



# Full wwPDB X-ray Structure Validation Report i

Mar 31, 2014 – 05:54 PM BST

PDB ID : 4GD1  
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](mailto:validation@mail.wwpdb.org)  
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

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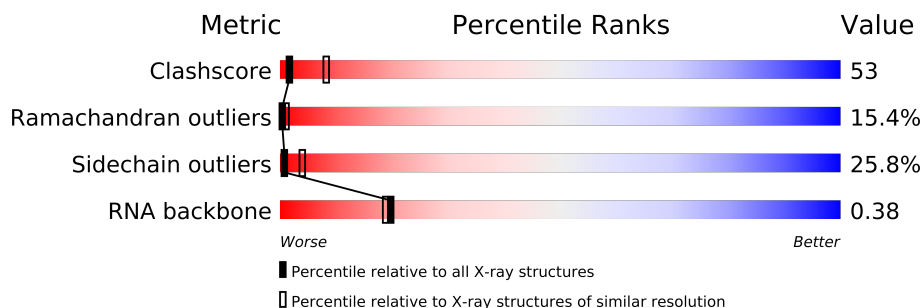
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity	:	4.02b-467
Mogul	:	1.15 2013
Xtriage (Phenix)	:	dev-1323
EDS	:	<b>NOT EXECUTED</b>
Percentile statistics	:	21963
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP)	:	stable23004

# 1 Overall quality at a glance

The reported resolution of this entry is 3.00 Å.



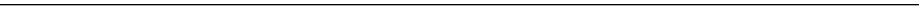


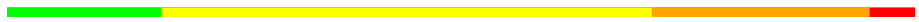


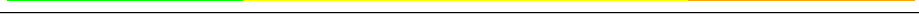

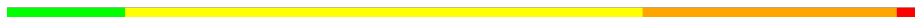

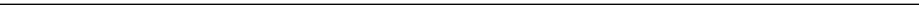

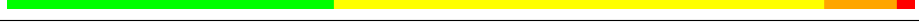
Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	79885	1594 (3.00-3.00)
Ramachandran outliers	78287	1537 (3.00-3.00)
Sidechain outliers	78261	1540 (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  $\geq 3$ , 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.

Note EDS was not executed.

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	
13	M	114	
14	N	100	
15	O	88	

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Mol	Chain	Length	Quality of chain
16	P	82	
17	Q	80	
18	R	55	
19	S	79	
20	T	85	
21	U	51	
22	V	76	
23	X	16	
24	Y	183	

## 2 Entry composition

There are 26 unique types of molecules in this entry. The entry contains 55190 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	1538	Total	C	N	O	P	0	0	0
			32995	14716	6050	10691	1538			

- 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	15	Total	C	N	O	P	0	0	0
			324	145	61	103	15			

- Molecule 24 is a protein called ribosome recycling factor.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	Y	183	Total	C	N	O	S	0	0	0
			1419	871	260	283	5			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Y	2	GLY	-	EXPRESSION TAG	UNP P0A805

- Molecule 25 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
25	A	72	Total	Mg	0	0
			72	72		

- Molecule 26 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
26	A	197	Total	O	0	0
			197	197		
26	N	4	Total	O	0	0
			4	4		
26	T	1	Total	O	0	0
			1	1		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
26	U	1	Total	O	0	0
			1	1		



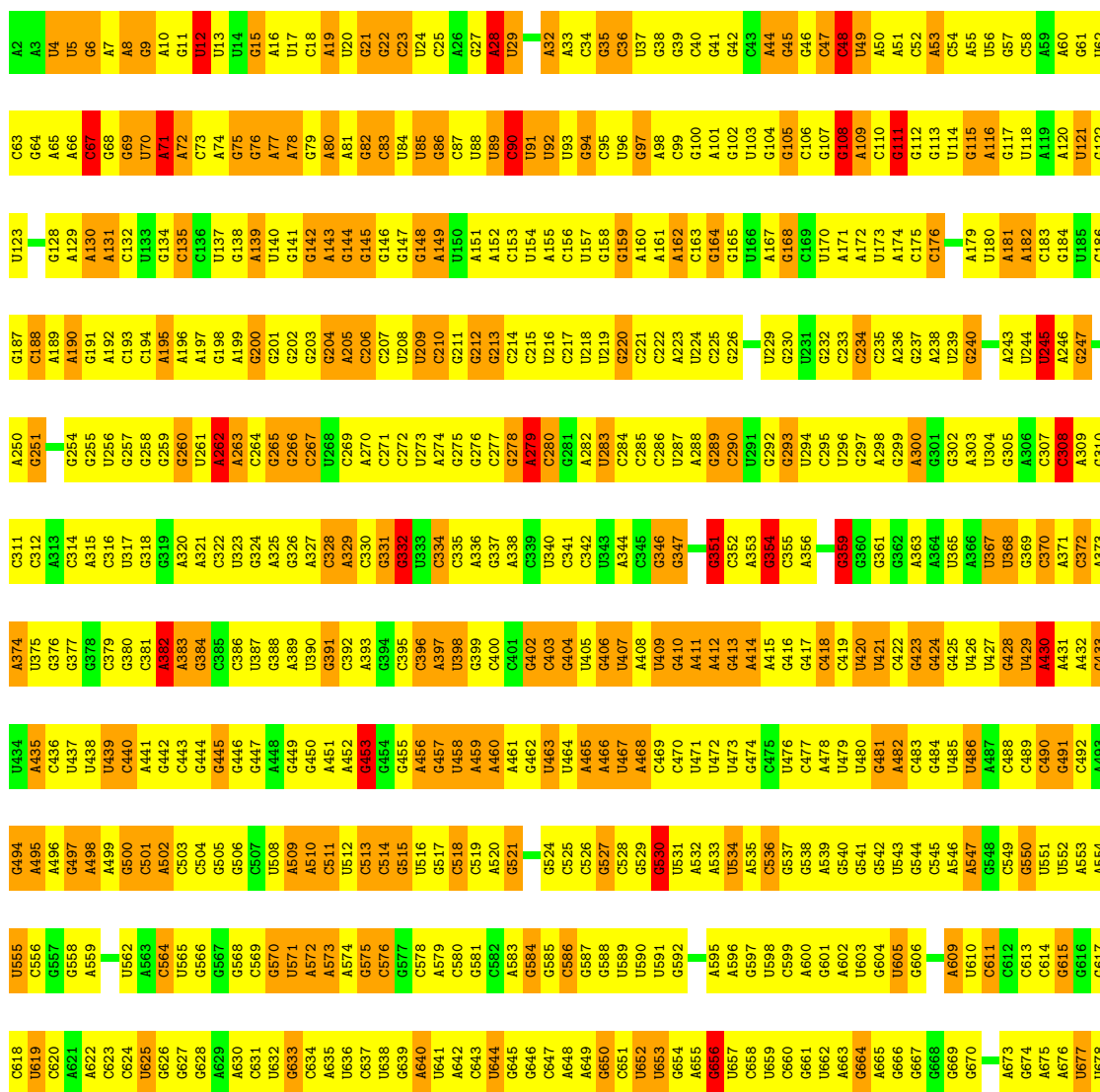
### 3 Residue-property plots

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.

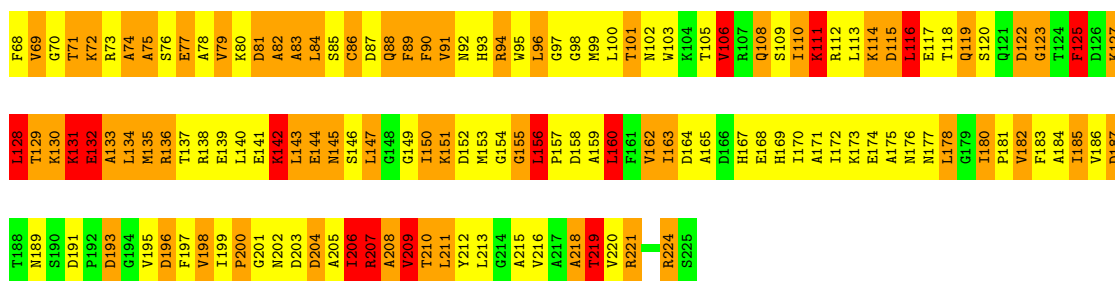
Note EDS was not executed.

#### • Molecule 1: 16S rRNA

Chain A:

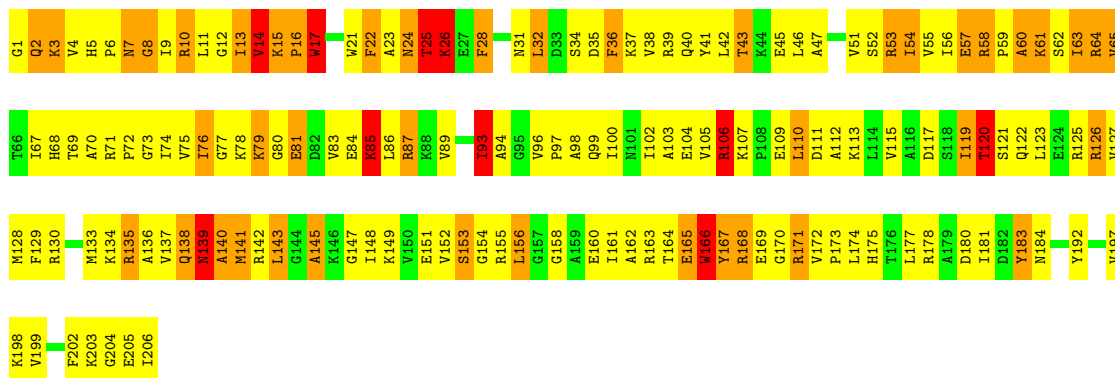






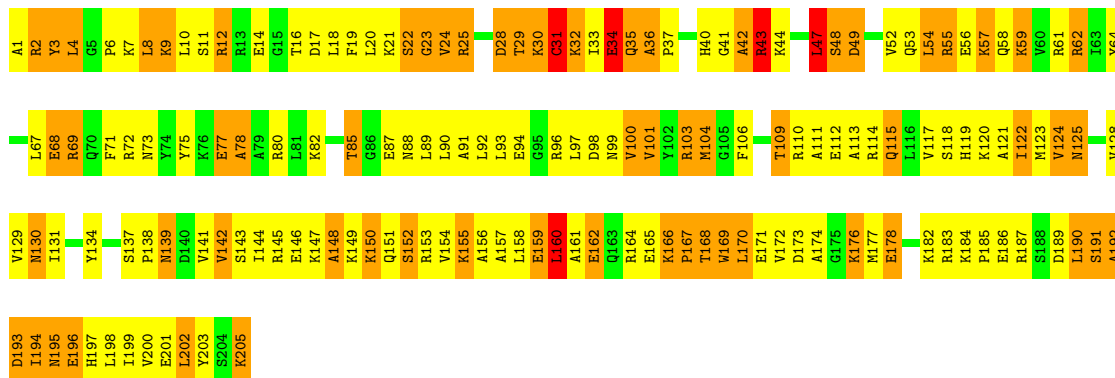
• Molecule 3: 30S ribosomal protein S3

Chain C:



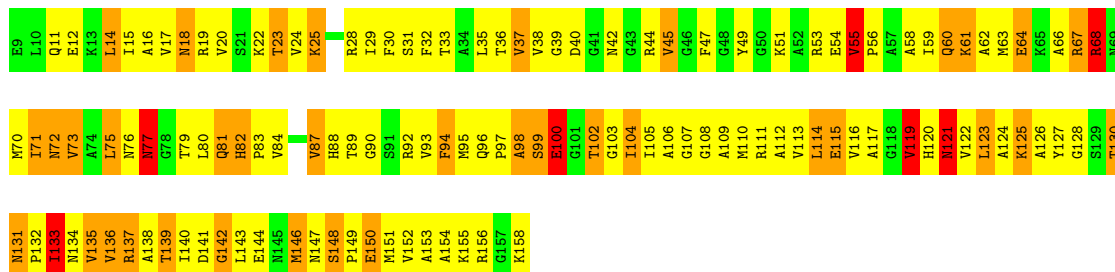
• Molecule 4: 30S ribosomal protein S4

Chain D:



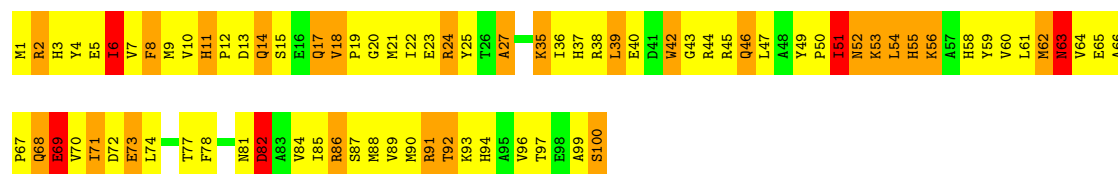
• Molecule 5: 30S ribosomal protein S5

Chain E:



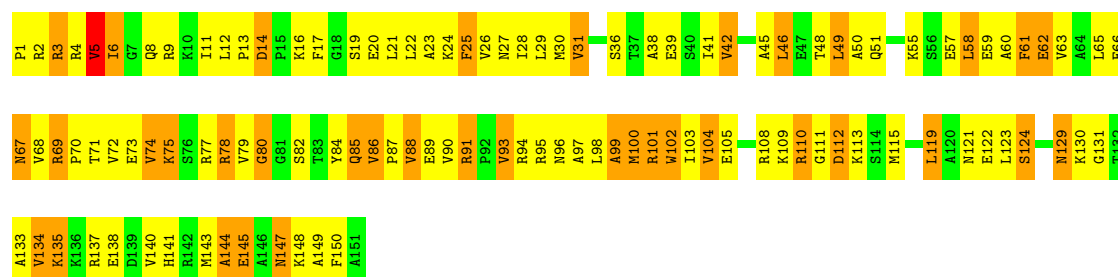
- Molecule 6: 30S ribosomal protein S6

Chain F:



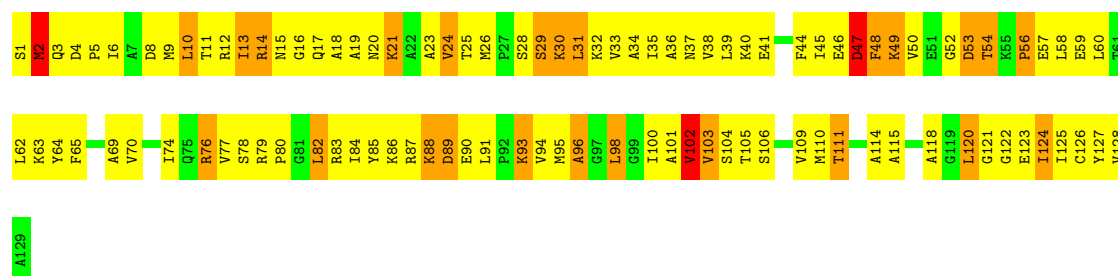
- Molecule 7: 30S ribosomal protein S7

Chain G:



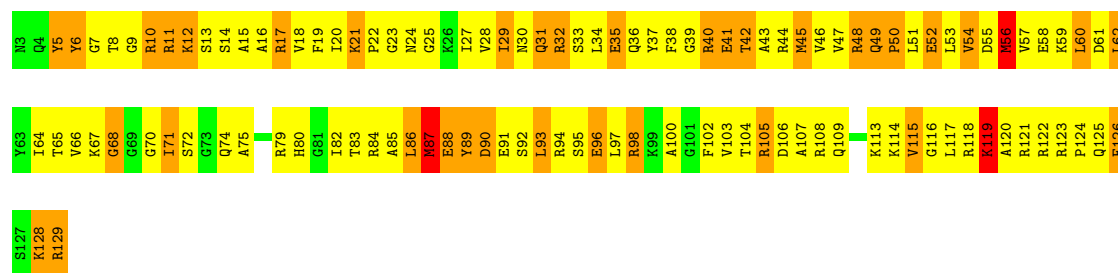
- Molecule 8: 30S ribosomal protein S8

Chain H:



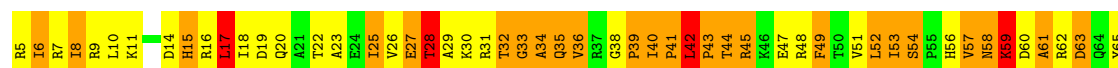
- Molecule 9: 30S ribosomal protein S9

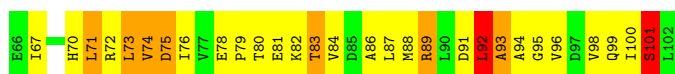
Chain I:



- Molecule 10: 30S ribosomal protein S10

Chain J:





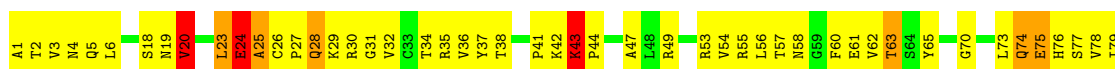
- Molecule 11: 30S ribosomal protein S11

Chain K:



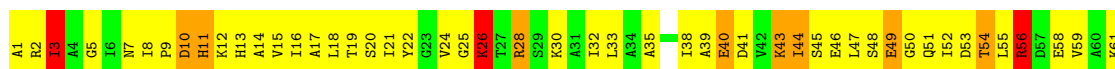
- Molecule 12: 30S ribosomal protein S12

Chain L:



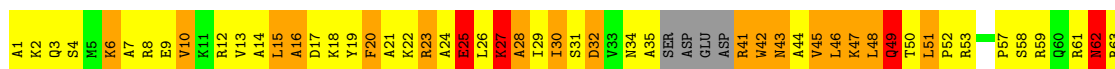
- Molecule 13: 30S ribosomal protein S13

Chain M:



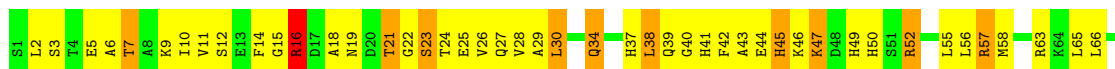
- Molecule 14: 30S ribosomal protein S14

Chain N:



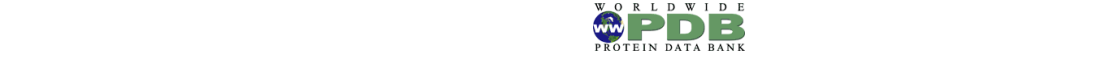
- Molecule 15: 30S ribosomal protein S15

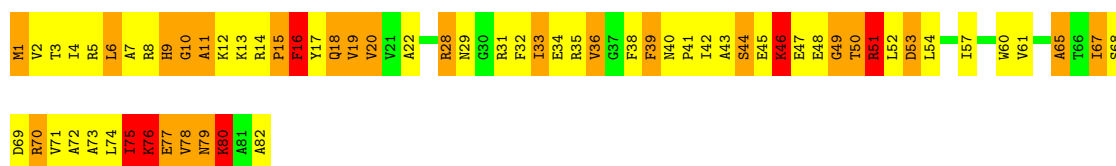
Chain O:



- Molecule 16: 30S ribosomal protein S16

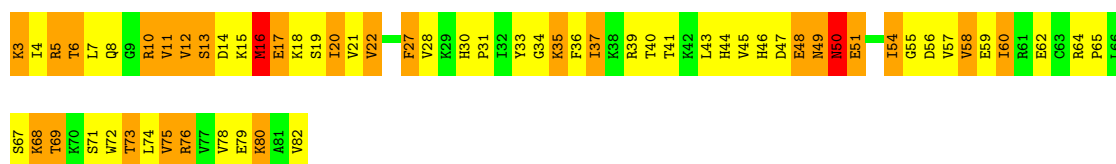
Chain P:





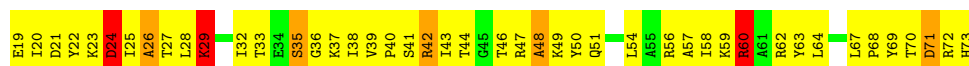
- Molecule 17: 30S ribosomal protein S17

Chain Q:



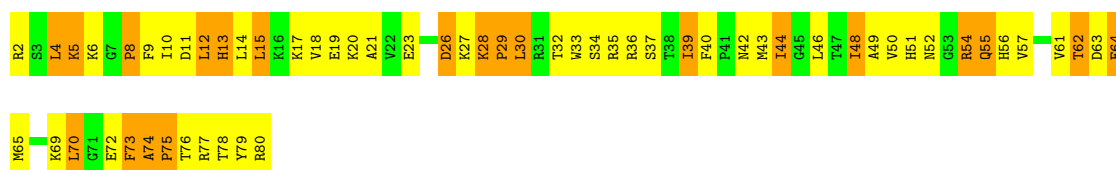
- Molecule 18: 30S ribosomal protein S18

Chain R:



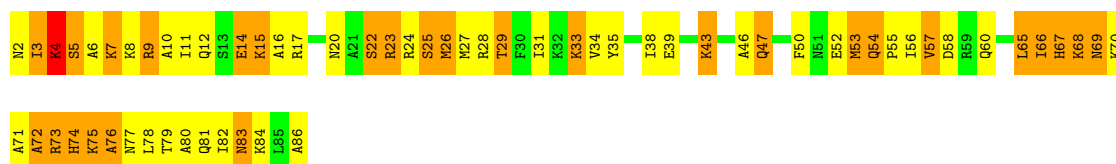
- Molecule 19: 30S ribosomal protein S19

Chain S:



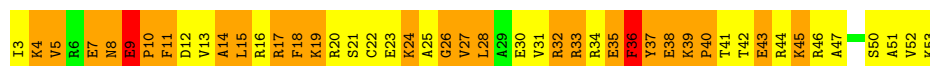
- Molecule 20: 30S ribosomal protein S20

Chain T:



- Molecule 21: 30S ribosomal protein S21

Chain U:



- Molecule 22: phenylalanine specific transfer RNA

Chain V:

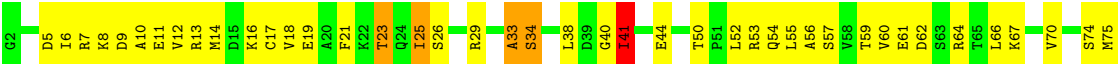




• Molecule 23: messenger RNA



• Molecule 24: ribosome recycling factor



## 4 Data and refinement statistics

EDS was not executed - this section will therefore be incomplete.

