



Full wwPDB X-ray Structure Validation Report i

Feb 27, 2014 – 01:35 PM GMT

PDB ID : 4GD2
Title : Structures of the bacterial ribosome in classical and hybrid states of tRNA binding
Authors : Dunkle, J.A.; Wang, L.; Feldman, M.B.; Pulk, A.; Chen, V.B.; Kapral, G.J.; Noeske, J.; Richardson, J.S.; Blanchard, S.C.; Cate, J.H.D.
Deposited on : 2012-07-31
Resolution : 3.00 Å(reported)

This is a full wwPDB 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/ValidationPDFNotes.html>

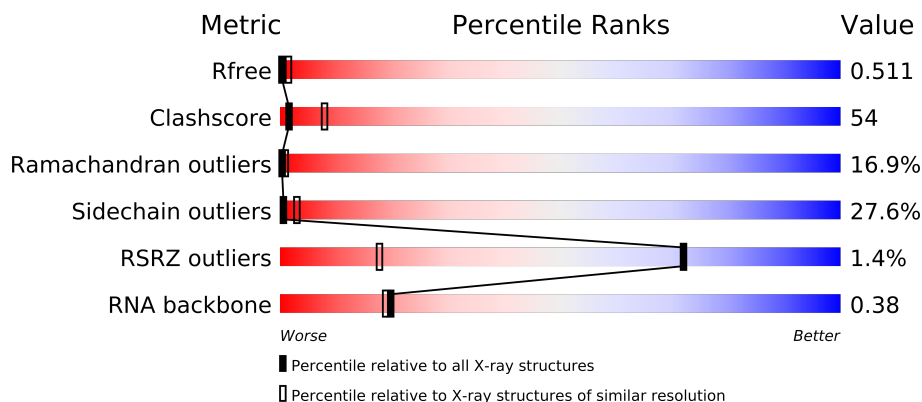
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity	:	4.02b-467
Mogul	:	1.15 2013
Xtriage (Phenix)	:	dev-1323
EDS	:	stable22639
Percentile statistics	:	21963
Refmac	:	5.8.0049
CCP4	:	6.3.0 (Settle)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP)	:	stable22683

1 Overall quality at a glance

The reported resolution of this entry is 3.00 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	66092	1216 (3.00-3.00)
Clashscore	79885	1594 (3.00-3.00)
Ramachandran outliers	78287	1537 (3.00-3.00)
Sidechain outliers	78261	1540 (3.00-3.00)
RSRZ outliers	66119	1217 (3.00-3.00)
RNA backbone	1838	1070 (3.50-2.50)

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. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Mol	Chain	Length	Quality of chain
1	A	1539	
2	B	218	
3	C	206	
4	D	205	
5	E	150	
6	F	100	
7	G	151	
8	H	129	
9	I	127	
10	J	98	
11	K	117	
12	L	123	

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Mol	Chain	Length	Quality of chain
13	M	114	
14	N	100	
15	O	88	
16	P	82	
17	Q	80	
18	R	55	
19	S	79	
20	T	85	
21	U	51	
22	V	76	
23	X	16	

The following table lists non-polymeric compounds that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Geometry	Electron density
24	MG	A	1615	-	X
24	MG	A	1627	-	X
24	MG	A	1633	-	X
24	MG	A	1637	-	X
24	MG	A	1638	-	X
24	MG	A	1646	-	X
24	MG	A	1647	-	X
24	MG	A	1650	-	X
24	MG	A	1651	-	X
24	MG	A	1654	-	X
24	MG	A	1655	-	X

2 Entry composition

There are 25 unique types of molecules in this entry. The entry contains 53792 atoms, of which 0 are hydrogen and 0 are deuterium.

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 rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	1539	Total	C	N	O	P	0	0	0
			33015	14725	6052	10699	1539			

- Molecule 2 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	218	Total	C	N	O	S	0	0	0
			1705	1081	305	312	7			

- Molecule 3 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	206	Total	C	N	O	S	0	0	0
			1625	1028	305	289	3			

- Molecule 4 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	205	Total	C	N	O	S	0	0	0
			1643	1026	315	298	4			

- Molecule 5 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	150	Total	C	N	O	S	0	0	0
			1106	687	211	202	6			

- Molecule 6 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	100	Total	C	N	O	S	0	0	0
			818	515	148	149	6			

- Molecule 7 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	G	151	Total	C	N	O	S	0	0	0
			1182	735	227	216	4			

- Molecule 8 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	129	Total	C	N	O	S	0	0	0
			979	616	173	184	6			

- Molecule 9 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	I	127	Total	C	N	O	S	0	0	0
			1022	634	206	179	3			

- Molecule 10 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	98	Total	C	N	O	S	0	0	0
			787	493	150	143	1			

- Molecule 11 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	117	Total	C	N	O	S	0	0	0
			877	540	174	160	3			

- Molecule 12 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	123	Total	C	N	O	S	0	0	0
			955	590	196	165	4			

- Molecule 13 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	M	114	Total	C	N	O	S	0	0	0
			884	546	178	157	3			

- Molecule 14 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	N	96	Total	C	N	O	S	0	0	0
			774	483	160	128	3			

- Molecule 15 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	O	88	Total	C	N	O	S	0	0	0
			714	439	144	130	1			

- Molecule 16 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	P	82	Total	C	N	O	S	0	0	0
			649	406	128	114	1			

- Molecule 17 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	Q	80	Total	C	N	O	S	0	0	0
			649	411	121	114	3			

- Molecule 18 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	R	55	Total	C	N	O	0	0	0
			456	288	86	82			

- Molecule 19 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	S	79	Total	C	N	O	S	0	0	0
			638	408	120	108	2			

- Molecule 20 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	T	85	Total	C	N	O	S	0	0	0
			665	411	137	114	3			

- Molecule 21 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	U	51	Total	C	N	O	S	0	0	0
			426	265	86	74	1			

- Molecule 22 is a RNA chain called phenylalanine specific transfer RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	V	76	Total	C	N	O	P	0	0	0
			1623	723	290	534	76			

- Molecule 23 is a RNA chain called messenger RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	X	16	Total	C	N	O	P	0	0	0
			346	155	66	109	16			

- Molecule 24 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
24	A	56	Total	Mg	0	0
			56	56		

- Molecule 25 is water.

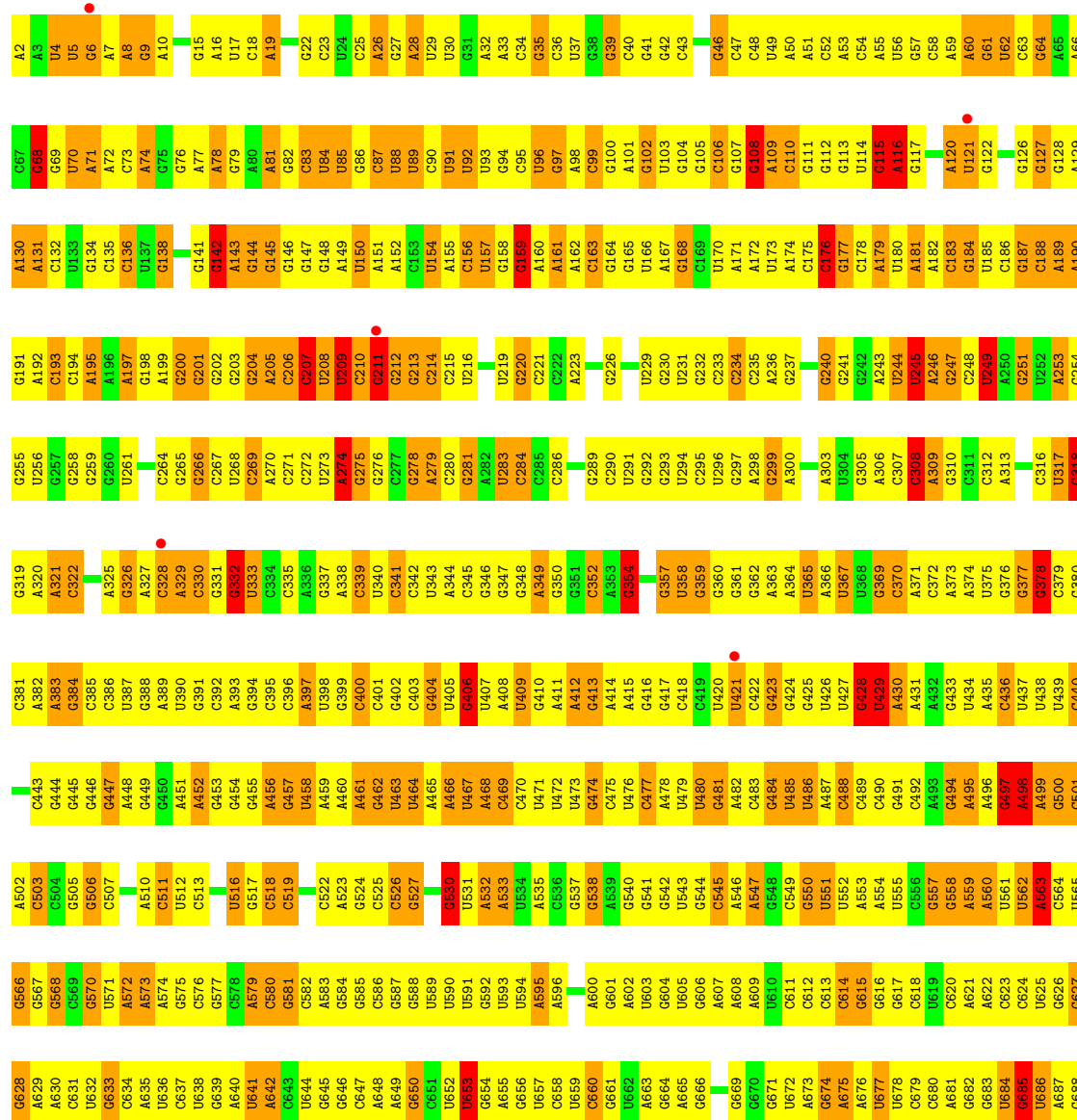
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
25	A	190	Total	O	0	0
			190	190		
25	L	1	Total	O	0	0
			1	1		
25	N	5	Total	O	0	0
			5	5		
25	U	2	Total	O	0	0
			2	2		

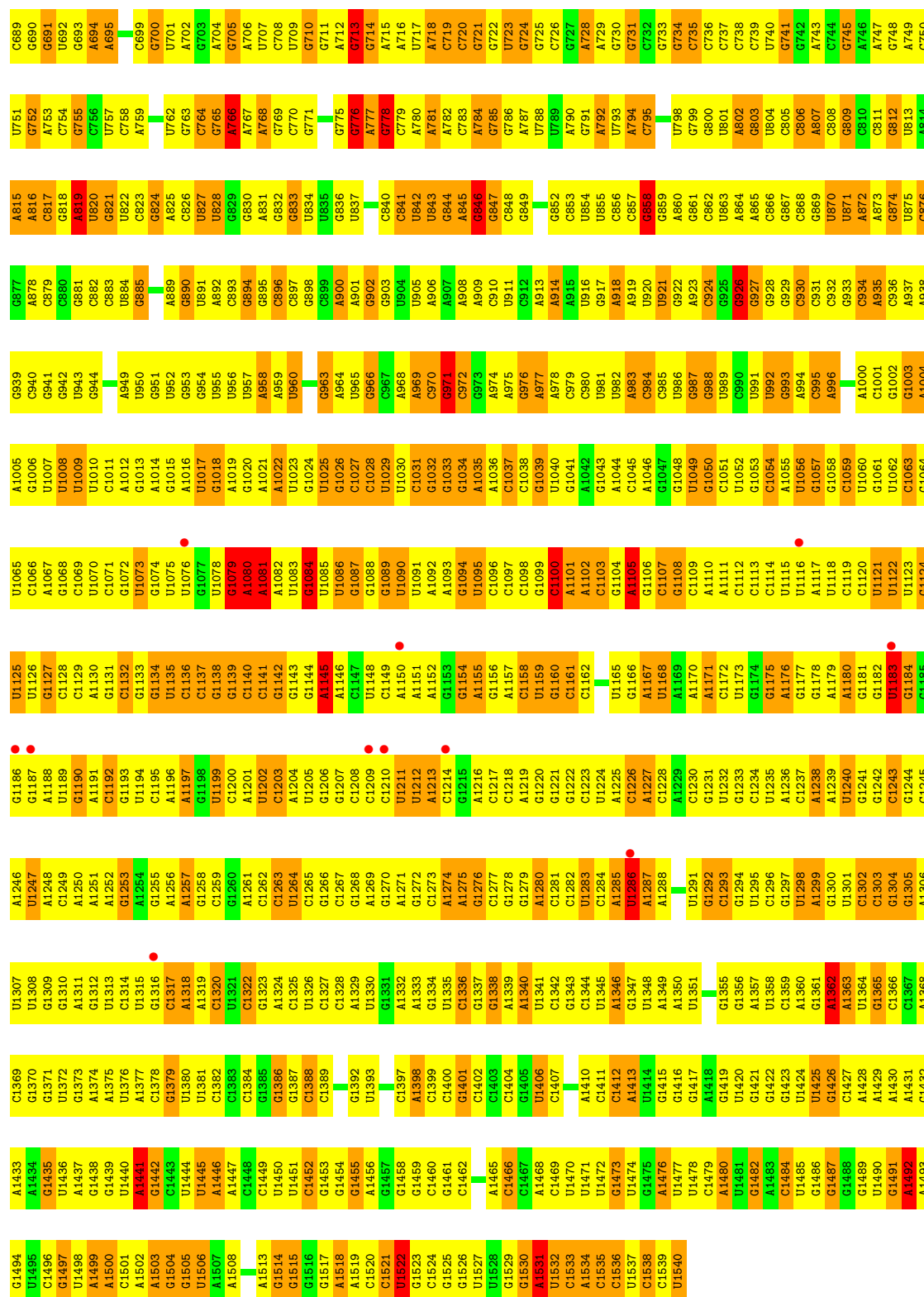
3 Residue-property plots

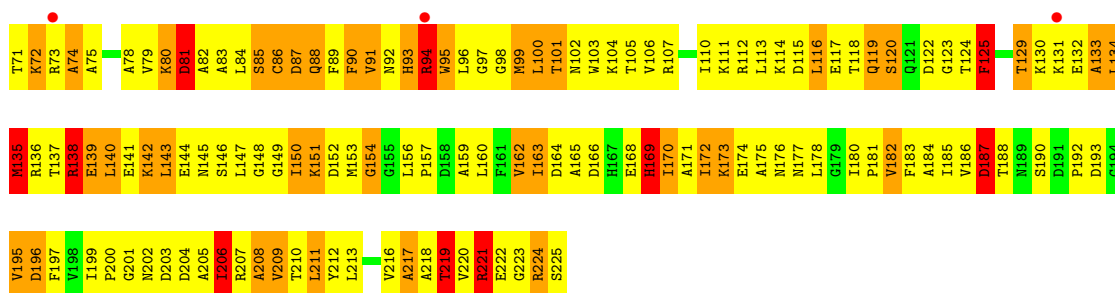
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according 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 rRNA

Chain A: 

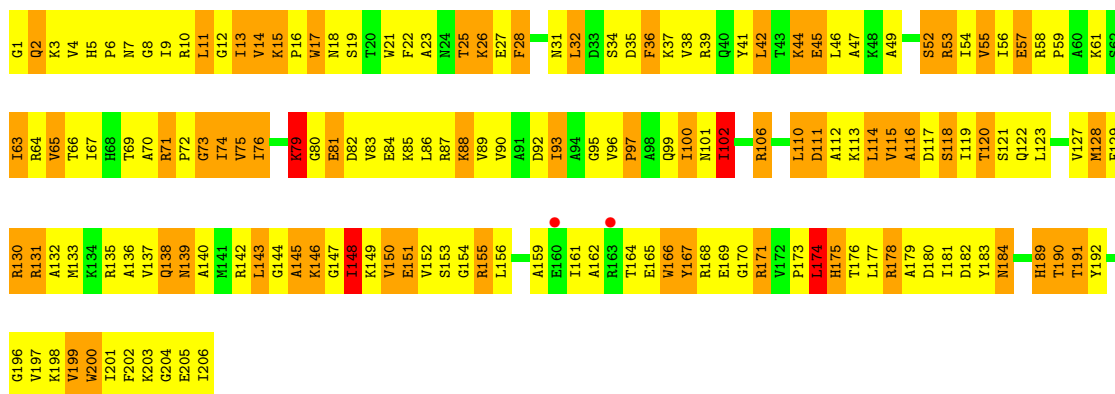






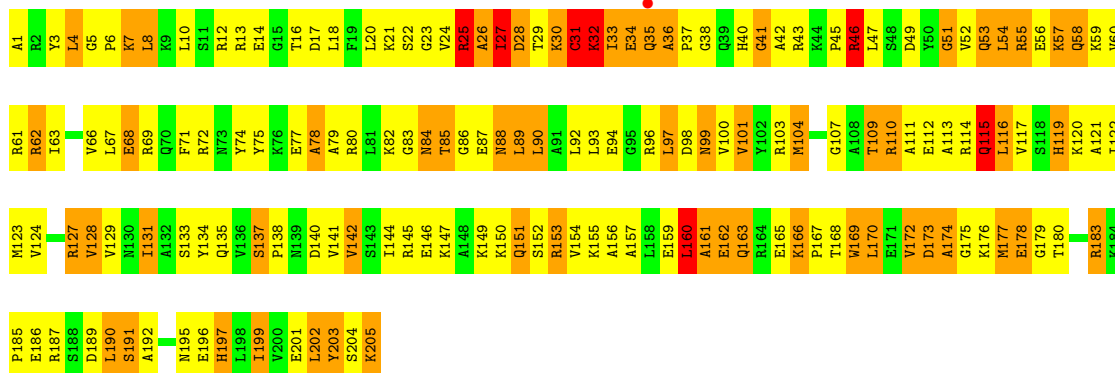
- Molecule 3: 30S ribosomal protein S3

Chain C:



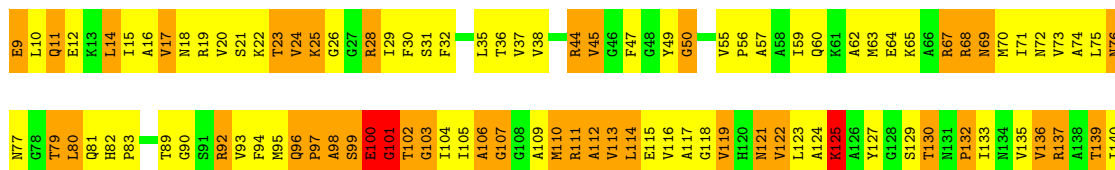
- Molecule 4: 30S ribosomal protein S4

Chain D:



- Molecule 5: 30S ribosomal protein S5

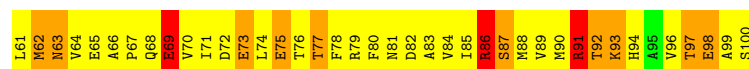
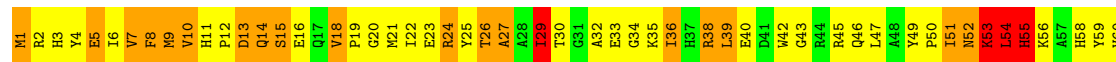
Chain E:





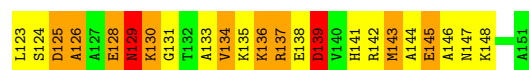
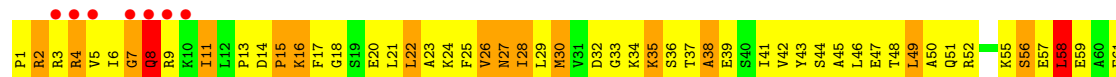
• Molecule 6: 30S ribosomal protein S6

Chain F:



• Molecule 7: 30S ribosomal protein S7

Chain G:



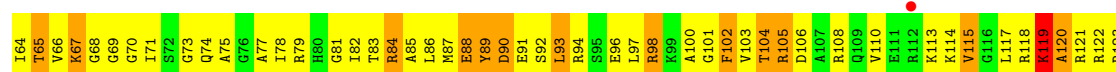
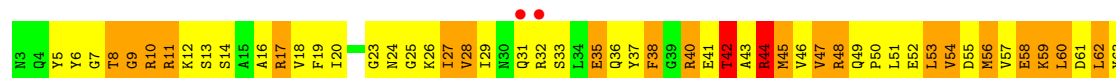
• Molecule 8: 30S ribosomal protein S8

Chain H:



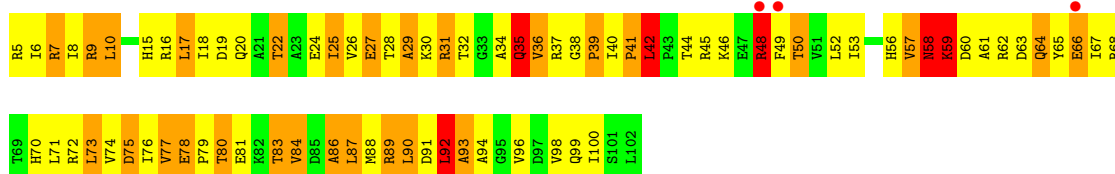
• Molecule 9: 30S ribosomal protein S9

Chain I:



• Molecule 10: 30S ribosomal protein S10

Chain J:

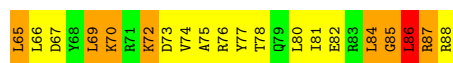


• Molecule 11: 30S ribosomal protein S11

Chain K:

• Molecule 12: 30S ribosomal protein S12

Chain L:



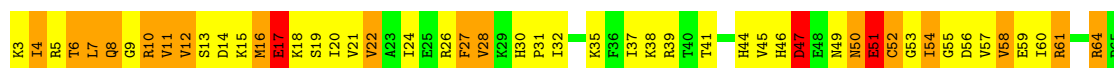
- Molecule 16: 30S ribosomal protein S16

Chain P:



- Molecule 17: 30S ribosomal protein S17

Chain Q:



- Molecule 18: 30S ribosomal protein S18

Chain R:



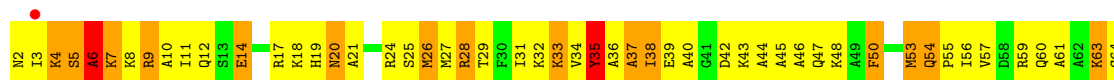
- Molecule 19: 30S ribosomal protein S19

Chain S:



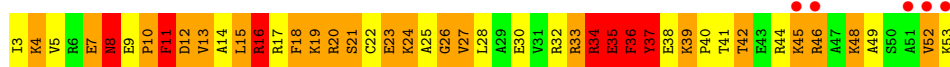
- Molecule 20: 30S ribosomal protein S20

Chain T:



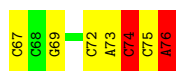
- Molecule 21: 30S ribosomal protein S21

Chain U:



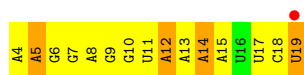
- Molecule 22: phenylalanine specific transfer RNA

Chain V:



- Molecule 23: messenger RNA

Chain X:



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	211.67Å 438.07Å 613.42Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	40.00 – 3.00 69.21 – 3.00	Depositor EDS
% Data completeness (in resolution range)	(Not available) (40.00-3.00) 83.5 (69.21-3.00)	Depositor EDS
R_{merge}	0.19	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.58 (at 3.01Å)	Xtriage
Refinement program	PHENIX	Depositor
R, R_{free}	0.202 , 0.260 0.503 , 0.511	Depositor DCC
R_{free} test set	19047 reflections (2.03%)	DCC
Wilson B-factor (Å ²)	44.7	Xtriage
Anisotropy	0.180	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.21 , 36.5	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning	$\langle L \rangle = 0.46$, $\langle L^2 \rangle = 0.28$	Xtriage
Outliers	0 of 938380 reflections	Xtriage
F_o, F_c correlation	0.37	EDS
Total number of atoms	53792	wwPDB-VP
Average B, all atoms (Å ²)	42.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.44% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

5 Model quality

5.1 Standard geometry

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

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	0.86	8/36966 (0.0%)	1.30	335/57666 (0.6%)
2	B	0.54	0/1736	0.72	0/2338
3	C	0.51	0/1652	0.72	1/2225 (0.0%)
4	D	0.65	0/1665	0.80	1/2227 (0.0%)
5	E	0.62	0/1119	0.85	0/1504
6	F	0.55	0/836	0.80	1/1128 (0.1%)
7	G	0.48	0/1196	0.67	0/1602
8	H	0.58	0/989	0.74	0/1326
9	I	0.53	0/1034	0.75	0/1375
10	J	0.52	0/797	0.76	1/1077 (0.1%)
11	K	0.59	0/893	0.75	0/1205
12	L	0.72	0/969	0.92	0/1300
13	M	0.50	0/893	0.71	0/1193
14	N	0.51	0/785	0.65	0/1043
15	O	0.53	0/722	0.73	0/964
16	P	0.61	0/659	0.79	1/884 (0.1%)
17	Q	0.62	0/658	0.76	0/881
18	R	0.54	0/463	0.68	0/621
19	S	0.55	0/653	0.67	0/877
20	T	0.57	0/671	0.73	0/888
21	U	0.78	0/431	0.85	0/570
22	V	0.74	1/1813 (0.1%)	1.22	10/2823 (0.4%)
23	X	0.73	0/388	1.09	0/603
All	All	0.77	9/57988 (0.0%)	1.17	350/86320 (0.4%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
4	D	0	1
5	E	0	2
6	F	0	1
11	K	0	2
12	L	0	2
20	T	0	1
21	U	0	1
All	All	0	10

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	V	1	G	OP3-P	-9.45	1.49	1.61
1	A	283	U	C2-N3	5.96	1.42	1.37
1	A	816	A	N9-C4	-5.93	1.34	1.37
1	A	397	A	N3-C4	-5.75	1.31	1.34
1	A	1514	G	C5-C4	-5.71	1.34	1.38
1	A	1514	G	C5-C6	-5.33	1.37	1.42
1	A	116	A	N9-C4	-5.07	1.34	1.37
1	A	1105	A	N9-C4	5.04	1.40	1.37
1	A	1514	G	C6-N1	-5.02	1.36	1.39

All (350) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	245	U	C2-N1-C1'	-13.58	101.40	117.70
1	A	283	U	C2-N1-C1'	10.34	130.10	117.70
1	A	245	U	C6-N1-C1'	10.30	135.62	121.20
1	A	677	U	N3-C2-O2	-10.19	115.07	122.20
1	A	713	G	N1-C6-O6	-10.01	113.89	119.90
1	A	136	C	C6-N1-C2	9.31	124.02	120.30
1	A	691	G	N1-C6-O6	-9.29	114.33	119.90
1	A	335	C	C6-N1-C2	-9.27	116.59	120.30
1	A	677	U	C2-N1-C1'	9.13	128.66	117.70
1	A	910	C	C6-N1-C2	-9.12	116.65	120.30
1	A	322	C	N3-C4-C5	8.98	125.49	121.90
1	A	677	U	C6-N1-C2	-8.97	115.62	121.00
1	A	176	C	C6-N1-C2	8.65	123.76	120.30
1	A	846	G	N3-C4-C5	-8.52	124.34	128.60
1	A	1484	C	C6-N1-C2	8.50	123.70	120.30
1	A	109	A	C2-N3-C4	-8.20	106.50	110.60
1	A	365	U	C5-C6-N1	-8.04	118.68	122.70
1	A	691	G	C5-C6-O6	7.94	133.37	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1482	G	N3-C4-N9	7.93	130.76	126.00
1	A	926	G	C5-C6-O6	7.87	133.32	128.60
1	A	297	G	N1-C6-O6	7.75	124.55	119.90
1	A	642	A	C8-N9-C4	7.66	108.86	105.80
1	A	397	A	N1-C2-N3	7.64	133.12	129.30
1	A	297	G	C2-N3-C4	-7.54	108.13	111.90
1	A	283	U	C6-N1-C2	-7.54	116.48	121.00
1	A	551	U	N1-C2-O2	-7.51	117.55	122.80
1	A	503	C	N1-C2-O2	-7.48	114.41	118.90
1	A	1226	C	C6-N1-C2	-7.47	117.31	120.30
1	A	677	U	N1-C2-O2	7.46	128.02	122.80
1	A	1482	G	N3-C4-C5	-7.45	124.88	128.60
1	A	705	G	C5-C6-O6	7.44	133.06	128.60
1	A	823	C	N1-C2-O2	-7.38	114.47	118.90
1	A	876	C	C6-N1-C2	7.27	123.21	120.30
1	A	488	C	C6-N1-C2	-7.24	117.40	120.30
1	A	322	C	C6-N1-C2	7.19	123.18	120.30
1	A	1520	C	N1-C2-O2	-7.18	114.59	118.90
1	A	209	U	C2-N1-C1'	7.18	126.31	117.70
1	A	322	C	C2-N3-C4	-7.17	116.31	119.90
1	A	1504	G	C8-N9-C4	7.17	109.27	106.40
1	A	530	G	C4-C5-N7	7.09	113.64	110.80
1	A	882	C	C6-N1-C2	7.07	123.13	120.30
1	A	741	G	N1-C6-O6	7.01	124.10	119.90
1	A	926	G	C4-C5-N7	-6.99	108.00	110.80
1	A	713	G	C5-C6-O6	6.96	132.78	128.60
1	A	1515	G	N1-C6-O6	6.96	124.07	119.90
1	A	971	G	N3-C4-N9	6.93	130.16	126.00
1	A	1525	G	C8-N9-C4	6.92	109.17	106.40
1	A	297	G	C8-N9-C4	6.88	109.15	106.40
1	A	771	G	N9-C4-C5	6.88	108.15	105.40
1	A	586	C	N1-C2-O2	-6.86	114.78	118.90
1	A	771	G	N1-C6-O6	-6.83	115.80	119.90
1	A	963	G	N1-C6-O6	-6.83	115.80	119.90
1	A	677	U	C5-C6-N1	6.79	126.10	122.70
6	F	86	ARG	NE-CZ-NH1	6.79	123.69	120.30
1	A	117	G	N3-C4-C5	-6.77	125.22	128.60
1	A	359	G	C5-C6-O6	-6.76	124.54	128.60
22	V	74	C	C2-N1-C1'	6.75	126.23	118.80
1	A	705	G	N1-C6-O6	-6.74	115.86	119.90
1	A	428	G	C4-N9-C1'	-6.73	117.75	126.50
1	A	378	G	N3-C2-N2	6.71	124.60	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1127	G	N3-C4-N9	6.71	130.03	126.00
1	A	563	A	C5-N7-C8	-6.71	100.55	103.90
1	A	357	G	C8-N9-C4	6.69	109.08	106.40
1	A	431	A	C8-N9-C4	6.67	108.47	105.80
1	A	1482	G	C8-N9-C1'	-6.66	118.34	127.00
1	A	480	U	C6-N1-C2	6.66	125.00	121.00
1	A	804	U	N3-C2-O2	-6.66	117.54	122.20
1	A	110	C	C6-N1-C1'	6.66	128.79	120.80
1	A	1480	A	N1-C6-N6	6.64	122.58	118.60
1	A	106	C	N1-C2-O2	-6.63	114.92	118.90
1	A	1482	G	C4-N9-C1'	6.62	135.11	126.50
1	A	530	G	C6-C5-N7	-6.59	126.44	130.40
1	A	46	G	N3-C4-C5	6.58	131.89	128.60
1	A	378	G	N3-C4-N9	6.57	129.94	126.00
1	A	924	C	C6-N1-C2	6.57	122.93	120.30
1	A	1406	U	C2-N1-C1'	-6.56	109.82	117.70
1	A	812	G	N1-C6-O6	6.56	123.83	119.90
1	A	110	C	C2-N1-C1'	-6.55	111.60	118.80
1	A	896	C	C2-N3-C4	-6.55	116.63	119.90
1	A	406	G	N3-C4-N9	6.52	129.91	126.00
1	A	1531	A	C8-N9-C4	6.52	108.41	105.80
1	A	246	A	N1-C6-N6	6.51	122.50	118.60
1	A	359	G	N1-C6-O6	6.47	123.78	119.90
1	A	615	G	N3-C4-C5	-6.47	125.37	128.60
1	A	278	G	N3-C4-N9	-6.46	122.12	126.00
1	A	1063	C	C6-N1-C2	6.46	122.88	120.30
1	A	61	G	N3-C4-N9	6.44	129.87	126.00
22	V	49	C	N1-C2-O2	-6.43	115.04	118.90
1	A	1484	C	N3-C2-O2	6.43	126.40	121.90
1	A	615	G	N1-C6-O6	-6.43	116.04	119.90
1	A	1530	G	N3-C4-C5	6.41	131.80	128.60
1	A	1492	A	C8-N9-C4	-6.40	103.24	105.80
1	A	728	A	C8-N9-C4	-6.40	103.24	105.80
1	A	1521	C	C6-N1-C2	6.39	122.86	120.30
1	A	322	C	C5-C6-N1	-6.38	117.81	121.00
1	A	530	G	N7-C8-N9	6.35	116.28	113.10
1	A	452	A	C2-N3-C4	-6.33	107.43	110.60
1	A	188	C	C6-N1-C2	-6.33	117.77	120.30
1	A	278	G	C8-N9-C1'	6.33	135.22	127.00
10	J	48	ARG	NE-CZ-NH1	6.31	123.46	120.30
1	A	278	G	C4-N9-C1'	-6.31	118.30	126.50
1	A	428	G	C8-N9-C1'	6.31	135.20	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	V	76	A	C8-N9-C4	6.30	108.32	105.80
1	A	1466	C	C6-N1-C2	6.29	122.81	120.30
1	A	400	C	N1-C2-O2	-6.26	115.14	118.90
1	A	106	C	C6-N1-C2	6.23	122.79	120.30
1	A	1112	C	C6-N1-C2	-6.21	117.81	120.30
1	A	530	G	C5-N7-C8	-6.20	101.20	104.30
1	A	735	C	C6-N1-C2	-6.19	117.83	120.30
1	A	283	U	C5-C6-N1	6.18	125.79	122.70
1	A	871	U	N1-C2-O2	6.17	127.12	122.80
1	A	378	G	N9-C4-C5	-6.17	102.93	105.40
1	A	538	G	N1-C6-O6	-6.10	116.24	119.90
1	A	326	G	C5-C6-O6	6.10	132.26	128.60
1	A	1480	A	C5-C6-N1	-6.09	114.65	117.70
1	A	823	C	N3-C2-O2	6.08	126.16	121.90
1	A	397	A	C6-N1-C2	-6.04	114.98	118.60
1	A	1080	A	C8-N9-C4	-6.03	103.39	105.80
22	V	29	G	N3-C4-C5	6.02	131.61	128.60
1	A	987	G	N3-C4-C5	-6.01	125.60	128.60
1	A	1286	U	C2-N1-C1'	5.99	124.89	117.70
1	A	858	G	C5-C6-O6	5.98	132.19	128.60
1	A	713	G	C4-C5-N7	-5.97	108.41	110.80
1	A	788	U	N3-C2-O2	5.97	126.38	122.20
1	A	890	G	C8-N9-C4	5.93	108.77	106.40
1	A	365	U	C2-N1-C1'	-5.92	110.59	117.70
1	A	1433	A	C4-C5-C6	5.92	119.96	117.00
1	A	286	C	C6-N1-C2	5.92	122.67	120.30
1	A	134	G	C8-N9-C4	5.91	108.76	106.40
1	A	498	A	C8-N9-C4	5.90	108.16	105.80
1	A	429	U	N3-C2-O2	-5.89	118.08	122.20
1	A	1531	A	N9-C4-C5	-5.88	103.45	105.80
1	A	26	A	C6-N1-C2	-5.88	115.07	118.60
22	V	13	C	C6-N1-C2	5.88	122.65	120.30
1	A	26	A	C5-C6-N1	5.87	120.64	117.70
1	A	1175	G	C4-N9-C1'	-5.86	118.88	126.50
1	A	1079	G	N3-C4-C5	-5.85	125.67	128.60
1	A	669	G	C8-N9-C4	-5.85	104.06	106.40
1	A	297	G	N9-C4-C5	-5.85	103.06	105.40
1	A	457	G	N3-C4-C5	-5.84	125.68	128.60
1	A	823	C	C6-N1-C2	5.83	122.63	120.30
22	V	40	C	N1-C2-O2	5.83	122.40	118.90
1	A	241	G	C8-N9-C4	-5.83	104.07	106.40
1	A	897	C	C6-N1-C2	5.82	122.63	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	68	G	C8-N9-C4	-5.82	104.07	106.40
1	A	858	G	N1-C6-O6	-5.82	116.41	119.90
1	A	64	G	N1-C6-O6	5.81	123.39	119.90
1	A	806	C	C6-N1-C2	-5.81	117.97	120.30
1	A	308	C	C6-N1-C2	-5.81	117.98	120.30
4	D	160	LEU	CA-CB-CG	5.80	128.65	115.30
1	A	1362	A	C8-N9-C4	5.79	108.12	105.80
1	A	299	G	N1-C6-O6	-5.78	116.43	119.90
1	A	400	C	C6-N1-C2	5.78	122.61	120.30
1	A	713	G	C6-C5-N7	5.75	133.85	130.40
1	A	1029	U	C2-N1-C1'	5.75	124.60	117.70
1	A	615	G	N3-C2-N2	5.74	123.92	119.90
1	A	357	G	N1-C6-O6	5.72	123.33	119.90
1	A	106	C	N3-C2-O2	5.72	125.91	121.90
1	A	1081	A	N1-C6-N6	5.72	122.03	118.60
1	A	846	G	N1-C6-O6	-5.72	116.47	119.90
1	A	1402	C	N1-C2-O2	-5.72	115.47	118.90
1	A	546	A	N1-C6-N6	-5.71	115.17	118.60
1	A	283	U	C6-N1-C1'	-5.71	113.21	121.20
1	A	109	A	N3-C4-C5	5.70	130.79	126.80
1	A	768	A	N1-C6-N6	5.70	122.02	118.60
1	A	971	G	N3-C4-C5	-5.69	125.76	128.60
1	A	145	G	N3-C4-N9	-5.68	122.59	126.00
1	A	1530	G	N3-C4-N9	-5.68	122.59	126.00
1	A	384	G	N1-C6-O6	-5.68	116.49	119.90
1	A	209	U	C6-N1-C1'	-5.68	113.25	121.20
1	A	1081	A	C4-C5-C6	5.67	119.84	117.00
1	A	771	G	C8-N9-C4	-5.67	104.13	106.40
1	A	795	C	C2-N3-C4	-5.67	117.07	119.90
1	A	1100	C	C6-N1-C2	-5.67	118.03	120.30
1	A	1108	G	C5-C6-O6	5.67	132.00	128.60
1	A	404	G	N3-C2-N2	5.66	123.86	119.90
1	A	563	A	N7-C8-N9	5.66	116.63	113.80
1	A	1476	A	C8-N9-C4	5.64	108.06	105.80
1	A	779	C	N3-C2-O2	5.63	125.84	121.90
1	A	211	G	N3-C2-N2	5.63	123.84	119.90
1	A	898	G	N3-C2-N2	-5.62	115.96	119.90
1	A	926	G	N9-C4-C5	5.62	107.65	105.40
1	A	377	G	C4-N9-C1'	5.62	133.81	126.50
1	A	497	G	C5-C6-N1	5.61	114.30	111.50
1	A	713	G	N9-C4-C5	5.61	107.64	105.40
1	A	846	G	C8-N9-C4	-5.60	104.16	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	274	A	C2-N3-C4	5.59	113.40	110.60
1	A	615	G	N3-C4-N9	5.59	129.36	126.00
1	A	110	C	N3-C4-C5	-5.59	119.66	121.90
1	A	685	G	C2-N3-C4	-5.59	109.11	111.90
1	A	863	U	C5-C4-O4	-5.59	122.55	125.90
1	A	1226	C	N3-C4-C5	-5.59	119.66	121.90
1	A	312	C	N1-C2-O2	-5.59	115.55	118.90
1	A	516	U	N3-C2-O2	-5.58	118.29	122.20
1	A	136	C	N3-C2-O2	5.57	125.80	121.90
1	A	357	G	N9-C4-C5	-5.56	103.17	105.40
1	A	770	C	N3-C2-O2	-5.56	118.01	121.90
1	A	234	C	N3-C2-O2	5.56	125.79	121.90
1	A	1433	A	C8-N9-C4	-5.56	103.58	105.80
16	P	52	LEU	CA-CB-CG	5.55	128.07	115.30
1	A	357	G	C5-C6-O6	-5.55	125.27	128.60
1	A	1406	U	C5-C6-N1	-5.54	119.93	122.70
1	A	875	U	C5-C4-O4	5.54	129.22	125.90
1	A	380	G	C5-C6-O6	-5.53	125.28	128.60
1	A	984	C	C6-N1-C2	5.52	122.51	120.30
1	A	1480	A	C2-N3-C4	-5.52	107.84	110.60
1	A	117	G	C8-N9-C4	-5.51	104.19	106.40
1	A	963	G	C4-C5-N7	-5.51	108.60	110.80
1	A	911	U	C5-C4-O4	5.51	129.20	125.90
1	A	778	G	C5-C6-O6	5.50	131.90	128.60
1	A	1515	G	C5-C6-N1	-5.50	108.75	111.50
1	A	779	C	N1-C2-O2	-5.49	115.61	118.90
1	A	1108	G	N1-C6-O6	-5.49	116.61	119.90
1	A	326	G	N1-C6-O6	-5.48	116.61	119.90
1	A	108	G	N3-C4-N9	-5.48	122.71	126.00
1	A	1145	A	N1-C6-N6	5.48	121.89	118.60
22	V	56	C	C6-N1-C2	-5.47	118.11	120.30
1	A	824	G	N3-C4-C5	5.47	131.34	128.60
1	A	109	A	C5-C6-N1	-5.46	114.97	117.70
1	A	653	U	N3-C2-O2	5.46	126.02	122.20
1	A	380	G	C8-N9-C4	5.46	108.58	106.40
1	A	388	G	N1-C6-O6	-5.46	116.63	119.90
1	A	1494	G	N3-C2-N2	-5.45	116.09	119.90
1	A	1522	U	N1-C2-O2	-5.45	118.99	122.80
1	A	26	A	C2-N3-C4	5.44	113.32	110.60
1	A	896	C	N1-C2-O2	-5.44	115.64	118.90
1	A	447	G	N3-C4-N9	5.43	129.26	126.00
1	A	642	A	N9-C4-C5	-5.43	103.63	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	776	G	N1-C6-O6	-5.43	116.64	119.90
1	A	400	C	N3-C2-O2	5.43	125.70	121.90
1	A	902	G	N1-C2-N2	-5.42	111.32	116.20
1	A	766	A	C8-N9-C4	5.42	107.97	105.80
1	A	1199	U	C2-N1-C1'	-5.42	111.20	117.70
1	A	781	A	C8-N9-C4	5.41	107.97	105.80
1	A	108	G	N1-C6-O6	-5.41	116.65	119.90
1	A	406	G	N3-C4-C5	-5.41	125.89	128.60
1	A	28	A	N1-C6-N6	5.41	121.84	118.60
1	A	714	G	C4-C5-N7	5.41	112.96	110.80
1	A	822	U	C6-N1-C2	5.41	124.24	121.00
3	C	174	LEU	CA-CB-CG	5.40	127.72	115.30
1	A	354	G	C4-N9-C1'	5.40	133.52	126.50
1	A	1190	G	C8-N9-C4	5.39	108.56	106.40
1	A	332	G	C5-C6-O6	-5.39	125.37	128.60
1	A	241	G	C5-C6-O6	5.38	131.83	128.60
1	A	611	C	C2-N3-C4	-5.38	117.21	119.90
1	A	220	G	N3-C4-N9	-5.38	122.77	126.00
1	A	563	A	C4-C5-N7	5.38	113.39	110.70
1	A	35	G	N3-C4-C5	-5.38	125.91	128.60
1	A	457	G	N3-C4-N9	5.38	129.22	126.00
1	A	358	U	N3-C2-O2	5.37	125.96	122.20
1	A	278	G	N3-C4-C5	5.36	131.28	128.60
1	A	566	G	N3-C4-N9	5.36	129.21	126.00
1	A	795	C	N1-C2-O2	-5.35	115.69	118.90
1	A	896	C	N1-C2-N3	5.35	122.95	119.20
22	V	62	C	N1-C2-O2	-5.35	115.69	118.90
1	A	365	U	N3-C4-O4	-5.34	115.66	119.40
1	A	823	C	C2-N1-C1'	-5.33	112.93	118.80
1	A	142	G	C4-N9-C1'	5.33	133.43	126.50
1	A	37	U	C6-N1-C2	5.33	124.20	121.00
1	A	1433	A	C6-C5-N7	-5.33	128.57	132.30
1	A	813	U	C5-C4-O4	-5.32	122.71	125.90
1	A	686	U	C2-N1-C1'	-5.32	111.32	117.70
1	A	563	A	C6-C5-N7	-5.32	128.58	132.30
1	A	987	G	C8-N9-C4	-5.31	104.28	106.40
1	A	115	G	C5-C6-N1	5.30	114.15	111.50
1	A	1441	A	C8-N9-C4	-5.30	103.68	105.80
22	V	74	C	C6-N1-C1'	-5.30	114.44	120.80
1	A	987	G	C4-N9-C1'	5.29	133.38	126.50
1	A	1504	G	C4-C5-C6	-5.28	115.63	118.80
1	A	249	U	N3-C2-O2	-5.27	118.51	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	281	G	N1-C6-O6	-5.27	116.74	119.90
1	A	310	G	N1-C6-O6	5.27	123.06	119.90
1	A	310	G	C5-C6-O6	-5.27	125.44	128.60
1	A	404	G	C5-C6-N1	5.27	114.13	111.50
1	A	1186	G	C8-N9-C4	5.26	108.51	106.40
22	V	30	G	N3-C4-C5	-5.26	125.97	128.60
1	A	142	G	N3-C4-N9	5.26	129.16	126.00
1	A	897	C	N3-C4-C5	5.25	124.00	121.90
1	A	501	C	C6-N1-C2	5.25	122.40	120.30
1	A	900	A	C5-C6-N6	5.24	127.89	123.70
1	A	1525	G	N9-C4-C5	-5.23	103.31	105.40
1	A	570	G	C8-N9-C4	-5.22	104.31	106.40
1	A	1504	G	N9-C4-C5	-5.22	103.31	105.40
1	A	480	U	N3-C2-O2	5.21	125.85	122.20
1	A	898	G	N3-C4-C5	5.21	131.21	128.60
1	A	1084	G	C5-C6-O6	-5.21	125.47	128.60
1	A	1515	G	C6-C5-N7	-5.21	127.27	130.40
1	A	241	G	N9-C4-C5	5.21	107.48	105.40
1	A	246	A	C5-C6-N6	-5.21	119.53	123.70
1	A	894	G	C2-N3-C4	-5.21	109.30	111.90
1	A	1504	G	N3-C4-C5	5.21	131.20	128.60
1	A	354	G	C6-C5-N7	-5.21	127.28	130.40
1	A	1303	C	C6-N1-C2	-5.20	118.22	120.30
1	A	926	G	N1-C6-O6	-5.20	116.78	119.90
1	A	1482	G	C4-C5-C6	5.19	121.92	118.80
1	A	117	G	N3-C4-N9	5.19	129.11	126.00
1	A	803	G	C4-C5-N7	-5.19	108.72	110.80
1	A	898	G	C4-N9-C1'	-5.19	119.76	126.50
1	A	1515	G	C4-C5-C6	5.18	121.91	118.80
1	A	211	G	N3-C4-N9	5.18	129.11	126.00
1	A	566	G	N3-C4-C5	-5.17	126.01	128.60
1	A	1081	A	C6-C5-N7	-5.17	128.68	132.30
1	A	771	G	C5-C6-O6	5.17	131.70	128.60
1	A	380	G	N9-C4-C5	-5.16	103.33	105.40
1	A	533	A	N1-C6-N6	5.16	121.69	118.60
1	A	60	A	N1-C6-N6	-5.15	115.51	118.60
1	A	1090	U	N3-C4-O4	-5.15	115.79	119.40
1	A	1514	G	C5-C6-O6	-5.15	125.51	128.60
1	A	804	U	C6-N1-C2	-5.14	117.91	121.00
1	A	318	G	C4-C5-N7	-5.14	108.74	110.80
1	A	819	A	C8-N9-C4	-5.14	103.74	105.80
1	A	1183	U	N3-C2-O2	-5.14	118.60	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1175	G	C8-N9-C1'	5.13	133.68	127.00
1	A	1522	U	C2-N1-C1'	-5.13	111.55	117.70
1	A	795	C	N1-C2-N3	5.12	122.78	119.20
1	A	159	G	C4-N9-C1'	5.11	133.15	126.50
1	A	1455	G	C8-N9-C1'	5.11	133.65	127.00
1	A	705	G	C4-C5-N7	-5.09	108.76	110.80
1	A	219	U	C2-N1-C1'	-5.09	111.60	117.70
1	A	428	G	N1-C2-N3	-5.08	120.85	123.90
1	A	545	C	N3-C4-C5	5.08	123.93	121.90
1	A	741	G	C8-N9-C4	5.08	108.43	106.40
1	A	1518	A	C4-C5-C6	5.08	119.54	117.00
1	A	1482	G	C6-C5-N7	-5.08	127.35	130.40
1	A	284	C	C6-N1-C2	5.07	122.33	120.30
1	A	821	G	C8-N9-C4	5.07	108.43	106.40
1	A	347	G	C4-N9-C1'	-5.06	119.92	126.50
1	A	245	U	C5-C6-N1	-5.05	120.17	122.70
1	A	60	A	C5-C6-N6	5.05	127.74	123.70
1	A	1035	A	N1-C6-N6	5.05	121.63	118.60
1	A	365	U	C5-C4-O4	5.05	128.93	125.90
1	A	807	A	C2-N3-C4	5.05	113.12	110.60
1	A	898	G	N3-C4-N9	-5.05	122.97	126.00
1	A	207	C	C2-N1-C1'	5.04	124.35	118.80
1	A	1480	A	C6-C5-N7	-5.04	128.77	132.30
1	A	1386	G	C4-N9-C1'	-5.04	119.95	126.50
1	A	377	G	N7-C8-N9	5.04	115.62	113.10
1	A	1494	G	N9-C4-C5	5.04	107.42	105.40
1	A	846	G	C4-C5-N7	-5.03	108.79	110.80
1	A	380	G	N1-C6-O6	5.03	122.92	119.90
1	A	1274	A	C8-N9-C4	-5.02	103.79	105.80
1	A	813	U	N1-C2-O2	-5.02	119.29	122.80
1	A	615	G	C2-N3-C4	5.02	114.41	111.90
1	A	656	G	C2-N3-C4	5.02	114.41	111.90
1	A	108	G	N9-C4-C5	5.01	107.41	105.40
1	A	447	G	N3-C4-C5	-5.01	126.09	128.60
1	A	109	A	C6-N1-C2	5.01	121.61	118.60
1	A	538	G	N3-C4-C5	-5.01	126.09	128.60
1	A	1484	C	N1-C2-O2	-5.01	115.89	118.90
1	A	1121	U	C5-C6-N1	5.00	125.20	122.70

There are no chirality outliers.

All (10) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	D	25	ARG	Peptide
5	E	101	GLY	Peptide
5	E	103	GLY	Peptide
6	F	54	LEU	Peptide
11	K	124	LYS	Peptide
11	K	125	LYS	Peptide
12	L	22	ALA	Peptide
12	L	33	CYS	Peptide
20	T	6	ALA	Peptide
21	U	34	ARG	Peptide

5.2 Close contacts ⓘ

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 hydrogens added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	33015	0	16617	2186	0
2	B	1705	0	1732	298	0
3	C	1625	0	1699	237	0
4	D	1643	0	1710	224	0
5	E	1106	0	1148	211	0
6	F	818	0	808	156	0
7	G	1182	0	1240	166	0
8	H	979	0	1034	119	0
9	I	1022	0	1070	186	0
10	J	787	0	828	140	0
11	K	877	0	887	136	0
12	L	955	0	1019	118	0
13	M	884	0	944	140	0
14	N	774	0	827	131	0
15	O	714	0	737	87	0
16	P	649	0	666	87	0
17	Q	649	0	691	103	0
18	R	456	0	478	57	0
19	S	638	0	665	96	0
20	T	665	0	714	129	0
21	U	426	0	449	119	0
22	V	1623	0	821	46	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
23	X	346	0	173	24	0
24	A	56	0	0	0	0
25	A	190	0	0	12	0
25	L	1	0	0	0	0
25	N	5	0	0	1	0
25	U	2	0	0	0	0
All	All	53792	0	36957	4869	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 54.

