Full wwPDB X-ray Structure Validation Report (i)

Feb 1, 2016 – 01:47 AM GMT

PDB ID	:	2E5L
Title	:	A snapshot of the 30S ribosomal subunit capturing mRNA via the Shine-Dalgarno interaction
Authors	:	Kaminishi, T.; Wilson, D.N.; Takemoto, C.; Harms, J.M.; Kawazoe, M.; Schluenzen, F.; Hanawa-Suetsugu, K.; Shirouzu, M.; Fucini, P.; Yokoyama, S.; RIKEN Structural Genomics/Proteomics Initiative (RSGI)
Deposited on	:	2006-12-21
Resolution	:	3.30 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
http://wwpdb.org/validation/2016/XrayValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The following versions of software and data (see references (1)) were used in the production of this report:

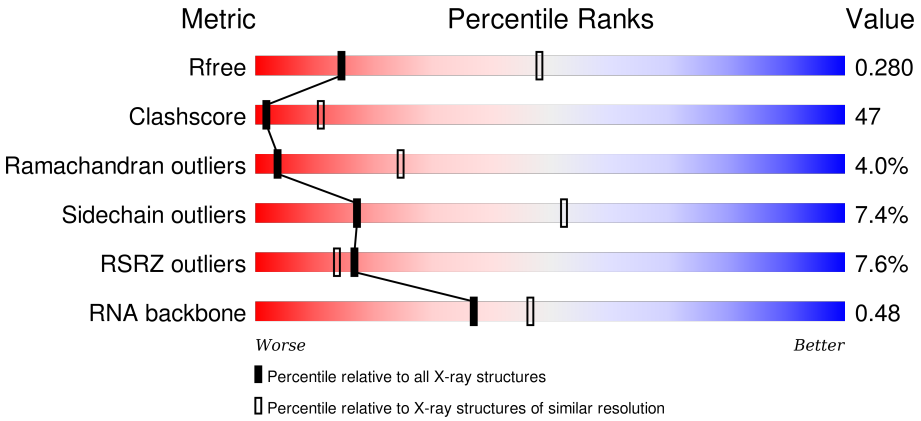
MolProbity	:	4.02b-467
Mogul	:	1.7 (RC4), CSD as536be (2015)
Xtriage (Phenix)	:	1.9-1692
EDS	:	rb-20026688
Percentile statistics	:	20151230.v01 (using entries in the PDB archive December 30th 2015)
Refmac	:	5.8.0135
CCP4	:	6.5.0
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	trunk26865

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 3.30 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}	91344	2060 (3.40-3.20)
Clashscore	102246	1058 (3.38-3.22)
Ramachandran outliers	100387	1038 (3.38-3.22)
Sidechain outliers	100360	1037 (3.38-3.22)
RSRZ outliers	91569	2070 (3.40-3.20)
RNA backbone	2183	1005 (3.82-2.78)

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 on the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria. 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	A	1520	2% 10% 60% 21% 8%
2	1	6	33% 17% 50% 33%
2	2	6	33% 33% 33% 33%
3	B	227	3% 52% 37% 7%

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Mol	Chain	Length	Quality of chain
4	C	238	2% 40% 41% 5% 13%
5	D	208	4% 44% 46% 9%
6	E	161	7% 42% 44% 7% 7%
7	F	101	3% 58% 40%
8	G	155	6% 57% 41%
9	H	138	2% 46% 46% 7%
10	I	128	31% 42% 53%
11	J	104	21% 38% 47% 7% 6%
12	K	128	15% 54% 32% 10%
13	L	131	8% 50% 40% 5%
14	M	125	14% 46% 47% 5%
15	N	60	22% 42% 50% 8%
16	O	88	2% 48% 49%
17	P	88	8% 42% 49% 6%
18	Q	104	12% 47% 46% 7%
19	R	87	44% 37% 16%
20	S	92	25% 37% 43% 5% 13%
21	T	105	35% 45% 43% 7% 6%
22	V	26	73% 42% 46% 8%

2 Entry composition

There are 23 unique types of molecules in this entry. The entry contains 51895 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 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	A	1517	32594	14508	6027	10542	1517	0	0	0

- Molecule 2 is a RNA chain called 5'-R(*GP*AP*AP*AP*GP*A)-3'.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
2	1	6	131	60	30	36	5	0	0	0
			Total	C	N	O	P			
2	2	4	86	40	20	23	3	0	0	0

- Molecule 3 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	B	222	1811	1154	328	324	5	0	0	0

- Molecule 4 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	C	206	1612	1016	314	281	1	0	0	0

- Molecule 5 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	D	208	1703	1066	339	291	7	0	0	0

- Molecule 6 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	E	150	Total	C	N	O	S	0	0	0
			1146	724	217	201	4			

- Molecule 7 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	F	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			

- Molecule 8 is a protein called 30S ribosomal protein S7.

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

- Molecule 9 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	H	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			

- Molecule 10 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
10	I	127	Total	C	N	O	0	0	0
			1011	639	198	174			

- Molecule 11 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	J	98	Total	C	N	O	S	0	0	0
			794	499	156	138	1			

- Molecule 12 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	K	115	Total	C	N	O	S	0	0	0
			853	531	160	159	3			

- Molecule 13 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	L	124	Total	C	N	O	S	0	0	0
			970	611	195	163	1			

- Molecule 14 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	M	122	Total	C	N	O	S	0	0	0
			969	600	200	167	2			

- Molecule 15 is a protein called 30S ribosomal protein S14.

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

- Molecule 16 is a protein called 30S ribosomal protein S15.

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

- Molecule 17 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	P	83	Total	C	N	O	S	0	0	0
			700	443	139	117	1			

- Molecule 18 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	Q	104	Total	C	N	O	S	0	0	0
			857	547	161	147	2			

- Molecule 19 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
19	R	73	Total	C	N	O	0	0	0
			597	380	118	99			

- Molecule 20 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	S	80	Total	C	N	O	S	0	0	0
			647	414	119	112	2			

- Molecule 21 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	T	99	Total	C	N	O	S	0	0	0
			762	469	162	129	2			

- Molecule 22 is a protein called 30S ribosomal protein Thx.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
22	V	24	Total	C	N	O	0	0	0
			208	128	50	30			

- Molecule 23 is ZINC ION (three-letter code: ZN) (formula: Zn).

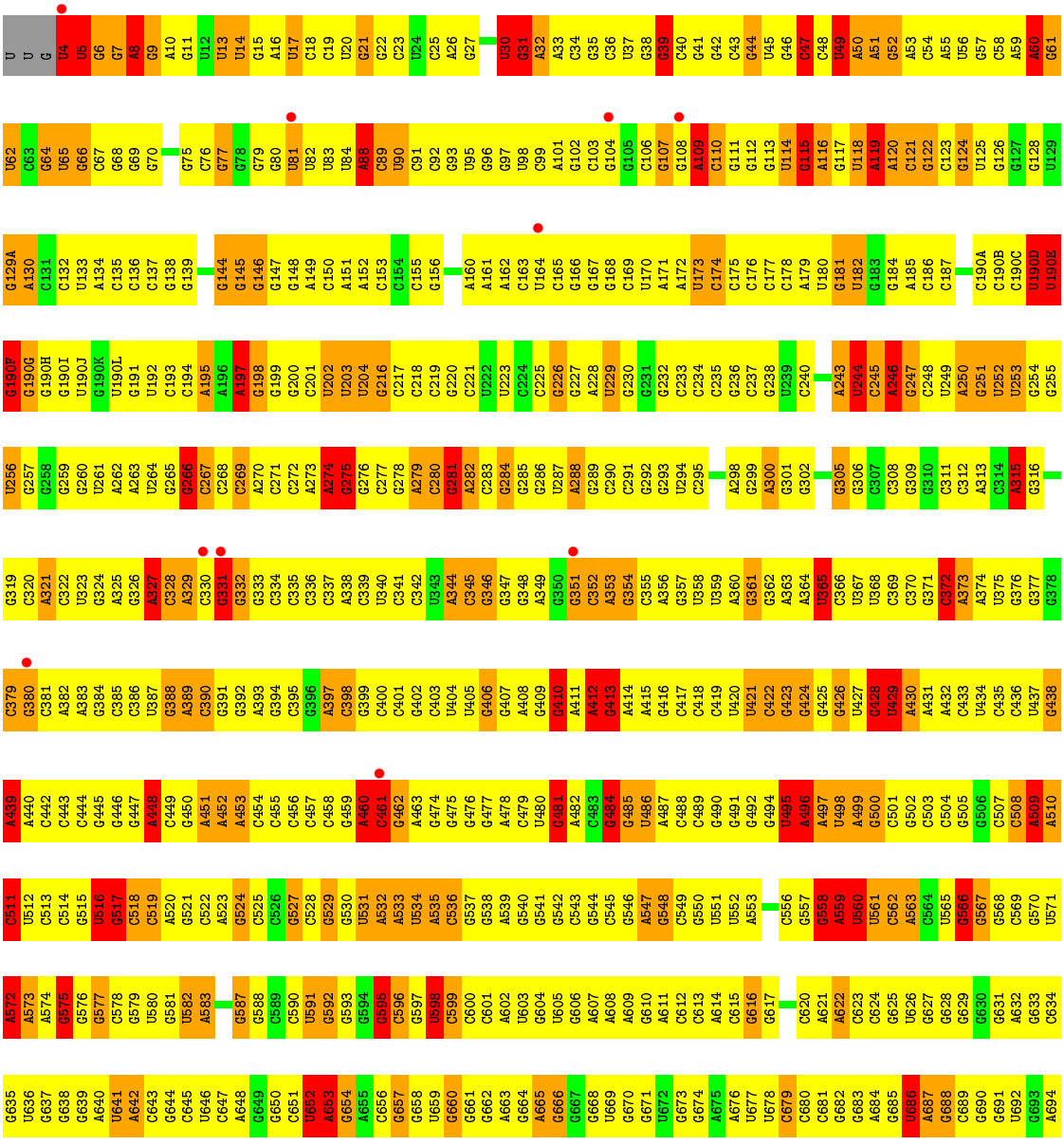
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
23	D	1	Total	Zn	0	0
			1	1		
23	N	1	Total	Zn	0	0
			1	1		

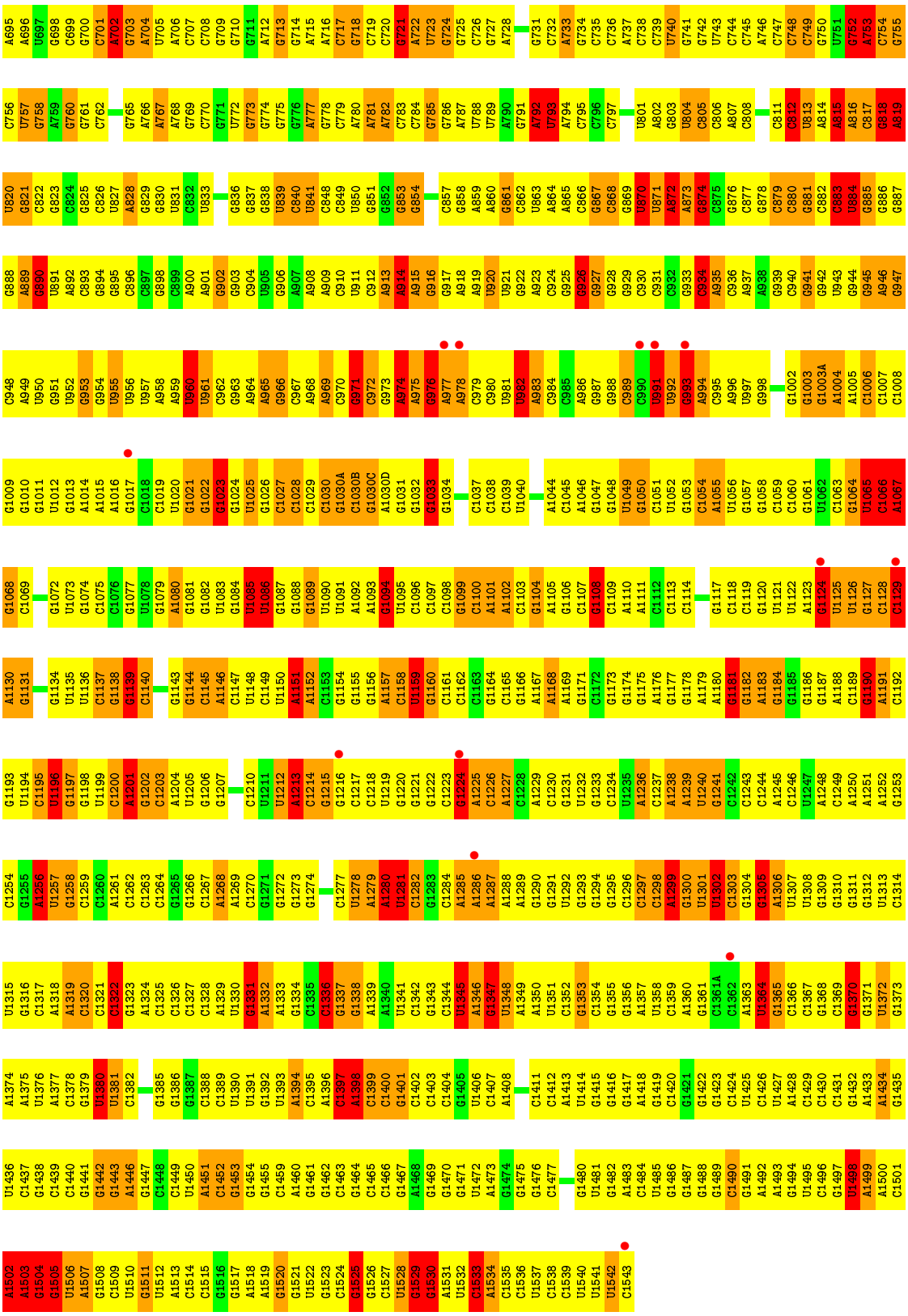
3 Residue-property plots (i)

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors 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: 16S ribosomal RNA

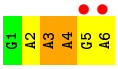
Chain A: 





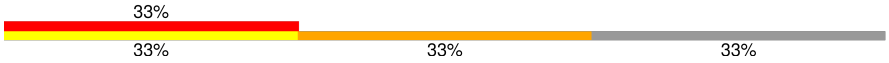
• Molecule 2: 5'-R(*GP*AP*AP*AP*GP*A)-3'

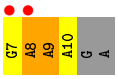
Chain 1:



• Molecule 2: 5'-R(*GP*AP*AP*AP*GP*A)-3'

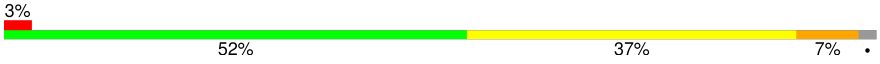
Chain 2:

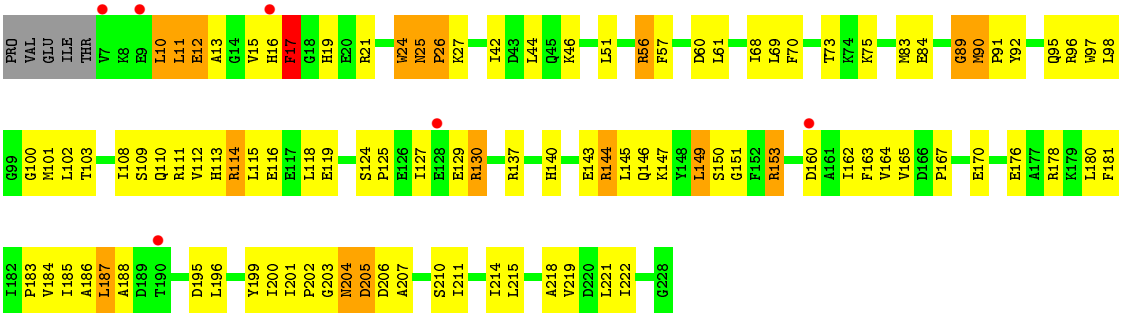




• Molecule 3: 30S ribosomal protein S2

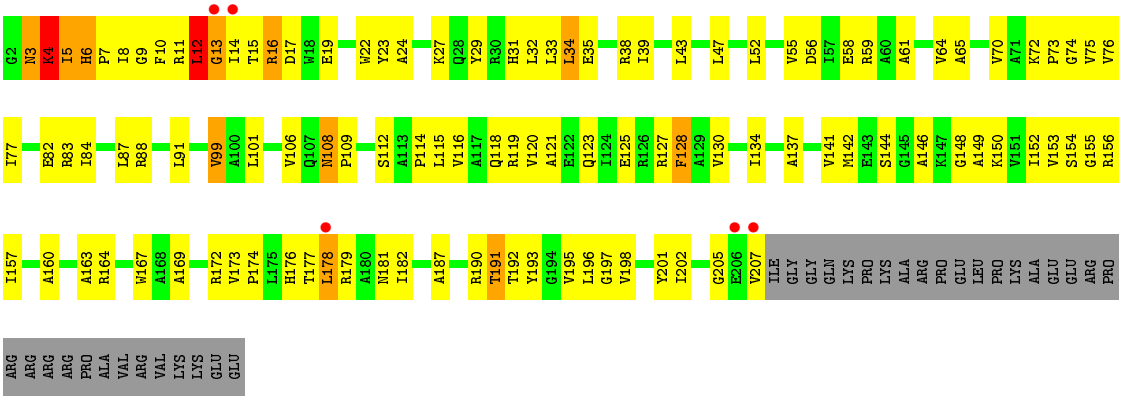
Chain B:





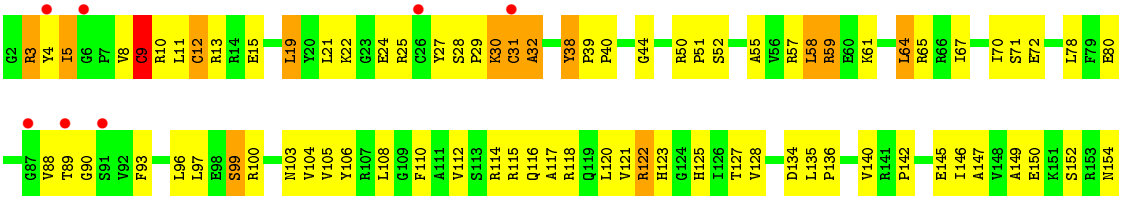
• Molecule 4: 30S ribosomal protein S3

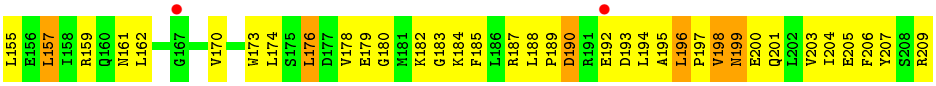
Chain C:



• Molecule 5: 30S ribosomal protein S4

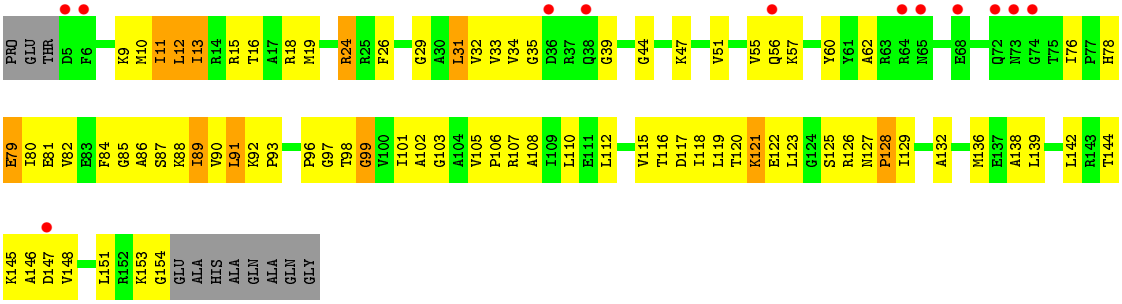
Chain D:





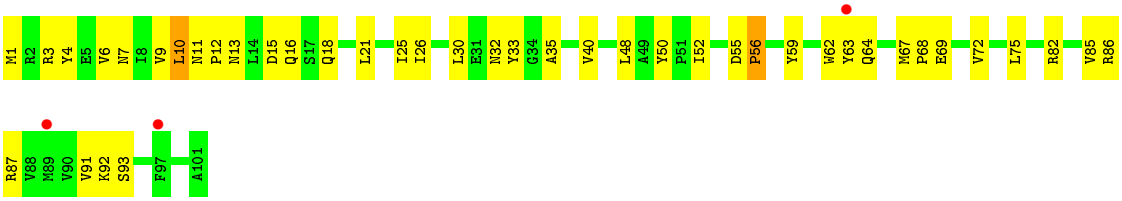
• Molecule 6: 30S ribosomal protein S5

Chain E:



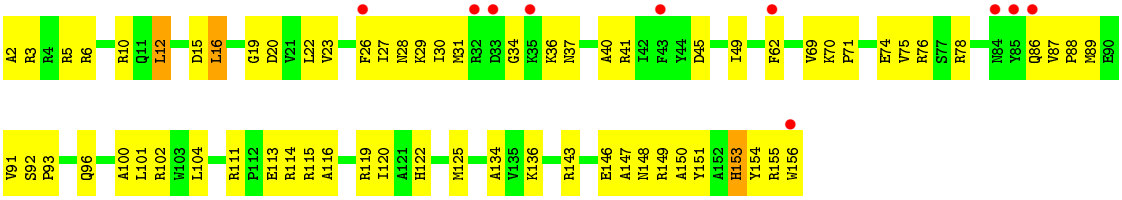
• Molecule 7: 30S ribosomal protein S6

Chain F:



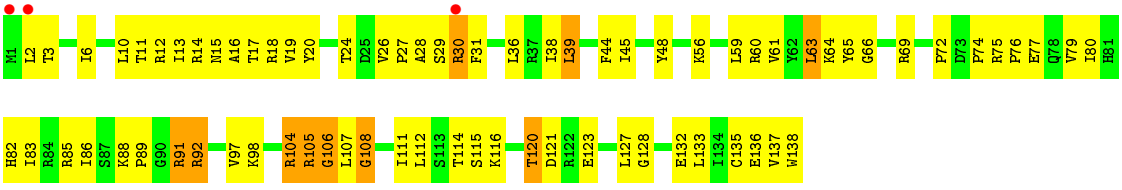
• Molecule 8: 30S ribosomal protein S7

Chain G:

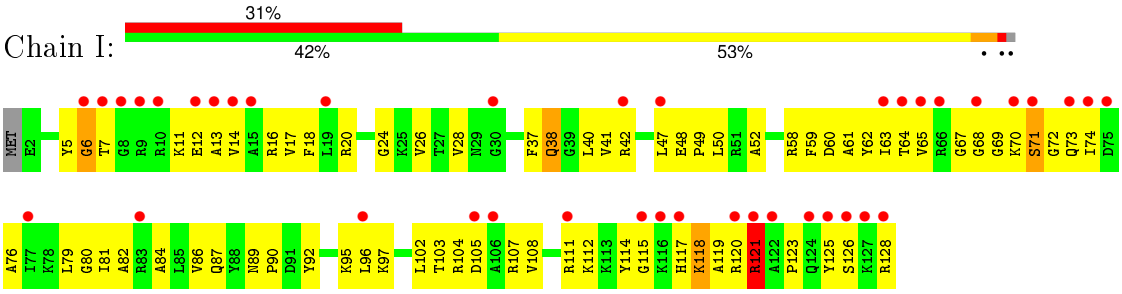


• Molecule 9: 30S ribosomal protein S8

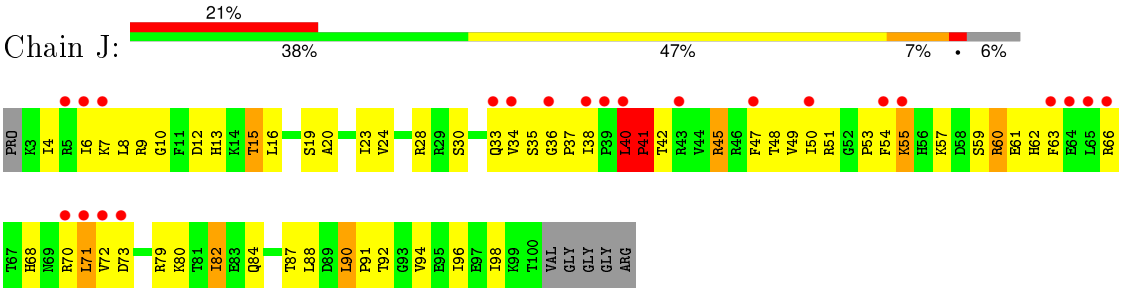
Chain H:



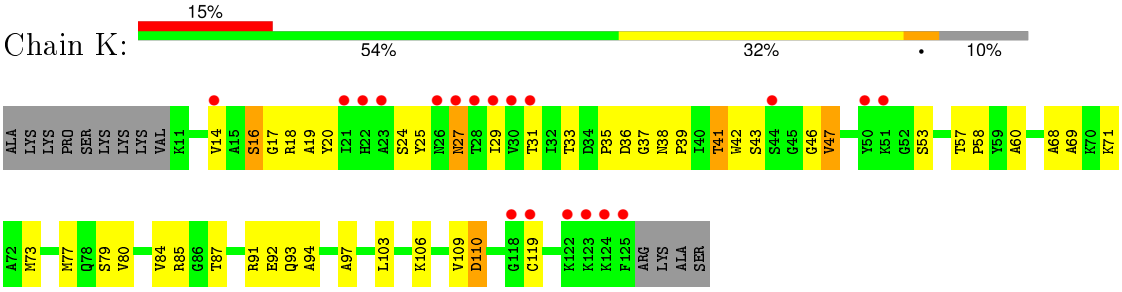
• Molecule 10: 30S ribosomal protein S9



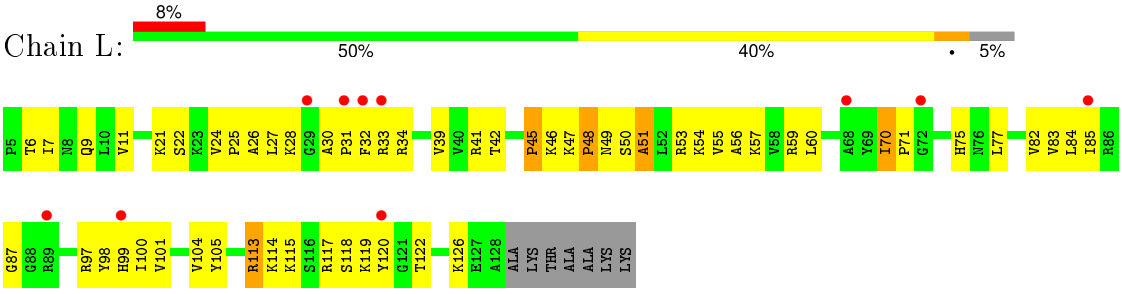
• Molecule 11: 30S ribosomal protein S10



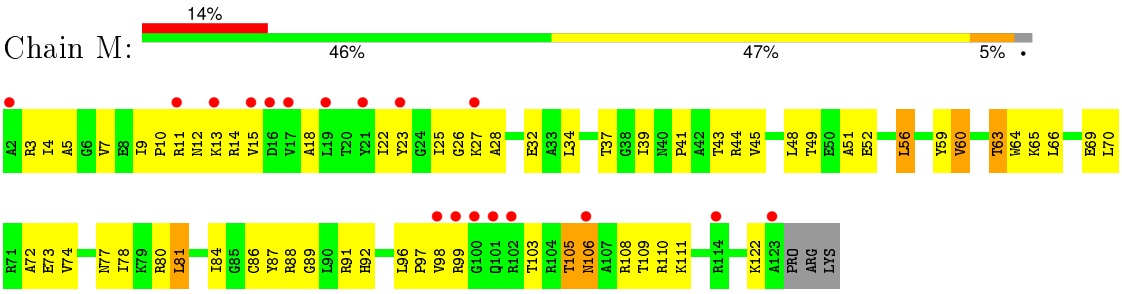
• Molecule 12: 30S ribosomal protein S11



• Molecule 13: 30S ribosomal protein S12

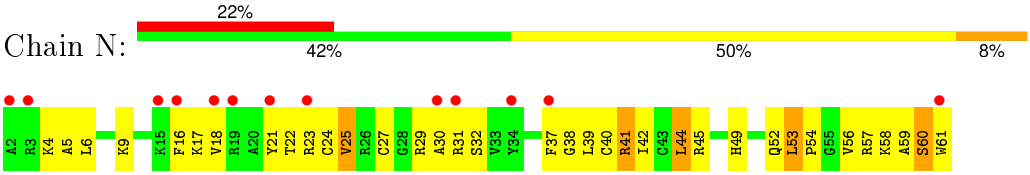


• Molecule 14: 30S ribosomal protein S13



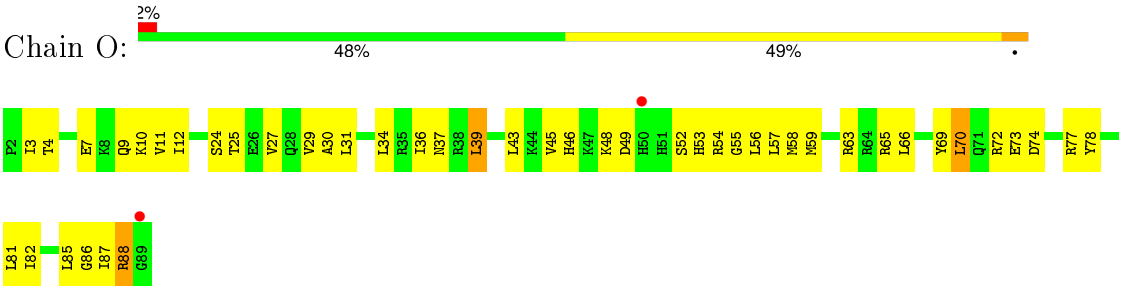
• Molecule 15: 30S ribosomal protein S14

Chain N:



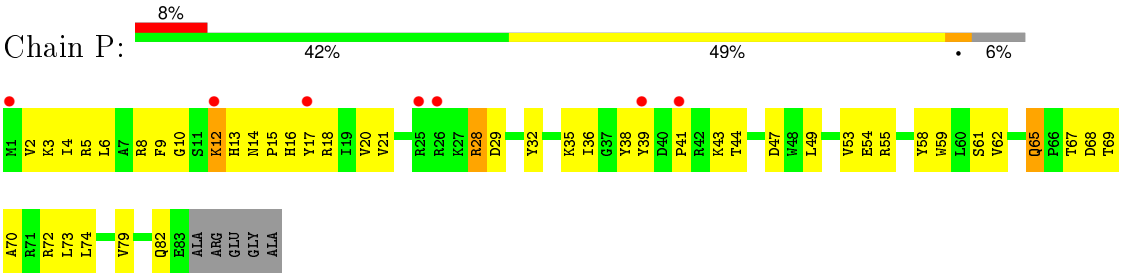
• Molecule 16: 30S ribosomal protein S15

Chain O:



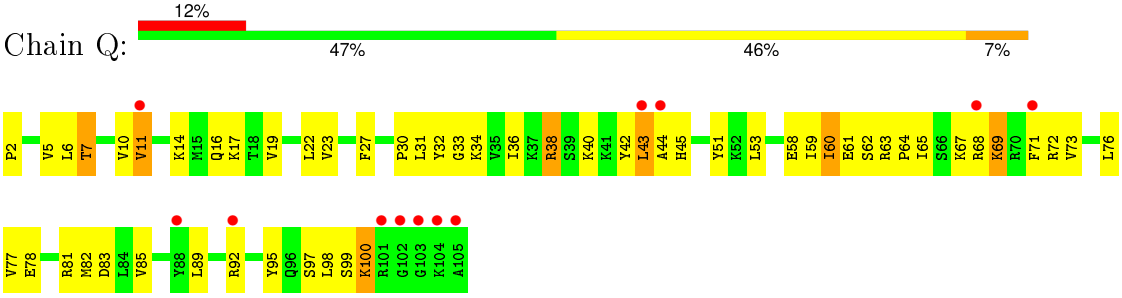
• Molecule 17: 30S ribosomal protein S16

Chain P:



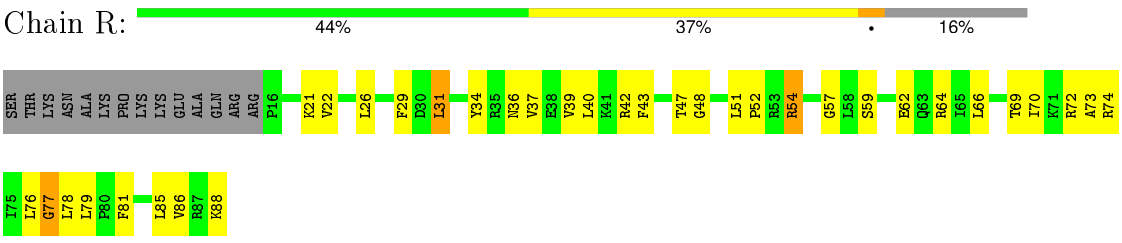
• Molecule 18: 30S ribosomal protein S17

Chain Q:



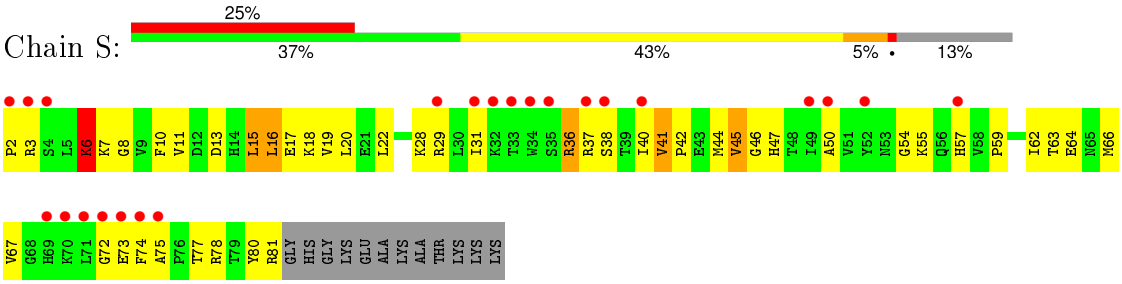
• Molecule 19: 30S ribosomal protein S18

Chain R:



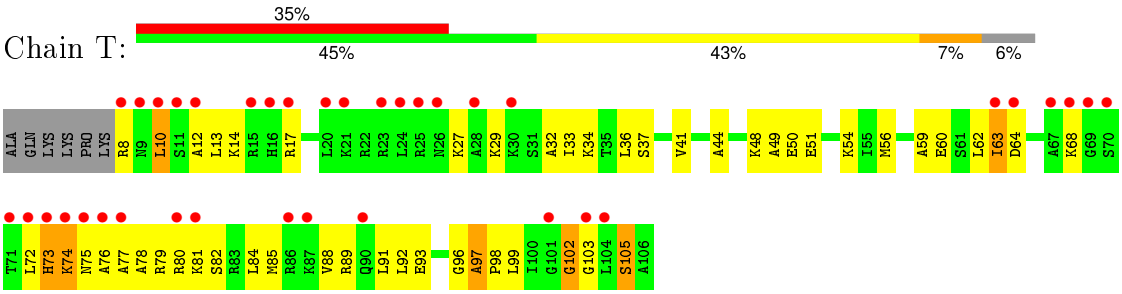
• Molecule 20: 30S ribosomal protein S19

Chain S:



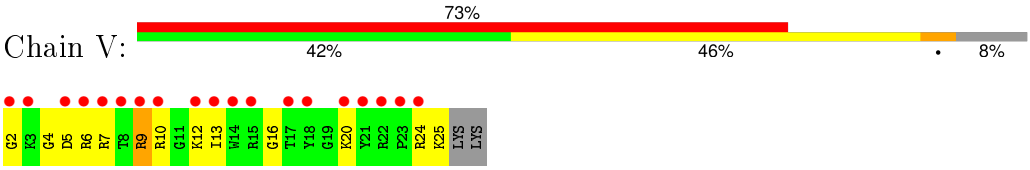
- Molecule 21: 30S ribosomal protein S20

Chain T:



- Molecule 22: 30S ribosomal protein Thx

Chain V:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, α, β, γ	411.79Å 411.79Å 173.16Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	148.83 – 3.30 148.83 – 3.30	Depositor EDS
% Data completeness (in resolution range)	97.0 (148.83-3.30) 97.1 (148.83-3.30)	Depositor EDS
R_{merge}	0.16	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.23 (at 3.33Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.259 , 0.301 0.250 , 0.280	Depositor DCC
R_{free} test set	10897 reflections (5.34%)	DCC
Wilson B-factor (Å^2)	96.4	Xtriage
Anisotropy	0.310	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.18 , 82.7	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning[2]	$< \|L\| > = 0.38$, $< L^2 > = 0.21$	Xtriage
Outliers	0 of 214963 reflections	Xtriage
F_o,F_c correlation	0.82	EDS
Total number of atoms	51895	wwPDB-VP
Average B, all atoms (Å^2)	104.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.54% 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, 0.375 respectively for untwinned datasets, and 0.333, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ZN

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.97	19/36482 (0.1%)	0.99	145/56937 (0.3%)
2	1	0.51	0/148	0.76	0/230
2	2	0.42	0/97	0.73	0/150
3	B	0.67	0/1843	0.92	5/2479 (0.2%)
4	C	0.63	0/1636	0.89	2/2205 (0.1%)
5	D	0.80	3/1733 (0.2%)	0.96	8/2318 (0.3%)
6	E	0.82	0/1162	0.95	2/1564 (0.1%)
7	F	0.52	0/856	0.78	0/1154
8	G	0.50	0/1276	0.67	0/1709
9	H	0.76	0/1136	1.00	2/1527 (0.1%)
10	I	0.53	0/1029	0.78	0/1378
11	J	0.57	0/807	0.89	3/1085 (0.3%)
12	K	0.53	0/868	0.79	0/1173
13	L	0.62	0/986	0.85	0/1320
14	M	0.53	0/979	0.78	0/1310
15	N	0.66	0/501	0.93	1/664 (0.2%)
16	O	0.61	0/745	0.87	0/992
17	P	0.62	0/716	0.83	0/963
18	Q	0.74	0/870	0.92	1/1159 (0.1%)
19	R	0.59	0/603	0.86	0/799
20	S	0.51	0/661	0.82	0/890
21	T	0.49	0/764	0.73	0/1006
22	V	0.56	0/212	0.72	0/277
All	All	0.86	22/56110 (0.0%)	0.95	169/83289 (0.2%)

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	A	1	127

All (22) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	D	12	CYS	CB-SG	9.54	1.98	1.82
5	D	12	CYS	CA-CB	8.62	1.73	1.53
1	A	1108	G	C5-C6	7.41	1.49	1.42
1	A	660	G	C5-C6	-6.55	1.35	1.42
1	A	361	G	C5-C6	-6.41	1.35	1.42
1	A	566	G	C5-C6	-6.39	1.35	1.42
1	A	598	U	C4-O4	6.29	1.28	1.23
1	A	1502	A	C5-C6	-6.12	1.35	1.41
1	A	299	G	C6-O6	6.08	1.29	1.24
1	A	1129	C	N1-C2	6.07	1.46	1.40
1	A	583	A	C5-C6	-6.00	1.35	1.41
1	A	758	G	C2-N3	-5.87	1.28	1.32
1	A	880	C	N1-C2	-5.81	1.34	1.40
1	A	1080	A	C5-C6	-5.71	1.35	1.41
1	A	874	G	N1-C2	-5.65	1.33	1.37
1	A	300	A	C5-C6	-5.57	1.36	1.41
1	A	17	U	N3-C4	-5.18	1.33	1.38
1	A	299	G	C5-C6	5.16	1.47	1.42
1	A	30	U	N1-C6	-5.13	1.33	1.38
5	D	9	CYS	CB-SG	5.12	1.91	1.82
1	A	124	G	C5-C6	-5.09	1.37	1.42
1	A	1511	G	C5-C6	-5.03	1.37	1.42

All (169) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	D	12	CYS	CA-CB-SG	14.39	139.90	114.00
1	A	511	C	N1-C1'-C2'	12.07	129.70	114.00
1	A	934	C	N1-C1'-C2'	9.87	126.84	114.00
1	A	246	A	N9-C1'-C2'	9.69	126.60	114.00
1	A	1151	A	N9-C1'-C2'	9.47	126.31	114.00
1	A	1336	C	N1-C1'-C2'	9.44	126.27	114.00
1	A	1502	A	N9-C1'-C2'	8.71	125.32	114.00
1	A	511	C	O4'-C1'-N1	8.70	115.16	108.20
1	A	960	U	N1-C1'-C2'	8.69	125.30	114.00
1	A	653	A	N9-C1'-C2'	8.54	125.10	114.00
1	A	1322	C	N1-C1'-C2'	8.34	124.84	114.00
1	A	305	G	N9-C1'-C2'	8.10	124.53	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	J	40	LEU	C-N-CD	-7.96	103.08	120.60
1	A	1181	G	N9-C1'-C2'	7.90	124.27	114.00
1	A	971	G	O4'-C1'-N9	7.82	114.45	108.20
1	A	429	U	O4'-C1'-N1	7.73	114.39	108.20
3	B	196	LEU	CA-CB-CG	7.70	133.02	115.30
1	A	818	G	N9-C1'-C2'	7.50	123.75	114.00
1	A	976	G	N9-C1'-C2'	7.49	123.73	114.00
1	A	47	C	N1-C1'-C2'	7.34	123.54	114.00
1	A	884	U	N1-C1'-C2'	7.27	123.44	114.00
1	A	575	G	N9-C1'-C2'	7.24	123.41	114.00
1	A	315	A	N9-C1'-C2'	7.20	123.36	114.00
1	A	815	A	N9-C1'-C2'	7.18	123.34	114.00
1	A	266	G	O4'-C1'-N9	-7.18	102.46	108.20
1	A	702	A	N9-C1'-C2'	7.18	123.33	114.00
3	B	89	GLY	N-CA-C	-7.14	95.25	113.10
1	A	752	G	N9-C1'-C2'	7.08	123.20	114.00
1	A	5	U	N1-C1'-C2'	7.02	123.13	114.00
1	A	1380	U	C2'-C3'-O3'	7.02	124.94	109.50
1	A	563	A	N9-C1'-C2'	6.96	123.06	114.00
1	A	558	G	O5'-P-OP1	6.96	119.05	110.70
1	A	460	A	N9-C1'-C2'	6.94	123.02	114.00
1	A	190(E)	U	N1-C1'-C2'	6.92	123.00	114.00
1	A	31	G	N9-C1'-C2'	6.90	122.97	114.00
1	A	517	G	N9-C1'-C2'	6.84	122.89	114.00
4	C	4	LYS	N-CA-C	6.80	129.35	111.00
1	A	109	A	N9-C1'-C2'	6.77	122.80	114.00
1	A	1502	A	C1'-O4'-C4'	-6.75	104.50	109.90
18	Q	43	LEU	CA-CB-CG	-6.72	99.84	115.30
1	A	1124	G	N9-C1'-C2'	6.72	122.73	114.00
1	A	793	U	N1-C1'-C2'	6.71	122.73	114.00
1	A	1280	A	O4'-C1'-N9	6.70	113.56	108.20
1	A	1502	A	O4'-C1'-N9	6.68	113.54	108.20
1	A	119	A	C2'-C3'-O3'	6.63	124.30	113.70
1	A	266	G	C5'-C4'-C3'	-6.62	105.41	116.00
1	A	496	A	N9-C1'-C2'	6.62	122.61	114.00
3	B	196	LEU	CB-CG-CD1	-6.58	99.82	111.00
1	A	115	G	OP2-P-O3'	6.57	119.66	105.20
1	A	429	U	C5'-C4'-O4'	6.53	116.94	109.10
1	A	819	A	OP2-P-O3'	6.52	119.55	105.20
1	A	652	U	N1-C1'-C2'	6.46	122.39	114.00
1	A	305	G	O4'-C1'-N9	6.45	113.36	108.20
1	A	883	C	C2'-C3'-O3'	6.45	124.02	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1085	U	C2'-C3'-O3'	6.45	124.02	113.70
1	A	560	U	C2'-C3'-O3'	6.44	124.00	113.70
1	A	721	G	N9-C1'-C2'	6.43	122.36	114.00
1	A	566	G	N9-C1'-C2'	6.42	122.34	114.00
1	A	1086	U	N1-C1'-C2'	6.42	122.34	114.00
1	A	1224	G	N9-C1'-C2'	6.34	122.25	114.00
1	A	1190	G	N9-C1'-C2'	6.34	122.24	114.00
1	A	266	G	C2'-C3'-O3'	6.33	123.83	113.70
1	A	1302	U	C2'-C3'-O3'	6.32	123.81	113.70
1	A	1108	G	C4'-C3'-C2'	-6.29	96.31	102.60
1	A	1297	C	N1-C1'-C2'	6.28	122.16	114.00
1	A	566	G	C4'-C3'-O3'	-6.26	96.25	109.40
1	A	1498	U	N1-C1'-C2'	6.25	122.13	114.00
1	A	971	G	C1'-O4'-C4'	-6.25	104.90	109.90
1	A	274	A	N9-C1'-C2'	6.23	122.10	114.00
1	A	1504	G	OP2-P-O3'	6.23	118.91	105.20
1	A	1280	A	N9-C1'-C2'	6.18	122.03	114.00
1	A	595	G	C5'-C4'-O4'	-6.17	101.69	109.10
1	A	1364	U	OP1-P-O3'	6.15	118.74	105.20
1	A	595	G	C2'-C3'-O3'	-6.11	96.07	109.50
1	A	511	C	O4'-C1'-C2'	6.07	113.06	107.60
1	A	713	G	O4'-C1'-N9	6.04	113.03	108.20
1	A	1397	C	OP2-P-O3'	6.03	118.46	105.20
1	A	1525	G	N9-C1'-C2'	-6.02	105.38	112.00
1	A	429	U	C1'-O4'-C4'	-6.01	105.09	109.90
1	A	765	G	OP2-P-O3'	6.01	118.42	105.20
1	A	190(F)	G	N9-C1'-C2'	5.94	121.72	114.00
9	H	108	GLY	N-CA-C	-5.90	98.34	113.10
1	A	4	U	N1-C1'-C2'	5.89	121.66	114.00
1	A	1050	G	C5'-C4'-C3'	5.88	125.41	116.00
1	A	1085	U	N1-C1'-C2'	5.87	121.63	114.00
1	A	1280	A	C1'-O4'-C4'	-5.85	105.22	109.90
1	A	8	A	N9-C1'-C2'	5.84	121.59	114.00
1	A	461	C	N1-C1'-C2'	5.83	121.58	114.00
1	A	559	A	OP2-P-O3'	5.79	117.94	105.20
1	A	1144	G	N9-C1'-C2'	-5.79	105.64	112.00
5	D	31	CYS	CA-CB-SG	5.78	124.40	114.00
1	A	1505	G	C2'-C3'-O3'	5.78	122.94	113.70
15	N	53	LEU	CA-CB-CG	5.77	128.58	115.30
1	A	971	G	N9-C1'-C2'	5.76	121.49	114.00
1	A	872	A	O4'-C1'-N9	5.75	112.80	108.20
1	A	327	A	N9-C1'-C2'	5.74	121.46	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	D	12	CYS	N-CA-C	-5.73	95.53	111.00
1	A	428	G	N9-C1'-C2'	5.68	121.38	114.00
1	A	144	G	N9-C1'-C2'	-5.68	105.75	112.00
1	A	1196	U	OP2-P-O3'	5.67	117.68	105.20
1	A	1380	U	OP2-P-O3'	5.64	117.61	105.20
1	A	976	G	C1'-O4'-C4'	-5.61	105.41	109.90
1	A	982	U	C5'-C4'-O4'	-5.61	102.37	109.10
1	A	1099	G	O4'-C1'-N9	5.61	112.69	108.20
1	A	934	C	C1'-O4'-C4'	-5.59	105.42	109.90
1	A	516	U	N1-C1'-C2'	5.58	121.25	114.00
1	A	8	A	O4'-C1'-N9	5.55	112.64	108.20
1	A	484	G	N9-C1'-C2'	5.55	121.21	114.00
1	A	1159	U	N1-C1'-C2'	5.54	121.20	114.00
1	A	1305	G	N9-C1'-C2'	5.53	121.19	114.00
1	A	109	A	OP2-P-O3'	5.50	117.30	105.20
1	A	511	C	C1'-O4'-C4'	-5.50	105.50	109.90
1	A	1033	G	N9-C1'-C2'	-5.48	105.97	112.00
9	H	104	ARG	NE-CZ-NH2	-5.48	117.56	120.30
5	D	9	CYS	CA-CB-SG	5.46	123.83	114.00
1	A	1281	U	N1-C1'-C2'	5.45	121.08	114.00
1	A	1345	U	O4'-C1'-N1	5.42	112.53	108.20
1	A	1213	A	N9-C1'-C2'	5.41	121.03	114.00
1	A	1347	G	C5'-C4'-C3'	5.41	124.66	116.00
1	A	1530	G	N9-C1'-C2'	5.40	121.02	114.00
1	A	190(D)	U	N1-C1'-C2'	5.38	120.99	114.00
5	D	31	CYS	CB-CA-C	-5.38	99.64	110.40
1	A	1139	G	N9-C1'-C2'	5.37	120.98	114.00
1	A	1151	A	C1'-O4'-C4'	-5.37	105.60	109.90
1	A	439	A	O5'-P-OP1	-5.37	100.87	105.70
1	A	1065	U	OP2-P-O3'	5.37	117.01	105.20
5	D	31	CYS	N-CA-CB	5.34	120.21	110.60
1	A	365	U	N1-C1'-C2'	5.32	120.92	114.00
4	C	205	GLY	N-CA-C	5.31	126.38	113.10
11	J	41	PRO	N-CA-C	5.30	125.88	112.10
5	D	12	CYS	N-CA-CB	5.29	120.12	110.60
1	A	753	A	O4'-C1'-N9	5.29	112.43	108.20
1	A	1505	G	O4'-C1'-N9	-5.27	103.98	108.20
1	A	1108	G	C5'-C4'-C3'	5.26	124.42	116.00
1	A	412	A	O4'-C1'-N9	5.26	112.41	108.20
1	A	451	A	N9-C1'-C2'	5.25	120.83	114.00
1	A	190(D)	U	O4'-C1'-N1	5.25	112.40	108.20
11	J	40	LEU	C-N-CA	5.25	144.04	122.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	281	G	C2'-C3'-O3'	5.23	122.06	113.70
1	A	8	A	C1'-O4'-C4'	-5.21	105.73	109.90
1	A	21	G	O5'-P-OP1	5.21	116.96	110.70
1	A	1094	G	C1'-O4'-C4'	-5.21	105.73	109.90
1	A	372	C	C2'-C3'-O3'	5.18	121.99	113.70
1	A	1094	G	C5'-C4'-O4'	5.17	115.31	109.10
1	A	1129	C	C2'-C3'-O3'	5.17	121.97	113.70
1	A	1201	A	C4'-C3'-C2'	5.16	107.76	102.60
1	A	1345	U	C1'-O4'-C4'	-5.16	105.77	109.90
1	A	993	G	N9-C1'-C2'	5.14	120.69	114.00
1	A	991	U	N1-C1'-C2'	5.14	120.68	114.00
1	A	572	A	N9-C1'-C2'	5.12	120.66	114.00
1	A	115	G	C2'-C3'-O3'	5.12	121.89	113.70
1	A	448	A	N9-C1'-C2'	5.11	120.65	114.00
6	E	91	LEU	CA-CB-CG	-5.11	103.54	115.30
1	A	890	G	OP2-P-O3'	5.08	116.38	105.20
1	A	1529	G	O5'-P-OP1	-5.08	101.13	105.70
5	D	19	LEU	CA-CB-CG	-5.07	103.64	115.30
1	A	77	G	N9-C1'-C2'	-5.06	106.44	112.00
1	A	1236	A	C5'-C4'-C3'	5.05	124.08	116.00
1	A	88	A	C2'-C3'-O3'	5.04	121.76	113.70
1	A	792	A	N9-C1'-C2'	5.04	120.55	114.00
3	B	149	LEU	CA-CB-CG	-5.03	103.73	115.30
3	B	196	LEU	CB-CA-C	-5.03	100.64	110.20
1	A	1299	A	N9-C1'-C2'	5.03	120.53	114.00
6	E	24	ARG	N-CA-C	-5.03	97.43	111.00
1	A	1331	G	N9-C1'-C2'	5.02	120.53	114.00
1	A	509	A	C2'-C3'-O3'	5.02	121.73	113.70
1	A	281	G	OP2-P-O3'	5.01	116.23	105.20
1	A	752	G	C4'-C3'-O3'	-5.01	98.88	109.40
1	A	914	A	C4'-C3'-C2'	-5.00	97.60	102.60

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	A	511	C	C1'

All (127) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1023	G	Sidechain
1	A	1033	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	1066	C	Sidechain
1	A	1067	A	Sidechain
1	A	107	G	Sidechain
1	A	1077	G	Sidechain
1	A	1079	G	Sidechain
1	A	108	G	Sidechain
1	A	1085	U	Sidechain
1	A	1089	G	Sidechain
1	A	1092	A	Sidechain
1	A	1100	C	Sidechain
1	A	1124	G	Sidechain
1	A	1139	G	Sidechain
1	A	114	U	Sidechain
1	A	1166	G	Sidechain
1	A	1168	A	Sidechain
1	A	118	U	Sidechain
1	A	1181	G	Sidechain
1	A	1190	G	Sidechain
1	A	1195	C	Sidechain
1	A	120	A	Sidechain
1	A	1203	C	Sidechain
1	A	1224	G	Sidechain
1	A	1238	A	Sidechain
1	A	1256	A	Sidechain
1	A	1268	A	Sidechain
1	A	1281	U	Sidechain
1	A	1306	A	Sidechain
1	A	1322	C	Sidechain
1	A	1336	C	Sidechain
1	A	1370	G	Sidechain
1	A	1372	U	Sidechain
1	A	1393	U	Sidechain
1	A	1398	A	Sidechain
1	A	1434	A	Sidechain
1	A	145	G	Sidechain
1	A	146	G	Sidechain
1	A	1498	U	Sidechain
1	A	1503	A	Sidechain
1	A	1525	G	Sidechain
1	A	1533	C	Sidechain
1	A	190(D)	U	Sidechain
1	A	190(E)	U	Sidechain

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Mol	Chain	Res	Type	Group
1	A	190(F)	G	Sidechain
1	A	197	A	Sidechain
1	A	226	G	Sidechain
1	A	229	U	Sidechain
1	A	244	U	Sidechain
1	A	256	U	Sidechain
1	A	266	G	Sidechain
1	A	269	C	Sidechain
1	A	274	A	Sidechain
1	A	275	G	Sidechain
1	A	284	G	Sidechain
1	A	30	U	Sidechain
1	A	315	A	Sidechain
1	A	321	A	Sidechain
1	A	331	G	Sidechain
1	A	365	U	Sidechain
1	A	379	C	Sidechain
1	A	380	G	Sidechain
1	A	39	G	Sidechain
1	A	410	G	Sidechain
1	A	412	A	Sidechain
1	A	413	G	Sidechain
1	A	424	G	Sidechain
1	A	426	G	Sidechain
1	A	448	A	Sidechain
1	A	461	C	Sidechain
1	A	47	C	Sidechain
1	A	481	G	Sidechain
1	A	484	G	Sidechain
1	A	49	U	Sidechain
1	A	495	U	Sidechain
1	A	516	U	Sidechain
1	A	517	G	Sidechain
1	A	524	G	Sidechain
1	A	529	G	Sidechain
1	A	549	C	Sidechain
1	A	566	G	Sidechain
1	A	575	G	Sidechain
1	A	582	U	Sidechain
1	A	587	G	Sidechain
1	A	591	U	Sidechain
1	A	592	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	599	C	Sidechain
1	A	60	A	Sidechain
1	A	603	U	Sidechain
1	A	622	A	Sidechain
1	A	652	U	Sidechain
1	A	654	G	Sidechain
1	A	657	G	Sidechain
1	A	666	G	Sidechain
1	A	679	C	Sidechain
1	A	686	U	Sidechain
1	A	727	G	Sidechain
1	A	740	U	Sidechain
1	A	752	G	Sidechain
1	A	757	U	Sidechain
1	A	760	G	Sidechain
1	A	767	A	Sidechain
1	A	773	G	Sidechain
1	A	785	G	Sidechain
1	A	801	U	Sidechain
1	A	804	U	Sidechain
1	A	812	C	Sidechain
1	A	833	U	Sidechain
1	A	853	G	Sidechain
1	A	854	G	Sidechain
1	A	861	G	Sidechain
1	A	868	C	Sidechain
1	A	870	U	Sidechain
1	A	872	A	Sidechain
1	A	874	G	Sidechain
1	A	879	C	Sidechain
1	A	881	G	Sidechain
1	A	920	U	Sidechain
1	A	926	G	Sidechain
1	A	941	G	Sidechain
1	A	946	A	Sidechain
1	A	947	G	Sidechain
1	A	953	G	Sidechain
1	A	955	U	Sidechain
1	A	971	G	Sidechain
1	A	974	A	Sidechain
1	A	993	G	Sidechain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	32594	0	16454	3166	0
2	1	131	0	68	14	0
2	2	86	0	46	9	0
3	B	1811	0	1861	95	0
4	C	1612	0	1677	130	0
5	D	1703	0	1763	117	0
6	E	1146	0	1207	93	0
7	F	843	0	857	36	0
8	G	1257	0	1296	81	0
9	H	1116	0	1177	98	0
10	I	1011	0	1043	104	0
11	J	794	0	840	80	0
12	K	853	0	868	54	0
13	L	970	0	1057	75	0
14	M	969	0	1039	78	0
15	N	492	0	529	52	0
16	O	734	0	771	46	0
17	P	700	0	720	52	0
18	Q	857	0	930	53	0
19	R	597	0	668	43	0
20	S	647	0	673	61	0
21	T	762	0	859	48	0
22	V	208	0	221	14	0
23	D	1	0	0	0	0
23	N	1	0	0	0	0
All	All	51895	0	36624	4155	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 47.

