0:1850:U:H2'	1:0:1851:G:C8	2.55	0.41
1:0:1973:A:H2'	1:0:1974:G:O4'	2.21	0.41
4:B:41:PHE:CG	4:B:190:MET:HE3	2.55	0.41
4:B:109:LEU:HG	4:B:113:LEU:HD12	2.02	0.41
4:B:224:LYS:HA	4:B:224:LYS:HD3	1.95	0.41
6:D:57:THR:HG23	6:D:63:ILE:HG22	2.03	0.41
10:H:115:GLY:N	38:H:8589:HOH:O	2.54	0.41
15:M:39:ARG:NH2	38:M:8922:HOH:O	2.53	0.41
24:V:12:THR:H	24:V:15:GLU:HB2	1.85	0.41
1:0:645:U:OP2	14:L:4:LYS:CE	2.63	0.41
1:0:821:U:H2'	1:0:822:C:C6	2.56	0.41
1:0:1314:U:H2'	38:0:5832:HOH:O	2.20	0.41
1:0:1398:G:H2'	1:0:1399:A:C8	2.55	0.41
1:0:1904:A:H2'	1:0:1905:U:O4'	2.20	0.41
1:0:1973:A:H5'	1:0:1973:A:C8	2.52	0.41
1:0:2588:OMG:H3'	1:0:2589:U:H5"	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:41:PHE:HB3	4:B:190:MET:CE	2.46	0.41
4:B:195:ARG:HD2	4:B:324:ASP:OD1	2.21	0.41
4:B:255:GLY:O	4:B:257:THR:HG23	2.20	0.41
5:C:7:ASP:O	5:C:9:ASP:N	2.53	0.41
16:N:93:GLN:HG2	38:N:8858:HOH:O	2.20	0.41
16:N:108:SER:HA	16:N:109:PRO:HD3	1.85	0.41
18:P:98:ILE:O	18:P:98:ILE:HD13	2.20	0.41
20:R:145:LEU:HD12	20:R:146:ILE:N	2.36	0.41
24:V:12:THR:CG2	24:V:15:GLU:HG3	2.35	0.41
24:V:60:GLN:O	24:V:65:ASP:N	2.52	0.41
25:W:59:GLN:NE2	25:W:97:ALA:HB3	2.35	0.41
25:W:146:ILE:HD13	25:W:146:ILE:HA	1.85	0.41
27:Y:107:PRO:HD3	27:Y:182:PHE:CE1	2.55	0.41
1:0:947:U:O2'	1:0:948:G:H5'	2.20	0.41
1:0:1500:U:P	18:P:41:ARG:HH22	2.43	0.41
1:0:2000:G:O2'	1:0:2001:G:H5'	2.20	0.41
1:0:2832:C:H5	38:0:7166:HOH:O	2.04	0.41
5:C:107:ARG:HB3	5:C:107:ARG:CZ	2.50	0.41
6:D:16:PRO:HB2	6:D:165:PHE:CG	2.56	0.41
6:D:23:VAL:HG11	6:D:83:PHE:CZ	2.55	0.41
12:J:6:PHE:O	12:J:8:ALA:N	2.53	0.41
15:M:42:ARG:HA	15:M:43:PRO:HD3	1.91	0.41
16:N:157:PRO:HA	38:N:8826:HOH:O	2.21	0.41
19:Q:66:LYS:HB2	19:Q:70:ALA:O	2.21	0.41
26:X:72:VAL:HG22	26:X:85:VAL:CG1	2.43	0.41
27:Y:219:GLU:HG3	27:Y:220:GLU:N	2.35	0.41
1:0:245:C:H2'	1:0:246:G:H5'	2.03	0.41
1:0:705:C:O2	1:0:705:C:H2'	2.21	0.41
1:0:737:A:H2'	1:0:738:G:O4'	2.20	0.41
1:0:764:C:H2'	1:0:765:G:O4'	2.20	0.41
1:0:1773:G:N2	1:0:1774:G:C8	2.88	0.41
1:0:2764:C:O2'	1:0:2765:C:H5'	2.20	0.41
4:B:190:MET:CE	4:B:194:PHE:CD1	3.04	0.41
5:C:136:VAL:HA	5:C:137:PRO:C	2.41	0.41
5:C:140:VAL:CG1	5:C:141:SER:N	2.84	0.41
6:D:65:GLU:HA	38:D:6752:HOH:O	2.20	0.41
12:J:54:VAL:HG11	12:J:138:THR:HG21	2.02	0.41
14:L:65:ASP:CG	14:L:111:ALA:HB3	2.40	0.41
15:M:125:ARG:HD3	38:M:8897:HOH:O	2.20	0.41
26:X:25:ARG:HG2	38:X:5356:HOH:O	2.20	0.41
29:1:25:LYS:HE2	38:2:7213:HOH:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:2:10:ARG:HH11	30:2:49:GLU:CD	2.24	0.41
1:0:153:C:P	38:0:6803:HOH:O	2.79	0.41
1:0:164:G:O3'	14:L:30:ARG:HB2	2.21	0.41
1:0:317:A:H5'	38:0:3753:HOH:O	2.19	0.41
1:0:1015:C:H2'	1:0:1016:U:H6	1.85	0.41
1:0:1594:C:O2'	1:0:1607:A:H4'	2.21	0.41
1:0:2840:A:H3'	38:0:7595:HOH:O	2.20	0.41
38:0:7401:HOH:O	4:B:211:THR:HG21	2.20	0.41
2:9:57:A:H8	6:D:141:VAL:HG21	1.86	0.41
4:B:24:PRO:HG3	4:B:204:GLY:HA2	2.03	0.41
4:B:102:THR:HG23	4:B:182:VAL:HG12	2.03	0.41
4:B:313:PRO:O	4:B:314:ALA:C	2.58	0.41
8:F:13:GLU:OE2	8:F:78:GLU:HG2	2.21	0.41
8:F:100:ASP:HB3	38:F:5691:HOH:O	2.19	0.41
10:H:69:ARG:CZ	38:H:8580:HOH:O	2.69	0.41
14:L:24:ALA:HB2	14:L:30:ARG:HD2	2.03	0.41
14:L:34:GLY:HA3	14:L:38:HIS:CE1	2.56	0.41
14:L:54:PRO:HG2	14:L:57:VAL:CG2	2.51	0.41
19:Q:94:GLN:O	19:Q:95:GLU:HB2	2.20	0.41
22:T:49:GLU:OE2	22:T:97:ARG:HD2	2.20	0.41
26:X:27:ASP:OD2	26:X:27:ASP:N	2.52	0.41
31:3:69:TYR:CZ	31:3:80:ARG:HD2	2.56	0.41
1:0:383:A:H2'	1:0:384:G:O4'	2.21	0.41
1:0:401:C:H2'	1:0:402:U:C6	2.56	0.41
1:0:498:A:H2'	1:0:499:G:O4'	2.21	0.41
1:0:711:G:C2	1:0:718:C:C2	3.09	0.41
1:0:806:A:H2'	1:0:807:A:O4'	2.21	0.41
1:0:820:G:C5	3:A:171:LYS:HB2	2.55	0.41
1:0:940:G:C5	1:0:1027:G:C2	3.09	0.41
1:0:958:G:H2'	1:0:959:C:H6	1.86	0.41
1:0:1167:G:H2'	1:0:1168:C:O4'	2.21	0.41
1:0:2270:G:C4'	3:A:223:ARG:HH12	2.25	0.41
1:0:2372:A:H2'	1:0:2373:U:C6	2.56	0.41
1:0:2783:A:H2'	1:0:2784:A:C8	2.56	0.41
38:0:6229:HOH:O	18:P:63:ARG:NH2	2.51	0.41
2:9:106:U:O2'	2:9:107:C:H5'	2.21	0.41
4:B:7:ARG:CG	4:B:7:ARG:NH1	2.84	0.41
4:B:13:PHE:CD1	4:B:13:PHE:N	2.89	0.41
4:B:144:THR:HG21	38:B:8926:HOH:O	2.21	0.41
5:C:21:VAL:HG23	5:C:22:PHE:CD1	2.56	0.41
5:C:151:GLN:O	5:C:154:VAL:HB	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:92:VAL:O	11:I:92:VAL:HG12	2.20	0.41
16:N:32:PRO:HD2	16:N:99:GLU:O	2.21	0.41
19:Q:26:PRO:O	19:Q:30:VAL:HG23	2.21	0.41
20:R:39:THR:O	20:R:40:ALA:C	2.59	0.41
25:W:63:GLU:HG2	25:W:93:ILE:HG22	2.02	0.41
26:X:78:GLU:CG	26:X:79:GLU:H	2.31	0.41
1:0:92:G:H4'	24:V:44:GLY:HA3	2.02	0.41
1:0:1592:G:O2'	1:0:1593:C:O4'	2.37	0.41
1:0:1675:C:O2'	1:0:1676:G:H5'	2.21	0.41
1:0:1684:A:H1'	30:2:43:ARG:NH2	2.25	0.41
1:0:2443:C:H1'	14:L:56:LYS:HE3	2.03	0.41
1:0:2505:G:C2'	1:0:2506:A:H5'	2.50	0.41
1:0:2791:U:H1'	1:0:2792:A:H5"	2.02	0.41
3:A:99:ILE:O	3:A:131:HIS:CE1	2.74	0.41
4:B:84:LEU:HD23	4:B:142:LEU:CD2	2.51	0.41
4:B:150:ALA:O	4:B:152:PRO:HD3	2.21	0.41
5:C:16:VAL:CG1	5:C:17:ASP:N	2.82	0.41
7:E:20:ILE:O	7:E:30:THR:HA	2.21	0.41
9:G:27:ILE:HD12	9:G:70:ALA:HB1	2.02	0.41
10:H:86:TYR:CD1	10:H:86:TYR:C	2.94	0.41
11:I:87:PRO:HB3	11:I:130:LEU:N	2.37	0.41
11:I:105:GLU:HA	11:I:108:HIS:CE1	2.56	0.41
13:K:78:LYS:HA	13:K:79:PRO:HD3	1.92	0.41
15:M:49:ALA:C	15:M:54:TYR:HB3	2.42	0.41
18:P:141:ILE:O	18:P:143:ALA:N	2.47	0.41
27:Y:189:ASN:HD22	27:Y:192:ASP:H	1.66	0.41
1:0:338:C:H5"	38:0:3781:HOH:O	2.21	0.40
1:0:396:U:P	31:3:38:ARG:HH11	2.43	0.40
1:0:539:G:H2'	1:0:540:A:C8	2.55	0.40
1:0:545:G:H2'	1:0:546:C:O4'	2.21	0.40
1:0:685:C:O2	1:0:748:C:H4'	2.20	0.40
1:0:1066:U:H2'	1:0:1067:A:C8	2.56	0.40
1:0:1505:U:H5'	1:0:1505:U:C6	2.50	0.40
1:0:2361:A:H2'	1:0:2362:A:C8	2.55	0.40
4:B:307:ARG:HH11	4:B:307:ARG:CG	2.34	0.40
7:E:156:ASP:OD1	7:E:156:ASP:N	2.51	0.40
9:G:19:GLU:HG2	9:G:66:LEU:CD1	2.51	0.40
11:I:70:THR:OG1	11:I:107:LYS:HE2	2.22	0.40
18:P:131:PHE:CE1	18:P:137:LEU:HD13	2.56	0.40
20:R:18:LEU:HB2	20:R:143:VAL:HG12	2.01	0.40
26:X:73:ARG:HB2	26:X:88:GLU:OE2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:1:28:HIS:CD2	29:1:30:LYS:HB2	2.55	0.40
30:2:35:ARG:HG2	38:2:6391:HOH:O	2.21	0.40
1:0:213:G:O2'	1:0:214:U:OP2	2.39	0.40
1:0:330:C:H5	5:C:170:ASP:OD2	2.04	0.40
1:0:2316:G:H4'	38:0:6048:HOH:O	2.21	0.40
1:0:2415:A:H2'	1:0:2416:G:H5'	2.02	0.40
1:0:2766:A:O2'	1:0:2767:C:H5'	2.20	0.40
5:C:219:ASN:OD1	5:C:222:ASP:OD1	2.40	0.40
14:L:130:ARG:HA	38:L:8856:HOH:O	2.21	0.40
16:N:164:ASP:OD2	16:N:167:ASP:HA	2.21	0.40
19:Q:75:ILE:HD13	19:Q:84:ILE:HD11	2.03	0.40
20:R:113:HIS:O	20:R:145:LEU:HD12	2.21	0.40
26:X:80:GLU:N	38:X:5564:HOH:O	2.54	0.40
27:Y:187:VAL:HG23	27:Y:192:ASP:HB3	2.01	0.40
1:0:466:A:H2'	1:0:467:G:O4'	2.21	0.40
1:0:525:G:H2'	1:0:526:U:O4'	2.20	0.40
1:0:848:C:H5'	38:0:7224:HOH:O	2.22	0.40
1:0:1234:U:C2	4:B:244:PRO:HB3	2.56	0.40
1:0:1755:A:H2'	1:0:1756:G:O4'	2.21	0.40
1:0:1930:A:H2'	1:0:1931:A:C8	2.56	0.40
1:0:1947:G:N2	1:0:1966:U:C2	2.89	0.40
1:0:2269:C:H2'	1:0:2270:G:H5'	2.03	0.40
1:0:2807:U:P	4:B:27:ASN:HD21	2.45	0.40
4:B:174:ARG:HA	4:B:177:HIS:HB3	2.02	0.40
4:B:207:LYS:HG2	4:B:304:PRO:HB3	2.02	0.40
14:L:120:LEU:HD12	14:L:133:VAL:HG21	2.03	0.40
18:P:59:ARG:NH2	18:P:66:GLN:NE2	2.60	0.40
20:R:25:PHE:CE2	20:R:29:LYS:CE	3.05	0.40
25:W:21:LEU:CD2	25:W:26:ILE:HD11	2.44	0.40
31:3:65:THR:HB	31:3:83:TRP:H	1.87	0.40
1:0:1735:C:O2'	1:0:1736:A:H5'	2.20	0.40
1:0:2089:A:O2'	1:0:2090:G:H5'	2.22	0.40
1:0:2577:A:H5'	38:0:7697:HOH:O	2.21	0.40
4:B:77:PRO:HG2	4:B:151:VAL:CG2	2.51	0.40
4:B:305:ASP:O	4:B:306:LYS:CB	2.68	0.40
5:C:14:GLY:O	5:C:15:GLU:HB3	2.21	0.40
5:C:145:GLU:OE1	5:C:198:ASP:HB2	2.21	0.40
6:D:11:HIS:CG	6:D:12:GLU:N	2.90	0.40
6:D:37:ALA:O	6:D:40:ILE:HG12	2.22	0.40
13:K:65:ARG:O	13:K:66:ARG:HB2	2.21	0.40
16:N:183:ASP:O	16:N:184:ILE:C	2.60	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Y:189:ASN:ND2	27:Y:192:ASP:N	2.70	0.40
30:2:41:HIS:H	30:2:45:ASN:ND2	1.97	0.40
30:2:41:HIS:CD2	30:2:44:ARG:H	2.29	0.40
1:0:968:G:O2'	1:0:969:G:H5'	2.21	0.40
1:0:1041:U:H4'	1:0:1295:G:H5'	2.04	0.40
1:0:1205:U:C2'	1:0:1206:U:H5"	2.51	0.40
1:0:2564:G:OP2	1:0:2565:C:H5"	2.22	0.40
1:0:2708:G:H2'	1:0:2709:G:O4'	2.22	0.40
1:0:2812:A:N7	38:0:7464:HOH:O	2.37	0.40
38:0:7370:HOH:O	3:A:22:ARG:HD2	2.21	0.40
2:9:28:U:H5"	16:N:40:ASN:HD21	1.85	0.40
2:9:39:U:H3'	2:9:40:C:H5"	2.04	0.40
6:D:173:GLU:O	6:D:174:VAL:C	2.60	0.40
7:E:35:TYR:HA	12:J:127:ILE:HD12	2.02	0.40
8:F:48:VAL:CG2	8:F:74:PHE:HB3	2.51	0.40
8:F:63:ILE:HB	8:F:64:PRO:CD	2.47	0.40
13:K:62:PRO:CG	13:K:65:ARG:HH21	2.29	0.40
14:L:35:ARG:HD3	14:L:35:ARG:C	2.41	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
3	A	235/240 (98%)	213 (91%)	20 (8%)	2 (1%)	17 26
4	B	335/338 (99%)	300 (90%)	30 (9%)	5 (2%)	10 15
5	C	244/246 (99%)	222 (91%)	21 (9%)	1 (0%)	34 48
6	D	134/177 (76%)	98 (73%)	27 (20%)	9 (7%)	1 0
7	E	170/178 (96%)	160 (94%)	10 (6%)	0	100 100
8	F	117/120 (98%)	101 (86%)	12 (10%)	4 (3%)	3 4