All (4869) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1053:G:H4'	1:A:1054:C:H5'	1.29	1.11
12:L:33:CYS:HA	12:L:54:VAL:HA	1.44	0.99
1:A:1362:A:H4'	1:A:1362:A:OP1	1.61	0.98
1:A:1053:G:C4'	1:A:1054:C:H5'	1.94	0.96
4:D:25:ARG:HG3	4:D:26:ALA:N	1.80	0.95
1:A:1234:C:HO2'	1:A:1364:U:H6	0.99	0.94
1:A:1273:C:H2'	1:A:1274:A:O4'	1.69	0.93
1:A:1275:A:C2'	1:A:1276:G:H5'	1.98	0.92
1:A:1062:U:H2'	1:A:1063:C:C6	2.04	0.92
1:A:1151:A:C2	1:A:1152:A:C5	2.57	0.92
13:M:53:ASP:HA	13:M:56:ARG:HB3	1.50	0.92
1:A:484:G:H4'	1:A:485:U:O5'	1.68	0.91
2:B:209:VAL:O	2:B:213:LEU:HB2	1.72	0.90
16:P:72:ALA:HA	16:P:75:ILE:HD12	1.55	0.88
1:A:1522:U:O2'	1:A:1523:G:H5'	1.74	0.88
3:C:149:LYS:HG3	3:C:200:TRP:CE3	2.09	0.88
1:A:518:C:H2'	1:A:530:G:C8	2.08	0.88
1:A:1001:C:H2'	1:A:1002:G:C8	2.08	0.88
17:Q:13:SER:HB3	17:Q:21:VAL:CG1	2.02	0.88
5:E:148:SER:HB2	5:E:151:MET:CG	2.04	0.87
1:A:131:A:H2'	1:A:132:C:C6	2.10	0.87
1:A:1277:C:O2'	1:A:1279:G:H1'	1.74	0.87
3:C:129:PHE:CE2	3:C:130:ARG:HD3	2.10	0.87
1:A:1166:G:C6	1:A:1168:U:H5''	2.10	0.86
12:L:24:GLU:O	12:L:25:ALA:C	2.14	0.86
16:P:61:VAL:CG2	16:P:67:ILE:HD11	2.06	0.86
1:A:1062:U:H2'	1:A:1063:C:C5	2.10	0.85
1:A:1221:G:H4'	19:S:76:THR:CG2	2.06	0.85
4:D:190:LEU:O	4:D:191:SER:HB3	1.74	0.85

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:8:A:C6	4:D:205:LYS:HB3	2.12	0.85
1:A:1275:A:H2'	1:A:1276:G:H5'	1.58	0.84
1:A:308:C:H2'	1:A:309:A:H8	1.41	0.84
1:A:1040:U:H2'	1:A:1041:G:C8	2.12	0.83
1:A:1124:G:C2	1:A:1127:G:N2	2.46	0.83
1:A:765:G:H5''	1:A:766:A:OP1	1.79	0.83
5:E:68:ARG:O	5:E:69:ASN:HB2	1.78	0.82
5:E:14:LEU:CB	5:E:36:THR:HG22	2.09	0.82
5:E:100:GLU:O	5:E:102:THR:N	2.13	0.82
1:A:86:G:H1'	1:A:87:C:O4'	1.80	0.82
1:A:1261:A:C2	1:A:1262:C:C5	2.68	0.82
1:A:188:C:O2	1:A:188:C:H2'	1.80	0.81
1:A:783:C:H2'	1:A:784:A:H5'	1.62	0.81
1:A:1108:G:H5''	3:C:175:HIS:CD2	2.15	0.81
3:C:22:PHE:CD2	3:C:23:ALA:N	2.49	0.81
1:A:71:A:C2	1:A:100:G:C8	2.67	0.81
1:A:1053:G:N7	1:A:1199:U:H3'	1.93	0.81
10:J:57:VAL:O	10:J:58:ASN:HB2	1.80	0.81
1:A:965:U:O2'	1:A:966:G:OP2	1.97	0.81
1:A:1348:U:H4'	9:I:121:ARG:HG3	1.63	0.81
17:Q:45:VAL:HG21	17:Q:60:ILE:HD11	1.63	0.80
11:K:51:PHE:CZ	11:K:61:ALA:HA	2.16	0.80
5:E:148:SER:HB2	5:E:151:MET:HG3	1.62	0.80
1:A:1239:A:H4'	1:A:1240:U:OP1	1.81	0.80
5:E:101:GLY:O	5:E:103:GLY:N	2.14	0.80
11:K:14:GLN:HA	11:K:76:TYR:HA	1.63	0.80
1:A:532:A:N6	1:A:1206:G:O2'	2.15	0.80
5:E:95:MET:CE	5:E:114:LEU:HD21	2.11	0.80
1:A:1225:A:H2'	1:A:1226:C:C5	2.17	0.80
1:A:738:C:H2'	1:A:739:C:H6	1.47	0.80
20:T:35:TYR:CE1	20:T:39:GLU:HB2	2.17	0.80
3:C:71:ARG:HB3	3:C:74:ILE:HG22	1.64	0.80
1:A:1181:G:O2'	1:A:1182:G:C8	2.35	0.79
1:A:1181:G:O2'	1:A:1182:G:N7	2.15	0.79
1:A:154:U:C2	1:A:168:G:N2	2.50	0.79
1:A:1540:U:O3'	21:U:17:ARG:CZ	2.31	0.79
4:D:160:LEU:HD22	4:D:161:ALA:N	1.97	0.79
12:L:33:CYS:HB3	12:L:54:VAL:HG22	1.63	0.79
1:A:869:G:O6	25:A:1820:HOH:O	1.99	0.79
1:A:841:C:H3'	1:A:843:U:H5''	1.64	0.79
9:I:49:GLN:HA	9:I:52:GLU:CD	2.02	0.79
5:E:103:GLY:HA3	5:E:121:ASN:HA	1.63	0.79

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:79:ALA:HA	4:D:85:THR:OG1	1.82	0.79
2:B:98:GLY:HA2	2:B:101:THR:HG23	1.63	0.79
1:A:463:U:H5'	1:A:464:U:OP2	1.82	0.79
1:A:922:G:H4'	5:E:24:VAL:HA	1.65	0.79
16:P:18:GLN:HG3	16:P:35:ARG:HD2	1.66	0.78
2:B:98:GLY:O	2:B:100:LEU:N	2.17	0.78
12:L:109:ARG:NH2	12:L:116:TYR:CE2	2.51	0.78
1:A:1302:C:C5	13:M:16:ILE:HD13	2.18	0.78
2:B:112:ARG:CZ	2:B:116:LEU:HD11	2.13	0.78
10:J:6:ILE:HD12	10:J:76:ILE:HB	1.66	0.78
1:A:738:C:H2'	1:A:739:C:C6	2.19	0.78
9:I:29:ILE:HA	9:I:64:ILE:O	1.82	0.78
1:A:501:C:H1'	1:A:549:C:H1'	1.66	0.78
8:H:77:VAL:HG11	8:H:124:ILE:HD11	1.65	0.77
6:F:47:LEU:HB2	6:F:55:HIS:HA	1.66	0.77
11:K:126:ARG:H	21:U:33:ARG:NH2	1.81	0.77
5:E:152:VAL:HG23	5:E:156:ARG:CB	2.13	0.77
1:A:1006:G:H2'	1:A:1007:U:C6	2.19	0.77
1:A:1073:U:H2'	1:A:1073:U:O2	1.81	0.77
5:E:136:VAL:O	5:E:137:ARG:HB2	1.83	0.77
2:B:89:PHE:HB3	2:B:149:GLY:O	1.83	0.77
2:B:162:VAL:HG23	2:B:184:ALA:HB2	1.67	0.77
1:A:978:A:P	1:A:1362:A:N6	2.58	0.77
1:A:1129:C:O2'	1:A:1139:G:N7	2.18	0.77
2:B:162:VAL:O	2:B:184:ALA:HA	1.84	0.77
1:A:1244:G:C2	1:A:1294:G:C2	2.73	0.77
3:C:149:LYS:HB3	3:C:168:ARG:HG2	1.66	0.77
1:A:332:G:H2'	1:A:333:U:H5'	1.67	0.77
1:A:934:C:C5	1:A:1344:C:C6	2.73	0.77
3:C:41:TYR:CZ	3:C:45:GLU:HG2	2.19	0.77
1:A:982:U:H4'	1:A:983:A:H5'	1.67	0.76
1:A:308:C:H2'	1:A:309:A:C8	2.20	0.76
12:L:89:LEU:HB2	12:L:92:VAL:HG21	1.66	0.76
1:A:385:C:C5	1:A:386:C:C5	2.73	0.76
3:C:17:TRP:CZ2	14:N:95:GLY:HA2	2.20	0.76
5:E:154:ALA:HB3	5:E:155:LYS:HE3	1.66	0.76
6:F:39:LEU:HD12	6:F:40:GLU:N	2.00	0.76
3:C:171:ARG:O	3:C:173:PRO:HD3	1.84	0.76
1:A:1333:A:H2'	1:A:1334:G:O4'	1.86	0.76
3:C:110:LEU:HD13	3:C:145:ALA:HB2	1.68	0.76
9:I:56:MET:HB3	9:I:60:LEU:HD23	1.67	0.76
1:A:374:A:H5''	1:A:452:A:C2	2.20	0.76