All (4155) 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)
1:A:1027:C:C2'	1:A:1028:C:H5"	1.48	1.40
1:A:390:C:H4'	17:P:28:ARG:NH2	1.46	1.28

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1027:C:H2'	1:A:1028:C:C5'	1.65	1.25
1:A:839:U:H5'	1:A:840:C:C5	1.71	1.24
1:A:243:A:H4'	1:A:244:U:C5'	1.65	1.24
1:A:243:A:H4'	1:A:244:U:H5'	1.16	1.15
6:E:18:ARG:HG2	6:E:19:MET:H	1.12	1.13
1:A:1005:A:H2'	1:A:1006:C:H5'	1.23	1.12
1:A:1435:G:H2'	1:A:1436:U:C6	1.84	1.12
1:A:277:C:H5"	18:Q:68:ARG:HH22	1.06	1.12
1:A:429:U:H2'	5:D:25:ARG:HH12	1.16	1.11
1:A:389:A:H2'	1:A:390:C:H5'	1.31	1.11
1:A:1346:A:H2'	8:G:10:ARG:HH22	1.08	1.09
1:A:625:G:H2'	1:A:626:U:H6	1.10	1.09
1:A:1149:C:H2'	1:A:1150:U:H6	1.16	1.09
1:A:839:U:H5'	1:A:840:C:H5	0.96	1.08
1:A:39:G:O2'	1:A:40:C:H5'	1.54	1.08
1:A:266:G:C8	1:A:266:G:H5"	1.88	1.07
16:O:87:ILE:HG22	16:O:88:ARG:H	1.15	1.07
1:A:42:G:H2'	1:A:43:C:H6	1.19	1.07
1:A:109:A:H2'	1:A:326:G:N2	1.69	1.07
1:A:277:C:H5"	18:Q:68:ARG:NH2	1.69	1.07
1:A:582:U:H2'	1:A:583:A:C8	1.89	1.07
1:A:112:G:H21	1:A:354:G:H5'	1.14	1.07
1:A:1029:C:H2'	1:A:1030:C:H5"	1.38	1.06
1:A:22:G:H2'	1:A:23:C:H6	1.17	1.06
1:A:438:G:H4'	1:A:439:A:OP1	1.50	1.05
1:A:807:A:H2'	1:A:808:C:H6	1.22	1.05
1:A:547:A:H4'	1:A:548:G:O5'	1.50	1.05
1:A:345:C:H4'	1:A:346:G:O5'	1.57	1.05
1:A:1443:G:H5"	1:A:1446:A:H5'	1.38	1.04
1:A:57:G:H2'	1:A:58:C:H6	1.18	1.03
1:A:946:A:H2'	1:A:947:G:C8	1.91	1.03
1:A:1251:A:H2'	1:A:1252:A:C8	1.93	1.03
1:A:1057:G:H5"	4:C:154:SER:HB2	1.35	1.03
1:A:1126:U:H2'	1:A:1127:G:H8	1.20	1.02
1:A:371:G:O2'	1:A:372:C:H5'	1.59	1.02
1:A:390:C:C4'	17:P:28:ARG:HH22	1.72	1.02
4:C:33:LEU:HD11	15:N:53:LEU:HD22	1.41	1.01
1:A:975:A:H4'	1:A:976:G:OP2	1.61	1.01
1:A:625:G:H2'	1:A:626:U:C6	1.96	1.01
1:A:429:U:H2'	5:D:25:ARG:NH1	1.76	1.00
1:A:1292:U:H5'	10:I:38:GLN:NE2	1.76	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:964:A:H1'	11:J:55:LYS:HE2	1.41	1.00
1:A:1218:C:H2'	1:A:1219:U:C6	1.96	1.00
1:A:351:G:H4'	1:A:352:C:OP1	1.61	1.00
1:A:1086:U:H2'	1:A:1087:G:C8	1.96	1.00
1:A:1234:C:H5'	1:A:1365:G:OP1	1.62	1.00
1:A:1489:G:C3'	1:A:1490:C:H5"	1.92	0.99
1:A:1248:A:H1'	10:I:70:LYS:NZ	1.76	0.99
1:A:57:G:H2'	1:A:58:C:C6	1.96	0.99
1:A:664:G:H22	1:A:741:G:H1	1.08	0.99
1:A:1219:U:H2'	1:A:1220:G:H8	1.27	0.99
1:A:939:G:H5"	8:G:102:ARG:HH22	1.19	0.99
14:M:66:LEU:O	14:M:70:LEU:HB2	1.62	0.99
1:A:425:G:O2'	1:A:426:G:H5'	1.61	0.99
1:A:266:G:H8	1:A:266:G:H5"	1.24	0.99
1:A:1349:A:H2'	1:A:1350:A:H8	1.22	0.99
1:A:1113:C:H4'	4:C:14:ILE:HD11	1.42	0.99
1:A:1195:C:H3'	1:A:1196:U:H5'	1.44	0.98
1:A:328:C:H4'	1:A:329:A:O5'	1.62	0.98
1:A:1400:C:H4'	1:A:1401:G:OP2	1.63	0.98
1:A:1130:A:H62	1:A:1144:G:H21	1.09	0.98
1:A:447:G:H2'	1:A:485:G:N2	1.78	0.97
1:A:582:U:H2'	1:A:583:A:H8	1.23	0.97
1:A:1148:U:H4'	10:I:14:VAL:HG11	1.46	0.97
1:A:517:G:O2'	1:A:530:G:H4'	1.64	0.97
1:A:1176:A:H2'	1:A:1177:G:C8	1.98	0.97
1:A:1020:U:O2'	1:A:1021:G:H5'	1.63	0.97
1:A:1413:A:H2	1:A:1487:G:H22	1.02	0.97
1:A:386:C:C2'	1:A:387:U:H5'	1.95	0.96
1:A:807:A:H2'	1:A:808:C:C6	1.98	0.96
1:A:948:C:O2'	1:A:949:A:H5'	1.66	0.96
1:A:939:G:H5"	8:G:102:ARG:NH2	1.79	0.96
1:A:753:A:H4'	1:A:754:C:O5'	1.62	0.96
6:E:120:THR:HG22	6:E:121:LYS:H	1.30	0.96
4:C:34:LEU:HG	15:N:25:VAL:HG21	1.44	0.96
1:A:1505:G:H3'	1:A:1505:G:H8	1.28	0.96
1:A:1319:A:H4'	1:A:1320:C:OP1	1.65	0.95
1:A:109:A:H2'	1:A:326:G:H21	1.25	0.95
1:A:1351:U:O2'	1:A:1352:C:H5'	1.66	0.95
3:B:219:VAL:HA	3:B:222:ILE:HD12	1.49	0.95
1:A:551:U:H2'	1:A:552:U:C6	2.01	0.95
1:A:839:U:C5'	1:A:840:C:H5	1.79	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:429:U:H4'	1:A:430:A:O5'	1.62	0.94
1:A:112:G:N2	1:A:354:G:H5'	1.81	0.94
1:A:1394:A:N6	1:A:1501:C:H5'	1.79	0.94
1:A:254:G:H21	18:Q:16:GLN:NE2	1.65	0.94
1:A:981:U:H2'	1:A:982:U:H5	1.32	0.94
1:A:872:A:H4'	1:A:873:A:OP1	1.66	0.94
1:A:414:A:C2	1:A:415:A:N9	2.36	0.94
1:A:840:C:H5"	1:A:841:U:OP1	1.66	0.94
1:A:60:A:H4'	1:A:61:G:O5'	1.64	0.94
1:A:946:A:H2'	1:A:947:G:H8	1.31	0.93
1:A:370:C:O2'	1:A:371:G:H5'	1.68	0.93
1:A:1323:G:H2'	1:A:1324:A:C8	2.04	0.93
1:A:981:U:H2'	1:A:982:U:C5	2.03	0.93
1:A:914:A:O2'	1:A:915:A:H5'	1.67	0.93
1:A:22:G:H2'	1:A:23:C:C6	2.04	0.93
5:D:170:VAL:HG21	5:D:176:LEU:HD22	1.51	0.93
5:D:9:CYS:SG	5:D:31:CYS:O	2.27	0.92
1:A:148:G:H2'	1:A:149:A:H8	1.33	0.92
1:A:556:C:C2'	1:A:557:G:H5'	2.00	0.92
1:A:423:G:N2	1:A:424:G:C8	2.37	0.92
1:A:1451:A:H5"	1:A:1452:C:C5	2.05	0.92
1:A:191:G:H2'	1:A:192:U:H6	1.33	0.92
1:A:1124:G:H5'	11:J:35:SER:O	1.68	0.92
1:A:1505:G:H3'	1:A:1505:G:C8	2.05	0.92
1:A:1029:C:C2'	1:A:1030:C:H5"	1.99	0.92
1:A:338:A:H2'	1:A:339:C:H6	1.35	0.91
12:K:110:ASP:HB3	19:R:85:LEU:HB3	1.51	0.91
1:A:1094:G:H5"	1:A:1095:U:H5	1.34	0.91
1:A:882:C:O2'	1:A:883:C:H5'	1.70	0.91
1:A:794:A:H2'	1:A:795:C:C6	2.06	0.91
1:A:1149:C:H2'	1:A:1150:U:C6	2.06	0.91
1:A:1329:A:O2'	1:A:1330:U:H5'	1.68	0.91
4:C:91:LEU:HD21	4:C:99:VAL:HG13	1.52	0.91
1:A:1137:C:H4'	1:A:1138:G:C2	2.05	0.91
1:A:1086:U:H2'	1:A:1087:G:H8	1.32	0.91
1:A:605:U:O2'	1:A:606:G:H5'	1.69	0.91
1:A:1014:A:H2'	1:A:1015:A:C8	2.06	0.91
1:A:889:A:H4'	1:A:890:G:OP1	1.70	0.90
1:A:1533:C:H4'	1:A:1534:A:OP1	1.69	0.90
1:A:1435:G:H2'	1:A:1436:U:H6	1.33	0.90
1:A:625:G:C4	1:A:626:U:C5	2.59	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1349:A:H2'	1:A:1350:A:C8	2.06	0.90
1:A:1251:A:H2'	1:A:1252:A:H8	1.35	0.90
1:A:1193:G:O2'	1:A:1194:U:H5'	1.72	0.90
11:J:30:SER:HB3	11:J:80:LYS:HG3	1.51	0.90
6:E:89:ILE:HD13	6:E:90:VAL:N	1.87	0.90
1:A:1442:G:N2	1:A:1446:A:H3'	1.87	0.90
1:A:1219:U:H2'	1:A:1220:G:C8	2.07	0.90
1:A:1236:A:H4'	1:A:1304:G:H4'	1.53	0.89
1:A:551:U:H2'	1:A:552:U:H6	1.36	0.89
1:A:178:C:H2'	1:A:179:A:H8	1.37	0.89
1:A:1488:G:H2'	1:A:1489:G:C8	2.08	0.89
1:A:203:U:H5"	1:A:204:U:OP1	1.72	0.89
8:G:76:ARG:HD2	8:G:89:MET:SD	2.11	0.89
1:A:869:G:H4'	1:A:872:A:C8	2.08	0.89
1:A:967:C:H4'	10:I:128:ARG:HG3	1.54	0.89
1:A:1250:A:H2'	1:A:1251:A:C8	2.08	0.89
1:A:1126:U:H6	1:A:1126:U:P	1.96	0.89
1:A:1352:C:H2'	1:A:1353:G:C8	2.08	0.88
1:A:922:G:H2'	1:A:923:A:C8	2.08	0.88
1:A:579:G:H5'	1:A:728:A:H1'	1.56	0.88
1:A:1346:A:C2'	8:G:10:ARG:HH22	1.86	0.88
1:A:344:A:H5"	1:A:345:C:H5	1.38	0.88
1:A:1342:C:O2'	1:A:1343:G:H5'	1.73	0.88
1:A:1256:A:H2	1:A:1258:G:N1	1.71	0.88
1:A:992:U:H4'	1:A:993:G:O5'	1.73	0.88
6:E:18:ARG:HG2	6:E:19:MET:N	1.89	0.88
1:A:382:A:H2'	1:A:383:A:C8	2.09	0.88
1:A:531:U:H5"	1:A:532:A:OP1	1.74	0.88
1:A:981:U:H5'	15:N:21:TYR:CE1	2.08	0.88
1:A:1347:G:C8	10:I:107:ARG:HB3	2.08	0.87
1:A:36:C:H5"	13:L:122:THR:O	1.74	0.87
20:S:28:LYS:HG2	20:S:29:ARG:H	1.38	0.87
1:A:544:G:C5	1:A:545:C:C5	2.61	0.87
1:A:190(F):G:H4'	1:A:190(G):G:OP2	1.72	0.87
1:A:789:U:H2'	1:A:791:G:OP2	1.74	0.87
1:A:394:G:H2'	1:A:395:C:H6	1.40	0.87
1:A:1005:A:C2'	1:A:1006:C:H5'	2.04	0.87
1:A:22:G:O2'	1:A:23:C:H5'	1.74	0.87
1:A:1499:A:C2'	1:A:1500:A:H5'	2.05	0.86
1:A:556:C:O2'	1:A:557:G:H5'	1.73	0.86
1:A:559:A:H4'	1:A:560:U:O5'	1.75	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:181:G:O2'	1:A:182:U:H5'	1.75	0.86
1:A:1189:C:H5"	4:C:5:ILE:HD13	1.56	0.86
1:A:961:U:C2'	1:A:962:C:H5'	2.05	0.86
1:A:1518:A:H2'	1:A:1519:A:C8	2.10	0.86
1:A:820:U:H4'	1:A:821:G:OP2	1.73	0.86
1:A:1030:C:H2'	1:A:1030(A):G:C8	2.11	0.86
1:A:1300:G:HO2'	1:A:1301:U:H6	0.91	0.86
12:K:57:THR:HG23	12:K:60:ALA:H	1.40	0.86
1:A:965:A:C2	1:A:969:A:C2	2.63	0.86
1:A:939:G:C5'	8:G:102:ARG:HH22	1.88	0.86
1:A:344:A:H5"	1:A:345:C:C5	2.10	0.86
1:A:947:G:H2'	1:A:948:C:H6	1.41	0.86
1:A:1269:A:C2	1:A:1313:U:O4'	2.29	0.86
1:A:327:A:H4'	1:A:328:C:OP1	1.73	0.86
1:A:1532:U:H2'	1:A:1533:C:C6	2.10	0.86
1:A:624:C:O2'	1:A:625:G:H5'	1.76	0.85
1:A:1010:G:O2'	1:A:1011:G:H5'	1.76	0.85
1:A:1239:A:H4'	1:A:1240:U:O5'	1.72	0.85
1:A:1328:C:O2'	1:A:1329:A:H5'	1.75	0.85
1:A:1319:A:H2'	1:A:1323:G:N7	1.90	0.85
4:C:156:ARG:H	4:C:163:ALA:HA	1.41	0.85
1:A:42:G:C4	1:A:43:C:C5	2.64	0.85
1:A:1281:U:H4'	1:A:1282:C:OP2	1.76	0.85
1:A:250:A:H4'	1:A:251:G:O5'	1.76	0.85
3:B:113:HIS:HA	3:B:116:GLU:HG3	1.56	0.85
1:A:1047:G:C2'	1:A:1048:G:H5'	2.06	0.85
1:A:1196:U:H5"	1:A:1197:G:H5'	1.57	0.85
1:A:223:U:H5'	21:T:68:LYS:NZ	1.92	0.85
1:A:1016:A:H2'	1:A:1017:G:O4'	1.77	0.85
1:A:1126:U:C2	1:A:1127:G:C8	2.64	0.85
11:J:42:THR:HG23	11:J:68:HIS:HA	1.55	0.85
1:A:1346:A:H61	1:A:1374:A:H3'	1.41	0.85
1:A:1005:A:H2'	1:A:1006:C:C5'	2.05	0.84
1:A:1058:G:H2'	1:A:1059:C:H6	1.40	0.84
14:M:96:LEU:HB3	14:M:97:PRO:HD2	1.57	0.84
1:A:1130:A:N6	1:A:1144:G:H21	1.74	0.84
1:A:1521:G:H2'	1:A:1522:U:H6	1.42	0.84
1:A:277:C:C5'	18:Q:68:ARG:HH22	1.89	0.84
1:A:1540:U:H2'	1:A:1541:U:C6	2.13	0.84
1:A:1292:U:P	8:G:41:ARG:HH22	2.00	0.84
1:A:538:G:OP2	13:L:115:LYS:HG3	1.77	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:443:C:H2'	1:A:444:C:H6	1.43	0.84
1:A:1234:C:H1'	1:A:1364:U:O2	1.76	0.84
1:A:1489:G:C2'	1:A:1490:C:H5"	2.08	0.84
1:A:940:C:O2'	1:A:941:G:H5'	1.78	0.84
1:A:556:C:H2'	1:A:557:G:H5'	1.59	0.84
1:A:62:U:H5"	1:A:385:C:O2	1.77	0.84
1:A:1352:C:H2'	1:A:1353:G:H8	1.42	0.84
11:J:55:LYS:HG3	11:J:55:LYS:O	1.77	0.84
1:A:1126:U:H2'	1:A:1127:G:C8	2.10	0.84
1:A:954:G:H21	1:A:1227:A:H62	1.25	0.84
1:A:191:G:C5	1:A:192:U:C5	2.66	0.83
1:A:670:G:H2'	1:A:671:G:O4'	1.76	0.83
1:A:961:U:H2'	1:A:962:C:H5'	1.58	0.83
1:A:346:G:H2'	1:A:347:G:H5'	1.60	0.83
1:A:947:G:H2'	1:A:948:C:C6	2.12	0.83
1:A:794:A:H2'	1:A:795:C:H6	1.42	0.83
1:A:386:C:H2'	1:A:387:U:H5'	1.58	0.83
1:A:1101:A:H4'	1:A:1102:A:O5'	1.78	0.83
1:A:486:U:O2	1:A:486:U:H2'	1.76	0.83
1:A:664:G:OP1	19:R:64:ARG:HD3	1.79	0.83
1:A:524:G:H2'	1:A:525:C:C6	2.14	0.83
1:A:428:G:H4'	1:A:429:U:O5'	1.75	0.83
1:A:958:A:N1	20:S:54:GLY:HA3	1.93	0.83
1:A:399:G:O2'	1:A:400:C:H5'	1.78	0.83
1:A:1451:A:H5"	1:A:1452:C:H5	1.44	0.83
1:A:1356:G:H2'	1:A:1357:A:C8	2.12	0.83
1:A:556:C:H2'	1:A:557:G:C5'	2.08	0.83
1:A:454:C:H2'	1:A:455:C:H5'	1.61	0.83
1:A:411:A:H8	5:D:30:LYS:HZ1	1.23	0.83
1:A:1346:A:H2'	8:G:10:ARG:NH2	1.92	0.83
5:D:104:VAL:HG21	5:D:140:VAL:HG21	1.59	0.83
1:A:254:G:H21	18:Q:16:GLN:HE21	1.27	0.83
1:A:1007:C:H2'	1:A:1008:C:H6	1.43	0.82
5:D:30:LYS:C	5:D:32:ALA:H	1.82	0.82
1:A:1058:G:H2'	1:A:1059:C:C6	2.14	0.82
1:A:1353:G:O2'	1:A:1354:C:H5'	1.77	0.82
1:A:1225:A:H3'	1:A:1226:C:C6	2.13	0.82
1:A:1487:G:O2'	1:A:1488:G:H5'	1.78	0.82
1:A:1007:C:H2'	1:A:1008:C:C6	2.14	0.82
1:A:1201:A:H4'	1:A:1202:G:O5'	1.78	0.82
1:A:1121:U:O2'	1:A:1122:U:H5'	1.79	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1129:C:O5'	1:A:1130:A:H5'	1.78	0.82
1:A:1502:A:H5"	1:A:1503:A:OP2	1.77	0.82
1:A:545:C:O2'	1:A:546:G:H5'	1.80	0.82
1:A:1532:U:H2'	1:A:1533:C:H6	1.42	0.82
1:A:1057:G:C5'	4:C:154:SER:HB2	2.10	0.81
1:A:358:U:H2'	1:A:359:U:C6	2.14	0.81
1:A:390:C:H4'	17:P:28:ARG:HH22	0.76	0.81
1:A:21:G:H2'	1:A:22:G:C8	2.15	0.81
1:A:1329:A:C2'	1:A:1330:U:H5'	2.10	0.81
9:H:69:ARG:HB2	9:H:74:PRO:HA	1.62	0.81
3:B:178:ARG:HH21	9:H:74:PRO:HD3	1.45	0.81
1:A:1461:G:O2'	1:A:1462:G:H5'	1.80	0.81
1:A:1190:G:HO2'	1:A:1191:A:P	2.03	0.81
1:A:1124:G:O2'	1:A:1125:U:H5'	1.81	0.81
1:A:954:G:N2	1:A:1227:A:H62	1.79	0.81
1:A:1343:G:H2'	1:A:1344:C:C6	2.14	0.81
2:2:9:A:O2'	2:2:10:A:H5'	1.79	0.81
1:A:1128:C:O2'	1:A:1130:A:H8	1.63	0.81
5:D:140:VAL:HG11	5:D:146:ILE:HD11	1.61	0.81
1:A:1488:G:H2'	1:A:1489:G:H8	1.46	0.81
4:C:58:GLU:HB3	11:J:92:THR:HG21	1.63	0.81
1:A:694:A:H5'	12:K:53:SER:HB2	1.61	0.81
1:A:1195:C:H3'	1:A:1196:U:C5'	2.11	0.80
1:A:15:G:C1'	6:E:24:ARG:HH12	1.93	0.80
1:A:718:G:H5'	1:A:719:C:OP2	1.80	0.80
1:A:484:G:H4'	1:A:485:G:O5'	1.81	0.80
1:A:1226:C:H4'	1:A:1227:A:OP1	1.78	0.80
1:A:1306:A:C2	1:A:1307:U:N1	2.49	0.80
1:A:1098:C:H2'	1:A:1099:G:O4'	1.81	0.80
1:A:900:A:O2'	1:A:901:A:H5'	1.80	0.80
1:A:1030(B):C:H2'	1:A:1030(C):G:H5"	1.64	0.80
1:A:1248:A:H1'	10:I:70:LYS:HZ2	1.42	0.80
1:A:42:G:H2'	1:A:43:C:C6	2.12	0.80
1:A:579:G:H2'	1:A:580:U:H6	1.46	0.80
1:A:1029:C:H2'	1:A:1030:C:C5'	2.11	0.80
1:A:501:C:H2'	1:A:502:G:H8	1.46	0.80
1:A:579:G:C4	1:A:580:U:C5	2.69	0.80
1:A:736:C:H2'	1:A:737:A:C8	2.17	0.80
1:A:838:G:H2'	1:A:839:U:H5"	1.63	0.80
1:A:1490:C:C5'	1:A:1490:C:H6	1.94	0.80
1:A:1491:G:H2'	1:A:1492:A:C8	2.15	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:840:C:H5'	1:A:848:C:O2	1.82	0.80
1:A:39:G:HO2'	1:A:40:C:H5'	1.47	0.79
1:A:342:C:C2	1:A:348:G:N2	2.50	0.79
1:A:1489:G:H3'	1:A:1490:C:H5"	1.64	0.79
1:A:595:G:H2'	1:A:641:U:O4	1.81	0.79
1:A:414:A:C2	1:A:415:A:C1'	2.65	0.79
4:C:155:GLY:O	4:C:196:LEU:HD22	1.81	0.79
1:A:1054:C:O2'	1:A:1055:A:H5"	1.83	0.79
1:A:1126:U:C2'	1:A:1127:G:H8	1.94	0.79
1:A:1508:G:H2'	1:A:1509:C:H6	1.47	0.79
1:A:642:A:C5	1:A:643:C:C5	2.70	0.79
1:A:1149:C:C2	1:A:1150:U:C5	2.70	0.79
1:A:1323:G:H2'	1:A:1324:A:H8	1.43	0.79
1:A:1256:A:H4'	1:A:1257:U:H5'	1.65	0.79
1:A:383:A:H2'	1:A:384:G:H5'	1.64	0.79
10:I:17:VAL:HG21	10:I:80:GLY:HA3	1.64	0.79
1:A:80:G:H3'	1:A:81:U:H5"	1.65	0.79
1:A:447:G:H2'	1:A:485:G:H22	1.46	0.78
16:O:87:ILE:HG22	16:O:88:ARG:N	1.95	0.78
1:A:1391:U:H2'	1:A:1392:G:C8	2.17	0.78
15:N:23:ARG:HD3	15:N:30:ALA:HB2	1.64	0.78
4:C:154:SER:HB3	4:C:197:GLY:H	1.49	0.78
1:A:173:U:C2	1:A:197:A:C2	2.71	0.78
1:A:161:A:H2'	1:A:162:A:C8	2.18	0.78
1:A:168:G:O2'	1:A:169:C:H5'	1.83	0.78
1:A:839:U:O2	1:A:839:U:H2'	1.82	0.78
1:A:692:U:H1'	1:A:695:A:N7	1.98	0.78
17:P:58:TYR:O	17:P:61:SER:HB3	1.84	0.78
11:J:45:ARG:HB3	11:J:45:ARG:HH11	1.48	0.78
1:A:1221:G:O3'	20:S:77:THR:HG21	1.84	0.78
1:A:967:C:C4'	10:I:128:ARG:HG3	2.14	0.78
1:A:607:A:C4	1:A:608:A:C8	2.72	0.78
1:A:1057:G:H2'	1:A:1058:G:H8	1.49	0.77
1:A:346:G:C2'	1:A:347:G:H5'	2.13	0.77
1:A:1325:C:O2'	1:A:1326:C:H5'	1.84	0.77
12:K:91:ARG:HD3	19:R:88:LYS:HE2	1.66	0.77
1:A:394:G:C4	1:A:395:C:C5	2.72	0.77
4:C:33:LEU:HD11	15:N:53:LEU:CD2	2.13	0.77
1:A:1225:A:H1'	20:S:78:ARG:NH1	1.99	0.77
1:A:1436:U:H2'	1:A:1437:C:C6	2.19	0.77
1:A:947:G:C4	1:A:948:C:C5	2.73	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:N:24:CYS:SG	15:N:39:LEU:HA	2.25	0.77
1:A:952:U:O2'	1:A:953:G:H5'	1.84	0.77
1:A:251:G:H4'	1:A:252:U:O5'	1.84	0.77
1:A:1225:A:H1'	20:S:78:ARG:HH11	1.49	0.77
1:A:1435:G:H2'	1:A:1436:U:C5	2.18	0.77
1:A:1368:G:C2	1:A:1369:C:C6	2.72	0.77
1:A:1499:A:H2'	1:A:1500:A:H5'	1.66	0.77
1:A:233:C:O2'	1:A:234:C:H5'	1.83	0.77
1:A:453:A:C2	1:A:454:C:C2	2.72	0.77
1:A:414:A:H2	1:A:415:A:H1'	1.48	0.77
1:A:57:G:C4	1:A:58:C:C5	2.72	0.77
1:A:1047:G:H2'	1:A:1048:G:H5'	1.67	0.77
1:A:650:G:C2'	1:A:651:C:H5'	2.13	0.77
14:M:81:LEU:CD2	14:M:81:LEU:H	1.98	0.77
6:E:120:THR:HG22	6:E:121:LYS:N	1.98	0.77
1:A:32:A:H2'	1:A:33:A:C8	2.19	0.77
1:A:647:C:O2'	1:A:648:A:H5'	1.84	0.77
11:J:54:PHE:CE2	11:J:55:LYS:HG2	2.20	0.76
1:A:1136:U:H5"	1:A:1137:C:OP2	1.86	0.76
1:A:499:A:O2'	1:A:500:G:C8	2.37	0.76
11:J:12:ASP:O	11:J:15:THR:HG22	1.85	0.76
1:A:404:U:H2'	1:A:405:U:H6	1.50	0.76
1:A:723:U:O2	1:A:723:U:H2'	1.84	0.76
20:S:36:ARG:HH21	20:S:75:ALA:HB3	1.46	0.76
1:A:1187:G:H2'	1:A:1188:A:C8	2.21	0.76
1:A:802:A:H2'	1:A:803:G:H5'	1.67	0.76
8:G:16:LEU:HD22	8:G:16:LEU:H	1.50	0.76
5:D:100:ARG:O	5:D:104:VAL:HG23	1.84	0.76
1:A:273:A:O2'	1:A:274:A:H5'	1.85	0.76
1:A:1475:G:H2'	1:A:1476:G:H8	1.50	0.76
1:A:1063:C:H2'	1:A:1064:G:C8	2.19	0.76
13:L:6:THR:OG1	13:L:9:GLN:HG3	1.85	0.76
1:A:389:A:H2'	1:A:390:C:C5'	2.12	0.76
1:A:277:C:O2'	1:A:278:G:H5'	1.86	0.76
4:C:155:GLY:HA3	4:C:163:ALA:HB1	1.68	0.76
1:A:1530:G:O2'	1:A:1531:A:C8	2.39	0.76
1:A:1535:C:H6	1:A:1535:C:O5'	1.69	0.76
1:A:1521:G:H2'	1:A:1522:U:C6	2.21	0.76
1:A:650:G:H2'	1:A:651:C:H5'	1.66	0.76
1:A:519:C:O2'	1:A:520:A:H5'	1.85	0.76
1:A:1347:G:N2	1:A:1373:G:H2'	2.00	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:914:A:H2'	1:A:915:A:O5'	1.85	0.75
16:O:55:GLY:O	16:O:59:MET:HG3	1.86	0.75
1:A:1064:G:H4'	1:A:1065:U:C5'	2.16	0.75
1:A:1489:G:H2'	1:A:1490:C:H5"	1.67	0.75
1:A:911:U:O2'	1:A:912:C:H5'	1.86	0.75
3:B:160:ASP:O	3:B:183:PRO:HD2	1.86	0.75
1:A:926:G:H3'	1:A:1505:G:H21	1.51	0.75
2:1:2:A:H2'	2:1:3:A:C8	2.20	0.75
1:A:1511:G:O2'	1:A:1512:U:H5'	1.84	0.75
1:A:236:G:H2'	1:A:237:C:H6	1.52	0.75
1:A:390:C:C4'	17:P:28:ARG:NH2	2.41	0.75
1:A:1015:A:H2'	1:A:1016:A:C8	2.21	0.75
1:A:540:G:O2'	1:A:541:G:H5'	1.85	0.75
20:S:15:LEU:HA	20:S:18:LYS:HB3	1.67	0.75
10:I:37:PHE:HD2	10:I:40:LEU:HD12	1.51	0.75
1:A:1210:C:H5'	1:A:1214:C:N4	2.02	0.75
1:A:1190:G:OP1	4:C:5:ILE:HG12	1.87	0.75
1:A:434:U:C2	1:A:435:C:C5	2.74	0.75
1:A:743:U:H2'	1:A:744:C:C6	2.22	0.75
1:A:1398:A:H8	1:A:1398:A:H5"	1.52	0.75
1:A:489:C:O2'	1:A:490:G:H5'	1.85	0.75
1:A:1187:G:H3'	1:A:1188:A:H8	1.50	0.75
20:S:42:PRO:O	20:S:45:VAL:HG23	1.87	0.75
1:A:218:C:H4'	1:A:461:C:N4	2.02	0.75
1:A:8:A:H1'	6:E:102:ALA:O	1.87	0.75
1:A:1026:G:N3	1:A:1026:G:H2'	1.99	0.75
14:M:49:THR:HB	14:M:52:GLU:HG3	1.66	0.75
6:E:153:LYS:HG2	6:E:154:GLY:N	2.01	0.75
1:A:394:G:H2'	1:A:395:C:C6	2.21	0.74
1:A:959:A:H3'	1:A:960:U:H5"	1.66	0.74
1:A:1306:A:C2	1:A:1307:U:C6	2.75	0.74
1:A:605:U:C2'	1:A:606:G:H5'	2.16	0.74
11:J:90:LEU:H	11:J:91:PRO:HD2	1.52	0.74
1:A:1196:U:H5"	1:A:1197:G:C5'	2.17	0.74
1:A:328:C:H2'	1:A:328:C:O2	1.86	0.74
4:C:70:VAL:O	4:C:106:VAL:HG23	1.87	0.74
1:A:293:G:C5	1:A:294:U:C5	2.75	0.74
1:A:1366:C:H2'	1:A:1367:C:C6	2.23	0.74
3:B:178:ARG:HG3	9:H:72:PRO:HA	1.67	0.74
1:A:76:C:H2'	1:A:77:G:H8	1.52	0.74
1:A:487:A:H2'	1:A:488:C:O4'	1.87	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1354:C:O2'	1:A:1355:G:H5'	1.86	0.74
1:A:579:G:C4	1:A:580:U:C6	2.75	0.74
7:F:9:VAL:HB	7:F:87:ARG:HB2	1.68	0.74
1:A:223:U:C5'	21:T:68:LYS:HZ2	2.00	0.74
1:A:1514:C:O2'	1:A:1515:C:H5'	1.87	0.74
4:C:70:VAL:HG21	4:C:76:VAL:HG21	1.66	0.74
1:A:261:U:O2	1:A:263:A:C8	2.40	0.74
1:A:577:G:H1'	1:A:816:A:C4	2.22	0.74
1:A:1505:G:C8	1:A:1505:G:C3'	2.68	0.74
5:D:201:GLN:HA	5:D:204:ILE:HD12	1.69	0.74
1:A:1442:G:H21	1:A:1446:A:H3'	1.50	0.74
1:A:1240:U:H4'	1:A:1241:G:OP2	1.87	0.74
1:A:737:A:H2'	1:A:738:C:C6	2.23	0.74
1:A:803:G:H2'	1:A:804:U:H6	1.52	0.74
1:A:1305:G:C5'	22:V:4:GLY:HA3	2.17	0.74
1:A:192:U:C2	1:A:193:C:C5	2.76	0.73
1:A:1369:C:H2'	1:A:1370:G:C8	2.23	0.73
1:A:370:C:C2	1:A:371:G:C8	2.76	0.73
1:A:1240:U:OP1	8:G:116:ALA:HB2	1.88	0.73
1:A:175:C:H2'	1:A:176:C:H6	1.53	0.73
1:A:1049:U:H1'	1:A:1201:A:N7	2.03	0.73
1:A:591:U:H2'	1:A:592:G:H8	1.51	0.73
1:A:173:U:C2	1:A:197:A:N1	2.56	0.73
19:R:36:ASN:O	19:R:39:VAL:HG12	1.88	0.73
1:A:1333:A:H2'	1:A:1334:G:O4'	1.87	0.73
1:A:404:U:H2'	1:A:405:U:C6	2.23	0.73
1:A:1243:C:H2'	1:A:1244:C:H6	1.53	0.73
1:A:20:U:O2'	1:A:21:G:H5'	1.88	0.73
1:A:529:G:C4'	1:A:533:A:C2	2.72	0.73
1:A:382:A:C2	1:A:383:A:C4	2.76	0.73
1:A:1508:G:O2'	1:A:1509:C:H5'	1.89	0.73
7:F:6:VAL:HB	7:F:63:TYR:HB2	1.71	0.73
10:I:104:ARG:HH11	10:I:104:ARG:HG2	1.52	0.73
1:A:1243:C:H2'	1:A:1244:C:C6	2.22	0.73
4:C:22:TRP:CZ2	4:C:32:LEU:HD22	2.24	0.73
1:A:1372:U:H5"	10:I:71:SER:CB	2.18	0.73
1:A:1020:U:C2'	1:A:1021:G:H5'	2.19	0.73
1:A:1157:A:H1'	1:A:1181:G:N2	2.04	0.73
4:C:10:PHE:CZ	4:C:178:LEU:HD13	2.24	0.73
1:A:180:U:C2'	1:A:181:G:H5'	2.18	0.73
1:A:1452:C:H4'	1:A:1453:G:O5'	1.89	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:439:A:C4	1:A:497:A:C2	2.77	0.73
1:A:1230:C:O2'	1:A:1231:G:H5'	1.88	0.73
1:A:579:G:C5	1:A:580:U:C5	2.76	0.73
1:A:218:C:C4'	1:A:461:C:N4	2.52	0.73
1:A:721:G:C6	1:A:733:A:C2	2.77	0.73
1:A:1126:U:P	1:A:1126:U:C6	2.81	0.73
1:A:1238:A:N7	1:A:1303:C:H1'	2.04	0.73
1:A:1413:A:H2'	1:A:1414:U:H6	1.53	0.73
5:D:104:VAL:HG11	5:D:146:ILE:CD1	2.18	0.73
10:I:48:GLU:N	10:I:49:PRO:HD2	2.04	0.73
1:A:1333:A:C8	1:A:1334:G:C8	2.77	0.72
1:A:338:A:C4	1:A:339:C:C5	2.76	0.72
1:A:443:C:H2'	1:A:444:C:C6	2.24	0.72
1:A:99:C:H2'	1:A:101:A:C8	2.24	0.72
1:A:1197:G:C2'	1:A:1198:G:H5'	2.20	0.72
4:C:154:SER:CB	4:C:197:GLY:H	2.02	0.72
5:D:64:LEU:HD23	5:D:198:VAL:HG21	1.70	0.72
1:A:1366:C:H2'	1:A:1367:C:H6	1.52	0.72
1:A:1300:G:O2'	1:A:1301:U:H6	1.69	0.72
1:A:1126:U:H6	1:A:1126:U:OP1	1.71	0.72
16:O:25:THR:O	16:O:29:VAL:HG23	1.89	0.72
1:A:1030:C:H6	1:A:1030:C:H5'	1.55	0.72
1:A:266:G:O3'	18:Q:67:LYS:HB2	1.89	0.72
1:A:1356:G:H2'	1:A:1357:A:H8	1.52	0.72
11:J:50:ILE:HB	15:N:41:ARG:NH1	2.04	0.72
1:A:55:A:C2	1:A:56:U:N1	2.57	0.72
1:A:35:G:H2'	1:A:36:C:H6	1.54	0.72
1:A:452:A:C2	1:A:453:A:N9	2.57	0.72
5:D:28:SER:O	5:D:30:LYS:N	2.21	0.72
4:C:195:VAL:O	4:C:196:LEU:HD23	1.90	0.72
1:A:642:A:C4	1:A:643:C:C5	2.78	0.72
1:A:1233:G:C4	1:A:1234:C:C5	2.77	0.72
1:A:1440:C:H2'	1:A:1441:G:O4'	1.88	0.72
1:A:1450:U:HO2'	1:A:1451:A:H8	1.38	0.72
1:A:337:C:H2'	1:A:338:A:C8	2.24	0.72
1:A:1343:G:H2'	1:A:1344:C:H6	1.54	0.72
1:A:173:U:H5'	1:A:197:A:O4'	1.90	0.72
8:G:12:LEU:HD12	8:G:12:LEU:N	2.05	0.72
1:A:662:G:H2'	1:A:663:A:H8	1.54	0.72
1:A:1256:A:C2	1:A:1258:G:N1	2.57	0.72
1:A:1520:G:H2'	1:A:1521:G:H8	1.52	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:179:ARG:HG2	4:C:179:ARG:O	1.88	0.72
1:A:528:C:H41	13:L:49:ASN:CG	1.92	0.72
1:A:1360:A:H2'	1:A:1361:G:O4'	1.90	0.72
1:A:972:C:O2	1:A:972:C:H2'	1.88	0.72
1:A:976:G:OP2	1:A:1358:U:H1'	1.90	0.71
1:A:55:A:C2	1:A:56:U:C2	2.78	0.71
6:E:144:THR:O	6:E:148:VAL:HG23	1.88	0.71
3:B:188:ALA:O	3:B:202:PRO:HA	1.89	0.71
1:A:32:A:N6	1:A:553:A:C6	2.58	0.71
1:A:874:G:N2	9:H:15:ASN:HD21	1.87	0.71
1:A:243:A:C4'	1:A:244:U:C5'	2.60	0.71
1:A:715:A:H2'	1:A:716:A:O4'	1.90	0.71
1:A:1083:U:C5	1:A:1084:G:C6	2.78	0.71
1:A:1490:C:H5'	1:A:1490:C:C6	2.25	0.71
1:A:101:A:C2	1:A:102:G:C8	2.79	0.71
1:A:1346:A:N1	1:A:1374:A:H5"	2.04	0.71
1:A:1305:G:H22	1:A:1331:G:C2'	2.03	0.71
1:A:149:A:H2'	1:A:150:C:C6	2.25	0.71
1:A:1047:G:O2'	1:A:1048:G:H5'	1.90	0.71
6:E:153:LYS:HG2	6:E:154:GLY:H	1.53	0.71
4:C:123:GLN:O	4:C:128:PHE:HB2	1.91	0.71
1:A:1055:A:H1'	4:C:156:ARG:HH12	1.54	0.71
1:A:432:A:C8	1:A:433:C:C5	2.79	0.71
1:A:1309:G:P	14:M:88:ARG:HH21	2.14	0.71
1:A:338:A:C5	1:A:339:C:C5	2.79	0.71
1:A:1067:A:HO2'	1:A:1068:G:H8	1.37	0.71
7:F:7:ASN:ND2	19:R:34:TYR:HE1	1.89	0.71
1:A:371:G:C2'	1:A:372:C:H5'	2.21	0.71
1:A:191:G:H2'	1:A:192:U:C6	2.23	0.71
1:A:101:A:O2'	1:A:102:G:H5'	1.91	0.71
17:P:74:LEU:HB3	17:P:79:VAL:HG21	1.73	0.71
1:A:1542:U:H2'	1:A:1543:C:H6	1.56	0.71
1:A:1486:G:H2'	1:A:1487:G:O4'	1.91	0.71
1:A:190(A):C:C2'	1:A:190(B):C:H5'	2.20	0.71
1:A:1540:U:H2'	1:A:1541:U:H6	1.55	0.71
21:T:73:HIS:O	21:T:74:LYS:HB2	1.91	0.71
1:A:509:A:H8	1:A:509:A:O5'	1.74	0.71
19:R:76:LEU:O	19:R:78:LEU:HG	1.91	0.71
1:A:936:C:O2'	1:A:937:A:H5'	1.90	0.71
1:A:450:G:H5"	1:A:451:A:H3'	1.72	0.71
9:H:108:GLY:HA3	9:H:138:TRP:HB3	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:448:A:C2	1:A:449:C:C4	2.79	0.70
1:A:55:A:C2	1:A:56:U:C1'	2.74	0.70
1:A:1010:G:H2'	1:A:1011:G:H8	1.56	0.70
1:A:736:C:H2'	1:A:737:A:H8	1.53	0.70
1:A:600:C:H4'	9:H:128:GLY:O	1.91	0.70
1:A:448:A:C5	1:A:487:A:C2	2.79	0.70
1:A:807:A:C4	1:A:808:C:C5	2.79	0.70
1:A:202:U:H4'	1:A:203:U:OP2	1.92	0.70
8:G:40:ALA:HB3	10:I:41:VAL:HG21	1.72	0.70
1:A:487:A:H2'	1:A:488:C:C5'	2.21	0.70
1:A:499:A:H4'	1:A:500:G:OP1	1.91	0.70
1:A:1006:C:O2'	1:A:1007:C:H5'	1.90	0.70
1:A:982:U:H4'	1:A:983:A:O5'	1.92	0.70
1:A:170:U:O2'	1:A:171:A:H5'	1.92	0.70
1:A:357:G:O2'	1:A:358:U:H5'	1.91	0.70
1:A:294:U:H2'	1:A:295:C:H6	1.55	0.70
8:G:31:MET:SD	8:G:34:GLY:HA2	2.32	0.70
1:A:236:G:C5	1:A:237:C:C5	2.80	0.70
6:E:80:ILE:HD11	6:E:91:LEU:HD12	1.73	0.70
1:A:487:A:C2'	1:A:488:C:H5'	2.21	0.70
1:A:558:G:C8	1:A:559:A:C2	2.79	0.70
1:A:818:G:H3'	1:A:819:A:H5'	1.73	0.70
1:A:818:G:O2'	1:A:820:U:C5	2.44	0.70
1:A:908:A:O2'	1:A:909:A:H5'	1.91	0.70
1:A:1187:G:C3'	1:A:1188:A:H8	2.05	0.70
1:A:22:G:H4'	1:A:885:G:C8	2.26	0.70
1:A:223:U:H5'	21:T:68:LYS:HZ2	1.53	0.70
7:F:69:GLU:O	7:F:72:VAL:HG23	1.91	0.70
1:A:414:A:C2	1:A:415:A:C4	2.79	0.70
1:A:414:A:C2	1:A:415:A:C8	2.79	0.70
1:A:1355:G:O2'	1:A:1356:G:H5'	1.92	0.70
1:A:915:A:H2'	1:A:916:G:H5'	1.73	0.70
1:A:943:U:C2'	1:A:944:G:H5'	2.22	0.70
1:A:336:C:O2'	1:A:337:C:H5'	1.92	0.70
1:A:1278:U:C5'	1:A:1279:A:O4'	2.40	0.70
1:A:1542:U:H2'	1:A:1543:C:C6	2.27	0.70
1:A:243:A:C4'	1:A:244:U:H5'	2.08	0.70
1:A:1189:C:C5'	4:C:5:ILE:HD13	2.21	0.70
1:A:767:A:H2'	1:A:768:A:H8	1.57	0.70
1:A:1286:A:H2'	1:A:1287:A:H4'	1.73	0.69
1:A:1342:C:H2'	1:A:1343:G:H8	1.57	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:20:VAL:HG21	17:P:32:TYR:CB	2.22	0.69
17:P:20:VAL:HG21	17:P:32:TYR:HB2	1.73	0.69
1:A:625:G:C5	1:A:626:U:C5	2.80	0.69
1:A:321:A:H2'	1:A:322:C:H6	1.57	0.69
6:E:110:LEU:HD13	6:E:118:ILE:HD13	1.73	0.69
16:O:25:THR:HG21	16:O:70:LEU:CD2	2.22	0.69
1:A:437:U:O2'	5:D:123:HIS:HD2	1.75	0.69
1:A:643:C:H2'	1:A:644:G:H8	1.55	0.69
3:B:25:ASN:HD22	3:B:27:LYS:H	1.37	0.69
5:D:59:ARG:CG	5:D:59:ARG:HH11	2.05	0.69
1:A:975:A:O2'	15:N:32:SER:HB2	1.92	0.69
1:A:1281:U:H5'	1:A:1282:C:H5	1.57	0.69
1:A:657:G:O2'	1:A:658:G:H5'	1.91	0.69
1:A:532:A:H62	4:C:160:ALA:HA	1.57	0.69
1:A:1094:G:H5"	1:A:1095:U:C5	2.24	0.69
1:A:50:A:N6	1:A:361:G:H4'	2.06	0.69
10:I:28:VAL:HA	10:I:63:ILE:O	1.93	0.69
1:A:663:A:H2'	1:A:664:G:C8	2.27	0.69
1:A:1394:A:C5	1:A:1501:C:H4'	2.28	0.69
1:A:1402:C:O2	1:A:1500:A:N1	2.26	0.69
1:A:642:A:H2'	1:A:643:C:H6	1.55	0.69
15:N:6:LEU:HB3	15:N:23:ARG:NH2	2.07	0.69
1:A:914:A:H2'	1:A:915:A:C5'	2.23	0.69
1:A:1416:G:N2	1:A:1485:U:H1'	2.08	0.69
1:A:321:A:O2'	1:A:322:C:H5'	1.91	0.69
4:C:64:VAL:HB	4:C:99:VAL:HB	1.75	0.69
4:C:91:LEU:HD21	4:C:99:VAL:CG1	2.22	0.69
1:A:487:A:O2'	1:A:488:C:H5'	1.93	0.69
1:A:1347:G:O2'	1:A:1348:U:P	2.51	0.69
1:A:1338:G:H2'	1:A:1339:A:C8	2.28	0.69
1:A:538:G:H5"	13:L:114:LYS:HB2	1.75	0.69
1:A:1426:C:H2'	1:A:1427:U:H6	1.58	0.69
1:A:429:U:H1'	1:A:430:A:H5"	1.73	0.69
1:A:1128:C:O2'	1:A:1130:A:C8	2.46	0.69
1:A:149:A:H2'	1:A:150:C:H6	1.57	0.69
9:H:86:ILE:HD12	9:H:133:LEU:HD21	1.73	0.69
7:F:48:LEU:HD13	7:F:52:ILE:HG13	1.75	0.69
1:A:1388:C:O2'	1:A:1389:C:H5'	1.93	0.69
1:A:872:A:C2	1:A:874:G:C5	2.81	0.69
1:A:175:C:O2'	1:A:176:C:H5'	1.92	0.69
3:B:111:ARG:HH11	3:B:111:ARG:HG2	1.58	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:865:A:O2'	1:A:866:C:H5'	1.92	0.68
1:A:190(A):C:O2'	1:A:190(B):C:H5'	1.93	0.68
1:A:628:G:O2'	1:A:629:G:H5'	1.92	0.68
1:A:1147:C:H4'	10:I:5:TYR:CE1	2.28	0.68
1:A:642:A:C5	1:A:643:C:C4	2.82	0.68
3:B:115:LEU:HD23	3:B:153:ARG:NE	2.08	0.68
1:A:1030(B):C:H3'	1:A:1030(C):G:C5'	2.24	0.68
1:A:458:C:C2	1:A:459:G:C8	2.82	0.68
1:A:377:G:OP1	17:P:3:LYS:HD2	1.94	0.68
1:A:658:G:H2'	1:A:659:U:H6	1.56	0.68
1:A:190(L):U:O2'	1:A:191:G:H5'	1.94	0.68
1:A:597:G:C8	1:A:598:U:C5	2.81	0.68
18:Q:67:LYS:O	18:Q:68:ARG:HB3	1.93	0.68
1:A:1220:G:H2'	1:A:1221:G:H8	1.57	0.68
1:A:529:G:H4'	1:A:533:A:C2	2.28	0.68
1:A:402:G:O2'	1:A:403:C:H5'	1.93	0.68
1:A:405:U:H3'	1:A:406:G:H5'	1.74	0.68
1:A:1157:A:H4'	1:A:1158:C:O5'	1.91	0.68
1:A:166:G:H2'	1:A:167:G:H8	1.58	0.68
1:A:452:A:N3	1:A:453:A:C8	2.61	0.68
1:A:1288:A:C2	1:A:1289:A:C4	2.81	0.68
14:M:59:TYR:O	14:M:63:THR:HG22	1.94	0.68
1:A:1030(B):C:C2'	1:A:1030(C):G:H5"	2.24	0.68
1:A:266:G:C8	1:A:266:G:C5'	2.72	0.68
1:A:181:G:N2	1:A:195:A:C4	2.62	0.68
1:A:1449:C:C2'	1:A:1450:U:H5'	2.23	0.68
1:A:1080:A:H4'	6:E:16:THR:HG21	1.76	0.68
2:2:9:A:C2'	2:2:10:A:H5'	2.23	0.68
1:A:259:G:H2'	1:A:260:G:C8	2.28	0.68
1:A:449:C:H2'	1:A:450:G:O4'	1.94	0.68
1:A:13:U:O2	1:A:914:A:H3'	1.93	0.68
1:A:1443:G:C5'	1:A:1446:A:H5'	2.20	0.68
1:A:337:C:H2'	1:A:338:A:H8	1.59	0.68
1:A:540:G:C2'	1:A:541:G:H5'	2.24	0.68
8:G:148:ASN:C	8:G:150:ALA:H	1.96	0.68
4:C:150:LYS:HB3	4:C:201:TYR:HB2	1.76	0.68
21:T:50:GLU:HB2	21:T:99:LEU:HD12	1.75	0.68
1:A:877:C:OP1	9:H:88:LYS:HE3	1.93	0.68
1:A:1027:C:H2'	1:A:1028:C:H5"	0.71	0.68
1:A:1057:G:H2'	1:A:1058:G:C8	2.28	0.68
1:A:355:C:C4	1:A:356:A:N7	2.61	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1225:A:H5'	1:A:1226:C:OP2	1.94	0.68
1:A:379:C:O2'	1:A:380:G:H5'	1.94	0.68
1:A:1449:C:H2'	1:A:1450:U:H5'	1.76	0.68
1:A:406:G:H5"	5:D:5:ILE:HG21	1.75	0.68
1:A:56:U:H2'	1:A:57:G:C8	2.28	0.68
1:A:639:G:O2'	1:A:640:A:H5'	1.94	0.68
1:A:203:U:C5'	1:A:204:U:OP1	2.42	0.68
1:A:767:A:H2'	1:A:768:A:C8	2.29	0.68
1:A:914:A:C2'	1:A:915:A:O5'	2.41	0.68
1:A:986:A:H2'	1:A:987:G:C8	2.29	0.68
12:K:57:THR:HG22	12:K:60:ALA:HB2	1.75	0.68
1:A:731:G:O2'	1:A:732:C:H5'	1.94	0.68
1:A:1250:A:H2'	1:A:1251:A:H8	1.59	0.67
1:A:1126:U:C6	1:A:1126:U:OP1	2.46	0.67
1:A:1490:C:H5'	1:A:1490:C:H6	1.58	0.67
1:A:425:G:C2'	1:A:426:G:H5'	2.23	0.67
1:A:37:U:O2'	1:A:500:G:H4'	1.94	0.67
7:F:3:ARG:HB3	7:F:93:SER:HB2	1.76	0.67
1:A:1385:G:H2'	1:A:1386:G:O4'	1.94	0.67
1:A:228:A:H2'	1:A:229:U:C6	2.28	0.67
1:A:459:G:H3'	1:A:460:A:H5"	1.75	0.67
4:C:5:ILE:HG13	4:C:5:ILE:O	1.93	0.67
1:A:713:G:H21	1:A:777:A:C4'	2.07	0.67
1:A:965:A:C2	1:A:969:A:N1	2.62	0.67
1:A:1027:C:C2'	1:A:1028:C:C5'	2.42	0.67
1:A:386:C:O2'	1:A:387:U:H5'	1.92	0.67
1:A:55:A:O2'	1:A:56:U:H5'	1.94	0.67
1:A:1305:G:H5'	22:V:4:GLY:HA3	1.75	0.67
1:A:501:C:O3'	13:L:118:SER:HB2	1.94	0.67
1:A:1191:A:C4	1:A:1192:C:C5	2.82	0.67
1:A:757:U:H2'	1:A:758:G:O4'	1.94	0.67
1:A:323:U:H2'	1:A:324:G:O4'	1.94	0.67
1:A:148:G:H2'	1:A:149:A:C8	2.24	0.67
1:A:700:G:O3'	1:A:703:G:H5'	1.95	0.67
12:K:77:MET:HE1	12:K:80:VAL:HG22	1.77	0.67
1:A:684:A:H1'	12:K:38:ASN:HD22	1.60	0.67
1:A:1368:G:OP1	11:J:62:HIS:HE1	1.77	0.67
1:A:1291:G:H4'	10:I:38:GLN:O	1.95	0.67
1:A:32:A:N6	1:A:553:A:N6	2.42	0.67
1:A:642:A:C6	1:A:643:C:C4	2.82	0.67
1:A:1039:C:O2'	1:A:1040:U:H5'	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1191:A:H5"	4:C:4:LYS:NZ	2.08	0.67
1:A:1151:A:O2'	1:A:1152:A:C8	2.47	0.67
1:A:1151:A:C2	1:A:1152:A:C5	2.82	0.67
1:A:197:A:H1'	1:A:198:G:O4'	1.94	0.67
6:E:115:VAL:HG12	6:E:116:THR:N	2.08	0.67
5:D:93:PHE:CE1	5:D:97:LEU:HD11	2.28	0.67
1:A:245:C:O2'	1:A:246:A:H5'	1.95	0.67
1:A:582:U:C2'	1:A:583:A:H8	2.04	0.67
1:A:818:G:C2'	1:A:819:A:H5"	2.24	0.67
1:A:1492:A:H2'	1:A:1493:A:O4'	1.94	0.67
1:A:125:U:H2'	1:A:126:G:H8	1.59	0.67
1:A:254:G:N2	18:Q:16:GLN:NE2	2.41	0.67
1:A:1318:A:H4'	20:S:10:PHE:CE2	2.29	0.67
1:A:1328:C:HO2'	1:A:1329:A:H5'	1.57	0.67
10:I:17:VAL:HG21	10:I:80:GLY:CA	2.25	0.67
1:A:812:C:O2'	1:A:813:U:P	2.52	0.67
1:A:829:G:N2	1:A:830:G:C4	2.63	0.67
11:J:16:LEU:HD23	11:J:94:VAL:HG22	1.77	0.67
1:A:411:A:C4	1:A:413:G:H1'	2.30	0.67
1:A:953:G:H2'	1:A:954:G:O4'	1.94	0.67
1:A:1490:C:C5'	1:A:1490:C:C6	2.78	0.67
1:A:338:A:C4	1:A:339:C:C6	2.82	0.67
1:A:76:C:O2'	1:A:77:G:H5'	1.95	0.67
13:L:47:LYS:HB2	13:L:48:PRO:HD3	1.77	0.67
1:A:1030(B):C:C3'	1:A:1030(C):G:H5"	2.25	0.67
1:A:459:G:H3'	1:A:460:A:C5'	2.24	0.67
1:A:1015:A:H2'	1:A:1016:A:H8	1.58	0.67
5:D:104:VAL:HG11	5:D:146:ILE:HD12	1.77	0.67
9:H:13:ILE:O	9:H:17:THR:HG23	1.94	0.67
7:F:40:VAL:HG23	7:F:62:TRP:O	1.96	0.67
7:F:1:MET:HG2	7:F:68:PRO:HA	1.77	0.67
1:A:458:C:C4	1:A:459:G:N7	2.63	0.66
5:D:30:LYS:C	5:D:32:ALA:N	2.48	0.66
1:A:544:G:C4	1:A:545:C:C5	2.83	0.66
1:A:125:U:H2'	1:A:126:G:C8	2.30	0.66
12:K:41:THR:HG21	12:K:71:LYS:HB2	1.77	0.66
9:H:111:ILE:HD12	9:H:135:CYS:SG	2.35	0.66
1:A:1436:U:H2'	1:A:1437:C:H6	1.60	0.66
10:I:18:PHE:HB2	10:I:62:TYR:O	1.95	0.66
1:A:895:G:H2'	1:A:896:C:H6	1.61	0.66
1:A:1469:G:O2'	1:A:1470:G:H5'	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:376:G:H2'	1:A:377:G:H8	1.61	0.66
10:I:13:ALA:HB2	10:I:68:GLY:HA3	1.77	0.66
1:A:547:A:C4'	1:A:548:G:O5'	2.37	0.66
1:A:960:U:O2'	1:A:1223:C:H4'	1.95	0.66
1:A:663:A:H2'	1:A:664:G:H8	1.60	0.66
1:A:939:G:H5"	8:G:102:ARG:CZ	2.25	0.66
17:P:20:VAL:HG22	17:P:21:VAL:N	2.10	0.66
1:A:854:G:H3'	1:A:871:U:O4	1.95	0.66
1:A:281:G:O2'	1:A:282:A:OP2	2.14	0.66
1:A:1138:G:N2	1:A:1140:C:C5	2.63	0.66
1:A:1256:A:C2	1:A:1258:G:C6	2.83	0.66
1:A:994:A:C2	1:A:995:C:C6	2.83	0.66
1:A:1089:G:C5	1:A:1090:U:C5	2.83	0.66
1:A:668:G:O2'	1:A:669:U:H5'	1.94	0.66
1:A:393:A:C2	1:A:394:G:C8	2.83	0.66
1:A:341:C:C2	1:A:349:A:C2	2.83	0.66
8:G:113:GLU:HB2	8:G:119:ARG:HG2	1.78	0.66
9:H:20:TYR:CE2	9:H:75:ARG:HD2	2.30	0.66
1:A:173:U:N1	1:A:197:A:C2	2.63	0.66
1:A:827:U:H2'	1:A:870:U:O4	1.96	0.66
4:C:15:THR:O	4:C:16:ARG:HB2	1.94	0.66
6:E:11:ILE:HB	6:E:31:LEU:HB3	1.75	0.66
5:D:157:LEU:HD23	5:D:161:ASN:HD21	1.61	0.66
1:A:89:C:C2'	1:A:90:U:O5'	2.44	0.66
1:A:1030(C):G:H8	1:A:1030(C):G:H5'	1.58	0.66
13:L:28:LYS:HD2	13:L:33:ARG:HH22	1.61	0.66
1:A:817:C:H1'	1:A:819:A:H5'	1.78	0.66
1:A:600:C:OP1	9:H:97:VAL:HG12	1.96	0.66
3:B:130:ARG:HH22	4:C:207:VAL:HG11	1.59	0.66
4:C:187:ALA:HB3	4:C:198:VAL:HB	1.77	0.66
1:A:1033:G:O2'	1:A:1034:G:H5'	1.96	0.66
1:A:838:G:C2'	1:A:839:U:H5"	2.24	0.66
1:A:1191:A:H2'	1:A:1192:C:C6	2.30	0.66
1:A:503:C:H2'	1:A:504:C:H6	1.61	0.66
1:A:191:G:C4	1:A:192:U:C5	2.84	0.66
1:A:1067:A:O2'	1:A:1068:G:H8	1.78	0.66
1:A:972:C:P	11:J:57:LYS:HD3	2.36	0.66
14:M:96:LEU:O	14:M:110:ARG:HG2	1.94	0.66
1:A:1539:C:O2	2:1:6:A:C2	2.48	0.66
9:H:20:TYR:HE2	9:H:75:ARG:HD2	1.59	0.66
1:A:724:G:C2	1:A:725:G:C8	2.84	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:115:LEU:HD23	3:B:153:ARG:HE	1.60	0.66
1:A:687:A:H4'	12:K:47:VAL:HG23	1.77	0.66
1:A:287:U:H2'	1:A:288:A:H8	1.59	0.66
1:A:698:G:H2'	1:A:699:C:C6	2.31	0.66
1:A:1063:C:H2'	1:A:1064:G:H8	1.59	0.66
1:A:176:C:O2'	1:A:177:C:H5'	1.96	0.66
1:A:338:A:H2'	1:A:339:C:C6	2.26	0.66
4:C:173:VAL:O	4:C:173:VAL:HG12	1.96	0.66
1:A:492:G:H2'	1:A:494:G:H8	1.59	0.65
1:A:1192:C:H2'	1:A:1193:G:O4'	1.95	0.65
1:A:36:C:C2	1:A:37:U:C6	2.85	0.65
13:L:119:LYS:O	13:L:120:TYR:HB2	1.95	0.65
1:A:1398:A:C8	1:A:1398:A:H5"	2.30	0.65
1:A:404:U:C2	1:A:405:U:C5	2.84	0.65
1:A:1287:A:H2'	1:A:1288:A:C8	2.31	0.65
1:A:1305:G:N2	1:A:1331:G:O2'	2.29	0.65
1:A:321:A:H2'	1:A:322:C:C6	2.31	0.65
1:A:1278:U:H5"	1:A:1279:A:O4'	1.97	0.65
1:A:722:A:C6	1:A:724:G:C5	2.83	0.65
14:M:4:ILE:HG22	14:M:5:ALA:N	2.11	0.65
1:A:1489:G:H2'	1:A:1490:C:O4'	1.96	0.65
1:A:662:G:H2'	1:A:663:A:C8	2.32	0.65
1:A:192:U:H2'	1:A:193:C:H6	1.61	0.65
12:K:91:ARG:CD	19:R:88:LYS:HE2	2.26	0.65
1:A:1157:A:N3	1:A:1181:G:C2	2.64	0.65
6:E:148:VAL:HG21	9:H:107:LEU:HD22	1.77	0.65
13:L:39:VAL:H	13:L:57:LYS:HB2	1.61	0.65
1:A:1442:G:H2'	1:A:1442:G:N3	2.09	0.65
1:A:179:A:O2'	1:A:180:U:H5'	1.97	0.65
1:A:636:U:H5'	18:Q:2:PRO:HG2	1.77	0.65
1:A:1509:C:C2	1:A:1510:U:C6	2.85	0.65
18:Q:92:ARG:O	18:Q:95:TYR:HB2	1.96	0.65
1:A:1347:G:O2'	1:A:1348:U:OP2	2.15	0.65
1:A:803:G:H2'	1:A:804:U:C6	2.30	0.65
5:D:8:VAL:HG22	5:D:115:ARG:NH2	2.11	0.65
1:A:814:A:H2'	1:A:816:A:H5"	1.77	0.65
1:A:228:A:H4'	17:P:62:VAL:HG11	1.77	0.65
6:E:12:LEU:O	6:E:12:LEU:HD13	1.96	0.65
6:E:34:VAL:HG12	6:E:35:GLY:N	2.11	0.65
1:A:1231:G:O2'	1:A:1232:U:H5'	1.97	0.65
1:A:551:U:C2	1:A:552:U:C5	2.84	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:767:A:H2'	1:A:768:A:O4'	1.95	0.65
19:R:59:SER:OG	19:R:62:GLU:HG3	1.96	0.65
1:A:673:G:H5"	7:F:87:ARG:NH1	2.12	0.65
19:R:39:VAL:HG13	19:R:40:LEU:N	2.12	0.65
16:O:25:THR:HG21	16:O:70:LEU:HD23	1.79	0.65
1:A:413:G:H22	1:A:428:G:H1'	1.62	0.65
1:A:39:G:C2'	1:A:40:C:H5'	2.26	0.65
1:A:434:U:N3	1:A:435:C:C5	2.64	0.65
14:M:81:LEU:HA	14:M:84:ILE:CG1	2.26	0.65
1:A:1413:A:H2	1:A:1487:G:N2	1.85	0.65
8:G:16:LEU:HD22	8:G:16:LEU:N	2.10	0.65
1:A:909:A:H2'	1:A:910:C:O4'	1.97	0.65
1:A:1027:C:O2'	1:A:1028:C:H5"	1.94	0.65
1:A:1190:G:O2'	1:A:1191:A:P	2.49	0.65
1:A:1130:A:H62	1:A:1144:G:N2	1.90	0.65
1:A:1536:C:H6	1:A:1536:C:O5'	1.80	0.65
18:Q:62:SER:CB	18:Q:72:ARG:HG3	2.27	0.65
4:C:33:LEU:CD1	15:N:53:LEU:HD22	2.22	0.65
1:A:490:G:C4	1:A:491:G:C8	2.86	0.64
1:A:429:U:H5'	1:A:430:A:OP1	1.96	0.64
1:A:1226:C:OP2	14:M:103:THR:HG21	1.98	0.64
1:A:1305:G:H5"	22:V:4:GLY:CA	2.27	0.64
1:A:151:A:H2'	1:A:152:A:O4'	1.97	0.64
1:A:1406:U:H2'	1:A:1407:C:C6	2.32	0.64
1:A:1125:U:O3'	1:A:1126:U:C5	2.49	0.64
1:A:1108:G:H2'	1:A:1109:C:H5'	1.79	0.64
4:C:73:PRO:C	4:C:75:VAL:H	1.99	0.64
1:A:446:G:O2'	1:A:447:G:H5'	1.98	0.64
1:A:1442:G:H21	1:A:1446:A:H5"	1.63	0.64
1:A:947:G:C5	1:A:948:C:C4	2.86	0.64
1:A:986:A:H4'	20:S:55:LYS:HD2	1.80	0.64
1:A:35:G:H2'	1:A:36:C:C6	2.33	0.64
1:A:691:G:O2'	1:A:797:C:H4'	1.97	0.64
1:A:448:A:C5	1:A:487:A:N3	2.65	0.64
1:A:411:A:O2'	1:A:412:A:H5'	1.97	0.64
1:A:1056:U:O2'	1:A:1057:G:H5'	1.97	0.64
1:A:35:G:C4	1:A:36:C:C5	2.86	0.64
1:A:129(A):G:N3	1:A:190(E):U:H5'	2.13	0.64
13:L:42:THR:HA	13:L:53:ARG:O	1.98	0.64
4:C:19:GLU:OE2	15:N:52:GLN:HG3	1.97	0.64
1:A:1251:A:H4'	10:I:12:GLU:OE1	1.96	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1218:C:H2'	1:A:1219:U:C5	2.32	0.64
1:A:1019:C:O2'	1:A:1020:U:H5'	1.97	0.64
1:A:556:C:C2'	1:A:557:G:C5'	2.69	0.64
1:A:176:C:C2	1:A:177:C:C5	2.86	0.64
12:K:18:ARG:HB2	12:K:33:THR:CG2	2.28	0.64
11:J:84:GLN:O	11:J:88:LEU:HD12	1.98	0.64
14:M:34:LEU:HD13	14:M:41:PRO:HG3	1.80	0.64
1:A:414:A:N3	1:A:415:A:C8	2.66	0.64
1:A:1250:A:H5"	10:I:67:GLY:HA2	1.79	0.64
1:A:436:C:H2'	1:A:437:U:H6	1.61	0.64
1:A:38:G:C2	1:A:397:A:C2	2.86	0.64
14:M:96:LEU:HB3	14:M:97:PRO:CD	2.28	0.64
1:A:177:C:O2'	1:A:178:C:H5'	1.98	0.64
1:A:818:G:H3'	1:A:819:A:C5'	2.27	0.64
7:F:7:ASN:HD21	19:R:34:TYR:HE1	1.45	0.64
1:A:926:G:C3'	1:A:1505:G:H21	2.09	0.64
1:A:223:U:C5'	21:T:68:LYS:NZ	2.60	0.64
1:A:1097:C:O2'	1:A:1168:A:H1'	1.97	0.64
1:A:1233:G:H2'	1:A:1234:C:H6	1.62	0.64
11:J:50:ILE:HB	15:N:41:ARG:HH11	1.61	0.64
1:A:1236:A:H2'	1:A:1237:C:C6	2.32	0.64
1:A:1342:C:H2'	1:A:1343:G:C8	2.33	0.64
17:P:39:TYR:CD2	17:P:73:LEU:HD11	2.32	0.64
6:E:105:VAL:HB	6:E:106:PRO:HD3	1.79	0.64
9:H:12:ARG:NH1	9:H:27:PRO:HD3	2.13	0.64
1:A:448:A:N6	1:A:487:A:C1'	2.61	0.64
1:A:277:C:C5'	18:Q:68:ARG:NH2	2.52	0.64
1:A:1197:G:H2'	1:A:1198:G:H5'	1.78	0.64
1:A:1349:A:C2'	1:A:1350:A:H8	2.04	0.64
11:J:62:HIS:HB3	15:N:59:ALA:HB3	1.79	0.64
1:A:42:G:O2'	1:A:43:C:H5'	1.98	0.64
1:A:1138:G:C2	1:A:1140:C:C6	2.86	0.64
1:A:1390:U:H2'	1:A:1391:U:C6	2.33	0.64
1:A:64:G:N2	1:A:67:C:N4	2.45	0.64
1:A:735:C:O2'	1:A:736:C:H5'	1.97	0.64
8:G:40:ALA:HB1	10:I:41:VAL:HG11	1.80	0.64
1:A:50:A:O2'	1:A:52:G:C8	2.51	0.64
1:A:838:G:H3'	1:A:840:C:H41	1.63	0.64
1:A:1191:A:H2'	1:A:1192:C:H6	1.61	0.64
1:A:384:G:H2'	1:A:385:C:C6	2.33	0.64
1:A:191:G:C4	1:A:192:U:C6	2.86	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1397:C:H4'	1:A:1398:A:OP2	1.98	0.64
1:A:690:G:H8	1:A:690:G:O5'	1.81	0.64
1:A:1454:G:O2'	1:A:1455:G:H5'	1.97	0.64
9:H:29:SER:O	9:H:31:PHE:N	2.30	0.64
16:O:3:ILE:H	16:O:3:ILE:HD12	1.62	0.64
1:A:42:G:C5	1:A:43:C:C5	2.87	0.63
1:A:634:C:O2'	1:A:635:G:H5'	1.98	0.63
1:A:1538:C:N3	2:1:6:A:N1	2.46	0.63
1:A:524:G:H2'	1:A:525:C:H6	1.63	0.63
17:P:20:VAL:HG22	17:P:21:VAL:H	1.62	0.63
1:A:607:A:N3	1:A:608:A:C8	2.66	0.63
12:K:33:THR:HA	12:K:39:PRO:HA	1.79	0.63
7:F:12:PRO:HG3	7:F:55:ASP:OD1	1.98	0.63
1:A:1030:C:C2'	1:A:1030(A):G:C8	2.81	0.63
1:A:964:A:C1'	11:J:55:LYS:HE2	2.24	0.63
1:A:597:G:C6	1:A:644:G:C6	2.86	0.63
17:P:21:VAL:HG21	17:P:59:TRP:CD1	2.33	0.63
17:P:74:LEU:O	17:P:79:VAL:HG23	1.99	0.63
6:E:12:LEU:CD1	6:E:31:LEU:HB2	2.28	0.63
1:A:448:A:C8	1:A:487:A:N1	2.66	0.63
1:A:914:A:C2'	1:A:915:A:C5'	2.77	0.63
1:A:1320:C:N4	20:S:36:ARG:HG3	2.13	0.63
1:A:147:G:O2'	1:A:148:G:H5'	1.98	0.63
1:A:423:G:N2	1:A:424:G:N7	2.45	0.63
13:L:83:VAL:HG22	13:L:84:LEU:H	1.63	0.63
1:A:1375:A:H4'	8:G:29:LYS:NZ	2.14	0.63
1:A:1303:C:N4	1:A:1304:G:C6	2.66	0.63
1:A:753:A:H5'	1:A:754:C:C6	2.33	0.63
1:A:1533:C:C4'	1:A:1534:A:OP1	2.45	0.63
1:A:642:A:H2'	1:A:643:C:C6	2.33	0.63
7:F:50:TYR:CE1	19:R:77:GLY:HA2	2.34	0.63
1:A:709:G:H2'	1:A:710:G:H8	1.64	0.63
17:P:6:LEU:HD23	17:P:17:TYR:CG	2.32	0.63
1:A:243:A:H4'	1:A:244:U:H5"	1.74	0.63
1:A:1284:C:H3'	1:A:1285:A:H8	1.62	0.63
1:A:1320:C:O2'	1:A:1321:C:H5'	1.99	0.63
1:A:1399:C:O2	1:A:1401:G:C5	2.51	0.63
1:A:562:C:H41	1:A:884:U:H2'	1.62	0.63
15:N:6:LEU:HB3	15:N:23:ARG:HH21	1.62	0.63
1:A:687:A:H4'	1:A:688:G:O5'	1.98	0.63
18:Q:76:LEU:HD23	18:Q:77:VAL:N	2.13	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1064:G:O2'	1:A:1190:G:N2	2.31	0.63
1:A:1440:C:O2'	1:A:1441:G:H5'	1.98	0.63
1:A:1225:A:H5'	14:M:103:THR:OG1	1.98	0.63
10:I:26:VAL:HA	10:I:61:ALA:HB3	1.80	0.63
8:G:75:VAL:HG11	8:G:86:GLN:HB3	1.80	0.63
1:A:1330:U:H5"	14:M:23:TYR:O	1.99	0.63
1:A:381:C:C2	1:A:382:A:C8	2.87	0.63
1:A:191:G:C6	1:A:192:U:C4	2.87	0.63
1:A:80:G:C3'	1:A:81:U:H5"	2.27	0.63
1:A:709:G:C4	1:A:710:G:C8	2.87	0.63
1:A:839:U:C2'	1:A:839:U:O2	2.47	0.63
1:A:1364:U:O2'	1:A:1365:G:OP1	2.13	0.63
1:A:56:U:H2'	1:A:57:G:H8	1.64	0.63
1:A:1135:U:H6	1:A:1135:U:O5'	1.82	0.63
1:A:1329:A:HO2'	1:A:1330:U:H5'	1.64	0.63
20:S:46:GLY:N	20:S:62:ILE:HG23	2.14	0.63
1:A:869:G:C4'	1:A:872:A:C8	2.82	0.63
1:A:17:U:H2'	1:A:18:C:C6	2.34	0.63
1:A:523:A:H61	13:L:53:ARG:HH12	1.45	0.63
1:A:706:A:C1'	12:K:29:ILE:HD11	2.28	0.63
1:A:132:C:H2'	1:A:133:U:O4'	1.98	0.63
1:A:1053:G:C8	1:A:1199:U:C6	2.87	0.63
1:A:1367:C:H4'	11:J:48:THR:HG21	1.81	0.63
1:A:1225:A:N3	1:A:1225:A:H2'	2.13	0.63
1:A:1316:G:N2	1:A:1318:A:H3'	2.14	0.63
14:M:84:ILE:HG21	20:S:66:MET:HB3	1.81	0.63
1:A:499:A:H4'	1:A:500:G:H5'	1.79	0.63
1:A:66:G:H4'	1:A:173:U:C5	2.34	0.63
1:A:1360:A:H2'	1:A:1361:G:C8	2.34	0.63
1:A:463:A:C4	1:A:474:G:C8	2.87	0.62
1:A:839:U:C5'	1:A:840:C:C5	2.63	0.62
1:A:1206:G:C6	1:A:1207:G:C5	2.87	0.62
1:A:1250:A:H5"	10:I:67:GLY:CA	2.29	0.62
1:A:1347:G:C2'	1:A:1348:U:OP2	2.47	0.62
1:A:1372:U:H5"	10:I:71:SER:HB2	1.81	0.62
1:A:625:G:C6	1:A:626:U:C4	2.87	0.62
1:A:180:U:H2'	1:A:181:G:H5'	1.79	0.62
1:A:1256:A:N6	1:A:1278:U:H1'	2.13	0.62
1:A:401:C:O2'	1:A:402:G:H5'	1.99	0.62
1:A:1210:C:H4'	1:A:1214:C:C4	2.34	0.62
5:D:64:LEU:CD2	5:D:198:VAL:HG21	2.29	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:144:THR:HG22	6:E:146:ALA:H	1.64	0.62
1:A:1233:G:H2'	1:A:1234:C:C6	2.34	0.62
1:A:1268:A:H2'	1:A:1269:A:C8	2.34	0.62
1:A:1305:G:H5"	22:V:4:GLY:HA3	1.81	0.62
1:A:940:C:HO2'	1:A:941:G:H5'	1.62	0.62
1:A:650:G:O2'	1:A:651:C:H5'	1.98	0.62
1:A:620:C:C6	5:D:135:LEU:HD13	2.34	0.62
1:A:481:G:O2'	1:A:482:A:C8	2.52	0.62
1:A:486:U:C2'	1:A:486:U:O2	2.43	0.62
17:P:20:VAL:HG21	17:P:32:TYR:CG	2.34	0.62
1:A:1157:A:C2	1:A:1181:G:C5	2.87	0.62
6:E:82:VAL:HG21	6:E:138:ALA:HA	1.80	0.62
1:A:573:A:O2'	1:A:574:A:H5'	2.00	0.62
1:A:452:A:C4	1:A:453:A:C8	2.87	0.62
1:A:1057:G:H5"	4:C:154:SER:CB	2.22	0.62
1:A:1110:A:H8	1:A:1110:A:O5'	1.82	0.62
1:A:692:U:O2	1:A:694:A:H5"	2.00	0.62
11:J:47:PHE:CZ	15:N:37:PHE:CE1	2.88	0.62
6:E:116:THR:HG23	6:E:117:ASP:OD2	2.00	0.62
1:A:1306:A:N3	1:A:1307:U:C6	2.68	0.62
1:A:958:A:C6	1:A:959:A:N1	2.68	0.62
1:A:969:A:H2'	1:A:970:C:H5'	1.81	0.62
1:A:382:A:C2	1:A:383:A:C5	2.87	0.62
1:A:384:G:H2'	1:A:385:C:H6	1.64	0.62
1:A:130:A:C8	18:Q:63:ARG:HG3	2.34	0.62
1:A:1511:G:H2'	1:A:1512:U:O4'	2.00	0.62
1:A:1272:G:C4	1:A:1273:G:C8	2.88	0.62
1:A:463:A:H2'	1:A:474:G:H8	1.65	0.62
1:A:413:G:N2	1:A:428:G:H1'	2.14	0.62
1:A:113:G:C6	1:A:114:U:C4	2.88	0.62
1:A:874:G:H21	9:H:15:ASN:HD21	1.46	0.62
1:A:192:U:H2'	1:A:193:C:C6	2.34	0.62
1:A:1210:C:H5'	1:A:1214:C:H42	1.63	0.62
12:K:18:ARG:HB2	12:K:33:THR:HG23	1.81	0.62
1:A:622:A:N7	1:A:623:C:C5	2.68	0.62
1:A:459:G:C3'	1:A:460:A:H5"	2.28	0.62
1:A:492:G:C2	1:A:494:G:H1'	2.34	0.62
1:A:975:A:C4'	1:A:976:G:OP2	2.43	0.62
1:A:948:C:HO2'	1:A:949:A:H5'	1.60	0.62
1:A:35:G:C4	1:A:550:G:N2	2.68	0.62
1:A:129(A):G:C2	1:A:190(E):U:H5'	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:7:G:N2	2:2:8:A:H1'	2.14	0.62
11:J:87:THR:O	11:J:88:LEU:HD23	1.99	0.62
7:F:18:GLN:O	7:F:21:LEU:HB3	1.99	0.62
9:H:64:LYS:HG2	9:H:79:VAL:HG21	1.82	0.62
1:A:986:A:H4'	20:S:55:LYS:CD	2.30	0.62
1:A:900:A:HO2'	1:A:901:A:H5'	1.63	0.62