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
9	G	25/348 (7%)	24 (96%)	1 (4%)	0	100	100
10	H	156/177 (88%)	144 (92%)	10 (6%)	2 (1%)	12	18
11	I	68/162 (42%)	53 (78%)	15 (22%)	0	100	100
12	J	140/145 (97%)	130 (93%)	5 (4%)	5 (4%)	3	4
13	K	130/132 (98%)	119 (92%)	10 (8%)	1 (1%)	19	29
14	L	141/165 (86%)	121 (86%)	19 (14%)	1 (1%)	22	33
15	M	192/195 (98%)	178 (93%)	14 (7%)	0	100	100
16	N	184/187 (98%)	166 (90%)	13 (7%)	5 (3%)	5	6
17	O	113/116 (97%)	109 (96%)	4 (4%)	0	100	100
18	P	141/149 (95%)	133 (94%)	7 (5%)	1 (1%)	22	33
19	Q	93/96 (97%)	86 (92%)	7 (8%)	0	100	100
20	R	148/155 (96%)	140 (95%)	8 (5%)	0	100	100
21	S	79/85 (93%)	72 (91%)	7 (9%)	0	100	100
22	T	117/120 (98%)	109 (93%)	7 (6%)	1 (1%)	17	26
23	U	51/66 (77%)	47 (92%)	4 (8%)	0	100	100
24	V	63/71 (89%)	56 (89%)	5 (8%)	2 (3%)	4	5
25	W	152/154 (99%)	147 (97%)	3 (2%)	2 (1%)	12	18
26	X	80/92 (87%)	71 (89%)	9 (11%)	0	100	100
27	Y	140/241 (58%)	137 (98%)	3 (2%)	0	100	100
28	Z	71/83 (86%)	60 (84%)	7 (10%)	4 (6%)	2	1
29	1	54/57 (95%)	53 (98%)	1 (2%)	0	100	100
30	2	42/50 (84%)	40 (95%)	2 (5%)	0	100	100
31	3	90/92 (98%)	85 (94%)	4 (4%)	1 (1%)	14	21
All	All	3705/4437 (84%)	3374 (91%)	285 (8%)	46 (1%)	13	19

