Full wwPDB X-ray Structure Validation Report ⓘ

Aug 22, 2023 – 02:47 AM EDT

PDB ID	:	2QA4
Title	:	A more complete structure of the the L7/L12 stalk of the Haloarcula marismortui 50S large ribosomal subunit
Authors	:	Steitz, T.A.; Kavran, J.M.
Deposited on	:	2007-06-14
Resolution	:	3.00 Å(reported)

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

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

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

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

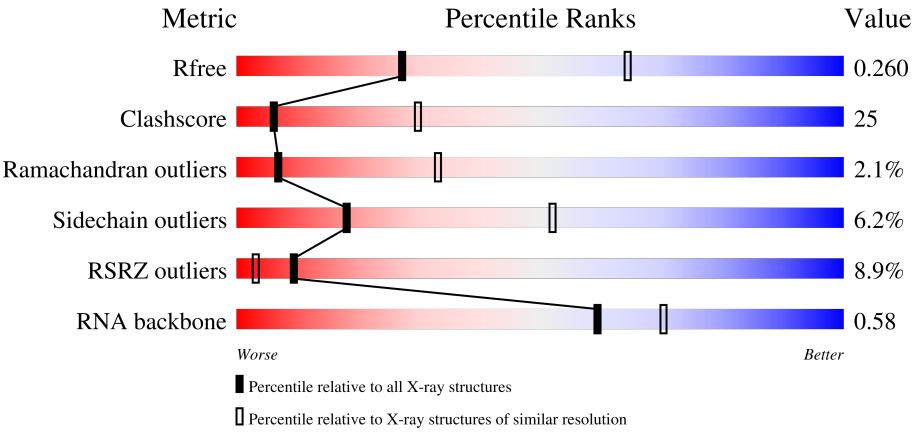
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.00 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	2092 (3.00-3.00)
Clashscore	141614	2416 (3.00-3.00)
Ramachandran outliers	138981	2333 (3.00-3.00)
Sidechain outliers	138945	2336 (3.00-3.00)
RSRZ outliers	127900	1990 (3.00-3.00)
RNA backbone	3102	1173 (3.30-2.70)

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	28% 57% 9% 6%
2	9	122	17% 69% 13%
3	A	240	10% 61% 34%
4	B	338	4% 59% 36%

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Mol	Chain	Length	Quality of chain
5	C	246	2% 61% 34% 5%
6	D	177	33% 46% 28% 5% 21%
7	E	178	7% 60% 33%
8	F	120	4% 65% 31%
9	G	348	11% 12% 16% 5% 64%
10	H	171	4% 60% 32% 6%
11	I	162	39% 34% 27% 10% 27%
12	J	145	60% 33% 5%
13	K	132	2% 62% 34%
14	L	165	24% 60% 27% 12%
15	M	196	11% 67% 31%
16	N	187	20% 57% 40%
17	O	116	71% 28%
18	P	149	12% 66% 26%
19	Q	96	7% 63% 35%
20	R	155	% 71% 23%
21	S	85	2% 69% 22% 5%
22	T	120	19% 58% 38%
23	U	67	33% 49% 30% 21%
24	V	71	13% 54% 37% 8%
25	W	154	46% 51%
26	X	92	8% 47% 39% 11%
27	Y	241	% 34% 22% 41%
28	Z	92	73% 48% 32% 21%
29	1	57	54% 37% 7%

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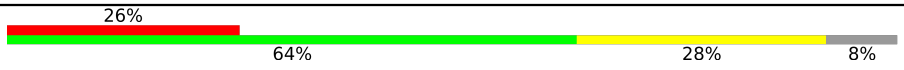
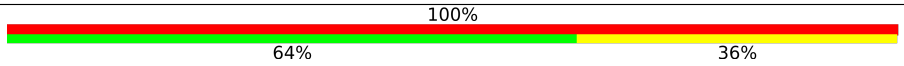
Mol	Chain	Length	Quality of chain
30	2	50	
31	3	92	

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
32	MG	0	2971	-	-	-	X
32	MG	0	2973	-	-	-	X
32	MG	0	2980	-	-	-	X
32	MG	0	2984	-	-	-	X
32	MG	0	2998	-	-	-	X
32	MG	0	3006	-	-	-	X
32	MG	0	3025	-	-	-	X
32	MG	0	3026	-	-	-	X
32	MG	0	3028	-	-	-	X
32	MG	0	3029	-	-	-	X
32	MG	3	93	-	-	-	X
32	MG	A	240	-	-	-	X
32	MG	B	338	-	-	-	X
32	MG	K	133	-	-	-	X
32	MG	Y	241	-	-	-	X
33	K	0	3031	-	-	-	X
33	K	M	196	-	-	-	X
34	NA	0	3033	-	-	-	X
34	NA	0	3034	-	-	-	X
34	NA	0	3039	-	-	-	X
34	NA	0	3044	-	-	-	X
34	NA	0	3050	-	-	-	X
34	NA	0	3052	-	-	-	X
34	NA	0	3057	-	-	-	X
34	NA	0	3059	-	-	-	X
34	NA	0	3075	-	-	-	X
34	NA	0	3077	-	-	-	X
34	NA	0	3082	-	-	-	X
34	NA	0	3084	-	-	-	X
34	NA	0	3094	-	-	-	X
34	NA	0	3098	-	-	-	X
34	NA	0	3099	-	-	-	X
34	NA	0	3100	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
34	NA	0	3103	-	-	-	X
34	NA	S	85	-	-	-	X
35	CL	0	3106	-	-	-	X
35	CL	0	3109	-	-	-	X
35	CL	0	3112	-	-	-	X
35	CL	3	95	-	-	X	X
35	CL	J	147	-	-	X	-
35	CL	J	149	-	-	X	-
35	CL	O	117	-	-	-	X
35	CL	Q	97	-	-	-	X
36	CD	O	116	-	-	-	X

2 Entry composition (i)

There are 36 unique types of molecules in this entry. The entry contains 92248 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
			Total	C	N	O	P			
1	0	2753	58979	26332	10869	19036	2742	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
0	560	C	U	conflict	GB 3377779

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
2	9	122	2600	1160	472	847	121	0	0	0

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

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

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

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

- Molecule 5 is a protein called 50S ribosomal protein L4P.

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

There is a discrepancy between the modelled and reference sequences:

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

- 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 HOMO.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	G	125	Total	C	N	O	S	0	0	0
			959	592	162	203	2			

There is a discrepancy between the modelled and reference sequences:

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

- 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
			1266	785	237	238	6			

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
H	164	ASP	-	insertion	UNP P60617
H	165	SER	LYS	conflict	UNP P60617
H	166	SER	VAL	conflict	UNP P60617
H	167	PRO	GLU	conflict	UNP P60617
H	168	ALA	ARG	conflict	UNP P60617
H	?	-	GLU	deletion	UNP P60617
H	?	-	GLU	deletion	UNP P60617
H	?	-	LEU	deletion	UNP P60617
H	?	-	LEU	deletion	UNP P60617
H	170	ASN	ILE	conflict	UNP P60617

- Molecule 11 is a protein called 50S ribosomal protein L11P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	I	118	Total	C	N	O	S	0	0	0
			876	548	135	192	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
			1559	943	332	283	1			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M	13	GLU	LYS	conflict	UNP P60618
M	194	ALA	GLY	conflict	UNP P60618

- 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	UNP P60619

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	0	108	Total	Mg	0	0
			108	108		
32	9	1	Total	Mg	0	0
			1	1		
32	A	2	Total	Mg	0	0
			2	2		
32	B	1	Total	Mg	0	0
			1	1		
32	K	1	Total	Mg	0	0
			1	1		
32	T	1	Total	Mg	0	0
			1	1		
32	Y	1	Total	Mg	0	0
			1	1		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
32	3	1	Total Mg 1 1	0	0

- Molecule 33 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
33	0	1	Total K 1 1	0	0
33	M	1	Total K 1 1	0	0

- Molecule 34 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
34	0	73	Total Na 73 73	0	0
34	9	3	Total Na 3 3	0	0
34	A	1	Total Na 1 1	0	0
34	C	1	Total Na 1 1	0	0
34	H	1	Total Na 1 1	0	0
34	J	1	Total Na 1 1	0	0
34	L	1	Total Na 1 1	0	0
34	M	1	Total Na 1 1	0	0
34	Q	1	Total Na 1 1	0	0
34	R	2	Total Na 2 2	0	0
34	S	1	Total Na 1 1	0	0

- Molecule 35 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
35	0	8	Total Cl 8 8	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
35	A	1	Total Cl 1 1	0	0
35	B	1	Total Cl 1 1	0	0
35	J	3	Total Cl 3 3	0	0
35	K	1	Total Cl 1 1	0	0
35	L	1	Total Cl 1 1	0	0
35	M	1	Total Cl 1 1	0	0
35	N	1	Total Cl 1 1	0	0
35	O	1	Total Cl 1 1	0	0
35	Q	1	Total Cl 1 1	0	0
35	R	1	Total Cl 1 1	0	0
35	Y	1	Total Cl 1 1	0	0
35	3	1	Total Cl 1 1	0	0

- Molecule 36 is CADMIUM ION (three-letter code: CD) (formula: Cd).

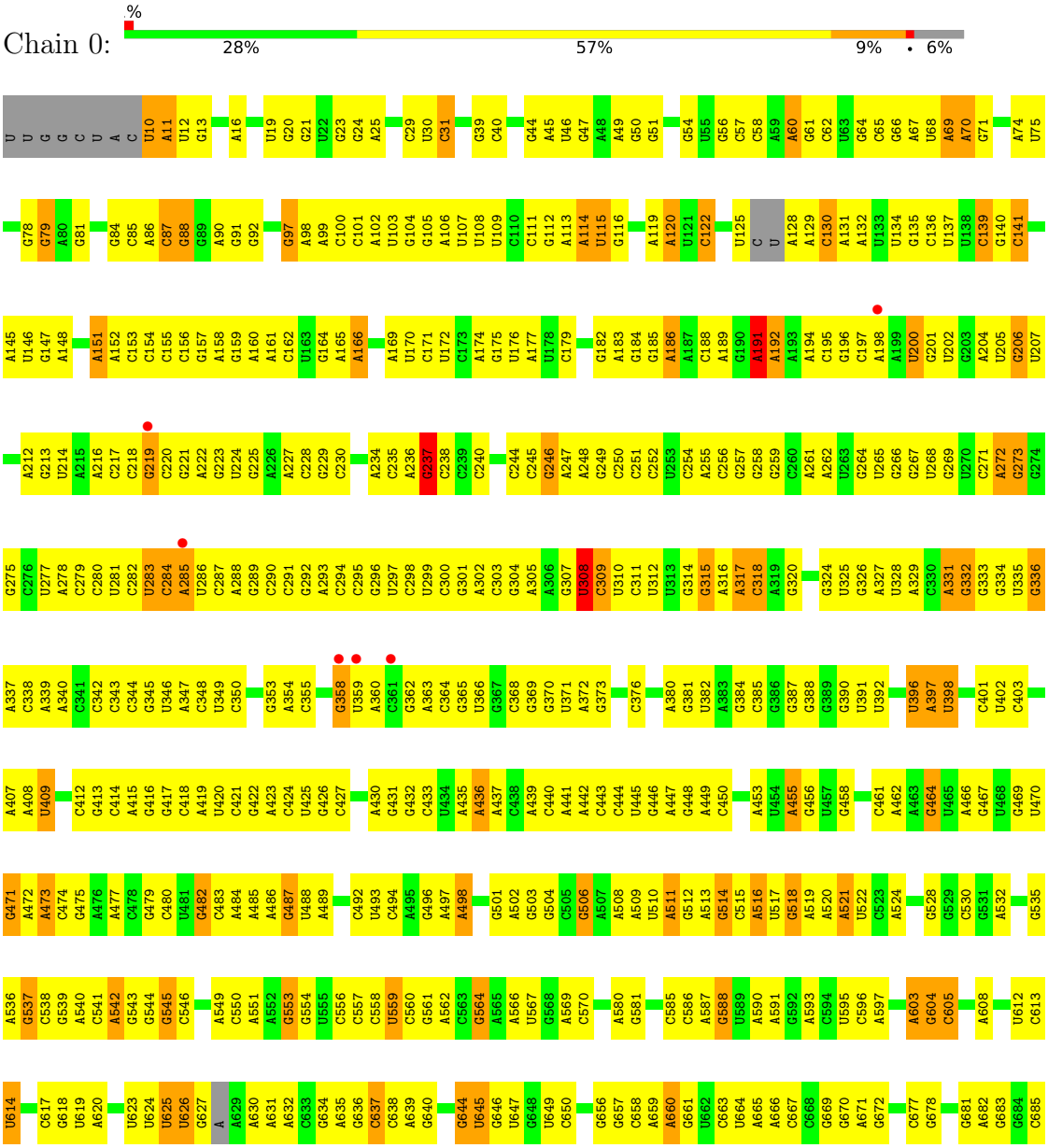
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
36	O	1	Total Cd 1 1	0	0
36	U	1	Total Cd 1 1	0	0
36	Z	1	Total Cd 1 1	0	0
36	1	1	Total Cd 1 1	0	0
36	3	1	Total Cd 1 1	0	0

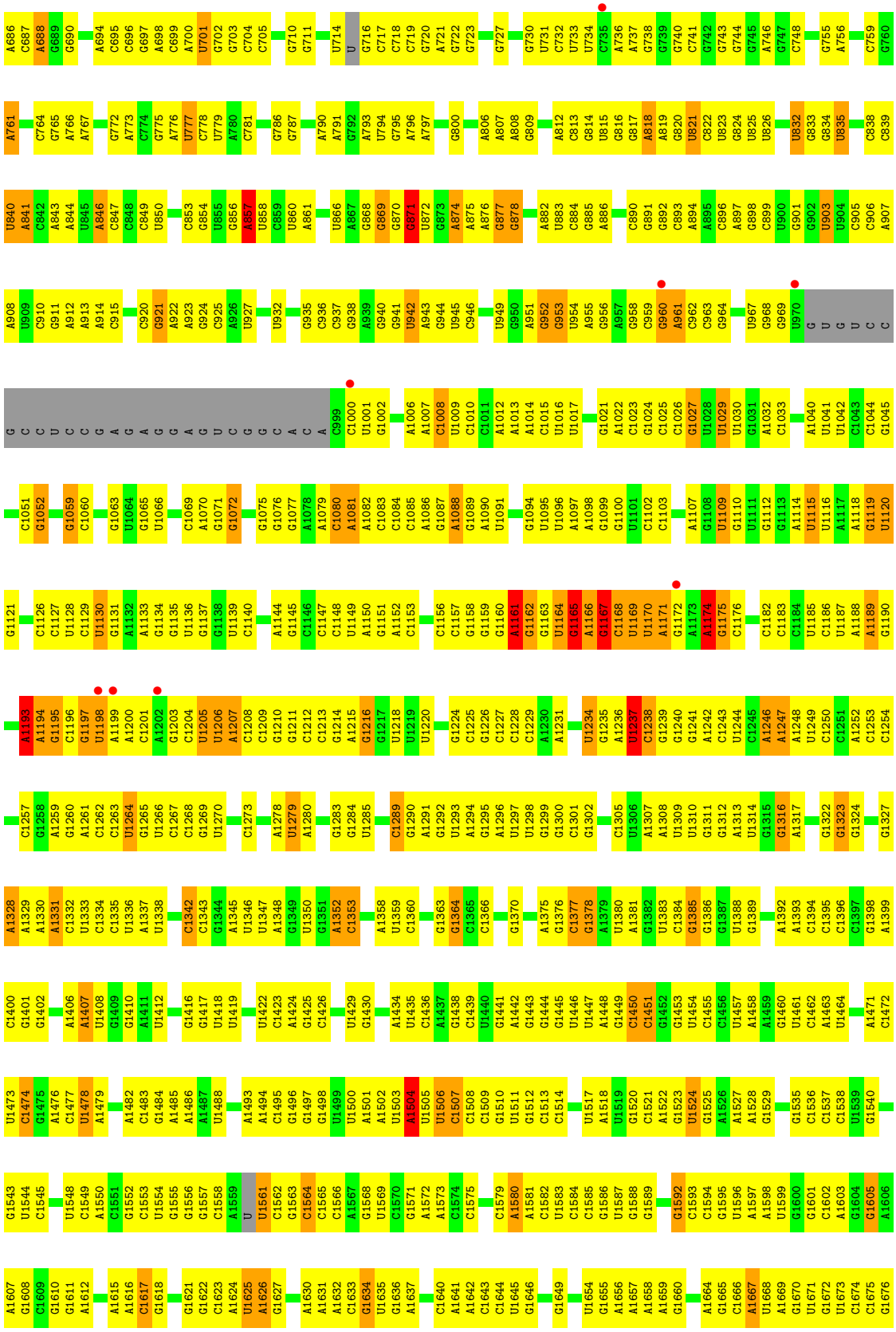
3 Residue-property plots (i)

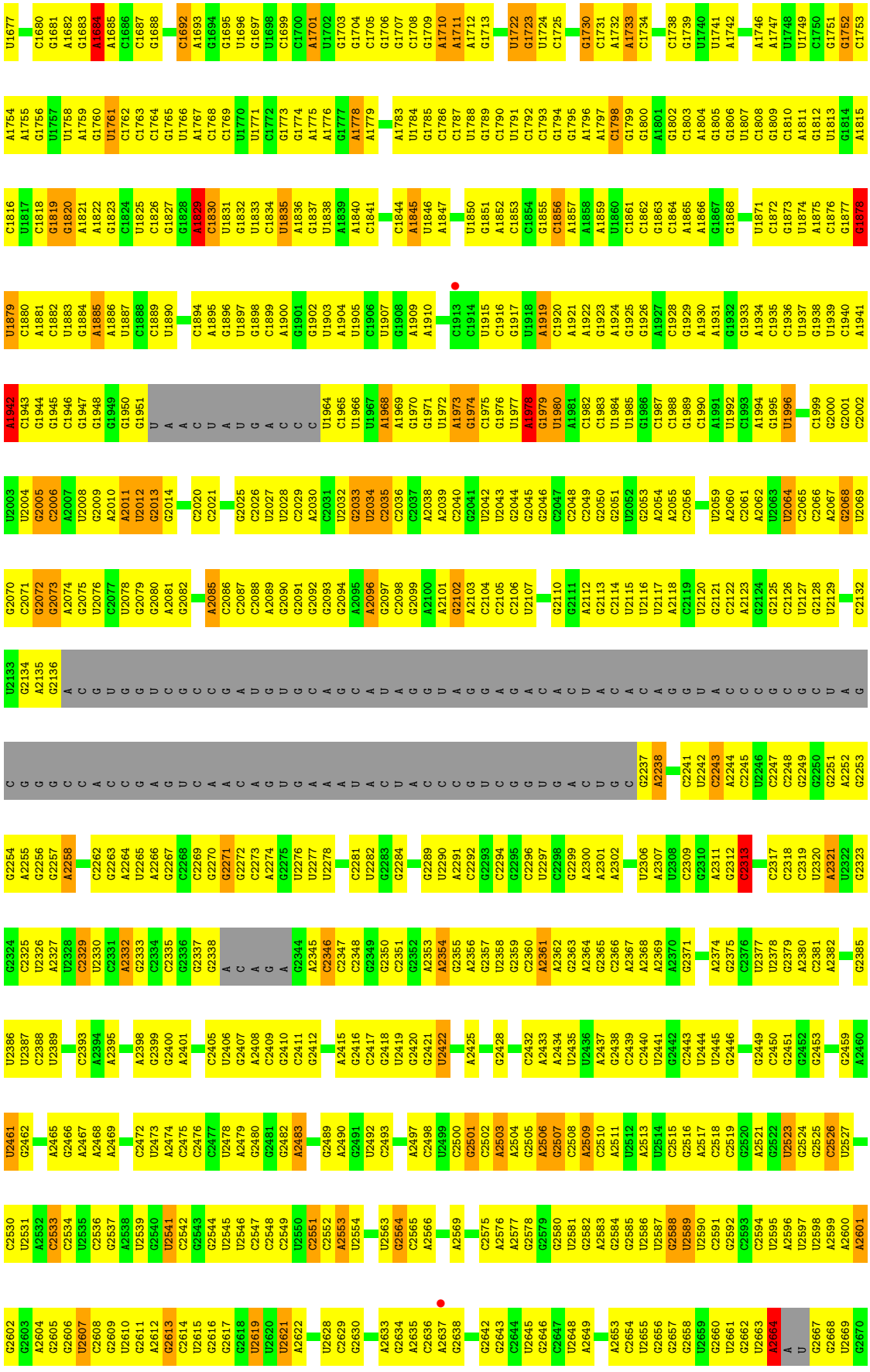
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density.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

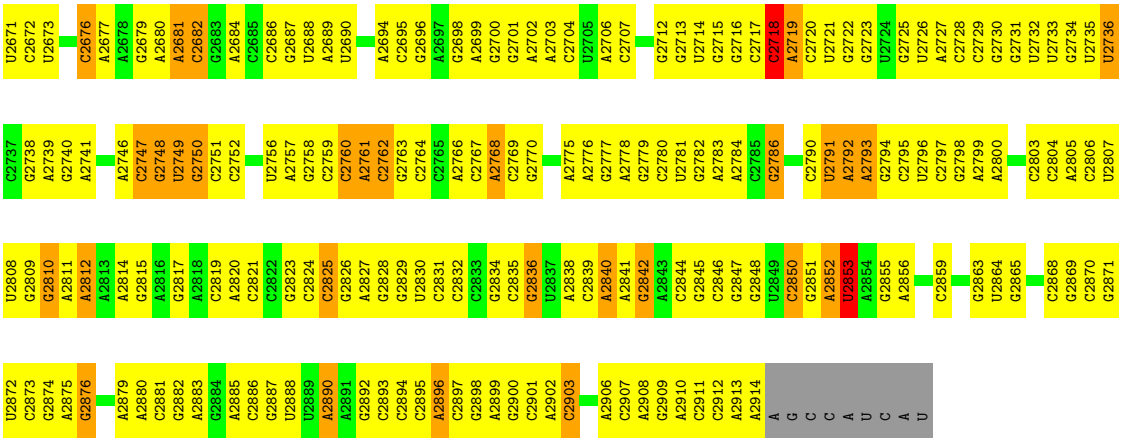
- Molecule 1: 23S RIBOSOMAL RNA

Chain 0:



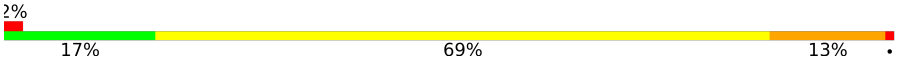


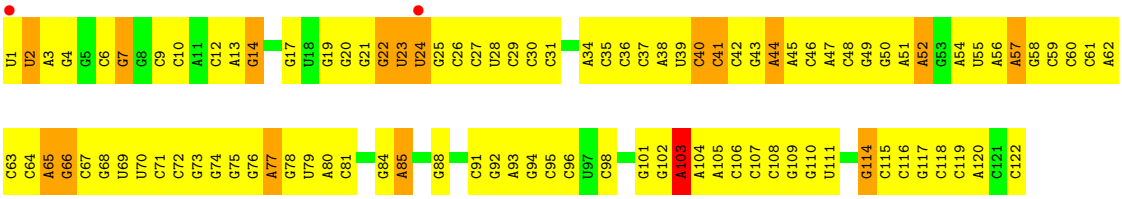




• Molecule 2: 5S RIBOSOMAL RNA

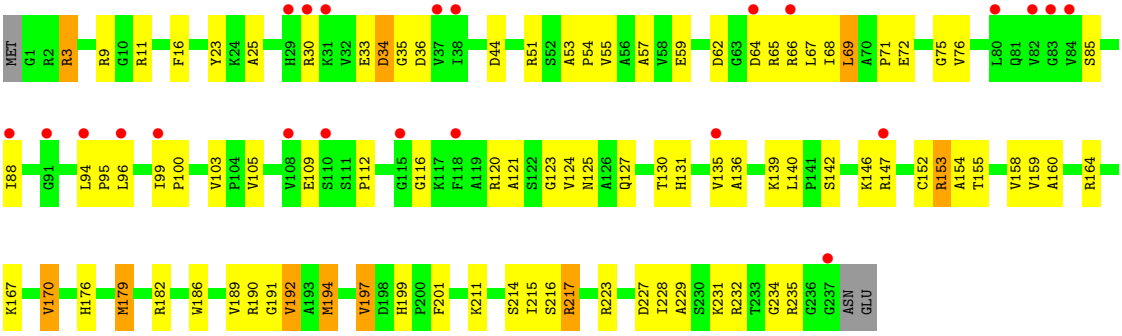
Chain 9:





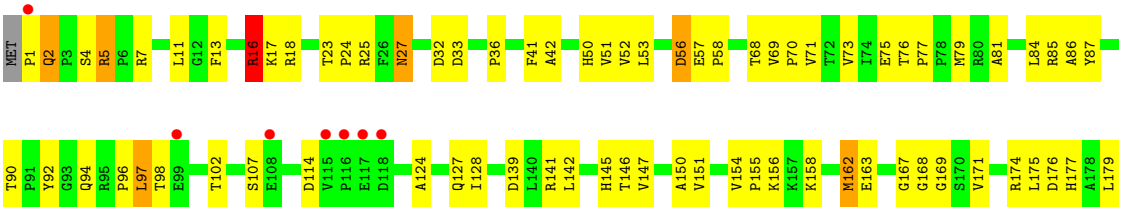
• Molecule 3: 50S ribosomal protein L2P

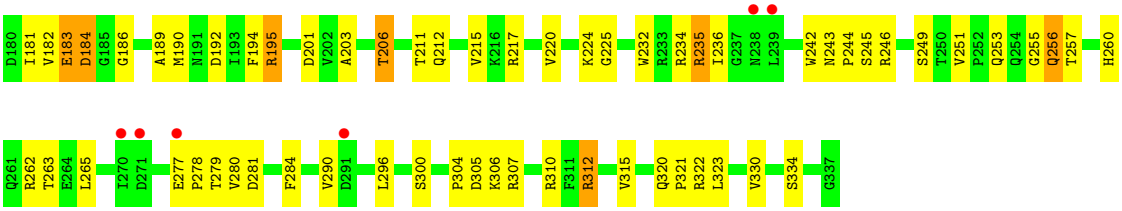
Chain A:



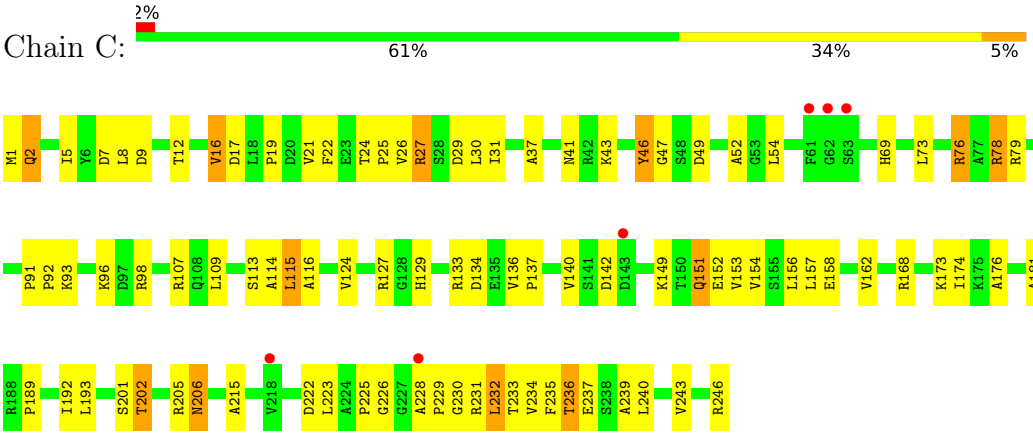
• Molecule 4: 50S ribosomal protein L3P

Chain B:

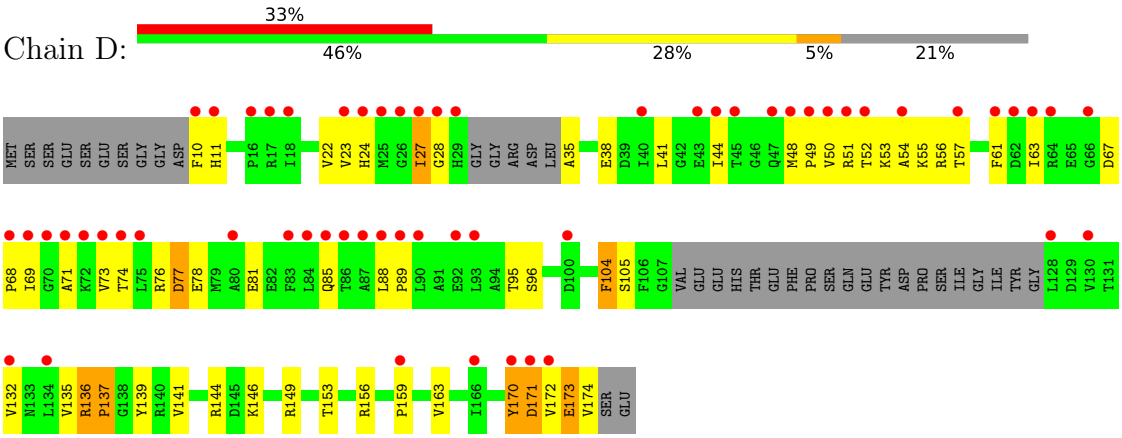




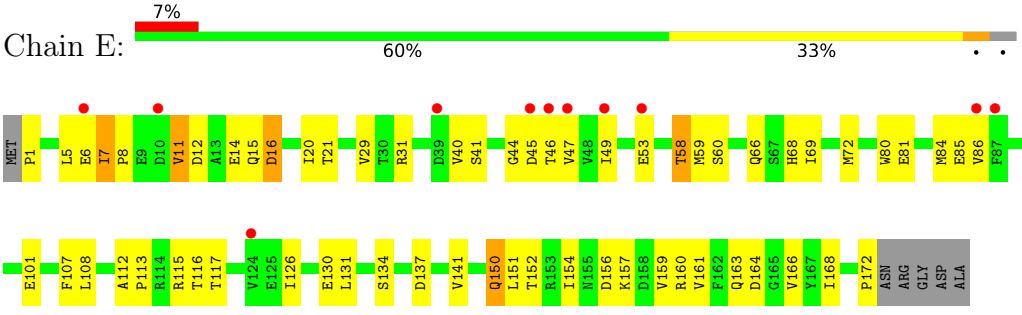
• Molecule 5: 50S ribosomal protein L4P



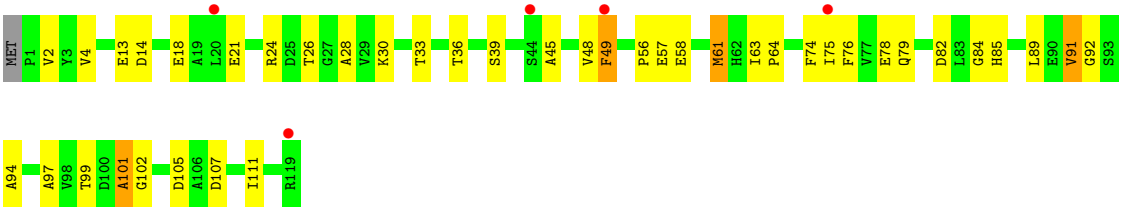
• Molecule 6: 50S ribosomal protein L5P



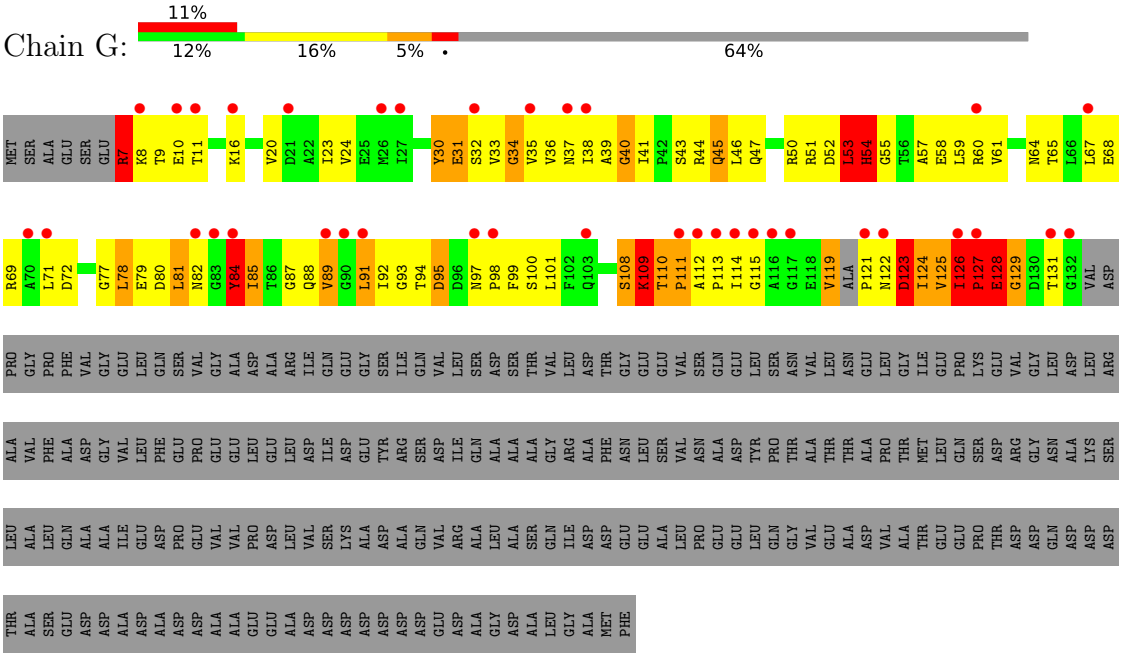
• Molecule 7: 50S ribosomal protein L6P



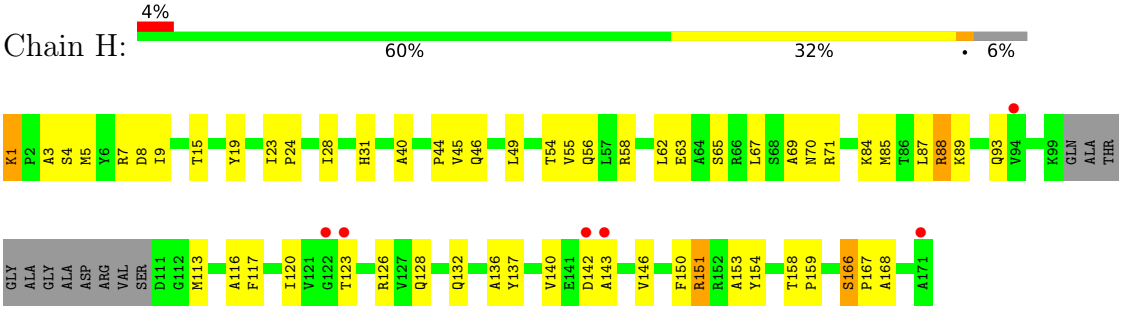
• Molecule 8: 50S ribosomal protein L7Ae



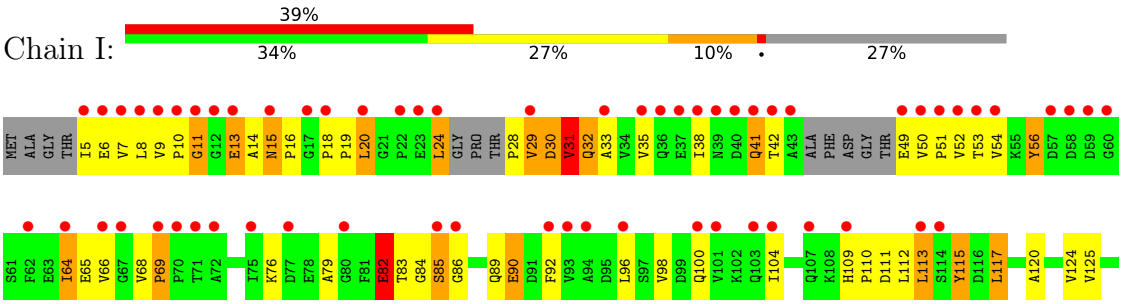
• Molecule 9: ACIDIC RIBOSOMAL PROTEIN P0 HOMO

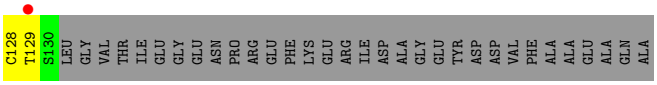


• Molecule 10: 50S ribosomal protein L10e



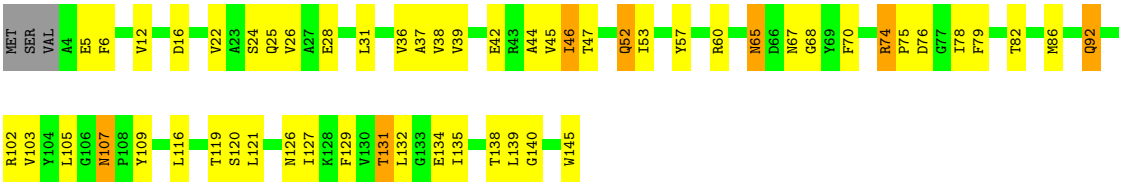
• Molecule 11: 50S ribosomal protein L11P





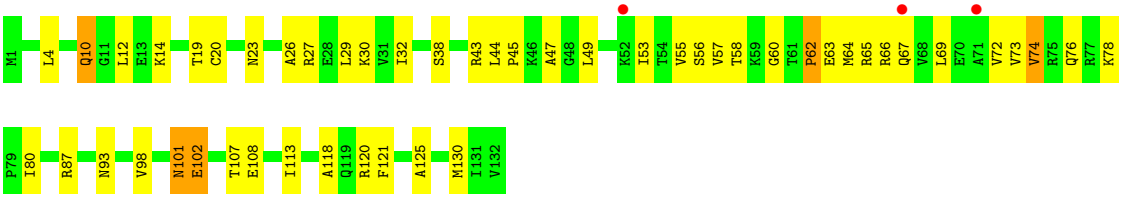
• Molecule 12: 50S ribosomal protein L13P

Chain J:



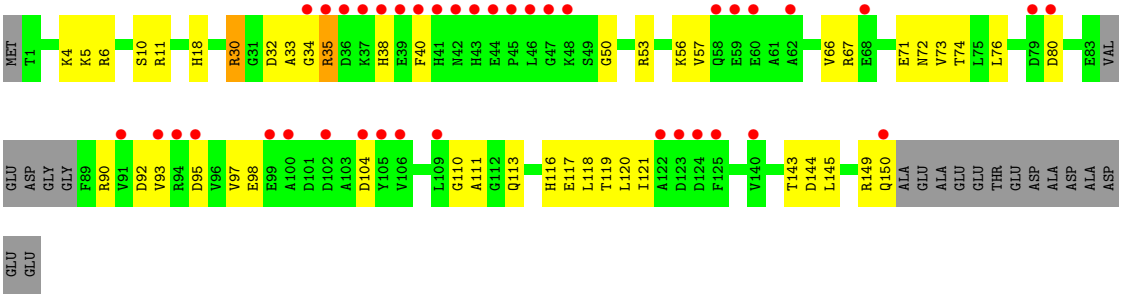
• Molecule 13: 50S ribosomal protein L14P

Chain K:



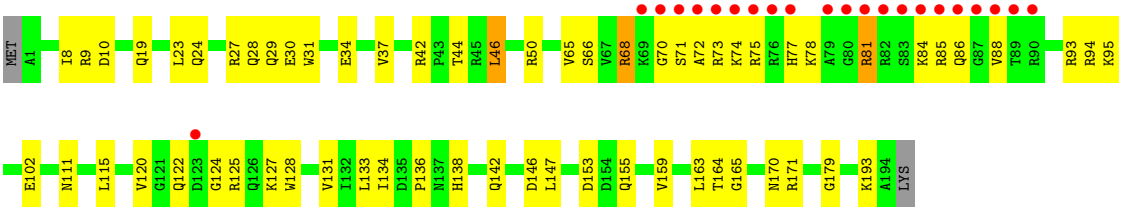
• Molecule 14: 50S ribosomal protein L15P

Chain L:



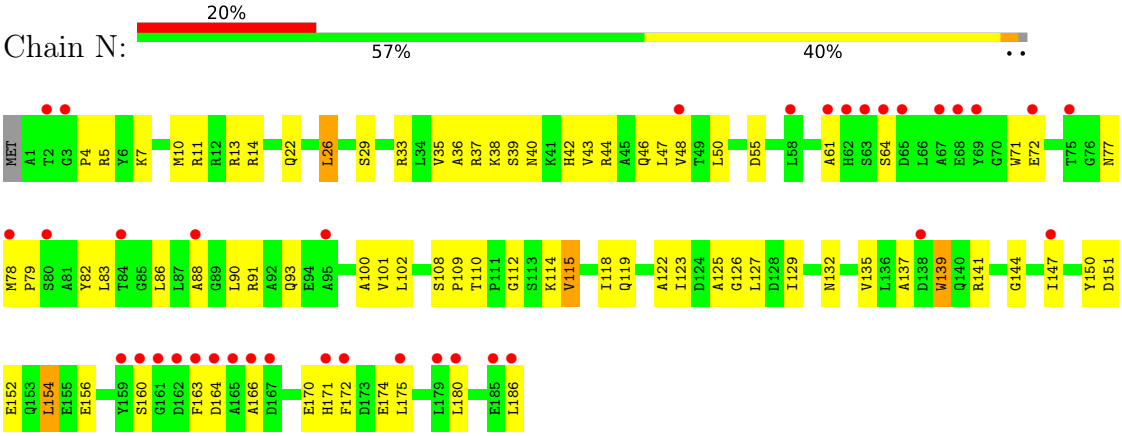
• Molecule 15: 50S ribosomal protein L15e

Chain M:



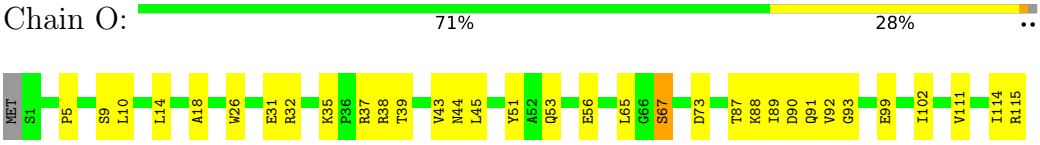
• Molecule 16: 50S ribosomal protein L18P

Chain N:



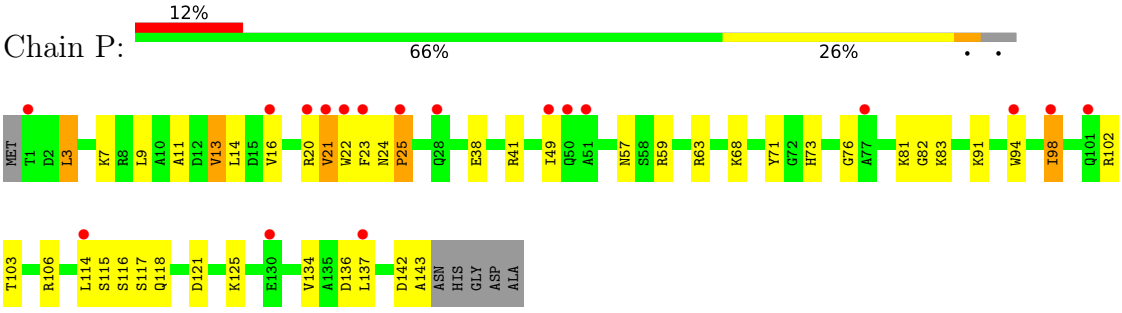
• Molecule 17: 50S ribosomal protein L18e

Chain O:



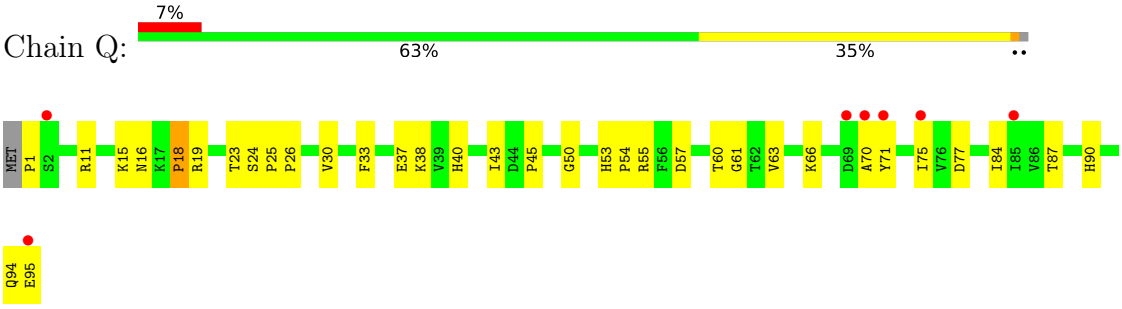
• Molecule 18: 50S ribosomal protein L19e

Chain P:



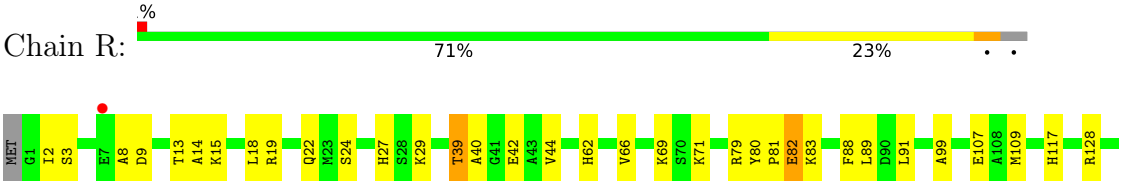
• Molecule 19: 50S ribosomal protein L21e

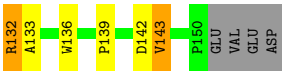
Chain Q:



• Molecule 20: 50S ribosomal protein L22P

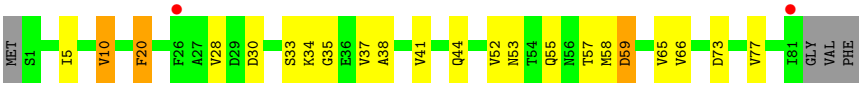
Chain R:





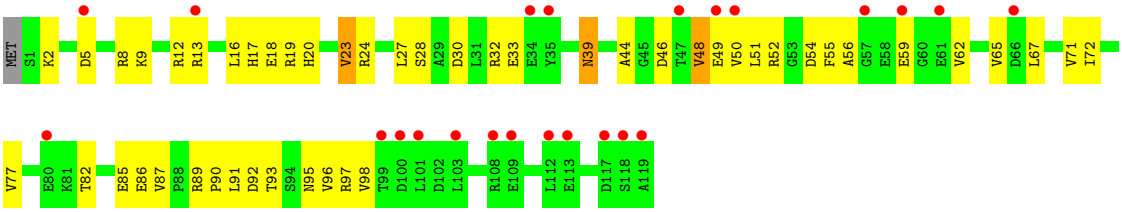
• Molecule 21: 50S ribosomal protein L23P

Chain S:



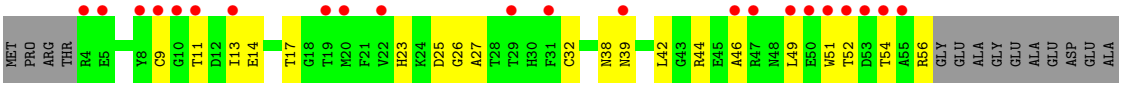
• Molecule 22: 50S ribosomal protein L24P

Chain T:



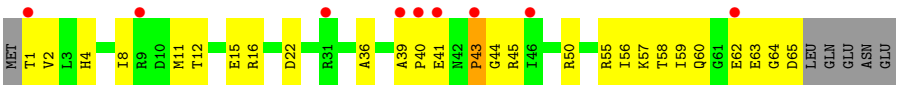
• Molecule 23: 50S ribosomal protein L24e

Chain U:



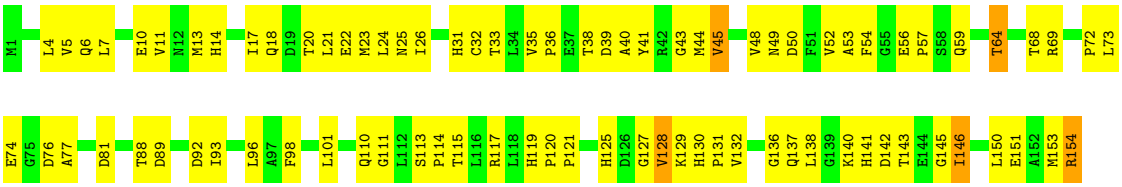
• Molecule 24: 50S ribosomal protein L29P

Chain V:



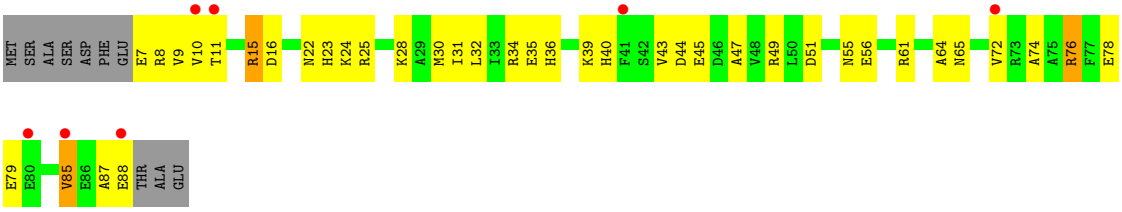
• Molecule 25: 50S ribosomal protein L30P

Chain W:



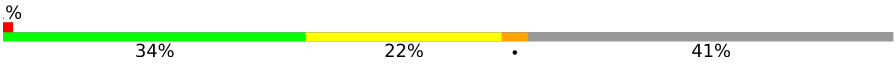
• Molecule 26: 50S RIBOSOMAL PROTEIN L31E

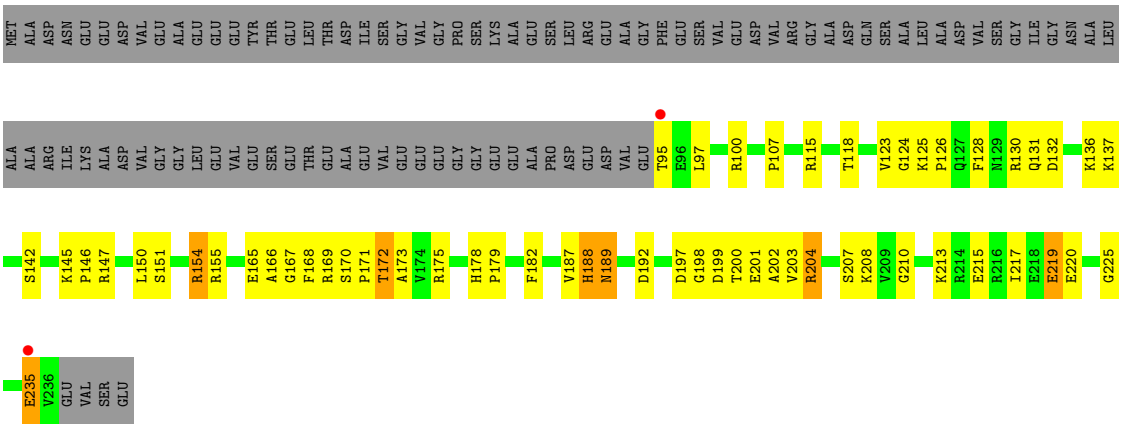
Chain X:



• Molecule 27: 50S ribosomal protein L32e

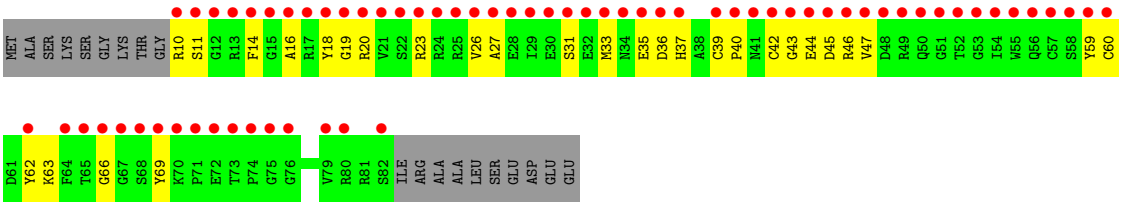
Chain Y:





• Molecule 28: 50S ribosomal protein L37Ae

Chain Z:

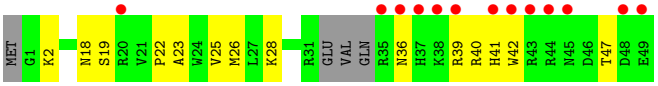


• Molecule 29: 50S ribosomal protein L37e

Chain 1:

• Molecule 30: 50S ribosomal protein L39e

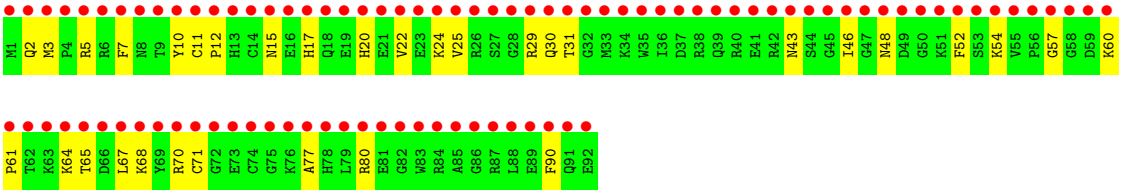
Chain 2:



• Molecule 31: 50S ribosomal protein L44E

Chain 3:


100%
64%
36%


M1 Q2 M3 P4 R5 R6 F7 N8 T9 Y10 C11 P12 H13 C14 N15 E16 H17 Q18 E19 H20 E21 V22 E23 K24 V25 R26 S27 G28 R29 Q30 T31 G32 M33 K34 W35 I36 D37 R38 Q39 R40 E41 R42 N43 S44 G45 I46 G47 N48 D49 G50 K51 F52 S53 K54 V55 P56 G57 G58 D59 K60

P61 T62 K63 K64 T65 D66 L67 K68 Y69 R70 C71 G72 E73 C74 G75 K76 A77 H78 L79 R80 E81 G82 W83 R84 A85 G86 R87 L88 E89 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	214.49Å 302.43Å 578.06Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	50.00 – 3.00 49.83 – 3.01	Depositor EDS
% Data completeness (in resolution range)	98.2 (50.00-3.00) 96.9 (49.83-3.01)	Depositor EDS
R_{merge}	0.13	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.65 (at 3.01Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.241 , 0.288 0.259 , 0.260	Depositor DCC
R_{free} test set	18014 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å^2)	69.6	Xtriage
Anisotropy	0.307	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.27 , 61.9	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.91	EDS
Total number of atoms	92248	wwPDB-VP
Average B, all atoms (Å^2)	71.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.71% 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: PSU, MG, NA, K, CD, OMU, OMG, UR3, CL

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	0.56	0/65932	0.75	36/102817 (0.0%)
2	9	0.42	0/2905	0.72	1/4528 (0.0%)
3	A	0.39	0/1786	0.69	0/2408
4	B	0.46	0/2690	0.76	0/3652
5	C	0.47	0/1884	0.76	1/2551 (0.0%)
6	D	0.36	0/1111	0.60	0/1498
7	E	0.45	0/1382	0.68	0/1880
8	F	0.34	0/901	0.58	0/1224
9	G	1.36	5/971 (0.5%)	1.67	22/1317 (1.7%)
10	H	0.41	0/1287	0.70	0/1725
11	I	4.03	6/890 (0.7%)	2.13	7/1216 (0.6%)
12	J	0.50	0/1136	0.70	0/1530
13	K	0.46	0/1001	0.77	0/1347
14	L	0.39	0/1130	0.68	0/1509
15	M	0.42	0/1583	0.68	0/2119
16	N	0.34	0/1474	0.66	0/1999
17	O	0.45	0/874	0.70	0/1181
18	P	0.42	0/1147	0.60	0/1528
19	Q	0.38	0/749	0.68	0/1005
20	R	0.50	0/1172	0.75	0/1578
21	S	0.42	0/648	0.64	0/875
22	T	0.42	0/958	0.71	0/1289
23	U	0.35	0/417	0.61	0/562
24	V	0.39	0/502	0.61	0/675
25	W	0.47	0/1219	0.77	0/1655
26	X	0.51	0/664	0.72	0/895
27	Y	0.48	0/1146	0.74	0/1536
28	Z	0.36	0/589	0.55	0/787
29	1	0.50	0/438	0.71	0/578
30	2	0.40	0/401	0.60	0/529
31	3	0.35	0/771	0.57	0/1024
All	All	0.66	11/99758 (0.0%)	0.77	67/149017 (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	6	93
2	9	0	1
9	G	0	8
11	I	2	4
All	All	8	106

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	I	24	LEU	CA-CB	82.97	3.44	1.53
11	I	24	LEU	CG-CD2	57.61	3.65	1.51
11	I	24	LEU	CG-CD1	50.48	3.38	1.51
11	I	24	LEU	CB-CG	34.68	2.53	1.52
9	G	54	HIS	CB-CG	28.65	2.01	1.50
9	G	54	HIS	C-N	-18.83	0.99	1.33
11	I	24	LEU	C-O	16.73	1.55	1.23
9	G	53	LEU	C-N	12.78	1.63	1.34
9	G	84	TYR	CD2-CE2	5.84	1.48	1.39
11	I	29	VAL	CB-CG2	-5.54	1.41	1.52
9	G	7	ARG	C-N	-5.02	1.22	1.34

All (67) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	I	24	LEU	CB-CA-C	-36.47	40.91	110.20
11	I	24	LEU	CD1-CG-CD2	-30.12	20.15	110.50
11	I	24	LEU	CB-CG-CD1	-29.18	61.40	111.00
11	I	24	LEU	CB-CG-CD2	-25.73	67.26	111.00
11	I	24	LEU	CA-CB-CG	-25.40	56.88	115.30
9	G	54	HIS	C-N-CA	20.83	166.04	122.30
11	I	24	LEU	N-CA-CB	19.84	150.08	110.40
9	G	54	HIS	O-C-N	-19.30	90.39	123.20
9	G	53	LEU	CA-C-N	-16.93	79.96	117.20
9	G	54	HIS	CA-C-N	16.92	150.04	116.20
9	G	110	THR	N-CA-C	13.23	146.73	111.00
1	0	1167	G	O4'-C4'-C3'	-11.40	92.59	104.00
9	G	53	LEU	O-C-N	10.72	139.85	122.70
1	0	1193	A	C5'-C4'-O4'	8.18	118.91	109.10

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	G	111	PRO	N-CA-C	8.01	132.93	112.10
9	G	31	GLU	N-CA-CB	7.94	124.89	110.60
9	G	110	THR	CB-CA-C	-7.77	90.61	111.60
1	0	1504	A	C1'-O4'-C4'	-7.69	103.75	109.90
1	0	1193	A	N9-C1'-C2'	7.61	123.90	114.00
1	0	1167	G	C1'-O4'-C4'	-7.58	103.84	109.90
9	G	30	TYR	CB-CA-C	7.55	125.50	110.40
1	0	1167	G	N9-C1'-C2'	7.32	123.52	114.00
9	G	52	ASP	N-CA-C	-7.21	91.53	111.00
9	G	82	ASN	CB-CA-C	-7.18	96.05	110.40
9	G	84	TYR	N-CA-C	7.03	129.98	111.00
1	0	1504	A	N9-C1'-C2'	6.90	122.97	114.00
9	G	39	ALA	CB-CA-C	-6.83	99.85	110.10
1	0	1979	G	C2'-C3'-O3'	6.72	124.45	113.70
2	9	103	A	C5'-C4'-O4'	6.71	117.15	109.10
1	0	1193	A	C2'-C3'-O3'	6.46	124.03	113.70
1	0	1193	A	C5'-C4'-C3'	6.43	126.29	116.00
9	G	123	ASP	CB-CA-C	-6.43	97.54	110.40
9	G	89	VAL	CB-CA-C	6.34	123.44	111.40
1	0	1878	G	N9-C1'-C2'	-6.16	105.23	112.00
1	0	2810	G	N9-C1'-C2'	-6.15	105.24	112.00
1	0	1829	A	N9-C1'-C2'	-6.13	105.25	112.00
9	G	109	LYS	N-CA-C	6.04	127.31	111.00
11	I	15	ASN	N-CA-C	5.93	127.02	111.00
1	0	1161	A	N9-C1'-C2'	5.93	121.71	114.00
1	0	464	G	N9-C1'-C2'	5.92	121.69	114.00
1	0	2313	C	C4'-C3'-C2'	-5.76	96.84	102.60
9	G	54	HIS	CA-CB-CG	-5.72	103.88	113.60
1	0	1942	A	C5'-C4'-C3'	5.68	125.08	116.00
9	G	84	TYR	CB-CG-CD2	5.66	124.39	121.00
1	0	1174	A	O4'-C1'-N9	5.64	112.72	108.20
9	G	123	ASP	N-CA-C	5.55	125.98	111.00
1	0	2313	C	C5'-C4'-C3'	5.53	124.85	116.00
1	0	148	A	N9-C1'-C2'	-5.51	105.94	112.00
1	0	237	G	N9-C1'-C2'	-5.50	105.95	112.00
1	0	2313	C	C1'-O4'-C4'	-5.42	105.56	109.90
5	C	73	LEU	CA-CB-CG	-5.41	102.86	115.30
1	0	332	G	N9-C1'-C2'	-5.39	106.07	112.00
1	0	1167	G	O4'-C1'-N9	-5.37	103.90	108.20
1	0	2718	C	C5'-C4'-O4'	-5.35	102.69	109.10
1	0	2664	A	N9-C1'-C2'	5.33	120.93	114.00
1	0	1167	G	C5'-C4'-O4'	5.32	115.49	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	0	2313	C	O4'-C4'-C3'	-5.25	98.75	104.00
1	0	1302	G	O4'-C4'-C3'	-5.24	98.76	104.00
1	0	871	G	C5'-C4'-O4'	-5.23	102.82	109.10
9	G	124	ILE	CB-CA-C	5.19	121.98	111.60
1	0	1174	A	C1'-O4'-C4'	-5.17	105.76	109.90
1	0	2760	C	N1-C1'-C2'	5.13	120.67	114.00
1	0	1942	A	C1'-O4'-C4'	-5.13	105.80	109.90
1	0	1165	G	C1'-O4'-C4'	-5.12	105.81	109.90
1	0	841	A	C1'-O4'-C4'	-5.08	105.84	109.90
1	0	1189	A	C1'-O4'-C4'	-5.03	105.88	109.90
9	G	84	TYR	CB-CG-CD1	-5.01	118.00	121.00

All (8) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	0	1161	A	C1'
1	0	1167	G	C1',C3'
1	0	1193	A	C4',C1',C3'
11	I	24	LEU	CA
11	I	30	ASP	CA

All (106) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1027	G	Sidechain
1	0	1072	G	Sidechain
1	0	1115	U	Sidechain
1	0	116	G	Sidechain
1	0	1167	G	Sidechain
1	0	1169	U	Sidechain
1	0	1193	A	Sidechain
1	0	1198	U	Sidechain
1	0	1234	U	Sidechain
1	0	1237	U	Sidechain
1	0	1261	A	Sidechain
1	0	1264	U	Sidechain
1	0	1316	G	Sidechain
1	0	1323	G	Sidechain
1	0	1328	A	Sidechain
1	0	1350	U	Sidechain
1	0	1364	G	Sidechain
1	0	1385	G	Sidechain

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Mol	Chain	Res	Type	Group
1	0	1458	A	Sidechain
1	0	1478	U	Sidechain
1	0	1561	U	Sidechain
1	0	1684	A	Sidechain
1	0	1711	A	Sidechain
1	0	1733	A	Sidechain
1	0	1761	U	Sidechain
1	0	1829	A	Sidechain
1	0	1835	U	Sidechain
1	0	1845	A	Sidechain
1	0	1878	G	Sidechain
1	0	191	A	Sidechain
1	0	1978	A	Sidechain
1	0	2034	U	Sidechain
1	0	2035	C	Sidechain
1	0	2042	U	Sidechain
1	0	2051	G	Sidechain
1	0	206	G	Sidechain
1	0	2068	G	Sidechain
1	0	2071	C	Sidechain
1	0	2076	U	Sidechain
1	0	2085	A	Sidechain
1	0	2123	A	Sidechain
1	0	2136	G	Sidechain
1	0	2284	G	Sidechain
1	0	2306	U	Sidechain
1	0	246	G	Sidechain
1	0	2480	G	Sidechain
1	0	2492	U	Sidechain
1	0	2501	G	Sidechain
1	0	2503	A	Sidechain
1	0	2506	A	Sidechain
1	0	2523	U	Sidechain
1	0	2526	C	Sidechain
1	0	2551	C	Sidechain
1	0	2610	U	Sidechain
1	0	2664	A	Sidechain
1	0	2671	U	Sidechain
1	0	2736	U	Sidechain
1	0	2749	U	Sidechain
1	0	2793	A	Sidechain
1	0	2840	A	Sidechain

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Mol	Chain	Res	Type	Group
1	0	2842	G	Sidechain
1	0	2853	U	Sidechain
1	0	308	U	Sidechain
1	0	315	G	Sidechain
1	0	331	A	Sidechain
1	0	436	A	Sidechain
1	0	455	A	Sidechain
1	0	471	G	Sidechain
1	0	475	G	Sidechain
1	0	482	G	Sidechain
1	0	49	A	Sidechain
1	0	502	A	Sidechain
1	0	506	G	Sidechain
1	0	518	G	Sidechain
1	0	521	A	Sidechain
1	0	537	G	Sidechain
1	0	564	G	Sidechain
1	0	614	U	Sidechain
1	0	619	U	Sidechain
1	0	625	U	Sidechain
1	0	626	U	Sidechain
1	0	637	C	Sidechain
1	0	761	A	Sidechain
1	0	781	C	Sidechain
1	0	79	G	Sidechain
1	0	818	A	Sidechain
1	0	832	U	Sidechain
1	0	857	A	Sidechain
1	0	866	U	Sidechain
1	0	874	A	Sidechain
1	0	903	U	Sidechain
1	0	942	U	Sidechain
1	0	952	G	Sidechain
2	9	85	A	Sidechain
9	G	123	ASP	Peptide
9	G	126	ILE	Peptide
9	G	127	PRO	Peptide
9	G	128	GLU	Peptide
9	G	53	LEU	Mainchain
9	G	54	HIS	Peptide,Sidechain
9	G	84	TYR	Sidechain
11	I	28	PRO	Peptide

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Mol	Chain	Res	Type	Group
11	I	30	ASP	Peptide
11	I	31	VAL	Peptide
11	I	32	GLN	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	58979	0	29793	2515	0
2	9	2600	0	1326	157	0
3	A	1753	0	1766	73	0
4	B	2625	0	2533	110	0
5	C	1859	0	1816	84	0
6	D	1094	0	1085	50	0
7	E	1357	0	1266	46	0
8	F	890	0	843	31	0
9	G	959	0	928	154	0
10	H	1266	0	1268	49	0
11	I	876	0	835	60	0
12	J	1120	0	1098	49	0
13	K	992	0	1031	44	0
14	L	1118	0	1076	34	0
15	M	1559	0	1567	63	0
16	N	1445	0	1401	73	0
17	O	865	0	873	28	0
18	P	1136	0	1123	39	0
19	Q	735	0	728	27	0
20	R	1149	0	1122	44	0
21	S	641	0	605	13	0
22	T	950	0	924	50	0
23	U	410	0	367	15	0
24	V	499	0	511	21	0
25	W	1196	0	1137	72	0
26	X	654	0	653	42	0
27	Y	1130	0	1133	51	0
28	Z	578	0	543	36	0
29	1	431	0	427	24	0
30	2	396	0	413	16	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
31	3	755	0	732	34	0
32	0	108	0	0	0	0
32	3	1	0	0	0	0
32	9	1	0	0	0	0
32	A	2	0	0	0	0
32	B	1	0	0	0	0
32	K	1	0	0	0	0
32	T	1	0	0	0	0
32	Y	1	0	0	0	0
33	0	1	0	0	0	0
33	M	1	0	0	0	0
34	0	73	0	0	0	0
34	9	3	0	0	0	0
34	A	1	0	0	0	0
34	C	1	0	0	0	0
34	H	1	0	0	0	0
34	J	1	0	0	0	0
34	L	1	0	0	0	0
34	M	1	0	0	0	0
34	Q	1	0	0	0	0
34	R	2	0	0	0	0
34	S	1	0	0	0	0
35	0	8	0	0	1	0
35	3	1	0	0	5	0
35	A	1	0	0	0	0
35	B	1	0	0	0	0
35	J	3	0	0	4	0
35	K	1	0	0	0	0
35	L	1	0	0	0	0
35	M	1	0	0	1	0
35	N	1	0	0	0	0
35	O	1	0	0	1	0
35	Q	1	0	0	1	0
35	R	1	0	0	0	0
35	Y	1	0	0	0	0
36	1	1	0	0	1	0
36	3	1	0	0	0	0
36	O	1	0	0	0	0
36	U	1	0	0	0	0
36	Z	1	0	0	0	0
All	All	92248	0	60923	3719	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 25.