1:A:98:U:C2	1:A:99:C:C5	2.87	0.62
7:F:15:ASP:OD2	7:F:18:GLN:HG3	1.98	0.62
13:L:87:GLY:HA2	13:L:98:TYR:HA	1.82	0.62
1:A:457:C:O2'	1:A:458:C:H5'	2.00	0.62
1:A:1227:A:H3'	1:A:1227:A:H8	1.65	0.62
1:A:958:A:C6	20:S:54:GLY:HA3	2.35	0.62
1:A:1414:U:H2'	1:A:1415:G:C8	2.35	0.62
1:A:1402:C:C2	1:A:1403:C:C6	2.88	0.62
1:A:1047:G:H5"	15:N:4:LYS:HD2	1.82	0.62
1:A:1491:G:N1	1:A:1492:A:N6	2.48	0.62
1:A:592:G:O2'	1:A:593:G:H5'	2.00	0.62
1:A:910:C:H5"	13:L:97:ARG:HH22	1.64	0.62
1:A:1210:C:C5'	1:A:1214:C:N4	2.62	0.62
1:A:1159:U:H5	1:A:1182:G:H2'	1.64	0.62
1:A:1030(A):G:N2	1:A:1030(C):G:O6	2.33	0.62
1:A:391:G:H2'	1:A:392:G:O5'	2.00	0.62
1:A:1372:U:H5"	10:I:71:SER:OG	2.00	0.62
1:A:914:A:C2'	1:A:915:A:H5'	2.29	0.62
1:A:746:A:N6	1:A:747:C:N4	2.47	0.62
1:A:1258:G:O2'	1:A:1259:C:H5'	1.99	0.62
1:A:1407:C:O2'	1:A:1408:A:H5'	2.00	0.62
1:A:1190:G:C2'	1:A:1191:A:OP2	2.47	0.61
1:A:1206:G:C5	1:A:1207:G:N7	2.68	0.61
1:A:981:U:C5'	15:N:21:TYR:CE1	2.82	0.61
1:A:953:G:N2	1:A:1229:A:C4	2.68	0.61
1:A:1499:A:O2'	1:A:1500:A:H5'	1.99	0.61
1:A:1161:C:H2'	1:A:1162:C:H6	1.65	0.61
1:A:1426:C:H2'	1:A:1427:U:C6	2.35	0.61
1:A:1038:C:C2	1:A:1039:C:C5	2.88	0.61
9:H:26:VAL:O	9:H:26:VAL:HG13	1.99	0.61
1:A:1186:G:N2	1:A:1187:G:H1'	2.15	0.61
1:A:1187:G:C4	1:A:1188:A:C8	2.88	0.61
1:A:1309:G:O2'	1:A:1310:G:H5'	1.99	0.61
1:A:445:G:C4	1:A:446:G:C8	2.88	0.61
1:A:760:G:H2'	1:A:761:G:H5'	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:590:C:H2'	1:A:591:U:H6	1.65	0.61
1:A:477:G:H2'	1:A:478:A:H8	1.66	0.61
1:A:370:C:H2'	1:A:371:G:H8	1.64	0.61
1:A:1225:A:H3'	1:A:1226:C:C5	2.35	0.61
1:A:754:C:C2'	1:A:754:C:O2	2.48	0.61
3:B:25:ASN:ND2	3:B:27:LYS:H	1.98	0.61
1:A:1053:G:H2'	1:A:1199:U:H5	1.66	0.61
1:A:41:G:H2'	1:A:42:G:C8	2.36	0.61
1:A:559:A:P	6:E:126:ARG:HH22	2.23	0.61
2:1:6:A:O3'	2:2:7:G:H5'	2.00	0.61
1:A:342:C:N3	1:A:348:G:C2	2.68	0.61
1:A:1089:G:C6	1:A:1090:U:C5	2.88	0.61
13:L:75:HIS:HD2	13:L:77:LEU:HB2	1.65	0.61
1:A:95:U:H2'	1:A:96:G:H8	1.64	0.61
1:A:485:G:C2'	1:A:486:U:OP2	2.49	0.61
1:A:544:G:H2'	1:A:545:C:H6	1.65	0.61
1:A:1103:C:H2'	1:A:1104:G:O4'	2.00	0.61
1:A:681:C:H2'	1:A:682:G:H8	1.65	0.61
1:A:413:G:H2'	1:A:428:G:N2	2.16	0.61
1:A:416:G:C5	1:A:417:C:C4	2.88	0.61
1:A:1375:A:C2	1:A:1376:U:C2	2.88	0.61
1:A:1331:G:O2'	1:A:1332:A:P	2.58	0.61
1:A:1107:C:N4	1:A:1108:G:N7	2.49	0.61
1:A:818:G:C3'	1:A:819:A:C5'	2.79	0.61
1:A:286:G:H2'	1:A:287:U:H6	1.65	0.61
3:B:12:GLU:OE1	3:B:15:VAL:HG23	2.00	0.61
4:C:52:LEU:H	4:C:52:LEU:HD23	1.66	0.61
1:A:1059:C:H2'	1:A:1060:C:H6	1.66	0.61
1:A:22:G:C4	1:A:23:C:C5	2.88	0.61
1:A:1222:G:O2'	1:A:1223:C:H5'	2.00	0.61
1:A:1487:G:H2'	1:A:1488:G:H8	1.65	0.61
1:A:924:C:C2'	1:A:925:G:H5'	2.31	0.61
3:B:178:ARG:HH21	9:H:74:PRO:CD	2.14	0.61
6:E:151:LEU:HD21	9:H:79:VAL:HA	1.83	0.61
1:A:394:G:C5	1:A:395:C:C5	2.89	0.61
1:A:961:U:H2'	1:A:962:C:C5'	2.30	0.61
1:A:972:C:C2'	1:A:972:C:O2	2.48	0.61
1:A:1346:A:N9	8:G:10:ARG:NH2	2.48	0.61
1:A:1145:C:H1'	1:A:1146:A:C8	2.35	0.61
1:A:657:G:H2'	1:A:658:G:H8	1.66	0.61
1:A:531:U:H4'	1:A:532:A:H5"	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:236:G:C4	1:A:237:C:C5	2.89	0.61
1:A:665:A:C2	1:A:732:C:C2	2.89	0.61
9:H:88:LYS:HB3	9:H:89:PRO:HD2	1.81	0.61
6:E:31:LEU:HD23	6:E:44:GLY:O	2.00	0.61
1:A:1030:C:H2'	1:A:1030(A):G:H8	1.61	0.61
1:A:41:G:H2'	1:A:42:G:H8	1.66	0.61
1:A:112:G:H21	1:A:354:G:C5'	2.01	0.61
1:A:778:G:O2'	1:A:779:C:H5'	1.99	0.61
1:A:1216:G:H5"	15:N:5:ALA:CB	2.31	0.61
1:A:723:U:OP1	1:A:723:U:C6	2.54	0.61
1:A:262:A:H2'	1:A:263:A:C8	2.35	0.61
1:A:1181:G:O2'	1:A:1182:G:O5'	2.19	0.61
1:A:828:A:H2'	1:A:829:G:O5'	2.00	0.61
6:E:11:ILE:HG22	6:E:12:LEU:HD12	1.82	0.61
15:N:27:CYS:SG	15:N:29:ARG:CB	2.89	0.61
1:A:1125:U:O3'	1:A:1126:U:H5	1.82	0.60
1:A:1129:C:P	1:A:1130:A:H5'	2.40	0.60
1:A:178:C:H2'	1:A:179:A:C8	2.29	0.60
1:A:1534:A:H2'	1:A:1535:C:C6	2.36	0.60
1:A:577:G:H1'	1:A:816:A:N3	2.15	0.60
10:I:64:THR:HG22	10:I:65:VAL:H	1.66	0.60
1:A:689:C:OP2	12:K:46:GLY:HA3	2.01	0.60
21:T:29:LYS:O	21:T:32:ALA:HB3	2.01	0.60
6:E:139:LEU:HD23	6:E:142:LEU:HD11	1.83	0.60
1:A:448:A:C4	1:A:487:A:C2	2.89	0.60
1:A:492:G:H2'	1:A:494:G:C8	2.35	0.60
1:A:1443:G:H5"	1:A:1446:A:C5'	2.24	0.60
1:A:949:A:C5	1:A:950:U:C4	2.89	0.60
1:A:1328:C:O2'	1:A:1329:A:C5'	2.49	0.60
1:A:965:A:O2'	1:A:966:G:OP2	2.19	0.60
1:A:986:A:C6	1:A:987:G:C6	2.89	0.60
20:S:62:ILE:HD12	20:S:66:MET:HG3	1.82	0.60
1:A:175:C:C2	1:A:176:C:C5	2.89	0.60
1:A:651:C:C4	1:A:652:U:O4	2.53	0.60
1:A:611:A:C2'	1:A:612:C:H5'	2.31	0.60
1:A:287:U:H2'	1:A:288:A:C8	2.35	0.60
1:A:622:A:C8	1:A:623:C:C5	2.89	0.60
1:A:1501:C:N4	1:A:1504:G:C2	2.70	0.60
1:A:861:G:O2'	1:A:862:C:H5'	2.01	0.60
1:A:1508:G:C5	1:A:1509:C:C5	2.89	0.60
1:A:1161:C:H2'	1:A:1162:C:C6	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:52:G:O2'	1:A:53:A:H5'	2.01	0.60
5:D:13:ARG:HD2	5:D:38:TYR:O	2.01	0.60
1:A:392:G:N1	1:A:393:A:C5	2.69	0.60
1:A:446:G:C2'	1:A:447:G:H5'	2.31	0.60
1:A:1064:G:H4'	1:A:1065:U:H5'	1.82	0.60
1:A:55:A:C2	1:A:56:U:H1'	2.37	0.60
1:A:1218:C:H2'	1:A:1219:U:H6	1.62	0.60
1:A:1299:A:C5	1:A:1301:U:O2	2.55	0.60
1:A:519:C:O2'	1:A:520:A:C5'	2.50	0.60
1:A:1451:A:O2'	1:A:1452:C:P	2.59	0.60
1:A:580:U:O2	1:A:580:U:H2'	2.01	0.60
6:E:33:VAL:HG12	6:E:112:LEU:HD12	1.82	0.60
1:A:130:A:N1	1:A:233:C:H1'	2.16	0.60
12:K:17:GLY:O	12:K:80:VAL:HA	2.01	0.60
13:L:25:PRO:HD2	13:L:98:TYR:OH	2.01	0.60
1:A:1349:A:C4	1:A:1350:A:C8	2.89	0.60
1:A:1350:A:H2'	1:A:1351:U:C6	2.36	0.60
1:A:961:U:C2	1:A:983:A:C2	2.90	0.60
1:A:1085:U:H3'	1:A:1086:U:C5	2.37	0.60
1:A:1518:A:H2'	1:A:1519:A:N9	2.17	0.60
1:A:1278:U:OP2	1:A:1278:U:C4	2.55	0.60
1:A:698:G:H2'	1:A:699:C:H6	1.66	0.60
8:G:104:LEU:HD23	8:G:134:ALA:HB1	1.83	0.60
1:A:452:A:C2	1:A:453:A:C4	2.90	0.60
1:A:21:G:H2'	1:A:22:G:H8	1.67	0.60
1:A:948:C:O2'	1:A:949:A:C5'	2.45	0.60
1:A:1216:G:H5"	15:N:5:ALA:HB2	1.82	0.60
1:A:190(B):C:H2'	1:A:190(C):C:O4'	2.01	0.60
1:A:452:A:C2	1:A:453:A:C8	2.89	0.60
1:A:1054:C:OP1	1:A:1198:G:OP2	2.19	0.60
1:A:1187:G:C2'	1:A:1188:A:C8	2.85	0.60
1:A:940:C:C2'	1:A:941:G:H5'	2.32	0.60
16:O:39:LEU:HD13	16:O:56:LEU:HB2	1.82	0.60
1:A:77:G:C4	1:A:93:G:N2	2.70	0.60
1:A:620:C:N1	5:D:135:LEU:HD13	2.17	0.60
1:A:1187:G:C2'	1:A:1188:A:H8	2.14	0.60
1:A:1291:G:C4	1:A:1292:U:C5	2.89	0.60
1:A:75:G:O2'	1:A:76:C:H5'	2.02	0.60
5:D:61:LYS:HA	5:D:203:VAL:HG22	1.83	0.60
16:O:87:ILE:O	16:O:88:ARG:HB2	2.01	0.60
1:A:804:U:H5"	1:A:805:C:OP2	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1144:G:H22	1:A:1146:A:N6	2.00	0.60
1:A:1145:C:O2'	1:A:1146:A:O5'	2.18	0.60
1:A:1306:A:N3	1:A:1306:A:H2'	2.16	0.60
1:A:926:G:C5	1:A:1505:G:C2	2.89	0.60
1:A:556:C:H2'	1:A:557:G:O5'	2.02	0.60
1:A:872:A:C2	1:A:874:G:C6	2.90	0.60
1:A:1480:G:H2'	1:A:1481:U:H6	1.66	0.60
10:I:114:TYR:CE1	11:J:59:SER:O	2.55	0.60
1:A:1432:G:H8	1:A:1432:G:O5'	1.85	0.60
20:S:64:GLU:O	20:S:67:VAL:HG23	2.02	0.60
1:A:451:A:H1'	1:A:452:A:C8	2.36	0.59
1:A:261:U:C5	21:T:79:ARG:NH1	2.70	0.59
16:O:70:LEU:HB3	16:O:78:TYR:HB2	1.82	0.59
3:B:145:LEU:HD22	3:B:149:LEU:HD12	1.83	0.59
1:A:485:G:H2'	1:A:486:U:OP2	2.02	0.59
1:A:55:A:N1	1:A:56:U:C2	2.70	0.59
1:A:1239:A:H62	1:A:1299:A:H62	1.48	0.59
20:S:41:VAL:H	20:S:44:MET:HE3	1.66	0.59
1:A:1504:G:C5'	1:A:1505:G:H5'	2.32	0.59
1:A:532:A:N6	4:C:160:ALA:HA	2.16	0.59
1:A:382:A:H2'	1:A:383:A:H8	1.65	0.59
1:A:995:C:H2'	1:A:995:C:O2	2.01	0.59
1:A:544:G:C4	1:A:545:C:C6	2.90	0.59
1:A:1244:C:OP2	22:V:9:ARG:HB2	2.02	0.59
1:A:1375:A:H2'	1:A:1376:U:O4'	2.02	0.59
1:A:1306:A:C2	1:A:1307:U:C1'	2.85	0.59
1:A:955:U:H1'	1:A:1227:A:N6	2.17	0.59
1:A:1415:G:H2'	1:A:1416:G:O4'	2.01	0.59
1:A:872:A:C4	1:A:874:G:C8	2.90	0.59
1:A:147:G:C2	1:A:148:G:C8	2.89	0.59
1:A:1450:U:O2'	1:A:1451:A:H8	1.86	0.59
1:A:1535:C:O2'	1:A:1536:C:H5'	2.02	0.59
1:A:1202:G:C4	15:N:42:ILE:HD13	2.36	0.59
1:A:1424:C:O2'	1:A:1425:U:H5'	2.01	0.59
1:A:866:C:C2'	1:A:867:G:O5'	2.50	0.59
1:A:1135:U:H4'	1:A:1136:U:H5	1.67	0.59
1:A:1308:U:O2'	1:A:1309:G:H5'	2.03	0.59
10:I:104:ARG:NH1	10:I:104:ARG:HG2	2.18	0.59
1:A:50:A:N6	1:A:361:G:C4'	2.65	0.59
6:E:11:ILE:HB	6:E:31:LEU:O	2.03	0.59
12:K:94:ALA:O	12:K:97:ALA:HB3	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:773:G:C6	1:A:774:G:N7	2.71	0.59
1:A:397:A:N7	1:A:547:A:O2'	2.36	0.59
5:D:198:VAL:HG12	5:D:199:ASN:H	1.66	0.59
1:A:89:C:H2'	1:A:90:U:O4'	2.03	0.59
1:A:1429:C:H2'	1:A:1430:C:C6	2.37	0.59
10:I:24:GLY:HA2	10:I:59:PHE:O	2.02	0.59
1:A:414:A:OP2	1:A:428:G:N2	2.36	0.59
1:A:42:G:C4	1:A:43:C:C6	2.91	0.59
1:A:757:U:O2'	1:A:879:C:H1'	2.02	0.59
1:A:628:G:H2'	1:A:629:G:C8	2.37	0.59
1:A:1272:G:C5	1:A:1273:G:C8	2.90	0.59
1:A:95:U:H2'	1:A:96:G:C8	2.37	0.59
1:A:247:G:OP2	18:Q:99:SER:HB2	2.03	0.59
1:A:625:G:C5	1:A:626:U:C4	2.90	0.59
1:A:802:A:C2'	1:A:803:G:H5'	2.33	0.59
1:A:1502:A:C5'	1:A:1503:A:OP2	2.50	0.59
4:C:58:GLU:CB	11:J:92:THR:HG21	2.31	0.59
11:J:47:PHE:HB2	11:J:63:PHE:HB2	1.83	0.59
1:A:391:G:C2'	1:A:392:G:O5'	2.51	0.59
1:A:113:G:C6	1:A:315:A:N6	2.70	0.59
1:A:438:G:C4'	1:A:439:A:OP1	2.40	0.59
1:A:924:C:O2'	1:A:925:G:H5'	2.03	0.59
1:A:515:G:H2'	1:A:516:U:O4'	2.03	0.59
1:A:35:G:N2	13:L:118:SER:OG	2.35	0.59
1:A:766:A:H2'	1:A:767:A:H5'	1.84	0.59
1:A:1157:A:C2	1:A:1181:G:C4	2.91	0.59
1:A:390:C:H2'	1:A:391:G:C8	2.37	0.59
1:A:1350:A:C6	1:A:1351:U:C4	2.91	0.59
1:A:1292:U:P	10:I:38:GLN:HE22	2.26	0.59
1:A:434:U:C2	1:A:435:C:C6	2.90	0.59
1:A:803:G:C5	1:A:804:U:C5	2.90	0.59
1:A:191:G:C5	1:A:192:U:C4	2.91	0.59
1:A:1107:C:C4	1:A:1108:G:C8	2.91	0.59
1:A:16:A:O2'	6:E:16:THR:HG22	2.02	0.59
1:A:286:G:H2'	1:A:287:U:C6	2.36	0.59
17:P:8:ARG:HG2	17:P:17:TYR:HE2	1.66	0.59
1:A:1483:A:H2'	1:A:1484:C:C6	2.37	0.59
4:C:154:SER:OG	4:C:196:LEU:HA	2.03	0.59
10:I:73:GLN:O	10:I:76:ALA:HB3	2.03	0.59
1:A:915:A:H2'	1:A:916:G:C5'	2.32	0.59
1:A:1498:U:O2'	1:A:1499:A:P	2.60	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:9:CYS:SG	5:D:31:CYS:C	2.80	0.59
20:S:16:LEU:O	20:S:19:VAL:HG12	2.02	0.59
1:A:1152:A:H5"	11:J:13:HIS:CD2	2.38	0.59
10:I:96:LEU:HD23	10:I:102:LEU:HD11	1.84	0.59
1:A:607:A:C2	1:A:608:A:C8	2.90	0.59
19:R:39:VAL:O	19:R:42:ARG:HB2	2.03	0.59
1:A:1039:C:C2	1:A:1040:U:C6	2.91	0.59
1:A:286:G:C6	1:A:287:U:C4	2.91	0.59
14:M:37:THR:CG2	14:M:39:ILE:HG13	2.32	0.59
1:A:512:U:H2'	1:A:513:C:H6	1.67	0.59
1:A:1032:G:H2'	1:A:1033:G:C8	2.38	0.58
1:A:485:G:O2'	1:A:486:U:P	2.61	0.58
1:A:279:A:H5"	1:A:280:C:H3'	1.85	0.58
1:A:9:G:H2'	1:A:10:A:H8	1.66	0.58
15:N:25:VAL:HG12	15:N:38:GLY:O	2.03	0.58
1:A:202:U:O5'	1:A:202:U:H6	1.86	0.58
1:A:591:U:H2'	1:A:592:G:C8	2.37	0.58
1:A:1475:G:H2'	1:A:1476:G:C8	2.34	0.58
8:G:37:ASN:ND2	10:I:41:VAL:HG23	2.17	0.58
1:A:1210:C:C4'	1:A:1214:C:C4	2.86	0.58
1:A:263:A:OP2	21:T:79:ARG:NH1	2.36	0.58
1:A:101:A:C2	1:A:102:G:N9	2.71	0.58
5:D:196:LEU:HB3	5:D:198:VAL:HG23	1.85	0.58
5:D:59:ARG:CG	5:D:59:ARG:NH1	2.64	0.58
14:M:10:PRO:HB2	14:M:18:ALA:HB1	1.85	0.58
1:A:866:C:H2'	1:A:867:G:O5'	2.03	0.58
10:I:16:ARG:O	10:I:63:ILE:HG23	2.03	0.58
1:A:1413:A:O2'	1:A:1414:U:H5'	2.04	0.58
1:A:502:G:OP1	13:L:118:SER:N	2.35	0.58
1:A:383:A:C2'	1:A:384:G:H5'	2.33	0.58
1:A:578:C:O2'	1:A:728:A:N3	2.31	0.58
1:A:1100:C:O2'	1:A:1101:A:H5'	2.02	0.58
1:A:357:G:C2	1:A:358:U:C5	2.90	0.58
4:C:3:ASN:O	4:C:4:LYS:HB2	2.03	0.58
1:A:1266:G:N2	1:A:1270:C:N3	2.52	0.58
1:A:579:G:N3	1:A:580:U:C6	2.72	0.58
17:P:20:VAL:CG2	17:P:32:TYR:HB2	2.33	0.58
1:A:722:A:C2	1:A:724:G:N7	2.71	0.58
1:A:1181:G:O2'	1:A:1182:G:C8	2.55	0.58
20:S:17:GLU:HA	20:S:20:LEU:HG	1.85	0.58
6:E:15:ARG:HD3	6:E:26:PHE:CD2	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:200:ILE:HG22	3:B:201:ILE:N	2.18	0.58
1:A:412:A:O2'	1:A:413:G:OP2	2.20	0.58
1:A:1058:G:C4	1:A:1059:C:C5	2.90	0.58
1:A:345:C:C4'	1:A:346:G:O5'	2.42	0.58
1:A:1394:A:N7	1:A:1501:C:H4'	2.18	0.58
1:A:1202:G:C2	15:N:42:ILE:HG21	2.39	0.58
1:A:413:G:H2'	1:A:428:G:H21	1.68	0.58
1:A:1193:G:O2'	1:A:1194:U:C5'	2.50	0.58
11:J:54:PHE:CD2	11:J:55:LYS:HG2	2.37	0.58
1:A:947:G:C6	1:A:948:C:N4	2.72	0.58
1:A:1136:U:O5'	1:A:1136:U:H6	1.87	0.58
1:A:1080:A:H4'	6:E:16:THR:CG2	2.32	0.58
1:A:197:A:O2'	1:A:198:G:C8	2.55	0.58
1:A:722:A:C4	1:A:724:G:C8	2.91	0.58
1:A:103:C:OP1	21:T:17:ARG:HD3	2.03	0.58
1:A:622:A:N7	1:A:623:C:C6	2.71	0.58
1:A:1480:G:H2'	1:A:1481:U:C6	2.38	0.58
1:A:1250:A:C6	1:A:1251:A:C6	2.91	0.58
1:A:1367:C:H5'	11:J:60:ARG:NH1	2.18	0.58
1:A:1504:G:H5"	1:A:1505:G:H5'	1.85	0.58
1:A:902:G:O2'	1:A:903:G:H5'	2.04	0.58
1:A:597:G:N7	1:A:598:U:C5	2.71	0.58
6:E:11:ILE:O	6:E:12:LEU:HB3	2.03	0.58
1:A:1483:A:H2'	1:A:1484:C:H6	1.69	0.58
1:A:164:U:O2'	1:A:165:C:H5'	2.03	0.58
18:Q:45:HIS:HB2	18:Q:69:LYS:HE2	1.86	0.58
1:A:256:U:H2'	1:A:257:G:H8	1.68	0.58
1:A:994:A:H2'	1:A:994:A:N3	2.18	0.58
4:C:182:ILE:HA	4:C:202:ILE:O	2.04	0.58
1:A:364:A:H2'	1:A:365:U:O2	2.04	0.58
5:D:25:ARG:C	5:D:27:TYR:H	2.07	0.58
4:C:156:ARG:N	4:C:163:ALA:HA	2.16	0.58
1:A:113:G:C6	1:A:315:A:C6	2.92	0.58
20:S:41:VAL:HG23	20:S:44:MET:HG3	1.84	0.58
1:A:259:G:H2'	1:A:260:G:H8	1.65	0.58
1:A:892:A:C6	1:A:893:C:C4	2.92	0.58
13:L:83:VAL:HG22	13:L:100:ILE:HG23	1.84	0.58
1:A:460:A:C5	1:A:462:G:C5	2.91	0.58
1:A:866:C:H2'	1:A:867:G:O4'	2.04	0.58
1:A:1485:U:H2'	1:A:1485:U:O2	2.02	0.58
1:A:561:U:O2'	1:A:562:C:P	2.62	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:562:C:N4	1:A:884:U:C6	2.71	0.58
4:C:32:LEU:HD21	4:C:59:ARG:NE	2.19	0.58
1:A:233:C:C2'	1:A:234:C:H5'	2.32	0.58
1:A:695:A:C2	1:A:696:A:C4	2.91	0.58
1:A:878:G:C5'	9:H:89:PRO:HG2	2.33	0.58
3:B:145:LEU:C	3:B:147:LYS:H	2.06	0.58
1:A:390:C:H2'	1:A:391:G:H8	1.67	0.58
1:A:1366:C:O2'	1:A:1367:C:H5'	2.04	0.58
1:A:1227:A:H3'	1:A:1227:A:C8	2.39	0.58
1:A:1331:G:HO2'	1:A:1332:A:P	2.26	0.58
13:L:28:LYS:C	13:L:30:ALA:H	2.07	0.58
1:A:872:A:C4'	1:A:873:A:OP1	2.47	0.58
1:A:614:A:C2	1:A:627:G:C2	2.91	0.58
1:A:1429:C:H2'	1:A:1430:C:H6	1.69	0.58
4:C:55:VAL:O	4:C:55:VAL:HG12	2.02	0.58
1:A:1007:C:O2'	1:A:1008:C:H5'	2.04	0.57
1:A:1206:G:O5'	1:A:1206:G:H8	1.87	0.57
1:A:1532:U:C2	1:A:1533:C:C5	2.92	0.57
3:B:111:ARG:NH1	3:B:111:ARG:HG2	2.18	0.57
3:B:178:ARG:NH2	9:H:74:PRO:HB3	2.19	0.57
16:O:56:LEU:HA	16:O:59:MET:HE2	1.86	0.57
1:A:1182:G:O2'	1:A:1183:A:OP2	2.22	0.57
1:A:622:A:C8	1:A:623:C:C6	2.92	0.57
10:I:89:ASN:HB3	10:I:92:TYR:CE1	2.39	0.57
1:A:270:A:H2'	1:A:271:C:C6	2.39	0.57
1:A:715:A:OP1	1:A:805:C:H1'	2.04	0.57
14:M:78:ILE:O	14:M:81:LEU:HD23	2.03	0.57
1:A:1221:G:H5"	20:S:36:ARG:NH1	2.18	0.57
1:A:748:C:H1'	1:A:749:C:H5	1.69	0.57
1:A:518:C:H5"	1:A:519:C:C6	2.39	0.57
1:A:1080:A:C4'	6:E:16:THR:HG21	2.34	0.57
1:A:123:C:H5"	1:A:311:C:O2'	2.04	0.57
1:A:1290:G:C5	1:A:1291:G:N7	2.72	0.57
1:A:496:A:H5"	1:A:497:A:OP1	2.04	0.57
1:A:741:G:C2'	1:A:742:G:H5'	2.35	0.57
1:A:501:C:H2'	1:A:502:G:C8	2.35	0.57
1:A:815:A:H5"	1:A:817:C:N4	2.19	0.57
1:A:400:C:H2'	1:A:401:C:H6	1.68	0.57
1:A:770:C:O4'	1:A:900:A:H2	1.87	0.57
1:A:645:C:O2'	1:A:646:U:H5'	2.02	0.57
1:A:373:A:H1'	1:A:481:G:N3	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1055:A:O2'	4:C:156:ARG:NH1	2.38	0.57
1:A:1371:G:OP2	10:I:11:LYS:HE2	2.04	0.57
1:A:41:G:O2'	1:A:42:G:H5'	2.03	0.57
1:A:425:G:HO2'	1:A:426:G:H5'	1.68	0.57
8:G:37:ASN:ND2	10:I:41:VAL:H	2.01	0.57
1:A:1245:A:H2'	1:A:1246:C:C6	2.39	0.57
21:T:33:ILE:HD13	21:T:63:ILE:HG12	1.86	0.57
14:M:3:ARG:HG2	14:M:9:ILE:HG12	1.85	0.57
17:P:15:PRO:O	17:P:41:PRO:HD2	2.04	0.57
3:B:218:ALA:O	3:B:221:LEU:HB3	2.03	0.57
1:A:1030(B):C:H3'	1:A:1030(C):G:H5"	1.84	0.57
1:A:448:A:C6	1:A:487:A:N3	2.73	0.57
1:A:451:A:N7	1:A:481:G:C2	2.73	0.57
1:A:487:A:H2'	1:A:488:C:H5'	1.83	0.57
1:A:491:G:C2	1:A:492:G:C8	2.92	0.57
1:A:864:A:H2'	1:A:865:A:C8	2.40	0.57
1:A:1313:U:OP2	20:S:6:LYS:HA	2.04	0.57
1:A:1298:C:H2'	8:G:114:ARG:HH12	1.68	0.57
6:E:122:GLU:O	6:E:123:LEU:HD23	2.04	0.57
1:A:815:A:H4'	1:A:817:C:C4	2.40	0.57
21:T:14:LYS:HA	21:T:17:ARG:HB3	1.86	0.57
1:A:685:G:H5'	12:K:39:PRO:O	2.04	0.57
18:Q:51:TYR:CE1	18:Q:73:VAL:HG11	2.39	0.57
1:A:677:U:H1'	12:K:119:CYS:SG	2.44	0.57
6:E:13:ILE:HA	6:E:29:GLY:O	2.04	0.57
1:A:1054:C:H3'	1:A:1054:C:C6	2.39	0.57
1:A:1233:G:N3	1:A:1234:C:C6	2.72	0.57
1:A:625:G:C4	1:A:626:U:C6	2.93	0.57
1:A:1149:C:C2	1:A:1150:U:C6	2.91	0.57
1:A:1143:G:H2'	1:A:1144:G:O4'	2.03	0.57
1:A:1240:U:OP1	8:G:119:ARG:NH2	2.37	0.57
1:A:1085:U:H3'	1:A:1086:U:C6	2.40	0.57
1:A:611:A:H2'	1:A:612:C:H5'	1.86	0.57
1:A:144:G:C6	1:A:145:G:N7	2.72	0.57
1:A:374:A:C4	1:A:375:U:C5	2.93	0.57
1:A:449:C:H3'	1:A:450:G:H8	1.70	0.57
4:C:11:ARG:O	4:C:13:GLY:N	2.37	0.57
1:A:4:U:C4	9:H:105:ARG:HD2	2.39	0.57
1:A:1038:C:O2	1:A:1039:C:C6	2.58	0.57
7:F:26:ILE:O	7:F:30:LEU:HG	2.05	0.57
1:A:448:A:C8	1:A:487:A:C6	2.93	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:50:ILE:HA	11:J:60:ARG:HA	1.85	0.57
1:A:1148:U:C4'	10:I:14:VAL:HG11	2.27	0.57
1:A:1310:G:C2	1:A:1328:C:N3	2.72	0.57
1:A:1504:G:O2'	1:A:1505:G:OP2	2.23	0.57
1:A:565:U:C4	1:A:566:G:C5	2.93	0.57
1:A:187:C:N3	21:T:105:SER:HB2	2.20	0.57
1:A:14:U:N3	1:A:17:U:OP2	2.33	0.57
1:A:1343:G:H1'	10:I:121:ARG:NH1	2.19	0.57
7:F:67:MET:HB2	7:F:68:PRO:CD	2.34	0.57
1:A:1015:A:O5'	1:A:1015:A:H8	1.88	0.57
1:A:220:G:O2'	1:A:221:C:H5'	2.04	0.57
1:A:628:G:H2'	1:A:629:G:H8	1.69	0.57
1:A:1004:A:H2'	1:A:1005:A:C8	2.40	0.57
1:A:1005:A:H4'	1:A:1037:C:O2'	2.05	0.57
1:A:1358:U:H3'	1:A:1359:C:C5	2.40	0.57
1:A:885:G:O2'	1:A:914:A:N1	2.33	0.57
1:A:1301:U:C5	1:A:1303:C:C6	2.92	0.57
1:A:955:U:H1'	1:A:1227:A:H61	1.69	0.57
1:A:519:C:H2'	1:A:520:A:C8	2.40	0.57
1:A:1278:U:H5'	1:A:1279:A:O4'	2.05	0.57
1:A:219:C:C4	1:A:220:G:N7	2.73	0.57
12:K:41:THR:HG21	12:K:71:LYS:CB	2.34	0.57
9:H:91:ARG:HG2	13:L:7:ILE:HG21	1.87	0.57
8:G:92:SER:HB2	8:G:93:PRO:HD2	1.87	0.57
4:C:6:HIS:CD2	4:C:8:ILE:HB	2.40	0.56
1:A:714:G:N3	1:A:777:A:H1'	2.19	0.56
1:A:741:G:O2'	1:A:742:G:H5'	2.05	0.56
1:A:418:C:H2'	1:A:419:C:H6	1.70	0.56
1:A:505:G:H5'	1:A:534:U:H2'	1.87	0.56
1:A:901:A:N7	1:A:902:G:H1'	2.19	0.56
1:A:722:A:C6	1:A:724:G:C4	2.93	0.56
1:A:101:A:N3	1:A:102:G:C8	2.73	0.56
1:A:166:G:O2'	1:A:167:G:H5'	2.05	0.56
1:A:285:G:O2'	1:A:286:G:H5'	2.04	0.56
11:J:8:LEU:CD2	11:J:96:ILE:HG12	2.35	0.56
10:I:50:LEU:C	10:I:52:ALA:H	2.08	0.56
3:B:100:GLY:C	3:B:102:LEU:H	2.09	0.56
1:A:1061:G:N2	1:A:1197:G:H1'	2.20	0.56
1:A:1292:U:OP1	8:G:41:ARG:NH2	2.38	0.56
1:A:113:G:C2	1:A:114:U:C2	2.94	0.56
1:A:1302:U:O2'	1:A:1303:C:OP1	2.18	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:328:C:C2'	1:A:328:C:O2	2.52	0.56
1:A:1503:A:O2'	1:A:1504:G:OP1	2.20	0.56
1:A:1508:G:C4	1:A:1509:C:C5	2.93	0.56
5:D:8:VAL:O	5:D:10:ARG:N	2.38	0.56
1:A:830:G:H2'	1:A:831:U:O4'	2.05	0.56
1:A:512:U:H2'	1:A:513:C:C6	2.40	0.56
1:A:676:A:C6	1:A:677:U:C4	2.93	0.56
1:A:792:A:O2'	1:A:793:U:P	2.63	0.56
1:A:452:A:O2'	1:A:453:A:O5'	2.23	0.56
1:A:840:C:H4'	1:A:841:U:O5'	2.05	0.56
1:A:410:G:C2	1:A:429:U:C2	2.94	0.56
1:A:1195:C:C3'	1:A:1196:U:C5'	2.82	0.56
1:A:160:A:H1'	1:A:344:A:C5	2.39	0.56
1:A:943:U:H2'	1:A:944:G:H5'	1.88	0.56
1:A:518:C:H5"	1:A:519:C:H6	1.70	0.56
1:A:1020:U:HO2'	1:A:1021:G:H5'	1.70	0.56
1:A:1532:U:C4	1:A:1533:C:N4	2.73	0.56
1:A:1520:G:C4	1:A:1521:G:N7	2.73	0.56
1:A:1072:G:H2'	1:A:1073:U:O4'	2.04	0.56
1:A:1179:A:H5"	10:I:102:LEU:O	2.06	0.56
1:A:910:C:H5"	13:L:97:ARG:NH2	2.19	0.56
7:F:67:MET:HB2	7:F:68:PRO:HD2	1.87	0.56
1:A:417:C:O5'	1:A:417:C:H6	1.89	0.56
1:A:1187:G:H3'	1:A:1188:A:C8	2.36	0.56
1:A:889:A:C4'	1:A:890:G:OP1	2.50	0.56
1:A:1225:A:C1'	20:S:78:ARG:NH1	2.67	0.56
1:A:939:G:H5"	8:G:102:ARG:NH1	2.20	0.56
1:A:517:G:H4'	1:A:519:C:C5	2.41	0.56
1:A:533:A:O2'	1:A:535:A:OP2	2.21	0.56
1:A:753:A:C4'	1:A:754:C:O5'	2.46	0.56
1:A:60:A:C4'	1:A:61:G:O5'	2.47	0.56
1:A:1449:C:O2'	1:A:1450:U:H5'	2.05	0.56
12:K:84:VAL:HG22	12:K:109:VAL:O	2.06	0.56
1:A:129(A):G:H4'	1:A:130:A:O5'	2.06	0.56
1:A:1120:G:O2'	1:A:1121:U:H5'	2.06	0.56
1:A:650:G:C6	1:A:651:C:C5	2.93	0.56
1:A:828:A:C2'	1:A:829:G:O5'	2.52	0.56
1:A:1168:A:O5'	1:A:1168:A:H8	1.88	0.56
1:A:448:A:N6	1:A:487:A:H1'	2.19	0.56
1:A:247:G:OP2	18:Q:100:LYS:HD2	2.04	0.56
1:A:257:G:C6	1:A:270:A:N1	2.73	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1189:C:P	11:J:51:ARG:HH22	2.29	0.56
1:A:1539:C:H2'	1:A:1540:U:H6	1.70	0.56
1:A:592:G:N2	1:A:593:G:C4	2.74	0.56
1:A:59:A:H3'	1:A:331:G:H22	1.69	0.56
1:A:392:G:C6	1:A:393:A:C5	2.93	0.56
1:A:624:C:O2'	1:A:625:G:C5'	2.50	0.56
1:A:116:A:H2'	1:A:117:G:O4'	2.06	0.56
1:A:886:G:C4	1:A:887:G:C8	2.94	0.56
12:K:57:THR:CG2	12:K:60:ALA:H	2.15	0.56
1:A:1038:C:N3	1:A:1039:C:C5	2.74	0.56
1:A:89:C:H2'	1:A:90:U:O5'	2.06	0.56
1:A:445:G:C5	1:A:446:G:N7	2.74	0.56
1:A:1223:C:OP2	20:S:78:ARG:NH2	2.39	0.56
1:A:1256:A:H2	1:A:1258:G:C6	2.20	0.56
1:A:1215:G:C2	1:A:1216:G:C8	2.94	0.56
1:A:252:U:H2'	1:A:253:U:C6	2.39	0.56
1:A:766:A:C8	1:A:814:A:N6	2.74	0.56
1:A:627:G:O2'	1:A:628:G:H5'	2.06	0.56
1:A:44:G:H2'	1:A:45:U:O4'	2.05	0.56
1:A:1058:G:N2	11:J:53:PRO:HG3	2.21	0.56
20:S:22:LEU:HD11	20:S:31:ILE:HD11	1.88	0.56
3:B:108:ILE:O	3:B:111:ARG:N	2.39	0.56
1:A:162:A:H8	1:A:162:A:O5'	1.89	0.56
1:A:612:C:O2'	1:A:613:C:H5'	2.06	0.56
1:A:123:C:OP1	1:A:312:C:H5'	2.06	0.56
11:J:20:ALA:O	11:J:24:VAL:HG23	2.05	0.56
14:M:56:LEU:O	14:M:60:VAL:HG23	2.06	0.56
22:V:24:ARG:O	22:V:25:LYS:HB2	2.05	0.56
1:A:1249:C:O2'	10:I:73:GLN:NE2	2.38	0.56
1:A:1149:C:C2'	1:A:1150:U:H6	2.03	0.56
1:A:559:A:OP2	6:E:126:ARG:NH2	2.31	0.56
4:C:91:LEU:CD2	4:C:99:VAL:HG13	2.31	0.56
1:A:14:U:O2	1:A:16:A:C8	2.59	0.56
1:A:789:U:C2	1:A:791:G:OP2	2.59	0.56
1:A:98:U:N3	1:A:99:C:C5	2.74	0.56
1:A:228:A:H2'	1:A:229:U:H6	1.70	0.56
17:P:6:LEU:HD23	17:P:17:TYR:CD1	2.40	0.56
5:D:127:THR:HG22	5:D:128:VAL:N	2.21	0.56
1:A:445:G:H2'	1:A:446:G:H8	1.71	0.56
1:A:1206:G:C4	1:A:1207:G:C8	2.95	0.56
1:A:114:U:H2'	1:A:115:G:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1231:G:H4'	10:I:126:SER:OG	2.05	0.56
1:A:746:A:C5	1:A:747:C:C5	2.94	0.56
1:A:176:C:O2	1:A:177:C:C6	2.59	0.56
1:A:252:U:H2'	1:A:253:U:C5	2.41	0.56
1:A:402:G:C2'	1:A:403:C:H5'	2.35	0.56
9:H:104:ARG:NH2	9:H:138:TRP:CH2	2.74	0.56
11:J:34:VAL:HG12	11:J:36:GLY:H	1.71	0.56
1:A:631:G:H2'	1:A:632:A:C8	2.40	0.56
1:A:452:A:C2	1:A:453:A:H1'	2.41	0.55
1:A:1292:U:C5'	10:I:38:GLN:NE2	2.60	0.55
1:A:110:C:H2'	1:A:111:G:O4'	2.06	0.55
1:A:774:G:N2	1:A:775:G:H1'	2.21	0.55
1:A:1305:G:H22	1:A:1331:G:HO2'	1.52	0.55
1:A:176:C:N3	1:A:177:C:C5	2.74	0.55
1:A:1010:G:HO2'	1:A:1011:G:H5'	1.71	0.55
1:A:909:A:C8	1:A:910:C:C5	2.94	0.55
1:A:1168:A:H2'	1:A:1169:A:C8	2.42	0.55
1:A:292:G:N2	1:A:309:G:C4	2.74	0.55
1:A:445:G:C6	1:A:490:G:C6	2.94	0.55
1:A:1197:G:C8	1:A:1197:G:O5'	2.59	0.55
11:J:54:PHE:O	11:J:55:LYS:HB3	2.06	0.55
1:A:890:G:O2'	1:A:891:U:OP2	2.24	0.55
1:A:1329:A:H2'	1:A:1330:U:H5'	1.89	0.55
1:A:1390:U:H2'	1:A:1391:U:H6	1.72	0.55
1:A:636:U:O2'	1:A:637:G:H5'	2.07	0.55
12:K:57:THR:OG1	12:K:58:PRO:HD2	2.05	0.55
8:G:146:GLU:HA	8:G:149:ARG:HB2	1.87	0.55
8:G:15:ASP:HB3	8:G:19:GLY:H	1.71	0.55
1:A:446:G:H2'	1:A:447:G:C5'	2.37	0.55
1:A:1186:G:H21	15:N:61:TRP:C	2.10	0.55
1:A:1290:G:C4	1:A:1291:G:C8	2.95	0.55
1:A:1248:A:H1'	10:I:70:LYS:CE	2.35	0.55
1:A:22:G:C5	1:A:23:C:C5	2.94	0.55
1:A:55:A:H2	1:A:56:U:H1'	1.70	0.55
1:A:1303:C:H2'	1:A:1304:G:H5'	1.89	0.55
1:A:171:A:O2'	1:A:172:A:H5'	2.06	0.55
1:A:382:A:O2'	1:A:383:A:H5'	2.06	0.55
1:A:1451:A:C5'	1:A:1452:C:H5	2.17	0.55
1:A:1157:A:N6	1:A:1180:A:C6	2.75	0.55
1:A:163:C:O2'	1:A:164:U:H5'	2.05	0.55
9:H:48:TYR:HA	9:H:60:ARG:O	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Q:61:GLU:HA	18:Q:71:PHE:CD1	2.41	0.55
5:D:134:ASP:O	5:D:136:PRO:HD3	2.07	0.55
1:A:485:G:HO2'	1:A:486:U:P	2.29	0.55
1:A:1055:A:C5	1:A:1206:G:C2	2.94	0.55
1:A:961:U:O2	1:A:983:A:C4	2.59	0.55
1:A:969:A:C2'	1:A:970:C:H5'	2.37	0.55
1:A:328:C:H4'	1:A:329:A:C5'	2.36	0.55
1:A:1397:C:O2'	1:A:1398:A:P	2.64	0.55
1:A:1480:G:C6	1:A:1481:U:C4	2.94	0.55
1:A:1150:U:H4'	11:J:41:PRO:HD3	1.89	0.55
1:A:1225:A:C5'	14:M:103:THR:OG1	2.55	0.55
14:M:81:LEU:HD23	14:M:81:LEU:H	1.70	0.55
1:A:1021:G:H2'	1:A:1022:G:O4'	2.06	0.55
1:A:64:G:H4'	1:A:65:U:O5'	2.07	0.55
1:A:1521:G:O2'	1:A:1522:U:H5'	2.06	0.55
1:A:319:G:C6	1:A:320:C:C5	2.95	0.55
19:R:66:LEU:O	19:R:66:LEU:HD12	2.06	0.55
9:H:36:LEU:HD22	9:H:61:VAL:HG22	1.87	0.55
1:A:391:G:C5	1:A:392:G:C8	2.95	0.55
1:A:454:C:C2'	1:A:455:C:H5'	2.36	0.55
1:A:1433:A:O2'	1:A:1434:A:H5'	2.07	0.55
1:A:113:G:C6	1:A:114:U:O4	2.60	0.55
1:A:58:C:O2	1:A:58:C:H2'	2.05	0.55
1:A:945:G:O6	1:A:1337:G:C6	2.59	0.55
1:A:1231:G:C2'	1:A:1232:U:H5'	2.37	0.55
1:A:1332:A:C2	1:A:1333:A:C4	2.95	0.55
14:M:81:LEU:HD22	14:M:81:LEU:H	1.72	0.55
1:A:339:C:C2	1:A:340:U:C5	2.94	0.55
1:A:637:G:O2'	1:A:638:G:H5'	2.06	0.55
6:E:89:ILE:HD13	6:E:89:ILE:C	2.26	0.55
1:A:1509:C:N3	1:A:1510:U:C5	2.75	0.55
1:A:725:G:H2'	1:A:726:C:H6	1.71	0.55
1:A:522:C:H2'	1:A:523:A:O4'	2.06	0.55
4:C:152:ILE:HD12	4:C:201:TYR:HE1	1.72	0.55
4:C:152:ILE:HG22	4:C:153:VAL:N	2.20	0.55
1:A:877:C:H1'	9:H:3:THR:CG2	2.37	0.55
13:L:75:HIS:CD2	13:L:77:LEU:HB2	2.41	0.55
1:A:1012:U:O2'	1:A:1013:G:H5'	2.07	0.55
14:M:73:GLU:O	14:M:77:ASN:HB2	2.06	0.55
8:G:74:GLU:HG2	8:G:91:VAL:HG22	1.89	0.55
1:A:373:A:C2	1:A:482:A:C6	2.94	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:949:A:C8	1:A:950:U:C5	2.94	0.55
1:A:740:U:O2'	1:A:741:G:H5'	2.07	0.55
1:A:927:G:H4'	1:A:1503:A:N7	2.21	0.55
1:A:10:A:O2'	1:A:11:G:H5'	2.07	0.55
1:A:723:U:O2	1:A:723:U:C2'	2.52	0.55
1:A:522:C:H41	13:L:53:ARG:HH22	1.55	0.55
1:A:523:A:N6	13:L:53:ARG:HH12	2.04	0.55
17:P:67:THR:HG22	17:P:68:ASP:N	2.22	0.55
20:S:11:VAL:HA	20:S:38:SER:HB3	1.89	0.55
1:A:452:A:H4'	17:P:72:ARG:NH2	2.22	0.55
1:A:410:G:N2	1:A:429:U:N3	2.54	0.55
1:A:1064:G:H4'	1:A:1065:U:H5"	1.88	0.55
1:A:1370:G:O2'	1:A:1371:G:H5'	2.07	0.55
1:A:961:U:C2	1:A:983:A:C4	2.95	0.55
1:A:1220:G:H2'	1:A:1221:G:C8	2.41	0.55
1:A:608:A:C4	1:A:609:A:C8	2.95	0.55
1:A:722:A:N1	1:A:724:G:C5	2.75	0.55
1:A:7:G:H4'	1:A:8:A:OP1	2.06	0.55
1:A:99:C:H2'	1:A:101:A:H8	1.68	0.55
6:E:144:THR:HG22	6:E:145:LYS:N	2.22	0.55
1:A:1472:U:O2'	1:A:1473:A:H5'	2.06	0.55
1:A:836:G:C6	1:A:851:G:C6	2.94	0.55
1:A:492:G:C4	1:A:494:G:C8	2.95	0.55
1:A:411:A:H1'	1:A:413:G:H1'	1.89	0.55
1:A:1315:U:H2'	1:A:1316:G:O4'	2.06	0.55
1:A:664:G:N2	1:A:741:G:H1	1.92	0.55
1:A:1402:C:H2'	1:A:1403:C:O4'	2.07	0.55
1:A:925:G:C2	1:A:927:G:C8	2.95	0.55
1:A:174:C:N3	1:A:175:C:C5	2.75	0.55
1:A:646:U:O2'	1:A:647:C:H5'	2.07	0.55
17:P:4:ILE:HG12	17:P:21:VAL:HG22	1.88	0.55
1:A:540:G:H2'	1:A:541:G:C5'	2.35	0.55
1:A:1082:G:N1	1:A:1083:U:C2	2.74	0.55
1:A:1470:G:O2'	1:A:1471:G:H5'	2.07	0.55
1:A:668:G:H2'	1:A:669:U:H6	1.72	0.55
16:O:3:ILE:N	16:O:3:ILE:HD12	2.21	0.55
9:H:26:VAL:CG1	9:H:59:LEU:HB2	2.37	0.55
8:G:69:VAL:HG21	8:G:104:LEU:HD21	1.88	0.55
1:A:391:G:C6	1:A:392:G:N7	2.75	0.55
1:A:1435:G:C4	1:A:1436:U:C5	2.95	0.55
1:A:1206:G:H4'	4:C:192:THR:O	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:369:C:O2'	1:A:370:C:H5'	2.07	0.55
1:A:370:C:N3	1:A:371:G:N7	2.55	0.55
1:A:953:G:C4	1:A:1229:A:C2	2.95	0.55
1:A:1331:G:C2'	1:A:1332:A:OP2	2.54	0.55
1:A:822:C:O2'	1:A:823:G:H5'	2.07	0.55
1:A:642:A:C4	1:A:643:C:C6	2.95	0.55
1:A:909:A:C8	1:A:910:C:C6	2.95	0.55
6:E:32:VAL:HG12	6:E:33:VAL:N	2.23	0.55
15:N:27:CYS:SG	15:N:29:ARG:HB3	2.46	0.55
6:E:76:ILE:O	6:E:93:PRO:HB3	2.07	0.55
1:A:1030(B):C:C3'	1:A:1030(C):G:C5'	2.84	0.54
1:A:389:A:C2'	1:A:390:C:H5'	2.22	0.54
1:A:1333:A:C5	1:A:1334:G:C8	2.96	0.54
4:C:59:ARG:HD3	4:C:64:VAL:HG22	1.88	0.54
1:A:1531:A:C5	1:A:1532:U:C4	2.95	0.54
1:A:236:G:H2'	1:A:237:C:C6	2.39	0.54
1:A:613:C:O2'	1:A:614:A:H5'	2.08	0.54
4:C:12:LEU:HA	4:C:16:ARG:O	2.06	0.54
13:L:70:ILE:HG12	13:L:100:ILE:HD12	1.89	0.54
1:A:706:A:O4'	12:K:29:ILE:HD11	2.07	0.54
10:I:89:ASN:HB3	10:I:92:TYR:CD1	2.42	0.54
13:L:7:ILE:O	13:L:11:VAL:HG23	2.07	0.54
1:A:996:A:H2'	1:A:997:U:C6	2.43	0.54
5:D:105:VAL:HG13	5:D:110:PHE:HB2	1.89	0.54
4:C:134:ILE:O	4:C:137:ALA:HB3	2.07	0.54
1:A:1287:A:C2	1:A:1353:G:H1'	2.43	0.54
1:A:1374:A:H2'	1:A:1375:A:H8	1.71	0.54
1:A:953:G:C2	1:A:1229:A:C4	2.96	0.54
1:A:186:C:C2	1:A:187:C:C5	2.95	0.54
1:A:204:U:H4'	1:A:216:G:O5'	2.07	0.54
1:A:1118:C:H1'	1:A:1179:A:C4	2.42	0.54
4:C:120:VAL:O	4:C:123:GLN:HB2	2.07	0.54
9:H:16:ALA:O	9:H:19:VAL:HG22	2.08	0.54
21:T:56:MET:O	21:T:59:ALA:HB3	2.06	0.54
5:D:174:LEU:HD23	5:D:185:PHE:HA	1.88	0.54
1:A:445:G:C6	1:A:446:G:N7	2.75	0.54
1:A:1372:U:H2'	1:A:1373:G:O4'	2.07	0.54
1:A:945:G:C2	1:A:946:A:C8	2.95	0.54
1:A:1305:G:H5"	22:V:4:GLY:C	2.27	0.54
1:A:607:A:C2	1:A:608:A:N9	2.75	0.54
9:H:65:TYR:HA	9:H:79:VAL:HG23	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1434:A:H2'	1:A:1435:G:C8	2.42	0.54
1:A:1191:A:H5"	4:C:4:LYS:HZ3	1.72	0.54
1:A:20:U:C2'	1:A:21:G:H5'	2.38	0.54
1:A:890:G:O2'	1:A:906:G:N1	2.40	0.54
1:A:426:G:O2'	1:A:427:U:H5'	2.08	0.54
1:A:335:C:H2'	1:A:336:C:C6	2.42	0.54
1:A:130:A:H5"	1:A:190(F):G:H2'	1.89	0.54
1:A:1539:C:H2'	1:A:1540:U:C6	2.42	0.54
1:A:92:C:H2'	1:A:93:G:C8	2.43	0.54
1:A:1182:G:H4'	1:A:1183:A:O5'	2.07	0.54
10:I:47:LEU:C	10:I:49:PRO:HD2	2.27	0.54
1:A:877:C:O2'	9:H:3:THR:HG23	2.07	0.54
1:A:575:G:C2	1:A:881:G:C4	2.95	0.54
1:A:1261:A:H62	1:A:1274:G:H21	1.55	0.54
1:A:451:A:N6	1:A:481:G:C4	2.75	0.54
1:A:243:A:C2	1:A:245:C:C2	2.96	0.54
1:A:1347:G:H22	1:A:1374:A:P	2.30	0.54
16:O:82:ILE:HG23	16:O:87:ILE:H	1.73	0.54
1:A:1311:G:C6	1:A:1312:G:N7	2.76	0.54
1:A:1086:U:C2'	1:A:1087:G:H8	2.12	0.54
1:A:754:C:O2	1:A:754:C:H2'	2.08	0.54
1:A:9:G:C6	1:A:26:A:N6	2.75	0.54
1:A:172:A:C8	1:A:174:C:C5	2.96	0.54
1:A:190(A):C:H2'	1:A:190(B):C:H5'	1.89	0.54
1:A:1152:A:H5'	11:J:13:HIS:HB2	1.90	0.54
8:G:37:ASN:HD21	10:I:41:VAL:H	1.56	0.54
15:N:27:CYS:SG	15:N:29:ARG:HB2	2.47	0.54
3:B:124:SER:O	3:B:127:ILE:HG13	2.06	0.54
5:D:187:ARG:HD2	5:D:188:LEU:H	1.72	0.54
1:A:1004:A:H5'	1:A:1025:U:O2	2.08	0.54
1:A:429:U:H4'	1:A:430:A:C5'	2.37	0.54
4:C:157:ILE:HB	4:C:164:ARG:HH21	1.73	0.54
1:A:547:A:OP1	5:D:3:ARG:NH2	2.41	0.54
1:A:949:A:C5	1:A:950:U:C5	2.96	0.54
1:A:67:C:O2'	1:A:171:A:H1'	2.08	0.54
1:A:1151:A:C2	1:A:1152:A:C4	2.95	0.54
1:A:1104:G:P	3:B:111:ARG:HD2	2.48	0.54
1:A:81:U:C6	1:A:83:U:OP2	2.61	0.54
1:A:686:U:H2'	1:A:687:A:C8	2.43	0.54
14:M:34:LEU:CD1	14:M:41:PRO:HG3	2.37	0.54
14:M:13:LYS:O	14:M:45:VAL:HG23	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:414:A:N7	1:A:431:A:C2	2.76	0.54
1:A:1054:C:C3'	1:A:1054:C:C6	2.91	0.54
1:A:1305:G:O2'	1:A:1306:A:C8	2.60	0.54
1:A:1333:A:C2'	1:A:1334:G:H5'	2.37	0.54
1:A:1298:C:C6	8:G:114:ARG:NH1	2.76	0.54
1:A:658:G:H2'	1:A:659:U:C6	2.41	0.54
1:A:129(A):G:N3	1:A:190(E):U:C5'	2.70	0.54
3:B:140:HIS:O	3:B:143:GLU:HB2	2.08	0.54
1:A:448:A:C2	1:A:449:C:N3	2.76	0.54
1:A:1055:A:H1'	4:C:156:ARG:NH1	2.21	0.54
1:A:1187:G:C2	1:A:1188:A:C4	2.96	0.54
1:A:1440:C:C2'	1:A:1441:G:H5'	2.38	0.54
1:A:1219:U:C2	1:A:1220:G:N7	2.75	0.54
1:A:1333:A:H2'	1:A:1334:G:C5'	2.38	0.54
1:A:31:G:O2'	1:A:32:A:P	2.66	0.54
1:A:190(D):U:O2'	1:A:190(E):U:H5'	2.07	0.54
1:A:274:A:HO2'	1:A:275:G:H8	1.55	0.54
13:L:75:HIS:HD2	13:L:77:LEU:CB	2.20	0.54
3:B:187:LEU:HA	3:B:201:ILE:HB	1.90	0.54
3:B:16:HIS:O	3:B:44:LEU:HD11	2.07	0.54
1:A:1023:G:H2'	1:A:1023:G:N3	2.22	0.54
1:A:39:G:C6	1:A:40:C:C5	2.95	0.54
1:A:1221:G:OP1	1:A:1321:C:N3	2.41	0.54
1:A:1415:G:O2'	1:A:1416:G:H5'	2.07	0.54
1:A:1202:G:O2'	1:A:1203:C:H5'	2.08	0.54
1:A:273:A:N6	1:A:274:A:N6	2.56	0.54
14:M:37:THR:HG22	14:M:39:ILE:HG13	1.88	0.54
1:A:1454:G:H2'	1:A:1455:G:H8	1.73	0.54
1:A:720:C:H6	1:A:720:C:O5'	1.91	0.54
1:A:479:C:O2'	1:A:480:U:H5'	2.08	0.54
1:A:414:A:C2	1:A:415:A:H1'	2.27	0.54
1:A:1058:G:C5	1:A:1059:C:C5	2.97	0.54
1:A:1306:A:C2	1:A:1307:U:C2	2.96	0.54
1:A:533:A:C5	1:A:536:C:C4	2.96	0.54
13:L:117:ARG:O	13:L:119:LYS:O	2.26	0.54
1:A:61:G:H2'	1:A:62:U:O4'	2.08	0.54
1:A:568:G:N2	1:A:883:C:C2	2.76	0.54
1:A:895:G:H2'	1:A:896:C:C6	2.42	0.54
22:V:10:ARG:HA	22:V:13:ILE:HD12	1.90	0.54
1:A:1030(B):C:O4'	1:A:1030(B):C:OP1	2.26	0.53
1:A:386:C:H2'	1:A:387:U:C5'	2.33	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:492:G:N2	1:A:494:G:H1'	2.22	0.53
1:A:1293:G:H2'	1:A:1294:G:O4'	2.08	0.53
1:A:1353:G:N2	1:A:1354:C:C2	2.76	0.53
1:A:1130:A:N6	1:A:1144:G:N2	2.51	0.53
1:A:1300:G:O2'	1:A:1301:U:C6	2.53	0.53
1:A:1329:A:P	14:M:28:ALA:HB3	2.48	0.53
20:S:46:GLY:H	20:S:62:ILE:HG23	1.73	0.53
1:A:924:C:H2'	1:A:925:G:H5'	1.90	0.53
1:A:148:G:N3	1:A:149:A:C8	2.76	0.53
1:A:402:G:C6	1:A:403:C:C5	2.95	0.53
1:A:894:G:H2'	1:A:895:G:C8	2.42	0.53
5:D:157:LEU:CD2	5:D:161:ASN:HD21	2.20	0.53
3:B:100:GLY:N	3:B:176:GLU:OE2	2.41	0.53
19:R:43:PHE:HA	19:R:51:LEU:HD12	1.89	0.53
1:A:1380:U:O2'	1:A:1381:U:OP2	2.23	0.53
1:A:1367:C:C2	1:A:1368:G:C8	2.96	0.53
1:A:1319:A:C4'	1:A:1320:C:OP1	2.50	0.53
1:A:1333:A:O2'	1:A:1334:G:H5'	2.08	0.53
2:1:3:A:H2'	2:1:4:A:C8	2.42	0.53
1:A:1157:A:N6	1:A:1180:A:C5	2.77	0.53
6:E:12:LEU:HD13	6:E:31:LEU:HB2	1.91	0.53
11:J:82:ILE:HG22	11:J:82:ILE:O	2.08	0.53
5:D:120:LEU:HD23	5:D:125:HIS:HD2	1.73	0.53
1:A:1010:G:O2'	1:A:1011:G:C5'	2.52	0.53
1:A:692:U:O2	1:A:694:A:OP2	2.27	0.53
4:C:70:VAL:HG12	4:C:72:LYS:H	1.72	0.53
1:A:166:G:N3	1:A:167:G:C8	2.76	0.53
1:A:144:G:N1	1:A:145:G:C5	2.76	0.53
1:A:1525:G:O2'	1:A:1526:G:H5'	2.08	0.53
1:A:940:C:C2	1:A:941:G:C8	2.97	0.53
1:A:261:U:C6	21:T:79:ARG:NH1	2.76	0.53
10:I:79:LEU:O	10:I:82:ALA:HB3	2.08	0.53
13:L:85:ILE:HA	13:L:99:HIS:O	2.08	0.53
9:H:123:GLU:O	9:H:127:LEU:HD23	2.08	0.53
1:A:448:A:OP2	1:A:485:G:N2	2.39	0.53
1:A:986:A:H2'	1:A:987:G:H8	1.73	0.53
1:A:659:U:O2'	1:A:660:G:H5'	2.09	0.53
14:M:65:LYS:HE2	14:M:69:GLU:HG2	1.89	0.53
1:A:872:A:C4	1:A:874:G:N7	2.77	0.53
1:A:597:G:C5	1:A:598:U:C6	2.96	0.53
1:A:1123:A:O2'	11:J:38:ILE:HG23	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:393:A:C4	1:A:394:G:C8	2.97	0.53
1:A:393:A:N3	1:A:394:G:C8	2.76	0.53
1:A:458:C:N3	1:A:459:G:C8	2.76	0.53
1:A:487:A:C2'	1:A:488:C:C5'	2.83	0.53
1:A:490:G:C5	1:A:491:G:N7	2.76	0.53
1:A:1197:G:O2'	1:A:1198:G:H5'	2.09	0.53
1:A:116:A:H61	1:A:313:A:H1'	1.72	0.53
1:A:435:C:C2	1:A:436:C:C5	2.96	0.53
1:A:802:A:C8	1:A:803:G:C8	2.96	0.53
1:A:1281:U:H5'	1:A:1282:C:C5	2.40	0.53
1:A:425:G:C2'	1:A:426:G:C5'	2.87	0.53
16:O:25:THR:HG21	16:O:70:LEU:HD21	1.89	0.53
3:B:100:GLY:C	3:B:102:LEU:N	2.62	0.53
17:P:10:GLY:HA3	17:P:14:ASN:O	2.09	0.53
1:A:448:A:H2'	1:A:449:C:C6	2.44	0.53
1:A:428:G:C2	1:A:430:A:N6	2.77	0.53
1:A:1347:G:C2'	1:A:1373:G:H1	2.21	0.53
17:P:38:TYR:O	17:P:49:LEU:HD12	2.09	0.53
1:A:1124:G:O2'	1:A:1125:U:C5'	2.55	0.53
1:A:746:A:O2'	1:A:747:C:H5'	2.08	0.53
1:A:921:U:H2'	1:A:922:G:O4'	2.09	0.53
1:A:544:G:C6	1:A:545:C:C5	2.97	0.53
9:H:66:GLY:O	9:H:76:PRO:HB3	2.09	0.53
10:I:48:GLU:N	10:I:49:PRO:CD	2.72	0.53
1:A:1248:A:H1'	10:I:70:LYS:HZ1	1.66	0.53
1:A:625:G:O2'	1:A:626:U:H5'	2.07	0.53
1:A:947:G:C6	1:A:948:C:C4	2.97	0.53
1:A:1309:G:N7	14:M:99:ARG:NH2	2.57	0.53
1:A:232:G:H1'	1:A:262:A:N1	2.23	0.53
1:A:124:G:C5	1:A:125:U:C4	2.97	0.53
1:A:1164:G:O2'	1:A:1165:C:H5'	2.09	0.53
1:A:1291:G:C6	1:A:1292:U:O4	2.61	0.53
1:A:1364:U:HO2'	1:A:1365:G:P	2.29	0.53
4:C:6:HIS:NE2	4:C:8:ILE:HB	2.24	0.53
1:A:1129:C:OP2	10:I:62:TYR:HE2	1.92	0.53
14:M:81:LEU:HD23	14:M:81:LEU:N	2.24	0.53
14:M:81:LEU:CD1	14:M:88:ARG:HD3	2.39	0.53
1:A:940:C:H2'	1:A:941:G:O4'	2.09	0.53
1:A:1394:A:H62	1:A:1501:C:H5'	1.71	0.53
1:A:927:G:C4	1:A:928:G:C8	2.97	0.53
1:A:400:C:H2'	1:A:401:C:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1507:A:H2'	1:A:1508:G:C8	2.44	0.53
9:H:112:LEU:N	9:H:112:LEU:HD23	2.24	0.53
1:A:680:C:O2'	1:A:681:C:H5'	2.09	0.53
1:A:1411:C:H2'	1:A:1412:C:H6	1.72	0.53
8:G:20:ASP:HB3	8:G:23:VAL:HG23	1.91	0.53
5:D:149:ALA:HB3	5:D:152:SER:HB2	1.91	0.53
1:A:1371:G:O3'	10:I:69:GLY:HA3	2.08	0.53
1:A:802:A:H2'	1:A:803:G:C5'	2.36	0.53
1:A:657:G:C6	1:A:658:G:N7	2.76	0.53
1:A:1449:C:H2'	1:A:1450:U:C5'	2.39	0.53
1:A:818:G:O2'	1:A:820:U:H5	1.91	0.53
1:A:1151:A:O2'	1:A:1152:A:H8	1.92	0.53
5:D:59:ARG:NH1	5:D:59:ARG:HG2	2.23	0.53
1:A:190(H):G:H2'	1:A:190(I):G:H8	1.74	0.53
21:T:44:ALA:HB3	21:T:91:LEU:HD12	1.91	0.53
1:A:930:C:O2'	1:A:931:C:H5'	2.08	0.53
1:A:266:G:H8	1:A:266:G:C5'	2.10	0.52
1:A:1346:A:H1'	1:A:1348:U:C5	2.44	0.52
1:A:344:A:O2'	1:A:345:C:P	2.67	0.52
1:A:1303:C:N4	1:A:1304:G:C5	2.77	0.52
1:A:1314:C:OP2	20:S:6:LYS:HB3	2.09	0.52
1:A:926:G:C6	1:A:1505:G:C6	2.97	0.52
1:A:636:U:H2'	1:A:637:G:H8	1.75	0.52
1:A:1475:G:C4	1:A:1476:G:C8	2.97	0.52
10:I:37:PHE:CD2	10:I:40:LEU:HD12	2.40	0.52
13:L:84:LEU:O	13:L:100:ILE:HA	2.09	0.52
1:A:1481:U:O2'	1:A:1482:G:H5'	2.09	0.52
5:D:117:ALA:O	5:D:121:VAL:HG23	2.09	0.52
8:G:143:ARG:O	8:G:147:ALA:HB2	2.09	0.52
17:P:69:THR:O	17:P:72:ARG:HB3	2.09	0.52
1:A:1053:G:N7	1:A:1199:U:H2'	2.25	0.52
1:A:1346:A:C4	8:G:10:ARG:CZ	2.92	0.52
1:A:971:G:O2'	1:A:1365:G:O2'	2.27	0.52
1:A:1144:G:H22	1:A:1146:A:H62	1.57	0.52
1:A:657:G:C2	1:A:750:G:C4	2.98	0.52
1:A:918:A:N6	1:A:919:A:C6	2.77	0.52
1:A:236:G:C4	1:A:237:C:C6	2.97	0.52
1:A:577:G:N3	1:A:577:G:H2'	2.24	0.52
19:R:39:VAL:HG13	19:R:40:LEU:H	1.73	0.52
12:K:16:SER:HB3	12:K:79:SER:HB3	1.90	0.52
1:A:225:C:O2'	1:A:226:G:H5'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1249:C:O2	1:A:1249:C:H2'	2.09	0.52
4:C:155:GLY:HA2	4:C:164:ARG:O	2.09	0.52
1:A:354:G:C6	1:A:355:C:C5	2.97	0.52
1:A:1145:C:H1'	1:A:1146:A:H8	1.72	0.52
1:A:1229:A:H2'	1:A:1230:C:C6	2.44	0.52
1:A:1300:G:H2'	1:A:1301:U:OP2	2.09	0.52
1:A:953:G:N3	1:A:1229:A:C2	2.77	0.52
1:A:558:G:C4	1:A:559:A:C2	2.97	0.52
1:A:64:G:C2	1:A:67:C:N4	2.78	0.52
1:A:920:U:O2'	1:A:921:U:H5'	2.09	0.52
1:A:1080:A:O3'	6:E:16:THR:HG21	2.09	0.52
1:A:590:C:C2	1:A:591:U:C5	2.98	0.52
1:A:236:G:C6	1:A:237:C:C4	2.97	0.52
1:A:50:A:H62	1:A:361:G:H4'	1.74	0.52
5:D:142:PRO:HA	5:D:185:PHE:HD2	1.73	0.52
1:A:1060:C:O2'	1:A:1061:G:H5'	2.09	0.52
1:A:113:G:C5	1:A:114:U:C4	2.97	0.52
1:A:1202:G:C2'	1:A:1203:C:H5'	2.39	0.52
1:A:1462:G:H2'	1:A:1463:C:H6	1.74	0.52
1:A:540:G:H2'	1:A:541:G:O4'	2.10	0.52
1:A:293:G:C4	1:A:294:U:C6	2.98	0.52
11:J:8:LEU:HD23	11:J:96:ILE:HG12	1.90	0.52
1:A:1054:C:H3'	1:A:1054:C:H6	1.75	0.52
1:A:1287:A:H2'	1:A:1288:A:H8	1.74	0.52
1:A:1350:A:C2	1:A:1351:U:C2	2.97	0.52
1:A:354:G:C2	1:A:355:C:C6	2.97	0.52
1:A:1128:C:O2'	1:A:1129:C:P	2.68	0.52
1:A:1137:C:H4'	1:A:1138:G:N2	2.25	0.52
1:A:1324:A:C6	1:A:1325:C:C4	2.97	0.52
1:A:1326:C:OP1	22:V:12:LYS:NZ	2.42	0.52
1:A:1391:U:H2'	1:A:1392:G:H8	1.68	0.52
1:A:1528:U:O2'	1:A:1529:G:H3'	2.09	0.52
1:A:1117:G:O3'	10:I:104:ARG:NH1	2.42	0.52
1:A:197:A:N6	1:A:221:C:C5'	2.73	0.52
9:H:48:TYR:N	9:H:48:TYR:CD2	2.77	0.52
19:R:47:THR:HG22	19:R:48:GLY:H	1.74	0.52
5:D:39:PRO:HG2	5:D:44:GLY:HA2	1.92	0.52
1:A:914:A:O2'	1:A:915:A:C5'	2.48	0.52
1:A:496:A:H4'	1:A:497:A:OP1	2.08	0.52
1:A:1220:G:O2'	1:A:1221:G:H5'	2.09	0.52
14:M:87:TYR:N	20:S:73:GLU:O	2.38	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1413:A:N3	1:A:1414:U:C6	2.78	0.52
1:A:1497:G:H1'	1:A:1518:A:H2	1.74	0.52
1:A:818:G:O2'	1:A:819:A:H5"	2.09	0.52
1:A:691:G:H2'	1:A:692:U:H6	1.75	0.52
1:A:878:G:H5"	9:H:89:PRO:HG2	1.91	0.52
12:K:16:SER:HA	12:K:79:SER:O	2.09	0.52
3:B:204:ASN:HD22	3:B:205:ASP:N	2.08	0.52
1:A:389:A:C6	1:A:390:C:H1'	2.45	0.52
1:A:961:U:O2'	1:A:962:C:H5'	2.10	0.52
1:A:1086:U:H3	1:A:1099:G:H1	1.57	0.52
1:A:928:G:H2'	1:A:929:G:H8	1.75	0.52
1:A:62:U:C5'	1:A:385:C:O2	2.54	0.52
1:A:918:A:C6	1:A:919:A:C5	2.98	0.52
1:A:918:A:H2'	1:A:919:A:C8	2.45	0.52
1:A:1257:U:O2'	1:A:1258:G:P	2.67	0.52
8:G:148:ASN:C	8:G:150:ALA:N	2.62	0.52
1:A:1494:G:C2	1:A:1495:U:C2	2.98	0.52
1:A:1411:C:H2'	1:A:1412:C:C6	2.44	0.52
1:A:1057:G:C4'	4:C:154:SER:HB2	2.40	0.52
1:A:954:G:C5	1:A:955:U:C5	2.98	0.52
14:M:65:LYS:O	14:M:66:LEU:HD23	2.09	0.52
1:A:332:G:O2'	1:A:333:G:H5'	2.10	0.52
1:A:1083:U:H5	1:A:1084:G:C6	2.26	0.52
1:A:287:U:C2'	1:A:288:A:O5'	2.58	0.52
1:A:708:C:O2'	1:A:709:G:H5'	2.09	0.52
13:L:75:HIS:CD2	13:L:77:LEU:H	2.28	0.52
1:A:836:G:C6	1:A:851:G:C5	2.98	0.52
17:P:14:ASN:OD1	17:P:16:HIS:HE1	1.91	0.52
18:Q:31:LEU:HD23	18:Q:32:TYR:CZ	2.44	0.52
16:O:66:LEU:O	16:O:69:TYR:HB3	2.10	0.52
1:A:446:G:H2'	1:A:447:G:H5'	1.91	0.52
1:A:451:A:N7	1:A:481:G:N1	2.57	0.52
1:A:246:A:C6	1:A:279:A:C5	2.97	0.52
1:A:277:C:C2'	1:A:278:G:O5'	2.58	0.52
1:A:57:G:C5	1:A:58:C:C5	2.98	0.52
1:A:1138:G:H3'	1:A:1138:G:N3	2.25	0.52
1:A:746:A:C6	1:A:747:C:N4	2.78	0.52
1:A:419:C:C2	1:A:425:G:C2	2.98	0.52
6:E:121:LYS:HD2	6:E:122:GLU:N	2.25	0.52
13:L:117:ARG:O	13:L:118:SER:C	2.49	0.52
1:A:18:C:H2'	1:A:19:C:H6	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:644:G:C5	1:A:645:C:C5	2.98	0.52
11:J:47:PHE:CE2	15:N:37:PHE:HE1	2.28	0.52
16:O:36:ILE:HG12	16:O:59:MET:HE3	1.92	0.52
1:A:1157:A:H1'	1:A:1181:G:H22	1.73	0.52
1:A:1381:U:O2'	1:A:1382:C:H5'	2.10	0.52
1:A:226:G:C6	1:A:227:G:N7	2.78	0.52
5:D:52:SER:O	5:D:55:ALA:HB3	2.10	0.52
1:A:1026:G:N2	1:A:1027:C:O4'	2.43	0.52
1:A:1187:G:C4	1:A:1188:A:N7	2.78	0.52
1:A:1316:G:N1	1:A:1319:A:OP2	2.34	0.52
20:S:44:MET:O	20:S:47:HIS:HD2	1.93	0.52
1:A:926:G:H3'	1:A:1505:G:N2	2.23	0.52
1:A:36:C:C5'	13:L:122:THR:O	2.52	0.52
1:A:191:G:O2'	1:A:192:U:H5'	2.10	0.52
12:K:84:VAL:HG23	12:K:84:VAL:O	2.10	0.52
1:A:1108:G:H2'	1:A:1109:C:C5'	2.39	0.52
1:A:1257:U:O2'	1:A:1258:G:OP2	2.24	0.52
3:B:98:LEU:HB2	3:B:101:MET:HG3	1.92	0.52
14:M:4:ILE:HG22	14:M:5:ALA:H	1.73	0.52
12:K:33:THR:OG1	12:K:37:GLY:C	2.48	0.52
1:A:1167:A:C6	1:A:1168:A:C6	2.98	0.52
3:B:124:SER:HB2	3:B:125:PRO:HD2	1.91	0.52
1:A:859:A:O2'	1:A:860:A:H5'	2.09	0.52
16:O:77:ARG:HH11	16:O:77:ARG:HG3	1.74	0.52
12:K:24:SER:HB3	12:K:27:ASN:O	2.09	0.52
1:A:1288:A:H1'	1:A:1352:C:HO2'	1.75	0.51
1:A:886:G:H2'	1:A:887:G:H8	1.75	0.51
1:A:1237:C:H3'	1:A:1238:A:H5'	1.92	0.51
1:A:926:G:C8	1:A:1505:G:N2	2.79	0.51
1:A:27:G:C5	1:A:557:G:C2	2.99	0.51
1:A:35:G:C6	1:A:36:C:N4	2.78	0.51
1:A:644:G:C2'	1:A:645:C:H5'	2.40	0.51
1:A:673:G:O3'	7:F:87:ARG:NH2	2.43	0.51
6:E:80:ILE:HG22	9:H:104:ARG:NH2	2.24	0.51
1:A:1495:U:H2'	1:A:1496:C:H6	1.74	0.51
1:A:1480:G:C4	1:A:1481:U:C5	2.98	0.51
1:A:575:G:C2	1:A:881:G:N3	2.78	0.51
16:O:7:GLU:O	16:O:11:VAL:HG23	2.10	0.51
1:A:1033:G:C2'	1:A:1034:G:H5'	2.40	0.51
1:A:1250:A:N7	1:A:1287:A:C8	2.78	0.51
1:A:1250:A:N6	1:A:1251:A:N6	2.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:963:G:H21	11:J:55:LYS:HD3	1.75	0.51
1:A:712:A:H2'	1:A:713:G:O4'	2.10	0.51
1:A:1504:G:H4'	1:A:1505:G:O5'	2.10	0.51
1:A:174:C:C2	1:A:175:C:C6	2.98	0.51
1:A:604:G:N2	1:A:635:G:C4	2.78	0.51
1:A:818:G:O2'	1:A:820:U:C6	2.63	0.51
1:A:1180:A:OP1	10:I:103:THR:HG23	2.09	0.51
13:L:84:LEU:HB3	13:L:101:VAL:HB	1.91	0.51
1:A:1065:U:O2'	1:A:1066:C:OP2	2.26	0.51
1:A:1292:U:O2'	1:A:1293:G:H5'	2.10	0.51
1:A:1309:G:C6	1:A:1329:A:C2	2.98	0.51
1:A:9:G:OP1	6:E:122:GLU:HG3	2.10	0.51
1:A:605:U:H2'	1:A:606:G:H5'	1.92	0.51
16:O:39:LEU:HD22	16:O:43:LEU:HD11	1.92	0.51
1:A:686:U:O4	1:A:703:G:O2'	2.23	0.51
8:G:75:VAL:CG1	8:G:86:GLN:HB3	2.40	0.51
1:A:677:U:H6	1:A:677:U:O5'	1.93	0.51
1:A:677:U:H2'	1:A:678:U:C6	2.44	0.51
7:F:10:LEU:HD12	7:F:59:TYR:HB3	1.92	0.51
7:F:82:ARG:HE	7:F:82:ARG:HA	1.76	0.51
1:A:450:G:N7	1:A:481:G:O6	2.43	0.51
1:A:1284:C:H3'	1:A:1285:A:C8	2.45	0.51
1:A:324:G:N2	1:A:327:A:C8	2.78	0.51
1:A:926:G:H2'	1:A:1505:G:N3	2.26	0.51
1:A:185:A:H2'	1:A:186:C:C6	2.44	0.51
1:A:16:A:N1	1:A:919:A:H2	2.09	0.51