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:261:U:OP2	20:T:70:LYS:HD2	1.86	0.76
19:S:14:LEU:HA	19:S:17:LYS:HD2	1.66	0.76
1:A:1538:C:H2'	1:A:1539:C:C6	2.21	0.76
1:A:381:C:H2'	1:A:382:A:O4'	1.86	0.76
1:A:1412:C:H2'	1:A:1413:A:C8	2.21	0.75
21:U:9:GLU:CG	21:U:10:PRO:HD3	2.15	0.75
20:T:42:ASP:CB	20:T:45:ALA:HB3	2.16	0.75
2:B:67:LEU:HD22	2:B:69:VAL:CG2	2.16	0.75
1:A:595:A:C2	1:A:641:U:N3	2.54	0.75
5:E:136:VAL:O	5:E:137:ARG:CB	2.34	0.75
1:A:1313:U:OP2	19:S:5:LYS:HA	1.86	0.75
2:B:116:LEU:HB3	2:B:140:LEU:HD11	1.68	0.75
12:L:106:VAL:HG21	12:L:116:TYR:HB3	1.69	0.75
14:N:64:CYS:HB2	14:N:80:SER:OG	1.87	0.75
2:B:51:GLU:HG2	2:B:197:PHE:CE1	2.21	0.75
2:B:52:ALA:O	2:B:56:LEU:HB2	1.85	0.75
2:B:80:LYS:HG2	2:B:84:LEU:HD23	1.67	0.75
1:A:1314:C:H2'	1:A:1315:U:C6	2.22	0.75
13:M:84:CYS:HA	19:S:72:GLU:O	1.87	0.74
1:A:1182:G:H4'	1:A:1183:U:C5'	2.16	0.74
11:K:70:ALA:O	11:K:73:VAL:HG22	1.86	0.74
14:N:15:LEU:HB3	14:N:55:SER:HA	1.69	0.74
1:A:1326:U:H2'	1:A:1327:C:C6	2.23	0.74
1:A:203:G:N2	1:A:215:C:C2	2.55	0.74
2:B:67:LEU:HB3	2:B:160:LEU:CD1	2.16	0.74
1:A:1386:G:C2	1:A:1387:G:C8	2.75	0.74
1:A:100:G:N7	1:A:101:A:N7	2.36	0.74
1:A:686:U:C2	1:A:687:A:N7	2.56	0.74
3:C:71:ARG:HB3	3:C:74:ILE:CG2	2.17	0.74
1:A:684:U:C2'	1:A:685:G:H5'	2.17	0.74
4:D:36:ALA:H	4:D:37:PRO:HD3	1.52	0.74
1:A:1345:U:C4	1:A:1377:A:C2	2.75	0.74
1:A:66:A:H4'	1:A:173:U:C5	2.22	0.74
15:O:3:SER:HB2	15:O:6:ALA:HB3	1.70	0.74
1:A:783:C:C2'	1:A:784:A:H5'	2.18	0.74
21:U:25:ALA:HB3	23:X:8:A:C5'	2.17	0.74
1:A:859:G:H2'	1:A:860:A:C8	2.22	0.74
9:I:19:PHE:HB2	9:I:63:TYR:HB3	1.68	0.74
14:N:15:LEU:HD22	14:N:55:SER:HB3	1.70	0.74
23:X:13:A:O2'	23:X:14:A:OP2	2.06	0.74
3:C:54:ILE:CD1	3:C:56:ILE:HD13	2.18	0.74
1:A:929:G:H2'	1:A:930:C:O5'	1.88	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1298:U:O2	1:A:1298:U:H2'	1.88	0.74
1:A:673:A:H2'	1:A:674:G:C8	2.23	0.74
4:D:135:GLN:HA	4:D:135:GLN:OE1	1.88	0.74
20:T:35:TYR:CD2	20:T:36:ALA:N	2.56	0.73
1:A:716:A:N3	11:K:118:ASN:O	2.20	0.73
1:A:844:G:OP2	1:A:844:G:C8	2.41	0.73
1:A:674:G:H4'	18:R:69:TYR:CD1	2.23	0.73
5:E:44:ARG:HA	5:E:71:ILE:O	1.88	0.73
1:A:330:C:O2	1:A:330:C:H2'	1.87	0.73
5:E:14:LEU:HA	5:E:36:THR:HG22	1.70	0.73
1:A:61:G:H2'	1:A:62:U:O4'	1.88	0.73
1:A:1000:A:C2	1:A:1041:G:C2	2.76	0.73
1:A:1122:U:N3	1:A:1123:U:C5	2.57	0.72
11:K:24:ALA:HA	11:K:29:THR:HG22	1.71	0.72
12:L:115:LYS:O	12:L:116:TYR:CD2	2.42	0.72
2:B:131:LYS:O	2:B:135:MET:HB2	1.88	0.72
1:A:1048:G:H5''	14:N:2:LYS:HG3	1.70	0.72
2:B:209:VAL:O	2:B:213:LEU:CB	2.36	0.72
1:A:68:G:C5	1:A:69:G:H1'	2.24	0.72
21:U:10:PRO:O	21:U:11:PHE:CG	2.43	0.72
1:A:1048:G:H4'	14:N:2:LYS:CE	2.19	0.72
7:G:39:GLU:HB2	7:G:43:TYR:CE2	2.24	0.72
1:A:114:U:O2'	1:A:115:G:H5'	1.89	0.72
1:A:1151:A:C2	1:A:1152:A:N7	2.56	0.72
12:L:115:LYS:O	12:L:116:TYR:CG	2.42	0.72
2:B:67:LEU:O	2:B:160:LEU:HD12	1.88	0.72
1:A:463:U:O2	1:A:463:U:H2'	1.88	0.72
1:A:109:A:H2'	1:A:326:G:N2	2.04	0.72
1:A:980:C:OP2	25:A:1863:HOH:O	2.06	0.72
6:F:18:VAL:HB	6:F:19:PRO:HD3	1.72	0.72
1:A:1361:G:N1	1:A:1362:A:N7	2.37	0.72
17:Q:15:LYS:C	17:Q:16:MET:SD	2.68	0.72
1:A:147:G:N2	1:A:176:C:C2	2.58	0.72
6:F:4:TYR:O	6:F:63:ASN:HA	1.89	0.72
3:C:76:ILE:HA	3:C:83:VAL:HG23	1.70	0.72
1:A:1288:A:N1	1:A:1371:G:H1'	2.04	0.72
13:M:113:LYS:HB2	13:M:114:PRO:HD3	1.70	0.72
1:A:1361:G:C2	1:A:1362:A:N7	2.58	0.72
5:E:150:GLU:HG3	5:E:151:MET:SD	2.29	0.72
9:I:28:VAL:O	9:I:64:ILE:HG13	1.89	0.72
6:F:9:MET:HG3	6:F:86:ARG:HB2	1.71	0.72
2:B:181:PRO:HA	2:B:196:ASP:OD1	1.90	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1491:G:H2'	1:A:1492:A:C8	2.23	0.72
7:G:26:VAL:HG12	7:G:42:VAL:HG21	1.71	0.72
5:E:148:SER:O	5:E:152:VAL:N	2.23	0.71
3:C:76:ILE:HA	3:C:83:VAL:CG2	2.20	0.71
10:J:48:ARG:HH11	10:J:48:ARG:CG	2.02	0.71
18:R:41:SER:HB3	18:R:51:GLN:HE21	1.51	0.71
12:L:64:SER:HB2	12:L:81:ILE:HD11	1.71	0.71
13:M:28:ARG:CZ	13:M:62:PHE:HB2	2.21	0.71
20:T:66:ILE:HD11	20:T:70:LYS:HD3	1.72	0.71
1:A:1534:A:C5'	1:A:1535:C:OP1	2.38	0.71
1:A:171:A:O2'	1:A:172:A:H5'	1.90	0.71
1:A:243:A:C2	1:A:246:A:C8	2.78	0.71
2:B:20:ARG:O	2:B:22:TRP:N	2.22	0.71
1:A:978:A:OP2	1:A:1362:A:N6	2.22	0.71
19:S:10:ILE:HG13	19:S:11:ASP:N	2.04	0.71
1:A:1452:C:H4'	1:A:1453:G:O5'	1.90	0.71
1:A:1269:A:N7	1:A:1270:G:H1'	2.06	0.71
13:M:28:ARG:NH1	13:M:62:PHE:HB2	2.05	0.71
12:L:20:VAL:N	12:L:21:PRO:CD	2.53	0.71
12:L:28:GLN:HB2	12:L:81:ILE:O	1.90	0.71
19:S:62:THR:HB	19:S:65:MET:HG3	1.72	0.71
1:A:1138:G:C2	1:A:1140:C:C5	2.79	0.71
1:A:1535:C:O2'	1:A:1536:C:OP2	2.08	0.71
11:K:126:ARG:N	21:U:33:ARG:NH2	2.38	0.71
1:A:827:U:C4	1:A:870:U:C2	2.79	0.71
1:A:978:A:H4'	1:A:1322:C:C5	2.26	0.71
9:I:89:TYR:C	9:I:93:LEU:HD11	2.09	0.71
20:T:61:ALA:HA	20:T:67:HIS:H	1.56	0.71
1:A:757:U:O2'	1:A:879:C:H1'	1.90	0.71
21:U:10:PRO:C	21:U:11:PHE:CG	2.60	0.70
2:B:22:TRP:O	2:B:22:TRP:CG	2.43	0.70
1:A:246:A:H4'	1:A:247:G:OP1	1.91	0.70
1:A:245:U:H3	1:A:283:U:H3	1.36	0.70
5:E:113:VAL:HG22	5:E:114:LEU:N	2.06	0.70
7:G:11:ILE:HD12	7:G:23:ALA:HB1	1.73	0.70
4:D:56:GLU:OE2	4:D:195:ASN:HB2	1.91	0.70
1:A:158:G:H2'	1:A:159:G:H5''	1.72	0.70
1:A:1377:A:N3	7:G:1:PRO:HG3	2.05	0.70
1:A:1234:C:H1'	1:A:1364:U:C6	2.27	0.70
1:A:1261:A:C2	1:A:1262:C:C4	2.79	0.70
12:L:2:THR:HB	12:L:5:GLN:HG2	1.74	0.70
15:O:7:THR:O	15:O:11:VAL:HG23	1.92	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:20:ALA:HA	11:K:33:ILE:HD13	1.73	0.70
7:G:79:VAL:HG12	7:G:80:GLY:N	2.06	0.70
5:E:149:PRO:O	5:E:152:VAL:HG22	1.91	0.70
2:B:58:LYS:O	2:B:62:ARG:N	2.24	0.70
1:A:1061:G:H5''	10:J:61:ALA:HB2	1.72	0.70
14:N:66:GLN:HG3	14:N:79:LEU:HD21	1.72	0.70
1:A:983:A:N3	1:A:983:A:H2'	2.05	0.70
1:A:1106:G:H2'	1:A:1107:C:H6	1.57	0.70
1:A:1211:U:O2'	1:A:1212:U:P	2.50	0.70
16:P:61:VAL:HG22	16:P:67:ILE:HD11	1.73	0.70
6:F:86:ARG:CG	6:F:86:ARG:HH11	2.05	0.70
1:A:1284:C:C6	1:A:1285:A:C8	2.80	0.70
12:L:76:HIS:O	12:L:77:SER:HB2	1.92	0.70
5:E:153:ALA:HA	5:E:157:GLY:N	2.06	0.70
1:A:1221:G:H4'	19:S:76:THR:HG21	1.74	0.70
9:I:17:ARG:O	9:I:64:ILE:HA	1.91	0.70
2:B:63:LYS:HD3	2:B:63:LYS:C	2.13	0.70
1:A:279:A:H5''	1:A:281:G:O4'	1.92	0.70
3:C:21:TRP:CD1	3:C:56:ILE:HG22	2.27	0.69
6:F:19:PRO:HA	6:F:22:ILE:CD1	2.22	0.69
1:A:560:A:N7	1:A:566:G:C4	2.60	0.69
1:A:1072:G:C5	1:A:1073:U:C5	2.79	0.69
6:F:5:GLU:C	6:F:6:ILE:HD12	2.12	0.69
14:N:22:LYS:HG3	14:N:23:ARG:HG3	1.74	0.69
1:A:471:U:H2'	1:A:472:U:O4'	1.91	0.69
1:A:852:G:C5	1:A:853:C:C5	2.81	0.69
3:C:174:LEU:HD12	3:C:174:LEU:O	1.92	0.69
4:D:25:ARG:HG3	4:D:26:ALA:CA	2.22	0.69
1:A:114:U:C2'	1:A:115:G:H5'	2.22	0.69
1:A:1222:G:O6	25:A:1863:HOH:O	2.09	0.69
5:E:155:LYS:HA	5:E:158:LYS:NZ	2.07	0.69
1:A:200:G:H2'	1:A:201:G:H5'	1.73	0.69
3:C:88:LYS:HD3	3:C:89:VAL:HG13	1.74	0.69
21:U:8:ASN:N	21:U:11:PHE:HE2	1.90	0.69
1:A:254:G:OP1	17:Q:68:LYS:O	2.10	0.69
7:G:78:ARG:HG2	7:G:83:THR:HA	1.74	0.69
12:L:24:GLU:CB	12:L:26:CYS:SG	2.80	0.69
7:G:64:ALA:HB1	7:G:126:ALA:CB	2.23	0.69
1:A:965:U:HO2'	1:A:966:G:P	2.16	0.69
1:A:451:A:N6	1:A:481:G:H5'	2.07	0.69
1:A:1048:G:H4'	14:N:2:LYS:HE3	1.74	0.69
4:D:43:ARG:NE	4:D:43:ARG:HA	2.08	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:929:G:C5	1:A:930:C:C5	2.81	0.69
5:E:37:VAL:HG11	5:E:113:VAL:HA	1.72	0.69
1:A:632:U:O2	1:A:632:U:H2'	1.92	0.69
15:O:62:ARG:O	15:O:66:LEU:HD12	1.93	0.69
5:E:82:HIS:CG	8:H:95:MET:HE2	2.27	0.69
1:A:801:U:H2'	1:A:802:A:H8	1.58	0.69
2:B:143:LEU:HD23	2:B:143:LEU:H	1.57	0.69
21:U:25:ALA:HB3	23:X:8:A:H5''	1.74	0.69
4:D:90:LEU:HA	4:D:93:LEU:HD12	1.73	0.69
4:D:150:LYS:HB2	4:D:155:LYS:HE3	1.74	0.69
14:N:43:ASN:O	14:N:43:ASN:CG	2.30	0.69
21:U:13:VAL:HG12	21:U:15:LEU:CD2	2.22	0.69
1:A:832:G:H2'	1:A:833:G:H5'	1.74	0.69
13:M:14:ALA:O	13:M:18:LEU:HD23	1.93	0.69
1:A:1000:A:C4	1:A:1041:G:N2	2.61	0.69
1:A:595:A:C2	1:A:641:U:C2	2.81	0.69
15:O:85:GLY:O	15:O:86:LEU:HB3	1.91	0.69
8:H:79:ARG:HB2	8:H:80:PRO:CD	2.23	0.69
1:A:983:A:N3	1:A:983:A:C2'	2.56	0.68
12:L:24:GLU:HB3	12:L:26:CYS:SG	2.33	0.68
1:A:71:A:H8	1:A:71:A:H5'	1.57	0.68
1:A:299:G:H2'	1:A:300:A:C8	2.28	0.68
14:N:24:ALA:O	14:N:27:LYS:HG3	1.92	0.68
1:A:832:G:C2'	1:A:833:G:H5'	2.23	0.68
3:C:101:ASN:C	3:C:102:ILE:HG13	2.14	0.68
1:A:1142:G:C5	1:A:1143:G:H1'	2.28	0.68
1:A:1072:G:H3'	1:A:1073:U:H6	1.58	0.68
6:F:6:ILE:HA	6:F:88:MET:O	1.92	0.68
6:F:98:GLU:HG3	6:F:99:ALA:N	2.07	0.68
21:U:25:ALA:CB	23:X:8:A:H5''	2.23	0.68
12:L:27:PRO:HB2	12:L:28:GLN:OE1	1.92	0.68
1:A:613:C:O2'	1:A:614:C:H5'	1.94	0.68
1:A:370:C:O2'	1:A:371:A:H5'	1.93	0.68
12:L:78:VAL:N	12:L:102:ASP:OD2	2.25	0.68
1:A:383:A:H2'	1:A:384:G:H5'	1.75	0.68
17:Q:13:SER:OG	17:Q:16:MET:HE1	1.93	0.68
1:A:628:G:H2'	1:A:629:A:C8	2.29	0.68
9:I:98:ARG:HA	9:I:103:VAL:HG21	1.75	0.68
8:H:115:ALA:HA	8:H:118:ALA:HB3	1.75	0.68
2:B:205:ALA:O	2:B:207:ARG:N	2.26	0.68
21:U:36:PHE:HA	21:U:39:LYS:HE3	1.76	0.68
1:A:994:A:C2	1:A:995:C:C6	2.81	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:182:VAL:N	2:B:196:ASP:OD1	2.27	0.68
7:G:50:ALA:HB1	7:G:56:SER:O	1.94	0.68
2:B:46:VAL:HB	2:B:47:PRO:HD3	1.76	0.68
3:C:54:ILE:HD13	3:C:56:ILE:CD1	2.24	0.68
6:F:16:GLU:O	6:F:19:PRO:HD2	1.92	0.68
17:Q:12:VAL:HG12	17:Q:21:VAL:O	1.92	0.68
1:A:87:C:H2'	1:A:88:U:C6	2.29	0.68
3:C:133:MET:CE	3:C:167:TYR:HB2	2.24	0.68
4:D:25:ARG:CG	4:D:26:ALA:N	2.49	0.68
1:A:1256:A:C8	1:A:1258:G:C2	2.82	0.68
5:E:109:ALA:O	5:E:110:MET:HB2	1.94	0.68
2:B:125:PHE:N	2:B:125:PHE:HD2	1.92	0.68
3:C:21:TRP:CZ3	3:C:31:ASN:ND2	2.62	0.68
1:A:484:G:N7	1:A:486:U:H1'	2.09	0.68
16:P:19:VAL:HG22	16:P:36:VAL:HG12	1.76	0.68
6:F:85:ILE:O	6:F:86:ARG:O	2.11	0.68
6:F:19:PRO:HA	6:F:22:ILE:HD12	1.75	0.68
4:D:16:THR:HG22	4:D:17:ASP:O	1.94	0.68
1:A:1316:G:C5	1:A:1318:A:OP2	2.46	0.67
5:E:155:LYS:HE3	5:E:155:LYS:N	2.09	0.67
3:C:152:VAL:HB	3:C:197:VAL:HG22	1.75	0.67
1:A:920:U:H2'	1:A:921:U:C6	2.29	0.67
1:A:453:G:H2'	1:A:454:G:C8	2.29	0.67
23:X:13:A:N3	23:X:14:A:C8	2.62	0.67
1:A:1211:U:H1'	1:A:1213:A:C2	2.27	0.67
1:A:69:G:C4	1:A:70:U:C5	2.81	0.67
20:T:43:LYS:CG	20:T:86:ALA:HA	2.24	0.67
20:T:59:ARG:O	20:T:63:LYS:HB2	1.95	0.67
1:A:1338:G:H2'	1:A:1339:A:C8	2.29	0.67
1:A:211:G:O2'	1:A:212:G:C4'	2.42	0.67
11:K:124:LYS:HE3	11:K:124:LYS:C	2.14	0.67
8:H:95:MET:HB2	8:H:98:LEU:O	1.94	0.67
1:A:101:A:H2'	1:A:102:G:O5'	1.94	0.67
1:A:143:A:H5'	1:A:144:G:H5'	1.75	0.67
6:F:11:HIS:CG	6:F:12:PRO:HD2	2.30	0.67
1:A:1189:U:H5''	1:A:1190:G:OP2	1.93	0.67
1:A:192:A:C2'	1:A:193:C:H5'	2.24	0.67
5:E:154:ALA:CB	5:E:155:LYS:HE3	2.23	0.67
3:C:6:PRO:O	3:C:9:ILE:HG22	1.94	0.67
19:S:57:VAL:HG11	19:S:74:ALA:HA	1.76	0.67
17:Q:7:LEU:HB3	17:Q:24:ILE:HD13	1.76	0.67
1:A:1231:G:H4'	9:I:127:SER:HB2	1.76	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1078:U:C2'	1:A:1079:G:H5'	2.25	0.67
3:C:166:TRP:C	3:C:166:TRP:HE3	1.97	0.67
4:D:172:VAL:HG13	4:D:173:ASP:H	1.59	0.67
5:E:106:ALA:HA	5:E:124:ALA:HB3	1.76	0.67
4:D:170:LEU:N	4:D:170:LEU:HD12	2.09	0.67
15:O:72:LYS:HA	15:O:72:LYS:HE2	1.75	0.67
1:A:1029:U:H2'	1:A:1029:U:O2	1.94	0.67
20:T:53:MET:HG3	20:T:54:GLN:N	2.09	0.67
1:A:1540:U:H4'	21:U:17:ARG:HG2	1.76	0.67
10:J:66:GLU:HG3	14:N:99:ALA:HB2	1.77	0.67
1:A:247:G:OP1	1:A:247:G:H4'	1.92	0.67
1:A:1053:G:C5'	1:A:1054:C:H5'	2.24	0.67
1:A:189:A:H2'	1:A:190:A:O5'	1.93	0.67
11:K:64:VAL:HA	11:K:67:GLU:HG3	1.76	0.67
14:N:43:ASN:HA	14:N:45:VAL:HG22	1.76	0.67
4:D:25:ARG:O	4:D:26:ALA:HB2	1.94	0.67
1:A:1249:C:O2'	9:I:70:GLY:HA2	1.94	0.67
3:C:28:PHE:HZ	14:N:94:PRO:HD2	1.59	0.67
1:A:206:C:H2'	1:A:207:C:C4'	2.25	0.67
1:A:497:G:O2'	1:A:498:A:H5'	1.94	0.67
12:L:58:ASN:H	12:L:58:ASN:HD22	1.43	0.67
1:A:88:U:C4	1:A:89:U:C4	2.83	0.67
1:A:499:A:H4'	1:A:500:G:OP1	1.95	0.67
1:A:1441:A:H3'	1:A:1441:A:C8	2.29	0.67
10:J:80:THR:HB	10:J:83:THR:H	1.60	0.67
1:A:269:C:H2'	1:A:270:A:C8	2.30	0.67
5:E:104:ILE:N	5:E:121:ASN:O	2.27	0.66
3:C:154:GLY:HA2	3:C:162:ALA:HB1	1.75	0.66
9:I:53:LEU:O	9:I:54:VAL:HG22	1.95	0.66
3:C:41:TYR:CE2	3:C:45:GLU:HG2	2.30	0.66
1:A:1308:U:H5''	13:M:96:VAL:CG2	2.25	0.66
5:E:24:VAL:HG23	5:E:26:GLY:H	1.59	0.66
10:J:10:LEU:N	10:J:10:LEU:HD12	2.10	0.66
6:F:47:LEU:CD1	6:F:51:ILE:CG2	2.73	0.66
17:Q:44:HIS:ND1	17:Q:69:THR:HG21	2.10	0.66
1:A:723:U:C5	21:U:49:ALA:HA	2.31	0.66
20:T:69:ASN:O	20:T:70:LYS:C	2.34	0.66
9:I:43:ALA:HB1	9:I:46:VAL:HG21	1.75	0.66
2:B:130:LYS:HA	2:B:133:ALA:HB3	1.76	0.66
4:D:123:MET:HE3	4:D:145:ARG:HB3	1.77	0.66
19:S:3:SER:O	19:S:4:LEU:HB2	1.93	0.66
16:P:10:GLY:HA3	16:P:15:PRO:HA	1.76	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:469:C:H5	1:A:470:C:C4	2.14	0.66
1:A:423:G:N2	1:A:424:G:C8	2.64	0.66
4:D:151:GLN:O	4:D:154:VAL:HG12	1.96	0.66
10:J:87:LEU:HD13	10:J:88:MET:HG2	1.78	0.66
5:E:133:ILE:H	5:E:133:ILE:HD12	1.59	0.66
1:A:1262:C:C6	1:A:1263:C:C5	2.83	0.66
6:F:18:VAL:HA	6:F:21:MET:CE	2.26	0.66
1:A:562:U:H4'	1:A:563:A:H5'	1.78	0.66
1:A:590:U:H2'	1:A:591:U:C6	2.30	0.66
5:E:121:ASN:O	5:E:122:VAL:O	2.13	0.66
20:T:64:GLY:HA2	20:T:67:HIS:CE1	2.31	0.66
9:I:83:THR:HG21	9:I:102:PHE:HB3	1.76	0.66
2:B:98:GLY:HA2	2:B:101:THR:CG2	2.24	0.66
1:A:1211:U:O2'	1:A:1212:U:OP2	2.14	0.66
1:A:540:G:H2'	1:A:541:G:O4'	1.95	0.66
1:A:1323:G:H2'	1:A:1324:A:C8	2.30	0.66
11:K:62:ALA:CB	11:K:91:GLY:HA2	2.26	0.66
3:C:5:HIS:HD2	14:N:89:MET:HB3	1.60	0.66
1:A:328:C:H2'	1:A:328:C:O2	1.93	0.66
18:R:38:ILE:CD1	18:R:55:ALA:HA	2.26	0.66
8:H:54:THR:C	8:H:56:PRO:HD3	2.16	0.66
17:Q:61:ARG:C	17:Q:72:TRP:CE3	2.69	0.66
1:A:374:A:H5''	1:A:452:A:H2	1.60	0.66
1:A:451:A:H61	1:A:481:G:H5'	1.61	0.66
1:A:642:A:N3	8:H:104:SER:OG	2.28	0.66
1:A:940:C:H2'	1:A:941:G:C8	2.30	0.66
1:A:1239:A:H2'	1:A:1298:U:O4	1.94	0.66
1:A:1005:A:N7	1:A:1006:G:C4	2.64	0.66
4:D:169:TRP:CD1	4:D:185:PRO:HG3	2.31	0.66
5:E:156:ARG:O	5:E:158:LYS:N	2.29	0.66
17:Q:7:LEU:HD22	17:Q:72:TRP:CH2	2.31	0.66
2:B:95:TRP:CZ3	2:B:174:GLU:OE2	2.48	0.66
2:B:49:PHE:CD1	2:B:49:PHE:C	2.69	0.66
2:B:56:LEU:O	2:B:59:ILE:HG13	1.96	0.66
8:H:82:LEU:O	8:H:82:LEU:HD13	1.95	0.66
6:F:50:PRO:HD3	18:R:73:HIS:HB3	1.77	0.66
1:A:4:U:C5'	1:A:5:U:OP1	2.44	0.66
7:G:131:GLY:H	7:G:134:VAL:CG1	2.08	0.66
2:B:17:HIS:O	2:B:18:GLN:HB2	1.95	0.65
1:A:1078:U:O2	5:E:89:THR:HG21	1.96	0.65
1:A:414:A:C2	1:A:415:A:H1'	2.31	0.65
20:T:64:GLY:C	20:T:67:HIS:CE1	2.69	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1142:G:C6	1:A:1143:G:H1'	2.31	0.65
9:I:27:ILE:HG23	9:I:62:LEU:CD1	2.25	0.65
1:A:500:G:C6	1:A:501:C:N4	2.64	0.65
2:B:134:LEU:HA	2:B:137:THR:OG1	1.95	0.65
1:A:1113:C:C2	1:A:1114:C:C5	2.85	0.65
22:V:20:U:OP1	22:V:20:U:O4'	2.15	0.65
20:T:64:GLY:CA	20:T:67:HIS:CE1	2.79	0.65
1:A:175:C:O2'	1:A:176:C:H5'	1.96	0.65
3:C:102:ILE:HD12	3:C:102:ILE:N	2.10	0.65
1:A:236:A:H2'	1:A:237:G:C8	2.32	0.65
8:H:74:ILE:HD13	8:H:128:VAL:HG22	1.78	0.65
1:A:802:A:H5''	1:A:803:G:OP2	1.96	0.65
21:U:23:GLU:HA	21:U:27:VAL:HG22	1.77	0.65
11:K:87:GLY:H	11:K:113:THR:CG2	2.08	0.65
1:A:1476:A:H2'	1:A:1477:U:C6	2.31	0.65
12:L:29:LYS:HA	12:L:29:LYS:HE3	1.79	0.65
6:F:77:THR:O	6:F:80:PHE:HB3	1.96	0.65
1:A:1007:U:H2'	1:A:1008:U:H5''	1.78	0.65
2:B:156:LEU:O	2:B:156:LEU:HD23	1.96	0.65
1:A:1160:G:HO2'	1:A:1161:C:H6	1.42	0.65
1:A:692:U:H2'	1:A:694:A:OP2	1.97	0.65
20:T:69:ASN:O	20:T:71:ALA:N	2.30	0.65
2:B:56:LEU:HD13	2:B:57:ASN:N	2.12	0.65
14:N:17:ASP:HA	14:N:20:PHE:O	1.96	0.65
1:A:64:G:C8	1:A:99:C:N4	2.65	0.65
2:B:99:MET:CA	2:B:106:VAL:HG21	2.27	0.65
1:A:463:U:C2'	1:A:463:U:O2	2.45	0.65
1:A:1093:A:C2	1:A:1095:U:C4'	2.79	0.65
18:R:41:SER:CB	18:R:51:GLN:HE21	2.09	0.65
7:G:85:GLN:HA	7:G:85:GLN:NE2	2.11	0.65
17:Q:16:MET:HG2	17:Q:19:SER:HB3	1.78	0.65
1:A:82:G:O6	1:A:87:C:N3	2.29	0.65
2:B:67:LEU:HD23	2:B:90:PHE:HA	1.78	0.65
1:A:750:C:O2	15:O:22:GLY:HA3	1.97	0.65
15:O:80:LEU:HD11	15:O:84:LEU:HD22	1.78	0.65
1:A:938:A:C2	1:A:1345:U:O4	2.50	0.65
13:M:85:TYR:CE2	13:M:89:ARG:HG3	2.32	0.65
1:A:1126:U:C5	1:A:1281:C:N4	2.65	0.65
4:D:97:LEU:HD12	4:D:97:LEU:C	2.17	0.65
4:D:47:LEU:HD23	4:D:52:VAL:CG1	2.27	0.65
10:J:9:ARG:CZ	10:J:9:ARG:HB3	2.25	0.65
2:B:104:LYS:O	2:B:104:LYS:HG2	1.97	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:240:G:H4'	1:A:240:G:OP1	1.96	0.65
1:A:1234:C:C2'	1:A:1235:U:H5'	2.26	0.65
1:A:840:C:N3	1:A:842:U:H4'	2.11	0.65
2:B:101:THR:HG22	2:B:174:GLU:OE1	1.97	0.65
1:A:469:C:C5	1:A:470:C:C4	2.84	0.65
6:F:36:ILE:HB	6:F:64:VAL:HG22	1.78	0.65
1:A:684:U:H2'	1:A:685:G:H5'	1.78	0.65
1:A:121:U:OP2	1:A:121:U:O4'	2.15	0.65
4:D:4:LEU:HD13	4:D:4:LEU:N	2.12	0.64
1:A:1039:G:C6	1:A:1040:U:C4	2.84	0.64
1:A:986:U:H2'	1:A:987:G:O4'	1.97	0.64
20:T:43:LYS:CE	20:T:85:LEU:O	2.44	0.64
20:T:53:MET:CE	20:T:57:VAL:HG21	2.27	0.64
1:A:1078:U:O2'	1:A:1079:G:H5'	1.96	0.64
1:A:1292:G:H2'	1:A:1293:C:C6	2.32	0.64
9:I:53:LEU:O	9:I:54:VAL:HG13	1.98	0.64
5:E:56:PRO:O	5:E:59:ILE:HG13	1.96	0.64
5:E:152:VAL:O	5:E:153:ALA:C	2.35	0.64
5:E:14:LEU:CA	5:E:36:THR:HG22	2.27	0.64
1:A:71:A:C8	1:A:71:A:H5'	2.31	0.64
1:A:72:A:N6	1:A:99:C:H1'	2.11	0.64
20:T:42:ASP:HB3	20:T:45:ALA:HB3	1.78	0.64
3:C:84:GLU:HG3	3:C:85:LYS:N	2.12	0.64
2:B:221:ARG:HE	2:B:222:GLU:H	1.44	0.64
1:A:852:G:C6	1:A:853:C:C4	2.85	0.64
22:V:26:A:C2'	22:V:27:G:H5'	2.28	0.64
1:A:929:G:C2'	1:A:930:C:O5'	2.44	0.64
1:A:485:U:OP2	1:A:485:U:H4'	1.96	0.64
2:B:125:PHE:N	2:B:125:PHE:CD2	2.62	0.64
10:J:22:THR:HA	10:J:25:ILE:CG2	2.28	0.64
21:U:11:PHE:N	21:U:11:PHE:CD1	2.63	0.64
7:G:68:VAL:O	7:G:70:PRO:N	2.30	0.64
1:A:430:A:OP2	4:D:7:LYS:HD2	1.97	0.64
13:M:9:PRO:O	13:M:10:ASP:HB2	1.96	0.64
1:A:1130:A:H4'	9:I:19:PHE:CE1	2.31	0.64
18:R:24:ASP:O	18:R:26:ALA:N	2.30	0.64
1:A:1527:U:OP2	21:U:38:GLU:HG3	1.98	0.64
8:H:46:GLU:O	8:H:47:ASP:HB2	1.98	0.64
10:J:53:ILE:HG22	10:J:61:ALA:O	1.98	0.64
1:A:518:C:H2'	1:A:530:G:H8	1.62	0.64
19:S:14:LEU:HD23	19:S:37:SER:OG	1.96	0.64
1:A:1126:U:C6	1:A:1281:C:C4	2.86	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:69:G:H2'	1:A:70:U:C6	2.32	0.64
17:Q:7:LEU:H	17:Q:60:ILE:HG22	1.62	0.64
2:B:99:MET:O	2:B:103:TRP:HA	1.97	0.64
10:J:5:ARG:HG3	10:J:6:ILE:HG12	1.80	0.64
1:A:1386:G:C2	1:A:1387:G:N7	2.65	0.64
21:U:38:GLU:OE2	21:U:41:THR:HG21	1.97	0.64
4:D:55:ARG:HH12	4:D:58:GLN:HG2	1.62	0.64
17:Q:5:ARG:NH1	17:Q:5:ARG:HB2	2.12	0.64
1:A:1521:C:C2'	1:A:1522:U:O5'	2.46	0.64
1:A:847:G:H2'	1:A:848:C:O4'	1.97	0.64
6:F:9:MET:HB2	6:F:85:ILE:HG13	1.79	0.64
1:A:1252:A:H2'	1:A:1253:G:O4'	1.97	0.64
1:A:220:G:C2	1:A:221:C:C6	2.86	0.64
12:L:34:THR:HG22	12:L:35:ARG:HG2	1.80	0.64
1:A:1060:U:O2'	1:A:1061:G:H5'	1.98	0.64
1:A:332:G:C2'	1:A:333:U:H5'	2.27	0.64
4:D:38:GLY:H	4:D:41:GLY:HA3	1.62	0.64
12:L:29:LYS:HA	12:L:29:LYS:CE	2.28	0.64
1:A:436:C:H2'	1:A:437:U:C6	2.32	0.64
8:H:12:ARG:HD3	8:H:26:MET:HE2	1.80	0.64
22:V:40:C:H2'	22:V:41:C:H6	1.63	0.64
1:A:1086:U:OP1	1:A:1086:U:H4'	1.98	0.64
1:A:1521:C:H2'	1:A:1522:U:O5'	1.97	0.63
1:A:1522:U:H2'	1:A:1523:G:O5'	1.98	0.63
1:A:722:G:H4'	21:U:48:LYS:HE2	1.80	0.63
11:K:124:LYS:O	21:U:34:ARG:HB2	1.98	0.63
17:Q:60:ILE:HG23	17:Q:61:ARG:N	2.12	0.63
1:A:1540:U:O3'	21:U:17:ARG:NE	2.30	0.63
6:F:46:GLN:HA	6:F:56:LYS:HG3	1.80	0.63
1:A:40:C:C2	1:A:41:G:C8	2.86	0.63
1:A:572:A:H5'	1:A:573:A:OP2	1.98	0.63
14:N:73:PHE:CE2	14:N:78:GLY:HA2	2.33	0.63
6:F:29:ILE:HG22	6:F:34:GLY:O	1.98	0.63
1:A:1004:A:H2'	1:A:1005:A:O4'	1.98	0.63
14:N:22:LYS:HG3	14:N:23:ARG:N	2.11	0.63
15:O:73:ASP:CG	15:O:76:ARG:HG3	2.18	0.63
3:C:5:HIS:CD2	14:N:89:MET:HB3	2.33	0.63
1:A:132:C:H5''	20:T:68:LYS:CD	2.28	0.63
3:C:153:SER:HA	3:C:164:THR:HA	1.79	0.63
1:A:736:C:H2'	1:A:737:C:H6	1.62	0.63
1:A:841:C:C6	1:A:843:U:H5'	2.34	0.63
1:A:462:G:H5''	1:A:463:U:OP2	1.98	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:156:LEU:HG	2:B:157:PRO:O	1.98	0.63
1:A:1489:G:H2'	1:A:1490:U:H6	1.63	0.63
10:J:48:ARG:O	10:J:49:PHE:CD2	2.51	0.63
1:A:1499:A:H2'	1:A:1500:A:O5'	1.98	0.63
1:A:1079:G:H2'	1:A:1080:A:C8	2.34	0.63
2:B:140:LEU:O	2:B:144:GLU:N	2.32	0.63
15:O:80:LEU:HD11	15:O:84:LEU:CD2	2.29	0.63
1:A:91:U:C4	1:A:92:U:C5	2.86	0.63
7:G:34:LYS:CB	7:G:37:THR:HG22	2.28	0.63
4:D:14:GLU:OE1	4:D:14:GLU:HA	1.97	0.63
9:I:118:ARG:O	9:I:119:LYS:HB3	1.98	0.63
17:Q:14:ASP:N	17:Q:16:MET:HE1	2.13	0.63
1:A:132:C:H5''	20:T:68:LYS:HD3	1.80	0.63
17:Q:45:VAL:HG13	17:Q:72:TRP:C	2.19	0.63
3:C:85:LYS:O	3:C:88:LYS:HB3	1.98	0.63
1:A:1489:G:C5	1:A:1490:U:C5	2.86	0.63
15:O:34:GLN:NE2	15:O:38:LEU:HD22	2.14	0.63
3:C:6:PRO:O	3:C:10:ARG:HG2	1.98	0.63
1:A:135:C:H2'	1:A:136:C:H5'	1.79	0.63
1:A:459:A:H2'	1:A:460:A:O4'	1.99	0.63
13:M:3:ILE:O	13:M:3:ILE:HG13	1.98	0.63
5:E:14:LEU:HB3	5:E:36:THR:HG22	1.80	0.63
20:T:43:LYS:HD3	20:T:86:ALA:HA	1.79	0.63
9:I:45:MET:HB2	9:I:48:ARG:HB3	1.81	0.63
1:A:1491:G:H2'	1:A:1492:A:O4'	1.99	0.63
1:A:687:A:C5	1:A:701:U:H5	2.17	0.63
1:A:686:U:O2	1:A:687:A:C8	2.52	0.63
19:S:62:THR:CB	19:S:65:MET:HG3	2.27	0.63
4:D:47:LEU:HD23	4:D:52:VAL:HG12	1.80	0.63
1:A:991:U:H4'	1:A:992:U:OP1	1.99	0.63
1:A:952:U:H2'	1:A:953:G:C8	2.33	0.63
5:E:155:LYS:HG2	8:H:65:PHE:HB2	1.80	0.63
9:I:9:GLY:N	9:I:84:ARG:HD3	2.12	0.63
10:J:71:LEU:O	10:J:72:ARG:HG2	1.99	0.63
1:A:715:A:O2'	1:A:716:A:H5'	1.98	0.63
1:A:146:G:C2	1:A:177:G:N7	2.67	0.63
1:A:585:G:N3	1:A:879:C:H4'	2.13	0.63
23:X:11:U:H3'	23:X:12:A:C5'	2.28	0.63
7:G:78:ARG:HA	7:G:82:SER:O	1.99	0.63
2:B:75:ALA:O	2:B:79:VAL:HG23	1.98	0.63
20:T:82:ILE:HD12	20:T:83:ASN:N	2.14	0.63
1:A:4:U:C4'	1:A:5:U:OP1	2.46	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:409:U:H2'	1:A:410:G:O4'	1.99	0.63
3:C:99:GLN:O	3:C:100:ILE:HB	1.99	0.63
1:A:1083:U:H5	1:A:1084:G:C6	2.17	0.63
1:A:1191:A:OP1	3:C:3:LYS:HE3	1.97	0.63
1:A:1275:A:C4	1:A:1276:G:C8	2.87	0.63
5:E:81:GLN:NE2	5:E:149:PRO:HD3	2.14	0.63
12:L:115:LYS:O	12:L:116:TYR:CB	2.47	0.63
4:D:58:GLN:O	4:D:62:ARG:CG	2.47	0.63
7:G:144:ALA:O	7:G:145:GLU:HB2	1.99	0.63
1:A:1438:G:O2'	1:A:1439:G:H5'	1.99	0.63
1:A:358:U:H2'	1:A:359:G:C8	2.34	0.63
12:L:51:VAL:CG2	12:L:52:CYS:N	2.61	0.63
13:M:80:MET:O	13:M:82:LEU:N	2.32	0.62
12:L:24:GLU:HB2	12:L:26:CYS:SG	2.39	0.62
1:A:986:U:H1'	19:S:53:GLY:O	1.99	0.62
1:A:872:A:C4	1:A:874:G:N7	2.67	0.62
10:J:27:GLU:O	10:J:31:ARG:HB3	1.99	0.62
6:F:72:ASP:O	6:F:76:THR:HG23	1.99	0.62
1:A:384:G:O2'	1:A:385:C:H5'	1.99	0.62
4:D:35:GLN:O	4:D:36:ALA:HB2	1.99	0.62
3:C:39:ARG:CZ	3:C:54:ILE:HD11	2.29	0.62
3:C:5:HIS:HB3	14:N:89:MET:SD	2.39	0.62
1:A:978:A:P	1:A:1362:A:H62	2.22	0.62
1:A:1151:A:N3	1:A:1152:A:C8	2.67	0.62
1:A:1522:U:O2'	1:A:1523:G:C5'	2.47	0.62
20:T:35:TYR:CG	20:T:36:ALA:N	2.62	0.62
9:I:79:ARG:NH2	9:I:102:PHE:HA	2.14	0.62
2:B:89:PHE:CE1	2:B:153:MET:HA	2.34	0.62
19:S:28:LYS:CB	19:S:29:PRO:HD2	2.29	0.62
1:A:1277:C:H2'	1:A:1277:C:O2	1.98	0.62
10:J:35:GLN:HB2	10:J:78:GLU:HB3	1.81	0.62
2:B:90:PHE:HD2	2:B:149:GLY:HA3	1.63	0.62
1:A:386:C:C2'	1:A:387:U:H5'	2.28	0.62
3:C:5:HIS:CE1	3:C:183:TYR:CE2	2.87	0.62
1:A:603:U:O2'	1:A:604:G:H5'	1.99	0.62
1:A:1265:C:N3	1:A:1271:A:C2	2.67	0.62
1:A:769:G:H4'	1:A:1513:A:H4'	1.79	0.62
1:A:77:A:H2'	1:A:78:A:O4'	1.99	0.62
1:A:1227:A:OP2	13:M:109:LYS:HE3	2.00	0.62
1:A:1313:U:P	19:S:5:LYS:HB3	2.39	0.62
1:A:977:A:N3	1:A:977:A:H2'	2.12	0.62
1:A:721:G:H4'	1:A:722:G:O4'	1.99	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:840:C:C2	1:A:842:U:H4'	2.34	0.62
1:A:920:U:O4'	1:A:1080:A:C2	2.53	0.62
2:B:212:TYR:O	2:B:216:VAL:HG23	1.99	0.62
17:Q:49:ASN:O	17:Q:51:GLU:N	2.33	0.62
1:A:209:U:OP2	1:A:210:C:C4	2.53	0.62
7:G:144:ALA:O	7:G:145:GLU:CB	2.47	0.62
1:A:977:A:C2	1:A:1224:U:C4	2.87	0.62
2:B:17:HIS:CD2	2:B:202:ASN:ND2	2.68	0.62
1:A:214:C:H2'	1:A:215:C:C6	2.34	0.62
1:A:572:A:H5'	1:A:573:A:P	2.39	0.62
3:C:35:ASP:O	3:C:38:VAL:HG22	1.98	0.62
1:A:1165:U:H2'	1:A:1166:G:O4'	1.98	0.62
16:P:38:PHE:CZ	16:P:51:ARG:HB2	2.35	0.62
2:B:141:GLU:HA	2:B:144:GLU:HB2	1.80	0.62
3:C:41:TYR:CZ	3:C:45:GLU:CG	2.83	0.62
17:Q:44:HIS:CG	17:Q:69:THR:HG21	2.35	0.62
1:A:4:U:H4'	1:A:5:U:OP1	2.00	0.62
1:A:1476:A:H2'	1:A:1477:U:H6	1.65	0.62
1:A:525:C:C2'	1:A:526:C:H5'	2.30	0.62
1:A:1347:G:H8	9:I:108:ARG:HB3	1.64	0.62
1:A:940:C:H2'	1:A:941:G:H8	1.64	0.62
17:Q:11:VAL:HG12	17:Q:12:VAL:N	2.14	0.62
1:A:70:U:C2	1:A:94:G:N7	2.68	0.62
3:C:54:ILE:CD1	3:C:56:ILE:CD1	2.78	0.62
1:A:1234:C:H2'	1:A:1235:U:H5'	1.82	0.62
1:A:1522:U:C2'	1:A:1523:G:O5'	2.47	0.62
11:K:22:ILE:O	11:K:22:ILE:HG13	2.00	0.62
2:B:99:MET:HA	2:B:106:VAL:HG21	1.82	0.62
14:N:35:ALA:CB	14:N:41:ARG:HG3	2.30	0.62
1:A:612:C:H2'	1:A:613:C:H6	1.64	0.62
1:A:211:G:H21	1:A:212:G:H1'	1.63	0.62
1:A:1469:C:H2'	1:A:1470:U:O4'	2.00	0.62
1:A:105:G:H2'	1:A:106:C:C6	2.35	0.62
1:A:1053:G:H4'	1:A:1054:C:C5'	2.17	0.62
1:A:1342:C:H2'	1:A:1343:G:C8	2.34	0.62
13:M:18:LEU:HG	13:M:33:LEU:HD21	1.80	0.62
1:A:488:C:H2'	1:A:489:C:H6	1.65	0.62
1:A:1263:C:H2'	1:A:1264:U:C6	2.35	0.62
1:A:102:G:H2'	1:A:103:U:H6	1.64	0.62
1:A:1182:G:H4'	1:A:1183:U:H5''	1.82	0.62
1:A:1534:A:H4'	1:A:1535:C:H2'	1.82	0.62
9:I:18:VAL:HG12	9:I:85:ALA:HB2	1.82	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:501:C:H2'	1:A:502:A:H8	1.65	0.62
6:F:18:VAL:HA	6:F:21:MET:HE2	1.81	0.62
4:D:72:ARG:HD3	4:D:203:TYR:CE2	2.35	0.62
8:H:1:SER:HB2	8:H:3:GLN:HE21	1.64	0.62
7:G:8:GLN:HG3	7:G:8:GLN:O	1.98	0.62
5:E:80:LEU:HA	5:E:146:MET:HE1	1.82	0.62
1:A:785:G:H2'	1:A:786:G:H5'	1.81	0.62
1:A:1298:U:H4'	1:A:1299:A:C4	2.34	0.62
7:G:44:SER:O	7:G:48:THR:HG23	2.00	0.62
2:B:101:THR:HA	2:B:178:LEU:HD21	1.82	0.62
6:F:7:VAL:HA	6:F:60:VAL:O	2.00	0.62
1:A:1028:C:O2	1:A:1028:C:H2'	1.98	0.62
1:A:1034:G:H2'	1:A:1035:A:C8	2.35	0.62
21:U:10:PRO:O	21:U:11:PHE:CD2	2.53	0.62
1:A:1505:G:H4'	1:A:1506:U:H5''	1.82	0.62
1:A:237:G:OP1	17:Q:41:THR:HG23	2.00	0.62
16:P:41:PRO:O	16:P:42:ILE:HD13	2.00	0.61
1:A:100:G:C8	1:A:101:A:N7	2.68	0.61
9:I:5:TYR:HB2	9:I:20:ILE:HB	1.81	0.61
9:I:49:GLN:N	9:I:50:PRO:HD2	2.15	0.61
1:A:934:C:C6	1:A:1344:C:C5	2.88	0.61
9:I:56:MET:N	9:I:56:MET:SD	2.73	0.61
2:B:58:LYS:HA	2:B:61:SER:HB2	1.82	0.61
14:N:24:ALA:O	14:N:27:LYS:CG	2.47	0.61
1:A:471:U:O2'	1:A:472:U:H5'	2.00	0.61
4:D:77:GLU:OE1	4:D:77:GLU:HA	1.99	0.61
13:M:9:PRO:O	13:M:10:ASP:CB	2.48	0.61
8:H:65:PHE:CD1	8:H:65:PHE:C	2.72	0.61
2:B:67:LEU:HB3	2:B:160:LEU:HD12	1.82	0.61
12:L:86:VAL:HG11	12:L:89:LEU:HD22	1.82	0.61
21:U:9:GLU:HG2	21:U:10:PRO:HD3	1.82	0.61
4:D:55:ARG:NH1	4:D:55:ARG:HA	2.14	0.61
1:A:436:C:C2	1:A:437:U:C5	2.88	0.61
1:A:78:A:C6	1:A:79:G:C6	2.87	0.61
4:D:160:LEU:HD22	4:D:161:ALA:H	1.63	0.61
6:F:3:HIS:H	6:F:92:THR:HG23	1.64	0.61
12:L:89:LEU:HB2	12:L:92:VAL:CG2	2.29	0.61
6:F:24:ARG:O	6:F:27:ALA:HB3	2.00	0.61
1:A:644:U:H5'	8:H:83:ARG:HH12	1.64	0.61
1:A:412:A:C2	1:A:414:A:H1'	2.34	0.61
1:A:1067:A:H4'	1:A:1068:G:O5'	1.99	0.61
6:F:1:MET:HE1	6:F:67:PRO:HB3	1.83	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:21:HIS:CE1	11:K:34:THR:HG21	2.34	0.61
8:H:65:PHE:O	8:H:66:GLN:O	2.19	0.61
1:A:1298:U:H4'	1:A:1299:A:N9	2.16	0.61
20:T:63:LYS:HA	20:T:63:LYS:HE3	1.82	0.61
1:A:1534:A:C4'	1:A:1535:C:OP1	2.47	0.61
1:A:861:G:C5	1:A:862:C:C5	2.87	0.61
1:A:1410:A:C2	1:A:1491:G:C2	2.88	0.61
1:A:1493:A:OP2	1:A:1493:A:H8	1.84	0.61
7:G:39:GLU:HB2	7:G:43:TYR:HE2	1.64	0.61
8:H:64:TYR:N	8:H:64:TYR:CD1	2.69	0.61
1:A:1486:G:H2'	1:A:1487:G:O4'	1.99	0.61
13:M:28:ARG:HG3	13:M:62:PHE:CE2	2.36	0.61
19:S:40:PHE:HA	19:S:66:VAL:HG13	1.83	0.61
1:A:1126:U:N1	1:A:1281:C:C5	2.69	0.61
20:T:56:ILE:O	20:T:60:GLN:HG2	2.00	0.61
9:I:75:ALA:HA	9:I:78:ILE:HD12	1.81	0.61
1:A:1122:U:C2	1:A:1123:U:C6	2.88	0.61
15:O:69:LEU:HD13	15:O:77:TYR:HB2	1.81	0.61
5:E:124:ALA:O	5:E:125:LYS:CB	2.49	0.61
7:G:34:LYS:HB3	7:G:37:THR:HG22	1.82	0.61
1:A:600:A:C4	1:A:639:G:N2	2.68	0.61
1:A:1471:U:O2'	1:A:1472:U:H5'	2.01	0.61
4:D:3:TYR:O	4:D:4:LEU:HB2	2.00	0.61
21:U:26:GLY:O	21:U:30:GLU:HB2	2.01	0.61
14:N:90:ARG:HB2	14:N:92:GLU:HG3	1.83	0.61
1:A:1356:G:H2'	1:A:1357:A:C8	2.35	0.61
12:L:2:THR:HB	12:L:5:GLN:CG	2.31	0.61
18:R:31:TYR:O	18:R:39:VAL:HG23	2.00	0.61
10:J:53:ILE:HG22	10:J:61:ALA:C	2.21	0.61
16:P:42:ILE:O	16:P:44:SER:N	2.34	0.61
1:A:723:U:H5'	1:A:724:G:OP1	2.01	0.61
7:G:41:ILE:HG23	7:G:116:ALA:HB2	1.82	0.61
1:A:1536:C:H5''	1:A:1537:U:OP2	2.01	0.61
2:B:49:PHE:CD1	2:B:49:PHE:O	2.53	0.61
4:D:34:GLU:O	4:D:36:ALA:N	2.32	0.61
5:E:17:VAL:HG13	5:E:18:ASN:N	2.14	0.61
1:A:1377:A:N3	7:G:1:PRO:CG	2.64	0.61
1:A:1219:A:H2'	1:A:1220:G:C8	2.35	0.61
11:K:75:GLU:HB2	11:K:76:TYR:CD1	2.35	0.61
1:A:1028:C:C6	1:A:1034:G:N2	2.68	0.61
2:B:61:SER:HA	2:B:223:GLY:HA2	1.83	0.61
3:C:101:ASN:C	3:C:102:ILE:CG1	2.69	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1265:C:C2	1:A:1271:A:C2	2.88	0.61
1:A:1021:A:H2'	1:A:1022:A:H5''	1.83	0.61
17:Q:14:ASP:OD2	17:Q:53:GLY:HA2	2.01	0.61
8:H:77:VAL:HG11	8:H:124:ILE:CD1	2.30	0.61
6:F:55:HIS:O	6:F:56:LYS:HB2	2.01	0.61
12:L:42:LYS:HG2	12:L:43:LYS:HD3	1.81	0.61
6:F:43:GLY:O	6:F:58:HIS:HA	2.01	0.61
9:I:12:LYS:O	9:I:13:SER:HB3	2.00	0.61
4:D:172:VAL:O	4:D:173:ASP:CB	2.49	0.61
19:S:28:LYS:HB3	19:S:29:PRO:HD2	1.83	0.61
3:C:114:LEU:O	3:C:115:VAL:C	2.39	0.61
17:Q:12:VAL:CG1	17:Q:21:VAL:HG22	2.30	0.61
3:C:153:SER:CB	3:C:164:THR:HG22	2.31	0.61
12:L:18:SER:O	12:L:21:PRO:HD3	2.01	0.61
1:A:765:G:H3'	1:A:812:G:H22	1.65	0.61
1:A:154:U:O2	1:A:154:U:H2'	2.01	0.61
1:A:1113:C:N3	1:A:1114:C:C5	2.68	0.61
14:N:35:ALA:HB2	14:N:42:TRP:CH2	2.36	0.61
1:A:1308:U:H5''	13:M:96:VAL:HG23	1.82	0.60
13:M:68:LEU:O	13:M:71:GLU:HB2	2.01	0.60
1:A:1493:A:OP2	1:A:1493:A:C8	2.54	0.60
11:K:90:PRO:O	11:K:91:GLY:C	2.37	0.60
1:A:135:C:C2	16:P:1:MET:HB2	2.36	0.60
1:A:459:A:C2	1:A:460:A:C4	2.89	0.60
19:S:55:GLN:CD	19:S:56:HIS:H	2.04	0.60
13:M:15:VAL:HG13	13:M:33:LEU:HD12	1.83	0.60
1:A:1221:G:C4'	19:S:76:THR:HG21	2.31	0.60
1:A:101:A:C2'	1:A:102:G:O5'	2.49	0.60
2:B:99:MET:O	2:B:103:TRP:CA	2.49	0.60
1:A:678:U:H2'	1:A:679:C:C6	2.37	0.60
1:A:60:A:N1	1:A:107:G:O2'	2.31	0.60
1:A:1420:U:H2'	1:A:1421:G:O4'	2.00	0.60
7:G:4:ARG:NE	7:G:4:ARG:HA	2.15	0.60
1:A:978:A:C5	1:A:1318:A:N6	2.69	0.60
1:A:938:A:N6	1:A:939:G:C6	2.70	0.60
17:Q:14:ASP:HA	17:Q:20:ILE:CD1	2.31	0.60
5:E:154:ALA:HB3	5:E:155:LYS:CE	2.31	0.60
1:A:1141:C:O2'	1:A:1142:G:P	2.59	0.60
1:A:767:A:O2'	1:A:1524:C:O2	2.17	0.60
1:A:87:C:H2'	1:A:88:U:N1	2.16	0.60
10:J:26:VAL:HG22	10:J:36:VAL:HG11	1.81	0.60
2:B:159:ALA:HA	2:B:181:PRO:HD2	1.83	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:714:G:H2'	1:A:715:A:C8	2.36	0.60
15:O:72:LYS:CE	15:O:72:LYS:HA	2.30	0.60
1:A:1423:G:H2'	1:A:1424:U:H6	1.67	0.60
8:H:33:VAL:HG12	8:H:34:ALA:N	2.16	0.60
1:A:1381:U:C5	1:A:1382:C:C5	2.88	0.60
1:A:317:U:C2	1:A:318:G:C8	2.89	0.60
5:E:37:VAL:CG1	5:E:116:VAL:HG21	2.31	0.60
15:O:3:SER:O	15:O:7:THR:HG23	2.00	0.60
1:A:357:G:OP1	1:A:367:U:H2'	2.02	0.60
1:A:344:A:H4'	1:A:345:C:OP2	2.01	0.60
1:A:1010:U:H2'	1:A:1011:C:C6	2.36	0.60
1:A:954:G:N2	1:A:1228:C:N3	2.48	0.60
4:D:4:LEU:CD1	4:D:4:LEU:N	2.64	0.60
2:B:163:ILE:HA	2:B:185:ILE:HG22	1.83	0.60
21:U:33:ARG:NE	21:U:34:ARG:HB2	2.16	0.60
17:Q:13:SER:HB3	17:Q:21:VAL:HG13	1.83	0.60
5:E:89:THR:HG22	5:E:90:GLY:N	2.17	0.60
10:J:18:ILE:CG2	10:J:19:ASP:N	2.63	0.60
1:A:934:C:C5	1:A:1344:C:C5	2.88	0.60
7:G:50:ALA:HB2	7:G:57:GLU:OE2	2.01	0.60
1:A:149:A:C2	1:A:150:U:N1	2.69	0.60
1:A:207:C:H2'	1:A:207:C:O2	2.01	0.60
18:R:38:ILE:HD11	18:R:55:ALA:HA	1.83	0.60
1:A:1157:A:H4'	1:A:1158:C:O5'	2.01	0.60
1:A:435:A:H2'	1:A:436:C:O5'	2.02	0.60
11:K:30:ILE:O	11:K:30:ILE:HG12	2.01	0.60
1:A:50:A:N6	1:A:361:G:C4'	2.64	0.60
22:V:14:A:C2	22:V:15:G:H1'	2.37	0.60
7:G:66:GLU:HG2	7:G:66:GLU:O	2.01	0.60
13:M:15:VAL:CG1	13:M:33:LEU:HD12	2.31	0.60
1:A:1217:C:H2'	1:A:1218:C:H6	1.66	0.60
1:A:1221:G:H4'	19:S:76:THR:HG22	1.83	0.60
1:A:785:G:C2'	1:A:786:G:H5'	2.32	0.60
21:U:13:VAL:O	21:U:15:LEU:HD11	2.02	0.60
7:G:70:PRO:HG3	7:G:102:TRP:CH2	2.36	0.60
15:O:9:LYS:O	15:O:13:GLU:HG3	2.02	0.60
1:A:1342:C:H1'	9:I:125:GLN:HG3	1.83	0.60
5:E:73:VAL:O	5:E:75:LEU:HD12	2.02	0.60
1:A:802:A:C2	1:A:803:G:H1'	2.37	0.60
11:K:14:GLN:HG3	11:K:14:GLN:O	2.01	0.60
2:B:66:ILE:HG22	2:B:67:LEU:N	2.15	0.60
9:I:56:MET:HB3	9:I:60:LEU:CD2	2.32	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:47:LEU:CD2	4:D:52:VAL:HG12	2.32	0.60
1:A:120:A:H4'	1:A:121:U:OP1	2.02	0.60
13:M:25:GLY:O	13:M:27:THR:N	2.35	0.60
1:A:1060:U:C5	3:C:1:GLY:HA3	2.36	0.60
1:A:1218:C:H2'	1:A:1219:A:C8	2.37	0.60
4:D:190:LEU:H	4:D:190:LEU:HD12	1.67	0.60
20:T:53:MET:HE1	20:T:57:VAL:HG21	1.82	0.60
20:T:82:ILE:HD12	20:T:86:ALA:HB3	1.84	0.60
9:I:28:VAL:HB	9:I:63:TYR:HD2	1.67	0.60
1:A:17:U:H2'	1:A:18:C:C6	2.36	0.60
10:J:78:GLU:O	10:J:78:GLU:HG3	2.02	0.60
6:F:6:ILE:HG22	6:F:7:VAL:N	2.17	0.60
1:A:1490:U:C2'	1:A:1491:G:H5'	2.32	0.60
1:A:1204:A:O5'	1:A:1204:A:H8	1.85	0.60
1:A:646:G:H2'	1:A:647:C:O4'	2.02	0.60
16:P:23:ASP:O	16:P:26:ASN:ND2	2.34	0.60
9:I:119:LYS:O	9:I:120:ALA:HB3	2.02	0.60
1:A:484:G:C5	1:A:486:U:H1'	2.36	0.60
17:Q:11:VAL:HA	17:Q:22:VAL:HG13	1.84	0.60
21:U:3:ILE:N	21:U:18:PHE:CE1	2.70	0.60
2:B:99:MET:O	2:B:103:TRP:HB2	2.02	0.60
1:A:465:A:C6	1:A:466:A:C6	2.90	0.60
22:V:26:A:H2'	22:V:27:G:H5'	1.82	0.60
1:A:1422:G:C2	1:A:1423:G:C8	2.90	0.60
10:J:52:LEU:HB2	14:N:81:ARG:HD2	1.82	0.60
4:D:18:LEU:HD22	4:D:63:ILE:HG13	1.84	0.60
1:A:229:U:H2'	1:A:230:G:O4'	2.02	0.60
1:A:1534:A:H4'	1:A:1535:C:OP1	2.02	0.60
1:A:934:C:C6	1:A:1344:C:C6	2.90	0.60
10:J:67:ILE:HG23	14:N:95:GLY:O	2.01	0.60
2:B:53:LEU:HD12	2:B:219:THR:HG21	1.84	0.60
10:J:84:VAL:O	10:J:88:MET:HG2	2.01	0.60
7:G:34:LYS:HB2	7:G:37:THR:CG2	2.32	0.60
17:Q:11:VAL:HG23	17:Q:56:ASP:O	2.01	0.59
1:A:1101:A:H1'	1:A:1102:A:O4'	2.02	0.59
1:A:1092:A:N6	1:A:1093:A:C6	2.70	0.59
10:J:67:ILE:HG12	14:N:96:LEU:HA	1.83	0.59
1:A:1250:A:C8	1:A:1287:A:N7	2.70	0.59
21:U:13:VAL:O	21:U:15:LEU:CD1	2.50	0.59
3:C:166:TRP:CE3	3:C:166:TRP:C	2.75	0.59
1:A:341:C:O2	1:A:349:A:C2	2.55	0.59
1:A:1444:U:C2'	1:A:1445:U:O5'	2.50	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:T:32:LYS:O	20:T:33:LYS:C	2.40	0.59
1:A:376:G:C4	1:A:377:G:C8	2.89	0.59
1:A:678:U:O2'	1:A:679:C:H5'	2.03	0.59
6:F:19:PRO:HA	6:F:22:ILE:CG1	2.32	0.59
3:C:76:ILE:CA	3:C:83:VAL:HG23	2.32	0.59
21:U:13:VAL:HG12	21:U:15:LEU:HD23	1.82	0.59
1:A:78:A:N6	1:A:79:G:C6	2.70	0.59
16:P:79:ASN:ND2	16:P:82:ALA:HB3	2.17	0.59
2:B:118:THR:O	2:B:119:GLN:CB	2.49	0.59
1:A:1358:U:OP1	14:N:75:ARG:HB2	2.02	0.59
1:A:98:A:H2'	1:A:99:C:O4'	2.03	0.59
11:K:61:ALA:O	11:K:64:VAL:HG13	2.02	0.59
20:T:43:LYS:HE2	20:T:85:LEU:O	2.02	0.59
6:F:71:ILE:CG2	6:F:72:ASP:N	2.66	0.59
2:B:90:PHE:O	2:B:90:PHE:CD2	2.55	0.59
1:A:110:C:C4	1:A:111:G:C5	2.90	0.59
4:D:86:GLY:HA3	4:D:196:GLU:HB3	1.84	0.59
4:D:172:VAL:O	4:D:173:ASP:HB3	2.01	0.59
3:C:52:SER:O	3:C:53:ARG:CB	2.50	0.59
1:A:181:A:N6	1:A:194:C:H2'	2.16	0.59
4:D:137:SER:O	4:D:140:ASP:HB2	2.02	0.59
1:A:979:C:C5	1:A:980:C:C5	2.90	0.59
1:A:1060:U:C4	3:C:1:GLY:N	2.61	0.59
1:A:1368:A:H2'	1:A:1369:C:H6	1.66	0.59
17:Q:47:ASP:N	17:Q:47:ASP:OD2	2.35	0.59
11:K:19:VAL:HG13	11:K:82:GLU:O	2.02	0.59
8:H:29:SER:O	8:H:30:LYS:C	2.41	0.59
1:A:1057:G:O3'	3:C:196:GLY:HA3	2.02	0.59
1:A:820:U:H4'	1:A:821:G:OP2	2.02	0.59
2:B:205:ALA:C	2:B:207:ARG:N	2.55	0.59
5:E:149:PRO:HB3	8:H:98:LEU:HD21	1.85	0.59
4:D:202:LEU:HD12	4:D:202:LEU:C	2.23	0.59
1:A:1262:C:C5	1:A:1263:C:C5	2.90	0.59
1:A:73:C:H1'	1:A:74:A:H5'	1.85	0.59
10:J:58:ASN:O	10:J:60:ASP:N	2.34	0.59
20:T:31:ILE:HG12	20:T:53:MET:HE3	1.84	0.59
2:B:99:MET:HB3	2:B:106:VAL:HG21	1.84	0.59
10:J:22:THR:HA	10:J:25:ILE:HG21	1.84	0.59
2:B:84:LEU:HG	2:B:84:LEU:O	2.03	0.59
20:T:5:SER:OG	20:T:6:ALA:N	2.33	0.59
1:A:557:G:H3'	1:A:558:G:C8	2.38	0.59
4:D:173:ASP:O	4:D:174:ALA:HB3	2.03	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1471:U:C2'	1:A:1472:U:H5'	2.32	0.59
8:H:31:LEU:O	8:H:31:LEU:HD12	2.01	0.59
1:A:1503:A:C8	1:A:1531:A:H1'	2.38	0.59
20:T:66:ILE:C	20:T:67:HIS:CD2	2.76	0.59
2:B:169:HIS:HA	2:B:172:ILE:HD12	1.84	0.59
1:A:152:A:N6	1:A:170:U:C2	2.71	0.59
1:A:1355:G:C4	1:A:1368:A:C2	2.91	0.59
4:D:178:GLU:HG2	4:D:179:GLY:N	2.17	0.59
1:A:206:C:H2'	1:A:207:C:H4'	1.84	0.59
1:A:1499:A:C2'	1:A:1500:A:O5'	2.49	0.59
1:A:92:U:H5'	1:A:93:U:OP2	2.03	0.59
1:A:969:A:C5	1:A:970:C:C5	2.91	0.59
22:V:38:A:H2'	22:V:39:U:O5'	2.03	0.59
13:M:79:LEU:CD2	13:M:84:CYS:SG	2.91	0.59
1:A:738:C:C2	1:A:739:C:C5	2.91	0.59
1:A:1113:C:O2	1:A:1114:C:C6	2.56	0.59
2:B:49:PHE:HD1	2:B:53:LEU:HD23	1.68	0.59
1:A:693:G:C2	23:X:13:A:N6	2.71	0.59
1:A:25:C:C4	1:A:558:G:N2	2.71	0.59
15:O:63:ARG:NH1	15:O:87:ARG:NH2	2.50	0.59
4:D:145:ARG:CZ	4:D:147:LYS:HE3	2.33	0.59
22:V:45:U:H5''	22:V:46:G:OP2	2.03	0.59
1:A:1268:G:O2'	1:A:1269:A:H5'	2.02	0.59
1:A:1323:G:H2'	1:A:1324:A:H8	1.68	0.59
1:A:1345:U:C2	1:A:1377:A:C6	2.90	0.59
5:E:152:VAL:HG23	5:E:156:ARG:HB3	1.85	0.59
10:J:7:ARG:HD3	10:J:75:ASP:OD1	2.02	0.59
1:A:594:U:C2	1:A:595:A:C8	2.91	0.59
1:A:688:G:O2'	1:A:704:A:N1	2.26	0.59
1:A:1356:G:O2'	1:A:1357:A:H5'	2.03	0.59
7:G:11:ILE:HD13	7:G:27:ASN:HD21	1.68	0.59
1:A:620:C:H1'	4:D:131:ILE:HD13	1.84	0.59
8:H:16:GLY:O	8:H:19:ALA:N	2.36	0.59
1:A:1206:G:H4'	3:C:191:THR:O	2.02	0.59
1:A:951:G:C2	1:A:1231:G:C2	2.91	0.59
1:A:1267:C:H2'	1:A:1268:G:H5'	1.84	0.59
1:A:978:A:HO2'	1:A:1322:C:H5	1.49	0.59
11:K:124:LYS:CE	11:K:125:LYS:HA	2.32	0.59
3:C:153:SER:HB2	3:C:164:THR:HG22	1.84	0.59
7:G:115:MET:O	7:G:119:LEU:HB2	2.02	0.59
1:A:386:C:H2'	1:A:387:U:H5'	1.83	0.59
1:A:1122:U:C2	1:A:1123:U:C5	2.91	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:283:U:H2'	1:A:284:C:C6	2.38	0.59
4:D:57:LYS:HB2	4:D:199:ILE:HD12	1.84	0.59
5:E:21:SER:HB2	5:E:30:PHE:CD2	2.38	0.59
13:M:38:ILE:HG13	13:M:55:LEU:HD11	1.83	0.59
11:K:80:ASN:HB3	11:K:105:ARG:HG2	1.84	0.59
2:B:79:VAL:HA	2:B:213:LEU:HD21	1.84	0.59
20:T:66:ILE:HG23	20:T:67:HIS:N	2.18	0.59
1:A:1514:G:O2'	1:A:1515:G:H5'	2.03	0.59
1:A:735:C:H2'	1:A:736:C:H6	1.68	0.59
21:U:9:GLU:HG3	21:U:10:PRO:HD3	1.84	0.59
1:A:107:G:O6	20:T:9:ARG:HD3	2.03	0.59
1:A:1122:U:C4	1:A:1123:U:C5	2.91	0.59
1:A:211:G:N3	1:A:212:G:H1'	2.17	0.59
6:F:49:TYR:HB2	6:F:50:PRO:CD	2.33	0.59
18:R:24:ASP:HB2	18:R:27:THR:HB	1.84	0.59
1:A:825:A:O2'	1:A:826:C:H5'	2.03	0.59
12:L:76:HIS:O	12:L:77:SER:CB	2.50	0.58
1:A:1295:U:H2'	1:A:1296:C:C6	2.38	0.58
13:M:7:ASN:ND2	13:M:9:PRO:HG3	2.17	0.58
17:Q:13:SER:O	17:Q:20:ILE:HD12	2.02	0.58
5:E:105:ILE:HD11	5:E:123:LEU:CD2	2.32	0.58
2:B:90:PHE:O	2:B:149:GLY:HA3	2.03	0.58
1:A:594:U:H3'	1:A:595:A:H8	1.67	0.58
1:A:66:A:C4'	1:A:173:U:C5	2.86	0.58
1:A:109:A:H4'	1:A:110:C:OP2	2.03	0.58
10:J:66:GLU:CG	14:N:99:ALA:HB2	2.32	0.58
1:A:192:A:H2'	1:A:193:C:H5'	1.85	0.58
3:C:114:LEU:O	3:C:117:ASP:N	2.36	0.58
1:A:1431:A:C6	1:A:1432:G:C6	2.91	0.58
1:A:577:G:C8	1:A:816:A:C6	2.91	0.58
1:A:290:C:O2'	1:A:291:U:H5'	2.02	0.58
17:Q:13:SER:C	17:Q:16:MET:HE1	2.24	0.58
12:L:23:LEU:HG	12:L:24:GLU:N	2.17	0.58
20:T:35:TYR:CE2	20:T:36:ALA:HB2	2.38	0.58
20:T:34:VAL:HG11	20:T:78:LEU:CD1	2.32	0.58
9:I:49:GLN:HA	9:I:52:GLU:OE2	2.01	0.58
1:A:466:A:H2'	1:A:468:A:H2	1.67	0.58
10:J:36:VAL:HA	10:J:76:ILE:HA	1.84	0.58
12:L:42:LYS:HE3	12:L:43:LYS:HD3	1.83	0.58
12:L:43:LYS:CB	12:L:44:PRO:HD3	2.33	0.58
2:B:57:ASN:HA	2:B:60:ALA:HB3	1.85	0.58
1:A:436:C:H2'	1:A:437:U:H6	1.67	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:110:MET:HB3	8:H:114:ALA:HB1	1.84	0.58
2:B:17:HIS:O	2:B:188:THR:HG23	2.03	0.58
5:E:121:ASN:CG	5:E:122:VAL:N	2.56	0.58
2:B:95:TRP:CZ3	2:B:96:LEU:O	2.56	0.58
2:B:53:LEU:CD1	2:B:219:THR:HG21	2.32	0.58
1:A:1388:C:H2'	1:A:1389:C:C6	2.38	0.58
6:F:19:PRO:HA	6:F:22:ILE:HG13	1.85	0.58
1:A:164:G:H2'	1:A:165:G:H5'	1.85	0.58
1:A:867:G:H2'	1:A:868:C:H6	1.69	0.58
1:A:1062:U:C2'	1:A:1063:C:C6	2.83	0.58
1:A:448:A:C8	1:A:487:A:C6	2.92	0.58
1:A:1142:G:C4	1:A:1143:G:H1'	2.38	0.58
20:T:24:ARG:O	20:T:28:ARG:HG2	2.02	0.58
1:A:459:A:H2'	1:A:460:A:C8	2.39	0.58
1:A:1022:A:C6	1:A:1023:U:C4	2.91	0.58
2:B:165:ALA:HB2	2:B:186:VAL:HG12	1.86	0.58
5:E:148:SER:CB	5:E:151:MET:HG3	2.31	0.58
20:T:53:MET:O	20:T:56:ILE:HG22	2.02	0.58
6:F:47:LEU:CD1	6:F:51:ILE:HG23	2.32	0.58
1:A:1003:G:N2	1:A:1004:A:O2'	2.37	0.58
14:N:64:CYS:SG	14:N:83:LYS:HG3	2.44	0.58
1:A:718:A:H5'	11:K:118:ASN:ND2	2.19	0.58
1:A:112:G:H2'	1:A:113:G:H5'	1.84	0.58
15:O:34:GLN:HE22	15:O:38:LEU:HD22	1.69	0.58
14:N:41:ARG:NH1	14:N:45:VAL:HG11	2.19	0.58
1:A:1527:U:OP2	21:U:38:GLU:CG	2.51	0.58
1:A:435:A:C2'	1:A:436:C:O5'	2.51	0.58
22:V:7:A:H3'	22:V:8:U:H5'	1.86	0.58
8:H:88:LYS:HG3	8:H:89:ASP:N	2.18	0.58
15:O:44:GLU:HG2	15:O:45:HIS:N	2.18	0.58
2:B:32:GLY:O	2:B:33:ALA:HB2	2.02	0.58
1:A:71:A:C2	1:A:100:G:N9	2.72	0.58
18:R:41:SER:HB3	18:R:51:GLN:NE2	2.19	0.58
15:O:73:ASP:CB	15:O:76:ARG:HG3	2.34	0.58
9:I:98:ARG:HA	9:I:103:VAL:HG11	1.85	0.58
1:A:50:A:N6	1:A:361:G:H4'	2.18	0.58
8:H:17:GLN:HG2	8:H:62:LEU:HD13	1.85	0.58
1:A:579:A:C2'	1:A:580:C:H5'	2.33	0.58
21:U:45:LYS:HG2	21:U:45:LYS:O	2.03	0.58
1:A:1000:A:N3	1:A:1041:G:N2	2.50	0.58
17:Q:11:VAL:O	17:Q:12:VAL:HB	2.02	0.58
2:B:182:VAL:O	2:B:195:VAL:HG12	2.03	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:25:ALA:O	21:U:26:GLY:C	2.42	0.58
1:A:707:U:H2'	1:A:708:C:C6	2.38	0.58
1:A:279:A:H5''	1:A:281:G:C5'	2.34	0.58
14:N:61:ARG:O	14:N:62:ASN:HB2	2.04	0.58
1:A:22:G:H4'	1:A:885:G:C8	2.39	0.58
1:A:1272:G:C6	1:A:1273:C:C4	2.92	0.58
2:B:71:THR:HG22	2:B:94:ARG:NH1	2.19	0.58
5:E:81:GLN:H	5:E:146:MET:HE3	1.68	0.58
5:E:45:VAL:CG2	5:E:117:ALA:HB2	2.33	0.58
1:A:846:G:O2'	1:A:847:G:H5'	2.04	0.58
2:B:156:LEU:HD12	2:B:180:ILE:HD11	1.85	0.58
3:C:21:TRP:HD1	3:C:56:ILE:HG22	1.66	0.58
17:Q:51:GLU:HG2	17:Q:52:CYS:N	2.19	0.58
3:C:66:THR:HG22	3:C:67:ILE:N	2.19	0.58
1:A:1176:A:H2'	1:A:1177:G:O4'	2.04	0.58
1:A:543:U:C2'	1:A:544:G:H5'	2.34	0.58
10:J:91:ASP:O	10:J:92:LEU:O	2.22	0.58
19:S:6:LYS:HE2	19:S:6:LYS:CA	2.33	0.58
1:A:978:A:C5	1:A:1318:A:C6	2.92	0.58
13:M:89:ARG:HD2	13:M:95:PRO:O	2.04	0.58
19:S:68:HIS:HB3	19:S:72:GLU:OE2	2.03	0.58
4:D:28:ASP:O	4:D:29:THR:HB	2.04	0.58
5:E:109:ALA:O	5:E:110:MET:CB	2.52	0.58
5:E:94:PHE:CZ	5:E:96:GLN:HG2	2.38	0.58
20:T:54:GLN:HB3	20:T:55:PRO:CD	2.34	0.58
2:B:67:LEU:HD22	2:B:69:VAL:HG23	1.85	0.58
5:E:124:ALA:O	5:E:125:LYS:HB3	2.03	0.58
1:A:642:A:C2	8:H:104:SER:O	2.57	0.58
19:S:43:MET:HA	19:S:46:LEU:HD12	1.86	0.58
16:P:79:ASN:O	16:P:80:LYS:HB2	2.02	0.58
1:A:1237:C:C6	1:A:1336:C:N4	2.71	0.58
1:A:420:U:C2'	1:A:421:U:H5''	2.34	0.58
4:D:109:THR:O	4:D:111:ALA:N	2.37	0.58
16:P:3:THR:HG22	16:P:66:THR:OG1	2.03	0.58
7:G:64:ALA:HB1	7:G:126:ALA:HB1	1.85	0.58
1:A:466:A:H2'	1:A:468:A:C2	2.38	0.58
21:U:24:LYS:CG	21:U:25:ALA:N	2.66	0.58
1:A:674:G:H4'	18:R:69:TYR:CE1	2.38	0.58
20:T:4:LYS:O	20:T:6:ALA:N	2.36	0.58
1:A:209:U:O2	1:A:209:U:H2'	2.04	0.58
1:A:328:C:H4'	1:A:329:A:H5''	1.85	0.58
1:A:1162:C:H1'	1:A:1175:G:N2	2.19	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:94:ARG:HA	7:G:97:ALA:HB3	1.86	0.58
1:A:1210:C:O4'	1:A:1214:C:C4	2.57	0.58
1:A:1276:G:C5	1:A:1277:C:C5	2.92	0.57
7:G:41:ILE:HD13	7:G:115:MET:HB3	1.85	0.57
4:D:160:LEU:CD2	4:D:161:ALA:N	2.66	0.57
1:A:1092:A:C6	1:A:1093:A:C6	2.92	0.57
1:A:1489:G:C4	1:A:1490:U:C6	2.92	0.57
14:N:80:SER:O	14:N:84:VAL:HG23	2.04	0.57
1:A:112:G:C6	1:A:330:C:C5	2.92	0.57
1:A:145:G:C2'	1:A:146:G:O5'	2.52	0.57
8:H:20:ASN:HA	8:H:64:TYR:CE2	2.39	0.57
8:H:111:THR:O	8:H:114:ALA:HB3	2.03	0.57
1:A:993:G:N3	1:A:993:G:H2'	2.19	0.57
1:A:736:C:H2'	1:A:737:C:C6	2.38	0.57
2:B:90:PHE:HE2	2:B:148:GLY:O	1.87	0.57
2:B:90:PHE:H	2:B:149:GLY:HA3	1.68	0.57
1:A:423:G:H2'	1:A:424:G:O4'	2.04	0.57
11:K:89:GLY:O	11:K:90:PRO:O	2.22	0.57
1:A:149:A:C2	1:A:150:U:C2	2.92	0.57
3:C:83:VAL:O	3:C:86:LEU:HB2	2.03	0.57
8:H:82:LEU:CD1	8:H:84:ILE:HD11	2.34	0.57
1:A:1009:U:H2'	1:A:1010:U:H5'	1.86	0.57
1:A:1010:U:H2'	1:A:1011:C:H6	1.69	0.57
1:A:1273:C:C6	1:A:1274:A:C8	2.92	0.57
20:T:43:LYS:CD	20:T:86:ALA:HA	2.33	0.57
1:A:1130:A:C2'	1:A:1131:G:H5'	2.35	0.57
1:A:1073:U:C2	1:A:1074:G:C8	2.91	0.57
11:K:87:GLY:H	11:K:113:THR:HG22	1.67	0.57
12:L:2:THR:HG22	12:L:4:ASN:H	1.69	0.57
4:D:153:ARG:O	4:D:157:ALA:HB2	2.05	0.57
1:A:290:C:C2'	1:A:291:U:H5'	2.34	0.57
22:V:5:G:C2	22:V:69:G:C2	2.92	0.57
1:A:889:A:H4'	1:A:890:G:OP1	2.05	0.57
1:A:1120:C:H2'	1:A:1121:U:H6	1.69	0.57
21:U:46:ARG:HA	21:U:49:ALA:HB3	1.86	0.57
1:A:150:U:C4	1:A:170:U:C5	2.93	0.57
1:A:1450:U:H2'	1:A:1452:C:C5	2.39	0.57
14:N:45:VAL:HG23	14:N:46:LEU:H	1.67	0.57
4:D:101:VAL:HG12	4:D:113:ALA:HB1	1.85	0.57
1:A:264:C:H2'	1:A:265:G:O4'	2.05	0.57
1:A:660:C:H2'	1:A:661:G:O4'	2.04	0.57
14:N:5:MET:HB3	14:N:63:ARG:NH2	2.18	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1345:U:H2'	25:A:1832:HOH:O	2.05	0.57
9:I:128:LYS:CD	9:I:129:ARG:H	2.18	0.57
13:M:66:GLY:HA2	13:M:69:ARG:CD	2.35	0.57
2:B:185:ILE:HA	2:B:199:ILE:HB	1.85	0.57
20:T:66:ILE:HD11	20:T:70:LYS:CD	2.33	0.57
1:A:730:G:O2'	1:A:766:A:H5'	2.03	0.57
1:A:72:A:C6	1:A:73:C:N4	2.72	0.57
1:A:1073:U:H5'	1:A:1074:G:OP2	2.05	0.57
10:J:18:ILE:HG23	10:J:19:ASP:N	2.18	0.57
1:A:1049:U:H4'	1:A:1050:G:OP2	2.05	0.57
1:A:145:G:H2'	1:A:146:G:O5'	2.04	0.57
1:A:244:U:H4'	1:A:245:U:C5'	2.35	0.57
9:I:89:TYR:O	9:I:93:LEU:HD21	2.04	0.57
12:L:6:LEU:HD22	12:L:11:ARG:HD2	1.85	0.57
1:A:1245:C:O2'	1:A:1246:A:H5'	2.04	0.57
1:A:1032:G:N3	1:A:1032:G:H3'	2.19	0.57
1:A:430:A:H4'	4:D:6:PRO:HG3	1.87	0.57
5:E:95:MET:HE2	5:E:114:LEU:HD21	1.84	0.57
5:E:100:GLU:HA	5:E:121:ASN:CB	2.34	0.57
1:A:189:A:C2'	1:A:190:A:O5'	2.52	0.57
1:A:735:C:H2'	1:A:736:C:C6	2.39	0.57
1:A:842:U:C2	1:A:845:A:OP1	2.57	0.57
6:F:86:ARG:HH11	6:F:86:ARG:HG2	1.69	0.57
2:B:219:THR:H	2:B:221:ARG:HD3	1.69	0.57
2:B:49:PHE:HB2	2:B:212:TYR:OH	2.05	0.57
1:A:1387:G:C6	1:A:1388:C:C4	2.92	0.57
20:T:6:ALA:HB1	20:T:9:ARG:HB2	1.86	0.57
6:F:10:VAL:HG11	6:F:18:VAL:CG2	2.34	0.57
7:G:80:GLY:HA3	23:X:11:U:H5''	1.86	0.57
15:O:20:ASP:OD2	15:O:23:SER:HB2	2.05	0.57
15:O:69:LEU:HD22	15:O:77:TYR:HB2	1.87	0.57
9:I:98:ARG:HA	9:I:103:VAL:CG2	2.34	0.57
1:A:211:G:O2'	1:A:212:G:O4'	2.22	0.57
11:K:100:ASN:OD1	11:K:100:ASN:C	2.41	0.57
13:M:78:ARG:O	13:M:82:LEU:HD23	2.04	0.57
2:B:71:THR:O	2:B:72:LYS:CG	2.52	0.57
1:A:1217:C:H2'	1:A:1218:C:C6	2.38	0.57
1:A:74:A:C2	1:A:97:G:C4	2.93	0.57
17:Q:60:ILE:O	17:Q:61:ARG:HB3	2.04	0.57
3:C:46:LEU:HB3	3:C:49:ALA:HB3	1.86	0.57
9:I:8:THR:HB	9:I:84:ARG:HH11	1.68	0.57
1:A:920:U:H2'	1:A:921:U:H6	1.69	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:502:A:H2'	1:A:503:C:H6	1.70	0.57
2:B:218:ALA:O	2:B:219:THR:HB	2.05	0.57
1:A:1050:G:H2'	1:A:1051:C:C6	2.40	0.57
8:H:82:LEU:HD13	8:H:82:LEU:C	2.25	0.57
10:J:9:ARG:O	10:J:98:VAL:HA	2.05	0.57
18:R:26:ALA:HA	18:R:29:LYS:HG2	1.86	0.57
7:G:74:VAL:HG21	7:G:143:MET:HG3	1.87	0.57
1:A:1257:A:H4'	1:A:1258:G:OP2	2.05	0.57
11:K:125:LYS:HA	21:U:33:ARG:HH21	1.69	0.57
1:A:994:A:C8	1:A:1216:A:H4'	2.40	0.57
1:A:1534:A:H4'	1:A:1535:C:H6	1.69	0.57
1:A:1130:A:C1'	1:A:1146:A:C2	2.88	0.57
1:A:920:U:C2	1:A:921:U:C5	2.93	0.57
8:H:77:VAL:HG12	8:H:78:SER:N	2.18	0.57
2:B:61:SER:C	2:B:63:LYS:N	2.58	0.57
1:A:1250:A:N7	1:A:1287:A:N7	2.53	0.57
1:A:158:G:C4	1:A:159:G:C8	2.93	0.57
4:D:83:GLY:O	4:D:84:ASN:C	2.42	0.57
1:A:833:G:O2'	1:A:834:U:H5'	2.05	0.57
3:C:5:HIS:CE1	3:C:183:TYR:CD2	2.93	0.57
1:A:1088:G:C2	1:A:1089:G:C4	2.93	0.57
1:A:705:G:H21	11:K:30:ILE:HD12	1.69	0.57
1:A:974:A:C8	14:N:71:HIS:CD2	2.92	0.57
1:A:1269:A:N1	1:A:1312:G:O2'	2.33	0.57
1:A:1310:G:C6	1:A:1311:A:C5	2.93	0.57
1:A:1151:A:N3	1:A:1152:A:N7	2.52	0.57
13:M:10:ASP:O	13:M:11:HIS:HB2	2.03	0.57
20:T:77:ASN:O	20:T:81:GLN:HG2	2.05	0.57
1:A:462:G:C5'	1:A:463:U:OP2	2.52	0.57
9:I:60:LEU:N	9:I:60:LEU:HD23	2.20	0.57
1:A:115:G:H4'	1:A:116:A:O5'	2.04	0.57
7:G:30:MET:HG2	7:G:30:MET:O	2.04	0.57
3:C:5:HIS:HE1	3:C:183:TYR:CD2	2.23	0.57
3:C:99:GLN:O	3:C:100:ILE:CB	2.53	0.57
19:S:29:PRO:HA	19:S:47:THR:O	2.04	0.57
2:B:118:THR:O	2:B:119:GLN:HB3	2.05	0.57
8:H:101:ALA:HB3	8:H:112:ASP:HB3	1.86	0.57
12:L:87:LYS:HG3	12:L:87:LYS:O	2.04	0.57
13:M:86:ARG:HG2	13:M:96:VAL:HG12	1.87	0.57
1:A:1256:A:N7	1:A:1258:G:N2	2.52	0.57
9:I:18:VAL:HA	9:I:64:ILE:HG22	1.87	0.57
6:F:6:ILE:HD12	6:F:6:ILE:N	2.19	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1490:U:O2'	1:A:1491:G:H5'	2.05	0.57
1:A:677:U:H1'	11:K:120:CYS:SG	2.44	0.57
1:A:62:U:O2'	1:A:379:C:H1'	2.05	0.57
4:D:195:ASN:HB3	4:D:197:HIS:HD2	1.69	0.57
1:A:649:A:H2'	1:A:650:G:O4'	2.04	0.57
1:A:234:C:H2'	1:A:235:C:C6	2.40	0.57
8:H:46:GLU:N	8:H:63:LYS:HG3	2.19	0.57
1:A:180:U:H2'	1:A:181:A:O5'	2.05	0.57
11:K:83:VAL:HG11	11:K:96:ILE:HG22	1.87	0.57
4:D:165:GLU:O	4:D:166:LYS:O	2.23	0.57
13:M:23:GLY:HA2	13:M:68:LEU:CD2	2.34	0.56
16:P:17:TYR:CD1	16:P:17:TYR:N	2.73	0.56
17:Q:60:ILE:HA	17:Q:74:LEU:HA	1.87	0.56
1:A:918:A:H2'	1:A:919:A:C8	2.40	0.56
16:P:19:VAL:HG13	16:P:38:PHE:N	2.19	0.56
1:A:1492:A:H3'	1:A:1493:A:C8	2.40	0.56
6:F:14:GLN:C	6:F:16:GLU:H	2.06	0.56
1:A:158:G:C2'	1:A:159:G:H5''	2.35	0.56
1:A:565:U:OP2	1:A:566:G:O2'	2.23	0.56
1:A:631:C:H5''	1:A:632:U:H5'	1.86	0.56
1:A:645:G:C6	1:A:646:G:N7	2.73	0.56
1:A:1444:U:H2'	1:A:1445:U:O5'	2.05	0.56
11:K:104:PHE:O	11:K:106:ILE:N	2.38	0.56
1:A:1397:C:O4'	1:A:1397:C:O2	2.21	0.56
7:G:135:LYS:O	7:G:136:LYS:C	2.43	0.56
1:A:979:C:C6	1:A:1318:A:N1	2.72	0.56
1:A:1275:A:H2'	1:A:1276:G:O4'	2.05	0.56
1:A:1061:G:C5'	10:J:61:ALA:HB2	2.35	0.56
5:E:99:SER:O	5:E:101:GLY:N	2.37	0.56
5:E:47:PHE:C	5:E:47:PHE:CD2	2.78	0.56
1:A:98:A:H2'	1:A:99:C:C6	2.40	0.56
1:A:1298:U:O2	1:A:1298:U:C2'	2.52	0.56
1:A:502:A:H2'	1:A:503:C:C6	2.40	0.56
10:J:5:ARG:HG3	10:J:6:ILE:CG1	2.35	0.56
18:R:66:LEU:HD23	18:R:66:LEU:N	2.20	0.56
3:C:144:GLY:O	3:C:145:ALA:O	2.23	0.56
15:O:26:VAL:O	15:O:27:GLN:C	2.43	0.56
1:A:210:C:H5''	1:A:211:G:OP1	2.05	0.56
10:J:87:LEU:HD22	10:J:87:LEU:C	2.25	0.56
1:A:1009:U:C2'	1:A:1010:U:H5'	2.35	0.56
1:A:22:G:H2'	1:A:23:C:C6	2.40	0.56
15:O:1:SER:O	15:O:2:LEU:HB2	2.05	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1346:A:N1	1:A:1374:A:H5''	2.20	0.56
1:A:1379:G:N7	7:G:1:PRO:HB2	2.20	0.56
14:N:48:LEU:O	14:N:51:LEU:HD21	2.05	0.56
3:C:149:LYS:HG3	3:C:200:TRP:CZ3	2.40	0.56
5:E:149:PRO:C	5:E:151:MET:H	2.08	0.56
5:E:45:VAL:HG22	5:E:117:ALA:HB2	1.87	0.56
1:A:1124:G:N2	1:A:1127:G:C2	2.74	0.56
9:I:45:MET:HA	9:I:47:VAL:HG23	1.86	0.56
9:I:25:GLY:O	9:I:62:LEU:HD21	2.06	0.56
2:B:99:MET:O	2:B:103:TRP:CB	2.54	0.56
1:A:919:A:C2	1:A:920:U:C5	2.93	0.56
2:B:133:ALA:O	2:B:137:THR:HG23	2.05	0.56
10:J:5:ARG:HG2	10:J:79:PRO:HD3	1.86	0.56
3:C:56:ILE:HG13	3:C:65:VAL:HG22	1.88	0.56
1:A:107:G:H2'	1:A:108:G:H5''	1.86	0.56
1:A:164:G:C2'	1:A:165:G:H5'	2.35	0.56
1:A:853:C:O2'	1:A:854:U:H5'	2.06	0.56
17:Q:44:HIS:HB2	17:Q:69:THR:HG22	1.87	0.56
14:N:49:GLN:HA	14:N:49:GLN:OE1	2.06	0.56
1:A:4:U:OP1	1:A:5:U:O4	2.21	0.56
22:V:20:U:O4'	22:V:20:U:P	2.64	0.56
1:A:969:A:C4	1:A:970:C:C6	2.93	0.56
8:H:87:ARG:O	8:H:88:LYS:HB3	2.06	0.56
7:G:58:LEU:HG	7:G:59:GLU:H	1.70	0.56
1:A:996:A:C2	1:A:1046:A:H4'	2.41	0.56
1:A:689:C:OP2	11:K:52:ARG:NH2	2.39	0.56
1:A:939:G:C6	1:A:940:C:C4	2.94	0.56
1:A:1182:G:C5'	1:A:1184:G:H5''	2.36	0.56
1:A:1250:A:O2'	1:A:1251:A:H5'	2.06	0.56
1:A:558:G:O5'	1:A:558:G:H8	1.88	0.56
1:A:1347:G:C8	9:I:108:ARG:HB3	2.40	0.56
9:I:106:ASP:OD2	9:I:108:ARG:HG3	2.06	0.56
1:A:601:G:O2'	1:A:602:A:H5'	2.06	0.56
1:A:1348:U:O3'	9:I:121:ARG:HB2	2.05	0.56
1:A:1364:U:O2	1:A:1364:U:H2'	2.04	0.56
1:A:1061:G:N7	1:A:1062:U:C5	2.74	0.56
5:E:121:ASN:CG	5:E:122:VAL:H	2.09	0.56
1:A:188:C:O2	1:A:188:C:C2'	2.52	0.56
1:A:71:A:C2'	1:A:72:A:O5'	2.54	0.56
1:A:1537:U:H3'	1:A:1538:C:C6	2.40	0.56
9:I:7:GLY:CA	9:I:84:ARG:HB3	2.36	0.56
3:C:110:LEU:N	3:C:110:LEU:CD2	2.68	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:374:A:O2'	1:A:375:U:H5'	2.05	0.56
2:B:59:ILE:HD12	2:B:60:ALA:N	2.21	0.56
7:G:79:VAL:HG12	7:G:80:GLY:H	1.70	0.56
1:A:622:A:H3'	1:A:623:C:H6	1.70	0.56
7:G:70:PRO:HA	7:G:137:ARG:HG3	1.87	0.56
4:D:58:GLN:O	4:D:62:ARG:HG2	2.05	0.56
7:G:7:GLY:O	7:G:8:GLN:HB3	2.04	0.56
5:E:21:SER:HB2	5:E:30:PHE:CE2	2.40	0.56
17:Q:77:VAL:C	17:Q:78:VAL:HG22	2.26	0.56
13:M:22:TYR:O	13:M:65:GLU:N	2.38	0.56
5:E:105:ILE:HD11	5:E:123:LEU:HD23	1.87	0.56
1:A:1261:A:H1'	1:A:1283:U:H5'	1.88	0.56
1:A:1261:A:N3	1:A:1262:C:C5	2.72	0.56
10:J:56:HIS:O	10:J:57:VAL:HG12	2.05	0.56
1:A:166:U:O2'	1:A:167:A:H5'	2.05	0.56
2:B:134:LEU:O	2:B:136:ARG:N	2.39	0.56
12:L:49:ARG:NH1	12:L:88:ASP:OD1	2.38	0.56
21:U:9:GLU:HG3	21:U:10:PRO:CD	2.36	0.56
2:B:53:LEU:HA	2:B:56:LEU:HB3	1.87	0.56
1:A:718:A:H5'	11:K:118:ASN:HD21	1.70	0.56
1:A:143:A:C5'	1:A:144:G:H5'	2.36	0.56
1:A:459:A:H2'	1:A:460:A:C1'	2.36	0.56
1:A:1421:G:C2	1:A:1422:G:C8	2.94	0.56
1:A:543:U:O2'	1:A:544:G:H5'	2.06	0.56
5:E:15:ILE:HD11	5:E:112:ALA:CB	2.36	0.56
2:B:65:LYS:HD2	2:B:65:LYS:N	2.20	0.56
1:A:1377:A:C2'	7:G:1:PRO:HG2	2.36	0.56
11:K:124:LYS:O	21:U:33:ARG:NE	2.35	0.56
5:E:153:ALA:O	5:E:156:ARG:N	2.39	0.56
3:C:154:GLY:O	3:C:156:LEU:N	2.39	0.56
10:J:73:LEU:HD22	10:J:75:ASP:HB2	1.88	0.56
6:F:70:VAL:HG23	6:F:71:ILE:N	2.20	0.56
1:A:677:U:C2'	1:A:678:U:H5'	2.36	0.56
12:L:64:SER:OG	12:L:96:THR:HG23	2.06	0.56
2:B:47:PRO:O	2:B:50:ASN:HB2	2.06	0.56
13:M:76:ILE:O	13:M:80:MET:HG3	2.05	0.56
5:E:67:ARG:O	5:E:70:MET:HE3	2.06	0.56
1:A:188:C:O2	1:A:189:A:C8	2.58	0.56
10:J:27:GLU:C	10:J:29:ALA:H	2.09	0.56
3:C:64:ARG:O	3:C:65:VAL:HB	2.05	0.56
1:A:110:C:N4	1:A:111:G:C6	2.73	0.56
1:A:112:G:C2'	1:A:113:G:H5'	2.35	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:150:LYS:O	4:D:151:GLN:OE1	2.23	0.56
3:C:133:MET:O	3:C:137:VAL:HG23	2.05	0.56
1:A:1160:G:O2'	1:A:1161:C:H6	1.89	0.56
19:S:63:ASP:HB3	19:S:64:GLU:CD	2.26	0.56
1:A:587:G:H4'	8:H:3:GLN:CB	2.36	0.56
1:A:587:G:H4'	8:H:3:GLN:HB3	1.88	0.56
4:D:137:SER:HB2	4:D:138:PRO:HD2	1.88	0.56
8:H:110:MET:HB3	8:H:114:ALA:CB	2.36	0.56
1:A:866:C:C4	1:A:867:G:H1'	2.41	0.56
1:A:867:G:H2'	1:A:868:C:C6	2.40	0.56
4:D:54:LEU:CD2	4:D:54:LEU:C	2.74	0.56
1:A:1055:A:H5''	1:A:1056:U:OP2	2.06	0.56
16:P:48:GLU:CG	16:P:49:GLY:H	2.19	0.56
1:A:1000:A:C2	1:A:1041:G:N2	2.73	0.56
3:C:154:GLY:O	3:C:156:LEU:HD12	2.06	0.56
1:A:994:A:N7	1:A:1216:A:H4'	2.21	0.56
1:A:96:U:O2'	1:A:97:G:O5'	2.24	0.56
1:A:1292:G:C6	1:A:1293:C:N4	2.74	0.56
1:A:1097:C:H2'	1:A:1098:C:C6	2.41	0.56
1:A:708:C:H2'	1:A:709:U:C6	2.41	0.56
14:N:73:PHE:CZ	14:N:78:GLY:HA2	2.41	0.56
1:A:1325:C:O2'	1:A:1326:U:H5'	2.06	0.56
19:S:35:ARG:HH21	19:S:74:ALA:HB3	1.70	0.56
3:C:149:LYS:HB3	3:C:168:ARG:CG	2.35	0.56
1:A:1166:G:H2'	1:A:1168:U:OP2	2.06	0.56
1:A:1014:A:H2'	1:A:1015:G:O4'	2.05	0.56
1:A:188:C:O2	1:A:189:A:C1'	2.54	0.56
3:C:89:VAL:HA	3:C:92:ASP:OD1	2.06	0.56
2:B:82:ALA:HA	2:B:85:SER:HB3	1.88	0.56
14:N:15:LEU:O	14:N:55:SER:HB2	2.06	0.56
21:U:25:ALA:HB3	23:X:8:A:H5'	1.88	0.56
1:A:108:G:O4'	1:A:108:G:N3	2.39	0.56
10:J:48:ARG:HH11	10:J:48:ARG:HG2	1.71	0.56
1:A:1451:U:O5'	1:A:1452:C:H5	1.89	0.56
8:H:20:ASN:HA	8:H:64:TYR:HE2	1.71	0.56
1:A:1375:A:H2'	1:A:1376:U:H5'	1.88	0.55
19:S:10:ILE:HG21	19:S:40:PHE:CE2	2.42	0.55
2:B:207:ARG:O	2:B:209:VAL:N	2.38	0.55
2:B:207:ARG:HB3	2:B:211:LEU:HD13	1.87	0.55
16:P:6:LEU:HD23	16:P:17:TYR:CG	2.41	0.55
17:Q:11:VAL:O	17:Q:22:VAL:HA	2.06	0.55
1:A:100:G:C8	1:A:101:A:C8	2.95	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:58:ARG:HA	3:C:63:ILE:HA	1.87	0.55
1:A:114:U:H2'	1:A:115:G:H5'	1.88	0.55
4:D:144:ILE:HG21	4:D:149:LYS:HA	1.88	0.55
1:A:620:C:C1'	4:D:131:ILE:HD13	2.36	0.55
1:A:511:C:H1'	1:A:512:U:C6	2.41	0.55
1:A:924:C:O2'	1:A:1502:A:N1	2.33	0.55
7:G:105:GLU:HA	7:G:108:ARG:HB2	1.87	0.55
1:A:1314:C:H2'	1:A:1315:U:H6	1.72	0.55
1:A:981:U:H2'	1:A:982:U:C5	2.41	0.55
13:M:90:HIS:O	13:M:92:ARG:N	2.40	0.55
12:L:20:VAL:N	12:L:21:PRO:HD2	2.21	0.55
1:A:987:G:C2	1:A:1219:A:C2	2.94	0.55
2:B:124:THR:C	2:B:125:PHE:CD2	2.80	0.55
2:B:222:GLU:OE2	2:B:225:SER:HA	2.05	0.55
1:A:687:A:C5	1:A:701:U:C5	2.94	0.55
1:A:525:C:H2'	1:A:526:C:H5'	1.88	0.55
18:R:59:LYS:O	18:R:62:ARG:HB2	2.05	0.55
1:A:978:A:N7	1:A:1318:A:N6	2.54	0.55
3:C:129:PHE:CE2	3:C:156:LEU:HD23	2.41	0.55
1:A:306:A:C2'	1:A:307:C:H5'	2.36	0.55
1:A:100:G:C5	1:A:101:A:C5	2.94	0.55
11:K:13:LYS:CD	11:K:13:LYS:C	2.75	0.55
9:I:25:GLY:H	9:I:58:GLU:CA	2.19	0.55
2:B:172:ILE:HG22	2:B:176:ASN:OD1	2.06	0.55
1:A:35:G:H2'	1:A:36:C:C6	2.41	0.55
1:A:451:A:H5'	16:P:70:ARG:HH12	1.71	0.55
1:A:175:C:H2'	1:A:176:C:C6	2.42	0.55
1:A:279:A:H4'	1:A:281:G:C8	2.42	0.55
4:D:86:GLY:CA	4:D:196:GLU:HB3	2.37	0.55
1:A:211:G:C2'	1:A:212:G:O4'	2.54	0.55
7:G:68:VAL:O	7:G:70:PRO:HD3	2.06	0.55
1:A:417:G:C5	1:A:418:C:C4	2.93	0.55
1:A:935:A:C2	1:A:936:C:C2	2.94	0.55
1:A:1379:G:O6	7:G:1:PRO:HD2	2.06	0.55
4:D:3:TYR:CE1	4:D:5:GLY:HA3	2.41	0.55
1:A:1273:C:C5	1:A:1274:A:N7	2.74	0.55
17:Q:15:LYS:O	17:Q:16:MET:SD	2.65	0.55
5:E:150:GLU:CG	5:E:151:MET:SD	2.95	0.55
1:A:1093:A:C2	1:A:1095:U:H4'	2.41	0.55
2:B:180:ILE:HG22	2:B:181:PRO:O	2.07	0.55
4:D:31:CYS:O	4:D:32:LYS:CB	2.54	0.55
4:D:195:ASN:HB3	4:D:197:HIS:CD2	2.41	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:O:75:ALA:C	15:O:77:TYR:N	2.56	0.55
15:O:77:TYR:O	15:O:80:LEU:N	2.39	0.55
1:A:403:C:O2'	1:A:404:G:H5'	2.07	0.55
7:G:137:ARG:NH2	7:G:138:GLU:HG2	2.21	0.55
18:R:24:ASP:O	18:R:27:THR:N	2.39	0.55
1:A:349:A:O2'	1:A:350:G:H5'	2.06	0.55
22:V:74:C:H5'	22:V:75:C:OP2	2.07	0.55
22:V:54:U:O5'	22:V:54:U:H6	1.90	0.55
1:A:1141:C:O2'	1:A:1142:G:O5'	2.23	0.55
1:A:76:G:N2	1:A:95:C:C2	2.74	0.55
1:A:1299:A:C6	1:A:1301:U:O2	2.60	0.55
8:H:7:ALA:HB2	8:H:76:ARG:HD2	1.88	0.55
12:L:43:LYS:HB2	12:L:44:PRO:HD3	1.89	0.55
14:N:83:LYS:HA	14:N:83:LYS:HE2	1.87	0.55
1:A:687:A:C4	1:A:701:U:H5	2.25	0.55
6:F:18:VAL:HG12	6:F:19:PRO:N	2.21	0.55
1:A:149:A:C2'	1:A:150:U:H5'	2.36	0.55
1:A:1368:A:H2'	1:A:1369:C:C6	2.40	0.55
18:R:39:VAL:HG13	18:R:40:PRO:HD2	1.88	0.55
16:P:77:GLU:C	16:P:79:ASN:H	2.08	0.55
1:A:791:G:C2'	1:A:792:A:H5'	2.36	0.55
1:A:389:A:C6	1:A:390:U:H1'	2.42	0.55
9:I:117:LEU:N	9:I:117:LEU:CD1	2.70	0.55
1:A:1124:G:O2'	1:A:1145:A:N6	2.39	0.55
7:G:123:LEU:O	7:G:126:ALA:HB3	2.07	0.55
20:T:85:LEU:HG	20:T:85:LEU:O	2.07	0.55
1:A:1148:U:C5	1:A:1149:C:C4	2.95	0.55
1:A:1148:U:H2'	1:A:1149:C:O4'	2.05	0.55
6:F:88:MET:CE	18:R:63:TYR:CD2	2.90	0.55
1:A:375:U:C4	1:A:376:G:N7	2.74	0.55
21:U:24:LYS:HG2	21:U:25:ALA:N	2.21	0.55
3:C:39:ARG:HG2	3:C:54:ILE:HD11	1.87	0.55
15:O:25:GLU:OE2	15:O:76:ARG:HB3	2.07	0.55
7:G:106:ALA:HB1	7:G:122:GLU:HG3	1.88	0.55
1:A:1088:G:C4	1:A:1089:G:C8	2.93	0.55
1:A:1518:A:C2	1:A:1519:A:C2	2.95	0.55
4:D:10:LEU:HD23	4:D:10:LEU:N	2.21	0.55
1:A:1317:C:H2'	1:A:1318:A:O4'	2.07	0.55
1:A:1375:A:C2'	1:A:1376:U:H5'	2.37	0.55
1:A:928:G:O2'	1:A:929:G:H5'	2.06	0.55
1:A:1276:G:C4	1:A:1277:C:C5	2.95	0.55
11:K:121:ARG:NH1	21:U:35:GLU:HG2	2.22	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:307:C:H2'	1:A:308:C:O5'	2.07	0.55
1:A:1124:G:N2	1:A:1127:G:N2	2.55	0.55
1:A:84:U:O2'	1:A:85:U:H5'	2.07	0.55
9:I:26:LYS:O	9:I:62:LEU:HD23	2.07	0.55
1:A:1007:U:H2'	1:A:1008:U:C5'	2.36	0.55
12:L:89:LEU:CB	12:L:92:VAL:HG21	2.34	0.55
14:N:91:GLY:O	14:N:93:ILE:N	2.40	0.55
14:N:44:ALA:HA	14:N:47:LYS:HG3	1.89	0.55
1:A:1160:G:C2	1:A:1161:C:C2	2.95	0.55
1:A:1172:C:H2'	1:A:1173:U:C6	2.41	0.55
13:M:1:ALA:CB	13:M:9:PRO:O	2.55	0.55
2:B:94:ARG:NE	2:B:94:ARG:H	2.05	0.55
1:A:1262:C:C5	1:A:1263:C:C4	2.95	0.55
1:A:786:G:C2	1:A:787:A:H1'	2.42	0.55
1:A:972:C:H2'	10:J:57:VAL:HG23	1.89	0.55
10:J:34:ALA:HB3	10:J:78:GLU:HG2	1.89	0.55
8:H:7:ALA:CB	8:H:76:ARG:HG3	2.37	0.55
1:A:1211:U:C2'	1:A:1212:U:OP2	2.54	0.55
1:A:474:G:C5	1:A:475:C:C5	2.95	0.55
8:H:79:ARG:HB2	8:H:80:PRO:HD3	1.87	0.55
1:A:1192:C:C5	1:A:1193:G:C8	2.95	0.55
1:A:420:U:H2'	1:A:421:U:H5''	1.88	0.55
22:V:75:C:H3'	22:V:76:A:H3'	1.89	0.55
9:I:16:ALA:HB2	9:I:66:VAL:HG23	1.88	0.55
1:A:1012:A:C2	1:A:1018:G:C2	2.95	0.55
1:A:486:U:O2	1:A:486:U:H2'	2.07	0.55
1:A:82:G:C6	1:A:83:C:C2	2.94	0.55
1:A:1261:A:C4	1:A:1262:C:C6	2.95	0.55
11:K:76:TYR:N	11:K:76:TYR:CD1	2.75	0.55
20:T:27:MET:O	20:T:31:ILE:HG13	2.07	0.55
6:F:46:GLN:HA	6:F:56:LYS:CG	2.37	0.55
3:C:96:VAL:HB	3:C:97:PRO:HD2	1.88	0.55
1:A:1157:A:C6	1:A:1180:A:C5	2.94	0.55
1:A:652:U:H1'	1:A:653:U:C5	2.42	0.55
4:D:25:ARG:HH11	4:D:30:LYS:HE3	1.72	0.55
1:A:1255:G:N1	1:A:1279:G:C8	2.75	0.55
1:A:764:C:H2'	1:A:765:G:H8	1.72	0.55
1:A:1103:C:C4	1:A:1104:G:N7	2.75	0.55
1:A:501:C:H2'	1:A:502:A:C8	2.41	0.55
9:I:90:ASP:OD2	9:I:93:LEU:HG	2.07	0.55
7:G:87:PRO:HB3	7:G:144:ALA:CB	2.37	0.55
8:H:100:ILE:HG22	8:H:112:ASP:OD1	2.07	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:176:THR:HG22	3:C:178:ARG:HG3	1.89	0.55
3:C:178:ARG:O	3:C:205:GLU:O	2.25	0.55
14:N:10:VAL:O	14:N:11:LYS:C	2.45	0.55
1:A:29:U:O2'	1:A:30:U:H5'	2.06	0.55
1:A:690:G:H2'	1:A:691:G:O4'	2.07	0.55
1:A:1269:A:C8	1:A:1270:G:C1'	2.90	0.54
1:A:1323:G:O2'	1:A:1324:A:H5'	2.07	0.54
1:A:958:A:C6	1:A:959:A:N1	2.75	0.54
13:M:77:LYS:HA	13:M:80:MET:CE	2.36	0.54
1:A:1364:U:C2'	1:A:1364:U:O2	2.54	0.54
17:Q:11:VAL:O	17:Q:12:VAL:CB	2.55	0.54
11:K:15:VAL:O	11:K:16:SER:CB	2.55	0.54
1:A:1458:G:OP1	20:T:29:THR:HG21	2.07	0.54
1:A:462:G:C6	1:A:463:U:C5	2.95	0.54
11:K:29:THR:HG21	11:K:91:GLY:HA3	1.89	0.54
7:G:136:LYS:O	7:G:139:ASP:HB2	2.07	0.54
1:A:954:G:C2	1:A:1228:C:N3	2.75	0.54
1:A:1060:U:H5''	10:J:53:ILE:HG12	1.88	0.54
11:K:13:LYS:HD2	11:K:13:LYS:C	2.27	0.54
1:A:376:G:H5''	16:P:5:ARG:HB2	1.89	0.54
1:A:1489:G:C4	1:A:1490:U:C5	2.95	0.54
1:A:594:U:H2'	1:A:595:A:C8	2.42	0.54
1:A:1386:G:N2	1:A:1387:G:C4	2.75	0.54
1:A:471:U:C2'	1:A:472:U:H5'	2.37	0.54
1:A:403:C:H5'	4:D:131:ILE:HG23	1.88	0.54
1:A:824:G:H1'	8:H:1:SER:N	2.22	0.54
3:C:119:ILE:HD11	3:C:136:ALA:CB	2.38	0.54
17:Q:31:PRO:HB2	17:Q:32:ILE:HD12	1.88	0.54
1:A:583:A:H2'	1:A:584:G:O4'	2.07	0.54
1:A:1258:G:O2'	1:A:1259:C:H5'	2.08	0.54
16:P:46:LYS:HD3	16:P:48:GLU:H	1.72	0.54
3:C:152:VAL:O	3:C:164:THR:O	2.25	0.54
1:A:8:A:N6	4:D:205:LYS:HB3	2.21	0.54
1:A:71:A:H2'	1:A:72:A:O5'	2.06	0.54
10:J:27:GLU:HA	10:J:30:LYS:HG2	1.89	0.54
2:B:220:VAL:O	2:B:222:GLU:N	2.39	0.54
14:N:46:LEU:O	14:N:49:GLN:HB2	2.07	0.54
3:C:18:ASN:OD1	3:C:53:ARG:NE	2.41	0.54
1:A:791:G:C6	1:A:792:A:N7	2.75	0.54
18:R:44:THR:O	18:R:46:THR:HG22	2.07	0.54
22:V:36:A:C2	23:X:17:U:C2	2.95	0.54
1:A:1053:G:N2	1:A:1056:U:C5	2.75	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:70:ARG:O	13:M:74:MET:HB2	2.08	0.54
5:E:80:LEU:N	5:E:80:LEU:HD13	2.22	0.54
20:T:66:ILE:HG23	20:T:67:HIS:H	1.72	0.54
1:A:787:A:N1	1:A:795:C:N4	2.54	0.54
1:A:73:C:O2'	1:A:74:A:O5'	2.25	0.54
20:T:79:THR:O	20:T:80:ALA:C	2.44	0.54
21:U:19:LYS:C	21:U:21:SER:H	2.10	0.54
1:A:1291:U:H4'	9:I:41:GLU:OE2	2.08	0.54
2:B:111:LYS:HD3	2:B:111:LYS:C	2.28	0.54
1:A:1251:A:O2'	1:A:1252:A:H5'	2.06	0.54
19:S:62:THR:HB	19:S:65:MET:CG	2.37	0.54
1:A:157:U:O2'	1:A:158:G:H5'	2.08	0.54
1:A:1179:A:H4'	9:I:104:THR:HA	1.90	0.54
1:A:1022:A:C5	1:A:1023:U:C5	2.96	0.54
19:S:55:GLN:CD	19:S:56:HIS:N	2.60	0.54
11:K:96:ILE:HD12	11:K:96:ILE:C	2.27	0.54
1:A:417:G:C6	1:A:418:C:C4	2.95	0.54
1:A:747:A:N6	1:A:748:G:C6	2.76	0.54
16:P:50:THR:HG22	16:P:50:THR:O	2.06	0.54
13:M:94:LEU:HB3	13:M:95:PRO:HD2	1.88	0.54
4:D:25:ARG:O	4:D:26:ALA:CB	2.55	0.54
1:A:949:A:C4	1:A:1233:G:N2	2.75	0.54
2:B:72:LYS:O	2:B:74:ALA:N	2.40	0.54
17:Q:12:VAL:HG11	17:Q:21:VAL:HG22	1.89	0.54
1:A:190:A:H2'	1:A:191:G:O5'	2.07	0.54
1:A:846:G:C2'	1:A:847:G:H5'	2.38	0.54
1:A:467:U:H3'	1:A:468:A:C5'	2.38	0.54
10:J:26:VAL:HG21	10:J:39:PRO:HD3	1.90	0.54
12:L:65:TYR:O	12:L:96:THR:OG1	2.24	0.54
1:A:564:C:C4	1:A:565:U:C4	2.96	0.54
1:A:605:U:O2'	1:A:606:G:H5'	2.08	0.54
1:A:628:G:H2'	1:A:629:A:H8	1.70	0.54
15:O:75:ALA:O	15:O:76:ARG:C	2.44	0.54
1:A:404:G:O2'	1:A:405:U:H5'	2.08	0.54
1:A:1070:U:H2'	1:A:1071:C:H6	1.72	0.54
1:A:905:U:H2'	1:A:906:A:H5'	1.88	0.54
1:A:775:G:H2'	1:A:776:G:O4'	2.08	0.54
1:A:1244:G:N1	1:A:1294:G:N1	2.56	0.54
1:A:929:G:C6	1:A:930:C:C4	2.95	0.54
1:A:977:A:C2'	1:A:977:A:N3	2.71	0.54
13:M:22:TYR:HB3	13:M:65:GLU:HA	1.90	0.54
5:E:148:SER:HB2	5:E:151:MET:HG2	1.89	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:T:68:LYS:HB3	20:T:69:ASN:OD1	2.07	0.54
10:J:59:LYS:O	10:J:62:ARG:HD2	2.08	0.54
11:K:22:ILE:HD11	11:K:85:VAL:HG13	1.89	0.54
9:I:43:ALA:HB1	9:I:46:VAL:CG2	2.36	0.54
10:J:36:VAL:HG22	10:J:76:ILE:HG12	1.90	0.54
3:C:84:GLU:HG3	3:C:85:LYS:H	1.72	0.54
12:L:86:VAL:HG11	12:L:89:LEU:CD2	2.37	0.54
4:D:32:LYS:HG3	4:D:32:LYS:O	2.07	0.54
4:D:32:LYS:HB2	4:D:32:LYS:NZ	2.22	0.54
4:D:172:VAL:O	4:D:178:GLU:O	2.26	0.54
1:A:194:C:H3'	25:A:1716:HOH:O	2.08	0.54
1:A:660:C:C2	1:A:661:G:C8	2.95	0.54
11:K:107:THR:HG22	11:K:108:ASN:ND2	2.22	0.54
12:L:73:LEU:CD1	12:L:79:ILE:HG21	2.37	0.54
1:A:1363:A:C5	1:A:1365:G:C6	2.96	0.54
13:M:85:TYR:C	13:M:85:TYR:CD2	2.80	0.54
3:C:164:THR:O	3:C:165:GLU:HB3	2.08	0.54
7:G:115:MET:HA	7:G:118:ARG:HD3	1.90	0.54
4:D:33:ILE:O	4:D:34:GLU:CB	2.54	0.54
1:A:175:C:C2'	1:A:176:C:H5'	2.38	0.54
9:I:97:LEU:O	9:I:103:VAL:HG13	2.07	0.54
3:C:133:MET:HE3	3:C:167:TYR:HB2	1.90	0.54
1:A:363:A:C6	1:A:364:A:C6	2.96	0.54
8:H:19:ALA:C	8:H:21:LYS:H	2.11	0.54
1:A:1237:C:H2'	1:A:1336:C:C5	2.42	0.54
7:G:135:LYS:HE2	7:G:139:ASP:OD1	2.08	0.54
1:A:666:G:H5'	1:A:726:C:H1'	1.90	0.54
1:A:1460:C:H2'	1:A:1461:G:O5'	2.07	0.54
1:A:394:G:H2'	1:A:395:C:H6	1.72	0.54
2:B:207:ARG:O	2:B:210:THR:N	2.41	0.54
16:P:74:LEU:O	16:P:75:ILE:C	2.46	0.54
11:K:123:PRO:O	11:K:125:LYS:N	2.41	0.54
1:A:1219:A:H2'	1:A:1220:G:H8	1.73	0.54
10:J:78:GLU:O	10:J:78:GLU:CG	2.56	0.54
10:J:67:ILE:HG12	14:N:96:LEU:CA	2.37	0.54
2:B:53:LEU:HA	2:B:56:LEU:CB	2.38	0.54
6:F:25:TYR:C	6:F:27:ALA:N	2.60	0.54
1:A:146:G:C2'	1:A:147:G:H5'	2.38	0.54
23:X:10:G:O2'	23:X:11:U:H5'	2.07	0.54
14:N:26:LEU:O	14:N:27:LYS:HB3	2.08	0.54
4:D:178:GLU:CG	4:D:179:GLY:N	2.70	0.54
5:E:106:ALA:HB1	5:E:124:ALA:CB	2.38	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:167:PRO:HG2	4:D:170:LEU:HD11	1.90	0.54
1:A:220:G:O2'	1:A:221:C:H5'	2.07	0.54
15:O:8:ALA:O	15:O:9:LYS:C	2.45	0.54
1:A:1269:A:C8	1:A:1270:G:H1'	2.42	0.54
1:A:1324:A:C6	1:A:1325:C:C4	2.96	0.54
1:A:1002:G:C2	1:A:1039:G:C2	2.96	0.54
1:A:261:U:C5	20:T:73:ARG:CZ	2.91	0.54
9:I:27:ILE:HG23	9:I:62:LEU:HG	1.89	0.54
2:B:96:LEU:O	2:B:99:MET:HG2	2.07	0.54
1:A:16:A:C2	1:A:17:U:C6	2.95	0.54
1:A:209:U:C4'	1:A:210:C:OP2	2.56	0.54
1:A:270:A:C6	1:A:271:C:C4	2.96	0.54
1:A:620:C:C2	4:D:131:ILE:HG12	2.43	0.54
7:G:99:ALA:O	7:G:103:ILE:HG13	2.08	0.54
1:A:49:U:O2	1:A:362:G:H1'	2.08	0.54
4:D:71:PHE:CE1	4:D:199:ILE:HD11	2.42	0.54
1:A:1207:G:H2'	1:A:1208:C:O4'	2.07	0.54
12:L:19:ASN:H	12:L:19:ASN:ND2	2.05	0.54
12:L:33:CYS:CA	12:L:54:VAL:HA	2.29	0.54
1:A:960:U:H2'	1:A:1225:A:H62	1.73	0.54
1:A:979:C:C6	1:A:980:C:C5	2.96	0.54
1:A:1302:C:OP1	13:M:12:LYS:HE2	2.08	0.54
13:M:15:VAL:O	13:M:18:LEU:HB2	2.08	0.54
5:E:149:PRO:C	5:E:151:MET:N	2.61	0.54
4:D:187:ARG:O	4:D:190:LEU:HD12	2.08	0.54
5:E:14:LEU:O	5:E:14:LEU:HD12	2.08	0.54
1:A:96:U:O2'	1:A:97:G:C5'	2.56	0.54
21:U:3:ILE:HG23	21:U:19:LYS:HE3	1.90	0.54
9:I:26:LYS:O	9:I:62:LEU:CD2	2.56	0.54
6:F:38:ARG:NH1	6:F:61:LEU:HD21	2.23	0.54
1:A:699:C:C2'	1:A:700:G:H5'	2.37	0.54
1:A:1050:G:N2	1:A:1209:C:O2	2.41	0.54
1:A:1253:G:C2	1:A:1285:A:N6	2.76	0.54
1:A:557:G:H5''	1:A:558:G:OP2	2.08	0.54
3:C:117:ASP:O	3:C:120:THR:HG22	2.07	0.54
3:C:18:ASN:HA	3:C:55:VAL:HG13	1.89	0.54