All (3719) 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)
9:G:54:HIS:CG	9:G:54:HIS:CB	2.01	1.43
9:G:108:SER:O	9:G:109:LYS:HE3	1.32	1.30
1:0:1167:G:H5'	1:0:1168:C:OP2	1.34	1.28
9:G:33:VAL:C	9:G:123:ASP:OD2	1.72	1.27
9:G:35:VAL:HG21	9:G:122:ASN:OD1	1.37	1.25
9:G:32:SER:OG	9:G:124:ILE:CD1	1.83	1.24
1:0:1205:U:H2'	1:0:1206:U:H5"	1.25	1.18
9:G:32:SER:OG	9:G:124:ILE:HD11	1.01	1.18
1:0:1170:U:H2'	1:0:1171:A:H5"	1.19	1.17
1:0:1170:U:C2'	1:0:1171:A:H5"	1.77	1.14
1:0:1242:A:H5'	12:J:82:THR:HG23	1.26	1.14
9:G:35:VAL:CG2	9:G:122:ASN:OD1	1.93	1.14
25:W:21:LEU:HD22	25:W:26:ILE:HD11	1.30	1.14
1:0:2502:C:H2'	1:0:2503:A:H5'	1.14	1.12
1:0:2502:C:C2'	1:0:2503:A:H5'	1.80	1.12
1:0:1196:C:H2'	1:0:1197:G:H5"	1.33	1.09
2:9:56:A:H2'	2:9:57:A:H5"	1.20	1.09
9:G:85:ILE:HG13	9:G:89:VAL:HG21	1.35	1.08
1:0:1150:A:H4'	9:G:65:THR:HG21	1.33	1.07
1:0:871:G:H5'	1:0:871:G:H8	1.12	1.06
1:0:1309:U:O2'	1:0:1310:U:H5'	1.57	1.04
9:G:23:ILE:HD11	9:G:67:LEU:HD23	1.38	1.04
1:0:545:G:H5'	1:0:545:G:H8	1.16	1.03
1:0:1118:A:C8	1:0:1118:A:H3'	1.93	1.03
1:0:56:G:H5"	24:V:50:ARG:HH12	1.14	1.03
1:0:870:G:H2'	1:0:871:G:H5"	1.40	1.03
1:0:1194:A:O2'	1:0:1195:G:H5'	1.58	1.03
1:0:1527:A:H1'	1:0:1528:A:C8	1.94	1.03
1:0:1204:C:C6	1:0:1204:C:H5"	1.94	1.02
9:G:125:VAL:O	9:G:127:PRO:HD2	1.60	1.02
1:0:1162:G:C1'	11:I:113:LEU:HD11	1.89	1.01
9:G:32:SER:HB2	9:G:124:ILE:CG1	1.90	1.01
13:K:10:GLN:NE2	13:K:10:GLN:H	1.57	1.01
1:0:1118:A:H3'	1:0:1118:A:H8	1.22	1.00
1:0:1834:C:H2'	1:0:1840:A:N6	1.75	1.00
11:I:41:GLN:HE22	11:I:66:VAL:HG21	1.24	1.00
1:0:1162:G:H1'	11:I:113:LEU:HD11	1.02	1.00
1:0:1377:C:H5'	1:0:1377:C:H6	1.24	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1161:A:H5”	9:G:44:ARG:HA	1.44	0.99
1:0:1771:U:H5’	28:Z:20:ARG:HH21	1.23	0.99
1:0:236:A:H4’	1:0:237:G:H5’	1.44	0.99
2:9:76:G:H3’	2:9:77:A:H5”	1.44	0.99
1:0:877:G:H5’	1:0:878:G:OP1	1.62	0.99
9:G:34:GLY:N	9:G:123:ASP:OD2	1.96	0.98
2:9:28:U:H5”	16:N:40:ASN:ND2	1.78	0.98
24:V:2:VAL:HG21	24:V:45:ARG:HH21	1.24	0.98
1:0:871:G:H5’	1:0:871:G:C8	1.99	0.98
1:0:1667:A:H8	1:0:1667:A:H5’	1.27	0.98
10:H:46:GLN:HB3	10:H:167:PRO:HD2	1.46	0.98
9:G:35:VAL:HG22	9:G:122:ASN:HA	1.47	0.97
5:C:47:GLY:HA2	5:C:92:PRO:HB2	1.46	0.96
7:E:20:ILE:HD11	7:E:40:VAL:HG11	1.42	0.96
1:0:1162:G:H1’	11:I:113:LEU:CD1	1.93	0.96
2:9:56:A:C2’	2:9:57:A:H5”	1.95	0.96
10:H:166:SER:HB2	10:H:167:PRO:HD3	1.47	0.96
1:0:69:A:H5’	1:0:69:A:H8	1.29	0.96
1:0:2769:C:O2’	1:0:2770:G:H5’	1.67	0.95
1:0:2064:U:H2’	1:0:2065:C:H6	1.30	0.95
1:0:2812:A:H2	1:0:2814:A:H62	1.12	0.95
1:0:1835:U:H5	1:0:1840:A:N7	1.63	0.95
27:Y:187:VAL:HG23	27:Y:192:ASP:HB2	1.49	0.94
28:Z:46:ARG:HD2	28:Z:59:TYR:HB2	1.49	0.94
1:0:1170:U:H2’	1:0:1171:A:C5’	1.97	0.94
9:G:33:VAL:CA	9:G:123:ASP:OD2	2.14	0.94
1:0:156:C:H5”	15:M:171:ARG:HD3	1.45	0.94
2:9:14:G:H5’	2:9:14:G:C8	2.02	0.94
1:0:1593:C:H5’	18:P:116:SER:O	1.66	0.94
1:0:1163:G:OP2	1:0:1164:U:H3’	1.67	0.94
1:0:2524:G:H21	1:0:2526:C:H41	0.95	0.94
16:N:91:ARG:HG2	16:N:186:LEU:HB3	1.50	0.93
1:0:1625:U:H6	1:0:1625:U:H3’	1.33	0.93
1:0:2419:U:H5”	1:0:2420:G:H5’	1.49	0.93
1:0:1204:C:H5”	1:0:1204:C:H6	1.30	0.93
9:G:32:SER:HB2	9:G:124:ILE:HG13	1.50	0.93
1:0:1783:A:O2’	1:0:1784:U:H5’	1.67	0.93
1:0:1206:U:C2’	1:0:1207:A:H5’	1.99	0.93
1:0:1751:G:H2’	1:0:1752:G:H5”	1.49	0.93
1:0:1185:U:O2’	1:0:1186:C:H5’	1.70	0.92
1:0:1119:G:H2’	12:J:52:GLN:HE22	1.33	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:159:VAL:HG12	35:M:198:CL:CL	2.06	0.91
9:G:32:SER:CB	9:G:124:ILE:CG1	2.47	0.91
1:0:282:C:O2'	1:0:283:U:H5'	1.71	0.91
4:B:51:VAL:HG23	4:B:330:VAL:HG22	1.52	0.91
1:0:69:A:H5'	1:0:69:A:C8	2.05	0.90
4:B:27:ASN:HD22	4:B:27:ASN:H	1.13	0.90
9:G:99:PHE:CD2	9:G:131:THR:HG23	2.06	0.90
1:0:1211:G:H5"	9:G:64:ASN:HD21	1.34	0.90
11:I:20:LEU:HD23	11:I:31:VAL:HG11	1.54	0.90
1:0:31:C:H1'	22:T:13:ARG:NH2	1.87	0.90
1:0:545:G:H5'	1:0:545:G:C8	2.07	0.89
1:0:1909:A:H2'	1:0:1910:A:C8	2.06	0.89
11:I:41:GLN:NE2	11:I:66:VAL:HG21	1.87	0.89
9:G:32:SER:HG	9:G:124:ILE:HD11	1.17	0.89
11:I:29:VAL:HG23	11:I:29:VAL:O	1.68	0.89
9:G:9:THR:HG22	9:G:11:THR:O	1.71	0.89
1:0:1496:G:H5'	1:0:1572:A:H1'	1.55	0.88
11:I:52:VAL:HG12	11:I:66:VAL:HA	1.54	0.88
1:0:1167:G:C1'	1:0:1168:C:H5'	2.03	0.88
1:0:365:G:H2'	1:0:366:U:H6	1.35	0.88
5:C:107:ARG:HB3	5:C:107:ARG:HH11	1.39	0.87
1:0:289:G:H22	1:0:363:A:H2	1.23	0.87
1:0:1120:U:H6	1:0:1120:U:H5'	1.39	0.87
1:0:2533:C:H5'	1:0:2533:C:H6	1.39	0.87
26:X:78:GLU:HG2	26:X:79:GLU:H	1.37	0.87
1:0:1242:A:H5'	12:J:82:THR:CG2	2.03	0.86
1:0:1915:U:O2'	1:0:1916:C:H5'	1.75	0.86
1:0:1510:G:H2'	1:0:1511:U:H6	1.41	0.86
5:C:78:ARG:HH11	5:C:78:ARG:HG3	1.37	0.86
1:0:1167:G:C5'	1:0:1168:C:OP2	2.22	0.86
1:0:1771:U:H1'	28:Z:23:ARG:NH2	1.90	0.86
1:0:595:U:O2'	1:0:596:C:H5'	1.76	0.86
1:0:694:A:H2'	1:0:695:C:H5'	1.57	0.85
1:0:870:G:C2'	1:0:871:G:H5"	2.06	0.85
1:0:2716:G:H5"	4:B:206:THR:HG21	1.59	0.85
1:0:559:U:H6	1:0:559:U:H5'	1.42	0.85
2:9:14:G:H5'	2:9:14:G:H8	1.36	0.85
1:0:702:G:O2'	1:0:703:G:H5'	1.76	0.85
9:G:122:ASN:HB2	9:G:126:ILE:O	1.77	0.85
1:0:1904:A:C2	1:0:1905:U:H1'	2.11	0.85
1:0:821:U:H2'	1:0:822:C:H6	1.41	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:485:A:N3	1:0:487:G:H5"	1.92	0.84
1:0:2850:C:H6	1:0:2850:C:H5'	1.42	0.84
1:0:56:G:H5"	24:V:50:ARG:NH1	1.93	0.84
1:0:558:C:H2'	1:0:559:U:H5'	1.56	0.84
1:0:2506:A:HO2'	1:0:2507:G:H8	1.21	0.84
18:P:115:SER:H	18:P:118:GLN:HE21	1.22	0.84
1:0:20:G:H21	20:R:117:HIS:HD2	1.23	0.84
1:0:2661:U:H3	1:0:2812:A:H62	1.24	0.84
17:O:44:ASN:HB2	35:O:117:CL:CL	2.14	0.84
1:0:1213:C:O2'	1:0:1214:G:H5'	1.76	0.83
1:0:2393:C:H5'	19:Q:77:ASP:OD2	1.77	0.83
1:0:1377:C:H5'	1:0:1377:C:C6	2.13	0.83
1:0:755:G:O2'	1:0:756:A:H5'	1.78	0.83
1:0:1118:A:H62	1:0:1244:U:H3	1.24	0.83
1:0:2502:C:H2'	1:0:2503:A:C5'	2.03	0.83
15:M:164:THR:HG22	15:M:165:GLY:H	1.43	0.83
1:0:2524:G:N2	1:0:2526:C:H41	1.77	0.83
13:K:10:GLN:H	13:K:10:GLN:HE21	1.21	0.83
26:X:43:VAL:HG12	26:X:44:ASP:H	1.44	0.83
1:0:1206:U:H5'	1:0:1206:U:H6	1.44	0.83
1:0:541:C:H2'	1:0:542:A:C5'	2.08	0.82
1:0:1114:A:H2'	1:0:1115:U:H6	1.41	0.82
1:0:1205:U:C2'	1:0:1206:U:H5"	2.07	0.82
5:C:127:ARG:NH2	5:C:225:PRO:HG2	1.94	0.82
1:0:2731:G:H2'	1:0:2732:U:H6	1.42	0.82
1:0:1119:G:H22	1:0:1246:A:H2	1.27	0.82
1:0:1196:C:C2'	1:0:1197:G:H5"	2.08	0.82
1:0:236:A:C4'	1:0:237:G:H5'	2.08	0.82
1:0:2355:G:H5"	1:0:2356:A:OP2	1.80	0.82
1:0:541:C:H2'	1:0:542:A:H5'	1.61	0.82
1:0:1206:U:H2'	1:0:1207:A:H5'	1.60	0.82
1:0:2908:A:H2'	1:0:2909:G:O4'	1.78	0.82
1:0:1197:G:O2'	1:0:1198:U:H5'	1.80	0.82
1:0:1330:A:H5"	1:0:1331:A:OP2	1.79	0.82
1:0:2073:G:OP2	1:0:2490:A:H5'	1.80	0.82
1:0:2578:G:H5'	1:0:2578:G:H8	1.42	0.82
1:0:283:U:H5	1:0:284:C:H42	1.28	0.82
1:0:1923:G:H4'	31:3:31:THR:O	1.80	0.82
1:0:1603:A:H5'	1:0:1605:G:O4'	1.78	0.81
1:0:447:A:OP1	22:T:2:LYS:HG2	1.81	0.81
13:K:49:LEU:HD23	13:K:73:VAL:HG12	1.61	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:228:C:H2'	1:0:229:G:H5'	1.62	0.81
1:0:1163:G:H4'	11:I:112:LEU:CD1	2.11	0.81
1:0:338:C:H4'	5:C:174:ILE:CD1	2.10	0.81
1:0:1116:U:HO2'	1:0:1118:A:H2	1.27	0.81
25:W:38:THR:HG22	25:W:39:ASP:H	1.45	0.81
1:0:1741:U:H5'	1:0:1742:A:OP1	1.81	0.81
9:G:97:ASN:ND2	9:G:99:PHE:HB2	1.96	0.80
1:0:1835:U:C5	1:0:1840:A:N7	2.50	0.80
12:J:75:PRO:HG2	12:J:105:LEU:HD21	1.63	0.80
1:0:2769:C:C2'	1:0:2770:G:H5'	2.10	0.80
26:X:28:LYS:HA	26:X:31:ILE:HD12	1.63	0.80
1:0:1987:C:H2'	1:0:1988:C:C6	2.16	0.80
1:0:2851:G:C2'	1:0:2852:A:H5'	2.12	0.80
1:0:2578:G:H5'	1:0:2578:G:C8	2.16	0.80
1:0:1266:U:H4'	27:Y:115:ARG:NH2	1.96	0.80
1:0:1878:G:HO2'	1:0:1879:U:H6	1.21	0.80
9:G:35:VAL:HG22	9:G:122:ASN:OD1	1.82	0.80
1:0:2256:G:C2'	1:0:2257:G:H5'	2.12	0.80
1:0:2256:G:H2'	1:0:2257:G:H5'	1.64	0.80
1:0:390:G:H2'	1:0:391:U:H6	1.47	0.79
1:0:1474:C:H6	1:0:1474:C:H5'	1.48	0.79
1:0:2064:U:H2'	1:0:2065:C:C6	2.18	0.79
2:9:9:C:H2'	2:9:10:C:H5'	1.65	0.79
9:G:108:SER:O	9:G:109:LYS:CE	2.24	0.79
1:0:694:A:C2'	1:0:695:C:H5'	2.13	0.79
1:0:821:U:H2'	1:0:822:C:C6	2.18	0.79
1:0:1552:G:H2'	1:0:1553:C:H6	1.48	0.79
9:G:124:ILE:HG22	9:G:125:VAL:HG23	1.65	0.79
1:0:2365:G:H4'	19:Q:45:PRO:O	1.81	0.79
9:G:32:SER:OG	9:G:124:ILE:CG1	2.30	0.79
9:G:32:SER:HB2	9:G:124:ILE:HG12	1.64	0.79
1:0:558:C:O2'	1:0:559:U:H5"	1.82	0.79
1:0:1987:C:H2'	1:0:1988:C:H6	1.47	0.79
1:0:1163:G:H4'	11:I:112:LEU:HD11	1.65	0.79
1:0:1422:U:H2'	1:0:1423:C:H6	1.47	0.79
1:0:2420:G:O2'	1:0:2421:G:H5'	1.82	0.79
2:9:38:A:H2'	2:9:39:U:C6	2.18	0.79
1:0:524:A:H5"	20:R:29:LYS:HE2	1.63	0.78
11:I:29:VAL:O	11:I:29:VAL:CG2	2.30	0.78
1:0:1989:G:H2'	1:0:1990:C:H6	1.48	0.78
31:3:25:VAL:HG22	31:3:68:LYS:HG3	1.65	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1204:C:H5'	1:0:1205:U:OP2	1.83	0.78
1:0:2897:C:O2'	1:0:2898:G:H5'	1.83	0.78
10:H:69:ALA:HB2	10:H:153:ALA:HB2	1.65	0.78
1:0:2851:G:O2'	1:0:2852:A:H5'	1.84	0.78
1:0:1450:C:H4'	1:0:1451:C:OP2	1.80	0.78
1:0:1674:C:H2'	1:0:1675:C:H6	1.47	0.78
1:0:2756:U:H3	1:0:2896:A:H2	1.32	0.78
15:M:74:LYS:O	15:M:88:VAL:HG13	1.84	0.78
1:0:236:A:H8	1:0:236:A:OP1	1.67	0.78
1:0:408:A:C2'	1:0:409:U:H5'	2.14	0.78
1:0:1783:A:C2'	1:0:1784:U:H5'	2.14	0.78
9:G:37:ASN:HD21	9:G:92:ILE:HG23	1.49	0.78
1:0:136:C:H2'	1:0:137:U:O4'	1.84	0.78
1:0:1089:G:H2'	1:0:1090:A:H8	1.48	0.78
1:0:1246:A:H5'	1:0:1246:A:H8	1.48	0.78
1:0:1878:G:O2'	1:0:1879:U:H6	1.65	0.78
1:0:2039:A:H2'	1:0:2040:C:H6	1.48	0.77
1:0:524:A:C5'	20:R:29:LYS:HE2	2.14	0.77
4:B:27:ASN:H	4:B:27:ASN:ND2	1.82	0.77
9:G:84:TYR:HB3	9:G:121:PRO:HG3	1.66	0.77
23:U:9:CYS:SG	23:U:11:THR:HG23	2.24	0.77
1:0:157:G:H4'	15:M:95:LYS:HE3	1.64	0.77
1:0:1667:A:H5'	1:0:1667:A:C8	2.17	0.77
9:G:121:PRO:CA	9:G:127:PRO:HB3	2.14	0.77
16:N:72:GLU:H	16:N:171:HIS:HE1	1.33	0.77
1:0:31:C:H1'	22:T:13:ARG:HH22	1.46	0.77
1:0:816:G:C6	1:0:817:G:N1	2.52	0.77
1:0:1170:U:C3'	1:0:1171:A:H5"	2.15	0.77
1:0:2312:G:H2'	1:0:2313:C:H5'	1.67	0.77
1:0:2766:A:O2'	1:0:2767:C:H5'	1.84	0.77
1:0:2505:G:O2'	1:0:2506:A:H5'	1.84	0.77
1:0:1708:C:O2'	1:0:1709:G:H5'	1.85	0.77
2:9:29:C:H2'	2:9:30:C:H5'	1.67	0.77
1:0:152:A:C2	1:0:153:C:C2	2.73	0.77
1:0:1625:U:H3'	1:0:1625:U:C6	2.17	0.77
1:0:282:C:H1'	1:0:368:C:N4	2.00	0.77
7:E:154:ILE:HD11	7:E:157:LYS:HB2	1.67	0.77
9:G:121:PRO:CB	9:G:127:PRO:CB	2.63	0.77
31:3:70:ARG:HG2	31:3:77:ALA:HB2	1.67	0.77
1:0:2524:G:H21	1:0:2526:C:N4	1.79	0.76
1:0:188:C:H5"	15:M:163:LEU:HD21	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:54:LEU:HD21	5:C:87:ARG:HD2	1.67	0.76
1:0:705:C:H42	1:0:723:G:H1	1.33	0.76
4:B:27:ASN:HD22	4:B:27:ASN:N	1.83	0.76
26:X:76:ARG:HH11	26:X:76:ARG:HG3	1.48	0.76
1:0:638:C:O2'	1:0:639:A:H5'	1.85	0.76
1:0:2859:C:H6	1:0:2859:C:H5"	1.51	0.76
1:0:1787:C:O2'	1:0:1788:U:H5'	1.84	0.76
1:0:2421:G:H3'	1:0:2422:U:H5"	1.65	0.76
1:0:2318:C:C4	1:0:2319:C:H5	2.03	0.76
1:0:280:C:H2'	1:0:281:U:O4'	1.84	0.76
1:0:283:U:H5	1:0:284:C:N4	1.84	0.76
1:0:1704:G:H1'	18:P:57:ASN:HD22	1.51	0.76
1:0:2717:C:O2'	1:0:2718:C:H5"	1.85	0.76
4:B:162:MET:SD	4:B:310:ARG:HD3	2.26	0.76
29:1:21:ARG:HD2	29:1:37:CYS:SG	2.26	0.76
1:0:1400:C:H2'	1:0:1401:G:H5'	1.67	0.75
1:0:2039:A:H2'	1:0:2040:C:C6	2.20	0.75
1:0:542:A:H5'	1:0:542:A:H8	1.50	0.75
1:0:1309:U:C2'	1:0:1310:U:H5'	2.17	0.75
1:0:2421:G:H3'	1:0:2422:U:C5'	2.16	0.75
1:0:646:G:H2'	1:0:647:U:C6	2.22	0.75
8:F:56:PRO:HG2	15:M:44:THR:HA	1.68	0.75
9:G:60:ARG:NH2	9:G:91:LEU:HD13	2.00	0.75
1:0:1119:G:H2'	12:J:52:GLN:NE2	2.02	0.75
1:0:88:G:H8	1:0:88:G:H5'	1.49	0.75
1:0:685:C:O2'	1:0:686:A:H5'	1.86	0.75
1:0:824:G:C8	1:0:854:G:O6	2.40	0.75
1:0:1332:C:O2'	1:0:1333:U:H5'	1.86	0.75
5:C:115:LEU:HD13	5:C:223:LEU:HD21	1.69	0.75
1:0:1393:A:H2'	1:0:1394:C:C6	2.22	0.75
1:0:1328:A:OP1	27:Y:169:ARG:HD2	1.87	0.74
1:0:1422:U:H2'	1:0:1423:C:C6	2.20	0.74
1:0:1114:A:H2'	1:0:1115:U:C6	2.22	0.74
1:0:1186:C:O2'	1:0:1187:U:H5'	1.88	0.74
1:0:1972:U:H2'	1:0:1973:A:H5'	1.69	0.74
2:9:13:A:O2'	2:9:14:G:H5"	1.86	0.74
10:H:9:ILE:HD12	10:H:54:THR:HG22	1.67	0.74
1:0:329:A:OP2	5:C:206:ASN:HB2	1.86	0.74
5:C:236:THR:HG22	5:C:239:ALA:H	1.52	0.74
1:0:1345:A:H2'	1:0:1346:U:H6	1.53	0.74
1:0:2521:A:OP2	10:H:3:ALA:HB3	1.86	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:36:PRO:HA	4:B:168:GLY:HA3	1.68	0.74
20:R:8:ALA:HB1	20:R:13:THR:HG21	1.69	0.74
1:0:1552:G:H2'	1:0:1553:C:C6	2.22	0.74
1:0:185:G:H4'	1:0:186:A:H4'	1.70	0.74
1:0:1080:C:H4'	1:0:1081:A:OP1	1.85	0.74
1:0:2035:C:O2'	1:0:2036:C:H5'	1.88	0.74
6:D:141:VAL:HG13	6:D:144:ARG:HH21	1.53	0.74
1:0:1450:C:O2'	1:0:1494:A:H5'	1.88	0.73
6:D:49:PRO:HA	6:D:73:VAL:HG22	1.68	0.73
8:F:84:GLY:HA3	8:F:92:GLY:HA2	1.70	0.73
1:0:1150:A:C2	9:G:20:VAL:HG21	2.23	0.73
2:9:26:C:O2'	2:9:27:C:H5'	1.87	0.73
4:B:217:ARG:HG3	4:B:257:THR:HG22	1.68	0.73
1:0:134:U:C2	1:0:145:A:C2	2.77	0.73
1:0:1150:A:H4'	9:G:65:THR:CG2	2.13	0.73
1:0:1416:G:H2'	1:0:1417:G:H5'	1.70	0.73
1:0:2244:A:H5"	15:M:29:GLN:OE1	1.89	0.73
9:G:60:ARG:CZ	9:G:91:LEU:HD13	2.18	0.73
9:G:121:PRO:HB3	9:G:127:PRO:HB2	1.71	0.73
1:0:703:G:O2'	1:0:704:C:H5'	1.89	0.73
9:G:33:VAL:CG1	9:G:94:THR:H	2.00	0.73
1:0:365:G:H2'	1:0:366:U:C6	2.22	0.73
1:0:2241:C:H2'	1:0:2242:U:H6	1.52	0.73
1:0:2676:C:H4'	12:J:70:PHE:CE1	2.24	0.73
22:T:71:VAL:HG11	22:T:90:PRO:HB3	1.71	0.73
1:0:160:A:C4	1:0:177:A:C2	2.77	0.72
1:0:1862:C:O2'	1:0:1863:G:H5'	1.88	0.72
2:9:70:U:H2'	2:9:71:C:O4'	1.87	0.72
9:G:10:GLU:HG2	9:G:11:THR:H	1.52	0.72
12:J:52:GLN:HG3	12:J:53:ILE:N	2.04	0.72
1:0:671:A:O2'	1:0:672:G:H2'	1.89	0.72
1:0:2296:C:H4'	1:0:2362:A:C2	2.24	0.72
9:G:112:ALA:HB3	9:G:113:PRO:HD3	1.71	0.72
1:0:184:G:O2'	1:0:185:G:H5'	1.89	0.72
1:0:746:A:C6	17:O:65:LEU:HD13	2.23	0.72
1:0:1439:C:H5"	30:2:41:HIS:HE1	1.55	0.72
1:0:1634:G:H2'	1:0:1635:U:H6	1.53	0.72
1:0:1771:U:H5'	28:Z:20:ARG:NH2	2.02	0.72
1:0:1802:G:N2	1:0:1803:C:C2	2.57	0.72
9:G:32:SER:CB	9:G:124:ILE:HG12	2.17	0.72
27:Y:200:THR:HG22	27:Y:201:GLU:HG3	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1601:G:H2'	1:0:1602:C:H6	1.53	0.72
1:0:2346:C:H4'	6:D:52:THR:CG2	2.18	0.72
9:G:34:GLY:HA2	9:G:92:ILE:O	1.89	0.72
1:0:316:A:H5'	22:T:54:ASP:OD2	1.89	0.72
1:0:371:U:H2'	1:0:372:A:H8	1.52	0.72
1:0:1771:U:H1'	28:Z:23:ARG:HH22	1.53	0.72
1:0:2586:U:H3	1:0:2592:G:H22	1.36	0.72
7:E:116:THR:HG22	7:E:151:LEU:HD22	1.71	0.72
1:0:1601:G:H2'	1:0:1602:C:C6	2.24	0.72
1:0:2834:G:H5"	26:X:39:LYS:HZ1	1.53	0.72
2:9:36:C:C5	2:9:37:C:C5	2.77	0.72
10:H:23:ILE:HA	10:H:120:ILE:HG21	1.70	0.72
22:T:24:ARG:HH21	22:T:39:ASN:HD22	1.35	0.72
9:G:125:VAL:O	9:G:127:PRO:CD	2.37	0.72
30:2:40:ARG:HD2	30:2:47:THR:HG22	1.71	0.72
1:0:702:G:HO2'	1:0:703:G:H5'	1.55	0.71
1:0:1883:U:C2'	1:0:1884:G:H5'	2.19	0.71
1:0:2296:C:H4'	1:0:2362:A:H2	1.55	0.71
1:0:2345:A:H3'	1:0:2346:C:C5	2.25	0.71
1:0:1116:U:O2'	1:0:1118:A:H2	1.74	0.71
1:0:1194:A:H5'	1:0:1194:A:H8	1.54	0.71
1:0:1246:A:H5'	1:0:1246:A:C8	2.25	0.71
1:0:2256:G:H2'	1:0:2257:G:C5'	2.19	0.71
1:0:2781:U:O2'	1:0:2782:G:H5'	1.90	0.71
25:W:7:LEU:HD12	25:W:53:ALA:HB2	1.71	0.71
1:0:154:C:O2'	1:0:155:C:H5'	1.89	0.71
9:G:81:LEU:HA	9:G:85:ILE:HG22	1.71	0.71
1:0:290:C:O2'	1:0:291:C:H5'	1.90	0.71
1:0:1815:A:H8	1:0:1815:A:O5'	1.73	0.71
1:0:287:C:H2'	1:0:288:A:H8	1.55	0.71
1:0:677:C:C2	1:0:678:G:C8	2.78	0.71
1:0:2731:G:H2'	1:0:2732:U:C6	2.24	0.71
2:9:51:A:H5'	16:N:160:SER:HB3	1.72	0.71
25:W:146:ILE:O	25:W:150:LEU:HG	1.90	0.71
1:0:541:C:O2'	1:0:542:A:H5"	1.90	0.71
1:0:2013:G:C2	1:0:2014:G:N7	2.59	0.71
2:9:92:G:H2'	2:9:93:A:C8	2.26	0.71
1:0:1400:C:C2'	1:0:1401:G:H5'	2.21	0.71
5:C:129:HIS:CE1	5:C:231:ARG:HA	2.26	0.71
26:X:43:VAL:HG12	26:X:44:ASP:N	2.06	0.71
1:0:2781:U:C2'	1:0:2782:G:H5'	2.20	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:871:G:H8	1:0:871:G:C5'	1.96	0.71
1:0:1548:U:O2'	1:0:1549:C:H5'	1.91	0.71
4:B:168:GLY:H	4:B:174:ARG:HD3	1.56	0.71
1:0:1636:G:O2'	1:0:1637:A:H5'	1.91	0.70
1:0:1822:A:O2'	1:0:1823:G:H5'	1.89	0.70
1:0:1829:A:C8	1:0:1885:A:C8	2.79	0.70
1:0:2050:G:OP1	20:R:79:ARG:HB3	1.91	0.70
1:0:2715:G:H5'	4:B:13:PHE:CE1	2.25	0.70
15:M:68:ARG:O	15:M:68:ARG:HD3	1.90	0.70
16:N:93:GLN:HE21	16:N:127:LEU:HD12	1.56	0.70
1:0:1477:C:H5'	1:0:1868:G:H5"	1.73	0.70
1:0:120:A:H2'	1:0:120:A:N3	2.05	0.70
1:0:2588:OMG:HM23	1:0:2617:G:C2	2.27	0.70
1:0:2908:A:O5'	1:0:2908:A:H8	1.74	0.70
18:P:9:LEU:O	18:P:13:VAL:HG12	1.92	0.70
1:0:453:A:C4	1:0:479:G:N7	2.59	0.70
1:0:1537:C:O2'	1:0:1538:C:H5'	1.91	0.70
1:0:2533:C:H5'	1:0:2533:C:C6	2.26	0.70
1:0:2526:C:C2'	1:0:2527:U:H5'	2.21	0.70
2:9:28:U:H2'	2:9:29:C:C6	2.27	0.70
9:G:64:ASN:HD22	9:G:89:VAL:HG12	1.55	0.70
1:0:1589:G:N2	1:0:1605:G:H1'	2.05	0.70
1:0:2318:C:C4	1:0:2319:C:C5	2.79	0.70
1:0:462:A:N6	1:0:477:A:C2	2.60	0.70
1:0:661:G:C5	1:0:686:A:C2	2.79	0.70
1:0:1213:C:C2'	1:0:1214:G:H5'	2.22	0.70
1:0:1375:A:C2'	1:0:1376:G:H5'	2.21	0.70
1:0:1819:G:O2'	1:0:1820:G:H5'	1.92	0.70
2:9:49:G:O2'	2:9:50:G:H5'	1.92	0.70
1:0:1768:C:C5	1:0:1769:C:C5	2.80	0.70
1:0:2781:U:H2'	1:0:2782:G:H5'	1.73	0.70
9:G:38:ILE:HG13	9:G:88:GLN:O	1.91	0.70
1:0:1118:A:C8	1:0:1118:A:C3'	2.62	0.70
1:0:1301:C:O2'	1:0:1331:A:H4'	1.92	0.70
1:0:2099:G:N2	1:0:2646:G:C5	2.60	0.70
1:0:2506:A:O2'	1:0:2507:G:H8	1.73	0.70
1:0:2804:C:H2'	1:0:2805:A:O4'	1.92	0.70
2:9:50:G:C6	2:9:51:A:C6	2.80	0.70
1:0:541:C:C2'	1:0:542:A:H5"	2.21	0.70
1:0:1197:G:C2'	1:0:1198:U:H5'	2.21	0.70
1:0:2354:A:C2	1:0:2367:A:C8	2.78	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:K:12:LEU:HB2	13:K:47:ALA:HB3	1.74	0.70
20:R:18:LEU:HB2	20:R:143:VAL:HG13	1.74	0.70
1:0:1197:G:H8	1:0:1197:G:H5'	1.56	0.69
1:0:2781:U:H2'	1:0:2782:G:C5'	2.22	0.69
1:0:423:A:C2	1:0:424:C:C2	2.80	0.69
1:0:656:G:OP2	17:O:37:ARG:HD2	1.91	0.69
1:0:445:U:O2'	1:0:446:G:H5'	1.93	0.69
1:0:694:A:H2'	1:0:695:C:C5'	2.21	0.69
1:0:1204:C:C6	1:0:1204:C:C5'	2.74	0.69
1:0:449:A:C8	5:C:43:LYS:HG2	2.27	0.69
1:0:1334:C:H2'	1:0:1335:C:H6	1.57	0.69
5:C:78:ARG:HG3	5:C:78:ARG:NH1	2.00	0.69
17:O:18:ALA:HB2	17:O:26:TRP:HB2	1.74	0.69
1:0:324:G:C6	1:0:325:U:C5	2.81	0.69
1:0:1644:C:C4	1:0:1645:U:C5	2.80	0.69
1:0:2834:G:H5"	26:X:39:LYS:NZ	2.06	0.69
1:0:2890:A:H1'	23:U:56:ARG:NH2	2.07	0.69
9:G:10:GLU:HG2	9:G:11:THR:N	2.07	0.69
12:J:107:ASN:HD21	12:J:109:TYR:HB2	1.57	0.69
16:N:72:GLU:H	16:N:171:HIS:CE1	2.11	0.69
1:0:328:U:O2	5:C:202:THR:HG21	1.92	0.69
1:0:342:C:H2'	1:0:343:C:H6	1.56	0.69
1:0:1165:G:O2'	1:0:1174:A:H4'	1.92	0.69
1:0:1194:A:C2'	1:0:1195:G:H5'	2.23	0.69
1:0:1207:A:O3'	1:0:1208:C:P	2.51	0.69
1:0:1439:C:H5"	30:2:41:HIS:CE1	2.28	0.69
1:0:1751:G:C2'	1:0:1752:G:H5"	2.22	0.69
13:K:62:PRO:HG3	13:K:65:ARG:NH2	2.06	0.69
1:0:1116:U:H3	1:0:1246:A:N6	1.91	0.69
1:0:2013:G:N2	1:0:2014:G:C5	2.61	0.69
1:0:2594:C:O2'	1:0:2595:U:H5'	1.92	0.69
3:A:199:HIS:HD2	3:A:201:PHE:H	1.41	0.69
9:G:64:ASN:HB3	9:G:89:VAL:CG1	2.23	0.69
1:0:2318:C:C5	1:0:2319:C:H5	2.11	0.69
2:9:28:U:H5"	16:N:40:ASN:HD22	1.57	0.69
3:A:199:HIS:CD2	3:A:201:PHE:H	2.11	0.69
1:0:60:A:O2'	1:0:61:G:H5'	1.93	0.69
1:0:156:C:H5"	15:M:171:ARG:CD	2.21	0.69
1:0:1119:G:N2	1:0:1246:A:H2	1.90	0.69
1:0:1345:A:H2'	1:0:1346:U:C6	2.27	0.69
1:0:1864:C:H2'	1:0:1865:A:O4'	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:635:A:H2'	1:0:636:G:H5"	1.75	0.68
1:0:857:A:H4'	3:A:176:HIS:CD2	2.28	0.68
1:0:1641:A:H2'	1:0:1642:A:H5'	1.75	0.68
1:0:2256:G:O2'	1:0:2257:G:H5'	1.93	0.68
2:9:19:G:O2'	2:9:20:G:H5'	1.93	0.68
1:0:1159:G:H1	1:0:1208:C:H42	1.41	0.68
1:0:1176:C:H6	1:0:1176:C:H5"	1.58	0.68
1:0:1625:U:C6	1:0:1625:U:C3'	2.76	0.68
9:G:60:ARG:HH21	9:G:91:LEU:HD22	1.58	0.68
16:N:5:ARG:HG3	19:Q:18:PRO:HB3	1.74	0.68
1:0:1127:C:H2'	1:0:1128:U:H5'	1.75	0.68
1:0:2784:A:H1'	7:E:60:SER:OG	1.92	0.68
13:K:29:LEU:HB3	13:K:55:VAL:HG11	1.75	0.68
24:V:12:THR:HG22	24:V:15:GLU:HG3	1.74	0.68
1:0:212:A:O4'	1:0:214:U:C6	2.46	0.68
1:0:407:A:H2'	1:0:408:A:C8	2.29	0.68
1:0:1798:C:O2	1:0:1798:C:H2'	1.93	0.68
1:0:2028:U:H2'	1:0:2029:C:H6	1.59	0.68
1:0:1204:C:H6	1:0:1204:C:C5'	2.04	0.68
1:0:2060:A:C2	1:0:2061:C:C2	2.82	0.68
15:M:164:THR:HG22	15:M:165:GLY:N	2.07	0.68
1:0:1224:G:H2'	1:0:1225:C:H6	1.59	0.68
9:G:68:GLU:HG3	9:G:81:LEU:HD22	1.74	0.68
1:0:100:C:H2'	1:0:101:C:H6	1.58	0.68
1:0:2654:C:O2'	1:0:2655:U:H5'	1.93	0.68
4:B:190:MET:HE2	4:B:194:PHE:CD1	2.28	0.68
7:E:81:GLU:O	7:E:172:PRO:HD3	1.94	0.68
1:0:1634:G:C4	1:0:1635:U:C5	2.81	0.68
1:0:1992:U:O2	1:0:1994:A:H8	1.77	0.68
1:0:2346:C:H6	1:0:2346:C:O5'	1.76	0.68
1:0:558:C:H2'	1:0:559:U:C5'	2.24	0.67
1:0:1733:A:H4'	4:B:212:GLN:HA	1.74	0.67
16:N:36:ALA:HB1	16:N:115:VAL:HG12	1.75	0.67
1:0:1674:C:H2'	1:0:1675:C:C6	2.28	0.67
1:0:1706:G:C6	1:0:1707:G:C6	2.82	0.67
11:I:14:ALA:HB1	11:I:35:VAL:HG22	1.76	0.67
1:0:1579:C:H1'	1:0:1580:A:C8	2.30	0.67
1:0:2281:C:C2'	1:0:2282:U:H5'	2.23	0.67
1:0:2864:U:H3'	1:0:2865:G:C8	2.30	0.67
1:0:737:A:H2'	1:0:738:G:O4'	1.94	0.67
1:0:816:G:C5	1:0:817:G:C6	2.83	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:937:C:O2'	1:0:938:G:H5'	1.94	0.67
1:0:1446:U:H2'	21:S:55:GLN:NE2	2.10	0.67
1:0:1120:U:H5'	1:0:1120:U:C6	2.28	0.67
1:0:1616:A:H5"	1:0:1617:C:OP1	1.93	0.67
1:0:1904:A:C2	1:0:1905:U:C1'	2.78	0.67
3:A:35:GLY:O	3:A:36:ASP:HB3	1.93	0.67
9:G:121:PRO:HA	9:G:127:PRO:HB3	1.75	0.67
22:T:17:HIS:NE2	22:T:18:GLU:HG3	2.10	0.67
1:0:955:A:H2'	1:0:956:G:O4'	1.95	0.67
1:0:1762:C:H2'	1:0:1763:C:C6	2.30	0.67
2:9:117:G:H2'	2:9:118:C:H6	1.60	0.67
1:0:896:C:C2'	1:0:897:A:H5'	2.25	0.67
1:0:1625:U:H6	1:0:1625:U:C3'	2.07	0.67
7:E:14:GLU:HG2	7:E:15:GLN:N	2.09	0.67
1:0:157:G:H4'	15:M:95:LYS:CE	2.25	0.67
1:0:1928:C:O2'	1:0:1929:G:H5'	1.95	0.67
1:0:2727:A:H2'	1:0:2728:C:H5'	1.76	0.67
18:P:94:TRP:CZ2	18:P:98:ILE:HG13	2.30	0.67
22:T:65:VAL:HG22	22:T:72:ILE:HG22	1.75	0.67
1:0:1015:C:H2'	1:0:1016:U:H6	1.61	0.67
1:0:1909:A:H2'	1:0:1910:A:H8	1.60	0.67
1:0:2263:G:H4'	15:M:70:GLY:HA2	1.77	0.67
27:Y:97:LEU:HD23	27:Y:235:GLU:HG3	1.76	0.67
1:0:47:G:N3	1:0:114:A:C2	2.63	0.66
1:0:541:C:C2'	1:0:542:A:C5'	2.73	0.66
1:0:1561:U:O2	1:0:1561:U:H2'	1.94	0.66
1:0:1758:U:H6	1:0:1758:U:O5'	1.78	0.66
6:D:51:ARG:HD2	6:D:68:PRO:HB3	1.75	0.66
25:W:40:ALA:O	25:W:44:MET:HG3	1.95	0.66
1:0:1025:C:H2'	1:0:1026:C:C6	2.30	0.66
1:0:1139:U:H2'	1:0:1140:C:H6	1.58	0.66
2:9:117:G:H2'	2:9:118:C:C6	2.28	0.66
10:H:56:GLN:HE21	10:H:126:ARG:HE	1.41	0.66
20:R:99:ALA:HB1	20:R:109:MET:HE1	1.75	0.66
25:W:6:GLN:HB2	25:W:26:ILE:HD12	1.77	0.66
1:0:134:U:O2	1:0:145:A:C2	2.47	0.66
1:0:2312:G:C2'	1:0:2313:C:H5'	2.25	0.66
27:Y:97:LEU:CD2	27:Y:235:GLU:HG3	2.26	0.66
1:0:31:C:C2	22:T:12:ARG:NH1	2.63	0.66
1:0:1161:A:H1'	9:G:43:SER:OG	1.95	0.66
9:G:54:HIS:CG	9:G:54:HIS:H	2.14	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:492:C:C2	1:0:501:G:N2	2.63	0.66
1:0:1380:U:O4	1:0:2043:U:H4'	1.95	0.66
1:0:1624:A:H4'	1:0:1626:A:H5"	1.76	0.66
1:0:2873:C:C2	1:0:2874:G:C8	2.84	0.66
4:B:177:HIS:O	4:B:181:ILE:HG13	1.94	0.66
9:G:16:LYS:O	9:G:20:VAL:HG23	1.95	0.66
25:W:68:THR:HG23	25:W:69:ARG:HG2	1.75	0.66
1:0:66:G:H2'	1:0:108:U:O2'	1.95	0.66
1:0:1945:G:C5	1:0:1946:C:C5	2.84	0.66
1:0:2036:C:H4'	13:K:44:LEU:HG	1.78	0.66
16:N:22:GLN:O	16:N:26:LEU:HD22	1.95	0.66
1:0:944:G:H21	25:W:44:MET:CE	2.09	0.66
1:0:1185:U:H2'	1:0:1186:C:H6	1.60	0.66
1:0:1206:U:H6	1:0:1206:U:C5'	2.08	0.66
1:0:1216:G:N7	9:G:7:ARG:NH1	2.42	0.66
1:0:275:G:N2	1:0:376:C:C2	2.64	0.66
1:0:1989:G:H2'	1:0:1990:C:C6	2.31	0.66
1:0:2264:A:C2	1:0:2265:U:C2	2.83	0.66
9:G:85:ILE:CG1	9:G:89:VAL:HG21	2.21	0.66
11:I:38:ILE:O	11:I:42:THR:HG22	1.95	0.66
1:0:289:G:N2	1:0:363:A:H2	1.92	0.66
1:0:626:U:O4	1:0:627:G:C6	2.49	0.66
1:0:1767:A:O2'	1:0:1768:C:H5'	1.96	0.66
7:E:85:GLU:HG2	7:E:130:GLU:HG2	1.77	0.66
9:G:54:HIS:CG	9:G:54:HIS:CA	2.77	0.66
1:0:191:A:H2'	1:0:237:G:O6	1.96	0.66
1:0:816:G:C6	1:0:817:G:C6	2.84	0.66
1:0:1041:U:H2'	1:0:1042:U:H5'	1.78	0.66
1:0:2587:OMU:H2'	1:0:2589:U:H5"	1.78	0.66
1:0:2588:OMG:HM23	1:0:2617:G:N3	2.11	0.66
1:0:2676:C:H4'	12:J:70:PHE:HE1	1.61	0.66
2:9:31:C:C2	2:9:50:G:N2	2.64	0.66
1:0:925:C:H6	1:0:925:C:H5"	1.61	0.65
1:0:1139:U:H2'	1:0:1140:C:C6	2.30	0.65
3:A:72:GLU:HG3	28:Z:66:GLY:HA2	1.76	0.65
6:D:172:VAL:HG12	6:D:173:GLU:H	1.61	0.65
9:G:23:ILE:CD1	9:G:67:LEU:HD23	2.19	0.65
26:X:30:MET:HE1	26:X:55:ASN:HA	1.77	0.65
1:0:1687:C:O2	29:1:9:GLY:HA2	1.97	0.65
1:0:251:C:O2'	1:0:252:C:H5'	1.97	0.65
1:0:302:A:O2'	1:0:303:C:H5'	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1375:A:O2'	1:0:1376:G:H5'	1.97	0.65
15:M:81:ARG:HG3	15:M:85:ARG:HB2	1.79	0.65
25:W:5:VAL:HG11	25:W:153:MET:HE3	1.78	0.65
25:W:88:THR:HG23	25:W:110:GLN:NE2	2.10	0.65
1:0:1279:U:O2	1:0:1279:U:H2'	1.96	0.65
1:0:1336:U:C2	1:0:1337:A:C8	2.85	0.65
1:0:1784:U:C6	1:0:1813:U:OP2	2.49	0.65
1:0:2615:U:C5	1:0:2616:G:C6	2.85	0.65
1:0:312:U:C2	1:0:320:G:N2	2.65	0.65
1:0:324:G:C5	1:0:325:U:C5	2.85	0.65
1:0:797:A:H61	1:0:816:G:H1'	1.62	0.65
1:0:1527:A:H1'	1:0:1528:A:H8	1.53	0.65
1:0:1557:G:H2'	1:0:1558:C:H6	1.61	0.65
5:C:193:LEU:O	5:C:233:THR:HG23	1.97	0.65
1:0:1778:A:H2'	1:0:1779:A:H5'	1.79	0.65
1:0:2106:C:H2'	1:0:2107:U:C6	2.31	0.65
1:0:2374:A:H2'	1:0:2375:G:C8	2.32	0.65
1:0:2408:A:H1'	31:3:10:TYR:CD1	2.31	0.65
1:0:2472:C:O2'	1:0:2634:G:H4'	1.97	0.65
26:X:7:GLU:HG3	26:X:74:ALA:O	1.96	0.65
31:3:65:THR:HG23	31:3:67:LEU:HG	1.79	0.65
1:0:255:A:O2'	1:0:256:C:H5'	1.97	0.65
1:0:1855:G:H4'	1:0:1856:C:O5'	1.96	0.65
1:0:1895:A:C8	1:0:1968:A:H1'	2.32	0.65
1:0:2526:C:O2'	1:0:2527:U:H5'	1.97	0.65
1:0:1389:G:H1'	1:0:1435:U:O2	1.97	0.65
1:0:1477:C:H5'	1:0:1868:G:C5'	2.27	0.65
1:0:1792:C:H2'	1:0:1793:C:H6	1.62	0.65
1:0:2694:A:H4'	7:E:91:PHE:HE1	1.62	0.65
1:0:2812:A:H2	1:0:2814:A:N6	1.88	0.65
6:D:41:LEU:HA	6:D:44:ILE:HG22	1.79	0.65
13:K:98:VAL:CG1	13:K:102:GLU:HA	2.26	0.65
1:0:1170:U:C3'	1:0:1171:A:C5'	2.74	0.65
1:0:1494:A:C4	1:0:1495:C:C5	2.85	0.65
1:0:1589:G:H22	1:0:1605:G:H1'	1.60	0.65
1:0:2505:G:C2'	1:0:2506:A:H5'	2.27	0.65
1:0:2345:A:H3'	1:0:2346:C:H5	1.61	0.64
1:0:2769:C:H2'	1:0:2770:G:C5'	2.26	0.64
2:9:2:U:H4'	2:9:2:U:OP2	1.96	0.64
4:B:41:PHE:HB3	4:B:190:MET:HE1	1.79	0.64
18:P:7:LYS:HD3	18:P:21:VAL:CG2	2.27	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1773:G:C8	28:Z:16:ALA:HA	2.32	0.64
1:0:1815:A:O5'	1:0:1815:A:C8	2.51	0.64
1:0:2032:U:O2'	1:0:2033:G:H5"	1.96	0.64
2:9:78:G:N2	2:9:103:A:OP2	2.30	0.64
15:M:70:GLY:HA3	15:M:73:ARG:HH12	1.61	0.64
1:0:558:C:C2'	1:0:559:U:C5'	2.75	0.64
1:0:877:G:C5'	1:0:878:G:OP1	2.40	0.64
2:9:114:G:O6	16:N:11:ARG:HD3	1.98	0.64
9:G:81:LEU:HA	9:G:85:ILE:CG2	2.26	0.64
1:0:161:A:H2'	1:0:162:C:C6	2.32	0.64
1:0:1167:G:C8	1:0:1167:G:H4'	2.32	0.64
1:0:1416:G:C2'	1:0:1417:G:H5'	2.26	0.64
1:0:1704:G:H1'	18:P:57:ASN:ND2	2.12	0.64
1:0:2271:G:H5'	3:A:223:ARG:NH2	2.12	0.64
11:I:56:TYR:H	11:I:56:TYR:HD2	1.42	0.64
1:0:256:C:H2'	1:0:257:G:O4'	1.98	0.64
1:0:1803:C:N4	1:0:1804:A:N6	2.46	0.64
1:0:1165:G:H4'	1:0:1174:A:O2'	1.97	0.64
1:0:1266:U:H4'	27:Y:115:ARG:HH21	1.61	0.64
1:0:1400:C:H4'	26:X:56:GLU:HG2	1.80	0.64
1:0:1477:C:O2'	1:0:1478:U:H5'	1.98	0.64
1:0:2253:G:O2'	1:0:2254:G:H5'	1.97	0.64
7:E:11:VAL:HG12	7:E:12:ASP:H	1.62	0.64
14:L:143:THR:HG22	14:L:144:ASP:N	2.13	0.64
1:0:807:A:H2'	1:0:808:A:C8	2.33	0.64
1:0:824:G:O6	1:0:854:G:C8	2.50	0.64
27:Y:151:SER:O	27:Y:155:ARG:HG3	1.98	0.64
29:1:22:CYS:SG	36:1:57:CD:CD	2.07	0.64
3:A:167:LYS:HE3	28:Z:26:VAL:HG13	1.79	0.64
6:D:50:VAL:O	6:D:71:ALA:HA	1.98	0.64
1:0:1119:G:N2	1:0:1246:A:C2	2.64	0.64
1:0:1206:U:O2'	1:0:1207:A:H5'	1.98	0.64
9:G:23:ILE:HD11	9:G:67:LEU:HA	1.79	0.64
1:0:1883:U:H2'	1:0:1884:G:H5'	1.79	0.64
9:G:37:ASN:ND2	9:G:92:ILE:HG23	2.12	0.64
13:K:10:GLN:HE21	13:K:10:GLN:N	1.95	0.64
21:S:33:SER:O	21:S:37:VAL:HG23	1.97	0.64
31:3:24:LYS:HE2	35:3:95:CL:CL	2.35	0.64
1:0:387:G:O2'	1:0:388:G:H5'	1.98	0.63
1:0:1197:G:H2'	1:0:1198:U:C5'	2.28	0.63
1:0:1206:U:H5'	1:0:1206:U:C6	2.30	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:35:VAL:HB	9:G:92:ILE:HD11	1.81	0.63
23:U:52:THR:HG22	23:U:54:THR:H	1.64	0.63
1:0:130:C:O2'	1:0:131:A:N7	2.31	0.63
1:0:236:A:H4'	1:0:237:G:OP1	1.99	0.63
1:0:440:C:H2'	1:0:441:A:C8	2.33	0.63
1:0:794:U:H2'	1:0:795:G:H5'	1.80	0.63
1:0:1097:A:H5"	25:W:125:HIS:CE1	2.34	0.63
1:0:1768:C:C6	1:0:1769:C:C6	2.86	0.63
4:B:36:PRO:HA	4:B:168:GLY:CA	2.28	0.63
24:V:1:THR:HG23	24:V:2:VAL:H	1.63	0.63
24:V:39:ALA:N	24:V:40:PRO:HD2	2.14	0.63
1:0:292:G:H1'	1:0:360:A:H61	1.63	0.63
1:0:1537:C:H2'	1:0:1538:C:H6	1.63	0.63
3:A:53:ALA:HB1	3:A:54:PRO:HD2	1.80	0.63
9:G:35:VAL:H	9:G:92:ILE:HG13	1.63	0.63
11:I:53:THR:O	11:I:64:ILE:HB	1.98	0.63
14:L:143:THR:HG22	14:L:145:LEU:H	1.64	0.63
1:0:1194:A:H5'	1:0:1194:A:C8	2.33	0.63
6:D:141:VAL:HA	6:D:144:ARG:HE	1.63	0.63
1:0:484:A:N6	1:0:508:A:N6	2.46	0.63
1:0:1167:G:H1'	1:0:1168:C:H5'	1.79	0.63
10:H:40:ALA:HB1	10:H:137:TYR:CE2	2.34	0.63
31:3:60:LYS:HG3	31:3:61:PRO:HD2	1.81	0.63
1:0:200:U:O2'	1:0:201:G:H5'	1.98	0.63
1:0:608:A:H8	1:0:608:A:O5'	1.82	0.63
1:0:2036:C:C4'	13:K:44:LEU:HG	2.29	0.63
2:9:64:C:C2'	2:9:65:A:H5'	2.28	0.63
11:I:14:ALA:CB	11:I:35:VAL:HG13	2.28	0.63
1:0:646:G:H2'	1:0:647:U:H6	1.62	0.63
1:0:685:C:O2	1:0:748:C:H4'	1.99	0.63
1:0:1762:C:N3	1:0:1783:A:C2	2.66	0.63
2:9:35:C:H2'	16:N:141:ARG:NH1	2.14	0.63
4:B:212:GLN:HB2	4:B:257:THR:HG21	1.81	0.63
12:J:74:ARG:HB3	12:J:74:ARG:HH11	1.64	0.63
27:Y:151:SER:HB3	27:Y:154:ARG:HB3	1.81	0.63
1:0:1164:U:H4'	1:0:1165:G:OP1	1.97	0.63
1:0:1216:G:C4	9:G:7:ARG:NH2	2.67	0.63
1:0:1224:G:C5	1:0:1225:C:C5	2.87	0.63
1:0:2758:G:H2'	1:0:2759:C:C6	2.34	0.63
17:O:10:LEU:HD13	17:O:99:GLU:HG3	1.79	0.63
26:X:76:ARG:HG3	26:X:76:ARG:NH1	2.10	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:391:U:O2'	1:0:392:U:H5'	1.99	0.62
1:0:824:G:C5	1:0:854:G:C5	2.88	0.62
1:0:1021:G:H2'	1:0:1022:A:H8	1.63	0.62
3:A:179:MET:HG2	3:A:186:TRP:HB2	1.80	0.62
1:0:450:C:OP1	5:C:184:ARG:NH2	2.32	0.62
1:0:920:C:H4'	1:0:921:G:N2	2.14	0.62
5:C:193:LEU:HB3	5:C:233:THR:OG1	1.99	0.62
15:M:70:GLY:HA3	15:M:73:ARG:NH1	2.15	0.62
1:0:119:A:H2'	1:0:120:A:C5'	2.30	0.62
1:0:1788:U:C2	1:0:1805:G:N2	2.67	0.62
1:0:569:A:H5"	1:0:587:A:N1	2.15	0.62
1:0:816:G:H5'	1:0:1598:A:H4'	1.80	0.62
1:0:920:C:H4'	1:0:921:G:C2	2.35	0.62
1:0:1418:U:H4'	1:0:1419:U:O5'	1.98	0.62
1:0:1441:G:O2'	1:0:1442:A:H5'	1.98	0.62
1:0:2249:G:C2	1:0:2253:G:C6	2.87	0.62
3:A:135:VAL:HG22	3:A:136:ALA:N	2.14	0.62
4:B:304:PRO:HD2	4:B:307:ARG:HE	1.65	0.62
13:K:30:LYS:O	13:K:55:VAL:HG13	1.99	0.62
1:0:1090:A:C6	1:0:1091:U:C4	2.87	0.62
1:0:1712:A:H2'	1:0:1713:G:O4'	1.99	0.62
2:9:64:C:O2'	2:9:65:A:H5'	1.99	0.62
18:P:16:VAL:CG1	18:P:20:ARG:HB2	2.29	0.62
1:0:227:A:H8	1:0:227:A:O5'	1.83	0.62
1:0:514:G:OP1	1:0:514:G:H2'	1.98	0.62
1:0:2264:A:OP1	15:M:71:SER:HB3	2.00	0.62
1:0:2717:C:C2'	1:0:2718:C:H5"	2.30	0.62
4:B:56:ASP:HB3	4:B:322:ARG:HE	1.64	0.62
1:0:1194:A:C2	1:0:1195:G:C5	2.87	0.62
1:0:1747:A:C8	13:K:44:LEU:HD13	2.35	0.62
1:0:2029:C:C2	1:0:2030:A:C8	2.88	0.62
1:0:2437:A:H2'	1:0:2438:G:C8	2.35	0.62
2:9:49:G:C2'	2:9:50:G:H5'	2.29	0.62
7:E:84:MET:HG2	7:E:168:ILE:HA	1.81	0.62
1:0:569:A:O2'	1:0:570:C:H5'	2.00	0.62
1:0:1145:G:H1	1:0:1218:U:H3	1.45	0.62
1:0:1194:A:C2'	1:0:1195:G:C5'	2.78	0.62
26:X:72:VAL:HG22	26:X:85:VAL:HG12	1.79	0.62
1:0:1903:U:O2'	1:0:1904:A:N7	2.32	0.62
2:9:24:U:H3'	2:9:25:G:H5'	1.82	0.62
17:O:44:ASN:OD1	17:O:65:LEU:HB2	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2850:C:H5'	1:0:2850:C:C6	2.31	0.62
1:0:2880:A:H2'	1:0:2881:C:O4'	1.99	0.62
25:W:81:ASP:OD1	25:W:92:ASP:HB2	1.99	0.62
1:0:1165:G:H1'	1:0:1174:A:H1'	1.81	0.61
1:0:1579:C:H1'	1:0:1580:A:H8	1.64	0.61
1:0:2507:G:H2'	1:0:2510:C:H42	1.64	0.61
1:0:553:G:O2'	27:Y:179:PRO:HG3	2.00	0.61
1:0:734:U:H2'	1:0:736:A:OP2	2.00	0.61
1:0:962:C:H2'	1:0:963:C:H5'	1.82	0.61
1:0:1783:A:HO2'	1:0:1784:U:H5'	1.63	0.61
25:W:18:GLN:O	25:W:22:GLU:HG3	2.01	0.61
1:0:353:G:H2'	1:0:354:A:C8	2.35	0.61
1:0:1476:A:H8	1:0:1476:A:O5'	1.82	0.61
1:0:2029:C:H2'	1:0:2030:A:H8	1.65	0.61
9:G:77:GLY:O	9:G:80:ASP:HB3	2.00	0.61
1:0:44:G:N2	1:0:147:G:H21	1.98	0.61
1:0:613:C:H2'	1:0:614:U:H6	1.66	0.61
3:A:112:PRO:HD3	3:A:152:CYS:SG	2.41	0.61
1:0:338:C:H4'	5:C:174:ILE:HD11	1.82	0.61
1:0:1150:A:H2	9:G:20:VAL:HG21	1.64	0.61
1:0:1166:A:OP1	1:0:1174:A:H5'	2.01	0.61
1:0:1328:A:N7	1:0:1329:A:C5	2.69	0.61
1:0:1711:A:O2'	1:0:1712:A:H5'	2.01	0.61
1:0:1946:C:H2'	1:0:1946:C:O2	2.00	0.61
1:0:2281:C:H2'	1:0:2282:U:H5'	1.80	0.61
1:0:2504:A:H4'	10:H:71:ARG:NH1	2.16	0.61
1:0:2668:G:N2	1:0:2669:U:C2	2.69	0.61
3:A:33:GLU:H	3:A:33:GLU:CD	2.04	0.61
9:G:32:SER:CB	9:G:124:ILE:HG13	2.19	0.61
1:0:544:G:H2'	1:0:545:G:H5"	1.83	0.61
1:0:1335:C:C2	1:0:1336:U:C5	2.88	0.61
1:0:1595:G:O2'	1:0:1596:U:H5'	2.01	0.61
1:0:2859:C:H5"	1:0:2859:C:C6	2.34	0.61
4:B:215:VAL:HA	4:B:220:VAL:HG22	1.81	0.61
6:D:57:THR:HG23	6:D:63:ILE:HG22	1.82	0.61
18:P:103:THR:HA	18:P:106:ARG:NH1	2.16	0.61
24:V:56:ILE:O	24:V:60:GLN:HG3	2.00	0.61
29:1:22:CYS:HB3	29:1:37:CYS:HB3	1.83	0.61
1:0:21:G:C5'	20:R:2:ILE:HA	2.31	0.61
1:0:661:G:C6	1:0:686:A:C2	2.89	0.61
1:0:2320:U:H4'	1:0:2321:A:O4'	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:179:C:O5'	1:0:179:C:H6	1.84	0.61
1:0:462:A:N6	1:0:477:A:H2	1.99	0.61
1:0:1116:U:N3	1:0:1246:A:N6	2.48	0.61
1:0:1477:C:C5'	1:0:1868:G:H5"	2.31	0.61
1:0:1928:C:C2'	1:0:1929:G:H5'	2.31	0.61
1:0:152:A:H1'	1:0:440:C:O2'	2.00	0.61
1:0:2089:A:O2'	1:0:2090:G:H5'	2.01	0.61
2:9:38:A:H2'	2:9:39:U:H6	1.61	0.61
3:A:170:VAL:HG11	28:Z:14:PHE:CE1	2.36	0.61
12:J:25:GLN:O	12:J:28:GLU:HB3	2.01	0.61
29:1:28:HIS:CD2	29:1:31:LYS:HG3	2.36	0.61
1:0:731:U:O2'	1:0:732:C:H5'	2.00	0.61
1:0:1120:U:H2'	1:0:1121:G:H5'	1.81	0.61
1:0:1510:G:H2'	1:0:1511:U:C6	2.30	0.61
1:0:1857:A:N6	1:0:2247:C:H1'	2.15	0.61
4:B:304:PRO:HD2	4:B:307:ARG:NE	2.16	0.61
9:G:97:ASN:HD22	9:G:99:PHE:HB2	1.66	0.61
10:H:166:SER:CB	10:H:167:PRO:HD3	2.27	0.61
13:K:27:ARG:HD2	13:K:60:GLY:HA2	1.82	0.61
25:W:56:GLU:O	25:W:143:THR:HG23	2.01	0.61
1:0:1883:U:O2'	1:0:1884:G:H5'	2.01	0.60
1:0:2241:C:C2	1:0:2242:U:C5	2.89	0.60
2:9:108:C:O2'	2:9:109:G:H5'	2.01	0.60
4:B:167:GLY:HA2	4:B:174:ARG:HD3	1.82	0.60
24:V:58:THR:O	24:V:62:GLU:HG3	2.01	0.60
27:Y:187:VAL:HG23	27:Y:192:ASP:CB	2.28	0.60
1:0:585:C:H2'	1:0:586:C:C6	2.35	0.60
1:0:661:G:C4	1:0:686:A:C2	2.88	0.60
1:0:1150:A:C6	9:G:69:ARG:NH2	2.69	0.60
1:0:1921:A:O2'	1:0:1922:A:H5'	2.01	0.60
1:0:2332:A:H5"	1:0:2333:G:OP2	2.01	0.60
1:0:2827:A:H2'	1:0:2828:G:O4'	2.01	0.60
6:D:54:ALA:HB2	6:D:69:ILE:HD12	1.83	0.60
9:G:54:HIS:CG	9:G:54:HIS:N	2.70	0.60
20:R:39:THR:HG23	20:R:107:GLU:O	2.01	0.60
1:0:228:C:H2'	1:0:229:G:C5'	2.30	0.60
1:0:1225:C:N3	1:0:1226:G:C8	2.70	0.60
1:0:2729:C:H1'	1:0:2864:U:O2'	2.01	0.60
9:G:33:VAL:HG21	9:G:94:THR:O	2.02	0.60
1:0:694:A:H2'	1:0:695:C:O4'	2.01	0.60
1:0:960:G:N3	1:0:960:G:H2'	2.16	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1089:G:H2'	1:0:1090:A:C8	2.34	0.60
1:0:1197:G:H2'	1:0:1198:U:H5'	1.82	0.60
1:0:1211:G:H4'	9:G:88:GLN:H	1.64	0.60
1:0:1626:A:H2'	1:0:1627:G:H5'	1.82	0.60
1:0:100:C:H4'	22:T:16:LEU:HB2	1.82	0.60
23:U:44:ARG:HD3	23:U:49:LEU:HD21	1.83	0.60
24:V:39:ALA:H	24:V:40:PRO:HD2	1.67	0.60
31:3:10:TYR:HB2	31:3:17:HIS:CE1	2.36	0.60
1:0:656:G:H3'	17:O:37:ARG:HH12	1.66	0.60
1:0:1497:G:H2'	1:0:1498:G:H8	1.67	0.60
4:B:201:ASP:HB2	4:B:312:ARG:HD2	1.84	0.60
1:0:282:C:H1'	1:0:368:C:H41	1.66	0.60
1:0:1195:G:C2	1:0:1205:U:C2	2.90	0.60
17:O:44:ASN:HB3	17:O:67:SER:O	2.02	0.60
1:0:472:A:H5'	29:1:35:SER:OG	2.01	0.60
1:0:45:A:N6	1:0:147:G:C4	2.70	0.60
1:0:305:A:C5	1:0:329:A:C2	2.90	0.60
5:C:16:VAL:HG12	5:C:17:ASP:H	1.67	0.60
10:H:55:VAL:HG21	10:H:159:PRO:HD3	1.84	0.60
15:M:75:ARG:HH12	15:M:78:LYS:HE3	1.66	0.60
1:0:896:C:H2'	1:0:897:A:H5'	1.84	0.60
1:0:1327:G:N2	1:0:1331:A:C4	2.70	0.60
1:0:2251:G:H2'	1:0:2252:A:C8	2.37	0.60
1:0:2291:A:C8	1:0:2309:C:H5'	2.37	0.60
1:0:2461:U:C2	1:0:2466:G:H1'	2.36	0.60
19:Q:26:PRO:O	19:Q:30:VAL:HG23	2.02	0.60
1:0:387:G:C2'	1:0:388:G:H5'	2.32	0.59
1:0:1120:U:H6	1:0:1120:U:C5'	2.13	0.59
1:0:1773:G:H8	28:Z:16:ALA:HA	1.66	0.59
1:0:1915:U:C2'	1:0:1916:C:H5'	2.31	0.59
1:0:2769:C:HO2'	1:0:2770:G:H5'	1.67	0.59
22:T:85:GLU:HG2	22:T:86:GLU:H	1.67	0.59
1:0:396:U:H2'	1:0:397:A:N7	2.16	0.59
1:0:541:C:H2'	1:0:542:A:H5"	1.78	0.59
1:0:625:U:O2	1:0:627:G:C8	2.55	0.59
1:0:776:A:H1'	1:0:779:U:O4	2.02	0.59
1:0:1040:A:C2	1:0:1041:U:C2	2.89	0.59
1:0:1324:G:C6	1:0:1334:C:N3	2.70	0.59
1:0:1680:C:H2'	1:0:1681:G:O4'	2.03	0.59
1:0:1829:A:N6	28:Z:18:TYR:HA	2.16	0.59
1:0:2106:C:H2'	1:0:2107:U:H6	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:68:ILE:HG12	3:A:69:LEU:N	2.17	0.59
1:0:235:C:O2'	1:0:236:A:H2'	2.03	0.59
1:0:661:G:C6	1:0:686:A:N1	2.70	0.59
1:0:1285:U:H4'	25:W:74:GLU:OE1	2.02	0.59
1:0:1909:A:N1	1:0:2128:G:H1'	2.16	0.59
1:0:222:A:H2'	1:0:223:G:O4'	2.01	0.59
1:0:1194:A:HO2'	1:0:1195:G:H5'	1.65	0.59
1:0:1375:A:H2'	1:0:1376:G:H5'	1.84	0.59
1:0:1501:A:N6	1:0:1502:A:N6	2.49	0.59
1:0:1634:G:C5	1:0:1635:U:C5	2.90	0.59
17:O:32:ARG:O	17:O:32:ARG:HD3	2.02	0.59
28:Z:42:CYS:SG	28:Z:43:GLY:N	2.75	0.59
1:0:289:G:O2'	1:0:290:C:H5'	2.02	0.59
1:0:1400:C:H2'	1:0:1401:G:C5'	2.30	0.59
1:0:1666:C:H2'	1:0:1667:A:C8	2.37	0.59
1:0:1774:G:O2'	1:0:1775:A:H5'	2.02	0.59
1:0:1886:A:O2'	28:Z:20:ARG:HB2	2.01	0.59
1:0:2374:A:H2'	1:0:2375:G:O4'	2.02	0.59
9:G:108:SER:C	9:G:109:LYS:HE3	2.20	0.59
16:N:61:ALA:HB3	16:N:88:ALA:HB2	1.85	0.59
23:U:13:ILE:HG12	23:U:32:CYS:HB3	1.83	0.59
1:0:1116:U:H3	1:0:1246:A:H62	1.50	0.59
1:0:1759:A:N3	1:0:1818:C:H2'	2.18	0.59
1:0:2864:U:H3'	1:0:2865:G:H8	1.67	0.59
2:9:48:C:H4'	16:N:141:ARG:HH21	1.68	0.59
18:P:121:ASP:O	18:P:125:LYS:HG3	2.03	0.59
25:W:72:PRO:HG2	25:W:77:ALA:HB3	1.85	0.59
1:0:57:C:O2'	1:0:58:C:H5'	2.02	0.59
1:0:105:G:O2'	1:0:106:A:H5'	2.03	0.59
1:0:317:A:H5'	22:T:52:ARG:HD2	1.85	0.59
1:0:1947:G:H2'	1:0:1948:G:H8	1.66	0.59
1:0:2450:C:O5'	1:0:2450:C:H6	1.85	0.59
3:A:125:ASN:HB3	3:A:158:VAL:HG12	1.84	0.59
4:B:51:VAL:HG13	4:B:53:LEU:HD13	1.83	0.59
8:F:4:VAL:HA	8:F:76:PHE:CZ	2.38	0.59
18:P:115:SER:H	18:P:118:GLN:NE2	1.97	0.59
1:0:595:U:C2'	1:0:596:C:H5'	2.32	0.59
1:0:1015:C:H2'	1:0:1016:U:C6	2.37	0.59
1:0:1194:A:C2	1:0:1195:G:C4	2.90	0.59
1:0:1886:A:HO2'	28:Z:20:ARG:HB2	1.67	0.59
3:A:105:VAL:HG13	3:A:155:THR:O	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:189:ALA:O	4:B:192:ASP:HB2	2.02	0.59
16:N:86:LEU:O	16:N:90:LEU:HG	2.03	0.59
1:0:1307:A:H2'	1:0:1308:A:C8	2.38	0.59
1:0:1964:U:H2'	1:0:1964:U:O2	2.03	0.59
1:0:2055:A:H4'	20:R:132:ARG:NH2	2.18	0.59
1:0:2103:A:H2'	1:0:2104:C:H5'	1.85	0.59
11:I:31:VAL:O	11:I:32:GLN:HB2	2.02	0.59
1:0:234:A:H2'	1:0:235:C:O5'	2.02	0.59
1:0:316:A:N3	1:0:336:G:O2'	2.35	0.59
1:0:390:G:O2'	1:0:391:U:H5'	2.02	0.59
1:0:1216:G:C5	9:G:7:ARG:NH1	2.71	0.59
1:0:1234:U:N3	4:B:244:PRO:HB3	2.18	0.59
1:0:1309:U:C2'	1:0:1310:U:C5'	2.81	0.59
1:0:1309:U:H2'	1:0:1310:U:C5'	2.33	0.59
1:0:1449:G:N3	1:0:1449:G:H2'	2.17	0.59
1:0:1557:G:O2'	1:0:1558:C:H5'	2.02	0.59
1:0:1664:A:H8	1:0:1664:A:OP1	1.86	0.59
1:0:1776:A:C8	1:0:1778:A:O4'	2.56	0.59
1:0:2028:U:H2'	1:0:2029:C:C6	2.36	0.59
1:0:2354:A:H5'	1:0:2355:G:C5	2.38	0.59
12:J:24:SER:HA	12:J:86:MET:SD	2.42	0.59
14:L:72:ASN:O	14:L:76:LEU:HG	2.02	0.59
16:N:86:LEU:HD12	16:N:125:ALA:HB2	1.83	0.59
28:Z:19:GLY:O	28:Z:23:ARG:HG2	2.03	0.59
1:0:1345:A:C4	1:0:1346:U:C5	2.91	0.58
1:0:1564:C:H1'	1:0:2738:G:N2	2.18	0.58
1:0:2461:U:O2	1:0:2466:G:H1'	2.03	0.58
1:0:2563:U:H2'	1:0:2565:C:O5'	2.03	0.58
1:0:2769:C:H2'	1:0:2770:G:H5'	1.84	0.58
1:0:2777:G:O2'	1:0:2778:A:H5'	2.03	0.58
3:A:192:VAL:HG23	3:A:201:PHE:HB3	1.84	0.58
9:G:121:PRO:HB2	9:G:127:PRO:HG3	1.85	0.58
11:I:49:GLU:O	11:I:51:PRO:HD3	2.03	0.58
1:0:482:G:N2	1:0:485:A:C8	2.71	0.58
1:0:705:C:N4	1:0:723:G:H1	1.99	0.58
1:0:961:A:C6	1:0:1010:C:C5	2.92	0.58
1:0:1187:U:O2'	1:0:1189:A:H2	1.86	0.58
1:0:2544:G:C5	1:0:2545:U:C5	2.91	0.58
5:C:1:MET:HG2	5:C:2:GLN:H	1.68	0.58
10:H:166:SER:HB2	10:H:167:PRO:CD	2.28	0.58
15:M:75:ARG:HH22	15:M:78:LYS:CE	2.17	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:35:VAL:HG12	16:N:37:ARG:HG2	1.85	0.58
27:Y:213:LYS:O	27:Y:217:ILE:HG13	2.03	0.58
1:0:484:A:H61	1:0:508:A:H62	1.51	0.58
3:A:51:ARG:NH2	3:A:53:ALA:HB3	2.18	0.58
15:M:71:SER:H	15:M:73:ARG:HH12	1.51	0.58
1:0:287:C:H2'	1:0:288:A:C8	2.37	0.58
1:0:308:U:H5'	1:0:309:C:OP1	2.03	0.58
1:0:1804:A:H2'	1:0:1805:G:C8	2.38	0.58
1:0:2729:C:H2'	1:0:2730:G:H8	1.67	0.58
2:9:30:C:O2	2:9:51:A:H2	1.86	0.58
18:P:38:GLU:OE2	18:P:41:ARG:HD2	2.04	0.58
1:0:1327:G:N1	1:0:1331:A:C6	2.72	0.58
1:0:2011:A:H4'	1:0:2012:U:O5'	2.03	0.58
1:0:2099:G:N2	1:0:2646:G:C6	2.71	0.58
4:B:71:VAL:HG11	4:B:296:LEU:HB3	1.84	0.58
12:J:52:GLN:HG3	12:J:53:ILE:H	1.68	0.58
13:K:64:MET:HA	13:K:67:GLN:HE21	1.68	0.58
16:N:42:HIS:CE1	16:N:64:SER:HB3	2.39	0.58
18:P:134:VAL:O	18:P:137:LEU:HB3	2.03	0.58
20:R:8:ALA:HB3	20:R:15:LYS:HE2	1.85	0.58
1:0:1098:A:OP1	25:W:128:VAL:HG22	2.03	0.58
1:0:1312:G:C4	1:0:1313:A:C8	2.91	0.58
1:0:1943:C:C5	1:0:1944:G:C8	2.92	0.58
1:0:2082:G:H1'	12:J:67:ASN:OD1	2.03	0.58
1:0:2769:C:C2'	1:0:2770:G:C5'	2.80	0.58
1:0:2825:C:H4'	1:0:2826:G:O4'	2.03	0.58
2:9:28:U:H5"	16:N:40:ASN:HD21	1.65	0.58
2:9:49:G:O3'	16:N:147:ILE:HD11	2.03	0.58
2:9:58:G:C8	2:9:59:C:C5	2.92	0.58
9:G:33:VAL:HA	9:G:123:ASP:OD2	2.04	0.58
1:0:282:C:O2'	1:0:283:U:C5'	2.48	0.58
1:0:645:U:O2	1:0:761:A:H2	1.87	0.58
1:0:814:G:H2'	1:0:815:U:O4'	2.03	0.58
1:0:1118:A:C8	1:0:1119:G:H5"	2.39	0.58
1:0:1381:A:N6	1:0:1402:G:H4'	2.17	0.58
1:0:1882:C:O2'	1:0:2012:U:OP2	2.21	0.58
2:9:55:U:H4'	2:9:56:A:C8	2.39	0.58
16:N:132:ASN:O	16:N:135:VAL:HG12	2.03	0.58
1:0:1523:G:C2	1:0:1524:U:C4	2.92	0.58
1:0:2055:A:H8	1:0:2055:A:O5'	1.86	0.58
8:F:2:VAL:HG22	8:F:57:GLU:OE1	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:21:GLU:O	8:F:24:ARG:HG2	2.04	0.58
12:J:107:ASN:ND2	12:J:109:TYR:H	2.01	0.58
16:N:144:GLY:O	16:N:147:ILE:HG22	2.03	0.58
1:0:1544:U:C2	1:0:1545:C:C6	2.91	0.58
1:0:1762:C:H2'	1:0:1763:C:H6	1.67	0.58
1:0:2337:G:H5"	6:D:96:SER:O	2.04	0.58
2:9:39:U:H3	2:9:42:C:H5"	1.68	0.58
1:0:1118:A:H2'	1:0:1120:U:H5"	1.86	0.58
1:0:1850:U:O4'	1:0:1941:A:C2	2.56	0.58
9:G:23:ILE:HG12	9:G:60:ARG:HH11	1.68	0.58
9:G:121:PRO:CB	9:G:127:PRO:HB2	2.31	0.58
9:G:121:PRO:CB	9:G:127:PRO:HB3	2.33	0.58
15:M:66:SER:HB3	15:M:128:TRP:NE1	2.19	0.58
20:R:82:GLU:HG3	20:R:83:LYS:H	1.69	0.58
21:S:73:ASP:O	21:S:77:VAL:HG23	2.04	0.58
1:0:896:C:O2'	1:0:897:A:H5'	2.04	0.57
1:0:1378:G:N1	1:0:2747:C:H2'	2.18	0.57
1:0:1556:G:O2'	1:0:1557:G:H5'	2.04	0.57
1:0:1895:A:C8	1:0:1968:A:C1'	2.87	0.57
1:0:2459:G:P	31:3:64:LYS:HB2	2.43	0.57
1:0:2856:A:C2	1:0:2903:C:O2	2.57	0.57
9:G:64:ASN:ND2	9:G:89:VAL:HG12	2.19	0.57
11:I:83:THR:HG22	11:I:84:GLY:N	2.18	0.57
22:T:48:VAL:HG22	22:T:98:VAL:HA	1.86	0.57
1:0:314:G:N2	1:0:316:A:H3'	2.18	0.57
1:0:1626:A:H2'	1:0:1627:G:C5'	2.34	0.57
1:0:1834:C:H2'	1:0:1840:A:H62	1.64	0.57
1:0:2717:C:H2'	1:0:2718:C:C5'	2.33	0.57
2:9:26:C:C2'	2:9:27:C:H5'	2.34	0.57
7:E:7:ILE:HD11	7:E:11:VAL:O	2.04	0.57
25:W:88:THR:HG23	25:W:110:GLN:HE21	1.69	0.57
1:0:506:G:H22	1:0:509:A:C5'	2.17	0.57
1:0:1167:G:C8	1:0:1167:G:C4'	2.87	0.57
1:0:1972:U:H2'	1:0:1973:A:C5'	2.35	0.57
1:0:2769:C:H2'	1:0:2770:G:O4'	2.05	0.57
3:A:9:ARG:HG2	3:A:16:PHE:CD2	2.39	0.57
1:0:408:A:H2'	1:0:409:U:H5'	1.86	0.57
1:0:702:G:N2	1:0:727:G:H1'	2.19	0.57
1:0:1246:A:C5	1:0:1248:A:C5	2.92	0.57
1:0:1930:A:H2'	1:0:1931:A:C8	2.39	0.57
1:0:2049:C:P	20:R:69:LYS:HZ1	2.27	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2703:A:H2'	1:0:2704:C:H6	1.69	0.57
9:G:40:GLY:C	9:G:41:ILE:HG13	2.24	0.57
10:H:58:ARG:HH11	10:H:58:ARG:HG3	1.68	0.57
1:0:681:G:N3	1:0:681:G:H5'	2.19	0.57
1:0:1163:G:H4'	11:I:112:LEU:HD12	1.86	0.57
1:0:1194:A:H2	1:0:1195:G:C4	2.22	0.57
1:0:1194:A:H2'	1:0:1195:G:C5'	2.33	0.57
15:M:81:ARG:CG	15:M:85:ARG:HB2	2.34	0.57
22:T:24:ARG:HH21	22:T:39:ASN:ND2	2.02	0.57
22:T:49:GLU:OE2	22:T:97:ARG:HD2	2.04	0.57
1:0:453:A:C4	1:0:479:G:C8	2.91	0.57
1:0:718:C:O2	1:0:718:C:H2'	2.05	0.57
1:0:1768:C:C6	1:0:1769:C:C5	2.93	0.57
1:0:2241:C:H2'	1:0:2242:U:C6	2.35	0.57
1:0:2346:C:H4'	6:D:52:THR:HG22	1.86	0.57
1:0:2879:A:O2'	1:0:2880:A:H5'	2.05	0.57
4:B:168:GLY:N	4:B:174:ARG:HD3	2.18	0.57
1:0:228:C:C2'	1:0:229:G:H5'	2.34	0.57
1:0:236:A:H4'	1:0:237:G:C5'	2.29	0.57
1:0:401:C:H2'	1:0:402:U:H6	1.70	0.57
1:0:422:G:C6	1:0:2446:G:C6	2.93	0.57
1:0:1342:C:C2'	1:0:1343:C:H5'	2.34	0.57
1:0:1535:G:H2'	1:0:1536:C:C6	2.40	0.57
1:0:1783:A:H2'	1:0:1784:U:H5'	1.87	0.57
1:0:2120:U:H2'	1:0:2121:G:O4'	2.04	0.57
1:0:2599:A:C2	1:0:2684:A:H4'	2.39	0.57
1:0:2846:C:H4'	4:B:156:LYS:HB3	1.86	0.57
2:9:84:G:O2'	2:9:85:A:H5'	2.04	0.57
6:D:172:VAL:HG12	6:D:173:GLU:N	2.19	0.57
20:R:18:LEU:HB2	20:R:143:VAL:CG1	2.34	0.57
1:0:815:U:C4	1:0:816:G:C6	2.92	0.57
1:0:1059:G:H5"	1:0:1127:C:H5'	1.87	0.57
1:0:1543:G:H2'	1:0:1544:U:C5	2.40	0.57
1:0:1666:C:H2'	1:0:1667:A:H5'	1.86	0.57
1:0:1738:C:O2'	1:0:1739:G:H5'	2.04	0.57
2:9:41:C:H4'	6:D:48:MET:HB3	1.87	0.57
5:C:162:VAL:O	5:C:162:VAL:HG12	2.05	0.57
1:0:161:A:H2'	1:0:162:C:H6	1.67	0.57
1:0:324:G:C2	1:0:325:U:C6	2.93	0.57
1:0:1162:G:C2	1:0:1163:G:C8	2.93	0.57
1:0:1554:U:O2'	1:0:1631:A:H1'	2.03	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1978:A:C4	1:0:1980:U:C5	2.93	0.57
12:J:135:ILE:O	12:J:139:LEU:HG	2.04	0.57
30:2:40:ARG:CD	30:2:47:THR:HG22	2.35	0.57
1:0:558:C:C2'	1:0:559:U:H5"	2.35	0.57
1:0:968:G:O2'	1:0:969:G:H5'	2.05	0.57
1:0:1269:G:H2'	1:0:1270:U:H6	1.69	0.57
1:0:1398:G:H4'	18:P:25:PRO:HG3	1.87	0.57
1:0:1788:U:H2'	1:0:1789:G:C8	2.40	0.57
1:0:2656:G:O2'	1:0:2657:G:H5'	2.05	0.57
1:0:2791:U:H1'	1:0:2792:A:H5"	1.86	0.57
1:0:449:A:N7	5:C:43:LYS:HG2	2.19	0.56
1:0:657:G:OP1	5:C:27:ARG:NH2	2.35	0.56
1:0:1537:C:N3	1:0:1649:G:C2	2.73	0.56
1:0:1989:G:C4	1:0:1990:C:C5	2.93	0.56
1:0:2327:A:C2	1:0:2374:A:C2	2.93	0.56
2:9:29:C:C2'	2:9:30:C:H5'	2.34	0.56
3:A:123:GLY:HA2	3:A:159:VAL:O	2.05	0.56
1:0:1279:U:H5"	1:0:1280:A:OP2	2.05	0.56
1:0:1821:A:O2'	1:0:1822:A:H5'	2.05	0.56
1:0:1937:U:O2'	1:0:1938:G:H5'	2.05	0.56
2:9:4:G:H21	16:N:44:ARG:NH1	2.03	0.56
2:9:55:U:H4'	2:9:56:A:H8	1.69	0.56
1:0:20:G:H21	20:R:117:HIS:CD2	2.13	0.56
1:0:31:C:OP2	22:T:8:ARG:HD2	2.05	0.56
1:0:46:U:H4'	1:0:47:G:OP2	2.05	0.56
1:0:380:A:OP2	15:M:9:ARG:HD2	2.06	0.56
1:0:497:A:H2'	1:0:498:A:C5'	2.35	0.56
1:0:1107:A:H1'	1:0:1257:C:H1'	1.86	0.56
1:0:1335:C:OP2	27:Y:207:SER:HB3	2.05	0.56
1:0:1363:G:O2'	1:0:1364:G:H5'	2.05	0.56
1:0:1496:G:O2'	1:0:1497:G:H5'	2.05	0.56
1:0:2064:U:H4'	1:0:2653:A:OP1	2.04	0.56
1:0:2634:G:O2'	1:0:2635:A:H5'	2.04	0.56
1:0:2900:G:O2'	1:0:2901:C:H5'	2.04	0.56
2:9:63:C:O2'	2:9:64:C:H5'	2.05	0.56
2:9:78:G:N2	2:9:102:G:H2'	2.20	0.56
7:E:11:VAL:HG12	7:E:12:ASP:N	2.20	0.56
9:G:33:VAL:HB	9:G:94:THR:O	2.05	0.56
12:J:22:VAL:O	12:J:26:VAL:HG23	2.05	0.56
13:K:101:ASN:O	13:K:102:GLU:HB2	2.05	0.56
1:0:736:A:H2'	1:0:737:A:O4'	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:921:G:H4'	1:0:924:G:C6	2.41	0.56
1:0:1439:C:O5'	1:0:1439:C:H6	1.87	0.56
1:0:1996:U:C5	1:0:2587:OMU:H1'	2.41	0.56
7:E:81:GLU:HG2	7:E:134:SER:HB3	1.87	0.56
1:0:664:U:O4	1:0:681:G:H5"	2.04	0.56
1:0:1342:C:O2'	1:0:1343:C:H5'	2.05	0.56
1:0:1346:U:H2'	1:0:1347:U:H6	1.70	0.56
1:0:1787:C:O2	1:0:2875:A:H2	1.89	0.56
1:0:2382:A:H1'	31:3:10:TYR:CE2	2.41	0.56
1:0:2533:C:H6	1:0:2533:C:C5'	2.14	0.56
1:0:2851:G:H2'	1:0:2852:A:H5'	1.84	0.56
2:9:3:A:N6	2:9:22:G:H1'	2.20	0.56
4:B:195:ARG:HG2	4:B:323:LEU:HD22	1.87	0.56
26:X:28:LYS:HE3	26:X:32:LEU:HD21	1.88	0.56
1:0:29:C:O2'	1:0:30:U:H5'	2.06	0.56
1:0:39:G:H2'	1:0:40:C:O4'	2.06	0.56
1:0:371:U:C2	1:0:372:A:N7	2.74	0.56
1:0:535:G:H4'	1:0:536:A:OP1	2.05	0.56
1:0:1384:C:H5'	26:X:30:MET:HG2	1.87	0.56
1:0:1568:G:C6	1:0:1569:U:C4	2.94	0.56
1:0:2694:A:H4'	7:E:91:PHE:CE1	2.39	0.56
2:9:22:G:N7	2:9:55:U:C6	2.74	0.56
4:B:179:LEU:O	4:B:183:GLU:HG2	2.06	0.56
9:G:32:SER:O	9:G:123:ASP:HB2	2.06	0.56
9:G:60:ARG:HH22	9:G:71:LEU:HD21	1.71	0.56
10:H:45:VAL:HA	10:H:167:PRO:O	2.05	0.56
22:T:12:ARG:HH12	22:T:13:ARG:HH21	1.52	0.56
30:2:36:ASN:H	30:2:39:ARG:NH2	2.03	0.56
1:0:1829:A:H61	28:Z:18:TYR:H	1.54	0.56
13:K:65:ARG:O	13:K:66:ARG:HB2	2.06	0.56
1:0:64:G:H2'	1:0:65:C:O4'	2.05	0.56
1:0:81:G:N3	1:0:98:A:C2	2.73	0.56
1:0:247:A:C2	1:0:265:U:C2	2.93	0.56
1:0:390:G:H2'	1:0:391:U:C6	2.35	0.56
1:0:797:A:N6	1:0:816:G:H1'	2.20	0.56
1:0:1311:G:C2	1:0:1312:G:C8	2.93	0.56
1:0:1520:G:C6	1:0:1521:C:N4	2.73	0.56
9:G:23:ILE:CD1	9:G:67:LEU:HA	2.34	0.56
15:M:71:SER:N	15:M:73:ARG:NH1	2.54	0.56
19:Q:33:PHE:HB2	19:Q:71:TYR:CE2	2.41	0.56
1:0:522:U:O2'	1:0:1366:C:H5'	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:524:A:H5'	20:R:29:LYS:HE2	1.87	0.56
1:0:1079:A:N1	1:0:2068:G:O2'	2.33	0.56
1:0:1444:G:N3	1:0:1502:A:H2	2.03	0.56
1:0:2812:A:C2	1:0:2814:A:N6	2.69	0.56
2:9:76:G:C3'	2:9:77:A:H5"	2.28	0.56
4:B:167:GLY:HA2	4:B:174:ARG:CD	2.36	0.56
12:J:116:LEU:HB2	12:J:119:THR:HG21	1.86	0.56
19:Q:43:ILE:HA	19:Q:90:HIS:ND1	2.20	0.56
20:R:40:ALA:O	20:R:44:VAL:HG23	2.05	0.56
1:0:90:A:H2'	1:0:91:G:O4'	2.05	0.56
1:0:299:U:H2'	1:0:300:C:H6	1.70	0.56
1:0:431:G:O2'	1:0:432:G:H5'	2.05	0.56
1:0:617:C:O2'	1:0:618:G:H5'	2.06	0.56
1:0:806:A:H2'	1:0:807:A:O4'	2.06	0.56
1:0:1041:U:C2'	1:0:1042:U:H5'	2.36	0.56
1:0:1071:G:H4'	27:Y:154:ARG:NH2	2.21	0.56
1:0:1153:C:N3	1:0:2786:G:O6	2.39	0.56
7:E:101:GLU:HB2	7:E:116:THR:O	2.06	0.56
7:E:107:PHE:CE2	7:E:108:LEU:HD13	2.40	0.56
17:O:87:THR:O	17:O:91:GLN:HG3	2.06	0.56
1:0:283:U:C5	1:0:284:C:N4	2.71	0.55
1:0:310:U:O5'	1:0:310:U:H6	1.88	0.55
1:0:530:C:H4'	1:0:612:U:H4'	1.88	0.55
1:0:697:G:H4'	1:0:730:G:O3'	2.07	0.55
1:0:1170:U:C2	1:0:1172:G:OP2	2.59	0.55
1:0:1482:A:O2'	1:0:1483:C:H5'	2.06	0.55
1:0:1543:G:N1	1:0:1641:A:OP2	2.36	0.55
1:0:2237:G:O2'	1:0:2238:A:C8	2.56	0.55
1:0:2607:U:C4	4:B:242:TRP:CZ2	2.94	0.55
3:A:121:ALA:O	3:A:124:VAL:HG22	2.05	0.55
4:B:50:HIS:HD2	4:B:68:THR:HG21	1.71	0.55
13:K:23:ASN:HD21	13:K:107:THR:CB	2.18	0.55
28:Z:37:HIS:HB2	28:Z:47:VAL:HB	1.88	0.55
1:0:196:G:H1'	1:0:198:A:N7	2.21	0.55
1:0:443:C:H2'	1:0:444:C:C6	2.41	0.55
1:0:897:A:H2'	1:0:899:C:C5	2.41	0.55
1:0:913:A:N3	1:0:1042:U:O2'	2.37	0.55
1:0:1581:A:C6	1:0:1582:C:N3	2.74	0.55
1:0:1597:A:H2'	1:0:1598:A:H5'	1.88	0.55
1:0:1767:A:OP2	1:0:1776:A:N6	2.34	0.55
1:0:2325:C:H4'	1:0:2417:C:O2	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:61:C:H2'	2:9:62:A:H8	1.70	0.55
8:F:85:HIS:HA	8:F:89:LEU:O	2.07	0.55
1:0:447:A:O2'	1:0:448:G:H5'	2.06	0.55
1:0:1501:A:C6	1:0:1502:A:C6	2.94	0.55
1:0:2061:C:H2'	1:0:2062:A:H5'	1.87	0.55
1:0:2819:C:H2'	1:0:2820:A:C8	2.41	0.55
2:9:9:C:C6	2:9:10:C:C5	2.94	0.55
21:S:57:THR:HG22	21:S:58:MET:N	2.22	0.55
1:0:838:C:H2'	1:0:839:C:H5'	1.89	0.55
1:0:1343:C:H1'	27:Y:208:LYS:HZ3	1.71	0.55
1:0:1706:G:C5	1:0:1707:G:C6	2.94	0.55
1:0:2834:G:C4	1:0:2847:G:N2	2.75	0.55
2:9:64:C:H2'	2:9:65:A:H5'	1.87	0.55
9:G:36:VAL:O	9:G:119:VAL:O	2.25	0.55
16:N:139:TRP:HA	16:N:139:TRP:CE3	2.42	0.55
1:0:47:G:H1'	1:0:114:A:N1	2.22	0.55
1:0:408:A:O2'	1:0:409:U:H5'	2.07	0.55
1:0:1118:A:N6	1:0:1244:U:H3	1.97	0.55
1:0:1667:A:O2'	1:0:1668:U:H5'	2.07	0.55
12:J:12:VAL:HG11	12:J:116:LEU:HD11	1.87	0.55
20:R:66:VAL:HG22	20:R:79:ARG:CZ	2.37	0.55
28:Z:31:SER:O	28:Z:35:GLU:HG3	2.05	0.55
29:1:21:ARG:HD2	29:1:39:PHE:HB2	1.88	0.55
1:0:107:U:H2'	1:0:108:U:H5'	1.88	0.55
1:0:113:A:OP2	1:0:114:A:H2'	2.07	0.55
1:0:368:C:H2'	1:0:369:G:H5'	1.88	0.55
1:0:772:G:H2'	1:0:773:A:O4'	2.06	0.55
1:0:1194:A:H2'	1:0:1195:G:O4'	2.06	0.55
1:0:1474:C:H5'	1:0:1474:C:C6	2.37	0.55
1:0:1597:A:C2'	1:0:1598:A:H5'	2.36	0.55
1:0:1878:G:O2'	1:0:1879:U:P	2.64	0.55
1:0:2377:U:H2'	1:0:2378:U:H6	1.72	0.55
1:0:2721:U:H4'	13:K:87:ARG:HG3	1.89	0.55
4:B:73:VAL:HG21	4:B:284:PHE:CZ	2.41	0.55
9:G:67:LEU:HD22	9:G:91:LEU:HD12	1.88	0.55
13:K:74:VAL:HG22	13:K:113:ILE:HG23	1.88	0.55
26:X:10:VAL:HG12	26:X:11:THR:H	1.72	0.55
1:0:292:G:H1'	1:0:360:A:N6	2.22	0.55
1:0:353:G:C6	1:0:354:A:C6	2.95	0.55
1:0:1174:A:C5	1:0:1201:C:H4'	2.42	0.55
1:0:1266:U:O2'	1:0:1267:C:H5'	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1444:G:O2'	1:0:1445:G:H5'	2.07	0.55
1:0:1819:G:H2'	1:0:1820:G:H4'	1.87	0.55
1:0:2128:G:H2'	1:0:2129:U:H6	1.70	0.55
1:0:2382:A:O2'	31:3:12:PRO:HB3	2.07	0.55
2:9:9:C:C6	2:9:10:C:C6	2.95	0.55
3:A:130:THR:HG22	3:A:131:HIS:N	2.21	0.55
12:J:42:GLU:O	12:J:131:THR:HG23	2.06	0.55
13:K:23:ASN:HD21	13:K:107:THR:HB	1.72	0.55
21:S:10:VAL:HG11	24:V:36:ALA:HA	1.89	0.55
25:W:5:VAL:HG11	25:W:153:MET:CE	2.36	0.55
1:0:566:A:H2'	1:0:567:U:O4'	2.07	0.55
1:0:1071:G:H4'	27:Y:154:ARG:HH22	1.72	0.55
1:0:1102:C:O2'	1:0:1103:C:H5'	2.06	0.55
1:0:1666:C:H2'	1:0:1667:A:H8	1.71	0.55
1:0:1819:G:H2'	1:0:1820:G:C5'	2.37	0.55