1:A:812:C:HO2'	1:A:813:U:P	2.32	0.51
15:N:29:ARG:HB3	15:N:40:CYS:HB3	1.92	0.51
1:A:1164:G:N1	1:A:1173:G:C6	2.79	0.51
1:A:248:C:O2'	1:A:249:U:H5'	2.11	0.51
14:M:11:ARG:HG2	14:M:12:ASN:N	2.26	0.51
12:K:69:ALA:O	12:K:73:MET:HG2	2.10	0.51
4:C:149:ALA:O	4:C:169:ALA:HB1	2.11	0.51
1:A:460:A:C5	1:A:462:G:C6	2.99	0.51
1:A:1368:G:O2'	1:A:1369:C:H5'	2.10	0.51
1:A:947:G:C5	1:A:948:C:N4	2.78	0.51
5:D:170:VAL:HG21	5:D:176:LEU:CD2	2.32	0.51
19:R:76:LEU:HB2	19:R:78:LEU:HD12	1.92	0.51
1:A:1425:U:H2'	1:A:1426:C:C6	2.45	0.51
1:A:895:G:C4	1:A:896:C:C5	2.98	0.51
5:D:157:LEU:HD23	5:D:161:ASN:ND2	2.24	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:129:GLU:O	3:B:130:ARG:HB2	2.09	0.51
1:A:1097:C:H1'	1:A:1169:A:H1'	1.93	0.51
1:A:1272:G:C6	1:A:1273:G:N7	2.78	0.51
6:E:99:GLY:O	6:E:101:ILE:HG13	2.11	0.51
5:D:190:ASP:O	5:D:193:ASP:HB2	2.09	0.51
1:A:449:C:C5	1:A:450:G:C5	2.99	0.51
1:A:481:G:O4'	1:A:481:G:OP2	2.28	0.51
1:A:1064:G:C2	1:A:1066:C:N4	2.78	0.51
11:J:49:VAL:O	11:J:60:ARG:HA	2.10	0.51
1:A:1113:C:C4'	4:C:14:ILE:HD11	2.29	0.51
13:L:119:LYS:O	13:L:120:TYR:CB	2.59	0.51
1:A:64:G:H4'	1:A:65:U:C5'	2.40	0.51
1:A:186:C:H2'	1:A:187:C:H6	1.75	0.51
1:A:15:G:C1'	6:E:24:ARG:NH1	2.69	0.51
1:A:1520:G:H2'	1:A:1521:G:C8	2.40	0.51
1:A:1521:G:C4	1:A:1522:U:C5	2.99	0.51
21:T:73:HIS:HB2	21:T:76:ALA:HB2	1.93	0.51
1:A:1197:G:O5'	1:A:1197:G:H8	1.92	0.51
11:J:55:LYS:O	11:J:55:LYS:CG	2.56	0.51
1:A:1306:A:H2	1:A:1307:U:H1'	1.76	0.51
1:A:959:A:C3'	1:A:960:U:H5"	2.38	0.51
8:G:27:ILE:O	8:G:30:ILE:N	2.42	0.51
1:A:661:G:H8	1:A:661:G:H5"	1.74	0.51
1:A:939:G:H5"	8:G:102:ARG:HH12	1.76	0.51
1:A:926:G:C2'	1:A:1505:G:H21	2.23	0.51
1:A:531:U:C5'	1:A:532:A:OP1	2.55	0.51
1:A:180:U:O2'	1:A:181:G:H5'	2.11	0.51
1:A:1151:A:N1	1:A:1152:A:C6	2.78	0.51
3:B:144:ARG:O	3:B:147:LYS:HB2	2.11	0.51
3:B:200:ILE:HG22	3:B:201:ILE:H	1.74	0.51
1:A:1003:G:H2'	1:A:1003(A):G:O5'	2.11	0.51
3:B:181:PHE:N	3:B:181:PHE:CD1	2.77	0.51
1:A:1045:C:C6	1:A:1045:C:H3'	2.45	0.51
3:B:207:ALA:O	3:B:211:ILE:HG13	2.10	0.51
1:A:245:C:C6	1:A:284:G:N2	2.79	0.51
1:A:713:G:H21	1:A:777:A:H4'	1.74	0.51
1:A:397:A:N6	1:A:548:G:C5	2.79	0.51
1:A:25:C:C5	1:A:558:G:N2	2.79	0.51
1:A:423:G:N2	1:A:424:G:C5	2.78	0.51
1:A:1152:A:C5'	11:J:13:HIS:CD2	2.93	0.51
1:A:403:C:O2'	5:D:122:ARG:NH2	2.42	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:509:A:C8	1:A:509:A:C3'	2.93	0.51
1:A:286:G:O2'	1:A:287:U:H5'	2.10	0.51
1:A:319:G:C5	1:A:320:C:C5	2.99	0.51
1:A:836:G:C5	1:A:851:G:C6	2.99	0.51
1:A:1156:G:O5'	1:A:1156:G:H8	1.94	0.51
1:A:1379:G:OP1	8:G:6:ARG:NH2	2.43	0.51
5:D:155:LEU:O	5:D:159:ARG:HB2	2.11	0.51
4:C:47:LEU:N	4:C:47:LEU:HD12	2.26	0.51
1:A:1348:U:C2	1:A:1349:A:C8	2.99	0.51
1:A:20:U:H5'	1:A:572:A:N6	2.26	0.51
1:A:890:G:O2'	1:A:891:U:P	2.69	0.51
1:A:370:C:C2	1:A:371:G:N7	2.79	0.51
1:A:1225:A:N3	1:A:1225:A:C2'	2.72	0.51
1:A:1226:C:H5'	14:M:96:LEU:HD11	1.93	0.51
1:A:658:G:C4	1:A:659:U:C5	2.99	0.51
14:M:70:LEU:C	14:M:72:ALA:N	2.64	0.51
1:A:149:A:C2	1:A:150:C:C4	2.99	0.51
19:R:86:VAL:HG12	19:R:86:VAL:O	2.10	0.51
1:A:734:G:C4	1:A:735:C:C5	2.99	0.51
2:1:2:A:C6	2:1:3:A:N6	2.78	0.51
4:C:73:PRO:O	4:C:75:VAL:N	2.44	0.51
4:C:73:PRO:C	4:C:75:VAL:N	2.64	0.51
11:J:34:VAL:HG13	11:J:73:ASP:O	2.11	0.51
20:S:40:ILE:HD11	20:S:74:PHE:HE1	1.76	0.51
1:A:416:G:C6	1:A:417:C:C4	2.99	0.51
1:A:1190:G:H2'	1:A:1191:A:OP2	2.09	0.51
1:A:746:A:C6	1:A:747:C:C4	2.99	0.51
1:A:558:G:N9	1:A:559:A:C2	2.79	0.51
1:A:202:U:O2'	1:A:203:U:OP1	2.28	0.51
1:A:1049:U:H1'	1:A:1201:A:C8	2.46	0.51
1:A:1461:G:H2'	1:A:1462:G:H8	1.76	0.51
1:A:102:G:H5"	21:T:17:ARG:HH12	1.76	0.51
13:L:83:VAL:HG21	13:L:100:ILE:HD13	1.92	0.51
12:K:24:SER:OG	12:K:25:TYR:N	2.44	0.51
1:A:155:C:O2'	1:A:156:G:H5'	2.10	0.51
20:S:50:ALA:HA	20:S:59:PRO:HA	1.92	0.51
4:C:23:TYR:CD2	4:C:24:ALA:N	2.79	0.51
9:H:44:PHE:HB3	9:H:80:ILE:CG1	2.41	0.51
1:A:375:U:OP1	17:P:69:THR:HG21	2.11	0.50
1:A:391:G:C6	1:A:392:G:C5	2.99	0.50
1:A:254:G:O2'	1:A:255:G:H5'	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1053:G:N7	1:A:1199:U:C6	2.79	0.50
1:A:1346:A:C4	8:G:10:ARG:NH2	2.79	0.50
1:A:773:G:O2'	1:A:774:G:H5'	2.11	0.50
8:G:111:ARG:HB3	8:G:113:GLU:HG3	1.93	0.50
1:A:1511:G:H8	1:A:1511:G:O5'	1.94	0.50
1:A:262:A:C6	1:A:263:A:C6	2.99	0.50
13:L:83:VAL:HG22	13:L:84:LEU:N	2.24	0.50
1:A:1472:U:H2'	1:A:1473:A:H8	1.76	0.50
1:A:1154:G:O2'	1:A:1155:G:H5'	2.11	0.50
1:A:88:A:H8	1:A:88:A:O5'	1.94	0.50
1:A:373:A:O2'	1:A:374:A:H5'	2.11	0.50
1:A:1206:G:H2'	1:A:1207:G:O4'	2.11	0.50
1:A:434:U:N3	1:A:435:C:C4	2.79	0.50
22:V:12:LYS:O	22:V:16:GLY:N	2.41	0.50
1:A:858:G:O6	1:A:869:G:C8	2.64	0.50
15:N:6:LEU:HA	15:N:9:LYS:HB3	1.94	0.50
1:A:1160:G:O2'	1:A:1161:C:H5'	2.11	0.50
1:A:681:C:H2'	1:A:682:G:C8	2.45	0.50
1:A:1381:U:O2	1:A:1382:C:C6	2.64	0.50
14:M:89:GLY:O	14:M:92:HIS:HB2	2.12	0.50
1:A:1459:C:O2'	1:A:1460:A:H5'	2.10	0.50
16:O:9:GLN:HA	16:O:12:ILE:HD12	1.92	0.50
1:A:463:A:C5	1:A:474:G:C8	3.00	0.50
1:A:448:A:C5	1:A:487:A:C4	2.99	0.50
1:A:1007:C:C2	1:A:1008:C:C5	2.99	0.50
1:A:1435:G:C2'	1:A:1436:U:H6	2.15	0.50
1:A:414:A:O2'	1:A:415:A:H5'	2.11	0.50
1:A:429:U:C2'	5:D:25:ARG:HH12	2.05	0.50
1:A:1365:G:O2'	1:A:1366:C:H5'	2.11	0.50
1:A:1368:G:OP2	10:I:112:LYS:HD3	2.11	0.50
1:A:41:G:C2	1:A:42:G:C5	2.99	0.50
1:A:865:A:C2'	1:A:866:C:H5'	2.41	0.50
5:D:3:ARG:HB2	5:D:118:ARG:HH12	1.76	0.50
1:A:1318:A:O2'	20:S:37:ARG:HD2	2.12	0.50
1:A:1488:G:C2	1:A:1489:G:C5	2.99	0.50
1:A:1093:A:C2	1:A:1095:U:H5'	2.47	0.50
1:A:686:U:O2	12:K:42:TRP:HZ2	1.93	0.50
9:H:26:VAL:HG13	9:H:59:LEU:HB2	1.93	0.50
9:H:83:ILE:O	9:H:83:ILE:HG23	2.11	0.50
3:B:17:PHE:N	3:B:17:PHE:CD1	2.79	0.50
1:A:1193:G:C2	1:A:1194:U:C6	3.00	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1357:A:C5	1:A:1358:U:C4	2.99	0.50
1:A:713:G:N2	1:A:777:A:C1'	2.75	0.50
1:A:1441:G:H5"	1:A:1442:G:C8	2.47	0.50
1:A:1442:G:C2'	1:A:1442:G:N3	2.74	0.50
1:A:1304:G:H1'	1:A:1333:A:H61	1.77	0.50
1:A:1502:A:H2	1:A:1505:G:H1	1.59	0.50
1:A:1462:G:H2'	1:A:1463:C:C6	2.47	0.50
8:G:16:LEU:H	8:G:16:LEU:CD2	2.20	0.50
19:R:22:VAL:HG11	19:R:42:ARG:HB3	1.94	0.50
8:G:12:LEU:CD1	8:G:12:LEU:N	2.71	0.50
1:A:507:C:H2'	1:A:508:C:C5	2.46	0.50
1:A:878:G:H5'	9:H:89:PRO:HG2	1.94	0.50
1:A:1154:G:O2'	1:A:1155:G:C5'	2.59	0.50
7:F:11:ASN:OD1	7:F:13:ASN:N	2.44	0.50
11:J:7:LYS:HA	11:J:71:LEU:HD22	1.93	0.50
1:A:199:G:O2'	1:A:200:G:H5'	2.11	0.50
4:C:27:LYS:O	4:C:31:HIS:HD2	1.95	0.50
1:A:876:G:H1'	9:H:11:THR:HG21	1.92	0.50
1:A:451:A:C1'	1:A:452:A:C8	2.93	0.50
1:A:457:C:H2'	1:A:458:C:H6	1.75	0.50
1:A:1352:C:O2	1:A:1371:G:C2	2.63	0.50
1:A:1331:G:O2'	1:A:1332:A:OP2	2.29	0.50
1:A:745:C:H2'	1:A:746:A:C8	2.47	0.50
1:A:927:G:O2'	1:A:928:G:H5'	2.11	0.50
1:A:559:A:HO2'	1:A:560:U:P	2.35	0.50
1:A:32:A:H61	1:A:553:A:N6	2.07	0.50
3:B:98:LEU:HB2	3:B:101:MET:CG	2.41	0.50
2:2:9:A:HO2'	2:2:10:A:H5'	1.73	0.50
1:A:1510:U:H2'	1:A:1511:G:N7	2.27	0.50
1:A:909:A:OP1	13:L:21:LYS:HD3	2.11	0.50
3:B:153:ARG:HH11	3:B:153:ARG:CB	2.24	0.50
1:A:1090:U:O2'	1:A:1091:U:H5'	2.12	0.50
4:C:125:GLU:C	4:C:127:ARG:H	2.15	0.50
1:A:701:C:O2'	1:A:702:A:OP2	2.23	0.50
19:R:21:LYS:HD3	19:R:57:GLY:HA2	1.93	0.50
1:A:246:A:C5	1:A:279:A:C6	2.99	0.50
1:A:1058:G:C5	1:A:1059:C:C4	2.99	0.50
1:A:1058:G:C6	1:A:1059:C:C4	2.99	0.50
1:A:1347:G:H8	10:I:107:ARG:HB3	1.71	0.50
1:A:1309:G:C2'	1:A:1310:G:H5'	2.41	0.50
1:A:1311:G:O6	20:S:2:PRO:HB2	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:986:A:O2'	20:S:55:LYS:HG3	2.11	0.50
1:A:1486:G:H2'	1:A:1487:G:C8	2.47	0.50
1:A:175:C:C2	1:A:176:C:C6	2.99	0.50
1:A:1107:C:N4	1:A:1108:G:C5	2.80	0.50
1:A:1118:C:P	10:I:104:ARG:HH12	2.34	0.50
1:A:646:U:H2'	1:A:647:C:C6	2.47	0.50
1:A:650:G:C2	1:A:651:C:C6	3.00	0.50
9:H:82:HIS:HD2	9:H:138:TRP:NE1	2.09	0.50
5:D:103:ASN:O	5:D:106:TYR:HB3	2.12	0.50
3:B:162:ILE:HG22	3:B:163:PHE:N	2.27	0.50
1:A:279:A:N1	18:Q:98:LEU:HD13	2.25	0.50
1:A:713:G:N2	1:A:777:A:H4'	2.27	0.50
1:A:1125:U:H2'	1:A:1126:U:OP2	2.12	0.50
1:A:561:U:O2'	1:A:562:C:OP2	2.25	0.50
1:A:149:A:N3	1:A:150:C:C6	2.80	0.50
1:A:725:G:C4	1:A:726:C:C5	3.00	0.50
1:A:507:C:H2'	1:A:508:C:H5	1.77	0.50
1:A:509:A:H3'	1:A:509:A:C8	2.46	0.50
1:A:703:G:OP2	1:A:703:G:H2'	2.11	0.50
11:J:37:PRO:HA	11:J:71:LEU:O	2.12	0.50
6:E:84:PHE:O	6:E:86:ALA:N	2.41	0.50
1:A:453:A:C2	1:A:454:C:N1	2.80	0.50
1:A:39:G:C5	1:A:498:U:O4	2.65	0.50
1:A:112:G:C6	1:A:113:G:N7	2.80	0.50
1:A:436:C:H2'	1:A:437:U:C6	2.45	0.50
1:A:1317:C:H2'	1:A:1318:A:O4'	2.10	0.50
1:A:1333:A:N7	1:A:1334:G:N7	2.60	0.50
1:A:1498:U:H1'	1:A:1499:A:N7	2.27	0.50
1:A:190(L):U:N3	21:T:105:SER:OG	2.45	0.50
1:A:767:A:C4	1:A:768:A:C8	3.00	0.50
8:G:12:LEU:HD12	8:G:12:LEU:H	1.77	0.50
3:B:16:HIS:NE2	3:B:210:SER:HB3	2.26	0.50
1:A:1045:C:H2'	1:A:1046:A:O5'	2.12	0.50
1:A:408:A:N1	1:A:409:G:C5	2.80	0.50
1:A:1206:G:C5	1:A:1207:G:C8	3.00	0.50
1:A:355:C:N3	1:A:356:A:C8	2.80	0.50
1:A:1223:C:P	20:S:78:ARG:HH22	2.35	0.50
1:A:1240:U:H5"	1:A:1241:G:C8	2.47	0.50
20:S:62:ILE:HD12	20:S:66:MET:SD	2.52	0.50
1:A:15:G:C2	1:A:16:A:C4	3.00	0.50
1:A:1104:G:H4'	3:B:111:ARG:NH1	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:721:G:N1	1:A:733:A:C2	2.80	0.50
1:A:688:G:O5'	12:K:47:VAL:HG23	2.12	0.50
6:E:11:ILE:HD11	6:E:108:ALA:HB3	1.93	0.50
1:A:1234:C:H4'	1:A:1364:U:H1'	1.93	0.49
1:A:1367:C:OP1	10:I:115:GLY:N	2.36	0.49
1:A:1250:A:H5"	10:I:67:GLY:C	2.31	0.49
1:A:42:G:N3	1:A:43:C:C6	2.79	0.49
1:A:57:G:C2'	1:A:58:C:H6	2.07	0.49
14:M:22:ILE:HD12	14:M:25:ILE:HD12	1.92	0.49
1:A:1414:U:H2'	1:A:1415:G:H8	1.77	0.49
1:A:531:U:H4'	1:A:532:A:C5'	2.41	0.49
1:A:69:G:H2'	1:A:70:G:H8	1.77	0.49
1:A:402:G:C5	1:A:403:C:C5	3.00	0.49
9:H:97:VAL:HG13	9:H:98:LYS:N	2.27	0.49
13:L:83:VAL:CG2	13:L:100:ILE:HG23	2.42	0.49
1:A:416:G:C6	1:A:417:C:N3	2.80	0.49
1:A:496:A:C4'	1:A:497:A:OP1	2.61	0.49
1:A:369:C:N3	1:A:370:C:C5	2.80	0.49
1:A:60:A:H1'	1:A:61:G:O4'	2.12	0.49
4:C:148:GLY:HA3	4:C:172:ARG:O	2.12	0.49
20:S:15:LEU:O	20:S:19:VAL:N	2.42	0.49
1:A:1509:C:O2'	1:A:1510:U:H5'	2.12	0.49
1:A:910:C:H2'	1:A:911:U:C6	2.47	0.49
1:A:674:G:P	7:F:87:ARG:HH22	2.35	0.49
11:J:79:ARG:HH11	11:J:82:ILE:HD12	1.76	0.49
1:A:859:A:H2'	1:A:860:A:H8	1.77	0.49
3:B:165:VAL:O	3:B:167:PRO:HD3	2.13	0.49
21:T:75:ASN:O	21:T:78:ALA:HB3	2.11	0.49
1:A:392:G:C2	1:A:393:A:C8	3.00	0.49
1:A:476:G:H2'	1:A:477:G:H8	1.76	0.49
1:A:280:C:O2	18:Q:38:ARG:HG3	2.13	0.49
1:A:616:G:N2	1:A:625:G:C4	2.79	0.49
1:A:1309:G:C6	1:A:1329:A:N1	2.80	0.49
1:A:516:U:C5	1:A:517:G:C6	3.01	0.49
1:A:753:A:H5'	1:A:754:C:C5	2.46	0.49
1:A:68:G:H5'	1:A:171:A:H1'	1.93	0.49
5:D:176:LEU:HD23	5:D:176:LEU:O	2.12	0.49
1:A:604:G:C2	1:A:635:G:C5	3.00	0.49
1:A:922:G:H2'	1:A:923:A:H8	1.69	0.49
1:A:770:C:O4'	1:A:900:A:C2	2.65	0.49
5:D:4:TYR:CG	5:D:5:ILE:N	2.75	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:723:U:C5	1:A:723:U:OP1	2.65	0.49
1:A:1039:C:H2'	1:A:1040:U:H6	1.77	0.49
18:Q:62:SER:HB2	18:Q:72:ARG:HG3	1.92	0.49
1:A:1418:A:C6	1:A:1483:A:C5	3.00	0.49
1:A:1430:C:O2'	1:A:1431:C:H5'	2.12	0.49
1:A:1173:G:C4	1:A:1174:G:C8	3.00	0.49
18:Q:5:VAL:HA	18:Q:59:ILE:O	2.12	0.49
1:A:113:G:C4	1:A:114:U:C5	3.00	0.49
1:A:1128:C:C2	1:A:1139:G:O6	2.65	0.49
1:A:919:A:O2'	1:A:920:U:H5'	2.12	0.49
1:A:1541:U:O5'	1:A:1541:U:H6	1.96	0.49
1:A:1158:C:C2'	1:A:1158:C:O2	2.61	0.49
4:C:119:ARG:O	4:C:123:GLN:HG3	2.11	0.49
1:A:508:C:OP1	5:D:209:ARG:NH2	2.45	0.49
12:K:77:MET:CE	12:K:80:VAL:HG22	2.40	0.49
1:A:1089:G:C5	1:A:1090:U:C6	3.00	0.49
8:G:70:LYS:HB3	8:G:96:GLN:HB3	1.93	0.49
18:Q:81:ARG:HG3	18:Q:81:ARG:O	2.12	0.49
1:A:1030:C:C2'	1:A:1030(A):G:H8	2.21	0.49
1:A:277:C:H2'	1:A:278:G:O5'	2.12	0.49
1:A:1057:G:C4	1:A:1058:G:C8	3.00	0.49
1:A:981:U:H2'	1:A:982:U:C6	2.46	0.49
1:A:1148:U:H2'	1:A:1149:C:O4'	2.12	0.49
1:A:439:A:C5	1:A:497:A:C2	3.01	0.49
1:A:947:G:C5	1:A:948:C:C5	3.00	0.49
1:A:1311:G:N2	1:A:1327:C:C2	2.81	0.49
1:A:1309:G:C2	1:A:1329:A:N3	2.81	0.49
1:A:505:G:C6	1:A:535:A:C2	3.01	0.49
13:L:26:ALA:O	13:L:28:LYS:N	2.45	0.49
1:A:69:G:C2	1:A:70:G:C8	3.01	0.49
1:A:993:G:H4'	1:A:994:A:OP2	2.12	0.49
1:A:690:G:C6	1:A:691:G:N1	2.81	0.49
1:A:665:A:N3	1:A:732:C:C2	2.81	0.49
1:A:1158:C:N3	1:A:1160:G:N7	2.61	0.49
1:A:684:A:H1'	12:K:38:ASN:ND2	2.25	0.49
5:D:162:LEU:N	5:D:162:LEU:HD23	2.26	0.49
1:A:245:C:C2'	1:A:246:A:H5'	2.43	0.49
1:A:1284:C:H2'	1:A:1285:A:N7	2.27	0.49
1:A:41:G:N1	1:A:42:G:C6	2.81	0.49
1:A:1231:G:H2'	1:A:1232:U:H6	1.77	0.49
1:A:958:A:C6	1:A:959:A:C6	3.01	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:G:113:GLU:O	8:G:119:ARG:HD3	2.12	0.49
1:A:588:G:C5	1:A:753:A:C5	3.01	0.49
1:A:820:U:C4'	1:A:821:G:OP2	2.54	0.49
5:D:70:ILE:HD11	5:D:100:ARG:NE	2.27	0.49
1:A:643:C:H2'	1:A:644:G:C8	2.44	0.49
11:J:47:PHE:CZ	15:N:37:PHE:CZ	3.01	0.49
5:D:8:VAL:C	5:D:10:ARG:H	2.15	0.49
1:A:523:A:C2	1:A:527:G:O6	2.65	0.49
1:A:522:C:O2'	1:A:523:A:H5'	2.12	0.49
14:M:39:ILE:O	14:M:41:PRO:HD3	2.13	0.49
1:A:1164:G:C6	1:A:1173:G:C6	3.00	0.49
1:A:1155:G:H2'	1:A:1156:G:C8	2.48	0.49
19:R:73:ALA:HB3	19:R:79:LEU:CD1	2.43	0.49
1:A:392:G:C6	1:A:393:A:N7	2.80	0.49
1:A:376:G:H4'	17:P:5:ARG:NH1	2.28	0.49
1:A:410:G:N2	1:A:429:U:C2	2.80	0.49
1:A:981:U:C2'	1:A:982:U:C5	2.88	0.49
1:A:1148:U:H4'	10:I:14:VAL:CG1	2.30	0.49
1:A:1149:C:N3	1:A:1150:U:C5	2.80	0.49
1:A:572:A:N1	1:A:864:A:C5	2.81	0.49
1:A:572:A:C2	1:A:864:A:C6	3.01	0.49
1:A:184:G:O2'	1:A:185:A:H5'	2.13	0.49
1:A:401:C:H2'	1:A:402:G:H8	1.77	0.49
1:A:722:A:H5'	1:A:723:U:OP2	2.11	0.49
1:A:92:C:H2'	1:A:93:G:H8	1.76	0.49
1:A:1162:C:N3	1:A:1175:G:C2	2.81	0.49
1:A:1495:U:H2'	1:A:1496:C:C6	2.48	0.49
10:I:64:THR:HG22	10:I:65:VAL:N	2.27	0.49
1:A:998:G:C6	1:A:1044:A:C6	3.01	0.49
1:A:1459:C:H2'	1:A:1460:A:C5'	2.42	0.49
4:C:39:ILE:HG22	4:C:43:LEU:HD12	1.94	0.49
1:A:277:C:O2'	1:A:278:G:C5'	2.59	0.49
1:A:1250:A:C6	1:A:1251:A:N6	2.80	0.49
1:A:496:A:C5'	1:A:497:A:OP1	2.60	0.49
1:A:160:A:H1'	1:A:344:A:C6	2.48	0.49
1:A:1135:U:O2'	1:A:1136:U:C6	2.60	0.49
1:A:1227:A:C8	1:A:1227:A:C3'	2.94	0.49
1:A:197:A:H4'	1:A:198:G:O5'	2.13	0.49
12:K:31:THR:HG23	12:K:42:TRP:HB3	1.93	0.49
6:E:11:ILE:HD11	6:E:108:ALA:CB	2.43	0.49
13:L:84:LEU:HD13	13:L:105:TYR:HE1	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:705:U:C4	1:A:706:A:C6	3.01	0.49
1:A:1431:C:H2'	1:A:1432:G:H5'	1.95	0.49
19:R:74:ARG:HB3	19:R:81:PHE:CE1	2.48	0.49
13:L:32:PHE:HA	13:L:85:ILE:O	2.12	0.49
1:A:1378:C:C5	1:A:1379:G:C8	3.00	0.49
1:A:587:G:C2	1:A:755:G:C5	3.01	0.49
16:O:54:ARG:CZ	16:O:58:MET:HE2	2.42	0.49
1:A:451:A:C2	1:A:480:U:C4	3.01	0.49
1:A:1054:C:P	1:A:1197:G:OP1	2.71	0.49
1:A:1368:G:H5'	10:I:112:LYS:O	2.13	0.49
1:A:41:G:C6	1:A:42:G:O6	2.66	0.49
1:A:355:C:N3	1:A:356:A:N7	2.61	0.49
1:A:714:G:H2'	1:A:715:A:C8	2.47	0.49
1:A:1226:C:H5'	14:M:96:LEU:CD1	2.42	0.49
1:A:1487:G:O2'	1:A:1488:G:C5'	2.58	0.49
1:A:321:A:H2	1:A:332:G:H22	1.60	0.49
1:A:334:C:O5'	1:A:334:C:H6	1.96	0.49
1:A:1019:C:C2'	1:A:1020:U:H5'	2.43	0.49
4:C:88:ARG:O	4:C:91:LEU:HB3	2.12	0.49
1:A:173:U:C6	1:A:197:A:C2	3.01	0.49
1:A:724:G:O2'	1:A:725:G:H5'	2.12	0.49
1:A:1157:A:C6	1:A:1180:A:C6	3.00	0.49
1:A:528:C:N4	13:L:49:ASN:OD1	2.45	0.49
6:E:144:THR:HB	6:E:147:ASP:H	1.78	0.49
1:A:853:G:O2'	1:A:854:G:H5'	2.12	0.49
1:A:1089:G:C6	1:A:1090:U:C4	3.00	0.49
17:P:8:ARG:HG2	17:P:17:TYR:CE2	2.47	0.49
19:R:74:ARG:HB3	19:R:81:PHE:CZ	2.47	0.49
1:A:971:G:HO2'	1:A:1365:G:HO2'	1.60	0.49
1:A:1368:G:N3	1:A:1369:C:C6	2.81	0.49
16:O:82:ILE:O	16:O:86:GLY:N	2.45	0.49
1:A:714:G:C2	1:A:777:A:H1'	2.48	0.49
1:A:725:G:C5	1:A:726:C:C5	3.01	0.49
1:A:295:C:H2'	1:A:295:C:O2	2.12	0.49
19:R:76:LEU:O	19:R:78:LEU:N	2.46	0.49
1:A:792:A:O2'	1:A:793:U:OP2	2.30	0.49
21:T:91:LEU:C	21:T:93:GLU:H	2.16	0.49
4:C:114:PRO:O	4:C:118:GLN:HG3	2.13	0.49
1:A:1513:A:C2	1:A:1523:G:C5	3.01	0.49
1:A:933:G:O6	8:G:3:ARG:NH2	2.46	0.49
1:A:1433:A:N6	1:A:1434:A:C6	2.81	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:429:U:H6	5:D:25:ARG:HH22	1.59	0.48
11:J:61:GLU:OE1	15:N:45:ARG:NH1	2.46	0.48
1:A:774:G:C2	1:A:775:G:H1'	2.47	0.48
1:A:1128:C:O2'	1:A:1129:C:OP1	2.29	0.48
1:A:1307:U:N3	1:A:1308:U:C4	2.81	0.48
1:A:1087:G:H2'	1:A:1088:G:H8	1.78	0.48
1:A:418:C:H2'	1:A:419:C:C6	2.48	0.48
1:A:1400:C:C4'	1:A:1401:G:OP2	2.49	0.48
1:A:80:G:H3'	1:A:81:U:C5'	2.39	0.48
1:A:197:A:N6	1:A:221:C:H5'	2.27	0.48
1:A:651:C:C2'	1:A:652:U:O5'	2.61	0.48
1:A:218:C:O4'	1:A:461:C:N4	2.45	0.48
19:R:39:VAL:CG1	19:R:40:LEU:N	2.76	0.48
1:A:101:A:C2	1:A:102:G:C4	3.01	0.48
13:L:45:PRO:HG2	13:L:51:ALA:N	2.28	0.48
1:A:1542:U:C6	1:A:1542:U:OP2	2.66	0.48
21:T:33:ILE:O	21:T:34:LYS:C	2.52	0.48
1:A:1459:C:H2'	1:A:1460:A:O5'	2.11	0.48
1:A:374:A:C6	1:A:375:U:C4	3.01	0.48
1:A:837:G:N2	1:A:850:U:H1'	2.27	0.48
1:A:282:A:H3'	1:A:283:C:C6	2.48	0.48
4:C:5:ILE:O	4:C:6:HIS:C	2.51	0.48
1:A:626:U:H5"	17:P:38:TYR:CD2	2.48	0.48
1:A:803:G:H2'	1:A:804:U:O4'	2.11	0.48
1:A:1231:G:C5	1:A:1232:U:C5	3.00	0.48
14:M:81:LEU:CD2	14:M:81:LEU:N	2.68	0.48
1:A:1113:C:H6	1:A:1113:C:O5'	1.95	0.48
1:A:1498:U:O2'	1:A:1499:A:C8	2.58	0.48
1:A:926:G:C4	1:A:1505:G:C2	3.00	0.48
1:A:175:C:O2	1:A:176:C:C6	2.66	0.48
1:A:420:U:N3	1:A:424:G:C6	2.81	0.48
1:A:1152:A:H4'	11:J:13:HIS:HD2	1.78	0.48
8:G:16:LEU:HD21	10:I:42:ARG:HG2	1.94	0.48
6:E:115:VAL:CG1	6:E:116:THR:N	2.75	0.48
1:A:4:U:N3	9:H:105:ARG:HD2	2.27	0.48
11:J:10:GLY:HA3	11:J:16:LEU:HD21	1.94	0.48
1:A:1089:G:O6	1:A:1090:U:C4	2.67	0.48
9:H:26:VAL:HG12	9:H:59:LEU:O	2.13	0.48
8:G:155:ARG:O	8:G:156:TRP:HB2	2.12	0.48
1:A:1028:C:C2	1:A:1034:G:C2	3.01	0.48
1:A:1367:C:N3	1:A:1368:G:N7	2.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1486:G:C2'	1:A:1487:G:O4'	2.61	0.48
1:A:425:G:H2'	1:A:426:G:C5'	2.43	0.48
1:A:31:G:O2'	1:A:32:A:O5'	2.31	0.48
1:A:32:A:C2	1:A:33:A:C4	3.02	0.48
1:A:36:C:C4	1:A:37:U:C5	3.02	0.48
3:B:178:ARG:HH22	9:H:74:PRO:HB3	1.78	0.48
1:A:1463:C:O2'	1:A:1464:G:H5'	2.13	0.48
1:A:650:G:H2'	1:A:651:C:C5'	2.40	0.48
1:A:653:A:P	9:H:56:LYS:HZ1	2.35	0.48
1:A:218:C:C4'	1:A:461:C:H41	2.25	0.48
21:T:73:HIS:O	21:T:74:LYS:CB	2.61	0.48
13:L:45:PRO:HB2	13:L:49:ASN:O	2.12	0.48
1:A:705:U:O4	1:A:706:A:C6	2.66	0.48
1:A:429:U:O3'	5:D:22:LYS:NZ	2.45	0.48
1:A:1285:A:H4'	1:A:1286:A:O5'	2.12	0.48
1:A:886:G:N3	1:A:887:G:C8	2.82	0.48
1:A:1240:U:HO2'	1:A:1241:G:P	2.37	0.48
1:A:1451:A:HO2'	1:A:1452:C:P	2.37	0.48
1:A:287:U:H2'	1:A:288:A:O5'	2.13	0.48
20:S:63:THR:HG22	20:S:64:GLU:N	2.29	0.48
10:I:84:ALA:O	10:I:87:GLN:HB2	2.12	0.48
1:A:981:U:C2	1:A:982:U:C4	3.01	0.48
4:C:195:VAL:C	4:C:196:LEU:HD23	2.34	0.48
1:A:913:A:H4'	1:A:914:A:O5'	2.13	0.48
1:A:986:A:C6	1:A:1220:G:C6	3.02	0.48
14:M:26:GLY:O	14:M:28:ALA:N	2.44	0.48
14:M:26:GLY:C	14:M:28:ALA:H	2.16	0.48
1:A:34:C:H2'	1:A:35:G:H8	1.78	0.48
1:A:363:A:OP1	13:L:33:ARG:HG3	2.14	0.48
1:A:1073:U:O2'	1:A:1074:G:H5'	2.13	0.48
1:A:690:G:C6	1:A:691:G:C6	3.01	0.48
1:A:342:C:C2	1:A:348:G:C2	3.01	0.48
1:A:590:C:N3	1:A:591:U:C5	2.82	0.48
4:C:70:VAL:C	4:C:106:VAL:HG23	2.33	0.48
1:A:293:G:C6	1:A:294:U:C4	3.02	0.48
1:A:877:C:O2	9:H:3:THR:HG21	2.13	0.48
6:E:103:GLY:O	6:E:106:PRO:HD2	2.14	0.48
1:A:46:G:O2'	1:A:365:U:H1'	2.14	0.48
1:A:964:A:OP1	1:A:1199:U:OP1	2.31	0.48
1:A:713:G:N2	1:A:777:A:C4'	2.74	0.48
1:A:328:C:O2'	1:A:329:A:OP2	2.31	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1529:G:H5"	1:A:1530:G:OP2	2.12	0.48
1:A:1121:U:H2'	1:A:1122:U:C6	2.49	0.48
1:A:597:G:C6	1:A:644:G:O6	2.67	0.48
1:A:197:A:N3	1:A:198:G:H1'	2.28	0.48
8:G:40:ALA:CB	10:I:41:VAL:HG11	2.43	0.48
1:A:511:C:HO2'	1:A:512:U:P	2.37	0.48
10:I:89:ASN:O	10:I:92:TYR:HB2	2.14	0.48
1:A:1263:C:H2'	1:A:1264:C:C6	2.49	0.48
21:T:51:GLU:HA	21:T:54:LYS:HB2	1.95	0.48
1:A:394:G:N3	1:A:395:C:C6	2.81	0.48
1:A:246:A:C4	1:A:279:A:N6	2.82	0.48
4:C:8:ILE:O	4:C:11:ARG:N	2.40	0.48
1:A:805:C:H2'	1:A:806:C:C5'	2.44	0.48
1:A:1223:C:H3'	1:A:1224:G:H5"	1.95	0.48
1:A:1327:C:H2'	1:A:1328:C:C6	2.49	0.48
1:A:532:A:O2'	1:A:533:A:OP1	2.28	0.48
1:A:535:A:H5"	1:A:536:C:OP2	2.13	0.48
1:A:49:U:H1'	13:L:28:LYS:NZ	2.28	0.48
1:A:917:G:H2'	1:A:918:A:O4'	2.14	0.48
1:A:544:G:C5	1:A:545:C:H5	2.22	0.48
1:A:1202:G:C4	15:N:42:ILE:CD1	2.96	0.48
1:A:598:U:H2'	1:A:599:C:C6	2.48	0.48
1:A:642:A:C8	1:A:643:C:C5	3.02	0.48
1:A:668:G:O2'	16:O:46:HIS:HD2	1.96	0.48
1:A:1422:G:O2'	1:A:1423:G:H5'	2.13	0.48
1:A:376:G:O2'	1:A:377:G:H5'	2.14	0.48
1:A:392:G:C4	1:A:393:A:C8	3.02	0.48
1:A:1193:G:C2	1:A:1194:U:C5	3.01	0.48
1:A:1251:A:H4'	10:I:12:GLU:CD	2.34	0.48
1:A:1358:U:H3'	1:A:1359:C:C6	2.48	0.48
1:A:581:G:C2	1:A:582:U:C5	3.02	0.48
1:A:434:U:H2'	1:A:435:C:C6	2.49	0.48
1:A:434:U:O2	1:A:435:C:C6	2.67	0.48
1:A:345:C:H5"	1:A:346:G:OP1	2.14	0.48
1:A:1128:C:C2	1:A:1144:G:N2	2.81	0.48
1:A:1238:A:H5'	1:A:1336:C:H41	1.79	0.48
1:A:552:U:O2	13:L:31:PRO:HB3	2.14	0.48
1:A:67:C:O2'	1:A:68:G:H5'	2.13	0.48
1:A:341:C:O2	1:A:349:A:C2	2.66	0.48
1:A:1180:A:O2'	1:A:1181:G:H5'	2.13	0.48
14:M:59:TYR:CE1	14:M:63:THR:HG21	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:286:G:C5	1:A:287:U:C4	3.02	0.48
9:H:6:ILE:HD11	9:H:31:PHE:CD2	2.49	0.48
7:F:10:LEU:CD1	7:F:59:TYR:HB3	2.43	0.48
3:B:92:TYR:CE2	3:B:151:GLY:HA3	2.48	0.48
1:A:455:C:O2'	1:A:456:C:H5'	2.14	0.48
1:A:1248:A:C4	1:A:1249:C:C5	3.01	0.48
1:A:1371:G:O2'	1:A:1372:U:H5'	2.13	0.48
1:A:949:A:N7	1:A:950:U:C5	2.82	0.48
1:A:1329:A:C2'	1:A:1330:U:C5'	2.88	0.48
4:C:34:LEU:HD23	4:C:34:LEU:O	2.14	0.48
1:A:36:C:N3	1:A:37:U:C5	2.82	0.48
1:A:1094:G:C5'	1:A:1095:U:H5	2.18	0.48
1:A:994:A:H8	1:A:1216:G:HO2'	1.61	0.48
1:A:543:C:O2'	1:A:544:G:H5'	2.13	0.48
1:A:818:G:C3'	1:A:819:A:H5"	2.44	0.48
1:A:1152:A:OP1	11:J:68:HIS:ND1	2.47	0.48
1:A:1074:G:O2'	1:A:1075:C:H5'	2.14	0.48
1:A:596:C:O2'	1:A:597:G:H5'	2.14	0.48
1:A:910:C:H2'	1:A:911:U:H6	1.79	0.48
1:A:854:G:H3'	1:A:871:U:C4	2.48	0.48
16:O:3:ILE:H	16:O:3:ILE:CD1	2.25	0.48
3:B:164:VAL:O	3:B:186:ALA:HA	2.14	0.48
1:A:6:G:N2	6:E:98:THR:OG1	2.46	0.48
1:A:449:C:C6	1:A:450:G:C8	3.02	0.48
1:A:1195:C:C3'	1:A:1196:U:H5'	2.31	0.48
1:A:325:A:H2'	1:A:326:G:O4'	2.13	0.48
1:A:22:G:O2'	1:A:23:C:C5'	2.56	0.48
1:A:370:C:O2	1:A:371:G:C8	2.66	0.48
12:K:84:VAL:HG22	12:K:110:ASP:HA	1.96	0.48
1:A:1074:G:C2	1:A:1102:A:C5	3.02	0.48
1:A:1202:G:H2'	1:A:1203:C:C5'	2.44	0.48
1:A:274:A:O2'	1:A:275:G:H8	1.97	0.48
1:A:1045:C:C3'	1:A:1045:C:C6	2.97	0.48
15:N:44:LEU:O	15:N:44:LEU:HD12	2.14	0.48
1:A:1026:G:N3	1:A:1026:G:C2'	2.74	0.47
1:A:1054:C:C2'	1:A:1055:A:H5"	2.43	0.47
1:A:1333:A:N7	1:A:1334:G:C8	2.81	0.47
1:A:338:A:H2'	1:A:339:C:O4'	2.14	0.47
1:A:15:G:C4'	6:E:24:ARG:HH12	2.27	0.47
1:A:545:C:H2'	1:A:545:C:O2	2.14	0.47
1:A:1047:G:H2'	1:A:1048:G:C5'	2.41	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:293:G:C4	1:A:294:U:C5	3.01	0.47
1:A:1480:G:C5	1:A:1481:U:C4	3.02	0.47
1:A:792:A:H4'	1:A:793:U:H5"	1.96	0.47
1:A:575:G:C4	1:A:881:G:N2	2.82	0.47
4:C:118:GLN:O	4:C:121:ALA:HB3	2.14	0.47
12:K:43:SER:HB3	12:K:68:ALA:HB2	1.94	0.47
21:T:13:LEU:HD12	21:T:13:LEU:C	2.34	0.47
1:A:452:A:C2	1:A:453:A:C1'	2.97	0.47
1:A:455:C:H6	1:A:455:C:O5'	1.97	0.47
1:A:479:C:C2'	1:A:480:U:H5'	2.44	0.47
1:A:254:G:OP1	18:Q:67:LYS:O	2.32	0.47
1:A:1287:A:C6	1:A:1288:A:C6	3.02	0.47
1:A:39:G:C2'	1:A:40:C:C5'	2.92	0.47
1:A:948:C:C4	14:M:106:ASN:ND2	2.83	0.47
1:A:1139:G:O2'	1:A:1140:C:P	2.71	0.47
1:A:148:G:C2	1:A:149:A:N7	2.82	0.47
12:K:84:VAL:HG21	19:R:88:LYS:HD3	1.96	0.47
1:A:991:U:O2'	1:A:992:U:H5'	2.14	0.47
1:A:128:G:C2	1:A:234:C:O2	2.67	0.47
1:A:821:G:H2'	1:A:822:C:C6	2.49	0.47
1:A:901:A:N7	1:A:902:G:C1'	2.77	0.47
6:E:44:GLY:N	6:E:62:ALA:HB2	2.28	0.47
1:A:248:C:C2'	1:A:249:U:H5'	2.43	0.47
7:F:91:VAL:HG13	19:R:72:ARG:NH2	2.29	0.47
1:A:376:G:H2'	1:A:377:G:C8	2.45	0.47
1:A:474:G:C2	1:A:475:G:C8	3.01	0.47
1:A:838:G:N2	1:A:849:C:C2	2.82	0.47
1:A:781:A:H2'	1:A:782:A:C5'	2.44	0.47
1:A:1125:U:C2'	1:A:1126:U:OP2	2.62	0.47
1:A:1392:G:N2	1:A:1502:A:C8	2.81	0.47
1:A:33:A:H2'	1:A:34:C:C6	2.50	0.47
1:A:341:C:N3	1:A:349:A:C2	2.82	0.47
17:P:20:VAL:CG2	17:P:21:VAL:H	2.27	0.47
7:F:7:ASN:ND2	19:R:34:TYR:CE1	2.76	0.47
1:A:936:C:H2'	1:A:937:A:O5'	2.13	0.47
1:A:166:G:C4	1:A:167:G:C8	3.02	0.47
1:A:893:C:H2'	1:A:894:G:H8	1.79	0.47
3:B:130:ARG:NH2	4:C:207:VAL:HG11	2.26	0.47
4:C:73:PRO:O	4:C:77:ILE:HG12	2.14	0.47
1:A:805:C:H2'	1:A:806:C:O5'	2.14	0.47
1:A:370:C:C2'	1:A:371:G:H5'	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1217:C:C4	1:A:1218:C:C5	3.02	0.47
1:A:1329:A:H2'	1:A:1330:U:C5'	2.43	0.47
1:A:657:G:C2	1:A:750:G:C5	3.02	0.47
1:A:743:U:H2'	1:A:744:C:H6	1.79	0.47
1:A:1401:G:C2	1:A:1402:C:H1'	2.49	0.47
1:A:1392:G:N2	1:A:1502:A:H8	2.12	0.47
1:A:872:A:C5	1:A:874:G:C8	3.02	0.47
1:A:16:A:N1	1:A:919:A:C2	2.82	0.47
1:A:1256:A:C2	1:A:1258:G:C2	3.02	0.47
1:A:545:C:HO2'	1:A:546:G:H5'	1.75	0.47
1:A:401:C:H2'	1:A:402:G:C8	2.49	0.47
1:A:694:A:C6	1:A:695:A:C4	3.01	0.47
1:A:540:G:C4	1:A:541:G:C8	3.02	0.47
10:I:86:VAL:HG13	10:I:90:PRO:HA	1.95	0.47
1:A:1154:G:H2'	1:A:1155:G:H8	1.79	0.47
22:V:20:LYS:HG2	22:V:20:LYS:O	2.15	0.47
13:L:55:VAL:HG12	13:L:56:ALA:N	2.30	0.47
18:Q:67:LYS:O	18:Q:68:ARG:CB	2.62	0.47
1:A:1359:C:O5'	1:A:1359:C:H6	1.97	0.47
1:A:981:U:C5'	15:N:21:TYR:CZ	2.97	0.47
1:A:981:U:H5"	15:N:21:TYR:CZ	2.50	0.47
1:A:760:G:C2'	1:A:761:G:H5'	2.45	0.47
1:A:57:G:C6	1:A:58:C:N4	2.83	0.47
1:A:1306:A:N7	1:A:1332:A:N7	2.63	0.47
1:A:1305:G:OP1	22:V:2:GLY:HA2	2.14	0.47
6:E:120:THR:CG2	6:E:121:LYS:H	2.11	0.47
1:A:172:A:N7	1:A:174:C:C4	2.82	0.47
1:A:129(A):G:O2'	1:A:190(E):U:C6	2.67	0.47
1:A:540:G:C2'	1:A:541:G:C5'	2.89	0.47
1:A:509:A:H8	1:A:509:A:C5'	2.27	0.47
9:H:2:LEU:HD23	9:H:3:THR:N	2.29	0.47
19:R:66:LEU:HD11	19:R:70:ILE:HD11	1.96	0.47
3:B:10:LEU:HD12	3:B:10:LEU:N	2.29	0.47
1:A:394:G:C6	1:A:395:C:C4	3.03	0.47
1:A:582:U:C2'	1:A:583:A:C8	2.80	0.47
1:A:1130:A:C4	1:A:1146:A:C2	3.03	0.47
14:M:91:ARG:NH2	14:M:96:LEU:HD13	2.29	0.47
1:A:1497:G:C5	1:A:1498:U:C5	3.03	0.47
1:A:520:A:H2	1:A:536:C:O2	1.97	0.47
4:C:64:VAL:O	4:C:99:VAL:HG23	2.15	0.47
1:A:818:G:H2'	1:A:820:U:OP2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:861:G:OP1	9:H:75:ARG:NH2	2.46	0.47
1:A:607:A:O2'	1:A:608:A:H5'	2.14	0.47
6:E:97:GLY:N	6:E:117:ASP:OD1	2.46	0.47
1:A:1272:G:C5	1:A:1273:G:N7	2.82	0.47
16:O:77:ARG:NH1	16:O:77:ARG:HG3	2.30	0.47
13:L:60:LEU:N	13:L:60:LEU:HD22	2.29	0.47
17:P:3:LYS:HA	17:P:65:GLN:O	2.14	0.47
1:A:488:C:H6	1:A:488:C:O5'	1.98	0.47
1:A:415:A:C6	1:A:416:G:C5	3.02	0.47
1:A:1052:U:H2'	1:A:1055:A:OP1	2.13	0.47
1:A:1367:C:C5'	11:J:60:ARG:HH11	2.28	0.47
1:A:1149:C:C6	1:A:1150:U:H5	2.33	0.47
1:A:113:G:H2'	1:A:114:U:O4'	2.15	0.47
1:A:20:U:H2'	1:A:21:G:O4'	2.14	0.47
1:A:803:G:C4	1:A:804:U:C6	3.03	0.47
1:A:943:U:O2'	1:A:944:G:H5'	2.13	0.47
1:A:9:G:H2'	1:A:10:A:C8	2.48	0.47
13:L:115:LYS:O	13:L:117:ARG:N	2.47	0.47
1:A:1016:A:O2'	1:A:1017:G:H5'	2.14	0.47
1:A:545:C:H5"	5:D:72:GLU:OE1	2.14	0.47
1:A:1538:C:C2	2:1:6:A:N1	2.82	0.47
3:B:108:ILE:C	3:B:110:GLN:N	2.67	0.47
1:A:358:U:H2'	1:A:359:U:H6	1.72	0.47
1:A:1491:G:C2	1:A:1492:A:N6	2.82	0.47
1:A:665:A:H2'	1:A:732:C:O2	2.15	0.47
1:A:766:A:C2'	1:A:767:A:H5'	2.45	0.47
5:D:64:LEU:HD23	5:D:198:VAL:HG11	1.95	0.47
6:E:118:ILE:HG12	6:E:119:LEU:N	2.29	0.47
6:E:78:HIS:HD1	9:H:104:ARG:CD	2.28	0.47
6:E:11:ILE:HG21	6:E:31:LEU:HD13	1.97	0.47
17:P:6:LEU:HD12	17:P:6:LEU:N	2.29	0.47
1:A:1272:G:O2'	1:A:1273:G:H5'	2.15	0.47
10:I:50:LEU:C	10:I:52:ALA:N	2.68	0.47
1:A:59:A:C3'	1:A:331:G:H22	2.27	0.47
1:A:785:G:C2	1:A:786:G:C8	3.03	0.47
17:P:12:LYS:O	17:P:13:HIS:HB2	2.15	0.47
1:A:452:A:C2'	1:A:453:A:O5'	2.63	0.47
1:A:456:C:N4	1:A:457:C:N4	2.62	0.47
1:A:1248:A:H2'	1:A:1249:C:H6	1.80	0.47
1:A:1126:U:C2'	1:A:1127:G:C8	2.84	0.47
1:A:960:U:C2	1:A:1225:A:N7	2.83	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1489:G:H2'	1:A:1490:C:C5'	2.40	0.47
1:A:1531:A:C6	1:A:1532:U:C4	3.03	0.47
1:A:1343:G:C6	1:A:1344:C:C4	3.02	0.47
1:A:190(D):U:O2'	1:A:190(E):U:C5'	2.63	0.47
1:A:645:C:H2'	1:A:646:U:C6	2.49	0.47
1:A:609:A:O2'	1:A:610:G:H5'	2.15	0.47
1:A:228:A:C4'	17:P:62:VAL:HG11	2.43	0.47
1:A:829:G:C2	1:A:830:G:C5	3.03	0.47
17:P:28:ARG:HG2	17:P:29:ASP:N	2.30	0.47
1:A:246:A:O3'	1:A:247:G:H4'	2.15	0.47
1:A:1466:C:H2'	1:A:1467:G:O4'	2.15	0.47
1:A:408:A:C2	1:A:409:G:C4	3.02	0.47
1:A:1059:C:O2'	1:A:1060:C:H5'	2.15	0.47
1:A:437:U:O2'	5:D:123:HIS:CD2	2.62	0.47
14:M:65:LYS:HG2	14:M:69:GLU:HB3	1.97	0.47
1:A:147:G:N3	1:A:148:G:C8	2.83	0.47
19:R:85:LEU:HD12	19:R:86:VAL:H	1.79	0.47
1:A:1212:U:O2'	1:A:1213:A:O5'	2.29	0.47
1:A:1215:G:H2'	1:A:1215:G:N3	2.30	0.47
1:A:273:A:HO2'	1:A:274:A:H5'	1.80	0.47
14:M:4:ILE:CG2	14:M:5:ALA:N	2.78	0.47
1:A:319:G:O2'	1:A:320:C:H5'	2.15	0.47
9:H:36:LEU:HD22	9:H:61:VAL:CG2	2.45	0.47
5:D:173:TRP:CD1	5:D:174:LEU:HG	2.50	0.47
1:A:1351:U:HO2'	1:A:1352:C:H5'	1.77	0.47
1:A:115:G:H1'	1:A:116:A:N7	2.30	0.47
1:A:1442:G:H22	1:A:1446:A:H8	1.63	0.47
1:A:658:G:N3	1:A:659:U:C6	2.83	0.47
1:A:744:C:H2'	1:A:745:C:C6	2.50	0.47
1:A:518:C:C5	1:A:530:G:C4	3.03	0.47
1:A:302:G:N3	1:A:556:C:H4'	2.30	0.47
1:A:562:C:H4'	1:A:563:A:O5'	2.15	0.47
1:A:900:A:O2'	1:A:901:A:C5'	2.57	0.47
1:A:590:C:C4	1:A:591:U:C5	3.03	0.47
8:G:36:LYS:HG2	10:I:42:ARG:NH2	2.30	0.47
1:A:262:A:C6	1:A:263:A:N6	2.83	0.47
14:M:34:LEU:HD22	14:M:39:ILE:HB	1.96	0.47
8:G:100:ALA:O	8:G:104:LEU:HG	2.14	0.47
1:A:1263:C:H2'	1:A:1264:C:H6	1.80	0.47
14:M:15:VAL:HG23	14:M:43:THR:O	2.15	0.47
5:D:88:VAL:O	5:D:90:GLY:N	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:G:26:PHE:HD1	8:G:101:LEU:HD22	1.80	0.47
1:A:783:C:H2'	1:A:784:C:H5'	1.97	0.47
1:A:458:C:C4	1:A:459:G:C5	3.03	0.46
1:A:480:U:C2'	1:A:481:G:OP2	2.63	0.46
1:A:780:A:O2'	1:A:781:A:H5"	2.15	0.46
1:A:1135:U:O3'	1:A:1136:U:C5	2.68	0.46
1:A:1321:C:P	20:S:3:ARG:HH12	2.39	0.46
1:A:657:G:C5	1:A:658:G:N7	2.83	0.46
14:M:70:LEU:C	14:M:72:ALA:H	2.19	0.46
1:A:322:C:O2'	1:A:323:U:H5'	2.16	0.46
1:A:64:G:H4'	1:A:65:U:H5"	1.97	0.46
20:S:22:LEU:HD22	20:S:28:LYS:HB2	1.97	0.46
9:H:86:ILE:HD12	9:H:133:LEU:CD2	2.44	0.46
1:A:96:G:H2'	1:A:97:G:O4'	2.15	0.46
1:A:974:A:OP1	15:N:29:ARG:NH2	2.48	0.46
1:A:121:C:H5'	1:A:122:G:OP1	2.15	0.46
14:M:32:GLU:O	14:M:32:GLU:HG2	2.15	0.46
1:A:448:A:C8	1:A:487:A:C2	3.03	0.46
1:A:460:A:C4	1:A:462:G:N7	2.83	0.46
1:A:1052:U:C4	1:A:1200:C:C2	3.03	0.46
1:A:1053:G:N2	1:A:1056:U:C4	2.83	0.46
1:A:1198:G:H2'	1:A:1199:U:O4'	2.15	0.46
1:A:1205:U:H1'	4:C:195:VAL:CG2	2.46	0.46
1:A:1248:A:N3	10:I:70:LYS:HD2	2.30	0.46
1:A:1150:U:O2	1:A:1150:U:H2'	2.16	0.46
1:A:803:G:C6	1:A:804:U:C4	3.03	0.46
1:A:38:G:N1	1:A:397:A:C2	2.83	0.46
1:A:970:C:O2	1:A:1231:G:H1'	2.15	0.46
1:A:1326:C:H2'	1:A:1327:C:C6	2.50	0.46
1:A:1231:G:H4'	10:I:126:SER:HG	1.80	0.46
1:A:1225:A:H5'	14:M:103:THR:CG2	2.45	0.46
1:A:662:G:O2'	1:A:663:A:H5'	2.16	0.46
14:M:70:LEU:O	14:M:74:VAL:HG23	2.14	0.46
1:A:515:G:O2'	1:A:516:U:H5'	2.16	0.46
1:A:181:G:N2	1:A:195:A:C5	2.84	0.46
1:A:524:G:C4	1:A:525:C:C5	3.04	0.46
1:A:341:C:O2'	1:A:342:C:H5'	2.15	0.46
1:A:1509:C:C2	1:A:1510:U:C5	3.03	0.46
7:F:55:ASP:HA	7:F:56:PRO:HD2	1.65	0.46
1:A:1513:A:C2	1:A:1523:G:C6	3.03	0.46
1:A:448:A:N7	1:A:487:A:C6	2.84	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1057:G:C2'	1:A:1058:G:H8	2.25	0.46
1:A:1250:A:H4'	10:I:68:GLY:O	2.15	0.46
1:A:1376:U:H2'	1:A:1377:A:C8	2.50	0.46
1:A:1346:A:C8	8:G:10:ARG:NH2	2.83	0.46
1:A:39:G:C2	1:A:40:C:C6	3.03	0.46
1:A:354:G:C5	1:A:355:C:C5	3.04	0.46
1:A:397:A:H5"	1:A:397:A:N3	2.31	0.46
1:A:1135:U:C6	1:A:1135:U:O5'	2.66	0.46
1:A:1144:G:N2	1:A:1146:A:N6	2.64	0.46
14:M:81:LEU:HA	14:M:84:ILE:HG12	1.98	0.46
1:A:926:G:H2'	1:A:1505:G:H21	1.81	0.46
1:A:920:U:N3	1:A:921:U:C4	2.83	0.46
17:P:20:VAL:CG2	17:P:21:VAL:N	2.78	0.46
1:A:540:G:H2'	1:A:541:G:H5'	1.95	0.46
1:A:673:G:H2'	1:A:674:G:C8	2.50	0.46
1:A:1183:A:O2'	1:A:1184:G:P	2.74	0.46
1:A:1068:G:C2	1:A:1069:C:C6	3.04	0.46
3:B:130:ARG:HH22	4:C:207:VAL:CG1	2.28	0.46
1:A:362:G:N2	1:A:365:U:OP2	2.48	0.46
21:T:56:MET:HE2	21:T:85:MET:HA	1.97	0.46
1:A:1173:G:OP1	8:G:5:ARG:NH1	2.48	0.46
1:A:79:G:C2	1:A:91:C:C2	3.04	0.46
17:P:53:VAL:HG23	17:P:54:GLU:N	2.31	0.46
3:B:11:LEU:O	3:B:13:ALA:N	2.48	0.46
1:A:1348:U:H2'	1:A:1349:A:H8	1.79	0.46
1:A:761:G:C6	1:A:762:C:C4	3.03	0.46
1:A:560:U:H5'	1:A:566:G:N2	2.30	0.46
1:A:33:A:H2'	1:A:34:C:H6	1.80	0.46
1:A:502:G:C2	1:A:503:C:C2	3.03	0.46
1:A:193:C:O2'	1:A:194:C:H5'	2.15	0.46
1:A:15:G:H1'	6:E:24:ARG:HH12	1.78	0.46
1:A:819:A:H5"	1:A:820:U:OP2	2.14	0.46
1:A:821:G:H2'	1:A:822:C:H6	1.81	0.46
1:A:1072:G:H2'	1:A:1073:U:C6	2.51	0.46
1:A:651:C:N3	1:A:652:U:C4	2.84	0.46
1:A:542:G:P	5:D:10:ARG:NH2	2.89	0.46
16:O:24:SER:HB2	16:O:27:VAL:HG23	1.97	0.46
1:A:684:A:O2'	12:K:38:ASN:HB3	2.15	0.46
11:J:16:LEU:CD2	11:J:94:VAL:HG22	2.45	0.46
1:A:1526:G:O2'	1:A:1527:C:H5'	2.16	0.46
1:A:458:C:C4	1:A:459:G:C8	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:840:C:C5'	1:A:841:U:OP1	2.52	0.46
18:Q:97:SER:O	18:Q:98:LEU:HD12	2.15	0.46
1:A:1063:C:C6	1:A:1064:G:C8	3.03	0.46
1:A:1187:G:C6	1:A:1188:A:C6	3.04	0.46
1:A:981:U:N1	1:A:982:U:C5	2.84	0.46
1:A:435:C:O2'	1:A:436:C:H5'	2.15	0.46
1:A:807:A:C5	1:A:808:C:C5	3.04	0.46
1:A:1306:A:C4	1:A:1307:U:C6	3.03	0.46
1:A:69:G:C2	1:A:70:G:N7	2.84	0.46
1:A:653:A:O4'	9:H:56:LYS:HE2	2.16	0.46
1:A:1181:G:H2'	1:A:1182:G:N7	2.31	0.46
1:A:229:U:H2'	1:A:230:G:H8	1.80	0.46
16:O:45:VAL:HG12	16:O:46:HIS:N	2.30	0.46
9:H:29:SER:C	9:H:31:PHE:H	2.17	0.46
1:A:300:A:C8	1:A:301:G:C8	3.03	0.46
18:Q:10:VAL:O	18:Q:53:LEU:HD12	2.14	0.46
7:F:4:TYR:O	7:F:64:GLN:HA	2.16	0.46
1:A:440:A:C5'	1:A:442:C:OP2	2.64	0.46
1:A:1291:G:C6	1:A:1292:U:C4	3.04	0.46
1:A:1057:G:H4'	4:C:154:SER:CB	2.46	0.46
11:J:49:VAL:HG13	15:N:41:ARG:HB2	1.98	0.46
1:A:495:U:H5"	1:A:496:A:OP2	2.16	0.46
1:A:805:C:O2'	1:A:806:C:H5'	2.16	0.46
1:A:1442:G:H22	1:A:1446:A:H3'	1.75	0.46
1:A:1238:A:N7	1:A:1303:C:C1'	2.76	0.46
1:A:1306:A:C2	1:A:1307:U:H1'	2.51	0.46
1:A:1308:U:OP1	14:M:98:VAL:N	2.46	0.46
14:M:81:LEU:HD12	14:M:88:ARG:HD3	1.97	0.46
1:A:661:G:C8	1:A:661:G:H5"	2.50	0.46
1:A:927:G:H2'	1:A:928:G:H8	1.80	0.46
1:A:515:G:C2'	1:A:516:U:H5'	2.45	0.46
1:A:191:G:C8	1:A:192:U:C5	3.04	0.46
1:A:1342:C:O2'	1:A:1343:G:C5'	2.56	0.46
1:A:1538:C:H42	2:1:6:A:H61	1.63	0.46
1:A:509:A:C8	1:A:509:A:C4'	2.99	0.46
3:B:25:ASN:O	3:B:27:LYS:N	2.49	0.46
1:A:1261:A:C4	1:A:1262:C:C6	3.04	0.46
3:B:114:ARG:O	3:B:118:LEU:HG	2.16	0.46
1:A:309:G:H5"	17:P:29:ASP:O	2.14	0.46
1:A:445:G:N3	1:A:446:G:C8	2.83	0.46
1:A:460:A:N7	1:A:462:G:C6	2.84	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:478:A:O2'	1:A:479:C:H5'	2.14	0.46
1:A:256:U:H2'	1:A:257:G:C8	2.50	0.46
1:A:256:U:C2	1:A:257:G:C8	3.04	0.46
1:A:277:C:H5'	18:Q:68:ARG:NH1	2.31	0.46
1:A:961:U:N1	1:A:983:A:C2	2.84	0.46
1:A:778:G:H2'	1:A:779:C:O4'	2.16	0.46
1:A:1126:U:H6	1:A:1126:U:O5'	1.99	0.46
1:A:1087:G:H2'	1:A:1088:G:C8	2.50	0.46
1:A:748:C:H4'	1:A:749:C:O5'	2.16	0.46
1:A:380:G:C6	1:A:384:G:O6	2.69	0.46
20:S:22:LEU:HD21	20:S:28:LYS:HD2	1.98	0.46
1:A:738:C:H2'	1:A:739:C:H6	1.80	0.46
17:P:58:TYR:HE1	17:P:59:TRP:CZ3	2.33	0.46
1:A:674:G:H5'	7:F:50:TYR:CE2	2.50	0.46
1:A:767:A:C2'	1:A:768:A:H8	2.27	0.46
1:A:1082:G:C6	1:A:1083:U:N3	2.84	0.46
13:L:47:LYS:HB2	13:L:48:PRO:CD	2.44	0.46
1:A:827:U:O2'	9:H:19:VAL:HG11	2.16	0.46
9:H:28:ALA:HB2	9:H:59:LEU:HG	1.96	0.46
19:R:43:PHE:C	19:R:51:LEU:HD12	2.36	0.46
15:N:44:LEU:HD12	15:N:44:LEU:C	2.36	0.46
1:A:1030(A):G:H4'	1:A:1030(B):C:OP2	2.16	0.46
1:A:391:G:C6	1:A:392:G:C8	3.04	0.46
1:A:445:G:C2	1:A:446:G:C8	3.04	0.46
1:A:1371:G:C5	1:A:1372:U:C5	3.04	0.46
1:A:113:G:O6	1:A:315:A:N6	2.49	0.46
1:A:781:A:H2'	1:A:782:A:H5'	1.97	0.46
1:A:805:C:H2'	1:A:806:C:H5'	1.98	0.46
1:A:947:G:C4	1:A:948:C:C4	3.04	0.46
1:A:1306:A:C8	1:A:1332:A:C5	3.04	0.46
20:S:47:HIS:O	20:S:62:ILE:HG22	2.16	0.46
1:A:64:G:N2	1:A:67:C:C4	2.84	0.46
1:A:1538:C:O2	2:1:6:A:N1	2.49	0.46
1:A:235:C:O2'	1:A:236:G:H5'	2.16	0.46
1:A:1067:A:H4'	1:A:1068:G:O5'	2.15	0.46
1:A:124:G:H2'	1:A:125:U:C6	2.50	0.46
9:H:10:LEU:HD23	9:H:10:LEU:HA	1.52	0.46
1:A:118:U:C5	1:A:288:A:C2	3.04	0.46
16:O:66:LEU:HA	16:O:66:LEU:HD23	1.68	0.46
5:D:180:GLY:O	5:D:182:LYS:HG3	2.16	0.46
18:Q:7:THR:O	18:Q:23:VAL:HG13	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:174:PRO:C	4:C:176:HIS:H	2.18	0.46
1:A:243:A:C2	1:A:245:C:N3	2.84	0.46
1:A:1187:G:N3	1:A:1188:A:C8	2.83	0.46
1:A:1055:A:N6	1:A:1206:G:C6	2.84	0.46
4:C:191:THR:HG22	4:C:192:THR:H	1.80	0.46
1:A:56:U:P	21:T:8:ARG:HH22	2.37	0.46
1:A:1129:C:OP2	10:I:62:TYR:CE2	2.69	0.46
1:A:1415:G:C4	1:A:1416:G:C8	3.04	0.46
1:A:182:U:O4	1:A:223:U:H1'	2.16	0.46
12:K:87:THR:HG23	12:K:91:ARG:HH21	1.81	0.46
4:C:87:LEU:O	4:C:91:LEU:HB2	2.15	0.46
1:A:918:A:C6	1:A:919:A:C6	3.04	0.46
1:A:1215:G:C8	1:A:1215:G:OP2	2.68	0.46
1:A:815:A:H5"	1:A:817:C:H41	1.80	0.46
1:A:1010:G:H2'	1:A:1011:G:C8	2.44	0.46
1:A:597:G:C4	1:A:598:U:C6	3.03	0.46
1:A:190(I):G:H2'	1:A:190(J):U:O4'	2.15	0.46
16:O:11:VAL:HG21	16:O:34:LEU:HD12	1.98	0.46
11:J:6:ILE:O	11:J:71:LEU:HD22	2.16	0.46
1:A:451:A:H2	1:A:480:U:C4	2.34	0.46
1:A:848:C:H2'	1:A:849:C:H6	1.80	0.46
1:A:1347:G:H8	10:I:107:ARG:O	1.99	0.46
1:A:1374:A:C4	1:A:1375:A:C8	3.04	0.46
1:A:354:G:C6	1:A:355:C:C4	3.03	0.46
1:A:949:A:H2'	1:A:950:U:H6	1.81	0.46
1:A:371:G:O2'	1:A:372:C:C5'	2.47	0.46
1:A:951:G:O2'	1:A:952:U:H5'	2.16	0.46
14:M:84:ILE:C	14:M:86:CYS:H	2.19	0.46
1:A:1504:G:H4'	1:A:1505:G:C5'	2.46	0.46
1:A:858:G:C8	1:A:869:G:O6	2.69	0.46
1:A:1106:G:OP1	4:C:172:ARG:HD3	2.15	0.46
1:A:1181:G:O2'	1:A:1182:G:O4'	2.34	0.46
6:E:91:LEU:HD22	6:E:118:ILE:HD11	1.97	0.46
9:H:45:ILE:O	9:H:45:ILE:HG13	2.14	0.46
19:R:69:THR:O	19:R:72:ARG:HB2	2.16	0.46
1:A:1287:A:C6	1:A:1288:A:N6	2.84	0.45
1:A:1227:A:OP1	20:S:80:TYR:OH	2.20	0.45
1:A:1305:G:OP2	1:A:1305:G:C8	2.70	0.45
20:S:62:ILE:CD1	20:S:66:MET:HG3	2.46	0.45
14:M:70:LEU:O	14:M:72:ALA:N	2.50	0.45
1:A:1074:G:C5	1:A:1075:C:C4	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:903:G:O2'	1:A:904:C:H5'	2.16	0.45
1:A:274:A:O2'	1:A:275:G:P	2.74	0.45
16:O:36:ILE:HD12	16:O:63:ARG:HD3	1.97	0.45
4:C:76:VAL:O	4:C:83:ARG:HB3	2.16	0.45
7:F:10:LEU:HB3	7:F:85:VAL:HA	1.98	0.45
1:A:707:C:OP1	12:K:85:ARG:NH1	2.49	0.45
1:A:393:A:C6	1:A:394:G:N7	2.84	0.45
1:A:1037:C:H6	1:A:1037:C:O5'	1.99	0.45
1:A:1191:A:H5"	4:C:4:LYS:HZ1	1.79	0.45
1:A:1349:A:C2'	1:A:1350:A:C8	2.87	0.45
1:A:582:U:C2	1:A:760:G:C6	3.04	0.45
14:M:81:LEU:HB2	14:M:86:CYS:HB3	1.97	0.45
1:A:1451:A:O2'	1:A:1452:C:OP1	2.30	0.45
1:A:187:C:C2	21:T:105:SER:HB2	2.51	0.45
1:A:1531:A:C5	1:A:1532:U:C5	3.04	0.45
1:A:1530:G:O2'	1:A:1531:A:H8	1.91	0.45
1:A:694:A:C5	1:A:695:A:C8	3.04	0.45
1:A:608:A:C2	1:A:609:A:N9	2.85	0.45
11:J:47:PHE:CE2	15:N:37:PHE:CE1	3.04	0.45
7:F:21:LEU:O	7:F:25:ILE:HG13	2.16	0.45
6:E:127:ASN:O	6:E:128:PRO:C	2.54	0.45
5:D:78:LEU:HA	5:D:78:LEU:HD23	1.71	0.45
1:A:476:G:N3	1:A:477:G:C8	2.84	0.45
1:A:476:G:C2	1:A:477:G:C5	3.03	0.45
1:A:503:C:H2'	1:A:504:C:C6	2.46	0.45
1:A:177:C:H2'	1:A:178:C:H6	1.81	0.45
1:A:1451:A:H5"	1:A:1452:C:C6	2.48	0.45
1:A:4:U:C5'	1:A:5:U:OP2	2.64	0.45
1:A:89:C:H2'	1:A:90:U:H6	1.81	0.45
9:H:26:VAL:CG1	9:H:26:VAL:O	2.63	0.45
1:A:145:G:C2	1:A:146:G:C8	3.03	0.45
16:O:85:LEU:HD23	16:O:85:LEU:HA	1.75	0.45
1:A:448:A:N7	1:A:487:A:C5	2.85	0.45
1:A:1190:G:OP1	4:C:4:LYS:O	2.35	0.45
1:A:1250:A:C8	1:A:1287:A:N7	2.85	0.45
1:A:1347:G:N2	1:A:1374:A:OP2	2.49	0.45
1:A:1149:C:C4	1:A:1150:U:C5	3.05	0.45
1:A:946:A:O2'	1:A:947:G:H5'	2.15	0.45
1:A:977:A:N3	1:A:977:A:H3'	2.31	0.45
1:A:502:G:H2'	1:A:503:C:O4'	2.17	0.45
1:A:1450:U:O2'	1:A:1451:A:C8	2.64	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1105:A:O2'	1:A:1106:G:H5'	2.15	0.45
1:A:1520:G:C2	1:A:1521:G:C5	3.05	0.45
11:J:19:SER:HB2	11:J:91:PRO:HG3	1.98	0.45
21:T:77:ALA:O	21:T:80:ARG:HB2	2.16	0.45
1:A:731:G:OP1	1:A:766:A:H1'	2.15	0.45
1:A:53:A:N1	1:A:54:C:C2	2.85	0.45
1:A:611:A:C5	1:A:612:C:C5	3.04	0.45
1:A:1169:A:O5'	1:A:1169:A:H8	1.99	0.45
10:I:90:PRO:C	10:I:92:TYR:H	2.18	0.45
5:D:127:THR:HB	5:D:147:ALA:HB3	1.97	0.45
3:B:90:MET:HA	3:B:91:PRO:HD3	1.62	0.45
1:A:290:C:H2'	1:A:291:C:O4'	2.16	0.45
3:B:73:THR:O	3:B:73:THR:HG22	2.17	0.45
1:A:1030(C):G:C8	1:A:1030(C):G:H5'	2.46	0.45
1:A:838:G:C2	1:A:849:C:C2	3.04	0.45
1:A:410:G:C2	1:A:429:U:N3	2.83	0.45
1:A:1350:A:O2'	1:A:1351:U:H5'	2.17	0.45
1:A:1198:G:O2'	11:J:54:PHE:CE2	2.70	0.45
1:A:761:G:H2'	1:A:762:C:C6	2.52	0.45
1:A:1217:C:H2'	1:A:1218:C:O4'	2.15	0.45
1:A:176:C:HO2'	1:A:177:C:H5'	1.79	0.45
1:A:336:C:H2'	1:A:337:C:H6	1.81	0.45
20:S:28:LYS:HG2	20:S:29:ARG:N	2.18	0.45
8:G:36:LYS:HG2	10:I:42:ARG:HH22	1.81	0.45
1:A:273:A:N6	1:A:274:A:C6	2.84	0.45
1:A:294:U:C2	1:A:295:C:C5	3.04	0.45
9:H:10:LEU:O	9:H:13:ILE:HB	2.16	0.45
7:F:35:ALA:HB2	7:F:67:MET:HB3	1.97	0.45
7:F:1:MET:HB3	7:F:67:MET:O	2.16	0.45
1:A:826:C:H4'	9:H:12:ARG:HG2	1.97	0.45
18:Q:19:VAL:HG22	18:Q:44:ALA:HB3	1.98	0.45
17:P:67:THR:HG22	17:P:68:ASP:H	1.79	0.45
3:B:84:GLU:HG3	3:B:215:LEU:HB3	1.99	0.45
1:A:1178:G:C8	1:A:1178:G:H3'	2.52	0.45
9:H:114:THR:C	9:H:116:LYS:N	2.67	0.45
21:T:72:LEU:HA	21:T:72:LEU:HD23	1.67	0.45
1:A:292:G:C2	1:A:309:G:C2	3.04	0.45
1:A:375:U:C2	1:A:376:G:C8	3.05	0.45
1:A:277:C:H5'	18:Q:68:ARG:HH12	1.82	0.45
1:A:1285:A:O2'	1:A:1286:A:OP2	2.28	0.45
1:A:1288:A:C2	1:A:1289:A:C5	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1290:G:C6	1:A:1291:G:N7	2.85	0.45
1:A:1350:A:C5	1:A:1351:U:C4	3.05	0.45
4:C:154:SER:HB3	4:C:197:GLY:N	2.25	0.45
1:A:778:G:C6	1:A:779:C:C4	3.05	0.45
1:A:949:A:H2'	1:A:950:U:O4'	2.17	0.45
1:A:635:G:C6	1:A:636:U:C4	3.04	0.45
1:A:1100:C:O2	1:A:1102:A:OP1	2.35	0.45
1:A:644:G:H2'	1:A:645:C:H5'	1.99	0.45
5:D:64:LEU:HD22	5:D:64:LEU:HA	1.76	0.45
1:A:1083:U:C5	1:A:1084:G:C5	3.04	0.45
19:R:37:VAL:HG21	19:R:78:LEU:HB3	1.98	0.45
1:A:706:A:H1'	12:K:29:ILE:HD11	1.98	0.45
10:I:50:LEU:O	10:I:52:ALA:N	2.50	0.45
1:A:1002:G:C2'	1:A:1003:G:H5'	2.47	0.45
5:D:112:VAL:HG23	5:D:116:GLN:OE1	2.17	0.45
1:A:806:C:H2'	1:A:807:A:H8	1.82	0.45
1:A:1224:G:H2'	20:S:78:ARG:NH2	2.32	0.45
1:A:558:G:C5	1:A:559:A:C2	3.04	0.45
1:A:1095:U:P	1:A:1108:G:H1	2.40	0.45
20:S:28:LYS:HD3	20:S:31:ILE:HD11	1.99	0.45
1:A:811:C:H4'	1:A:900:A:N6	2.32	0.45
1:A:1475:G:O2'	1:A:1476:G:H5'	2.16	0.45
1:A:1181:G:C2'	1:A:1182:G:C8	3.00	0.45
1:A:877:C:H1'	9:H:3:THR:HG22	1.99	0.45
1:A:1472:U:H2'	1:A:1473:A:C8	2.51	0.45
4:C:35:GLU:O	4:C:38:ARG:HB2	2.17	0.45
10:I:95:LYS:HD3	10:I:95:LYS:HA	1.72	0.45
18:Q:11:VAL:HG11	18:Q:22:LEU:HB2	1.98	0.45
1:A:392:G:C5	1:A:393:A:N7	2.85	0.45
1:A:1061:G:C2	1:A:1197:G:N3	2.85	0.45
1:A:1251:A:H2'	1:A:1252:A:O4'	2.17	0.45
1:A:1148:U:O3'	10:I:14:VAL:HG21	2.17	0.45
1:A:1277:C:O4'	1:A:1282:C:H1'	2.17	0.45
1:A:960:U:C2	1:A:1225:A:C5	3.05	0.45
1:A:1305:G:OP2	1:A:1305:G:O4'	2.35	0.45
20:S:62:ILE:HD12	20:S:66:MET:CG	2.46	0.45
1:A:60:A:H2	1:A:107:G:N3	2.15	0.45
1:A:1072:G:C5	1:A:1073:U:C4	3.04	0.45
10:I:102:LEU:HD23	10:I:102:LEU:HA	1.65	0.45
1:A:102:G:H2'	1:A:103:C:H6	1.82	0.45
14:M:37:THR:HG21	14:M:39:ILE:HD11	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Q:76:LEU:HD23	18:Q:76:LEU:C	2.37	0.45
5:D:174:LEU:CD2	5:D:185:PHE:HA	2.46	0.45
4:C:23:TYR:CG	4:C:24:ALA:N	2.84	0.45
19:R:73:ALA:HB3	19:R:79:LEU:HD12	1.98	0.45