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	211.67Å 438.07Å 613.42Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	40.00 – 3.00	Depositor
% Data completeness (in resolution range)	(Not available) (40.00-3.00)	Depositor
$R_{merge}$	0.19	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.58 (at 3.01Å)	Xtriage
Refinement program	PHENIX	Depositor
R, $R_{free}$	0.202 , 0.260	Depositor
Wilson B-factor (Å <sup>2</sup> )	44.7	Xtriage
Anisotropy	0.180	Xtriage
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
Total number of atoms	55190	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	41.0	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.*

<sup>1</sup>Intensities 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	0.87	8/36944 (0.0%)	1.28	318/57632 (0.6%)
2	B	0.60	0/1736	0.79	0/2338
3	C	0.56	0/1652	0.72	0/2225
4	D	0.59	0/1665	0.74	1/2227 (0.0%)
5	E	0.62	0/1119	0.85	0/1504
6	F	0.65	0/836	0.82	1/1128 (0.1%)
7	G	0.50	0/1196	0.67	0/1602
8	H	0.60	0/989	0.77	0/1326
9	I	0.48	0/1034	0.71	0/1375
10	J	0.57	0/797	0.74	0/1077
11	K	0.67	0/893	0.82	0/1205
12	L	0.61	0/969	0.81	0/1300
13	M	0.52	0/893	0.74	0/1193
14	N	0.55	0/785	0.76	0/1043
15	O	0.55	0/722	0.73	0/964
16	P	0.54	0/659	0.82	1/884 (0.1%)
17	Q	0.57	0/658	0.74	0/881
18	R	0.61	0/463	0.69	0/621
19	S	0.48	0/653	0.73	0/877
20	T	0.54	0/671	0.69	0/888
21	U	0.93	0/431	0.96	0/570
22	V	0.76	1/1813 (0.1%)	1.22	14/2823 (0.5%)
23	X	0.86	0/363	1.11	0/564
24	Y	0.65	0/1430	0.74	0/1924
All	All	0.78	9/59371 (0.0%)	1.14	335/88171 (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	1
9	I	0	1
11	K	0	1
13	M	0	1
14	N	0	1
21	U	0	2
All	All	0	8

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	V	1	G	OP3-P	-9.85	1.49	1.61
1	A	1413	A	N9-C4	-6.50	1.33	1.37
1	A	1499	A	N9-C4	-6.37	1.34	1.37
1	A	1346	A	N9-C4	-6.02	1.34	1.37
1	A	781	A	N3-C4	-5.73	1.31	1.34
1	A	1408	A	N9-C4	-5.52	1.34	1.37
1	A	1500	A	N9-C4	-5.33	1.34	1.37
1	A	896	C	N1-C6	-5.27	1.33	1.37
1	A	1101	A	N9-C4	5.11	1.41	1.37

All (335) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1499	A	C8-N9-C4	10.69	110.08	105.80
1	A	245	U	C2-N1-C1'	-10.57	105.02	117.70
1	A	1524	C	N1-C2-O2	-10.32	112.71	118.90
1	A	283	U	C2-N1-C1'	9.35	128.92	117.70
1	A	794	A	N1-C6-N6	-9.29	113.03	118.60
1	A	1513	A	C8-N9-C4	9.26	109.50	105.80
1	A	332	G	C8-N9-C4	9.17	110.07	106.40
22	V	31	A	C8-N9-C4	9.09	109.43	105.80
1	A	1457	G	C8-N9-C4	8.81	109.92	106.40
1	A	713	G	N1-C6-O6	-8.73	114.66	119.90
1	A	796	C	N1-C2-O2	8.56	124.03	118.90
1	A	1484	C	N1-C2-O2	-8.02	114.09	118.90
1	A	71	A	N1-C6-N6	7.94	123.37	118.60
22	V	4	C	N1-C2-O2	-7.84	114.19	118.90
16	P	51	ARG	NE-CZ-NH1	7.70	124.15	120.30
1	A	1422	G	C6-C5-N7	-7.67	125.80	130.40
1	A	1063	C	N1-C2-O2	-7.66	114.30	118.90
1	A	880	C	N1-C2-O2	-7.65	114.31	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	679	C	N1-C2-O2	7.48	123.39	118.90
1	A	971	G	N3-C4-N9	-7.47	121.52	126.00
1	A	1475	G	N1-C6-O6	7.45	124.37	119.90
1	A	1067	A	N1-C6-N6	-7.29	114.22	118.60
1	A	971	G	C8-N9-C1'	7.26	136.44	127.00
1	A	245	U	C6-N1-C1'	7.25	131.35	121.20
1	A	1422	G	C4-C5-N7	7.25	113.70	110.80
1	A	677	U	N3-C2-O2	-7.25	117.13	122.20
1	A	90	C	N3-C2-O2	-7.23	116.84	121.90
1	A	792	A	C8-N9-C4	7.22	108.69	105.80
1	A	90	C	N1-C2-O2	7.20	123.22	118.90
1	A	713	G	C6-C5-N7	7.19	134.71	130.40
1	A	297	G	N3-C4-N9	-7.18	121.69	126.00
1	A	555	U	N1-C2-O2	-7.16	117.79	122.80
1	A	1481	U	C5-C4-O4	7.15	130.19	125.90
22	V	16	U	N1-C2-O2	7.11	127.78	122.80
1	A	48	C	C6-N1-C2	7.10	123.14	120.30
1	A	760	G	N1-C2-N2	-7.09	109.81	116.20
1	A	71	A	C5-C6-N6	-7.06	118.05	123.70
1	A	1414	U	N1-C2-O2	7.05	127.74	122.80
1	A	1527	U	N1-C2-N3	7.05	119.13	114.90
1	A	734	G	C6-C5-N7	-7.05	126.17	130.40
1	A	1408	A	C2-N3-C4	-7.03	107.09	110.60
1	A	108	G	C8-N9-C4	-7.01	103.60	106.40
1	A	334	C	C6-N1-C2	6.99	123.10	120.30
1	A	283	U	N3-C2-O2	-6.98	117.31	122.20
1	A	807	A	N1-C6-N6	-6.97	114.42	118.60
1	A	453	G	N3-C4-N9	6.93	130.16	126.00
1	A	707	U	C5-C4-O4	-6.87	121.78	125.90
1	A	713	G	C4-C5-N7	-6.86	108.05	110.80
1	A	869	G	N1-C6-O6	6.86	124.02	119.90
1	A	1469	C	C6-N1-C2	6.84	123.03	120.30
1	A	1422	G	N1-C6-O6	6.82	123.99	119.90
1	A	575	G	C4-C5-N7	-6.80	108.08	110.80
1	A	859	G	N3-C4-N9	6.79	130.07	126.00
1	A	940	C	N3-C4-N4	6.79	122.75	118.00
1	A	90	C	C6-N1-C2	-6.77	117.59	120.30
1	A	686	U	C2-N1-C1'	-6.77	109.57	117.70
1	A	351	G	N7-C8-N9	6.74	116.47	113.10
1	A	1499	A	N7-C8-N9	-6.72	110.44	113.80
1	A	12	U	N1-C2-N3	6.69	118.91	114.90
1	A	686	U	C6-N1-C1'	6.69	130.56	121.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	V	16	U	N3-C2-O2	-6.68	117.53	122.20
1	A	1530	G	C5-C6-N1	6.67	114.84	111.50
1	A	351	G	C5-N7-C8	-6.67	100.96	104.30
1	A	768	A	C8-N9-C4	6.67	108.47	105.80
1	A	690	G	C4-C5-N7	6.63	113.45	110.80
1	A	1417	G	N3-C2-N2	6.58	124.50	119.90
1	A	788	U	N1-C2-O2	-6.58	118.20	122.80
1	A	90	C	C2-N1-C1'	6.56	126.02	118.80
1	A	859	G	C8-N9-C1'	-6.55	118.48	127.00
1	A	1094	G	N1-C6-O6	6.54	123.82	119.90
1	A	297	G	N3-C4-C5	6.54	131.87	128.60
1	A	1520	C	C5-C4-N4	-6.53	115.63	120.20
1	A	8	A	C8-N9-C4	6.51	108.41	105.80
1	A	330	C	N1-C2-O2	6.50	122.80	118.90
1	A	111	G	C4-N9-C1'	-6.49	118.06	126.50
1	A	734	G	C4-C5-N7	6.48	113.39	110.80
1	A	1101	A	N3-C4-C5	-6.48	122.27	126.80
1	A	760	G	N3-C2-N2	6.45	124.41	119.90
1	A	1478	U	C5-C4-O4	6.44	129.76	125.90
1	A	351	G	C8-N9-C4	-6.41	103.83	106.40
1	A	738	C	N1-C2-O2	-6.39	115.06	118.90
1	A	1064	G	N1-C6-O6	-6.39	116.06	119.90
1	A	1520	C	N3-C4-C5	6.38	124.45	121.90
1	A	914	A	C8-N9-C4	-6.38	103.25	105.80
1	A	881	G	C8-N9-C4	6.36	108.94	106.40
1	A	914	A	N9-C4-C5	6.35	108.34	105.80
1	A	342	C	C6-N1-C2	6.34	122.84	120.30
1	A	351	G	C6-C5-N7	-6.34	126.59	130.40
1	A	555	U	N3-C2-O2	6.34	126.64	122.20
1	A	1060	U	N1-C2-O2	-6.33	118.37	122.80
1	A	1505	G	N1-C6-O6	6.30	123.68	119.90
1	A	35	G	N1-C6-O6	-6.27	116.14	119.90
1	A	351	G	N1-C6-O6	6.27	123.66	119.90
1	A	536	C	C6-N1-C2	6.25	122.80	120.30
1	A	153	C	C6-N1-C2	6.25	122.80	120.30
1	A	877	G	N1-C6-O6	-6.22	116.17	119.90
1	A	904	U	N3-C2-O2	6.21	126.55	122.20
1	A	404	G	N3-C2-N2	6.21	124.25	119.90
1	A	36	C	N3-C4-C5	-6.19	119.42	121.90
1	A	1094	G	N9-C4-C5	-6.19	102.92	105.40
1	A	1481	U	C6-N1-C1'	6.17	129.84	121.20
1	A	365	U	N3-C4-O4	-6.17	115.08	119.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	351	G	C4-C5-N7	6.17	113.27	110.80
1	A	971	G	N9-C4-C5	6.17	107.87	105.40
1	A	664	G	C5-C6-O6	6.15	132.29	128.60
1	A	822	U	N3-C2-O2	6.15	126.50	122.20
1	A	279	A	N1-C6-N6	6.13	122.28	118.60
1	A	677	U	C2-N1-C1'	6.13	125.05	117.70
1	A	791	G	C5-C6-O6	-6.11	124.93	128.60
1	A	1524	C	N3-C2-O2	6.09	126.17	121.90
1	A	53	A	N1-C6-N6	6.09	122.26	118.60
1	A	329	A	C8-N9-C4	6.08	108.23	105.80
1	A	859	G	N9-C4-C5	-6.07	102.97	105.40
1	A	734	G	N3-C4-N9	6.06	129.64	126.00
1	A	530	G	C6-C5-N7	-6.06	126.76	130.40
1	A	1457	G	N3-C4-C5	6.06	131.63	128.60
1	A	521	G	C8-N9-C4	6.05	108.82	106.40
22	V	41	C	N1-C2-O2	-6.04	115.28	118.90
1	A	1441	A	N1-C6-N6	-6.04	114.98	118.60
1	A	1174	G	C4-N9-C1'	-6.03	118.66	126.50
1	A	715	A	N1-C6-N6	6.03	122.22	118.60
1	A	190	A	N1-C6-N6	6.03	122.22	118.60
1	A	308	C	C5-C6-N1	-6.03	117.99	121.00
1	A	1481	U	C2-N1-C1'	-6.01	110.49	117.70
1	A	12	U	C5-C4-O4	6.01	129.51	125.90
1	A	67	C	C6-N1-C2	-5.98	117.91	120.30
1	A	816	A	C8-N9-C4	5.96	108.19	105.80
1	A	859	G	C4-N9-C1'	5.96	134.25	126.50
1	A	365	U	C2-N1-C1'	-5.95	110.56	117.70
1	A	1322	C	N1-C2-O2	-5.95	115.33	118.90
1	A	1417	G	N3-C4-N9	5.94	129.57	126.00
1	A	664	G	C4-C5-N7	-5.94	108.42	110.80
1	A	903	G	N1-C6-O6	-5.94	116.33	119.90
1	A	1417	G	C4-C5-N7	5.94	113.18	110.80
1	A	734	G	N9-C4-C5	-5.93	103.03	105.40
1	A	283	U	N1-C2-O2	5.91	126.93	122.80
1	A	297	G	C2-N3-C4	-5.90	108.95	111.90
1	A	53	A	C5-C6-N6	-5.89	118.99	123.70
1	A	1101	A	C4-C5-C6	5.88	119.94	117.00
1	A	794	A	C5-C6-N6	5.88	128.41	123.70
1	A	1524	C	C2-N1-C1'	-5.88	112.33	118.80
1	A	105	G	C5-C6-O6	5.87	132.12	128.60
1	A	584	G	C8-N9-C4	5.87	108.75	106.40
1	A	853	C	N1-C2-O2	-5.87	115.38	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	938	A	N1-C6-N6	-5.85	115.09	118.60
1	A	275	G	N3-C4-N9	5.84	129.50	126.00
1	A	881	G	N1-C6-O6	5.84	123.40	119.90
1	A	1513	A	N7-C8-N9	-5.84	110.88	113.80
1	A	957	U	C6-N1-C2	-5.83	117.50	121.00
1	A	971	G	C4-N9-C1'	-5.83	118.92	126.50
1	A	337	G	C5-C6-N1	5.81	114.41	111.50
1	A	1286	U	C2-N1-C1'	5.81	124.67	117.70
1	A	1478	U	N3-C4-O4	-5.81	115.34	119.40
6	F	86	ARG	NE-CZ-NH1	5.79	123.20	120.30
1	A	188	C	C2-N1-C1'	5.79	125.17	118.80
1	A	1484	C	N3-C2-O2	5.79	125.95	121.90
1	A	212	G	N3-C4-C5	-5.78	125.71	128.60
1	A	145	G	C5-C6-O6	5.76	132.06	128.60
1	A	721	G	N9-C4-C5	5.76	107.70	105.40
1	A	1498	U	C6-N1-C2	-5.76	117.55	121.00
1	A	633	G	C8-N9-C4	-5.75	104.10	106.40
1	A	21	G	N3-C4-C5	-5.75	125.73	128.60
1	A	283	U	C6-N1-C1'	-5.74	113.16	121.20
1	A	1458	G	C8-N9-C4	5.74	108.69	106.40
1	A	312	C	C2-N3-C4	-5.73	117.03	119.90
1	A	1408	A	N3-C4-C5	5.73	130.81	126.80
1	A	869	G	C5-C6-O6	-5.71	125.17	128.60
1	A	836	G	N1-C6-O6	5.71	123.33	119.90
1	A	530	G	C4-C5-N7	5.70	113.08	110.80
1	A	872	A	C8-N9-C4	-5.70	103.52	105.80
1	A	921	U	C5-C4-O4	-5.70	122.48	125.90
1	A	690	G	N9-C4-C5	-5.69	103.12	105.40
1	A	957	U	N3-C2-O2	-5.68	118.22	122.20
1	A	1174	G	C8-N9-C1'	5.68	134.39	127.00
1	A	822	U	N1-C2-O2	-5.68	118.82	122.80
1	A	785	G	C5-C6-O6	-5.68	125.19	128.60
1	A	314	C	C6-N1-C2	5.67	122.57	120.30
1	A	359	G	C8-N9-C4	5.67	108.67	106.40
1	A	506	G	C8-N9-C4	5.66	108.67	106.40
1	A	292	G	N3-C4-C5	-5.66	125.77	128.60
1	A	903	G	C5-C6-O6	5.66	131.99	128.60
1	A	798	U	C5-C4-O4	-5.65	122.51	125.90
1	A	1515	G	C5-C6-O6	-5.65	125.21	128.60
1	A	4	U	N3-C2-O2	-5.63	118.26	122.20
1	A	872	A	N7-C8-N9	5.62	116.61	113.80
1	A	894	G	C2-N3-C4	-5.62	109.09	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	372	C	C6-N1-C2	5.60	122.54	120.30
1	A	78	A	C6-N1-C2	-5.59	115.24	118.60
1	A	337	G	C6-C5-N7	5.59	133.76	130.40
1	A	135	C	C6-N1-C2	5.59	122.54	120.30
1	A	734	G	C8-N9-C1'	-5.59	119.73	127.00
1	A	947	G	C8-N9-C4	5.59	108.63	106.40
1	A	738	C	N3-C2-O2	5.58	125.81	121.90
1	A	875	U	N3-C2-O2	-5.58	118.29	122.20
1	A	834	U	N3-C2-O2	-5.58	118.29	122.20
1	A	809	G	C8-N9-C4	5.58	108.63	106.40
1	A	828	U	N3-C2-O2	5.58	126.11	122.20
1	A	712	A	C6-N1-C2	-5.57	115.26	118.60
1	A	1413	A	C5-N7-C8	-5.57	101.11	103.90
1	A	814	A	C6-N1-C2	-5.57	115.26	118.60
1	A	679	C	C2-N1-C1'	5.57	124.93	118.80
1	A	874	G	N3-C4-C5	-5.57	125.82	128.60
1	A	555	U	C2-N1-C1'	-5.56	111.03	117.70
22	V	31	A	N9-C4-C5	-5.55	103.58	105.80
1	A	862	C	C6-N1-C2	-5.54	118.08	120.30
1	A	21	G	N3-C4-N9	5.53	129.32	126.00
1	A	818	G	C4-N9-C1'	-5.52	119.33	126.50
1	A	686	U	N1-C2-O2	-5.51	118.94	122.80
1	A	308	C	C6-N1-C2	5.50	122.50	120.30
1	A	1190	G	C5-C6-O6	-5.49	125.31	128.60
1	A	858	G	N3-C2-N2	5.48	123.74	119.90
1	A	19	A	N1-C6-N6	5.48	121.89	118.60
1	A	283	U	C6-N1-C2	-5.48	117.71	121.00
1	A	796	C	N3-C2-O2	-5.47	118.07	121.90
1	A	1174	G	C6-C5-N7	5.47	133.69	130.40
1	A	111	G	C8-N9-C1'	5.47	134.11	127.00
1	A	768	A	N1-C6-N6	5.47	121.88	118.60
1	A	234	C	C6-N1-C2	-5.46	118.12	120.30
1	A	1403	C	C2-N3-C4	-5.46	117.17	119.90
22	V	70	G	C5-C6-O6	5.46	131.88	128.60
1	A	245	U	C2-N3-C4	-5.46	123.73	127.00
1	A	921	U	N3-C4-O4	5.46	123.22	119.40
1	A	145	G	C8-N9-C4	-5.45	104.22	106.40
1	A	897	C	C6-N1-C2	5.45	122.48	120.30
1	A	734	G	C4-N9-C1'	5.44	133.57	126.50
1	A	897	C	C2-N3-C4	-5.42	117.19	119.90
22	V	31	A	N7-C8-N9	-5.42	111.09	113.80
1	A	721	G	N3-C4-N9	-5.42	122.75	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1187	G	C4-N9-C1'	-5.41	119.47	126.50
1	A	1360	A	C8-N9-C4	5.41	107.96	105.80
1	A	633	G	N9-C4-C5	5.40	107.56	105.40
1	A	586	C	C6-N1-C2	5.40	122.46	120.30
1	A	1483	A	N1-C6-N6	5.39	121.83	118.60
1	A	1499	A	N9-C4-C5	-5.38	103.65	105.80
1	A	206	C	C6-N1-C2	-5.38	118.15	120.30
1	A	656	G	N3-C4-C5	-5.38	125.91	128.60
1	A	29	U	C5-C4-O4	5.37	129.12	125.90
1	A	212	G	N3-C4-N9	5.37	129.22	126.00
1	A	293	G	C8-N9-C4	5.37	108.55	106.40
1	A	859	G	N1-C2-N2	-5.37	111.37	116.20
1	A	980	C	C6-N1-C2	5.37	122.45	120.30
22	V	17	C	C3'-C2'-C1'	-5.36	97.21	101.50
1	A	292	G	N1-C6-O6	-5.36	116.68	119.90
1	A	1510	C	C6-N1-C2	5.36	122.44	120.30
22	V	15	G	N3-C4-C5	5.36	131.28	128.60
1	A	396	C	C6-N1-C2	5.34	122.44	120.30
1	A	502	A	N1-C6-N6	-5.34	115.40	118.60
1	A	754	C	N3-C4-C5	-5.34	119.77	121.90
4	D	49	ASP	CB-CG-OD2	5.33	123.10	118.30
1	A	764	C	C6-N1-C2	-5.33	118.17	120.30
1	A	1309	G	C8-N9-C4	5.33	108.53	106.40
1	A	798	U	N1-C2-O2	-5.32	119.08	122.80
1	A	1457	G	N7-C8-N9	-5.32	110.44	113.10
1	A	311	C	C6-N1-C2	-5.32	118.17	120.30
1	A	938	A	C5-C6-N6	5.32	127.95	123.70
1	A	368	U	N3-C2-O2	-5.32	118.48	122.20
1	A	245	U	N3-C4-C5	5.31	117.79	114.60
1	A	869	G	C4-C5-N7	5.31	112.92	110.80
1	A	1194	U	C5-C6-N1	-5.31	120.05	122.70
1	A	332	G	N7-C8-N9	-5.30	110.45	113.10
1	A	1524	C	C6-N1-C1'	5.30	127.16	120.80
1	A	818	G	C8-N9-C1'	5.29	133.88	127.00
1	A	1475	G	C6-C5-N7	-5.29	127.22	130.40
1	A	337	G	C4-N9-C1'	-5.29	119.62	126.50
1	A	914	A	C6-N1-C2	-5.29	115.42	118.60
1	A	1051	C	N1-C2-O2	-5.29	115.73	118.90
1	A	796	C	C2-N1-C1'	5.29	124.62	118.80
22	V	47	U	C2-N1-C1'	5.28	124.04	117.70
1	A	262	A	C8-N9-C4	5.28	107.91	105.80
1	A	1167	A	N1-C6-N6	-5.28	115.44	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	722	G	N1-C6-O6	5.27	123.06	119.90
1	A	265	G	C4-N9-C1'	-5.27	119.65	126.50
1	A	108	G	N9-C4-C5	5.26	107.50	105.40
1	A	453	G	C8-N9-C1'	-5.25	120.17	127.00
1	A	759	A	C8-N9-C4	5.24	107.90	105.80
1	A	752	G	N1-C6-O6	-5.23	116.76	119.90
1	A	1358	U	N3-C4-O4	-5.23	115.74	119.40
1	A	1060	U	N3-C2-O2	5.21	125.85	122.20
1	A	1202	U	N3-C4-O4	-5.21	115.76	119.40
1	A	1408	A	C8-N9-C4	5.21	107.88	105.80
1	A	796	C	C6-N1-C1'	-5.20	114.56	120.80
1	A	836	G	C5-C6-O6	-5.19	125.49	128.60
1	A	430	A	N1-C6-N6	5.18	121.71	118.60
1	A	859	G	C6-C5-N7	-5.18	127.30	130.40
1	A	46	G	N3-C4-C5	5.17	131.18	128.60
1	A	679	C	C6-N1-C1'	-5.16	114.60	120.80
1	A	1417	G	C6-C5-N7	-5.16	127.30	130.40
1	A	802	A	N1-C6-N6	5.15	121.69	118.60
22	V	70	G	N1-C6-O6	-5.15	116.81	119.90
1	A	609	A	N1-C6-N6	5.14	121.69	118.60
1	A	90	C	N3-C4-N4	-5.14	114.40	118.00
1	A	875	U	N1-C2-O2	5.14	126.40	122.80
1	A	897	C	N1-C2-O2	-5.14	115.82	118.90
1	A	251	G	N1-C6-O6	5.13	122.98	119.90
1	A	894	G	N1-C6-O6	5.13	122.98	119.90
1	A	1486	G	C5-C6-O6	-5.13	125.52	128.60
1	A	331	G	N3-C4-C5	5.13	131.16	128.60
1	A	782	A	C2-N3-C4	-5.13	108.04	110.60
1	A	906	A	C4-C5-C6	5.12	119.56	117.00
1	A	1406	U	C5-C6-N1	-5.12	120.14	122.70
1	A	1499	A	N3-C4-C5	5.12	130.38	126.80
22	V	72	C	C6-N1-C2	5.12	122.35	120.30
1	A	1331	G	C4-N9-C1'	-5.11	119.85	126.50
1	A	732	C	N1-C2-O2	-5.11	115.83	118.90
1	A	331	G	C2-N3-C4	-5.11	109.35	111.90
1	A	815	A	N9-C4-C5	5.10	107.84	105.80
1	A	966	G	C8-N9-C4	5.10	108.44	106.40
1	A	904	U	C2-N1-C1'	-5.10	111.58	117.70
1	A	78	A	N3-C4-N9	5.09	131.47	127.40
22	V	72	C	C5-C6-N1	-5.09	118.45	121.00
1	A	1047	G	N3-C4-N9	-5.08	122.95	126.00
1	A	876	C	C2-N3-C4	-5.08	117.36	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	23	C	N1-C2-O2	-5.07	115.86	118.90
1	A	1331	G	N3-C4-N9	-5.07	122.96	126.00
1	A	571	U	N3-C2-O2	5.07	125.75	122.20
1	A	714	G	C5-C6-N1	5.07	114.03	111.50
1	A	910	C	N1-C2-O2	-5.06	115.87	118.90
1	A	586	C	N3-C4-C5	5.06	123.92	121.90
1	A	957	U	C2-N1-C1'	5.05	123.76	117.70
1	A	1417	G	N1-C2-N2	-5.05	111.66	116.20
1	A	265	G	C8-N9-C1'	5.05	133.56	127.00
1	A	4	U	C2-N1-C1'	5.04	123.75	117.70
1	A	874	G	N3-C4-N9	5.04	129.03	126.00
1	A	35	G	N1-C2-N2	-5.04	111.67	116.20
1	A	575	G	N9-C4-C5	5.04	107.42	105.40
1	A	870	U	N3-C2-O2	5.04	125.73	122.20
1	A	28	A	N1-C6-N6	5.03	121.62	118.60
1	A	453	G	N9-C4-C5	-5.03	103.39	105.40
1	A	354	G	N1-C6-O6	5.02	122.91	119.90
1	A	382	A	C8-N9-C4	5.02	107.81	105.80
1	A	830	G	C5-C6-O6	-5.01	125.59	128.60
1	A	934	C	C6-N1-C2	-5.01	118.30	120.30
1	A	397	A	C4-N9-C1'	5.00	135.31	126.30
1	A	586	C	C2-N1-C1'	-5.00	113.30	118.80
1	A	1358	U	C5-C4-O4	5.00	128.90	125.90