1:0:1844:C:C2'	1:0:1845:A:H5'	2.36	0.55
1:0:1904:A:H2'	1:0:1905:U:O4'	2.06	0.55
1:0:2013:G:C2	1:0:2014:G:C5	2.94	0.55
1:0:2029:C:H2'	1:0:2030:A:O4'	2.07	0.55
1:0:2055:A:H4'	20:R:132:ARG:HH22	1.71	0.55
1:0:2722:G:O2'	1:0:2723:G:H5'	2.07	0.55
3:A:135:VAL:HG22	3:A:136:ALA:H	1.70	0.55
6:D:135:VAL:HG21	6:D:139:TYR:CD1	2.41	0.55
7:E:1:PRO:HG2	7:E:59:MET:CE	2.37	0.55
27:Y:126:PRO:HG2	27:Y:128:PHE:CE1	2.41	0.55
1:0:740:G:C6	1:0:741:C:C4	2.95	0.55
1:0:808:A:H8	1:0:808:A:O5'	1.89	0.55
1:0:1159:G:H1	1:0:1208:C:N4	2.04	0.55
1:0:1346:U:C2	1:0:1347:U:C5	2.94	0.55
1:0:1512:G:O2'	1:0:1513:C:H5'	2.06	0.55
1:0:1900:A:C2	1:0:1938:G:C2	2.95	0.55
1:0:2668:G:H2'	1:0:2669:U:C6	2.41	0.55
9:G:59:LEU:HD12	9:G:91:LEU:O	2.07	0.55
9:G:85:ILE:HG23	9:G:85:ILE:O	2.07	0.55
13:K:118:ALA:HA	13:K:125:ALA:HB2	1.89	0.55
20:R:19:ARG:HA	20:R:142:ASP:OD1	2.06	0.55
27:Y:198:GLY:HA3	27:Y:225:GLY:O	2.06	0.55
1:0:12:U:H2'	1:0:13:G:H5'	1.89	0.55
1:0:214:U:H2'	1:0:214:U:O2	2.07	0.55
1:0:1015:C:O5'	1:0:1015:C:H6	1.89	0.55
1:0:1167:G:H4'	1:0:1167:G:H8	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1790:C:H5	18:P:71:TYR:CE2	2.25	0.55
1:0:1947:G:H2'	1:0:1948:G:C8	2.41	0.55
3:A:140:LEU:HD11	3:A:146:LYS:HB2	1.89	0.55
16:N:38:LYS:HD2	16:N:114:LYS:HE3	1.88	0.55
22:T:28:SER:O	22:T:32:ARG:HG3	2.07	0.55
1:0:213:G:N2	1:0:225:G:H2'	2.21	0.54
1:0:1135:G:C5	1:0:1136:U:C5	2.95	0.54
1:0:1297:U:C4	1:0:1298:U:C5	2.94	0.54
1:0:1385:G:O3'	26:X:49:ARG:NH1	2.41	0.54
1:0:1509:C:C4	1:0:1510:G:N7	2.75	0.54
2:9:106:C:H2'	2:9:107:C:C6	2.42	0.54
5:C:107:ARG:HB3	5:C:107:ARG:NH1	2.14	0.54
13:K:14:LYS:HB3	13:K:45:PRO:HG2	1.88	0.54
14:L:92:ASP:HA	14:L:121:ILE:HB	1.89	0.54
1:0:544:G:C2'	1:0:545:G:H5"	2.37	0.54
1:0:961:A:C5	1:0:1010:C:C6	2.95	0.54
1:0:1207:A:HO3'	1:0:1208:C:P	2.30	0.54
1:0:2321:A:H2'	1:0:2321:A:N3	2.22	0.54
1:0:2388:C:O2'	1:0:2389:U:H5'	2.06	0.54
26:X:7:GLU:HG2	26:X:8:ARG:N	2.23	0.54
26:X:22:ASN:HA	26:X:25:ARG:HG3	1.89	0.54
26:X:78:GLU:HG2	26:X:79:GLU:N	2.13	0.54
31:3:5:ARG:NH2	31:3:90:PHE:HB2	2.22	0.54
1:0:949:U:O2'	19:Q:40:HIS:HE1	1.90	0.54
1:0:1102:C:H1'	1:0:1109:U:C4	2.42	0.54
1:0:1524:U:OP1	1:0:1524:U:H4'	2.07	0.54
1:0:1808:C:O2'	1:0:1809:G:H5'	2.07	0.54
1:0:1874:U:H2'	3:A:120:ARG:HG3	1.87	0.54
1:0:2086:C:H2'	1:0:2087:C:H6	1.70	0.54
1:0:2796:U:C4	1:0:2797:C:C5	2.95	0.54
1:0:553:G:P	27:Y:204:ARG:HH22	2.30	0.54
1:0:925:C:H6	1:0:925:C:C5'	2.21	0.54
1:0:1621:G:O2'	1:0:1622:G:H5'	2.08	0.54
1:0:2363:G:O2'	19:Q:11:ARG:HG3	2.07	0.54
1:0:2415:A:N3	16:N:26:LEU:HD13	2.22	0.54
1:0:2493:C:O2	1:0:2493:C:H2'	2.07	0.54
1:0:2566:A:C2	1:0:2696:G:O4'	2.61	0.54
8:F:91:VAL:HG12	8:F:92:GLY:H	1.72	0.54
11:I:82:GLU:CD	11:I:83:THR:H	2.11	0.54
1:0:308:U:H2'	22:T:52:ARG:HH22	1.73	0.54
1:0:945:U:H4'	25:W:43:GLY:O	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1010:C:H4'	16:N:4:PRO:HB2	1.89	0.54
1:0:1052:G:H2'	1:0:1052:G:N3	2.21	0.54
1:0:1634:G:H2'	1:0:1635:U:C6	2.39	0.54
1:0:1683:G:N2	1:0:1723:G:H2'	2.23	0.54
1:0:1787:C:O4'	1:0:2883:A:H1'	2.08	0.54
15:M:71:SER:N	15:M:73:ARG:HH12	2.06	0.54
1:0:64:G:H2'	1:0:65:C:H6	1.72	0.54
1:0:453:A:C2	1:0:479:G:C8	2.95	0.54
1:0:678:G:OP2	5:C:107:ARG:NH2	2.39	0.54
1:0:711:G:N2	1:0:718:C:H1'	2.22	0.54
1:0:894:A:C2	5:C:87:ARG:NH2	2.76	0.54
1:0:1521:C:H2'	1:0:1522:A:H8	1.73	0.54
1:0:1706:G:H5'	1:0:2735:U:OP1	2.07	0.54
2:9:20:G:O2'	2:9:21:G:H5'	2.07	0.54
9:G:51:ARG:O	9:G:53:LEU:N	2.40	0.54
23:U:39:ASN:ND2	23:U:44:ARG:HH11	2.06	0.54
1:0:595:U:H5"	27:Y:118:THR:HG21	1.88	0.54
1:0:1343:C:H1'	27:Y:208:LYS:NZ	2.22	0.54
1:0:1579:C:N4	1:0:1618:G:N1	2.56	0.54
1:0:1810:C:H2'	1:0:1810:C:O2	2.08	0.54
1:0:2032:U:H2'	1:0:2033:G:C5'	2.38	0.54
1:0:2337:G:C2	1:0:2348:C:C2	2.95	0.54
2:9:109:G:C6	2:9:110:G:N7	2.76	0.54
6:D:95:THR:OG1	6:D:174:VAL:HG22	2.08	0.54
12:J:126:ASN:HA	35:J:147:CL:CL	2.44	0.54
19:Q:60:THR:HG21	19:Q:94:GLN:HE21	1.72	0.54
1:0:206:G:C6	1:0:437:A:C2	2.96	0.54
1:0:290:C:H2'	1:0:291:C:O4'	2.07	0.54
1:0:450:C:H4'	5:C:46:TYR:HE1	1.73	0.54
1:0:492:C:O5'	1:0:492:C:H6	1.90	0.54
1:0:1422:U:O2'	1:0:1423:C:H5'	2.07	0.54
1:0:1741:U:O2'	1:0:2723:G:H4'	2.08	0.54
1:0:1945:G:C4	1:0:1946:C:C6	2.95	0.54
1:0:2265:U:H2'	1:0:2266:A:H8	1.73	0.54
1:0:2478:U:H2'	1:0:2479:A:C8	2.43	0.54
1:0:2668:G:H2'	1:0:2669:U:H6	1.72	0.54
9:G:30:TYR:OH	9:G:58:GLU:HB3	2.08	0.54
10:H:46:GLN:HG3	10:H:137:TYR:CD2	2.42	0.54
18:P:115:SER:OG	18:P:118:GLN:HG3	2.08	0.54
25:W:64:THR:O	25:W:68:THR:HG22	2.07	0.54
1:0:1008:C:H2'	1:0:1009:U:C6	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1246:A:O2'	1:0:1247:A:H3'	2.08	0.54
1:0:1916:C:N3	1:0:1924:A:C6	2.76	0.54
1:0:2271:G:H5'	3:A:223:ARG:HH22	1.73	0.54
10:H:151:ARG:HA	10:H:154:TYR:CE2	2.43	0.54
26:X:10:VAL:HG12	26:X:11:THR:N	2.22	0.54
29:1:37:CYS:SG	29:1:39:PHE:HB2	2.48	0.54
1:0:66:G:C2'	1:0:108:U:O2'	2.56	0.54
1:0:164:G:O3'	14:L:30:ARG:HB2	2.08	0.54
1:0:175:G:O6	15:M:94:ARG:NH2	2.40	0.54
1:0:262:A:H5"	1:0:264:G:O4'	2.06	0.54
1:0:432:G:N2	1:0:433:C:C2	2.76	0.54
1:0:925:C:H5"	1:0:925:C:C6	2.43	0.54
1:0:1209:C:O2	1:0:1210:G:C8	2.61	0.54
1:0:1249:U:H2'	1:0:1250:C:C6	2.43	0.54
1:0:1666:C:O2'	1:0:1667:A:H5"	2.07	0.54
1:0:1783:A:C2'	1:0:1784:U:C5'	2.86	0.54
1:0:1973:A:H61	1:0:2009:G:H1'	1.71	0.54
1:0:2120:U:O5'	1:0:2120:U:H6	1.90	0.54
1:0:2566:A:H4'	7:E:161:VAL:HG21	1.90	0.54
1:0:559:U:O2'	1:0:560:C:H5'	2.08	0.53
1:0:595:U:H3'	1:0:595:U:H6	1.72	0.53
1:0:846:A:O2'	1:0:847:C:H5'	2.08	0.53
1:0:1044:C:C6	1:0:2483:A:C2	2.95	0.53
1:0:1167:G:C2'	1:0:1168:C:H5'	2.37	0.53
1:0:1709:G:C5	1:0:1711:A:N7	2.76	0.53
1:0:1761:U:H4'	18:P:82:GLY:O	2.07	0.53
1:0:1821:A:N6	1:0:2029:C:H42	2.06	0.53
1:0:2325:C:O2'	1:0:2411:C:H1'	2.08	0.53
1:0:2346:C:O3'	6:D:52:THR:HG23	2.07	0.53
1:0:2541:U:O2	1:0:2619:UR3:H3U2	2.08	0.53
1:0:2635:A:O2'	1:0:2636:C:H5'	2.08	0.53
1:0:2829:G:N2	1:0:2830:U:C2	2.75	0.53
17:O:10:LEU:HD12	17:O:10:LEU:O	2.08	0.53
1:0:349:U:O2'	1:0:350:C:H5'	2.08	0.53
1:0:588:G:O6	25:W:154:ARG:NH1	2.42	0.53
1:0:1520:G:N2	1:0:1666:C:O2	2.41	0.53
1:0:1556:G:C2	1:0:1557:G:C8	2.97	0.53
1:0:1902:G:N2	1:0:1936:C:C2	2.76	0.53
1:0:2128:G:C5	1:0:2129:U:C5	2.96	0.53
1:0:2434:A:OP1	31:3:30:GLN:HG2	2.07	0.53
3:A:191:GLY:HA2	3:A:194:MET:HG3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:28:ALA:HB3	8:F:99:THR:O	2.08	0.53
8:F:63:ILE:HB	8:F:64:PRO:HD3	1.90	0.53
9:G:37:ASN:HD21	9:G:92:ILE:CG2	2.21	0.53
1:0:302:A:H2'	1:0:303:C:O4'	2.08	0.53
1:0:561:G:H2'	1:0:562:A:H8	1.72	0.53
1:0:838:C:C2'	1:0:839:C:H5'	2.38	0.53
1:0:1147:C:C4	1:0:1148:C:C5	2.96	0.53
1:0:1510:G:C5	1:0:1511:U:C5	2.96	0.53
1:0:2831:C:H2'	1:0:2832:C:H5'	1.89	0.53
1:0:234:A:C2'	1:0:235:C:O5'	2.56	0.53
1:0:250:C:O2'	1:0:251:C:H5'	2.08	0.53
1:0:666:A:C6	1:0:667:C:O2	2.61	0.53
1:0:682:A:H2'	1:0:683:G:O4'	2.08	0.53
1:0:1611:G:H2'	1:0:1612:A:H8	1.73	0.53
1:0:1819:G:H2'	1:0:1820:G:O5'	2.08	0.53
1:0:1896:G:C6	1:0:1897:U:C4	2.96	0.53
1:0:1950:G:H2'	1:0:1951:G:C8	2.44	0.53
1:0:2081:A:H2'	1:0:2082:G:O4'	2.07	0.53
1:0:2134:G:C6	1:0:2258:A:C8	2.97	0.53
1:0:2443:C:H5'	14:L:57:VAL:HG21	1.88	0.53
4:B:73:VAL:HG21	4:B:284:PHE:HZ	1.74	0.53
5:C:27:ARG:HG2	5:C:30:LEU:HD12	1.90	0.53
1:0:224:U:H2'	1:0:225:G:C5'	2.38	0.53
1:0:335:U:H4'	22:T:92:ASP:OD2	2.08	0.53
1:0:690:G:H1'	1:0:731:U:H1'	1.89	0.53
1:0:721:A:H4'	17:O:51:TYR:CD1	2.43	0.53
1:0:952:G:N3	1:0:2302:A:H2'	2.24	0.53
1:0:1308:A:O2'	1:0:1309:U:H5'	2.07	0.53
1:0:1476:A:O2'	1:0:1868:G:H5'	2.09	0.53
1:0:1855:G:N7	3:A:142:SER:OG	2.38	0.53
1:0:2337:G:C2	1:0:2348:C:O2	2.61	0.53
1:0:2828:G:O5'	1:0:2828:G:H8	1.90	0.53
2:9:72:C:O2'	2:9:73:G:H5'	2.08	0.53
4:B:1:PRO:O	4:B:2:GLN:HB2	2.07	0.53
6:D:104:PHE:CE2	6:D:132:VAL:HB	2.44	0.53
7:E:6:GLU:HA	7:E:46:THR:HG22	1.90	0.53
10:H:46:GLN:HB3	10:H:167:PRO:CD	2.29	0.53
27:Y:130:ARG:HB2	27:Y:142:SER:O	2.08	0.53
1:0:174:A:O4'	1:0:176:U:C6	2.62	0.53
1:0:286:U:C4	1:0:287:C:N4	2.77	0.53
1:0:710:G:O2'	1:0:711:G:H5'	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:834:G:H5”	1:0:835:U:O5’	2.08	0.53
1:0:1023:C:H2’	1:0:1024:G:O4’	2.08	0.53
1:0:1166:A:OP1	1:0:1174:A:C5’	2.56	0.53
1:0:1496:G:H2’	1:0:1497:G:O4’	2.07	0.53
1:0:2582:G:C2	1:0:2583:A:C8	2.96	0.53
1:0:2637:A:OP1	1:0:2637:A:H3’	2.09	0.53
1:0:2658:G:H4’	1:0:2842:G:C8	2.44	0.53
1:0:2768:A:O2’	1:0:2769:C:H5’	2.08	0.53
2:9:29:C:H2’	2:9:30:C:C5’	2.38	0.53
6:D:76:ARG:O	6:D:77:ASP:HB2	2.09	0.53
8:F:79:GLN:HB2	8:F:82:ASP:HB2	1.91	0.53
25:W:35:VAL:HG23	25:W:41:TYR:CD2	2.43	0.53
27:Y:145:LYS:O	27:Y:147:ARG:HG2	2.09	0.53
27:Y:188:HIS:CD2	27:Y:188:HIS:N	2.76	0.53
1:0:564:G:N2	1:0:593:A:OP2	2.41	0.53
1:0:870:G:OP2	3:A:3:ARG:NH1	2.42	0.53
1:0:1231:A:N3	1:0:2553:A:H5”	2.24	0.53
1:0:1790:C:O2’	1:0:1791:U:H5’	2.08	0.53
2:9:50:G:C6	2:9:51:A:N6	2.77	0.53
9:G:30:TYR:OH	9:G:58:GLU:CB	2.57	0.53
9:G:36:VAL:HG13	9:G:89:VAL:CG2	2.39	0.53
10:H:46:GLN:HG3	10:H:137:TYR:CE2	2.43	0.53
14:L:143:THR:CG2	14:L:144:ASP:N	2.72	0.53
16:N:139:TRP:HA	16:N:139:TRP:HE3	1.74	0.53
1:0:206:G:C8	1:0:206:G:H5”	2.44	0.53
1:0:1063:G:O5’	1:0:2307:A:H1’	2.09	0.53
1:0:1085:C:H2’	1:0:1086:A:H5’	1.91	0.53
1:0:1231:A:N1	1:0:2498:C:O2’	2.41	0.53
9:G:20:VAL:O	9:G:23:ILE:HG22	2.09	0.53
12:J:127:ILE:N	35:J:147:CL:CL	2.66	0.53
1:0:1079:A:H4’	1:0:2078:U:H5’	1.91	0.53
1:0:1234:U:O2’	1:0:1235:G:H5’	2.08	0.53
1:0:1400:C:O2’	1:0:1401:G:H5’	2.08	0.53
1:0:1461:U:H2’	1:0:1462:C:C6	2.44	0.53
1:0:1666:C:C2’	1:0:1667:A:H5’	2.39	0.53
1:0:2312:G:H2’	1:0:2313:C:C5’	2.36	0.53
1:0:2521:A:OP1	10:H:158:THR:HG23	2.08	0.53
1:0:2761:A:C4	1:0:2763:G:C8	2.95	0.53
1:0:2897:C:O2’	1:0:2898:G:C5’	2.56	0.53
2:9:35:C:H2’	16:N:141:ARG:HH12	1.73	0.53
6:D:53:LYS:HA	6:D:67:ASP:O	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:26:THR:HB	8:F:102:GLY:HA3	1.90	0.53
11:I:7:VAL:HG12	11:I:8:LEU:N	2.24	0.53
15:M:84:LYS:HA	31:3:46:ILE:O	2.09	0.53
15:M:134:ILE:O	15:M:136:PRO:HD3	2.09	0.53
22:T:48:VAL:CG2	22:T:98:VAL:HA	2.38	0.53
24:V:4:HIS:O	24:V:8:ILE:HG13	2.09	0.53
25:W:4:LEU:HD23	25:W:54:PHE:HB3	1.91	0.53
1:0:1116:U:C2'	1:0:1118:A:H2	2.22	0.53
1:0:1188:A:N6	1:0:1189:A:N6	2.57	0.53
1:0:1291:A:O2'	1:0:1292:G:H5'	2.09	0.53
1:0:1722:U:C2	1:0:1724:U:C5	2.97	0.53
1:0:1806:G:H1'	1:0:2875:A:N3	2.24	0.53
1:0:2432:C:H2'	1:0:2433:A:H8	1.74	0.53
1:0:2444:U:C2	1:0:2445:U:C6	2.97	0.53
5:C:107:ARG:HH11	5:C:107:ARG:CB	2.15	0.53
16:N:79:PRO:HB3	16:N:172:PHE:CD1	2.44	0.53
28:Z:27:ALA:O	28:Z:31:SER:HB2	2.09	0.53
1:0:78:G:N1	1:0:79:G:C2	2.76	0.52
1:0:559:U:H2'	1:0:560:C:O4'	2.09	0.52
1:0:699:C:H2'	1:0:744:G:N3	2.24	0.52
1:0:1176:C:C4	1:0:1197:G:O6	2.62	0.52
1:0:1308:A:H2'	1:0:1309:U:C6	2.44	0.52
1:0:1309:U:C4	1:0:1310:U:C5	2.96	0.52
1:0:1335:C:N3	1:0:1336:U:C5	2.78	0.52
1:0:1765:G:N2	1:0:1766:U:C2	2.76	0.52
1:0:2346:C:O5'	1:0:2346:C:C6	2.59	0.52
1:0:2356:A:H2'	1:0:2357:G:O4'	2.09	0.52
1:0:2614:C:C2'	1:0:2615:U:H5'	2.39	0.52
5:C:129:HIS:HE1	5:C:231:ARG:HA	1.71	0.52
10:H:54:THR:HG23	10:H:128:GLN:HA	1.92	0.52
22:T:71:VAL:HG13	22:T:91:LEU:H	1.73	0.52
29:1:36:SER:O	29:1:46:ARG:HD3	2.09	0.52
1:0:261:A:OP1	15:M:42:ARG:NH2	2.39	0.52
1:0:853:C:H2'	1:0:854:G:O4'	2.09	0.52
1:0:944:G:H21	25:W:44:MET:HE2	1.75	0.52
1:0:1186:C:H2'	1:0:1187:U:O4'	2.08	0.52
1:0:1425:G:C6	1:0:1426:C:N4	2.77	0.52
4:B:51:VAL:HG13	4:B:53:LEU:CD1	2.40	0.52
9:G:33:VAL:CG2	9:G:94:THR:O	2.56	0.52
16:N:83:LEU:HD13	16:N:175:LEU:HD23	1.91	0.52
22:T:71:VAL:HG13	22:T:91:LEU:O	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:X:72:VAL:HG22	26:X:85:VAL:CG1	2.39	0.52
27:Y:189:ASN:C	27:Y:189:ASN:HD22	2.12	0.52
1:0:74:A:H2'	1:0:75:U:C6	2.44	0.52
1:0:131:A:C2	1:0:132:A:C4	2.98	0.52
1:0:315:G:N2	1:0:483:C:C6	2.77	0.52
1:0:631:A:N3	1:0:2096:A:C8	2.78	0.52
1:0:1012:A:H8	1:0:1012:A:O5'	1.92	0.52
1:0:1161:A:H5"	9:G:44:ARG:CA	2.27	0.52
1:0:1196:C:C3'	1:0:1197:G:C5'	2.88	0.52
1:0:1568:G:O2'	1:0:1569:U:H5'	2.09	0.52
1:0:2504:A:H2'	1:0:2505:G:O4'	2.10	0.52
1:0:2672:C:OP2	4:B:25:ARG:NH1	2.42	0.52
27:Y:146:PRO:HB2	27:Y:154:ARG:HB2	1.91	0.52
1:0:1044:C:C5	1:0:2483:A:C2	2.98	0.52
1:0:1592:G:O2'	1:0:1593:C:O5'	2.28	0.52
1:0:1788:U:H2'	1:0:1789:G:H8	1.74	0.52
1:0:2901:C:H6	1:0:2901:C:O5'	1.91	0.52
6:D:10:PHE:CG	6:D:11:HIS:N	2.77	0.52
7:E:49:ILE:HD11	7:E:69:ILE:HD12	1.91	0.52
9:G:78:LEU:O	9:G:81:LEU:HG	2.10	0.52
9:G:124:ILE:O	9:G:126:ILE:N	2.42	0.52
21:S:37:VAL:O	21:S:41:VAL:HG23	2.08	0.52
1:0:473:A:C2	1:0:474:C:N1	2.78	0.52
1:0:1165:G:O2'	1:0:1174:A:C4'	2.58	0.52
1:0:1412:U:O4	1:0:1681:G:H2'	2.10	0.52
1:0:1862:C:C2'	1:0:1863:G:H5'	2.38	0.52
1:0:1904:A:C4	1:0:1905:U:C6	2.98	0.52
1:0:2251:G:C6	1:0:2252:A:C6	2.97	0.52
1:0:2621:PSU:H2'	1:0:2622:A:O4'	2.09	0.52
3:A:69:LEU:O	3:A:71:PRO:HD3	2.09	0.52
1:0:183:A:C2	1:0:184:G:C4	2.97	0.52
1:0:623:U:H2'	1:0:624:U:C6	2.45	0.52
1:0:1134:G:C2'	1:0:1135:G:H5'	2.39	0.52
1:0:1624:A:H5'	1:0:1626:A:O4'	2.09	0.52
1:0:1904:A:C2	1:0:1905:U:N1	2.78	0.52
1:0:2068:G:C5	1:0:2069:U:C5	2.98	0.52
1:0:2895:C:O2'	1:0:2896:A:H5"	2.10	0.52
3:A:214:SER:HA	3:A:227:ASP:HB2	1.91	0.52
1:0:31:C:C1'	22:T:13:ARG:HH22	2.21	0.52
1:0:115:U:O4'	1:0:131:A:C8	2.62	0.52
1:0:1156:C:O2'	1:0:1157:C:H5'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1406:A:H4'	1:0:1407:A:C5'	2.39	0.52
1:0:1418:U:OP2	30:2:40:ARG:NH2	2.41	0.52
1:0:1503:U:H2'	1:0:1504:A:O4'	2.09	0.52
1:0:1942:A:O2'	1:0:1943:C:H5'	2.09	0.52
1:0:2271:G:N3	1:0:2271:G:H2'	2.24	0.52
1:0:2873:C:N3	1:0:2874:G:C5	2.78	0.52
2:9:30:C:O5'	2:9:30:C:H6	1.93	0.52
3:A:96:LEU:HG	3:A:152:CYS:O	2.09	0.52
5:C:21:VAL:HG23	5:C:22:PHE:CD1	2.45	0.52
9:G:38:ILE:HA	9:G:88:GLN:O	2.09	0.52
15:M:46:LEU:O	15:M:50:ARG:HG3	2.08	0.52
1:0:291:C:H1'	1:0:362:G:N2	2.25	0.52
1:0:820:G:H5'	1:0:821:U:H5'	1.90	0.52
1:0:871:G:C8	1:0:871:G:C5'	2.79	0.52
1:0:1314:U:C2	1:0:1316:G:N2	2.78	0.52
1:0:1377:C:H6	1:0:1377:C:C5'	2.09	0.52
1:0:1423:C:O2'	1:0:1424:A:H5'	2.09	0.52
1:0:1676:G:C2'	1:0:1677:U:H5'	2.40	0.52
1:0:2053:G:H4'	20:R:136:TRP:CE2	2.44	0.52
1:0:2438:G:H2'	1:0:2439:C:O4'	2.09	0.52
1:0:2595:U:H2'	1:0:2596:A:C8	2.44	0.52
1:0:2793:A:H2'	1:0:2794:G:H5'	1.90	0.52
2:9:34:A:N3	16:N:150:TYR:HB2	2.25	0.52
4:B:145:HIS:HD2	4:B:146:THR:O	1.93	0.52
5:C:151:GLN:HA	5:C:151:GLN:HE21	1.75	0.52
8:F:30:LYS:HB2	8:F:97:ALA:HB3	1.91	0.52
11:I:14:ALA:HB1	11:I:35:VAL:HG13	1.91	0.52
13:K:55:VAL:HG12	13:K:56:SER:N	2.25	0.52
27:Y:100:ARG:NH1	27:Y:215:GLU:HA	2.25	0.52
1:0:392:U:H5"	15:M:193:LYS:HB3	1.90	0.52
1:0:730:G:H2'	1:0:731:U:H6	1.75	0.52
1:0:1575:C:C2	1:0:1622:G:N2	2.78	0.52
1:0:1586:G:O2'	1:0:1587:U:H5'	2.09	0.52
1:0:1594:C:O2'	1:0:1595:G:H5'	2.10	0.52
1:0:2338:G:N2	1:0:2347:C:C2	2.78	0.52
1:0:2381:C:H4'	31:3:80:ARG:NH1	2.24	0.52
1:0:2908:A:H2'	1:0:2909:G:C4'	2.40	0.52
2:9:12:C:H5'	2:9:70:U:O4'	2.10	0.52
2:9:41:C:H4'	6:D:48:MET:CB	2.39	0.52
4:B:175:LEU:O	4:B:179:LEU:HG	2.09	0.52
8:F:58:GLU:HA	8:F:61:MET:HE2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:149:ARG:O	14:L:150:GLN:HB2	2.09	0.52
22:T:52:ARG:HB2	22:T:95:ASN:HB3	1.92	0.52
25:W:52:VAL:HG22	25:W:53:ALA:H	1.75	0.52
1:0:698:A:C5'	14:L:110:GLY:O	2.58	0.52
1:0:1024:G:C6	1:0:1025:C:C4	2.98	0.52
1:0:1115:U:H2'	1:0:1116:U:H6	1.74	0.52
1:0:1166:A:H2'	1:0:1166:A:N3	2.24	0.52
1:0:1269:G:H2'	1:0:1270:U:C6	2.45	0.52
1:0:1334:C:H2'	1:0:1335:C:C6	2.43	0.52
1:0:2090:G:N2	4:B:253:GLN:OE1	2.43	0.52
9:G:35:VAL:O	9:G:92:ILE:HG12	2.10	0.52
1:0:87:C:H2'	30:2:28:LYS:O	2.10	0.51
1:0:154:C:H2'	1:0:155:C:H6	1.75	0.51
1:0:540:A:H2'	1:0:541:C:C6	2.45	0.51
1:0:1008:C:C2	1:0:1009:U:C5	2.99	0.51
1:0:1520:G:C6	1:0:1521:C:C4	2.98	0.51
1:0:1774:G:H2'	1:0:1775:A:O5'	2.10	0.51
1:0:2032:U:C2'	1:0:2033:G:H5"	2.39	0.51
1:0:2707:C:O2	1:0:2707:C:H2'	2.11	0.51
1:0:2779:G:N7	1:0:2790:C:C2	2.78	0.51
1:0:2848:G:O4'	1:0:2906:A:C2	2.63	0.51
15:M:77:HIS:CE1	15:M:86:GLN:HG2	2.44	0.51
17:O:32:ARG:HH21	17:O:35:LYS:HD2	1.74	0.51
18:P:114:LEU:HA	18:P:118:GLN:NE2	2.25	0.51
21:S:35:GLY:O	21:S:38:ALA:HB3	2.10	0.51
22:T:71:VAL:CG1	22:T:91:LEU:H	2.23	0.51
26:X:15:ARG:HB3	26:X:15:ARG:HH11	1.75	0.51
1:0:201:G:C2	1:0:202:U:C6	2.98	0.51
1:0:915:C:O2	1:0:915:C:H2'	2.10	0.51
1:0:2237:G:O2'	1:0:2238:A:N7	2.42	0.51
3:A:94:LEU:HG	3:A:99:ILE:HD11	1.91	0.51
4:B:147:VAL:HG12	4:B:150:ALA:H	1.75	0.51
14:L:67:ARG:O	14:L:71:GLU:HG3	2.11	0.51
19:Q:37:GLU:O	19:Q:63:VAL:HG23	2.08	0.51
23:U:38:ASN:O	23:U:42:LEU:HG	2.10	0.51
1:0:111:C:H2'	1:0:112:G:O4'	2.10	0.51
1:0:545:G:H8	1:0:545:G:C5'	2.07	0.51
1:0:1681:G:H4'	1:0:1682:A:N3	2.24	0.51
1:0:1840:A:H4'	1:0:1841:C:O5'	2.09	0.51
1:0:1856:C:N4	1:0:1877:G:H21	2.08	0.51
1:0:1969:A:O2'	1:0:1970:G:H5'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2637:A:OP1	1:0:2637:A:H2'	2.10	0.51
2:9:44:A:C4	2:9:45:A:C8	2.99	0.51
9:G:33:VAL:CB	9:G:94:THR:O	2.58	0.51
9:G:121:PRO:HB2	9:G:127:PRO:CG	2.40	0.51
16:N:119:GLN:O	16:N:123:ILE:HG13	2.10	0.51
31:3:24:LYS:CD	35:3:95:CL:CL	2.95	0.51
1:0:69:A:H8	1:0:69:A:C5'	2.11	0.51
1:0:160:A:C6	1:0:161:A:C6	2.99	0.51
1:0:324:G:O2'	1:0:325:U:H5'	2.10	0.51
1:0:426:G:C2	1:0:427:C:C2	2.99	0.51
1:0:922:A:N7	1:0:2281:C:H5'	2.25	0.51
1:0:1129:C:H5"	1:0:1130:U:OP2	2.10	0.51
1:0:1308:A:H2'	1:0:1309:U:H6	1.76	0.51
1:0:1766:U:O4'	1:0:1779:A:N6	2.44	0.51
2:9:41:C:O2	6:D:73:VAL:HA	2.09	0.51
3:A:170:VAL:HG21	28:Z:26:VAL:HG21	1.91	0.51
3:A:215:ILE:HD12	3:A:216:SER:H	1.76	0.51
4:B:84:LEU:HD23	4:B:142:LEU:HD23	1.92	0.51
10:H:120:ILE:N	10:H:120:ILE:HD12	2.26	0.51
18:P:7:LYS:HG2	18:P:23:PHE:CE2	2.45	0.51
22:T:49:GLU:HB3	22:T:59:GLU:HG2	1.92	0.51
1:0:347:A:O2'	1:0:348:C:H5'	2.10	0.51
1:0:372:A:C2	1:0:373:G:C4	2.99	0.51
1:0:625:U:H5"	1:0:1044:C:N4	2.24	0.51
1:0:960:G:N3	1:0:960:G:C2'	2.73	0.51
1:0:1170:U:C2'	1:0:1171:A:C5'	2.64	0.51
1:0:1666:C:O2'	1:0:1667:A:C5'	2.59	0.51
1:0:1904:A:C2	1:0:1905:U:C2	2.98	0.51
12:J:6:PHE:CD1	12:J:102:ARG:NH1	2.79	0.51
16:N:48:VAL:CG1	16:N:55:ASP:HB3	2.41	0.51
20:R:39:THR:HB	20:R:42:GLU:OE1	2.10	0.51
20:R:82:GLU:HG3	20:R:83:LYS:N	2.25	0.51
1:0:249:G:O2'	1:0:250:C:H5'	2.11	0.51
1:0:364:C:H2'	1:0:365:G:C8	2.46	0.51
1:0:593:A:O5'	1:0:593:A:H8	1.94	0.51
1:0:669:G:C4	1:0:670:G:C8	2.98	0.51
1:0:685:C:H1'	1:0:748:C:H5"	1.92	0.51
1:0:935:G:O2'	1:0:936:C:H5'	2.11	0.51
1:0:1197:G:C2'	1:0:1198:U:C5'	2.88	0.51
1:0:1607:A:H2'	1:0:1608:G:H5'	1.91	0.51
1:0:1872:C:C5	3:A:23:TYR:HB2	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1889:C:O2'	1:0:1890:U:H5'	2.10	0.51
1:0:2265:U:H2'	1:0:2266:A:C8	2.46	0.51
1:0:2415:A:O2'	16:N:29:SER:HB3	2.11	0.51
1:0:2656:G:C2'	1:0:2657:G:H5'	2.40	0.51
1:0:2758:G:C5	1:0:2759:C:C4	2.98	0.51
3:A:211:LYS:NZ	3:A:223:ARG:HH21	2.08	0.51
5:C:46:TYR:CE2	5:C:98:ARG:NH1	2.79	0.51
11:I:109:HIS:N	11:I:110:PRO:HD2	2.26	0.51
1:0:153:C:O2	1:0:439:A:H2	1.94	0.51
1:0:328:U:P	5:C:149:LYS:HZ2	2.34	0.51
1:0:401:C:H2'	1:0:402:U:C6	2.46	0.51
1:0:634:G:O2'	1:0:1358:A:OP1	2.29	0.51
1:0:694:A:H2'	1:0:695:C:C4'	2.41	0.51
1:0:816:G:O5'	1:0:816:G:H8	1.93	0.51
1:0:958:G:O2'	1:0:959:C:H5'	2.11	0.51
1:0:1014:A:H5"	2:9:101:G:O2'	2.11	0.51
1:0:2296:C:H2'	1:0:2297:U:C6	2.46	0.51
1:0:2387:U:H2'	1:0:2388:C:C6	2.45	0.51
1:0:2870:C:H2'	1:0:2871:G:H8	1.75	0.51
2:9:31:C:C2	2:9:50:G:C2	2.99	0.51
12:J:38:VAL:HB	12:J:103:VAL:HG22	1.92	0.51
12:J:107:ASN:HD22	12:J:109:TYR:H	1.57	0.51
19:Q:53:HIS:N	35:Q:97:CL:CL	2.77	0.51
1:0:694:A:C8	1:0:695:C:C6	2.99	0.51
1:0:1167:G:O4'	1:0:1168:C:H5'	2.11	0.51
1:0:1398:G:H2'	1:0:1399:A:C8	2.46	0.51
1:0:1453:G:N2	1:0:1675:C:C2	2.78	0.51
1:0:1504:A:O2'	1:0:1506:U:OP2	2.28	0.51
1:0:1925:G:H5'	31:3:29:ARG:HH12	1.75	0.51
3:A:170:VAL:HG11	28:Z:14:PHE:CZ	2.45	0.51
1:0:365:G:C5	1:0:366:U:C5	2.99	0.51
1:0:450:C:C4'	5:C:46:TYR:CE1	2.93	0.51
1:0:558:C:C2'	1:0:559:U:H5'	2.32	0.51
1:0:657:G:H2'	1:0:658:C:H6	1.76	0.51
1:0:1021:G:H2'	1:0:1022:A:C8	2.45	0.51
1:0:1305:C:O3'	5:C:184:ARG:NH1	2.44	0.51
1:0:1552:G:C4	1:0:1553:C:C5	2.98	0.51
1:0:1593:C:O2'	1:0:1594:C:H5'	2.11	0.51
1:0:1774:G:H2'	1:0:1775:A:C5'	2.40	0.51
1:0:1783:A:H2'	1:0:1784:U:C5'	2.41	0.51
1:0:2432:C:O5'	1:0:2432:C:H6	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2763:G:C5	1:0:2764:C:C5	2.99	0.51
2:9:84:G:H1	2:9:98:C:H42	1.58	0.51
7:E:21:THR:HA	7:E:29:VAL:O	2.11	0.51
12:J:53:ILE:O	12:J:57:TYR:HD1	1.93	0.51
1:0:192:A:N6	1:0:194:A:C2	2.79	0.51
1:0:444:C:H2'	1:0:445:U:C6	2.46	0.51
1:0:1163:G:C4'	11:I:112:LEU:HD11	2.40	0.51
1:0:1406:A:H4'	1:0:1407:A:H5"	1.92	0.51
1:0:1659:A:H2'	1:0:1660:G:O4'	2.10	0.51
1:0:1794:G:N2	1:0:1797:A:OP2	2.43	0.51
1:0:1882:C:H2'	1:0:1883:U:H6	1.76	0.51
1:0:2600:A:H2'	1:0:2601:A:O4'	2.11	0.51
25:W:57:PRO:HG2	25:W:101:LEU:HD21	1.92	0.51
25:W:132:VAL:HA	25:W:136:GLY:O	2.11	0.51
1:0:61:G:C6	1:0:86:A:N6	2.79	0.50
1:0:342:C:H2'	1:0:343:C:C6	2.43	0.50
1:0:542:A:H2'	1:0:543:G:O4'	2.11	0.50
1:0:556:C:H2'	1:0:557:C:H6	1.76	0.50
1:0:559:U:H5'	1:0:559:U:C6	2.34	0.50
1:0:832:U:H2'	1:0:833:G:C8	2.46	0.50
1:0:961:A:C2	1:0:962:C:C5	2.99	0.50
1:0:962:C:N4	1:0:963:C:N3	2.58	0.50
1:0:1544:U:H2'	1:0:1545:C:H6	1.75	0.50
1:0:1603:A:H5'	1:0:1605:G:C4'	2.40	0.50
1:0:1896:G:C5	1:0:1897:U:C5	2.99	0.50
1:0:2026:C:O2'	1:0:2027:U:H5'	2.12	0.50
1:0:2085:A:O2'	1:0:2086:C:H5'	2.11	0.50
1:0:2605:G:O2'	1:0:2606:G:H5'	2.11	0.50
1:0:2628:U:N3	1:0:2629:C:C5	2.78	0.50
1:0:2661:U:H3	1:0:2812:A:N6	2.02	0.50
7:E:137:ASP:O	7:E:141:VAL:HG23	2.12	0.50
9:G:23:ILE:HG12	9:G:60:ARG:NH1	2.25	0.50
1:0:157:G:C6	1:0:158:A:C5	2.99	0.50
1:0:171:C:C2'	1:0:172:U:H5'	2.41	0.50
1:0:206:G:N1	1:0:437:A:C2	2.79	0.50
1:0:695:C:H2'	1:0:696:C:H6	1.76	0.50
1:0:1029:U:O2'	1:0:1273:C:OP1	2.25	0.50
1:0:1158:G:C6	1:0:1159:G:N7	2.79	0.50
1:0:1335:C:O2	1:0:1336:U:C6	2.65	0.50
1:0:1785:G:OP1	18:P:76:GLY:HA3	2.10	0.50
1:0:1829:A:N6	28:Z:18:TYR:H	2.08	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2116:U:C4	1:0:2271:G:C6	2.99	0.50
1:0:2262:C:H2'	1:0:2263:G:H8	1.74	0.50
1:0:2330:U:O4	1:0:2368:A:H5"	2.11	0.50
1:0:2887:G:H2'	1:0:2888:U:O4'	2.11	0.50
13:K:130:MET:SD	23:U:26:GLY:HA3	2.52	0.50
24:V:64:GLY:O	24:V:65:ASP:HB2	2.11	0.50
25:W:24:LEU:HD21	25:W:44:MET:SD	2.51	0.50
1:0:10:U:C2	1:0:532:A:N7	2.79	0.50
1:0:146:U:C5	1:0:147:G:C6	3.00	0.50
1:0:247:A:C8	1:0:262:A:N6	2.79	0.50
1:0:1311:G:O6	5:C:173:LYS:HE3	2.11	0.50
1:0:2364:A:H5"	19:Q:15:LYS:HD3	1.93	0.50
1:0:2783:A:H2'	1:0:2784:A:C8	2.47	0.50
7:E:152:THR:HG21	7:E:166:VAL:H	1.77	0.50
9:G:51:ARG:O	9:G:53:LEU:HG	2.11	0.50
1:0:21:G:H5"	20:R:2:ILE:HA	1.91	0.50
1:0:560:C:H42	1:0:597:A:H61	1.59	0.50
1:0:746:A:C5	17:O:65:LEU:HD13	2.45	0.50
1:0:1182:C:H5"	1:0:1183:C:H5'	1.93	0.50
1:0:1514:C:H42	1:0:1672:G:H1	1.59	0.50
1:0:1631:A:C6	1:0:1632:A:N1	2.80	0.50
1:0:1658:A:H2'	1:0:1659:A:C8	2.45	0.50
1:0:1815:A:H2'	1:0:1816:C:O4'	2.11	0.50
1:0:1871:U:O4'	1:0:1873:G:C8	2.64	0.50
1:0:2067:A:H2'	1:0:2068:G:O4'	2.10	0.50
1:0:2628:U:C4	1:0:2629:C:C5	2.98	0.50
1:0:2672:C:H2'	1:0:2673:U:H6	1.76	0.50
1:0:2910:A:C5	1:0:2911:C:C5	2.98	0.50
21:S:57:THR:C	21:S:59:ASP:H	2.15	0.50
27:Y:178:HIS:CG	27:Y:179:PRO:HD2	2.47	0.50
1:0:119:A:C2	1:0:122:C:C2	2.99	0.50
1:0:470:U:C5	1:0:471:G:C6	2.99	0.50
1:0:794:U:C2'	1:0:795:G:H5'	2.40	0.50
1:0:1119:G:C6	1:0:1243:C:C4	2.99	0.50
1:0:1528:A:H2'	1:0:1529:G:O4'	2.11	0.50
1:0:1683:G:H21	1:0:1723:G:H2'	1.76	0.50
1:0:1836:A:H1'	29:1:1:THR:O	2.11	0.50
1:0:2400:G:H2'	1:0:2401:A:C8	2.46	0.50
2:9:44:A:C5	2:9:45:A:N7	2.80	0.50
9:G:110:THR:OG1	9:G:114:ILE:HA	2.11	0.50
1:0:102:A:H2'	1:0:103:U:C6	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:450:C:H4'	5:C:46:TYR:CE1	2.46	0.50
1:0:766:A:O2'	1:0:767:A:H5"	2.12	0.50
1:0:1099:G:OP1	25:W:129:LYS:HE3	2.11	0.50
1:0:1161:A:H3'	9:G:44:ARG:HB2	1.93	0.50
1:0:1174:A:H2'	1:0:1175:G:OP1	2.12	0.50
1:0:2357:G:C6	1:0:2358:U:C4	2.99	0.50
1:0:2526:C:H2'	1:0:2527:U:H5'	1.91	0.50
1:0:2628:U:C4	1:0:2629:C:H5	2.30	0.50
1:0:2727:A:C2'	1:0:2728:C:H5'	2.42	0.50
1:0:2823:G:C2	1:0:2824:C:C5	2.99	0.50
2:9:104:A:O2'	2:9:105:A:H5'	2.12	0.50
6:D:170:TYR:O	6:D:171:ASP:HB3	2.11	0.50
12:J:16:ASP:O	12:J:121:LEU:HB3	2.11	0.50
1:0:222:A:C4	1:0:223:G:H1'	2.46	0.50
1:0:398:U:O2'	15:M:179:GLY:HA2	2.11	0.50
1:0:473:A:C2	1:0:474:C:C2	2.99	0.50
1:0:545:G:C8	1:0:545:G:C5'	2.90	0.50
1:0:688:A:C2	1:0:697:G:N3	2.80	0.50
1:0:861:A:H4'	1:0:1697:G:O4'	2.11	0.50
1:0:1209:C:O2'	1:0:1210:G:H5'	2.12	0.50
1:0:1563:G:O2'	1:0:1564:C:OP2	2.22	0.50
1:0:1564:C:H1'	1:0:2738:G:C2	2.47	0.50
1:0:1771:U:C4'	28:Z:20:ARG:HE	2.25	0.50
1:0:1789:G:O6	18:P:73:HIS:HE1	1.95	0.50
1:0:2029:C:H2'	1:0:2030:A:C8	2.45	0.50
1:0:2055:A:O2'	1:0:2056:C:H5'	2.10	0.50
1:0:2277:U:C4	1:0:2278:U:C4	2.99	0.50
1:0:2591:C:H2'	1:0:2592:G:O4'	2.12	0.50
15:M:75:ARG:HH22	15:M:78:LYS:NZ	2.09	0.50
1:0:249:G:O2'	1:0:266:G:H5'	2.12	0.50
1:0:354:A:C6	1:0:355:C:N4	2.80	0.50
1:0:511:A:H2'	1:0:512:G:H5'	1.93	0.50
1:0:545:G:H2'	1:0:546:C:O4'	2.12	0.50
1:0:812:A:H2'	1:0:813:C:O4'	2.12	0.50
1:0:1130:U:H2'	1:0:1131:G:O4'	2.12	0.50
1:0:1380:U:C5	1:0:2748:G:C4	3.00	0.50
1:0:1898:G:H2'	1:0:1899:C:C6	2.46	0.50
1:0:1946:C:N3	1:0:1971:G:C2	2.80	0.50
1:0:1974:G:C6	1:0:1975:C:C2	3.00	0.50
1:0:2099:G:C2	1:0:2646:G:C6	3.00	0.50
1:0:2294:C:O2	1:0:2294:C:H2'	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2763:G:C6	1:0:2764:C:C4	2.99	0.50
2:9:95:C:O2'	2:9:96:C:H5'	2.12	0.50
5:C:27:ARG:HG3	5:C:29:ASP:OD1	2.12	0.50
8:F:36:THR:HG23	8:F:97:ALA:HB2	1.94	0.50
11:I:31:VAL:HG13	11:I:35:VAL:HG23	1.93	0.50
20:R:66:VAL:HA	20:R:79:ARG:HH21	1.77	0.50
31:3:11:CYS:HB2	31:3:20:HIS:CE1	2.47	0.50
1:0:44:G:N2	1:0:147:G:N2	2.59	0.50
1:0:1169:U:C5	1:0:1170:U:C4	3.00	0.50
1:0:1517:U:O2'	1:0:1518:A:H5'	2.12	0.50
1:0:1631:A:C2	1:0:1632:A:C2	3.00	0.50
1:0:1846:U:H2'	1:0:1847:A:C4	2.47	0.50
1:0:1944:G:C2	1:0:1945:G:C8	3.00	0.50
1:0:2032:U:H2'	1:0:2033:G:H5"	1.94	0.50
1:0:2330:U:C2	1:0:2371:G:N2	2.80	0.50
1:0:2715:G:O2'	4:B:262:ARG:HD2	2.12	0.50
1:0:2717:C:H2'	1:0:2718:C:H5'	1.93	0.50
1:0:2859:C:H6	1:0:2859:C:C5'	2.22	0.50
2:9:4:G:O2'	16:N:44:ARG:NH2	2.44	0.50
3:A:76:VAL:HG23	28:Z:63:LYS:HB3	1.93	0.50
9:G:47:GLN:HA	9:G:50:ARG:HB2	1.94	0.50
9:G:71:LEU:HD12	9:G:81:LEU:HD23	1.93	0.50
9:G:99:PHE:CE2	9:G:131:THR:HG23	2.47	0.50
10:H:15:THR:HG22	10:H:93:GLN:HA	1.94	0.50
11:I:7:VAL:HG12	11:I:8:LEU:H	1.77	0.50
12:J:68:GLY:HA2	35:J:149:CL:CL	2.49	0.50
15:M:133:LEU:O	15:M:134:ILE:HD13	2.11	0.50
1:0:51:G:C2	1:0:111:C:C2	3.00	0.49
1:0:297:U:H2'	1:0:298:C:H6	1.77	0.49
1:0:396:U:O2'	1:0:397:A:P	2.69	0.49
1:0:420:U:H2'	1:0:421:C:C6	2.47	0.49
1:0:638:C:O2'	1:0:639:A:C5'	2.57	0.49
1:0:937:C:C2'	1:0:938:G:H5'	2.42	0.49
1:0:1336:U:N3	1:0:1337:A:N7	2.60	0.49
1:0:1510:G:C4	1:0:1511:U:C6	3.00	0.49
1:0:1623:C:OP2	1:0:1624:A:O2'	2.29	0.49
1:0:1667:A:C2	1:0:1668:U:C2	3.00	0.49
1:0:2717:C:C2'	1:0:2718:C:C5'	2.89	0.49
2:9:27:C:H2'	2:9:28:U:O4'	2.12	0.49
4:B:16:ARG:HG3	4:B:260:HIS:CE1	2.47	0.49
4:B:176:ASP:HA	4:B:179:LEU:HD12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:236:THR:HG22	5:C:239:ALA:N	2.26	0.49
8:F:58:GLU:CD	15:M:27:ARG:HH22	2.15	0.49
16:N:72:GLU:N	16:N:171:HIS:HE1	2.04	0.49
25:W:117:ARG:CB	25:W:117:ARG:HH11	2.24	0.49
31:3:22:VAL:CG1	31:3:67:LEU:HD13	2.42	0.49
1:0:69:A:C8	1:0:69:A:C5'	2.87	0.49
1:0:139:C:H4'	1:0:140:G:C2	2.47	0.49
1:0:1149:U:C5	1:0:1215:A:N7	2.80	0.49
1:0:1195:G:N2	1:0:1205:U:C2	2.79	0.49
1:0:1335:C:C2	1:0:1336:U:C6	3.00	0.49
1:0:1705:C:H2'	1:0:1706:G:H5'	1.95	0.49
1:0:1832:G:N2	1:0:1845:A:H1'	2.27	0.49
1:0:1999:C:H2'	1:0:2000:G:H8	1.77	0.49
1:0:2054:A:N3	20:R:128:ARG:NH2	2.61	0.49
1:0:2249:G:N2	1:0:2253:G:C5	2.81	0.49
1:0:2740:G:H2'	1:0:2741:A:H8	1.77	0.49
3:A:59:GLU:HG3	3:A:65:ARG:HD3	1.94	0.49
23:U:23:HIS:HD2	23:U:27:ALA:O	1.95	0.49
26:X:76:ARG:HH11	26:X:76:ARG:CG	2.22	0.49
27:Y:197:ASP:OD1	27:Y:199:ASP:HB2	2.12	0.49
28:Z:60:CYS:O	28:Z:60:CYS:SG	2.70	0.49
1:0:216:A:N6	1:0:225:G:C2	2.80	0.49
1:0:339:A:C4	1:0:342:C:N4	2.81	0.49
1:0:369:G:C2	1:0:370:G:C8	3.00	0.49
1:0:497:A:H2'	1:0:498:A:H5'	1.93	0.49
1:0:532:A:H2	1:0:2660:G:N3	2.10	0.49
1:0:819:A:C4	1:0:821:U:C5	3.00	0.49
1:0:941:G:C6	1:0:942:U:C4	3.00	0.49
1:0:1013:A:H2'	1:0:1013:A:N3	2.26	0.49
1:0:1168:C:H4'	11:I:85:SER:O	2.12	0.49
1:0:1836:A:H3'	1:0:1837:G:H2'	1.94	0.49
1:0:2086:C:H2'	1:0:2087:C:C6	2.48	0.49
1:0:2398:A:H2'	1:0:2399:G:O4'	2.12	0.49
1:0:2751:C:C4	1:0:2752:C:C5	3.00	0.49
5:C:49:ASP:HB3	5:C:52:ALA:HB2	1.94	0.49
8:F:49:PHE:N	8:F:49:PHE:CD1	2.80	0.49
9:G:31:GLU:O	9:G:33:VAL:HG23	2.12	0.49
9:G:128:GLU:O	9:G:128:GLU:HG2	2.12	0.49
1:0:54:G:N2	1:0:66:G:C4	2.81	0.49
1:0:160:A:C5	1:0:177:A:C2	3.01	0.49
1:0:453:A:C5	1:0:479:G:N7	2.80	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:824:G:C5	1:0:854:G:C6	3.01	0.49
1:0:1312:G:O2'	1:0:1313:A:H5'	2.12	0.49
1:0:2583:A:C2	1:0:2584:G:C4	3.00	0.49
3:A:217:ARG:HG2	3:A:229:ALA:HB2	1.94	0.49
7:E:160:ARG:HA	7:E:163:GLN:HE21	1.76	0.49
10:H:113:MET:O	10:H:116:ALA:HB2	2.13	0.49
13:K:57:VAL:HG23	13:K:67:GLN:O	2.13	0.49
15:M:131:VAL:HG12	15:M:133:LEU:HD12	1.95	0.49
1:0:88:G:H5'	1:0:88:G:C8	2.39	0.49
1:0:1032:A:C4	1:0:1033:C:C6	3.01	0.49
1:0:1328:A:C8	27:Y:169:ARG:HD3	2.48	0.49
1:0:1329:A:N1	35:0:3107:CL:CL	2.82	0.49
1:0:1337:A:C5	1:0:1338:U:C5	3.00	0.49
1:0:1607:A:H2'	1:0:1608:G:C5'	2.43	0.49
1:0:1916:C:H2'	1:0:1917:G:O4'	2.12	0.49
1:0:2338:G:H1'	6:D:105:SER:OG	2.13	0.49
2:9:3:A:OP2	2:9:25:G:N2	2.45	0.49
2:9:44:A:H1'	6:D:76:ARG:CZ	2.43	0.49
2:9:51:A:C2	2:9:52:A:N6	2.81	0.49
4:B:81:ALA:O	4:B:186:GLY:HA3	2.12	0.49
6:D:22:VAL:HG22	6:D:74:THR:HG22	1.94	0.49
12:J:74:ARG:O	12:J:78:ILE:HG12	2.12	0.49
20:R:39:THR:HG22	20:R:42:GLU:HG3	1.93	0.49
25:W:142:ASP:HB3	25:W:145:GLY:H	1.76	0.49
27:Y:100:ARG:HH12	27:Y:215:GLU:HA	1.78	0.49
1:0:212:A:C8	1:0:214:U:C2	3.00	0.49
1:0:639:A:C2	1:0:1363:G:C2	3.00	0.49
1:0:820:G:O2'	1:0:856:G:H4'	2.12	0.49
1:0:1025:C:H2'	1:0:1026:C:H6	1.73	0.49
1:0:1040:A:N1	1:0:1041:U:C2	2.80	0.49
1:0:1208:C:C6	1:0:1208:C:H5"	2.46	0.49
1:0:1747:A:H5"	1:0:2585:G:OP1	2.13	0.49
1:0:1822:A:C2'	1:0:1823:G:H5'	2.42	0.49
1:0:1829:A:H61	28:Z:18:TYR:N	2.10	0.49
1:0:2091:G:H2'	1:0:2092:G:O5'	2.12	0.49
1:0:2399:G:H4'	1:0:2428:G:OP1	2.13	0.49
1:0:2505:G:H2'	1:0:2506:A:H5'	1.94	0.49
1:0:2580:G:C6	1:0:2581:U:N3	2.80	0.49
1:0:2831:C:C2'	1:0:2832:C:H5'	2.42	0.49
3:A:76:VAL:CG2	28:Z:63:LYS:HB3	2.43	0.49
22:T:51:LEU:HD11	22:T:97:ARG:HB2	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:31:C:C6	1:0:31:C:OP1	2.66	0.49
1:0:254:C:O2	1:0:254:C:H2'	2.11	0.49
1:0:517:U:H2'	1:0:518:G:H5'	1.95	0.49
1:0:716:G:C6	1:0:717:C:C4	3.01	0.49
1:0:1337:A:C6	1:0:1338:U:C4	3.01	0.49
1:0:1407:A:O2'	1:0:1408:U:H3'	2.12	0.49
1:0:1507:C:H2'	1:0:1508:C:H6	1.77	0.49
1:0:2039:A:C4	1:0:2040:C:C5	3.00	0.49
7:E:151:LEU:O	7:E:151:LEU:HG	2.13	0.49
9:G:99:PHE:C	9:G:101:LEU:H	2.16	0.49
15:M:164:THR:CG2	15:M:165:GLY:H	2.20	0.49
16:N:101:VAL:HG12	16:N:102:LEU:H	1.78	0.49
19:Q:66:LYS:HB2	19:Q:70:ALA:O	2.13	0.49
29:1:26:SER:O	29:1:34:CYS:HA	2.13	0.49
1:0:201:G:C2	1:0:202:U:C5	3.01	0.49
1:0:221:G:H2'	1:0:222:A:C8	2.47	0.49
1:0:371:U:C2	1:0:372:A:C8	3.00	0.49
1:0:696:C:O2'	1:0:697:G:H5'	2.13	0.49
1:0:906:C:OP2	27:Y:147:ARG:NH2	2.45	0.49
1:0:1204:C:C6	1:0:1204:C:C4'	2.96	0.49
1:0:1626:A:C2'	1:0:1627:G:H5'	2.43	0.49
1:0:1706:G:H1'	1:0:1712:A:H61	1.78	0.49
1:0:1709:G:C6	1:0:1711:A:C5	3.01	0.49
1:0:1804:A:H2'	1:0:1805:G:H8	1.75	0.49
1:0:1883:U:H2'	1:0:1884:G:C5'	2.41	0.49
1:0:1907:U:O2	1:0:1933:G:C2	2.65	0.49
1:0:1990:C:H2'	1:0:1990:C:O2	2.11	0.49
1:0:2530:C:O2'	1:0:2531:U:H5'	2.13	0.49
2:9:110:G:C6	2:9:111:U:C5	3.01	0.49
4:B:280:VAL:CG1	4:B:334:SER:HA	2.43	0.49
13:K:53:ILE:HG13	13:K:55:VAL:HG23	1.94	0.49
13:K:98:VAL:HG13	13:K:102:GLU:HA	1.93	0.49
1:0:23:G:H1'	1:0:520:A:N6	2.27	0.49
1:0:107:U:C2'	1:0:108:U:H5'	2.43	0.49
1:0:665:A:C6	1:0:666:A:C6	3.00	0.49
1:0:857:A:C4'	3:A:176:HIS:CD2	2.94	0.49
1:0:962:C:H2'	1:0:963:C:C5'	2.41	0.49
1:0:1207:A:O3'	1:0:1208:C:OP1	2.31	0.49
1:0:1705:C:O2	1:0:2735:U:H5"	2.13	0.49
1:0:2326:U:H4'	1:0:2412:G:C4'	2.42	0.49
1:0:2444:U:N3	1:0:2445:U:C5	2.80	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2669:U:H1'	4:B:114:ASP:OD2	2.11	0.49
1:0:2868:C:H2'	1:0:2869:G:O4'	2.13	0.49
2:9:91:C:H2'	2:9:92:G:O4'	2.13	0.49
5:C:84:VAL:O	5:C:85:LYS:HB2	2.13	0.49
7:E:126:ILE:HB	7:E:131:LEU:HD23	1.94	0.49
11:I:125:VAL:HA	11:I:128:CYS:SG	2.52	0.49
24:V:55:ARG:O	24:V:59:ILE:HG12	2.13	0.49
27:Y:219:GLU:HG3	27:Y:220:GLU:N	2.28	0.49
1:0:281:U:H2'	1:0:282:C:O4'	2.13	0.49
1:0:740:G:C2	1:0:741:C:C2	3.01	0.49
1:0:1174:A:C2'	1:0:1175:G:OP1	2.60	0.49
1:0:1495:C:H1'	1:0:1573:A:H1'	1.95	0.49
1:0:1607:A:C2'	1:0:1608:G:H5'	2.43	0.49
1:0:1794:G:N2	1:0:1799:G:C6	2.81	0.49
1:0:1844:C:H2'	1:0:1845:A:H5'	1.95	0.49
1:0:1889:C:O2	1:0:2010:A:H2	1.96	0.49
1:0:2253:G:C2	1:0:2254:G:C8	3.01	0.49
1:0:2551:C:N3	1:0:2604:A:C2	2.81	0.49
1:0:2663:U:C4	1:0:2664:A:N6	2.80	0.49
1:0:2808:U:O2'	1:0:2809:G:H5'	2.13	0.49
4:B:243:ASN:HA	4:B:244:PRO:C	2.34	0.49
9:G:121:PRO:HB2	9:G:127:PRO:CB	2.41	0.49
16:N:82:TYR:C	16:N:82:TYR:CD2	2.86	0.49
22:T:55:PHE:CG	22:T:77:VAL:HG13	2.48	0.49
1:0:307:G:O2'	1:0:308:U:H4'	2.12	0.48
1:0:1314:U:C2	1:0:1316:G:C2	3.01	0.48
1:0:1544:U:C2	1:0:1545:C:C5	3.01	0.48
1:0:2001:G:C2'	1:0:2002:C:H5'	2.42	0.48
1:0:2910:A:H2'	1:0:2911:C:H6	1.78	0.48
1:0:275:G:C2	1:0:376:C:C2	3.01	0.48
1:0:332:G:O2'	1:0:333:G:H5'	2.13	0.48
1:0:347:A:C2'	1:0:348:C:H5'	2.42	0.48
1:0:425:U:C2	1:0:426:G:C8	3.01	0.48
1:0:1308:A:O4'	5:C:226:GLY:HA3	2.13	0.48
1:0:1889:C:C2'	1:0:1890:U:H5'	2.43	0.48
1:0:2273:C:O2'	1:0:2274:A:H5'	2.13	0.48
1:0:2468:A:N7	31:3:54:LYS:HE2	2.28	0.48
1:0:2478:U:H2'	1:0:2479:A:H8	1.78	0.48
1:0:2781:U:C2'	1:0:2782:G:C5'	2.86	0.48
4:B:277:GLU:N	4:B:278:PRO:HD2	2.27	0.48
6:D:69:ILE:HG22	6:D:69:ILE:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:61:MET:HB3	15:M:19:GLN:OE1	2.12	0.48
26:X:43:VAL:CG1	26:X:44:ASP:H	2.22	0.48
1:0:64:G:H2'	1:0:65:C:C6	2.48	0.48
1:0:372:A:O2'	1:0:373:G:H5'	2.13	0.48
1:0:870:G:C3'	1:0:871:G:H5"	2.43	0.48
1:0:1477:C:H4'	1:0:1868:G:OP1	2.14	0.48
1:0:1884:G:O6	3:A:190:ARG:HD2	2.13	0.48
1:0:1982:C:C2	1:0:1983:C:C6	3.01	0.48
1:0:2248:C:C2	1:0:2254:G:C2	3.01	0.48
1:0:2836:G:C4	1:0:2845:G:N2	2.80	0.48
4:B:203:ALA:HA	4:B:263:THR:HA	1.94	0.48
10:H:9:ILE:O	10:H:9:ILE:HG22	2.14	0.48
11:I:5:ILE:HD12	11:I:5:ILE:N	2.27	0.48
22:T:23:VAL:C	22:T:93:THR:HG21	2.33	0.48
27:Y:107:PRO:HD3	27:Y:182:PHE:CE1	2.48	0.48
30:2:23:ALA:O	30:2:26:MET:HB2	2.13	0.48
1:0:185:G:C4'	1:0:186:A:H4'	2.41	0.48
1:0:268:U:C4	1:0:269:G:C6	3.01	0.48
1:0:1454:U:C6	1:0:1455:C:C5	3.01	0.48
1:0:1552:G:C6	1:0:1553:C:N4	2.81	0.48
1:0:1565:C:O2'	1:0:1566:C:H5'	2.14	0.48
1:0:1595:G:O2'	1:0:1596:U:C5'	2.61	0.48
1:0:1789:G:H2'	1:0:1790:C:O5'	2.14	0.48
1:0:2106:C:O5'	1:0:2106:C:H6	1.96	0.48
1:0:2588:OMG:H3'	1:0:2589:U:H5"	1.95	0.48
1:0:2825:C:C4'	1:0:2826:G:O4'	2.61	0.48
1:0:2827:A:C8	1:0:2828:G:C8	3.01	0.48
1:0:2863:G:C6	1:0:2894:C:N3	2.81	0.48
2:9:74:G:N2	2:9:108:C:C2	2.82	0.48
3:A:65:ARG:O	3:A:66:ARG:HG3	2.13	0.48
10:H:9:ILE:HG23	10:H:126:ARG:NE	2.27	0.48
11:I:16:PRO:HB2	11:I:19:PRO:CD	2.42	0.48
12:J:45:VAL:HG21	12:J:129:PHE:CD1	2.48	0.48
25:W:125:HIS:HD2	25:W:127:GLY:H	1.61	0.48
1:0:24:G:N2	1:0:518:G:H1'	2.29	0.48
1:0:99:A:C8	1:0:100:C:C5	3.02	0.48
1:0:660:A:H4'	1:0:661:G:O5'	2.13	0.48
1:0:907:A:H2'	1:0:908:A:H8	1.78	0.48
1:0:1215:A:O3'	1:0:1216:G:H4'	2.14	0.48
1:0:1289:C:O2'	1:0:1290:G:H5'	2.13	0.48
1:0:1322:G:C6	1:0:1323:G:C5	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1543:G:H2'	1:0:1544:U:C6	2.49	0.48
1:0:1554:U:O2	1:0:1631:A:H2	1.95	0.48
1:0:1795:G:H2'	1:0:1796:A:O4'	2.12	0.48
1:0:1806:G:C6	1:0:1807:U:C4	3.01	0.48
1:0:2045:G:C2	1:0:2046:G:H1'	2.48	0.48
1:0:2894:C:H2'	1:0:2895:C:C6	2.48	0.48
2:9:14:G:C8	2:9:14:G:C5'	2.87	0.48
2:9:58:G:H3'	2:9:59:C:C6	2.49	0.48
4:B:36:PRO:CA	4:B:168:GLY:HA3	2.39	0.48
6:D:144:ARG:HD2	6:D:146:LYS:O	2.12	0.48
8:F:58:GLU:HB3	15:M:8:ILE:HG23	1.96	0.48
17:O:26:TRP:HA	17:O:26:TRP:CE3	2.48	0.48
25:W:117:ARG:HH11	25:W:117:ARG:HB2	1.78	0.48
1:0:111:C:O2'	1:0:112:G:H5'	2.13	0.48
1:0:1157:C:C6	1:0:1157:C:H3'	2.49	0.48
1:0:1165:G:N3	1:0:1174:A:N3	2.61	0.48
1:0:1238:C:C6	1:0:1240:G:OP2	2.66	0.48
1:0:1392:A:C6	1:0:1395:C:N3	2.82	0.48
1:0:1601:G:C5	1:0:1602:C:C5	3.02	0.48
1:0:1825:U:O2'	1:0:1826:C:H5'	2.13	0.48
1:0:2615:U:H5	1:0:2616:G:C6	2.31	0.48
1:0:2676:C:H2'	1:0:2676:C:O2	2.14	0.48
1:0:2870:C:H2'	1:0:2871:G:C8	2.48	0.48
2:9:42:C:O2	2:9:42:C:H2'	2.14	0.48
11:I:16:PRO:HB2	11:I:19:PRO:HD2	1.95	0.48
13:K:101:ASN:H	13:K:101:ASN:HD22	1.60	0.48
15:M:28:GLN:HA	15:M:31:TRP:HB2	1.96	0.48
26:X:23:HIS:CE1	26:X:24:LYS:HG3	2.49	0.48
1:0:255:A:H2'	1:0:256:C:C6	2.49	0.48
1:0:303:C:O2'	1:0:304:G:H5'	2.14	0.48
1:0:369:G:O2'	1:0:370:G:H5'	2.14	0.48
1:0:1077:G:N2	1:0:1083:C:N4	2.62	0.48
1:0:2243:C:HO2'	1:0:2244:A:H8	1.62	0.48
1:0:2335:C:O2	1:0:2350:G:C2	2.66	0.48
1:0:2815:G:H5'	12:J:102:ARG:HH21	1.77	0.48
1:0:2852:A:O4'	1:0:2902:A:N6	2.46	0.48
1:0:2890:A:H1'	23:U:56:ARG:HH21	1.78	0.48
2:9:108:C:H3'	2:9:108:C:C6	2.49	0.48
4:B:18:ARG:HG2	4:B:256:GLN:OE1	2.13	0.48
4:B:52:VAL:O	4:B:53:LEU:HD12	2.13	0.48
4:B:320:GLN:NE2	4:B:321:PRO:HD2	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:2:GLN:HA	5:C:17:ASP:HA	1.96	0.48
8:F:48:VAL:HG23	8:F:74:PHE:HB3	1.96	0.48
19:Q:43:ILE:HG23	19:Q:90:HIS:CE1	2.49	0.48
28:Z:11:SER:HB3	28:Z:23:ARG:HB2	1.95	0.48
1:0:151:A:H2'	1:0:152:A:O4'	2.13	0.48
1:0:1134:G:O2'	1:0:1135:G:H5'	2.13	0.48
1:0:1168:C:H4'	11:I:86:GLY:HA2	1.95	0.48
1:0:1768:C:C5	1:0:1769:C:C6	3.01	0.48
1:0:1899:C:O2'	1:0:1900:A:H5'	2.13	0.48
1:0:1983:C:N3	1:0:1984:U:C4	2.82	0.48
1:0:2371:G:O5'	1:0:2371:G:H8	1.97	0.48
1:0:2547:C:H5'	4:B:236:ILE:HG22	1.96	0.48
2:9:6:C:H5"	16:N:37:ARG:NH1	2.29	0.48
2:9:54:A:O2'	2:9:55:U:H5'	2.14	0.48
7:E:31:ARG:HH12	7:E:68:HIS:CE1	2.32	0.48
16:N:154:LEU:C	16:N:156:GLU:H	2.16	0.48
17:O:73:ASP:HA	17:O:92:VAL:O	2.14	0.48
19:Q:40:HIS:NE2	19:Q:94:GLN:HG3	2.29	0.48
25:W:117:ARG:HB2	25:W:117:ARG:NH1	2.27	0.48
1:0:290:C:H2'	1:0:291:C:H6	1.78	0.48
1:0:293:A:O2'	1:0:294:C:H5'	2.13	0.48
1:0:365:G:C4	1:0:366:U:C5	3.02	0.48
1:0:820:G:H3'	1:0:820:G:N3	2.29	0.48
1:0:1010:C:OP1	19:Q:18:PRO:HG2	2.14	0.48
1:0:1400:C:C6	1:0:1400:C:H3'	2.48	0.48
1:0:1572:A:C2	1:0:1573:A:C4	3.02	0.48
1:0:1598:A:P	18:P:102:ARG:HH22	2.36	0.48
1:0:1852:A:H2'	1:0:1853:C:C6	2.49	0.48
1:0:2245:C:H6	1:0:2245:C:O5'	1.96	0.48
1:0:2735:U:H2'	1:0:2736:U:C6	2.49	0.48
1:0:2780:C:H2'	1:0:2781:U:C6	2.48	0.48
2:9:13:A:N3	16:N:14:ARG:NH2	2.61	0.48
2:9:115:C:O5'	2:9:115:C:H6	1.97	0.48
9:G:33:VAL:HG12	9:G:93:GLY:HA2	1.96	0.48
9:G:35:VAL:HG22	9:G:122:ASN:CA	2.31	0.48
11:I:100:GLN:O	11:I:104:ILE:HG13	2.13	0.48
16:N:71:TRP:HE3	16:N:175:LEU:HD22	1.78	0.48
1:0:10:U:O4	1:0:532:A:OP2	2.31	0.48
1:0:218:C:C5	1:0:220:C:C4	3.02	0.48
1:0:219:G:O5'	1:0:220:C:H5"	2.14	0.48
1:0:318:C:H5'	1:0:339:A:C4	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:696:C:C2'	1:0:697:G:H5'	2.44	0.48
1:0:932:U:H1'	1:0:1296:A:H1'	1.95	0.48
1:0:1119:G:C5	1:0:1243:C:C4	3.02	0.48
1:0:1819:G:C2'	1:0:1820:G:O5'	2.62	0.48
1:0:1992:U:H2'	1:0:1994:A:OP2	2.13	0.48
1:0:2061:C:C2'	1:0:2062:A:H5'	2.44	0.48
1:0:2096:A:H2'	1:0:2539:U:O4'	2.14	0.48
1:0:2515:C:H2'	1:0:2516:G:O4'	2.14	0.48
5:C:26:VAL:HA	5:C:113:SER:OG	2.14	0.48
5:C:136:VAL:HG22	5:C:137:PRO:HA	1.96	0.48
10:H:85:MET:HA	10:H:136:ALA:HA	1.96	0.48
10:H:150:PHE:O	10:H:154:TYR:CD2	2.67	0.48
21:S:52:VAL:HG22	21:S:66:VAL:HG22	1.96	0.48
24:V:39:ALA:N	24:V:40:PRO:CD	2.77	0.48
1:0:85:C:H3'	1:0:86:A:H2'	1.96	0.47
1:0:338:C:C4'	5:C:174:ILE:CD1	2.88	0.47
1:0:359:U:H2'	1:0:360:A:C8	2.49	0.47
1:0:590:A:H2'	1:0:591:A:O4'	2.14	0.47
1:0:688:A:O2'	1:0:697:G:N2	2.47	0.47
1:0:719:C:N4	1:0:720:G:C4	2.82	0.47
1:0:1127:C:C2'	1:0:1128:U:H5'	2.42	0.47
1:0:1190:G:H5'	1:0:1208:C:O2'	2.14	0.47
1:0:1928:C:H2'	1:0:1929:G:C5'	2.44	0.47
1:0:1992:U:O2	1:0:1994:A:C8	2.62	0.47
1:0:2098:C:O2'	1:0:2099:G:H5'	2.14	0.47
1:0:2117:U:OP2	1:0:2271:G:N2	2.45	0.47
1:0:2321:A:H2	1:0:2378:U:O4	1.96	0.47
1:0:2616:G:C4	1:0:2645:U:O4	2.66	0.47
1:0:2717:C:H2'	1:0:2718:C:H5"	1.94	0.47
1:0:2803:C:H6	1:0:2803:C:O5'	1.97	0.47
7:E:116:THR:CG2	7:E:151:LEU:HD22	2.42	0.47
9:G:33:VAL:HG12	9:G:94:THR:H	1.77	0.47
11:I:64:ILE:HG12	11:I:65:GLU:O	2.13	0.47
1:0:100:C:H5'	22:T:16:LEU:HD12	1.96	0.47
1:0:136:C:O5'	1:0:136:C:H6	1.96	0.47
1:0:492:C:O2'	1:0:493:U:H5'	2.15	0.47
1:0:714:U:O4'	1:0:716:G:C2	2.67	0.47
1:0:777:U:O2'	1:0:778:C:H5'	2.14	0.47
1:0:1188:A:H5'	9:G:61:VAL:O	2.14	0.47
1:0:1352:A:H4'	1:0:1353:C:OP1	2.15	0.47
1:0:1665:G:H2'	1:0:1666:C:H6	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1706:G:C6	1:0:1707:G:N1	2.82	0.47
1:0:1829:A:H61	28:Z:18:TYR:HA	1.77	0.47
1:0:1894:C:C5	1:0:1940:C:C4	3.02	0.47
1:0:2032:U:O2'	1:0:2033:G:C5'	2.61	0.47
1:0:2105:C:H2'	1:0:2106:C:C6	2.49	0.47
1:0:2321:A:C2	1:0:2323:G:C6	3.02	0.47
1:0:2381:C:H2'	1:0:2382:A:H8	1.79	0.47
2:9:69:U:OP1	16:N:4:PRO:HG3	2.14	0.47
9:G:57:ALA:HA	9:G:94:THR:HG22	1.95	0.47
14:L:90:ARG:HA	14:L:119:THR:HB	1.97	0.47
16:N:36:ALA:HB2	16:N:102:LEU:HD11	1.95	0.47
20:R:89:LEU:HD23	20:R:89:LEU:HA	1.69	0.47
1:0:343:C:O2	1:0:344:C:C6	2.67	0.47
1:0:1076:G:C2	1:0:1084:C:C2	3.02	0.47
1:0:1561:U:O4	1:0:2739:A:N1	2.47	0.47
1:0:1594:C:O2'	1:0:1607:A:H4'	2.14	0.47
1:0:1644:C:N3	1:0:1645:U:C5	2.82	0.47
1:0:1917:G:C2	1:0:1923:G:C6	3.02	0.47
1:0:1976:G:O2'	1:0:1977:U:H5'	2.14	0.47
7:E:159:VAL:O	7:E:163:GLN:HG2	2.14	0.47
22:T:16:LEU:HD22	22:T:67:LEU:HD12	1.97	0.47
27:Y:182:PHE:CG	27:Y:202:ALA:HB2	2.49	0.47
28:Z:44:GLU:HG3	28:Z:46:ARG:HG3	1.96	0.47
1:0:1126:C:O2'	1:0:1128:U:H6	1.97	0.47
1:0:1449:G:H2'	1:0:1493:A:C2	2.49	0.47
1:0:1473:U:C5	29:1:44:LYS:HD2	2.50	0.47
1:0:1992:U:C2	1:0:1994:A:OP2	2.68	0.47
1:0:2311:A:H5"	10:H:117:PHE:CD2	2.48	0.47
1:0:2335:C:C2	1:0:2350:G:N2	2.82	0.47
1:0:2377:U:O2'	1:0:2378:U:H5'	2.15	0.47
5:C:114:ALA:HB3	5:C:223:LEU:HD23	1.96	0.47
15:M:71:SER:H	15:M:73:ARG:NH1	2.10	0.47
25:W:132:VAL:HG21	25:W:140:LYS:O	2.14	0.47
27:Y:131:GLN:O	27:Y:132:ASP:HB2	2.15	0.47
28:Z:36:ASP:HB3	28:Z:45:ASP:HB3	1.95	0.47
1:0:164:G:C6	1:0:165:A:C4	3.03	0.47
1:0:224:U:H2'	1:0:225:G:H5'	1.97	0.47
1:0:285:A:C2	1:0:286:U:H1'	2.50	0.47
1:0:431:G:C2	1:0:432:G:C8	3.02	0.47
1:0:1032:A:C5	1:0:1033:C:C5	3.03	0.47
1:0:1185:U:H2'	1:0:1186:C:C6	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1278:A:H4'	1:0:1279:U:C4	2.50	0.47
1:0:1746:A:O4'	1:0:1747:A:C2	2.68	0.47
1:0:2353:A:H4'	1:0:2354:A:O5'	2.15	0.47
1:0:2359:G:C6	1:0:2360:C:N4	2.83	0.47
1:0:2412:G:N2	1:0:2415:A:OP2	2.41	0.47
1:0:2791:U:C1'	1:0:2792:A:H5"	2.44	0.47
5:C:79:ARG:O	5:C:87:ARG:HG2	2.14	0.47
26:X:9:VAL:HG13	26:X:88:GLU:OE2	2.14	0.47
27:Y:166:ALA:O	27:Y:168:PHE:N	2.48	0.47
31:3:20:HIS:CE1	31:3:71:CYS:SG	3.08	0.47
1:0:228:C:C5	1:0:229:G:C8	3.03	0.47
1:0:246:G:C2	1:0:264:G:C2	3.03	0.47
1:0:247:A:C5	1:0:262:A:C6	3.03	0.47
1:0:324:G:C4	1:0:325:U:C6	3.03	0.47
1:0:566:A:C2'	1:0:567:U:H5'	2.45	0.47
1:0:800:G:H1	1:0:813:C:H42	1.62	0.47
1:0:901:G:HO2'	1:0:1358:A:HO2'	1.63	0.47
1:0:943:A:N6	1:0:1024:G:H22	2.12	0.47
1:0:945:U:H2'	1:0:946:C:C6	2.50	0.47
1:0:1196:C:C3'	1:0:1197:G:H5"	2.44	0.47
1:0:1199:A:N6	1:0:1200:A:N1	2.63	0.47
1:0:1434:A:H2'	1:0:1436:C:C5	2.49	0.47
1:0:1563:G:O5'	1:0:1563:G:H8	1.97	0.47
1:0:1761:U:O2'	1:0:1762:C:H5'	2.15	0.47
1:0:2032:U:C2'	1:0:2033:G:C5'	2.93	0.47
1:0:2128:G:C4	1:0:2129:U:C6	3.03	0.47
1:0:2434:A:H2'	1:0:2435:U:O4'	2.15	0.47
1:0:2509:A:H2'	1:0:2510:C:O4'	2.15	0.47
4:B:79:MET:HG2	4:B:146:THR:HG22	1.95	0.47
5:C:5:ILE:HD11	5:C:16:VAL:CG2	2.45	0.47
5:C:133:ARG:HG2	5:C:134:ASP:H	1.79	0.47
10:H:24:PRO:HD3	10:H:120:ILE:HG22	1.97	0.47
18:P:142:ASP:O	18:P:143:ALA:HB3	2.15	0.47
29:1:18:LYS:HA	29:1:24:GLU:O	2.15	0.47
31:3:24:LYS:CE	35:3:95:CL:CL	2.98	0.47
1:0:246:G:N2	1:0:264:G:N3	2.63	0.47
1:0:371:U:N3	1:0:372:A:N7	2.62	0.47
1:0:462:A:N6	1:0:477:A:N1	2.63	0.47
1:0:484:A:N6	1:0:508:A:H62	2.09	0.47
1:0:677:C:O2'	1:0:678:G:H5'	2.14	0.47
1:0:885:G:C6	1:0:2475:C:O4'	2.68	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:944:G:H21	25:W:44:MET:HE1	1.79	0.47
1:0:969:G:N2	1:0:1000:C:C2	2.82	0.47
1:0:1292:G:H8	1:0:1292:G:O5'	1.97	0.47
1:0:1309:U:OP2	5:C:189:PRO:HA	2.14	0.47
1:0:1395:C:H2'	1:0:1396:C:H6	1.80	0.47
1:0:1517:U:C2	1:0:1670:G:N2	2.83	0.47
1:0:1544:U:N3	1:0:1545:C:C5	2.83	0.47
1:0:1552:G:O2'	1:0:1553:C:H5'	2.14	0.47
1:0:1588:G:C5	1:0:1589:G:C6	3.03	0.47
1:0:1742:A:C2	1:0:2762:C:C6	3.03	0.47
1:0:1755:A:H2'	1:0:1756:G:O4'	2.15	0.47
1:0:2114:C:O2'	1:0:2115:U:H5'	2.14	0.47
1:0:2125:G:H2'	1:0:2126:C:H6	1.80	0.47
1:0:2332:A:C5'	1:0:2333:G:OP2	2.62	0.47
1:0:2357:G:O6	1:0:2366:C:N4	2.47	0.47
1:0:2605:G:C2'	1:0:2606:G:H5'	2.45	0.47
1:0:2606:G:O6	1:0:2609:G:C5	2.68	0.47
2:9:47:A:C2	2:9:48:C:C2	3.01	0.47
3:A:57:ALA:HA	3:A:67:LEU:HD23	1.97	0.47
4:B:87:TYR:CE2	4:B:96:PRO:HG3	2.50	0.47
5:C:76:ARG:HG3	5:C:76:ARG:NH1	2.28	0.47
9:G:121:PRO:HB3	9:G:127:PRO:CB	2.35	0.47
10:H:1:LYS:HD3	10:H:5:MET:SD	2.55	0.47
14:L:35:ARG:O	14:L:40:PHE:HA	2.15	0.47
15:M:24:GLN:NE2	15:M:27:ARG:HH11	2.13	0.47
16:N:151:ASP:OD1	16:N:166:ALA:HA	2.15	0.47
18:P:24:ASN:HA	18:P:25:PRO:HD3	1.72	0.47
1:0:60:A:H5'	30:2:19:SER:OG	2.14	0.47
1:0:69:A:H2'	1:0:70:A:OP2	2.14	0.47
1:0:506:G:H22	1:0:509:A:H5'	1.79	0.47
1:0:1041:U:H2'	1:0:1042:U:C5'	2.43	0.47
1:0:1342:C:H2'	1:0:1343:C:H5'	1.97	0.47
1:0:1568:G:C6	1:0:1569:U:N3	2.83	0.47
1:0:1589:G:H22	1:0:1605:G:C1'	2.27	0.47
1:0:1819:G:C2'	1:0:1820:G:C5'	2.93	0.47
1:0:1928:C:H2'	1:0:1929:G:H5'	1.97	0.47
1:0:2673:U:C2	1:0:2817:G:N2	2.83	0.47
1:0:2694:A:C6	1:0:2702:A:C8	3.02	0.47
1:0:2734:G:C2	1:0:2746:A:C2	3.03	0.47
1:0:2776:A:H2'	1:0:2777:G:H5'	1.96	0.47
2:9:26:C:HO2'	2:9:27:C:H5'	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:84:TYR:CB	9:G:121:PRO:HG3	2.42	0.47
10:H:88:ARG:HG3	10:H:132:GLN:O	2.15	0.47
11:I:92:PHE:HE2	11:I:129:THR:HG23	1.80	0.47
26:X:43:VAL:CG1	26:X:44:ASP:N	2.77	0.47
29:1:28:HIS:HD2	29:1:31:LYS:HG3	1.78	0.47
1:0:158:A:O2'	1:0:159:G:H5'	2.14	0.47
1:0:844:A:C2	1:0:882:A:C4	3.03	0.47
1:0:1070:A:O5'	1:0:1070:A:H8	1.98	0.47
1:0:1463:A:H2'	1:0:1464:U:C6	2.50	0.47
1:0:1497:G:H2'	1:0:1498:G:C8	2.48	0.47
1:0:1711:A:C2'	1:0:1712:A:H5'	2.45	0.47
1:0:2508:C:O2	1:0:2508:C:H2'	2.15	0.47
1:0:2739:A:N6	1:0:2740:G:C6	2.83	0.47
2:9:41:C:C5	2:9:42:C:C5	3.03	0.47
5:C:140:VAL:O	5:C:237:GLU:N	2.46	0.47
5:C:162:VAL:HG13	5:C:232:LEU:HD21	1.96	0.47
1:0:69:A:C2'	1:0:70:A:OP2	2.63	0.47
1:0:290:C:C2	1:0:291:C:C6	3.03	0.47
1:0:677:C:N3	1:0:678:G:N7	2.63	0.47
1:0:797:A:H4'	28:Z:10:ARG:N	2.30	0.47
1:0:1134:G:H2'	1:0:1135:G:H5'	1.96	0.47
1:0:1392:A:H4'	1:0:1393:A:OP1	2.15	0.47
1:0:1477:C:C2'	1:0:1478:U:H5'	2.44	0.47
1:0:1753:C:O5'	1:0:1753:C:H6	1.98	0.47
1:0:2546:U:H2'	1:0:2547:C:C6	2.50	0.47
1:0:2686:C:O2'	1:0:2687:G:H5'	2.15	0.47
3:A:95:PRO:HA	3:A:153:ARG:HA	1.97	0.47
5:C:84:VAL:HG12	5:C:85:LYS:HG2	1.96	0.47
11:I:10:PRO:O	11:I:11:GLY:O	2.33	0.47
11:I:31:VAL:HA	11:I:33:ALA:H	1.79	0.47
22:T:20:HIS:O	22:T:23:VAL:HG23	2.15	0.47
24:V:1:THR:HG23	24:V:2:VAL:N	2.30	0.47
1:0:130:C:C5	1:0:141:C:C6	3.03	0.46
1:0:201:G:N2	1:0:202:U:C2	2.83	0.46
1:0:308:U:H5"	22:T:97:ARG:NH2	2.29	0.46
1:0:485:A:O2'	1:0:487:G:H5'	2.15	0.46
1:0:488:U:O2'	1:0:503:G:N2	2.46	0.46
1:0:953:G:H1'	1:0:954:U:H5	1.80	0.46
1:0:1610:G:O2'	1:0:1611:G:H5'	2.15	0.46
1:0:1785:G:H2'	1:0:1786:C:H6	1.78	0.46
1:0:1798:C:OP2	1:0:1799:G:H5"	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1852:A:H2'	1:0:1853:C:H6	1.79	0.46
1:0:2554:U:C6	1:0:2577:A:N6	2.82	0.46
1:0:2657:G:OP1	4:B:17:LYS:HB2	2.16	0.46
2:9:14:G:H8	2:9:14:G:C5'	2.18	0.46
2:9:44:A:C5	2:9:45:A:C8	3.02	0.46
2:9:50:G:N1	2:9:51:A:N1	2.63	0.46
4:B:42:ALA:HB3	4:B:79:MET:SD	2.55	0.46
4:B:232:TRP:HD1	4:B:235:ARG:HD2	1.79	0.46
4:B:312:ARG:HD3	4:B:315:VAL:HG13	1.96	0.46
16:N:36:ALA:CB	16:N:115:VAL:HG12	2.42	0.46
23:U:23:HIS:HB2	23:U:25:ASP:OD2	2.15	0.46
1:0:308:U:C5'	22:T:97:ARG:NH2	2.79	0.46
1:0:484:A:C6	1:0:486:A:C6	3.03	0.46
1:0:694:A:H3'	1:0:695:C:H6	1.79	0.46
1:0:698:A:H5'	14:L:110:GLY:O	2.15	0.46
1:0:871:G:H4'	3:A:11:ARG:NH1	2.29	0.46
1:0:912:A:C4	1:0:1294:A:C2	3.03	0.46
1:0:920:C:C4'	1:0:921:G:C2	2.98	0.46
1:0:1158:G:C4	1:0:1159:G:C8	3.03	0.46
1:0:1186:C:N4	1:0:1187:U:C4	2.84	0.46
1:0:1583:U:H2'	1:0:1584:C:O4'	2.16	0.46
1:0:1883:U:H5"	1:0:2013:G:OP2	2.14	0.46
1:0:1973:A:C8	1:0:1973:A:H3'	2.50	0.46
1:0:2354:A:H5'	1:0:2355:G:N7	2.30	0.46
1:0:2357:G:C2'	1:0:2358:U:H5'	2.45	0.46
1:0:2544:G:C4	1:0:2545:U:C6	3.03	0.46
1:0:2672:C:H2'	1:0:2673:U:C6	2.50	0.46
1:0:2903:C:H6	1:0:2903:C:O5'	1.97	0.46
2:9:115:C:H42	16:N:11:ARG:HH11	1.62	0.46
4:B:263:THR:HG22	4:B:263:THR:O	2.16	0.46
9:G:35:VAL:H	9:G:92:ILE:CG1	2.27	0.46
1:0:119:A:H2'	1:0:120:A:H5"	1.98	0.46
1:0:229:G:C6	1:0:230:C:C4	3.04	0.46
1:0:245:C:H2'	1:0:246:G:H5'	1.97	0.46
1:0:560:C:C2	1:0:561:G:C8	3.02	0.46
1:0:841:A:C8	1:0:843:A:C8	3.02	0.46
1:0:1065:G:H2'	1:0:1066:U:O4'	2.15	0.46
1:0:1312:G:C5	1:0:1313:A:N7	2.83	0.46
1:0:1733:A:C6	1:0:1734:C:C2	3.03	0.46
1:0:1831:U:H2'	1:0:1832:G:O4'	2.14	0.46
1:0:2299:G:O6	19:Q:1:PRO:HA	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2371:G:O5'	1:0:2371:G:C8	2.68	0.46
1:0:2853:U:C5	1:0:2906:A:N6	2.83	0.46
7:E:14:GLU:HG2	7:E:15:GLN:H	1.80	0.46
21:S:5:ILE:HD12	21:S:44:GLN:HG3	1.97	0.46
25:W:121:PRO:HD3	25:W:153:MET:SD	2.55	0.46
1:0:155:C:C2	1:0:182:G:N2	2.84	0.46
1:0:206:G:H5"	1:0:206:G:H8	1.79	0.46
1:0:382:U:O2'	1:0:430:A:H1'	2.16	0.46
1:0:777:U:O2'	29:1:11:LYS:HG2	2.15	0.46
1:0:1242:A:OP2	12:J:60:ARG:NH2	2.48	0.46
1:0:1500:U:P	18:P:41:ARG:HH22	2.38	0.46
1:0:1933:G:O2'	1:0:1934:A:H5'	2.15	0.46
1:0:2385:G:H2'	1:0:2386:U:C6	2.51	0.46
2:9:34:A:H2'	2:9:35:C:O4'	2.16	0.46
2:9:65:A:C2'	2:9:66:G:OP2	2.63	0.46
5:C:235:PHE:HE2	5:C:243:VAL:HG21	1.80	0.46
11:I:64:ILE:HG12	11:I:65:GLU:N	2.30	0.46
14:L:10:SER:O	14:L:11:ARG:HB3	2.16	0.46
15:M:37:VAL:HG22	15:M:65:VAL:HG22	1.97	0.46
20:R:14:ALA:CB	20:R:99:ALA:HB2	2.46	0.46
27:Y:170:SER:OG	27:Y:175:ARG:HG3	2.15	0.46
1:0:331:A:N6	1:0:332:G:C2	2.83	0.46
1:0:450:C:O4'	5:C:46:TYR:CE1	2.68	0.46
1:0:595:U:H2'	1:0:596:C:O4'	2.15	0.46
1:0:661:G:C4	1:0:686:A:H2	2.31	0.46
1:0:663:C:H2'	1:0:664:U:O4'	2.16	0.46
1:0:764:C:H2'	1:0:765:G:O4'	2.15	0.46
1:0:814:G:N2	1:0:815:U:H1'	2.31	0.46
1:0:936:C:O2'	1:0:937:C:H5'	2.16	0.46
1:0:951:A:C2'	1:0:952:G:H5'	2.45	0.46
1:0:951:A:H2'	1:0:952:G:H5'	1.97	0.46
1:0:1085:C:C5	1:0:1086:A:N7	2.84	0.46
1:0:1462:C:O5'	1:0:1462:C:H6	1.99	0.46
1:0:1497:G:O2'	1:0:1498:G:H5'	2.15	0.46
1:0:1518:A:C2	1:0:1669:A:C2	3.03	0.46
1:0:1571:G:C2	1:0:1624:A:C2	3.02	0.46
1:0:1866:A:H8	1:0:1866:A:O5'	1.99	0.46
1:0:2011:A:O4'	1:0:2013:G:C8	2.67	0.46
1:0:2072:G:C6	1:0:2533:C:H1'	2.51	0.46
1:0:2687:G:O2'	1:0:2688:U:H5'	2.16	0.46
1:0:2740:G:C4	1:0:2741:A:C8	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:90:HIS:O	7:E:92:PRO:HD3	2.14	0.46
10:H:65:SER:HB2	10:H:153:ALA:O	2.16	0.46
25:W:93:ILE:O	25:W:96:LEU:HB3	2.15	0.46
26:X:43:VAL:CG1	26:X:47:ALA:HB3	2.46	0.46
31:3:3:MET:O	31:3:90:PHE:HA	2.13	0.46
1:0:50:G:C6	1:0:51:G:N7	2.83	0.46
1:0:414:C:O2'	1:0:415:A:H5'	2.15	0.46
1:0:581:G:H4'	1:0:1254:C:O2'	2.16	0.46
1:0:636:G:H5'	1:0:2059:U:OP2	2.15	0.46
1:0:686:A:C5	1:0:687:C:C5	3.04	0.46
1:0:2038:A:O2'	1:0:2039:A:H5'	2.15	0.46
1:0:2132:C:H1'	15:M:124:GLY:HA3	1.98	0.46
1:0:2416:G:H2'	1:0:2417:C:C6	2.51	0.46
1:0:2717:C:H1'	4:B:300:SER:HB3	1.96	0.46
1:0:2797:C:N4	1:0:2798:G:C6	2.83	0.46
1:0:2855:G:C2	1:0:2856:A:C4	3.03	0.46
1:0:2885:A:H2'	1:0:2886:C:H6	1.80	0.46
1:0:2892:G:C6	1:0:2893:C:N3	2.83	0.46
8:F:107:ASP:O	8:F:111:ILE:HG13	2.16	0.46
13:K:76:GLN:HA	13:K:93:ASN:HA	1.97	0.46
26:X:7:GLU:CG	26:X:8:ARG:N	2.79	0.46
1:0:195:C:H2'	1:0:196:G:H5'	1.97	0.46
1:0:212:A:H4'	1:0:213:G:OP1	2.15	0.46
1:0:272:A:C5'	1:0:273:G:OP2	2.64	0.46
1:0:353:G:H2'	1:0:354:A:H8	1.78	0.46
1:0:1228:C:O2'	1:0:1229:C:H5'	2.16	0.46
1:0:1603:A:C5'	1:0:1605:G:H5'	2.46	0.46
1:0:2025:G:O2'	1:0:2026:C:H5'	2.16	0.46
1:0:2072:G:O2'	1:0:2489:G:N2	2.47	0.46
1:0:2296:C:H2'	1:0:2297:U:H6	1.81	0.46
1:0:2582:G:O2'	1:0:2583:A:H5'	2.16	0.46
1:0:2795:C:O2'	1:0:2796:U:H5'	2.15	0.46
5:C:24:THR:HG23	5:C:25:PRO:HD2	1.97	0.46
7:E:101:GLU:HB3	7:E:117:THR:HA	1.98	0.46
16:N:38:LYS:HA	16:N:43:VAL:HA	1.97	0.46
20:R:88:PHE:O	20:R:91:LEU:HB3	2.15	0.46
1:0:635:A:OP1	1:0:1359:U:O2'	2.27	0.46
1:0:892:G:H5"	29:1:54:ALA:HB2	1.97	0.46
1:0:892:G:C6	1:0:893:C:C4	3.03	0.46
1:0:1116:U:H2'	1:0:1118:A:C2	2.51	0.46