All (46) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	34	ASP
6	D	173	GLU
8	F	101	ALA
14	L	80	ASP
16	N	154	LEU
16	N	164	ASP

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Mol	Chain	Res	Type
16	N	184	ILE
28	Z	81	ARG
4	B	34	GLY
4	B	139	ASP
4	B	169	GLY
5	C	8	LEU
8	F	44	SER
10	H	172	GLU
12	J	5	GLU
18	P	116	SER
31	3	57	GLY
4	B	185	GLY
6	D	56	ARG
6	D	171	ASP
22	T	53	GLY
24	V	43	PRO
25	W	49	ASN
25	W	77	ALA
6	D	27	ILE
6	D	65	GLU
6	D	137	PRO
12	J	89	HIS
16	N	139	TRP
28	Z	20	ARG
28	Z	41	ASN
28	Z	42	CYS
6	D	61	PHE
8	F	100	ASP
12	J	7	ASP
12	J	65	ASN
12	J	143	LYS
13	K	126	SER
16	N	155	GLU
4	B	2	GLN
6	D	16	PRO
10	H	143	VAL
6	D	69	ILE
8	F	64	PRO
24	V	40	PRO
3	A	37	VAL

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	
3	A	179/182 (98%)	167 (93%)	12 (7%)	16	25
4	B	282/283 (100%)	265 (94%)	17 (6%)	19	30
5	C	193/193 (100%)	175 (91%)	18 (9%)	9	13
6	D	117/148 (79%)	111 (95%)	6 (5%)	24	37
7	E	152/156 (97%)	147 (97%)	5 (3%)	38	54
8	F	93/94 (99%)	91 (98%)	2 (2%)	52	70
9	G	27/283 (10%)	26 (96%)	1 (4%)	34	50
10	H	134/145 (92%)	128 (96%)	6 (4%)	27	42
11	I	58/130 (45%)	58 (100%)	0	100	100
12	J	118/121 (98%)	106 (90%)	12 (10%)	7	10
13	K	106/106 (100%)	103 (97%)	3 (3%)	43	61
14	L	113/127 (89%)	109 (96%)	4 (4%)	36	52
15	M	158/159 (99%)	152 (96%)	6 (4%)	33	49
16	N	149/150 (99%)	144 (97%)	5 (3%)	37	53
17	O	93/94 (99%)	91 (98%)	2 (2%)	52	70
18	P	113/117 (97%)	109 (96%)	4 (4%)	36	52
19	Q	79/80 (99%)	74 (94%)	5 (6%)	18	28
20	R	117/122 (96%)	112 (96%)	5 (4%)	29	44
21	S	71/74 (96%)	68 (96%)	3 (4%)	30	45
22	T	105/106 (99%)	99 (94%)	6 (6%)	20	31
23	U	44/52 (85%)	44 (100%)	0	100	100
24	V	51/57 (90%)	49 (96%)	2 (4%)	32	48
25	W	130/130 (100%)	125 (96%)	5 (4%)	33	49
26	X	66/74 (89%)	63 (96%)	3 (4%)	27	42
27	Y	120/196 (61%)	113 (94%)	7 (6%)	20	31
28	Z	60/68 (88%)	59 (98%)	1 (2%)	60	77

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
29	1	46/47 (98%)	46 (100%)	0	100 100
30	2	42/46 (91%)	41 (98%)	1 (2%)	49 67
31	3	79/79 (100%)	78 (99%)	1 (1%)	69 82
All	All	3095/3619 (86%)	2953 (95%)	142 (5%)	27 41

All (142) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	3	ARG
3	A	33	GLU
3	A	36	ASP
3	A	55	VAL
3	A	69	LEU
3	A	78	ASP
3	A	94	LEU
3	A	131	HIS
3	A	153	ARG
3	A	179	MET
3	A	206	ARG
3	A	217	ARG
4	B	7	ARG
4	B	11	LEU
4	B	27	ASN
4	B	33	ASP
4	B	97	LEU
4	B	98	THR
4	B	162	MET
4	B	190	MET
4	B	195	ARG
4	B	245	SER
4	B	251	VAL
4	B	254	GLN
4	B	264	GLU
4	B	277	GLU
4	B	304	PRO
4	B	307	ARG
4	B	312	ARG
5	C	2	GLN
5	C	27	ARG
5	C	67	GLN
5	C	76	ARG

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Mol	Chain	Res	Type
5	C	78	ARG
5	C	91	PRO
5	C	94	THR
5	C	101	ASP
5	C	115	LEU
5	C	136	VAL
5	C	162	VAL
5	C	187	ARG
5	C	214	THR
5	C	222	ASP
5	C	223	LEU
5	C	234	VAL
5	C	236	THR
5	C	240	LEU
6	D	24	HIS
6	D	61	PHE
6	D	133	ASN
6	D	136	ARG
6	D	137	PRO
6	D	149	ARG
7	E	12	ASP
7	E	16	ASP
7	E	86	VAL
7	E	102	VAL
7	E	164	ASP
8	F	12	LEU
8	F	105	ASP
9	G	64	ASN
10	H	33	GLN
10	H	87	LYS
10	H	91	ARG
10	H	114	ASP
10	H	157	TYR
10	H	172	GLU
12	J	46	ILE
12	J	47	THR
12	J	52	GLN
12	J	74	ARG
12	J	76	ASP
12	J	79	PHE
12	J	107	ASN
12	J	112	ASP

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Mol	Chain	Res	Type
12	J	120	SER
12	J	127	ILE
12	J	131	THR
12	J	132	LEU
13	K	7	ASP
13	K	10	GLN
13	K	49	LEU
14	L	30	ARG
14	L	35	ARG
14	L	80	ASP
14	L	99	GLU
15	M	46	LEU
15	M	68	ARG
15	M	93	ARG
15	M	99	ARG
15	M	116	ASN
15	M	164	THR
16	N	26	LEU
16	N	49	THR
16	N	138	ASP
16	N	139	TRP
16	N	152	GLU
17	O	28	ASP
17	O	111	VAL
18	P	21	VAL
18	P	52	LYS
18	P	91	LYS
18	P	98	ILE
19	Q	11	ARG
19	Q	16	ASN
19	Q	55	ARG
19	Q	57	ASP
19	Q	95	GLU
20	R	13	THR
20	R	39	THR
20	R	82	GLU
20	R	132	ARG
20	R	143	VAL
21	S	53	ASN
21	S	71	ASP
21	S	80	ARG
22	T	19	ARG

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Mol	Chain	Res	Type
22	T	26	THR
22	T	39	ASN
22	T	48	VAL
22	T	89	ARG
22	T	96	VAL
24	V	43	PRO
24	V	65	ASP
25	W	4	LEU
25	W	52	VAL
25	W	73	LEU
25	W	146	ILE
25	W	154	ARG
26	X	15	ARG
26	X	27	ASP
26	X	72	VAL
27	Y	115	ARG
27	Y	163	THR
27	Y	172	THR
27	Y	189	ASN
27	Y	203	VAL
27	Y	204	ARG
27	Y	220	GLU
28	Z	41	ASN
30	2	18	ASN
31	3	40	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (93) such sidechains are listed below:

Mol	Chain	Res	Type
3	A	47	HIS
3	A	92	ASN
3	A	199	HIS
4	B	27	ASN
4	B	106	HIS
4	B	145	HIS
4	B	221	GLN
4	B	238	ASN
4	B	256	GLN
4	B	260	HIS
4	B	320	GLN
4	B	332	ASN
5	C	2	GLN

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Mol	Chain	Res	Type
5	C	39	GLN
5	C	129	HIS
5	C	151	GLN
5	C	163	HIS
6	D	97	GLN
6	D	103	ASN
6	D	133	ASN
7	E	71	ASN
7	E	90	HIS
7	E	106	ASN
7	E	119	HIS
7	E	143	GLN
9	G	17	GLN
9	G	64	ASN
10	H	34	HIS
10	H	59	GLN
10	H	62	HIS
10	H	73	ASN
10	H	148	HIS
11	I	88	GLN
11	I	108	HIS
12	J	52	GLN
12	J	107	ASN
12	J	126	ASN
13	K	10	GLN
14	L	18	HIS
14	L	41	HIS
14	L	42	ASN
14	L	116	HIS
15	M	24	GLN
15	M	26	GLN
15	M	58	GLN
15	M	137	ASN
15	M	170	ASN
16	N	40	ASN
16	N	107	ASN
18	P	50	GLN
18	P	66	GLN
18	P	118	GLN
19	Q	16	ASN
19	Q	40	HIS
20	R	22	GLN

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Mol	Chain	Res	Type
20	R	61	GLN
20	R	94	ASN
20	R	98	ASN
20	R	113	HIS
20	R	117	HIS
20	R	122	GLN
20	R	123	GLN
21	S	53	ASN
22	T	39	ASN
22	T	73	HIS
23	U	39	ASN
24	V	4	HIS
24	V	60	GLN
25	W	27	HIS
25	W	28	HIS
25	W	87	HIS
25	W	110	GLN
25	W	119	HIS
25	W	125	HIS
25	W	141	HIS
26	X	23	HIS
26	X	36	HIS
27	Y	133	HIS
27	Y	134	HIS
27	Y	149	GLN
27	Y	189	ASN
29	1	8	GLN
29	1	16	HIS
29	1	28	HIS
30	2	16	ASN
30	2	18	ASN
30	2	37	HIS
30	2	41	HIS
30	2	45	ASN
31	3	2	GLN
31	3	15	ASN
31	3	30	GLN
31	3	48	ASN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2746/2922 (93%)	240 (8%)	35 (1%)
2	9	121/122 (99%)	16 (13%)	1 (0%)
All	All	2867/3044 (94%)	256 (8%)	36 (1%)