9:H:114:THR:C	9:H:116:LYS:H	2.20	0.45
1:A:1059:C:H2'	1:A:1060:C:C6	2.49	0.45
1:A:1286:A:C8	1:A:1287:A:H4'	2.51	0.45
1:A:1350:A:H2'	1:A:1351:U:H6	1.82	0.45
11:J:40:LEU:HA	11:J:40:LEU:HD23	1.66	0.45
1:A:1238:A:C4	1:A:1303:C:O2'	2.69	0.45
1:A:1238:A:C6	1:A:1303:C:H4'	2.52	0.45
1:A:1303:C:C4	1:A:1304:G:C5	3.05	0.45
1:A:1318:A:H4'	20:S:10:PHE:CD2	2.51	0.45
1:A:1399:C:C2	1:A:1401:G:C4	3.04	0.45
1:A:1401:G:C5	1:A:1402:C:C5	3.05	0.45
1:A:503:C:C2	1:A:504:C:C5	3.05	0.45
1:A:538:G:P	13:L:115:LYS:HG3	2.56	0.45
1:A:201:C:H42	1:A:203:U:H1'	1.81	0.45
20:S:19:VAL:O	20:S:22:LEU:HB2	2.16	0.45
1:A:1102:A:C6	1:A:1103:C:N4	2.85	0.45
2:1:4:A:H2'	2:1:5:G:H8	1.82	0.45
1:A:522:C:C2'	1:A:523:A:H5'	2.47	0.45
1:A:1542:U:H2'	1:A:1543:C:O4'	2.17	0.45
9:H:14:ARG:O	9:H:16:ALA:N	2.49	0.45
13:L:75:HIS:HD2	13:L:77:LEU:CG	2.30	0.45
5:D:61:LYS:HD3	5:D:206:PHE:CE2	2.52	0.45
1:A:1164:G:N2	1:A:1173:G:C4	2.85	0.45
1:A:1029:C:H42	1:A:1032:G:H1	1.63	0.45
1:A:1060:C:OP1	15:N:45:ARG:NH2	2.50	0.45
1:A:1234:C:C4'	1:A:1364:U:H1'	2.47	0.45
1:A:1358:U:H2'	1:A:1359:C:C6	2.51	0.45
11:J:40:LEU:HB3	11:J:41:PRO:HB2	1.98	0.45
1:A:943:U:C2	1:A:944:G:C8	3.05	0.45
1:A:1296:C:H4'	1:A:1302:U:O4	2.16	0.45
1:A:978:A:C6	1:A:1318:A:C6	3.05	0.45
1:A:149:A:O2'	1:A:150:C:H5'	2.17	0.45
1:A:1107:C:N4	1:A:1108:G:C8	2.84	0.45
1:A:636:U:H2'	1:A:637:G:C8	2.53	0.45
1:A:1151:A:C2	1:A:1152:A:C6	3.05	0.45
1:A:398:C:O2'	1:A:399:G:H5'	2.17	0.45
1:A:124:G:C6	1:A:125:U:N3	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:10:PRO:HG2	14:M:10:PRO:O	2.17	0.45
18:Q:44:ALA:O	18:Q:69:LYS:HE3	2.17	0.45
1:A:138:G:C6	1:A:226:G:C6	3.05	0.45
5:D:190:ASP:O	5:D:193:ASP:N	2.42	0.45
8:G:26:PHE:HD1	8:G:101:LEU:CD2	2.30	0.45
5:D:65:ARG:HH21	5:D:71:SER:HA	1.81	0.45
1:A:476:G:N1	1:A:477:G:C5	2.85	0.44
1:A:1191:A:N3	1:A:1192:C:C5	2.85	0.44
1:A:40:C:C2	1:A:41:G:C8	3.05	0.44
1:A:781:A:H2	1:A:1514:C:C4'	2.30	0.44
1:A:1442:G:N2	1:A:1446:A:C3'	2.70	0.44
1:A:977:A:C8	1:A:1223:C:C2	3.05	0.44
8:G:115:ARG:O	8:G:119:ARG:HG3	2.17	0.44
1:A:657:G:N2	1:A:750:G:N9	2.65	0.44
1:A:927:G:C6	1:A:1391:U:C2	3.04	0.44
1:A:26:A:H2'	1:A:27:G:H5'	1.99	0.44
1:A:868:C:O2'	1:A:873:A:H2'	2.17	0.44
1:A:633:G:H2'	1:A:634:C:C6	2.51	0.44
1:A:272:C:O2'	1:A:273:A:H5'	2.16	0.44
1:A:262:A:N1	1:A:263:A:C6	2.84	0.44
4:C:152:ILE:CG2	4:C:153:VAL:N	2.79	0.44
1:A:683:G:H2'	1:A:684:A:O4'	2.17	0.44
11:J:8:LEU:HB2	11:J:70:ARG:HB2	1.98	0.44
3:B:16:HIS:NE2	3:B:210:SER:CB	2.80	0.44
1:A:707:C:H5"	12:K:20:TYR:CD2	2.51	0.44
18:Q:82:MET:O	18:Q:85:VAL:N	2.50	0.44
1:A:119:A:C5	1:A:240:C:C4	3.05	0.44
21:T:36:LEU:HD12	21:T:62:LEU:HD12	1.99	0.44
1:A:414:A:H2'	1:A:414:A:N3	2.32	0.44
4:C:6:HIS:CD2	4:C:9:GLY:H	2.35	0.44
11:J:61:GLU:OE2	15:N:49:HIS:HE1	2.00	0.44
1:A:371:G:C2'	1:A:372:C:C5'	2.95	0.44
1:A:1316:G:H22	1:A:1318:A:H3'	1.83	0.44
1:A:1317:C:C6	15:N:16:PHE:CD2	3.06	0.44
1:A:633:G:H2'	1:A:634:C:H6	1.81	0.44
1:A:1083:U:C4	1:A:1084:G:C2	3.06	0.44
1:A:877:C:O2	9:H:3:THR:CG2	2.66	0.44
1:A:1039:C:C2	1:A:1040:U:C5	3.05	0.44
4:C:173:VAL:CG1	4:C:173:VAL:O	2.64	0.44
16:O:66:LEU:O	16:O:69:TYR:N	2.50	0.44
3:B:109:SER:O	3:B:112:VAL:HB	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:374:A:H2'	1:A:375:U:H6	1.82	0.44
1:A:407:G:O2'	1:A:408:A:H5'	2.17	0.44
1:A:1287:A:N6	1:A:1288:A:N6	2.66	0.44
1:A:355:C:C2	1:A:356:A:C8	3.05	0.44
1:A:953:G:C2	1:A:1229:A:C2	3.05	0.44
1:A:741:G:H2'	1:A:742:G:H5'	1.97	0.44
1:A:1401:G:C5	1:A:1402:C:C6	3.05	0.44
5:D:176:LEU:HA	5:D:183:GLY:HA2	1.99	0.44
5:D:70:ILE:HD11	5:D:100:ARG:CD	2.47	0.44
1:A:197:A:O2'	1:A:198:G:P	2.75	0.44
1:A:75:G:C2'	1:A:76:C:O5'	2.66	0.44
1:A:76:C:O2'	1:A:77:G:C5'	2.64	0.44
1:A:665:A:N3	1:A:732:C:H2'	2.32	0.44
1:A:893:C:H2'	1:A:894:G:C8	2.52	0.44
1:A:286:G:C5	1:A:287:U:C5	3.05	0.44
1:A:118:U:O4	1:A:288:A:H2'	2.18	0.44
1:A:621:A:C6	1:A:622:A:C6	3.05	0.44
3:B:187:LEU:HD21	3:B:214:ILE:HG13	2.00	0.44
19:R:52:PRO:HB2	19:R:54:ARG:HG3	1.99	0.44
3:B:204:ASN:ND2	3:B:205:ASP:N	2.64	0.44
17:P:9:PHE:CE2	17:P:18:ARG:HD2	2.52	0.44
4:C:115:LEU:HA	4:C:115:LEU:HD23	1.78	0.44
1:A:411:A:N9	1:A:413:G:H1'	2.32	0.44
1:A:1195:C:H2'	1:A:1197:G:H5'	1.98	0.44
1:A:1205:U:H5"	4:C:190:ARG:CZ	2.46	0.44
1:A:1233:G:N2	1:A:1234:C:C2	2.85	0.44
1:A:624:C:H2'	1:A:625:G:H8	1.81	0.44
1:A:112:G:C2	1:A:113:G:C8	3.06	0.44
1:A:1138:G:C2	1:A:1140:C:C5	3.05	0.44
1:A:369:C:C2	1:A:370:C:C5	3.05	0.44
1:A:1301:U:C6	1:A:1303:C:C5	3.06	0.44
1:A:1240:U:P	8:G:116:ALA:HB2	2.56	0.44
1:A:1403:C:H2'	1:A:1403:C:O2	2.16	0.44
1:A:533:A:O2'	1:A:534:U:P	2.74	0.44
1:A:65:U:C5	1:A:381:C:N4	2.85	0.44
1:A:1257:U:C2'	1:A:1258:G:OP2	2.64	0.44
1:A:1212:U:OP2	1:A:1212:U:O4'	2.36	0.44
1:A:1539:C:H6	1:A:1539:C:H3'	1.82	0.44
3:B:98:LEU:HB2	3:B:101:MET:SD	2.58	0.44
1:A:1511:G:C2'	1:A:1512:U:H5'	2.47	0.44
1:A:642:A:C6	1:A:643:C:N4	2.85	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:80:ILE:O	6:E:80:ILE:HD12	2.17	0.44
1:A:1408:A:C6	1:A:1494:G:C6	3.05	0.44
1:A:109:A:H4'	1:A:110:C:OP2	2.18	0.44
1:A:1514:C:C2'	1:A:1515:C:H5'	2.46	0.44
1:A:805:C:C6	1:A:805:C:H3'	2.52	0.44
1:A:945:G:H2'	1:A:946:A:H5'	2.00	0.44
1:A:1126:U:OP2	1:A:1281:U:O2	2.35	0.44
1:A:1129:C:O5'	1:A:1130:A:C5'	2.57	0.44
1:A:1306:A:N1	1:A:1307:U:C2	2.86	0.44
1:A:175:C:N3	1:A:176:C:C5	2.85	0.44
1:A:882:C:O2'	1:A:883:C:C5'	2.55	0.44
1:A:1533:C:O2'	1:A:1534:A:C8	2.71	0.44
1:A:1536:C:O2'	1:A:1537:U:H5'	2.18	0.44
1:A:544:G:C6	1:A:545:C:C4	3.05	0.44
1:A:1103:C:C5'	3:B:98:LEU:HD22	2.48	0.44
9:H:75:ARG:HA	9:H:76:PRO:HD3	1.74	0.44
1:A:898:G:N2	1:A:900:A:H3'	2.32	0.44
2:1:3:A:O2'	2:1:4:A:OP1	2.30	0.44
3:B:42:ILE:HD12	3:B:203:GLY:HA2	1.99	0.44
1:A:936:C:H2'	1:A:937:A:C5'	2.47	0.44
6:E:79:GLU:O	6:E:80:ILE:HG23	2.17	0.44
1:A:573:A:C2	1:A:574:A:C2	3.06	0.44
17:P:36:ILE:O	17:P:36:ILE:HG13	2.16	0.44
1:A:1030(C):G:H2'	1:A:1030(D):A:C8	2.52	0.44
1:A:489:C:C2'	1:A:490:G:H5'	2.47	0.44
1:A:246:A:C4	1:A:279:A:C6	3.06	0.44
1:A:1191:A:OP1	4:C:4:LYS:HE2	2.16	0.44
1:A:433:C:C2	1:A:434:U:C5	3.05	0.44
1:A:1311:G:C6	1:A:1312:G:C5	3.05	0.44
1:A:1320:C:C2	20:S:72:GLY:HA3	2.52	0.44
8:G:113:GLU:HB2	8:G:119:ARG:CG	2.46	0.44
1:A:418:C:N3	1:A:426:G:C2	2.86	0.44
1:A:588:G:C6	1:A:753:A:C8	3.05	0.44
1:A:560:U:H5"	1:A:561:U:H3'	1.99	0.44
1:A:62:U:O2'	1:A:379:C:H1'	2.18	0.44
1:A:994:A:N7	1:A:1216:G:H4'	2.33	0.44
1:A:590:C:OP1	9:H:30:ARG:N	2.38	0.44
1:A:262:A:OP2	21:T:73:HIS:CD2	2.71	0.44
1:A:767:A:C6	1:A:768:A:C5	3.06	0.44
19:R:39:VAL:CG1	19:R:40:LEU:H	2.30	0.44
9:H:111:ILE:C	9:H:112:LEU:HD23	2.38	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:151:LEU:HD23	6:E:151:LEU:O	2.18	0.44
1:A:859:A:H2'	1:A:860:A:C8	2.53	0.44
10:I:118:LYS:HB3	10:I:119:ALA:H	1.66	0.44
1:A:421:U:H5'	1:A:422:C:OP2	2.18	0.44
18:Q:40:LYS:HD3	18:Q:42:TYR:CZ	2.53	0.44
6:E:57:LYS:O	6:E:60:TYR:N	2.50	0.44
1:A:1030(A):G:H2'	1:A:1030(A):G:N3	2.32	0.44
17:P:28:ARG:HG2	17:P:29:ASP:OD2	2.17	0.44
1:A:760:G:H2'	1:A:761:G:C5'	2.47	0.44
1:A:802:A:O5'	1:A:802:A:H8	2.00	0.44
1:A:960:U:N3	1:A:1225:A:C5	2.86	0.44
1:A:955:U:C2'	1:A:956:U:H5'	2.48	0.44
1:A:1020:U:C2'	1:A:1021:G:C5'	2.94	0.44
1:A:191:G:N7	1:A:192:U:C5	2.85	0.44
1:A:216:G:H2'	1:A:217:C:C6	2.53	0.44
1:A:1009:G:C2	1:A:1010:G:C8	3.05	0.44
1:A:275:G:H5'	18:Q:14:LYS:HB3	2.00	0.44
1:A:509:A:C6	1:A:510:A:C6	3.06	0.44
1:A:825:G:C6	1:A:826:C:C4	3.05	0.44
3:B:70:PHE:O	3:B:92:TYR:HA	2.17	0.44
5:D:50:ARG:HA	5:D:51:PRO:HD3	1.82	0.44
3:B:19:HIS:CE1	3:B:206:ASP:HB3	2.52	0.44
1:A:1030:C:O2'	1:A:1030(A):G:C8	2.70	0.44
1:A:452:A:N3	1:A:453:A:N9	2.64	0.44
1:A:463:A:O2'	1:A:474:G:H5'	2.17	0.44
1:A:409:G:H2'	1:A:410:G:O5'	2.17	0.44
1:A:1190:G:O5'	1:A:1190:G:H8	2.01	0.44
4:C:3:ASN:O	4:C:4:LYS:CB	2.66	0.44
1:A:344:A:OP2	1:A:345:C:N4	2.50	0.44
1:A:1442:G:N2	1:A:1446:A:C8	2.85	0.44
1:A:58:C:C2'	1:A:58:C:O2	2.65	0.44
1:A:955:U:O2'	1:A:956:U:H5'	2.18	0.44
1:A:1343:G:C4	1:A:1344:C:C5	3.06	0.44
1:A:264:U:O2'	18:Q:63:ARG:HG2	2.17	0.44
11:J:42:THR:HG23	11:J:68:HIS:CA	2.37	0.44
1:A:738:C:H6	1:A:738:C:O5'	2.00	0.44
16:O:39:LEU:HD12	16:O:59:MET:CE	2.48	0.44
1:A:1162:C:C2	1:A:1175:G:C2	3.06	0.44
5:D:59:ARG:HH11	5:D:59:ARG:HG3	1.78	0.44
6:E:11:ILE:HG12	6:E:33:VAL:HG23	1.99	0.44
1:A:362:G:OP2	13:L:34:ARG:NH2	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1045:C:C2'	1:A:1046:A:O5'	2.66	0.44
13:L:54:LYS:N	13:L:54:LYS:HD2	2.33	0.44
18:Q:64:PRO:C	18:Q:65:ILE:HG13	2.37	0.44
1:A:487:A:H2'	1:A:488:C:C4'	2.48	0.44
1:A:981:U:C2	1:A:982:U:C5	3.06	0.44
1:A:439:A:N6	1:A:497:A:H1'	2.33	0.44
1:A:774:G:H2'	1:A:775:G:O4'	2.18	0.44
1:A:1266:G:C5	1:A:1268:A:OP2	2.71	0.44
1:A:1298:C:H5"	1:A:1299:A:OP1	2.18	0.44
1:A:1316:G:O2'	15:N:18:VAL:HG11	2.18	0.44
1:A:656:C:H2'	1:A:657:G:O5'	2.18	0.44
1:A:321:A:N3	1:A:322:C:C6	2.86	0.44
1:A:177:C:O2'	1:A:178:C:C5'	2.65	0.44
1:A:638:G:O2'	1:A:639:G:H5'	2.17	0.44
1:A:736:C:O2'	1:A:737:A:H5'	2.17	0.44
1:A:153:C:N3	1:A:169:C:N4	2.66	0.44
1:A:724:G:N2	1:A:725:G:C1'	2.81	0.44
1:A:1159:U:C5	1:A:1182:G:H2'	2.50	0.44
1:A:1081:G:N2	1:A:1082:G:H1'	2.32	0.44
1:A:687:A:H4'	12:K:47:VAL:CG2	2.46	0.44
1:A:513:C:H2'	1:A:514:C:O4'	2.18	0.44
5:D:187:ARG:CD	5:D:188:LEU:H	2.30	0.44
9:H:44:PHE:HD1	9:H:80:ILE:HG12	1.82	0.44
3:B:17:PHE:N	3:B:17:PHE:HD1	2.15	0.44
1:A:1178:G:P	10:I:97:LYS:HZ2	2.41	0.44
11:J:4:ILE:HG23	11:J:98:ILE:HG21	2.00	0.44
5:D:11:LEU:O	5:D:12:CYS:C	2.55	0.44
15:N:57:ARG:HG2	15:N:58:LYS:H	1.82	0.44
10:I:6:GLY:O	10:I:7:THR:HB	2.18	0.44
1:A:450:G:C8	1:A:481:G:O6	2.71	0.43
1:A:485:G:O2'	1:A:486:U:O5'	2.35	0.43
1:A:838:G:C3'	1:A:839:U:H5"	2.47	0.43
1:A:1055:A:C6	1:A:1206:G:C6	3.06	0.43
1:A:934:C:C4	1:A:1345:U:C5	3.06	0.43
1:A:1355:G:C2	1:A:1356:G:C4	3.06	0.43
1:A:1127:G:N2	1:A:1145:C:C2	2.82	0.43
1:A:1330:U:O4	1:A:1331:G:N1	2.51	0.43
1:A:749:C:H2'	1:A:750:G:H8	1.82	0.43
1:A:605:U:C4	1:A:606:G:C6	3.05	0.43
1:A:1520:G:N3	1:A:1521:G:N7	2.66	0.43
3:B:98:LEU:O	3:B:101:MET:HG3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:399:G:H2'	1:A:400:C:O4'	2.18	0.43
1:A:402:G:H2'	1:A:403:C:C5'	2.48	0.43
1:A:293:G:H2'	1:A:294:U:H6	1.83	0.43
5:D:194:LEU:HD12	5:D:196:LEU:HG	1.98	0.43
10:I:50:LEU:HD21	10:I:81:ILE:CG2	2.48	0.43
3:B:100:GLY:O	3:B:102:LEU:N	2.51	0.43
5:D:121:VAL:O	5:D:134:ASP:HA	2.18	0.43
9:H:24:THR:HG23	9:H:24:THR:O	2.18	0.43
15:N:31:ARG:HA	15:N:31:ARG:HD2	1.73	0.43
1:A:445:G:O2'	1:A:446:G:H5'	2.18	0.43
1:A:459:G:C3'	1:A:460:A:C5'	2.91	0.43
1:A:414:A:C5	1:A:431:A:C2	3.06	0.43
1:A:1369:C:H2'	1:A:1370:G:O4'	2.17	0.43
4:C:154:SER:OG	4:C:155:GLY:N	2.51	0.43
1:A:1221:G:OP1	1:A:1320:C:N4	2.50	0.43
1:A:502:G:H2'	1:A:503:C:H6	1.83	0.43
1:A:190(A):C:H2'	1:A:190(B):C:C5'	2.48	0.43
1:A:264:U:H4'	18:Q:63:ARG:HD3	2.00	0.43
1:A:817:C:C2	1:A:819:A:O4'	2.72	0.43
5:D:64:LEU:O	5:D:67:ILE:HB	2.18	0.43
1:A:286:G:C4	1:A:287:U:C5	3.06	0.43
1:A:1494:G:O2'	1:A:1495:U:H5'	2.18	0.43
1:A:1272:G:H2'	1:A:1273:G:O4'	2.18	0.43
1:A:1480:G:C5	1:A:1481:U:C5	3.07	0.43
1:A:676:A:C5	1:A:677:U:C4	3.06	0.43
5:D:19:LEU:HA	5:D:19:LEU:HD23	1.64	0.43
4:C:108:ASN:HA	4:C:109:PRO:HD2	1.68	0.43
1:A:458:C:N4	1:A:459:G:C5	2.87	0.43
1:A:480:U:H2'	1:A:481:G:OP2	2.18	0.43
1:A:481:G:O2'	1:A:482:A:H8	2.00	0.43
1:A:414:A:C4	1:A:415:A:C8	3.06	0.43
11:J:51:ARG:HG2	11:J:61:GLU:HB2	1.99	0.43
1:A:887:G:H2'	1:A:888:G:O4'	2.18	0.43
1:A:658:G:O2'	1:A:659:U:H5'	2.18	0.43
1:A:939:G:C6	1:A:940:C:C4	3.06	0.43
1:A:565:U:C5	1:A:566:G:C4	3.06	0.43
11:J:47:PHE:CZ	15:N:37:PHE:HE1	2.37	0.43
1:A:724:G:N2	1:A:725:G:N9	2.66	0.43
1:A:541:G:O2'	1:A:542:G:H5'	2.19	0.43
1:A:1360:A:H2'	1:A:1361:G:H8	1.82	0.43
1:A:1426:C:O2'	1:A:1427:U:H5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:613:C:C2	1:A:628:G:N2	2.86	0.43
1:A:79:G:H8	1:A:79:G:H5"	1.83	0.43
1:A:988:G:C6	1:A:989:C:C4	3.05	0.43
7:F:92:LYS:HG3	7:F:92:LYS:HZ3	1.64	0.43
1:A:1004:A:C5'	1:A:1025:U:O2	2.66	0.43
1:A:113:G:C5	1:A:315:A:N1	2.86	0.43
1:A:886:G:O2'	1:A:887:G:H5'	2.18	0.43
1:A:1219:U:C2	1:A:1220:G:C8	3.07	0.43
1:A:660:G:H2'	1:A:661:G:O5'	2.18	0.43
1:A:1109:C:O2'	1:A:1110:A:H5'	2.18	0.43
1:A:1343:G:C5	1:A:1344:C:C4	3.06	0.43
2:1:6:A:H2'	2:2:7:G:O4'	2.18	0.43
1:A:1539:C:H3'	1:A:1539:C:C6	2.52	0.43
21:T:76:ALA:O	21:T:80:ARG:HG2	2.18	0.43
5:D:201:GLN:O	5:D:205:GLU:HG3	2.18	0.43
13:L:50:SER:O	13:L:51:ALA:HB2	2.18	0.43
1:A:166:G:C2	1:A:167:G:C5	3.05	0.43
7:F:75:LEU:HD13	7:F:75:LEU:O	2.18	0.43
1:A:265:G:H2'	1:A:267:C:H5	1.83	0.43
1:A:267:C:H2'	1:A:268:C:C6	2.53	0.43
1:A:377:G:C2	1:A:387:U:O2	2.70	0.43
1:A:625:G:C6	1:A:626:U:O4	2.72	0.43
1:A:570:G:C6	1:A:571:U:O4	2.72	0.43
1:A:805:C:C6	1:A:805:C:C3'	3.01	0.43
1:A:986:A:N1	1:A:1220:G:C6	2.86	0.43
1:A:1231:G:C4	1:A:1232:U:C5	3.06	0.43
1:A:1314:C:H2'	1:A:1315:U:C6	2.53	0.43
1:A:1319:A:C8	1:A:1323:G:C5	3.06	0.43
1:A:664:G:H2'	1:A:666:G:OP1	2.18	0.43
1:A:741:G:H2'	1:A:742:G:C5'	2.48	0.43
1:A:333:G:C6	1:A:334:C:N4	2.87	0.43
1:A:192:U:N3	1:A:193:C:C5	2.87	0.43
15:N:37:PHE:HB3	15:N:39:LEU:HD12	2.00	0.43
6:E:91:LEU:HA	6:E:91:LEU:HD23	1.58	0.43
1:A:166:G:C4	1:A:167:G:N7	2.87	0.43
21:T:48:LYS:O	21:T:50:GLU:N	2.51	0.43
1:A:118:U:C5	1:A:288:A:C6	3.07	0.43
6:E:34:VAL:CG1	6:E:35:GLY:N	2.80	0.43
5:D:127:THR:HG22	5:D:128:VAL:H	1.83	0.43
21:T:85:MET:HE3	21:T:103:GLY:O	2.18	0.43
8:G:78:ARG:NH1	8:G:154:TYR:HB3	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:57:PHE:CZ	3:B:199:TYR:HE1	2.37	0.43
5:D:108:LEU:HD23	5:D:108:LEU:HA	1.88	0.43
1:A:448:A:C6	1:A:487:A:C4	3.06	0.43
1:A:452:A:N3	1:A:453:A:C1'	2.81	0.43
1:A:474:G:N3	1:A:475:G:C8	2.86	0.43
1:A:1291:G:H2'	1:A:1292:U:C6	2.53	0.43
4:C:130:VAL:CB	4:C:157:ILE:HG23	2.49	0.43
1:A:808:C:OP1	16:O:48:LYS:HE2	2.19	0.43
1:A:15:G:H2'	1:A:16:A:O4'	2.18	0.43
9:H:74:PRO:O	9:H:76:PRO:HD3	2.18	0.43
10:I:17:VAL:CG2	10:I:80:GLY:HA3	2.43	0.43
1:A:725:G:N3	1:A:726:C:C6	2.86	0.43
1:A:101:A:H2'	1:A:102:G:H8	1.83	0.43
3:B:188:ALA:O	3:B:203:GLY:N	2.42	0.43
1:A:997:U:O2'	1:A:998:G:H5'	2.19	0.43
1:A:575:G:C4	1:A:881:G:C2	3.07	0.43
1:A:1114:C:H1'	15:N:60:SER:HB3	1.99	0.43
1:A:440:A:H3'	1:A:442:C:C6	2.54	0.43
1:A:454:C:N4	1:A:478:A:C2	2.86	0.43
1:A:479:C:H2'	1:A:480:U:O4'	2.19	0.43
1:A:885:G:C2	1:A:886:G:N7	2.87	0.43
1:A:1221:G:O2'	20:S:77:THR:HG21	2.19	0.43
14:M:81:LEU:HA	14:M:84:ILE:HG13	2.00	0.43
15:N:16:PHE:CD1	15:N:16:PHE:N	2.86	0.43
1:A:1392:G:O2'	1:A:1502:A:H5'	2.19	0.43
1:A:36:C:O2	1:A:501:C:H5'	2.19	0.43
1:A:36:C:N3	1:A:37:U:C6	2.87	0.43
1:A:551:U:C4	1:A:552:U:O4	2.72	0.43
13:L:30:ALA:HA	13:L:31:PRO:HD3	1.79	0.43
4:C:64:VAL:HG12	4:C:65:ALA:N	2.32	0.43
1:A:1080:A:O3'	6:E:16:THR:CG2	2.66	0.43
1:A:357:G:C2	1:A:358:U:C6	3.07	0.43
1:A:651:C:N4	1:A:652:U:O4	2.51	0.43
6:E:117:ASP:O	6:E:118:ILE:HB	2.19	0.43
9:H:89:PRO:HA	9:H:92:ARG:NE	2.33	0.43
1:A:1097:C:HO2'	1:A:1168:A:H1'	1.83	0.43
1:A:706:A:H1'	12:K:29:ILE:CD1	2.49	0.43
1:A:1418:A:H2'	1:A:1419:G:O4'	2.18	0.43
1:A:1480:G:O2'	1:A:1481:U:H5'	2.18	0.43
18:Q:19:VAL:CG2	18:Q:44:ALA:HB3	2.48	0.43
9:H:127:LEU:N	9:H:127:LEU:HD22	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1173:G:H2'	1:A:1174:G:H8	1.84	0.43
9:H:83:ILE:HA	9:H:136:GLU:O	2.19	0.43
1:A:421:U:C5'	1:A:422:C:OP2	2.67	0.43
8:G:45:ASP:O	8:G:49:ILE:HG13	2.18	0.43
1:A:408:A:H2'	1:A:409:G:O5'	2.19	0.43
1:A:1287:A:H2	1:A:1353:G:H1'	1.81	0.43
1:A:777:A:C6	1:A:778:G:C4	3.06	0.43
1:A:346:G:H2'	1:A:347:G:C5'	2.40	0.43
1:A:1301:U:C4	1:A:1303:C:H1'	2.54	0.43
1:A:172:A:N7	1:A:174:C:C5	2.86	0.43
1:A:176:C:O2'	1:A:177:C:C5'	2.66	0.43
1:A:1278:U:O5'	1:A:1278:U:C2	2.72	0.43
3:B:101:MET:HA	3:B:108:ILE:HD13	2.00	0.43
11:J:19:SER:CB	11:J:91:PRO:HG3	2.49	0.43
19:R:34:TYR:H	19:R:34:TYR:HD2	1.60	0.43
1:A:668:G:H2'	1:A:669:U:C6	2.51	0.43
6:E:151:LEU:CD2	9:H:79:VAL:HA	2.47	0.43
5:D:61:LYS:HD2	5:D:207:TYR:OH	2.19	0.43
1:A:720:C:C6	1:A:720:C:C3'	3.01	0.43
1:A:1381:U:H2'	1:A:1381:U:O2	2.18	0.43
14:M:11:ARG:CG	14:M:12:ASN:N	2.81	0.43
9:H:83:ILE:HG13	9:H:137:VAL:HG22	1.99	0.43
18:Q:27:PHE:CE1	18:Q:36:ILE:HD11	2.53	0.43
1:A:979:C:H2'	1:A:980:C:H5'	2.01	0.43
8:G:87:VAL:HA	8:G:88:PRO:HD2	1.89	0.43
1:A:450:G:N2	1:A:482:A:H61	2.16	0.43
1:A:279:A:H3'	18:Q:95:TYR:OH	2.19	0.43
1:A:1057:G:O2'	1:A:1058:G:H5'	2.19	0.43
1:A:1249:C:H1'	10:I:70:LYS:HG3	2.01	0.43
1:A:354:G:O2'	1:A:355:C:H5'	2.19	0.43
1:A:355:C:N4	1:A:356:A:N7	2.66	0.43
1:A:434:U:H2'	1:A:435:C:H6	1.82	0.43
1:A:716:A:C6	1:A:717:C:N3	2.87	0.43
1:A:1135:U:O3'	1:A:1136:U:H5	2.01	0.43
1:A:1309:G:C5	1:A:1329:A:C2	3.07	0.43
1:A:957:U:H6	1:A:957:U:O5'	2.02	0.43
1:A:658:G:C6	1:A:749:C:N4	2.87	0.43
1:A:529:G:O4'	1:A:533:A:C2	2.71	0.43
1:A:106:C:H2'	1:A:107:G:H8	1.84	0.43
1:A:1528:U:O2'	1:A:1529:G:P	2.77	0.43
1:A:1212:U:O2'	1:A:1213:A:C8	2.72	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1507:A:H2'	1:A:1508:G:H8	1.82	0.43
14:M:49:THR:HG22	14:M:51:ALA:H	1.83	0.43
1:A:522:C:H42	1:A:528:C:N4	2.17	0.43
13:L:98:TYR:N	13:L:98:TYR:CD1	2.87	0.43
3:B:187:LEU:HD23	3:B:201:ILE:CG2	2.49	0.43
16:O:37:ASN:HD22	16:O:37:ASN:HA	1.57	0.43
1:A:1029:C:C2	1:A:1033:G:N2	2.87	0.43
1:A:428:G:C5	1:A:430:A:C6	3.07	0.43
1:A:1188:A:N3	1:A:1188:A:H2'	2.34	0.43
1:A:625:G:N3	1:A:626:U:C6	2.86	0.43
1:A:762:C:H6	1:A:762:C:O5'	2.02	0.43
1:A:778:G:C2'	1:A:779:C:H5'	2.48	0.43
1:A:1239:A:N6	1:A:1299:A:H62	2.17	0.43
1:A:1501:C:N4	1:A:1504:G:N3	2.66	0.43
1:A:537:G:OP1	13:L:113:ARG:NH2	2.47	0.43
1:A:181:G:C2	1:A:195:A:C8	3.07	0.43
1:A:1452:C:C4'	1:A:1453:G:O5'	2.63	0.43
1:A:186:C:N3	1:A:187:C:C5	2.87	0.43
1:A:1108:G:C5	1:A:1109:C:C5	3.06	0.43
1:A:1074:G:N2	1:A:1102:A:C8	2.87	0.43
1:A:1121:U:H2'	1:A:1122:U:H6	1.83	0.43
1:A:642:A:C5	9:H:115:SER:HA	2.54	0.43
3:B:130:ARG:HA	3:B:130:ARG:HD3	1.75	0.43
1:A:1407:C:O5'	1:A:1407:C:H6	2.01	0.43
13:L:82:VAL:HG12	13:L:83:VAL:N	2.34	0.43
1:A:1419:G:H2'	1:A:1420:C:C6	2.54	0.43
1:A:998:G:C6	1:A:1044:A:N6	2.87	0.43
16:O:7:GLU:O	16:O:10:LYS:HB3	2.19	0.43
18:Q:22:LEU:HA	18:Q:22:LEU:HD12	1.64	0.43
1:A:1057:G:C5'	4:C:154:SER:CB	2.91	0.42
1:A:22:G:C4	1:A:23:C:C6	3.07	0.42
1:A:805:C:C2'	1:A:806:C:H5'	2.49	0.42
1:A:942:G:C2	1:A:943:U:C6	3.06	0.42
1:A:1113:C:H1'	4:C:178:LEU:CD2	2.49	0.42
1:A:1402:C:C4	1:A:1403:C:C4	3.07	0.42
1:A:1080:A:H5"	6:E:16:THR:HG21	2.01	0.42
1:A:579:G:H2'	1:A:580:U:C6	2.38	0.42
1:A:1213:A:C2	1:A:1215:G:H1'	2.54	0.42
1:A:1509:C:H2'	1:A:1510:U:O4'	2.18	0.42
1:A:1181:G:H2'	1:A:1182:G:C8	2.54	0.42
3:B:149:LEU:HA	3:B:149:LEU:HD23	1.77	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Q:60:ILE:HD13	18:Q:61:GLU:O	2.19	0.42
5:D:173:TRP:C	5:D:174:LEU:HG	2.38	0.42
1:A:1523:G:C5	1:A:1524:C:C5	3.07	0.42
19:R:29:PHE:CE1	19:R:31:LEU:HD23	2.54	0.42
13:L:22:SER:C	13:L:24:VAL:H	2.20	0.42
21:T:37:SER:HB3	21:T:84:LEU:HD12	2.00	0.42
1:A:394:G:C4	1:A:395:C:C6	3.07	0.42
1:A:255:G:C6	1:A:256:U:O4	2.72	0.42
1:A:257:G:C2	1:A:270:A:C2	3.07	0.42
1:A:407:G:H2'	1:A:408:A:H8	1.84	0.42
1:A:409:G:OP1	5:D:24:GLU:O	2.37	0.42
1:A:1204:A:C5	1:A:1205:U:C5	3.07	0.42
1:A:1368:G:H4'	15:N:61:TRP:HZ2	1.84	0.42
1:A:432:A:H3'	1:A:433:C:C6	2.54	0.42
1:A:160:A:O5'	1:A:160:A:H8	2.02	0.42
1:A:1318:A:N3	20:S:37:ARG:NH1	2.67	0.42
20:S:80:TYR:CG	20:S:81:ARG:N	2.87	0.42
1:A:1520:G:C2	1:A:1521:G:N7	2.86	0.42
1:A:1202:G:H2'	1:A:1203:C:H5'	2.00	0.42
1:A:592:G:C2	1:A:593:G:C8	3.07	0.42
1:A:197:A:H1'	1:A:198:G:C1'	2.48	0.42
17:P:20:VAL:HG23	17:P:35:LYS:HA	2.02	0.42
5:D:201:GLN:CA	5:D:204:ILE:HD12	2.44	0.42
1:A:686:U:O2'	1:A:687:A:O5'	2.32	0.42
3:B:57:PHE:O	3:B:60:ASP:HB3	2.18	0.42
1:A:255:G:O6	1:A:266:G:O6	2.36	0.42
1:A:411:A:H2'	1:A:412:A:H4'	2.00	0.42
1:A:355:C:C4'	1:A:388:G:HO2'	2.32	0.42
1:A:1319:A:C4	1:A:1323:G:C8	3.08	0.42
1:A:1237:C:H4'	1:A:1334:G:N2	2.34	0.42
1:A:1488:G:C2	1:A:1489:G:C4	3.07	0.42
1:A:742:G:H2'	1:A:743:U:C5'	2.48	0.42
1:A:551:U:N3	1:A:552:U:C4	2.86	0.42
1:A:69:G:N3	1:A:70:G:C8	2.87	0.42
1:A:1095:U:H2'	1:A:1096:C:C6	2.54	0.42
1:A:201:C:N4	1:A:203:U:H1'	2.34	0.42
1:A:691:G:C5	1:A:692:U:H5	2.38	0.42
1:A:66:G:C4'	1:A:173:U:C5	3.02	0.42
16:O:27:VAL:O	16:O:31:LEU:HD13	2.19	0.42
1:A:973:G:H2'	1:A:974:A:OP1	2.20	0.42
3:B:145:LEU:C	3:B:147:LYS:N	2.71	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:7:LYS:CE	11:J:9:ARG:HH21	2.32	0.42
7:F:33:TYR:HB2	7:F:75:LEU:HD23	2.01	0.42
18:Q:6:LEU:O	18:Q:58:GLU:HA	2.19	0.42
3:B:75:LYS:O	3:B:75:LYS:HD3	2.18	0.42
5:D:145:GLU:HG2	5:D:184:LYS:HE2	2.01	0.42
1:A:392:G:C2	1:A:393:A:C4	3.07	0.42
1:A:463:A:H2'	1:A:474:G:O4'	2.18	0.42
5:D:25:ARG:HH21	5:D:30:LYS:HD3	1.85	0.42
1:A:1052:U:O4	1:A:1200:C:C2	2.73	0.42
1:A:1052:U:O4	1:A:1200:C:H2'	2.18	0.42
1:A:949:A:H2'	1:A:950:U:C6	2.54	0.42
1:A:1126:U:O2'	1:A:1127:G:OP1	2.35	0.42
1:A:1128:C:H1'	1:A:1146:A:H61	1.85	0.42
1:A:1321:C:H2'	1:A:1322:C:C6	2.54	0.42
1:A:418:C:C2	1:A:419:C:C5	3.06	0.42
1:A:9:G:N3	1:A:10:A:C8	2.87	0.42
1:A:186:C:O3'	21:T:82:SER:OG	2.29	0.42
1:A:190(L):U:C2'	1:A:191:G:H5'	2.48	0.42
1:A:545:C:C2'	1:A:545:C:O2	2.67	0.42
1:A:692:U:H5'	1:A:797:C:C5'	2.49	0.42
1:A:1508:G:H2'	1:A:1509:C:C6	2.38	0.42
1:A:4:U:C4'	1:A:5:U:OP2	2.68	0.42
9:H:108:GLY:HA3	9:H:138:TRP:CB	2.46	0.42
1:A:124:G:C6	1:A:125:U:C4	3.08	0.42
6:E:136:MET:O	6:E:139:LEU:N	2.52	0.42
5:D:38:TYR:H	5:D:38:TYR:HD2	1.60	0.42
3:B:68:ILE:H	3:B:90:MET:HE3	1.83	0.42
22:V:5:ASP:C	22:V:7:ARG:H	2.23	0.42
1:A:1438:G:H2'	1:A:1439:C:C6	2.55	0.42
18:Q:43:LEU:HA	18:Q:43:LEU:HD23	1.53	0.42
1:A:1270:C:O2'	1:A:1314:C:H5'	2.19	0.42
1:A:978:A:C4	1:A:1319:A:C2	3.07	0.42
1:A:193:C:O4'	21:T:60:GLU:OE1	2.37	0.42
1:A:1278:U:H5"	1:A:1279:A:C5'	2.50	0.42
1:A:815:A:C4'	1:A:817:C:N4	2.83	0.42
1:A:1074:G:C6	1:A:1075:C:C4	3.07	0.42
1:A:402:G:C6	1:A:403:C:C4	3.08	0.42
5:D:70:ILE:HD11	5:D:100:ARG:HD2	2.01	0.42
5:D:99:SER:O	5:D:140:VAL:HG23	2.20	0.42
1:A:595:G:C4	1:A:641:U:C4	3.07	0.42
1:A:642:A:N6	1:A:643:C:N4	2.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:O:39:LEU:O	16:O:43:LEU:HG	2.20	0.42
16:O:70:LEU:HA	16:O:70:LEU:HD22	1.74	0.42
1:A:1425:U:H2'	1:A:1426:C:H6	1.83	0.42
1:A:853:G:H2'	1:A:854:G:H8	1.84	0.42
6:E:11:ILE:HA	6:E:11:ILE:HD13	1.54	0.42
1:A:59:A:C2'	1:A:331:G:H22	2.33	0.42
1:A:190(H):G:O2'	1:A:190(I):G:H5'	2.19	0.42
3:B:56:ARG:HG2	3:B:57:PHE:N	2.35	0.42
1:A:1030:C:H42	1:A:1031:G:H1	1.66	0.42
1:A:446:G:C2'	1:A:447:G:C5'	2.94	0.42
1:A:269:C:H2'	1:A:270:A:C8	2.55	0.42
1:A:864:A:H3'	1:A:865:A:C8	2.55	0.42
1:A:22:G:O4'	1:A:885:G:H1'	2.19	0.42
1:A:1441:G:C5'	1:A:1442:G:C8	3.03	0.42
1:A:657:G:N2	1:A:750:G:C8	2.88	0.42
1:A:1113:C:H1'	4:C:178:LEU:HD23	2.01	0.42
1:A:60:A:H8	1:A:60:A:P	2.43	0.42
1:A:604:G:C6	1:A:605:U:C4	3.07	0.42
1:A:201:C:H2'	1:A:202:U:H3'	2.00	0.42
1:A:15:G:N2	1:A:16:A:H1'	2.35	0.42
1:A:233:C:C2'	1:A:234:C:C5'	2.97	0.42
5:D:8:VAL:HG11	5:D:21:LEU:HB3	2.01	0.42
1:A:767:A:C5	1:A:768:A:N7	2.88	0.42
1:A:1157:A:C2	1:A:1181:G:C6	3.08	0.42
1:A:1159:U:H1'	1:A:1182:G:N2	2.35	0.42
8:G:12:LEU:CD1	8:G:12:LEU:H	2.32	0.42
1:A:509:A:N6	1:A:510:A:N6	2.67	0.42
1:A:166:G:O2'	1:A:167:G:C5'	2.67	0.42
4:C:201:TYR:O	4:C:202:ILE:HG13	2.20	0.42
1:A:973:G:H3'	1:A:974:A:H5"	2.02	0.42
1:A:996:A:C6	1:A:997:U:O4	2.72	0.42
3:B:124:SER:CB	3:B:125:PRO:HD2	2.49	0.42
21:T:88:VAL:O	21:T:91:LEU:N	2.50	0.42
9:H:83:ILE:CG2	9:H:83:ILE:O	2.67	0.42
1:A:1030(A):G:C5'	1:A:1030(B):C:OP2	2.68	0.42
1:A:463:A:C8	1:A:474:G:C8	3.07	0.42
1:A:571:U:H3'	1:A:572:A:C5'	2.49	0.42
1:A:781:A:C5	1:A:802:A:C2	3.07	0.42
1:A:1129:C:O2'	1:A:1130:A:OP2	2.32	0.42
1:A:1130:A:OP2	1:A:1131:G:OP2	2.38	0.42
1:A:1319:A:C8	1:A:1323:G:C6	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:10:PHE:CE1	4:C:178:LEU:HD13	2.55	0.42
1:A:1518:A:H2'	1:A:1519:A:C1'	2.50	0.42
1:A:567:G:H2'	1:A:568:G:O4'	2.20	0.42
4:C:64:VAL:HG12	4:C:99:VAL:HG21	2.01	0.42
1:A:15:G:H1'	6:E:24:ARG:NH1	2.35	0.42
1:A:1344:C:H4'	10:I:120:ARG:HB2	2.02	0.42
1:A:1278:U:OP2	1:A:1278:U:N3	2.52	0.42
1:A:1539:C:C3'	1:A:1539:C:C6	3.03	0.42
1:A:1462:G:O2'	1:A:1463:C:H5'	2.20	0.42
11:J:92:THR:HG22	11:J:92:THR:O	2.20	0.42
1:A:1183:A:C2'	1:A:1184:G:OP1	2.68	0.42
19:R:37:VAL:CG2	19:R:78:LEU:HB3	2.49	0.42
1:A:704:A:N6	12:K:42:TRP:CZ2	2.88	0.42
16:O:45:VAL:HG12	16:O:46:HIS:H	1.83	0.42
1:A:144:G:C6	1:A:145:G:C5	3.07	0.42
1:A:138:G:H2'	1:A:139:G:C8	2.55	0.42
8:G:26:PHE:HB2	8:G:62:PHE:HZ	1.84	0.42
6:E:57:LYS:O	6:E:60:TYR:HB3	2.20	0.42
15:N:54:PRO:O	15:N:56:VAL:HG23	2.20	0.42
17:P:82:GLN:O	17:P:82:GLN:HG3	2.20	0.42
1:A:453:A:N1	1:A:454:C:C2	2.88	0.42
1:A:429:U:C4'	1:A:430:A:O5'	2.49	0.42
1:A:1250:A:H4'	10:I:68:GLY:N	2.35	0.42
1:A:42:G:O2'	1:A:43:C:C5'	2.68	0.42
1:A:1127:G:N2	1:A:1147:C:N4	2.67	0.42
1:A:1226:C:C6	14:M:103:THR:OG1	2.72	0.42
1:A:1485:U:O2	1:A:1485:U:C2'	2.66	0.42
1:A:939:G:C6	1:A:940:C:N4	2.88	0.42
1:A:104:G:H4'	1:A:174:C:O4'	2.20	0.42
20:S:28:LYS:HD3	20:S:31:ILE:CD1	2.50	0.42
1:A:1118:C:H2'	1:A:1119:C:O4'	2.20	0.42
1:A:862:C:O2'	1:A:863:U:H5'	2.20	0.42
1:A:769:G:C2	1:A:770:C:C6	3.08	0.42
1:A:900:A:N1	1:A:901:A:C2	2.88	0.42
1:A:81:U:N3	1:A:84:U:OP2	2.53	0.42
1:A:542:G:P	5:D:10:ARG:HH22	2.42	0.42
1:A:7:G:C2	1:A:298:A:C6	3.08	0.42
1:A:7:G:C2	1:A:298:A:N1	2.88	0.42
4:C:112:SER:O	4:C:116:VAL:HG23	2.20	0.42
6:E:12:LEU:C	6:E:12:LEU:HD13	2.40	0.42
19:R:70:ILE:O	19:R:74:ARG:HG3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:997:U:C2'	1:A:998:G:H5'	2.50	0.42
4:C:24:ALA:HB3	4:C:29:TYR:HD1	1.84	0.42
3:B:68:ILE:O	3:B:91:PRO:HD2	2.20	0.42
1:A:1253:G:C2	1:A:1254:C:C2	3.07	0.42
6:E:129:ILE:O	6:E:132:ALA:HB3	2.20	0.42
6:E:81:GLU:OE1	6:E:88:LYS:NZ	2.51	0.42
1:A:849:C:C2	1:A:850:U:C6	3.07	0.42
1:A:1433:A:C8	1:A:1467:G:N2	2.88	0.42
10:I:69:GLY:O	10:I:73:GLN:N	2.53	0.42
11:J:49:VAL:CG1	11:J:50:ILE:N	2.82	0.42
1:A:432:A:N7	1:A:433:C:C5	2.88	0.42
1:A:1130:A:OP1	10:I:20:ARG:NH2	2.53	0.42
1:A:1224:G:O2'	1:A:1225:A:OP1	2.32	0.42
1:A:1238:A:C8	1:A:1303:C:H1'	2.53	0.42
1:A:1310:G:N1	1:A:1328:C:N4	2.68	0.42
4:C:10:PHE:CE2	4:C:178:LEU:HD13	2.55	0.42
1:A:25:C:C5	1:A:558:G:C2	3.08	0.42
1:A:174:C:C2	1:A:175:C:C5	3.08	0.42
12:K:84:VAL:CG2	12:K:110:ASP:HA	2.49	0.42
1:A:1108:G:N7	1:A:1109:C:C5	2.87	0.42
1:A:994:A:C8	1:A:1216:G:H4'	2.55	0.42
20:S:22:LEU:CD2	20:S:28:LYS:HD2	2.50	0.42
1:A:190(C):C:C5	1:A:190(D):U:C5	3.07	0.42
1:A:128:G:C2	1:A:234:C:C2	3.07	0.42
1:A:652:U:O2'	1:A:653:A:H5"	2.19	0.42
7:F:15:ASP:O	7:F:18:GLN:N	2.50	0.42
6:E:127:ASN:HA	6:E:128:PRO:HD2	1.77	0.42
10:I:117:HIS:NE2	10:I:123:PRO:HB3	2.35	0.42
12:K:14:VAL:HG12	12:K:14:VAL:O	2.19	0.42
1:A:617:G:H4'	17:P:44:THR:HB	2.02	0.42
1:A:392:G:N3	1:A:393:A:C8	2.88	0.42
1:A:463:A:N7	1:A:474:G:N7	2.68	0.42
1:A:1372:U:OP2	10:I:11:LYS:HD3	2.19	0.42
1:A:1300:G:C2'	1:A:1301:U:OP2	2.68	0.42
1:A:1324:A:C5	1:A:1325:C:C5	3.08	0.42
1:A:1328:C:O3'	14:M:28:ALA:HB3	2.19	0.42
1:A:951:G:C6	1:A:1231:G:C6	3.08	0.42
1:A:746:A:C4	1:A:747:C:C5	3.07	0.42
1:A:929:G:O6	1:A:1389:C:N4	2.53	0.42
1:A:927:G:C2'	1:A:928:G:O5'	2.68	0.42
1:A:1343:G:C6	1:A:1344:C:N4	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1509:C:N3	1:A:1510:U:C4	2.88	0.42
5:D:21:LEU:HD23	5:D:21:LEU:HA	1.86	0.42
16:O:29:VAL:O	16:O:30:ALA:C	2.57	0.42
5:D:38:TYR:N	5:D:38:TYR:CD2	2.86	0.42
5:D:39:PRO:HB2	5:D:40:PRO:HD2	2.02	0.42
1:A:1459:C:C2'	1:A:1460:A:H5'	2.50	0.42
3:B:11:LEU:H	3:B:11:LEU:HD12	1.85	0.42
8:G:151:TYR:HA	8:G:153:HIS:CE1	2.55	0.42
1:A:1295:G:H4'	14:M:14:ARG:HH22	1.85	0.42
6:E:10:MET:HB2	6:E:10:MET:HE2	1.84	0.42
1:A:1341:U:O5'	1:A:1341:U:H6	2.03	0.42
1:A:136:C:H2'	1:A:137:C:H6	1.84	0.42
1:A:1367:C:OP2	10:I:112:LYS:NZ	2.53	0.41
1:A:1368:G:C2'	1:A:1369:C:H5'	2.50	0.41
1:A:963:G:H2'	1:A:964:A:H5'	2.02	0.41
1:A:879:C:H2'	1:A:880:C:C6	2.55	0.41
1:A:116:A:H8	1:A:116:A:O5'	2.03	0.41
1:A:773:G:C6	1:A:807:A:N6	2.88	0.41
1:A:1333:A:C4	1:A:1334:G:C8	3.08	0.41
1:A:1490:C:C6	1:A:1490:C:C4'	3.03	0.41
1:A:321:A:C4	1:A:322:C:C5	3.08	0.41
1:A:1399:C:H1'	1:A:1401:G:C8	2.55	0.41
1:A:533:A:C5	1:A:536:C:N4	2.88	0.41
1:A:1019:C:H2'	1:A:1020:U:C5'	2.50	0.41
1:A:35:G:C6	1:A:550:G:N1	2.88	0.41
5:D:146:ILE:HG13	5:D:146:ILE:H	1.70	0.41
1:A:592:G:C6	1:A:648:A:C6	3.08	0.41
1:A:591:U:C2	1:A:592:G:C8	3.08	0.41
2:1:5:G:H2'	2:1:5:G:N3	2.34	0.41
1:A:237:C:O2'	1:A:238:G:H5'	2.19	0.41
19:R:34:TYR:CD2	19:R:34:TYR:N	2.79	0.41
1:A:508:C:H4'	1:A:509:A:O5'	2.20	0.41
1:A:1431:C:C2'	1:A:1432:G:H5'	2.50	0.41
1:A:676:A:O2'	1:A:677:U:H5'	2.20	0.41
1:A:1460:A:P	21:T:27:LYS:NZ	2.93	0.41
11:J:71:LEU:HD13	11:J:72:VAL:N	2.35	0.41
1:A:521:G:OP2	13:L:54:LYS:NZ	2.43	0.41
1:A:1054:C:OP1	1:A:1197:G:OP1	2.38	0.41
1:A:1248:A:C5	1:A:1290:G:N1	2.88	0.41
4:C:6:HIS:HD2	4:C:9:GLY:H	1.68	0.41
1:A:772:U:C4	1:A:773:G:N7	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:105:THR:HB	14:M:106:ASN:H	1.52	0.41
1:A:1126:U:HO2'	1:A:1127:G:P	2.43	0.41
1:A:1147:C:O2	10:I:16:ARG:NH1	2.52	0.41
1:A:1240:U:H3	8:G:30:ILE:HG22	1.85	0.41
1:A:1402:C:H2'	1:A:1403:C:H6	1.85	0.41
1:A:857:C:H2'	1:A:858:G:O4'	2.19	0.41
1:A:68:G:H2'	1:A:69:G:O5'	2.20	0.41
1:A:229:U:H2'	1:A:230:G:C8	2.55	0.41
1:A:620:C:H3'	1:A:621:A:C8	2.55	0.41
1:A:1411:C:H5"	13:L:41:ARG:HH12	1.85	0.41
8:G:22:LEU:HG	8:G:62:PHE:HE2	1.85	0.41
1:A:134:A:C2	1:A:135:C:C2	3.07	0.41
1:A:308:C:H2'	1:A:309:G:H8	1.85	0.41
1:A:463:A:C8	1:A:474:G:N7	2.89	0.41
1:A:243:A:N6	1:A:281:G:O2'	2.52	0.41
1:A:1233:G:C6	1:A:1234:C:C4	3.08	0.41
1:A:1355:G:N2	1:A:1356:G:C4	2.89	0.41
1:A:964:A:O2'	11:J:55:LYS:CE	2.68	0.41
4:C:6:HIS:HA	4:C:7:PRO:HD2	1.67	0.41
1:A:777:A:C6	1:A:778:G:C5	3.09	0.41
1:A:808:C:P	16:O:48:LYS:HE2	2.60	0.41
1:A:344:A:C8	1:A:344:A:O5'	2.73	0.41
1:A:1136:U:C5'	1:A:1137:C:OP2	2.62	0.41
1:A:1324:A:C4	1:A:1325:C:C5	3.08	0.41
1:A:533:A:C8	1:A:536:C:N4	2.89	0.41
1:A:556:C:C2'	1:A:557:G:O5'	2.65	0.41
1:A:380:G:C2	1:A:384:G:C6	3.09	0.41
1:A:1075:C:H5'	1:A:1101:A:N6	2.35	0.41
1:A:75:G:H2'	1:A:76:C:O5'	2.20	0.41
1:A:766:A:H2'	1:A:767:A:C5'	2.48	0.41
13:L:45:PRO:HG2	13:L:50:SER:HA	2.02	0.41
14:M:63:THR:HG23	14:M:64:TRP:H	1.83	0.41
13:L:70:ILE:HA	13:L:71:PRO:HD2	1.88	0.41
3:B:145:LEU:O	3:B:147:LYS:N	2.53	0.41
5:D:173:TRP:CD2	5:D:189:PRO:HB3	2.55	0.41
1:A:720:C:C6	1:A:720:C:H3'	2.55	0.41
1:A:587:G:N2	1:A:755:G:C8	2.88	0.41
8:G:122:HIS:HA	8:G:125:MET:HE2	2.02	0.41
1:A:440:A:H5"	1:A:442:C:OP2	2.21	0.41
1:A:442:C:H6	1:A:442:C:O5'	2.03	0.41
1:A:279:A:H4'	1:A:280:C:OP2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1291:G:N3	1:A:1292:U:C5	2.89	0.41
1:A:1377:A:O2'	8:G:2:ALA:HB3	2.20	0.41
1:A:951:G:H2'	1:A:952:U:O5'	2.20	0.41
1:A:1415:G:C2'	1:A:1416:G:H5'	2.50	0.41
1:A:661:G:N2	1:A:745:C:C2	2.88	0.41
1:A:533:A:N6	1:A:536:C:C2	2.89	0.41
1:A:1177:G:H8	1:A:1177:G:O5'	2.03	0.41
1:A:605:U:C2'	1:A:606:G:C5'	2.93	0.41
1:A:1119:C:O2'	1:A:1120:G:H5'	2.21	0.41
1:A:83:U:C4	1:A:84:U:C4	3.09	0.41
1:A:608:A:N3	1:A:609:A:C8	2.88	0.41
1:A:725:G:C4	1:A:726:C:C6	3.08	0.41
1:A:523:A:N6	13:L:53:ARG:NH1	2.69	0.41
1:A:936:C:C2'	1:A:937:A:O5'	2.68	0.41
8:G:69:VAL:O	8:G:71:PRO:HD3	2.21	0.41
3:B:214:ILE:HD12	3:B:214:ILE:HG23	1.85	0.41
12:K:73:MET:SD	12:K:103:LEU:HD21	2.60	0.41
5:D:57:ARG:CZ	6:E:107:ARG:HH11	2.32	0.41
6:E:55:VAL:H	6:E:55:VAL:HG23	1.53	0.41
1:A:1030(C):G:H2'	1:A:1030(D):A:O4'	2.21	0.41
1:A:490:G:H2'	1:A:491:G:H8	1.85	0.41
1:A:266:G:C4'	1:A:266:G:C8	3.03	0.41
5:D:24:GLU:O	5:D:25:ARG:HB3	2.21	0.41
1:A:1347:G:H22	1:A:1373:G:H2'	1.79	0.41
1:A:761:G:C5	1:A:762:C:C4	3.08	0.41
1:A:948:C:C5	14:M:106:ASN:ND2	2.88	0.41
1:A:970:C:C2	1:A:1231:G:H1'	2.55	0.41
1:A:1301:U:C6	1:A:1303:C:C6	3.08	0.41
1:A:1504:G:HO2'	1:A:1505:G:P	2.42	0.41
1:A:872:A:N3	1:A:874:G:N7	2.68	0.41
1:A:174:C:C4	1:A:175:C:C5	3.08	0.41
1:A:1535:C:C2'	1:A:1536:C:H5'	2.50	0.41
1:A:252:U:C2	1:A:253:U:C5	3.09	0.41
2:1:4:A:H2'	2:1:5:G:C8	2.56	0.41
9:H:6:ILE:HG12	9:H:6:ILE:H	1.65	0.41
1:A:1428:A:H2'	1:A:1429:C:C6	2.56	0.41
18:Q:19:VAL:O	18:Q:19:VAL:HG23	2.20	0.41
14:M:108:ARG:NH1	14:M:111:LYS:HD2	2.34	0.41
1:A:276:G:C6	1:A:277:C:C4	3.08	0.41
1:A:411:A:C1'	1:A:413:G:H1'	2.50	0.41
1:A:1291:G:O3'	10:I:38:GLN:NE2	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1346:A:HO2'	1:A:1347:G:P	2.44	0.41
1:A:439:A:C6	1:A:497:A:N3	2.88	0.41
1:A:55:A:N3	1:A:56:U:C6	2.89	0.41
1:A:558:G:C8	1:A:559:A:N3	2.88	0.41
1:A:537:G:H2'	1:A:538:G:C8	2.56	0.41
1:A:338:A:N3	1:A:339:C:C6	2.88	0.41
12:K:57:THR:O	12:K:60:ALA:HB3	2.20	0.41
2:2:7:G:H2'	2:2:8:A:O5'	2.21	0.41
2:2:9:A:C2'	2:2:10:A:C5'	2.96	0.41
1:A:936:C:C2'	1:A:937:A:H5'	2.50	0.41
1:A:51:A:H4'	1:A:52:G:C5'	2.51	0.41
4:C:116:VAL:HG21	4:C:202:ILE:HD11	2.03	0.41
1:A:686:U:HO2'	1:A:687:A:C5'	2.34	0.41
12:K:19:ALA:HB2	12:K:80:VAL:HG11	2.02	0.41
1:A:825:G:C5	1:A:826:C:C5	3.09	0.41
1:A:1418:A:C5	1:A:1483:A:C6	3.08	0.41
17:P:41:PRO:O	17:P:43:LYS:HG3	2.20	0.41
5:D:114:ARG:O	5:D:117:ALA:N	2.53	0.41
1:A:1378:C:OP1	8:G:6:ARG:O	2.37	0.41
1:A:300:A:N7	1:A:301:G:C8	2.89	0.41
10:I:117:HIS:O	10:I:118:LYS:HG3	2.20	0.41
1:A:1111:A:C2	4:C:177:THR:HG23	2.55	0.41
1:A:1030(A):G:H5"	1:A:1030(B):C:O5'	2.21	0.41
1:A:962:C:O2'	1:A:963:G:H5'	2.21	0.41
1:A:949:A:C6	1:A:950:U:C4	3.09	0.41
1:A:1138:G:N2	1:A:1140:C:C4	2.89	0.41
1:A:1239:A:C4'	1:A:1240:U:O5'	2.58	0.41
1:A:926:G:C2	1:A:1505:G:C4	3.08	0.41
1:A:502:G:C6	1:A:503:C:C4	3.09	0.41
1:A:538:G:H2'	1:A:539:A:C8	2.55	0.41
13:L:113:ARG:HB2	13:L:122:THR:HG21	2.02	0.41
1:A:193:C:H2'	1:A:194:C:C6	2.56	0.41
1:A:406:G:H5"	5:D:5:ILE:CG2	2.48	0.41
8:G:37:ASN:HD21	10:I:40:LEU:HA	1.86	0.41
13:L:104:VAL:O	13:L:105:TYR:HB2	2.20	0.41
3:B:102:LEU:O	3:B:180:LEU:HD11	2.20	0.41
1:A:1164:G:C2	1:A:1173:G:C2	3.09	0.41
1:A:1002:G:H2'	1:A:1003:G:H5'	2.02	0.41
1:A:1030(A):G:C4'	1:A:1030(B):C:OP2	2.68	0.41
1:A:1030:C:O2'	1:A:1030(A):G:H8	2.04	0.41
1:A:279:A:H5'	1:A:281:G:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1248:A:C5	1:A:1290:G:C2	3.09	0.41
1:A:1364:U:O2'	1:A:1365:G:P	2.78	0.41
1:A:1199:U:H4'	11:J:54:PHE:CE1	2.55	0.41
1:A:1306:A:C8	1:A:1332:A:C6	3.09	0.41
1:A:956:U:O2'	1:A:957:U:H5'	2.20	0.41
1:A:1497:G:H2'	1:A:1498:U:H6	1.84	0.41
1:A:10:A:H2'	1:A:11:G:H8	1.86	0.41
1:A:177:C:C2	1:A:178:C:C5	3.08	0.41
1:A:1106:G:O2'	1:A:1107:C:H5'	2.21	0.41
1:A:1256:A:O2'	1:A:1257:U:P	2.79	0.41
1:A:190(G):G:N3	1:A:190(G):G:H2'	2.36	0.41
1:A:1074:G:O3'	3:B:103:THR:HG21	2.20	0.41
1:A:1104:G:O5'	3:B:111:ARG:HD2	2.21	0.41
1:A:1202:G:H2'	1:A:1203:C:O4'	2.20	0.41
1:A:1120:G:O5'	1:A:1120:G:H8	2.04	0.41
1:A:1461:G:C4	1:A:1462:G:C8	3.09	0.41
1:A:83:U:H2'	1:A:84:U:C6	2.56	0.41
1:A:509:A:O4'	5:D:58:LEU:HD12	2.20	0.41
1:A:703:G:OP2	1:A:703:G:H3'	2.21	0.41
13:L:75:HIS:HD2	13:L:77:LEU:HG	1.86	0.41
5:D:200:GLU:O	5:D:203:VAL:N	2.54	0.41
20:S:13:ASP:O	20:S:17:GLU:HG2	2.21	0.41
1:A:1245:A:C6	1:A:1246:C:N4	2.88	0.41
17:P:67:THR:HB	17:P:70:ALA:H	1.84	0.41
9:H:120:THR:OG1	9:H:123:GLU:HB2	2.20	0.41
13:L:55:VAL:HG12	13:L:56:ALA:H	1.86	0.41
9:H:38:ILE:HG22	9:H:39:LEU:N	2.35	0.41
1:A:391:G:C4	1:A:392:G:C8	3.09	0.41
1:A:376:G:C4	1:A:389:A:C2	3.08	0.41
1:A:448:A:N6	1:A:487:A:N9	2.69	0.41
1:A:838:G:C2	1:A:849:C:N3	2.89	0.41
1:A:281:G:O2'	1:A:282:A:P	2.79	0.41
1:A:1367:C:C5'	11:J:60:ARG:NH1	2.84	0.41
11:J:49:VAL:HG12	11:J:50:ILE:N	2.36	0.41
1:A:756:C:H2'	1:A:757:U:O4'	2.19	0.41
1:A:757:U:O2'	1:A:879:C:O2	2.36	0.41
1:A:436:C:C2	1:A:437:U:C5	3.09	0.41
1:A:944:G:H3'	1:A:945:G:C5'	2.51	0.41
1:A:1300:G:O2'	1:A:1301:U:O4'	2.38	0.41
1:A:1310:G:N1	1:A:1328:C:C4	2.89	0.41
1:A:1305:G:N2	1:A:1331:G:HO2'	2.14	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:87:TYR:O	14:M:88:ARG:C	2.59	0.41
1:A:1220:G:N2	20:S:54:GLY:O	2.52	0.41
1:A:940:C:C2'	1:A:941:G:C5'	2.99	0.41
1:A:1394:A:N6	1:A:1500:A:O2'	2.53	0.41
1:A:302:G:O5'	1:A:302:G:H8	2.03	0.41
1:A:382:A:O2'	1:A:383:A:C5'	2.69	0.41
1:A:177:C:H2'	1:A:178:C:C6	2.56	0.41
1:A:1533:C:O2'	1:A:1534:A:N7	2.53	0.41
1:A:17:U:O4'	1:A:1080:A:H1'	2.21	0.41
1:A:16:A:HO2'	6:E:16:THR:HG22	1.86	0.41
9:H:76:PRO:O	9:H:77:GLU:C	2.59	0.41
1:A:273:A:C6	1:A:274:A:C6	3.08	0.41
1:A:275:G:H5'	18:Q:14:LYS:CB	2.50	0.41
5:D:195:ALA:O	5:D:196:LEU:O	2.39	0.41
9:H:104:ARG:O	9:H:105:ARG:C	2.59	0.41
1:A:682:G:C6	1:A:709:G:C6	3.09	0.41
1:A:620:C:H2'	1:A:621:A:O4'	2.21	0.41
20:S:63:THR:HG22	20:S:64:GLU:H	1.86	0.41
3:B:44:LEU:C	3:B:46:LYS:N	2.73	0.41
21:T:88:VAL:O	21:T:89:ARG:C	2.60	0.41
21:T:37:SER:O	21:T:41:VAL:HG23	2.21	0.41
1:A:1111:A:N1	4:C:177:THR:HG23	2.36	0.41
9:H:63:LEU:HA	9:H:63:LEU:HD12	1.77	0.41
18:Q:89:LEU:HA	18:Q:89:LEU:HD23	1.86	0.41
3:B:51:LEU:HA	3:B:51:LEU:HD23	1.75	0.41
21:T:97:ALA:HA	21:T:98:PRO:HD2	1.97	0.41
1:A:601:C:H2'	1:A:602:A:H8	1.86	0.41
15:N:17:LYS:HE2	15:N:17:LYS:HB2	1.78	0.41
1:A:393:A:O2'	1:A:394:G:H5'	2.21	0.41
1:A:411:A:N6	1:A:429:U:C6	2.89	0.41
1:A:1189:C:OP1	11:J:51:ARG:NH2	2.49	0.41
1:A:1248:A:N6	1:A:1290:G:C5	2.89	0.41
1:A:971:G:H5"	1:A:972:C:H5"	2.03	0.41
1:A:572:A:C2	1:A:864:A:C2	3.09	0.41
1:A:888:G:N1	1:A:889:A:N6	2.69	0.41
1:A:436:C:C2	1:A:437:U:C6	3.09	0.41
1:A:1139:G:HO2'	1:A:1140:C:P	2.43	0.41
1:A:953:G:N1	1:A:1229:A:C6	2.89	0.41
1:A:1333:A:C2'	1:A:1334:G:C5'	2.98	0.41
8:G:27:ILE:O	8:G:28:ASN:C	2.59	0.41
1:A:339:C:H2'	1:A:339:C:O2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:815:A:C5'	1:A:817:C:N4	2.83	0.41
1:A:359:U:O2'	1:A:360:A:H5'	2.21	0.41
1:A:642:A:N7	9:H:115:SER:HA	2.35	0.41
1:A:652:U:O2'	1:A:653:A:P	2.79	0.41
1:A:76:C:C2	1:A:77:G:C8	3.09	0.41
16:O:70:LEU:C	16:O:72:ARG:N	2.70	0.41
4:C:137:ALA:O	4:C:141:VAL:HG23	2.21	0.41
19:R:51:LEU:HA	19:R:52:PRO:HD3	1.88	0.41
9:H:44:PHE:HB3	9:H:80:ILE:HG12	2.03	0.41
8:G:122:HIS:HA	8:G:125:MET:CE	2.50	0.41
1:A:1051:C:H2'	1:A:1052:U:O4'	2.21	0.40
4:C:7:PRO:HG2	4:C:8:ILE:H	1.86	0.40
1:A:946:A:C4	1:A:947:G:N7	2.89	0.40
1:A:1130:A:P	10:I:20:ARG:HH22	2.44	0.40
1:A:1230:C:H2'	1:A:1231:G:H8	1.86	0.40
1:A:1087:G:C2	1:A:1088:G:C5	3.09	0.40
1:A:1401:G:N2	1:A:1402:C:H1'	2.37	0.40
1:A:1404:C:O4'	1:A:1499:A:C2	2.74	0.40
1:A:538:G:H4'	13:L:114:LYS:HD2	2.02	0.40
1:A:551:U:N3	1:A:552:U:C5	2.90	0.40
1:A:604:G:C6	1:A:605:U:N3	2.89	0.40
1:A:1397:C:OP2	6:E:24:ARG:NH2	2.48	0.40
1:A:17:U:H4'	1:A:1080:A:O4'	2.22	0.40
1:A:918:A:C2	1:A:919:A:C4	3.09	0.40
1:A:1257:U:HO2'	1:A:1258:G:P	2.43	0.40
1:A:1074:G:C6	1:A:1102:A:C6	3.08	0.40
1:A:342:C:H6	1:A:342:C:O5'	2.03	0.40
1:A:1476:G:C2	1:A:1477:C:C2	3.09	0.40
1:A:1157:A:N3	1:A:1181:G:N1	2.68	0.40
16:O:24:SER:O	16:O:25:THR:C	2.59	0.40
9:H:104:ARG:C	9:H:106:GLY:N	2.73	0.40
1:A:614:A:H2'	1:A:615:C:C6	2.56	0.40
9:H:10:LEU:HD12	9:H:85:ARG:HG2	2.03	0.40
6:E:34:VAL:HG12	6:E:35:GLY:H	1.84	0.40
1:A:226:G:C5	1:A:227:G:C8	3.09	0.40
9:H:45:ILE:CG2	9:H:80:ILE:HD11	2.51	0.40
5:D:178:VAL:O	5:D:180:GLY:N	2.54	0.40
21:T:10:LEU:C	21:T:12:ALA:H	2.24	0.40
1:A:787:A:O2'	1:A:788:U:H5'	2.21	0.40
1:A:374:A:N1	1:A:390:C:O2'	2.45	0.40
1:A:963:G:C2'	1:A:964:A:H5'	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:50:ILE:HG22	11:J:51:ARG:N	2.35	0.40
1:A:1280:A:O4'	11:J:41:PRO:HG2	2.21	0.40
1:A:55:A:H2'	1:A:56:U:C6	2.56	0.40
1:A:965:A:O2'	1:A:966:G:P	2.80	0.40
1:A:1298:C:N1	8:G:114:ARG:NH1	2.69	0.40
14:M:81:LEU:HB2	14:M:86:CYS:CB	2.52	0.40
1:A:663:A:C2	1:A:664:G:C4	3.09	0.40
1:A:1505:G:O2'	1:A:1506:U:OP2	2.29	0.40
1:A:192:U:O4'	21:T:102:GLY:O	2.39	0.40
1:A:568:G:C6	1:A:569:C:N4	2.90	0.40
1:A:357:G:N1	1:A:358:U:C4	2.89	0.40
1:A:285:G:H2'	1:A:286:G:H8	1.86	0.40
1:A:1417:G:N2	1:A:1484:C:N4	2.69	0.40
5:D:188:LEU:HA	5:D:188:LEU:HD23	1.89	0.40
5:D:149:ALA:O	5:D:150:GLU:C	2.59	0.40
1:A:226:G:O2'	1:A:227:G:H5'	2.21	0.40
3:B:163:PHE:HA	3:B:185:ILE:O	2.22	0.40
3:B:92:TYR:CE2	3:B:151:GLY:CA	3.04	0.40
17:P:5:ARG:HG3	17:P:5:ARG:HH11	1.86	0.40
1:A:1465:C:O2'	1:A:1466:C:H5'	2.21	0.40
1:A:410:G:N2	1:A:429:U:H3	2.19	0.40
1:A:1345:U:C2	1:A:1377:A:C2	3.09	0.40
1:A:981:U:C6	1:A:982:U:C6	3.09	0.40
4:C:130:VAL:HG11	4:C:157:ILE:HG23	2.02	0.40
1:A:344:A:H8	1:A:344:A:O5'	2.04	0.40
1:A:1128:C:C2'	1:A:1129:C:H5"	2.52	0.40
1:A:1137:C:H5'	1:A:1138:G:C6	2.57	0.40
1:A:502:G:C4	1:A:503:C:C6	3.10	0.40
1:A:605:U:H2'	1:A:606:G:C5'	2.50	0.40
3:B:178:ARG:CG	9:H:72:PRO:HA	2.44	0.40
1:A:262:A:OP1	21:T:73:HIS:ND1	2.55	0.40
19:R:22:VAL:O	19:R:26:LEU:HB2	2.21	0.40
1:A:678:U:H2'	1:A:679:C:O4'	2.21	0.40
3:B:97:TRP:HZ2	3:B:102:LEU:CD1	2.34	0.40
5:D:187:ARG:CG	5:D:188:LEU:N	2.84	0.40
12:K:16:SER:CB	12:K:79:SER:HB3	2.51	0.40
1:A:935:A:C6	8:G:3:ARG:NH2	2.90	0.40
1:A:785:G:C6	1:A:786:G:N7	2.89	0.40
4:C:174:PRO:C	4:C:176:HIS:N	2.75	0.40
1:A:267:C:H2'	1:A:268:C:H6	1.86	0.40
3:B:57:PHE:CD2	3:B:199:TYR:CE1	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:394:G:C6	1:A:395:C:N4	2.89	0.40
1:A:453:A:N3	1:A:453:A:H2'	2.37	0.40
1:A:254:G:N2	18:Q:16:GLN:HE21	2.04	0.40
1:A:1350:A:C4	1:A:1351:U:C5	3.09	0.40
1:A:1055:A:C2'	4:C:156:ARG:NH1	2.85	0.40
1:A:315:A:H4'	1:A:353:A:N1	2.35	0.40
1:A:432:A:H3'	1:A:433:C:H6	1.86	0.40
1:A:435:C:N3	1:A:436:C:C5	2.89	0.40
1:A:779:C:H2'	1:A:780:A:O4'	2.22	0.40
1:A:1325:C:C2'	1:A:1326:C:H5'	2.52	0.40
1:A:1306:A:C5	1:A:1332:A:N7	2.89	0.40
1:A:1333:A:C8	1:A:1334:G:N7	2.90	0.40
1:A:550:G:C6	1:A:551:U:C4	3.09	0.40
1:A:1343:G:OP1	10:I:125:TYR:HE2	2.04	0.40
12:K:57:THR:HG22	12:K:60:ALA:CB	2.48	0.40
1:A:250:A:O2'	1:A:251:G:OP2	2.35	0.40
1:A:1520:G:N3	1:A:1521:G:C8	2.90	0.40
1:A:1539:C:O2'	1:A:1540:U:H5'	2.22	0.40
2:2:9:A:H2'	2:2:10:A:C5'	2.51	0.40
1:A:1511:G:HO2'	1:A:1512:U:H5'	1.84	0.40
1:A:597:G:C8	1:A:598:U:C6	3.08	0.40
1:A:173:U:O2	1:A:197:A:N1	2.52	0.40
1:A:197:A:O2'	1:A:198:G:O4'	2.35	0.40
1:A:295:C:O2	1:A:295:C:C2'	2.68	0.40
1:A:102:G:H2'	1:A:103:C:C6	2.56	0.40
1:A:98:U:C2	1:A:99:C:C6	3.09	0.40
1:A:523:A:H61	13:L:53:ARG:NH1	2.13	0.40
1:A:509:A:C8	1:A:509:A:O5'	2.64	0.40
1:A:812:C:O2'	1:A:813:U:O5'	2.40	0.40
6:E:92:LYS:HA	6:E:93:PRO:HD2	1.88	0.40
1:A:1164:G:H2'	1:A:1165:C:H6	1.86	0.40
1:A:452:A:HO2'	1:A:453:A:C4'	2.35	0.40
1:A:492:G:H2'	1:A:494:G:O4'	2.21	0.40
1:A:414:A:N1	1:A:415:A:C4	2.88	0.40
1:A:1054:C:O2'	1:A:1055:A:C5'	2.63	0.40
1:A:1371:G:C6	1:A:1372:U:C4	3.10	0.40
14:M:22:ILE:HG22	14:M:23:TYR:N	2.36	0.40
1:A:657:G:C4	1:A:658:G:C8	3.09	0.40
1:A:660:G:C2'	1:A:661:G:O5'	2.70	0.40
1:A:565:U:O4	1:A:566:G:C6	2.73	0.40
1:A:149:A:C2	1:A:150:C:C5	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:T:60:GLU:HG3	21:T:81:LYS:HE3	2.02	0.40
1:A:204:U:O2	1:A:204:U:H2'	2.20	0.40
1:A:695:A:N3	1:A:695:A:H2'	2.35	0.40
1:A:294:U:H2'	1:A:295:C:C6	2.44	0.40
1:A:1097:C:C1'	1:A:1169:A:H1'	2.50	0.40
16:O:54:ARG:HG2	16:O:58:MET:HE2	2.02	0.40
10:I:87:GLN:NE2	10:I:87:GLN:HA	2.36	0.40
1:A:1267:C:O2	22:V:20:LYS:HD3	2.21	0.40
21:T:62:LEU:HA	21:T:62:LEU:HD23	1.93	0.40
6:E:51:VAL:O	6:E:55:VAL:HG23	2.22	0.40
16:O:53:HIS:O	16:O:57:LEU:CD1	2.70	0.40
14:M:48:LEU:HA	14:M:48:LEU:HD23	1.85	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	B	220/227 (97%)	169 (77%)	39 (18%)	12 (6%)	2	16
4	C	204/238 (86%)	149 (73%)	42 (21%)	13 (6%)	2	13
5	D	206/208 (99%)	165 (80%)	31 (15%)	10 (5%)	3	19
6	E	148/161 (92%)	113 (76%)	30 (20%)	5 (3%)	5	29
7	F	99/101 (98%)	83 (84%)	14 (14%)	2 (2%)	9	43
8	G	153/155 (99%)	129 (84%)	23 (15%)	1 (1%)	26	66
9	H	136/138 (99%)	113 (83%)	21 (15%)	2 (2%)	13	49
10	I	125/128 (98%)	94 (75%)	25 (20%)	6 (5%)	3	20
11	J	96/104 (92%)	75 (78%)	14 (15%)	7 (7%)	1	10
12	K	113/128 (88%)	88 (78%)	22 (20%)	3 (3%)	6	35