9:I:16:ALA:HB1	9:I:65:THR:O	2.08	0.54
4:D:168:THR:CG2	4:D:183:ARG:HH21	2.20	0.54
1:A:1302:C:C5	13:M:16:ILE:CD1	2.91	0.53
10:J:53:ILE:O	10:J:53:ILE:HG12	2.07	0.53
16:P:39:PHE:O	16:P:41:PRO:HD3	2.08	0.53
5:E:82:HIS:NE2	5:E:146:MET:HG3	2.23	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:83:C:OP1	1:A:83:C:H4'	2.08	0.53
21:U:3:ILE:N	21:U:18:PHE:CD1	2.77	0.53
1:A:1128:C:H4'	1:A:1148:U:O2	2.07	0.53
1:A:1073:U:C2'	1:A:1073:U:O2	2.53	0.53
6:F:96:VAL:O	6:F:97:THR:HG23	2.07	0.53
1:A:1386:G:N3	1:A:1387:G:C8	2.76	0.53
3:C:83:VAL:HA	3:C:86:LEU:HD12	1.89	0.53
1:A:1285:A:H4'	1:A:1286:U:N3	2.22	0.53
1:A:244:U:H4'	1:A:245:U:H5''	1.89	0.53
4:D:43:ARG:CZ	4:D:43:ARG:HA	2.38	0.53
14:N:35:ALA:CB	14:N:41:ARG:CG	2.85	0.53
11:K:109:ILE:HG22	21:U:16:ARG:CZ	2.38	0.53
7:G:34:LYS:CB	7:G:37:THR:CG2	2.86	0.53
1:A:1424:U:C4	1:A:1425:U:C4	2.96	0.53
1:A:417:G:C6	1:A:418:C:N3	2.76	0.53
1:A:446:G:H2'	1:A:447:G:O5'	2.07	0.53
13:M:18:LEU:CG	13:M:33:LEU:HD21	2.38	0.53
1:A:1318:A:O2'	19:S:36:ARG:HD3	2.08	0.53
2:B:163:ILE:CG1	2:B:203:ASP:HB2	2.38	0.53
1:A:731:G:H5'	1:A:766:A:H4'	1.89	0.53
1:A:189:A:H2'	1:A:190:A:C5'	2.37	0.53
2:B:114:LYS:O	2:B:116:LEU:N	2.41	0.53
1:A:1113:C:C2	1:A:1114:C:C6	2.97	0.53
2:B:53:LEU:HD21	2:B:212:TYR:CE2	2.44	0.53
14:N:16:ALA:HA	14:N:55:SER:O	2.09	0.53
14:N:25:GLU:OE1	14:N:26:LEU:HD23	2.08	0.53
1:A:830:G:O2'	1:A:831:A:H5'	2.08	0.53
1:A:210:C:H5'	1:A:211:G:C4	2.43	0.53
3:C:5:HIS:CE1	3:C:183:TYR:HE2	2.26	0.53
14:N:62:ASN:OD1	14:N:73:PHE:CE1	2.62	0.53
1:A:527:G:O2'	1:A:535:A:N1	2.31	0.53
9:I:11:ARG:NH1	9:I:106:ASP:HB3	2.24	0.53
11:K:17:ASP:HB2	11:K:80:ASN:O	2.08	0.53
22:V:51:U:H2'	22:V:52:G:C8	2.43	0.53
7:G:62:GLU:OE2	7:G:62:GLU:C	2.47	0.53
1:A:186:C:C4'	20:T:75:LYS:HD2	2.39	0.53
12:L:74:GLN:O	12:L:76:HIS:N	2.41	0.53
1:A:931:C:H2'	1:A:932:C:H6	1.74	0.53
1:A:982:U:O2	1:A:983:A:N1	2.41	0.53
13:M:15:VAL:HG13	13:M:40:GLU:HA	1.89	0.53
10:J:40:ILE:HG23	10:J:41:PRO:HD2	1.91	0.53
13:M:3:ILE:O	13:M:5:GLY:N	2.42	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:6:ILE:N	13:M:6:ILE:HD12	2.23	0.53
16:P:6:LEU:HD12	16:P:71:VAL:HG23	1.90	0.53
17:Q:13:SER:O	17:Q:20:ILE:CD1	2.56	0.53
20:T:69:ASN:O	20:T:72:ALA:N	2.41	0.53
1:A:1126:U:C1'	1:A:1281:C:C6	2.91	0.53
5:E:63:MET:O	5:E:64:GLU:C	2.44	0.53
10:J:71:LEU:O	10:J:72:ARG:HD3	2.08	0.53
6:F:70:VAL:HA	6:F:73:GLU:OE1	2.09	0.53
4:D:144:ILE:HG22	4:D:145:ARG:O	2.08	0.53
22:V:51:U:H2'	22:V:52:G:H8	1.72	0.53
1:A:923:A:O5'	1:A:923:A:H8	1.91	0.53
17:Q:30:HIS:CD2	17:Q:31:PRO:HD2	2.43	0.53
8:H:85:TYR:O	8:H:86:LYS:HD2	2.09	0.53
12:L:107:LYS:O	12:L:108:ASP:HB2	2.09	0.53
12:L:33:CYS:HA	12:L:53:ARG:O	2.08	0.53
1:A:1328:C:H5''	13:M:27:THR:HG21	1.90	0.53
20:T:54:GLN:HB3	20:T:55:PRO:HD3	1.90	0.53
1:A:842:U:O2'	1:A:846:G:C2	2.62	0.53
1:A:847:G:O2'	1:A:848:C:H5'	2.09	0.53
1:A:1148:U:H5''	9:I:8:THR:CG2	2.39	0.53
1:A:462:G:C5	1:A:463:U:C6	2.96	0.53
6:F:99:ALA:O	6:F:100:SER:HB3	2.09	0.53
1:A:1492:A:H3'	1:A:1493:A:H8	1.72	0.53
1:A:844:G:OP1	1:A:844:G:H3'	2.08	0.53
14:N:46:LEU:HD12	14:N:49:GLN:HB2	1.89	0.53
1:A:209:U:C5'	1:A:210:C:OP2	2.56	0.53
1:A:1340:A:C2	1:A:1341:U:C2	2.96	0.53
16:P:12:LYS:O	16:P:13:LYS:HB2	2.07	0.53
14:N:75:ARG:O	14:N:76:LYS:C	2.46	0.53
16:P:16:PHE:CD2	16:P:40:ASN:HB2	2.43	0.53
1:A:1239:A:C4'	1:A:1240:U:OP1	2.56	0.53
1:A:154:U:C2	1:A:168:G:C2	2.96	0.53
1:A:872:A:C5	1:A:874:G:C8	2.96	0.53
9:I:47:VAL:HG12	9:I:78:ILE:CG2	2.38	0.53
9:I:46:VAL:HA	9:I:49:GLN:HG3	1.90	0.53
1:A:1073:U:N3	1:A:1074:G:N7	2.57	0.53
2:B:99:MET:CB	2:B:106:VAL:HG21	2.38	0.53
3:C:110:LEU:CD1	3:C:145:ALA:HB2	2.38	0.53
21:U:23:GLU:HA	21:U:27:VAL:CG2	2.38	0.53
1:A:255:G:C4	1:A:256:U:C5	2.97	0.53
3:C:150:VAL:HA	3:C:198:LYS:O	2.09	0.53
1:A:209:U:H4'	1:A:210:C:OP2	2.09	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:68:VAL:O	7:G:70:PRO:CD	2.57	0.53
1:A:40:C:H2'	1:A:41:G:O4'	2.07	0.53
1:A:183:C:HO2'	1:A:184:G:P	2.32	0.53
14:N:31:SER:O	14:N:32:ASP:CB	2.57	0.53
13:M:24:VAL:CG2	13:M:25:GLY:N	2.72	0.53
2:B:34:ARG:O	2:B:36:LYS:N	2.42	0.53
5:E:152:VAL:HG23	5:E:156:ARG:HB2	1.90	0.53
1:A:1106:G:H2'	1:A:1107:C:C6	2.42	0.53
3:C:22:PHE:O	3:C:23:ALA:HB2	2.09	0.53
17:Q:7:LEU:HB3	17:Q:24:ILE:CD1	2.39	0.53
21:U:3:ILE:HA	21:U:19:LYS:HZ1	1.74	0.53
1:A:872:A:C4	1:A:874:G:C8	2.96	0.53
9:I:19:PHE:CB	9:I:63:TYR:HB3	2.35	0.53
1:A:1410:A:H2'	1:A:1411:C:C6	2.44	0.53
4:D:34:GLU:O	4:D:37:PRO:HD3	2.08	0.53
1:A:1250:A:N7	1:A:1287:A:C8	2.76	0.53
12:L:28:GLN:CB	12:L:81:ILE:O	2.57	0.53
1:A:559:A:H4'	1:A:560:A:H3'	1.90	0.53
1:A:254:G:C4	1:A:255:G:C8	2.97	0.53
1:A:404:G:N7	4:D:1:ALA:N	2.56	0.53
1:A:220:G:C2	1:A:221:C:C5	2.96	0.53
7:G:145:GLU:OE1	7:G:148:LYS:HE2	2.09	0.53
1:A:1422:G:N2	1:A:1423:G:C4	2.76	0.53
1:A:705:G:N2	11:K:30:ILE:HD12	2.24	0.53
1:A:728:A:N6	1:A:729:A:N6	2.55	0.53
10:J:93:ALA:HB1	10:J:96:VAL:HB	1.91	0.53
1:A:1267:C:C2'	1:A:1268:G:H5'	2.38	0.53
14:N:50:THR:C	14:N:51:LEU:HD23	2.29	0.53
16:P:6:LEU:N	16:P:6:LEU:HD12	2.23	0.53
5:E:104:ILE:HD11	5:E:114:LEU:HB3	1.91	0.53
1:A:840:C:C4	1:A:842:U:C5'	2.91	0.53
1:A:1149:C:HO2'	1:A:1280:A:H2	1.55	0.53
2:B:57:ASN:O	2:B:58:LYS:HB2	2.08	0.53
4:D:32:LYS:O	4:D:33:ILE:C	2.47	0.53
7:G:17:PHE:CZ	7:G:57:GLU:HG2	2.44	0.53
1:A:1452:C:H4'	1:A:1453:G:C5'	2.38	0.53
1:A:854:U:H3'	1:A:871:U:H3	1.72	0.53
14:N:35:ALA:HB2	14:N:41:ARG:HG3	1.88	0.53
7:G:136:LYS:O	7:G:139:ASP:CB	2.57	0.53
3:C:146:LYS:HG3	3:C:203:LYS:O	2.08	0.53
21:U:4:LYS:HD2	21:U:4:LYS:O	2.08	0.53
1:A:552:U:H2'	1:A:553:A:C8	2.43	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:567:G:H2'	1:A:568:G:O4'	2.08	0.53
1:A:1377:A:O2'	7:G:1:PRO:HG2	2.08	0.53
1:A:1328:C:H5''	13:M:27:THR:CG2	2.38	0.53
13:M:77:LYS:HA	13:M:80:MET:HE2	1.91	0.53
2:B:163:ILE:HG12	2:B:164:ASP:N	2.23	0.53
1:A:215:C:H2'	1:A:216:U:O4'	2.09	0.53
1:A:15:G:C2	1:A:16:A:C4	2.97	0.53
6:F:36:ILE:HA	6:F:64:VAL:HG13	1.90	0.53
6:F:38:ARG:HG3	6:F:39:LEU:N	2.21	0.53
6:F:90:MET:O	6:F:91:ARG:O	2.26	0.53
6:F:97:THR:O	6:F:98:GLU:HG2	2.08	0.53
2:B:81:ASP:OD1	2:B:83:ALA:HB3	2.08	0.53
23:X:8:A:C6	23:X:9:G:C5	2.97	0.53
1:A:116:A:H61	1:A:313:A:H1'	1.74	0.53
13:M:113:LYS:CB	13:M:114:PRO:HD3	2.38	0.53
17:Q:44:HIS:CG	17:Q:69:THR:CG2	2.92	0.53
15:O:27:GLN:O	15:O:31:LEU:HD12	2.08	0.53
1:A:1179:A:H2'	1:A:1180:A:H5'	1.91	0.53
5:E:55:VAL:HB	5:E:56:PRO:CD	2.39	0.53
4:D:58:GLN:O	4:D:62:ARG:HG3	2.07	0.53
8:H:9:MET:CE	8:H:32:LYS:O	2.57	0.53
1:A:646:G:H2'	1:A:647:C:H6	1.74	0.53
1:A:455:G:C2'	1:A:456:A:H5'	2.38	0.53
9:I:23:GLY:HA3	9:I:61:ASP:OD2	2.09	0.53
5:E:97:PRO:O	5:E:98:ALA:HB3	2.09	0.53
19:S:17:LYS:HA	19:S:20:LYS:NZ	2.24	0.53
1:A:89:U:H2'	1:A:90:C:C6	2.44	0.53
6:F:87:SER:O	6:F:88:MET:HB2	2.09	0.53
12:L:47:ALA:HB3	12:L:49:ARG:HE	1.73	0.53
10:J:65:TYR:HB3	14:N:96:LEU:HD11	1.90	0.53
13:M:2:ARG:HA	13:M:8:ILE:HG12	1.91	0.53
8:H:58:LEU:C	8:H:58:LEU:HD12	2.29	0.53
12:L:74:GLN:O	12:L:75:GLU:C	2.47	0.53
5:E:155:LYS:H	5:E:155:LYS:HE3	1.74	0.53
20:T:66:ILE:O	20:T:67:HIS:HB2	2.09	0.53
19:S:17:LYS:HB3	19:S:30:LEU:HD23	1.90	0.53
1:A:1298:U:O4'	1:A:1299:A:C5	2.62	0.53
2:B:98:GLY:O	2:B:101:THR:N	2.41	0.53
1:A:107:G:H2'	1:A:108:G:C5'	2.39	0.53
1:A:749:A:O2'	1:A:750:C:H5'	2.08	0.53
1:A:408:A:H2'	1:A:409:U:O4'	2.08	0.53
3:C:38:VAL:O	3:C:42:LEU:HB2	2.09	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1009:U:H2'	1:A:1009:U:O2	2.07	0.53
1:A:728:A:C6	1:A:729:A:C6	2.97	0.53
1:A:516:U:C2'	1:A:517:G:H5'	2.39	0.53
5:E:11:GLN:OE1	5:E:11:GLN:HA	2.09	0.53
1:A:815:A:OP2	25:A:1816:HOH:O	2.19	0.53
13:M:47:LEU:HD22	13:M:52:ILE:HG13	1.91	0.53
1:A:55:A:C4	1:A:56:U:C6	2.97	0.53
9:I:110:VAL:HG23	9:I:110:VAL:O	2.09	0.53
1:A:406:G:C2	1:A:407:U:C6	2.97	0.53
4:D:3:TYR:C	4:D:3:TYR:CD1	2.82	0.52
2:B:93:HIS:CG	2:B:94:ARG:NH2	2.77	0.52
16:P:16:PHE:CE2	16:P:40:ASN:HB2	2.44	0.52
11:K:126:ARG:N	21:U:33:ARG:CZ	2.72	0.52
1:A:188:C:O2	1:A:189:A:N9	2.41	0.52
9:I:28:VAL:CB	9:I:63:TYR:HD2	2.22	0.52
1:A:466:A:H5''	1:A:467:U:OP2	2.09	0.52
1:A:1028:C:C5	1:A:1034:G:C2	2.97	0.52
21:U:10:PRO:C	21:U:11:PHE:CD1	2.82	0.52
1:A:593:U:H2'	1:A:594:U:H6	1.74	0.52
14:N:23:ARG:O	14:N:26:LEU:HB2	2.09	0.52
1:A:211:G:N2	1:A:212:G:H1'	2.24	0.52
1:A:1160:G:O2'	1:A:1161:C:O5'	2.27	0.52
1:A:438:U:H5'	4:D:119:HIS:CD2	2.43	0.52
1:A:1472:U:C2'	1:A:1473:G:O5'	2.57	0.52
1:A:1431:A:C5	1:A:1432:G:C6	2.97	0.52
1:A:1170:A:H2'	1:A:1171:A:O4'	2.09	0.52
18:R:49:LYS:HA	18:R:52:ARG:NH1	2.24	0.52
1:A:951:G:N3	1:A:1231:G:C2	2.77	0.52
9:I:127:SER:O	9:I:128:LYS:C	2.47	0.52
13:M:32:ILE:HD13	13:M:58:GLU:CG	2.40	0.52
13:M:80:MET:O	13:M:81:ASP:C	2.48	0.52
19:S:10:ILE:HD11	19:S:15:LEU:CA	2.39	0.52
17:Q:16:MET:CG	17:Q:19:SER:HB3	2.40	0.52
5:E:81:GLN:OE1	5:E:148:SER:HA	2.08	0.52
20:T:33:LYS:O	20:T:36:ALA:HB3	2.08	0.52
1:A:1102:A:H2'	1:A:1103:C:C6	2.44	0.52
1:A:1101:A:H4'	1:A:1102:A:O5'	2.10	0.52
2:B:99:MET:HA	2:B:106:VAL:CG2	2.39	0.52
1:A:201:G:O2'	1:A:202:G:H5'	2.09	0.52
2:B:120:SER:O	2:B:125:PHE:HB3	2.10	0.52
6:F:78:PHE:CD1	6:F:87:SER:HB3	2.45	0.52
14:N:64:CYS:SG	14:N:80:SER:HB2	2.49	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:426:U:H5''	4:D:36:ALA:HB1	1.91	0.52
7:G:50:ALA:CB	7:G:57:GLU:OE2	2.57	0.52
1:A:255:G:C6	1:A:256:U:C4	2.98	0.52
15:O:35:ILE:HD11	15:O:59:VAL:N	2.25	0.52
4:D:86:GLY:O	4:D:89:LEU:HB3	2.09	0.52
7:G:68:VAL:CG2	7:G:99:ALA:HA	2.40	0.52
1:A:1084:G:C5	1:A:1085:U:C4	2.97	0.52
3:C:52:SER:HB2	3:C:114:LEU:HG	1.90	0.52
1:A:316:C:H2'	1:A:317:U:H6	1.75	0.52
1:A:183:C:O2'	1:A:184:G:O5'	2.19	0.52
1:A:1326:U:H2'	1:A:1327:C:H6	1.74	0.52
1:A:931:C:H2'	1:A:932:C:C6	2.44	0.52
1:A:489:C:O2	1:A:490:C:C6	2.63	0.52
1:A:261:U:OP2	20:T:73:ARG:NH2	2.42	0.52
1:A:994:A:C6	1:A:995:C:C5	2.97	0.52
1:A:1126:U:C6	1:A:1281:C:C5	2.98	0.52
3:C:22:PHE:CG	3:C:23:ALA:N	2.77	0.52
20:T:36:ALA:O	20:T:39:GLU:N	2.42	0.52
2:B:130:LYS:HA	2:B:133:ALA:CB	2.38	0.52
3:C:170:GLY:O	3:C:171:ARG:HB2	2.10	0.52
1:A:211:G:O2'	1:A:212:G:H4'	2.09	0.52
3:C:10:ARG:NH2	3:C:181:ILE:HG13	2.25	0.52
1:A:1441:A:C8	1:A:1442:G:C8	2.97	0.52
7:G:131:GLY:H	7:G:134:VAL:HG11	1.73	0.52
1:A:600:A:N1	1:A:601:G:C5	2.77	0.52
1:A:1238:A:OP1	1:A:1336:C:H5	1.93	0.52
1:A:1327:C:H2'	1:A:1328:C:C6	2.45	0.52
13:M:90:HIS:HA	13:M:108:ARG:NH2	2.24	0.52
16:P:17:TYR:HE1	16:P:41:PRO:HG3	1.75	0.52
21:U:36:PHE:CG	21:U:40:PRO:HG3	2.45	0.52
17:Q:20:ILE:HG23	17:Q:22:VAL:HG22	1.91	0.52
10:J:29:ALA:CB	10:J:76:ILE:HD13	2.38	0.52
10:J:36:VAL:CG2	10:J:76:ILE:HG23	2.39	0.52
2:B:66:ILE:HG21	2:B:68:PHE:CE2	2.44	0.52
1:A:381:C:N4	1:A:382:A:C6	2.77	0.52
1:A:150:U:C5	1:A:170:U:C5	2.97	0.52
7:G:11:ILE:CD1	7:G:23:ALA:HB1	2.40	0.52
10:J:48:ARG:HA	10:J:66:GLU:HB3	1.91	0.52
2:B:47:PRO:HA	2:B:50:ASN:ND2	2.24	0.52
10:J:80:THR:OG1	10:J:83:THR:CG2	2.58	0.52
1:A:328:C:H4'	1:A:329:A:C5'	2.39	0.52
1:A:1118:U:H1'	1:A:1179:A:C5	2.44	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:53:A:N1	1:A:359:G:C6	2.78	0.52
20:T:44:ALA:O	20:T:47:GLN:N	2.42	0.52
7:G:119:LEU:O	7:G:123:LEU:HG	2.10	0.52
7:G:64:ALA:HB1	7:G:126:ALA:HB3	1.89	0.52
1:A:465:A:H2'	1:A:466:A:C8	2.44	0.52
10:J:27:GLU:HB2	10:J:30:LYS:HE3	1.91	0.52
6:F:30:THR:HA	6:F:34:GLY:O	2.10	0.52
6:F:3:HIS:HA	6:F:65:GLU:HA	1.92	0.52
2:B:67:LEU:HD21	2:B:91:VAL:HG23	1.92	0.52
1:A:699:C:H2'	1:A:700:G:H5'	1.92	0.52
1:A:58:C:O2'	1:A:59:A:H5'	2.10	0.52
1:A:1355:G:C5	1:A:1368:A:C2	2.97	0.52
17:Q:35:LYS:HG3	17:Q:37:ILE:CD1	2.39	0.52
1:A:158:G:C5	1:A:164:G:C6	2.98	0.52
14:N:34:ASN:O	14:N:35:ALA:HB2	2.09	0.52
4:D:172:VAL:HG13	4:D:173:ASP:N	2.24	0.52
1:A:121:U:C4'	1:A:121:U:OP2	2.57	0.52
1:A:1526:G:P	21:U:38:GLU:HB2	2.49	0.52
4:D:75:TYR:C	4:D:75:TYR:CD1	2.82	0.52
2:B:32:GLY:HA2	2:B:39:ILE:H	1.73	0.52
11:K:96:ILE:O	11:K:99:LEU:HB2	2.10	0.52
1:A:42:G:H2'	1:A:43:C:C6	2.45	0.52
7:G:92:PRO:HA	7:G:95:ARG:HB2	1.92	0.52
12:L:73:LEU:CD2	12:L:73:LEU:H	2.23	0.52
1:A:942:G:C2	1:A:1342:C:C2	2.97	0.52
10:J:73:LEU:CD2	10:J:75:ASP:HB2	2.40	0.52
1:A:786:G:C2'	1:A:787:A:O5'	2.58	0.52
1:A:96:U:H2'	1:A:97:G:C8	2.45	0.52
10:J:56:HIS:O	10:J:57:VAL:O	2.27	0.52
9:I:37:TYR:O	9:I:38:PHE:HB3	2.10	0.52
10:J:26:VAL:HG12	10:J:27:GLU:N	2.24	0.52
5:E:140:ILE:HD12	5:E:140:ILE:H	1.74	0.52
2:B:153:MET:HE2	2:B:157:PRO:HG3	1.92	0.52
9:I:51:LEU:HD13	9:I:56:MET:HG2	1.92	0.52
1:A:1372:U:OP2	9:I:12:LYS:NZ	2.42	0.52
1:A:251:G:C6	1:A:266:G:O6	2.63	0.52
8:H:63:LYS:HE2	8:H:70:VAL:HG21	1.92	0.52
18:R:33:THR:CG2	18:R:35:SER:HB2	2.39	0.52
4:D:99:ASN:HD22	4:D:100:VAL:N	2.07	0.52
1:A:33:A:H2'	1:A:34:C:C6	2.45	0.52
15:O:18:ALA:O	15:O:19:ASN:CB	2.57	0.52
1:A:1324:A:C5	1:A:1325:C:C4	2.97	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1351:U:H4'	7:G:32:ASP:CG	2.30	0.52
6:F:84:VAL:O	6:F:84:VAL:HG13	2.10	0.52
3:C:31:ASN:HD21	3:C:58:ARG:HD3	1.74	0.52
1:A:143:A:H5'	1:A:144:G:C5'	2.39	0.52
4:D:90:LEU:CD1	4:D:196:GLU:HG3	2.39	0.52
1:A:831:A:H2'	1:A:832:G:O5'	2.09	0.52
1:A:268:U:H2'	1:A:269:C:C6	2.45	0.52
5:E:56:PRO:O	5:E:59:ILE:CG1	2.57	0.52
1:A:1417:G:N2	1:A:1484:C:C4	2.78	0.52
18:R:21:ASP:OD1	18:R:22:TYR:N	2.43	0.52
17:Q:6:THR:OG1	17:Q:59:GLU:HG2	2.09	0.52
2:B:34:ARG:O	2:B:37:VAL:HG12	2.10	0.52
21:U:36:PHE:CA	21:U:39:LYS:HE3	2.39	0.52
17:Q:16:MET:HG2	17:Q:19:SER:CB	2.39	0.52
2:B:168:GLU:O	2:B:169:HIS:C	2.48	0.52
7:G:16:LYS:HE2	7:G:17:PHE:CE1	2.44	0.52
6:F:43:GLY:HA2	6:F:58:HIS:NE2	2.25	0.52
14:N:25:GLU:HG3	14:N:26:LEU:N	2.24	0.52
1:A:562:U:OP2	12:L:13:ARG:CZ	2.57	0.52
1:A:692:U:H5	11:K:27:ASN:ND2	2.08	0.52
8:H:125:ILE:HG22	8:H:126:CYS:SG	2.49	0.52
8:H:103:VAL:HG23	8:H:123:GLU:O	2.10	0.52
1:A:1306:A:H2'	1:A:1307:U:O4'	2.10	0.52
1:A:337:G:H2'	1:A:338:A:C8	2.45	0.52
1:A:1267:C:H2'	1:A:1267:C:O2	2.10	0.52
1:A:1294:G:C2	1:A:1295:U:C2	2.98	0.52
1:A:1323:G:O4'	1:A:1362:A:H2	1.93	0.52
1:A:1348:U:C2	1:A:1349:A:C8	2.98	0.52
4:D:21:LYS:O	4:D:22:SER:C	2.48	0.52
1:A:1277:C:H1'	1:A:1282:C:H1'	1.92	0.52
3:C:129:PHE:CE1	3:C:156:LEU:HB3	2.45	0.52
12:L:23:LEU:C	12:L:25:ALA:N	2.62	0.52
2:B:95:TRP:NE1	2:B:171:ALA:HB2	2.24	0.52
6:F:14:GLN:C	6:F:16:GLU:N	2.64	0.52
14:N:43:ASN:ND2	14:N:43:ASN:O	2.43	0.52
1:A:207:C:C2'	1:A:207:C:O2	2.57	0.52
1:A:207:C:HO2'	1:A:213:G:N2	2.08	0.52
1:A:438:U:C4'	4:D:119:HIS:CD2	2.92	0.52
14:N:61:ARG:O	14:N:62:ASN:CB	2.57	0.52
18:R:31:TYR:O	18:R:39:VAL:CG2	2.57	0.52
7:G:139:ASP:C	7:G:141:HIS:N	2.64	0.52
5:E:49:TYR:O	5:E:62:ALA:HB2	2.08	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:79:LYS:HA	3:C:79:LYS:HE3	1.92	0.52
12:L:73:LEU:N	12:L:73:LEU:CD2	2.73	0.52
1:A:1296:C:H4'	1:A:1302:C:N4	2.25	0.52
1:A:1362:A:C4'	1:A:1362:A:OP1	2.46	0.52
1:A:723:U:C5'	1:A:724:G:OP1	2.58	0.52
5:E:153:ALA:O	5:E:155:LYS:N	2.43	0.52
1:A:1015:G:HO2'	1:A:1218:C:HO2'	1.58	0.52
1:A:786:G:H2'	1:A:787:A:O5'	2.10	0.52
1:A:972:C:C2'	10:J:57:VAL:HG23	2.40	0.52
20:T:84:LYS:HE3	20:T:84:LYS:HA	1.91	0.52
1:A:1532:U:H5''	1:A:1533:C:OP2	2.10	0.52
9:I:83:THR:HA	9:I:86:LEU:HD12	1.91	0.52
1:A:1104:G:C2	1:A:1105:A:C4	2.98	0.52
6:F:4:TYR:CD2	6:F:71:ILE:CD1	2.93	0.52
12:L:49:ARG:HB2	12:L:89:LEU:HD11	1.92	0.52
1:A:1087:G:C2	1:A:1088:G:C8	2.98	0.52
1:A:526:C:H2'	1:A:527:G:C4'	2.39	0.52
9:I:10:ARG:HA	9:I:77:ALA:HB1	1.92	0.52
18:R:28:LEU:O	18:R:31:TYR:N	2.43	0.52
1:A:180:U:C2'	1:A:181:A:O5'	2.58	0.52
11:K:96:ILE:HD12	11:K:97:ARG:N	2.24	0.52
18:R:22:TYR:O	18:R:22:TYR:CD1	2.63	0.52
1:A:570:G:O6	1:A:865:A:N6	2.42	0.52
4:D:156:ALA:O	4:D:159:GLU:HB3	2.10	0.52
1:A:1345:U:C2	1:A:1377:A:N1	2.78	0.51
5:E:104:ILE:H	5:E:121:ASN:CA	2.22	0.51
5:E:152:VAL:O	5:E:155:LYS:NZ	2.33	0.51
5:E:153:ALA:HA	5:E:156:ARG:C	2.30	0.51
12:L:18:SER:OG	12:L:20:VAL:HG23	2.10	0.51
1:A:1298:U:O2	7:G:113:LYS:HE2	2.09	0.51
1:A:15:G:C6	1:A:16:A:C5	2.98	0.51
16:P:19:VAL:CG1	16:P:38:PHE:N	2.73	0.51
1:A:711:G:O2'	1:A:712:A:H5'	2.10	0.51
1:A:474:G:C4	1:A:475:C:C6	2.97	0.51
17:Q:46:HIS:CG	17:Q:47:ASP:H	2.28	0.51
3:C:66:THR:HG22	3:C:67:ILE:H	1.73	0.51
4:D:145:ARG:HB2	4:D:147:LYS:HE2	1.90	0.51
1:A:694:A:H2'	1:A:695:A:O5'	2.10	0.51
7:G:106:ALA:HB1	7:G:122:GLU:OE2	2.10	0.51
1:A:1472:U:H2'	1:A:1473:G:O5'	2.10	0.51
1:A:186:C:O4'	20:T:75:LYS:HD2	2.10	0.51
1:A:1242:G:H2'	1:A:1243:C:O4'	2.09	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:908:A:H2'	1:A:909:A:C8	2.45	0.51
1:A:671:G:C5	1:A:672:U:C5	2.98	0.51
1:A:1308:U:H5''	13:M:96:VAL:HG21	1.91	0.51
13:M:59:VAL:HG22	13:M:60:ALA:N	2.24	0.51
5:E:82:HIS:HB2	5:E:83:PRO:HD2	1.91	0.51
1:A:261:U:H5	20:T:73:ARG:CZ	2.23	0.51
4:D:53:GLN:HG2	4:D:202:LEU:HB2	1.93	0.51
1:A:782:A:C2'	1:A:783:C:H5'	2.40	0.51
7:G:41:ILE:HG23	7:G:116:ALA:CA	2.40	0.51
1:A:840:C:C6	1:A:842:U:H5''	2.44	0.51
16:P:51:ARG:HH11	16:P:51:ARG:HB3	1.74	0.51
2:B:86:CYS:C	2:B:88:GLN:H	2.14	0.51
2:B:69:VAL:HG22	2:B:91:VAL:HG23	1.92	0.51
2:B:63:LYS:C	2:B:63:LYS:CD	2.78	0.51
1:A:844:G:H2'	1:A:844:G:N3	2.24	0.51
14:N:41:ARG:HH22	14:N:45:VAL:HG21	1.74	0.51
8:H:80:PRO:HA	8:H:83:ARG:HE	1.76	0.51
1:A:1424:U:C4	1:A:1425:U:C5	2.98	0.51
1:A:1171:A:H2'	1:A:1172:C:H6	1.75	0.51
4:D:98:ASP:OD1	4:D:99:ASN:N	2.42	0.51
20:T:14:GLU:OE2	20:T:14:GLU:HA	2.10	0.51
3:C:161:ILE:HD12	3:C:161:ILE:O	2.10	0.51
1:A:1223:C:P	19:S:77:ARG:HH12	2.33	0.51
1:A:1266:G:N1	1:A:1270:G:C6	2.78	0.51
1:A:1358:U:H2'	1:A:1359:C:O4'	2.10	0.51
1:A:980:C:H2'	1:A:981:U:H5'	1.91	0.51
2:B:70:GLY:HA3	2:B:163:ILE:CG2	2.40	0.51
21:U:35:GLU:OE1	21:U:35:GLU:HA	2.10	0.51
1:A:1145:A:H4'	1:A:1145:A:OP1	2.08	0.51
1:A:70:U:H1'	1:A:71:A:N7	2.26	0.51
1:A:680:C:O2'	1:A:681:A:H5'	2.10	0.51
7:G:98:LEU:HD22	7:G:102:TRP:CZ2	2.45	0.51
1:A:359:G:H2'	1:A:360:G:O4'	2.11	0.51
8:H:9:MET:HE1	8:H:32:LYS:O	2.10	0.51
11:K:32:THR:OG1	11:K:43:TRP:HB3	2.09	0.51
4:D:74:TYR:O	4:D:78:ALA:N	2.43	0.51
10:J:28:THR:HG21	10:J:90:LEU:HD12	1.92	0.51
21:U:52:VAL:HG13	21:U:53:LYS:H	1.74	0.51
1:A:857:C:C2'	1:A:858:G:O5'	2.58	0.51
1:A:588:G:C6	1:A:589:U:N3	2.79	0.51
1:A:626:G:C2'	1:A:627:G:O5'	2.59	0.51
7:G:41:ILE:HG23	7:G:116:ALA:CB	2.41	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1149:C:O5'	1:A:1149:C:H6	1.94	0.51
12:L:49:ARG:CG	12:L:89:LEU:HD11	2.40	0.51
1:A:111:G:O6	1:A:330:C:N4	2.43	0.51
17:Q:37:ILE:HG22	17:Q:38:LYS:O	2.10	0.51
1:A:1441:A:C3'	1:A:1441:A:C8	2.93	0.51
4:D:55:ARG:HA	4:D:55:ARG:HH11	1.75	0.51
3:C:37:LYS:O	3:C:37:LYS:HG3	2.11	0.51
1:A:969:A:H2'	1:A:970:C:H6	1.74	0.51
1:A:512:U:H2'	1:A:513:C:C6	2.46	0.51
4:D:168:THR:CG2	4:D:183:ARG:NH2	2.74	0.51
1:A:1236:A:H4'	1:A:1304:G:H5'	1.91	0.51
3:C:73:GLY:O	3:C:75:VAL:N	2.44	0.51
13:M:26:LYS:O	13:M:26:LYS:HD3	2.10	0.51
1:A:1317:C:H2'	1:A:1318:A:O5'	2.11	0.51
1:A:1361:G:C6	1:A:1362:A:N7	2.79	0.51
1:A:427:U:H2'	1:A:428:G:C8	2.46	0.51
1:A:723:U:C4	21:U:49:ALA:HA	2.46	0.51
11:K:123:PRO:O	11:K:124:LYS:C	2.49	0.51
5:E:82:HIS:CE1	8:H:95:MET:HE3	2.45	0.51
20:T:34:VAL:O	20:T:35:TYR:C	2.49	0.51
1:A:1538:C:H2'	1:A:1539:C:C5	2.45	0.51
9:I:50:PRO:HD3	9:I:79:ARG:HG2	1.93	0.51
1:A:16:A:C6	1:A:17:U:C5	2.98	0.51
1:A:1113:C:H2'	1:A:1114:C:H6	1.74	0.51
1:A:451:A:H4'	1:A:452:A:O4'	2.10	0.51
1:A:1087:G:C2	1:A:1088:G:N7	2.78	0.51
11:K:21:HIS:ND1	11:K:34:THR:HG21	2.26	0.51
8:H:31:LEU:O	8:H:32:LYS:C	2.48	0.51
1:A:1381:U:C6	1:A:1382:C:C5	2.98	0.51
22:V:23:A:H2'	22:V:24:G:C8	2.44	0.51
1:A:1055:A:C6	1:A:1206:G:C5	2.99	0.51
1:A:1231:G:C2	1:A:1232:U:O2	2.63	0.51
14:N:51:LEU:O	14:N:53:ARG:N	2.44	0.51
1:A:489:C:C2	1:A:490:C:C5	2.99	0.51
5:E:96:GLN:HE21	5:E:97:PRO:HD2	1.76	0.51
1:A:69:G:C6	1:A:70:U:O4	2.64	0.51
11:K:13:LYS:HD2	11:K:14:GLN:O	2.11	0.51
1:A:1182:G:H5'	1:A:1184:G:H5''	1.91	0.51
9:I:18:VAL:HG21	9:I:82:ILE:N	2.25	0.51
1:A:468:A:H2'	1:A:469:C:O5'	2.11	0.51
10:J:29:ALA:HB1	10:J:76:ILE:HD13	1.92	0.51
8:H:76:ARG:O	8:H:77:VAL:HG23	2.10	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:67:LEU:HD13	2:B:160:LEU:CD1	2.41	0.51
1:A:1251:A:H1'	1:A:1369:C:O2'	2.10	0.51
7:G:26:VAL:HG23	7:G:27:ASN:H	1.75	0.51
1:A:560:A:C5	5:E:127:TYR:CE2	2.99	0.51
5:E:106:ALA:CB	5:E:124:ALA:CB	2.88	0.51
4:D:186:GLU:HB2	4:D:189:ASP:OD1	2.10	0.51
7:G:102:TRP:HZ3	7:G:137:ARG:HB2	1.75	0.51
7:G:145:GLU:HA	7:G:148:LYS:HB2	1.93	0.51
11:K:79:LYS:O	11:K:105:ARG:HB3	2.10	0.51
1:A:163:C:H2'	1:A:163:C:O2	2.11	0.51
1:A:633:G:O2'	1:A:634:C:H5'	2.11	0.51
19:S:38:THR:HG23	19:S:69:LYS:HD3	1.93	0.51
13:M:53:ASP:HA	13:M:56:ARG:CB	2.33	0.51
1:A:1240:U:H3'	1:A:1241:G:H5'	1.91	0.51
9:I:25:GLY:H	9:I:58:GLU:HA	1.75	0.51
1:A:108:G:N3	1:A:108:G:C5'	2.74	0.51
15:O:80:LEU:CD1	15:O:84:LEU:HD22	2.41	0.51
1:A:622:A:H3'	1:A:623:C:C6	2.45	0.51
22:V:63:G:H2'	22:V:64:A:C8	2.45	0.51
1:A:1177:G:C6	1:A:1178:G:C4	2.98	0.51
1:A:1177:G:O6	1:A:1178:G:C2	2.63	0.51
1:A:338:A:H2'	1:A:339:C:H6	1.75	0.51
1:A:399:G:H2'	1:A:400:C:C6	2.45	0.51
1:A:1361:G:C5	1:A:1362:A:C8	2.99	0.51
1:A:1228:C:OP1	13:M:112:ARG:HA	2.10	0.51
2:B:70:GLY:CA	2:B:163:ILE:CG2	2.89	0.51
2:B:70:GLY:HA3	2:B:163:ILE:HG21	1.93	0.51
11:K:63:GLN:O	11:K:67:GLU:HG3	2.11	0.51
1:A:862:C:H1'	1:A:874:G:H5''	1.91	0.51
5:E:23:THR:HA	5:E:28:ARG:HA	1.91	0.51
10:J:26:VAL:O	10:J:29:ALA:HB3	2.10	0.51
6:F:32:ALA:O	6:F:34:GLY:N	2.43	0.51
6:F:61:LEU:HD12	6:F:62:MET:N	2.26	0.51
5:E:140:ILE:C	5:E:142:GLY:H	2.12	0.51
1:A:172:A:C5	1:A:174:A:N7	2.79	0.51
5:E:15:ILE:HD11	5:E:112:ALA:HB1	1.92	0.51
17:Q:59:GLU:OE2	17:Q:76:ARG:HD3	2.10	0.51
1:A:1275:A:C5	1:A:1276:G:C5	2.99	0.51
1:A:1275:A:C5	1:A:1276:G:C8	2.98	0.51
2:B:207:ARG:O	2:B:211:LEU:N	2.44	0.51
20:T:28:ARG:HA	20:T:31:ILE:HD12	1.93	0.51
10:J:71:LEU:O	10:J:72:ARG:CG	2.59	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:49:ARG:HG3	12:L:89:LEU:HD11	1.93	0.51
9:I:88:GLU:HG3	9:I:89:TYR:H	1.75	0.51
15:O:38:LEU:HD12	15:O:41:HIS:HB2	1.92	0.51
4:D:170:LEU:HD12	4:D:170:LEU:H	1.75	0.51
12:L:13:ARG:C	12:L:14:LYS:O	2.47	0.51
4:D:45:PRO:O	4:D:46:ARG:C	2.50	0.51
8:H:21:LYS:HA	8:H:21:LYS:HE2	1.91	0.51
1:A:1242:G:C2'	1:A:1243:C:H5'	2.39	0.51
10:J:17:LEU:HA	10:J:20:GLN:HG3	1.93	0.51
2:B:150:ILE:O	2:B:151:LYS:C	2.49	0.51
2:B:166:ASP:OD2	2:B:190:SER:HA	2.11	0.51
2:B:14:HIS:O	2:B:16:GLY:N	2.44	0.51
3:C:149:LYS:O	3:C:200:TRP:HE3	1.94	0.51
5:E:45:VAL:HG13	5:E:116:VAL:HG23	1.93	0.51
5:E:96:GLN:O	5:E:122:VAL:HA	2.11	0.51
1:A:96:U:O2'	1:A:97:G:H5'	2.11	0.51
1:A:1540:U:O2'	21:U:17:ARG:HG2	2.11	0.51
1:A:1130:A:H1'	1:A:1146:A:C2	2.45	0.51
1:A:919:A:O2'	1:A:920:U:H5'	2.11	0.51
1:A:1411:C:H2'	1:A:1412:C:H6	1.76	0.51
6:F:11:HIS:ND1	6:F:12:PRO:HD2	2.25	0.51
1:A:328:C:C2'	1:A:328:C:O2	2.54	0.51
1:A:5:U:C5	1:A:5:U:OP1	2.64	0.51
7:G:87:PRO:HB3	7:G:144:ALA:HB1	1.93	0.51
1:A:655:A:O2'	1:A:755:G:H5'	2.11	0.51
3:C:114:LEU:O	3:C:116:ALA:N	2.44	0.51
1:A:806:C:H2'	1:A:807:A:C8	2.46	0.51
1:A:443:C:O2'	1:A:444:G:H5'	2.11	0.51
1:A:130:A:OP1	17:Q:64:ARG:HD2	2.11	0.51
12:L:73:LEU:HD21	12:L:103:CYS:SG	2.51	0.50
13:M:28:ARG:HG3	13:M:62:PHE:HE2	1.75	0.50
21:U:40:PRO:O	21:U:44:ARG:HB2	2.11	0.50
5:E:80:LEU:HA	5:E:146:MET:CE	2.41	0.50
19:S:13:HIS:H	19:S:13:HIS:CD2	2.29	0.50
1:A:1075:U:H2'	1:A:1076:U:H6	1.76	0.50
2:B:95:TRP:CE3	2:B:96:LEU:C	2.85	0.50
1:A:465:A:C6	1:A:466:A:C5	2.99	0.50
1:A:1099:G:C5	1:A:1100:C:C5	2.99	0.50
6:F:45:ARG:O	6:F:56:LYS:HA	2.11	0.50
1:A:934:C:H5''	25:A:1829:HOH:O	2.11	0.50
1:A:198:G:C4	1:A:199:A:C8	2.98	0.50
23:X:8:A:N6	23:X:9:G:C6	2.79	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:673:A:H2'	1:A:674:G:O4'	2.11	0.50
2:B:21:TYR:O	2:B:22:TRP:C	2.48	0.50
14:N:35:ALA:CB	14:N:41:ARG:HB2	2.41	0.50
3:C:66:THR:HG23	3:C:101:ASN:HB2	1.93	0.50
3:C:19:SER:O	14:N:94:PRO:HB3	2.11	0.50
4:D:77:GLU:OE1	4:D:77:GLU:CA	2.60	0.50
8:H:19:ALA:O	8:H:21:LYS:N	2.44	0.50
1:A:1237:C:H2'	1:A:1238:A:OP1	2.11	0.50
11:K:107:THR:HG22	11:K:108:ASN:CG	2.32	0.50
1:A:1171:A:H2'	1:A:1172:C:C6	2.45	0.50
1:A:258:G:H2'	1:A:259:G:O4'	2.12	0.50
1:A:1309:G:C6	1:A:1329:A:N1	2.79	0.50
1:A:1350:A:OP2	9:I:119:LYS:HD3	2.10	0.50
9:I:126:PHE:C	9:I:126:PHE:CD2	2.81	0.50
13:M:56:ARG:O	13:M:59:VAL:HG13	2.11	0.50
16:P:43:ALA:O	16:P:44:SER:CB	2.58	0.50
5:E:104:ILE:H	5:E:121:ASN:HA	1.76	0.50
20:T:69:ASN:C	20:T:71:ALA:N	2.62	0.50
1:A:1126:U:H1'	1:A:1281:C:C6	2.46	0.50
2:B:146:SER:OG	2:B:147:LEU:HG	2.11	0.50
10:J:36:VAL:HG22	10:J:76:ILE:HG23	1.93	0.50
1:A:594:U:C2'	1:A:595:A:H8	2.25	0.50
1:A:108:G:C6	20:T:9:ARG:HG2	2.45	0.50
7:G:27:ASN:O	7:G:30:MET:HB3	2.11	0.50
1:A:890:G:H4'	1:A:890:G:OP1	2.11	0.50
18:R:35:SER:CB	18:R:37:LYS:HD2	2.41	0.50
1:A:248:C:C4	1:A:249:U:C5	2.99	0.50
5:E:19:ARG:HG2	5:E:20:VAL:N	2.26	0.50
2:B:199:ILE:HD12	2:B:199:ILE:N	2.26	0.50
2:B:70:GLY:O	2:B:92:ASN:HA	2.12	0.50
21:U:44:ARG:O	21:U:45:LYS:HB2	2.10	0.50
5:E:113:VAL:CG2	5:E:114:LEU:N	2.72	0.50
1:A:73:C:O2'	1:A:74:A:P	2.70	0.50
1:A:663:A:H2'	1:A:664:G:O4'	2.12	0.50
20:T:32:LYS:O	20:T:34:VAL:N	2.44	0.50
1:A:1073:U:C4	1:A:1074:G:N7	2.80	0.50
1:A:110:C:C2'	1:A:110:C:O2	2.58	0.50
1:A:1372:U:H2'	1:A:1373:G:O4'	2.11	0.50
10:J:48:ARG:HH11	10:J:48:ARG:HG3	1.74	0.50
1:A:158:G:C2	1:A:159:G:C8	3.00	0.50
1:A:158:G:N3	1:A:159:G:C8	2.80	0.50
15:O:72:LYS:HE2	15:O:72:LYS:CA	2.38	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:5:U:OP1	1:A:5:U:C6	2.64	0.50
1:A:433:G:C5	1:A:434:U:C5	2.99	0.50
1:A:439:U:C5	1:A:440:C:C5	2.99	0.50
12:L:31:GLY:HA3	12:L:54:VAL:CG1	2.41	0.50
1:A:981:U:C6	1:A:982:U:C6	3.00	0.50
5:E:37:VAL:HG12	5:E:116:VAL:HG21	1.93	0.50
1:A:1014:A:C4	19:S:33:TRP:CZ3	2.99	0.50
2:B:129:THR:O	2:B:130:LYS:HE2	2.11	0.50
6:F:81:ASN:HB3	6:F:84:VAL:CG1	2.41	0.50
2:B:83:ALA:O	2:B:88:GLN:NE2	2.44	0.50
1:A:595:A:N1	1:A:641:U:C2	2.79	0.50
15:O:3:SER:CB	15:O:6:ALA:HB3	2.38	0.50
1:A:675:A:H1'	11:K:117:HIS:CG	2.47	0.50
11:K:86:LYS:HA	11:K:113:THR:HG22	1.94	0.50
14:N:2:LYS:N	25:N:205:HOH:O	2.44	0.50
6:F:25:TYR:O	6:F:26:THR:C	2.49	0.50
1:A:280:C:H4'	1:A:281:G:OP2	2.11	0.50
15:O:69:LEU:C	15:O:69:LEU:CD2	2.80	0.50
15:O:87:ARG:CD	15:O:87:ARG:O	2.60	0.50
1:A:208:U:C5	1:A:210:C:H6	2.29	0.50
4:D:172:VAL:O	4:D:179:GLY:HA2	2.11	0.50
4:D:69:ARG:O	4:D:72:ARG:HB2	2.11	0.50
1:A:1058:G:C2'	1:A:1059:C:O5'	2.60	0.50
16:P:80:LYS:HB2	16:P:80:LYS:NZ	2.26	0.50
22:V:1:G:C6	22:V:73:A:C2	2.99	0.50
1:A:476:U:H2'	1:A:477:C:C6	2.46	0.50
10:J:15:HIS:CG	10:J:16:ARG:N	2.79	0.50
13:M:32:ILE:CD1	13:M:58:GLU:HB3	2.42	0.50
9:I:37:TYR:CD2	9:I:38:PHE:CE2	3.00	0.50
2:B:103:TRP:HZ3	2:B:107:ARG:CZ	2.23	0.50
16:P:38:PHE:CD1	16:P:38:PHE:C	2.84	0.50
6:F:81:ASN:HB3	6:F:84:VAL:HG12	1.92	0.50
12:L:42:LYS:HE3	12:L:43:LYS:CE	2.42	0.50
14:N:64:CYS:O	14:N:66:GLN:N	2.44	0.50
4:D:12:ARG:HB3	4:D:37:PRO:HG3	1.91	0.50
1:A:1203:C:C5'	14:N:67:THR:HB	2.41	0.50
6:F:26:THR:O	6:F:27:ALA:O	2.29	0.50
15:O:24:THR:O	15:O:25:GLU:C	2.50	0.50
1:A:1083:U:C5	1:A:1084:G:C6	2.97	0.50
8:H:33:VAL:O	8:H:36:ALA:N	2.45	0.50
7:G:105:GLU:O	7:G:109:LYS:HG2	2.11	0.50
1:A:815:A:H4'	1:A:817:C:C4	2.46	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:908:A:H2'	1:A:909:A:H8	1.76	0.50
1:A:461:A:H8	1:A:461:A:OP2	1.95	0.50
1:A:951:G:OP2	13:M:100:ARG:NH2	2.45	0.50
13:M:21:ILE:HG22	13:M:22:TYR:N	2.26	0.50
1:A:1062:U:O4	3:C:2:GLN:HG2	2.12	0.50
5:E:100:GLU:O	5:E:100:GLU:CD	2.49	0.50
1:A:731:G:OP1	1:A:766:A:H1'	2.12	0.50
1:A:972:C:H4'	10:J:59:LYS:CG	2.42	0.50
21:U:17:ARG:O	21:U:20:ARG:N	2.45	0.50
1:A:202:G:O2'	1:A:468:A:C8	2.59	0.50
2:B:139:GLU:C	2:B:143:LEU:CD2	2.80	0.50
6:F:97:THR:O	6:F:98:GLU:CB	2.59	0.50
1:A:1505:G:H2'	23:X:15:A:OP2	2.12	0.50
1:A:141:G:C2	1:A:142:G:H1'	2.47	0.50
1:A:1450:U:O2'	1:A:1451:U:H2'	2.12	0.50
15:O:63:ARG:NH1	15:O:67:ASP:OD2	2.45	0.50
4:D:168:THR:HB	4:D:183:ARG:NH2	2.27	0.50
11:K:84:MET:HA	11:K:110:THR:O	2.11	0.50
4:D:96:ARG:HB3	4:D:98:ASP:OD1	2.12	0.50
20:T:17:ARG:O	20:T:21:ALA:HB2	2.11	0.50
9:I:33:SER:HB3	9:I:36:GLN:CD	2.31	0.50
1:A:519:C:H2'	1:A:519:C:O2	2.12	0.50
9:I:35:GLU:H	9:I:35:GLU:CD	2.13	0.50
19:S:57:VAL:HG11	19:S:74:ALA:CA	2.42	0.50
2:B:71:THR:HA	2:B:92:ASN:O	2.11	0.50
1:A:722:G:C8	1:A:724:G:H1'	2.47	0.50
4:D:202:LEU:HD12	4:D:202:LEU:O	2.12	0.50
1:A:1239:A:C2	1:A:1297:G:C2	2.99	0.50
1:A:841:C:N1	1:A:843:U:H5'	2.27	0.50
1:A:1291:U:H2'	1:A:1292:G:C8	2.47	0.50
2:B:162:VAL:O	2:B:184:ALA:CA	2.57	0.50
1:A:383:A:C2'	1:A:384:G:H5'	2.41	0.50
1:A:378:G:C2	1:A:386:C:C2	3.00	0.50
17:Q:46:HIS:HA	17:Q:70:LYS:CE	2.42	0.50
1:A:833:G:C5	1:A:834:U:C5	2.99	0.50
5:E:106:ALA:CA	5:E:124:ALA:HB3	2.41	0.50
1:A:1068:G:C2	1:A:1069:C:C6	2.99	0.50
1:A:893:C:H2'	1:A:894:G:H8	1.76	0.50
1:A:349:A:C2'	1:A:350:G:H5'	2.42	0.50
22:V:38:A:C2'	22:V:39:U:O5'	2.59	0.50
22:V:8:U:H5''	22:V:49:C:OP2	2.11	0.50
10:J:86:ALA:O	10:J:90:LEU:HD12	2.11	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:160:A:H2'	1:A:161:A:O4'	2.11	0.50
3:C:14:VAL:HG11	3:C:206:ILE:OXT	2.11	0.50
9:I:118:ARG:HH22	9:I:122:ARG:NH2	2.10	0.50
13:M:30:LYS:NZ	13:M:40:GLU:HB3	2.27	0.50
1:A:448:A:H2'	1:A:448:A:N3	2.26	0.50
21:U:45:LYS:O	21:U:49:ALA:HB2	2.11	0.50
5:E:152:VAL:O	5:E:154:ALA:N	2.45	0.50
5:E:79:THR:HG23	5:E:80:LEU:O	2.11	0.50
1:A:1240:U:C5	7:G:115:MET:HG2	2.47	0.50
4:D:160:LEU:O	4:D:162:GLU:N	2.45	0.50
1:A:1292:G:C6	1:A:1293:C:C4	3.00	0.50
1:A:1072:G:C8	1:A:1073:U:C5	3.00	0.50
1:A:1078:U:C2	5:E:89:THR:HG21	2.47	0.50
1:A:384:G:O2'	1:A:385:C:C5'	2.60	0.50
1:A:1287:A:C6	1:A:1288:A:C6	2.99	0.50
15:O:66:LEU:HD12	15:O:66:LEU:H	1.76	0.50
10:J:87:LEU:CD2	10:J:87:LEU:C	2.80	0.50
1:A:1179:A:C2'	1:A:1180:A:H5'	2.41	0.50
11:K:19:VAL:HG22	11:K:82:GLU:HG2	1.93	0.50
1:A:751:U:C2'	1:A:752:G:H5'	2.41	0.50
1:A:930:C:O2'	1:A:931:C:H5'	2.12	0.50
1:A:1272:G:C2	1:A:1273:C:N1	2.80	0.50
16:P:39:PHE:CD1	16:P:39:PHE:C	2.84	0.50
5:E:76:ASN:OD1	5:E:81:GLN:HG2	2.11	0.50
1:A:1014:A:C4	19:S:33:TRP:CE3	3.00	0.50
1:A:88:U:C4	1:A:89:U:C5	2.99	0.50
1:A:1106:G:C4	1:A:1107:C:C5	3.00	0.50
1:A:1538:C:OP2	1:A:1538:C:C6	2.65	0.50
9:I:5:TYR:HB2	9:I:20:ILE:CB	2.40	0.50
1:A:1072:G:N7	1:A:1073:U:C5	2.80	0.50
1:A:215:C:C2'	1:A:216:U:H5'	2.42	0.50
16:P:19:VAL:HG13	16:P:37:GLY:C	2.32	0.50
2:B:112:ARG:O	2:B:113:LEU:C	2.51	0.50
2:B:116:LEU:HB3	2:B:140:LEU:CD1	2.39	0.50
2:B:139:GLU:HB3	2:B:143:LEU:HD21	1.94	0.50
10:J:35:GLN:HG2	10:J:77:VAL:HG23	1.93	0.50
1:A:1212:U:H5'	1:A:1213:A:C5	2.47	0.50
1:A:853:C:C2'	1:A:854:U:H5'	2.41	0.50
4:D:97:LEU:HD12	4:D:97:LEU:O	2.12	0.50
1:A:1441:A:N7	1:A:1442:G:C8	2.80	0.50
4:D:13:ARG:HG3	4:D:55:ARG:HE	1.77	0.50
3:C:35:ASP:O	3:C:38:VAL:CG2	2.59	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:9:GLU:HG3	5:E:10:LEU:N	2.27	0.50
7:G:88:VAL:HG22	7:G:89:GLU:N	2.27	0.50
1:A:1317:C:N3	14:N:53:ARG:HD3	2.27	0.49
1:A:132:C:H4'	20:T:68:LYS:HE2	1.94	0.49
9:I:27:ILE:HG12	9:I:62:LEU:HD11	1.94	0.49
1:A:1073:U:N3	1:A:1074:G:C8	2.79	0.49
1:A:200:G:C2'	1:A:201:G:H5'	2.42	0.49
1:A:1388:C:H2'	1:A:1389:C:H6	1.76	0.49
16:P:73:ALA:O	16:P:77:GLU:HB2	2.12	0.49
4:D:107:GLY:HA3	4:D:113:ALA:HB2	1.94	0.49
22:V:1:G:H2'	22:V:2:C:H6	1.76	0.49
1:A:1187:G:H2'	1:A:1188:A:C8	2.47	0.49
13:M:22:TYR:CD2	13:M:68:LEU:HD23	2.47	0.49
1:A:1234:C:O2'	1:A:1235:U:H5'	2.12	0.49
5:E:104:ILE:CD1	5:E:114:LEU:HB3	2.43	0.49
1:A:187:G:H5''	1:A:188:C:OP2	2.12	0.49
1:A:549:C:C2'	1:A:550:G:O5'	2.60	0.49
1:A:1004:A:C2	1:A:1026:G:N3	2.80	0.49
4:D:32:LYS:CG	4:D:32:LYS:O	2.59	0.49
1:A:108:G:N3	1:A:108:G:H5'	2.27	0.49
4:D:196:GLU:H	4:D:196:GLU:CD	2.14	0.49
1:A:9:G:OP1	5:E:107:GLY:CA	2.60	0.49
1:A:91:U:C2	1:A:92:U:C6	3.00	0.49
1:A:1085:U:H5'	1:A:1094:G:N2	2.27	0.49
2:B:119:GLN:HA	2:B:122:ASP:HB2	1.93	0.49
1:A:1245:C:C5	1:A:1246:A:N7	2.80	0.49
9:I:16:ALA:HB2	9:I:66:VAL:HB	1.94	0.49
3:C:178:ARG:HH11	3:C:178:ARG:HG2	1.76	0.49
2:B:40:ILE:HG21	2:B:201:GLY:HA2	1.94	0.49
1:A:457:G:C5	1:A:458:U:C5	2.99	0.49
7:G:125:ASP:O	7:G:129:ASN:HA	2.12	0.49
16:P:60:TRP:O	16:P:63:GLN:N	2.44	0.49
12:L:32:VAL:HG23	12:L:55:ARG:O	2.12	0.49
12:L:71:HIS:C	12:L:71:HIS:ND1	2.65	0.49
13:M:16:ILE:O	13:M:20:SER:OG	2.30	0.49
17:Q:14:ASP:HA	17:Q:20:ILE:HD11	1.92	0.49
1:A:995:C:H5'	14:N:7:ALA:HB1	1.95	0.49
1:A:1124:G:H5'	10:J:37:ARG:O	2.11	0.49
1:A:1261:A:C5'	1:A:1262:C:OP2	2.60	0.49
11:K:51:PHE:CE2	11:K:61:ALA:HA	2.47	0.49
11:K:14:GLN:HE21	11:K:14:GLN:C	2.15	0.49
20:T:34:VAL:O	20:T:38:ILE:HG13	2.12	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:169:HIS:CD2	2:B:170:ILE:H	2.30	0.49
1:A:468:A:N7	1:A:469:C:O2	2.45	0.49
8:H:77:VAL:HG11	8:H:124:ILE:CG1	2.41	0.49
2:B:54:ALA:O	2:B:57:ASN:O	2.29	0.49
9:I:98:ARG:HA	9:I:103:VAL:CG1	2.41	0.49
9:I:11:ARG:HG3	9:I:11:ARG:O	2.11	0.49
1:A:104:G:O2'	1:A:105:G:H5'	2.12	0.49
22:V:49:C:N3	22:V:50:U:C5	2.79	0.49
16:P:11:ALA:O	16:P:12:LYS:C	2.50	0.49
1:A:1110:A:H2'	1:A:1111:A:C8	2.48	0.49
16:P:78:VAL:HG22	16:P:78:VAL:O	2.11	0.49
1:A:1223:C:P	19:S:77:ARG:NH1	2.85	0.49
1:A:1342:C:H5''	9:I:126:PHE:HE2	1.77	0.49
1:A:1061:G:H2'	1:A:1062:U:C5'	2.42	0.49
14:N:7:ALA:O	14:N:8:ARG:C	2.51	0.49
1:A:98:A:H2'	1:A:99:C:H6	1.77	0.49
9:I:27:ILE:HG13	9:I:62:LEU:HD21	1.94	0.49
5:E:25:LYS:HA	5:E:25:LYS:HE2	1.94	0.49
6:F:61:LEU:CG	6:F:62:MET:H	2.25	0.49
1:A:681:A:H2'	1:A:682:G:O4'	2.11	0.49
1:A:631:C:C5'	1:A:632:U:H5'	2.41	0.49
1:A:211:G:H2'	1:A:212:G:O4'	2.11	0.49
1:A:624:C:H4'	16:P:10:GLY:O	2.11	0.49
1:A:327:A:O3'	1:A:328:C:H4'	2.13	0.49
1:A:1478:U:O2'	1:A:1479:C:H5'	2.13	0.49
1:A:1083:U:C5	1:A:1084:G:C5	3.01	0.49
1:A:596:A:N1	1:A:645:G:C4	2.79	0.49
8:H:85:TYR:C	8:H:86:LYS:HD2	2.33	0.49
16:P:53:ASP:OD2	16:P:56:ARG:HG2	2.11	0.49
13:M:45:SER:O	13:M:46:GLU:HB3	2.13	0.49
1:A:1195:C:N3	1:A:1197:A:C8	2.81	0.49
1:A:1272:G:N2	1:A:1273:C:H1'	2.27	0.49
5:E:100:GLU:OE2	5:E:100:GLU:O	2.30	0.49
20:T:73:ARG:O	20:T:74:HIS:C	2.51	0.49
1:A:64:G:C8	1:A:99:C:C4	3.01	0.49
20:T:83:ASN:HA	20:T:86:ALA:H	1.78	0.49
1:A:921:U:H2'	1:A:922:G:O4'	2.12	0.49
6:F:47:LEU:HG	6:F:56:LYS:N	2.27	0.49
1:A:1004:A:C2	1:A:1026:G:C4	3.01	0.49
1:A:321:A:C2	1:A:333:U:O2	2.65	0.49
7:G:14:ASP:OD2	7:G:16:LYS:N	2.45	0.49
4:D:149:LYS:NZ	4:D:177:MET:HB3	2.26	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:270:A:H2'	1:A:271:C:O4'	2.13	0.49
7:G:68:VAL:HG21	7:G:103:ILE:HD11	1.93	0.49
19:S:28:LYS:HB3	19:S:29:PRO:CD	2.43	0.49
19:S:44:ILE:CD1	19:S:63:ASP:HA	2.42	0.49
15:O:50:HIS:O	15:O:53:ARG:HB3	2.13	0.49
2:B:14:HIS:C	2:B:14:HIS:ND1	2.65	0.49
1:A:1244:G:N2	1:A:1294:G:C4	2.81	0.49
1:A:976:G:N2	1:A:1362:A:O2'	2.46	0.49
1:A:978:A:C4'	1:A:1322:C:C5	2.94	0.49
1:A:1317:C:C4	14:N:53:ARG:CD	2.96	0.49
1:A:1061:G:H2'	1:A:1062:U:O5'	2.13	0.49
1:A:1221:G:H5''	19:S:76:THR:HG21	1.93	0.49
1:A:87:C:H2'	1:A:88:U:C1'	2.43	0.49
9:I:79:ARG:NH1	9:I:102:PHE:CD1	2.81	0.49
1:A:919:A:C4	1:A:920:U:C5	3.01	0.49
5:E:24:VAL:HG23	5:E:25:LYS:N	2.27	0.49
10:J:34:ALA:N	10:J:78:GLU:HG2	2.27	0.49
6:F:68:GLN:HA	6:F:71:ILE:CG2	2.43	0.49
21:U:25:ALA:HA	21:U:28:LEU:HB3	1.95	0.49
15:O:86:LEU:C	15:O:88:ARG:H	2.14	0.49
5:E:106:ALA:HB1	5:E:124:ALA:HB2	1.93	0.49
8:H:113:ARG:O	8:H:116:ARG:HB3	2.12	0.49
11:K:110:THR:HA	21:U:4:LYS:HA	1.94	0.49
1:A:1306:A:H2'	1:A:1307:U:C6	2.48	0.49
1:A:338:A:H2'	1:A:339:C:C6	2.48	0.49
6:F:13:ASP:C	6:F:15:SER:H	2.16	0.49
1:A:396:C:H2'	1:A:397:A:H5''	1.95	0.49
1:A:1345:U:C5	1:A:1377:A:C2	3.00	0.49
1:A:1222:G:H5''	19:S:77:ARG:NH1	2.28	0.49
2:B:183:PHE:CD1	2:B:197:PHE:HB2	2.46	0.49
16:P:44:SER:OG	16:P:46:LYS:CG	2.60	0.49
1:A:71:A:C8	1:A:71:A:C3'	2.96	0.49
1:A:972:C:H4'	10:J:59:LYS:HE3	1.95	0.49
6:F:61:LEU:HG	6:F:62:MET:H	1.78	0.49
2:B:224:ARG:O	2:B:225:SER:CB	2.60	0.49
3:C:57:GLU:HG3	3:C:64:ARG:HB3	1.94	0.49
1:A:1284:C:H2'	1:A:1285:A:C8	2.48	0.49
1:A:623:C:C2	1:A:624:C:C6	3.01	0.49
1:A:363:A:H2'	1:A:364:A:C8	2.47	0.49
1:A:1058:G:H2'	1:A:1059:C:O5'	2.12	0.49
1:A:577:G:H1'	1:A:816:A:N3	2.28	0.49
3:C:178:ARG:HG2	3:C:178:ARG:NH1	2.28	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:94:GLU:OE2	4:D:103:ARG:NH1	2.46	0.49
22:V:56:C:O2	22:V:56:C:H2'	2.11	0.49
1:A:1052:U:H5''	1:A:1053:G:OP2	2.12	0.49
1:A:1315:U:O4	1:A:1316:G:C6	2.66	0.49
1:A:1315:U:O4	1:A:1316:G:N1	2.45	0.49
1:A:942:G:H2'	1:A:942:G:N3	2.28	0.49
1:A:1151:A:H5'	10:J:44:THR:H	1.78	0.49
2:B:71:THR:HG22	2:B:72:LYS:H	1.78	0.49
5:E:94:PHE:CZ	5:E:96:GLN:CG	2.96	0.49
9:I:28:VAL:O	9:I:64:ILE:CG1	2.61	0.49
10:J:10:LEU:HB2	10:J:18:ILE:HD11	1.94	0.49
2:B:52:ALA:C	2:B:53:LEU:HD22	2.32	0.49
11:K:37:GLN:OE1	11:K:37:GLN:HA	2.11	0.49
1:A:677:U:H3	1:A:713:G:H1	1.59	0.49
1:A:715:A:H1'	1:A:777:A:N1	2.28	0.49
1:A:1250:A:H4'	9:I:69:GLY:O	2.12	0.49
17:Q:44:HIS:CE1	17:Q:69:THR:HG21	2.47	0.49
17:Q:51:GLU:CG	17:Q:52:CYS:N	2.76	0.49
1:A:9:G:OP1	5:E:107:GLY:HA3	2.13	0.49
1:A:207:C:O2'	1:A:213:G:N2	2.46	0.49
3:C:18:ASN:HA	3:C:55:VAL:CG1	2.42	0.49
7:G:3:ARG:HG3	7:G:4:ARG:N	2.28	0.49
4:D:57:LYS:HE2	4:D:68:GLU:OE1	2.13	0.49
1:A:659:U:C2'	1:A:660:C:O5'	2.61	0.49
1:A:811:C:H4'	1:A:900:A:N6	2.28	0.49
1:A:19:A:C4	1:A:917:G:N2	2.81	0.49
1:A:204:G:C2'	1:A:205:A:O5'	2.61	0.49
17:Q:8:GLN:HE21	17:Q:8:GLN:HA	1.77	0.49
12:L:54:VAL:HG21	12:L:79:ILE:HD11	1.94	0.49
1:A:938:A:C6	1:A:939:G:C5	3.01	0.49
9:I:117:LEU:N	9:I:117:LEU:HD12	2.28	0.49
13:M:28:ARG:NH1	13:M:32:ILE:HD11	2.28	0.49
5:E:104:ILE:HD11	5:E:114:LEU:CB	2.43	0.49
1:A:1216:A:H2'	1:A:1217:C:C6	2.47	0.49
20:T:78:LEU:O	20:T:81:GLN:HB2	2.12	0.49
1:A:1540:U:HO3'	21:U:17:ARG:CZ	2.25	0.49
9:I:53:LEU:C	9:I:54:VAL:HG22	2.33	0.49
2:B:137:THR:O	2:B:139:GLU:N	2.45	0.49
11:K:117:HIS:O	11:K:118:ASN:HB2	2.12	0.49
9:I:88:GLU:CG	9:I:89:TYR:N	2.76	0.49
1:A:1211:U:C1'	1:A:1213:A:C2	2.95	0.49
1:A:692:U:O2'	1:A:694:A:N7	2.37	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:55:VAL:HB	5:E:56:PRO:HD2	1.95	0.49
1:A:91:U:N3	1:A:92:U:C5	2.81	0.49
3:C:32:LEU:HD12	3:C:32:LEU:O	2.12	0.49
6:F:66:ALA:HB1	6:F:67:PRO:HD2	1.95	0.49
8:H:29:SER:O	8:H:32:LYS:HB2	2.13	0.49
4:D:61:ARG:NH1	4:D:68:GLU:HG2	2.27	0.49
22:V:5:G:N3	22:V:69:G:C2	2.81	0.49
1:A:1032:G:N2	1:A:1033:G:C8	2.81	0.49
7:G:104:VAL:O	7:G:108:ARG:N	2.45	0.49
9:I:16:ALA:HB2	9:I:66:VAL:CG2	2.43	0.49
1:A:29:U:H5'	1:A:296:U:OP1	2.12	0.49
1:A:338:A:H2'	1:A:339:C:O4'	2.13	0.49
1:A:913:A:H4'	1:A:914:A:OP1	2.12	0.49
1:A:658:C:C1'	15:O:21:THR:HG21	2.43	0.49
1:A:976:G:C2	1:A:1362:A:H2'	2.48	0.49
16:P:43:ALA:O	16:P:46:LYS:HG2	2.13	0.49
5:E:105:ILE:HD12	5:E:105:ILE:O	2.13	0.49
1:A:76:G:C2	1:A:95:C:N3	2.81	0.49
21:U:19:LYS:HZ3	21:U:19:LYS:N	2.11	0.49
9:I:81:GLY:O	9:I:84:ARG:CB	2.60	0.49
6:F:4:TYR:CD2	6:F:71:ILE:HD13	2.48	0.49
6:F:88:MET:HE3	18:R:63:TYR:HD2	1.77	0.49
2:B:90:PHE:HD2	2:B:149:GLY:CA	2.25	0.49
1:A:374:A:OP1	1:A:452:A:C2	2.66	0.49
1:A:452:A:H62	1:A:480:U:H3	1.60	0.49
4:D:31:CYS:O	4:D:32:LYS:HB3	2.12	0.49
6:F:10:VAL:HG12	6:F:58:HIS:CB	2.43	0.49
14:N:27:LYS:H	14:N:30:ILE:HD13	1.78	0.49
7:G:96:ASN:O	7:G:99:ALA:HB3	2.12	0.49
18:R:26:ALA:O	18:R:29:LYS:HG2	2.12	0.49
1:A:1265:C:C2	1:A:1271:A:H2	2.31	0.49
18:R:31:TYR:O	18:R:39:VAL:HB	2.12	0.49
4:D:99:ASN:OD1	4:D:110:ARG:NH1	2.46	0.49
1:A:1294:G:H2'	1:A:1295:U:C6	2.47	0.48
1:A:1329:A:H5''	13:M:24:VAL:HA	1.94	0.48
1:A:487:A:H5''	1:A:488:C:OP2	2.12	0.48
4:D:202:LEU:CD1	4:D:202:LEU:C	2.81	0.48
1:A:765:G:H3'	1:A:812:G:N2	2.27	0.48
20:T:37:ALA:CB	20:T:46:ALA:HA	2.43	0.48
9:I:40:ARG:O	9:I:44:ARG:NH1	2.45	0.48
6:F:38:ARG:NH2	6:F:96:VAL:HG23	2.28	0.48
2:B:67:LEU:HD22	2:B:69:VAL:HG22	1.93	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:63:ILE:CG1	3:C:65:VAL:CG2	2.91	0.48
2:B:20:ARG:HA	2:B:20:ARG:NE	2.28	0.48
17:Q:46:HIS:HB2	17:Q:66:LEU:CD1	2.43	0.48
15:O:63:ARG:HD3	15:O:87:ARG:HH22	1.78	0.48
3:C:181:ILE:HG22	3:C:181:ILE:O	2.12	0.48
4:D:144:ILE:N	4:D:144:ILE:HD12	2.28	0.48
4:D:131:ILE:HG22	4:D:133:SER:H	1.77	0.48
1:A:646:G:C4	1:A:647:C:C6	3.01	0.48
11:K:80:ASN:HB3	11:K:105:ARG:CG	2.42	0.48
17:Q:32:ILE:HD12	17:Q:32:ILE:N	2.28	0.48
17:Q:30:HIS:HD2	17:Q:32:ILE:H	1.61	0.48
2:B:151:LYS:HG3	2:B:152:ASP:N	2.28	0.48
1:A:1363:A:C8	1:A:1365:G:C5	3.01	0.48
13:M:108:ARG:O	13:M:108:ARG:HG3	2.13	0.48
1:A:949:A:N3	1:A:1233:G:N2	2.61	0.48
4:D:190:LEU:HD12	4:D:190:LEU:N	2.26	0.48
10:J:59:LYS:HD2	10:J:60:ASP:H	1.78	0.48
1:A:1149:C:N4	1:A:1150:A:N6	2.61	0.48
9:I:45:MET:HB2	9:I:48:ARG:CB	2.43	0.48
1:A:465:A:N6	1:A:466:A:C6	2.81	0.48
6:F:74:LEU:O	6:F:75:GLU:C	2.52	0.48
6:F:51:ILE:HD13	6:F:85:ILE:HD12	1.95	0.48
3:C:13:ILE:HD13	3:C:13:ILE:N	2.27	0.48
1:A:1491:G:H2'	1:A:1492:A:H8	1.74	0.48
12:L:43:LYS:CB	12:L:44:PRO:CD	2.91	0.48
2:B:49:PHE:HA	2:B:52:ALA:HB3	1.94	0.48
6:F:10:VAL:HG12	6:F:58:HIS:HB2	1.95	0.48
1:A:146:G:O2'	1:A:147:G:H5'	2.13	0.48
1:A:1450:U:H2'	1:A:1452:C:C4	2.48	0.48
15:O:62:ARG:O	15:O:65:LEU:HB2	2.12	0.48
4:D:128:VAL:HG23	4:D:145:ARG:HD3	1.95	0.48
5:E:106:ALA:CB	5:E:124:ALA:HB2	2.43	0.48
1:A:270:A:C5	1:A:271:C:C5	3.01	0.48
1:A:92:U:O2	1:A:92:U:H2'	2.12	0.48
1:A:341:C:H2'	1:A:342:C:H6	1.78	0.48
1:A:1045:C:C2	1:A:1046:A:C8	3.01	0.48
14:N:77:PHE:N	14:N:77:PHE:CD1	2.81	0.48
1:A:1379:G:O2'	1:A:1380:U:H5'	2.14	0.48
13:M:72:ILE:O	13:M:73:SER:C	2.51	0.48
1:A:428:G:H8	1:A:428:G:OP1	1.96	0.48
1:A:1256:A:O4'	1:A:1258:G:C4	2.66	0.48
1:A:625:U:H5''	16:P:16:PHE:CD1	2.48	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:307:C:C2'	1:A:308:C:O5'	2.60	0.48
1:A:1261:A:N1	1:A:1262:C:C4	2.81	0.48
1:A:74:A:C2	1:A:97:G:C2	3.01	0.48
1:A:1298:U:H4'	1:A:1299:A:C8	2.48	0.48
9:I:50:PRO:HG3	9:I:82:ILE:HD12	1.95	0.48
1:A:499:A:C6	1:A:547:A:C8	3.01	0.48
2:B:131:LYS:HA	2:B:135:MET:SD	2.53	0.48
10:J:6:ILE:HG13	10:J:76:ILE:O	2.13	0.48
1:A:113:G:O4'	1:A:354:G:H4'	2.13	0.48
17:Q:68:LYS:O	17:Q:69:THR:CB	2.61	0.48
15:O:66:LEU:O	15:O:67:ASP:C	2.49	0.48
1:A:211:G:C2	1:A:212:G:H1'	2.49	0.48
4:D:97:LEU:HG	4:D:117:VAL:HG21	1.96	0.48
1:A:562:U:H4'	1:A:563:A:C5'	2.44	0.48
1:A:53:A:H2'	1:A:54:C:O4'	2.12	0.48
3:C:119:ILE:HD11	3:C:136:ALA:HB1	1.95	0.48
1:A:970:C:O2	1:A:970:C:H2'	2.12	0.48
1:A:890:G:HO2'	1:A:891:U:P	2.36	0.48
1:A:1032:G:C2	1:A:1033:G:O4'	2.66	0.48
1:A:552:U:H2'	1:A:553:A:H8	1.78	0.48
1:A:634:C:H2'	1:A:635:A:O5'	2.13	0.48
2:B:16:GLY:HA3	2:B:40:ILE:H	1.78	0.48
10:J:15:HIS:HB3	10:J:70:HIS:CD2	2.48	0.48
1:A:607:A:C2	1:A:608:A:C4	3.00	0.48
15:O:81:ILE:CG1	15:O:82:GLU:N	2.75	0.48
3:C:139:ASN:HA	3:C:142:ARG:HB3	1.95	0.48
1:A:979:C:H3'	1:A:980:C:H6	1.79	0.48
13:M:92:ARG:HH11	13:M:92:ARG:HG2	1.77	0.48
1:A:1256:A:H5'	1:A:1258:G:C1'	2.43	0.48
1:A:1166:G:N1	1:A:1168:U:H5''	2.28	0.48
1:A:88:U:O4	1:A:89:U:C4	2.67	0.48
17:Q:45:VAL:HG22	17:Q:72:TRP:HB2	1.95	0.48
6:F:61:LEU:HD12	6:F:62:MET:H	1.79	0.48
1:A:523:A:N6	12:L:49:ARG:HH12	2.12	0.48
3:C:147:GLY:HA2	3:C:170:GLY:HA3	1.95	0.48
21:U:11:PHE:O	21:U:12:ASP:HB2	2.14	0.48
1:A:475:C:O2	1:A:475:C:H2'	2.12	0.48
15:O:75:ALA:O	15:O:77:TYR:N	2.46	0.48
1:A:369:G:C2'	1:A:370:C:O5'	2.61	0.48
18:R:24:ASP:C	18:R:26:ALA:N	2.65	0.48
22:V:63:G:H2'	22:V:64:A:O4'	2.14	0.48
21:U:52:VAL:HG13	21:U:53:LYS:N	2.28	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1036:A:N3	1:A:1036:A:H2'	2.28	0.48
1:A:933:G:OP2	7:G:2:ARG:HB3	2.14	0.48
1:A:937:A:H1'	1:A:1379:G:N2	2.29	0.48
9:I:128:LYS:HD3	9:I:129:ARG:H	1.77	0.48
2:B:206:ILE:HD13	2:B:206:ILE:N	2.29	0.48
1:A:615:G:C6	1:A:626:G:C6	3.01	0.48
2:B:101:THR:CA	2:B:178:LEU:HD21	2.44	0.48
12:L:106:VAL:CG2	12:L:116:TYR:HB3	2.40	0.48
8:H:7:ALA:HA	8:H:76:ARG:HG3	1.94	0.48
2:B:181:PRO:C	2:B:182:VAL:HG23	2.34	0.48
12:L:63:THR:HG23	12:L:92:VAL:HA	1.95	0.48
1:A:688:G:H5'	11:K:48:GLY:HA2	1.95	0.48
1:A:58:C:C2'	1:A:59:A:H5'	2.43	0.48
1:A:1048:G:H4'	14:N:2:LYS:HE2	1.93	0.48
1:A:141:G:H2'	1:A:142:G:O4'	2.12	0.48
3:C:86:LEU:O	3:C:90:VAL:HG23	2.13	0.48
1:A:1286:U:O2	1:A:1286:U:H3'	2.13	0.48
3:C:66:THR:O	3:C:67:ILE:HG13	2.13	0.48
4:D:145:ARG:NH2	4:D:147:LYS:HE3	2.28	0.48
1:A:27:G:H2'	1:A:28:A:O4'	2.12	0.48
3:C:111:ASP:O	3:C:115:VAL:HG23	2.13	0.48
19:S:50:VAL:O	19:S:56:HIS:HA	2.13	0.48
1:A:815:A:H4'	1:A:817:C:C5	2.48	0.48
19:S:79:TYR:O	19:S:80:ARG:CB	2.62	0.48
1:A:1256:A:C8	1:A:1278:G:C8	3.02	0.48
1:A:1275:A:H2'	1:A:1276:G:C5'	2.39	0.48
13:M:1:ALA:HB1	13:M:9:PRO:HD2	1.95	0.48
2:B:79:VAL:HG12	2:B:79:VAL:O	2.13	0.48
5:E:96:GLN:HB2	5:E:123:LEU:HB2	1.95	0.48
1:A:1124:G:C2	1:A:1127:G:C2	3.01	0.48
3:C:22:PHE:C	3:C:22:PHE:CD2	2.86	0.48
1:A:72:A:C5	1:A:73:C:N4	2.80	0.48
20:T:35:TYR:CE2	20:T:36:ALA:HA	2.49	0.48
1:A:1098:C:H2'	1:A:1099:G:O4'	2.13	0.48
2:B:134:LEU:CD1	2:B:138:ARG:HB3	2.43	0.48
10:J:46:LYS:HE2	10:J:68:ARG:NE	2.29	0.48
14:N:64:CYS:SG	14:N:79:LEU:CD2	3.01	0.48
2:B:224:ARG:O	2:B:225:SER:HB2	2.13	0.48
2:B:80:LYS:HG2	2:B:84:LEU:CD2	2.39	0.48
3:C:102:ILE:N	3:C:102:ILE:CD1	2.75	0.48
1:A:642:A:C5	8:H:106:SER:HA	2.49	0.48
1:A:1473:G:O2'	1:A:1474:U:H5'	2.14	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:61:ARG:HG2	4:D:71:PHE:CD2	2.49	0.48
17:Q:77:VAL:O	17:Q:78:VAL:HG22	2.14	0.48
1:A:790:A:C6	1:A:791:G:C6	3.02	0.48
1:A:519:C:C2'	1:A:519:C:O2	2.57	0.48
1:A:1225:A:C2'	1:A:1226:C:C5	2.94	0.48
1:A:1226:C:H4'	1:A:1227:A:OP1	2.14	0.48
19:S:13:HIS:N	19:S:13:HIS:CD2	2.81	0.48
1:A:812:G:OP1	1:A:903:G:H1'	2.13	0.48
1:A:782:A:H2'	1:A:783:C:H5'	1.95	0.48
7:G:41:ILE:HG23	7:G:116:ALA:HA	1.96	0.48
1:A:1458:G:H5'	20:T:26:MET:HB3	1.96	0.48
20:T:25:SER:O	20:T:29:THR:HG23	2.14	0.48
1:A:1150:A:H1'	1:A:1280:A:N6	2.28	0.48
1:A:1072:G:C3'	1:A:1073:U:H6	2.26	0.48
1:A:1387:G:C6	1:A:1388:C:N4	2.82	0.48
21:U:24:LYS:CG	21:U:25:ALA:H	2.25	0.48
1:A:1477:U:O2'	1:A:1478:U:H5'	2.13	0.48
1:A:438:U:C2	1:A:494:G:C6	3.02	0.48
1:A:1423:G:H2'	1:A:1424:U:C6	2.46	0.48
8:H:112:ASP:CG	8:H:113:ARG:H	2.17	0.48
5:E:9:GLU:O	5:E:10:LEU:C	2.51	0.48
1:A:1304:G:O3'	1:A:1305:G:O4'	2.31	0.48
16:P:56:ARG:HD2	16:P:56:ARG:HA	1.64	0.48
1:A:1036:A:H5'	1:A:1037:C:OP2	2.13	0.48
16:P:7:ALA:HA	16:P:28:ARG:HG2	1.96	0.48
1:A:1426:G:O2'	1:A:1427:C:H5'	2.13	0.48
22:V:60:U:H5''	22:V:61:C:C5	2.49	0.48
1:A:272:C:H2'	1:A:273:U:H6	1.78	0.48
20:T:72:ALA:O	20:T:73:ARG:C	2.50	0.48
12:L:24:GLU:O	12:L:25:ALA:O	2.31	0.48
1:A:1262:C:C4	1:A:1263:C:C4	3.02	0.48
1:A:1299:A:H2'	1:A:1299:A:N3	2.28	0.48
1:A:717:U:O2'	1:A:734:G:O4'	2.27	0.48
20:T:35:TYR:CD1	20:T:35:TYR:C	2.78	0.48
3:C:82:ASP:O	3:C:85:LYS:HG3	2.13	0.48
14:N:14:ALA:O	14:N:16:ALA:N	2.47	0.48
15:O:3:SER:HB3	15:O:6:ALA:H	1.79	0.48
15:O:42:PHE:CE1	15:O:55:LEU:HD22	2.48	0.48
1:A:600:A:C2	1:A:601:G:C5	3.02	0.48
16:P:77:GLU:C	16:P:79:ASN:N	2.67	0.48
1:A:1237:C:C2'	1:A:1238:A:OP1	2.60	0.48
1:A:634:C:O2'	1:A:635:A:H5'	2.13	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:P:44:SER:HG	16:P:46:LYS:HG2	1.79	0.48
9:I:62:LEU:HD23	9:I:62:LEU:H	1.78	0.48
9:I:62:LEU:N	9:I:62:LEU:HD23	2.29	0.48
10:J:8:ILE:HD13	10:J:25:ILE:HD11	1.96	0.48
21:U:10:PRO:O	21:U:11:PHE:CB	2.61	0.48
1:A:778:G:O2'	11:K:120:CYS:HB3	2.14	0.48
18:R:48:ALA:O	18:R:51:GLN:HB3	2.13	0.48
15:O:73:ASP:HB3	15:O:76:ARG:HG3	1.94	0.48
15:O:70:LYS:HD2	15:O:77:TYR:CZ	2.49	0.48
4:D:90:LEU:HD11	4:D:196:GLU:HG3	1.96	0.48
1:A:211:G:H2'	1:A:211:G:N3	2.28	0.48
1:A:1397:C:H3'	1:A:1398:A:H5''	1.94	0.48
1:A:184:G:O2'	1:A:185:U:H5'	2.12	0.48
1:A:1313:U:C2	1:A:1314:C:C6	3.02	0.48
1:A:1360:A:C1'	14:N:58:SER:HG	2.27	0.48
13:M:15:VAL:CG1	13:M:40:GLU:HA	2.44	0.48
1:A:980:C:H4'	14:N:59:ARG:HH12	1.79	0.48
5:E:115:GLU:O	5:E:118:GLY:HA2	2.14	0.48
5:E:122:VAL:O	5:E:122:VAL:HG23	2.14	0.48
1:A:1534:A:H5''	1:A:1535:C:OP1	2.12	0.48
11:K:85:VAL:CG1	11:K:92:ARG:NH1	2.77	0.48
11:K:111:ASP:HB3	21:U:3:ILE:CG2	2.44	0.48
2:B:61:SER:O	2:B:63:LYS:N	2.47	0.48
4:D:173:ASP:HB3	4:D:178:GLU:O	2.13	0.48
7:G:105:GLU:O	7:G:108:ARG:HB2	2.13	0.48
1:A:728:A:C6	1:A:729:A:N6	2.82	0.48
1:A:162:A:H5''	1:A:163:C:OP2	2.12	0.48
9:I:33:SER:HB3	9:I:36:GLN:HB2	1.95	0.48
1:A:275:G:C2	1:A:276:G:C8	3.02	0.48
22:V:65:G:H2'	22:V:66:U:C6	2.49	0.48
11:K:58:THR:HB	11:K:59:PRO:HD2	1.96	0.48
13:M:33:LEU:N	13:M:33:LEU:HD23	2.29	0.47
5:E:110:MET:O	5:E:114:LEU:HB2	2.14	0.47
1:A:81:A:H2'	1:A:82:G:H8	1.79	0.47
2:B:86:CYS:H	2:B:88:GLN:NE2	2.12	0.47
1:A:452:A:H3'	1:A:452:A:C8	2.49	0.47
1:A:684:U:O2'	11:K:39:ASN:O	2.24	0.47
1:A:681:A:C6	1:A:710:G:C6	3.02	0.47
3:C:76:ILE:HA	3:C:83:VAL:HG21	1.96	0.47
14:N:35:ALA:HB3	14:N:41:ARG:HD3	1.96	0.47
8:H:105:THR:HG21	8:H:115:ALA:HB2	1.96	0.47
2:B:44:LYS:O	2:B:48:MET:HB2	2.14	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:131:GLY:CA	7:G:134:VAL:HG13	2.44	0.47
17:Q:5:ARG:HH11	17:Q:5:ARG:HB2	1.78	0.47
1:A:49:U:C4	1:A:364:A:C6	3.02	0.47
1:A:340:U:C2	1:A:350:G:N2	2.82	0.47
1:A:857:C:H2'	1:A:858:G:O5'	2.14	0.47
19:S:32:THR:HB	19:S:34:SER:H	1.78	0.47
1:A:957:U:O2	1:A:959:A:H8	1.96	0.47
5:E:99:SER:O	5:E:100:GLU:C	2.52	0.47
1:A:1014:A:N7	1:A:1015:G:C5	2.82	0.47
11:K:15:VAL:HG12	11:K:76:TYR:HB3	1.96	0.47
11:K:76:TYR:O	11:K:77:GLY:C	2.53	0.47
1:A:166:U:C2'	1:A:167:A:H5'	2.43	0.47
6:F:5:GLU:O	6:F:89:VAL:HA	2.13	0.47
4:D:35:GLN:O	4:D:36:ALA:CB	2.62	0.47
4:D:152:SER:O	4:D:153:ARG:C	2.53	0.47
3:C:10:ARG:HH21	3:C:181:ILE:HG13	1.79	0.47
1:A:1477:U:H2'	1:A:1478:U:C6	2.49	0.47
18:R:28:LEU:O	18:R:30:ASN:N	2.47	0.47
1:A:342:C:C4	1:A:348:G:N1	2.82	0.47
1:A:1237:C:C6	1:A:1336:C:C4	3.03	0.47
1:A:186:C:H4'	20:T:75:LYS:HG3	1.96	0.47
1:A:1036:A:H5'	1:A:1037:C:P	2.54	0.47
9:I:67:LYS:N	9:I:67:LYS:HD3	2.28	0.47
17:Q:54:ILE:HD13	17:Q:54:ILE:O	2.13	0.47
1:A:985:C:H2'	1:A:985:C:O2	2.13	0.47
5:E:95:MET:HE1	5:E:114:LEU:HD21	1.93	0.47
5:E:37:VAL:CG1	5:E:38:VAL:N	2.77	0.47
1:A:82:G:N7	1:A:83:C:C4	2.82	0.47
3:C:49:ALA:O	3:C:71:ARG:HB2	2.14	0.47
1:A:840:C:O2	1:A:847:G:C2	2.67	0.47
1:A:381:C:C4	1:A:382:A:C5	3.03	0.47
1:A:1501:C:OP1	1:A:1508:A:H4'	2.13	0.47
1:A:1049:U:C4'	1:A:1050:G:OP2	2.62	0.47
1:A:144:G:H2'	1:A:145:G:O5'	2.14	0.47
12:L:2:THR:N	12:L:5:GLN:HG3	2.29	0.47
3:C:133:MET:HE1	3:C:167:TYR:HB2	1.95	0.47
4:D:123:MET:HE2	4:D:145:ARG:HD2	1.96	0.47
8:H:82:LEU:HD11	8:H:84:ILE:HD11	1.95	0.47
4:D:58:GLN:OE1	4:D:58:GLN:HA	2.14	0.47
6:F:53:LYS:O	6:F:54:LEU:HB2	2.15	0.47
1:A:753:A:H4'	1:A:754:C:O2	2.14	0.47
1:A:1308:U:C5	13:M:97:ARG:NH2	2.82	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:57:VAL:CG1	19:S:74:ALA:HB2	2.45	0.47
3:C:149:LYS:CB	3:C:168:ARG:HA	2.44	0.47
17:Q:13:SER:OG	17:Q:16:MET:CE	2.60	0.47
5:E:80:LEU:CD1	5:E:80:LEU:N	2.76	0.47
1:A:554:A:H5'	12:L:25:ALA:HB1	1.96	0.47
1:A:1221:G:C5'	19:S:76:THR:HG21	2.44	0.47
4:D:190:LEU:O	4:D:191:SER:CB	2.52	0.47
11:K:76:TYR:HD1	11:K:76:TYR:N	2.13	0.47
20:T:34:VAL:CG1	20:T:78:LEU:CD1	2.92	0.47
9:I:42:THR:HA	9:I:44:ARG:NH2	2.29	0.47
9:I:28:VAL:HB	9:I:63:TYR:CD2	2.48	0.47
9:I:7:GLY:HA2	9:I:84:ARG:HB3	1.96	0.47
1:A:1093:A:C2	1:A:1095:U:O4'	2.67	0.47
10:J:78:GLU:OE1	10:J:78:GLU:C	2.52	0.47
6:F:8:PHE:CE1	6:F:60:VAL:HG21	2.49	0.47
2:B:66:ILE:HB	2:B:88:GLN:HB3	1.96	0.47
7:G:14:ASP:HB3	7:G:18:GLY:N	2.28	0.47
1:A:247:G:C6	1:A:278:G:C2	3.02	0.47
9:I:90:ASP:C	9:I:90:ASP:OD2	2.52	0.47
1:A:558:G:H5''	1:A:559:A:O5'	2.14	0.47
17:Q:47:ASP:HB2	17:Q:51:GLU:OE2	2.14	0.47
7:G:106:ALA:CB	7:G:122:GLU:HG3	2.45	0.47
4:D:119:HIS:O	4:D:120:LYS:HB2	2.14	0.47
3:C:34:SER:HA	3:C:37:LYS:HB3	1.97	0.47
6:F:69:GLU:CA	6:F:69:GLU:OE1	2.62	0.47
3:C:120:THR:CG2	3:C:121:SER:N	2.78	0.47
5:E:15:ILE:O	5:E:16:ALA:HB2	2.15	0.47
1:A:652:U:H1'	1:A:653:U:C6	2.50	0.47
18:R:44:THR:OG1	18:R:46:THR:CG2	2.63	0.47
1:A:806:C:H2'	1:A:807:A:H8	1.79	0.47
3:C:180:ASP:HB3	3:C:204:GLY:H	1.79	0.47
1:A:1275:A:C5	1:A:1276:G:N7	2.82	0.47
1:A:448:A:H3'	1:A:449:G:H8	1.78	0.47
2:B:202:ASN:OD1	2:B:203:ASP:N	2.47	0.47
1:A:94:G:H5'	1:A:95:C:H5	1.79	0.47
1:A:1539:C:C2'	1:A:1540:U:H5'	2.45	0.47
1:A:468:A:N3	1:A:468:A:O4'	2.46	0.47
1:A:468:A:H2'	1:A:469:C:C5'	2.44	0.47
10:J:19:ASP:O	10:J:22:THR:HG22	2.14	0.47
6:F:51:ILE:HD11	6:F:85:ILE:HB	1.96	0.47
6:F:86:ARG:CG	6:F:86:ARG:NH1	2.70	0.47
2:B:181:PRO:CA	2:B:196:ASP:OD1	2.61	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:686:U:C2	1:A:687:A:C8	3.01	0.47
3:C:65:VAL:O	3:C:65:VAL:HG12	2.13	0.47
7:G:16:LYS:CE	7:G:17:PHE:CE1	2.98	0.47
7:G:16:LYS:HD3	7:G:17:PHE:CE1	2.50	0.47
1:A:1251:A:O2'	1:A:1252:A:C5'	2.62	0.47
1:A:560:A:H4'	1:A:561:U:H5''	1.96	0.47
1:A:833:G:C4	1:A:834:U:C6	3.02	0.47
1:A:9:G:OP2	5:E:125:LYS:HE2	2.14	0.47
1:A:498:A:OP2	1:A:498:A:H8	1.96	0.47
4:D:169:TRP:CG	4:D:185:PRO:HG3	2.49	0.47
1:A:53:A:C2	1:A:359:G:C2	3.03	0.47
7:G:7:GLY:O	7:G:8:GLN:CB	2.63	0.47
11:K:81:LEU:N	11:K:81:LEU:HD23	2.30	0.47
1:A:446:G:C2'	1:A:447:G:O5'	2.63	0.47
22:V:32:U:C4	22:V:33:U:C5	3.02	0.47
1:A:1350:A:C6	1:A:1351:U:N3	2.83	0.47
1:A:929:G:C6	1:A:930:C:C5	3.02	0.47
16:P:44:SER:O	16:P:46:LYS:HG3	2.14	0.47
12:L:20:VAL:N	12:L:21:PRO:HD3	2.30	0.47
16:P:61:VAL:HG21	16:P:67:ILE:HD11	1.90	0.47
1:A:1298:U:H5'	1:A:1299:A:C8	2.50	0.47
1:A:842:U:O2	1:A:845:A:OP1	2.33	0.47
6:F:6:ILE:HB	6:F:62:MET:CB	2.44	0.47
1:A:594:U:C3'	1:A:595:A:H8	2.26	0.47
1:A:1505:G:H4'	1:A:1506:U:C5'	2.45	0.47
1:A:243:A:N1	1:A:246:A:N7	2.62	0.47
1:A:606:G:N2	1:A:632:U:OP1	2.47	0.47
4:D:123:MET:CE	4:D:145:ARG:HD2	2.44	0.47
1:A:590:U:H2'	1:A:591:U:H6	1.76	0.47
1:A:220:G:N3	1:A:221:C:C6	2.83	0.47
1:A:1424:U:C2	1:A:1425:U:C6	3.03	0.47
1:A:318:G:N1	1:A:319:G:C5	2.82	0.47
11:K:18:GLY:O	11:K:81:LEU:HB2	2.15	0.47
7:G:114:SER:HB3	7:G:117:LEU:HG	1.96	0.47
1:A:791:G:H2'	1:A:792:A:H5'	1.95	0.47
1:A:1302:C:C4	13:M:16:ILE:CD1	2.98	0.47
1:A:1323:G:C1'	1:A:1362:A:C2	2.97	0.47
13:M:18:LEU:O	13:M:20:SER:N	2.47	0.47
1:A:484:G:H4'	1:A:485:U:C5'	2.44	0.47
2:B:163:ILE:HG13	2:B:203:ASP:HB2	1.96	0.47
1:A:1523:G:OP1	11:K:124:LYS:HD3	2.15	0.47
1:A:518:C:C2'	1:A:530:G:C8	2.91	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:93:VAL:CG1	5:E:110:MET:HE3	2.44	0.47
5:E:155:LYS:CG	8:H:65:PHE:HB2	2.43	0.47
5:E:92:ARG:HB3	5:E:92:ARG:CZ	2.43	0.47
20:T:66:ILE:O	20:T:67:HIS:CB	2.62	0.47
3:C:130:ARG:H	3:C:130:ARG:HE	1.62	0.47
1:A:8:A:N6	4:D:201:GLU:O	2.47	0.47
1:A:801:U:C2	1:A:802:A:C8	3.03	0.47
20:T:53:MET:HG3	20:T:54:GLN:H	1.78	0.47
9:I:19:PHE:O	9:I:62:LEU:HA	2.14	0.47
9:I:5:TYR:HB2	9:I:20:ILE:CG2	2.44	0.47
9:I:24:ASN:HB3	9:I:58:GLU:CD	2.34	0.47
2:B:95:TRP:CH2	2:B:99:MET:HG3	2.49	0.47
1:A:467:U:O2	1:A:467:U:H3'	2.15	0.47
1:A:15:G:C6	1:A:16:A:C6	3.03	0.47
6:F:29:ILE:HG21	6:F:36:ILE:HG22	1.97	0.47
6:F:70:VAL:HG23	6:F:71:ILE:H	1.80	0.47
2:B:68:PHE:O	2:B:90:PHE:HA	2.15	0.47
2:B:49:PHE:O	2:B:52:ALA:HB3	2.15	0.47
2:B:82:ALA:O	2:B:85:SER:OG	2.30	0.47
4:D:36:ALA:O	4:D:38:GLY:N	2.48	0.47
21:U:24:LYS:NZ	21:U:25:ALA:HB2	2.30	0.47
1:A:709:U:H2'	1:A:710:G:H8	1.79	0.47
1:A:158:G:C5	1:A:159:G:N7	2.82	0.47
1:A:560:A:C8	1:A:566:G:N3	2.83	0.47
17:Q:69:THR:O	17:Q:70:LYS:CB	2.63	0.47
7:G:77:ARG:O	7:G:78:ARG:C	2.52	0.47
11:K:109:ILE:CG2	21:U:16:ARG:NE	2.77	0.47
21:U:14:ALA:C	21:U:15:LEU:HG	2.34	0.47
3:C:151:GLU:HA	3:C:166:TRP:HB3	1.96	0.47
3:C:7:ASN:C	3:C:9:ILE:H	2.18	0.47
1:A:401:C:O2'	1:A:621:A:N3	2.38	0.47
1:A:414:A:C2	1:A:415:A:C1'	2.97	0.47
1:A:1438:G:C2'	1:A:1439:G:H5'	2.44	0.47
1:A:352:C:H42	1:A:357:G:N2	2.11	0.47
1:A:1422:G:C2'	1:A:1423:G:H5'	2.44	0.47
1:A:1381:U:H2'	1:A:1382:C:H6	1.80	0.47
4:D:71:PHE:HE1	4:D:199:ILE:HD11	1.79	0.47
1:A:179:A:H2'	1:A:180:U:C6	2.50	0.47
8:H:112:ASP:O	8:H:113:ARG:C	2.53	0.47
1:A:389:A:H2'	1:A:390:U:H5'	1.97	0.47
9:I:66:VAL:HG13	9:I:66:VAL:O	2.14	0.47
1:A:406:G:C2	1:A:407:U:C5	3.03	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:337:G:C6	1:A:338:A:C6	3.02	0.47
1:A:161:A:H2'	1:A:162:A:C8	2.49	0.47
1:A:607:A:H2'	1:A:608:A:C8	2.48	0.47
1:A:1155:A:O2'	1:A:1156:G:H5'	2.15	0.47
1:A:1392:G:C2'	1:A:1393:U:H5'	2.45	0.47
12:L:50:LYS:N	12:L:50:LYS:CD	2.78	0.47
1:A:1361:G:C6	1:A:1362:A:C8	3.03	0.47
13:M:15:VAL:HG23	13:M:16:ILE:HG13	1.97	0.47
13:M:76:ILE:HG23	13:M:90:HIS:CD2	2.49	0.47
1:A:489:C:H2'	1:A:490:C:H6	1.80	0.47
5:E:153:ALA:N	5:E:156:ARG:HB3	2.30	0.47
12:L:21:PRO:C	12:L:23:LEU:H	2.18	0.47
1:A:784:A:H2'	1:A:785:G:O4'	2.15	0.47
1:A:1458:G:H2'	1:A:1459:G:H8	1.79	0.47
1:A:841:C:C3'	1:A:843:U:H5''	2.38	0.47
6:F:6:ILE:CG2	6:F:7:VAL:N	2.77	0.47
1:A:173:U:H6	1:A:198:G:HO2'	1.63	0.47
21:U:23:GLU:O	21:U:24:LYS:C	2.52	0.47
1:A:712:A:C2'	1:A:713:G:O5'	2.62	0.47
12:L:80:LEU:HD12	12:L:81:ILE:H	1.80	0.47
1:A:629:A:H2'	1:A:630:A:O4'	2.15	0.47
1:A:631:C:C3'	1:A:632:U:H5'	2.44	0.47
1:A:562:U:C4'	1:A:563:A:H5'	2.43	0.47
1:A:4:U:H5''	1:A:5:U:OP1	2.14	0.47
1:A:409:U:OP1	4:D:23:GLY:HA3	2.14	0.47
1:A:1397:C:C3'	1:A:1398:A:H5''	2.44	0.47
1:A:1242:G:O2'	1:A:1243:C:H5'	2.15	0.47
1:A:443:C:H2'	1:A:444:G:O4'	2.15	0.47
12:L:17:LYS:O	12:L:17:LYS:HD2	2.15	0.47
1:A:1269:A:H2	1:A:1312:G:N3	2.13	0.47
1:A:1374:A:C2'	1:A:1375:A:H5'	2.45	0.47
16:P:39:PHE:CZ	16:P:41:PRO:HB3	2.50	0.47
5:E:155:LYS:N	5:E:155:LYS:CE	2.77	0.47
5:E:93:VAL:CG1	5:E:110:MET:CE	2.93	0.47
3:C:153:SER:HB3	3:C:164:THR:HB	1.96	0.47
1:A:188:C:C2	1:A:189:A:C8	3.02	0.47
1:A:664:G:H22	1:A:741:G:H1	1.63	0.47
1:A:1072:G:C4	1:A:1073:U:C6	3.02	0.47
2:B:117:GLU:N	2:B:140:LEU:HD21	2.29	0.47
10:J:19:ASP:HB3	10:J:72:ARG:HH21	1.80	0.47
3:C:41:TYR:CE1	3:C:89:VAL:HG21	2.50	0.47
1:A:66:A:O4'	1:A:173:U:C4	2.68	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:10:VAL:HG11	6:F:18:VAL:HG22	1.97	0.47
14:N:17:ASP:O	14:N:18:LYS:C	2.53	0.47
14:N:19:TYR:CD1	14:N:19:TYR:N	2.83	0.47
15:O:16:ARG:O	15:O:17:ASP:CB	2.63	0.47
14:N:42:TRP:CD1	14:N:42:TRP:O	2.68	0.47
1:A:1085:U:H5'	1:A:1094:G:C2	2.50	0.47
1:A:317:U:N3	1:A:318:G:N7	2.63	0.47
1:A:1031:C:H4'	1:A:1032:G:C4	2.50	0.47
5:E:10:LEU:HD23	5:E:11:GLN:H	1.80	0.47
1:A:634:C:C2'	1:A:635:A:O5'	2.63	0.47
8:H:48:PHE:C	8:H:48:PHE:CD1	2.88	0.47
13:M:32:ILE:HD13	13:M:58:GLU:HB3	1.97	0.47
19:S:39:ILE:O	19:S:66:VAL:O	2.32	0.47
16:P:39:PHE:CD2	16:P:74:LEU:HD11	2.49	0.47
1:A:189:A:N6	1:A:190:A:N1	2.63	0.47
1:A:861:G:C4	1:A:862:C:C6	3.03	0.47
9:I:42:THR:O	9:I:43:ALA:C	2.52	0.47
1:A:479:U:C2'	1:A:480:U:H5'	2.45	0.47
2:B:216:VAL:HA	2:B:219:THR:CG2	2.45	0.47
1:A:59:A:C5	1:A:331:G:N2	2.83	0.47
15:O:58:MET:O	15:O:60:SER:N	2.48	0.47
14:N:35:ALA:HB1	14:N:41:ARG:HB2	1.96	0.47
10:J:98:VAL:O	10:J:99:GLN:HG2	2.15	0.47
5:E:55:VAL:N	5:E:56:PRO:HD2	2.30	0.47
12:L:51:VAL:HG23	12:L:52:CYS:N	2.28	0.47
19:S:50:VAL:CG2	19:S:70:LEU:HD13	2.44	0.47
16:P:4:ILE:HD12	16:P:66:THR:O	2.15	0.47
5:E:11:GLN:OE1	5:E:11:GLN:CA	2.62	0.47
18:R:33:THR:HG23	18:R:36:GLY:H	1.79	0.47
1:A:1303:C:N4	1:A:1304:G:C6	2.82	0.47
20:T:8:LYS:HG2	20:T:12:GLN:OE1	2.13	0.47
1:A:138:G:C4	1:A:226:G:C2	3.03	0.47
1:A:1309:G:C4	1:A:1310:G:C8	3.03	0.46
1:A:981:U:H2'	1:A:982:U:H5	1.79	0.46
9:I:117:LEU:HD23	9:I:120:ALA:C	2.35	0.46
4:D:30:LYS:HD3	4:D:30:LYS:N	2.30	0.46
3:C:149:LYS:HB3	3:C:168:ARG:HA	1.98	0.46
12:L:23:LEU:HG	12:L:24:GLU:H	1.79	0.46
1:A:72:A:N6	1:A:73:C:N4	2.63	0.46
10:J:48:ARG:NH1	10:J:48:ARG:HG2	2.30	0.46
1:A:245:U:O2	1:A:245:U:C2'	2.53	0.46
14:N:20:PHE:HA	14:N:24:ALA:HB2	1.97	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:472:U:H2'	1:A:473:U:C6	2.50	0.46
3:C:101:ASN:O	3:C:102:ILE:HG13	2.15	0.46
7:G:65:LEU:CD2	7:G:69:ARG:CZ	2.94	0.46
7:G:148:LYS:CD	11:K:60:PHE:CZ	2.99	0.46
1:A:49:U:C2	1:A:362:G:H1'	2.50	0.46
1:A:580:C:C2'	1:A:581:G:O5'	2.63	0.46
1:A:895:G:C6	1:A:896:C:C4	3.03	0.46
12:L:73:LEU:HD23	12:L:73:LEU:H	1.80	0.46
1:A:1267:C:H2'	1:A:1268:G:C5'	2.46	0.46
9:I:119:LYS:O	9:I:120:ALA:CB	2.63	0.46
4:D:27:ILE:O	4:D:28:ASP:C	2.54	0.46
1:A:1275:A:C6	1:A:1276:G:C5	3.03	0.46
2:B:18:GLN:O	2:B:37:VAL:HG22	2.15	0.46
2:B:93:HIS:CD2	2:B:145:ASN:HB2	2.50	0.46
1:A:1015:G:H2'	1:A:1016:A:C8	2.50	0.46
1:A:780:A:C2	1:A:803:G:C6	3.03	0.46
11:K:67:GLU:O	11:K:70:ALA:HB3	2.15	0.46
20:T:35:TYR:CD2	20:T:36:ALA:CA	2.98	0.46
2:B:67:LEU:HD21	2:B:91:VAL:CG2	2.45	0.46
2:B:53:LEU:CD2	2:B:212:TYR:OH	2.63	0.46
3:C:64:ARG:O	3:C:65:VAL:CB	2.63	0.46
1:A:111:G:C6	1:A:330:C:N4	2.84	0.46
1:A:152:A:N1	1:A:170:U:O2	2.48	0.46
1:A:176:C:C2'	1:A:177:G:O5'	2.63	0.46
7:G:30:MET:SD	7:G:33:GLY:HA2	2.54	0.46
8:H:82:LEU:CD1	8:H:82:LEU:O	2.63	0.46
7:G:96:ASN:HA	7:G:99:ALA:HB2	1.97	0.46
1:A:248:C:C4	1:A:249:U:C4	3.03	0.46
4:D:40:HIS:O	4:D:42:ALA:N	2.48	0.46
1:A:1312:G:N7	19:S:2:ARG:N	2.63	0.46
9:I:117:LEU:HD23	9:I:120:ALA:O	2.15	0.46
4:D:3:TYR:C	4:D:4:LEU:HD13	2.36	0.46
2:B:209:VAL:CG2	2:B:210:THR:N	2.79	0.46
5:E:114:LEU:O	5:E:119:VAL:HG23	2.15	0.46
5:E:153:ALA:O	5:E:156:ARG:O	2.32	0.46
4:D:191:SER:OG	4:D:192:ALA:N	2.41	0.46
1:A:782:A:H2'	1:A:783:C:O4'	2.15	0.46
20:T:53:MET:CE	20:T:57:VAL:CG2	2.93	0.46
1:A:1540:U:H4'	21:U:17:ARG:CG	2.43	0.46
1:A:1130:A:H2'	1:A:1131:G:H5'	1.97	0.46
9:I:8:THR:HB	9:I:84:ARG:NH1	2.31	0.46
2:B:216:VAL:HA	2:B:219:THR:HG21	1.97	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:63:ILE:HG22	3:C:96:VAL:HG23	1.98	0.46
1:A:844:G:N7	1:A:844:G:OP2	2.49	0.46
1:A:175:C:H2'	1:A:176:C:H6	1.80	0.46
2:B:20:ARG:HA	2:B:20:ARG:CZ	2.45	0.46
1:A:9:G:C4	1:A:10:A:C8	3.04	0.46
4:D:45:PRO:O	4:D:47:LEU:HB2	2.15	0.46
7:G:68:VAL:HG23	7:G:99:ALA:CB	2.45	0.46
7:G:145:GLU:C	7:G:147:ASN:H	2.18	0.46
1:A:1012:A:C2	1:A:1018:G:N1	2.83	0.46
15:O:81:ILE:HG13	15:O:82:GLU:N	2.30	0.46
3:C:179:ALA:HB1	3:C:202:PHE:HE1	1.79	0.46
3:C:180:ASP:O	3:C:202:PHE:HA	2.16	0.46
21:U:32:ARG:O	21:U:32:ARG:CG	2.62	0.46
1:A:429:U:H4'	1:A:430:A:OP1	2.14	0.46
5:E:82:HIS:ND1	8:H:95:MET:HE2	2.29	0.46
20:T:68:LYS:CB	20:T:69:ASN:OD1	2.63	0.46
20:T:66:ILE:HG13	20:T:70:LYS:HB3	1.97	0.46
10:J:7:ARG:HD2	10:J:73:LEU:HD11	1.96	0.46
20:T:34:VAL:O	20:T:36:ALA:N	2.48	0.46
1:A:1291:U:H2'	1:A:1292:G:H8	1.80	0.46
1:A:549:C:H2'	1:A:550:G:O5'	2.15	0.46
2:B:157:PRO:O	2:B:180:ILE:HD12	2.15	0.46
6:F:20:GLY:O	6:F:24:ARG:HB2	2.16	0.46
1:A:152:A:C6	1:A:170:U:O2	2.68	0.46
1:A:1287:A:N6	1:A:1288:A:N6	2.63	0.46
7:G:26:VAL:HG23	7:G:27:ASN:N	2.31	0.46
14:N:19:TYR:N	14:N:19:TYR:HD1	2.13	0.46
5:E:56:PRO:O	5:E:59:ILE:HD11	2.15	0.46
1:A:600:A:C4	1:A:639:G:C2	3.04	0.46
9:I:16:ALA:HB2	9:I:66:VAL:CB	2.44	0.46
1:A:747:A:H2'	1:A:748:G:O4'	2.15	0.46
1:A:455:G:H2'	1:A:456:A:H5'	1.97	0.46
3:C:131:ARG:HD3	3:C:135:ARG:HH21	1.80	0.46
2:B:202:ASN:HD22	2:B:205:ALA:HB2	1.80	0.46
16:P:6:LEU:CD1	16:P:71:VAL:HG23	2.46	0.46
1:A:1126:U:O4	10:J:73:LEU:HD12	2.15	0.46
1:A:1134:G:C2	1:A:1141:C:N3	2.84	0.46
17:Q:7:LEU:HB2	17:Q:60:ILE:CG2	2.45	0.46
11:K:13:LYS:HD3	11:K:13:LYS:O	2.15	0.46
1:A:1182:G:H5''	1:A:1184:G:H5''	1.98	0.46
1:A:1537:U:O2	1:A:1537:U:H2'	2.14	0.46
16:P:18:GLN:O	16:P:20:VAL:HG12	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:78:SER:HB3	8:H:124:ILE:O	2.15	0.46
6:F:61:LEU:CD1	6:F:62:MET:H	2.29	0.46
6:F:74:LEU:C	6:F:76:THR:N	2.67	0.46
21:U:23:GLU:CA	21:U:27:VAL:HG22	2.46	0.46
7:G:36:SER:O	7:G:39:GLU:HG2	2.15	0.46
6:F:43:GLY:O	6:F:58:HIS:CD2	2.69	0.46
1:A:1286:U:H5'	1:A:1287:A:OP2	2.16	0.46
1:A:243:A:H4'	1:A:244:U:H5''	1.97	0.46
1:A:26:A:H61	1:A:558:G:C2'	2.29	0.46
14:N:19:TYR:O	14:N:22:LYS:HB3	2.15	0.46
17:Q:46:HIS:HA	17:Q:70:LYS:HE3	1.98	0.46
15:O:87:ARG:O	15:O:87:ARG:CG	2.63	0.46
1:A:404:G:C2	1:A:405:U:C2	3.04	0.46
4:D:47:LEU:HD21	4:D:51:GLY:C	2.35	0.46
7:G:103:ILE:O	7:G:106:ALA:HB3	2.15	0.46
1:A:1445:U:H2'	1:A:1446:A:OP2	2.15	0.46
8:H:88:LYS:HA	8:H:91:LEU:HD12	1.97	0.46
1:A:543:U:C2	1:A:544:G:C8	3.03	0.46
16:P:52:LEU:CD2	16:P:54:LEU:CD2	2.94	0.46
1:A:1226:C:H2'	13:M:101:THR:HB	1.97	0.46
1:A:1302:C:C4	13:M:16:ILE:HD11	2.51	0.46
1:A:413:G:H22	1:A:429:U:P	2.39	0.46
5:E:45:VAL:HG22	5:E:117:ALA:CB	2.46	0.46
1:A:1141:C:C2	1:A:1142:G:C8	3.03	0.46
1:A:74:A:C2	1:A:97:G:C5	3.04	0.46
18:R:34:GLU:HB2	21:U:18:PHE:CE1	2.51	0.46
9:I:41:GLU:O	9:I:42:THR:O	2.33	0.46
5:E:24:VAL:O	5:E:25:LYS:C	2.53	0.46
10:J:5:ARG:CD	10:J:79:PRO:HG3	2.45	0.46
1:A:1253:G:N2	1:A:1285:A:H62	2.13	0.46
1:A:473:U:H2'	1:A:474:G:H8	1.81	0.46
15:O:35:ILE:CD1	15:O:62:ARG:NH1	2.78	0.46
1:A:1319:A:OP2	19:S:4:LEU:HD21	2.16	0.46
18:R:70:THR:HG23	18:R:72:ARG:H	1.80	0.46
3:C:132:ALA:O	3:C:136:ALA:HB2	2.16	0.46
3:C:132:ALA:O	3:C:136:ALA:CB	2.64	0.46
8:H:35:ILE:HD11	8:H:125:ILE:HG21	1.97	0.46
4:D:116:LEU:HD23	4:D:121:ALA:HB3	1.97	0.46
1:A:1170:A:O5'	1:A:1170:A:H8	1.98	0.46
13:M:47:LEU:CD2	13:M:52:ILE:HG13	2.46	0.46
18:R:33:THR:HG23	18:R:35:SER:HB2	1.97	0.46
6:F:13:ASP:O	6:F:15:SER:N	2.48	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:617:G:C6	1:A:618:C:C5	3.04	0.46
1:A:1151:A:O4'	10:J:41:PRO:HB2	2.15	0.46
1:A:721:G:H4'	1:A:722:G:C5'	2.46	0.46
21:U:34:ARG:O	21:U:35:GLU:O	2.33	0.46
1:A:71:A:H3'	1:A:71:A:C8	2.50	0.46
7:G:45:ALA:HB1	7:G:120:ALA:HB2	1.98	0.46
20:T:42:ASP:HB3	20:T:45:ALA:CB	2.44	0.46
9:I:18:VAL:CG1	9:I:85:ALA:HB2	2.45	0.46
2:B:97:GLY:HA2	2:B:174:GLU:OE2	2.15	0.46
1:A:1097:C:H5''	2:B:138:ARG:NH2	2.31	0.46
2:B:67:LEU:O	2:B:160:LEU:CD1	2.62	0.46
2:B:86:CYS:HB2	2:B:88:GLN:HG3	1.97	0.46
16:P:5:ARG:NH1	16:P:24:SER:HA	2.30	0.46
2:B:216:VAL:O	2:B:217:ALA:C	2.54	0.46
2:B:53:LEU:C	2:B:56:LEU:HB3	2.36	0.46
1:A:681:A:N1	1:A:710:G:C6	2.84	0.46
1:A:146:G:N2	1:A:177:G:C8	2.84	0.46
7:G:35:LYS:O	7:G:38:ALA:HB3	2.15	0.46
1:A:283:U:C4	1:A:284:C:N4	2.84	0.46
15:O:87:ARG:O	15:O:88:ARG:OXT	2.34	0.46
5:E:56:PRO:O	5:E:59:ILE:CD1	2.64	0.46
1:A:1090:U:H2'	1:A:1090:U:O2	2.16	0.46
1:A:600:A:C2	1:A:601:G:C4	3.03	0.46
1:A:1057:G:C5	1:A:1058:G:C5	3.04	0.46
1:A:341:C:C2	1:A:349:A:C2	3.04	0.46
8:H:62:LEU:N	8:H:62:LEU:HD23	2.31	0.46
4:D:109:THR:O	4:D:112:GLU:N	2.49	0.46
22:V:33:U:O2	22:V:35:A:C8	2.69	0.46
7:G:88:VAL:CG2	7:G:89:GLU:N	2.79	0.46
18:R:19:GLU:HG3	18:R:54:LEU:HD13	1.98	0.46
1:A:1350:A:C2	1:A:1351:U:C2	3.04	0.46
19:S:57:VAL:CG1	19:S:74:ALA:CB	2.94	0.46
1:A:1256:A:H5'	1:A:1258:G:O4'	2.15	0.46
5:E:158:LYS:HG3	5:E:158:LYS:O	2.16	0.46
1:A:1216:A:C6	1:A:1217:C:N4	2.83	0.46
19:S:17:LYS:HA	19:S:20:LYS:HZ3	1.81	0.46
1:A:101:A:O2'	1:A:102:G:H5'	2.16	0.46
1:A:69:G:H2'	1:A:70:U:H6	1.79	0.46
1:A:72:A:C8	1:A:73:C:H5	2.34	0.46
1:A:72:A:C6	1:A:99:C:H1'	2.51	0.46
1:A:972:C:O2'	10:J:57:VAL:HG22	2.16	0.46
1:A:972:C:O2'	10:J:57:VAL:CG2	2.64	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:120:ALA:HA	7:G:123:LEU:HB2	1.98	0.46
1:A:1103:C:H5''	2:B:96:LEU:HD13	1.97	0.46
2:B:67:LEU:HD13	2:B:160:LEU:HD11	1.97	0.46
4:D:31:CYS:SG	4:D:32:LYS:N	2.88	0.46
21:U:28:LEU:HD23	21:U:28:LEU:O	2.15	0.46
1:A:110:C:H2'	1:A:110:C:O2	2.14	0.46
1:A:158:G:C3'	1:A:159:G:H5''	2.46	0.46
4:D:122:ILE:CG2	4:D:142:VAL:HG23	2.46	0.46
1:A:251:G:C6	1:A:266:G:C6	3.04	0.46
9:I:11:ARG:O	9:I:11:ARG:CG	2.63	0.46
1:A:318:G:C6	1:A:319:G:N7	2.84	0.46
22:V:50:U:C2	22:V:51:U:C5	3.04	0.46
22:V:52:G:C6	22:V:53:G:N7	2.83	0.46
1:A:1245:C:C4	1:A:1246:A:N7	2.84	0.46
7:G:110:ARG:CZ	7:G:121:ASN:HB3	2.46	0.46
1:A:856:C:C2'	1:A:857:C:H5'	2.46	0.46
1:A:19:A:C4	1:A:917:G:C2	3.04	0.46
1:A:1349:A:H2'	1:A:1350:A:O4'	2.16	0.46
1:A:932:C:C4	7:G:2:ARG:NH2	2.83	0.46
4:D:27:ILE:O	4:D:28:ASP:O	2.34	0.46
13:M:4:ALA:O	13:M:6:ILE:N	2.49	0.46
1:A:489:C:H2'	1:A:490:C:C6	2.51	0.46
16:P:6:LEU:HD23	16:P:17:TYR:CB	2.45	0.46
16:P:71:VAL:HG12	16:P:75:ILE:HD11	1.98	0.46
2:B:100:LEU:N	2:B:100:LEU:CD2	2.79	0.46
2:B:169:HIS:O	2:B:170:ILE:C	2.53	0.46
1:A:500:G:C6	1:A:501:C:C4	3.04	0.46
6:F:21:MET:HB3	6:F:25:TYR:CZ	2.50	0.46
12:L:2:THR:O	12:L:3:VAL:C	2.54	0.46
14:N:27:LYS:O	14:N:28:ALA:O	2.34	0.46
11:K:109:ILE:O	21:U:5:VAL:HG22	2.16	0.46
1:A:402:G:C6	1:A:403:C:C4	3.03	0.46
7:G:96:ASN:HA	7:G:99:ALA:CB	2.45	0.46
1:A:220:G:H2'	1:A:221:C:O5'	2.16	0.46
6:F:69:GLU:OE1	6:F:69:GLU:HA	2.16	0.46
1:A:1423:G:C5	1:A:1424:U:C5	3.04	0.46