All (256) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	11	A
1	0	31	C
1	0	60	A
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	139	C
1	0	141	C
1	0	151	A
1	0	166	A
1	0	170	U
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
1	0	284	C
1	0	285	A
1	0	308	U
1	0	309	C
1	0	317	A
1	0	319	A
1	0	336	G

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Mol	Chain	Res	Type
1	0	337	A
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	498	A
1	0	510	U
1	0	511	A
1	0	514	G
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	581	G
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
1	0	858	U
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

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Mol	Chain	Res	Type
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	1162	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
1	0	1216	G
1	0	1237	U
1	0	1238	C
1	0	1239	G
1	0	1279	U
1	0	1289	C
1	0	1342	C

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Mol	Chain	Res	Type
1	0	1353	C
1	0	1360	C
1	0	1377	C
1	0	1407	A
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	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
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	1879	U
1	0	1919	A
1	0	1942	A

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Mol	Chain	Res	Type
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
1	0	2321	A
1	0	2354	A
1	0	2361	A
1	0	2369	A
1	0	2379	G
1	0	2422	U
1	0	2462	G
1	0	2467	A
1	0	2469	A
1	0	2476	C
1	0	2480	G
1	0	2483	A
1	0	2507	G

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Mol	Chain	Res	Type
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	2634	G
1	0	2638	G
1	0	2649	A
1	0	2664	A
1	0	2681	A
1	0	2682	C
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
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
2	9	2	U
2	9	7	G
2	9	14	G
2	9	22	G
2	9	23	U
2	9	24	U

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Mol	Chain	Res	Type
2	9	25	G
2	9	40	C
2	9	41	C
2	9	43	G
2	9	52	A
2	9	57	A
2	9	66	G
2	9	77	A
2	9	114	G
2	9	122	C

All (36) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	10	U
1	0	69	A
1	0	129	A
1	0	169	A
1	0	318	U
1	0	338	C
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	898	G
1	0	1080	C
1	0	1237	U
1	0	1246	A
1	0	1352	A
1	0	1377	C
1	0	1450	C
1	0	1506	U
1	0	1563	G
1	0	1692	C
1	0	1856	C
1	0	1942	A
1	0	1979	G
1	0	2011	A
1	0	2313	C
1	0	2467	A

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Mol	Chain	Res	Type
1	0	2526	C
1	0	2536	C
1	0	2649	A
1	0	2718	C
1	0	2726	U
1	0	2761	A
1	0	2791	U
2	9	65	A

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

5 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	1.08	2 (11%)	20,38,41	2.58	4 (20%)
1	OMU	0	2587	1	14,22,23	0.95	1 (7%)	14,31,34	1.14	1 (7%)
1	1MA	0	628	1	15,25,26	0.71	0	15,37,40	1.39	1 (6%)
1	UR3	0	2619	1	14,22,23	0.89	1 (7%)	15,32,35	0.61	0
1	PSU	0	2621	1	17,21,22	1.54	3 (17%)	20,30,33	5.45	4 (20%)

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
1	OMU	0	2587	1	-	0/7/27/28	0/2/2/2
1	1MA	0	628	1	-	0/3/25/26	0/3/3/3
1	UR3	0	2619	1	-	0/5/25/26	0/2/2/2
1	PSU	0	2621	1	-	0/7/25/26	0/2/2/2

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	2621	PSU	C5-C1'	-4.73	1.48	1.52
1	0	2588	OMG	C6-N1	3.47	1.39	1.33
1	0	2621	PSU	C4-N3	2.93	1.38	1.33
1	0	2621	PSU	C2-N1	2.52	1.43	1.38
1	0	2587	OMU	C4-N3	2.48	1.37	1.33
1	0	2588	OMG	C8-N7	-2.13	1.30	1.34
1	0	2619	UR3	C6-N1	2.08	1.38	1.35

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	0	2621	PSU	N1-C2-N3	-17.37	114.62	128.43
1	0	2621	PSU	C4-N3-C2	14.37	127.27	115.14
1	0	2588	OMG	C5-C6-N1	-8.58	111.70	123.43
1	0	2621	PSU	C5-C4-N3	-8.16	114.85	125.36
1	0	2588	OMG	C6-N1-C2	5.76	125.08	115.93
1	0	628	1MA	C2-N3-C4	-4.68	110.72	116.58
1	0	2587	OMU	C5-C4-N3	-3.87	114.81	123.31
1	0	2588	OMG	C2-N3-C4	-3.11	111.81	115.36
1	0	2621	PSU	C6-N1-C2	2.83	120.02	115.36
1	0	2588	OMG	N3-C2-N1	-2.37	124.06	127.22

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	0	2588	OMG	1	0
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, 231 are monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
32	ERY	0	9000	-	53,53,53	1.23	5 (9%)	82,82,82	0.98	4 (4%)

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
32	ERY	0	9000	-	-	4/72/107/107	0/3/3/3

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	0	9000	ERY	C6-C5	3.30	1.61	1.55
32	0	9000	ERY	C7-C6	2.44	1.58	1.54
32	0	9000	ERY	C2-C3	2.16	1.60	1.55
32	0	9000	ERY	O2-C13	2.14	1.50	1.46
32	0	9000	ERY	O4-C18	2.07	1.49	1.44

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
32	0	9000	ERY	C3-C2-C1	-2.60	104.71	110.01
32	0	9000	ERY	C25-C24-C23	-2.41	106.50	109.97
32	0	9000	ERY	C6-C5-C4	-2.20	110.94	114.05
32	0	9000	ERY	O5-C16-C17	2.07	106.88	103.81

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
32	0	9000	ERY	O9-C22-O7-C5
32	0	9000	ERY	O7-C5-C6-C7

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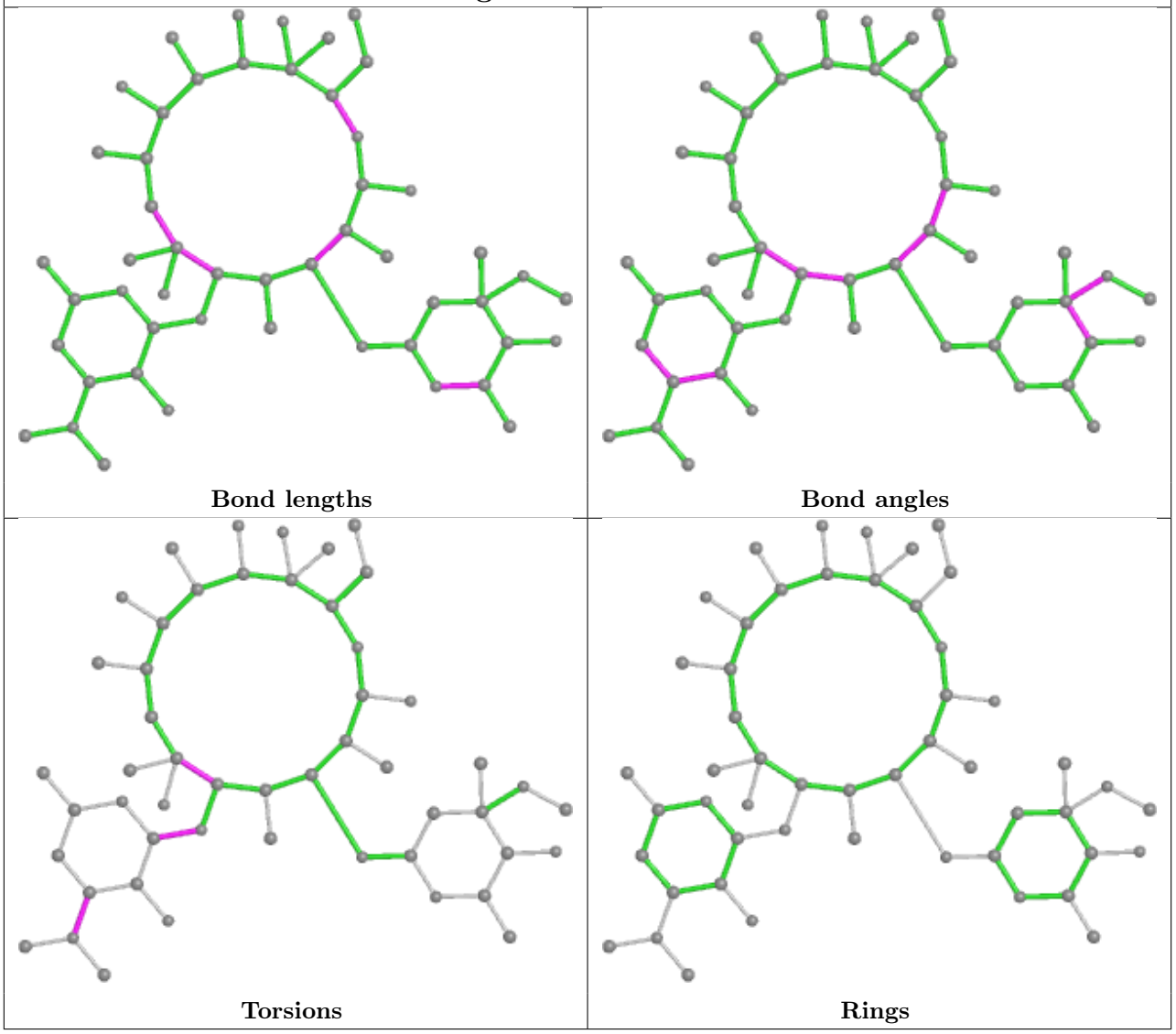
Mol	Chain	Res	Type	Atoms
32	0	9000	ERY	C23-C22-O7-C5
32	0	9000	ERY	C25-C24-N1-C29