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
13	L	122/131 (93%)	96 (79%)	21 (17%)	5 (4%)	3 24
14	M	120/125 (96%)	89 (74%)	26 (22%)	5 (4%)	3 23
15	N	58/60 (97%)	45 (78%)	13 (22%)	0	100 100
16	O	86/88 (98%)	70 (81%)	14 (16%)	2 (2%)	8 39
17	P	81/88 (92%)	64 (79%)	16 (20%)	1 (1%)	16 54
18	Q	102/104 (98%)	86 (84%)	11 (11%)	5 (5%)	3 19
19	R	71/87 (82%)	57 (80%)	13 (18%)	1 (1%)	14 50
20	S	78/92 (85%)	63 (81%)	11 (14%)	4 (5%)	2 19
21	T	97/105 (92%)	72 (74%)	17 (18%)	8 (8%)	1 8
22	V	22/26 (85%)	19 (86%)	1 (4%)	2 (9%)	1 6
All	All	2337/2494 (94%)	1839 (79%)	404 (17%)	94 (4%)	4 24

All (94) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	B	12	GLU
3	B	21	ARG
3	B	24	TRP
3	B	130	ARG
4	C	4	LYS
4	C	16	ARG
4	C	61	ALA
4	C	146	ALA
5	D	9	CYS
5	D	30	LYS
9	H	30	ARG
10	I	121	ARG
11	J	33	GLN
11	J	40	LEU
11	J	41	PRO
11	J	55	LYS
12	K	16	SER
13	L	27	LEU
14	M	106	ASN
16	O	73	GLU
18	Q	69	LYS
21	T	74	LYS
3	B	17	PHE