1:A:706:A:C1'	11:K:30:ILE:HD11	2.45	0.46
8:H:88:LYS:C	8:H:90:GLU:H	2.18	0.46
1:A:1070:U:H2'	1:A:1071:C:C6	2.50	0.46
1:A:775:G:C2'	1:A:776:G:H5'	2.45	0.46
1:A:799:G:C2'	1:A:800:G:H5'	2.46	0.46
12:L:33:CYS:HB3	12:L:54:VAL:CG2	2.42	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:113:LYS:HG3	9:I:119:LYS:HA	1.97	0.46
16:P:74:LEU:N	16:P:74:LEU:HD23	2.31	0.46
3:C:153:SER:HB3	3:C:164:THR:HG22	1.98	0.46
1:A:1514:G:H2'	1:A:1515:G:O4'	2.16	0.46
1:A:1107:C:C2	1:A:1108:G:C8	3.04	0.46
1:A:1239:A:H62	1:A:1299:A:N6	2.14	0.46
20:T:81:GLN:O	20:T:84:LYS:HB2	2.16	0.46
11:K:85:VAL:HG11	11:K:92:ARG:NH1	2.31	0.46
12:L:106:VAL:HG23	12:L:116:TYR:O	2.15	0.46
9:I:12:LYS:H	9:I:105:ARG:HH12	1.63	0.46
1:A:630:A:C2	1:A:631:C:C2	3.03	0.46
15:O:17:ASP:OD1	15:O:20:ASP:HB2	2.16	0.46
15:O:26:VAL:HG12	15:O:30:LEU:CD1	2.45	0.46
1:A:1086:U:O2'	1:A:1087:G:H5'	2.15	0.46
1:A:459:A:C2	1:A:460:A:C5	3.04	0.46
11:K:19:VAL:HB	11:K:34:THR:CG2	2.46	0.46
8:H:31:LEU:O	8:H:33:VAL:N	2.49	0.46
11:K:80:ASN:HA	11:K:105:ARG:O	2.16	0.46
1:A:457:G:C5	1:A:458:U:C4	3.03	0.46
2:B:9:LEU:HA	2:B:42:LEU:HD13	1.98	0.46
10:J:81:GLU:HA	10:J:81:GLU:OE2	2.17	0.46
1:A:1230:C:O2'	1:A:1231:G:H5'	2.16	0.45
1:A:1349:A:OP2	9:I:119:LYS:HE2	2.16	0.45
2:B:15:PHE:CE1	2:B:17:HIS:CE1	3.04	0.45
2:B:205:ALA:C	2:B:207:ARG:H	2.19	0.45
20:T:43:LYS:NZ	20:T:85:LEU:O	2.48	0.45
1:A:1540:U:O3'	21:U:17:ARG:NH2	2.50	0.45
1:A:869:G:H4'	1:A:872:A:C8	2.51	0.45
9:I:37:TYR:CD2	9:I:38:PHE:CD2	3.04	0.45
9:I:52:GLU:O	9:I:54:VAL:O	2.34	0.45
9:I:47:VAL:HG12	9:I:78:ILE:HG22	1.98	0.45
5:E:136:VAL:HA	5:E:139:THR:OG1	2.16	0.45
2:B:182:VAL:HG12	2:B:195:VAL:HG13	1.99	0.45
1:A:1114:C:O2	1:A:1114:C:H2'	2.16	0.45
6:F:18:VAL:CB	6:F:19:PRO:HD3	2.45	0.45
6:F:25:TYR:O	6:F:27:ALA:N	2.49	0.45
1:A:853:C:C2	1:A:854:U:C6	3.03	0.45
10:J:80:THR:O	10:J:84:VAL:HB	2.16	0.45
7:G:94:ARG:HG3	7:G:98:LEU:HG	1.97	0.45
7:G:34:LYS:HB2	7:G:37:THR:HG22	1.95	0.45
7:G:145:GLU:OE1	7:G:148:LYS:CE	2.65	0.45
13:M:51:GLN:O	13:M:55:LEU:HD12	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:100:ILE:HD12	8:H:100:ILE:H	1.81	0.45
1:A:1202:U:O2	1:A:1202:U:H2'	2.15	0.45
3:C:70:ALA:O	3:C:72:PRO:HD3	2.16	0.45
1:A:758:C:H2'	1:A:759:A:OP2	2.17	0.45
3:C:106:ARG:HD3	3:C:106:ARG:H	1.81	0.45
1:A:1266:G:N2	1:A:1269:A:OP2	2.48	0.45
1:A:936:C:C2'	1:A:937:A:H5'	2.46	0.45
1:A:939:G:C6	1:A:940:C:N4	2.84	0.45
13:M:21:ILE:CG2	13:M:22:TYR:N	2.79	0.45
19:S:35:ARG:O	19:S:36:ARG:C	2.54	0.45
4:D:22:SER:O	4:D:26:ALA:HB2	2.16	0.45
1:A:1256:A:N7	1:A:1258:G:C2	2.84	0.45
1:A:1276:G:H2'	1:A:1277:C:H6	1.81	0.45
5:E:154:ALA:HB1	8:H:65:PHE:CD2	2.51	0.45
5:E:14:LEU:C	5:E:14:LEU:CD1	2.84	0.45
10:J:57:VAL:HG22	10:J:58:ASN:H	1.81	0.45
9:I:19:PHE:HB2	9:I:63:TYR:O	2.17	0.45
1:A:16:A:C5	1:A:17:U:C5	3.04	0.45
9:I:59:LYS:HD2	9:I:59:LYS:O	2.17	0.45
7:G:55:LYS:O	7:G:56:SER:O	2.35	0.45
7:G:22:LEU:O	7:G:26:VAL:HG22	2.16	0.45
1:A:1137:C:H1'	1:A:1138:G:N2	2.31	0.45
1:A:2:A:N3	1:A:613:C:O2'	2.48	0.45
2:B:48:MET:C	2:B:50:ASN:N	2.70	0.45
1:A:1381:U:C5	1:A:1382:C:H5	2.34	0.45
13:M:36:ALA:HB3	13:M:38:ILE:HG12	1.98	0.45
1:A:516:U:H2'	1:A:517:G:H5'	1.98	0.45
1:A:636:U:H2'	1:A:637:C:C6	2.52	0.45
4:D:5:GLY:O	4:D:6:PRO:C	2.53	0.45
1:A:1151:A:C5'	10:J:44:THR:H	2.29	0.45
13:M:57:ASP:O	13:M:60:ALA:N	2.49	0.45
1:A:1000:A:C2	1:A:1001:C:C2	3.05	0.45
3:C:46:LEU:HB3	3:C:49:ALA:CB	2.45	0.45
2:B:172:ILE:O	2:B:173:LYS:C	2.55	0.45
1:A:1095:U:H5'	1:A:1109:C:O2	2.16	0.45
6:F:74:LEU:O	6:F:76:THR:N	2.49	0.45
1:A:522:C:H2'	1:A:523:A:O4'	2.16	0.45
3:C:54:ILE:HD13	3:C:56:ILE:HD11	1.97	0.45
20:T:7:LYS:HG2	20:T:7:LYS:H	1.55	0.45
11:K:109:ILE:CG2	21:U:16:ARG:CZ	2.93	0.45
1:A:613:C:H2'	1:A:614:C:C6	2.52	0.45
1:A:369:G:H2'	1:A:370:C:O5'	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:6:PRO:C	3:C:9:ILE:HG22	2.37	0.45
18:R:24:ASP:CB	18:R:27:THR:HB	2.46	0.45
1:A:1086:U:O2'	1:A:1087:G:C5'	2.64	0.45
2:B:150:ILE:C	2:B:152:ASP:N	2.68	0.45
1:A:1435:G:H2'	1:A:1436:U:C6	2.51	0.45
1:A:294:U:H2'	1:A:295:C:C6	2.52	0.45
1:A:983:A:O2'	1:A:984:C:O5'	2.33	0.45
13:M:63:VAL:O	13:M:68:LEU:HD13	2.16	0.45
19:S:9:PHE:C	19:S:9:PHE:CD1	2.90	0.45
11:K:63:GLN:O	11:K:66:ALA:HB3	2.16	0.45
9:I:47:VAL:O	9:I:50:PRO:HD2	2.16	0.45
1:A:1096:C:N4	1:A:1097:C:N4	2.65	0.45
10:J:6:ILE:O	10:J:8:ILE:N	2.50	0.45
6:F:6:ILE:HB	6:F:62:MET:HB3	1.98	0.45
2:B:153:MET:O	2:B:154:GLY:O	2.35	0.45
21:U:8:ASN:N	21:U:8:ASN:OD1	2.49	0.45
1:A:1506:U:H2'	25:A:1885:HOH:O	2.17	0.45
1:A:149:A:N3	1:A:149:A:H2'	2.32	0.45
17:Q:35:LYS:CG	17:Q:37:ILE:HD11	2.47	0.45
1:A:253:A:C2	1:A:254:G:C4	3.04	0.45
8:H:74:ILE:HA	8:H:127:TYR:O	2.16	0.45
22:V:5:G:C4	22:V:69:G:N2	2.84	0.45
7:G:72:VAL:HG12	7:G:89:GLU:HA	1.98	0.45
1:A:1187:G:H2'	1:A:1188:A:H8	1.81	0.45
1:A:1154:G:C2	1:A:1155:A:C8	3.04	0.45
5:E:57:ALA:O	5:E:60:GLN:HB3	2.16	0.45
1:A:1328:C:H5''	13:M:27:THR:HB	1.99	0.45
1:A:1350:A:H2'	1:A:1351:U:O4'	2.17	0.45
1:A:952:U:H2'	1:A:953:G:H8	1.81	0.45
1:A:428:G:O4'	1:A:430:A:C8	2.70	0.45
2:B:187:ASP:OD2	2:B:202:ASN:HA	2.16	0.45
5:E:80:LEU:HB3	5:E:146:MET:HE3	1.99	0.45
1:A:190:A:C2'	1:A:191:G:O5'	2.64	0.45
20:T:28:ARG:O	20:T:32:LYS:HG2	2.16	0.45
20:T:42:ASP:HB2	20:T:45:ALA:HB3	1.93	0.45
16:P:20:VAL:CG2	16:P:32:PHE:HB2	2.46	0.45
10:J:24:GLU:C	10:J:26:VAL:N	2.69	0.45
11:K:87:GLY:N	11:K:113:THR:HG22	2.31	0.45
1:A:1355:G:C2	1:A:1356:G:C4	3.05	0.45
1:A:827:U:O4	1:A:870:U:C2	2.69	0.45
3:C:137:VAL:O	3:C:138:GLN:C	2.55	0.45
5:E:130:THR:HG23	5:E:130:THR:O	2.17	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:623:C:N3	1:A:624:C:C5	2.84	0.45
4:D:129:VAL:HG11	4:D:134:TYR:CD1	2.51	0.45
7:G:145:GLU:C	7:G:147:ASN:N	2.69	0.45
1:A:1204:A:H2'	1:A:1205:U:O4'	2.17	0.45
1:A:577:G:C8	1:A:816:A:N1	2.85	0.45
2:B:165:ALA:CB	2:B:186:VAL:HG12	2.44	0.45
1:A:791:G:C5	1:A:792:A:N7	2.84	0.45
1:A:1341:U:H5'	22:V:32:U:H5''	1.98	0.45
3:C:182:ASP:HB2	3:C:203:LYS:HE3	1.97	0.45
12:L:17:LYS:HD2	12:L:17:LYS:C	2.36	0.45
16:P:52:LEU:CD2	16:P:54:LEU:HD21	2.46	0.45
8:H:41:GLU:CD	8:H:41:GLU:O	2.54	0.45
1:A:1374:A:H2'	1:A:1375:A:H5'	1.99	0.45
1:A:1151:A:C2	1:A:1152:A:C8	3.04	0.45
13:M:4:ALA:HB2	13:M:56:ARG:CG	2.46	0.45
2:B:183:PHE:HB3	2:B:199:ILE:HD11	1.99	0.45
16:P:6:LEU:HB3	16:P:17:TYR:CD2	2.52	0.45
5:E:104:ILE:H	5:E:121:ASN:C	2.20	0.45
3:C:123:LEU:HD21	3:C:129:PHE:HB3	1.98	0.45
4:D:191:SER:O	4:D:192:ALA:HB3	2.17	0.45
1:A:972:C:H4'	10:J:59:LYS:HG3	1.99	0.45
1:A:1240:U:C4	7:G:115:MET:HG2	2.52	0.45
3:C:71:ARG:HB3	3:C:74:ILE:HG21	1.96	0.45
2:B:174:GLU:O	2:B:178:LEU:CD2	2.65	0.45
1:A:1079:G:C6	1:A:1080:A:N6	2.84	0.45
10:J:36:VAL:HG12	10:J:38:GLY:H	1.82	0.45
6:F:40:GLU:HB3	6:F:42:TRP:HE1	1.81	0.45
6:F:82:ASP:N	6:F:82:ASP:OD2	2.49	0.45
6:F:97:THR:O	6:F:98:GLU:CG	2.64	0.45
6:F:97:THR:O	6:F:98:GLU:HB3	2.16	0.45
14:N:15:LEU:O	14:N:55:SER:CB	2.65	0.45
1:A:1386:G:C2	1:A:1387:G:C5	3.05	0.45
1:A:688:G:C5	1:A:700:G:C2	3.05	0.45
11:K:37:GLN:HB2	11:K:39:ASN:ND2	2.32	0.45
1:A:715:A:H2'	1:A:716:A:C8	2.52	0.45
1:A:1050:G:N2	1:A:1209:C:C2	2.85	0.45
9:I:89:TYR:CB	9:I:93:LEU:HD11	2.47	0.45
12:L:3:VAL:HG13	12:L:4:ASN:N	2.32	0.45
1:A:1211:U:H1'	1:A:1213:A:N1	2.31	0.45
14:N:27:LYS:HG3	14:N:28:ALA:N	2.31	0.45
3:C:133:MET:HE3	3:C:167:TYR:CB	2.47	0.45
10:J:80:THR:OG1	10:J:83:THR:HB	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:415:A:H2'	1:A:416:G:O4'	2.16	0.45
1:A:220:G:C2'	1:A:221:C:O5'	2.64	0.45
1:A:28:A:OP1	4:D:72:ARG:NH2	2.50	0.45
1:A:587:G:C2	1:A:755:G:C5	3.04	0.45
1:A:1422:G:N3	1:A:1423:G:C8	2.84	0.45
8:H:30:LYS:HE3	8:H:30:LYS:HA	1.98	0.45
8:H:85:TYR:O	8:H:86:LYS:CE	2.65	0.45
1:A:476:U:O2	1:A:476:U:H2'	2.16	0.45
1:A:273:U:N3	1:A:274:A:N7	2.64	0.45
3:C:106:ARG:HD3	3:C:106:ARG:N	2.31	0.45
1:A:960:U:O2'	1:A:1223:C:H4'	2.17	0.45
10:J:53:ILE:HG13	14:N:85:ARG:HD2	1.97	0.45
2:B:183:PHE:HA	2:B:197:PHE:O	2.17	0.45
1:A:994:A:C5	1:A:1216:A:H4'	2.52	0.45
20:T:43:LYS:HG2	20:T:86:ALA:HA	1.96	0.45
11:K:92:ARG:HH22	21:U:19:LYS:HD2	1.82	0.45
2:B:101:THR:N	2:B:178:LEU:HD21	2.32	0.45
1:A:35:G:C6	1:A:36:C:N4	2.85	0.45
12:L:115:LYS:O	12:L:116:TYR:HB2	2.16	0.45
14:N:93:ILE:HG21	14:N:96:LEU:HB2	1.99	0.45
1:A:1492:A:H8	1:A:1492:A:OP2	1.99	0.45
2:B:49:PHE:HA	2:B:212:TYR:OH	2.16	0.45
11:K:88:PRO:HD3	21:U:28:LEU:HD11	1.97	0.45
1:A:1504:G:H4'	1:A:1505:G:C4	2.52	0.45
20:T:4:LYS:O	20:T:5:SER:C	2.54	0.45
17:Q:46:HIS:CG	17:Q:47:ASP:N	2.85	0.45
14:N:46:LEU:HD11	14:N:49:GLN:HG2	1.97	0.45
1:A:1485:U:O2'	1:A:1486:G:H5'	2.17	0.45
1:A:342:C:C2'	1:A:343:U:H5'	2.47	0.45
1:A:1446:A:H2'	1:A:1446:A:N3	2.32	0.45
22:V:72:C:N4	22:V:73:A:N6	2.65	0.45
1:A:1013:G:N2	1:A:1017:U:H1'	2.32	0.45
1:A:1053:G:H5''	1:A:1055:A:OP1	2.17	0.45
1:A:1227:A:N1	1:A:1228:C:O2	2.50	0.45
1:A:935:A:N3	1:A:935:A:H2'	2.31	0.45
1:A:957:U:O2	1:A:959:A:C8	2.70	0.45
13:M:109:LYS:O	13:M:110:GLY:O	2.35	0.45
14:N:53:ARG:O	14:N:59:ARG:HD2	2.17	0.45
2:B:93:HIS:HB2	2:B:145:ASN:O	2.17	0.45
1:A:720:C:N4	1:A:721:G:C2	2.85	0.45
19:S:48:ILE:HD12	19:S:48:ILE:O	2.17	0.45
4:D:202:LEU:C	4:D:204:SER:H	2.20	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1126:U:O2'	1:A:1127:G:H5'	2.17	0.45
1:A:767:A:H2'	1:A:768:A:O4'	2.16	0.45
1:A:96:U:H2'	1:A:97:G:H8	1.80	0.45
9:I:24:ASN:HB3	9:I:58:GLU:OE1	2.17	0.45
9:I:27:ILE:HG23	9:I:62:LEU:CG	2.45	0.45
6:F:73:GLU:O	6:F:73:GLU:HG2	2.17	0.45
21:U:11:PHE:O	21:U:12:ASP:CB	2.65	0.45
1:A:424:G:N2	1:A:425:G:C4	2.85	0.45
1:A:147:G:C2	1:A:176:C:C2	3.05	0.45
1:A:283:U:H2'	1:A:284:C:H6	1.78	0.45
7:G:75:LYS:O	7:G:86:VAL:HG23	2.17	0.45
15:O:69:LEU:O	15:O:70:LYS:C	2.55	0.45
3:C:5:HIS:HE1	3:C:183:TYR:HD2	1.63	0.45
8:H:10:LEU:HD13	8:H:74:ILE:HG13	1.99	0.45
1:A:1422:G:N1	1:A:1423:G:C5	2.85	0.45
8:H:29:SER:O	8:H:32:LYS:N	2.50	0.45
1:A:185:U:O2'	1:A:186:C:H5'	2.17	0.45
1:A:457:G:C6	1:A:458:U:C4	3.04	0.45
1:A:128:G:C6	1:A:129:A:N6	2.85	0.45
4:D:3:TYR:CZ	4:D:5:GLY:HA3	2.51	0.45
1:A:1060:U:O2'	1:A:1061:G:C5'	2.64	0.45
2:B:183:PHE:CD2	2:B:183:PHE:N	2.85	0.45
5:E:103:GLY:CA	5:E:121:ASN:HA	2.41	0.45
1:A:763:G:C2'	1:A:764:C:O5'	2.65	0.45
9:I:5:TYR:HD1	9:I:20:ILE:O	2.00	0.45
2:B:141:GLU:CD	2:B:141:GLU:H	2.21	0.45
2:B:143:LEU:HB2	2:B:147:LEU:HD12	1.99	0.45
10:J:27:GLU:HA	10:J:30:LYS:CG	2.45	0.45
6:F:47:LEU:H	6:F:56:LYS:H	1.64	0.45
2:B:175:ALA:HB1	2:B:180:ILE:HB	1.97	0.45
3:C:82:ASP:O	3:C:85:LYS:CG	2.65	0.45
1:A:686:U:O2	1:A:687:A:N7	2.50	0.45
1:A:684:U:C3'	1:A:685:G:H5'	2.46	0.45
1:A:1117:A:H4'	9:I:105:ARG:NE	2.32	0.45
1:A:631:C:H3'	1:A:632:U:H5'	1.99	0.45
15:O:69:LEU:HD13	15:O:77:TYR:CB	2.47	0.45
1:A:694:A:C2'	1:A:695:A:O5'	2.65	0.45
1:A:135:C:O2	16:P:1:MET:HB2	2.16	0.45
3:C:120:THR:HG22	3:C:121:SER:N	2.32	0.45
4:D:113:ALA:O	4:D:116:LEU:HB2	2.17	0.45
1:A:916:U:C2'	1:A:917:G:H5'	2.47	0.45
1:A:1202:U:H1'	14:N:69:ARG:HD2	1.98	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:12:LEU:CD2	19:S:16:LYS:HE3	2.46	0.45
9:I:91:GLU:HA	9:I:94:ARG:HB2	1.99	0.45
14:N:101:TRP:CE3	14:N:101:TRP:N	2.85	0.45
1:A:1342:C:H1'	9:I:125:GLN:CG	2.47	0.45
9:I:118:ARG:O	9:I:119:LYS:CB	2.62	0.45
19:S:10:ILE:HD11	19:S:15:LEU:CB	2.46	0.45
1:A:484:G:C4'	1:A:485:U:O5'	2.48	0.45
5:E:75:LEU:HD23	5:E:119:VAL:HG13	1.99	0.45
1:A:554:A:H2'	1:A:555:U:C6	2.51	0.45
1:A:307:C:O5'	1:A:307:C:H6	2.00	0.45
1:A:189:A:N1	1:A:190:A:N3	2.65	0.45
1:A:740:U:O2'	1:A:741:G:H5'	2.16	0.45
1:A:462:G:C5	1:A:463:U:C5	3.05	0.45
1:A:502:A:OP1	12:L:114:SER:HB2	2.17	0.45
12:L:89:LEU:CB	12:L:92:VAL:CG2	2.94	0.45
3:C:63:ILE:HG12	3:C:65:VAL:HG23	1.98	0.45
3:C:63:ILE:HG12	3:C:65:VAL:CG2	2.46	0.45
1:A:673:A:C2'	1:A:674:G:O4'	2.65	0.45
20:T:2:ASN:O	20:T:4:LYS:N	2.49	0.45
6:F:21:MET:HA	6:F:24:ARG:HB2	2.00	0.45
1:A:1251:A:C2'	1:A:1252:A:O5'	2.65	0.45
19:S:63:ASP:HB3	19:S:64:GLU:OE1	2.17	0.45
1:A:55:A:H2'	1:A:56:U:H6	1.81	0.45
1:A:1110:A:P	25:A:1858:HOH:O	2.75	0.45
1:A:818:G:O2'	1:A:819:A:H5'	2.16	0.45
13:M:42:VAL:HG23	13:M:42:VAL:O	2.16	0.45
1:A:941:G:C6	1:A:1343:G:N1	2.85	0.44
1:A:954:G:C2	1:A:955:U:C2	3.05	0.44
4:D:30:LYS:N	4:D:30:LYS:CD	2.81	0.44
3:C:149:LYS:HB3	3:C:168:ARG:CB	2.47	0.44
3:C:152:VAL:HA	3:C:197:VAL:HG22	1.99	0.44
1:A:71:A:N3	1:A:100:G:C4	2.86	0.44
20:T:54:GLN:N	20:T:55:PRO:HD2	2.31	0.44
1:A:462:G:C5	1:A:463:U:H6	2.34	0.44
10:J:19:ASP:HA	10:J:22:THR:CG2	2.48	0.44
6:F:39:LEU:HD12	6:F:40:GLU:C	2.37	0.44
3:C:11:LEU:O	3:C:13:ILE:N	2.50	0.44
1:A:1115:U:H5'	10:J:68:ARG:HH22	1.81	0.44
1:A:592:G:C6	1:A:593:U:N3	2.84	0.44
1:A:424:G:C2	1:A:425:G:C4	3.05	0.44
1:A:676:A:C2	1:A:677:U:C2	3.05	0.44
1:A:247:G:C5	1:A:278:G:N2	2.85	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:159:G:C5'	1:A:159:G:C8	3.00	0.44
9:I:101:GLY:O	9:I:103:VAL:N	2.49	0.44
4:D:144:ILE:H	4:D:144:ILE:HD12	1.81	0.44
4:D:173:ASP:O	4:D:174:ALA:CB	2.64	0.44
19:S:43:MET:O	19:S:44:ILE:C	2.56	0.44
1:A:181:A:N1	1:A:195:A:C5	2.85	0.44
1:A:923:A:H2'	1:A:924:C:O4'	2.17	0.44
1:A:728:A:C8	15:O:53:ARG:CZ	3.00	0.44
1:A:337:G:C6	1:A:338:A:N6	2.85	0.44
22:V:61:C:H2'	22:V:62:C:H6	1.82	0.44
12:L:113:ARG:HB3	12:L:118:VAL:HB	1.99	0.44
1:A:1399:C:N3	1:A:1401:G:C2	2.85	0.44
1:A:1317:C:O2'	1:A:1318:A:OP1	2.34	0.44
1:A:943:U:H2'	1:A:944:G:H5'	1.99	0.44
2:B:71:THR:O	2:B:72:LYS:HG3	2.17	0.44
17:Q:10:ARG:NH2	17:Q:12:VAL:N	2.65	0.44
5:E:100:GLU:O	5:E:102:THR:CA	2.64	0.44
1:A:1165:U:C2'	1:A:1166:G:H5'	2.46	0.44
1:A:85:U:H4'	1:A:86:G:H5'	1.99	0.44
1:A:1261:A:H5'	1:A:1262:C:OP2	2.17	0.44
11:K:69:CYS:O	11:K:73:VAL:CG1	2.65	0.44
4:D:160:LEU:O	4:D:163:GLN:N	2.49	0.44
9:I:5:TYR:HB2	9:I:20:ILE:HG22	2.00	0.44
1:A:16:A:O2'	1:A:17:U:H5'	2.18	0.44
1:A:503:C:O2	1:A:510:A:H2	2.01	0.44
1:A:1097:C:H5''	2:B:138:ARG:HH21	1.81	0.44
2:B:110:ILE:HD11	2:B:147:LEU:HD22	2.00	0.44
10:J:35:GLN:HG2	10:J:77:VAL:CB	2.47	0.44
6:F:88:MET:HG2	6:F:90:MET:HG2	1.98	0.44
3:C:17:TRP:CZ2	14:N:95:GLY:CA	2.97	0.44
1:A:1491:G:C2'	1:A:1492:A:O5'	2.65	0.44
1:A:560:A:N7	1:A:566:G:C5	2.84	0.44
1:A:1120:C:H2'	1:A:1121:U:C6	2.50	0.44
1:A:1032:G:N2	1:A:1033:G:O4'	2.50	0.44
8:H:48:PHE:O	8:H:49:LYS:HB2	2.16	0.44
1:A:1227:A:N1	1:A:1228:C:C2	2.86	0.44
1:A:1244:G:N1	1:A:1294:G:C6	2.86	0.44
1:A:1360:A:C8	14:N:58:SER:HB3	2.52	0.44
1:A:953:G:O6	1:A:1228:C:N4	2.50	0.44
1:A:982:U:C4'	1:A:983:A:H5'	2.44	0.44
21:U:36:PHE:HB3	21:U:37:TYR:H	1.59	0.44
5:E:82:HIS:CG	8:H:95:MET:CE	2.97	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:95:MET:HE3	5:E:95:MET:HB3	1.81	0.44
12:L:23:LEU:C	12:L:25:ALA:H	2.20	0.44
5:E:12:GLU:HB2	5:E:63:MET:HE1	1.99	0.44
1:A:802:A:H2'	1:A:802:A:N3	2.32	0.44
1:A:1239:A:N6	1:A:1299:A:H62	2.16	0.44
9:I:42:THR:HA	9:I:44:ARG:HH21	1.82	0.44
1:A:1072:G:C4	1:A:1073:U:C5	3.04	0.44
1:A:551:U:H5'	12:L:115:LYS:HE2	2.00	0.44
1:A:1027:C:N4	1:A:1034:G:O6	2.50	0.44
2:B:58:LYS:O	2:B:62:ARG:HB2	2.18	0.44
2:B:58:LYS:H	2:B:60:ALA:H	1.65	0.44
3:C:36:PHE:HA	3:C:39:ARG:HD2	1.99	0.44
6:F:16:GLU:O	6:F:19:PRO:CD	2.62	0.44
6:F:18:VAL:CA	6:F:21:MET:HE2	2.47	0.44
1:A:149:A:N1	1:A:150:U:C2	2.86	0.44
1:A:174:A:H2'	1:A:175:C:C5'	2.48	0.44
14:N:35:ALA:CB	14:N:42:TRP:CH2	2.99	0.44
1:A:22:G:H2'	1:A:23:C:H6	1.82	0.44
11:K:81:LEU:N	11:K:81:LEU:CD2	2.81	0.44
11:K:84:MET:CE	11:K:112:VAL:HG11	2.47	0.44
2:B:40:ILE:HD12	2:B:40:ILE:O	2.17	0.44
22:V:60:U:H5''	22:V:61:C:H5	1.83	0.44
11:K:58:THR:HB	11:K:59:PRO:CD	2.48	0.44
1:A:232:G:C5	1:A:233:C:C5	3.05	0.44
1:A:1429:A:C4	1:A:1430:A:C8	3.06	0.44
23:X:6:G:O2'	23:X:7:G:H5'	2.16	0.44
3:C:27:GLU:O	3:C:27:GLU:HG2	2.16	0.44
1:A:1314:C:C5	19:S:5:LYS:HE2	2.53	0.44
17:Q:13:SER:HB3	17:Q:21:VAL:HG11	1.92	0.44
3:C:130:ARG:H	3:C:130:ARG:NE	2.15	0.44
1:A:1014:A:O3'	19:S:13:HIS:CE1	2.70	0.44
1:A:306:A:H2'	1:A:307:C:H5'	1.99	0.44
1:A:782:A:H4'	1:A:1514:G:O2'	2.16	0.44
20:T:42:ASP:O	20:T:43:LYS:C	2.53	0.44
1:A:1533:C:H4'	1:A:1534:A:OP1	2.16	0.44
1:A:840:C:C3'	1:A:841:C:C5'	2.96	0.44
1:A:1074:G:H4'	2:B:102:ASN:HB3	2.00	0.44
6:F:76:THR:O	6:F:79:ARG:HB2	2.18	0.44
1:A:110:C:H2'	1:A:111:G:O4'	2.17	0.44
14:N:18:LYS:HB3	14:N:19:TYR:HD1	1.83	0.44
15:O:36:ASN:C	15:O:38:LEU:N	2.70	0.44
4:D:87:GLU:O	4:D:89:LEU:N	2.50	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:43:ASN:C	14:N:45:VAL:H	2.19	0.44
4:D:47:LEU:HD23	4:D:52:VAL:HG13	1.98	0.44
1:A:39:G:O2'	1:A:40:C:H5'	2.17	0.44
18:R:32:ILE:HA	18:R:39:VAL:HG23	1.98	0.44
1:A:647:C:O2	1:A:647:C:H2'	2.17	0.44
8:H:19:ALA:C	8:H:21:LYS:N	2.71	0.44
1:A:1018:G:O6	1:A:1019:A:N6	2.51	0.44
1:A:942:G:N2	1:A:943:U:C2	2.86	0.44
13:M:73:SER:O	13:M:77:LYS:HG3	2.17	0.44
19:S:52:ASN:HB3	19:S:74:ALA:O	2.17	0.44
1:A:1061:G:C8	1:A:1062:U:C5	3.06	0.44
2:B:17:HIS:O	2:B:188:THR:CG2	2.65	0.44
21:U:44:ARG:O	21:U:45:LYS:CB	2.66	0.44
5:E:153:ALA:HA	5:E:156:ARG:HB3	1.99	0.44
1:A:1014:A:H4'	19:S:13:HIS:CE1	2.52	0.44
5:E:65:LYS:O	5:E:69:ASN:HB2	2.18	0.44
1:A:68:G:C6	1:A:69:G:H1'	2.51	0.44
11:K:64:VAL:C	11:K:66:ALA:N	2.67	0.44
1:A:734:G:O2'	1:A:735:C:H5'	2.18	0.44
11:K:22:ILE:O	11:K:22:ILE:CG1	2.65	0.44
9:I:9:GLY:H	9:I:84:ARG:HD3	1.79	0.44
16:P:38:PHE:CE2	16:P:51:ARG:CB	3.01	0.44
6:F:29:ILE:HG22	6:F:30:THR:N	2.31	0.44
3:C:80:GLY:O	3:C:84:GLU:HG2	2.18	0.44
1:A:1113:C:O2'	3:C:13:ILE:HD11	2.17	0.44
4:D:36:ALA:H	4:D:37:PRO:CD	2.27	0.44
6:F:20:GLY:O	6:F:24:ARG:HD3	2.17	0.44
1:A:1451:U:C5'	1:A:1452:C:H5	2.30	0.44
1:A:1212:U:C6	1:A:1212:U:OP1	2.70	0.44
15:O:42:PHE:HE1	15:O:55:LEU:HD22	1.82	0.44
1:A:1441:A:H3'	1:A:1441:A:H8	1.77	0.44
1:A:358:U:H2'	1:A:359:G:H8	1.79	0.44
8:H:29:SER:N	8:H:32:LYS:HB2	2.32	0.44
18:R:45:GLY:O	18:R:46:THR:HG23	2.18	0.44
1:A:445:G:N3	1:A:445:G:H2'	2.32	0.44
1:A:1275:A:O2'	1:A:1276:G:H5'	2.16	0.44
2:B:206:ILE:CD1	2:B:206:ILE:N	2.81	0.44
3:C:153:SER:HB3	3:C:164:THR:CB	2.47	0.44
1:A:1142:G:C2	1:A:1143:G:H1'	2.51	0.44
1:A:74:A:N1	1:A:97:G:C6	2.86	0.44
1:A:663:A:N1	1:A:743:A:C2	2.85	0.44
1:A:154:U:O4	1:A:167:A:N1	2.50	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:17:ARG:O	21:U:18:PHE:C	2.55	0.44
1:A:470:C:H3'	1:A:470:C:C6	2.52	0.44
3:C:89:VAL:O	3:C:93:ILE:HG13	2.18	0.44
1:A:376:G:H2'	1:A:377:G:H8	1.83	0.44
23:X:14:A:N6	23:X:15:A:N1	2.65	0.44
1:A:107:G:C2'	1:A:108:G:H5''	2.47	0.44
1:A:59:A:C6	1:A:331:G:N3	2.86	0.44
7:G:14:ASP:OD2	7:G:14:ASP:C	2.56	0.44
4:D:87:GLU:O	4:D:88:ASN:C	2.54	0.44
21:U:13:VAL:O	21:U:15:LEU:CG	2.66	0.44
3:C:4:VAL:HG22	3:C:5:HIS:N	2.33	0.44
1:A:892:A:C5	1:A:893:C:C4	3.06	0.44
1:A:883:C:C2'	1:A:884:U:H5'	2.48	0.44
5:E:141:ASP:O	5:E:145:ASN:ND2	2.51	0.44
1:A:1310:G:C5	1:A:1311:A:N7	2.86	0.44
1:A:1350:A:C2	1:A:1351:U:O2	2.71	0.44
1:A:1329:A:H4'	13:M:23:GLY:O	2.17	0.44
4:D:7:LYS:HB2	4:D:20:LEU:HD13	1.98	0.44
1:A:1275:A:C3'	1:A:1276:G:H5'	2.43	0.44
2:B:205:ALA:O	2:B:206:ILE:C	2.56	0.44
17:Q:10:ARG:CZ	17:Q:55:GLY:HA2	2.47	0.44
17:Q:16:MET:CB	17:Q:19:SER:HB3	2.48	0.44
20:T:66:ILE:CG2	20:T:67:HIS:H	2.31	0.44
1:A:764:C:H2'	1:A:765:G:C8	2.50	0.44
1:A:1458:G:H2'	1:A:1459:G:C8	2.53	0.44
9:I:38:PHE:CE1	9:I:75:ALA:HB2	2.52	0.44
5:E:22:LYS:O	5:E:23:THR:CB	2.64	0.44
6:F:62:MET:HG3	6:F:64:VAL:HG23	2.00	0.44
9:I:56:MET:HA	9:I:59:LYS:CB	2.48	0.44
21:U:24:LYS:HD3	21:U:25:ALA:H	1.83	0.44
1:A:247:G:C5	1:A:278:G:C2	3.06	0.44
1:A:878:A:OP1	8:H:80:PRO:HD2	2.18	0.44
1:A:1428:A:C2	1:A:1473:G:C2	3.06	0.44
1:A:1381:U:C6	1:A:1382:C:H5	2.36	0.44
10:J:92:LEU:HD23	10:J:92:LEU:N	2.32	0.44
17:Q:77:VAL:C	17:Q:78:VAL:CG2	2.86	0.44
1:A:338:A:O5'	1:A:338:A:H8	2.00	0.44
3:C:79:LYS:HD2	3:C:79:LYS:N	2.32	0.44
1:A:393:A:H5'	1:A:483:C:O2'	2.17	0.44
1:A:1330:U:OP1	13:M:24:VAL:O	2.35	0.44
9:I:118:ARG:HG2	9:I:118:ARG:O	2.18	0.44
13:M:24:VAL:HG22	13:M:25:GLY:N	2.32	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:32:ILE:HG23	13:M:58:GLU:HB3	1.99	0.44
4:D:7:LYS:NZ	4:D:21:LYS:HD2	2.33	0.44
1:A:615:G:C2	1:A:616:G:C8	3.06	0.44
1:A:724:G:N2	1:A:725:G:H1'	2.33	0.44
5:E:158:LYS:CG	5:E:158:LYS:O	2.65	0.44
5:E:45:VAL:O	5:E:70:MET:HG3	2.17	0.44
1:A:1144:G:H3'	1:A:1145:A:O4'	2.17	0.44
5:E:64:GLU:OE2	5:E:68:ARG:NH1	2.51	0.44
1:A:1149:C:N4	1:A:1150:A:C6	2.86	0.44
2:B:134:LEU:HD11	2:B:138:ARG:HB3	1.99	0.44
1:A:321:A:H2	1:A:333:U:O2	2.00	0.44
12:L:49:ARG:CB	12:L:89:LEU:HD11	2.48	0.44
7:G:80:GLY:CA	23:X:11:U:H5''	2.48	0.44
7:G:78:ARG:CG	7:G:83:THR:HG23	2.48	0.44
15:O:55:LEU:O	15:O:59:VAL:HG23	2.18	0.44
6:F:49:TYR:HB2	6:F:50:PRO:HD3	1.98	0.44
1:A:639:G:C4	1:A:640:A:C8	3.06	0.44
16:P:79:ASN:ND2	16:P:82:ALA:CB	2.81	0.44
16:P:80:LYS:HB2	16:P:80:LYS:HZ3	1.82	0.44
1:A:1399:C:H4'	1:A:1400:C:O5'	2.17	0.44
3:C:61:LYS:HA	3:C:61:LYS:HE3	2.00	0.44
3:C:152:VAL:CG2	3:C:156:LEU:HD21	2.47	0.44
3:C:156:LEU:O	3:C:159:ALA:HB2	2.17	0.44
19:S:14:LEU:O	19:S:14:LEU:HD12	2.17	0.44
1:A:1262:C:H3'	1:A:1263:C:H6	1.83	0.44
1:A:72:A:N1	1:A:99:C:H4'	2.33	0.44
20:T:29:THR:O	20:T:32:LYS:N	2.51	0.44
20:T:35:TYR:CE2	20:T:36:ALA:CA	3.01	0.44
20:T:60:GLN:O	20:T:63:LYS:N	2.51	0.44
1:A:861:G:H2'	1:A:862:C:H6	1.82	0.44
9:I:20:ILE:HG22	9:I:20:ILE:O	2.17	0.44
2:B:174:GLU:O	2:B:178:LEU:HD23	2.18	0.44
1:A:550:G:H2'	1:A:551:U:C6	2.53	0.44
1:A:1097:C:OP1	2:B:138:ARG:NH2	2.51	0.44
11:K:39:ASN:O	11:K:40:ALA:HB3	2.17	0.44
1:A:425:G:H2'	1:A:426:U:O4'	2.18	0.44
1:A:57:G:C5	1:A:58:C:C4	3.06	0.44
11:K:24:ALA:HA	11:K:29:THR:CG2	2.46	0.44
1:A:145:G:N2	1:A:178:C:N3	2.66	0.44
15:O:16:ARG:HD3	15:O:16:ARG:H	1.83	0.44
15:O:22:GLY:O	15:O:23:SER:C	2.54	0.44
1:A:831:A:C2'	1:A:832:G:O5'	2.66	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:133:SER:O	4:D:134:TYR:C	2.57	0.44
1:A:1157:A:N6	1:A:1180:A:C5	2.85	0.44
1:A:1526:G:H2'	1:A:1527:U:C6	2.53	0.44
1:A:459:A:C4	1:A:460:A:C8	3.06	0.44
18:R:31:TYR:O	18:R:39:VAL:CB	2.65	0.44
1:A:567:G:H2'	1:A:568:G:O5'	2.18	0.44
1:A:864:A:C6	1:A:865:A:C2	3.06	0.44
1:A:1426:G:H2'	1:A:1427:C:C6	2.53	0.44
14:N:9:GLU:O	14:N:12:ARG:N	2.51	0.44
3:C:113:LYS:HD2	3:C:113:LYS:O	2.17	0.44
1:A:1323:G:O4'	1:A:1362:A:C2	2.71	0.43
1:A:1349:A:C2	1:A:1350:A:H1'	2.54	0.43
1:A:976:G:C2	1:A:1363:A:C2	3.06	0.43
1:A:977:A:H1'	1:A:982:U:O4	2.17	0.43
13:M:90:HIS:O	13:M:91:ARG:C	2.57	0.43
1:A:625:U:O2'	1:A:626:G:H5'	2.17	0.43
16:P:6:LEU:HD23	16:P:17:TYR:HB2	2.00	0.43
17:Q:10:ARG:HA	17:Q:57:VAL:HA	1.99	0.43
17:Q:57:VAL:HG12	17:Q:58:VAL:N	2.33	0.43
1:A:1144:G:C3'	1:A:1145:A:O4'	2.66	0.43
1:A:1092:A:C6	1:A:1093:A:C5	3.06	0.43
6:F:86:ARG:HH11	6:F:86:ARG:HG3	1.81	0.43
1:A:1114:C:C2	1:A:1115:U:C6	3.06	0.43
10:J:67:ILE:CG1	14:N:96:LEU:HA	2.47	0.43
1:A:375:U:N3	1:A:376:G:C8	2.86	0.43
2:B:49:PHE:CA	2:B:52:ALA:HB3	2.48	0.43
1:A:1049:U:H5	1:A:1203:C:OP1	2.00	0.43
1:A:558:G:H5''	1:A:559:A:H3'	2.00	0.43
1:A:852:G:C6	1:A:853:C:C5	3.06	0.43
15:O:35:ILE:HD12	15:O:62:ARG:HH11	1.83	0.43
3:C:10:ARG:HH21	3:C:181:ILE:CG1	2.31	0.43
4:D:167:PRO:HG2	4:D:170:LEU:CD1	2.47	0.43
3:C:99:GLN:C	3:C:100:ILE:HG22	2.37	0.43
1:A:1265:C:N3	1:A:1271:A:N1	2.65	0.43
4:D:75:TYR:CE2	4:D:203:TYR:HB2	2.52	0.43
1:A:824:G:H1'	8:H:1:SER:H2	1.82	0.43
1:A:49:U:O2	1:A:362:G:C1'	2.66	0.43
4:D:137:SER:CB	4:D:138:PRO:HD2	2.47	0.43
5:E:111:ARG:O	5:E:112:ALA:C	2.57	0.43
1:A:1170:A:H2'	1:A:1171:A:O5'	2.17	0.43
1:A:864:A:C6	1:A:865:A:N1	2.85	0.43
1:A:1036:A:H3'	1:A:1037:C:C6	2.53	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:X:4:A:H2'	23:X:5:A:C8	2.53	0.43
1:A:933:G:C4	1:A:935:A:C8	3.06	0.43
1:A:1014:A:C5	1:A:1015:G:C6	3.06	0.43
1:A:1125:U:C2	1:A:1127:G:C8	3.06	0.43
1:A:110:C:N4	1:A:111:G:N1	2.66	0.43
1:A:108:G:C5	20:T:9:ARG:HG2	2.53	0.43
1:A:557:G:H3'	1:A:558:G:H8	1.83	0.43
1:A:560:A:C6	1:A:566:G:O4'	2.71	0.43
1:A:253:A:C2	1:A:254:G:C5	3.06	0.43
1:A:1064:G:N2	1:A:1190:G:H1'	2.33	0.43
1:A:621:A:H2'	1:A:622:A:C8	2.52	0.43
1:A:1161:C:N3	1:A:1175:G:O6	2.51	0.43
1:A:1090:U:N3	1:A:1091:U:C4	2.85	0.43
1:A:135:C:N3	16:P:1:MET:HB2	2.32	0.43
1:A:505:G:C6	1:A:535:A:C2	3.06	0.43
17:Q:30:HIS:HA	17:Q:31:PRO:HD3	1.87	0.43
8:H:58:LEU:C	8:H:58:LEU:CD1	2.86	0.43
1:A:273:U:C4	1:A:274:A:N7	2.86	0.43
1:A:538:G:H5''	12:L:110:LYS:HB2	1.99	0.43
1:A:1360:A:N6	1:A:1361:G:N2	2.66	0.43
13:M:58:GLU:O	13:M:61:LYS:HB2	2.19	0.43
1:A:303:A:O2'	1:A:555:U:H4'	2.18	0.43
12:L:23:LEU:HD23	12:L:24:GLU:HG3	2.01	0.43
1:A:1538:C:H3'	1:A:1538:C:H6	1.83	0.43
1:A:1291:U:C2	1:A:1292:G:N7	2.85	0.43
6:F:63:ASN:ND2	6:F:96:VAL:HG22	2.32	0.43
2:B:180:ILE:HG22	2:B:181:PRO:N	2.33	0.43
2:B:78:ALA:O	2:B:81:ASP:OD2	2.35	0.43
10:J:46:LYS:HG2	10:J:68:ARG:HG2	2.00	0.43
12:L:42:LYS:HE3	12:L:43:LYS:CD	2.46	0.43
3:C:57:GLU:OE1	10:J:94:ALA:HB1	2.18	0.43
3:C:63:ILE:CG1	3:C:65:VAL:HG23	2.47	0.43
2:B:19:THR:O	2:B:20:ARG:CZ	2.67	0.43
15:O:86:LEU:O	15:O:88:ARG:N	2.52	0.43
4:D:84:ASN:OD1	4:D:87:GLU:HG3	2.19	0.43
18:R:72:ARG:HB2	18:R:73:HIS:HD2	1.82	0.43
9:I:11:ARG:CZ	9:I:106:ASP:OD1	2.66	0.43
1:A:1422:G:C2	1:A:1423:G:C4	3.06	0.43
1:A:1423:G:C4	1:A:1424:U:C6	3.06	0.43
1:A:318:G:C6	1:A:319:G:C5	3.07	0.43
1:A:390:U:H2'	1:A:391:G:C8	2.53	0.43
1:A:1236:A:H4'	1:A:1304:G:H4'	1.99	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:53:LYS:O	6:F:54:LEU:CB	2.65	0.43
1:A:128:G:N1	1:A:129:A:C6	2.87	0.43
9:I:123:ARG:HG3	9:I:124:PRO:N	2.33	0.43
7:G:100:MET:O	7:G:101:ARG:C	2.55	0.43
22:V:18:G:N2	22:V:57:G:H2'	2.34	0.43
9:I:114:LYS:HB2	9:I:117:LEU:HD22	1.99	0.43
1:A:1275:A:C6	1:A:1276:G:C4	3.06	0.43
2:B:183:PHE:CE1	2:B:197:PHE:CD2	3.06	0.43
21:U:36:PHE:CD1	21:U:40:PRO:HG3	2.54	0.43
5:E:81:GLN:CD	5:E:149:PRO:HD3	2.38	0.43
1:A:102:G:C4	1:A:103:U:C5	3.07	0.43
1:A:69:G:C4	1:A:70:U:H5	2.36	0.43
11:K:69:CYS:O	11:K:73:VAL:HG11	2.18	0.43
1:A:1538:C:C5	1:A:1538:C:OP2	2.72	0.43
9:I:18:VAL:CG1	9:I:85:ALA:CB	2.96	0.43
12:L:98:ARG:HB2	12:L:116:TYR:HA	2.00	0.43
10:J:35:GLN:CD	10:J:77:VAL:HB	2.38	0.43
6:F:38:ARG:NH1	6:F:63:ASN:HB2	2.33	0.43
1:A:1387:G:C2'	1:A:1388:C:H5'	2.48	0.43
15:O:69:LEU:HD13	15:O:77:TYR:HA	2.00	0.43
14:N:43:ASN:O	14:N:47:LYS:CG	2.66	0.43
3:C:150:VAL:CG1	3:C:199:VAL:HB	2.48	0.43
16:P:10:GLY:HA3	16:P:15:PRO:CA	2.45	0.43
19:S:49:ALA:HB1	19:S:56:HIS:HB3	2.00	0.43
5:E:111:ARG:CZ	5:E:111:ARG:HB2	2.48	0.43
1:A:1018:G:C6	1:A:1019:A:C6	3.06	0.43
14:N:32:ASP:C	14:N:32:ASP:OD2	2.56	0.43
5:E:9:GLU:O	5:E:11:GLN:HB3	2.19	0.43
1:A:942:G:C2	1:A:1342:C:O2	2.72	0.43
1:A:956:U:C4	1:A:957:U:C5	3.07	0.43
1:A:949:A:H2'	1:A:950:U:O4'	2.18	0.43
1:A:1275:A:N7	1:A:1276:G:N7	2.66	0.43
3:C:129:PHE:CD2	3:C:156:LEU:HD23	2.54	0.43
1:A:100:G:O6	1:A:101:A:C6	2.72	0.43
1:A:72:A:H61	1:A:99:C:H1'	1.83	0.43
1:A:663:A:C2	1:A:743:A:C2	3.06	0.43
1:A:16:A:N1	1:A:919:A:H2	2.14	0.43
1:A:1095:U:C4	1:A:1096:C:C4	3.06	0.43
10:J:77:VAL:O	10:J:79:PRO:HD3	2.19	0.43
6:F:74:LEU:HD12	6:F:74:LEU:HA	1.78	0.43
6:F:19:PRO:CA	6:F:22:ILE:HD12	2.44	0.43
14:N:27:LYS:CA	14:N:30:ILE:HB	2.48	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:471:U:C4	1:A:472:U:C4	3.06	0.43
21:U:13:VAL:O	21:U:15:LEU:HG	2.18	0.43
1:A:459:A:C2'	1:A:460:A:O4'	2.65	0.43
1:A:49:U:C4	1:A:364:A:C5	3.06	0.43
1:A:363:A:OP1	12:L:30:ARG:HB3	2.18	0.43
1:A:596:A:C6	1:A:645:G:C2	3.06	0.43
4:D:60:VAL:O	4:D:63:ILE:N	2.51	0.43
2:B:32:GLY:O	2:B:33:ALA:CB	2.66	0.43
4:D:168:THR:HB	4:D:183:ARG:HH21	1.84	0.43
13:M:47:LEU:HD13	13:M:52:ILE:CG1	2.48	0.43
19:S:10:ILE:HG12	19:S:15:LEU:HD22	2.01	0.43
20:T:66:ILE:CG2	20:T:67:HIS:N	2.80	0.43
19:S:17:LYS:HA	19:S:20:LYS:HB3	2.01	0.43
1:A:81:A:H2'	1:A:82:G:C8	2.54	0.43
3:C:71:ARG:CB	3:C:74:ILE:CG2	2.94	0.43
9:I:6:TYR:HA	9:I:18:VAL:O	2.19	0.43
9:I:41:GLU:O	9:I:42:THR:C	2.56	0.43
2:B:141:GLU:HG2	2:B:142:LYS:H	1.83	0.43
10:J:35:GLN:NE2	10:J:77:VAL:HB	2.33	0.43
10:J:36:VAL:HG12	10:J:38:GLY:HA2	2.01	0.43
6:F:29:ILE:CD1	6:F:29:ILE:N	2.82	0.43
6:F:47:LEU:HD13	6:F:51:ILE:CG2	2.48	0.43
6:F:82:ASP:C	6:F:84:VAL:H	2.22	0.43
6:F:88:MET:HG2	6:F:90:MET:CG	2.49	0.43
2:B:67:LEU:HA	2:B:89:PHE:O	2.19	0.43
1:A:1491:G:C8	1:A:1492:A:N7	2.86	0.43
11:K:62:ALA:HB3	11:K:91:GLY:HA2	1.99	0.43
1:A:148:G:H2'	1:A:149:A:O5'	2.18	0.43
1:A:1285:A:H5'	1:A:1286:U:O4	2.18	0.43
1:A:1136:C:H4'	1:A:1137:C:OP2	2.19	0.43
14:N:20:PHE:CA	14:N:24:ALA:HB2	2.49	0.43
17:Q:46:HIS:HB2	17:Q:70:LYS:HE2	2.01	0.43
15:O:30:LEU:O	15:O:34:GLN:HB2	2.18	0.43
1:A:620:C:O2	4:D:131:ILE:HG21	2.18	0.43
7:G:137:ARG:NH2	7:G:138:GLU:CG	2.81	0.43
1:A:1347:G:C8	9:I:108:ARG:CB	3.02	0.43
1:A:901:A:C5	1:A:902:G:H1'	2.53	0.43
1:A:392:C:O2'	1:A:483:C:H1'	2.18	0.43
5:E:29:ILE:O	5:E:29:ILE:HG23	2.18	0.43
14:N:33:VAL:HG12	14:N:33:VAL:O	2.18	0.43
15:O:48:ASP:CG	15:O:51:SER:HB2	2.39	0.43
12:L:54:VAL:CG2	12:L:79:ILE:HD11	2.48	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1317:C:H2'	1:A:1318:A:C5'	2.49	0.43
1:A:1317:C:C2'	1:A:1318:A:O5'	2.66	0.43
13:M:14:ALA:HA	13:M:44:ILE:HD11	2.01	0.43
19:S:39:ILE:HG22	19:S:66:VAL:HA	2.00	0.43
4:D:30:LYS:H	4:D:30:LYS:HE2	1.84	0.43
1:A:1233:G:C6	1:A:1234:C:C4	3.07	0.43
1:A:1276:G:H2'	1:A:1277:C:C6	2.54	0.43
1:A:1151:A:C2	1:A:1152:A:C6	3.06	0.43
2:B:18:GLN:O	2:B:37:VAL:CG2	2.67	0.43
2:B:71:THR:O	2:B:72:LYS:HG2	2.19	0.43
1:A:1000:A:C6	1:A:1001:C:N3	2.87	0.43
1:A:762:U:H2'	1:A:763:G:C8	2.53	0.43
1:A:782:A:C6	1:A:801:U:C2	3.07	0.43
1:A:98:A:O2'	1:A:99:C:H5'	2.19	0.43
20:T:35:TYR:HE1	20:T:39:GLU:OE2	2.01	0.43
1:A:1148:U:C4	1:A:1149:C:N3	2.86	0.43
2:B:117:GLU:HA	2:B:120:SER:HB2	2.00	0.43
2:B:130:LYS:O	2:B:134:LEU:N	2.51	0.43
10:J:10:LEU:CD1	10:J:10:LEU:N	2.77	0.43
10:J:35:GLN:HG2	10:J:77:VAL:HB	2.00	0.43
6:F:40:GLU:OE1	6:F:100:SER:CB	2.66	0.43
1:A:926:G:C6	1:A:1505:G:C6	3.07	0.43
1:A:174:A:C5	1:A:175:C:C5	3.07	0.43
7:G:23:ALA:O	7:G:26:VAL:CG2	2.66	0.43
10:J:84:VAL:O	10:J:88:MET:CG	2.67	0.43
1:A:1486:G:N1	1:A:1487:G:C2	2.86	0.43
1:A:905:U:C2'	1:A:906:A:H5'	2.48	0.43
1:A:807:A:H2'	1:A:808:C:C6	2.54	0.43
2:B:9:LEU:HB2	2:B:42:LEU:HD22	2.00	0.43
7:G:13:PRO:HA	7:G:20:GLU:HG3	1.99	0.43
1:A:971:G:H1'	1:A:1365:G:O2'	2.19	0.43
17:Q:16:MET:SD	17:Q:16:MET:N	2.92	0.43
1:A:81:A:C2	1:A:89:U:C2	3.07	0.43
20:T:80:ALA:O	20:T:81:GLN:C	2.57	0.43
1:A:154:U:O2	1:A:168:G:N2	2.52	0.43
2:B:102:ASN:O	2:B:103:TRP:C	2.57	0.43
1:A:462:G:C6	1:A:463:U:C6	3.07	0.43
16:P:35:ARG:HG2	16:P:36:VAL:H	1.83	0.43
6:F:9:MET:SD	6:F:59:TYR:CE1	3.12	0.43
6:F:68:GLN:HA	6:F:71:ILE:HG22	2.00	0.43
12:L:41:PRO:HB3	12:L:88:ASP:OD1	2.18	0.43
1:A:1137:C:O2	1:A:1137:C:O4'	2.36	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:560:A:C8	1:A:566:G:C2	3.06	0.43
1:A:559:A:H4'	1:A:560:A:H5''	1.99	0.43
14:N:19:TYR:O	14:N:20:PHE:O	2.36	0.43
21:U:14:ALA:C	21:U:16:ARG:H	2.22	0.43
7:G:131:GLY:H	7:G:134:VAL:CG2	2.30	0.43
1:A:1088:G:N1	1:A:1089:G:C5	2.87	0.43
1:A:357:G:C2'	1:A:358:U:O5'	2.67	0.43
6:F:1:MET:SD	6:F:67:PRO:HD3	2.59	0.43
8:H:36:ALA:O	8:H:39:LEU:N	2.52	0.43
3:C:178:ARG:CD	3:C:178:ARG:O	2.67	0.43
17:Q:31:PRO:HB2	17:Q:32:ILE:CD1	2.48	0.43
1:A:1312:G:C2	1:A:1326:U:C2	3.07	0.43
1:A:1359:C:O2'	1:A:1361:G:N7	2.51	0.43
1:A:979:C:H2'	1:A:979:C:O2	2.19	0.43
1:A:1277:C:H2'	1:A:1278:G:H5''	2.01	0.43
16:P:40:ASN:OD1	16:P:42:ILE:HB	2.18	0.43
1:A:1038:C:H2'	1:A:1039:G:C8	2.53	0.43
5:E:74:ALA:HB1	5:E:81:GLN:NE2	2.34	0.43
1:A:1216:A:C2	1:A:1217:C:C4	3.07	0.43
1:A:1220:G:H21	19:S:53:GLY:HA2	1.83	0.43
1:A:1134:G:C5	1:A:1135:U:C5	3.07	0.43
1:A:1159:U:C4	1:A:1182:G:C5	3.07	0.43
1:A:1535:C:HO2'	1:A:1536:C:P	2.36	0.43
6:F:71:ILE:HG22	6:F:72:ASP:N	2.34	0.43
6:F:80:PHE:CD2	6:F:81:ASN:N	2.86	0.43
6:F:88:MET:CE	18:R:63:TYR:HD2	2.29	0.43
1:A:675:A:C4	1:A:676:A:C8	3.07	0.43
1:A:174:A:C4	1:A:175:C:C6	3.07	0.43
15:O:34:GLN:O	15:O:35:ILE:C	2.56	0.43
14:N:46:LEU:CD1	14:N:49:GLN:HG2	2.49	0.43
21:U:13:VAL:HG12	21:U:15:LEU:HG	2.01	0.43
1:A:1338:G:H2'	1:A:1339:A:H8	1.80	0.43
4:D:117:VAL:HG22	4:D:122:ILE:HG13	2.01	0.43
5:E:106:ALA:CB	5:E:124:ALA:HB3	2.48	0.43
7:G:106:ALA:HB2	7:G:133:ALA:HB2	2.00	0.43
1:A:603:U:H2'	1:A:604:G:O5'	2.18	0.43
22:V:6:G:O2'	22:V:7:A:H5'	2.19	0.43
4:D:165:GLU:O	4:D:166:LYS:C	2.57	0.43
3:C:178:ARG:O	3:C:178:ARG:HD2	2.19	0.43
1:A:1461:G:O5'	1:A:1461:G:H8	2.01	0.43
1:A:1460:C:C2'	1:A:1461:G:O5'	2.66	0.43
1:A:1416:G:C6	1:A:1417:G:C4	3.06	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:433:G:C6	1:A:434:U:C4	3.06	0.43
1:A:457:G:N7	1:A:458:U:C5	2.87	0.43
1:A:1155:A:C2'	1:A:1156:G:O5'	2.66	0.43
1:A:1406:U:H2'	1:A:1407:C:O4'	2.19	0.43
1:A:1232:U:OP1	9:I:125:GLN:NE2	2.52	0.43
1:A:1363:A:C5	1:A:1365:G:N1	2.87	0.43
1:A:1365:G:C5	1:A:1366:C:C5	3.07	0.43
1:A:1343:G:O2'	9:I:122:ARG:HD2	2.19	0.43
13:M:100:ARG:HD2	13:M:103:THR:OG1	2.19	0.43
19:S:38:THR:HG22	19:S:68:HIS:O	2.19	0.43
1:A:1255:G:C6	1:A:1279:G:C5	3.06	0.43
17:Q:16:MET:O	17:Q:17:GLU:CB	2.66	0.43
12:L:24:GLU:C	12:L:26:CYS:N	2.65	0.43
1:A:1015:G:H2'	1:A:1016:A:O4'	2.18	0.43
19:S:30:LEU:HB2	19:S:48:ILE:HG22	2.00	0.43
1:A:1241:G:H8	1:A:1241:G:O5'	2.01	0.43
7:G:124:SER:C	7:G:126:ALA:N	2.70	0.43
1:A:1103:C:C2	1:A:1104:G:C8	3.07	0.43
1:A:1103:C:N3	1:A:1104:G:C8	2.87	0.43
6:F:88:MET:HE3	18:R:63:TYR:CD2	2.50	0.43
2:B:69:VAL:HB	2:B:162:VAL:CG1	2.49	0.43
21:U:10:PRO:O	21:U:10:PRO:HD2	2.19	0.43
21:U:8:ASN:N	21:U:11:PHE:CE2	2.80	0.43
1:A:1501:C:C6	1:A:1504:G:C8	3.07	0.43
1:A:171:A:C2	1:A:172:A:C4	3.07	0.43
15:O:58:MET:O	15:O:59:VAL:C	2.56	0.43
1:A:1192:C:N4	1:A:1193:G:C5	2.87	0.43
8:H:55:LYS:N	8:H:56:PRO:HD3	2.34	0.43
1:A:1160:G:N2	1:A:1161:C:C2	2.87	0.43
19:S:18:VAL:CG2	19:S:43:MET:HG2	2.49	0.43
8:H:20:ASN:O	8:H:22:ALA:N	2.52	0.43
13:M:50:GLY:C	13:M:52:ILE:H	2.21	0.43
13:M:46:GLU:HG3	13:M:46:GLU:O	2.19	0.43
1:A:1194:U:H2'	1:A:1195:C:C6	2.53	0.43
3:C:189:HIS:O	3:C:190:THR:O	2.36	0.43
1:A:495:A:C2	1:A:496:A:C6	3.06	0.43
4:D:141:VAL:HG12	4:D:180:THR:OG1	2.19	0.43
1:A:1313:U:OP2	19:S:5:LYS:CA	2.62	0.42
1:A:979:C:C5	1:A:980:C:C4	3.06	0.42
13:M:73:SER:HB3	13:M:77:LYS:HZ1	1.84	0.42
17:Q:12:VAL:HG13	17:Q:21:VAL:HG13	1.99	0.42
8:H:65:PHE:CG	8:H:66:GLN:N	2.86	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:13:LYS:CD	11:K:13:LYS:O	2.67	0.42
20:T:53:MET:O	20:T:54:GLN:C	2.58	0.42
2:B:170:ILE:O	2:B:174:GLU:HG3	2.18	0.42
16:P:35:ARG:HG2	16:P:36:VAL:N	2.34	0.42
10:J:26:VAL:CG1	10:J:27:GLU:N	2.82	0.42
6:F:47:LEU:HD11	6:F:51:ILE:HG23	2.00	0.42
3:C:80:GLY:O	3:C:81:GLU:C	2.57	0.42
1:A:523:A:H61	12:L:49:ARG:HH12	1.67	0.42
2:B:49:PHE:C	2:B:52:ALA:HB3	2.39	0.42
2:B:56:LEU:HD13	2:B:57:ASN:H	1.83	0.42
3:C:95:GLY:O	3:C:96:VAL:CG1	2.67	0.42
1:A:1050:G:H2'	1:A:1051:C:H6	1.81	0.42
1:A:142:G:C6	1:A:143:A:C5	3.07	0.42
1:A:149:A:C2	1:A:150:U:C1'	3.02	0.42
7:G:27:ASN:O	7:G:28:ILE:C	2.56	0.42
14:N:23:ARG:HG2	14:N:26:LEU:HD12	2.00	0.42
1:A:853:C:H2'	1:A:854:U:O4'	2.19	0.42
4:D:169:TRP:CZ3	4:D:189:ASP:HB3	2.54	0.42
1:A:1158:C:N3	1:A:1160:G:N7	2.67	0.42
1:A:1161:C:O2'	1:A:1162:C:H5'	2.18	0.42
6:F:67:PRO:C	6:F:69:GLU:N	2.70	0.42
20:T:19:HIS:HD2	20:T:20:ASN:ND2	2.17	0.42
3:C:25:THR:HG22	3:C:26:LYS:CD	2.49	0.42
1:A:939:G:C2	1:A:940:C:C2	3.07	0.42
1:A:1320:C:N3	19:S:35:ARG:NH1	2.66	0.42
16:P:71:VAL:O	16:P:75:ILE:HG13	2.19	0.42
5:E:81:GLN:HE22	5:E:148:SER:HA	1.84	0.42
1:A:97:G:H2'	1:A:98:A:O5'	2.18	0.42
1:A:1297:G:H4'	1:A:1298:U:O5'	2.19	0.42
7:G:119:LEU:O	7:G:123:LEU:CG	2.68	0.42
1:A:1159:U:N3	1:A:1182:G:C4	2.87	0.42
9:I:14:SER:HB3	9:I:74:GLN:HA	2.00	0.42
1:A:1101:A:N3	1:A:1102:A:H1'	2.34	0.42
2:B:98:GLY:CA	2:B:101:THR:CG2	2.97	0.42
1:A:1099:G:C4	1:A:1100:C:C6	3.07	0.42
6:F:74:LEU:O	6:F:77:THR:N	2.52	0.42
1:A:1007:U:C2'	1:A:1008:U:H5''	2.46	0.42
2:B:181:PRO:O	2:B:182:VAL:HG23	2.19	0.42
12:L:40:THR:HA	12:L:41:PRO:HD3	1.75	0.42
2:B:53:LEU:HD12	2:B:219:THR:CG2	2.49	0.42
1:A:247:G:C6	1:A:278:G:N1	2.87	0.42
1:A:26:A:H61	1:A:558:G:H2'	1.85	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:150:VAL:HG13	3:C:199:VAL:HB	2.00	0.42
1:A:414:A:C2	1:A:415:A:C4	3.08	0.42
8:H:31:LEU:HD11	8:H:35:ILE:HG13	2.01	0.42
1:A:340:U:H2'	1:A:340:U:O2	2.18	0.42
1:A:511:C:N1	1:A:512:U:C5	2.86	0.42
1:A:491:G:O2'	1:A:492:C:H5'	2.19	0.42
1:A:1404:C:H6	1:A:1404:C:O5'	2.02	0.42
1:A:1317:C:N3	14:N:53:ARG:CD	2.83	0.42
1:A:960:U:C5	1:A:1225:A:C8	3.07	0.42
13:M:101:THR:C	13:M:103:THR:N	2.73	0.42
1:A:1314:C:OP2	19:S:5:LYS:HG2	2.19	0.42
1:A:957:U:H4'	19:S:78:THR:O	2.19	0.42
1:A:1233:G:H2'	1:A:1234:C:C6	2.54	0.42
1:A:1143:G:C6	1:A:1144:G:C6	3.07	0.42
17:Q:60:ILE:HG12	17:Q:61:ARG:H	1.84	0.42
17:Q:7:LEU:HB2	17:Q:60:ILE:HG21	2.01	0.42
1:A:1240:U:OP2	7:G:115:MET:HB3	2.19	0.42
7:G:41:ILE:HA	7:G:44:SER:HB3	2.01	0.42
9:I:20:ILE:HD12	9:I:85:ALA:CB	2.50	0.42
1:A:15:G:C4	1:A:16:A:C8	3.08	0.42
21:U:25:ALA:O	21:U:27:VAL:N	2.51	0.42
1:A:679:C:O2	1:A:712:A:C2	2.73	0.42
7:G:14:ASP:OD2	7:G:15:PRO:N	2.52	0.42
4:D:104:MET:SD	4:D:142:VAL:HG13	2.59	0.42
10:J:87:LEU:HD22	10:J:88:MET:N	2.34	0.42
18:R:70:THR:HG23	18:R:71:ASP:N	2.33	0.42
1:A:1191:A:O5'	1:A:1191:A:C8	2.72	0.42
9:I:11:ARG:HB3	9:I:77:ALA:HB2	2.01	0.42
11:K:19:VAL:HB	11:K:34:THR:HG23	2.01	0.42
11:K:30:ILE:O	11:K:30:ILE:CG1	2.60	0.42
16:P:79:ASN:O	16:P:80:LYS:NZ	2.52	0.42
15:O:44:GLU:HG2	15:O:45:HIS:H	1.85	0.42
11:K:106:ILE:HD13	11:K:107:THR:N	2.33	0.42
1:A:390:U:H2'	1:A:391:G:H8	1.84	0.42
1:A:394:G:C5	1:A:395:C:C5	3.08	0.42
1:A:346:G:H3'	1:A:346:G:N3	2.33	0.42
1:A:1269:A:C8	1:A:1270:G:O4'	2.73	0.42
1:A:980:C:C2'	1:A:981:U:H5'	2.49	0.42
4:D:30:LYS:H	4:D:30:LYS:CD	2.32	0.42
21:U:35:GLU:HB3	21:U:36:PHE:H	1.71	0.42
5:E:93:VAL:HG11	5:E:110:MET:HE3	2.01	0.42
5:E:36:THR:O	5:E:47:PHE:HA	2.18	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:81:GLY:O	9:I:82:ILE:C	2.58	0.42
6:F:70:VAL:O	6:F:71:ILE:C	2.57	0.42
14:N:88:ALA:N	14:N:93:ILE:HD13	2.35	0.42
1:A:1048:G:H2'	1:A:1050:G:C8	2.54	0.42
7:G:16:LYS:HD3	7:G:17:PHE:CD1	2.54	0.42
15:O:35:ILE:HD12	15:O:62:ARG:NH1	2.34	0.42
6:F:11:HIS:ND1	6:F:12:PRO:CD	2.83	0.42
3:C:9:ILE:HD12	14:N:98:LYS:HG3	2.01	0.42
1:A:1162:C:O2	1:A:1175:G:C2	2.72	0.42
19:S:51:HIS:ND1	19:S:55:GLN:O	2.52	0.42
1:A:181:A:C2	1:A:195:A:C5	3.07	0.42
7:G:117:LEU:O	7:G:121:ASN:N	2.52	0.42
1:A:1461:G:O2'	1:A:1462:C:H5'	2.20	0.42
22:V:61:C:H2'	22:V:62:C:C6	2.54	0.42
1:A:1055:A:H2'	3:C:155:ARG:HE	1.84	0.42
1:A:1346:A:C8	1:A:1348:U:C2	3.07	0.42
13:M:13:HIS:H	13:M:16:ILE:HD12	1.83	0.42
13:M:92:ARG:CG	13:M:92:ARG:HH11	2.32	0.42
1:A:429:U:H3'	4:D:8:LEU:CD2	2.49	0.42
5:E:100:GLU:HA	5:E:121:ASN:HB3	2.02	0.42
1:A:1219:A:N6	1:A:1220:G:O6	2.53	0.42
10:J:42:LEU:CD1	10:J:73:LEU:HB2	2.49	0.42
5:E:68:ARG:H	5:E:68:ARG:HE	1.66	0.42
1:A:803:G:OP1	25:A:1803:HOH:O	2.21	0.42
7:G:124:SER:O	7:G:126:ALA:N	2.53	0.42
1:A:1537:U:H5''	1:A:1538:C:P	2.58	0.42
21:U:19:LYS:C	21:U:21:SER:N	2.73	0.42
1:A:841:C:H2'	1:A:843:U:C5'	2.49	0.42
9:I:24:ASN:HA	9:I:58:GLU:O	2.18	0.42
6:F:45:ARG:HD2	6:F:59:TYR:CE2	2.55	0.42
2:B:223:GLY:O	2:B:225:SER:N	2.52	0.42
7:G:26:VAL:O	7:G:27:ASN:C	2.57	0.42
9:I:88:GLU:OE2	9:I:88:GLU:C	2.58	0.42
17:Q:35:LYS:CG	17:Q:37:ILE:CD1	2.98	0.42
1:A:648:A:C2	1:A:649:A:C4	3.07	0.42
18:R:24:ASP:HB3	18:R:27:THR:OG1	2.19	0.42
8:H:33:VAL:O	8:H:35:ILE:N	2.53	0.42
1:A:596:A:C2	1:A:645:G:N3	2.86	0.42
17:Q:30:HIS:NE2	17:Q:32:ILE:HD13	2.33	0.42
11:K:84:MET:HE2	11:K:112:VAL:HG11	2.02	0.42
1:A:1304:G:H2'	1:A:1305:G:C1'	2.49	0.42
1:A:1436:U:H2'	1:A:1437:A:C8	2.54	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:883:C:O2'	1:A:884:U:H5'	2.20	0.42
3:C:26:LYS:HB3	3:C:26:LYS:NZ	2.34	0.42
1:A:1465:A:H2'	1:A:1466:C:C6	2.54	0.42
16:P:22:ALA:HA	16:P:33:ILE:HD12	2.02	0.42
1:A:1496:C:H2'	1:A:1497:G:O4'	2.19	0.42
1:A:1225:A:H2'	1:A:1226:C:C4	2.53	0.42
1:A:1310:G:C6	1:A:1311:A:N7	2.88	0.42
1:A:626:G:H2'	1:A:627:G:O5'	2.19	0.42
1:A:1239:A:H2	1:A:1297:G:C2	2.37	0.42
1:A:737:C:O2'	1:A:738:C:H5'	2.20	0.42
20:T:50:PHE:O	20:T:53:MET:N	2.52	0.42
1:A:1538:C:H3'	1:A:1538:C:C6	2.54	0.42
1:A:840:C:C4	1:A:842:U:H5'	2.55	0.42
1:A:842:U:O2'	1:A:846:G:N1	2.52	0.42
9:I:29:ILE:HG23	9:I:29:ILE:O	2.20	0.42
1:A:16:A:C4	1:A:17:U:C6	3.08	0.42
8:H:92:PRO:HG3	8:H:124:ILE:HD12	2.01	0.42
6:F:86:ARG:HD3	18:R:63:TYR:CE1	2.54	0.42
3:C:41:TYR:OH	3:C:45:GLU:CG	2.67	0.42
21:U:8:ASN:C	21:U:11:PHE:CE2	2.93	0.42
11:K:113:THR:HA	11:K:114:PRO:HD3	1.83	0.42
1:A:59:A:C4	1:A:331:G:N2	2.87	0.42
1:A:59:A:C5	1:A:354:G:C6	3.07	0.42
11:K:20:ALA:CB	11:K:33:ILE:CD1	2.98	0.42
4:D:150:LYS:O	4:D:150:LYS:HG3	2.19	0.42
8:H:10:LEU:HA	8:H:10:LEU:HD22	1.85	0.42
11:K:27:ASN:HB3	11:K:56:LYS:HE3	2.02	0.42
1:A:1085:U:O4'	1:A:1094:G:C6	2.73	0.42
19:S:44:ILE:HD11	19:S:63:ASP:HA	2.01	0.42
7:G:109:LYS:O	7:G:110:ARG:C	2.57	0.42
1:A:394:G:H2'	1:A:395:C:C6	2.53	0.42
1:A:457:G:C6	1:A:458:U:N3	2.87	0.42
8:H:41:GLU:CD	8:H:41:GLU:C	2.77	0.42
23:X:5:A:H2'	23:X:6:G:H5'	2.01	0.42
1:A:837:U:H6	1:A:837:U:O5'	2.03	0.42
1:A:1360:A:C8	14:N:58:SER:CB	3.03	0.42
1:A:1323:G:H1'	1:A:1362:A:C2	2.55	0.42
1:A:1361:G:C8	1:A:1362:A:H5''	2.55	0.42
1:A:943:U:C2'	1:A:944:G:H5'	2.50	0.42
13:M:88:LEU:C	13:M:90:HIS:N	2.72	0.42
1:A:1272:G:C2	1:A:1273:C:C2	3.07	0.42
17:Q:17:GLU:O	17:Q:18:LYS:HB2	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:115:GLU:O	5:E:118:GLY:N	2.52	0.42
5:E:152:VAL:HG23	5:E:153:ALA:N	2.34	0.42
3:C:129:PHE:CD2	3:C:130:ARG:HD3	2.54	0.42
1:A:188:C:N3	1:A:189:A:C5	2.87	0.42
1:A:794:A:H2'	1:A:795:C:C6	2.54	0.42
3:C:22:PHE:CD2	3:C:23:ALA:CA	3.01	0.42
1:A:100:G:C5	1:A:101:A:N7	2.87	0.42
9:I:115:VAL:HG21	10:J:62:ARG:HB2	2.02	0.42
11:K:12:ARG:CZ	11:K:76:TYR:OH	2.68	0.42
20:T:35:TYR:O	20:T:35:TYR:CD1	2.73	0.42
1:A:1096:C:C4	1:A:1097:C:N4	2.88	0.42
6:F:6:ILE:C	6:F:7:VAL:HG12	2.40	0.42
3:C:88:LYS:HG2	3:C:89:VAL:N	2.35	0.42
9:I:60:LEU:N	9:I:60:LEU:CD2	2.82	0.42
21:U:25:ALA:HB1	23:X:8:A:H5''	2.00	0.42
1:A:164:G:O2'	1:A:165:G:H5'	2.19	0.42
1:A:253:A:N1	1:A:254:G:C5	2.88	0.42
7:G:78:ARG:HG2	7:G:83:THR:HG23	2.02	0.42
1:A:1478:U:H2'	1:A:1479:C:C6	2.55	0.42
1:A:1057:G:C6	1:A:1204:A:C2	3.08	0.42
1:A:927:G:H4'	1:A:1503:A:N7	2.34	0.42
15:O:44:GLU:O	15:O:45:HIS:HB2	2.19	0.42
7:G:59:GLU:HA	7:G:62:GLU:HB3	2.00	0.42
17:Q:31:PRO:CB	17:Q:32:ILE:HD12	2.49	0.42
8:H:85:TYR:O	8:H:86:LYS:CD	2.67	0.42
13:M:47:LEU:HD13	13:M:52:ILE:HG13	2.02	0.42
1:A:1304:G:H2'	1:A:1305:G:H1'	2.02	0.42
17:Q:64:ARG:HD3	17:Q:64:ARG:H	1.85	0.42
3:C:179:ALA:HB1	3:C:202:PHE:CE1	2.55	0.42
1:A:1155:A:H2'	1:A:1156:G:O5'	2.19	0.42
12:L:73:LEU:O	12:L:74:GLN:HB3	2.19	0.42
9:I:125:GLN:HE21	9:I:125:GLN:C	2.23	0.42
1:A:1255:G:C6	1:A:1279:G:N7	2.88	0.42
1:A:615:G:C4	1:A:616:G:C8	3.08	0.42
5:E:115:GLU:CG	5:E:116:VAL:N	2.82	0.42
3:C:154:GLY:C	3:C:156:LEU:HD12	2.40	0.42
5:E:22:LYS:O	5:E:23:THR:HB	2.19	0.42
2:B:112:ARG:HH22	2:B:136:ARG:HD3	1.85	0.42
10:J:27:GLU:C	10:J:29:ALA:N	2.73	0.42
1:A:1492:A:OP1	12:L:43:LYS:HA	2.20	0.42
1:A:594:U:H2'	1:A:595:A:H8	1.81	0.42
1:A:1386:G:H2'	1:A:1387:G:H8	1.84	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:684:U:C2'	11:K:39:ASN:O	2.67	0.42
1:A:1371:G:OP2	9:I:12:LYS:HD3	2.20	0.42
8:H:79:ARG:O	8:H:83:ARG:HD3	2.19	0.42
4:D:123:MET:O	4:D:142:VAL:HA	2.20	0.42
3:C:118:SER:O	3:C:121:SER:HB2	2.18	0.42
1:A:659:U:H2'	1:A:660:C:C6	2.55	0.42
11:K:93:GLU:O	11:K:96:ILE:HG13	2.20	0.42
18:R:58:ILE:HG22	18:R:62:ARG:HD2	2.01	0.42
3:C:70:ALA:C	3:C:72:PRO:HD3	2.39	0.42
3:C:127:VAL:HG23	3:C:128:MET:N	2.34	0.42
13:M:18:LEU:C	13:M:20:SER:N	2.73	0.42
19:S:39:ILE:O	19:S:66:VAL:HG13	2.19	0.42
19:S:57:VAL:HG11	19:S:74:ALA:CB	2.50	0.42
3:C:148:ILE:HA	3:C:200:TRP:O	2.20	0.42
1:A:6:G:C6	5:E:98:ALA:HB1	2.55	0.42
5:E:155:LYS:H	5:E:155:LYS:CE	2.31	0.42
19:S:14:LEU:HD23	19:S:37:SER:CB	2.50	0.42
4:D:201:GLU:O	4:D:204:SER:HB2	2.20	0.42
1:A:1134:G:C6	1:A:1135:U:C4	3.08	0.42
10:J:58:ASN:O	10:J:59:LYS:C	2.58	0.42
1:A:737:C:C2	1:A:738:C:C5	3.08	0.42
21:U:18:PHE:HA	21:U:21:SER:HB3	2.01	0.42
1:A:1074:G:H2'	1:A:1075:U:O4'	2.20	0.42
1:A:919:A:H2'	1:A:920:U:H6	1.83	0.42
10:J:22:THR:HG23	10:J:22:THR:O	2.19	0.42
12:L:43:LYS:HB2	12:L:44:PRO:CD	2.50	0.42
1:A:687:A:N3	1:A:688:G:H1'	2.35	0.42
20:T:7:LYS:O	20:T:10:ALA:HB3	2.20	0.42
1:A:1251:A:C2	1:A:1252:A:C4	3.08	0.42
9:I:89:TYR:CA	9:I:93:LEU:HD11	2.49	0.42
1:A:1211:U:O2'	1:A:1212:U:O5'	2.37	0.42
1:A:474:G:C6	1:A:475:C:C4	3.08	0.42
1:A:1337:G:H5''	1:A:1338:G:OP1	2.19	0.42
10:J:80:THR:CB	10:J:83:THR:HG22	2.49	0.42
4:D:134:TYR:CD2	4:D:134:TYR:C	2.93	0.42
18:R:26:ALA:O	18:R:27:THR:C	2.58	0.42
3:C:34:SER:O	3:C:38:VAL:HG13	2.20	0.42
18:R:28:LEU:CD1	18:R:28:LEU:N	2.83	0.42
3:C:115:VAL:O	3:C:118:SER:HB3	2.20	0.42
3:C:116:ALA:O	3:C:119:ILE:N	2.52	0.42
1:A:361:G:C2'	1:A:362:G:H5'	2.50	0.42
7:G:74:VAL:HG21	7:G:143:MET:CG	2.47	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:811:C:O2'	1:A:901:A:N1	2.46	0.42
3:C:113:LYS:HB2	3:C:184:ASN:ND2	2.34	0.42
1:A:1308:U:C6	13:M:97:ARG:NH2	2.87	0.42
1:A:488:C:C2	1:A:489:C:C5	3.08	0.42
3:C:129:PHE:CE2	3:C:156:LEU:CD2	3.03	0.42
1:A:1134:G:N1	1:A:1141:C:N4	2.67	0.42
1:A:82:G:C5	1:A:83:C:C2	3.08	0.42
1:A:1240:U:H3'	1:A:1241:G:C5'	2.49	0.42
1:A:1533:C:OP1	1:A:1533:C:H4'	2.20	0.42
1:A:840:C:C5	1:A:842:U:H5''	2.55	0.42
9:I:53:LEU:O	9:I:54:VAL:CG2	2.67	0.42
1:A:385:C:H3'	1:A:385:C:H6	1.85	0.42
2:B:59:ILE:O	2:B:63:LYS:HA	2.20	0.42
1:A:1117:A:H4'	9:I:105:ARG:CD	2.50	0.42
7:G:65:LEU:HD21	7:G:69:ARG:CZ	2.50	0.42
1:A:1088:G:N3	1:A:1089:G:C8	2.88	0.42
1:A:1023:U:H2'	1:A:1024:G:O4'	2.19	0.42
1:A:318:G:C4	1:A:319:G:C8	3.08	0.42
1:A:645:G:C5	1:A:646:G:N7	2.88	0.42
16:P:23:ASP:C	16:P:23:ASP:OD1	2.57	0.42
1:A:1446:A:N6	1:A:1447:A:N6	2.68	0.42
2:B:186:VAL:O	2:B:186:VAL:HG23	2.20	0.42
10:J:17:LEU:N	10:J:20:GLN:HG2	2.35	0.42
1:A:506:G:C5	1:A:507:C:C4	3.07	0.42
8:H:11:THR:HA	8:H:14:ARG:NH1	2.35	0.42
23:X:18:C:H3'	23:X:19:U:C5'	2.49	0.42
12:L:35:ARG:HD2	12:L:53:ARG:NH2	2.35	0.41
1:A:1328:C:H5''	13:M:27:THR:CB	2.50	0.41
1:A:959:A:H5''	1:A:960:U:OP2	2.20	0.41
13:M:20:SER:C	13:M:21:ILE:HD12	2.39	0.41
4:D:30:LYS:HD3	4:D:30:LYS:H	1.85	0.41
1:A:723:U:O2'	1:A:855:U:H4'	2.20	0.41
17:Q:10:ARG:NH2	17:Q:55:GLY:HA2	2.35	0.41
1:A:734:G:H2'	1:A:735:C:C6	2.54	0.41
21:U:18:PHE:CD2	21:U:18:PHE:O	2.73	0.41
1:A:862:C:H2'	1:A:862:C:O2	2.19	0.41
1:A:1130:A:C4	1:A:1146:A:C2	3.07	0.41
9:I:18:VAL:O	9:I:18:VAL:HG12	2.19	0.41
1:A:464:U:C2	1:A:466:A:OP2	2.74	0.41
2:B:53:LEU:HD13	2:B:56:LEU:HD12	2.00	0.41
7:G:16:LYS:HD3	7:G:43:TYR:CE1	2.54	0.41
1:A:585:G:N3	1:A:879:C:C5'	2.83	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:437:U:C2'	4:D:119:HIS:HD2	2.33	0.41
1:A:1422:G:C2	1:A:1423:G:C5	3.08	0.41
8:H:91:LEU:HD21	8:H:103:VAL:HG11	2.01	0.41
1:A:511:C:H1'	1:A:512:U:H6	1.85	0.41
4:D:99:ASN:O	4:D:100:VAL:C	2.57	0.41
1:A:808:C:H2'	1:A:809:G:O5'	2.20	0.41
1:A:439:U:H2'	1:A:440:C:O5'	2.20	0.41
3:C:14:VAL:O	3:C:15:LYS:HB2	2.19	0.41
1:A:293:G:C6	1:A:305:G:C2	3.08	0.41
14:N:13:VAL:HA	14:N:60:GLN:NE2	2.35	0.41
13:M:84:CYS:CA	19:S:72:GLU:O	2.65	0.41
1:A:429:U:H1'	1:A:430:A:H5''	2.02	0.41
4:D:3:TYR:O	4:D:4:LEU:CB	2.67	0.41
13:M:7:ASN:O	13:M:9:PRO:HD3	2.21	0.41
2:B:94:ARG:NE	2:B:94:ARG:N	2.68	0.41
21:U:40:PRO:C	21:U:42:THR:H	2.22	0.41
5:E:75:LEU:HB3	5:E:77:ASN:O	2.20	0.41
5:E:76:ASN:O	5:E:77:ASN:CB	2.68	0.41
20:T:66:ILE:HG12	20:T:70:LYS:HG2	2.02	0.41
20:T:34:VAL:C	20:T:36:ALA:N	2.72	0.41
20:T:53:MET:HB2	20:T:53:MET:HE3	1.98	0.41
1:A:840:C:C2	1:A:842:U:H5''	2.56	0.41
1:A:1130:A:N9	1:A:1146:A:C2	2.88	0.41
1:A:1072:G:C5	1:A:1073:U:C4	3.07	0.41
6:F:86:ARG:HD3	18:R:63:TYR:CZ	2.55	0.41
2:B:69:VAL:O	2:B:162:VAL:HA	2.20	0.41
2:B:181:PRO:O	2:B:182:VAL:CG2	2.68	0.41
14:N:83:LYS:HE2	14:N:86:GLU:HG3	2.01	0.41
2:B:80:LYS:CG	2:B:84:LEU:CD2	2.98	0.41
9:I:88:GLU:HG3	9:I:89:TYR:N	2.35	0.41
15:O:23:SER:O	15:O:26:VAL:HB	2.20	0.41
15:O:55:LEU:O	15:O:58:MET:N	2.53	0.41
9:I:98:ARG:CA	9:I:103:VAL:HG11	2.48	0.41
8:H:105:THR:HG21	8:H:115:ALA:CB	2.49	0.41
1:A:1029:U:C2'	1:A:1029:U:O2	2.66	0.41
22:V:26:A:C4	22:V:27:G:C8	3.08	0.41
9:I:11:ARG:HG2	9:I:73:GLY:HA2	2.02	0.41
1:A:654:G:C2	1:A:753:A:C4	3.08	0.41
1:A:799:G:H2'	1:A:800:G:O4'	2.19	0.41
19:S:12:LEU:HD22	19:S:16:LYS:HE3	2.03	0.41
7:G:49:LEU:C	7:G:51:GLN:N	2.72	0.41
1:A:1223:C:OP1	19:S:77:ARG:NH1	2.53	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:976:G:H5'	1:A:977:A:OP1	2.19	0.41
13:M:88:LEU:O	13:M:89:ARG:C	2.58	0.41
1:A:1220:G:C4	1:A:1221:G:C8	3.07	0.41
19:S:13:HIS:O	19:S:17:LYS:CD	2.68	0.41
7:G:115:MET:CA	7:G:118:ARG:HD3	2.50	0.41
20:T:32:LYS:O	20:T:35:TYR:HD2	2.04	0.41
9:I:29:ILE:HB	9:I:64:ILE:HD11	2.02	0.41
1:A:201:G:O6	1:A:216:U:O2	2.37	0.41
1:A:468:A:N7	1:A:469:C:C2	2.88	0.41
1:A:17:U:N3	1:A:18:C:C4	2.88	0.41
1:A:17:U:O2	1:A:17:U:H2'	2.18	0.41
1:A:1004:A:H5'	1:A:1025:U:O2	2.20	0.41
1:A:376:G:N3	1:A:377:G:C8	2.88	0.41
1:A:1491:G:O2'	1:A:1492:A:O5'	2.25	0.41
21:U:25:ALA:CB	23:X:8:A:C5'	2.89	0.41
20:T:6:ALA:O	20:T:9:ARG:HB2	2.20	0.41
1:A:174:A:H2'	1:A:175:C:H5'	2.02	0.41
1:A:1250:A:C5	1:A:1287:A:C5	3.08	0.41
1:A:827:U:H5''	1:A:828:U:OP2	2.19	0.41
1:A:234:C:H2'	1:A:235:C:H6	1.83	0.41
4:D:58:GLN:O	4:D:59:LYS:C	2.58	0.41
8:H:25:THR:O	8:H:26:MET:HB3	2.21	0.41
1:A:1445:U:C2'	1:A:1446:A:OP2	2.68	0.41
1:A:575:G:C8	1:A:881:G:N2	2.88	0.41
1:A:671:G:C4	1:A:672:U:C6	3.08	0.41
1:A:1305:G:H21	1:A:1332:A:H2	1.67	0.41
12:L:73:LEU:N	12:L:73:LEU:HD22	2.36	0.41
1:A:1324:A:N6	1:A:1325:C:N4	2.69	0.41
1:A:936:C:C5	1:A:937:A:N7	2.87	0.41
1:A:430:A:OP1	4:D:8:LEU:HB2	2.20	0.41
21:U:39:LYS:HB3	21:U:40:PRO:HD3	2.03	0.41
17:Q:20:ILE:HD12	17:Q:20:ILE:HA	1.82	0.41
5:E:152:VAL:C	5:E:154:ALA:N	2.73	0.41
12:L:21:PRO:O	12:L:23:LEU:N	2.54	0.41
9:I:7:GLY:HA3	9:I:84:ARG:HB3	2.01	0.41
1:A:35:G:H2'	1:A:36:C:H6	1.85	0.41
2:B:137:THR:C	2:B:139:GLU:N	2.73	0.41
2:B:139:GLU:O	2:B:143:LEU:HD23	2.19	0.41
6:F:81:ASN:HD21	6:F:83:ALA:HB3	1.85	0.41
2:B:53:LEU:CA	2:B:56:LEU:HB3	2.48	0.41
1:A:712:A:H2'	1:A:713:G:O5'	2.19	0.41
1:A:108:G:N2	1:A:109:A:C2	2.88	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1138:G:C4	1:A:1140:C:C6	3.08	0.41
15:O:24:THR:HG23	15:O:65:LEU:HD12	2.02	0.41
1:A:613:C:C2'	1:A:614:C:H5'	2.50	0.41
7:G:137:ARG:HG2	7:G:137:ARG:O	2.21	0.41
1:A:1088:G:C2	1:A:1089:G:C5	3.08	0.41
1:A:49:U:C5	1:A:364:A:C6	3.08	0.41
1:A:645:G:C2	1:A:646:G:C8	3.08	0.41
15:O:45:HIS:C	15:O:47:LYS:H	2.23	0.41
1:A:580:C:H2'	1:A:581:G:O4'	2.20	0.41
11:K:81:LEU:HD13	11:K:104:PHE:CZ	2.55	0.41
7:G:135:LYS:O	7:G:139:ASP:HB2	2.20	0.41
18:R:33:THR:HG23	18:R:36:GLY:N	2.36	0.41
1:A:908:A:C2	1:A:909:A:C4	3.08	0.41
4:D:40:HIS:C	4:D:42:ALA:N	2.72	0.41
17:Q:27:PHE:C	17:Q:28:VAL:HG12	2.40	0.41
1:A:1053:G:N7	1:A:1199:U:C3'	2.74	0.41
1:A:1302:C:N4	13:M:16:ILE:HD11	2.35	0.41
1:A:1317:C:C4	14:N:53:ARG:HD3	2.55	0.41
1:A:1317:C:OP1	14:N:57:PRO:HD2	2.20	0.41
1:A:980:C:H4'	14:N:59:ARG:NH1	2.35	0.41
13:M:103:THR:O	13:M:104:ASN:C	2.59	0.41
1:A:1273:C:C2	1:A:1274:A:C8	3.08	0.41
16:P:6:LEU:HB3	16:P:17:TYR:HB3	2.00	0.41
5:E:92:ARG:C	5:E:93:VAL:HG23	2.40	0.41
1:A:988:G:H1'	1:A:1015:G:H22	1.86	0.41
1:A:1135:U:O2	1:A:1135:U:H2'	2.20	0.41
20:T:36:ALA:O	20:T:37:ALA:C	2.57	0.41
20:T:59:ARG:O	20:T:59:ARG:HG2	2.20	0.41
9:I:45:MET:O	9:I:48:ARG:HB3	2.21	0.41
2:B:102:ASN:CG	2:B:102:ASN:O	2.59	0.41
16:P:38:PHE:CE2	16:P:51:ARG:HB3	2.56	0.41
1:A:1109:C:H2'	1:A:1109:C:O2	2.20	0.41
10:J:35:GLN:O	10:J:36:VAL:CB	2.68	0.41
3:C:84:GLU:CG	3:C:85:LYS:N	2.83	0.41
12:L:39:THR:HG22	12:L:40:THR:O	2.21	0.41
14:N:93:ILE:HG21	14:N:96:LEU:CB	2.50	0.41
2:B:219:THR:N	2:B:221:ARG:HD3	2.32	0.41
7:G:39:GLU:O	7:G:43:TYR:CD2	2.73	0.41
1:A:144:G:C2'	1:A:145:G:O5'	2.69	0.41
12:L:3:VAL:HG13	12:L:4:ASN:H	1.86	0.41
1:A:560:A:H4'	1:A:561:U:C5'	2.49	0.41
7:G:77:ARG:HG3	7:G:86:VAL:HG21	2.02	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:152:SER:O	4:D:154:VAL:N	2.54	0.41
8:H:115:ALA:HA	8:H:118:ALA:CB	2.48	0.41
1:A:1337:G:C5'	1:A:1338:G:OP1	2.68	0.41
1:A:892:A:O2'	1:A:1415:G:H4'	2.21	0.41
1:A:893:C:H2'	1:A:894:G:C8	2.55	0.41
3:C:119:ILE:HA	3:C:122:GLN:HE21	1.86	0.41
4:D:60:VAL:O	4:D:61:ARG:C	2.59	0.41
15:O:44:GLU:CG	15:O:45:HIS:N	2.83	0.41
1:A:1197:A:OP2	1:A:1197:A:H3'	2.20	0.41
22:V:66:U:H2'	22:V:67:C:O4'	2.20	0.41
1:A:963:G:O2'	1:A:964:A:H5'	2.21	0.41
1:A:1316:G:C6	1:A:1318:A:OP2	2.73	0.41
1:A:933:G:C2	1:A:935:A:C8	3.08	0.41
1:A:978:A:P	1:A:1362:A:H61	2.41	0.41
13:M:69:ARG:O	13:M:73:SER:N	2.51	0.41
4:D:28:ASP:C	4:D:30:LYS:N	2.74	0.41
5:E:116:VAL:HG23	5:E:117:ALA:N	2.35	0.41
20:T:65:LEU:C	20:T:67:HIS:CD2	2.93	0.41
1:A:763:G:H2'	1:A:764:C:O5'	2.20	0.41
1:A:64:G:N7	1:A:99:C:C4	2.88	0.41
1:A:71:A:C5'	1:A:71:A:H8	2.29	0.41
1:A:96:U:C2'	1:A:97:G:O5'	2.69	0.41
11:K:15:VAL:O	11:K:16:SER:HB3	2.20	0.41
20:T:43:LYS:HB3	20:T:86:ALA:HB1	2.01	0.41
1:A:873:A:H4'	1:A:874:G:OP2	2.19	0.41
2:B:139:GLU:C	2:B:143:LEU:HD23	2.41	0.41
10:J:35:GLN:O	10:J:36:VAL:HG23	2.21	0.41
2:B:86:CYS:N	2:B:88:GLN:NE2	2.68	0.41
2:B:57:ASN:OD1	2:B:60:ALA:HB3	2.20	0.41
4:D:33:ILE:HG23	4:D:33:ILE:O	2.21	0.41
1:A:173:U:C2	1:A:197:A:C6	3.08	0.41
1:A:59:A:C4	1:A:331:G:C2	3.08	0.41
1:A:152:A:N6	1:A:170:U:N3	2.69	0.41
7:G:11:ILE:HD13	7:G:27:ASN:ND2	2.34	0.41
1:A:279:A:C5'	1:A:281:G:O4'	2.64	0.41
15:O:38:LEU:HG	15:O:42:PHE:CE1	2.55	0.41
1:A:612:C:H2'	1:A:613:C:C6	2.51	0.41
4:D:176:LYS:O	4:D:177:MET:CB	2.68	0.41
1:A:621:A:H2'	1:A:622:A:O4'	2.21	0.41
1:A:1160:G:O2'	1:A:1161:C:C6	2.61	0.41
7:G:68:VAL:O	7:G:69:ARG:C	2.59	0.41
19:S:51:HIS:HA	19:S:55:GLN:O	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:V:37:A:H2'	22:V:38:A:H5'	2.02	0.41
22:V:52:G:C2	22:V:63:G:C6	3.09	0.41
5:E:49:TYR:O	5:E:50:GLY:O	2.38	0.41
8:H:48:PHE:O	8:H:49:LYS:CB	2.68	0.41
8:H:13:ILE:O	8:H:14:ARG:C	2.59	0.41
1:A:1053:G:N2	1:A:1056:U:C4	2.89	0.41
1:A:1323:G:C4'	1:A:1362:A:H2	2.33	0.41
13:M:24:VAL:HG23	13:M:28:ARG:HB3	2.03	0.41
1:A:1256:A:C4	1:A:1278:G:C5	3.08	0.41
1:A:1277:C:HO2'	1:A:1279:G:H1'	1.83	0.41
17:Q:11:VAL:HG12	17:Q:12:VAL:H	1.83	0.41
5:E:110:MET:HA	5:E:113:VAL:HG13	2.02	0.41
5:E:153:ALA:CA	5:E:156:ARG:HB3	2.50	0.41
5:E:80:LEU:CD1	5:E:119:VAL:HG11	2.51	0.41
12:L:24:GLU:O	12:L:26:CYS:N	2.53	0.41
1:A:1014:A:N7	1:A:1015:G:C6	2.89	0.41
7:G:44:SER:OG	7:G:116:ALA:HB1	2.20	0.41
1:A:1537:U:H5''	1:A:1538:C:OP2	2.21	0.41
1:A:841:C:H2'	1:A:843:U:O4'	2.20	0.41
1:A:846:G:H2'	1:A:847:G:H5'	2.02	0.41
8:H:4:ASP:CG	8:H:7:ALA:CB	2.89	0.41
3:C:110:LEU:HD23	3:C:110:LEU:N	2.36	0.41
2:B:216:VAL:O	2:B:219:THR:HG22	2.21	0.41
23:X:8:A:C6	23:X:9:G:C6	3.09	0.41
1:A:827:U:C4	1:A:870:U:O2	2.73	0.41
1:A:560:A:C4	5:E:127:TYR:CE2	3.09	0.41
11:K:109:ILE:HG21	21:U:16:ARG:NE	2.36	0.41
1:A:209:U:OP2	1:A:210:C:C5	2.74	0.41
1:A:401:C:H2'	1:A:402:G:C8	2.56	0.41
1:A:579:A:H2'	1:A:580:C:H5'	2.02	0.41
1:A:891:U:P	25:A:1826:HOH:O	2.78	0.41
7:G:125:ASP:HA	7:G:128:GLU:OE1	2.21	0.41
22:V:56:C:O2	22:V:56:C:C2'	2.69	0.41
1:A:392:C:OP1	16:P:8:ARG:NH2	2.53	0.41
7:G:142:ARG:O	7:G:146:ALA:CB	2.69	0.41
1:A:126:G:N2	1:A:127:G:H1'	2.35	0.41
1:A:1315:U:C4	1:A:1316:G:C6	3.09	0.41
13:M:67:ASP:HA	13:M:70:ARG:HG2	2.02	0.41
13:M:70:ARG:HA	13:M:73:SER:HB2	2.02	0.41
19:S:10:ILE:CD1	19:S:15:LEU:HD22	2.50	0.41
11:K:124:LYS:O	21:U:34:ARG:HD2	2.21	0.41
21:U:33:ARG:CD	21:U:34:ARG:HB2	2.51	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1142:G:N1	1:A:1143:G:H1'	2.35	0.41
9:I:74:GLN:O	9:I:78:ILE:HG13	2.19	0.41
1:A:469:C:C5	1:A:470:C:C5	3.08	0.41
1:A:15:G:H4'	5:E:28:ARG:NH1	2.36	0.41
1:A:1026:G:C6	1:A:1027:C:N4	2.89	0.41
3:C:8:GLY:HA2	3:C:11:LEU:HG	2.02	0.41
2:B:84:LEU:O	2:B:85:SER:HB3	2.21	0.41
1:A:1386:G:N2	1:A:1387:G:C8	2.88	0.41
1:A:676:A:N1	1:A:677:U:C4	2.89	0.41
15:O:86:LEU:C	15:O:88:ARG:N	2.74	0.41
14:N:41:ARG:NH2	14:N:45:VAL:HG21	2.36	0.41
1:A:1478:U:H2'	1:A:1479:C:H6	1.85	0.41
1:A:1068:G:O2'	1:A:1191:A:N1	2.45	0.41
1:A:1473:G:H2'	1:A:1474:U:O4'	2.20	0.41
1:A:49:U:O4	1:A:365:U:C5	2.73	0.41
1:A:575:G:O2'	1:A:821:G:OP2	2.26	0.41
14:N:5:MET:HB3	14:N:63:ARG:CZ	2.51	0.41
10:J:50:THR:OG1	10:J:64:GLN:CG	2.69	0.41
1:A:745:G:H1'	1:A:836:G:O2'	2.21	0.41
1:A:574:A:P	25:A:1786:HOH:O	2.79	0.41
13:M:79:LEU:HD11	13:M:86:ARG:HB3	2.03	0.41
9:I:128:LYS:CD	9:I:129:ARG:N	2.83	0.41
1:A:429:U:H3'	4:D:8:LEU:HD22	2.03	0.41
4:D:28:ASP:C	4:D:30:LYS:H	2.24	0.41
1:A:1151:A:N1	1:A:1152:A:C6	2.89	0.41
13:M:5:GLY:O	13:M:7:ASN:N	2.54	0.41
11:K:124:LYS:O	11:K:124:LYS:HE3	2.21	0.41
11:K:125:LYS:C	21:U:33:ARG:CZ	2.89	0.41
1:A:719:C:C5	1:A:720:C:C4	3.09	0.41
1:A:292:G:N2	1:A:309:A:C4	2.89	0.41
1:A:94:G:N2	1:A:96:U:C4	2.89	0.41
7:G:115:MET:N	7:G:118:ARG:HD3	2.36	0.41
1:A:1298:U:C4'	1:A:1299:A:C4	3.02	0.41
1:A:168:G:H5''	1:A:168:G:H8	1.85	0.41
11:K:92:ARG:HH11	11:K:92:ARG:HG3	1.85	0.41
2:B:95:TRP:CE3	2:B:96:LEU:O	2.74	0.41
16:P:38:PHE:CE2	16:P:51:ARG:HB2	2.55	0.41
10:J:35:GLN:HG2	10:J:77:VAL:CG2	2.50	0.41
6:F:59:TYR:HE2	18:R:66:LEU:CD2	2.34	0.41
6:F:91:ARG:CG	6:F:92:THR:H	2.33	0.41
2:B:175:ALA:C	2:B:177:ASN:N	2.70	0.41
1:A:375:U:N3	1:A:376:G:N7	2.69	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1501:C:C5	1:A:1504:G:C4	3.09	0.41
3:C:36:PHE:HZ	14:N:90:ARG:NH1	2.19	0.41
1:A:325:A:H2'	1:A:326:G:O4'	2.21	0.41
14:N:2:LYS:O	14:N:4:SER:N	2.54	0.41
14:N:99:ALA:O	14:N:100:SER:HB3	2.21	0.41
1:A:246:A:N1	1:A:278:G:O2'	2.50	0.41
1:A:1449:C:H2'	1:A:1450:U:H5'	2.02	0.41
17:Q:37:ILE:HD12	17:Q:37:ILE:N	2.36	0.41
1:A:254:G:H2'	1:A:255:G:O4'	2.20	0.41
3:C:166:TRP:HE3	3:C:167:TYR:N	2.19	0.41
4:D:123:MET:HA	4:D:127:ARG:O	2.20	0.41
3:C:28:PHE:O	3:C:28:PHE:HD2	2.04	0.41
1:A:402:G:C5	1:A:403:C:C5	3.08	0.41
1:A:1526:G:OP1	21:U:38:GLU:HB2	2.21	0.41
18:R:24:ASP:C	18:R:26:ALA:H	2.23	0.41
19:S:18:VAL:O	19:S:22:VAL:HG23	2.21	0.41
19:S:46:LEU:C	19:S:47:THR:HG23	2.41	0.41
1:A:526:C:H2'	1:A:527:G:H4'	2.03	0.41
6:F:67:PRO:O	6:F:69:GLU:N	2.54	0.41
3:C:112:ALA:O	3:C:114:LEU:N	2.54	0.41
1:A:1424:U:H2'	1:A:1425:U:O4'	2.21	0.41
1:A:341:C:H2'	1:A:342:C:C6	2.55	0.41
1:A:969:A:H2'	1:A:970:C:O5'	2.20	0.41
1:A:511:C:C6	1:A:512:U:C5	3.09	0.41
1:A:570:G:H2'	1:A:571:U:C6	2.56	0.41
1:A:856:C:H2'	1:A:857:C:H5'	2.02	0.41
16:P:56:ARG:O	16:P:57:ILE:C	2.59	0.41
16:P:53:ASP:OD1	16:P:53:ASP:C	2.59	0.41
3:C:142:ARG:HG2	3:C:143:LEU:HD13	2.02	0.41
1:A:608:A:H2'	1:A:609:A:O4'	2.20	0.41
3:C:131:ARG:HD3	3:C:135:ARG:NH2	2.36	0.41
1:A:1399:C:H4'	1:A:1400:C:C5'	2.51	0.41
20:T:19:HIS:HD2	20:T:20:ASN:HD22	1.67	0.41
5:E:31:SER:OG	5:E:32:PHE:N	2.54	0.41
1:A:1247:U:O2'	1:A:1248:A:H5'	2.21	0.41
4:D:67:LEU:HA	4:D:67:LEU:HD23	1.83	0.41
18:R:50:TYR:HA	18:R:53:GLN:NE2	2.36	0.41
1:A:46:G:H2'	1:A:366:A:N7	2.36	0.41
1:A:1320:C:N4	19:S:35:ARG:HB2	2.36	0.41
1:A:939:G:N1	1:A:940:C:N3	2.69	0.41
4:D:7:LYS:HZ3	4:D:21:LYS:HD2	1.86	0.41
13:M:10:ASP:OD1	13:M:11:HIS:N	2.53	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:33:ARG:HD3	21:U:34:ARG:CB	2.50	0.41
4:D:187:ARG:HH12	4:D:191:SER:CB	2.34	0.41
1:A:87:C:O3'	1:A:88:U:O4'	2.38	0.41
20:T:29:THR:HA	20:T:32:LYS:HG2	2.04	0.41
1:A:840:C:O2	1:A:847:G:N2	2.54	0.41
5:E:136:VAL:HG23	5:E:140:ILE:HD11	2.02	0.41
1:A:1129:C:C2'	1:A:1139:G:N7	2.84	0.41
1:A:376:G:C5	1:A:377:G:N7	2.89	0.41
1:A:452:A:C3'	1:A:452:A:C8	3.03	0.41
11:K:45:THR:O	11:K:48:GLY:N	2.54	0.41
1:A:710:G:N2	1:A:711:G:H1'	2.36	0.41
11:K:23:HIS:O	11:K:29:THR:HA	2.20	0.41
11:K:89:GLY:O	11:K:90:PRO:C	2.59	0.41
1:A:1373:G:C5'	7:G:35:LYS:HB2	2.51	0.41
2:B:19:THR:O	2:B:20:ARG:NH2	2.53	0.41
1:A:585:G:OP1	17:Q:38:LYS:HE3	2.21	0.41
1:A:585:G:H1'	1:A:879:C:H5''	2.03	0.41
17:Q:51:GLU:O	17:Q:52:CYS:O	2.38	0.41
1:A:10:A:OP2	5:E:130:THR:HG21	2.21	0.41
1:A:1118:U:H2'	1:A:1119:C:C6	2.55	0.41
1:A:603:U:C2'	1:A:604:G:O5'	2.69	0.41
3:C:32:LEU:O	3:C:35:ASP:HB2	2.20	0.41
1:A:1021:A:C2'	1:A:1022:A:H5''	2.50	0.41
13:M:51:GLN:O	13:M:55:LEU:CD1	2.68	0.41
8:H:17:GLN:HE21	8:H:71:VAL:HG23	1.86	0.41
22:V:5:G:N3	22:V:69:G:N2	2.68	0.41
15:O:2:LEU:HD12	15:O:2:LEU:HA	1.87	0.41
1:A:274:A:H4'	1:A:275:G:OP1	2.18	0.41
13:M:39:ALA:HB3	13:M:42:VAL:HG13	2.02	0.41
2:B:25:LYS:CE	2:B:193:ASP:OD2	2.69	0.41
19:S:9:PHE:CD1	19:S:10:ILE:N	2.90	0.40
5:E:38:VAL:CG2	5:E:70:MET:CE	2.99	0.40
1:A:1167:A:O2'	1:A:1168:U:C4	2.74	0.40
1:A:1524:C:O5'	1:A:1524:C:H6	2.03	0.40
1:A:189:A:H2'	1:A:190:A:H5'	2.04	0.40
1:A:1239:A:N6	1:A:1299:A:N6	2.70	0.40
1:A:738:C:H2'	1:A:739:C:C5	2.54	0.40
9:I:46:VAL:O	9:I:49:GLN:HB2	2.21	0.40
1:A:202:G:H2'	1:A:203:G:O4'	2.21	0.40
2:B:110:ILE:O	2:B:111:LYS:C	2.60	0.40
6:F:40:GLU:CB	6:F:42:TRP:HE1	2.34	0.40
12:L:62:VAL:HG23	12:L:63:THR:N	2.36	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:14:ALA:C	14:N:16:ALA:N	2.74	0.40
1:A:844:G:OP2	1:A:844:G:C5	2.74	0.40
9:I:13:SER:O	9:I:68:GLY:HA3	2.21	0.40
1:A:156:C:C4	1:A:157:U:C4	3.09	0.40
21:U:13:VAL:C	21:U:15:LEU:HG	2.42	0.40
4:D:173:ASP:CG	4:D:176:LYS:HE2	2.42	0.40
1:A:1319:A:H5'	19:S:4:LEU:HD13	2.03	0.40
1:A:1089:G:N2	1:A:1090:U:H1'	2.35	0.40
7:G:87:PRO:HB3	7:G:144:ALA:HB2	2.03	0.40
1:A:1486:G:C2	1:A:1487:G:N3	2.89	0.40
1:A:542:G:C2	1:A:543:U:C5	3.10	0.40
17:Q:31:PRO:C	17:Q:32:ILE:HD12	2.41	0.40
1:A:322:C:O3'	20:T:17:ARG:CG	2.69	0.40
9:I:33:SER:HB3	9:I:36:GLN:NE2	2.37	0.40
1:A:657:U:O2	15:O:21:THR:CG2	2.68	0.40
6:F:52:ASN:O	6:F:53:LYS:HB2	2.21	0.40
1:A:1013:G:N2	1:A:1017:U:C2	2.90	0.40
1:A:977:A:C1'	1:A:982:U:O4	2.69	0.40
1:A:984:C:H2'	1:A:985:C:H6	1.86	0.40
17:Q:11:VAL:O	17:Q:12:VAL:HG12	2.20	0.40
7:G:45:ALA:CA	7:G:120:ALA:HB2	2.50	0.40
1:A:734:G:H2'	1:A:735:C:H6	1.87	0.40
1:A:736:C:OP1	18:R:60:ARG:NH1	2.54	0.40
1:A:740:U:O2'	1:A:741:G:C5'	2.69	0.40
20:T:79:THR:O	20:T:82:ILE:N	2.55	0.40
1:A:1131:G:N7	1:A:1132:C:C5	2.90	0.40
1:A:1074:G:C2	1:A:1102:A:C4	3.09	0.40
2:B:170:ILE:O	2:B:171:ALA:C	2.59	0.40
2:B:136:ARG:O	2:B:139:GLU:CG	2.69	0.40
8:H:4:ASP:CG	8:H:7:ALA:HB2	2.41	0.40
3:C:11:LEU:HD13	3:C:17:TRP:CE2	2.56	0.40
21:U:24:LYS:HZ3	21:U:25:ALA:HB2	1.86	0.40
1:A:1505:G:C2'	23:X:15:A:OP2	2.69	0.40
1:A:255:G:H2'	1:A:256:U:C6	2.56	0.40
17:Q:51:GLU:N	17:Q:51:GLU:CD	2.75	0.40
3:C:150:VAL:O	3:C:166:TRP:HA	2.21	0.40
3:C:6:PRO:HB3	3:C:181:ILE:HG21	2.04	0.40
4:D:186:GLU:CB	4:D:189:ASP:OD1	2.69	0.40
15:O:44:GLU:HB3	15:O:45:HIS:CD2	2.56	0.40
4:D:114:ARG:O	4:D:116:LEU:N	2.55	0.40
10:J:89:ARG:O	10:J:90:LEU:HG	2.20	0.40
1:A:457:G:N2	1:A:476:U:C2	2.89	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:293:G:C6	1:A:305:G:N1	2.90	0.40
5:E:35:LEU:HD12	5:E:35:LEU:HA	1.73	0.40
1:A:1244:G:N2	1:A:1294:G:N3	2.70	0.40
1:A:1061:G:O5'	1:A:1061:G:H8	2.05	0.40
1:A:1061:G:C5	1:A:1062:U:C5	3.09	0.40
11:K:125:LYS:O	11:K:126:ARG:HG3	2.21	0.40
5:E:73:VAL:O	5:E:75:LEU:CD1	2.69	0.40
1:A:781:A:N6	1:A:802:A:H1'	2.35	0.40
1:A:64:G:H2'	1:A:64:G:O5'	2.21	0.40
11:K:51:PHE:HB2	11:K:55:ARG:HB2	2.03	0.40
11:K:14:GLN:HE21	11:K:15:VAL:N	2.19	0.40
1:A:739:C:H2'	1:A:740:U:O5'	2.21	0.40
20:T:27:MET:SD	20:T:60:GLN:HG3	2.61	0.40
2:B:134:LEU:HD23	2:B:135:MET:SD	2.61	0.40
10:J:22:THR:C	10:J:25:ILE:HG22	2.42	0.40
10:J:25:ILE:HG21	10:J:74:VAL:HG21	2.04	0.40
6:F:55:HIS:ND1	6:F:55:HIS:N	2.66	0.40
1:A:1129:C:C2	1:A:1139:G:C6	3.09	0.40
14:N:15:LEU:HB3	14:N:55:SER:CA	2.47	0.40
1:A:708:C:H2'	1:A:709:U:H6	1.84	0.40
1:A:109:A:C6	1:A:326:G:C6	3.10	0.40
11:K:109:ILE:CG2	21:U:16:ARG:CD	2.99	0.40
1:A:1415:G:C2	1:A:1486:G:C4	3.08	0.40
8:H:88:LYS:C	8:H:90:GLU:N	2.74	0.40
4:D:168:THR:HG21	4:D:183:ARG:NH2	2.36	0.40
7:G:125:ASP:HB3	7:G:130:LYS:CG	2.52	0.40
2:B:9:LEU:CD2	2:B:11:ALA:HB3	2.51	0.40
1:A:1081:A:C2	1:A:1082:A:C4	3.10	0.40
5:E:132:PRO:HA	5:E:135:VAL:CG1	2.51	0.40
12:L:60:PHE:N	12:L:60:PHE:CD1	2.90	0.40
1:A:1313:U:N3	1:A:1314:C:C5	2.89	0.40
1:A:1324:A:C5	1:A:1325:C:C5	3.09	0.40
9:I:128:LYS:CD	9:I:129:ARG:OXT	2.70	0.40
1:A:952:U:O4	13:M:102:LYS:HG2	2.22	0.40
2:B:93:HIS:CG	2:B:94:ARG:HH21	2.40	0.40
1:A:724:G:C2	1:A:725:G:C8	3.10	0.40
5:E:104:ILE:HD12	5:E:104:ILE:HA	1.96	0.40
1:A:230:G:H2'	1:A:231:U:O4'	2.22	0.40
12:L:21:PRO:C	12:L:23:LEU:N	2.74	0.40
1:A:766:A:H2'	1:A:767:A:O4'	2.21	0.40
1:A:801:U:C2'	1:A:802:A:O5'	2.69	0.40
11:K:15:VAL:HG13	11:K:16:SER:N	2.36	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:46:LEU:O	3:C:49:ALA:HB3	2.22	0.40
9:I:29:ILE:CD1	9:I:37:TYR:CD2	3.05	0.40
16:P:32:PHE:CD1	16:P:32:PHE:O	2.74	0.40
2:B:124:THR:O	2:B:125:PHE:HB3	2.21	0.40
10:J:35:GLN:OE1	10:J:78:GLU:HB2	2.22	0.40
1:A:1028:C:C5	1:A:1034:G:N2	2.89	0.40
1:A:386:C:H2'	1:A:387:U:C5'	2.52	0.40
3:C:11:LEU:HD23	3:C:11:LEU:HA	1.84	0.40
12:L:2:THR:C	12:L:4:ASN:N	2.75	0.40
1:A:560:A:C8	1:A:566:G:C4	3.09	0.40
1:A:644:U:C5'	8:H:83:ARG:HH12	2.31	0.40
3:C:7:ASN:C	3:C:9:ILE:N	2.73	0.40
1:A:1158:C:C2'	1:A:1158:C:O2	2.67	0.40
4:D:114:ARG:O	4:D:115:GLN:C	2.59	0.40
1:A:1417:G:C6	1:A:1482:G:C6	3.10	0.40
12:L:113:ARG:HD2	12:L:118:VAL:HG12	2.04	0.40
1:A:1226:C:P	13:M:89:ARG:HH22	2.44	0.40
13:M:106:ARG:HD2	13:M:112:ARG:CZ	2.52	0.40
13:M:32:ILE:HD13	13:M:58:GLU:CB	2.51	0.40
13:M:79:LEU:O	13:M:80:MET:O	2.38	0.40
19:S:9:PHE:O	19:S:38:THR:OG1	2.39	0.40
1:A:1234:C:H2'	1:A:1235:U:C5'	2.49	0.40
13:M:6:ILE:O	13:M:7:ASN:C	2.59	0.40
5:E:12:GLU:OE2	5:E:63:MET:HE3	2.21	0.40
1:A:69:G:N3	1:A:70:U:C5	2.90	0.40
20:T:79:THR:HG22	20:T:80:ALA:N	2.36	0.40
11:K:22:ILE:HG21	11:K:95:THR:CG2	2.51	0.40
9:I:5:TYR:CD1	9:I:20:ILE:HG22	2.56	0.40
9:I:50:PRO:HB3	9:I:83:THR:HG23	2.03	0.40
10:J:35:GLN:C	10:J:36:VAL:HG23	2.42	0.40
10:J:71:LEU:HA	10:J:71:LEU:HD13	1.90	0.40
21:U:7:GLU:C	21:U:11:PHE:HE2	2.24	0.40
1:A:707:U:OP1	11:K:86:LYS:CE	2.70	0.40
20:T:5:SER:O	20:T:7:LYS:HG2	2.22	0.40
3:C:86:LEU:O	3:C:87:ARG:C	2.60	0.40
1:A:474:G:C4	1:A:475:C:C5	3.09	0.40
14:N:43:ASN:O	14:N:47:LYS:HG3	2.22	0.40
11:K:109:ILE:HG22	21:U:16:ARG:NH1	2.37	0.40
3:C:166:TRP:O	3:C:166:TRP:HE3	2.04	0.40
1:A:401:C:H2'	1:A:402:G:H8	1.86	0.40
1:A:235:C:H2'	1:A:236:A:C8	2.56	0.40
1:A:692:U:H5	11:K:27:ASN:HD22	1.68	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1473:G:C2'	1:A:1474:U:H5'	2.52	0.40
13:M:47:LEU:HD23	13:M:48:SER:N	2.36	0.40
2:B:14:HIS:HD2	2:B:208:ALA:HB2	1.86	0.40
1:A:1037:C:H6	1:A:1037:C:OP2	2.03	0.40
3:C:61:LYS:CA	3:C:61:LYS:HE3	2.52	0.40
7:G:24:LYS:HB3	7:G:100:MET:HE3	2.03	0.40
1:A:491:G:H2'	1:A:492:C:H6	1.86	0.40
8:H:11:THR:HG23	8:H:14:ARG:HH12	1.87	0.40
18:R:47:ARG:HD2	18:R:47:ARG:N	2.36	0.40
8:H:68:LYS:HE2	8:H:72:GLU:OE2	2.20	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	B	216/218 (99%)	112 (52%)	49 (23%)	55 (26%)	0	0
3	C	204/206 (99%)	126 (62%)	47 (23%)	31 (15%)	0	1
4	D	203/205 (99%)	136 (67%)	36 (18%)	31 (15%)	0	1
5	E	148/150 (99%)	90 (61%)	31 (21%)	27 (18%)	0	1
6	F	98/100 (98%)	54 (55%)	23 (24%)	21 (21%)	0	0
7	G	149/151 (99%)	79 (53%)	46 (31%)	24 (16%)	0	1
8	H	127/129 (98%)	82 (65%)	32 (25%)	13 (10%)	1	4
9	I	125/127 (98%)	77 (62%)	33 (26%)	15 (12%)	1	2
10	J	96/98 (98%)	64 (67%)	14 (15%)	18 (19%)	0	1
11	K	115/117 (98%)	81 (70%)	19 (16%)	15 (13%)	0	2
12	L	121/123 (98%)	91 (75%)	16 (13%)	14 (12%)	1	3
13	M	112/114 (98%)	65 (58%)	24 (21%)	23 (20%)	0	0
14	N	92/100 (92%)	39 (42%)	30 (33%)	23 (25%)	0	0
15	O	86/88 (98%)	52 (60%)	17 (20%)	17 (20%)	0	0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
16	P	80/82 (98%)	47 (59%)	22 (28%)	11 (14%)	0	2
17	Q	78/80 (98%)	48 (62%)	18 (23%)	12 (15%)	0	1
18	R	53/55 (96%)	31 (58%)	19 (36%)	3 (6%)	3	16
19	S	77/79 (98%)	56 (73%)	14 (18%)	7 (9%)	1	5
20	T	83/85 (98%)	46 (55%)	23 (28%)	14 (17%)	0	1
21	U	49/51 (96%)	22 (45%)	10 (20%)	17 (35%)	0	0
All	All	2312/2358 (98%)	1398 (60%)	523 (23%)	391 (17%)	0	1