There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand ERY 0 9000



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	0	2749/2922 (94%)	-0.53	37 (1%) 77 75	26, 49, 94, 152	0
2	9	122/122 (100%)	-0.47	5 (4%) 37 33	40, 65, 90, 154	0
3	A	237/240 (98%)	0.21	14 (5%) 22 19	31, 54, 88, 109	0
4	B	337/338 (99%)	0.03	6 (1%) 68 65	30, 58, 83, 92	0
5	C	246/246 (100%)	-0.10	2 (0%) 86 85	26, 48, 73, 82	0
6	D	140/177 (79%)	1.82	53 (37%) 0 0	56, 101, 125, 132	0
7	E	172/178 (96%)	0.75	20 (11%) 4 3	49, 71, 90, 94	0
8	F	119/120 (99%)	0.77	14 (11%) 4 3	51, 76, 95, 111	0
9	G	29/348 (8%)	2.66	21 (72%) 0 0	77, 93, 102, 104	0
10	H	160/177 (90%)	0.21	11 (6%) 16 13	39, 59, 92, 99	0
11	I	70/162 (43%)	4.15	61 (87%) 0 0	109, 122, 139, 141	0
12	J	142/145 (97%)	-0.03	0 100 100	38, 53, 75, 95	0
13	K	132/132 (100%)	-0.11	2 (1%) 73 71	34, 55, 75, 86	0
14	L	145/165 (87%)	0.61	22 (15%) 2 1	27, 68, 109, 122	0
15	M	194/195 (99%)	-0.18	1 (0%) 91 91	34, 46, 61, 70	0
16	N	186/187 (99%)	0.58	22 (11%) 4 3	41, 64, 108, 119	0
17	O	115/116 (99%)	-0.00	1 (0%) 84 83	39, 57, 74, 78	0
18	P	143/149 (95%)	0.09	1 (0%) 87 87	41, 58, 71, 80	0
19	Q	95/96 (98%)	-0.11	0 100 100	38, 46, 62, 76	0
20	R	150/155 (96%)	-0.15	1 (0%) 87 87	35, 48, 67, 77	0
21	S	81/85 (95%)	0.15	3 (3%) 41 38	47, 63, 83, 88	0
22	T	119/120 (99%)	0.38	6 (5%) 28 25	40, 61, 85, 97	0
23	U	53/66 (80%)	0.21	2 (3%) 40 36	46, 59, 76, 86	0
24	V	65/71 (91%)	1.55	14 (21%) 0 0	58, 77, 114, 118	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
25	W	154/154 (100%)	-0.22	0 100 100	35, 50, 67, 78	0
26	X	82/92 (89%)	0.44	9 (10%) 5 4	48, 61, 85, 101	0
27	Y	142/241 (58%)	0.05	6 (4%) 36 33	28, 47, 71, 89	0
28	Z	73/83 (87%)	0.13	3 (4%) 37 33	52, 64, 80, 95	0
29	1	56/57 (98%)	-0.49	0 100 100	29, 36, 42, 52	0
30	2	46/50 (92%)	0.33	4 (8%) 10 8	37, 61, 87, 102	0
31	3	92/92 (100%)	0.20	1 (1%) 80 79	37, 56, 70, 83	0
All	All	6646/7481 (88%)	-0.04	342 (5%) 28 25	26, 55, 99, 154	0

All (342) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
11	I	128	THR	13.6
24	V	1	THR	10.6
11	I	91	PHE	9.3
24	V	39	ALA	8.8
11	I	88	GLN	8.7
11	I	108	HIS	8.1
6	D	63	ILE	7.9
2	9	1	U	7.5
11	I	66	GLY	7.5
11	I	104	ALA	7.3
11	I	132	VAL	7.2
24	V	40	PRO	7.2
11	I	74	ILE	7.1
6	D	10	PHE	7.0
11	I	112	LEU	6.9
6	D	69	ILE	6.7
9	G	27	ILE	6.6
11	I	80	PHE	6.4
11	I	97	VAL	6.0
11	I	92	VAL	6.0
6	D	18	ILE	5.9
11	I	70	THR	5.9
11	I	113	SER	5.9
11	I	71	ALA	5.8
6	D	64	ARG	5.8
11	I	72	GLU	5.7
26	X	88	GLU	5.7
14	L	105	TYR	5.5

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Mol	Chain	Res	Type	RSRZ
3	A	37	VAL	5.4
24	V	43	PRO	5.4
16	N	166	ALA	5.2
9	G	23	ILE	5.1
11	I	86	GLU	5.1
11	I	100	VAL	5.0
1	0	1198	U	5.0
9	G	24	VAL	4.9
11	I	98	ASP	4.9
11	I	83	GLY	4.9
11	I	106	GLN	4.9
3	A	35	GLY	4.9
11	I	111	LEU	4.9
6	D	57	THR	4.9
11	I	116	LEU	4.8
24	V	38	GLY	4.8
14	L	106	VAL	4.7
1	0	1173	A	4.7
2	9	23	U	4.6
6	D	170	TYR	4.5
1	0	1177	A	4.4
6	D	85	GLN	4.4
1	0	2237	G	4.4
8	F	119	ARG	4.4
11	I	109	PRO	4.4
11	I	134	ILE	4.4
6	D	17	ARG	4.4
2	9	24	U	4.3
6	D	61	PHE	4.3
11	I	84	SER	4.3
14	L	60	GLU	4.3
6	D	88	LEU	4.3
6	D	89	PRO	4.3
1	0	1199	A	4.2
6	D	26	GLY	4.2
11	I	79	GLY	4.2
22	T	119	ALA	4.2
7	E	45	ASP	4.2
27	Y	235	GLU	4.2
11	I	127	CYS	4.1
6	D	106	PHE	4.1
11	I	118	ASN	4.1

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Mol	Chain	Res	Type	RSRZ
1	0	282	C	4.1
6	D	58	VAL	4.1
6	D	165	PHE	4.0
11	I	130	LEU	4.0
8	F	16	ALA	4.0
6	D	66	GLY	3.9
6	D	93	LEU	3.9
6	D	62	ASP	3.9
6	D	171	ASP	3.9
8	F	17	LEU	3.9
6	D	27	ILE	3.9
10	H	174	LEU	3.8
1	0	1951	G	3.8
30	2	35	ARG	3.8
11	I	117	THR	3.8
1	0	970	U	3.8
1	0	1169	U	3.8
16	N	152	GLU	3.8
11	I	102	GLN	3.8
1	0	1172	G	3.7
21	S	81	ILE	3.7
6	D	68	PRO	3.7
6	D	166	ILE	3.7
6	D	65	GLU	3.7
11	I	99	GLN	3.7
9	G	20	VAL	3.7
1	0	1171	A	3.7
16	N	149	GLU	3.7
11	I	87	PRO	3.6
24	V	37	GLY	3.6
11	I	76	ASP	3.6
11	I	131	GLY	3.6
15	M	194	GLY	3.6
11	I	135	GLU	3.6
6	D	25	MET	3.6
16	N	183	ASP	3.5
1	0	735	C	3.5
1	0	2004	U	3.5
11	I	121	LYS	3.5
11	I	78	ALA	3.5
1	0	2238	A	3.5
9	G	71	LEU	3.5

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Mol	Chain	Res	Type	RSRZ
7	E	108	LEU	3.4
9	G	26	MET	3.4
11	I	67	VAL	3.4
6	D	90	LEU	3.4
11	I	119	ALA	3.3
24	V	41	GLU	3.3
30	2	49	GLU	3.3
1	0	1525	G	3.3
7	E	170	ARG	3.3
6	D	172	VAL	3.3
3	A	133	ARG	3.3
1	0	138	U	3.3
6	D	128	LEU	3.3
16	N	147	ILE	3.3
4	B	1	PRO	3.3
11	I	133	THR	3.3
8	F	49	PHE	3.3
24	V	8	ILE	3.3
28	Z	20	ARG	3.3
14	L	80	ASP	3.2
6	D	23	VAL	3.2
11	I	124	VAL	3.2
9	G	69	ARG	3.2
14	L	100	ALA	3.2
10	H	170	ARG	3.2
11	I	114	TYR	3.2
11	I	93	ALA	3.2
6	D	56	ARG	3.2
6	D	130	VAL	3.2
4	B	181	ILE	3.2
28	Z	11	SER	3.2
16	N	150	TYR	3.2
11	I	81	GLU	3.2
11	I	89	GLU	3.1
3	A	36	ASP	3.1
1	0	1279	U	3.1
3	A	85	SER	3.1
6	D	98	PHE	3.1
1	0	960	G	3.1
3	A	237	GLY	3.1
10	H	40	GLN	3.1
14	L	81	VAL	3.1