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Mol	Chain	Res	Type
4	C	12	LEU
4	C	178	LEU
5	D	29	PRO
5	D	89	THR
6	E	99	GLY
7	F	16	GLN
10	I	74	ILE
11	J	60	ARG
11	J	90	LEU
12	K	106	LYS
13	L	45	PRO
13	L	51	ALA
14	M	27	LYS
18	Q	33	GLY
19	R	77	GLY
21	T	49	ALA
21	T	73	HIS
21	T	92	LEU
3	B	83	MET
3	B	95	GLN
3	B	146	GLN
3	B	150	SER
4	C	181	ASN
5	D	32	ALA
10	I	72	GLY
10	I	108	VAL
10	I	118	LYS
12	K	27	ASN
17	P	12	LYS
20	S	6	LYS
3	B	26	PRO
5	D	154	ASN
5	D	179	GLU
6	E	121	LYS
13	L	46	LYS
14	M	80	ARG
16	O	88	ARG
18	Q	83	ASP
22	V	6	ARG
22	V	9	ARG
3	B	89	GLY
4	C	128	PHE

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Mol	Chain	Res	Type
5	D	5	ILE
7	F	56	PRO
8	G	153	HIS
14	M	7	VAL
18	Q	17	LYS
18	Q	30	PRO
21	T	97	ALA
3	B	10	LEU
4	C	5	ILE
6	E	39	GLY
13	L	48	PRO
14	M	60	VAL
20	S	8	GLY
20	S	16	LEU
21	T	96	GLY
4	C	6	HIS
21	T	102	GLY
4	C	13	GLY
4	C	108	ASN
5	D	196	LEU
9	H	106	GLY
20	S	45	VAL
21	T	63	ILE
4	C	74	GLY
6	E	85	GLY
10	I	6	GLY
11	J	82	ILE
5	D	197	PRO
6	E	128	PRO