1:0:1510:G:C4	1:0:1511:U:C5	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1969:A:C2'	1:0:1970:G:H5'	2.46	0.46
1:0:2127:U:O2	1:0:2266:A:C2	2.68	0.46
1:0:2248:C:O2'	1:0:2249:G:H5'	2.16	0.46
1:0:2582:G:C6	1:0:2583:A:N7	2.84	0.46
2:9:80:A:H2'	2:9:81:C:O4'	2.15	0.46
5:C:93:LYS:O	5:C:98:ARG:NH2	2.47	0.46
9:G:97:ASN:C	9:G:99:PHE:H	2.18	0.46
11:I:115:TYR:HD2	11:I:115:TYR:O	1.98	0.46
12:J:26:VAL:HG13	12:J:36:VAL:HG11	1.98	0.46
13:K:76:GLN:NE2	13:K:78:LYS:HB3	2.31	0.46
15:M:30:GLU:O	15:M:34:GLU:HG3	2.16	0.46
15:M:72:ALA:C	15:M:74:LYS:H	2.19	0.46
22:T:50:VAL:HG12	22:T:56:ALA:HA	1.98	0.46
25:W:73:LEU:HD13	25:W:111:GLY:C	2.36	0.46
26:X:15:ARG:HH11	26:X:15:ARG:CG	2.29	0.46
1:0:305:A:C6	1:0:329:A:N3	2.84	0.46
1:0:344:C:OP1	22:T:24:ARG:HD3	2.15	0.46
1:0:359:U:H2'	1:0:360:A:H8	1.81	0.46
1:0:469:G:C6	1:0:473:A:N6	2.84	0.46
1:0:869:G:C8	1:0:869:G:OP2	2.68	0.46
1:0:1007:A:C5	10:H:19:TYR:CD1	3.03	0.46
1:0:1069:C:N4	1:0:1070:A:C6	2.84	0.46
1:0:1583:U:O2'	1:0:1584:C:H5'	2.15	0.46
1:0:1654:U:O4'	1:0:1655:G:C2	2.69	0.46
1:0:1755:A:O2'	1:0:1756:G:H5'	2.15	0.46
1:0:1758:U:C4	1:0:1759:A:C6	3.04	0.46
1:0:1809:G:O6	1:0:1812:G:C6	2.69	0.46
1:0:2036:C:O3'	13:K:43:ARG:HA	2.16	0.46
1:0:2073:G:C6	1:0:2607:U:C2	3.04	0.46
1:0:2541:U:H2'	1:0:2542:C:C6	2.51	0.46
1:0:2735:U:C2	1:0:2736:U:C5	3.04	0.46
1:0:2824:C:H5"	1:0:2825:C:H5'	1.97	0.46
1:0:2856:A:OP1	26:X:15:ARG:NH2	2.49	0.46
1:0:2894:C:O2'	1:0:2895:C:H5'	2.15	0.46
2:9:74:G:C6	2:9:75:G:N7	2.84	0.46
4:B:211:THR:HA	4:B:255:GLY:O	2.16	0.46
5:C:235:PHE:CE2	5:C:243:VAL:HG21	2.50	0.46
10:H:4:SER:HA	10:H:7:ARG:NE	2.31	0.46
17:O:53:GLN:O	17:O:56:GLU:HB3	2.15	0.46
20:R:9:ASP:O	20:R:13:THR:HB	2.16	0.46
25:W:20:THR:HA	25:W:23:MET:HE3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:1:37:CYS:SG	29:1:39:PHE:CB	3.04	0.46
1:0:1586:G:H2'	1:0:1587:U:H6	1.80	0.46
1:0:1766:U:H2'	1:0:1767:A:OP2	2.16	0.46
1:0:1844:C:H2'	1:0:1845:A:C5'	2.46	0.46
1:0:1876:C:O3'	3:A:164:ARG:NH2	2.48	0.46
1:0:1972:U:C2'	1:0:1973:A:C5'	2.94	0.46
1:0:2613:G:H2'	1:0:2614:C:C6	2.51	0.46
1:0:2715:G:H5'	4:B:13:PHE:CD1	2.51	0.46
8:F:33:THR:OG1	8:F:94:ALA:HB3	2.16	0.46
10:H:150:PHE:O	10:H:154:TYR:HD2	1.99	0.46
12:J:44:ALA:HB3	12:J:132:LEU:HG	1.97	0.46
16:N:7:LYS:HD3	19:Q:19:ARG:O	2.16	0.46
18:P:11:ALA:HB1	18:P:16:VAL:O	2.15	0.46
20:R:99:ALA:CB	20:R:109:MET:HE1	2.44	0.46
22:T:85:GLU:CG	22:T:86:GLU:H	2.28	0.46
25:W:7:LEU:HD23	25:W:7:LEU:HA	1.62	0.46
1:0:283:U:C5	1:0:284:C:N3	2.84	0.45
1:0:649:U:O2'	1:0:650:C:H5'	2.15	0.45
1:0:840:U:C5	1:0:2648:U:C5	3.04	0.45
1:0:860:U:H2'	1:0:861:A:C8	2.51	0.45
1:0:1216:G:N9	9:G:7:ARG:NH2	2.48	0.45
1:0:1388:U:C4	1:0:1389:G:C5	3.04	0.45
1:0:1406:A:N6	1:0:1701:A:O5'	2.50	0.45
1:0:1785:G:H2'	1:0:1786:C:C6	2.51	0.45
1:0:1973:A:C2	1:0:2010:A:C4	3.03	0.45
1:0:2044:G:OP1	26:X:23:HIS:HE1	1.99	0.45
1:0:2106:C:O2'	1:0:2107:U:H5'	2.16	0.45
1:0:2839:C:O2'	1:0:2841:A:OP2	2.34	0.45
1:0:2872:U:H2'	1:0:2873:C:H6	1.80	0.45
1:0:2894:C:H2'	1:0:2895:C:H6	1.81	0.45
2:9:1:U:O3'	2:9:3:A:H5'	2.16	0.45
3:A:179:MET:HG2	3:A:186:TRP:CB	2.46	0.45
5:C:156:LEU:HD12	5:C:156:LEU:O	2.17	0.45
19:Q:50:GLY:HA3	19:Q:87:THR:OG1	2.15	0.45
1:0:100:C:C4'	22:T:16:LEU:HB2	2.47	0.45
1:0:223:G:N2	1:0:224:U:C2	2.84	0.45
1:0:396:U:H2'	1:0:397:A:C8	2.51	0.45
1:0:492:C:N3	1:0:501:G:C2	2.85	0.45
1:0:536:A:C2	1:0:2075:G:N3	2.84	0.45
1:0:1448:A:C6	1:0:1451:C:C2	3.04	0.45
1:0:1617:C:C4	1:0:1643:C:H4'	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1676:G:O2'	1:0:1677:U:H5'	2.15	0.45
1:0:1799:G:C4	1:0:1800:G:C8	3.04	0.45
1:0:2237:G:N2	1:0:2238:A:N3	2.65	0.45
1:0:2266:A:H2'	1:0:2267:G:C8	2.51	0.45
1:0:2289:G:C2	1:0:2309:C:N4	2.84	0.45
1:0:2502:C:C3'	1:0:2503:A:H5'	2.44	0.45
1:0:2524:G:O2'	1:0:2525:G:H5'	2.17	0.45
1:0:2686:C:H2'	1:0:2687:G:O4'	2.16	0.45
6:D:23:VAL:HG23	6:D:23:VAL:O	2.15	0.45
10:H:46:GLN:HE21	10:H:137:TYR:HE2	1.63	0.45
22:T:85:GLU:HG2	22:T:86:GLU:N	2.31	0.45
26:X:61:ARG:O	26:X:65:ASN:HB2	2.16	0.45
27:Y:123:VAL:HG12	27:Y:124:GLY:O	2.16	0.45
1:0:255:A:H2'	1:0:256:C:O4'	2.17	0.45
1:0:284:C:H4'	1:0:285:A:O5'	2.16	0.45
1:0:289:G:N1	1:0:363:A:C2	2.81	0.45
1:0:580:A:C2	1:0:1254:C:O4'	2.69	0.45
1:0:824:G:C6	1:0:854:G:C5	3.04	0.45
1:0:896:C:O5'	1:0:896:C:H6	1.98	0.45
1:0:941:G:C5	1:0:942:U:C4	3.04	0.45
1:0:1160:G:N3	1:0:1160:G:H2'	2.32	0.45
1:0:1550:A:C2	1:0:1636:G:C2	3.04	0.45
1:0:1768:C:H2'	1:0:1769:C:O4'	2.15	0.45
1:0:2548:C:H2'	1:0:2549:C:C6	2.52	0.45
1:0:2717:C:H1'	4:B:300:SER:CB	2.46	0.45
7:E:150:GLN:HE21	7:E:150:GLN:HB3	1.52	0.45
15:M:122:GLN:OE1	15:M:127:LYS:HE2	2.16	0.45
20:R:24:SER:HB3	20:R:27:HIS:ND1	2.31	0.45
28:Z:39:CYS:HA	28:Z:40:PRO:HD3	1.78	0.45
1:0:293:A:H2'	1:0:294:C:C6	2.52	0.45
1:0:1008:C:H2'	1:0:1009:U:H6	1.80	0.45
1:0:1509:C:N4	1:0:1510:G:O6	2.49	0.45
1:0:2350:G:H2'	1:0:2351:C:C6	2.51	0.45
1:0:2374:A:H2'	1:0:2375:G:H8	1.80	0.45
1:0:2578:G:H8	1:0:2578:G:C5'	2.22	0.45
2:9:37:C:H4'	16:N:110:THR:HG23	1.99	0.45
2:9:109:G:C4	2:9:110:G:C8	3.05	0.45
17:O:39:THR:O	17:O:115:ARG:NH2	2.50	0.45
18:P:115:SER:N	18:P:118:GLN:HE21	2.00	0.45
24:V:57:LYS:HA	24:V:60:GLN:HE21	1.80	0.45
26:X:34:ARG:NH1	26:X:45:GLU:O	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:30:U:OP2	5:C:181:ALA:HB2	2.16	0.45
1:0:216:A:H2'	1:0:217:C:H6	1.81	0.45
1:0:421:C:H6	1:0:421:C:O5'	1.98	0.45
1:0:1483:C:H2'	1:0:1484:G:O4'	2.16	0.45
1:0:1631:A:C6	1:0:1632:A:C2	3.05	0.45
1:0:1811:A:H2'	1:0:1812:G:H5'	1.98	0.45
1:0:1966:U:H3'	1:0:1966:U:H6	1.82	0.45
1:0:2028:U:C2	1:0:2029:C:C5	3.04	0.45
1:0:2504:A:C2	1:0:2517:A:C4	3.04	0.45
2:9:22:G:C8	2:9:55:U:C5	3.04	0.45
2:9:65:A:O2'	2:9:66:G:OP2	2.30	0.45
8:F:61:MET:SD	15:M:23:LEU:HD11	2.57	0.45
11:I:53:THR:HG22	11:I:54:VAL:N	2.31	0.45
22:T:30:ASP:O	22:T:33:GLU:HB3	2.17	0.45
1:0:297:U:H2'	1:0:298:C:C6	2.51	0.45
1:0:346:U:O5'	1:0:346:U:H6	2.00	0.45
1:0:390:G:HO2'	1:0:391:U:H5'	1.81	0.45
1:0:1159:G:C4	1:0:1160:G:C8	3.04	0.45
1:0:1392:A:C5	1:0:1395:C:C4	3.04	0.45
1:0:1450:C:O2'	1:0:1494:A:C5'	2.61	0.45
1:0:1527:A:C4	1:0:1528:A:N7	2.85	0.45
1:0:1900:A:C2	1:0:1938:G:N3	2.84	0.45
1:0:2335:C:O2	1:0:2350:G:N2	2.50	0.45
1:0:2409:C:H4'	31:3:17:HIS:HB2	1.99	0.45
1:0:2533:C:O2'	1:0:2534:C:H5'	2.15	0.45
1:0:2838:A:H1'	1:0:2844:C:O2	2.17	0.45
2:9:67:C:H2'	2:9:68:G:H8	1.82	0.45
3:A:100:PRO:HG2	3:A:103:VAL:HG21	1.98	0.45
4:B:76:THR:N	4:B:77:PRO:HD3	2.31	0.45
4:B:86:ALA:O	4:B:97:LEU:HB2	2.17	0.45
6:D:57:THR:HG23	6:D:63:ILE:HA	1.98	0.45
7:E:126:ILE:HB	7:E:131:LEU:CD2	2.47	0.45
13:K:14:LYS:CB	13:K:45:PRO:HG2	2.46	0.45
17:O:26:TRP:HA	17:O:26:TRP:HE3	1.80	0.45
29:1:19:CYS:N	29:1:24:GLU:O	2.41	0.45
1:0:368:C:C2'	1:0:369:G:H5'	2.46	0.45
1:0:542:A:H5'	1:0:542:A:C8	2.39	0.45
1:0:645:U:OP2	14:L:4:LYS:HE2	2.17	0.45
1:0:796:A:C2	1:0:818:A:H1'	2.52	0.45
1:0:1023:C:C2	1:0:1024:G:C8	3.05	0.45
1:0:1294:A:H2'	1:0:1295:G:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1438:G:HO2'	1:0:1684:A:H2	1.64	0.45
1:0:1522:A:C2	1:0:1665:G:C6	3.04	0.45
1:0:1561:U:O2	1:0:1561:U:C2'	2.64	0.45
1:0:1823:G:C2	1:0:2027:U:C2	3.05	0.45
1:0:1861:C:O2'	1:0:1862:C:H5'	2.16	0.45
1:0:1890:U:H4'	1:0:2010:A:C6	2.52	0.45
1:0:2011:A:C4	1:0:2013:G:N7	2.85	0.45
1:0:2419:U:H5"	1:0:2420:G:C5'	2.34	0.45
1:0:2681:A:N6	1:0:2714:U:H4'	2.32	0.45
1:0:2834:G:N1	1:0:2835:C:C2	2.85	0.45
2:9:38:A:C2	2:9:39:U:C4	3.05	0.45
5:C:21:VAL:HG23	5:C:22:PHE:HD1	1.82	0.45
8:F:84:GLY:HA3	8:F:92:GLY:CA	2.45	0.45
10:H:137:TYR:N	10:H:137:TYR:CD1	2.85	0.45
11:I:18:PRO:HD2	11:I:19:PRO:HD3	1.97	0.45
12:J:24:SER:CA	12:J:86:MET:SD	3.05	0.45
13:K:20:CYS:SG	13:K:26:ALA:HB3	2.57	0.45
22:T:55:PHE:CE1	22:T:89:ARG:HG2	2.52	0.45
24:V:11:MET:HB3	24:V:15:GLU:HB2	1.98	0.45
1:0:60:A:N6	30:2:25:VAL:HG21	2.32	0.45
1:0:223:G:N3	1:0:223:G:H2'	2.31	0.45
1:0:421:C:H4'	1:0:1919:A:C6	2.52	0.45
1:0:1512:G:C6	1:0:1513:C:C4	3.05	0.45
1:0:1665:G:N3	1:0:1666:C:C6	2.85	0.45
1:0:1730:G:H2'	1:0:1730:G:N3	2.32	0.45
1:0:1880:C:C2	1:0:1881:A:C8	3.05	0.45
1:0:2887:G:C5	1:0:2888:U:C4	3.05	0.45
2:9:50:G:P	16:N:147:ILE:HD11	2.57	0.45
6:D:104:PHE:CD2	6:D:104:PHE:N	2.84	0.45
10:H:143:ALA:HA	10:H:146:VAL:HG12	1.98	0.45
15:M:102:GLU:OE2	15:M:164:THR:HG21	2.16	0.45
31:3:43:ASN:HB2	31:3:52:PHE:CE1	2.51	0.45
1:0:295:C:H2'	1:0:296:G:O4'	2.17	0.45
1:0:561:G:N3	1:0:562:A:C8	2.84	0.45
1:0:883:U:O2	1:0:883:U:C2'	2.64	0.45
1:0:2616:G:C6	1:0:2645:U:N3	2.84	0.45
1:0:2712:G:O2'	1:0:2713:G:H5'	2.17	0.45
1:0:2731:G:C5	1:0:2732:U:C5	3.04	0.45
2:9:92:G:H2'	2:9:93:A:H8	1.79	0.45
3:A:51:ARG:CZ	3:A:53:ALA:HB3	2.47	0.45
5:C:7:ASP:C	5:C:9:ASP:H	2.20	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:20:VAL:O	9:G:24:VAL:HG23	2.17	0.45
13:K:32:ILE:HD11	13:K:56:SER:HB2	1.98	0.45
14:L:97:VAL:HG12	14:L:98:GLU:O	2.16	0.45
16:N:112:GLY:HA2	16:N:137:ALA:HB2	1.98	0.45
1:0:20:G:H4'	20:R:3:SER:O	2.17	0.45
1:0:100:C:O5'	1:0:100:C:H6	1.99	0.45
1:0:512:G:O3'	1:0:513:A:H8	2.00	0.45
1:0:536:A:H2	1:0:2075:G:N3	2.15	0.45
1:0:967:U:O2	1:0:1002:G:H1'	2.16	0.45
1:0:1343:C:C5	5:C:176:ALA:HB2	2.52	0.45
1:0:2000:G:C2	1:0:2001:G:C4	3.05	0.45
1:0:2102:G:N2	1:0:2104:C:C2	2.85	0.45
1:0:2379:G:H4'	1:0:2380:A:C5'	2.47	0.45
1:0:2381:C:H2'	1:0:2382:A:C8	2.52	0.45
1:0:2642:G:C6	1:0:2643:G:C6	3.05	0.45
1:0:2869:G:C5	1:0:2870:C:C4	3.05	0.45
2:9:65:A:O2'	2:9:66:G:P	2.75	0.45
4:B:27:ASN:ND2	4:B:27:ASN:N	2.51	0.45
4:B:162:MET:HG3	4:B:310:ARG:NE	2.31	0.45
9:G:127:PRO:C	9:G:129:GLY:N	2.70	0.45
11:I:117:LEU:O	11:I:120:ALA:HB3	2.17	0.45
11:I:120:ALA:O	11:I:124:VAL:HG23	2.17	0.45
16:N:50:LEU:HD12	16:N:50:LEU:HA	1.64	0.45
17:O:14:LEU:HG	17:O:102:ILE:HD11	1.98	0.45
17:O:44:ASN:OD1	17:O:67:SER:HB2	2.17	0.45
18:P:22:TRP:CH2	18:P:24:ASN:HA	2.52	0.45
25:W:14:HIS:HB2	25:W:17:ILE:HG13	1.99	0.45
26:X:24:LYS:HE2	26:X:24:LYS:HB3	1.61	0.45
1:0:61:G:C2	1:0:62:C:C2	3.04	0.44
1:0:305:A:N1	1:0:329:A:O2'	2.43	0.44
1:0:340:A:C8	1:0:340:A:O5'	2.70	0.44
1:0:595:U:H3'	1:0:595:U:C6	2.52	0.44
1:0:961:A:C5	1:0:1010:C:C5	3.05	0.44
1:0:1075:G:C2'	1:0:1076:G:H5'	2.47	0.44
1:0:1085:C:C2'	1:0:1086:A:H5'	2.47	0.44
1:0:1100:G:O2'	1:0:1107:A:N1	2.39	0.44
1:0:1598:A:H2'	1:0:1599:U:O4'	2.16	0.44
1:0:1635:U:H2'	1:0:1636:G:H8	1.81	0.44
1:0:1667:A:C2	1:0:1668:U:N3	2.85	0.44
3:A:94:LEU:HD23	3:A:94:LEU:N	2.33	0.44
3:A:135:VAL:CG2	3:A:136:ALA:N	2.80	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:249:G:HO2'	1:0:266:G:H5'	1.83	0.44
1:0:372:A:H2'	1:0:373:G:H8	1.82	0.44
1:0:927:U:O2'	1:0:2395:A:N3	2.42	0.44
1:0:1126:C:O5'	1:0:1126:C:H6	2.00	0.44
1:0:1194:A:C2'	1:0:1195:G:O5'	2.66	0.44
1:0:1400:C:C6	1:0:1400:C:C3'	3.00	0.44
1:0:1523:G:N1	1:0:1524:U:O4	2.51	0.44
1:0:1845:A:OP1	3:A:189:VAL:HA	2.16	0.44
1:0:1897:U:O2'	1:0:1898:G:H5'	2.17	0.44
1:0:2066:C:C2'	1:0:2067:A:O5'	2.66	0.44
1:0:2321:A:C2	1:0:2323:G:C5	3.05	0.44
1:0:2500:C:C2	1:0:2521:A:C2	3.06	0.44
1:0:2855:G:O2'	1:0:2856:A:H5'	2.17	0.44
11:I:76:LYS:HD2	11:I:82:GLU:O	2.16	0.44
18:P:22:TRP:CZ2	18:P:24:ASN:HA	2.51	0.44
19:Q:75:ILE:HG12	19:Q:84:ILE:CD1	2.47	0.44
23:U:9:CYS:HA	23:U:52:THR:HG23	1.98	0.44
30:2:22:PRO:HG2	30:2:25:VAL:HG23	1.98	0.44
1:0:249:G:H1'	1:0:265:U:O2	2.17	0.44
1:0:416:G:C6	1:0:2444:U:O4	2.69	0.44
1:0:1398:G:O2'	1:0:1399:A:H5'	2.18	0.44
1:0:1787:C:OP1	18:P:68:LYS:HE3	2.17	0.44
1:0:1947:G:N2	1:0:1966:U:O2	2.50	0.44
1:0:2050:G:H5"	20:R:80:TYR:O	2.16	0.44
1:0:2289:G:N2	1:0:2309:C:N4	2.65	0.44
1:0:2563:U:O2'	1:0:2564:G:H3'	2.17	0.44
1:0:2594:C:C2'	1:0:2595:U:H5'	2.46	0.44
1:0:2881:C:H6	1:0:2881:C:O5'	2.01	0.44
1:0:2909:G:H2'	1:0:2910:A:C8	2.53	0.44
1:0:2909:G:H2'	1:0:2910:A:H8	1.81	0.44
2:9:61:C:H2'	2:9:62:A:C8	2.52	0.44
3:A:109:GLU:HB2	3:A:152:CYS:HB3	1.99	0.44
6:D:141:VAL:HG13	6:D:144:ARG:NH2	2.26	0.44
9:G:69:ARG:HA	9:G:72:ASP:OD2	2.17	0.44
10:H:23:ILE:HA	10:H:120:ILE:CG2	2.45	0.44
22:T:9:LYS:HE3	22:T:13:ARG:NH1	2.32	0.44
1:0:139:C:C4'	1:0:140:G:C2	3.01	0.44
1:0:384:G:O2'	1:0:385:C:H5'	2.17	0.44
1:0:550:C:O2'	1:0:551:A:H5'	2.17	0.44
1:0:659:A:N3	1:0:746:A:C2	2.85	0.44
1:0:812:A:C6	1:0:813:C:C4	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:911:G:H5'	1:0:932:U:OP1	2.17	0.44
1:0:1075:G:H2'	1:0:1076:G:H5'	1.99	0.44
1:0:1149:U:C5	1:0:1215:A:C5	3.05	0.44
1:0:1157:C:H2'	1:0:1158:G:H8	1.81	0.44
1:0:1216:G:C1'	9:G:7:ARG:HH22	2.29	0.44
1:0:1327:G:C6	1:0:1331:A:C6	3.06	0.44
1:0:1429:U:H2'	1:0:1430:G:H5'	2.00	0.44
1:0:2091:G:C2'	1:0:2092:G:O5'	2.66	0.44
1:0:2319:C:H2'	1:0:2320:U:H5'	1.98	0.44
1:0:2453:G:O3'	14:L:50:GLY:HA2	2.17	0.44
1:0:2667:G:C2	1:0:2668:G:C8	3.05	0.44
1:0:2698:G:H2'	1:0:2699:A:O4'	2.18	0.44
1:0:2758:G:H2'	1:0:2759:C:H6	1.82	0.44
1:0:2887:G:H2'	1:0:2888:U:C6	2.52	0.44
18:P:94:TRP:CH2	18:P:98:ILE:HG13	2.53	0.44
31:3:24:LYS:HD3	35:3:95:CL:CL	2.53	0.44
1:0:387:G:H2'	1:0:388:G:H5'	1.99	0.44
1:0:466:A:H2'	1:0:467:G:O4'	2.18	0.44
1:0:702:G:C2'	1:0:703:G:H5'	2.46	0.44
1:0:1227:C:O2'	1:0:1228:C:H5'	2.18	0.44
1:0:1293:U:O2	1:0:1293:U:H2'	2.18	0.44
1:0:1449:G:H5"	1:0:1450:C:OP2	2.18	0.44
1:0:1636:G:C2'	1:0:1637:A:H5'	2.47	0.44
1:0:1904:A:N1	1:0:1905:U:C2	2.86	0.44
1:0:2061:C:H2'	1:0:2062:A:C5'	2.48	0.44
1:0:2247:C:O2	1:0:2255:A:C2	2.71	0.44
1:0:2326:U:H4'	1:0:2412:G:H4'	2.00	0.44
1:0:2700:G:H2'	1:0:2701:G:O5'	2.18	0.44
1:0:2716:G:H21	4:B:300:SER:CB	2.30	0.44
1:0:2836:G:C4	1:0:2845:G:C2	3.06	0.44
12:J:36:VAL:HG12	12:J:37:ALA:N	2.32	0.44
17:O:5:PRO:O	17:O:9:SER:HB2	2.17	0.44
25:W:113:SER:HA	25:W:114:PRO:HD3	1.82	0.44
1:0:458:G:C2	1:0:464:G:C4	3.05	0.44
1:0:473:A:C2	1:0:474:C:C6	3.06	0.44
1:0:506:G:H22	1:0:509:A:H5"	1.82	0.44
1:0:509:A:O4'	1:0:511:A:C8	2.71	0.44
1:0:637:C:H5"	27:Y:136:LYS:NZ	2.32	0.44
1:0:740:G:C6	1:0:741:C:N3	2.86	0.44
1:0:1024:G:C5	1:0:1025:C:C4	3.05	0.44
1:0:1175:G:O2'	1:0:1193:A:H5"	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1194:A:H2'	1:0:1195:G:O5'	2.17	0.44
1:0:1205:U:H2'	1:0:1205:U:O2	2.16	0.44
1:0:1418:U:P	30:2:40:ARG:HH22	2.41	0.44
1:0:2587:OMU:H2'	1:0:2589:U:C5'	2.45	0.44
1:0:2590:U:H2'	1:0:2591:C:H5'	1.98	0.44
5:C:69:HIS:CD2	5:C:69:HIS:N	2.82	0.44
12:J:131:THR:HB	12:J:134:GLU:HG3	2.00	0.44
25:W:21:LEU:HD21	25:W:48:VAL:CG1	2.48	0.44
1:0:224:U:C2'	1:0:225:G:H5'	2.48	0.44
1:0:294:C:O5'	1:0:294:C:H6	2.00	0.44
1:0:635:A:C2'	1:0:636:G:H5"	2.46	0.44
1:0:877:G:C6	3:A:197:VAL:HG11	2.53	0.44
1:0:1090:A:C2	1:0:1091:U:C2	3.06	0.44
1:0:1328:A:N6	1:0:1329:A:C2	2.85	0.44
1:0:1448:A:C2	1:0:1451:C:C5	3.06	0.44
1:0:1644:C:C2	1:0:1645:U:C6	3.06	0.44
1:0:1657:A:H2'	1:0:1658:A:C8	2.53	0.44
1:0:1865:A:H2'	1:0:1866:A:C8	2.53	0.44
1:0:2350:G:O2'	1:0:2351:C:H5'	2.17	0.44
2:9:59:C:H2'	2:9:60:C:C6	2.52	0.44
3:A:68:ILE:HG12	3:A:69:LEU:H	1.83	0.44
4:B:50:HIS:HD2	4:B:68:THR:CG2	2.30	0.44
12:J:107:ASN:HD22	12:J:107:ASN:C	2.21	0.44
12:J:135:ILE:O	12:J:138:THR:HB	2.18	0.44
18:P:14:LEU:HD11	18:P:49:ILE:HG22	2.00	0.44
19:Q:38:LYS:HA	19:Q:61:GLY:O	2.17	0.44
26:X:25:ARG:HD3	26:X:64:ALA:O	2.18	0.44
1:0:311:C:O5'	1:0:311:C:H6	2.01	0.44
1:0:369:G:C4	1:0:370:G:C8	3.06	0.44
1:0:553:G:H2'	1:0:554:G:H5'	1.99	0.44
1:0:669:G:H2'	1:0:670:G:O4'	2.18	0.44
1:0:823:U:H2'	1:0:824:G:O4'	2.18	0.44
1:0:1309:U:HO2'	1:0:1310:U:H5'	1.77	0.44
1:0:1601:G:C4	1:0:1602:C:C5	3.06	0.44
1:0:1776:A:O4'	1:0:1778:A:H4'	2.17	0.44
1:0:1904:A:N3	1:0:1905:U:C1'	2.81	0.44
1:0:1904:A:H2	1:0:1905:U:H1'	1.72	0.44
1:0:1936:C:O2'	1:0:1937:U:H5'	2.18	0.44
1:0:1989:G:C6	1:0:2000:G:C6	3.06	0.44
1:0:2045:G:H2'	1:0:2046:G:O4'	2.17	0.44
1:0:2521:A:P	10:H:3:ALA:HB3	2.58	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:135:VAL:CG2	3:A:136:ALA:H	2.30	0.44
4:B:7:ARG:HB2	4:B:7:ARG:CZ	2.48	0.44
12:J:116:LEU:HB2	12:J:119:THR:CG2	2.47	0.44
25:W:120:PRO:HA	25:W:121:PRO:HD2	1.82	0.44
1:0:161:A:C2	1:0:162:C:C4	3.06	0.44
1:0:281:U:O2	1:0:369:G:C2	2.71	0.44
1:0:1094:G:H21	25:W:119:HIS:CE1	2.34	0.44
1:0:1157:C:C6	1:0:1157:C:C3'	3.01	0.44
1:0:1283:G:O2'	1:0:1284:G:H5'	2.17	0.44
1:0:1486:A:C4	30:2:2:LYS:HG3	2.53	0.44
1:0:1785:G:H1'	1:0:1812:G:N3	2.33	0.44
1:0:1788:U:O2'	1:0:1789:G:H5'	2.18	0.44
1:0:1796:A:O2'	1:0:1797:A:H5'	2.17	0.44
1:0:2135:A:O4'	1:0:2243:C:N4	2.51	0.44
1:0:2325:C:C5'	1:0:2417:C:O2	2.66	0.44
1:0:2518:C:H2'	1:0:2519:C:O4'	2.18	0.44
1:0:2611:G:H5'	1:0:2613:G:N7	2.33	0.44
1:0:2680:A:N3	1:0:2682:C:O2'	2.41	0.44
2:9:56:A:C3'	2:9:57:A:H5"	2.46	0.44
9:G:99:PHE:O	9:G:101:LEU:N	2.51	0.44
16:N:122:ALA:O	16:N:125:ALA:HB3	2.18	0.44
25:W:128:VAL:HA	25:W:138:LEU:HD21	2.00	0.44
1:0:151:A:C2	1:0:442:A:C8	3.07	0.43
1:0:482:G:C2	1:0:485:A:C8	3.06	0.43
1:0:695:C:C2	1:0:696:C:C6	3.06	0.43
1:0:791:A:H4'	1:0:1709:G:H4'	2.00	0.43
1:0:1206:U:H2'	1:0:1207:A:C5'	2.40	0.43
1:0:1313:A:H5"	27:Y:210:GLY:H	1.83	0.43
1:0:1395:C:H2'	1:0:1396:C:C6	2.53	0.43
1:0:1429:U:C2'	1:0:1430:G:H5'	2.48	0.43
1:0:1552:G:C6	1:0:1553:C:C4	3.06	0.43
1:0:1585:C:C2	1:0:1611:G:C2	3.06	0.43
1:0:1754:A:H8	1:0:1754:A:O5'	2.01	0.43
1:0:2410:G:C2	1:0:2418:G:C2	3.06	0.43
1:0:2580:G:N3	1:0:2600:A:H2	2.15	0.43
2:9:67:C:O2'	2:9:68:G:H5'	2.18	0.43
2:9:108:C:C6	2:9:108:C:C3'	3.01	0.43
4:B:151:VAL:HG12	4:B:154:VAL:H	1.83	0.43
5:C:37:ALA:O	5:C:41:ASN:ND2	2.51	0.43
7:E:53:GLU:O	7:E:58:THR:HG21	2.17	0.43
10:H:31:HIS:HD2	10:H:87:LEU:O	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:T:71:VAL:HG13	22:T:91:LEU:N	2.33	0.43
25:W:21:LEU:HD21	25:W:48:VAL:HG11	2.00	0.43
28:Z:46:ARG:NH1	28:Z:59:TYR:HD1	2.16	0.43
1:0:412:C:C2'	1:0:413:G:H5'	2.48	0.43
1:0:432:G:O2'	1:0:433:C:H5'	2.18	0.43
1:0:489:A:C8	22:T:82:THR:HG22	2.53	0.43
1:0:516:A:H2'	1:0:517:U:O4'	2.18	0.43
1:0:843:A:H2'	1:0:844:A:H5"	2.00	0.43
1:0:849:C:O2'	1:0:850:U:H5'	2.18	0.43
1:0:962:C:C2'	1:0:963:C:H5'	2.46	0.43
1:0:1118:A:H8	1:0:1119:G:H5"	1.83	0.43
1:0:1410:G:N2	1:0:1699:C:O2	2.50	0.43
1:0:1450:C:C2'	1:0:1494:A:H5'	2.48	0.43
1:0:1977:U:H3'	1:0:1978:A:H5'	2.00	0.43
1:0:2079:G:C6	1:0:2080:G:C5	3.06	0.43
1:0:2379:G:H4'	1:0:2380:A:H5"	2.01	0.43
1:0:2873:C:N4	1:0:2874:G:C6	2.86	0.43
2:9:44:A:H2'	2:9:45:A:O4'	2.18	0.43
8:F:13:GLU:OE2	8:F:78:GLU:HG2	2.18	0.43
9:G:32:SER:O	9:G:124:ILE:HG13	2.18	0.43
9:G:33:VAL:HG11	9:G:94:THR:OG1	2.18	0.43
16:N:71:TRP:CE3	16:N:175:LEU:HD22	2.53	0.43
25:W:151:GLU:O	25:W:154:ARG:HB3	2.19	0.43
1:0:287:C:H6	1:0:287:C:O5'	2.02	0.43
1:0:825:U:H5"	1:0:826:U:OP1	2.18	0.43
1:0:1925:G:C2	1:0:1926:G:C8	3.06	0.43
1:0:1969:A:N7	1:0:1970:G:C6	2.86	0.43
1:0:2408:A:H1'	31:3:10:TYR:CE1	2.53	0.43
1:0:2578:G:C8	1:0:2578:G:C5'	2.97	0.43
2:9:23:U:OP2	2:9:23:U:H4'	2.18	0.43
2:9:76:G:O5'	2:9:76:G:H8	2.01	0.43
2:9:110:G:C5	2:9:111:U:C5	3.06	0.43
2:9:115:C:H2'	2:9:116:C:H6	1.84	0.43
4:B:16:ARG:HB3	4:B:217:ARG:NH2	2.34	0.43
19:Q:53:HIS:C	19:Q:55:ARG:H	2.21	0.43
26:X:36:HIS:CE1	26:X:40:HIS:CD2	3.06	0.43
1:0:64:G:C4	1:0:65:C:C6	3.06	0.43
1:0:145:A:O2'	15:M:111:ASN:HB2	2.18	0.43
1:0:237:G:C5	1:0:238:C:C6	3.06	0.43
1:0:326:G:C6	1:0:327:A:C5	3.06	0.43
1:0:432:G:C2	1:0:433:C:C6	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:503:G:H2'	1:0:504:G:H8	1.84	0.43
1:0:943:A:C8	1:0:943:A:H3'	2.53	0.43
1:0:1285:U:H4'	25:W:74:GLU:HB3	2.00	0.43
1:0:1513:C:O2'	1:0:1514:C:H5'	2.18	0.43
1:0:1787:C:H4'	1:0:2883:A:O4'	2.19	0.43
1:0:1850:U:C1'	1:0:1941:A:C2	3.01	0.43
1:0:1894:C:C2	1:0:1939:U:C4	3.06	0.43
1:0:2362:A:C6	1:0:2363:G:C6	3.06	0.43
1:0:2616:G:C5	1:0:2645:U:O4	2.71	0.43
2:9:93:A:C5	2:9:94:G:H1'	2.53	0.43
3:A:109:GLU:HG2	3:A:116:GLY:H	1.84	0.43
8:F:14:ASP:O	8:F:18:GLU:HG3	2.17	0.43
11:I:6:GLU:HB3	11:I:53:THR:HG23	2.00	0.43
15:M:138:HIS:O	15:M:142:GLN:HG3	2.18	0.43
16:N:33:ARG:O	16:N:47:LEU:HA	2.18	0.43
1:0:11:A:C5'	1:0:12:U:OP2	2.66	0.43
1:0:258:G:N1	1:0:259:G:C5	2.87	0.43
1:0:301:G:O2'	1:0:302:A:H5'	2.18	0.43
1:0:695:C:H2'	1:0:696:C:C6	2.51	0.43
1:0:1206:U:C6	1:0:1206:U:C4'	3.01	0.43
1:0:1310:U:P	5:C:168:ARG:HH11	2.42	0.43
1:0:1634:G:C6	1:0:1635:U:C4	3.07	0.43
1:0:2020:C:H6	1:0:2020:C:O5'	2.01	0.43
1:0:2099:G:N2	1:0:2646:G:C4	2.87	0.43
1:0:2277:U:O2'	1:0:2278:U:H5'	2.19	0.43
1:0:2320:U:H2'	31:3:2:GLN:O	2.17	0.43
1:0:2541:U:H2'	1:0:2542:C:H6	1.82	0.43
1:0:2838:A:O2'	1:0:2839:C:H5'	2.18	0.43
2:9:9:C:C5	2:9:10:C:C5	3.07	0.43
4:B:58:PRO:HD3	4:B:322:ARG:HD2	2.00	0.43
4:B:305:ASP:O	4:B:306:LYS:HB2	2.19	0.43
15:M:66:SER:HB3	15:M:128:TRP:CD1	2.54	0.43
26:X:31:ILE:O	26:X:35:GLU:HG3	2.19	0.43
1:0:10:U:C4	1:0:532:A:C8	3.06	0.43
1:0:88:G:N7	30:2:28:LYS:HD2	2.34	0.43
1:0:115:U:C1'	1:0:131:A:C8	3.01	0.43
1:0:201:G:N3	1:0:201:G:H2'	2.34	0.43
1:0:282:C:C2'	1:0:283:U:H5'	2.48	0.43
1:0:440:C:C4	1:0:441:A:N6	2.87	0.43
1:0:667:C:H3'	1:0:667:C:H6	1.83	0.43
1:0:700:A:N6	14:L:113:GLN:O	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1051:C:H2'	1:0:1052:G:O4'	2.18	0.43
1:0:1149:U:H5	1:0:1215:A:C5	2.36	0.43
1:0:1269:G:O2'	1:0:1270:U:H5'	2.18	0.43
1:0:1630:A:N6	1:0:1631:A:C6	2.86	0.43
1:0:1859:A:H8	1:0:1859:A:O5'	2.01	0.43
1:0:1945:G:C4	1:0:1946:C:C5	3.06	0.43
1:0:1945:G:H2'	1:0:1946:C:H6	1.83	0.43
1:0:2093:G:N3	4:B:246:ARG:HA	2.33	0.43
1:0:2269:C:H2'	1:0:2270:G:O4'	2.18	0.43
1:0:2892:G:H2'	1:0:2893:C:O4'	2.18	0.43
2:9:7:G:H4'	16:N:55:ASP:OD2	2.19	0.43
2:9:36:C:C6	2:9:37:C:C5	3.06	0.43
14:L:53:ARG:NH2	14:L:57:VAL:HG12	2.33	0.43
21:S:53:ASN:HB2	21:S:65:VAL:HB	2.00	0.43
1:0:19:U:H2'	1:0:20:G:O5'	2.18	0.43
1:0:419:A:C4	1:0:2449:G:N2	2.86	0.43
1:0:1088:A:H2'	1:0:1088:A:O5'	2.18	0.43
1:0:1448:A:C6	1:0:1506:U:C5	3.07	0.43
1:0:1611:G:O2'	1:0:1612:A:H5'	2.18	0.43
1:0:1761:U:H5'	18:P:81:LYS:O	2.19	0.43
1:0:1985:U:C5	1:0:1996:U:C2	3.06	0.43
1:0:2092:G:H2'	1:0:2613:G:OP1	2.18	0.43
1:0:2094:G:C4'	4:B:245:SER:HB3	2.49	0.43
1:0:2118:A:C2	1:0:2277:U:C2	3.07	0.43
1:0:2601:A:N1	13:K:38:SER:HB2	2.34	0.43
1:0:2633:A:H2'	1:0:2634:G:H5'	2.01	0.43
1:0:2729:C:H2'	1:0:2730:G:C8	2.51	0.43
1:0:2782:G:O6	1:0:2790:C:H5"	2.19	0.43
1:0:2873:C:N3	1:0:2874:G:N7	2.66	0.43
1:0:2886:C:O2'	1:0:2887:G:H5'	2.18	0.43
5:C:228:ALA:HA	5:C:229:PRO:HD3	1.81	0.43
7:E:5:LEU:HD21	7:E:66:GLN:HG3	1.99	0.43
7:E:15:GLN:HG2	7:E:16:ASP:N	2.33	0.43
19:Q:40:HIS:HD2	19:Q:60:THR:CG2	2.30	0.43
20:R:22:GLN:HA	20:R:139:PRO:O	2.19	0.43
31:3:24:LYS:HG2	35:3:95:CL:CL	2.56	0.43
1:0:282:C:O2'	1:0:283:U:C4'	2.67	0.43
1:0:392:U:C5'	15:M:193:LYS:HB3	2.49	0.43
1:0:561:G:C2	1:0:562:A:C8	3.06	0.43
1:0:716:G:C2	1:0:717:C:C2	3.07	0.43
1:0:746:A:N6	17:O:65:LEU:HD13	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:962:C:C4	1:0:963:C:N3	2.86	0.43
1:0:1150:A:H2	9:G:20:VAL:CG2	2.30	0.43
1:0:1168:C:OP1	11:I:84:GLY:HA3	2.18	0.43
1:0:1324:G:C2	1:0:1334:C:O2	2.71	0.43
1:0:1764:C:H2'	1:0:1765:G:H5'	2.01	0.43
1:0:1976:G:O2'	1:0:1977:U:C5'	2.67	0.43
1:0:2597:U:H2'	1:0:2598:U:H5'	2.01	0.43
1:0:2715:G:OP1	4:B:16:ARG:NH2	2.51	0.43
1:0:2759:C:H2'	1:0:2760:C:O5'	2.19	0.43
2:9:57:A:N3	2:9:57:A:H5'	2.33	0.43
4:B:85:ARG:HD3	4:B:87:TYR:CZ	2.54	0.43
6:D:55:LYS:O	6:D:56:ARG:HB2	2.19	0.43
7:E:5:LEU:HD12	7:E:69:ILE:HG21	2.01	0.43
9:G:9:THR:CG2	9:G:11:THR:O	2.56	0.43
11:I:8:LEU:HD12	11:I:8:LEU:O	2.18	0.43
16:N:13:ARG:NH1	16:N:13:ARG:O	2.52	0.43
27:Y:154:ARG:HG2	27:Y:154:ARG:O	2.19	0.43
28:Z:33:MET:HE2	28:Z:69:TYR:HD2	1.83	0.43
1:0:152:A:O2'	1:0:153:C:H5'	2.18	0.43
1:0:206:G:H5'	1:0:207:U:OP2	2.19	0.43
1:0:595:U:C6	1:0:595:U:C3'	3.02	0.43
1:0:646:G:H5"	5:C:96:LYS:HD2	1.99	0.43
1:0:824:G:C8	1:0:854:G:C6	3.06	0.43
1:0:1095:U:H2'	1:0:1096:U:O4'	2.19	0.43
1:0:1197:G:H5'	1:0:1197:G:C8	2.44	0.43
1:0:1947:G:H5"	1:0:1947:G:H8	1.84	0.43
1:0:2497:A:H2'	1:0:2498:C:O4'	2.18	0.43
1:0:2612:A:H5"	1:0:2613:G:O5'	2.19	0.43
1:0:2634:G:H2'	1:0:2635:A:H8	1.84	0.43
1:0:2667:G:N3	1:0:2827:A:H2	2.17	0.43
1:0:2673:U:H4'	4:B:94:GLN:O	2.19	0.43
2:9:74:G:C5	2:9:75:G:N7	2.87	0.43
3:A:125:ASN:CB	3:A:158:VAL:HG12	2.47	0.43
10:H:28:ILE:HA	10:H:63:GLU:OE1	2.18	0.43
22:T:27:LEU:HB2	22:T:32:ARG:HG2	2.01	0.43
22:T:44:ALA:O	22:T:62:VAL:O	2.36	0.43
27:Y:125:LYS:HB2	27:Y:126:PRO:HD2	2.01	0.43
1:0:125:U:N3	1:0:128:A:C2	2.87	0.43
1:0:213:G:O2'	1:0:214:U:OP2	2.36	0.43
1:0:293:A:P	1:0:358:G:H22	2.40	0.43
1:0:333:G:O2'	1:0:334:G:H5'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:514:G:O5'	1:0:514:G:H8	2.01	0.43
1:0:699:C:C2	1:0:743:G:N2	2.87	0.43
1:0:961:A:H2	1:0:962:C:C4	2.36	0.43
1:0:1589:G:C2	1:0:1605:G:N3	2.87	0.43
1:0:1676:G:C6	1:0:1677:U:N3	2.87	0.43
1:0:1764:C:C2'	1:0:1765:G:H5'	2.49	0.43
1:0:1774:G:C2'	1:0:1775:A:H5'	2.49	0.43
1:0:2000:G:O2'	1:0:2001:G:H5'	2.18	0.43
1:0:2070:G:H2'	1:0:2072:G:OP1	2.18	0.43
1:0:2112:A:C2	1:0:2113:G:C5	3.07	0.43
1:0:2291:A:N9	1:0:2309:C:H5'	2.33	0.43
1:0:2544:G:C6	1:0:2545:U:C4	3.07	0.43
1:0:2676:C:N4	1:0:2810:G:N2	2.66	0.43
4:B:75:GLU:C	4:B:77:PRO:HD3	2.39	0.43
4:B:190:MET:CE	4:B:194:PHE:CD1	2.98	0.43
7:E:47:VAL:HG11	7:E:69:ILE:HD13	1.99	0.43
13:K:72:VAL:HG11	13:K:121:PHE:CD1	2.54	0.43
15:M:153:ASP:C	15:M:155:GLN:H	2.21	0.43
18:P:3:LEU:HD23	18:P:3:LEU:N	2.33	0.43
25:W:32:CYS:SG	25:W:33:THR:N	2.92	0.43
26:X:51:ASP:HB2	26:X:85:VAL:O	2.19	0.43
1:0:50:G:C6	1:0:51:G:C5	3.07	0.42
1:0:189:A:OP1	15:M:171:ARG:NH2	2.52	0.42
1:0:331:A:C6	1:0:332:G:C4	3.06	0.42
1:0:402:U:H2'	1:0:403:C:C6	2.54	0.42
1:0:416:G:N2	1:0:425:U:C2	2.87	0.42
1:0:718:C:O2	1:0:718:C:C2'	2.66	0.42
1:0:730:G:H2'	1:0:731:U:C6	2.53	0.42
1:0:890:C:O2'	1:0:891:G:H5'	2.19	0.42
1:0:903:U:O4	14:L:18:HIS:HB2	2.19	0.42
1:0:940:G:C5	1:0:1027:G:C2	3.07	0.42
1:0:968:G:C2	1:0:1001:U:O2	2.72	0.42
1:0:1139:U:C2	1:0:1140:C:C5	3.07	0.42
1:0:1307:A:C2	1:0:1348:A:C2	3.07	0.42
1:0:1332:C:C2'	1:0:1333:U:H5'	2.48	0.42
1:0:1370:G:O5'	20:R:62:HIS:HB3	2.17	0.42
1:0:1556:G:C6	1:0:1557:G:N7	2.87	0.42
1:0:1565:C:O4'	1:0:2738:G:H1'	2.19	0.42
1:0:1886:A:H2'	1:0:1887:U:H5'	2.01	0.42
1:0:1935:C:H2'	1:0:1936:C:C6	2.53	0.42
1:0:2020:C:O2'	1:0:2021:C:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2029:C:O2'	1:0:2030:A:H5'	2.19	0.42
1:0:2473:U:O3'	1:0:2474:A:H3'	2.19	0.42
1:0:2715:G:C5'	4:B:13:PHE:CE1	3.00	0.42
2:9:24:U:H3'	2:9:24:U:H6	1.83	0.42
3:A:54:PRO:CG	3:A:160:ALA:HB3	2.49	0.42
4:B:90:THR:C	4:B:92:TYR:H	2.23	0.42
5:C:22:PHE:HA	5:C:116:ALA:HA	2.01	0.42
6:D:136:ARG:NH1	6:D:156:ARG:O	2.52	0.42
7:E:7:ILE:HA	7:E:8:PRO:HD3	1.89	0.42
12:J:75:PRO:CG	12:J:105:LEU:HD21	2.40	0.42
14:L:34:GLY:HA3	14:L:38:HIS:CE1	2.54	0.42
16:N:72:GLU:HB3	16:N:163:PHE:CE1	2.54	0.42
25:W:88:THR:HG22	25:W:89:ASP:N	2.34	0.42
1:0:721:A:H1'	17:O:114:ILE:HD13	2.01	0.42
1:0:924:G:N2	1:0:925:C:H1'	2.33	0.42
1:0:1021:G:C4	1:0:1022:A:C8	3.06	0.42
1:0:1032:A:C5	1:0:1033:C:C6	3.07	0.42
1:0:1196:C:H3'	1:0:1197:G:C5'	2.47	0.42
1:0:1299:G:N7	14:L:6:ARG:NH1	2.67	0.42
1:0:1447:U:OP1	1:0:1506:U:N3	2.47	0.42
1:0:1597:A:H2'	1:0:1598:A:C5'	2.47	0.42
1:0:1749:U:O2	1:0:1751:G:H8	2.02	0.42
1:0:1820:G:C6	1:0:2030:A:C2	3.06	0.42
1:0:1973:A:C8	1:0:1973:A:C3'	3.03	0.42
1:0:2094:G:H4'	4:B:245:SER:HB3	2.00	0.42
1:0:2406:U:C2	1:0:2407:G:C8	3.07	0.42
1:0:2617:G:N3	1:0:2617:G:H2'	2.33	0.42
1:0:2864:U:H5'	1:0:2865:G:OP2	2.19	0.42
2:9:19:G:C2'	2:9:20:G:H5'	2.48	0.42
2:9:40:C:C5	6:D:50:VAL:HG13	2.54	0.42
4:B:141:ARG:HD2	4:B:163:GLU:OE2	2.20	0.42
4:B:217:ARG:NH1	4:B:255:GLY:HA3	2.35	0.42
5:C:202:THR:O	5:C:205:ARG:HG2	2.19	0.42
7:E:7:ILE:HG23	7:E:45:ASP:O	2.18	0.42
11:I:13:GLU:O	11:I:14:ALA:HB2	2.19	0.42
13:K:101:ASN:H	13:K:101:ASN:ND2	2.16	0.42
17:O:73:ASP:OD1	17:O:93:GLY:HA2	2.19	0.42
24:V:16:ARG:NH2	24:V:63:GLU:HG3	2.33	0.42
1:0:283:U:C5	1:0:284:C:C4	3.07	0.42
1:0:521:A:H5"	27:Y:137:LYS:CD	2.49	0.42
1:0:677:C:H4'	5:C:246:ARG:NH2	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:921:G:H4'	1:0:924:G:N1	2.34	0.42
1:0:1170:U:H3'	1:0:1171:A:C5'	2.49	0.42
1:0:1186:C:N3	1:0:1187:U:C2	2.88	0.42
1:0:1236:A:H2'	1:0:1237:U:O4'	2.19	0.42
1:0:1631:A:N1	1:0:1632:A:C2	2.87	0.42
1:0:1805:G:H2'	1:0:1806:G:H8	1.85	0.42
1:0:1947:G:C8	1:0:1947:G:H3'	2.54	0.42
1:0:2256:G:C2'	1:0:2257:G:C5'	2.84	0.42
1:0:2361:A:C8	1:0:2425:A:N6	2.88	0.42
1:0:2672:C:O2'	4:B:87:TYR:HE2	2.03	0.42
1:0:2751:C:C5	1:0:2752:C:H5	2.37	0.42
1:0:2820:A:C6	1:0:2821:C:C4	3.07	0.42
1:0:2846:C:OP1	4:B:158:LYS:HD3	2.19	0.42
1:0:2871:G:C6	1:0:2887:G:N1	2.87	0.42
4:B:124:ALA:O	4:B:128:ILE:HG13	2.18	0.42
5:C:76:ARG:HH11	5:C:76:ARG:CG	2.32	0.42
9:G:85:ILE:HG22	9:G:85:ILE:H	1.59	0.42
11:I:83:THR:HG22	11:I:84:GLY:H	1.83	0.42
26:X:43:VAL:HG22	26:X:76:ARG:HH12	1.83	0.42
1:0:304:G:H1'	1:0:347:A:N6	2.34	0.42
1:0:807:A:H2'	1:0:808:A:H8	1.83	0.42
1:0:824:G:N7	1:0:854:G:C6	2.87	0.42
1:0:1007:A:H2'	10:H:19:TYR:CZ	2.55	0.42
1:0:1119:G:C6	1:0:1244:U:C5	3.07	0.42
1:0:1216:G:C8	9:G:7:ARG:NH2	2.83	0.42
1:0:1268:C:O2	1:0:1268:C:H2'	2.19	0.42
1:0:1324:G:N1	1:0:1334:C:C2	2.88	0.42
1:0:1593:C:OP1	18:P:117:SER:HB3	2.18	0.42
1:0:1853:C:H5'	3:A:228:ILE:O	2.19	0.42
1:0:2445:U:O2	1:0:2446:G:C8	2.73	0.42
1:0:2551:C:O2'	1:0:2552:C:H5'	2.19	0.42
1:0:2834:G:C5	1:0:2847:G:N2	2.87	0.42
1:0:2906:A:H5'	1:0:2907:C:O4'	2.19	0.42
3:A:105:VAL:CG1	3:A:154:ALA:HB1	2.49	0.42
5:C:192:ILE:HG23	5:C:232:LEU:O	2.19	0.42
15:M:71:SER:O	15:M:73:ARG:HD2	2.19	0.42
1:0:92:G:H4'	24:V:44:GLY:HA3	2.01	0.42
1:0:569:A:C2'	1:0:570:C:H5'	2.50	0.42
1:0:790:A:H1'	1:0:1710:A:H2'	2.02	0.42
1:0:910:C:O2'	1:0:932:U:H5"	2.20	0.42
1:0:1386:G:OP1	26:X:49:ARG:NH1	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1555:G:O2'	1:0:1556:G:H5'	2.20	0.42
1:0:1586:G:H2'	1:0:1587:U:C6	2.55	0.42
1:0:2252:A:H8	1:0:2252:A:O5'	2.02	0.42
2:9:58:G:N7	2:9:59:C:C4	2.87	0.42
4:B:69:VAL:HA	4:B:70:PRO:HD3	1.89	0.42
6:D:159:PRO:O	6:D:163:VAL:HG23	2.20	0.42
11:I:79:ALA:CA	11:I:96:LEU:HD21	2.50	0.42
13:K:101:ASN:O	13:K:102:GLU:CB	2.68	0.42
18:P:22:TRP:CZ2	18:P:25:PRO:HD3	2.55	0.42
18:P:59:ARG:O	18:P:63:ARG:HG3	2.20	0.42
20:R:79:ARG:O	20:R:81:PRO:HD3	2.19	0.42
30:2:22:PRO:HG2	30:2:25:VAL:CG2	2.49	0.42
1:0:824:G:C6	1:0:854:G:N7	2.87	0.42
1:0:936:C:C2'	1:0:937:C:H5'	2.50	0.42
1:0:1097:A:H5"	25:W:125:HIS:NE2	2.34	0.42
1:0:1135:G:C2	1:0:1228:C:C2	3.08	0.42
1:0:2036:C:O4'	13:K:44:LEU:HG	2.20	0.42
1:0:2264:A:OP1	15:M:71:SER:CB	2.66	0.42
1:0:2500:C:O2'	1:0:2501:G:H5'	2.20	0.42
1:0:2713:G:C2'	1:0:2714:U:H5'	2.50	0.42
1:0:2824:C:OP1	1:0:2826:G:H4'	2.19	0.42
4:B:23:THR:HA	4:B:24:PRO:HD3	1.90	0.42
5:C:127:ARG:HH22	5:C:225:PRO:HG2	1.81	0.42
8:F:99:THR:O	8:F:99:THR:HG23	2.20	0.42
8:F:101:ALA:HB3	8:F:105:ASP:OD1	2.19	0.42
16:N:61:ALA:CB	16:N:88:ALA:HB2	2.49	0.42
17:O:45:LEU:HD12	17:O:88:LYS:HD2	2.02	0.42
25:W:13:MET:HE3	25:W:17:ILE:CG2	2.50	0.42
29:1:5:THR:N	29:1:6:PRO:HD2	2.34	0.42
1:0:170:U:H2'	1:0:171:C:H5'	2.01	0.42
1:0:347:A:H2'	1:0:348:C:H5'	2.02	0.42
1:0:445:U:H2'	1:0:446:G:H8	1.83	0.42
1:0:484:A:H61	1:0:508:A:N6	2.10	0.42
1:0:786:G:H2'	1:0:787:G:O4'	2.20	0.42
1:0:924:G:C2	1:0:925:C:H1'	2.55	0.42
1:0:1016:U:O2'	1:0:1017:U:H5'	2.19	0.42
1:0:1075:G:C2	1:0:1085:C:C2	3.07	0.42
1:0:1163:G:OP2	1:0:1164:U:C3'	2.54	0.42
1:0:1195:G:H2'	1:0:1196:C:O5'	2.19	0.42
1:0:1734:C:OP1	4:B:234:ARG:NH1	2.50	0.42
1:0:2088:C:H2'	1:0:2089:A:H8	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2679:G:N2	1:0:2807:U:C2	2.88	0.42
1:0:2912:C:O2'	1:0:2913:A:H5'	2.19	0.42
2:9:40:C:H5	6:D:50:VAL:HG13	1.85	0.42
2:9:49:G:H2'	2:9:50:G:O4'	2.19	0.42
4:B:57:GLU:HA	4:B:58:PRO:HD2	1.85	0.42
7:E:69:ILE:O	7:E:72:MET:HB2	2.19	0.42
9:G:53:LEU:HG	9:G:53:LEU:H	1.58	0.42
12:J:6:PHE:HB3	12:J:109:TYR:OH	2.20	0.42
13:K:55:VAL:CG1	13:K:56:SER:N	2.82	0.42
14:L:93:VAL:C	14:L:95:ASP:H	2.23	0.42
16:N:10:MET:O	16:N:14:ARG:HG3	2.20	0.42
16:N:48:VAL:HG13	16:N:55:ASP:HB3	2.02	0.42
20:R:39:THR:CG2	20:R:42:GLU:HG3	2.50	0.42
1:0:101:C:O2	1:0:102:A:C8	2.72	0.42
1:0:171:C:H2'	1:0:172:U:H5'	2.01	0.42
1:0:354:A:C6	1:0:355:C:C4	3.08	0.42
1:0:453:A:C5	1:0:479:G:C5	3.07	0.42
1:0:907:A:H2'	1:0:908:A:C8	2.54	0.42
1:0:914:A:O5'	1:0:915:C:C6	2.72	0.42
1:0:1580:A:H5"	1:0:1581:A:OP2	2.20	0.42
1:0:1760:G:N3	1:0:1760:G:H2'	2.35	0.42
1:0:2055:A:C4'	20:R:132:ARG:HH22	2.32	0.42
1:0:2103:A:H2'	1:0:2104:C:C5'	2.48	0.42
1:0:2335:C:H6	1:0:2335:C:O5'	2.03	0.42
1:0:2405:C:H2'	1:0:2406:U:C6	2.55	0.42
1:0:2661:U:C2	1:0:2812:A:N6	2.87	0.42
2:9:17:G:C2	2:9:64:C:C4	3.08	0.42
3:A:127:GLN:HB3	3:A:139:LYS:HB3	2.02	0.42
5:C:127:ARG:HD2	5:C:230:GLY:C	2.40	0.42
5:C:127:ARG:HG2	5:C:127:ARG:O	2.20	0.42
7:E:1:PRO:HG2	7:E:59:MET:HE1	2.02	0.42
15:M:27:ARG:O	15:M:30:GLU:N	2.53	0.42
15:M:95:LYS:HA	15:M:170:ASN:HD21	1.84	0.42
16:N:77:ASN:OD1	16:N:79:PRO:HD2	2.20	0.42
16:N:93:GLN:NE2	16:N:127:LEU:HD12	2.30	0.42
1:0:166:A:C2	14:L:38:HIS:CE1	3.08	0.42
1:0:197:C:P	14:L:56:LYS:HD2	2.60	0.42
1:0:604:G:H4'	1:0:605:C:O5'	2.19	0.42
1:0:644:G:H5'	1:0:644:G:N3	2.35	0.42
1:0:669:G:H2'	1:0:670:G:H8	1.85	0.42
1:0:832:U:H2'	1:0:833:G:H8	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:877:G:O6	1:0:2113:G:O2'	2.38	0.42
1:0:1188:A:N7	1:0:1189:A:C2	2.88	0.42
1:0:1188:A:C8	1:0:1189:A:C2	3.07	0.42
1:0:1199:A:N6	1:0:1200:A:C6	2.88	0.42
1:0:1268:C:O2'	1:0:1269:G:H5'	2.19	0.42
1:0:1540:G:C6	1:0:1646:G:C5	3.08	0.42
1:0:1853:C:OP1	3:A:231:LYS:HG3	2.20	0.42
1:0:2121:G:C5	1:0:2122:C:C5	3.08	0.42
1:0:2634:G:H2'	1:0:2635:A:C8	2.55	0.42
2:9:44:A:O4'	6:D:76:ARG:NE	2.52	0.42
4:B:102:THR:HG23	4:B:182:VAL:HG12	2.01	0.42
9:G:64:ASN:HB3	9:G:89:VAL:HG11	1.99	0.42
9:G:79:GLU:H	9:G:79:GLU:HG3	1.62	0.42
10:H:88:ARG:H	10:H:88:ARG:HG2	1.40	0.42
14:L:57:VAL:HG12	14:L:57:VAL:O	2.20	0.42
14:L:66:VAL:HG22	14:L:111:ALA:H	1.83	0.42
16:N:78:MET:HB2	16:N:79:PRO:HD3	2.02	0.42
24:V:39:ALA:H	24:V:40:PRO:CD	2.32	0.42
25:W:110:GLN:NE2	25:W:110:GLN:HA	2.35	0.42
25:W:141:HIS:HB2	25:W:146:ILE:HG12	2.02	0.42
1:0:68:U:C4	1:0:107:U:H4'	2.54	0.42
1:0:667:C:H3'	1:0:667:C:C6	2.55	0.42
1:0:1024:G:C6	1:0:1025:C:N3	2.88	0.42
1:0:1134:G:H2'	1:0:1135:G:C5'	2.50	0.42
1:0:1211:G:O2'	1:0:1212:C:H5'	2.20	0.42
1:0:1317:A:H1'	1:0:1342:C:O2	2.20	0.42
1:0:1543:G:H2'	1:0:1544:U:H5	1.85	0.42
1:0:1774:G:C2'	1:0:1775:A:O5'	2.68	0.42
1:0:1895:A:C4	1:0:1896:G:C8	3.07	0.42
1:0:2253:G:N3	1:0:2254:G:C8	2.88	0.42
1:0:2290:U:C2	1:0:2292:C:C5	3.08	0.42
1:0:2758:G:O2'	1:0:2759:C:H5'	2.20	0.42
1:0:2863:G:H2'	1:0:2864:U:O4'	2.20	0.42
1:0:2885:A:C4	1:0:2886:C:C5	3.08	0.42
2:9:45:A:C6	2:9:46:C:C4	3.08	0.42
4:B:154:VAL:HA	4:B:155:PRO:HD3	1.84	0.42
5:C:124:VAL:HA	5:C:230:GLY:O	2.19	0.42
6:D:44:ILE:O	6:D:44:ILE:HG12	2.20	0.42
7:E:80:TRP:O	7:E:134:SER:HA	2.20	0.42
25:W:4:LEU:HD22	25:W:52:VAL:HG21	2.01	0.42
25:W:146:ILE:HD13	25:W:146:ILE:HA	1.89	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Y:182:PHE:HD2	27:Y:200:THR:O	2.03	0.42
1:0:170:U:H5'	31:3:48:ASN:O	2.19	0.41
1:0:218:C:H5	1:0:220:C:C4	2.38	0.41
1:0:961:A:C2	1:0:962:C:C4	3.08	0.41
1:0:1163:G:C4'	11:I:112:LEU:CD1	2.92	0.41
1:0:1246:A:C8	1:0:1246:A:C5'	3.00	0.41
1:0:1383:U:H2'	1:0:1384:C:C6	2.55	0.41
1:0:2297:U:H4'	19:Q:11:ARG:HH21	1.84	0.41
1:0:2615:U:C5	1:0:2616:G:C5	3.08	0.41
1:0:2747:C:C4	1:0:2748:G:C2	3.08	0.41
1:0:2803:C:O2'	12:J:140:GLY:HA2	2.19	0.41
2:9:28:U:OP1	16:N:39:SER:HA	2.20	0.41
2:9:34:A:O5'	2:9:34:A:H8	2.03	0.41
4:B:217:ARG:CZ	4:B:255:GLY:HA3	2.50	0.41
5:C:154:VAL:O	5:C:158:GLU:HG3	2.20	0.41
9:G:124:ILE:O	9:G:125:VAL:C	2.58	0.41
10:H:49:LEU:HD13	10:H:150:PHE:HB3	2.01	0.41
11:I:68:VAL:HA	11:I:69:PRO:HD3	1.85	0.41
16:N:108:SER:HA	16:N:109:PRO:HD3	1.64	0.41
21:S:20:PHE:CD2	21:S:20:PHE:N	2.88	0.41
24:V:39:ALA:C	24:V:41:GLU:H	2.24	0.41
1:0:61:G:N1	1:0:86:A:N6	2.68	0.41
1:0:109:U:O2	1:0:109:U:H2'	2.19	0.41
1:0:455:A:C2'	1:0:456:G:H5'	2.50	0.41
1:0:608:A:O5'	1:0:608:A:C8	2.69	0.41
1:0:666:A:H2'	1:0:667:C:H5'	2.02	0.41
1:0:890:C:O2'	29:1:50:TRP:O	2.34	0.41
1:0:963:C:H2'	1:0:964:G:C8	2.55	0.41
1:0:1088:A:O5'	1:0:1088:A:C2'	2.68	0.41
1:0:1580:A:C4	1:0:1615:A:C6	3.07	0.41
1:0:1592:G:C6	1:0:1593:C:N4	2.88	0.41
1:0:1665:G:C2	1:0:1666:C:C6	3.09	0.41
1:0:1711:A:C2	1:0:1712:A:C8	3.08	0.41
1:0:1851:G:O2'	1:0:1852:A:H5'	2.21	0.41
1:0:1896:G:C5	1:0:1897:U:C4	3.07	0.41
1:0:1966:U:H3'	1:0:1966:U:C6	2.54	0.41
1:0:2327:A:N3	1:0:2374:A:C2	2.88	0.41
1:0:2382:A:H1'	31:3:10:TYR:CD2	2.55	0.41
1:0:2781:U:H2'	1:0:2782:G:O5'	2.19	0.41
1:0:2783:A:O2'	1:0:2784:A:H5'	2.20	0.41
1:0:2831:C:H2'	1:0:2832:C:C5'	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:280:VAL:CG1	4:B:281:ASP:N	2.82	0.41
7:E:68:HIS:O	7:E:72:MET:HG3	2.20	0.41
8:F:39:SER:HB3	8:F:45:ALA:HB2	2.02	0.41
14:L:143:THR:CG2	14:L:144:ASP:H	2.32	0.41
23:U:14:GLU:O	23:U:17:THR:HB	2.21	0.41
25:W:137:GLN:HE21	25:W:141:HIS:HE1	1.67	0.41
1:0:157:G:C5	1:0:158:A:N7	2.88	0.41
1:0:450:C:C4'	5:C:46:TYR:HE1	2.33	0.41
1:0:603:A:H4'	1:0:604:G:O5'	2.20	0.41
1:0:660:A:N6	1:0:746:A:O4'	2.53	0.41
1:0:669:G:C6	1:0:670:G:C5	3.08	0.41
1:0:710:G:H2'	1:0:711:G:O4'	2.20	0.41
1:0:1085:C:H2'	1:0:1086:A:C5'	2.49	0.41
1:0:1268:C:O2	1:0:1268:C:C2'	2.68	0.41
1:0:1327:G:O3'	27:Y:169:ARG:NH1	2.53	0.41
1:0:1443:G:C6	1:0:1444:G:C5	3.08	0.41
1:0:1476:A:HO2'	1:0:1868:G:H5'	1.84	0.41
1:0:1550:A:N1	1:0:1636:G:C6	2.88	0.41
1:0:1671:U:O5'	1:0:1671:U:H6	2.04	0.41
1:0:1673:U:H5"	21:S:34:LYS:HD2	2.02	0.41
1:0:1683:G:N1	1:0:1723:G:C8	2.88	0.41
1:0:1695:G:C6	1:0:1696:U:C4	3.08	0.41
1:0:1964:U:C2	1:0:1965:C:C5	3.08	0.41
1:0:1974:G:C6	1:0:1975:C:N3	2.89	0.41
1:0:2276:U:O2'	1:0:2277:U:H5'	2.20	0.41
1:0:2725:G:N1	1:0:2756:U:OP2	2.43	0.41
1:0:2727:A:C8	1:0:2728:C:C6	3.07	0.41
1:0:2775:A:C6	1:0:2799:A:C8	3.08	0.41
1:0:2829:G:O2'	1:0:2830:U:H5'	2.20	0.41
3:A:54:PRO:HG3	3:A:160:ALA:HB3	2.02	0.41
9:G:38:ILE:HG13	9:G:88:GLN:HB3	2.02	0.41
14:L:73:VAL:HG21	14:L:116:HIS:CD2	2.55	0.41
20:R:132:ARG:HG2	20:R:133:ALA:N	2.35	0.41
23:U:46:ALA:HB1	23:U:52:THR:HG21	2.02	0.41
31:3:7:PHE:HE2	31:3:22:VAL:CG2	2.32	0.41
1:0:25:A:C2	1:0:519:A:C8	3.08	0.41
1:0:84:G:C2	1:0:85:C:C2	3.09	0.41
1:0:204:A:C2'	1:0:205:U:H5'	2.51	0.41
1:0:441:A:H8	1:0:441:A:O5'	2.03	0.41
1:0:793:A:H2'	1:0:794:U:H6	1.85	0.41
1:0:1118:A:C8	1:0:1119:G:C5'	3.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1346:U:C2	1:0:1347:U:C6	3.09	0.41
1:0:1447:U:O5'	1:0:1447:U:H6	2.04	0.41
1:0:1471:A:H2'	1:0:1472:C:C6	2.55	0.41
1:0:1496:G:H8	1:0:1496:G:O5'	2.04	0.41
1:0:1523:G:H2'	1:0:1524:U:C6	2.55	0.41
1:0:1603:A:H5'	1:0:1605:G:H5'	2.01	0.41
1:0:1815:A:H4'	1:0:2751:C:O4'	2.20	0.41
1:0:1946:C:O2	1:0:1946:C:C2'	2.64	0.41
1:0:2700:G:C5	1:0:2701:G:C5	3.09	0.41
1:0:2717:C:N3	1:0:2718:C:C5	2.89	0.41
1:0:2735:U:H2'	1:0:2736:U:H6	1.85	0.41
1:0:2759:C:C2'	1:0:2760:C:O5'	2.69	0.41
2:9:108:C:H3'	2:9:108:C:H6	1.85	0.41
4:B:256:GLN:HE21	4:B:256:GLN:HA	1.85	0.41
4:B:279:THR:OG1	4:B:290:VAL:HB	2.20	0.41
6:D:88:LEU:HB2	6:D:89:PRO:HD3	2.01	0.41
12:J:45:VAL:HG22	12:J:46:ILE:N	2.35	0.41
12:J:92:GLN:O	12:J:92:GLN:HG2	2.19	0.41
12:J:105:LEU:HD13	12:J:145:TRP:HB3	2.02	0.41
15:M:131:VAL:HG12	15:M:133:LEU:CD1	2.51	0.41
15:M:146:ASP:O	15:M:147:LEU:HD23	2.19	0.41
16:N:43:VAL:HG13	16:N:118:ILE:HD11	2.02	0.41
19:Q:24:SER:HB3	19:Q:25:PRO:HD2	2.00	0.41
1:0:16:A:C2	1:0:528:G:C2	3.09	0.41
1:0:23:G:C6	1:0:24:G:N1	2.88	0.41
1:0:335:U:C2'	1:0:336:G:OP1	2.68	0.41
1:0:638:C:C2'	1:0:639:A:O5'	2.69	0.41
1:0:874:A:H2'	1:0:1833:U:O2'	2.20	0.41
1:0:1112:G:C2	1:0:1252:A:C2	3.08	0.41
1:0:1548:U:H6	1:0:1548:U:H3'	1.85	0.41
1:0:1607:A:C5	1:0:1608:G:C8	3.08	0.41
1:0:1667:A:C8	1:0:1667:A:C5'	2.98	0.41
1:0:1760:G:C2	1:0:1761:U:C2	3.08	0.41
1:0:1850:U:H1'	1:0:1941:A:C2	2.55	0.41
1:0:1989:G:N1	1:0:2000:G:C6	2.89	0.41
1:0:2060:A:H2'	1:0:2061:C:C6	2.54	0.41
1:0:2090:G:H2'	1:0:2091:G:C8	2.55	0.41
1:0:2587:OMU:O2	1:0:2589:U:H5'	2.20	0.41
1:0:2719:A:C5	1:0:2720:C:C6	3.09	0.41
1:0:2805:A:C8	1:0:2806:C:C5	3.08	0.41
2:9:39:U:O2	2:9:44:A:N6	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:149:LYS:HB2	5:C:152:GLU:HG3	2.01	0.41
6:D:135:VAL:HG22	6:D:136:ARG:N	2.35	0.41
9:G:31:GLU:HB2	9:G:95:ASP:HA	2.02	0.41
9:G:97:ASN:HD21	9:G:99:PHE:HB2	1.83	0.41
11:I:53:THR:HG22	11:I:54:VAL:H	1.85	0.41
12:J:65:ASN:O	35:J:149:CL:CL	2.76	0.41
16:N:35:VAL:HB	16:N:46:GLN:HB2	2.03	0.41
16:N:100:ALA:O	16:N:129:ILE:HG12	2.20	0.41
25:W:31:HIS:ND1	25:W:115:THR:HG21	2.35	0.41
26:X:32:LEU:N	26:X:32:LEU:HD23	2.36	0.41
1:0:286:U:C4	1:0:287:C:C4	3.09	0.41
1:0:332:G:H8	1:0:332:G:O5'	2.02	0.41
1:0:390:G:C4	1:0:391:U:C6	3.09	0.41
1:0:730:G:C5	1:0:731:U:C5	3.08	0.41
1:0:1196:C:H3'	1:0:1197:G:H5'	2.03	0.41
1:0:1225:C:O2	1:0:1225:C:H2'	2.20	0.41
1:0:1262:C:H1'	25:W:120:PRO:HG3	2.02	0.41
1:0:1430:G:C4	1:0:1434:A:N6	2.89	0.41
1:0:1552:G:C5	1:0:1553:C:C5	3.08	0.41
1:0:2361:A:H2'	1:0:2362:A:C8	2.55	0.41
1:0:2506:A:O2'	1:0:2507:G:P	2.78	0.41
1:0:2587:OMU:C2	1:0:2589:U:H5'	2.51	0.41
1:0:2662:G:C6	1:0:2663:U:C4	3.09	0.41
2:9:98:C:H1'	25:W:131:PRO:HG3	2.03	0.41
2:9:119:C:H2'	2:9:120:A:O4'	2.20	0.41
3:A:75:GLY:HA3	28:Z:62:TYR:CZ	2.56	0.41
6:D:81:GLU:O	6:D:85:GLN:N	2.53	0.41
9:G:33:VAL:HG11	9:G:94:THR:H	1.80	0.41
9:G:64:ASN:HB3	9:G:89:VAL:HG13	2.02	0.41
11:I:89:GLN:HG2	11:I:129:THR:HG22	2.01	0.41
13:K:4:LEU:HG	13:K:120:ARG:CZ	2.50	0.41
14:L:5:LYS:HD2	14:L:5:LYS:HA	1.86	0.41
25:W:4:LEU:CD2	25:W:54:PHE:HB3	2.51	0.41
1:0:444:C:H2'	1:0:445:U:H6	1.86	0.41
1:0:560:C:H2'	1:0:561:G:H8	1.86	0.41
1:0:968:G:N2	1:0:1001:U:H1'	2.36	0.41
1:0:1133:A:H2	1:0:2500:C:O2	2.04	0.41
1:0:1144:A:C2	1:0:1220:U:C2	3.09	0.41
1:0:1197:G:H2'	1:0:1198:U:O5'	2.21	0.41
1:0:1262:C:O2	25:W:120:PRO:HG2	2.20	0.41
1:0:1500:U:OP2	18:P:41:ARG:NH2	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1544:U:OP2	1:0:1640:C:N4	2.51	0.41
1:0:1821:A:H61	1:0:2029:C:N4	2.18	0.41
1:0:1826:C:O2'	1:0:1827:G:H5'	2.20	0.41
2:9:78:G:O2'	2:9:79:U:OP2	2.39	0.41
6:D:48:MET:HA	6:D:49:PRO:HD3	1.72	0.41
6:D:172:VAL:CG1	6:D:173:GLU:H	2.32	0.41
9:G:46:LEU:O	9:G:50:ARG:N	2.53	0.41
13:K:63:GLU:O	13:K:67:GLN:NE2	2.53	0.41
14:L:73:VAL:HG23	14:L:74:THR:N	2.35	0.41
1:0:79:G:N2	1:0:97:G:H1'	2.36	0.41
1:0:201:G:N1	1:0:202:U:C4	2.89	0.41
1:0:240:C:O2	1:0:240:C:H2'	2.19	0.41
1:0:277:U:H6	1:0:277:U:H3'	1.86	0.41
1:0:700:A:H5"	1:0:701:U:O5'	2.21	0.41
1:0:1082:A:H2'	1:0:1083:C:OP1	2.20	0.41
1:0:1116:U:C2'	1:0:1118:A:C2	3.02	0.41
1:0:1152:A:C4	1:0:1215:A:C2	3.08	0.41
1:0:1189:A:C8	1:0:1190:G:N7	2.89	0.41
1:0:1418:U:OP1	30:2:42:TRP:HB3	2.21	0.41
1:0:1688:G:H1	1:0:1692:C:C2'	2.34	0.41
1:0:1973:A:N6	1:0:2009:G:H1'	2.35	0.41
1:0:1994:A:H2'	1:0:1995:G:H5'	2.02	0.41
1:0:2135:A:C2	1:0:2241:C:C2	3.08	0.41
1:0:2405:C:H2'	1:0:2406:U:H6	1.85	0.41
1:0:2677:A:C2	1:0:2809:G:C4	3.09	0.41
2:9:10:C:C4'	2:9:13:A:H61	2.34	0.41
2:9:36:C:C5	2:9:37:C:C4	3.09	0.41
2:9:84:G:H2'	2:9:85:A:H8	1.85	0.41
3:A:135:VAL:HG21	3:A:147:ARG:CZ	2.51	0.41
4:B:224:LYS:HD3	4:B:224:LYS:HA	1.86	0.41
10:H:89:LYS:HA	10:H:89:LYS:HD3	1.88	0.41
14:L:118:LEU:HD13	14:L:120:LEU:HD21	2.02	0.41
17:O:31:GLU:O	17:O:35:LYS:HG3	2.21	0.41
22:T:12:ARG:O	22:T:19:ARG:NH2	2.48	0.41
22:T:23:VAL:O	22:T:93:THR:HG21	2.20	0.41
25:W:38:THR:HG22	25:W:39:ASP:N	2.24	0.41
27:Y:171:PRO:O	27:Y:172:THR:C	2.58	0.41
1:0:74:A:C2	1:0:104:G:C2	3.09	0.41
1:0:160:A:N6	1:0:161:A:C6	2.88	0.41
1:0:204:A:H2'	1:0:205:U:H5'	2.02	0.41
1:0:267:G:H2'	1:0:268:U:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:326:G:C5	1:0:340:A:C2	3.09	0.41
1:0:418:C:H2'	1:0:419:A:H8	1.86	0.41
1:0:435:A:C2'	1:0:436:A:H5'	2.51	0.41
1:0:545:G:H2'	1:0:546:C:H6	1.85	0.41
1:0:626:U:C4	1:0:627:G:C6	3.09	0.41
1:0:638:C:H2'	1:0:639:A:C8	2.56	0.41
1:0:701:U:O2	1:0:744:G:C2	2.74	0.41
1:0:778:C:C2	1:0:779:U:C6	3.08	0.41
1:0:856:G:HO2'	1:0:857:A:H3'	1.86	0.41
1:0:869:G:H1'	1:0:886:A:C2	2.55	0.41
1:0:924:G:H2'	1:0:925:C:O5'	2.20	0.41
1:0:1081:A:C6	1:0:1082:A:N1	2.89	0.41
1:0:1135:G:C6	1:0:1136:U:C4	3.09	0.41
1:0:1168:C:P	11:I:84:GLY:HA3	2.61	0.41
1:0:1266:U:H4'	27:Y:115:ARG:HH22	1.82	0.41
1:0:1327:G:C2	1:0:1331:A:C4	3.09	0.41
1:0:1335:C:H2'	1:0:1336:U:H6	1.86	0.41
1:0:1463:A:H61	1:0:1479:A:N6	2.19	0.41
1:0:1494:A:N3	1:0:1495:C:C5	2.88	0.41
1:0:1537:C:HO2'	1:0:1538:C:H5'	1.82	0.41
1:0:1544:U:O2	1:0:1545:C:C6	2.74	0.41
1:0:1766:U:O2	1:0:1778:A:H5'	2.20	0.41
1:0:1805:G:O2'	1:0:1806:G:H5'	2.20	0.41
1:0:1829:A:C2'	1:0:1830:C:H5'	2.51	0.41
1:0:1902:G:H2'	1:0:1903:U:O4'	2.21	0.41
1:0:2321:A:C2	1:0:2378:U:C4	3.09	0.41
1:0:2345:A:H3'	1:0:2346:C:C6	2.55	0.41
1:0:2385:G:H2'	1:0:2386:U:H6	1.86	0.41
1:0:2421:G:HO2'	1:0:2422:U:P	2.44	0.41
1:0:2434:A:H8	1:0:2434:A:O5'	2.03	0.41
1:0:2523:U:H2'	1:0:2524:G:C8	2.55	0.41
1:0:2547:C:C2	1:0:2548:C:C5	3.09	0.41
1:0:2629:C:O2'	1:0:2630:G:H5'	2.21	0.41
1:0:2679:G:H2'	1:0:2680:A:H3'	2.02	0.41
1:0:2880:A:H2'	1:0:2881:C:H5'	2.03	0.41
6:D:67:ASP:HA	6:D:68:PRO:HD3	1.86	0.41
8:F:4:VAL:HA	8:F:76:PHE:CE1	2.56	0.41
8:F:48:VAL:O	8:F:75:ILE:HG22	2.20	0.41
10:H:70:ASN:HB2	10:H:85:MET:HE1	2.03	0.41
12:J:36:VAL:CG1	12:J:37:ALA:N	2.84	0.41
13:K:49:LEU:HG	13:K:76:GLN:HG2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:170:GLU:O	16:N:174:GLU:HG3	2.21	0.41
17:O:89:ILE:O	17:O:91:GLN:N	2.53	0.41
19:Q:75:ILE:CD1	19:Q:84:ILE:HD11	2.51	0.41
1:0:39:G:N2	1:0:444:C:C2	2.89	0.41
1:0:165:A:H5"	14:L:33:ALA:HB2	2.02	0.41
1:0:420:U:O4'	1:0:1920:C:C4	2.73	0.41
1:0:453:A:N3	1:0:479:G:C8	2.90	0.41
1:0:494:C:O2	1:0:496:G:C8	2.73	0.41
1:0:512:G:H4'	1:0:515:C:O2	2.21	0.41
1:0:566:A:H2'	1:0:567:U:H5'	2.03	0.41
1:0:1550:A:C2	1:0:1636:G:C4	3.09	0.41
1:0:1872:C:O2	3:A:25:ALA:HA	2.21	0.41
1:0:2040:C:H4'	1:0:2759:C:O2	2.21	0.41
1:0:2088:C:O2'	1:0:2089:A:H5'	2.21	0.41
1:0:2381:C:H4'	31:3:80:ARG:HH12	1.86	0.41
1:0:2440:C:H2'	1:0:2441:U:O4'	2.21	0.41
1:0:2450:C:H2'	1:0:2451:G:O5'	2.21	0.41
1:0:2594:C:H3'	1:0:2594:C:C6	2.55	0.41
1:0:2682:C:C2	1:0:2713:G:N2	2.89	0.41
1:0:2694:A:H3'	1:0:2695:C:H6	1.86	0.41
1:0:2751:C:C6	1:0:2751:C:H3'	2.56	0.41
2:9:9:C:C5	2:9:10:C:C6	3.09	0.41
2:9:37:C:O2'	2:9:38:A:H5'	2.21	0.41
3:A:51:ARG:C	3:A:53:ALA:H	2.25	0.41
3:A:88:ILE:O	3:A:88:ILE:HG22	2.21	0.41
5:C:157:LEU:HD23	5:C:157:LEU:HA	1.92	0.41
9:G:8:LYS:H	9:G:8:LYS:HG2	1.68	0.41
9:G:36:VAL:HG13	9:G:89:VAL:HG23	2.02	0.41
11:I:49:GLU:N	11:I:49:GLU:CD	2.75	0.41
11:I:115:TYR:O	11:I:115:TYR:CD2	2.74	0.41
1:0:78:G:C2	1:0:79:G:C2	3.09	0.40
1:0:134:U:H2'	1:0:135:G:C8	2.56	0.40
1:0:196:G:O2'	14:L:56:LYS:NZ	2.43	0.40
1:0:282:C:HO2'	1:0:368:C:N4	2.19	0.40
1:0:293:A:C5	1:0:360:A:C2	3.10	0.40
1:0:324:G:N3	1:0:325:U:C6	2.90	0.40
1:0:418:C:O2'	1:0:419:A:H5'	2.21	0.40
1:0:479:G:C2	1:0:480:C:C5	3.09	0.40
1:0:561:G:O2'	1:0:562:A:H5'	2.21	0.40
1:0:722:G:H22	1:0:938:G:P	2.44	0.40
1:0:906:C:O4'	1:0:1330:A:H1'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1229:C:H6	1:0:1229:C:O5'	2.04	0.40
1:0:1263:C:H5"	25:W:117:ARG:NH1	2.37	0.40
1:0:1264:U:H2'	1:0:1265:G:H8	1.86	0.40
1:0:1377:C:C6	1:0:1377:C:C5'	2.94	0.40
1:0:1709:G:C5	1:0:1711:A:C5	3.08	0.40
1:0:1787:C:O2	1:0:2875:A:C2	2.72	0.40
1:0:2048:C:O3'	20:R:69:LYS:NZ	2.54	0.40
1:0:2300:A:H4'	1:0:2301:A:O5'	2.21	0.40
1:0:2594:C:C6	1:0:2594:C:C3'	3.04	0.40
1:0:2607:U:H3'	1:0:2609:G:H5"	2.04	0.40
1:0:2706:A:C5	1:0:2707:C:C5	3.09	0.40
1:0:2713:G:O2'	1:0:2714:U:H5'	2.21	0.40
1:0:2723:G:C2	1:0:2760:C:O2	2.74	0.40
1:0:2851:G:H2'	1:0:2902:A:H61	1.85	0.40
1:0:2869:G:C6	1:0:2870:C:C4	3.09	0.40
1:0:2898:G:O2'	1:0:2899:A:H5'	2.21	0.40
2:9:13:A:C3'	2:9:14:G:C5'	3.00	0.40
2:9:45:A:C5	2:9:46:C:C4	3.09	0.40
2:9:58:G:H3'	2:9:59:C:C5	2.56	0.40
5:C:27:ARG:O	5:C:31:ILE:HG13	2.21	0.40
6:D:27:ILE:HG22	6:D:28:GLY:H	1.86	0.40
9:G:122:ASN:N	9:G:127:PRO:HB3	2.36	0.40
20:R:14:ALA:HB2	20:R:99:ALA:HB2	2.02	0.40
25:W:35:VAL:HA	25:W:36:PRO:HD3	1.78	0.40
25:W:59:GLN:HE22	25:W:98:PHE:N	2.19	0.40
1:0:1103:C:C2	1:0:1241:G:N2	2.89	0.40
1:0:1328:A:P	27:Y:169:ARG:HH11	2.44	0.40
1:0:1603:A:H4'	1:0:1605:G:C8	2.55	0.40
1:0:1915:U:C2'	1:0:1916:C:C5'	2.99	0.40
1:0:2614:C:H2'	1:0:2615:U:H5'	2.03	0.40
1:0:2615:U:O2'	1:0:2616:G:H5'	2.21	0.40
1:0:2725:G:H1'	1:0:2757:A:N6	2.36	0.40
1:0:2763:G:C6	1:0:2764:C:N4	2.89	0.40
2:9:108:C:H2'	2:9:109:G:O4'	2.21	0.40
2:9:115:C:C2	2:9:116:C:C5	3.09	0.40
4:B:4:SER:O	4:B:5:ARG:HB2	2.20	0.40
4:B:307:ARG:HG3	4:B:307:ARG:HH11	1.87	0.40
6:D:77:ASP:HB3	6:D:78:GLU:H	1.56	0.40
8:F:56:PRO:CG	15:M:44:THR:HA	2.46	0.40
9:G:8:LYS:HB2	9:G:9:THR:H	1.60	0.40
9:G:110:THR:HG1	9:G:114:ILE:HA	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:48:VAL:HG11	16:N:55:ASP:HB3	2.03	0.40
20:R:39:THR:HG22	20:R:42:GLU:H	1.86	0.40
25:W:45:VAL:O	25:W:49:ASN:N	2.54	0.40
1:0:170:U:C5'	31:3:48:ASN:O	2.69	0.40
1:0:244:C:H6	1:0:244:C:O5'	2.03	0.40
1:0:387:G:H2'	1:0:388:G:C5'	2.52	0.40
1:0:396:U:O2'	1:0:397:A:OP1	2.38	0.40
1:0:614:U:O2	1:0:614:U:H2'	2.22	0.40
1:0:775:G:OP1	29:1:16:HIS:HE1	2.04	0.40
1:0:793:A:H5"	18:P:83:LYS:HG2	2.04	0.40
1:0:856:G:O2'	1:0:857:A:H3'	2.21	0.40
1:0:1169:U:H2'	1:0:1170:U:C5'	2.52	0.40
1:0:1207:A:H3'	1:0:1208:C:OP2	2.22	0.40
1:0:1311:G:C2	1:0:1312:G:N7	2.89	0.40
1:0:1517:U:O5'	1:0:1517:U:H6	2.03	0.40
1:0:1657:A:C6	1:0:1658:A:C6	3.10	0.40
1:0:2575:C:C4	1:0:2576:A:C5	3.09	0.40
1:0:2596:A:O2'	13:K:32:ILE:HG22	2.20	0.40
1:0:2613:G:H2'	1:0:2614:C:H6	1.86	0.40
1:0:2689:A:H2'	1:0:2690:U:H5'	2.03	0.40
2:9:88:G:OP1	25:W:130:HIS:NE2	2.52	0.40
3:A:182:ARG:HH11	3:A:182:ARG:HG2	1.86	0.40
4:B:256:GLN:NE2	4:B:257:THR:H	2.19	0.40
6:D:35:ALA:O	6:D:38:GLU:HB2	2.21	0.40
7:E:112:ALA:HA	7:E:113:PRO:HD3	1.84	0.40
9:G:41:ILE:CG2	9:G:45:GLN:HB3	2.51	0.40
10:H:63:GLU:O	10:H:67:LEU:HB2	2.21	0.40
11:I:41:GLN:CD	11:I:66:VAL:HG21	2.40	0.40
11:I:96:LEU:HD23	11:I:96:LEU:HA	1.91	0.40
25:W:101:LEU:HA	25:W:101:LEU:HD23	1.77	0.40
27:Y:150:LEU:O	27:Y:151:SER:C	2.59	0.40
29:1:22:CYS:HB3	29:1:37:CYS:CB	2.49	0.40
1:0:248:A:H3'	1:0:249:G:H5'	2.04	0.40
1:0:278:A:H2'	1:0:279:C:O4'	2.22	0.40
1:0:435:A:O2'	1:0:436:A:H5'	2.22	0.40
1:0:493:U:C2'	1:0:494:C:H5'	2.51	0.40
1:0:733:U:H2'	1:0:734:U:O4'	2.22	0.40
1:0:814:G:C2	1:0:815:U:H1'	2.57	0.40
1:0:1209:C:C2	1:0:1210:G:C8	3.10	0.40
1:0:1252:A:H2'	1:0:1253:C:O4'	2.22	0.40
1:0:1375:A:H2'	1:0:1376:G:C5'	2.49	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1688:G:H4'	29:1:8:GLN:HG3	2.03	0.40
1:0:1889:C:H2'	1:0:1890:U:H5'	2.03	0.40
1:0:2005:G:OP2	1:0:2006:C:H5"	2.22	0.40
1:0:2348:C:C5'	6:D:22:VAL:HG21	2.51	0.40
1:0:2502:C:O3'	10:H:151:ARG:NH2	2.54	0.40
1:0:2508:C:O2	1:0:2508:C:C2'	2.68	0.40
1:0:2547:C:H2'	1:0:2548:C:C6	2.57	0.40
1:0:2733:U:C2	1:0:2750:G:N2	2.90	0.40
1:0:2750:G:O2'	1:0:2751:C:H5'	2.22	0.40
1:0:2865:G:O2'	23:U:51:TRP:HD1	2.04	0.40
2:9:10:C:H4'	2:9:13:A:N6	2.36	0.40
2:9:39:U:C2'	2:9:40:C:OP1	2.70	0.40
4:B:97:LEU:HD22	4:B:127:GLN:NE2	2.36	0.40
22:T:17:HIS:CD2	22:T:18:GLU:HG3	2.56	0.40
1:0:318:C:H5'	1:0:339:A:C2	2.57	0.40
1:0:639:A:H2'	1:0:640:G:C8	2.57	0.40
1:0:876:A:H2'	1:0:876:A:N3	2.36	0.40
1:0:876:A:N3	1:0:876:A:C2'	2.84	0.40
1:0:1197:G:C2	1:0:1203:G:O6	2.75	0.40
1:0:1213:C:H2'	1:0:1214:G:H5'	1.99	0.40
1:0:1343:C:C2'	27:Y:208:LYS:HZ1	2.35	0.40
1:0:1707:G:N3	1:0:1709:G:C8	2.89	0.40
1:0:1836:A:C2	29:1:3:ALA:HA	2.57	0.40
1:0:2329:C:O2'	1:0:2330:U:H5'	2.21	0.40
1:0:2548:C:OP2	4:B:5:ARG:NH2	2.54	0.40
1:0:2569:A:H8	1:0:2569:A:O5'	2.05	0.40
1:0:2700:G:C6	1:0:2701:G:C4	3.10	0.40
1:0:2876:G:O6	1:0:2882:G:C2	2.75	0.40
9:G:71:LEU:HB2	9:G:81:LEU:CD2	2.52	0.40
9:G:71:LEU:HB2	9:G:81:LEU:HD23	2.03	0.40
12:J:31:LEU:HD23	12:J:31:LEU:HA	1.93	0.40
19:Q:53:HIS:O	19:Q:55:ARG:N	2.54	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%)	206 (88%)	24 (10%)	5 (2%)	7 33
4	B	335/338 (99%)	287 (86%)	38 (11%)	10 (3%)	4 24
5	C	244/246 (99%)	209 (86%)	28 (12%)	7 (3%)	4 24
6	D	134/177 (76%)	95 (71%)	34 (25%)	5 (4%)	3 19
7	E	170/178 (96%)	156 (92%)	12 (7%)	2 (1%)	13 48
8	F	117/120 (98%)	101 (86%)	13 (11%)	3 (3%)	5 27
9	G	121/348 (35%)	79 (65%)	29 (24%)	13 (11%)	0 2
10	H	156/171 (91%)	141 (90%)	11 (7%)	4 (3%)	5 27
11	I	112/162 (69%)	76 (68%)	28 (25%)	8 (7%)	1 5
12	J	140/145 (97%)	129 (92%)	9 (6%)	2 (1%)	11 43
13	K	130/132 (98%)	117 (90%)	11 (8%)	2 (2%)	10 42
14	L	141/165 (86%)	127 (90%)	13 (9%)	1 (1%)	22 60
15	M	192/196 (98%)	161 (84%)	31 (16%)	0	100 100
16	N	184/187 (98%)	162 (88%)	19 (10%)	3 (2%)	9 40
17	O	113/116 (97%)	103 (91%)	9 (8%)	1 (1%)	17 55
18	P	141/149 (95%)	129 (92%)	11 (8%)	1 (1%)	22 60
19	Q	93/96 (97%)	85 (91%)	5 (5%)	3 (3%)	4 22
20	R	148/155 (96%)	129 (87%)	18 (12%)	1 (1%)	22 60
21	S	79/85 (93%)	65 (82%)	14 (18%)	0	100 100
22	T	117/120 (98%)	105 (90%)	11 (9%)	1 (1%)	17 55
23	U	51/67 (76%)	48 (94%)	3 (6%)	0	100 100
24	V	63/71 (89%)	57 (90%)	5 (8%)	1 (2%)	9 40
25	W	152/154 (99%)	134 (88%)	17 (11%)	1 (1%)	22 60
26	X	80/92 (87%)	66 (82%)	13 (16%)	1 (1%)	12 45
27	Y	140/241 (58%)	130 (93%)	7 (5%)	3 (2%)	7 33
28	Z	71/92 (77%)	64 (90%)	7 (10%)	0	100 100
29	1	54/57 (95%)	45 (83%)	8 (15%)	1 (2%)	8 36
30	2	42/50 (84%)	41 (98%)	1 (2%)	0	100 100
31	3	90/92 (98%)	82 (91%)	7 (8%)	1 (1%)	14 50