There are no chirality outliers.

All (8) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	D	47	LEU	Peptide
5	E	100	GLU	Peptide
9	I	5	TYR	Peptide
11	K	125	LYS	Peptide
13	M	111	PRO	Peptide
14	N	25	GLU	Peptide
21	U	38	GLU	Peptide
21	U	7	GLU	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	32995	0	16607	2045	0
2	B	1705	0	1732	374	0
3	C	1625	0	1699	235	0
4	D	1643	0	1710	291	0
5	E	1106	0	1148	214	0
6	F	818	0	808	112	0
7	G	1182	0	1240	116	0
8	H	979	0	1034	161	0
9	I	1022	0	1070	189	0
10	J	787	0	828	178	0
11	K	877	0	887	160	0
12	L	955	0	1019	94	0
13	M	884	0	944	155	0
14	N	774	0	827	130	0
15	O	714	0	737	59	0
16	P	649	0	666	106	0
17	Q	649	0	691	118	0
18	R	456	0	478	46	0
19	S	638	0	665	87	0
20	T	665	0	714	84	0
21	U	426	0	449	139	0
22	V	1623	0	821	85	0
23	X	324	0	162	19	0
24	Y	1419	0	1467	92	0
25	A	72	0	0	0	0
26	A	197	0	0	11	0
26	N	4	0	0	0	0
26	T	1	0	0	0	0
26	U	1	0	0	0	0
All	All	55190	0	38403	4974	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 53.

All (4974) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1142:G:C2	1:A:1143:G:H1'	2.03	0.94
21:U:19:LYS:HA	21:U:19:LYS:CE	1.98	0.94

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1313:U:OP2	19:S:5:LYS:HB3	1.68	0.93
2:B:49:PHE:HA	2:B:52:ALA:HB3	1.49	0.93
1:A:255:G:O6	1:A:266:G:O6	1.85	0.93
17:Q:14:ASP:C	17:Q:16:MET:SD	2.46	0.93
17:Q:7:LEU:HD22	17:Q:72:TRP:CZ3	2.04	0.92
1:A:1124:G:H3'	1:A:1145:A:N6	1.83	0.92
1:A:598:U:H4'	8:H:85:TYR:CD1	2.05	0.92
1:A:1074:G:O2'	2:B:101:THR:HG21	1.70	0.92
2:B:82:ALA:HA	2:B:85:SER:OG	1.68	0.91
4:D:169:TRP:NE1	4:D:185:PRO:HG3	1.86	0.91
1:A:1101:A:H4'	1:A:1102:A:O5'	1.69	0.90
1:A:1123:U:H4'	10:J:39:PRO:HD2	1.54	0.89
1:A:1539:C:H5''	21:U:17:ARG:HG3	1.55	0.89
1:A:1538:C:C2'	1:A:1539:C:H5'	2.03	0.88
2:B:207:ARG:C	2:B:211:LEU:HD13	1.94	0.88
11:K:51:PHE:CB	11:K:55:ARG:HB3	2.03	0.86
11:K:69:CYS:O	11:K:72:ALA:HB3	1.73	0.86
6:F:5:GLU:HG2	6:F:90:MET:HE1	1.58	0.86
8:H:74:ILE:CD1	8:H:128:VAL:HG22	2.04	0.86
4:D:36:ALA:HA	4:D:41:GLY:HA3	1.57	0.86
15:O:27:GLN:O	15:O:30:LEU:HD12	1.76	0.86
2:B:105:THR:O	2:B:106:VAL:HB	1.75	0.85
1:A:142:G:C4	1:A:143:A:C8	2.63	0.85
11:K:16:SER:HA	11:K:78:ILE:HA	1.58	0.85
1:A:1181:G:O2'	1:A:1182:G:C8	2.29	0.85
11:K:80:ASN:HB3	11:K:105:ARG:HB3	1.58	0.85
13:M:19:THR:HA	13:M:24:VAL:HG23	1.59	0.84
1:A:554:A:H5'	12:L:25:ALA:HB1	1.58	0.84
4:D:169:TRP:CE2	4:D:185:PRO:HG3	2.11	0.84
1:A:554:A:H5'	12:L:25:ALA:CB	2.07	0.84
1:A:657:U:O2	15:O:21:THR:HG23	1.78	0.84
10:J:29:ALA:HA	10:J:32:THR:HG22	1.58	0.84
8:H:52:GLY:HA3	8:H:56:PRO:HA	1.57	0.84
21:U:13:VAL:HG13	21:U:15:LEU:CD2	2.08	0.84
1:A:1031:C:H4'	1:A:1032:G:H5''	1.58	0.83
3:C:52:SER:O	3:C:53:ARG:HB2	1.76	0.83
1:A:459:A:H2'	1:A:460:A:C1'	2.08	0.83
11:K:22:ILE:HD11	11:K:85:VAL:HG13	1.58	0.83
1:A:459:A:H2'	1:A:460:A:O4'	1.78	0.83
12:L:23:LEU:O	12:L:25:ALA:N	2.12	0.82
1:A:624:C:H4'	16:P:11:ALA:HB2	1.59	0.82
3:C:139:ASN:HA	3:C:142:ARG:CB	2.10	0.82

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:410:G:C5'	1:A:411:A:OP1	2.28	0.82
13:M:21:ILE:HB	13:M:24:VAL:CG2	2.08	0.82
1:A:1083:U:H5	1:A:1084:G:C5	1.98	0.82
21:U:36:PHE:HA	21:U:39:LYS:CE	2.10	0.82
1:A:511:C:C2	1:A:512:U:C5	2.68	0.81
5:E:136:VAL:O	5:E:137:ARG:CB	2.27	0.81
1:A:1397:C:O2'	1:A:1398:A:OP1	1.96	0.81
22:V:52:G:C2	22:V:53:G:C8	2.68	0.81
1:A:79:G:H1	1:A:90:C:H42	1.28	0.81
14:N:41:ARG:HB2	14:N:42:TRP:CZ3	2.16	0.81
5:E:89:THR:HG22	5:E:90:GLY:N	1.96	0.80
1:A:181:A:N6	1:A:195:A:C8	2.49	0.80
1:A:204:G:H3'	1:A:205:A:C5'	2.10	0.80
2:B:212:TYR:O	2:B:216:VAL:HG23	1.80	0.80
8:H:58:LEU:HD13	8:H:59:GLU:N	1.97	0.80
1:A:277:C:H2'	1:A:278:G:O5'	1.82	0.80
3:C:26:LYS:HD2	3:C:26:LYS:H	1.47	0.80
2:B:162:VAL:HG11	2:B:182:VAL:HG13	1.63	0.80
3:C:76:ILE:HA	3:C:83:VAL:HG23	1.64	0.80
13:M:28:ARG:CZ	13:M:62:PHE:HB2	2.12	0.80
2:B:146:SER:O	2:B:147:LEU:HG	1.80	0.80
2:B:98:GLY:O	2:B:102:ASN:HB2	1.81	0.80
1:A:513:C:C2'	1:A:514:C:O5'	2.30	0.80
1:A:17:U:H2'	1:A:18:C:C6	2.17	0.80
1:A:481:G:C8	1:A:481:G:H5''	2.17	0.79
1:A:573:A:OP2	26:A:1737:HOH:O	2.00	0.79
2:B:46:VAL:HB	2:B:47:PRO:HD3	1.64	0.79
1:A:587:G:H4'	8:H:3:GLN:HA	1.65	0.79
10:J:10:LEU:HB2	10:J:72:ARG:HB2	1.63	0.79
1:A:91:U:H2'	1:A:92:U:O4'	1.82	0.79
2:B:216:VAL:O	2:B:219:THR:HG23	1.82	0.79
1:A:206:C:H2'	1:A:207:C:O4'	1.80	0.79
2:B:50:ASN:O	2:B:51:GLU:HB2	1.80	0.79
22:V:18:G:H2'	22:V:58:A:C2	2.18	0.79
8:H:9:MET:HE1	8:H:32:LYS:HA	1.65	0.79
4:D:169:TRP:HB3	4:D:183:ARG:NH1	1.97	0.79
1:A:143:A:H2'	1:A:143:A:N3	1.97	0.79
20:T:24:ARG:O	20:T:28:ARG:HG3	1.82	0.79
1:A:1425:U:O2'	1:A:1426:G:H5'	1.81	0.79
2:B:65:LYS:HD3	2:B:65:LYS:N	1.96	0.79
1:A:1538:C:H2'	1:A:1539:C:H5'	1.63	0.79
2:B:103:TRP:CZ3	2:B:157:PRO:HD3	2.17	0.79

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:16:THR:HG22	4:D:17:ASP:N	1.97	0.79
2:B:63:LYS:HA	2:B:63:LYS:HE2	1.64	0.79
21:U:35:GLU:O	21:U:36:PHE:HB2	1.83	0.79
1:A:1330:U:H2'	1:A:1331:G:H5'	1.62	0.79
1:A:1285:A:H4'	1:A:1286:U:N3	1.97	0.79
4:D:31:CYS:O	4:D:32:LYS:HB2	1.83	0.79
5:E:102:THR:HG22	5:E:103:GLY:N	1.97	0.79
1:A:4:U:OP1	1:A:5:U:O4	2.01	0.79
2:B:150:ILE:HG23	2:B:151:LYS:H	1.47	0.78
1:A:1159:U:O2	1:A:1182:G:C2	2.35	0.78
10:J:51:VAL:O	10:J:62:ARG:HA	1.84	0.78
11:K:51:PHE:HB3	11:K:55:ARG:HB3	1.65	0.78
1:A:376:G:N3	1:A:389:A:C2	2.52	0.78
4:D:61:ARG:HG2	4:D:71:PHE:CD2	2.18	0.78
1:A:1113:C:H2'	1:A:1114:C:H6	1.48	0.78
2:B:34:ARG:HA	2:B:34:ARG:NE	1.98	0.78
5:E:114:LEU:HG	5:E:119:VAL:HG21	1.64	0.78
24:Y:76:SER:HB3	24:Y:77:PRO:HD3	1.65	0.78
2:B:81:ASP:O	2:B:84:LEU:N	2.17	0.78
9:I:29:ILE:HD11	9:I:37:TYR:CG	2.19	0.78
1:A:1271:A:H5'	1:A:1314:C:H5'	1.66	0.77
1:A:1493:A:OP2	1:A:1493:A:H8	1.67	0.77
11:K:30:ILE:HB	11:K:45:THR:HG22	1.65	0.77
16:P:75:ILE:O	16:P:78:VAL:HG12	1.83	0.77
1:A:1060:U:H4'	10:J:53:ILE:HG22	1.64	0.77
17:Q:47:ASP:OD1	17:Q:50:ASN:HA	1.84	0.77
4:D:36:ALA:HA	4:D:41:GLY:CA	2.13	0.77
1:A:1412:C:C2	1:A:1489:G:N2	2.53	0.77
2:B:22:TRP:CZ3	2:B:24:PRO:HA	2.19	0.77
3:C:21:TRP:CB	3:C:58:ARG:HG2	2.15	0.77
8:H:74:ILE:HD12	8:H:127:TYR:O	1.85	0.77
1:A:71:A:H3'	1:A:71:A:OP2	1.85	0.77
16:P:19:VAL:CG2	16:P:36:VAL:O	2.33	0.77
13:M:44:ILE:HG13	13:M:47:LEU:HD13	1.67	0.77
9:I:56:MET:SD	9:I:57:VAL:N	2.57	0.77
22:V:59:U:C5	22:V:60:U:C4	2.73	0.77
1:A:205:A:H4'	1:A:205:A:OP1	1.84	0.77
1:A:1490:U:C2'	1:A:1491:G:H5'	2.15	0.77
1:A:1439:G:C5	1:A:1440:U:C5	2.73	0.77
17:Q:15:LYS:N	17:Q:16:MET:SD	2.58	0.76
10:J:80:THR:HB	10:J:83:THR:HB	1.66	0.76
21:U:36:PHE:HA	21:U:39:LYS:HE3	1.65	0.76