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Mol	Chain	Res	Type	RSRZ
31	3	92	GLU	3.1
6	D	44	ILE	3.0
11	I	103	ILE	3.0
9	G	28	GLU	3.0
7	E	100	ASP	3.0
1	0	284	C	3.0
6	D	104	PHE	3.0
6	D	75	LEU	3.0
11	I	82	THR	3.0
4	B	119	HIS	2.9
16	N	138	ASP	2.9
5	C	135	GLU	2.9
6	D	134	LEU	2.9
23	U	47	ARG	2.9
26	X	85	VAL	2.9
11	I	68	PRO	2.9
14	L	149	ARG	2.9
16	N	179	LEU	2.9
1	0	285	A	2.9
16	N	159	TYR	2.9
1	0	1170	U	2.9
14	L	120	LEU	2.9
11	I	105	GLU	2.8
11	I	101	LYS	2.8
9	G	21	ASP	2.8
11	I	120	ALA	2.8
14	L	133	VAL	2.8
3	A	38	ILE	2.8
14	L	89	PHE	2.8
9	G	66	LEU	2.8
8	F	20	LEU	2.8
6	D	67	ASP	2.8
27	Y	108	ASP	2.8
27	Y	95	THR	2.8
9	G	73	ASP	2.8
11	I	90	ASP	2.8
6	D	43	GLU	2.7
1	0	2239	C	2.7
9	G	22	ALA	2.7
1	0	10	U	2.7
7	E	10	ASP	2.7
22	T	112	LEU	2.7

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Mol	Chain	Res	Type	RSRZ
24	V	3	LEU	2.7
22	T	115	GLU	2.7
16	N	145	ALA	2.7
16	N	148	ALA	2.7
11	I	110	ASP	2.7
9	G	72	ASP	2.7
1	0	1180	U	2.7
9	G	12	ILE	2.7
11	I	115	ASP	2.7
30	2	20	ARG	2.7
24	V	6	GLN	2.7
1	0	1202	A	2.7
6	D	70	GLY	2.7
10	H	85	ASP	2.7
14	L	118	LEU	2.6
7	E	88	TYR	2.6
16	N	160	SER	2.6
6	D	102	GLY	2.6
2	9	2	U	2.6
8	F	6	PHE	2.6
6	D	87	ALA	2.6
6	D	48	MET	2.6
13	K	108	GLU	2.6
14	L	130	ARG	2.6
3	A	34	ASP	2.6
24	V	59	ILE	2.5
21	S	76	GLU	2.5
7	E	5	LEU	2.5
1	0	371	U	2.5
6	D	11	HIS	2.5
9	G	67	LEU	2.5
16	N	158	LEU	2.5
14	L	104	ASP	2.5
1	0	1948	G	2.5
1	0	1950	G	2.5
14	L	96	VAL	2.5
11	I	75	LYS	2.5
1	0	1200	A	2.5
6	D	84	LEU	2.5
8	F	90	GLU	2.5
16	N	162	ASP	2.5
6	D	40	ILE	2.5

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Mol	Chain	Res	Type	RSRZ
11	I	95	LEU	2.5
1	0	999	C	2.5
7	E	128	GLY	2.4
6	D	55	LYS	2.4
4	B	128	ILE	2.4
30	2	39	ARG	2.4
6	D	92	GLU	2.4
1	0	2769	C	2.4
16	N	83	LEU	2.4
14	L	97	VAL	2.4
27	Y	216	ARG	2.4
6	D	86	THR	2.4
9	G	15	TRP	2.4
7	E	11	VAL	2.4
7	E	42	VAL	2.4
16	N	157	PRO	2.4
9	G	70	ALA	2.4
3	A	64	ASP	2.4
3	A	31	LYS	2.4
26	X	80	GLU	2.4
7	E	127	ASP	2.3
14	L	102	ASP	2.3
13	K	132	VAL	2.3
26	X	10	VAL	2.3
14	L	76	LEU	2.3
24	V	36	ALA	2.3
9	G	25	GLU	2.3
1	0	1186	C	2.3
10	H	48	VAL	2.3
8	F	19	ALA	2.3
11	I	123	VAL	2.3
14	L	59	GLU	2.3
24	V	5	VAL	2.3
26	X	76	ARG	2.3
11	I	69	PRO	2.3
1	0	1626	A	2.3
16	N	67	ALA	2.3
26	X	74	ALA	2.3
22	T	80	GLU	2.3
4	B	105	PHE	2.3
6	D	24	HIS	2.3
8	F	12	LEU	2.3

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Mol	Chain	Res	Type	RSRZ
11	I	73	LEU	2.3
7	E	101	GLU	2.2
8	F	107	ASP	2.2
16	N	181	ASP	2.2
3	A	82	VAL	2.2
6	D	81	GLU	2.2
1	0	1947	G	2.2
20	R	96	VAL	2.2
21	S	2	TRP	2.2
6	D	54	ALA	2.2
9	G	65	THR	2.2
3	A	97	ALA	2.2
17	O	89	ILE	2.2
28	Z	24	ARG	2.2
8	F	106	ALA	2.2
10	H	172	GLU	2.2
24	V	10	ASP	2.2
5	C	246	ARG	2.2
8	F	22	VAL	2.2
8	F	44	SER	2.2
9	G	18	GLU	2.2
10	H	82	GLU	2.2
26	X	77	PHE	2.2
1	0	1181	A	2.2
7	E	98	GLU	2.2
4	B	118	ASP	2.2
26	X	7	GLU	2.1
27	Y	98	GLN	2.1
2	9	122	C	2.1
7	E	28	SER	2.1
7	E	82	TYR	2.1
7	E	53	GLU	2.1
16	N	155	GLU	2.1
14	L	150	GLN	2.1
3	A	99	ILE	2.1
6	D	41	LEU	2.1
7	E	95	VAL	2.1
14	L	75	LEU	2.1
18	P	141	ILE	2.1
16	N	185	GLU	2.1
22	T	116	ASP	2.1
10	H	169	GLU	2.1