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	3845/4442 (87%)	3329 (87%)	436 (11%)	80 (2%)	7 33

All (80) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	B	16	ARG
6	D	27	ILE
8	F	91	VAL
9	G	127	PRO
11	I	11	GLY
11	I	82	GLU
14	L	80	ASP
16	N	154	LEU
3	A	34	ASP
3	A	62	ASP
4	B	139	ASP
4	B	169	GLY
4	B	184	ASP
6	D	77	ASP
7	E	44	GLY
7	E	90	HIS
8	F	61	MET
8	F	101	ALA
9	G	87	GLY
9	G	125	VAL
9	G	129	GLY
10	H	140	VAL
11	I	90	GLU
12	J	5	GLU
13	K	102	GLU
17	O	90	ASP
19	Q	23	THR
22	T	46	ASP
24	V	43	PRO
26	X	87	ALA
27	Y	173	ALA
31	3	57	GLY
4	B	107	SER
4	B	206	THR
5	C	8	LEU
5	C	201	SER
5	C	215	ALA

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Mol	Chain	Res	Type
5	C	232	LEU
6	D	171	ASP
6	D	173	GLU
9	G	40	GLY
9	G	100	SER
9	G	128	GLU
10	H	166	SER
12	J	65	ASN
20	R	71	LYS
25	W	25	ASN
29	1	11	LYS
3	A	232	ARG
9	G	115	GLY
10	H	44	PRO
10	H	168	ALA
11	I	117	LEU
19	Q	54	PRO
27	Y	167	GLY
27	Y	172	THR
3	A	234	GLY
4	B	2	GLN
4	B	225	GLY
5	C	206	ASN
9	G	34	GLY
16	N	164	ASP
18	P	25	PRO
4	B	183	GLU
5	C	142	ASP
9	G	98	PRO
9	G	126	ILE
11	I	30	ASP
11	I	69	PRO
11	I	98	VAL
13	K	62	PRO
3	A	170	VAL
6	D	137	PRO
9	G	111	PRO
9	G	55	GLY
11	I	50	VAL
19	Q	18	PRO
4	B	5	ARG
5	C	19	PRO