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:215:ALA:O	2:B:219:THR:HG22	1.86	0.76
16:P:19:VAL:HG13	16:P:38:PHE:HA	1.64	0.76
2:B:49:PHE:HA	2:B:212:TYR:OH	1.85	0.76
3:C:71:ARG:O	3:C:74:ILE:HG22	1.86	0.76
8:H:100:ILE:HD11	8:H:128:VAL:CG2	2.16	0.76
1:A:209:U:C5'	1:A:210:C:OP2	2.34	0.76
3:C:24:ASN:O	3:C:26:LYS:HG2	1.86	0.76
5:E:23:THR:HA	5:E:28:ARG:HA	1.66	0.76
1:A:1032:G:C2	1:A:1033:G:H1'	2.20	0.76
22:V:21:A:N6	22:V:46:G:C4	2.54	0.76
16:P:68:SER:HB2	16:P:71:VAL:HB	1.67	0.76
1:A:1348:U:C5	1:A:1373:G:N2	2.53	0.76
4:D:190:LEU:O	4:D:191:SER:HB2	1.86	0.76
10:J:44:THR:HG22	10:J:70:HIS:HA	1.67	0.76
1:A:1032:G:H5'	1:A:1033:G:OP2	1.85	0.76
1:A:620:C:H1'	4:D:131:ILE:CD1	2.16	0.76
13:M:21:ILE:HB	13:M:24:VAL:HG21	1.66	0.75
10:J:27:GLU:HA	10:J:30:LYS:HE2	1.68	0.75
15:O:66:LEU:HD13	15:O:87:ARG:NH2	2.01	0.75
1:A:204:G:H2'	1:A:205:A:O4'	1.87	0.75
9:I:113:LYS:HG2	9:I:119:LYS:HA	1.68	0.75
11:K:91:GLY:O	11:K:95:THR:HG22	1.86	0.75
10:J:27:GLU:HA	10:J:30:LYS:CE	2.17	0.75
21:U:9:GLU:CD	21:U:10:PRO:HD3	2.06	0.75
21:U:40:PRO:HA	21:U:44:ARG:NH1	2.01	0.75
1:A:131:A:H2'	1:A:132:C:C6	2.20	0.75
8:H:1:SER:C	8:H:3:GLN:N	2.39	0.75
1:A:1539:C:OP1	21:U:17:ARG:CZ	2.35	0.75
1:A:428:G:O4'	1:A:430:A:C8	2.40	0.75
1:A:170:U:O2'	1:A:171:A:H5'	1.86	0.75
3:C:96:VAL:HB	3:C:97:PRO:CD	2.16	0.75
11:K:41:LEU:HB3	11:K:76:TYR:CE2	2.21	0.75
5:E:81:GLN:N	5:E:146:MET:CE	2.50	0.75
19:S:14:LEU:HD13	19:S:32:THR:HG21	1.68	0.75
3:C:41:TYR:CE2	3:C:45:GLU:HG3	2.22	0.75
15:O:72:LYS:HA	15:O:72:LYS:HE2	1.66	0.75
5:E:44:ARG:HG2	5:E:72:ASN:HB3	1.69	0.74
1:A:462:G:H3'	1:A:463:U:H6	1.51	0.74
2:B:60:ALA:HA	2:B:64:GLY:CA	2.17	0.74
1:A:109:A:H2'	1:A:326:G:N2	2.01	0.74
10:J:10:LEU:HD23	10:J:96:VAL:HG11	1.68	0.74
10:J:57:VAL:O	10:J:58:ASN:HB2	1.86	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:190:LEU:O	4:D:191:SER:CB	2.34	0.74
1:A:447:G:N2	1:A:486:U:C5	2.55	0.74
1:A:1161:C:H2'	1:A:1162:C:C6	2.23	0.74
17:Q:59:GLU:HB3	17:Q:75:VAL:HG23	1.68	0.74
21:U:19:LYS:HA	21:U:19:LYS:NZ	2.01	0.74
6:F:18:VAL:HB	6:F:19:PRO:CD	2.18	0.74
1:A:711:G:O2'	1:A:712:A:H5'	1.86	0.74
1:A:1138:G:N3	1:A:1138:G:H5''	2.03	0.74
22:V:65:G:N2	22:V:66:U:C2	2.56	0.74
8:H:1:SER:O	8:H:3:GLN:N	2.21	0.74
18:R:42:ARG:HG2	18:R:43:ILE:HD13	1.70	0.74
1:A:1108:G:H2'	1:A:1108:G:N3	2.02	0.74
1:A:1502:A:N7	1:A:1504:G:C2	2.56	0.74
1:A:536:C:OP1	26:A:1887:HOH:O	2.06	0.74
9:I:10:ARG:HB2	9:I:14:SER:O	1.88	0.74
1:A:496:A:C2	1:A:497:G:C5	2.76	0.74
5:E:81:GLN:H	5:E:146:MET:CE	2.01	0.74
4:D:16:THR:CG2	4:D:17:ASP:N	2.50	0.74
1:A:946:A:C2	1:A:1236:A:C2	2.76	0.74
19:S:50:VAL:HG22	19:S:70:LEU:CD1	2.18	0.74
10:J:65:TYR:HB3	14:N:96:LEU:HD11	1.69	0.73
11:K:75:GLU:CD	11:K:75:GLU:N	2.41	0.73
9:I:95:SER:HA	9:I:98:ARG:HB2	1.69	0.73
21:U:13:VAL:HG13	21:U:15:LEU:HD21	1.69	0.73
14:N:31:SER:O	14:N:32:ASP:HB2	1.88	0.73
21:U:25:ALA:CB	23:X:9:G:H5''	2.17	0.73
1:A:1502:A:C8	1:A:1504:G:C4	2.76	0.73
1:A:1452:C:H4'	1:A:1453:G:H5''	1.70	0.73
10:J:5:ARG:HG2	10:J:79:PRO:HB3	1.69	0.73
24:Y:41:ILE:HD11	24:Y:83:ILE:HA	1.71	0.73
12:L:20:VAL:HG23	12:L:94:TYR:CE1	2.23	0.73
1:A:1226:C:H4'	1:A:1227:A:OP1	1.89	0.73
1:A:913:A:H4'	1:A:914:A:OP1	1.89	0.73
5:E:152:VAL:HG11	8:H:98:LEU:HD13	1.68	0.73
1:A:1366:C:O2'	1:A:1367:C:H5'	1.89	0.73
2:B:20:ARG:O	2:B:22:TRP:N	2.21	0.73
2:B:45:THR:HG23	2:B:200:PRO:HB2	1.69	0.73
1:A:114:U:H2'	1:A:115:G:C8	2.23	0.73
3:C:180:ASP:OD2	3:C:203:LYS:HB2	1.89	0.73
1:A:1323:G:H2'	1:A:1324:A:C8	2.24	0.73
11:K:51:PHE:HZ	11:K:64:VAL:HG11	1.54	0.73
9:I:46:VAL:HG21	9:I:75:ALA:HB1	1.71	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:142:G:H3'	1:A:143:A:H8	1.53	0.72
1:A:208:U:C5	1:A:210:C:C4	2.77	0.72
4:D:176:LYS:HD3	4:D:176:LYS:N	2.04	0.72
4:D:57:LYS:HB3	4:D:199:ILE:HB	1.70	0.72
1:A:239:U:H5''	1:A:240:G:OP2	1.88	0.72
1:A:1043:G:H2'	1:A:1044:A:H5''	1.69	0.72
1:A:1053:G:C4'	1:A:1054:C:H5'	2.20	0.72
11:K:22:ILE:HG12	11:K:85:VAL:HG22	1.72	0.72
2:B:84:LEU:HG	2:B:85:SER:N	2.01	0.72
13:M:71:GLU:O	13:M:74:MET:HB3	1.90	0.72
21:U:25:ALA:HA	21:U:28:LEU:HB3	1.71	0.72
2:B:65:LYS:HB2	2:B:158:ASP:OD2	1.88	0.72
1:A:277:C:C2'	1:A:278:G:O5'	2.38	0.72
6:F:53:LYS:O	6:F:54:LEU:HB3	1.90	0.72
1:A:844:G:C5	1:A:846:G:O2'	2.43	0.72
1:A:63:C:H2'	1:A:64:G:H5'	1.72	0.72
1:A:279:A:H4'	1:A:280:C:O5'	1.90	0.72
1:A:138:G:C2'	1:A:139:A:H5'	2.18	0.72
12:L:24:GLU:O	12:L:25:ALA:C	2.28	0.72
1:A:1168:U:H2'	1:A:1168:U:O2	1.88	0.72
2:B:70:GLY:HA2	2:B:163:ILE:HG22	1.72	0.72
12:L:62:VAL:HG22	12:L:63:THR:H	1.54	0.72
1:A:649:A:H2'	1:A:650:G:O4'	1.90	0.72
11:K:22:ILE:HG13	11:K:85:VAL:HA	1.72	0.72
1:A:613:C:O2'	1:A:614:C:H5'	1.90	0.72
20:T:28:ARG:HA	20:T:31:ILE:HD12	1.72	0.72
1:A:513:C:H2'	1:A:514:C:H6	1.54	0.72
3:C:21:TRP:HB3	3:C:58:ARG:HG2	1.72	0.72
9:I:62:LEU:HD22	9:I:62:LEU:N	2.05	0.72
13:M:76:ILE:CG2	13:M:80:MET:HE1	2.19	0.72
2:B:56:LEU:HD22	2:B:56:LEU:C	2.10	0.71
11:K:15:VAL:HG12	11:K:76:TYR:HB3	1.71	0.71
20:T:27:MET:HG2	20:T:31:ILE:HD11	1.71	0.71
12:L:24:GLU:O	12:L:26:CYS:N	2.23	0.71
21:U:13:VAL:O	21:U:15:LEU:HG	1.89	0.71
1:A:1031:C:O2'	1:A:1032:G:OP2	2.08	0.71
1:A:1303:C:H2'	1:A:1304:G:O5'	1.90	0.71
2:B:163:ILE:HG23	2:B:164:ASP:H	1.55	0.71
1:A:997:U:H2'	1:A:998:C:H5'	1.72	0.71
1:A:590:U:O2'	1:A:591:U:H5'	1.90	0.71
1:A:1216:A:C6	1:A:1217:C:N4	2.58	0.71
1:A:978:A:C5	1:A:1319:A:C2	2.77	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:622:A:C8	1:A:623:C:C6	2.78	0.71
1:A:684:U:H1'	11:K:39:ASN:O	1.90	0.71
8:H:110:MET:HE2	8:H:115:ALA:N	2.04	0.71
1:A:1216:A:C4	1:A:1217:C:C5	2.78	0.71
4:D:58:GLN:O	4:D:62:ARG:HG2	1.90	0.71
2:B:22:TRP:CH2	2:B:24:PRO:HA	2.25	0.71
1:A:889:A:H4'	1:A:890:G:OP1	1.91	0.71
11:K:41:LEU:HD22	11:K:76:TYR:CE2	2.26	0.71
1:A:950:U:H3'	13:M:100:ARG:HH22	1.55	0.71
1:A:245:U:H3	1:A:283:U:H3	1.37	0.71
1:A:380:G:N2	1:A:384:G:C6	2.59	0.71
13:M:14:ALA:O	13:M:18:LEU:HD23	1.90	0.71
24:Y:9:ASP:HB3	24:Y:13:ARG:NH2	2.05	0.71
17:Q:44:HIS:HB2	17:Q:69:THR:O	1.91	0.71
4:D:167:PRO:HG2	4:D:170:LEU:HD11	1.71	0.71
1:A:1330:U:C2'	1:A:1331:G:H5'	2.20	0.71
1:A:950:U:C5	13:M:100:ARG:NH1	2.58	0.71
1:A:414:A:H2'	1:A:415:A:C8	2.26	0.71
1:A:1476:A:H2'	1:A:1477:U:O4'	1.91	0.71
1:A:1118:U:H5'	9:I:105:ARG:HG3	1.72	0.71
1:A:409:U:OP1	4:D:23:GLY:HA3	1.91	0.71
1:A:205:A:N3	1:A:205:A:H2'	2.05	0.71
1:A:1053:G:H4'	1:A:1054:C:H5'	1.72	0.71
1:A:659:U:O2	1:A:660:C:C6	2.44	0.71
24:Y:145:LYS:H	24:Y:145:LYS:CE	2.04	0.71
2:B:110:ILE:HD11	2:B:147:LEU:HD22	1.71	0.71
1:A:8:A:C5	4:D:205:LYS:HB3	2.25	0.70
5:E:33:THR:HG22	5:E:51:LYS:HB3	1.73	0.70
4:D:61:ARG:CG	4:D:71:PHE:CD2	2.74	0.70
1:A:1043:G:C2'	1:A:1044:A:H5''	2.21	0.70
1:A:542:G:C2	1:A:543:U:C5	2.79	0.70
17:Q:11:VAL:HG12	17:Q:12:VAL:N	2.06	0.70
4:D:122:ILE:N	4:D:122:ILE:HD13	2.06	0.70
22:V:55:U:O2'	22:V:57:G:N7	2.21	0.70
1:A:464:U:N3	1:A:466:A:H5''	2.05	0.70
14:N:19:TYR:O	14:N:20:PHE:O	2.09	0.70
1:A:872:A:C8	1:A:874:G:C8	2.79	0.70
1:A:147:G:H2'	1:A:148:G:C8	2.26	0.70
21:U:39:LYS:N	21:U:40:PRO:CD	2.55	0.70
1:A:1179:A:H2'	1:A:1180:A:O4'	1.91	0.70
19:S:28:LYS:HB2	19:S:29:PRO:HD2	1.73	0.70
16:P:39:PHE:CD2	16:P:74:LEU:HD11	2.27	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:763:G:H2'	1:A:764:C:H6	1.56	0.70
19:S:39:ILE:HG12	19:S:70:LEU:HD23	1.72	0.70
1:A:499:A:H4'	1:A:500:G:OP1	1.91	0.70
7:G:94:ARG:NH2	7:G:98:LEU:HD21	2.06	0.70
4:D:168:THR:HB	4:D:183:ARG:HH22	1.55	0.70
1:A:1446:A:O2'	1:A:1447:A:H5'	1.90	0.70
3:C:96:VAL:HB	3:C:97:PRO:HD2	1.72	0.70
12:L:20:VAL:O	12:L:20:VAL:HG22	1.92	0.70
1:A:439:U:C5	1:A:440:C:C5	2.78	0.70
16:P:39:PHE:C	16:P:39:PHE:CD1	2.64	0.70
1:A:673:A:H2'	1:A:674:G:C8	2.27	0.70
21:U:19:LYS:CA	21:U:19:LYS:CE	2.69	0.70
10:J:9:ARG:HB2	10:J:99:GLN:HB2	1.74	0.70
9:I:48:ARG:HD3	9:I:48:ARG:C	2.11	0.70
7:G:26:VAL:HG12	7:G:42:VAL:HG21	1.74	0.70
1:A:142:G:C5	1:A:143:A:N7	2.59	0.70
11:K:124:LYS:CG	11:K:125:LYS:N	2.53	0.70
1:A:923:A:O4'	1:A:1398:A:C2	2.45	0.70
1:A:1305:G:H2'	1:A:1331:G:H22	1.56	0.70
20:T:66:ILE:HG23	20:T:66:ILE:O	1.91	0.70
1:A:1279:G:N2	10:J:45:ARG:HE	1.89	0.70
21:U:25:ALA:HB3	23:X:9:G:C5'	2.22	0.70
4:D:57:LYS:HB3	4:D:199:ILE:CG2	2.21	0.70
16:P:71:VAL:O	16:P:75:ILE:HG13	1.92	0.70
10:J:65:TYR:CB	14:N:96:LEU:HD11	2.22	0.70
19:S:9:PHE:CD1	19:S:10:ILE:N	2.60	0.70
1:A:657:U:O2	15:O:21:THR:CG2	2.39	0.70
1:A:435:A:C6	1:A:436:C:C4	2.80	0.70
16:P:75:ILE:HG22	16:P:80:LYS:HE2	1.73	0.70
2:B:136:ARG:O	2:B:139:GLU:HB3	1.92	0.69
2:B:81:ASP:O	2:B:83:ALA:N	2.23	0.69
1:A:792:A:H4'	1:A:793:U:O5'	1.92	0.69
5:E:135:VAL:O	5:E:138:ALA:HB3	1.92	0.69
3:C:166:TRP:CE3	3:C:166:TRP:N	2.60	0.69
24:Y:33:ALA:HB1	24:Y:66:LEU:HD21	1.74	0.69
2:B:195:VAL:HG11	2:B:198:VAL:HA	1.73	0.69
2:B:95:TRP:CZ2	2:B:99:MET:HG2	2.27	0.69
13:M:40:GLU:HG3	13:M:41:ASP:N	2.08	0.69
21:U:13:VAL:CG1	21:U:15:LEU:HD21	2.22	0.69
1:A:10:A:O2'	1:A:11:G:H5'	1.92	0.69
5:E:140:ILE:HG22	5:E:141:ASP:N	2.05	0.69
1:A:513:C:H2'	1:A:514:C:C6	2.27	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:38:GLU:CA	21:U:40:PRO:HD2	2.23	0.69
1:A:1303:C:OP1	26:A:1796:HOH:O	2.09	0.69
8:H:46:GLU:CB	8:H:63:LYS:HG2	2.22	0.69
18:R:60:ARG:O	18:R:63:TYR:HB3	1.93	0.69
21:U:25:ALA:HB1	23:X:9:G:H5'	1.74	0.69
3:C:10:ARG:HE	3:C:177:LEU:HA	1.58	0.69
1:A:1126:U:O4'	1:A:1281:C:O2	2.11	0.69
14:N:61:ARG:O	14:N:62:ASN:HB2	1.91	0.69
1:A:768:A:C2'	1:A:769:G:H5'	2.22	0.69
17:Q:7:LEU:HB2	17:Q:60:ILE:HG22	1.73	0.69
3:C:137:VAL:HA	3:C:148:ILE:HD13	1.74	0.69
3:C:139:ASN:HA	3:C:142:ARG:HB2	1.74	0.69
14:N:47:LYS:HB3	19:S:12:LEU:HD21	1.75	0.69
5:E:14:LEU:HB3	5:E:36:THR:HG22	1.73	0.69
2:B:131:LYS:O	2:B:135:MET:SD	2.51	0.69
3:C:142:ARG:HG3	3:C:143:LEU:HD13	1.74	0.69
5:E:136:VAL:O	5:E:137:ARG:HB2	1.93	0.69
9:I:25:GLY:N	9:I:58:GLU:HA	2.08	0.69
1:A:108:G:C5	20:T:9:ARG:HG2	2.28	0.69
1:A:613:C:C2'	1:A:614:C:H5'	2.22	0.69
1:A:663:A:O2'	1:A:664:G:H5'	1.93	0.69
13:M:113:LYS:CB	13:M:114:PRO:HD3	2.23	0.69
1:A:111:G:H5'	1:A:112:G:OP2	1.93	0.69
21:U:13:VAL:O	21:U:15:LEU:CD1	2.41	0.69
1:A:1032:G:H3'	1:A:1033:G:O4'	1.93	0.69
1:A:436:C:H4'	4:D:152:SER:CB	2.23	0.69
22:V:18:G:C2'	22:V:58:A:C2	2.75	0.69
9:I:43:ALA:HA	9:I:45:MET:SD	2.33	0.69
8:H:63:LYS:HB2	8:H:70:VAL:HG21	1.73	0.69
1:A:1049:U:H4'	1:A:1050:G:OP2	1.92	0.69
13:M:1:ALA:O	13:M:9:PRO:HD2	1.93	0.69
2:B:218:ALA:O	2:B:219:THR:HG22	1.92	0.69
11:K:51:PHE:CZ	11:K:64:VAL:HG11	2.28	0.69
4:D:146:GLU:O	4:D:149:LYS:HB2	1.93	0.69
8:H:98:LEU:N	8:H:98:LEU:HD23	2.08	0.69
13:M:28:ARG:HD2	13:M:62:PHE:CD2	2.28	0.69
1:A:1187:G:H5'	9:I:114:LYS:HE3	1.74	0.69
16:P:77:GLU:C	16:P:79:ASN:H	1.96	0.68
14:N:10:VAL:O	14:N:13:VAL:HG12	1.93	0.68
1:A:1351:U:H2'	1:A:1352:C:C6	2.29	0.68
6:F:64:VAL:CG1	6:F:65:GLU:N	2.56	0.68
1:A:104:G:O2'	1:A:105:G:H5'	1.93	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:193:ASP:C	2:B:193:ASP:OD1	2.32	0.68
1:A:1118:U:C5'	9:I:105:ARG:HG3	2.24	0.68
1:A:1038:C:C2'	1:A:1039:G:H5'	2.23	0.68
1:A:223:A:H2'	1:A:224:U:C6	2.28	0.68
8:H:10:LEU:HD23	8:H:10:LEU:H	1.58	0.68
11:K:124:LYS:HG2	11:K:125:LYS:N	2.08	0.68
1:A:11:G:C2'	1:A:12:U:O5'	2.42	0.68
1:A:513:C:H2'	1:A:514:C:O5'	1.93	0.68
9:I:43:ALA:CA	9:I:45:MET:SD	2.81	0.68
1:A:659:U:O2	1:A:659:U:H2'	1.93	0.68
1:A:468:A:C2	1:A:469:C:C4	2.82	0.68
21:U:3:ILE:N	21:U:19:LYS:HE3	2.09	0.68
3:C:139:ASN:HA	3:C:142:ARG:HB3	1.74	0.68
1:A:414:A:H2'	1:A:415:A:H8	1.58	0.68
1:A:718:A:H2'	1:A:719:C:H5'	1.75	0.68
19:S:4:LEU:O	19:S:5:LYS:HG3	1.94	0.68
9:I:83:THR:HB	9:I:97:LEU:HD21	1.74	0.68
9:I:6:TYR:HB2	9:I:19:PHE:HA	1.76	0.68
12:L:2:THR:HB	12:L:5:GLN:HG3	1.76	0.68
1:A:804:U:H5''	1:A:805:C:OP2	1.94	0.68
1:A:937:A:C2	1:A:1379:G:O6	2.47	0.68
1:A:260:G:H2'	1:A:261:U:C6	2.29	0.68
4:D:57:LYS:HB3	4:D:199:ILE:CB	2.24	0.68
4:D:25:ARG:HD2	4:D:30:LYS:HE2	1.75	0.68
8:H:5:PRO:O	8:H:8:ASP:HB3	1.94	0.68
10:J:52:LEU:HB3	14:N:81:ARG:HE	1.58	0.68
15:O:6:ALA:O	15:O:10:ILE:HD12	1.92	0.68
1:A:204:G:H3'	1:A:205:A:H5''	1.76	0.68
17:Q:44:HIS:ND1	17:Q:69:THR:CG2	2.56	0.68
21:U:19:LYS:HE2	21:U:19:LYS:N	2.09	0.68
1:A:1314:C:H2'	1:A:1314:C:O2	1.92	0.68
21:U:38:GLU:N	21:U:40:PRO:CD	2.57	0.68
1:A:376:G:C2	1:A:389:A:C2	2.81	0.68
9:I:117:LEU:HA	9:I:124:PRO:HD3	1.76	0.68
1:A:1413:A:C5	1:A:1414:U:C5	2.82	0.68
12:L:113:ARG:HD2	12:L:118:VAL:HG12	1.76	0.68
22:V:55:U:C2	22:V:57:G:OP2	2.47	0.68