5.3.2 Protein sidechains

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	B	191/196 (97%)	170 (89%)	21 (11%)	8 31
4	C	160/187 (86%)	146 (91%)	14 (9%)	12 44

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
5	D	180/180 (100%)	163 (91%)	17 (9%)	11 39
6	E	115/122 (94%)	103 (90%)	12 (10%)	9 34
7	F	90/90 (100%)	87 (97%)	3 (3%)	45 78
8	G	126/126 (100%)	122 (97%)	4 (3%)	46 79
9	H	119/119 (100%)	110 (92%)	9 (8%)	16 51
10	I	98/99 (99%)	91 (93%)	7 (7%)	18 55
11	J	88/91 (97%)	82 (93%)	6 (7%)	20 57
12	K	87/98 (89%)	80 (92%)	7 (8%)	15 49
13	L	104/108 (96%)	100 (96%)	4 (4%)	40 75
14	M	97/100 (97%)	90 (93%)	7 (7%)	18 54
15	N	49/49 (100%)	44 (90%)	5 (10%)	9 35
16	O	79/79 (100%)	71 (90%)	8 (10%)	9 35
17	P	72/74 (97%)	67 (93%)	5 (7%)	19 57
18	Q	96/96 (100%)	89 (93%)	7 (7%)	17 53
19	R	64/76 (84%)	62 (97%)	2 (3%)	47 79
20	S	71/79 (90%)	65 (92%)	6 (8%)	13 46
21	T	76/81 (94%)	73 (96%)	3 (4%)	39 75
22	V	19/21 (90%)	19 (100%)	0	100 100
All	All	1981/2071 (96%)	1834 (93%)	147 (7%)	17 52

All (147) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	B	11	LEU
3	B	17	PHE
3	B	24	TRP
3	B	25	ASN
3	B	26	PRO
3	B	56	ARG
3	B	61	LEU
3	B	69	LEU
3	B	90	MET
3	B	96	ARG
3	B	114	ARG
3	B	119	GLU
3	B	137	ARG

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Mol	Chain	Res	Type
3	B	144	ARG
3	B	153	ARG
3	B	170	GLU
3	B	184	VAL
3	B	187	LEU
3	B	195	ASP
3	B	204	ASN
3	B	205	ASP
4	C	3	ASN
4	C	12	LEU
4	C	17	ASP
4	C	34	LEU
4	C	56	ASP
4	C	82	GLU
4	C	84	ILE
4	C	99	VAL
4	C	101	LEU
4	C	142	MET
4	C	144	SER
4	C	167	TRP
4	C	191	THR
4	C	193	TYR
5	D	3	ARG
5	D	9	CYS
5	D	15	GLU
5	D	38	TYR
5	D	58	LEU
5	D	59	ARG
5	D	64	LEU
5	D	80	GLU
5	D	96	LEU
5	D	99	SER
5	D	122	ARG
5	D	157	LEU
5	D	176	LEU
5	D	190	ASP
5	D	192	GLU
5	D	198	VAL
5	D	199	ASN
6	E	9	LYS
6	E	11	ILE
6	E	12	LEU

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Mol	Chain	Res	Type
6	E	13	ILE
6	E	31	LEU
6	E	47	LYS
6	E	56	GLN
6	E	79	GLU
6	E	87	SER
6	E	89	ILE
6	E	96	PRO
6	E	125	SER
7	F	10	LEU
7	F	32	ASN
7	F	86	ARG
8	G	12	LEU
8	G	16	LEU
8	G	120	ILE
8	G	136	LYS
9	H	18	ARG
9	H	39	LEU
9	H	63	LEU
9	H	91	ARG
9	H	92	ARG
9	H	105	ARG
9	H	120	THR
9	H	121	ASP
9	H	132	GLU
10	I	38	GLN
10	I	58	ARG
10	I	60	ASP
10	I	71	SER
10	I	105	ASP
10	I	111	ARG
10	I	121	ARG
11	J	15	THR
11	J	23	ILE
11	J	28	ARG
11	J	45	ARG
11	J	66	ARG
11	J	71	LEU
12	K	35	PRO
12	K	36	ASP
12	K	41	THR
12	K	47	VAL

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Mol	Chain	Res	Type
12	K	92	GLU
12	K	93	GLN
12	K	110	ASP
13	L	59	ARG
13	L	70	ILE
13	L	113	ARG
13	L	126	LYS
14	M	44	ARG
14	M	56	LEU
14	M	63	THR
14	M	81	LEU
14	M	105	THR
14	M	109	THR
14	M	122	LYS
15	N	22	THR
15	N	25	VAL
15	N	41	ARG
15	N	44	LEU
15	N	60	SER
16	O	4	THR
16	O	39	LEU
16	O	49	ASP
16	O	52	SER
16	O	65	ARG
16	O	70	LEU
16	O	74	ASP
16	O	81	LEU
17	P	2	VAL
17	P	28	ARG
17	P	47	ASP
17	P	55	ARG
17	P	65	GLN
18	Q	7	THR
18	Q	11	VAL
18	Q	34	LYS
18	Q	38	ARG
18	Q	60	ILE
18	Q	78	GLU
18	Q	100	LYS
19	R	31	LEU
19	R	54	ARG
20	S	6	LYS

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Mol	Chain	Res	Type
20	S	7	LYS
20	S	15	LEU
20	S	36	ARG
20	S	41	VAL
20	S	57	HIS
21	T	10	LEU
21	T	64	ASP
21	T	105	SER

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (41) such sidechains are listed below:

Mol	Chain	Res	Type
3	B	19	HIS
3	B	25	ASN
3	B	204	ASN
4	C	3	ASN
4	C	6	HIS
4	C	31	HIS
4	C	37	GLN
4	C	69	HIS
4	C	139	GLN
5	D	103	ASN
5	D	123	HIS
5	D	161	ASN
5	D	199	ASN
6	E	65	ASN
7	F	27	GLN
7	F	100	ASN
8	G	37	ASN
8	G	86	GLN
8	G	106	GLN
9	H	15	ASN
9	H	82	HIS
10	I	38	GLN
10	I	73	GLN
10	I	87	GLN
11	J	56	HIS
11	J	62	HIS
12	K	38	ASN
12	K	93	GLN
12	K	117	ASN
13	L	49	ASN

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Mol	Chain	Res	Type
13	L	75	HIS
14	M	12	ASN
14	M	106	ASN
15	N	49	HIS
16	O	37	ASN
16	O	46	HIS
17	P	16	HIS
18	Q	16	GLN
19	R	36	ASN
20	S	47	HIS
21	T	75	ASN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1517/1520 (99%)	331 (21%)	187 (12%)
2	1	5/6 (83%)	1 (20%)	1 (20%)
2	2	3/6 (50%)	2 (66%)	0
All	All	1525/1532 (99%)	334 (21%)	188 (12%)

All (334) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	5	U
1	A	6	G
1	A	7	G
1	A	8	A
1	A	9	G
1	A	14	U
1	A	31	G
1	A	32	A
1	A	39	G
1	A	44	G
1	A	47	C
1	A	48	C
1	A	49	U
1	A	50	A
1	A	51	A
1	A	52	G
1	A	61	G
1	A	62	U

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Mol	Chain	Res	Type
1	A	64	G
1	A	65	U
1	A	66	G
1	A	81	U
1	A	82	U
1	A	89	C
1	A	90	U
1	A	109	A
1	A	110	C
1	A	116	A
1	A	120	A
1	A	121	C
1	A	122	G
1	A	129(A)	G
1	A	130	A
1	A	174	C
1	A	182	U
1	A	190(D)	U
1	A	190(E)	U
1	A	190(F)	G
1	A	190(G)	G
1	A	195	A
1	A	197	A
1	A	198	G
1	A	202	U
1	A	203	U
1	A	204	U
1	A	216	G
1	A	244	U
1	A	245	C
1	A	247	G
1	A	251	G
1	A	252	U
1	A	253	U
1	A	266	G
1	A	267	C
1	A	275	G
1	A	280	C
1	A	282	A
1	A	288	A
1	A	289	G
1	A	306	G

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Mol	Chain	Res	Type
1	A	316	G
1	A	328	C
1	A	329	A
1	A	330	C
1	A	331	G
1	A	332	G
1	A	345	C
1	A	346	G
1	A	352	C
1	A	353	A
1	A	354	G
1	A	367	U
1	A	368	U
1	A	373	A
1	A	388	G
1	A	389	A
1	A	390	C
1	A	397	A
1	A	398	C
1	A	406	G
1	A	410	G
1	A	412	A
1	A	413	G
1	A	421	U
1	A	422	C
1	A	423	G
1	A	428	G
1	A	429	U
1	A	430	A
1	A	439	A
1	A	452	A
1	A	453	A
1	A	460	A
1	A	461	C
1	A	462	G
1	A	481	G
1	A	484	G
1	A	485	G
1	A	486	U
1	A	495	U
1	A	497	A
1	A	498	U

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Mol	Chain	Res	Type
1	A	500	G
1	A	508	C
1	A	509	A
1	A	510	A
1	A	511	C
1	A	517	G
1	A	518	C
1	A	519	C
1	A	527	G
1	A	532	A
1	A	533	A
1	A	534	U
1	A	535	A
1	A	536	C
1	A	548	G
1	A	558	G
1	A	559	A
1	A	560	U
1	A	561	U
1	A	562	C
1	A	567	G
1	A	572	A
1	A	573	A
1	A	575	G
1	A	576	G
1	A	577	G
1	A	595	G
1	A	596	C
1	A	598	U
1	A	616	G
1	A	641	U
1	A	642	A
1	A	652	U
1	A	653	A
1	A	654	G
1	A	665	A
1	A	686	U
1	A	688	G
1	A	701	C
1	A	702	A
1	A	703	G
1	A	704	A

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Mol	Chain	Res	Type
1	A	717	C
1	A	718	G
1	A	721	G
1	A	722	A
1	A	723	U
1	A	724	G
1	A	748	C
1	A	749	C
1	A	752	G
1	A	753	A
1	A	754	C
1	A	755	G
1	A	777	A
1	A	781	A
1	A	782	A
1	A	792	A
1	A	793	U
1	A	805	C
1	A	813	U
1	A	815	A
1	A	816	A
1	A	817	C
1	A	818	G
1	A	819	A
1	A	820	U
1	A	821	G
1	A	828	A
1	A	839	U
1	A	840	C
1	A	841	U
1	A	867	G
1	A	870	U
1	A	871	U
1	A	872	A
1	A	873	A
1	A	874	G
1	A	884	U
1	A	885	G
1	A	889	A
1	A	890	G
1	A	902	G
1	A	914	A

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Mol	Chain	Res	Type
1	A	915	A
1	A	916	G
1	A	926	G
1	A	927	G
1	A	934	C
1	A	935	A
1	A	945	G
1	A	960	U
1	A	961	U
1	A	966	G
1	A	968	A
1	A	969	A
1	A	971	G
1	A	972	C
1	A	974	A
1	A	975	A
1	A	976	G
1	A	977	A
1	A	978	A
1	A	982	U
1	A	983	A
1	A	984	C
1	A	989	C
1	A	991	U
1	A	992	U
1	A	993	G
1	A	994	A
1	A	1003	G
1	A	1003(A)	G
1	A	1004	A
1	A	1006	C
1	A	1022	G
1	A	1023	G
1	A	1024	G
1	A	1025	U
1	A	1027	C
1	A	1028	C
1	A	1030	C
1	A	1030(A)	G
1	A	1030(B)	C
1	A	1030(C)	G
1	A	1050	G

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Mol	Chain	Res	Type
1	A	1054	C
1	A	1055	A
1	A	1065	U
1	A	1066	C
1	A	1068	G
1	A	1085	U
1	A	1086	U
1	A	1101	A
1	A	1102	A
1	A	1104	G
1	A	1108	G
1	A	1124	G
1	A	1125	U
1	A	1126	U
1	A	1127	G
1	A	1129	C
1	A	1130	A
1	A	1131	G
1	A	1134	G
1	A	1137	C
1	A	1138	G
1	A	1139	G
1	A	1140	C
1	A	1145	C
1	A	1146	A
1	A	1152	A
1	A	1158	C
1	A	1159	U
1	A	1160	G
1	A	1171	G
1	A	1183	A
1	A	1184	G
1	A	1191	A
1	A	1196	U
1	A	1197	G
1	A	1200	C
1	A	1201	A
1	A	1202	G
1	A	1212	U
1	A	1213	A
1	A	1215	G
1	A	1225	A

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Mol	Chain	Res	Type
1	A	1226	C
1	A	1227	A
1	A	1239	A
1	A	1240	U
1	A	1241	G
1	A	1257	U
1	A	1258	G
1	A	1278	U
1	A	1279	A
1	A	1282	C
1	A	1285	A
1	A	1286	A
1	A	1287	A
1	A	1298	C
1	A	1299	A
1	A	1300	G
1	A	1301	U
1	A	1302	U
1	A	1303	C
1	A	1305	G
1	A	1320	C
1	A	1322	C
1	A	1332	A
1	A	1337	G
1	A	1338	G
1	A	1345	U
1	A	1346	A
1	A	1347	G
1	A	1348	U
1	A	1353	G
1	A	1363	A
1	A	1364	U
1	A	1365	G
1	A	1370	G
1	A	1381	U
1	A	1394	A
1	A	1395	C
1	A	1398	A
1	A	1399	C
1	A	1400	C
1	A	1401	G
1	A	1442	G

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Mol	Chain	Res	Type
1	A	1443	G
1	A	1446	A
1	A	1447	G
1	A	1452	C
1	A	1453	G
1	A	1490	C
1	A	1499	A
1	A	1502	A
1	A	1503	A
1	A	1504	G
1	A	1505	G
1	A	1506	U
1	A	1507	A
1	A	1517	G
1	A	1520	G
1	A	1529	G
1	A	1530	G
1	A	1534	A
1	A	1542	U
2	1	4	A
2	2	8	A
2	2	9	A

All (188) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	4	U
1	A	5	U
1	A	7	G
1	A	8	A
1	A	13	U
1	A	30	U
1	A	31	G
1	A	47	C
1	A	48	C
1	A	49	U
1	A	50	A
1	A	51	A
1	A	60	A
1	A	64	G
1	A	88	A
1	A	89	C

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Mol	Chain	Res	Type
1	A	109	A
1	A	115	G
1	A	119	A
1	A	121	C
1	A	129(A)	G
1	A	130	A
1	A	173	U
1	A	181	G
1	A	190(D)	U
1	A	190(E)	U
1	A	190(F)	G
1	A	197	A
1	A	202	U
1	A	204	U
1	A	243	A
1	A	244	U
1	A	246	A
1	A	250	A
1	A	251	G
1	A	266	G
1	A	274	A
1	A	279	A
1	A	280	C
1	A	281	G
1	A	305	G
1	A	315	A
1	A	327	A
1	A	328	C
1	A	329	A
1	A	344	A
1	A	345	C
1	A	351	G
1	A	366	C
1	A	367	U
1	A	372	C
1	A	388	G
1	A	421	U
1	A	428	G
1	A	429	U
1	A	438	G
1	A	484	G
1	A	485	G

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Mol	Chain	Res	Type
1	A	496	A
1	A	497	A
1	A	499	A
1	A	508	C
1	A	509	A
1	A	511	C
1	A	517	G
1	A	518	C
1	A	531	U
1	A	533	A
1	A	535	A
1	A	547	A
1	A	559	A
1	A	560	U
1	A	561	U
1	A	562	C
1	A	566	G
1	A	575	G
1	A	576	G
1	A	595	G
1	A	641	U
1	A	652	U
1	A	653	A
1	A	686	U
1	A	687	A
1	A	701	C
1	A	702	A
1	A	703	G
1	A	717	C
1	A	721	G
1	A	733	A
1	A	748	C
1	A	752	G
1	A	753	A
1	A	792	A
1	A	812	C
1	A	815	A
1	A	817	C
1	A	818	G
1	A	819	A
1	A	820	U
1	A	840	C

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Mol	Chain	Res	Type
1	A	870	U
1	A	871	U
1	A	872	A
1	A	873	A
1	A	883	C
1	A	884	U
1	A	889	A
1	A	913	A
1	A	914	A
1	A	934	C
1	A	960	U
1	A	965	A
1	A	968	A
1	A	971	G
1	A	974	A
1	A	975	A
1	A	976	G
1	A	982	U
1	A	992	U
1	A	993	G
1	A	1021	G
1	A	1049	U
1	A	1064	G
1	A	1065	U
1	A	1067	A
1	A	1085	U
1	A	1094	G
1	A	1101	A
1	A	1126	U
1	A	1128	C
1	A	1129	C
1	A	1139	G
1	A	1145	C
1	A	1151	A
1	A	1157	A
1	A	1159	U
1	A	1181	G
1	A	1182	G
1	A	1183	A
1	A	1190	G
1	A	1196	U
1	A	1200	C

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Mol	Chain	Res	Type
1	A	1201	A
1	A	1214	C
1	A	1224	G
1	A	1225	A
1	A	1226	C
1	A	1239	A
1	A	1240	U
1	A	1256	A
1	A	1257	U
1	A	1278	U
1	A	1280	A
1	A	1281	U
1	A	1285	A
1	A	1297	C
1	A	1298	C
1	A	1299	A
1	A	1300	G
1	A	1301	U
1	A	1302	U
1	A	1319	A
1	A	1322	C
1	A	1331	G
1	A	1336	C
1	A	1345	U
1	A	1346	A
1	A	1347	G
1	A	1363	A
1	A	1364	U
1	A	1380	U
1	A	1394	A
1	A	1396	A
1	A	1397	C
1	A	1399	C
1	A	1400	C
1	A	1451	A
1	A	1452	C
1	A	1498	U
1	A	1502	A
1	A	1503	A
1	A	1504	G
1	A	1505	G
1	A	1506	U

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Mol	Chain	Res	Type
1	A	1528	U
1	A	1529	G
1	A	1533	C
2	1	3	A

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates (i)

There are no carbohydrates in this entry.

5.6 Ligand geometry (i)

Of 2 ligands modelled in this entry, 2 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)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A	1517/1520 (99%)	0.00	23 (1%) 76 71	44, 89, 178, 199	0
2	1	6/6 (100%)	0.81	2 (33%) 0 1	199, 199, 199, 199	0
2	2	4/6 (66%)	2.29	2 (50%) 0 0	185, 193, 195, 198	0
3	B	222/227 (97%)	0.25	6 (2%) 58 51	46, 104, 169, 199	0
4	C	206/238 (86%)	0.13	5 (2%) 62 55	49, 107, 172, 198	0
5	D	208/208 (100%)	0.39	9 (4%) 39 32	32, 90, 156, 199	0
6	E	150/161 (93%)	0.61	12 (8%) 15 12	32, 72, 151, 195	0
7	F	101/101 (100%)	-0.11	3 (2%) 54 47	63, 116, 167, 182	0
8	G	155/155 (100%)	0.10	10 (6%) 22 18	70, 133, 184, 199	0
9	H	138/138 (100%)	0.23	3 (2%) 65 59	31, 72, 145, 181	0
10	I	127/128 (99%)	1.36	40 (31%) 1 1	55, 147, 191, 199	0
11	J	98/104 (94%)	1.05	22 (22%) 1 1	64, 138, 198, 199	0
12	K	115/128 (89%)	0.54	19 (16%) 2 2	59, 111, 172, 190	0
13	L	124/131 (94%)	0.45	10 (8%) 15 11	46, 104, 165, 199	0
14	M	122/125 (97%)	0.68	18 (14%) 3 3	71, 127, 180, 198	0
15	N	60/60 (100%)	1.15	13 (21%) 1 1	56, 89, 158, 190	0
16	O	88/88 (100%)	0.10	2 (2%) 64 57	45, 100, 167, 185	0
17	P	83/88 (94%)	0.70	7 (8%) 14 11	38, 91, 146, 185	0
18	Q	104/104 (100%)	0.90	12 (11%) 6 5	49, 90, 172, 199	0
19	R	73/87 (83%)	0.17	0 100 100	46, 103, 175, 199	0
20	S	80/92 (86%)	1.36	23 (28%) 1 1	74, 136, 187, 199	0
21	T	99/105 (94%)	1.65	37 (37%) 0 1	69, 122, 182, 199	0
22	V	24/26 (92%)	3.83	19 (79%) 0 0	72, 121, 168, 199	0
All	All	3904/4026 (96%)	0.36	297 (7%) 17 14	31, 99, 178, 199	0

All (297) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
18	Q	103	GLY	12.0
18	Q	104	LYS	11.7
20	S	3	ARG	11.5
21	T	73	HIS	11.5
20	S	2	PRO	9.3
22	V	2	GLY	9.1
15	N	2	ALA	8.3
18	Q	105	ALA	8.1
6	E	5	ASP	8.0
22	V	18	TYR	7.1
21	T	9	ASN	6.9
14	M	27	LYS	6.9
22	V	6	ARG	6.6
22	V	21	TYR	6.5
11	J	73	ASP	6.4
10	I	128	ARG	6.3
10	I	7	THR	5.8
17	P	1	MET	5.8
17	P	12	LYS	5.8
21	T	103	GLY	5.8
11	J	33	GLN	5.7
12	K	23	ALA	5.6
12	K	22	HIS	5.6
20	S	37	ARG	5.6
10	I	66	ARG	5.5
22	V	7	ARG	5.4
22	V	5	ASP	5.4
9	H	1	MET	5.3
14	M	13	LYS	5.3
10	I	14	VAL	5.3
15	N	61	TRP	5.2
20	S	74	PHE	5.1
22	V	22	ARG	5.1
11	J	40	LEU	5.1
10	I	71	SER	5.1
10	I	126	SER	5.0
22	V	10	ARG	4.9
20	S	71	LEU	4.9
11	J	72	VAL	4.8
6	E	73	ASN	4.7
11	J	71	LEU	4.7
21	T	67	ALA	4.6

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Mol	Chain	Res	Type	RSRZ
21	T	30	LYS	4.6
20	S	52	TYR	4.6
15	N	31	ARG	4.6
18	Q	102	GLY	4.5
21	T	80	ARG	4.5
10	I	65	VAL	4.5
12	K	29	ILE	4.5
10	I	105	ASP	4.4
11	J	70	ARG	4.4
17	P	25	ARG	4.3
22	V	14	TRP	4.2
10	I	68	GLY	4.2
21	T	20	LEU	4.2
10	I	15	ALA	4.2
10	I	70	LYS	4.1
21	T	72	LEU	4.1
20	S	38	SER	4.1
8	G	156	TRP	4.1
20	S	32	LYS	4.0
11	J	64	GLU	3.9
14	M	23	TYR	3.9
12	K	122	LYS	3.9
10	I	8	GLY	3.9
22	V	17	THR	3.9
14	M	16	ASP	3.9
12	K	51	LYS	3.8
20	S	31	ILE	3.8
21	T	75	ASN	3.8
14	M	102	ARG	3.8
14	M	21	TYR	3.8
22	V	15	ARG	3.8
1	A	990	C	3.8
21	T	28	ALA	3.8
2	1	6	A	3.7
20	S	35	SER	3.7
15	N	21	TYR	3.7
12	K	50	TYR	3.7
20	S	72	GLY	3.6
5	D	192	GLU	3.6
21	T	76	ALA	3.6
17	P	17	TYR	3.6
2	2	8	A	3.6

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Mol	Chain	Res	Type	RSRZ
12	K	28	THR	3.6
13	L	32	PHE	3.6
10	I	121	ARG	3.6
11	J	39	PRO	3.6
11	J	6	ILE	3.5
21	T	68	LYS	3.5
8	G	32	ARG	3.5
8	G	62	PHE	3.5
22	V	3	LYS	3.5
21	T	71	THR	3.5
21	T	17	ARG	3.5
1	A	1129	C	3.5
20	S	69	HIS	3.5
21	T	104	LEU	3.4
11	J	54	PHE	3.4
21	T	12	ALA	3.4
10	I	9	ARG	3.4
10	I	106	ALA	3.4
22	V	24	ARG	3.4
11	J	38	ILE	3.4
8	G	26	PHE	3.3
14	M	101	GLN	3.3
14	M	114	ARG	3.3
6	E	72	GLN	3.2
3	B	160	ASP	3.2
1	A	461	C	3.2
1	A	978	A	3.2
20	S	33	THR	3.2
21	T	64	ASP	3.2
4	C	14	ILE	3.1
22	V	23	PRO	3.1
11	J	55	LYS	3.1
14	M	99	ARG	3.1
10	I	74	ILE	3.1
22	V	13	ILE	3.1
10	I	115	GLY	3.0
18	Q	44	ALA	3.0
21	T	10	LEU	3.0
10	I	83	ARG	3.0
21	T	70	SER	3.0
10	I	120	ARG	3.0
10	I	19	LEU	3.0

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Mol	Chain	Res	Type	RSRZ
10	I	111	ARG	3.0
14	M	123	ALA	3.0
8	G	33	ASP	3.0
12	K	118	GLY	3.0
15	N	15	LYS	2.9
20	S	50	ALA	2.9
10	I	42	ARG	2.9
15	N	19	ARG	2.9
10	I	30	GLY	2.9
21	T	101	GLY	2.9
10	I	64	THR	2.9
10	I	73	GLN	2.9
20	S	57	HIS	2.9
18	Q	43	LEU	2.9
12	K	21	ILE	2.9
4	C	207	VAL	2.9
11	J	34	VAL	2.9
20	S	40	ILE	2.8
21	T	8	ARG	2.9
8	G	84	ASN	2.8
21	T	77	ALA	2.8
11	J	66	ARG	2.8
18	Q	88	TYR	2.8
21	T	16	HIS	2.8
8	G	35	LYS	2.8
21	T	15	ARG	2.8
15	N	30	ALA	2.8
14	M	11	ARG	2.8
1	A	1224	G	2.8
20	S	75	ALA	2.8
5	D	31	CYS	2.7
14	M	100	GLY	2.7
22	V	20	LYS	2.7
22	V	9	ARG	2.7
4	C	178	LEU	2.7
20	S	29	ARG	2.7
10	I	125	TYR	2.7
12	K	26	ASN	2.7
15	N	37	PHE	2.7
15	N	18	VAL	2.7
11	J	50	ILE	2.7
1	A	977	A	2.7

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Mol	Chain	Res	Type	RSRZ
13	L	29	GLY	2.6
14	M	19	LEU	2.6
21	T	24	LEU	2.6
17	P	41	PRO	2.6
3	B	190	THR	2.6
11	J	36	GLY	2.6
12	K	123	LYS	2.6
10	I	77	ILE	2.6
20	S	49	ILE	2.6
10	I	75	ASP	2.6
5	D	87	GLY	2.6
21	T	11	SER	2.6
20	S	4	SER	2.6
9	H	2	LEU	2.5
1	A	331	G	2.5
21	T	26	ASN	2.5
8	G	43	PHE	2.5
15	N	16	PHE	2.5
21	T	21	LYS	2.5
6	E	147	ASP	2.5
11	J	65	LEU	2.5
1	A	1543	C	2.5
1	A	1017	G	2.5
12	K	27	ASN	2.5
22	V	12	LYS	2.5
1	A	1286	A	2.5
8	G	85	TYR	2.5
1	A	991	U	2.4
14	M	15	VAL	2.4
21	T	25	ARG	2.4
5	D	6	GLY	2.4
11	J	47	PHE	2.4
12	K	44	SER	2.4
16	O	50	HIS	2.4
21	T	63	ILE	2.4
10	I	116	LYS	2.4
5	D	167	GLY	2.4
8	G	86	GLN	2.4
12	K	125	PHE	2.4
21	T	90	GLN	2.4
12	K	119	CYS	2.3
21	T	81	LYS	2.3

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Mol	Chain	Res	Type	RSRZ
10	I	13	ALA	2.3
1	A	104	G	2.3
13	L	120	TYR	2.3
21	T	74	LYS	2.3
20	S	34	TRP	2.3
6	E	38	GLN	2.3
22	V	8	THR	2.3
18	Q	68	ARG	2.3
10	I	124	GLN	2.3
1	A	351	G	2.3
1	A	1124	G	2.3
1	A	1216	G	2.3
1	A	1362	C	2.3
10	I	127	LYS	2.3
10	I	10	ARG	2.3
1	A	4	U	2.3
10	I	122	ALA	2.3
6	E	64	ARG	2.3
13	L	72	GLY	2.3
21	T	86	ARG	2.3
1	A	108	G	2.3
5	D	91	SER	2.3
17	P	26	ARG	2.3
6	E	65	ASN	2.3
6	E	6	PHE	2.3
6	E	56	GLN	2.3
5	D	89	THR	2.3
12	K	31	THR	2.3
1	A	330	C	2.2
12	K	14	VAL	2.2
6	E	68	GLU	2.2
10	I	63	ILE	2.2
20	S	70	LYS	2.2
14	M	17	VAL	2.2
18	Q	11	VAL	2.2
11	J	63	PHE	2.2
3	B	128	GLU	2.2
18	Q	71	PHE	2.2
16	O	89	GLY	2.2
13	L	89	ARG	2.2
4	C	13	GLY	2.1
11	J	43	ARG	2.1

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Mol	Chain	Res	Type	RSRZ
15	N	3	ARG	2.1
15	N	23	ARG	2.1
13	L	85	ILE	2.1
7	F	63	TYR	2.1
10	I	96	LEU	2.1
17	P	39	TYR	2.1
1	A	81	U	2.1
5	D	4	TYR	2.1
9	H	30	ARG	2.1
1	A	164	U	2.1
10	I	12	GLU	2.1
10	I	117	HIS	2.1
18	Q	92	ARG	2.1
12	K	30	VAL	2.1
10	I	6	GLY	2.1
14	M	98	VAL	2.1
4	C	206	GLU	2.1
13	L	68	ALA	2.1
14	M	2	ALA	2.1
14	M	106	ASN	2.1
20	S	73	GLU	2.1
2	1	5	G	2.1
21	T	69	GLY	2.1
10	I	47	LEU	2.1
21	T	23	ARG	2.1
6	E	74	GLY	2.1
5	D	26	CYS	2.1
21	T	87	LYS	2.1
13	L	33	ARG	2.0
1	A	380	G	2.0
11	J	7	LYS	2.0
3	B	9	GLU	2.0
13	L	31	PRO	2.0
7	F	97	PHE	2.0
18	Q	101	ARG	2.0
12	K	124	LYS	2.0
15	N	34	TYR	2.0
1	A	993	G	2.0
11	J	5	ARG	2.0
13	L	99	HIS	2.0
7	F	89	MET	2.0
2	2	7	G	2.0

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Mol	Chain	Res	Type	RSRZ
3	B	7	VAL	2.0
6	E	36	ASP	2.0
3	B	16	HIS	2.0

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

There are no non-standard protein/DNA/RNA residues in this entry.

6.3 Carbohydrates (i)

There are no carbohydrates 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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. 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	LLDF	B-factors(Å^2)	Q<0.9
23	ZN	D	210	1/1	0.97	0.34	-0.45	85,85,85,85	0
23	ZN	N	62	1/1	0.98	0.10	-1.18	87,87,87,87	0

6.5 Other polymers (i)

There are no such residues in this entry.