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Mol	Chain	Res	Type
16	N	126	GLY

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%)	164 (92%)	15 (8%)	11 38
4	B	282/283 (100%)	264 (94%)	18 (6%)	17 51
5	C	193/193 (100%)	174 (90%)	19 (10%)	8 30
6	D	117/148 (79%)	109 (93%)	8 (7%)	16 48
7	E	152/156 (97%)	142 (93%)	10 (7%)	16 49
8	F	93/94 (99%)	92 (99%)	1 (1%)	73 90
9	G	106/283 (38%)	95 (90%)	11 (10%)	7 27
10	H	132/138 (96%)	124 (94%)	8 (6%)	18 53
11	I	99/130 (76%)	84 (85%)	15 (15%)	3 14
12	J	118/121 (98%)	107 (91%)	11 (9%)	9 33
13	K	106/106 (100%)	98 (92%)	8 (8%)	13 43
14	L	113/127 (89%)	108 (96%)	5 (4%)	28 65
15	M	158/160 (99%)	150 (95%)	8 (5%)	24 60
16	N	149/150 (99%)	144 (97%)	5 (3%)	37 72
17	O	93/94 (99%)	89 (96%)	4 (4%)	29 66
18	P	113/117 (97%)	107 (95%)	6 (5%)	22 58
19	Q	79/80 (99%)	76 (96%)	3 (4%)	33 69
20	R	117/122 (96%)	113 (97%)	4 (3%)	37 72
21	S	71/74 (96%)	66 (93%)	5 (7%)	15 47
22	T	105/106 (99%)	99 (94%)	6 (6%)	20 56
23	U	44/53 (83%)	44 (100%)	0	100 100
24	V	51/57 (90%)	49 (96%)	2 (4%)	32 69
25	W	130/130 (100%)	121 (93%)	9 (7%)	15 48

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
26	X	66/74 (89%)	62 (94%)	4 (6%)	18 53
27	Y	120/196 (61%)	111 (92%)	9 (8%)	13 43
28	Z	60/74 (81%)	60 (100%)	0	100 100
29	1	46/47 (98%)	43 (94%)	3 (6%)	17 50
30	2	42/46 (91%)	41 (98%)	1 (2%)	49 79
31	3	79/79 (100%)	78 (99%)	1 (1%)	69 89
All	All	3213/3620 (89%)	3014 (94%)	199 (6%)	18 52

All (199) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	3	ARG
3	A	30	ARG
3	A	34	ASP
3	A	44	ASP
3	A	55	VAL
3	A	64	ASP
3	A	69	LEU
3	A	85	SER
3	A	153	ARG
3	A	179	MET
3	A	192	VAL
3	A	194	MET
3	A	197	VAL
3	A	217	ARG
3	A	235	ARG
4	B	11	LEU
4	B	16	ARG
4	B	27	ASN
4	B	32	ASP
4	B	33	ASP
4	B	56	ASP
4	B	97	LEU
4	B	98	THR
4	B	162	MET
4	B	171	VAL
4	B	184	ASP
4	B	195	ARG
4	B	235	ARG
4	B	249	SER

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Mol	Chain	Res	Type
4	B	251	VAL
4	B	256	GLN
4	B	265	LEU
4	B	312	ARG
5	C	2	GLN
5	C	12	THR
5	C	16	VAL
5	C	27	ARG
5	C	46	TYR
5	C	76	ARG
5	C	78	ARG
5	C	87	ARG
5	C	91	PRO
5	C	109	LEU
5	C	115	LEU
5	C	151	GLN
5	C	153	VAL
5	C	187	ARG
5	C	202	THR
5	C	222	ASP
5	C	234	VAL
5	C	236	THR
5	C	240	LEU
6	D	24	HIS
6	D	61	PHE
6	D	104	PHE
6	D	136	ARG
6	D	137	PRO
6	D	149	ARG
6	D	153	THR
6	D	170	TYR
7	E	7	ILE
7	E	11	VAL
7	E	16	ASP
7	E	41	SER
7	E	58	THR
7	E	86	VAL
7	E	115	ARG
7	E	150	GLN
7	E	156	ASP
7	E	164	ASP
8	F	49	PHE

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Mol	Chain	Res	Type
9	G	7	ARG
9	G	45	GLN
9	G	53	LEU
9	G	78	LEU
9	G	81	LEU
9	G	85	ILE
9	G	91	LEU
9	G	95	ASP
9	G	108	SER
9	G	109	LYS
9	G	119	VAL
10	H	1	LYS
10	H	8	ASP
10	H	62	LEU
10	H	84	LYS
10	H	88	ARG
10	H	123	THR
10	H	142	ASP
10	H	151	ARG
11	I	9	VAL
11	I	13	GLU
11	I	15	ASN
11	I	20	LEU
11	I	24	LEU
11	I	31	VAL
11	I	41	GLN
11	I	56	TYR
11	I	64	ILE
11	I	82	GLU
11	I	85	SER
11	I	90	GLU
11	I	111	ASP
11	I	113	LEU
11	I	115	TYR
12	J	39	VAL
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	92	GLN

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Mol	Chain	Res	Type
12	J	107	ASN
12	J	120	SER
12	J	131	THR
13	K	10	GLN
13	K	19	THR
13	K	58	THR
13	K	69	LEU
13	K	74	VAL
13	K	80	ILE
13	K	101	ASN
13	K	108	GLU
14	L	30	ARG
14	L	32	ASP
14	L	35	ARG
14	L	104	ASP
14	L	117	GLU
15	M	10	ASP
15	M	46	LEU
15	M	68	ARG
15	M	81	ARG
15	M	93	ARG
15	M	115	LEU
15	M	120	VAL
15	M	125	ARG
16	N	26	LEU
16	N	115	VAL
16	N	139	TRP
16	N	152	GLU
16	N	180	LEU
17	O	38	ARG
17	O	43	VAL
17	O	67	SER
17	O	111	VAL
18	P	3	LEU
18	P	13	VAL
18	P	21	VAL
18	P	91	LYS
18	P	98	ILE
18	P	136	ASP
19	Q	16	ASN
19	Q	57	ASP
19	Q	95	GLU