14:N:26:LEU:O	14:N:27:LYS:HB3	1.93	0.68
1:A:158:G:H2'	1:A:159:G:H5''	1.75	0.68
9:I:33:SER:HB3	9:I:36:GLN:HG3	1.74	0.68
1:A:207:C:H2'	1:A:208:U:C2	2.29	0.67
1:A:1333:A:H2'	1:A:1334:G:O5'	1.94	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1060:U:C4	3:C:1:GLY:N	2.57	0.67
1:A:1126:U:C6	1:A:1281:C:N3	2.62	0.67
11:K:33:ILE:HB	11:K:73:VAL:HG11	1.76	0.67
13:M:33:LEU:HD22	13:M:40:GLU:HA	1.76	0.67
1:A:1348:U:H4'	9:I:121:ARG:HG3	1.77	0.67
9:I:51:LEU:HA	9:I:54:VAL:HG23	1.76	0.67
2:B:206:ILE:O	2:B:209:VAL:HG23	1.94	0.67
1:A:152:A:N6	1:A:170:U:C2	2.63	0.67
1:A:1303:C:C2'	1:A:1304:G:O5'	2.42	0.67
17:Q:67:SER:O	17:Q:68:LYS:C	2.33	0.67
1:A:232:G:H1'	1:A:262:A:N1	2.08	0.67
12:L:88:ASP:HB3	12:L:89:LEU:HD12	1.77	0.67
17:Q:3:LYS:HG3	17:Q:6:THR:HG22	1.76	0.67
1:A:141:G:C4	1:A:142:G:C8	2.82	0.67
1:A:459:A:C2	1:A:460:A:C4	2.83	0.67
1:A:35:G:H2'	1:A:36:C:H6	1.59	0.67
7:G:59:GLU:HA	7:G:62:GLU:HB2	1.76	0.67
1:A:1275:A:H2'	1:A:1276:G:O4'	1.93	0.67
1:A:991:U:C5	1:A:1212:U:H1'	2.29	0.67
2:B:53:LEU:HD12	2:B:219:THR:HG21	1.76	0.67
5:E:93:VAL:HG21	5:E:110:MET:SD	2.34	0.67
9:I:18:VAL:HG11	9:I:82:ILE:HA	1.75	0.67
1:A:1490:U:O2'	1:A:1491:G:H5'	1.94	0.67
1:A:1057:G:H2'	1:A:1058:G:O5'	1.95	0.67
21:U:18:PHE:O	21:U:21:SER:CB	2.42	0.67
10:J:40:ILE:HG22	10:J:73:LEU:HB2	1.77	0.67
1:A:1204:A:C5	1:A:1205:U:C5	2.82	0.67
9:I:24:ASN:HB3	9:I:58:GLU:CD	2.15	0.67
8:H:46:GLU:CA	8:H:63:LYS:HG2	2.25	0.67
7:G:145:GLU:HA	7:G:148:LYS:HB2	1.77	0.67
3:C:111:ASP:O	3:C:115:VAL:HG23	1.95	0.67
24:Y:19:GLU:O	24:Y:23:THR:HG23	1.95	0.67
11:K:127:ARG:HG2	11:K:127:ARG:HH11	1.60	0.67
4:D:202:LEU:HD23	4:D:203:TYR:CE2	2.30	0.67
4:D:28:ASP:C	4:D:29:THR:O	2.31	0.67
1:A:481:G:O2'	1:A:482:A:C8	2.48	0.67
10:J:56:HIS:O	10:J:57:VAL:HG12	1.95	0.67
1:A:198:G:C5	1:A:220:G:C2	2.83	0.67
1:A:143:A:H5'	1:A:144:G:H5'	1.75	0.67
5:E:81:GLN:H	5:E:146:MET:HE1	1.59	0.67
9:I:24:ASN:HB3	9:I:58:GLU:OE1	1.95	0.67
17:Q:14:ASP:CA	17:Q:16:MET:SD	2.83	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1378:C:H2'	1:A:1379:G:O5'	1.95	0.67
5:E:18:ASN:O	5:E:32:PHE:HA	1.95	0.67
1:A:1402:C:O2	1:A:1500:A:N1	2.27	0.67
21:U:13:VAL:HG13	21:U:15:LEU:CG	2.25	0.67
2:B:34:ARG:HA	2:B:34:ARG:HE	1.59	0.67
4:D:96:ARG:O	4:D:100:VAL:HG23	1.95	0.67
1:A:1134:G:C4	1:A:1141:C:N4	2.63	0.66
2:B:90:PHE:H	2:B:149:GLY:HA3	1.60	0.66
3:C:6:PRO:HG2	3:C:183:TYR:CG	2.30	0.66
4:D:31:CYS:SG	4:D:32:LYS:N	2.68	0.66
3:C:24:ASN:O	3:C:26:LYS:N	2.27	0.66
18:R:24:ASP:HB3	18:R:27:THR:HB	1.77	0.66
8:H:103:VAL:O	8:H:103:VAL:HG22	1.94	0.66
1:A:510:A:H5''	1:A:511:C:OP2	1.95	0.66
1:A:1397:C:HO2'	1:A:1398:A:P	2.17	0.66
13:M:3:ILE:HD11	13:M:9:PRO:CG	2.25	0.66
18:R:54:LEU:CD1	18:R:58:ILE:HD11	2.25	0.66
1:A:1031:C:C2'	1:A:1032:G:OP2	2.43	0.66
1:A:1083:U:H5	1:A:1084:G:C6	2.12	0.66
1:A:518:C:H2'	1:A:530:G:C8	2.30	0.66
19:S:28:LYS:CB	19:S:29:PRO:HD2	2.25	0.66
24:Y:149:ILE:HG23	24:Y:153:ASP:CB	2.25	0.66
1:A:1530:G:O2'	1:A:1531:A:OP2	2.13	0.66
10:J:49:PHE:N	10:J:49:PHE:CD1	2.63	0.66
1:A:959:A:C2	1:A:1222:G:O4'	2.48	0.66
1:A:1278:G:H4'	1:A:1279:G:C8	2.31	0.66
18:R:35:SER:HA	18:R:71:ASP:OD2	1.96	0.66
2:B:212:TYR:HA	2:B:215:ALA:HB3	1.78	0.66
11:K:121:ARG:CZ	21:U:35:GLU:HG3	2.26	0.66
21:U:36:PHE:CD1	21:U:39:LYS:HE3	2.31	0.66
21:U:7:GLU:HB3	21:U:11:PHE:HZ	1.60	0.66
1:A:918:A:H2'	1:A:919:A:C8	2.30	0.66
1:A:1138:G:C8	1:A:1140:C:H5'	2.30	0.66
7:G:119:LEU:CD2	7:G:123:LEU:CD2	2.73	0.66
1:A:64:G:C2	1:A:67:C:N4	2.64	0.66
4:D:131:ILE:HD12	4:D:134:TYR:N	2.11	0.66
1:A:1133:G:N1	1:A:1142:G:C6	2.64	0.66
8:H:95:MET:HB2	8:H:98:LEU:O	1.96	0.66
1:A:204:G:C8	1:A:205:A:H5''	2.31	0.66
21:U:9:GLU:CG	21:U:10:PRO:HD3	2.26	0.66
3:C:87:ARG:HG2	3:C:98:ALA:O	1.96	0.66
12:L:43:LYS:HB2	12:L:44:PRO:CD	2.26	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1124:G:H3'	1:A:1145:A:H61	1.59	0.66
1:A:66:A:C2	1:A:67:C:C6	2.84	0.66
12:L:89:LEU:HD12	12:L:89:LEU:N	2.10	0.66
9:I:10:ARG:HB3	9:I:15:ALA:HA	1.76	0.65
21:U:28:LEU:HD23	21:U:28:LEU:O	1.96	0.65
13:M:21:ILE:HB	13:M:24:VAL:HG22	1.76	0.65
14:N:35:ALA:CB	14:N:41:ARG:HB3	2.25	0.65
8:H:48:PHE:HD1	8:H:48:PHE:H	1.42	0.65
16:P:77:GLU:C	16:P:79:ASN:N	2.48	0.65
3:C:36:PHE:CZ	14:N:92:GLU:OE2	2.49	0.65
1:A:505:G:H4'	1:A:534:U:C5	2.31	0.65
9:I:66:VAL:HG22	9:I:74:GLN:HG2	1.76	0.65
1:A:993:G:N3	1:A:993:G:H2'	2.11	0.65
6:F:7:VAL:O	6:F:7:VAL:HG13	1.96	0.65
2:B:119:GLN:N	2:B:122:ASP:HB2	2.12	0.65
1:A:805:C:O2'	1:A:806:C:H5'	1.96	0.65
1:A:701:U:H4'	1:A:702:A:H5''	1.79	0.65
1:A:744:C:H2'	1:A:745:G:C8	2.31	0.65
2:B:102:ASN:HB3	2:B:105:THR:HB	1.77	0.65
2:B:88:GLN:CG	2:B:220:VAL:HG11	2.26	0.65
5:E:131:ASN:HD22	5:E:131:ASN:C	1.99	0.65
10:J:63:ASP:OD1	14:N:85:ARG:HD2	1.97	0.65
1:A:542:G:N3	1:A:543:U:C5	2.64	0.65
1:A:37:U:O2'	1:A:500:G:H4'	1.97	0.65
1:A:1314:C:O2	1:A:1315:U:C6	2.49	0.65
1:A:1279:G:H5''	10:J:9:ARG:NH2	2.12	0.65
8:H:9:MET:HG3	8:H:26:MET:SD	2.36	0.65
3:C:59:PRO:HB3	10:J:94:ALA:HB1	1.78	0.65
5:E:59:ILE:HG13	5:E:60:GLN:N	2.10	0.65
1:A:403:C:H2'	1:A:404:G:O4'	1.96	0.65
17:Q:15:LYS:C	17:Q:16:MET:SD	2.75	0.65
22:V:60:U:H5''	22:V:61:C:H5	1.62	0.65
3:C:21:TRP:CG	3:C:58:ARG:HG2	2.31	0.65
14:N:43:ASN:OD1	14:N:47:LYS:HE2	1.97	0.65
7:G:38:ALA:O	7:G:41:ILE:HB	1.97	0.65
1:A:972:C:H4'	10:J:59:LYS:CE	2.27	0.65
2:B:16:GLY:HA3	2:B:39:ILE:HA	1.77	0.65
1:A:198:G:C4	1:A:199:A:C8	2.84	0.65
10:J:48:ARG:C	10:J:49:PHE:CD1	2.70	0.65
4:D:3:TYR:O	4:D:4:LEU:HB2	1.97	0.65
11:K:13:LYS:O	11:K:14:GLN:CB	2.45	0.65
11:K:13:LYS:O	11:K:14:GLN:HB2	1.97	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:181:ILE:HD13	3:C:202:PHE:HA	1.79	0.65
1:A:1145:A:H2'	1:A:1146:A:OP2	1.97	0.65
11:K:41:LEU:HD22	11:K:76:TYR:CD2	2.31	0.65
1:A:144:G:C5	1:A:179:A:C2	2.84	0.65
2:B:40:ILE:HG21	2:B:201:GLY:HA2	1.79	0.65
13:M:80:MET:HG2	13:M:91:ARG:CZ	2.27	0.65
18:R:56:ARG:HE	18:R:60:ARG:NH1	1.95	0.65
1:A:737:C:O2'	1:A:738:C:H5'	1.97	0.65
17:Q:12:VAL:CG1	17:Q:21:VAL:HG13	2.26	0.65
13:M:63:VAL:O	13:M:68:LEU:HB2	1.97	0.65
12:L:58:ASN:ND2	12:L:60:PHE:CD1	2.64	0.65
4:D:144:ILE:HG22	4:D:145:ARG:O	1.97	0.65
2:B:55:GLU:HA	2:B:58:LYS:CB	2.27	0.65
11:K:95:THR:O	11:K:99:LEU:CD2	2.45	0.65
1:A:541:G:C4	1:A:542:G:C8	2.85	0.65
1:A:35:G:H2'	1:A:36:C:C6	2.31	0.65
8:H:63:LYS:HB2	8:H:70:VAL:CG2	2.27	0.65
6:F:7:VAL:HG11	18:R:64:LEU:HD11	1.78	0.65
1:A:421:U:C2	3:C:126:ARG:NH2	2.65	0.65
14:N:20:PHE:C	14:N:22:LYS:H	1.99	0.65
1:A:1402:C:H2'	1:A:1403:C:O4'	1.97	0.65
4:D:90:LEU:HD21	4:D:194:ILE:HD11	1.79	0.65
7:G:105:GLU:O	7:G:109:LYS:HG2	1.97	0.65
1:A:1478:U:H2'	1:A:1479:C:H6	1.62	0.65
1:A:1318:A:H1'	19:S:36:ARG:NH1	2.13	0.64
1:A:410:G:H5''	4:D:25:ARG:NH2	2.12	0.64
10:J:52:LEU:HD11	10:J:59:LYS:HA	1.78	0.64
11:K:39:ASN:O	11:K:40:ALA:HB3	1.97	0.64
7:G:71:THR:HG23	7:G:72:VAL:HG13	1.79	0.64
6:F:42:TRP:N	6:F:42:TRP:CD1	2.63	0.64
1:A:811:C:O2'	1:A:901:A:N1	2.29	0.64
16:P:20:VAL:CG2	16:P:35:ARG:HA	2.27	0.64
6:F:3:HIS:HB2	6:F:92:THR:HA	1.79	0.64
1:A:1446:A:C2'	1:A:1447:A:H5'	2.27	0.64
21:U:38:GLU:N	21:U:40:PRO:HD2	2.11	0.64
24:Y:118:VAL:HG12	24:Y:176:LEU:CD1	2.27	0.64
19:S:49:ALA:HA	19:S:57:VAL:O	1.97	0.64
1:A:1033:G:N3	1:A:1033:G:H2'	2.10	0.64
1:A:151:A:H2'	1:A:152:A:O4'	1.98	0.64
1:A:376:G:H2'	1:A:377:G:H8	1.62	0.64
10:J:59:LYS:HE3	10:J:59:LYS:H	1.63	0.64
17:Q:68:LYS:O	17:Q:69:THR:HB	1.97	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:28:LYS:CB	19:S:29:PRO:CD	2.74	0.64
9:I:96:GLU:OE2	9:I:96:GLU:N	2.30	0.64
2:B:116:LEU:HA	2:B:119:GLN:OE1	1.98	0.64
17:Q:56:ASP:O	17:Q:58:VAL:HG12	1.97	0.64
12:L:23:LEU:O	12:L:24:GLU:C	2.34	0.64
1:A:844:G:C6	1:A:846:G:O2'	2.49	0.64
1:A:874:G:C5	1:A:875:U:C5	2.84	0.64
1:A:1478:U:H2'	1:A:1479:C:C6	2.32	0.64
1:A:419:C:H2'	1:A:420:U:O5'	1.97	0.64
1:A:271:C:H2'	1:A:272:C:H6	1.63	0.64
3:C:147:GLY:HA3	3:C:171:ARG:O	1.97	0.64
1:A:1083:U:C5	1:A:1084:G:C4	2.86	0.64
5:E:73:VAL:HG11	5:E:143:LEU:HB3	1.80	0.64
5:E:81:GLN:HG2	5:E:149:PRO:HB3	1.79	0.64
10:J:52:LEU:HD13	10:J:61:ALA:HB3	1.80	0.64
9:I:39:GLY:O	9:I:40:ARG:HB2	1.96	0.64
2:B:40:ILE:C	2:B:40:ILE:HD13	2.17	0.64
3:C:71:ARG:N	3:C:72:PRO:HD3	2.13	0.64
1:A:254:G:OP1	17:Q:69:THR:HB	1.96	0.64
24:Y:149:ILE:HG23	24:Y:153:ASP:HB3	1.80	0.64
1:A:832:G:C2'	1:A:833:G:H5'	2.26	0.64
1:A:1028:C:O2	1:A:1028:C:H2'	1.97	0.64
1:A:1213:A:C8	1:A:1215:G:C5	2.86	0.64
1:A:1356:G:O2'	1:A:1357:A:H5'	1.98	0.64
2:B:162:VAL:HG13	2:B:184:ALA:HB2	1.78	0.64
1:A:1304:G:OP2	26:A:1795:HOH:O	2.14	0.64
3:C:166:TRP:O	3:C:167:TYR:CD1	2.51	0.64
1:A:666:G:H5'	1:A:726:C:H1'	1.80	0.64
1:A:1083:U:C5	1:A:1084:G:C5	2.84	0.64
1:A:205:A:C2	1:A:206:C:O4'	2.50	0.64
3:C:41:TYR:OH	3:C:89:VAL:HG21	1.98	0.64
1:A:768:A:H2'	1:A:769:G:H5'	1.78	0.64
1:A:718:A:H5'	11:K:118:ASN:HB2	1.79	0.64
4:D:2:ARG:NH2	4:D:114:ARG:HD3	2.13	0.64
1:A:1313:U:OP2	19:S:5:LYS:CB	2.45	0.64
2:B:64:GLY:C	2:B:65:LYS:HD3	2.17	0.64
1:A:1101:A:C4'	1:A:1102:A:O5'	2.45	0.64
20:T:81:GLN:O	20:T:84:LYS:HB2	1.98	0.64
1:A:1202:U:H1'	14:N:69:ARG:HD2	1.78	0.64
1:A:717:U:H4'	11:K:118:ASN:HD22	1.63	0.64
1:A:802:A:H2'	1:A:803:G:H5'	1.78	0.64
1:A:575:G:O2'	1:A:821:G:H5'	1.97	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:105:THR:O	2:B:106:VAL:CB	2.46	0.64
11:K:60:PHE:O	11:K:64:VAL:HG12	1.98	0.64
12:L:23:LEU:HB2	12:L:58:ASN:HD22	1.63	0.64
1:A:945:G:C2	1:A:946:A:C8	2.86	0.64
1:A:1492:A:H3'	1:A:1493:A:C8	2.33	0.64
3:C:57:GLU:HG3	3:C:64:ARG:HB3	1.80	0.64
1:A:536:C:P	26:A:1887:HOH:O	2.56	0.64
1:A:1480:A:C2	1:A:1481:U:C2	2.86	0.64
1:A:190:A:C8	1:A:191:G:C8	2.86	0.64
1:A:395:C:H2'	1:A:396:C:C6	2.33	0.64
2:B:49:PHE:HA	2:B:52:ALA:CB	2.26	0.64
21:U:13:VAL:HG13	21:U:15:LEU:HG	1.79	0.64
4:D:189:ASP:O	4:D:190:LEU:HG	1.97	0.64
6:F:18:VAL:HB	6:F:19:PRO:HD3	1.81	0.64
1:A:542:G:N3	1:A:543:U:C6	2.65	0.64
1:A:1246:A:H2'	1:A:1247:U:C6	2.33	0.64
1:A:951:G:C6	1:A:1231:G:C6	2.86	0.64
1:A:1004:A:C4	1:A:1026:G:C5	2.87	0.64
1:A:679:C:H2'	1:A:680:C:O4'	1.97	0.64
2:B:88:GLN:C	2:B:89:PHE:CD2	2.72	0.63
20:T:53:MET:O	20:T:56:ILE:CG2	2.46	0.63
20:T:80:ALA:O	20:T:84:LYS:HG2	1.97	0.63
7:G:46:LEU:HG	7:G:57:GLU:HG3	1.80	0.63
3:C:166:TRP:C	3:C:166:TRP:HE3	2.00	0.63
1:A:214:C:H2'	1:A:215:C:H6	1.64	0.63
2:B:147:LEU:HD22	2:B:150:ILE:HG21	1.78	0.63
1:A:144:G:C4	1:A:179:A:C2	2.86	0.63
4:D:34:GLU:O	4:D:37:PRO:HD3	1.98	0.63
14:N:12:ARG:O	14:N:16:ALA:HB2	1.98	0.63
1:A:646:G:O6	26:A:1745:HOH:O	2.11	0.63
2:B:98:GLY:HA2	2:B:101:THR:HB	1.80	0.63
1:A:452:A:H3'	1:A:452:A:C8	2.33	0.63
16:P:80:LYS:HE3	16:P:80:LYS:HA	1.81	0.63
1:A:328:C:H2'	1:A:328:C:O2	1.98	0.63
8:H:21:LYS:HA	8:H:21:LYS:HE2	1.79	0.63
1:A:1194:U:H2'	1:A:1195:C:C6	2.34	0.63
7:G:68:VAL:HG11	7:G:133:ALA:HB3	1.78	0.63
2:B:53:LEU:HD12	2:B:219:THR:CG2	2.29	0.63
8:H:85:TYR:CE2	8:H:123:GLU:HB2	2.34	0.63
1:A:626:G:C2'	1:A:627:G:H5'	2.28	0.63
8:H:1:SER:C	8:H:3:GLN:H	2.01	0.63
1:A:1037:C:C2	1:A:1038:C:C5	2.87	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:19:THR:HA	13:M:24:VAL:CG2	2.28	0.63
1:A:11:G:H2'	1:A:12:U:O5'	1.98	0.63
3:C:41:TYR:CE2	3:C:45:GLU:CG	2.81	0.63
13:M:5:GLY:C	13:M:7:ASN:N	2.51	0.63
1:A:636:U:H2'	1:A:637:C:C6	2.33	0.63
6:F:47:LEU:HD13	6:F:51:ILE:HG23	1.81	0.63
3:C:152:VAL:HG23	3:C:156:LEU:HD21	1.81	0.63
1:A:148:G:H2'	1:A:149:A:O5'	1.99	0.63
13:M:53:ASP:HA	13:M:56:ARG:HB2	1.80	0.63
19:S:12:LEU:O	19:S:15:LEU:N	2.32	0.63
1:A:1378:C:C2'	1:A:1379:G:O5'	2.46	0.63
5:E:45:VAL:O	5:E:70:MET:HG3	1.99	0.63
7:G:3:ARG:HG3	7:G:4:ARG:N	2.13	0.63
1:A:976:G:C8	1:A:1358:U:O2	2.51	0.63
1:A:1181:G:N1	1:A:1182:G:N2	2.47	0.63
1:A:413:G:C6	4:D:32:LYS:HD2	2.33	0.63
22:V:21:A:C4	22:V:48:C:C5	2.86	0.63
13:M:44:ILE:HA	13:M:47:LEU:HB2	1.81	0.63
1:A:632:U:H3'	1:A:632:U:H6	1.63	0.63
1:A:960:U:C5	1:A:1225:A:C8	2.86	0.63
8:H:85:TYR:HD2	8:H:123:GLU:HA	1.63	0.63
1:A:598:U:H4'	8:H:85:TYR:HD1	1.58	0.63
1:A:143:A:H5'	1:A:144:G:C5'	2.28	0.63
4:D:173:ASP:OD1	4:D:176:LYS:HE2	1.98	0.63
4:D:176:LYS:O	4:D:177:MET:HB2	1.99	0.63
3:C:152:VAL:HG12	3:C:197:VAL:HG22	1.81	0.63
1:A:601:G:H2'	1:A:602:A:C8	2.33	0.63
1:A:609:A:H2'	1:A:610:U:H5'	1.81	0.63
1:A:481:G:H4'	1:A:481:G:OP1	1.98	0.63
9:I:113:LYS:HE2	9:I:117:LEU:O	1.98	0.63
1:A:1444:U:H2'	1:A:1444:U:O2	1.98	0.63
4:D:78:ALA:HB1	4:D:85:THR:O	1.98	0.63
4:D:117:VAL:HA	4:D:122:ILE:CD1	2.28	0.62