All (391) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	9	LEU
2	B	15	PHE
2	B	21	TYR
2	B	35	ASN
2	B	56	LEU
2	B	58	LYS
2	B	62	ARG
2	B	73	ARG
2	B	99	MET
2	B	115	ASP
2	B	120	SER
2	B	125	PHE
2	B	133	ALA
2	B	139	GLU
2	B	140	LEU
2	B	150	ILE
2	B	221	ARG
3	C	11	LEU
3	C	16	PRO
3	C	53	ARG
3	C	63	ILE
3	C	81	GLU
3	C	100	ILE
3	C	102	ILE
3	C	140	ALA
3	C	145	ALA
3	C	155	ARG
3	C	171	ARG
3	C	190	THR

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Mol	Chain	Res	Type
4	D	25	ARG
4	D	26	ALA
4	D	32	LYS
4	D	34	GLU
4	D	35	GLN
4	D	36	ALA
4	D	110	ARG
4	D	163	GLN
4	D	166	LYS
4	D	173	ASP
4	D	191	SER
5	E	11	GLN
5	E	50	GLY
5	E	67	ARG
5	E	97	PRO
5	E	100	GLU
5	E	101	GLY
5	E	102	THR
5	E	122	VAL
5	E	137	ARG
5	E	154	ALA
6	F	15	SER
6	F	27	ALA
6	F	33	GLU
6	F	54	LEU
6	F	55	HIS
6	F	86	ARG
6	F	91	ARG
6	F	92	THR
6	F	93	LYS
6	F	98	GLU
7	G	8	GLN
7	G	56	SER
7	G	69	ARG
7	G	126	ALA
7	G	129	ASN
8	H	30	LYS
8	H	49	LYS
8	H	66	GLN
8	H	77	VAL
8	H	88	LYS
9	I	38	PHE