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Mol	Chain	Res	Type
20	R	39	THR
20	R	82	GLU
20	R	132	ARG
20	R	143	VAL
21	S	10	VAL
21	S	20	PHE
21	S	28	VAL
21	S	30	ASP
21	S	59	ASP
22	T	5	ASP
22	T	23	VAL
22	T	39	ASN
22	T	48	VAL
22	T	87	VAL
22	T	96	VAL
24	V	22	ASP
24	V	43	PRO
25	W	10	GLU
25	W	11	VAL
25	W	45	VAL
25	W	50	ASP
25	W	64	THR
25	W	76	ASP
25	W	128	VAL
25	W	146	ILE
25	W	154	ARG
26	X	15	ARG
26	X	16	ASP
26	X	76	ARG
26	X	85	VAL
27	Y	95	THR
27	Y	154	ARG
27	Y	165	GLU
27	Y	188	HIS
27	Y	189	ASN
27	Y	203	VAL
27	Y	204	ARG
27	Y	219	GLU
27	Y	235	GLU
29	1	18	LYS
29	1	36	SER
29	1	37	CYS

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Mol	Chain	Res	Type
30	2	18	ASN
31	3	15	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (75) such sidechains are listed below:

Mol	Chain	Res	Type
3	A	47	HIS
3	A	125	ASN
3	A	176	HIS
3	A	199	HIS
4	B	27	ASN
4	B	145	HIS
4	B	191	ASN
4	B	230	GLN
4	B	238	ASN
4	B	260	HIS
4	B	320	GLN
5	C	129	HIS
5	C	151	GLN
5	C	178	GLN
6	D	103	ASN
6	D	133	ASN
7	E	143	GLN
7	E	150	GLN
7	E	163	GLN
9	G	37	ASN
9	G	64	ASN
9	G	97	ASN
10	H	31	HIS
10	H	56	GLN
10	H	70	ASN
11	I	41	GLN
12	J	40	ASN
12	J	52	GLN
12	J	107	ASN
13	K	10	GLN
13	K	67	GLN
13	K	101	ASN
14	L	42	ASN
15	M	24	GLN
15	M	58	GLN
15	M	77	HIS

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Mol	Chain	Res	Type
15	M	143	ASN
15	M	170	ASN
16	N	40	ASN
16	N	53	ASN
16	N	93	GLN
16	N	107	ASN
17	O	53	GLN
18	P	57	ASN
18	P	66	GLN
18	P	73	HIS
18	P	118	GLN
19	Q	16	ASN
19	Q	40	HIS
19	Q	94	GLN
20	R	98	ASN
20	R	113	HIS
20	R	117	HIS
21	S	21	GLN
21	S	44	GLN
21	S	51	GLN
21	S	55	GLN
22	T	39	ASN
23	U	39	ASN
24	V	60	GLN
25	W	6	GLN
25	W	59	GLN
25	W	110	GLN
25	W	119	HIS
25	W	125	HIS
25	W	141	HIS
26	X	23	HIS
27	Y	149	GLN
27	Y	188	HIS
27	Y	189	ASN
28	Z	37	HIS
29	1	16	HIS
30	2	18	ASN
30	2	41	HIS
31	3	48	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2741/2922 (93%)	291 (10%)	35 (1%)
2	9	121/122 (99%)	16 (13%)	4 (3%)
All	All	2862/3044 (94%)	307 (10%)	39 (1%)

All (307) 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	97	G
1	0	114	A
1	0	115	U
1	0	120	A
1	0	122	C
1	0	130	C
1	0	139	C
1	0	141	C
1	0	151	A
1	0	166	A
1	0	169	A
1	0	186	A
1	0	191	A
1	0	192	A
1	0	200	U
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	318	C

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Mol	Chain	Res	Type
1	0	336	G
1	0	337	A
1	0	345	G
1	0	358	G
1	0	381	G
1	0	397	A
1	0	398	U
1	0	409	U
1	0	417	G
1	0	461	C
1	0	473	A
1	0	487	G
1	0	498	A
1	0	510	U
1	0	511	A
1	0	514	G
1	0	516	A
1	0	537	G
1	0	538	C
1	0	539	G
1	0	542	A
1	0	545	G
1	0	549	A
1	0	553	G
1	0	559	U
1	0	588	G
1	0	603	A
1	0	604	G
1	0	605	C
1	0	620	A
1	0	630	A
1	0	632	A
1	0	644	G
1	0	645	U
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

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Mol	Chain	Res	Type
1	0	840	U
1	0	846	A
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
1	0	884	C
1	0	905	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	1030	U
1	0	1045	G
1	0	1052	G
1	0	1059	G
1	0	1060	C
1	0	1072	G
1	0	1081	A
1	0	1087	G
1	0	1088	A
1	0	1109	U
1	0	1110	G
1	0	1119	G
1	0	1120	U
1	0	1130	U
1	0	1137	G
1	0	1151	G
1	0	1162	G
1	0	1164	U
1	0	1165	G
1	0	1166	A
1	0	1167	G

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Mol	Chain	Res	Type
1	0	1168	C
1	0	1170	U
1	0	1171	A
1	0	1174	A
1	0	1175	G
1	0	1193	A
1	0	1194	A
1	0	1195	G
1	0	1197	G
1	0	1205	U
1	0	1206	U
1	0	1207	A
1	0	1216	G
1	0	1237	U
1	0	1238	C
1	0	1239	G
1	0	1247	A
1	0	1259	A
1	0	1260	G
1	0	1279	U
1	0	1289	C
1	0	1300	G
1	0	1331	A
1	0	1342	C
1	0	1353	C
1	0	1360	C
1	0	1377	C
1	0	1378	G
1	0	1407	A
1	0	1451	C
1	0	1457	U
1	0	1460	G
1	0	1474	C
1	0	1485	A
1	0	1488	U
1	0	1505	U
1	0	1506	U
1	0	1507	C
1	0	1524	U
1	0	1525	G
1	0	1562	C
1	0	1564	C

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Mol	Chain	Res	Type
1	0	1580	A
1	0	1592	G
1	0	1605	G
1	0	1617	C
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	1684	A
1	0	1685	A
1	0	1692	C
1	0	1693	A
1	0	1701	A
1	0	1703	G
1	0	1722	U
1	0	1723	G
1	0	1725	C
1	0	1730	G
1	0	1731	C
1	0	1732	A
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	1830	C
1	0	1838	U
1	0	1856	C
1	0	1875	A
1	0	1879	U
1	0	1885	A
1	0	1919	A
1	0	1942	A
1	0	1968	A
1	0	1973	A
1	0	1974	G
1	0	1978	A
1	0	1979	G
1	0	1980	U

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Mol	Chain	Res	Type
1	0	1996	U
1	0	2004	U
1	0	2005	G
1	0	2006	C
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	2097	G
1	0	2101	A
1	0	2102	G
1	0	2110	G
1	0	2238	A
1	0	2243	C
1	0	2258	A
1	0	2271	G
1	0	2272	G
1	0	2317	C
1	0	2321	A
1	0	2329	C
1	0	2332	A
1	0	2346	C
1	0	2354	A
1	0	2361	A
1	0	2369	A
1	0	2422	U
1	0	2461	U
1	0	2462	G
1	0	2465	A
1	0	2467	A
1	0	2469	A
1	0	2476	C
1	0	2482	G
1	0	2483	A
1	0	2507	G

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Mol	Chain	Res	Type
1	0	2509	A
1	0	2511	A
1	0	2513	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	2607	U
1	0	2608	C
1	0	2613	G
1	0	2638	G
1	0	2649	A
1	0	2664	A
1	0	2676	C
1	0	2681	A
1	0	2682	C
1	0	2718	C
1	0	2719	A
1	0	2726	U
1	0	2747	C
1	0	2748	G
1	0	2749	U
1	0	2750	G
1	0	2762	C
1	0	2768	A
1	0	2786	G
1	0	2792	A
1	0	2800	A
1	0	2811	A
1	0	2812	A
1	0	2825	C
1	0	2836	G
1	0	2840	A
1	0	2850	C
1	0	2852	A
1	0	2853	U
1	0	2876	G
1	0	2890	A

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Mol	Chain	Res	Type
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
2	9	40	C
2	9	41	C
2	9	43	G
2	9	44	A
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 (39) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	10	U
1	0	129	A
1	0	396	U
1	0	603	A
1	0	604	G
1	0	644	G
1	0	857	A
1	0	871	G
1	0	877	G
1	0	898	G
1	0	1080	C
1	0	1161	A
1	0	1165	G
1	0	1167	G
1	0	1193	A
1	0	1237	U
1	0	1246	A
1	0	1352	A
1	0	1377	C

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Mol	Chain	Res	Type
1	0	1450	C
1	0	1504	A
1	0	1506	U
1	0	1710	A
1	0	1856	C
1	0	1979	G
1	0	2011	A
1	0	2096	A
1	0	2313	C
1	0	2467	A
1	0	2536	C
1	0	2718	C
1	0	2761	A
1	0	2791	U
1	0	2850	C
1	0	2852	A
2	9	14	G
2	9	43	G
2	9	65	A
2	9	103	A

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

4 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	1.14	3 (16%)	19,38,41	0.79	1 (5%)
1	OMU	0	2587	1	19,22,23	0.42	0	26,31,34	0.53	0
1	UR3	0	2619	1	19,22,23	0.50	0	26,32,35	0.64	1 (3%)
1	PSU	0	2621	1	18,21,22	1.50	2 (11%)	22,30,33	1.36	4 (18%)

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	-	1/5/27/28	0/3/3/3
1	OMU	0	2587	1	-	0/9/27/28	0/2/2/2
1	UR3	0	2619	1	-	0/7/25/26	0/2/2/2
1	PSU	0	2621	1	-	0/7/25/26	0/2/2/2

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	2621	PSU	C2-N1	5.20	1.43	1.36
1	0	2588	OMG	C5-C6	-2.82	1.41	1.47
1	0	2588	OMG	C8-N7	-2.53	1.30	1.35
1	0	2621	PSU	C6-C5	2.24	1.37	1.35
1	0	2588	OMG	C5-C4	-2.06	1.37	1.43

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	0	2621	PSU	C6-C5-C4	3.50	120.65	118.20
1	0	2621	PSU	O2-C2-N1	2.69	125.76	122.79
1	0	2621	PSU	C6-N1-C2	-2.69	119.93	122.68
1	0	2621	PSU	O2'-C2'-C1'	-2.47	105.35	111.23
1	0	2619	UR3	C4-N3-C2	2.28	126.71	124.56
1	0	2588	OMG	O6-C6-C5	2.13	128.53	124.37

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	0	2588	OMG	C1'-C2'-O2'-CM2

There are no ring outliers.

4 monomers are involved in 10 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	0	2588	OMG	3	0
1	0	2587	OMU	5	0
1	0	2619	UR3	1	0
1	0	2621	PSU	1	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 231 ligands modelled in this entry, 231 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
9	G	2
1	0	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	0	1207:A	O3'	1208:C	P	2.51
1	G	53:LEU	C	54:HIS	N	1.63
1	G	54:HIS	C	55:GLY	N	0.99

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%)	-0.18	16 (0%) 89 72	17, 56, 120, 184	0
2	9	122/122 (100%)	-0.01	2 (1%) 72 44	41, 89, 136, 181	0
3	A	237/240 (98%)	0.56	23 (9%) 7 2	34, 90, 133, 148	0
4	B	337/338 (99%)	0.15	13 (3%) 39 15	25, 60, 100, 112	0
5	C	246/246 (100%)	0.16	6 (2%) 59 30	29, 58, 91, 106	0
6	D	140/177 (79%)	1.95	58 (41%) 0 0	89, 146, 170, 178	0
7	E	172/178 (96%)	0.48	12 (6%) 16 5	46, 73, 100, 109	0
8	F	119/120 (99%)	0.37	5 (4%) 36 14	74, 110, 150, 166	0
9	G	125/348 (35%)	1.41	37 (29%) 0 0	100, 133, 165, 168	0
10	H	160/171 (93%)	0.34	6 (3%) 40 16	51, 76, 109, 120	0
11	I	118/162 (72%)	2.78	63 (53%) 0 0	20, 181, 199, 200	0
12	J	142/145 (97%)	-0.05	0 100 100	31, 54, 83, 99	0
13	K	132/132 (100%)	0.19	3 (2%) 60 31	33, 61, 98, 103	0
14	L	145/165 (87%)	1.49	39 (26%) 0 0	49, 111, 158, 162	0
15	M	194/196 (98%)	0.77	22 (11%) 5 1	2, 62, 161, 180	0
16	N	186/187 (99%)	1.18	37 (19%) 1 0	62, 106, 176, 189	0
17	O	115/116 (99%)	0.10	0 100 100	48, 70, 88, 91	0
18	P	143/149 (95%)	0.79	18 (12%) 3 1	44, 68, 103, 109	0
19	Q	95/96 (98%)	0.67	7 (7%) 14 4	52, 74, 87, 100	0
20	R	150/155 (96%)	0.04	1 (0%) 87 69	30, 48, 74, 81	0
21	S	81/85 (95%)	0.40	2 (2%) 57 29	56, 87, 108, 123	0
22	T	119/120 (99%)	0.99	23 (19%) 1 0	51, 74, 106, 139	0
23	U	53/67 (79%)	1.90	22 (41%) 0 0	96, 108, 126, 133	0
24	V	65/71 (91%)	0.84	9 (13%) 2 1	66, 105, 145, 148	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
25	W	154/154 (100%)	-0.02	0 100 100	38, 55, 81, 95	0
26	X	82/92 (89%)	0.57	7 (8%) 10 3	43, 63, 84, 95	0
27	Y	142/241 (58%)	0.26	2 (1%) 75 49	23, 51, 87, 106	0
28	Z	73/92 (79%)	6.73	67 (91%) 0 0	164, 174, 200, 200	0
29	1	56/57 (98%)	0.06	0 100 100	28, 43, 56, 65	0
30	2	46/50 (92%)	1.29	13 (28%) 0 0	48, 87, 150, 152	0
31	3	92/92 (100%)	11.33	92 (100%) 0 0	184, 198, 200, 200	0
All	All	6790/7486 (90%)	0.51	605 (8%) 9 3	2, 67, 162, 200	0

All (605) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
31	3	9	THR	24.4
31	3	33	MET	23.0
31	3	69	TYR	22.4
31	3	78	HIS	20.9
31	3	25	VAL	20.2
31	3	59	ASP	20.2
31	3	74	CYS	19.8
31	3	23	GLU	19.0
28	Z	32	GLU	18.7
31	3	31	THR	18.1
31	3	75	GLY	18.1
31	3	58	GLY	17.0
31	3	32	GLY	16.1
31	3	34	LYS	15.9
31	3	68	LYS	15.9
31	3	76	LYS	15.9
31	3	71	CYS	15.7
31	3	24	LYS	15.6
31	3	22	VAL	15.6
31	3	20	HIS	15.4
31	3	77	ALA	15.3
31	3	10	TYR	15.1
31	3	21	GLU	14.8
31	3	15	ASN	14.7
31	3	3	MET	14.6
31	3	67	LEU	14.5
31	3	27	SER	14.4
31	3	86	GLY	14.3

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Mol	Chain	Res	Type	RSRZ
28	Z	33	MET	14.2
31	3	82	GLY	14.1
31	3	39	GLN	13.9
28	Z	27	ALA	13.9
31	3	48	ASN	13.9
28	Z	34	ASN	13.5
28	Z	19	GLY	13.4
31	3	43	ASN	13.2
31	3	37	ASP	13.1
31	3	11	CYS	13.1
31	3	18	GLN	13.0
31	3	47	GLY	12.7
31	3	85	ALA	12.3
31	3	14	CYS	12.0
31	3	35	TRP	12.0
28	Z	26	VAL	11.9
28	Z	45	ASP	11.9
31	3	53	SER	11.8
11	I	50	VAL	11.8
31	3	1	MET	11.7
28	Z	53	GLY	11.6
31	3	13	HIS	11.6
31	3	41	GLU	11.5
28	Z	30	GLU	11.4
15	M	87	GLY	11.3
28	Z	55	TRP	11.2
28	Z	25	ARG	11.1
28	Z	68	SER	11.0
31	3	6	ARG	10.9
28	Z	35	GLU	10.9
31	3	44	SER	10.8
31	3	70	ARG	10.7
31	3	62	THR	10.7
31	3	88	LEU	10.7
11	I	9	VAL	10.7
31	3	8	ASN	10.2
31	3	4	PRO	10.2
31	3	36	ILE	10.1
11	I	8	LEU	10.1
28	Z	31	SER	10.0
31	3	38	ARG	10.0
31	3	12	PRO	10.0

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Mol	Chain	Res	Type	RSRZ
28	Z	11	SER	9.9
31	3	73	GLU	9.9
15	M	70	GLY	9.9
28	Z	44	GLU	9.8
28	Z	20	ARG	9.8
31	3	83	TRP	9.7
14	L	44	GLU	9.7
31	3	45	GLY	9.6
31	3	40	ARG	9.6
31	3	26	ARG	9.5
28	Z	15	GLY	9.5
31	3	52	PHE	9.4
31	3	65	THR	9.3
31	3	49	ASP	9.2
31	3	66	ASP	9.1
15	M	77	HIS	9.0
31	3	55	VAL	9.0
28	Z	24	ARG	9.0
31	3	30	GLN	9.0
31	3	91	GLN	8.6
24	V	1	THR	8.6
28	Z	21	VAL	8.6
11	I	6	GLU	8.5
11	I	24	LEU	8.5
31	3	42	ARG	8.3
6	D	25	MET	8.3
31	3	72	GLY	8.2
28	Z	28	GLU	8.2
31	3	84	ARG	8.2
31	3	56	PRO	8.1
28	Z	69	TYR	8.1
28	Z	37	HIS	8.0
11	I	12	GLY	8.0
31	3	60	LYS	8.0
28	Z	22	SER	8.0
11	I	7	VAL	7.8
11	I	40	ASP	7.8
31	3	17	HIS	7.7
6	D	69	ILE	7.7
28	Z	14	PHE	7.5
28	Z	29	ILE	7.4
31	3	2	GLN	7.4

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Mol	Chain	Res	Type	RSRZ
31	3	19	GLU	7.3
28	Z	23	ARG	7.3
28	Z	59	TYR	7.3
14	L	43	HIS	7.3
28	Z	36	ASP	7.2
15	M	80	GLY	7.2
31	3	80	ARG	7.1
14	L	42	ASN	7.0
31	3	7	PHE	6.8
31	3	57	GLY	6.8
11	I	20	LEU	6.8
28	Z	56	GLN	6.6
28	Z	64	PHE	6.5
23	U	54	THR	6.5
11	I	39	ASN	6.5
11	I	5	ILE	6.5
16	N	160	SER	6.5
11	I	42	THR	6.5
31	3	16	GLU	6.4
9	G	60	ARG	6.4
31	3	81	GLU	6.4
31	3	46	ILE	6.3
6	D	63	ILE	6.3
11	I	43	ALA	6.3
28	Z	16	ALA	6.3
11	I	41	GLN	6.2
31	3	51	LYS	6.2
16	N	166	ALA	6.1
11	I	49	GLU	6.1
28	Z	18	TYR	6.0
6	D	26	GLY	6.0
24	V	40	PRO	6.0
15	M	88	VAL	5.9
15	M	71	SER	5.8
28	Z	50	GLN	5.8
31	3	54	LYS	5.8
28	Z	54	ILE	5.8
9	G	35	VAL	5.8
15	M	79	ALA	5.8
28	Z	49	ARG	5.8
23	U	52	THR	5.8
11	I	37	GLU	5.7

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Mol	Chain	Res	Type	RSRZ
28	Z	58	SER	5.7
14	L	41	HIS	5.7
6	D	24	HIS	5.7
28	Z	10	ARG	5.7
11	I	10	PRO	5.7
31	3	63	LYS	5.7
14	L	99	GLU	5.6
28	Z	67	GLY	5.6
28	Z	82	SER	5.6
28	Z	65	THR	5.6
6	D	70	GLY	5.6
31	3	92	GLU	5.6
6	D	27	ILE	5.5
11	I	11	GLY	5.5
31	3	89	GLU	5.5
31	3	87	ARG	5.5
6	D	88	LEU	5.5
16	N	186	LEU	5.5
6	D	10	PHE	5.5
28	Z	52	THR	5.5
22	T	119	ALA	5.5
28	Z	39	CYS	5.5
15	M	86	GLN	5.4
14	L	60	GLU	5.4
31	3	5	ARG	5.4
16	N	68	GLU	5.4
28	Z	40	PRO	5.4
30	2	48	ASP	5.4
28	Z	12	GLY	5.3
28	Z	71	PRO	5.3
30	2	39	ARG	5.3
14	L	36	ASP	5.3
28	Z	79	VAL	5.3
31	3	79	LEU	5.3
16	N	179	LEU	5.3
28	Z	66	GLY	5.2
14	L	79	ASP	5.2
15	M	81	ARG	5.2
14	L	59	GLU	5.1
28	Z	43	GLY	5.1
23	U	55	ALA	5.0
6	D	84	LEU	5.0

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Mol	Chain	Res	Type	RSRZ
3	A	31	LYS	5.0
28	Z	46	ARG	4.9
15	M	83	SER	4.9
11	I	51	PRO	4.9
28	Z	48	ASP	4.9
14	L	39	GLU	4.9
9	G	117	GLY	4.8
6	D	18	ILE	4.8
15	M	89	THR	4.8
9	G	122	ASN	4.7
28	Z	17	ARG	4.7
30	2	36	ASN	4.7
28	Z	57	CYS	4.7
6	D	85	GLN	4.7
28	Z	72	GLU	4.7
14	L	34	GLY	4.6
24	V	39	ALA	4.6
6	D	52	THR	4.6
15	M	82	ARG	4.6
16	N	161	GLY	4.6
28	Z	41	ASN	4.6
14	L	35	ARG	4.6
11	I	38	ILE	4.6
8	F	119	ARG	4.5
31	3	61	PRO	4.5
6	D	83	PHE	4.5
6	D	171	ASP	4.5
30	2	38	LYS	4.5
11	I	85	SER	4.5
14	L	123	ASP	4.5
11	I	58	ASP	4.5
9	G	116	ALA	4.5
16	N	167	ASP	4.4
14	L	38	HIS	4.4
3	A	83	GLY	4.4
16	N	163	PHE	4.4
31	3	90	PHE	4.4
6	D	134	LEU	4.4
28	Z	62	TYR	4.4
2	9	1	U	4.3
23	U	4	ARG	4.3
28	Z	47	VAL	4.3

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Mol	Chain	Res	Type	RSRZ
15	M	73	ARG	4.3
14	L	102	ASP	4.3
6	D	61	PHE	4.3
15	M	90	ARG	4.3
11	I	86	GLY	4.2
15	M	74	LYS	4.2
6	D	57	THR	4.2
16	N	69	TYR	4.2
14	L	104	ASP	4.2
6	D	44	ILE	4.2
16	N	162	ASP	4.2
16	N	185	GLU	4.1
30	2	35	ARG	4.1
9	G	115	GLY	4.1
28	Z	74	PRO	4.1
24	V	41	GLU	4.1
3	A	82	VAL	4.1
6	D	75	LEU	4.1
6	D	16	PRO	4.1
31	3	50	GLY	4.1
6	D	47	GLN	4.0
3	A	30	ARG	4.0
30	2	42	TRP	4.0
28	Z	13	ARG	4.0
11	I	36	GLN	4.0
9	G	112	ALA	4.0
6	D	45	THR	4.0
11	I	60	GLY	3.9
11	I	67	GLY	3.9
14	L	45	PRO	3.9
16	N	62	HIS	3.9
9	G	111	PRO	3.9
11	I	64	ILE	3.8
6	D	51	ARG	3.8
11	I	80	GLY	3.8
23	U	51	TRP	3.8
11	I	93	VAL	3.8
3	A	38	ILE	3.8
6	D	23	VAL	3.8
14	L	100	ALA	3.8
6	D	68	PRO	3.8
18	P	1	THR	3.8

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Mol	Chain	Res	Type	RSRZ
28	Z	42	CYS	3.8
23	U	50	GLU	3.7
16	N	88	ALA	3.7
16	N	75	THR	3.7
9	G	82	ASN	3.7
14	L	40	PHE	3.7
11	I	75	ILE	3.7
15	M	72	ALA	3.7
14	L	105	TYR	3.6
11	I	54	VAL	3.6
7	E	45	ASP	3.6
11	I	23	GLU	3.6
11	I	71	THR	3.6
14	L	37	LYS	3.6
11	I	53	THR	3.6
6	D	87	ALA	3.5
6	D	62	ASP	3.5
28	Z	70	LYS	3.5
28	Z	73	THR	3.5
18	P	49	ILE	3.5
31	3	28	GLY	3.5
18	P	25	PRO	3.4
23	U	13	ILE	3.4
28	Z	75	GLY	3.4
10	H	171	ALA	3.4
11	I	33	ALA	3.4
5	C	63	SER	3.4
5	C	143	ASP	3.4
11	I	96	LEU	3.4
1	0	735	C	3.4
14	L	80	ASP	3.4
22	T	109	GLU	3.4
9	G	131	THR	3.4
6	D	11	HIS	3.4
9	G	10	GLU	3.4
16	N	172	PHE	3.4
14	L	46	LEU	3.4
18	P	77	ALA	3.4
11	I	72	ALA	3.3
9	G	126	ILE	3.3
1	0	359	U	3.3
6	D	130	VAL	3.3

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Mol	Chain	Res	Type	RSRZ
23	U	53	ASP	3.3
27	Y	235	GLU	3.3
6	D	86	THR	3.3
26	X	88	GLU	3.3
11	I	35	VAL	3.3
11	I	18	PRO	3.3
23	U	29	THR	3.3
11	I	52	VAL	3.3
30	2	49	GLU	3.3
6	D	28	GLY	3.2
6	D	71	ALA	3.2
11	I	66	VAL	3.2
19	Q	95	GLU	3.2
6	D	17	ARG	3.2
30	2	37	HIS	3.2
23	U	31	PHE	3.2
15	M	75	ARG	3.2
21	S	81	ILE	3.2
19	Q	70	ALA	3.2
26	X	10	VAL	3.2
16	N	65	ASP	3.2
9	G	127	PRO	3.1
5	C	62	GLY	3.1
6	D	170	TYR	3.1
11	I	13	GLU	3.1
14	L	106	VAL	3.1
22	T	13	ARG	3.1
24	V	62	GLU	3.1
9	G	37	ASN	3.1
3	A	118	PHE	3.1
3	A	37	VAL	3.1
16	N	165	ALA	3.1
3	A	135	VAL	3.1
14	L	95	ASP	3.1
6	D	92	GLU	3.1
6	D	64	ARG	3.1
14	L	122	ALA	3.1
1	0	1172	G	3.0
27	Y	95	THR	3.0
4	B	270	ILE	3.0
5	C	61	PHE	3.0
30	2	45	ASN	3.0

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Mol	Chain	Res	Type	RSRZ
30	2	41	HIS	3.0
22	T	101	LEU	3.0
18	P	28	GLN	3.0
24	V	43	PRO	3.0
6	D	72	LYS	3.0
9	G	21	ASP	2.9
10	H	123	THR	2.9
26	X	72	VAL	2.9
6	D	100	ASP	2.9
9	G	132	GLY	2.9
6	D	74	THR	2.9
11	I	129	THR	2.9
7	E	6	GLU	2.9
23	U	11	THR	2.9
23	U	47	ARG	2.9
28	Z	80	ARG	2.9
23	U	9	CYS	2.8
1	0	358	G	2.8
7	E	46	THR	2.8
9	G	11	THR	2.8
14	L	47	GLY	2.8
3	A	110	SER	2.8
3	A	88	ILE	2.8
22	T	5	ASP	2.8
23	U	19	THR	2.8
9	G	67	LEU	2.8
6	D	54	ALA	2.8
18	P	114	LEU	2.8
18	P	21	VAL	2.8
3	A	66	ARG	2.8
16	N	3	GLY	2.8
18	P	51	ALA	2.8
6	D	128	LEU	2.8
3	A	64	ASP	2.8
19	Q	71	TYR	2.8
3	A	99	ILE	2.7
9	G	114	ILE	2.7
11	I	77	ASP	2.8
22	T	35	TYR	2.7
22	T	57	GLY	2.7
11	I	57	ASP	2.7
19	Q	2	SER	2.7

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Mol	Chain	Res	Type	RSRZ
22	T	50	VAL	2.7
1	0	1198	U	2.7
7	E	95	VAL	2.7
9	G	70	ALA	2.7
6	D	166	ILE	2.7
9	G	91	LEU	2.7
14	L	150	GLN	2.7
16	N	95	ALA	2.7
3	A	29	HIS	2.7
6	D	40	ILE	2.7
11	I	114	SER	2.7
11	I	59	ASP	2.7
22	T	100	ASP	2.7
3	A	94	LEU	2.7
16	N	72	GLU	2.7
16	N	147	ILE	2.7
4	B	291	ASP	2.6
1	0	1913	C	2.6
11	I	69	PRO	2.6
26	X	85	VAL	2.6
11	I	17	GLY	2.6
14	L	93	VAL	2.6
7	E	87	PHE	2.6
16	N	80	SER	2.6
23	U	8	TYR	2.6
6	D	50	VAL	2.6
9	G	98	PRO	2.6
15	M	85	ARG	2.6
16	N	175	LEU	2.6
22	T	80	GLU	2.6
22	T	66	ASP	2.6
9	G	90	GLY	2.6
22	T	59	GLU	2.6
23	U	5	GLU	2.6
9	G	26	MET	2.6
14	L	58	GLN	2.6
6	D	172	VAL	2.6
16	N	84	THR	2.6
21	S	26	PHE	2.6
9	G	8	LYS	2.6
26	X	80	GLU	2.6
22	T	99	THR	2.5

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Mol	Chain	Res	Type	RSRZ
24	V	46	ILE	2.5
4	B	108	GLU	2.5
11	I	101	VAL	2.5
23	U	10	GLY	2.5
4	B	271	ASP	2.5
11	I	92	PHE	2.5
19	Q	75	ILE	2.5
16	N	61	ALA	2.5
30	2	43	ARG	2.5
8	F	49	PHE	2.5
9	G	113	PRO	2.5
19	Q	69	ASP	2.5
13	K	67	GLN	2.5
15	M	76	ARG	2.5
23	U	46	ALA	2.5
18	P	98	ILE	2.5
22	T	34	GLU	2.5
2	9	24	U	2.5
30	2	44	ARG	2.5
9	G	103	GLN	2.5
26	X	41	PHE	2.5
16	N	159	TYR	2.5
1	0	1199	A	2.4
22	T	118	SER	2.4
6	D	80	ALA	2.4
24	V	9	ARG	2.4
11	I	22	PRO	2.4
9	G	16	LYS	2.4
11	I	109	HIS	2.4
18	P	137	LEU	2.4
23	U	39	ASN	2.4
7	E	49	ILE	2.4
14	L	124	ASP	2.4
9	G	121	PRO	2.4
4	B	277	GLU	2.4
14	L	94	ARG	2.4
16	N	67	ALA	2.4
16	N	78	MET	2.4
8	F	20	LEU	2.4
22	T	103	LEU	2.4
1	0	219	G	2.4
3	A	80	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
22	T	112	LEU	2.4
1	0	2637	A	2.3
24	V	31	ARG	2.3
23	U	22	VAL	2.3
9	G	32	SER	2.3
4	B	238	ASN	2.3
14	L	48	LYS	2.3
1	0	960	G	2.3
15	M	84	LYS	2.3
28	Z	51	GLY	2.3
1	0	970	U	2.3
3	A	147	ARG	2.3
3	A	96	LEU	2.3
9	G	71	LEU	2.3
15	M	69	LYS	2.3
1	0	1000	C	2.3
28	Z	76	GLY	2.3
1	0	1202	A	2.3
6	D	66	GLY	2.3
4	B	117	GLU	2.3
7	E	10	ASP	2.3
11	I	15	ASN	2.3
11	I	113	LEU	2.3
11	I	107	GLN	2.3
16	N	48	VAL	2.3
22	T	61	GLU	2.3
1	0	361	C	2.3
7	E	39	ASP	2.3
1	0	198	A	2.3
6	D	159	PRO	2.2
14	L	140	VAL	2.2
18	P	20	ARG	2.2
3	A	108	VAL	2.2
11	I	70	PRO	2.2
6	D	43	GLU	2.2
10	H	142	ASP	2.2
4	B	1	PRO	2.2
16	N	2	THR	2.2
5	C	228	ALA	2.2
16	N	64	SER	2.2
9	G	84	TYR	2.2
31	3	29	ARG	2.2

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Mol	Chain	Res	Type	RSRZ
7	E	53	GLU	2.2
18	P	101	GLN	2.2
6	D	29	HIS	2.2
3	A	115	GLY	2.2
22	T	113	GLU	2.2
9	G	83	GLY	2.2
6	D	49	PRO	2.2
11	I	100	GLN	2.2
16	N	138	ASP	2.2
11	I	94	ALA	2.2
11	I	103	GLN	2.2
9	G	97	ASN	2.2
22	T	47	THR	2.2
14	L	109	LEU	2.1
6	D	93	LEU	2.1
16	N	171	HIS	2.1
18	P	94	TRP	2.1
3	A	84	VAL	2.1
5	C	218	VAL	2.1
16	N	63	SER	2.1
11	I	104	ILE	2.1
3	A	91	GLY	2.1
23	U	49	LEU	2.1
13	K	71	ALA	2.1
18	P	22	TRP	2.1
1	0	285	A	2.1
10	H	122	GLY	2.1
11	I	29	VAL	2.1
28	Z	60	CYS	2.1
22	T	108	ARG	2.1
31	3	64	LYS	2.1
6	D	89	PRO	2.1
4	B	118	ASP	2.1
6	D	132	VAL	2.1
8	F	75	ILE	2.1
9	G	27	ILE	2.1
6	D	90	LEU	2.1
18	P	23	PHE	2.1
8	F	44	SER	2.1
14	L	91	VAL	2.1
16	N	164	ASP	2.1
19	Q	85	ILE	2.1

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Mol	Chain	Res	Type	RSRZ
7	E	47	VAL	2.1
7	E	124	VAL	2.1
10	H	143	ALA	2.1
14	L	62	ALA	2.1
4	B	239	LEU	2.1
22	T	117	ASP	2.1
18	P	130	GLU	2.1
16	N	58	LEU	2.1
6	D	48	MET	2.1
23	U	20	MET	2.1
14	L	68	GLU	2.0
4	B	115	VAL	2.0
4	B	99	GLU	2.0
14	L	125	PHE	2.0
30	2	20	ARG	2.0
20	R	7	GLU	2.0
10	H	94	VAL	2.0
9	G	38	ILE	2.0
4	B	116	PRO	2.0
22	T	49	GLU	2.0
16	N	180	LEU	2.0
11	I	62	PHE	2.0
26	X	11	THR	2.0
18	P	50	GLN	2.0
7	E	86	VAL	2.0
9	G	89	VAL	2.0
13	K	52	LYS	2.0
15	M	123	ASP	2.0
18	P	16	VAL	2.0
3	A	237	GLY	2.0
6	D	73	VAL	2.0

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
1	OMU	0	2587	21/22	0.94	0.18	33,36,42,43	0
1	OMG	0	2588	24/25	0.95	0.18	38,42,48,49	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
1	UR3	0	2619	21/22	0.96	0.18	34,42,44,47	0
1	PSU	0	2621	20/21	0.97	0.15	35,37,44,44	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, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
34	NA	0	3103	1/1	-0.15	0.88	198,198,198,198	0
34	NA	0	3050	1/1	-0.11	1.21	137,137,137,137	0
32	MG	0	3027	1/1	-0.00	0.96	110,110,110,110	0
32	MG	0	2946	1/1	0.09	0.34	200,200,200,200	0
32	MG	0	2971	1/1	0.18	0.41	200,200,200,200	0
34	NA	0	3100	1/1	0.30	1.21	56,56,56,56	0
35	CL	O	117	1/1	0.38	1.01	127,127,127,127	0
32	MG	0	3025	1/1	0.41	0.47	57,57,57,57	0
32	MG	0	2998	1/1	0.45	0.50	73,73,73,73	0
34	NA	0	3057	1/1	0.45	0.80	124,124,124,124	0
34	NA	0	3093	1/1	0.45	0.39	116,116,116,116	0
32	MG	0	3029	1/1	0.47	0.99	69,69,69,69	0
32	MG	3	93	1/1	0.49	0.51	69,69,69,69	0
34	NA	0	3054	1/1	0.50	0.34	63,63,63,63	0
35	CL	0	3109	1/1	0.53	0.61	135,135,135,135	0
34	NA	0	3047	1/1	0.55	0.36	53,53,53,53	0
34	NA	0	3082	1/1	0.56	0.48	43,43,43,43	0
35	CL	0	3106	1/1	0.56	1.27	120,120,120,120	0
35	CL	0	3112	1/1	0.59	0.56	96,96,96,96	0
34	NA	S	85	1/1	0.59	0.67	64,64,64,64	0
36	CD	O	116	1/1	0.59	0.47	200,200,200,200	0
34	NA	0	3052	1/1	0.60	0.52	72,72,72,72	0
35	CL	3	95	1/1	0.61	0.65	124,124,124,124	0
32	MG	0	2988	1/1	0.61	0.34	52,52,52,52	0
34	NA	0	3065	1/1	0.64	0.19	27,27,27,27	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
32	MG	0	3028	1/1	0.64	0.97	66,66,66,66	0
34	NA	0	3068	1/1	0.65	0.25	68,68,68,68	0
32	MG	Y	241	1/1	0.66	0.47	68,68,68,68	0
34	NA	0	3075	1/1	0.67	0.46	41,41,41,41	0
34	NA	0	3094	1/1	0.67	0.43	116,116,116,116	0
34	NA	0	3098	1/1	0.67	0.52	62,62,62,62	0
34	NA	0	3046	1/1	0.67	0.28	26,26,26,26	0
32	MG	B	338	1/1	0.68	0.59	43,43,43,43	0
34	NA	0	3038	1/1	0.69	0.32	67,67,67,67	0
34	NA	0	3059	1/1	0.69	0.42	53,53,53,53	0
32	MG	0	2964	1/1	0.69	0.34	50,50,50,50	0
32	MG	0	2980	1/1	0.71	0.47	48,48,48,48	0
32	MG	A	240	1/1	0.72	0.48	56,56,56,56	0
35	CL	0	3111	1/1	0.72	0.25	54,54,54,54	0
34	NA	C	247	1/1	0.73	0.34	41,41,41,41	0
33	K	M	196	1/1	0.73	0.42	127,127,127,127	0
34	NA	0	3044	1/1	0.73	0.85	46,46,46,46	0
34	NA	0	3092	1/1	0.74	0.25	45,45,45,45	0
34	NA	0	3077	1/1	0.74	0.55	119,119,119,119	0
34	NA	A	242	1/1	0.74	0.28	55,55,55,55	0
32	MG	0	2973	1/1	0.75	0.42	51,51,51,51	0
34	NA	9	125	1/1	0.75	0.35	78,78,78,78	0
32	MG	0	2984	1/1	0.75	0.51	59,59,59,59	0
32	MG	0	2987	1/1	0.75	0.16	35,35,35,35	0
34	NA	R	156	1/1	0.76	0.33	53,53,53,53	0
34	NA	0	3099	1/1	0.76	0.90	56,56,56,56	0
34	NA	0	3034	1/1	0.76	0.77	91,91,91,91	0
32	MG	0	2969	1/1	0.77	0.40	38,38,38,38	0
34	NA	0	3064	1/1	0.77	0.30	60,60,60,60	0
32	MG	0	3007	1/1	0.78	0.29	54,54,54,54	0
34	NA	0	3058	1/1	0.78	0.26	61,61,61,61	0
32	MG	0	2985	1/1	0.78	0.29	34,34,34,34	0
32	MG	0	3006	1/1	0.78	0.42	49,49,49,49	0
32	MG	0	3026	1/1	0.79	1.06	79,79,79,79	0
34	NA	9	124	1/1	0.79	0.16	34,34,34,34	0
34	NA	0	3033	1/1	0.79	0.45	60,60,60,60	0
32	MG	0	2974	1/1	0.79	0.19	51,51,51,51	0
33	K	0	3031	1/1	0.79	0.47	153,153,153,153	0
35	CL	Q	97	1/1	0.79	0.57	93,93,93,93	0
34	NA	0	3039	1/1	0.79	0.63	29,29,29,29	0
34	NA	0	3084	1/1	0.79	0.43	62,62,62,62	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
34	NA	0	3060	1/1	0.80	0.15	101,101,101,101	0
32	MG	0	3014	1/1	0.80	0.32	87,87,87,87	0
32	MG	A	241	1/1	0.80	0.38	142,142,142,142	0
34	NA	0	3056	1/1	0.80	0.33	42,42,42,42	0
32	MG	0	3013	1/1	0.80	0.38	41,41,41,41	0
34	NA	J	146	1/1	0.80	0.24	41,41,41,41	0
32	MG	K	133	1/1	0.80	0.45	35,35,35,35	0
34	NA	0	3051	1/1	0.80	0.33	49,49,49,49	0
32	MG	0	3011	1/1	0.81	0.86	71,71,71,71	0
32	MG	0	2989	1/1	0.81	0.67	56,56,56,56	0
35	CL	0	3108	1/1	0.81	0.36	72,72,72,72	0
35	CL	R	157	1/1	0.81	0.24	55,55,55,55	0
32	MG	0	2944	1/1	0.81	0.18	25,25,25,25	0
34	NA	9	126	1/1	0.81	0.85	91,91,91,91	0
34	NA	0	3061	1/1	0.82	0.12	39,39,39,39	0
32	MG	0	3018	1/1	0.82	0.35	78,78,78,78	0
32	MG	0	3030	1/1	0.82	0.18	46,46,46,46	0
34	NA	0	3043	1/1	0.82	0.38	115,115,115,115	0
35	CL	L	166	1/1	0.82	0.27	68,68,68,68	0
32	MG	0	3024	1/1	0.83	0.35	1,1,1,1	0
35	CL	A	243	1/1	0.83	0.40	90,90,90,90	0
34	NA	0	3101	1/1	0.83	0.17	43,43,43,43	0
34	NA	0	3063	1/1	0.83	0.19	162,162,162,162	0
36	CD	Z	93	1/1	0.83	0.35	200,200,200,200	0
34	NA	Q	96	1/1	0.84	0.24	64,64,64,64	0
32	MG	0	2962	1/1	0.84	0.48	60,60,60,60	0
34	NA	0	3067	1/1	0.85	0.30	47,47,47,47	0
32	MG	0	2993	1/1	0.85	0.44	78,78,78,78	0
32	MG	0	2949	1/1	0.85	0.35	45,45,45,45	0
32	MG	0	3004	1/1	0.85	0.53	27,27,27,27	0
32	MG	0	3010	1/1	0.86	0.17	56,56,56,56	0
32	MG	0	2938	1/1	0.86	0.47	42,42,42,42	0
32	MG	0	2947	1/1	0.86	0.27	15,15,15,15	0
35	CL	M	198	1/1	0.86	0.36	77,77,77,77	0
34	NA	0	3041	1/1	0.86	0.36	70,70,70,70	0
32	MG	0	3019	1/1	0.87	0.40	41,41,41,41	0
32	MG	0	3023	1/1	0.87	0.34	29,29,29,29	0
34	NA	0	3032	1/1	0.87	0.45	30,30,30,30	0
32	MG	0	2956	1/1	0.87	0.18	24,24,24,24	0
32	MG	0	3017	1/1	0.87	0.34	166,166,166,166	0
34	NA	0	3035	1/1	0.87	0.17	17,17,17,17	0
32	MG	0	2968	1/1	0.87	0.10	60,60,60,60	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
35	CL	J	149	1/1	0.88	0.15	45,45,45,45	0
34	NA	0	3089	1/1	0.88	0.14	51,51,51,51	0
32	MG	0	2986	1/1	0.88	0.35	53,53,53,53	0
35	CL	N	187	1/1	0.88	0.29	64,64,64,64	0
32	MG	0	3022	1/1	0.88	0.38	44,44,44,44	0
32	MG	0	2950	1/1	0.88	0.23	17,17,17,17	0
32	MG	0	2981	1/1	0.88	0.50	44,44,44,44	0
32	MG	0	2929	1/1	0.88	0.19	14,14,14,14	0
32	MG	0	2943	1/1	0.88	0.37	23,23,23,23	0
34	NA	0	3088	1/1	0.88	0.26	33,33,33,33	0
32	MG	0	2951	1/1	0.89	0.38	11,11,11,11	0
32	MG	0	2963	1/1	0.89	0.15	72,72,72,72	0
32	MG	0	2979	1/1	0.89	0.23	20,20,20,20	0
32	MG	0	2935	1/1	0.89	0.38	28,28,28,28	0
32	MG	0	3015	1/1	0.89	0.49	53,53,53,53	0
32	MG	0	3009	1/1	0.89	0.28	40,40,40,40	0
34	NA	0	3102	1/1	0.90	0.31	47,47,47,47	0
34	NA	0	3073	1/1	0.90	0.27	25,25,25,25	0
32	MG	0	3020	1/1	0.90	0.18	84,84,84,84	0
32	MG	0	2975	1/1	0.90	0.16	45,45,45,45	0
34	NA	0	3078	1/1	0.90	0.16	78,78,78,78	0
34	NA	0	3080	1/1	0.90	0.41	57,57,57,57	0
32	MG	0	2936	1/1	0.90	0.13	17,17,17,17	0
32	MG	0	2999	1/1	0.90	0.19	25,25,25,25	0
34	NA	0	3072	1/1	0.90	0.24	65,65,65,65	0
36	CD	3	94	1/1	0.90	1.15	200,200,200,200	0
32	MG	0	2992	1/1	0.91	0.26	52,52,52,52	0
32	MG	0	3016	1/1	0.91	0.20	43,43,43,43	0
34	NA	H	172	1/1	0.91	0.16	43,43,43,43	0
35	CL	K	134	1/1	0.91	0.34	55,55,55,55	0
34	NA	0	3081	1/1	0.91	0.18	49,49,49,49	0
32	MG	0	1	1/1	0.91	0.20	26,26,26,26	0
34	NA	0	3069	1/1	0.91	0.28	58,58,58,58	0
32	MG	0	2945	1/1	0.91	0.32	27,27,27,27	0
35	CL	0	3105	1/1	0.91	0.17	59,59,59,59	0
32	MG	0	2960	1/1	0.91	0.29	11,11,11,11	0
34	NA	0	3090	1/1	0.91	0.29	81,81,81,81	0
34	NA	0	3055	1/1	0.91	0.14	36,36,36,36	0
35	CL	0	3110	1/1	0.91	0.55	56,56,56,56	0
32	MG	9	123	1/1	0.91	0.17	37,37,37,37	0
34	NA	0	3095	1/1	0.92	0.49	126,126,126,126	0
35	CL	B	339	1/1	0.92	0.46	61,61,61,61	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
35	CL	J	148	1/1	0.92	0.07	49,49,49,49	0
32	MG	0	2959	1/1	0.92	0.18	39,39,39,39	0
34	NA	M	197	1/1	0.92	0.16	28,28,28,28	0
34	NA	0	3040	1/1	0.92	0.18	29,29,29,29	0
32	MG	0	2970	1/1	0.92	0.19	32,32,32,32	0
34	NA	0	3071	1/1	0.92	0.13	27,27,27,27	0
34	NA	0	3085	1/1	0.92	0.41	15,15,15,15	0
32	MG	0	2924	1/1	0.92	0.23	35,35,35,35	0
32	MG	0	3001	1/1	0.92	0.15	38,38,38,38	0
34	NA	0	3074	1/1	0.92	0.47	66,66,66,66	0
32	MG	0	2930	1/1	0.92	0.12	55,55,55,55	0
32	MG	0	3005	1/1	0.92	0.16	47,47,47,47	0
34	NA	0	3066	1/1	0.92	0.11	9,9,9,9	0
35	CL	J	147	1/1	0.93	0.16	69,69,69,69	0
34	NA	0	3076	1/1	0.93	0.22	51,51,51,51	0
34	NA	R	155	1/1	0.93	0.21	31,31,31,31	0
34	NA	0	3042	1/1	0.93	0.38	32,32,32,32	0
32	MG	0	3003	1/1	0.93	0.18	26,26,26,26	0
34	NA	0	3104	1/1	0.93	0.59	34,34,34,34	0
34	NA	0	3091	1/1	0.93	0.25	31,31,31,31	0
32	MG	0	2966	1/1	0.93	0.13	46,46,46,46	0
32	MG	0	2937	1/1	0.93	0.24	14,14,14,14	0
32	MG	0	2978	1/1	0.93	0.17	46,46,46,46	0
35	CL	Y	242	1/1	0.93	0.26	27,27,27,27	0
34	NA	0	3083	1/1	0.93	0.17	27,27,27,27	0
32	MG	0	2990	1/1	0.93	0.15	31,31,31,31	0
32	MG	0	2991	1/1	0.93	0.16	20,20,20,20	0
34	NA	0	3086	1/1	0.93	0.40	26,26,26,26	0
32	MG	0	2928	1/1	0.94	0.14	32,32,32,32	0
34	NA	0	3045	1/1	0.94	0.22	33,33,33,33	0
32	MG	0	3000	1/1	0.94	0.20	7,7,7,7	0
32	MG	0	2957	1/1	0.94	0.14	37,37,37,37	0
34	NA	0	3048	1/1	0.94	0.21	46,46,46,46	0
32	MG	0	3012	1/1	0.94	0.27	39,39,39,39	0
32	MG	0	2977	1/1	0.94	0.52	43,43,43,43	0
32	MG	0	2942	1/1	0.94	0.41	16,16,16,16	0
32	MG	0	2954	1/1	0.94	0.18	29,29,29,29	0
32	MG	0	2997	1/1	0.94	0.27	59,59,59,59	0
32	MG	0	2967	1/1	0.94	0.30	50,50,50,50	0
34	NA	0	3070	1/1	0.94	0.10	27,27,27,27	0
32	MG	0	3008	1/1	0.94	0.30	52,52,52,52	0
32	MG	0	2939	1/1	0.95	0.31	20,20,20,20	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
32	MG	0	2982	1/1	0.95	0.25	14,14,14,14	0
32	MG	0	2983	1/1	0.95	0.29	43,43,43,43	0
34	NA	0	3079	1/1	0.95	0.12	53,53,53,53	0
34	NA	0	3087	1/1	0.95	0.08	22,22,22,22	0
34	NA	0	3096	1/1	0.95	0.21	47,47,47,47	0
34	NA	0	3097	1/1	0.95	0.17	50,50,50,50	0
32	MG	0	2995	1/1	0.95	0.16	13,13,13,13	0
32	MG	0	2931	1/1	0.95	0.11	27,27,27,27	0
32	MG	0	2952	1/1	0.95	0.23	4,4,4,4	0
32	MG	0	2932	1/1	0.96	0.14	10,10,10,10	0
32	MG	0	2976	1/1	0.96	0.18	19,19,19,19	0
34	NA	L	165	1/1	0.96	0.07	42,42,42,42	0
32	MG	0	2941	1/1	0.96	0.16	15,15,15,15	0
32	MG	0	2933	1/1	0.96	0.32	1,1,1,1	0
32	MG	0	2994	1/1	0.96	0.20	14,14,14,14	0
32	MG	0	3021	1/1	0.96	0.23	20,20,20,20	0
34	NA	0	3062	1/1	0.96	0.07	38,38,38,38	0
32	MG	0	2925	1/1	0.96	0.19	5,5,5,5	0
36	CD	U	67	1/1	0.96	0.10	134,134,134,134	0
34	NA	0	3037	1/1	0.96	0.34	61,61,61,61	0
35	CL	0	3107	1/1	0.96	0.15	55,55,55,55	0
32	MG	0	2972	1/1	0.97	0.20	109,109,109,109	0
32	MG	0	2958	1/1	0.97	0.43	33,33,33,33	0
32	MG	T	120	1/1	0.97	0.25	38,38,38,38	0
32	MG	0	2955	1/1	0.97	0.30	11,11,11,11	0
34	NA	0	3049	1/1	0.97	0.27	28,28,28,28	0
32	MG	0	2953	1/1	0.97	0.11	8,8,8,8	0
34	NA	0	3036	1/1	0.97	0.36	49,49,49,49	0
32	MG	0	2940	1/1	0.97	0.33	24,24,24,24	0
34	NA	0	3053	1/1	0.97	0.07	19,19,19,19	0
32	MG	0	2961	1/1	0.98	0.19	41,41,41,41	0
32	MG	0	2965	1/1	0.98	0.22	47,47,47,47	0
32	MG	0	2934	1/1	0.98	0.34	22,22,22,22	0
32	MG	0	2926	1/1	0.98	0.15	17,17,17,17	0
32	MG	0	2996	1/1	0.98	0.24	21,21,21,21	0
32	MG	0	3002	1/1	0.98	0.06	20,20,20,20	0
32	MG	0	2927	1/1	0.99	0.19	18,18,18,18	0
36	CD	1	57	1/1	0.99	0.06	76,76,76,76	0
32	MG	0	2948	1/1	0.99	0.27	18,18,18,18	0

6.5 Other polymers (i)

There are no such residues in this entry.