5:E:82:HIS:CD2	8:H:95:MET:SD	2.92	0.62
1:A:209:U:C4'	1:A:210:C:OP2	2.47	0.62
1:A:880:C:OP2	12:L:2:THR:HG21	1.99	0.62
8:H:64:TYR:HD2	8:H:69:ALA:HA	1.63	0.62
1:A:595:A:C6	1:A:641:U:C6	2.87	0.62
1:A:842:U:O2	1:A:842:U:H2'	1.99	0.62
1:A:399:G:H2'	1:A:400:C:C6	2.34	0.62
2:B:48:MET:O	2:B:52:ALA:HB2	1.98	0.62
6:F:92:THR:O	6:F:93:LYS:HG2	1.99	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:407:U:C2	1:A:408:A:C8	2.87	0.62
1:A:501:C:OP1	12:L:113:ARG:NH2	2.32	0.62
5:E:82:HIS:HD2	8:H:95:MET:SD	2.23	0.62
10:J:59:LYS:HD2	10:J:59:LYS:C	2.19	0.62
2:B:14:HIS:HB2	2:B:208:ALA:HB2	1.81	0.62
9:I:5:TYR:HB3	9:I:88:GLU:HG2	1.81	0.62
10:J:44:THR:CG2	10:J:70:HIS:HA	2.28	0.62
21:U:36:PHE:HA	21:U:39:LYS:HE2	1.80	0.62
13:M:76:ILE:CG2	13:M:80:MET:CE	2.77	0.62
1:A:100:G:N7	1:A:101:A:N7	2.47	0.62
1:A:224:U:H2'	1:A:225:C:H6	1.65	0.62
1:A:737:C:H2'	1:A:738:C:H6	1.63	0.62
1:A:595:A:C6	1:A:641:U:C5	2.87	0.62
1:A:1211:U:C2'	1:A:1212:U:OP2	2.46	0.62
2:B:118:THR:O	2:B:119:GLN:CB	2.47	0.62
2:B:133:ALA:O	2:B:137:THR:HG23	1.99	0.62
2:B:53:LEU:HD22	2:B:53:LEU:N	2.14	0.62
1:A:1102:A:C2'	1:A:1103:C:H5'	2.30	0.62
1:A:1539:C:H5''	21:U:17:ARG:CG	2.28	0.62
1:A:412:A:H1'	1:A:413:G:H5''	1.82	0.62
4:D:49:ASP:O	4:D:53:GLN:HB2	1.98	0.62
11:K:126:ARG:N	21:U:33:ARG:CZ	2.62	0.62
1:A:1041:G:H2'	1:A:1042:A:C8	2.35	0.62
1:A:189:A:N7	1:A:190:A:C6	2.67	0.62
1:A:1442:G:C2'	1:A:1443:C:O5'	2.46	0.62
20:T:4:LYS:O	20:T:6:ALA:N	2.32	0.62
2:B:63:LYS:HD3	2:B:64:GLY:N	2.14	0.62
5:E:132:PRO:O	5:E:134:ASN:N	2.33	0.62
22:V:17:C:H3'	22:V:17:C:C6	2.35	0.62
13:M:9:PRO:O	13:M:10:ASP:CB	2.48	0.62
1:A:214:C:O2'	1:A:215:C:H5'	1.99	0.62
1:A:25:C:C5	1:A:558:G:N2	2.68	0.62
1:A:1210:C:O4'	1:A:1214:C:C5	2.53	0.62
21:U:24:LYS:CD	21:U:25:ALA:N	2.63	0.62
1:A:973:G:H1'	10:J:56:HIS:HD2	1.64	0.62
10:J:57:VAL:HG22	10:J:58:ASN:H	1.65	0.62
8:H:6:ILE:O	8:H:10:LEU:HD23	1.99	0.62
1:A:1034:G:H2'	1:A:1035:A:O4'	2.00	0.62
3:C:120:THR:HG22	3:C:121:SER:N	2.14	0.62
4:D:62:ARG:HA	4:D:62:ARG:HE	1.65	0.62
6:F:17:GLN:O	6:F:18:VAL:C	2.38	0.62
1:A:997:U:C2'	1:A:998:C:H5'	2.29	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1125:U:C5	1:A:1127:G:C6	2.88	0.62
24:Y:7:ARG:HD3	24:Y:160:ASP:OD2	2.00	0.62
20:T:70:LYS:HG3	20:T:74:HIS:CD2	2.35	0.62
4:D:54:LEU:HD23	4:D:55:ARG:N	2.15	0.62
1:A:1060:U:H5'	10:J:53:ILE:CG2	2.30	0.62
9:I:14:SER:HA	9:I:68:GLY:O	1.99	0.62
1:A:1057:G:C2'	1:A:1058:G:O5'	2.48	0.62
24:Y:110:ARG:O	24:Y:111:ARG:C	2.37	0.62
16:P:51:ARG:CG	16:P:51:ARG:HH11	2.13	0.62
11:K:85:VAL:HG12	11:K:92:ARG:NH1	2.15	0.62
1:A:274:A:H5'	17:Q:15:LYS:CE	2.30	0.62
5:E:89:THR:HG22	5:E:90:GLY:H	1.65	0.62
22:V:62:C:C2	22:V:63:G:C8	2.88	0.62
14:N:41:ARG:HG3	14:N:42:TRP:CD2	2.34	0.62
20:T:54:GLN:HB3	20:T:55:PRO:CD	2.29	0.62
1:A:451:A:O4'	1:A:452:A:C2	2.53	0.62
1:A:1305:G:O2'	1:A:1306:A:C8	2.53	0.62
11:K:34:THR:HA	11:K:40:ALA:HA	1.81	0.62
9:I:105:ARG:NH1	9:I:107:ALA:HA	2.15	0.62
24:Y:146:ASP:O	24:Y:148:GLU:N	2.32	0.62
1:A:999:C:H2'	1:A:1000:A:C8	2.35	0.62
1:A:841:C:H5'	1:A:843:U:OP2	1.99	0.62
8:H:82:LEU:HD13	8:H:84:ILE:HD11	1.82	0.62
6:F:8:PHE:CE1	6:F:60:VAL:HB	2.35	0.62
2:B:215:ALA:O	2:B:219:THR:CG2	2.47	0.62
2:B:60:ALA:HA	2:B:64:GLY:N	2.14	0.62
1:A:459:A:C2'	1:A:460:A:O4'	2.46	0.62
4:D:24:VAL:HG12	4:D:25:ARG:N	2.15	0.62
5:E:155:LYS:HA	8:H:65:PHE:CD2	2.35	0.62
1:A:943:U:H2'	1:A:944:G:H5'	1.81	0.62
19:S:50:VAL:HG12	19:S:51:HIS:O	2.00	0.62
7:G:39:GLU:HA	7:G:42:VAL:HG22	1.82	0.62
12:L:49:ARG:CB	12:L:89:LEU:HD21	2.29	0.62
1:A:40:C:H2'	1:A:41:G:O4'	2.00	0.62
4:D:124:VAL:HG23	4:D:125:ASN:N	2.15	0.62
10:J:80:THR:O	10:J:83:THR:HG22	2.00	0.61
4:D:156:ALA:O	4:D:159:GLU:HB3	2.00	0.61
19:S:12:LEU:O	19:S:14:LEU:N	2.32	0.61
4:D:2:ARG:CZ	4:D:114:ARG:HD3	2.30	0.61
1:A:1023:U:H2'	1:A:1024:G:O4'	2.00	0.61
1:A:164:G:H2'	1:A:165:G:H5'	1.81	0.61
1:A:868:C:C2'	1:A:869:G:H5'	2.30	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:86:ARG:CG	6:F:86:ARG:HH11	2.13	0.61
1:A:258:G:N2	1:A:259:G:H1'	2.14	0.61
11:K:52:ARG:NH2	11:K:56:LYS:HE2	2.14	0.61
4:D:115:GLN:NE2	4:D:119:HIS:CE1	2.68	0.61
1:A:511:C:H1'	1:A:512:U:H6	1.65	0.61
1:A:1233:G:C6	1:A:1234:C:C4	2.88	0.61
9:I:29:ILE:HD11	9:I:37:TYR:CD2	2.35	0.61
19:S:8:PRO:HB2	19:S:40:PHE:HZ	1.65	0.61
1:A:595:A:C5	1:A:641:U:C5	2.88	0.61
6:F:46:GLN:HB2	6:F:56:LYS:HE3	1.82	0.61
11:K:87:GLY:H	11:K:113:THR:HG22	1.66	0.61
1:A:1527:U:H2'	1:A:1528:U:C6	2.35	0.61
13:M:76:ILE:HG23	13:M:80:MET:HE1	1.80	0.61
7:G:21:LEU:HD11	7:G:61:PHE:CZ	2.36	0.61
3:C:155:ARG:H	3:C:162:ALA:HA	1.65	0.61
1:A:1213:A:C5	1:A:1215:G:C4	2.87	0.61
17:Q:13:SER:CB	17:Q:21:VAL:CG1	2.79	0.61
17:Q:45:VAL:HG11	17:Q:60:ILE:HG13	1.83	0.61
6:F:5:GLU:HB3	6:F:90:MET:HB2	1.83	0.61
1:A:429:U:H3'	4:D:8:LEU:HD23	1.82	0.61
1:A:8:A:C6	4:D:205:LYS:HB3	2.35	0.61
4:D:190:LEU:O	4:D:190:LEU:HD12	2.00	0.61
4:D:3:TYR:C	4:D:3:TYR:CD1	2.71	0.61
15:O:41:HIS:CD2	15:O:42:PHE:CE2	2.88	0.61
1:A:1313:U:P	19:S:5:LYS:HB3	2.41	0.61
2:B:118:THR:O	2:B:119:GLN:HB2	2.01	0.61
11:K:124:LYS:HG2	11:K:125:LYS:H	1.64	0.61
5:E:72:ASN:H	5:E:72:ASN:HD22	1.48	0.61
1:A:91:U:C2	1:A:92:U:H1'	2.35	0.61
1:A:64:G:C8	1:A:99:C:N4	2.68	0.61
4:D:131:ILE:HD12	4:D:134:TYR:H	1.64	0.61
5:E:59:ILE:O	5:E:62:ALA:HB3	2.01	0.61
1:A:757:U:O2'	1:A:879:C:H1'	2.00	0.61
1:A:853:C:H2'	1:A:854:U:H6	1.66	0.61
1:A:121:U:OP2	1:A:121:U:H4'	2.00	0.61
2:B:63:LYS:O	2:B:65:LYS:HE2	2.00	0.61
16:P:73:ALA:O	16:P:77:GLU:CB	2.48	0.61
1:A:542:G:C4	1:A:543:U:C5	2.88	0.61
1:A:468:A:H5'	1:A:469:C:OP2	2.01	0.61
16:P:51:ARG:HG2	16:P:51:ARG:HH11	1.64	0.61
1:A:983:A:N3	1:A:983:A:C2'	2.62	0.61
10:J:14:ASP:HB3	10:J:17:LEU:HD22	1.81	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:28:THR:O	10:J:32:THR:HG22	2.01	0.61
4:D:21:LYS:O	4:D:23:GLY:N	2.33	0.61
2:B:168:GLU:OE1	2:B:168:GLU:HA	2.00	0.61
9:I:33:SER:CB	9:I:36:GLN:HG3	2.30	0.61
3:C:122:GLN:O	3:C:127:VAL:HG22	2.00	0.61
1:A:545:C:OP1	4:D:68:GLU:HG3	2.01	0.61
15:O:18:ALA:O	15:O:19:ASN:CB	2.49	0.61
2:B:71:THR:O	2:B:72:LYS:HB3	2.01	0.61
2:B:88:GLN:HG2	2:B:220:VAL:HG11	1.83	0.61
4:D:9:LYS:HA	4:D:12:ARG:HG3	1.83	0.61
11:K:125:LYS:C	21:U:33:ARG:CZ	2.69	0.61
5:E:80:LEU:HD21	5:E:122:VAL:HG12	1.82	0.61
1:A:943:U:C2'	1:A:944:G:H5'	2.30	0.61
7:G:119:LEU:HD22	7:G:123:LEU:HD23	1.82	0.61
6:F:7:VAL:O	6:F:7:VAL:HG22	1.99	0.61
7:G:14:ASP:H	7:G:23:ALA:HB2	1.66	0.61
1:A:61:G:C4	1:A:107:G:N2	2.68	0.61
6:F:92:THR:HG22	6:F:93:LYS:N	2.14	0.61
1:A:429:U:H1'	1:A:430:A:H5''	1.81	0.61
1:A:495:A:C2	1:A:496:A:N6	2.69	0.61
16:P:79:ASN:HB2	16:P:82:ALA:O	2.00	0.61
21:U:10:PRO:HD2	21:U:11:PHE:CD2	2.36	0.61
1:A:1392:G:O2'	1:A:1393:U:H5'	2.00	0.61
13:M:18:LEU:CD1	13:M:32:ILE:HG21	2.31	0.61
1:A:462:G:H3'	1:A:463:U:C6	2.35	0.61
13:M:44:ILE:HA	13:M:47:LEU:CB	2.31	0.61
13:M:113:LYS:CB	13:M:114:PRO:CD	2.78	0.61
1:A:202:G:O2'	1:A:468:A:C8	2.48	0.61
13:M:45:SER:O	13:M:46:GLU:HB3	2.01	0.61
15:O:34:GLN:HB3	15:O:58:MET:CE	2.30	0.61
1:A:1342:C:O2'	1:A:1343:G:H5'	2.00	0.61
1:A:983:A:N3	1:A:983:A:H2'	2.16	0.60
2:B:110:ILE:CG1	2:B:150:ILE:HG12	2.30	0.60
17:Q:54:ILE:HD13	17:Q:54:ILE:C	2.21	0.60
4:D:168:THR:HB	4:D:183:ARG:NH2	2.15	0.60
10:J:26:VAL:O	10:J:30:LYS:HD3	2.01	0.60
1:A:1032:G:C5'	1:A:1033:G:OP2	2.47	0.60
5:E:39:GLY:HA3	5:E:116:VAL:O	2.01	0.60
5:E:81:GLN:OE1	5:E:147:ASN:O	2.18	0.60
1:A:190:A:N7	1:A:191:G:C8	2.69	0.60
15:O:34:GLN:HB3	15:O:58:MET:HE1	1.82	0.60
24:Y:10:ALA:O	24:Y:11:GLU:C	2.38	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:294:U:H2'	1:A:295:C:C6	2.36	0.60
1:A:1228:C:OP2	13:M:106:ARG:NH2	2.34	0.60
1:A:1356:G:N2	1:A:1357:A:N3	2.48	0.60
13:M:19:THR:CA	13:M:24:VAL:HG23	2.30	0.60
4:D:121:ALA:N	4:D:122:ILE:CD1	2.64	0.60
5:E:80:LEU:CD2	5:E:122:VAL:HG12	2.31	0.60
3:C:51:VAL:HG21	3:C:67:ILE:CG2	2.31	0.60
8:H:78:SER:HA	8:H:84:ILE:HG12	1.83	0.60
6:F:10:VAL:CG1	6:F:11:HIS:N	2.64	0.60
1:A:340:U:H2'	1:A:341:C:H6	1.65	0.60
20:T:33:LYS:HA	20:T:33:LYS:CE	2.29	0.60
17:Q:14:ASP:OD1	17:Q:54:ILE:HB	2.01	0.60
1:A:175:C:O2'	1:A:176:C:H5'	2.01	0.60
21:U:35:GLU:O	21:U:36:PHE:CB	2.50	0.60
5:E:102:THR:CG2	5:E:103:GLY:N	2.65	0.60
1:A:1286:U:C5'	1:A:1287:A:OP2	2.50	0.60
9:I:25:GLY:HA3	9:I:57:VAL:O	2.00	0.60
1:A:1533:C:H5'	1:A:1534:A:OP1	2.01	0.60
1:A:1506:U:H4'	11:K:128:VAL:OXT	2.00	0.60
6:F:46:GLN:HB2	6:F:56:LYS:CE	2.32	0.60
3:C:61:LYS:HA	3:C:61:LYS:CE	2.30	0.60
1:A:1317:C:H2'	1:A:1318:A:C5'	2.32	0.60
1:A:274:A:C5'	17:Q:15:LYS:HE2	2.32	0.60
1:A:425:G:H2'	1:A:426:U:O4'	2.02	0.60
1:A:972:C:H4'	10:J:59:LYS:HE2	1.83	0.60
16:P:19:VAL:HG22	16:P:36:VAL:O	2.00	0.60
9:I:25:GLY:CA	9:I:58:GLU:HA	2.30	0.60
3:C:54:ILE:HD12	3:C:54:ILE:O	2.01	0.60
15:O:72:LYS:CE	15:O:72:LYS:HA	2.30	0.60
16:P:48:GLU:HG3	16:P:49:GLY:N	2.16	0.60
1:A:437:U:C2'	1:A:438:U:H5'	2.31	0.60
16:P:73:ALA:O	16:P:77:GLU:HB3	2.01	0.60
14:N:20:PHE:HA	14:N:24:ALA:HB3	1.82	0.60
1:A:802:A:H2'	1:A:803:G:C5'	2.32	0.60
1:A:930:C:C4	1:A:931:C:C5	2.89	0.60
8:H:57:GLU:HA	8:H:57:GLU:OE2	2.01	0.60
6:F:86:ARG:HH11	6:F:86:ARG:HG2	1.67	0.60
1:A:1216:A:H2'	1:A:1217:C:H6	1.66	0.60
1:A:1320:C:H2'	1:A:1321:U:O4'	2.00	0.60
3:C:142:ARG:CG	3:C:143:LEU:HD13	2.30	0.60
10:J:63:ASP:OD1	14:N:85:ARG:CD	2.50	0.60
1:A:1502:A:C8	1:A:1504:G:C5	2.89	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:533:A:C2	1:A:536:C:C6	2.89	0.60
10:J:5:ARG:HG2	10:J:79:PRO:CB	2.32	0.60
20:T:67:HIS:HB3	20:T:68:LYS:HE3	1.84	0.60
18:R:19:GLU:N	18:R:27:THR:HG21	2.17	0.60
1:A:402:G:C2'	1:A:403:C:H5'	2.31	0.60
1:A:1231:G:C5	1:A:1232:U:C5	2.89	0.60
3:C:205:GLU:O	3:C:206:ILE:O	2.20	0.60
1:A:58:C:O2'	1:A:388:G:N7	2.17	0.60
1:A:1134:G:C5	1:A:1141:C:N4	2.69	0.60
2:B:160:LEU:O	2:B:162:VAL:HG12	2.02	0.60
1:A:694:A:OP1	11:K:54:SER:HB3	2.01	0.60
1:A:502:A:O2'	1:A:503:C:H5'	2.02	0.60
1:A:1491:G:H2'	1:A:1492:A:C8	2.36	0.60
3:C:86:LEU:O	3:C:87:ARG:C	2.40	0.60
24:Y:41:ILE:HG22	24:Y:52:LEU:HB3	1.82	0.60
1:A:889:A:H5'	1:A:891:U:O4'	2.02	0.60
14:N:25:GLU:HB2	14:N:28:ALA:HB2	1.83	0.60
10:J:7:ARG:HB2	10:J:75:ASP:OD1	2.02	0.60
1:A:909:A:C8	1:A:910:C:C5	2.90	0.60
20:T:43:LYS:HB3	20:T:86:ALA:HB1	1.83	0.60
11:K:109:ILE:CG2	21:U:16:ARG:HE	2.14	0.60
1:A:1216:A:C2	1:A:1217:C:C5	2.89	0.60
2:B:63:LYS:CE	2:B:63:LYS:HA	2.27	0.60
21:U:33:ARG:NH2	21:U:34:ARG:HD2	2.16	0.60
1:A:1238:A:C2	1:A:1241:G:N3	2.69	0.60
1:A:1060:U:H4'	10:J:53:ILE:CG2	2.30	0.60
2:B:32:GLY:HA3	2:B:39:ILE:N	2.17	0.60
1:A:447:G:N2	1:A:486:U:C4	2.70	0.60
19:S:43:MET:HA	19:S:46:LEU:HD12	1.84	0.60
13:M:71:GLU:O	13:M:74:MET:CB	2.50	0.60
7:G:39:GLU:HA	7:G:42:VAL:CG2	2.32	0.60
1:A:952:U:H2'	1:A:953:G:C8	2.37	0.60
22:V:69:G:C2'	22:V:70:G:H5'	2.32	0.60
1:A:1320:C:OP1	19:S:69:LYS:HG3	2.01	0.60
20:T:53:MET:O	20:T:56:ILE:HG22	2.02	0.60
1:A:451:A:C2	1:A:480:U:C4	2.90	0.60
1:A:1306:A:N7	1:A:1307:U:C5	2.70	0.60
14:N:43:ASN:HA	14:N:45:VAL:HG22	1.82	0.60
1:A:380:G:N2	1:A:384:G:C5	2.70	0.60
1:A:632:U:H2'	1:A:633:G:OP1	2.02	0.60
1:A:1443:C:C4	1:A:1444:U:C5	2.89	0.60
14:N:51:LEU:HD23	14:N:51:LEU:N	2.17	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1138:G:N7	1:A:1140:C:O4'	2.35	0.60
1:A:713:G:H2'	1:A:714:G:C8	2.37	0.60
1:A:955:U:C4	1:A:956:U:C4	2.90	0.60
17:Q:62:GLU:HB2	17:Q:72:TRP:CH2	2.37	0.60
1:A:1539:C:C5'	21:U:17:ARG:HG3	2.30	0.60
6:F:3:HIS:O	6:F:4:TYR:CG	2.54	0.60
1:A:1158:C:N4	1:A:1160:G:C4	2.70	0.60
10:J:26:VAL:HG12	10:J:30:LYS:HD3	1.84	0.60
3:C:152:VAL:HG23	3:C:156:LEU:CD2	2.31	0.60
1:A:1213:A:N7	1:A:1215:G:C5	2.70	0.59
1:A:270:A:N7	1:A:271:C:C4	2.70	0.59
17:Q:11:VAL:O	17:Q:12:VAL:HG12	2.02	0.59
11:K:80:ASN:HB3	11:K:105:ARG:CB	2.31	0.59
1:A:624:C:H2'	1:A:625:U:O5'	2.02	0.59
4:D:54:LEU:C	4:D:54:LEU:HD23	2.22	0.59
22:V:17:C:O3'	22:V:18:G:C4'	2.50	0.59
1:A:1285:A:H5'	1:A:1286:U:O4	2.01	0.59
17:Q:49:ASN:O	17:Q:51:GLU:N	2.35	0.59
3:C:71:ARG:N	3:C:72:PRO:CD	2.65	0.59
1:A:1053:G:N7	1:A:1199:U:H3'	2.17	0.59
6:F:53:LYS:O	6:F:54:LEU:CB	2.47	0.59
1:A:243:A:C2	1:A:246:A:C8	2.90	0.59
1:A:418:C:O2'	1:A:419:C:H5'	2.02	0.59
5:E:150:GLU:O	5:E:153:ALA:HB3	2.02	0.59
1:A:208:U:H5	1:A:210:C:C5	2.21	0.59
2:B:14:HIS:CB	2:B:208:ALA:HB2	2.32	0.59
13:M:3:ILE:HD11	13:M:9:PRO:HG3	1.83	0.59
1:A:721:G:C6	1:A:733:G:C2	2.90	0.59
12:L:2:THR:HG22	12:L:4:ASN:CB	2.32	0.59
6:F:70:VAL:HA	6:F:73:GLU:HG3	1.84	0.59