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Mol	Chain	Res	Type
9	I	40	ARG
9	I	42	THR
9	I	44	ARG
9	I	54	VAL
9	I	119	LYS
9	I	128	LYS
10	J	7	ARG
10	J	42	LEU
10	J	57	VAL
10	J	59	LYS
10	J	86	ALA
10	J	92	LEU
10	J	93	ALA
11	K	51	PHE
11	K	90	PRO
11	K	124	LYS
11	K	126	ARG
12	L	14	LYS
12	L	43	LYS
12	L	75	GLU
12	L	116	TYR
13	M	10	ASP
13	M	26	LYS
13	M	31	ALA
13	M	65	GLU
13	M	80	MET
13	M	81	ASP
13	M	113	LYS
14	N	10	VAL
14	N	20	PHE
14	N	22	LYS
14	N	28	ALA
14	N	32	ASP
14	N	52	PRO
14	N	59	ARG
14	N	62	ASN
15	O	58	MET
15	O	59	VAL
15	O	74	VAL
15	O	86	LEU
16	P	43	ALA
16	P	44	SER

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Mol	Chain	Res	Type
16	P	80	LYS
17	Q	4	ILE
17	Q	9	GLY
17	Q	11	VAL
17	Q	12	VAL
17	Q	50	ASN
17	Q	51	GLU
17	Q	52	CYS
18	R	46	THR
20	T	3	ILE
20	T	5	SER
20	T	40	ALA
21	U	8	ASN
21	U	11	PHE
21	U	16	ARG
21	U	23	GLU
21	U	35	GLU
21	U	36	PHE
21	U	39	LYS
21	U	45	LYS
2	B	18	GLN
2	B	22	TRP
2	B	32	GLY
2	B	33	ALA
2	B	63	LYS
2	B	72	LYS
2	B	85	SER
2	B	123	GLY
2	B	138	ARG
2	B	154	GLY
2	B	170	ILE
2	B	206	ILE
2	B	208	ALA
2	B	219	THR
2	B	224	ARG
3	C	12	GLY
3	C	13	ILE
3	C	76	ILE
3	C	79	LYS
3	C	88	LYS
3	C	115	VAL
4	D	31	CYS