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Mol	Chain	Res	Type	RSRZ
6	D	53	LYS	2.1
8	F	103	GLU	2.1
1	0	1204	C	2.1
16	N	68	GLU	2.1
10	H	76	LEU	2.1
10	H	86	TYR	2.1
7	E	6	GLU	2.1
7	E	129	GLU	2.1
16	N	139	TRP	2.1
26	X	41	PHE	2.1
14	L	73	VAL	2.0
7	E	118	ILE	2.0
22	T	33	GLU	2.0
23	U	55	ALA	2.0
3	A	32	VAL	2.0
14	L	140	VAL	2.0
27	Y	96	GLU	2.0
1	0	716	G	2.0
9	G	63	ARG	2.0
10	H	35	LYS	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
1	OMG	0	2588	24/25	0.98	0.14	34,36,38,40	0
1	OMU	0	2587	21/22	0.99	0.12	35,37,40,43	0
1	1MA	0	628	23/24	0.99	0.15	30,33,34,36	0
1	UR3	0	2619	21/22	0.99	0.12	35,37,41,45	0
1	PSU	0	2621	20/21	0.99	0.14	28,31,35,36	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	8529	1/1	0.21	0.31	76,76,76,76	0
35	NA	R	8586	1/1	0.62	0.76	87,87,87,87	0
33	MG	0	8087	1/1	0.76	0.21	63,63,63,63	0
35	NA	9	8551	1/1	0.79	0.28	39,39,39,39	0
35	NA	0	8569	1/1	0.80	0.31	57,57,57,57	0
35	NA	0	8584	1/1	0.82	0.17	54,54,54,54	0
35	NA	0	8571	1/1	0.83	0.29	58,58,58,58	0
33	MG	0	8112	1/1	0.84	0.18	47,47,47,47	0
35	NA	0	8511	1/1	0.84	0.08	58,58,58,58	0
35	NA	0	8526	1/1	0.84	0.27	55,55,55,55	0
33	MG	0	8049	1/1	0.84	0.20	74,74,74,74	0
35	NA	C	8504	1/1	0.84	0.18	46,46,46,46	0
35	NA	0	8542	1/1	0.84	0.25	52,52,52,52	0
35	NA	0	8564	1/1	0.85	0.25	49,49,49,49	0
33	MG	0	8092	1/1	0.85	0.47	83,83,83,83	0
35	NA	0	8563	1/1	0.85	0.32	63,63,63,63	0
35	NA	0	8581	1/1	0.85	0.19	51,51,51,51	0
35	NA	0	8558	1/1	0.86	0.75	102,102,102,102	0
35	NA	9	8583	1/1	0.86	0.30	58,58,58,58	0
35	NA	0	8582	1/1	0.86	0.18	80,80,80,80	0
35	NA	0	8566	1/1	0.86	0.24	59,59,59,59	0
35	NA	0	8568	1/1	0.87	0.18	76,76,76,76	0
33	MG	0	8085	1/1	0.87	0.11	50,50,50,50	0
35	NA	0	8510	1/1	0.88	0.27	45,45,45,45	0
33	MG	2	8076	1/1	0.88	0.12	53,53,53,53	0
35	NA	0	8562	1/1	0.88	0.27	63,63,63,63	0
35	NA	0	8540	1/1	0.88	0.36	52,52,52,52	0
33	MG	0	8050	1/1	0.89	0.09	71,71,71,71	0
35	NA	0	8570	1/1	0.89	0.36	63,63,63,63	0
35	NA	0	8552	1/1	0.89	0.38	57,57,57,57	0
35	NA	0	8585	1/1	0.89	0.39	53,53,53,53	0
36	CL	3	8804	1/1	0.89	0.09	63,63,63,63	0
33	MG	0	8099	1/1	0.90	0.18	55,55,55,55	0
32	ERY	0	9000	51/51	0.90	0.23	69,75,79,80	0
33	MG	0	8043	1/1	0.90	0.06	49,49,49,49	0
35	NA	0	8541	1/1	0.90	0.14	53,53,53,53	0
33	MG	0	8088	1/1	0.90	0.19	38,38,38,38	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
33	MG	0	8082	1/1	0.90	0.17	64,64,64,64	0
35	NA	0	8572	1/1	0.91	0.34	64,64,64,64	0
33	MG	0	8114	1/1	0.91	0.13	55,55,55,55	0
33	MG	0	8104	1/1	0.91	0.12	53,53,53,53	0
33	MG	0	8046	1/1	0.91	0.07	43,43,43,43	0
35	NA	0	8532	1/1	0.91	0.23	40,40,40,40	0
35	NA	0	8567	1/1	0.91	0.09	50,50,50,50	0
35	NA	0	8557	1/1	0.91	0.08	60,60,60,60	0
35	NA	0	8535	1/1	0.91	0.25	49,49,49,49	0
35	NA	Q	8548	1/1	0.91	0.16	47,47,47,47	0
35	NA	0	8559	1/1	0.91	0.29	64,64,64,64	0
35	NA	0	8561	1/1	0.91	0.27	58,58,58,58	0
35	NA	0	8533	1/1	0.92	0.09	38,38,38,38	0
35	NA	0	8517	1/1	0.92	0.09	46,46,46,46	0
35	NA	L	8580	1/1	0.92	0.67	60,60,60,60	0
33	MG	0	8066	1/1	0.92	0.16	96,96,96,96	0
33	MG	0	8103	1/1	0.92	0.15	67,67,67,67	0
35	NA	0	8514	1/1	0.92	0.17	40,40,40,40	0
33	MG	0	8096	1/1	0.93	0.07	45,45,45,45	0
33	MG	0	8047	1/1	0.93	0.19	77,77,77,77	0
35	NA	0	8513	1/1	0.93	0.13	54,54,54,54	0
33	MG	0	8107	1/1	0.93	0.06	68,68,68,68	0
35	NA	0	8539	1/1	0.93	0.14	28,28,28,28	0
35	NA	0	8507	1/1	0.93	0.30	54,54,54,54	0
35	NA	0	8508	1/1	0.93	0.22	68,68,68,68	0
35	NA	0	8527	1/1	0.93	0.14	45,45,45,45	0
35	NA	0	8565	1/1	0.93	0.46	46,46,46,46	0
35	NA	0	8516	1/1	0.94	0.32	51,51,51,51	0
33	MG	0	8093	1/1	0.94	0.08	48,48,48,48	0
34	K	0	8401	1/1	0.94	0.18	75,75,75,75	0
33	MG	0	8070	1/1	0.94	0.08	50,50,50,50	0
33	MG	0	8090	1/1	0.94	0.24	60,60,60,60	0
33	MG	0	8113	1/1	0.94	0.08	51,51,51,51	0
33	MG	0	8045	1/1	0.94	0.12	60,60,60,60	0
35	NA	0	8560	1/1	0.94	0.51	50,50,50,50	0
33	MG	0	8115	1/1	0.94	0.09	55,55,55,55	0
35	NA	R	8537	1/1	0.94	0.12	42,42,42,42	0
33	MG	K	8069	1/1	0.94	0.11	57,57,57,57	0
36	CL	0	8805	1/1	0.94	0.11	63,63,63,63	0
36	CL	0	8815	1/1	0.94	0.24	81,81,81,81	0
36	CL	0	8822	1/1	0.94	0.49	83,83,83,83	0
36	CL	N	8807	1/1	0.94	0.14	63,63,63,63	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
35	NA	0	8579	1/1	0.94	0.17	58,58,58,58	0
33	MG	0	8100	1/1	0.95	0.08	69,69,69,69	0
35	NA	0	8502	1/1	0.95	0.20	56,56,56,56	0
35	NA	0	8524	1/1	0.95	0.16	62,62,62,62	0
33	MG	0	8101	1/1	0.95	0.09	58,58,58,58	0
35	NA	0	8549	1/1	0.95	0.13	46,46,46,46	0
33	MG	0	8102	1/1	0.95	0.11	55,55,55,55	0
35	NA	H	8522	1/1	0.95	0.16	56,56,56,56	0
35	NA	J	8546	1/1	0.95	0.14	55,55,55,55	0
35	NA	0	8555	1/1	0.95	0.41	72,72,72,72	0
35	NA	0	8556	1/1	0.95	0.36	44,44,44,44	0
33	MG	0	8051	1/1	0.95	0.08	71,71,71,71	0
35	NA	R	8538	1/1	0.95	0.07	57,57,57,57	0
35	NA	0	8531	1/1	0.95	0.13	40,40,40,40	0
35	NA	S	8512	1/1	0.95	0.22	22,22,22,22	0
36	CL	0	8803	1/1	0.95	0.14	59,59,59,59	0
33	MG	0	8068	1/1	0.95	0.10	68,68,68,68	0
35	NA	0	8573	1/1	0.95	0.39	58,58,58,58	0
35	NA	0	8577	1/1	0.95	0.19	62,62,62,62	0
33	MG	T	8073	1/1	0.95	0.12	61,61,61,61	0
33	MG	0	8062	1/1	0.95	0.09	66,66,66,66	0
33	MG	0	8111	1/1	0.96	0.10	34,34,34,34	0
33	MG	0	8057	1/1	0.96	0.13	49,49,49,49	0
35	NA	0	8515	1/1	0.96	0.14	48,48,48,48	0
33	MG	0	8025	1/1	0.96	0.08	46,46,46,46	0
33	MG	0	8063	1/1	0.96	0.10	68,68,68,68	0
35	NA	0	8523	1/1	0.96	0.17	38,38,38,38	0
33	MG	0	8064	1/1	0.96	0.10	34,34,34,34	0
33	MG	9	8095	1/1	0.96	0.08	72,72,72,72	0
33	MG	0	8028	1/1	0.96	0.08	37,37,37,37	0
33	MG	0	8048	1/1	0.96	0.10	71,71,71,71	0
33	MG	0	8042	1/1	0.96	0.14	40,40,40,40	0
35	NA	M	8547	1/1	0.96	0.14	33,33,33,33	0
33	MG	0	8075	1/1	0.96	0.06	44,44,44,44	0
33	MG	0	8081	1/1	0.96	0.11	53,53,53,53	0
35	NA	0	8534	1/1	0.96	0.06	44,44,44,44	0
35	NA	0	8505	1/1	0.96	0.12	33,33,33,33	0
35	NA	0	8506	1/1	0.96	0.46	42,42,42,42	0
35	NA	T	8543	1/1	0.96	0.08	39,39,39,39	0
33	MG	0	8006	1/1	0.96	0.07	38,38,38,38	0
33	MG	0	8016	1/1	0.96	0.13	35,35,35,35	0
33	MG	0	8105	1/1	0.96	0.18	54,54,54,54	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
33	MG	0	8053	1/1	0.96	0.07	45,45,45,45	0
36	CL	J	8802	1/1	0.96	0.09	63,63,63,63	0
36	CL	L	8810	1/1	0.96	0.09	60,60,60,60	0
35	NA	0	8576	1/1	0.96	0.18	52,52,52,52	0
36	CL	R	8806	1/1	0.96	0.09	50,50,50,50	0
36	CL	Y	8820	1/1	0.96	0.09	46,46,46,46	0
35	NA	0	8550	1/1	0.96	0.20	47,47,47,47	0
33	MG	0	8098	1/1	0.97	0.07	34,34,34,34	0
33	MG	0	8044	1/1	0.97	0.10	49,49,49,49	0
33	MG	0	8024	1/1	0.97	0.08	23,23,23,23	0
33	MG	0	8061	1/1	0.97	0.10	40,40,40,40	0
35	NA	0	8518	1/1	0.97	0.17	39,39,39,39	0
35	NA	0	8521	1/1	0.97	0.29	57,57,57,57	0
35	NA	0	8553	1/1	0.97	0.10	30,30,30,30	0
33	MG	Y	8108	1/1	0.97	0.07	40,40,40,40	0
33	MG	0	8083	1/1	0.97	0.06	41,41,41,41	0
33	MG	0	8033	1/1	0.97	0.12	32,32,32,32	0
35	NA	0	8578	1/1	0.97	0.36	52,52,52,52	0
33	MG	0	8035	1/1	0.97	0.04	49,49,49,49	0
33	MG	0	8040	1/1	0.97	0.12	61,61,61,61	0
36	CL	0	8816	1/1	0.97	0.10	60,60,60,60	0
36	CL	0	8817	1/1	0.97	0.15	63,63,63,63	0
33	MG	0	8041	1/1	0.97	0.16	69,69,69,69	0
33	MG	0	8110	1/1	0.97	0.07	41,41,41,41	0
36	CL	J	8821	1/1	0.97	0.13	55,55,55,55	0
33	MG	0	8014	1/1	0.97	0.06	34,34,34,34	0
33	MG	0	8027	1/1	0.97	0.11	49,49,49,49	0
33	MG	0	8071	1/1	0.97	0.06	72,72,72,72	0
33	MG	0	8097	1/1	0.97	0.10	36,36,36,36	0
35	NA	H	8509	1/1	0.97	0.06	34,34,34,34	0
33	MG	0	8072	1/1	0.98	0.08	56,56,56,56	0
33	MG	0	8010	1/1	0.98	0.09	37,37,37,37	0
33	MG	0	8094	1/1	0.98	0.11	72,72,72,72	0
35	NA	A	8545	1/1	0.98	0.08	50,50,50,50	0
33	MG	0	8116	1/1	0.98	0.06	37,37,37,37	0
35	NA	0	8520	1/1	0.98	0.10	37,37,37,37	0
33	MG	0	8077	1/1	0.98	0.09	30,30,30,30	0
33	MG	B	8055	1/1	0.98	0.07	52,52,52,52	0
33	MG	0	8079	1/1	0.98	0.11	30,30,30,30	0
35	NA	0	8525	1/1	0.98	0.21	59,59,59,59	0
33	MG	0	8080	1/1	0.98	0.10	46,46,46,46	0
33	MG	0	8052	1/1	0.98	0.07	58,58,58,58	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
35	NA	0	8528	1/1	0.98	0.43	49,49,49,49	0
33	MG	0	8013	1/1	0.98	0.15	45,45,45,45	0
35	NA	0	8530	1/1	0.98	0.18	49,49,49,49	0
33	MG	3	8078	1/1	0.98	0.12	47,47,47,47	0
33	MG	0	8056	1/1	0.98	0.10	53,53,53,53	0
35	NA	0	8501	1/1	0.98	0.20	35,35,35,35	0
36	CL	0	8811	1/1	0.98	0.10	54,54,54,54	0
36	CL	0	8813	1/1	0.98	0.16	57,57,57,57	0
36	CL	0	8814	1/1	0.98	0.08	48,48,48,48	0
33	MG	0	8084	1/1	0.98	0.07	48,48,48,48	0
33	MG	0	8067	1/1	0.98	0.10	49,49,49,49	0
33	MG	0	8086	1/1	0.98	0.12	48,48,48,48	0
35	NA	0	8574	1/1	0.98	0.53	65,65,65,65	0
36	CL	J	8801	1/1	0.98	0.16	65,65,65,65	0
33	MG	0	8002	1/1	0.98	0.05	33,33,33,33	0
33	MG	0	8106	1/1	0.98	0.06	42,42,42,42	0
33	MG	0	8060	1/1	0.98	0.15	42,42,42,42	0
35	NA	0	8544	1/1	0.98	0.05	32,32,32,32	0
36	CL	O	8808	1/1	0.98	0.14	72,72,72,72	0
33	MG	0	8089	1/1	0.98	0.13	56,56,56,56	0
33	MG	0	8034	1/1	0.98	0.08	34,34,34,34	0
33	MG	0	8091	1/1	0.98	0.06	59,59,59,59	0
37	CD	O	8705	1/1	0.98	0.09	74,74,74,74	0
34	K	0	8402	1/1	0.99	0.11	59,59,59,59	0
33	MG	0	8032	1/1	0.99	0.05	39,39,39,39	0
33	MG	0	8012	1/1	0.99	0.09	34,34,34,34	0
35	NA	0	8503	1/1	0.99	0.14	39,39,39,39	0
33	MG	0	8004	1/1	0.99	0.05	27,27,27,27	0
33	MG	0	8005	1/1	0.99	0.10	30,30,30,30	0
33	MG	0	8036	1/1	0.99	0.07	35,35,35,35	0
33	MG	0	8038	1/1	0.99	0.10	32,32,32,32	0
35	NA	0	8554	1/1	0.99	0.18	41,41,41,41	0
33	MG	0	8039	1/1	0.99	0.05	50,50,50,50	0
33	MG	0	8015	1/1	0.99	0.12	35,35,35,35	0
33	MG	0	8001	1/1	0.99	0.08	33,33,33,33	0
33	MG	0	8017	1/1	0.99	0.04	25,25,25,25	0
33	MG	0	8074	1/1	0.99	0.05	38,38,38,38	0
33	MG	0	8018	1/1	0.99	0.11	45,45,45,45	0
33	MG	0	8019	1/1	0.99	0.06	37,37,37,37	0
33	MG	0	8109	1/1	0.99	0.08	23,23,23,23	0
35	NA	0	8519	1/1	0.99	0.11	36,36,36,36	0
33	MG	0	8020	1/1	0.99	0.09	36,36,36,36	0