6:F:70:VAL:HA	6:F:73:GLU:CG	2.32	0.59
1:A:982:U:H4'	1:A:983:A:O5'	2.02	0.59
2:B:106:VAL:H	2:B:108:GLN:HG2	1.67	0.59
21:U:24:LYS:CD	21:U:25:ALA:H	2.15	0.59
4:D:28:ASP:O	4:D:30:LYS:HD3	2.02	0.59
22:V:21:A:C5	22:V:48:C:C5	2.91	0.59
1:A:170:U:O2'	1:A:171:A:C5'	2.50	0.59
1:A:196:A:N3	1:A:222:C:H1'	2.17	0.59
1:A:373:A:C2	1:A:482:A:C6	2.91	0.59
1:A:1202:U:C2'	1:A:1203:C:H5'	2.32	0.59
17:Q:51:GLU:H	17:Q:51:GLU:CD	2.06	0.59
2:B:15:PHE:O	2:B:40:ILE:HD12	2.01	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:2:THR:CG2	12:L:4:ASN:HB2	2.31	0.59
8:H:35:ILE:HD11	8:H:125:ILE:HG21	1.82	0.59
13:M:21:ILE:CB	13:M:24:VAL:HG22	2.33	0.59
13:M:25:GLY:O	13:M:26:LYS:C	2.40	0.59
1:A:657:U:O2	1:A:657:U:H2'	2.02	0.59
1:A:482:A:C2	1:A:483:C:H1'	2.38	0.59
2:B:18:GLN:HG2	2:B:189:ASN:HD22	1.68	0.59
6:F:51:ILE:O	6:F:51:ILE:HG12	2.02	0.59
1:A:749:A:C2	1:A:750:C:C2	2.91	0.59
2:B:151:LYS:HG3	2:B:152:ASP:O	2.02	0.59
22:V:47:U:O2	22:V:47:U:H2'	2.01	0.59
1:A:513:C:O2'	1:A:514:C:O5'	2.21	0.59
1:A:1286:U:H5'	1:A:1287:A:OP2	2.02	0.59
10:J:52:LEU:HB3	14:N:81:ARG:NE	2.18	0.59
10:J:52:LEU:HD22	10:J:62:ARG:HG2	1.83	0.59
15:O:86:LEU:N	15:O:86:LEU:CD2	2.65	0.59
2:B:185:ILE:O	2:B:185:ILE:HG13	2.02	0.59
12:L:43:LYS:CB	12:L:44:PRO:CD	2.80	0.59
1:A:1293:C:H5'	1:A:1294:G:OP2	2.03	0.59
1:A:1268:G:C6	1:A:1269:A:N6	2.71	0.59
10:J:80:THR:HG22	10:J:82:LYS:H	1.67	0.59
1:A:481:G:H2'	1:A:483:C:N4	2.18	0.59
1:A:572:A:H5'	1:A:573:A:OP2	2.03	0.59
2:B:20:ARG:O	2:B:22:TRP:HD1	1.84	0.59
19:S:50:VAL:HG22	19:S:70:LEU:HD12	1.84	0.59
1:A:115:G:H4'	1:A:116:A:O5'	2.01	0.59
2:B:70:GLY:HA2	2:B:163:ILE:CG2	2.32	0.59
24:Y:33:ALA:O	24:Y:34:SER:CB	2.50	0.59
1:A:198:G:C6	1:A:220:G:C2	2.91	0.59
1:A:159:G:C5'	1:A:159:G:H8	2.16	0.59
17:Q:3:LYS:HD2	17:Q:3:LYS:O	2.03	0.59
7:G:145:GLU:O	7:G:148:LYS:HB3	2.02	0.59
3:C:154:GLY:HA2	3:C:163:ARG:H	1.68	0.59
6:F:60:VAL:HG12	6:F:60:VAL:O	2.02	0.59
14:N:49:GLN:HA	14:N:49:GLN:OE1	2.01	0.59
1:A:1141:C:C2	1:A:1142:G:C8	2.91	0.59
11:K:52:ARG:O	11:K:55:ARG:CG	2.51	0.59
4:D:150:LYS:HA	4:D:177:MET:HE1	1.85	0.59
1:A:463:U:O2	1:A:463:U:H2'	2.01	0.59
1:A:390:U:C2'	1:A:391:G:O5'	2.51	0.59
24:Y:145:LYS:H	24:Y:145:LYS:HE2	1.68	0.59
1:A:1040:U:H2'	1:A:1041:G:C8	2.38	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:723:U:H5'	1:A:724:G:O5'	2.02	0.59
4:D:138:PRO:O	4:D:139:ASN:HB2	2.01	0.59
2:B:125:PHE:N	2:B:125:PHE:CD2	2.70	0.59
19:S:4:LEU:O	19:S:5:LYS:CG	2.51	0.59
2:B:69:VAL:HG22	2:B:91:VAL:HB	1.85	0.59
1:A:256:U:H2'	1:A:257:G:C8	2.37	0.59
17:Q:21:VAL:HG22	17:Q:22:VAL:N	2.18	0.59
1:A:149:A:H1'	1:A:1446:A:C2	2.37	0.59
3:C:6:PRO:HD2	3:C:183:TYR:CD2	2.38	0.59
1:A:222:C:O2	1:A:222:C:H2'	2.02	0.59
9:I:62:LEU:CD2	9:I:62:LEU:N	2.65	0.59
24:Y:141:LYS:O	24:Y:145:LYS:CE	2.51	0.59
3:C:166:TRP:CE3	3:C:166:TRP:C	2.76	0.59
7:G:121:ASN:O	7:G:124:SER:HB3	2.02	0.59
5:E:108:GLY:HA2	5:E:111:ARG:CB	2.33	0.59
12:L:98:ARG:HA	12:L:103:CYS:SG	2.42	0.59
14:N:4:SER:O	14:N:8:ARG:HG3	2.03	0.59
14:N:73:PHE:CD1	14:N:74:LEU:N	2.71	0.59
2:B:135:MET:N	2:B:135:MET:SD	2.75	0.59
2:B:110:ILE:HD11	2:B:150:ILE:HG12	1.85	0.59
1:A:1145:A:C2'	1:A:1146:A:OP2	2.49	0.59
1:A:922:G:N1	1:A:923:A:C2	2.71	0.59
1:A:1333:A:C2'	1:A:1334:G:O5'	2.50	0.59
1:A:882:C:C2'	1:A:883:C:O5'	2.50	0.59
22:V:33:U:H2'	22:V:35:A:OP2	2.03	0.59
17:Q:12:VAL:HG13	17:Q:21:VAL:HG13	1.84	0.59
11:K:126:ARG:HB2	21:U:33:ARG:HD2	1.84	0.59
1:A:79:G:N2	1:A:91:U:C4	2.71	0.59
18:R:39:VAL:HG13	18:R:40:PRO:HD2	1.83	0.59
1:A:1180:A:OP1	9:I:104:THR:HG23	2.03	0.59
14:N:15:LEU:O	14:N:17:ASP:N	2.35	0.59
7:G:119:LEU:CD2	7:G:123:LEU:HD23	2.32	0.59
1:A:718:A:C2'	1:A:719:C:H5'	2.33	0.59
5:E:108:GLY:O	5:E:109:ALA:HB3	2.03	0.59
1:A:708:C:H2'	1:A:709:U:H6	1.68	0.59
8:H:13:ILE:O	8:H:15:ASN:N	2.36	0.59
1:A:1271:A:H5'	1:A:1314:C:C5'	2.31	0.58
1:A:194:C:C2'	1:A:195:A:H5'	2.33	0.58
1:A:208:U:C5	1:A:210:C:C5	2.91	0.58
1:A:386:C:C2'	1:A:387:U:H5'	2.33	0.58
1:A:1367:C:H5''	10:J:62:ARG:NH1	2.18	0.58
1:A:36:C:OP1	12:L:119:LYS:HE3	2.03	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:833:G:C5	1:A:834:U:C5	2.91	0.58
1:A:882:C:H2'	1:A:883:C:O5'	2.04	0.58
1:A:634:C:H2'	1:A:635:A:O4'	2.03	0.58
11:K:81:LEU:N	11:K:81:LEU:CD2	2.65	0.58
17:Q:13:SER:HB2	17:Q:21:VAL:HG11	1.84	0.58
1:A:622:A:H2'	1:A:623:C:H5'	1.83	0.58
5:E:68:ARG:HH11	5:E:68:ARG:HG3	1.68	0.58
4:D:125:ASN:HA	4:D:141:VAL:CG2	2.32	0.58
21:U:24:LYS:HD3	21:U:25:ALA:N	2.18	0.58
16:P:16:PHE:CD1	16:P:16:PHE:C	2.75	0.58
4:D:122:ILE:N	4:D:122:ILE:CD1	2.66	0.58
22:V:21:A:C6	22:V:46:G:C4	2.91	0.58
9:I:119:LYS:O	9:I:120:ALA:HB3	2.03	0.58
9:I:20:ILE:HD13	9:I:86:LEU:HD12	1.85	0.58
11:K:95:THR:O	11:K:99:LEU:HD22	2.03	0.58
1:A:1532:U:C4	1:A:1533:C:N4	2.71	0.58
12:L:93:ARG:C	12:L:94:TYR:CD2	2.77	0.58
1:A:327:A:O3'	1:A:328:C:H4'	2.02	0.58
14:N:46:LEU:O	14:N:48:LEU:N	2.36	0.58
22:V:50:U:C2	22:V:51:U:C5	2.92	0.58
2:B:165:ALA:HB2	2:B:186:VAL:HG12	1.85	0.58
12:L:80:LEU:HB2	12:L:101:LEU:HD22	1.84	0.58
2:B:158:ASP:O	2:B:181:PRO:HD2	2.04	0.58
2:B:56:LEU:HD21	2:B:220:VAL:HG22	1.86	0.58
1:A:259:G:C6	1:A:260:G:C5	2.90	0.58
1:A:271:C:H2'	1:A:272:C:C6	2.38	0.58
1:A:277:C:O2'	1:A:278:G:H5'	2.02	0.58
17:Q:11:VAL:O	17:Q:12:VAL:CB	2.51	0.58
1:A:412:A:C1'	1:A:413:G:H5''	2.34	0.58
4:D:158:LEU:O	4:D:161:ALA:HB3	2.03	0.58
21:U:36:PHE:HB3	21:U:40:PRO:HG3	1.85	0.58
1:A:93:U:H2'	1:A:94:G:H5'	1.83	0.58
1:A:209:U:H5''	1:A:210:C:OP2	2.02	0.58
16:P:6:LEU:HD13	16:P:71:VAL:HG23	1.85	0.58
16:P:19:VAL:HG13	16:P:38:PHE:CA	2.31	0.58
21:U:11:PHE:N	21:U:11:PHE:HD2	2.01	0.58
3:C:96:VAL:CB	3:C:97:PRO:CD	2.81	0.58
16:P:3:THR:HG22	16:P:4:ILE:N	2.19	0.58
9:I:96:GLU:N	9:I:96:GLU:CD	2.57	0.58
1:A:1292:G:H2'	1:A:1293:C:O4'	2.03	0.58
1:A:602:A:O2'	1:A:603:U:H5'	2.03	0.58
1:A:739:C:C4	1:A:740:U:C5	2.91	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:66:ILE:HB	2:B:88:GLN:HB3	1.85	0.58
17:Q:11:VAL:O	17:Q:12:VAL:HB	2.04	0.58
17:Q:54:ILE:HD13	17:Q:55:GLY:N	2.18	0.58
1:A:142:G:H2'	1:A:142:G:N3	2.18	0.58
3:C:52:SER:O	3:C:53:ARG:CB	2.49	0.58
1:A:502:A:H2'	1:A:503:C:C6	2.39	0.58
21:U:11:PHE:N	21:U:11:PHE:CD2	2.71	0.58
1:A:925:G:O4'	1:A:1502:A:C2	2.57	0.58
19:S:61:VAL:HA	19:S:65:MET:SD	2.44	0.58
1:A:505:G:H4'	1:A:534:U:C4	2.38	0.58
1:A:1005:A:H2'	1:A:1006:G:O4'	2.04	0.58
1:A:1259:C:H5''	1:A:1260:G:OP2	2.03	0.58
1:A:1356:G:N2	1:A:1357:A:C2	2.72	0.58
2:B:131:LYS:O	2:B:133:ALA:N	2.37	0.58
10:J:40:ILE:CG2	10:J:73:LEU:HB2	2.33	0.58
8:H:74:ILE:HD11	8:H:128:VAL:HG22	1.83	0.58
1:A:553:A:O4'	12:L:27:PRO:HA	2.04	0.58
4:D:57:LYS:HB3	4:D:199:ILE:HG22	1.86	0.58
1:A:411:A:P	4:D:25:ARG:HH22	2.26	0.58
11:K:125:LYS:HD3	11:K:125:LYS:N	2.18	0.58
1:A:463:U:H5'	1:A:464:U:OP2	2.03	0.58
1:A:1114:C:O2	1:A:1114:C:H2'	2.03	0.58
6:F:24:ARG:HH11	6:F:24:ARG:HG2	1.69	0.58
14:N:15:LEU:O	14:N:16:ALA:C	2.42	0.58
1:A:44:A:C2'	1:A:45:G:H5'	2.33	0.58
1:A:299:G:C6	1:A:300:A:N1	2.71	0.58
1:A:1487:G:N2	1:A:1488:G:H1'	2.19	0.58
1:A:1253:G:N2	1:A:1254:A:C4	2.72	0.58
5:E:81:GLN:CG	5:E:149:PRO:HB3	2.33	0.58
22:V:61:C:H2'	22:V:62:C:C6	2.38	0.58
8:H:31:LEU:C	8:H:31:LEU:CD1	2.72	0.58
1:A:1309:G:OP1	13:M:90:HIS:HE1	1.87	0.58
1:A:1061:G:C5	1:A:1197:A:C2	2.92	0.58
3:C:64:ARG:O	3:C:99:GLN:O	2.22	0.58
11:K:21:HIS:CD2	11:K:34:THR:CG2	2.86	0.58
1:A:601:G:H2'	1:A:602:A:H8	1.67	0.58
16:P:51:ARG:NH1	16:P:51:ARG:HB3	2.19	0.58
1:A:27:G:C2'	1:A:28:A:O5'	2.51	0.58
7:G:49:LEU:HD11	7:G:60:ALA:HB1	1.86	0.58
2:B:49:PHE:CD1	2:B:49:PHE:C	2.76	0.58
2:B:60:ALA:HA	2:B:64:GLY:HA3	1.85	0.58
4:D:31:CYS:SG	4:D:33:ILE:N	2.77	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:124:LYS:C	21:U:33:ARG:HH21	2.06	0.58
1:A:514:C:H2'	1:A:515:G:O5'	2.04	0.58
1:A:1338:G:H1'	22:V:41:C:O2'	2.03	0.58
1:A:620:C:H1'	4:D:131:ILE:HD11	1.85	0.58
1:A:108:G:C6	20:T:9:ARG:HG2	2.39	0.58
19:S:8:PRO:HB2	19:S:40:PHE:CZ	2.38	0.58
1:A:595:A:C4	1:A:641:U:C4	2.91	0.58
7:G:14:ASP:HB2	7:G:19:SER:HB3	1.86	0.58
1:A:723:U:H5'	1:A:724:G:P	2.44	0.58
1:A:706:A:C2'	1:A:707:U:H5'	2.34	0.58
12:L:75:GLU:O	12:L:76:HIS:HB2	2.02	0.58
19:S:73:PHE:N	19:S:73:PHE:CD1	2.72	0.58
2:B:88:GLN:HE21	2:B:220:VAL:HB	1.68	0.58
10:J:73:LEU:O	10:J:74:VAL:HB	2.04	0.58
13:M:32:ILE:HD13	13:M:58:GLU:CG	2.34	0.58
1:A:89:U:O2'	1:A:90:C:H5''	2.04	0.58
1:A:956:U:H2'	1:A:957:U:O4'	2.04	0.58
22:V:18:G:H4'	22:V:19:G:OP1	2.03	0.58
8:H:48:PHE:O	8:H:49:LYS:CB	2.51	0.58
9:I:49:GLN:NE2	9:I:79:ARG:NH1	2.52	0.58
3:C:86:LEU:O	3:C:89:VAL:HG22	2.03	0.58
17:Q:57:VAL:HG12	17:Q:78:VAL:HB	1.86	0.57
1:A:1162:C:C2	1:A:1175:G:C2	2.92	0.57
4:D:52:VAL:CG2	4:D:53:GLN:N	2.67	0.57
1:A:511:C:H1'	1:A:512:U:C6	2.37	0.57
12:L:115:LYS:O	12:L:116:TYR:HB2	2.03	0.57
1:A:91:U:C4	1:A:92:U:C2	2.92	0.57
1:A:1309:G:C6	1:A:1329:A:C6	2.92	0.57
10:J:36:VAL:HA	10:J:75:ASP:O	2.04	0.57
1:A:87:C:C2'	1:A:88:U:H5'	2.34	0.57
2:B:114:LYS:O	2:B:116:LEU:N	2.37	0.57
2:B:53:LEU:CD1	2:B:216:VAL:HA	2.34	0.57
17:Q:57:VAL:C	17:Q:58:VAL:HG12	2.25	0.57
11:K:41:LEU:HB3	11:K:76:TYR:HE2	1.67	0.57
5:E:120:HIS:O	5:E:121:ASN:HB3	2.04	0.57
5:E:81:GLN:N	5:E:146:MET:HE1	2.18	0.57
14:N:35:ALA:HA	14:N:41:ARG:HB3	1.86	0.57
20:T:53:MET:HE3	20:T:54:GLN:HA	1.86	0.57
16:P:78:VAL:O	16:P:80:LYS:N	2.37	0.57
1:A:1298:U:H4'	1:A:1299:A:O5'	2.03	0.57
1:A:294:U:C2	1:A:295:C:C5	2.91	0.57
1:A:995:C:N3	1:A:1046:A:O2'	2.29	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:147:LYS:H	4:D:147:LYS:CD	2.17	0.57
17:Q:80:LYS:N	17:Q:80:LYS:HD3	2.19	0.57
1:A:1074:G:H4'	2:B:101:THR:HG23	1.86	0.57
10:J:9:ARG:O	10:J:98:VAL:HA	2.04	0.57
13:M:16:ILE:O	13:M:17:ALA:C	2.42	0.57
1:A:1031:C:C4'	1:A:1032:G:H5''	2.31	0.57
5:E:88:HIS:ND1	5:E:137:ARG:HD3	2.18	0.57
9:I:20:ILE:HD13	9:I:86:LEU:CD1	2.33	0.57
17:Q:68:LYS:O	17:Q:69:THR:CB	2.52	0.57
8:H:10:LEU:HD23	8:H:10:LEU:N	2.19	0.57
1:A:201:G:C2	1:A:217:C:O2	2.58	0.57
1:A:1479:C:C2	1:A:1480:A:C8	2.93	0.57
1:A:83:C:H4'	1:A:83:C:OP1	2.04	0.57
2:B:81:ASP:H	2:B:84:LEU:HB3	1.69	0.57
2:B:207:ARG:O	2:B:209:VAL:N	2.37	0.57
1:A:413:G:C2	4:D:32:LYS:HD3	2.39	0.57
21:U:38:GLU:N	21:U:40:PRO:HD3	2.19	0.57
5:E:114:LEU:O	5:E:119:VAL:HG22	2.05	0.57
5:E:152:VAL:O	5:E:155:LYS:HB2	2.05	0.57
22:V:21:A:C6	22:V:48:C:C6	2.92	0.57
1:A:514:C:C2'	1:A:515:G:O5'	2.52	0.57
1:A:1287:A:N6	1:A:1288:A:N6	2.52	0.57
14:N:29:ILE:O	14:N:30:ILE:C	2.41	0.57
17:Q:59:GLU:HG2	17:Q:75:VAL:HG21	1.85	0.57
1:A:543:U:O2'	1:A:544:G:H5'	2.04	0.57
5:E:158:LYS:O	8:H:63:LYS:HE3	2.04	0.57
1:A:883:C:O2'	1:A:884:U:H5'	2.04	0.57
1:A:299:G:C6	1:A:300:A:C2	2.92	0.57
9:I:11:ARG:HH11	9:I:11:ARG:HG2	1.70	0.57
1:A:1211:U:O2'	1:A:1212:U:P	2.61	0.57
2:B:143:LEU:HD23	2:B:143:LEU:H	1.69	0.57
1:A:1183:U:O4'	1:A:1183:U:OP2	2.22	0.57
1:A:624:C:C2'	1:A:625:U:O5'	2.52	0.57
4:D:176:LYS:H	4:D:176:LYS:HD3	1.67	0.57
5:E:93:VAL:HG21	5:E:110:MET:CE	2.34	0.57
16:P:72:ALA:HA	16:P:75:ILE:CD1	2.35	0.57
14:N:6:LYS:HD3	14:N:6:LYS:N	2.20	0.57
1:A:244:U:H4'	1:A:245:U:H5'	1.86	0.57
1:A:244:U:H4'	1:A:245:U:C5'	2.34	0.57
14:N:20:PHE:CD2	14:N:24:ALA:CB	2.87	0.57
1:A:104:G:C2'	1:A:105:G:H5'	2.34	0.57
8:H:82:LEU:HD22	8:H:83:ARG:O	2.05	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:115:ASP:O	2:B:116:LEU:HB2	2.05	0.57
21:U:28:LEU:CD2	21:U:28:LEU:C	2.73	0.57
10:J:33:GLY:HA3	10:J:83:THR:HB	1.87	0.57
8:H:53:ASP:CG	8:H:54:THR:N	2.58	0.57
21:U:13:VAL:O	21:U:15:LEU:CG	2.53	0.57
3:C:16:PRO:O	3:C:17:TRP:HB2	2.04	0.57
1:A:625:U:O2'	1:A:626:G:H5'	2.03	0.57
3:C:141:MET:HE1	3:C:147:GLY:HA2	1.86	0.57
1:A:435:A:C5	1:A:436:C:C5	2.92	0.57
1:A:439:U:C6	1:A:440:C:C5	2.93	0.57
11:K:123:PRO:O	11:K:124:LYS:O	2.22	0.57
8:H:58:LEU:HD13	8:H:58:LEU:C	2.24	0.57
1:A:1366:C:H2'	1:A:1367:C:C6	2.39	0.57
2:B:202:ASN:OD1	2:B:203:ASP:N	2.38	0.57
14:N:30:ILE:HG22	14:N:31:SER:N	2.20	0.57
1:A:419:C:C2'	1:A:420:U:O5'	2.52	0.57
1:A:883:C:C2'	1:A:884:U:H5'	2.33	0.57
4:D:147:LYS:H	4:D:147:LYS:HD3	1.69	0.57
5:E:96:GLN:HB2	5:E:123:LEU:CD1	2.35	0.57
1:A:676:A:O2'	1:A:677:U:H5'	2.05	0.57
21:U:19:LYS:HE2	21:U:19:LYS:CA	2.33	0.57
1:A:1211:U:O2'	1:A:1212:U:OP2	2.22	0.57
17:Q:71:SER:C	17:Q:72:TRP:CD1	2.78	0.57
4:D:94:GLU:OE2	4:D:103:ARG:NH1	2.37	0.57
10:J:33:GLY:O	10:J:34:ALA:HB2	2.05	0.57
1:A:410:G:H5'	1:A:411:A:OP1	2.03	0.57
1:A:22:G:C6	1:A:23:C:N3	2.73	0.57
9:I:39:GLY:O	9:I:40:ARG:CB	2.52	0.57