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Mol	Chain	Res	Type
4	D	33	ILE
4	D	46	ARG
4	D	78	ALA
4	D	161	ALA
4	D	175	GLY
5	E	99	SER
5	E	110	MET
5	E	125	LYS
5	E	129	SER
5	E	153	ALA
5	E	157	GLY
6	F	14	GLN
6	F	52	ASN
6	F	75	GLU
7	G	16	LYS
7	G	28	ILE
7	G	79	VAL
7	G	139	ASP
8	H	21	LYS
8	H	114	ALA
9	I	9	GLY
9	I	90	ASP
9	I	100	ALA
9	I	102	PHE
10	J	17	LEU
10	J	35	GLN
10	J	36	VAL
10	J	100	ILE
11	K	14	GLN
11	K	16	SER
11	K	91	GLY
11	K	103	GLY
11	K	105	ARG
12	L	3	VAL
12	L	16	ALA
12	L	77	SER
12	L	88	ASP
12	L	117	GLY
13	M	4	ALA
13	M	5	GLY
13	M	11	HIS
13	M	19	THR

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Mol	Chain	Res	Type
13	M	40	GLU
13	M	91	ARG
13	M	104	ASN
13	M	110	GLY
14	N	3	GLN
14	N	17	ASP
14	N	27	LYS
14	N	30	ILE
14	N	33	VAL
14	N	42	TRP
14	N	76	LYS
14	N	92	GLU
14	N	100	SER
15	O	2	LEU
15	O	17	ASP
15	O	26	VAL
15	O	27	GLN
15	O	35	ILE
15	O	85	GLY
16	P	31	ARG
16	P	53	ASP
16	P	75	ILE
17	Q	17	GLU
19	S	4	LEU
19	S	5	LYS
19	S	37	SER
19	S	63	ASP
21	U	10	PRO
21	U	12	ASP
21	U	24	LYS
2	B	17	HIS
2	B	50	ASN
2	B	74	ALA
2	B	86	CYS
2	B	94	ARG
2	B	101	THR
2	B	169	HIS
2	B	192	PRO
2	B	204	ASP
2	B	217	ALA
3	C	116	ALA
3	C	138	GLN

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Mol	Chain	Res	Type
4	D	84	ASN
4	D	88	ASN
4	D	104	MET
4	D	172	VAL
5	E	44	ARG
5	E	69	ASN
5	E	121	ASN
5	E	144	GLU
6	F	26	THR
6	F	53	LYS
6	F	69	GLU
7	G	6	ILE
7	G	9	ARG
7	G	15	PRO
7	G	38	ALA
7	G	58	LEU
7	G	81	GLY
7	G	83	THR
8	H	34	ALA
8	H	70	VAL
8	H	112	ASP
9	I	120	ALA
10	J	58	ASN
10	J	75	ASP
11	K	71	ASP
11	K	97	ARG
11	K	98	ALA
12	L	33	CYS
12	L	122	LYS
13	M	51	GLN
13	M	90	HIS
13	M	109	LYS
14	N	8	ARG
14	N	21	ALA
14	N	64	CYS
15	O	25	GLU
15	O	65	LEU
15	O	70	LYS
15	O	72	LYS
16	P	11	ALA
17	Q	61	ARG
20	T	33	LYS

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Mol	Chain	Res	Type
20	T	35	TYR
20	T	68	LYS
20	T	70	LYS
20	T	74	HIS
21	U	20	ARG
21	U	34	ARG
2	B	81	ASP
2	B	134	LEU
2	B	182	VAL
2	B	187	ASP
3	C	47	ALA
3	C	65	VAL
3	C	74	ILE
4	D	41	GLY
4	D	115	GLN
4	D	153	ARG
4	D	174	ALA
4	D	203	TYR
5	E	106	ALA
5	E	112	ALA
5	E	149	PRO
6	F	13	ASP
6	F	62	MET
7	G	27	ASN
7	G	130	LYS
7	G	136	LYS
10	J	29	ALA
11	K	77	GLY
11	K	88	PRO
11	K	118	ASN
12	L	21	PRO
13	M	32	ILE
14	N	15	LEU
14	N	57	PRO
14	N	65	ARG
15	O	45	HIS
17	Q	47	ASP
17	Q	70	LYS
17	Q	79	GLU
18	R	29	LYS
20	T	6	ALA
20	T	50	PHE

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Mol	Chain	Res	Type
2	B	119	GLN
2	B	135	MET
2	B	151	LYS
2	B	211	LEU
3	C	44	LYS
3	C	114	LEU
4	D	49	ASP
4	D	169	TRP
6	F	18	VAL
6	F	94	HIS
7	G	78	ARG
8	H	20	ASN
8	H	32	LYS
9	I	125	GLN
10	J	31	ARG
10	J	90	LEU
12	L	76	HIS
15	O	28	VAL
16	P	10	GLY
16	P	13	LYS
16	P	74	LEU
19	S	22	VAL
19	S	26	ASP
20	T	37	ALA
20	T	54	GLN
20	T	85	LEU
21	U	22	CYS
21	U	52	VAL
2	B	16	GLY
2	B	34	ARG
2	B	87	ASP
3	C	73	GLY
5	E	23	THR
5	E	98	ALA
5	E	132	PRO
7	G	26	VAL
7	G	30	MET
13	M	9	PRO
15	O	24	THR
21	U	26	GLY
21	U	37	TYR
3	C	71	ARG

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Mol	Chain	Res	Type
3	C	75	VAL
3	C	148	ILE
4	D	27	ILE
5	E	107	GLY
10	J	39	PRO
19	S	44	ILE
2	B	172	ILE
4	D	24	VAL
7	G	7	GLY
9	I	71	ILE
10	J	41	PRO
18	R	25	ILE
7	G	92	PRO
9	I	57	VAL
12	L	15	VAL
13	M	59	VAL
3	C	59	PRO
4	D	51	GLY
20	T	82	ILE
2	B	200	PRO
3	C	97	PRO
6	F	29	ILE
8	H	71	VAL
13	M	6	ILE
13	M	64	VAL
16	P	36	VAL

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	
2	B	180/180 (100%)	131 (73%)	49 (27%)	0	3
3	C	170/170 (100%)	123 (72%)	47 (28%)	0	3
4	D	172/172 (100%)	123 (72%)	49 (28%)	0	3
5	E	113/113 (100%)	87 (77%)	26 (23%)	1	6
6	F	87/87 (100%)	61 (70%)	26 (30%)	0	2

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
7	G	124/124 (100%)	85 (68%)	39 (32%)	0	2
8	H	104/104 (100%)	78 (75%)	26 (25%)	1	4
9	I	105/105 (100%)	67 (64%)	38 (36%)	0	1
10	J	86/86 (100%)	61 (71%)	25 (29%)	0	2
11	K	90/90 (100%)	67 (74%)	23 (26%)	1	4
12	L	103/103 (100%)	75 (73%)	28 (27%)	0	3
13	M	92/92 (100%)	71 (77%)	21 (23%)	1	6
14	N	79/83 (95%)	60 (76%)	19 (24%)	1	5
15	O	76/76 (100%)	60 (79%)	16 (21%)	1	8
16	P	65/65 (100%)	48 (74%)	17 (26%)	1	4
17	Q	74/74 (100%)	47 (64%)	27 (36%)	0	1
18	R	48/48 (100%)	40 (83%)	8 (17%)	3	16
19	S	70/70 (100%)	53 (76%)	17 (24%)	1	5
20	T	65/65 (100%)	47 (72%)	18 (28%)	0	3
21	U	44/44 (100%)	26 (59%)	18 (41%)	0	0
All	All	1947/1951 (100%)	1410 (72%)	537 (28%)	0	3

All (537) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	13	VAL
2	B	14	HIS
2	B	15	PHE
2	B	17	HIS
2	B	18	GLN
2	B	19	THR
2	B	23	ASN
2	B	26	MET
2	B	27	LYS
2	B	34	ARG
2	B	39	ILE
2	B	42	LEU
2	B	48	MET
2	B	49	PHE
2	B	50	ASN
2	B	56	LEU
2	B	62	ARG

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Mol	Chain	Res	Type
2	B	65	LYS
2	B	67	LEU
2	B	80	LYS
2	B	81	ASP
2	B	87	ASP
2	B	88	GLN
2	B	90	PHE
2	B	91	VAL
2	B	93	HIS
2	B	94	ARG
2	B	95	TRP
2	B	100	LEU
2	B	105	THR
2	B	116	LEU
2	B	125	PHE
2	B	129	THR
2	B	132	GLU
2	B	135	MET
2	B	138	ARG
2	B	142	LYS
2	B	143	LEU
2	B	162	VAL
2	B	163	ILE
2	B	169	HIS
2	B	173	LYS
2	B	187	ASP
2	B	195	VAL
2	B	196	ASP
2	B	206	ILE
2	B	209	VAL
2	B	219	THR
2	B	221	ARG
3	C	2	GLN
3	C	14	VAL
3	C	15	LYS
3	C	17	TRP
3	C	25	THR
3	C	26	LYS
3	C	28	PHE
3	C	32	LEU
3	C	36	PHE
3	C	42	LEU

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Mol	Chain	Res	Type
3	C	44	LYS
3	C	45	GLU
3	C	52	SER
3	C	55	VAL
3	C	57	GLU
3	C	69	THR
3	C	79	LYS
3	C	93	ILE
3	C	102	ILE
3	C	106	ARG
3	C	110	LEU
3	C	111	ASP
3	C	118	SER
3	C	120	THR
3	C	128	MET
3	C	130	ARG
3	C	131	ARG
3	C	139	ASN
3	C	143	LEU
3	C	146	LYS
3	C	148	ILE
3	C	150	VAL
3	C	151	GLU
3	C	166	TRP
3	C	167	TYR
3	C	169	GLU
3	C	174	LEU
3	C	175	HIS
3	C	177	LEU
3	C	178	ARG
3	C	184	ASN
3	C	189	HIS
3	C	191	THR
3	C	192	TYR
3	C	199	VAL
3	C	200	TRP
3	C	201	ILE
4	D	4	LEU
4	D	7	LYS
4	D	8	LEU
4	D	27	ILE
4	D	28	ASP

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Mol	Chain	Res	Type
4	D	30	LYS
4	D	31	CYS
4	D	32	LYS
4	D	46	ARG
4	D	53	GLN
4	D	54	LEU
4	D	55	ARG
4	D	57	LYS
4	D	58	GLN
4	D	62	ARG
4	D	66	VAL
4	D	68	GLU
4	D	80	ARG
4	D	82	LYS
4	D	85	THR
4	D	89	LEU
4	D	90	LEU
4	D	92	LEU
4	D	97	LEU
4	D	99	ASN
4	D	101	VAL
4	D	109	THR
4	D	115	GLN
4	D	116	LEU
4	D	119	HIS
4	D	124	VAL
4	D	127	ARG
4	D	128	VAL
4	D	131	ILE
4	D	137	SER
4	D	142	VAL
4	D	146	GLU
4	D	151	GLN
4	D	160	LEU
4	D	162	GLU
4	D	170	LEU
4	D	177	MET
4	D	178	GLU
4	D	183	ARG
4	D	190	LEU
4	D	197	HIS
4	D	199	ILE

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Mol	Chain	Res	Type
4	D	202	LEU
4	D	205	LYS
5	E	9	GLU
5	E	14	LEU
5	E	17	VAL
5	E	24	VAL
5	E	25	LYS
5	E	28	ARG
5	E	45	VAL
5	E	68	ARG
5	E	72	ASN
5	E	76	ASN
5	E	79	THR
5	E	80	LEU
5	E	92	ARG
5	E	96	GLN
5	E	100	GLU
5	E	111	ARG
5	E	113	VAL
5	E	114	LEU
5	E	119	VAL
5	E	125	LYS
5	E	130	THR
5	E	136	VAL
5	E	139	THR
5	E	151	MET
5	E	155	LYS
5	E	156	ARG
6	F	1	MET
6	F	2	ARG
6	F	5	GLU
6	F	7	VAL
6	F	8	PHE
6	F	9	MET
6	F	10	VAL
6	F	23	GLU
6	F	24	ARG
6	F	29	ILE
6	F	35	LYS
6	F	36	ILE
6	F	38	ARG
6	F	39	LEU

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Mol	Chain	Res	Type
6	F	51	ILE
6	F	53	LYS
6	F	54	LEU
6	F	55	HIS
6	F	63	ASN
6	F	69	GLU
6	F	73	GLU
6	F	77	THR
6	F	87	SER
6	F	91	ARG
6	F	93	LYS
6	F	97	THR
7	G	2	ARG
7	G	4	ARG
7	G	5	VAL
7	G	8	GLN
7	G	11	ILE
7	G	21	LEU
7	G	22	LEU
7	G	25	PHE
7	G	29	LEU
7	G	35	LYS
7	G	46	LEU
7	G	47	GLU
7	G	49	LEU
7	G	52	ARG
7	G	58	LEU
7	G	61	PHE
7	G	65	LEU
7	G	69	ARG
7	G	72	VAL
7	G	74	VAL
7	G	76	SER
7	G	77	ARG
7	G	83	THR
7	G	86	VAL
7	G	89	GLU
7	G	90	VAL
7	G	94	ARG
7	G	96	ASN
7	G	108	ARG
7	G	110	ARG

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Mol	Chain	Res	Type
7	G	119	LEU
7	G	125	ASP
7	G	128	GLU
7	G	129	ASN
7	G	134	VAL
7	G	137	ARG
7	G	139	ASP
7	G	143	MET
7	G	145	GLU
8	H	2	MET
8	H	10	LEU
8	H	12	ARG
8	H	21	LYS
8	H	29	SER
8	H	30	LYS
8	H	41	GLU
8	H	46	GLU
8	H	48	PHE
8	H	53	ASP
8	H	58	LEU
8	H	62	LEU
8	H	64	TYR
8	H	65	PHE
8	H	66	GLN
8	H	73	SER
8	H	74	ILE
8	H	76	ARG
8	H	79	ARG
8	H	86	LYS
8	H	100	ILE
8	H	103	VAL
8	H	111	THR
8	H	116	ARG
8	H	120	LEU
8	H	124	ILE
9	I	8	THR
9	I	10	ARG
9	I	11	ARG
9	I	17	ARG
9	I	27	ILE
9	I	28	VAL
9	I	31	GLN

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Mol	Chain	Res	Type
9	I	32	ARG
9	I	35	GLU
9	I	42	THR
9	I	44	ARG
9	I	45	MET
9	I	47	VAL
9	I	48	ARG
9	I	53	LEU
9	I	55	ASP
9	I	56	MET
9	I	58	GLU
9	I	59	LYS
9	I	60	LEU
9	I	62	LEU
9	I	65	THR
9	I	67	LYS
9	I	84	ARG
9	I	87	MET
9	I	88	GLU
9	I	89	TYR
9	I	92	SER
9	I	93	LEU
9	I	96	GLU
9	I	98	ARG
9	I	104	THR
9	I	105	ARG
9	I	115	VAL
9	I	119	LYS
9	I	125	GLN
9	I	126	PHE
9	I	128	LYS
10	J	9	ARG
10	J	10	LEU
10	J	22	THR
10	J	25	ILE
10	J	27	GLU
10	J	32	THR
10	J	35	GLN
10	J	42	LEU
10	J	45	ARG
10	J	48	ARG
10	J	50	THR

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Mol	Chain	Res	Type
10	J	58	ASN
10	J	59	LYS
10	J	63	ASP
10	J	64	GLN
10	J	66	GLU
10	J	73	LEU
10	J	77	VAL
10	J	78	GLU
10	J	80	THR
10	J	83	THR
10	J	84	VAL
10	J	87	LEU
10	J	89	ARG
10	J	92	LEU
11	K	14	GLN
11	K	26	PHE
11	K	30	ILE
11	K	32	THR
11	K	41	LEU
11	K	45	THR
11	K	63	GLN
11	K	64	VAL
11	K	71	ASP
11	K	76	TYR
11	K	80	ASN
11	K	81	LEU
11	K	82	GLU
11	K	95	THR
11	K	99	LEU
11	K	100	ASN
11	K	104	PHE
11	K	105	ARG
11	K	106	ILE
11	K	113	THR
11	K	124	LYS
11	K	125	LYS
11	K	127	ARG
12	L	3	VAL
12	L	4	ASN
12	L	5	GLN
12	L	9	LYS
12	L	11	ARG

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Mol	Chain	Res	Type
12	L	15	VAL
12	L	17	LYS
12	L	19	ASN
12	L	20	VAL
12	L	21	PRO
12	L	28	GLN
12	L	30	ARG
12	L	35	ARG
12	L	43	LYS
12	L	51	VAL
12	L	57	THR
12	L	58	ASN
12	L	73	LEU
12	L	74	GLN
12	L	81	ILE
12	L	85	ARG
12	L	89	LEU
12	L	92	VAL
12	L	93	ARG
12	L	101	LEU
12	L	109	ARG
12	L	114	SER
12	L	120	ARG
13	M	6	ILE
13	M	20	SER
13	M	24	VAL
13	M	28	ARG
13	M	30	LYS
13	M	33	LEU
13	M	40	GLU
13	M	47	LEU
13	M	52	ILE
13	M	53	ASP
13	M	55	LEU
13	M	59	VAL
13	M	62	PHE
13	M	67	ASP
13	M	71	GLU
13	M	79	LEU
13	M	86	ARG
13	M	89	ARG
13	M	90	HIS

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Mol	Chain	Res	Type
13	M	96	VAL
13	M	100	ARG
14	N	3	GLN
14	N	9	GLU
14	N	12	ARG
14	N	15	LEU
14	N	19	TYR
14	N	22	LYS
14	N	25	GLU
14	N	27	LYS
14	N	31	SER
14	N	32	ASP
14	N	34	ASN
14	N	43	ASN
14	N	48	LEU
14	N	51	LEU
14	N	60	GLN
14	N	71	HIS
14	N	77	PHE
14	N	85	ARG
14	N	90	ARG
15	O	3	SER
15	O	5	GLU
15	O	16	ARG
15	O	21	THR
15	O	25	GLU
15	O	34	GLN
15	O	38	LEU
15	O	47	LYS
15	O	61	GLN
15	O	62	ARG
15	O	63	ARG
15	O	69	LEU
15	O	78	THR
15	O	84	LEU
15	O	86	LEU
15	O	87	ARG
16	P	1	MET
16	P	2	VAL
16	P	3	THR
16	P	8	ARG
16	P	17	TYR

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Mol	Chain	Res	Type
16	P	19	VAL
16	P	26	ASN
16	P	34	GLU
16	P	36	VAL
16	P	39	PHE
16	P	46	LYS
16	P	48	GLU
16	P	51	ARG
16	P	63	GLN
16	P	69	ASP
16	P	74	LEU
16	P	80	LYS
17	Q	3	LYS
17	Q	4	ILE
17	Q	6	THR
17	Q	7	LEU
17	Q	8	GLN
17	Q	10	ARG
17	Q	16	MET
17	Q	17	GLU
17	Q	22	VAL
17	Q	26	ARG
17	Q	27	PHE
17	Q	28	VAL
17	Q	39	ARG
17	Q	47	ASP
17	Q	50	ASN
17	Q	51	GLU
17	Q	54	ILE
17	Q	58	VAL
17	Q	64	ARG
17	Q	69	THR
17	Q	73	THR
17	Q	74	LEU
17	Q	75	VAL
17	Q	77	VAL
17	Q	78	VAL
17	Q	80	LYS
17	Q	82	VAL
18	R	20	ILE
18	R	24	ASP
18	R	28	LEU

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Mol	Chain	Res	Type
18	R	32	ILE
18	R	38	ILE
18	R	46	THR
18	R	47	ARG
18	R	54	LEU
19	S	5	LYS
19	S	6	LYS
19	S	10	ILE
19	S	11	ASP
19	S	12	LEU
19	S	13	HIS
19	S	15	LEU
19	S	22	VAL
19	S	24	SER
19	S	27	LYS
19	S	32	THR
19	S	36	ARG
19	S	38	THR
19	S	48	ILE
19	S	55	GLN
19	S	57	VAL
19	S	65	MET
20	T	4	LYS
20	T	7	LYS
20	T	9	ARG
20	T	11	ILE
20	T	14	GLU
20	T	18	LYS
20	T	20	ASN
20	T	26	MET
20	T	28	ARG
20	T	35	TYR
20	T	38	ILE
20	T	48	LYS
20	T	53	MET
20	T	63	LYS
20	T	66	ILE
20	T	75	LYS
20	T	77	ASN
20	T	78	LEU
21	U	4	LYS
21	U	7	GLU

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Mol	Chain	Res	Type
21	U	8	ASN
21	U	11	PHE
21	U	13	VAL
21	U	15	LEU
21	U	16	ARG
21	U	18	PHE
21	U	19	LYS
21	U	21	SER
21	U	27	VAL
21	U	33	ARG
21	U	35	GLU
21	U	36	PHE
21	U	37	TYR
21	U	42	THR
21	U	46	ARG
21	U	48	LYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (52) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	17	HIS
2	B	38	HIS
2	B	50	ASN
2	B	93	HIS
2	B	169	HIS
2	B	202	ASN
3	C	5	HIS
3	C	122	GLN
3	C	175	HIS
4	D	119	HIS
4	D	139	ASN
4	D	197	HIS
5	E	60	GLN
5	E	96	GLN
6	F	17	GLN
6	F	52	ASN
6	F	63	ASN
7	G	67	ASN
7	G	129	ASN
8	H	17	GLN
8	H	66	GLN
9	I	24	ASN

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Mol	Chain	Res	Type
9	I	125	GLN
10	J	20	GLN
10	J	64	GLN
10	J	70	HIS
10	J	99	GLN
11	K	14	GLN
11	K	23	HIS
11	K	27	ASN
11	K	39	ASN
12	L	4	ASN
12	L	19	ASN
12	L	58	ASN
12	L	72	ASN
13	M	90	HIS
14	N	71	HIS
15	O	34	GLN
15	O	61	GLN
16	P	26	ASN
16	P	79	ASN
17	Q	8	GLN
17	Q	30	HIS
17	Q	46	HIS
18	R	51	GLN
18	R	53	GLN
19	S	56	HIS
19	S	68	HIS
20	T	19	HIS
20	T	20	ASN
20	T	60	GLN
20	T	67	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1538/1539 (99%)	445 (28%)	20 (1%)
22	V	75/76 (98%)	15 (20%)	1 (1%)
23	X	15/16 (93%)	4 (26%)	0
All	All	1628/1631 (99%)	464 (28%)	21 (1%)

All (464) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	4	U
1	A	5	U
1	A	6	G
1	A	7	A
1	A	8	A
1	A	9	G
1	A	19	A
1	A	32	A
1	A	39	G
1	A	47	C
1	A	48	C
1	A	51	A
1	A	52	C
1	A	62	U
1	A	63	C
1	A	68	G
1	A	70	U
1	A	71	A
1	A	74	A
1	A	78	A
1	A	81	A
1	A	83	C
1	A	84	U
1	A	85	U
1	A	87	C
1	A	88	U
1	A	89	U
1	A	91	U
1	A	92	U
1	A	97	G
1	A	99	C
1	A	102	G
1	A	108	G
1	A	116	A
1	A	120	A
1	A	121	U
1	A	122	G
1	A	127	G
1	A	130	A
1	A	131	A
1	A	138	G
1	A	142	G
1	A	143	A

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Mol	Chain	Res	Type
1	A	144	G
1	A	150	U
1	A	151	A
1	A	154	U
1	A	155	A
1	A	156	C
1	A	157	U
1	A	159	G
1	A	161	A
1	A	163	C
1	A	168	G
1	A	176	C
1	A	177	G
1	A	179	A
1	A	181	A
1	A	182	A
1	A	183	C
1	A	184	G
1	A	187	G
1	A	189	A
1	A	190	A
1	A	193	C
1	A	195	A
1	A	197	A
1	A	200	G
1	A	201	G
1	A	204	G
1	A	205	A
1	A	206	C
1	A	207	C
1	A	208	U
1	A	209	U
1	A	210	C
1	A	211	G
1	A	212	G
1	A	213	G
1	A	214	C
1	A	223	A
1	A	240	G
1	A	244	U
1	A	245	U
1	A	247	G

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Mol	Chain	Res	Type
1	A	249	U
1	A	251	G
1	A	253	A
1	A	266	G
1	A	267	C
1	A	269	C
1	A	275	G
1	A	279	A
1	A	289	G
1	A	298	A
1	A	308	C
1	A	309	A
1	A	317	U
1	A	318	G
1	A	320	A
1	A	321	A
1	A	328	C
1	A	329	A
1	A	330	C
1	A	332	G
1	A	333	U
1	A	339	C
1	A	341	C
1	A	349	A
1	A	352	C
1	A	354	G
1	A	367	U
1	A	369	G
1	A	370	C
1	A	372	C
1	A	373	A
1	A	378	G
1	A	383	A
1	A	398	U
1	A	406	G
1	A	409	U
1	A	411	A
1	A	412	A
1	A	413	G
1	A	421	U
1	A	422	C
1	A	423	G

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Mol	Chain	Res	Type
1	A	429	U
1	A	430	A
1	A	436	C
1	A	440	C
1	A	456	A
1	A	458	U
1	A	461	A
1	A	462	G
1	A	463	U
1	A	464	U
1	A	466	A
1	A	467	U
1	A	468	A
1	A	469	C
1	A	474	G
1	A	477	C
1	A	478	A
1	A	481	G
1	A	482	A
1	A	484	G
1	A	485	U
1	A	486	U
1	A	494	G
1	A	495	A
1	A	497	G
1	A	498	A
1	A	499	A
1	A	500	G
1	A	506	G
1	A	511	C
1	A	518	C
1	A	519	C
1	A	524	G
1	A	526	C
1	A	527	G
1	A	530	G
1	A	531	U
1	A	532	A
1	A	533	A
1	A	537	G
1	A	545	C
1	A	547	A

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Mol	Chain	Res	Type
1	A	550	G
1	A	557	G
1	A	558	G
1	A	559	A
1	A	560	A
1	A	562	U
1	A	563	A
1	A	568	G
1	A	572	A
1	A	573	A
1	A	576	C
1	A	579	A
1	A	580	C
1	A	581	G
1	A	582	C
1	A	595	A
1	A	614	C
1	A	627	G
1	A	628	G
1	A	633	G
1	A	638	U
1	A	641	U
1	A	650	G
1	A	653	U
1	A	660	C
1	A	665	A
1	A	674	G
1	A	675	A
1	A	683	G
1	A	684	U
1	A	685	G
1	A	694	A
1	A	695	A
1	A	700	G
1	A	702	A
1	A	710	G
1	A	713	G
1	A	718	A
1	A	719	C
1	A	720	C
1	A	721	G
1	A	723	U

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Mol	Chain	Res	Type
1	A	724	G
1	A	731	G
1	A	733	G
1	A	734	G
1	A	745	G
1	A	752	G
1	A	755	G
1	A	764	C
1	A	765	G
1	A	766	A
1	A	776	G
1	A	777	A
1	A	778	G
1	A	784	A
1	A	785	G
1	A	792	A
1	A	793	U
1	A	794	A
1	A	798	U
1	A	802	A
1	A	805	C
1	A	809	G
1	A	815	A
1	A	817	C
1	A	819	A
1	A	820	U
1	A	827	U
1	A	828	U
1	A	833	G
1	A	841	C
1	A	842	U
1	A	843	U
1	A	844	G
1	A	845	A
1	A	846	G
1	A	847	G
1	A	849	G
1	A	858	G
1	A	870	U
1	A	872	A
1	A	874	G
1	A	876	C

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Mol	Chain	Res	Type
1	A	885	G
1	A	914	A
1	A	918	A
1	A	921	U
1	A	926	G
1	A	927	G
1	A	930	C
1	A	934	C
1	A	935	A
1	A	958	A
1	A	960	U
1	A	966	G
1	A	968	A
1	A	969	A
1	A	970	C
1	A	971	G
1	A	972	C
1	A	975	A
1	A	976	G
1	A	977	A
1	A	983	A
1	A	988	G
1	A	989	U
1	A	992	U
1	A	993	G
1	A	995	C
1	A	996	A
1	A	1003	G
1	A	1004	A
1	A	1008	U
1	A	1009	U
1	A	1017	U
1	A	1018	G
1	A	1020	G
1	A	1022	A
1	A	1025	U
1	A	1026	G
1	A	1027	C
1	A	1028	C
1	A	1030	U
1	A	1031	C
1	A	1032	G

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Mol	Chain	Res	Type
1	A	1033	G
1	A	1034	G
1	A	1037	C
1	A	1039	G
1	A	1043	G
1	A	1044	A
1	A	1049	U
1	A	1050	G
1	A	1054	C
1	A	1056	U
1	A	1057	G
1	A	1059	C
1	A	1065	U
1	A	1066	C
1	A	1073	U
1	A	1079	G
1	A	1080	A
1	A	1081	A
1	A	1084	G
1	A	1086	U
1	A	1087	G
1	A	1089	G
1	A	1094	G
1	A	1095	U
1	A	1100	C
1	A	1101	A
1	A	1102	A
1	A	1103	C
1	A	1105	A
1	A	1107	C
1	A	1116	U
1	A	1122	U
1	A	1124	G
1	A	1125	U
1	A	1132	C
1	A	1133	G
1	A	1134	G
1	A	1135	U
1	A	1136	C
1	A	1137	C
1	A	1138	G
1	A	1139	G

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Mol	Chain	Res	Type
1	A	1140	C
1	A	1141	C
1	A	1142	G
1	A	1145	A
1	A	1154	G
1	A	1155	A
1	A	1158	C
1	A	1159	U
1	A	1160	G
1	A	1161	C
1	A	1167	A
1	A	1171	A
1	A	1176	A
1	A	1180	A
1	A	1183	U
1	A	1184	G
1	A	1192	C
1	A	1196	A
1	A	1197	A
1	A	1200	C
1	A	1201	A
1	A	1202	U
1	A	1203	C
1	A	1212	U
1	A	1213	A
1	A	1227	A
1	A	1238	A
1	A	1240	U
1	A	1243	C
1	A	1247	U
1	A	1253	G
1	A	1257	A
1	A	1263	C
1	A	1264	U
1	A	1275	A
1	A	1276	G
1	A	1280	A
1	A	1283	U
1	A	1285	A
1	A	1286	U
1	A	1287	A
1	A	1292	G

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Mol	Chain	Res	Type
1	A	1293	C
1	A	1298	U
1	A	1299	A
1	A	1300	G
1	A	1302	C
1	A	1304	G
1	A	1305	G
1	A	1317	C
1	A	1318	A
1	A	1320	C
1	A	1322	C
1	A	1335	U
1	A	1336	C
1	A	1338	G
1	A	1340	A
1	A	1346	A
1	A	1362	A
1	A	1363	A
1	A	1365	G
1	A	1370	G
1	A	1378	C
1	A	1379	G
1	A	1384	C
1	A	1388	C
1	A	1398	A
1	A	1401	G
1	A	1412	C
1	A	1413	A
1	A	1419	G
1	A	1425	U
1	A	1426	G
1	A	1435	G
1	A	1440	U
1	A	1441	A
1	A	1442	G
1	A	1445	U
1	A	1446	A
1	A	1452	C
1	A	1454	G
1	A	1455	G
1	A	1456	A
1	A	1468	A

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Mol	Chain	Res	Type
1	A	1473	G
1	A	1480	A
1	A	1487	G
1	A	1491	G
1	A	1492	A
1	A	1497	G
1	A	1498	U
1	A	1499	A
1	A	1500	A
1	A	1503	A
1	A	1505	G
1	A	1506	U
1	A	1517	G
1	A	1522	U
1	A	1529	G
1	A	1530	G
1	A	1531	A
1	A	1532	U
1	A	1533	C
1	A	1534	A
1	A	1535	C
1	A	1536	C
1	A	1538	C
1	A	1540	U
22	V	5	G
22	V	8	U
22	V	17	C
22	V	18	G
22	V	19	G
22	V	20	U
22	V	21	A
22	V	37	A
22	V	39	U
22	V	45	U
22	V	48	C
22	V	56	C
22	V	58	A
22	V	74	C
22	V	76	A
23	X	5	A
23	X	12	A
23	X	14	A

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Mol	Chain	Res	Type
23	X	19	U

All (21) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	4	U
1	A	96	U
1	A	115	G
1	A	209	U
1	A	274	A
1	A	428	G
1	A	429	U
1	A	485	U
1	A	653	U
1	A	733	G
1	A	926	G
1	A	1049	U
1	A	1101	A
1	A	1168	U
1	A	1201	A
1	A	1211	U
1	A	1299	A
1	A	1317	C
1	A	1491	G
1	A	1534	A
22	V	19	G

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

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

5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

Of 56 ligands modelled in this entry, 56 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.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th 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	1539/1539 (100%)	-0.03	16 (1%) 79 22	0, 33, 101, 147	0
2	B	218/218 (100%)	-0.25	3 (1%) 72 18	19, 59, 88, 113	0
3	C	206/206 (100%)	-0.06	2 (0%) 79 22	9, 46, 75, 92	0
4	D	205/205 (100%)	-0.26	1 (0%) 88 36	0, 24, 64, 82	0
5	E	150/150 (100%)	-0.24	0 100 100	0, 31, 68, 98	0
6	F	100/100 (100%)	-0.16	0 100 100	17, 54, 80, 93	0
7	G	151/151 (100%)	-0.04	7 (4%) 31 7	20, 54, 81, 94	0
8	H	129/129 (100%)	-0.15	0 100 100	4, 34, 58, 82	0
9	I	127/127 (100%)	0.09	3 (2%) 56 11	20, 55, 85, 117	0
10	J	98/98 (100%)	0.14	3 (3%) 47 9	25, 58, 82, 113	0
11	K	117/117 (100%)	-0.12	0 100 100	0, 32, 66, 79	0
12	L	123/123 (100%)	-0.18	3 (2%) 56 11	0, 17, 58, 93	0
13	M	114/114 (100%)	-0.03	2 (1%) 65 14	26, 63, 87, 97	0
14	N	96/100 (96%)	0.48	6 (6%) 19 5	10, 56, 84, 98	0
15	O	88/88 (100%)	-0.23	0 100 100	1, 33, 66, 89	0
16	P	82/82 (100%)	-0.26	1 (1%) 75 20	0, 24, 67, 91	0
17	Q	80/80 (100%)	-0.03	0 100 100	7, 44, 79, 94	0
18	R	55/55 (100%)	-0.14	0 100 100	5, 38, 80, 101	0
19	S	79/79 (100%)	-0.07	0 100 100	37, 65, 83, 95	0
20	T	85/85 (100%)	-0.02	2 (2%) 56 11	8, 38, 69, 96	0
21	U	51/51 (100%)	0.14	5 (9%) 8 2	8, 47, 74, 80	0
22	V	76/76 (100%)	-0.39	0 100 100	22, 43, 72, 119	0
23	X	16/16 (100%)	0.57	1 (6%) 19 5	16, 77, 102, 124	0
All	All	3985/3989 (99%)	-0.07	55 (1%) 72 18	0, 41, 85, 147	0

All (55) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	1209	C	5.9
1	A	1210	C	5.4
23	X	19	U	5.1
7	G	10	LYS	4.7
1	A	421	U	4.6
7	G	4	ARG	3.9
1	A	1286	U	3.8
14	N	101	TRP	3.3
12	L	14	LYS	3.3
1	A	121	U	3.2
1	A	1116	U	3.2
21	U	52	VAL	3.1
7	G	8	GLN	3.0
20	T	3	ILE	3.0
3	C	160	GLU	3.0
7	G	3	ARG	3.0
7	G	9	ARG	2.9
14	N	25	GLU	2.9
1	A	1316	G	2.9
1	A	1183	U	2.9
13	M	112	ARG	2.8
12	L	15	VAL	2.8
13	M	113	LYS	2.8
10	J	48	ARG	2.7
1	A	1186	G	2.7
2	B	94	ARG	2.6
1	A	1187	G	2.6
4	D	35	GLN	2.6
10	J	66	GLU	2.6
1	A	1214	C	2.6
1	A	1076	U	2.5
9	I	31	GLN	2.5
12	L	13	ARG	2.5
3	C	163	ARG	2.5
20	T	67	HIS	2.4
9	I	112	ARG	2.4
1	A	211	G	2.4
1	A	6	G	2.4
7	G	7	GLY	2.4
9	I	32	ARG	2.3
14	N	100	SER	2.3
16	P	47	GLU	2.3

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Mol	Chain	Res	Type	RSRZ
2	B	131	LYS	2.2
2	B	73	ARG	2.2
1	A	328	C	2.2
7	G	5	VAL	2.2
14	N	53	ARG	2.1
21	U	45	LYS	2.1
21	U	46	ARG	2.1
1	A	1150	A	2.1
14	N	99	ALA	2.1
14	N	34	ASN	2.1
21	U	53	LYS	2.0
10	J	49	PHE	2.0
21	U	51	ALA	2.0

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

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

6.3 Carbohydrates ⓘ

There are no carbohydrates in this entry.

6.4 Ligands ⓘ

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, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q < 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(Å ²)	Q<0.9
24	MG	A	1647	1/1	0.36	24.83	0,0,0,0	0
24	MG	A	1615	1/1	0.35	20.27	9,9,9,9	0
24	MG	A	1633	1/1	0.41	13.35	11,11,11,11	0
24	MG	A	1654	1/1	0.46	9.92	22,22,22,22	0
24	MG	A	1655	1/1	0.30	6.60	9,9,9,9	0
24	MG	A	1651	1/1	0.19	5.07	7,7,7,7	0
24	MG	A	1627	1/1	0.41	4.46	35,35,35,35	0
24	MG	A	1638	1/1	0.19	4.46	27,27,27,27	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(\AA^2)	Q<0.9
24	MG	A	1637	1/1	0.26	3.21	19,19,19,19	0
24	MG	A	1646	1/1	0.28	3.20	10,10,10,10	0
24	MG	A	1650	1/1	0.26	2.08	5,5,5,5	0
24	MG	A	1639	1/1	0.18	1.99	0,0,0,0	0
24	MG	A	1656	1/1	0.17	1.26	9,9,9,9	0
24	MG	A	1618	1/1	0.18	0.66	4,4,4,4	0
24	MG	A	1648	1/1	0.18	0.57	0,0,0,0	0
24	MG	A	1649	1/1	0.16	-0.53	11,11,11,11	0
24	MG	A	1642	1/1	0.13	-0.61	6,6,6,6	0
24	MG	A	1609	1/1	0.20	-0.88	26,26,26,26	0
24	MG	A	1626	1/1	0.12	-1.09	14,14,14,14	0
24	MG	A	1634	1/1	0.17	-1.14	10,10,10,10	0
24	MG	A	1603	1/1	0.14	-1.27	13,13,13,13	0
24	MG	A	1614	1/1	0.12	-1.41	19,19,19,19	0
24	MG	A	1652	1/1	0.15	-1.50	1,1,1,1	0
24	MG	A	1640	1/1	0.14	-1.65	0,0,0,0	0
24	MG	A	1619	1/1	0.15	-1.73	0,0,0,0	0
24	MG	A	1607	1/1	0.13	-1.80	1,1,1,1	0
24	MG	A	1617	1/1	0.13	-1.85	13,13,13,13	0
24	MG	A	1610	1/1	0.12	-1.88	0,0,0,0	0
24	MG	A	1630	1/1	0.16	-1.94	41,41,41,41	0
24	MG	A	1612	1/1	0.10	-1.95	18,18,18,18	0
24	MG	A	1611	1/1	0.06	-2.40	13,13,13,13	0
24	MG	A	1604	1/1	0.05	-2.48	13,13,13,13	0
24	MG	A	1623	1/1	0.07	-2.71	3,3,3,3	0
24	MG	A	1606	1/1	0.11	-2.80	24,24,24,24	0
24	MG	A	1631	1/1	0.08	-2.82	35,35,35,35	0
24	MG	A	1653	1/1	0.09	-2.93	7,7,7,7	0
24	MG	A	1644	1/1	0.16	-3.00	0,0,0,0	0
24	MG	A	1624	1/1	0.10	-3.02	1,1,1,1	0
24	MG	A	1643	1/1	0.11	-3.12	3,3,3,3	0
24	MG	A	1636	1/1	0.15	-3.59	42,42,42,42	0
24	MG	A	1620	1/1	0.07	-3.66	19,19,19,19	0
24	MG	A	1641	1/1	0.11	-3.73	20,20,20,20	0
24	MG	A	1608	1/1	0.09	-3.74	18,18,18,18	0
24	MG	A	1602	1/1	0.06	-3.76	21,21,21,21	0
24	MG	A	1629	1/1	0.14	-4.02	17,17,17,17	0
24	MG	A	1613	1/1	0.07	-4.57	0,0,0,0	0
24	MG	A	1616	1/1	0.10	-4.94	0,0,0,0	0
24	MG	A	1635	1/1	0.07	-5.11	21,21,21,21	0
24	MG	A	1605	1/1	0.06	-5.21	21,21,21,21	0
24	MG	A	1645	1/1	0.09	-5.34	8,8,8,8	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(\AA^2)	Q<0.9
24	MG	A	1628	1/1	0.05	-5.67	25,25,25,25	0
24	MG	A	1632	1/1	0.04	-6.04	18,18,18,18	0
24	MG	A	1621	1/1	0.07	-7.29	12,12,12,12	0
24	MG	A	1601	1/1	0.07	-8.56	2,2,2,2	0
24	MG	A	1625	1/1	0.06	-9.05	0,0,0,0	0
24	MG	A	1622	1/1	0.07	-10.55	4,4,4,4	0

6.5 Other polymers ⓘ

There are no such residues in this entry.