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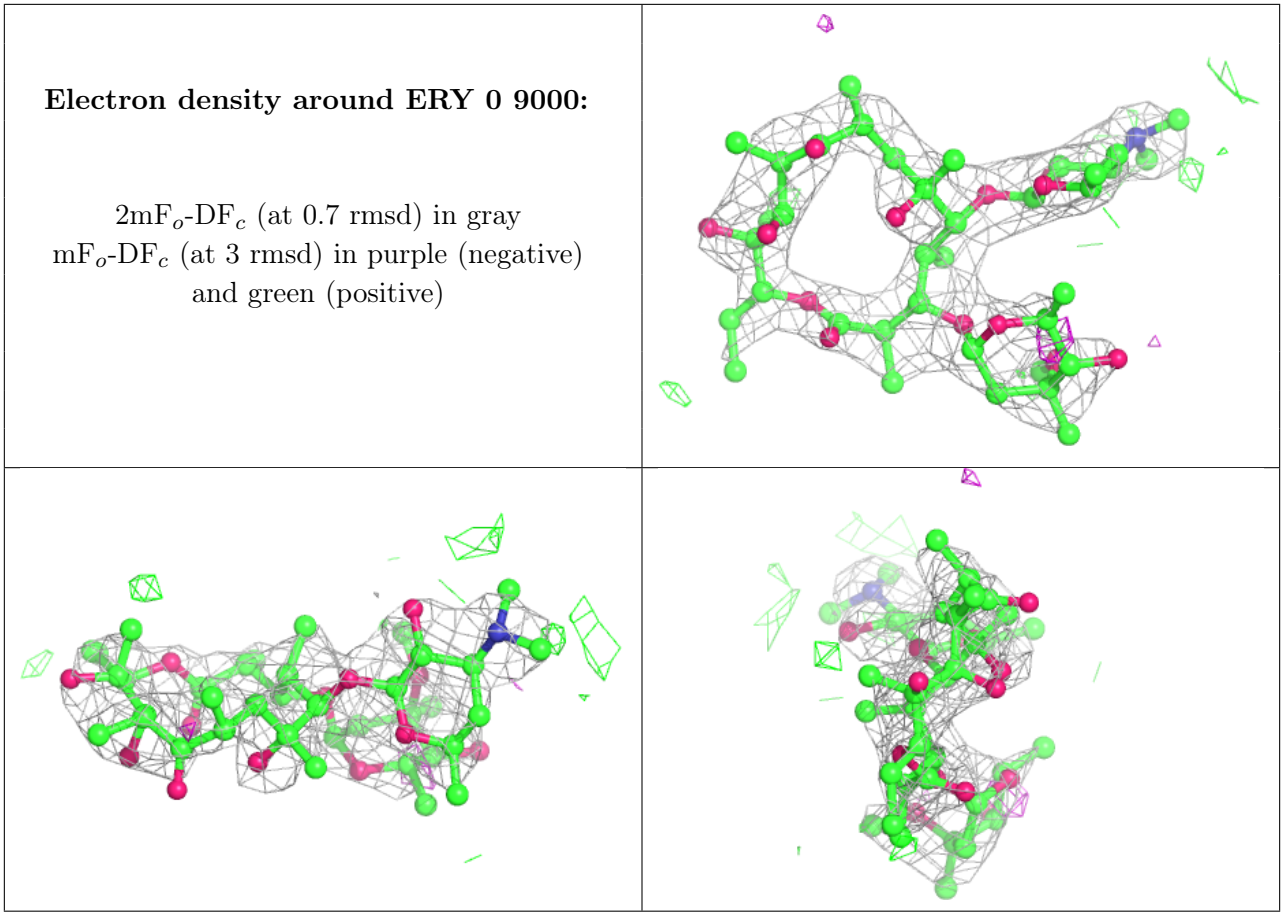
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
33	MG	0	8021	1/1	0.99	0.10	35,35,35,35	0
36	CL	0	8812	1/1	0.99	0.09	54,54,54,54	0
33	MG	0	8022	1/1	0.99	0.08	41,41,41,41	0
33	MG	0	8023	1/1	0.99	0.08	39,39,39,39	0
33	MG	0	8007	1/1	0.99	0.07	27,27,27,27	0
33	MG	0	8008	1/1	0.99	0.07	33,33,33,33	0
33	MG	0	8026	1/1	0.99	0.10	29,29,29,29	0
33	MG	0	8003	1/1	0.99	0.15	32,32,32,32	0
36	CL	A	8809	1/1	0.99	0.18	66,66,66,66	0
36	CL	B	8819	1/1	0.99	0.12	54,54,54,54	0
33	MG	A	8065	1/1	0.99	0.10	42,42,42,42	0
33	MG	0	8011	1/1	0.99	0.12	25,25,25,25	0
33	MG	0	8054	1/1	0.99	0.11	32,32,32,32	0
35	NA	0	8575	1/1	0.99	0.22	50,50,50,50	0
36	CL	M	8818	1/1	0.99	0.14	48,48,48,48	0
33	MG	0	8029	1/1	0.99	0.12	49,49,49,49	0
33	MG	0	8030	1/1	0.99	0.12	29,29,29,29	0
33	MG	0	8058	1/1	0.99	0.09	44,44,44,44	0
33	MG	0	8059	1/1	0.99	0.05	33,33,33,33	0
35	NA	0	8536	1/1	0.99	0.08	47,47,47,47	0
33	MG	0	8031	1/1	0.99	0.06	34,34,34,34	0
37	CD	U	8701	1/1	0.99	0.11	67,67,67,67	0
37	CD	Z	8703	1/1	0.99	0.09	63,63,63,63	0
37	CD	1	8702	1/1	0.99	0.08	63,63,63,63	0
37	CD	3	8704	1/1	0.99	0.07	62,62,62,62	0
33	MG	0	8009	1/1	1.00	0.06	33,33,33,33	0
33	MG	0	8037	1/1	1.00	0.05	45,45,45,45	0

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

Electron density around ERY 0 9000:

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



6.5 Other polymers

There are no such residues in this entry.