2:B:40:ILE:HG21	2:B:201:GLY:CA	2.35	0.57
3:C:51:VAL:HG21	3:C:67:ILE:HG23	1.87	0.57
13:M:76:ILE:HG22	13:M:80:MET:CE	2.34	0.57
1:A:1475:G:O2'	1:A:1476:A:H5'	2.05	0.57
13:M:10:ASP:O	13:M:11:HIS:HB2	2.04	0.57
1:A:104:G:N2	1:A:105:G:C4	2.72	0.57
9:I:89:TYR:O	9:I:90:ASP:CG	2.43	0.57
1:A:1312:G:N2	1:A:1326:U:C2	2.73	0.57
21:U:25:ALA:CB	23:X:9:G:C5'	2.83	0.57
1:A:1183:U:C4'	1:A:1183:U:OP2	2.52	0.57
20:T:53:MET:CE	20:T:54:GLN:HA	2.35	0.57
1:A:769:G:O2'	1:A:770:C:H5'	2.05	0.57
1:A:110:C:H2'	1:A:111:G:O4'	2.04	0.57
1:A:1442:G:H2'	1:A:1443:C:O5'	2.04	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:150:ILE:HG13	2:B:151:LYS:N	2.20	0.57
8:H:74:ILE:HD13	8:H:128:VAL:HG13	1.87	0.57
13:M:40:GLU:CG	13:M:41:ASP:N	2.68	0.57
1:A:376:G:C4	1:A:389:A:C2	2.93	0.57
1:A:1493:A:OP2	1:A:1493:A:C8	2.55	0.57
9:I:5:TYR:HB3	9:I:88:GLU:CG	2.35	0.57
1:A:131:A:C6	1:A:132:C:N4	2.73	0.57
1:A:519:C:H2'	1:A:520:A:C8	2.40	0.57
19:S:48:ILE:H	19:S:48:ILE:HD12	1.68	0.57
9:I:98:ARG:CD	9:I:103:VAL:HG21	2.35	0.57
1:A:164:G:C2'	1:A:165:G:H5'	2.34	0.57
9:I:28:VAL:HG11	9:I:31:GLN:HA	1.87	0.57
21:U:18:PHE:O	21:U:21:SER:HB3	2.05	0.57
1:A:1216:A:C2	1:A:1217:C:C4	2.93	0.57
2:B:138:ARG:HG3	2:B:139:GLU:N	2.19	0.57
2:B:66:ILE:HG21	2:B:68:PHE:CE2	2.40	0.57
2:B:79:VAL:O	2:B:83:ALA:HB3	2.05	0.57
17:Q:13:SER:HB3	17:Q:21:VAL:HG12	1.85	0.57
13:M:32:ILE:HG22	13:M:33:LEU:N	2.18	0.57
1:A:437:U:C4	1:A:438:U:C5	2.93	0.57
22:V:64:A:C2	22:V:65:G:C8	2.93	0.57
20:T:35:TYR:HA	20:T:38:ILE:HD12	1.87	0.57
24:Y:107:THR:HG23	24:Y:110:ARG:HG2	1.87	0.57
1:A:1340:A:H2'	1:A:1341:U:O4'	2.05	0.57
4:D:77:GLU:OE1	4:D:77:GLU:HA	2.03	0.57
1:A:1096:C:O2'	1:A:1097:C:H5'	2.05	0.57
5:E:15:ILE:N	5:E:15:ILE:HD12	2.20	0.57
1:A:470:C:C2	1:A:471:U:C5	2.93	0.57
1:A:274:A:H5''	17:Q:15:LYS:HE2	1.87	0.56
1:A:412:A:H4'	1:A:413:G:OP1	2.04	0.56
21:U:40:PRO:HA	21:U:44:ARG:HH11	1.68	0.56
5:E:154:ALA:HB1	8:H:65:PHE:CZ	2.40	0.56
20:T:50:PHE:O	20:T:53:MET:HG3	2.05	0.56
1:A:1299:A:O2'	1:A:1300:G:H4'	2.05	0.56
24:Y:59:THR:HG22	24:Y:60:VAL:N	2.20	0.56
1:A:1049:U:C4'	1:A:1050:G:OP2	2.53	0.56
13:M:10:ASP:OD1	13:M:11:HIS:N	2.38	0.56
24:Y:107:THR:CG2	24:Y:110:ARG:HG2	2.35	0.56
7:G:14:ASP:CB	7:G:19:SER:HB3	2.35	0.56
5:E:108:GLY:HA2	5:E:111:ARG:HB3	1.87	0.56
7:G:87:PRO:HD3	7:G:147:ASN:HB2	1.86	0.56
1:A:65:A:C2	1:A:381:C:C6	2.93	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:89:ARG:HD3	13:M:95:PRO:O	2.05	0.56
1:A:775:G:C2'	1:A:776:G:H5'	2.35	0.56
11:K:22:ILE:CG1	11:K:85:VAL:HG22	2.35	0.56
1:A:693:G:C6	1:A:694:A:C5	2.93	0.56
1:A:376:G:H5''	16:P:5:ARG:HB3	1.86	0.56
14:N:91:GLY:O	14:N:93:ILE:N	2.37	0.56
17:Q:74:LEU:HD12	17:Q:74:LEU:O	2.04	0.56
14:N:61:ARG:O	14:N:62:ASN:CB	2.54	0.56
5:E:45:VAL:HG13	5:E:117:ALA:HB2	1.87	0.56
1:A:1066:C:C5'	1:A:1067:A:OP2	2.52	0.56
1:A:304:U:O2'	1:A:305:G:H5'	2.05	0.56
22:V:12:U:H2'	22:V:13:C:O5'	2.05	0.56
1:A:1142:G:N2	1:A:1143:G:H1'	2.20	0.56
2:B:53:LEU:HD21	2:B:212:TYR:CE2	2.40	0.56
1:A:1030:U:H5'	1:A:1031:C:O2	2.05	0.56
3:C:171:ARG:O	3:C:172:VAL:HG22	2.04	0.56
1:A:1525:G:OP1	11:K:121:ARG:NH2	2.37	0.56
2:B:55:GLU:HA	2:B:58:LYS:HB2	1.88	0.56
1:A:1234:C:H2'	1:A:1235:U:H6	1.68	0.56
1:A:1114:C:C2	1:A:1115:U:C6	2.93	0.56
1:A:1410:A:H2'	1:A:1411:C:C6	2.40	0.56
2:B:23:ASN:ND2	2:B:191:ASP:HA	2.21	0.56
9:I:24:ASN:C	9:I:58:GLU:HA	2.25	0.56
15:O:86:LEU:HD23	15:O:86:LEU:N	2.20	0.56
2:B:185:ILE:HA	2:B:199:ILE:HB	1.86	0.56
1:A:541:G:H2'	1:A:542:G:O4'	2.06	0.56
12:L:2:THR:HG22	12:L:4:ASN:N	2.20	0.56
22:V:69:G:O2'	22:V:70:G:H5'	2.05	0.56
9:I:11:ARG:HH11	9:I:11:ARG:CG	2.19	0.56
1:A:714:G:H2'	1:A:715:A:C8	2.41	0.56
17:Q:16:MET:HG2	17:Q:19:SER:CB	2.36	0.56
11:K:15:VAL:O	11:K:16:SER:CB	2.54	0.56
1:A:1161:C:H2'	1:A:1162:C:H6	1.67	0.56
12:L:113:ARG:NH2	12:L:120:ARG:HG2	2.20	0.56
5:E:119:VAL:HG21	5:E:122:VAL:HG11	1.87	0.56
9:I:43:ALA:N	9:I:45:MET:SD	2.78	0.56
2:B:39:ILE:HD13	2:B:39:ILE:N	2.20	0.56
1:A:1502:A:N7	1:A:1504:G:C4	2.73	0.56
1:A:1054:C:H4'	1:A:1055:A:OP1	2.04	0.56
1:A:500:G:C6	1:A:546:A:C2	2.93	0.56
1:A:198:G:C5	1:A:199:A:N7	2.74	0.56
1:A:1134:G:C2	1:A:1135:U:H1'	2.40	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1181:G:O2'	1:A:1182:G:N7	2.38	0.56
10:J:32:THR:HG23	10:J:33:GLY:N	2.21	0.56
4:D:48:SER:O	4:D:52:VAL:HG13	2.05	0.56
4:D:7:LYS:NZ	4:D:21:LYS:HG3	2.20	0.56
21:U:33:ARG:CZ	21:U:34:ARG:HB2	2.35	0.56
22:V:52:G:C6	22:V:63:G:C6	2.94	0.56
1:A:482:A:H2'	1:A:483:C:O4'	2.05	0.56
1:A:1299:A:H2'	1:A:1299:A:N3	2.19	0.56
1:A:1299:A:C2	1:A:1301:U:N3	2.74	0.56
9:I:18:VAL:HA	9:I:64:ILE:HG22	1.88	0.56
19:S:10:ILE:HG21	19:S:40:PHE:CE2	2.41	0.56
1:A:769:G:H4'	1:A:1513:A:H4'	1.88	0.56
1:A:707:U:H2'	1:A:708:C:C6	2.40	0.56
1:A:53:A:H2'	1:A:54:C:O4'	2.04	0.56
1:A:55:A:C4	1:A:56:U:C6	2.94	0.56
1:A:1267:C:C5	1:A:1268:G:C5	2.94	0.56
5:E:81:GLN:NE2	5:E:149:PRO:HD3	2.21	0.56
1:A:1308:U:O2'	1:A:1309:G:H5'	2.06	0.56
6:F:8:PHE:CD1	6:F:8:PHE:C	2.79	0.56
2:B:125:PHE:N	2:B:125:PHE:HD2	2.02	0.56
1:A:1165:U:C2'	1:A:1166:G:H5'	2.36	0.56
1:A:1322:C:O2	1:A:1322:C:O5'	2.23	0.56
1:A:691:G:O6	11:K:52:ARG:NH2	2.39	0.56
1:A:408:A:C2'	1:A:409:U:H5'	2.36	0.56
8:H:31:LEU:O	8:H:32:LYS:C	2.43	0.56
1:A:1004:A:C2	1:A:1026:G:C2	2.94	0.56
17:Q:10:ARG:HH21	17:Q:55:GLY:HA2	1.71	0.56
3:C:52:SER:HB2	3:C:113:LYS:HB3	1.88	0.56
1:A:89:U:O2'	1:A:90:C:C5'	2.54	0.56
16:P:6:LEU:CD2	16:P:70:ARG:HG3	2.35	0.56
1:A:108:G:N3	1:A:108:G:C5'	2.69	0.56
9:I:98:ARG:HA	9:I:103:VAL:CG2	2.36	0.56
22:V:20:U:H2'	22:V:20:U:O2	2.05	0.56
1:A:1142:G:C2	1:A:1143:G:C1'	2.84	0.56
1:A:270:A:C5	1:A:271:C:C4	2.94	0.56
1:A:1277:C:H2'	1:A:1279:G:H8	1.71	0.56
21:U:13:VAL:CG1	21:U:15:LEU:CD2	2.78	0.56
14:N:3:GLN:HA	14:N:6:LYS:HE2	1.88	0.56
21:U:9:GLU:OE1	21:U:10:PRO:HG3	2.06	0.56
1:A:542:G:C2	1:A:543:U:C6	2.94	0.56
13:M:113:LYS:HB3	13:M:114:PRO:HD3	1.88	0.56
12:L:43:LYS:HB2	12:L:44:PRO:HD3	1.86	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:647:C:O2'	1:A:648:A:H5'	2.06	0.56
9:I:71:ILE:HG22	9:I:72:SER:N	2.21	0.56
14:N:100:SER:O	14:N:101:TRP:HB3	2.05	0.56
1:A:696:A:O5'	1:A:696:A:H8	1.88	0.56
2:B:86:CYS:HB2	2:B:88:GLN:CD	2.26	0.56
4:D:169:TRP:CD1	4:D:185:PRO:HD3	2.41	0.56
1:A:1101:A:H1'	1:A:1102:A:O4'	2.05	0.56
1:A:410:G:C4'	1:A:411:A:OP1	2.53	0.56
4:D:10:LEU:CD2	4:D:62:ARG:HD3	2.36	0.56
4:D:97:LEU:HD23	4:D:117:VAL:HG11	1.88	0.56
14:N:35:ALA:HB2	14:N:41:ARG:HB3	1.88	0.56
14:N:15:LEU:N	14:N:15:LEU:HD23	2.20	0.56
14:N:20:PHE:CD2	14:N:24:ALA:HB3	2.40	0.56
8:H:46:GLU:O	8:H:47:ASP:CB	2.54	0.56
1:A:937:A:C2	1:A:1379:G:C6	2.94	0.56
3:C:154:GLY:HA3	3:C:162:ALA:HB1	1.88	0.56
1:A:868:C:H2'	1:A:869:G:H5'	1.86	0.56
24:Y:112:LYS:O	24:Y:113:ASP:C	2.44	0.56
2:B:113:LEU:O	2:B:117:GLU:HG2	2.05	0.55
2:B:218:ALA:C	2:B:219:THR:HG22	2.27	0.55
1:A:1279:G:H5''	10:J:9:ARG:HH22	1.71	0.55
5:E:120:HIS:O	5:E:121:ASN:CB	2.54	0.55
5:E:81:GLN:CD	5:E:149:PRO:HB3	2.25	0.55
16:P:52:LEU:O	16:P:53:ASP:C	2.44	0.55
1:A:573:A:P	26:A:1737:HOH:O	2.64	0.55
1:A:1060:U:C1'	10:J:54:SER:HB2	2.36	0.55
2:B:19:THR:HB	2:B:36:LYS:O	2.06	0.55
11:K:93:GLU:OE2	21:U:20:ARG:NH2	2.39	0.55
1:A:499:A:N6	1:A:547:A:H5''	2.21	0.55
13:M:113:LYS:HB2	13:M:114:PRO:HD3	1.87	0.55
15:O:10:ILE:O	15:O:14:PHE:HD1	1.89	0.55
1:A:918:A:C6	1:A:919:A:C6	2.94	0.55
1:A:1319:A:OP1	19:S:4:LEU:HD21	2.06	0.55
2:B:209:VAL:O	2:B:211:LEU:N	2.40	0.55
1:A:626:G:H2'	1:A:627:G:H5'	1.88	0.55
1:A:91:U:C6	1:A:92:U:C6	2.94	0.55
19:S:50:VAL:HG21	19:S:70:LEU:O	2.06	0.55
1:A:138:G:H2'	1:A:139:A:H5'	1.87	0.55
1:A:404:G:N7	4:D:1:ALA:N	2.54	0.55
1:A:1243:C:H2'	1:A:1244:G:C8	2.42	0.55
1:A:1294:G:C6	1:A:1295:U:C4	2.95	0.55
2:B:71:THR:O	2:B:72:LYS:CB	2.55	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:101:LEU:N	12:L:101:LEU:HD13	2.21	0.55
1:A:299:G:N1	1:A:300:A:C2	2.74	0.55
1:A:771:G:C2'	1:A:772:U:H5'	2.36	0.55
5:E:76:ASN:O	5:E:77:ASN:CB	2.55	0.55
2:B:73:ARG:O	2:B:74:ALA:HB2	2.06	0.55
1:A:1314:C:OP2	19:S:5:LYS:NZ	2.38	0.55
1:A:1322:C:O4'	1:A:1322:C:O2	2.19	0.55
2:B:110:ILE:O	2:B:111:LYS:C	2.43	0.55
2:B:70:GLY:CA	2:B:163:ILE:HG22	2.35	0.55
1:A:589:U:H2'	1:A:590:U:H6	1.71	0.55
1:A:113:G:C6	1:A:315:A:N6	2.74	0.55
6:F:64:VAL:HG12	6:F:65:GLU:N	2.22	0.55
1:A:52:C:O2'	1:A:53:A:H5'	2.07	0.55
3:C:5:HIS:CD2	3:C:8:GLY:H	2.25	0.55
6:F:86:ARG:CG	6:F:86:ARG:NH1	2.69	0.55
4:D:169:TRP:NE1	4:D:185:PRO:CG	2.66	0.55
11:K:50:GLY:O	11:K:51:PHE:CD2	2.58	0.55
4:D:150:LYS:HA	4:D:177:MET:CE	2.36	0.55
5:E:132:PRO:C	5:E:134:ASN:H	2.09	0.55
5:E:152:VAL:HG22	5:E:153:ALA:N	2.21	0.55
16:P:75:ILE:O	16:P:77:GLU:N	2.39	0.55
19:S:40:PHE:O	19:S:43:MET:HG3	2.06	0.55
10:J:5:ARG:HE	10:J:79:PRO:HG3	1.71	0.55
1:A:246:A:H4'	1:A:247:G:OP1	2.07	0.55
4:D:167:PRO:CG	4:D:170:LEU:HD11	2.37	0.55
1:A:353:A:H2'	1:A:354:G:OP2	2.05	0.55
16:P:50:THR:O	16:P:51:ARG:C	2.44	0.55
10:J:100:ILE:HG13	10:J:101:SER:N	2.22	0.55
13:M:94:LEU:CB	13:M:95:PRO:CD	2.83	0.55
11:K:110:THR:HG23	21:U:4:LYS:HB3	1.87	0.55
8:H:24:VAL:O	8:H:24:VAL:HG13	2.07	0.55
11:K:30:ILE:CB	11:K:45:THR:HG22	2.37	0.55
1:A:1222:G:C6	1:A:1223:C:C4	2.95	0.55
1:A:1313:U:P	19:S:5:LYS:CB	2.94	0.55
1:A:1253:G:H1'	1:A:1355:G:O2'	2.07	0.55
2:B:116:LEU:HG	2:B:140:LEU:CD1	2.37	0.55
1:A:1102:A:O2'	1:A:1103:C:H5'	2.07	0.55
13:M:21:ILE:HG22	13:M:22:TYR:O	2.06	0.55
10:J:33:GLY:HA3	10:J:83:THR:CB	2.37	0.55
21:U:35:GLU:OE2	21:U:37:TYR:HD1	1.90	0.55
21:U:39:LYS:N	21:U:40:PRO:HD2	2.21	0.55
1:A:504:C:O4'	1:A:510:A:C2	2.59	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:132:PRO:HA	5:E:135:VAL:CG1	2.36	0.55
5:E:99:SER:O	5:E:100:GLU:C	2.44	0.55
8:H:4:ASP:HB2	8:H:80:PRO:CG	2.36	0.55
11:K:91:GLY:O	11:K:95:THR:CG2	2.54	0.55
1:A:769:G:H2'	1:A:770:C:O5'	2.07	0.55
4:D:3:TYR:O	4:D:3:TYR:CD1	2.60	0.55
1:A:1462:C:H2'	1:A:1463:U:C6	2.41	0.55
8:H:33:VAL:HG12	8:H:34:ALA:N	2.21	0.55
1:A:1217:C:H2'	1:A:1218:C:H6	1.70	0.55
1:A:976:G:H5'	1:A:977:A:OP1	2.07	0.55
6:F:3:HIS:H	6:F:92:THR:HG23	1.72	0.55
1:A:1305:G:O2'	1:A:1306:A:H8	1.87	0.55
9:I:51:LEU:HA	9:I:54:VAL:CG2	2.36	0.55
19:S:50:VAL:CG2	19:S:70:LEU:HD13	2.36	0.55
1:A:1168:U:C2'	1:A:1168:U:O2	2.53	0.55
9:I:90:ASP:OD2	9:I:93:LEU:HG	2.06	0.55
3:C:154:GLY:CA	3:C:162:ALA:HB1	2.37	0.55
3:C:164:THR:O	3:C:165:GLU:HB2	2.06	0.55
13:M:106:ARG:NH1	13:M:106:ARG:HG2	2.22	0.55
20:T:7:LYS:O	20:T:10:ALA:HB3	2.06	0.55
1:A:1226:C:C5	13:M:102:LYS:HB2	2.42	0.55
2:B:147:LEU:CD2	2:B:150:ILE:HG21	2.35	0.55
2:B:206:ILE:HD13	2:B:207:ARG:H	1.72	0.55
8:H:28:SER:HB3	8:H:56:PRO:HB3	1.89	0.55
1:A:373:A:C4	1:A:482:A:N7	2.75	0.55
1:A:377:G:OP1	16:P:5:ARG:HD3	2.07	0.55
1:A:1202:U:H2'	1:A:1203:C:O4'	2.07	0.55
15:O:63:ARG:NH1	15:O:87:ARG:NH2	2.55	0.55
1:A:1107:C:C5	1:A:1108:G:C8	2.94	0.55
7:G:134:VAL:CG2	7:G:135:LYS:N	2.69	0.55
16:P:50:THR:HG22	16:P:50:THR:O	2.06	0.55
11:K:111:ASP:O	21:U:3:ILE:CG2	2.55	0.55
1:A:1355:G:H2'	1:A:1356:G:H8	1.72	0.55
2:B:138:ARG:HG3	2:B:139:GLU:H	1.72	0.55
1:A:1153:G:C6	1:A:1154:G:N7	2.74	0.55
13:M:28:ARG:CZ	13:M:62:PHE:CB	2.85	0.55
2:B:55:GLU:HA	2:B:58:LYS:HB3	1.87	0.55
1:A:5:U:C2	1:A:5:U:OP1	2.60	0.55
6:F:42:TRP:CZ2	6:F:61:LEU:HB2	2.42	0.55
5:E:45:VAL:O	5:E:70:MET:CG	2.54	0.55
24:Y:131:ASN:O	24:Y:135:ASP:OD2	2.24	0.55
1:A:570:G:H1'	1:A:820:U:C4	2.42	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:78:GLY:C	14:N:79:LEU:HG	2.27	0.55
2:B:86:CYS:HB2	2:B:88:GLN:OE1	2.05	0.55
1:A:694:A:H2'	1:A:695:A:O5'	2.07	0.55
1:A:142:G:H5'	1:A:143:A:OP2	2.07	0.55
1:A:175:C:C2'	1:A:176:C:H5'	2.37	0.55
9:I:46:VAL:O	9:I:49:GLN:HB2	2.06	0.55
1:A:1053:G:C3'	1:A:1054:C:H5'	2.36	0.55
13:M:2:ARG:HG3	13:M:3:ILE:N	2.19	0.55
1:A:1294:G:H2'	1:A:1294:G:N3	2.21	0.55
13:M:106:ARG:HG2	13:M:106:ARG:HH11	1.71	0.55
5:E:105:ILE:HD11	5:E:123:LEU:HB3	1.89	0.55
3:C:7:ASN:OD1	3:C:7:ASN:C	2.46	0.55
1:A:985:C:C2	1:A:1221:G:N2	2.75	0.55
2:B:81:ASP:O	2:B:82:ALA:C	2.45	0.55
1:A:257:G:C2	1:A:258:G:C5	2.95	0.55
17:Q:58:VAL:HG22	17:Q:60:ILE:HD13	1.89	0.55
1:A:1080:A:OP1	5:E:51:LYS:CE	2.55	0.55
2:B:22:TRP:HA	2:B:189:ASN:HA	1.89	0.55
2:B:202:ASN:OD1	2:B:202:ASN:C	2.45	0.55
9:I:66:VAL:HG13	9:I:66:VAL:O	2.06	0.55
5:E:64:GLU:OE2	5:E:68:ARG:NH2	2.40	0.55
1:A:55:A:C2	1:A:56:U:H1'	2.42	0.55
1:A:188:C:O2	1:A:188:C:H2'	2.05	0.55
1:A:987:G:O2'	1:A:988:G:H5'	2.07	0.54
1:A:429:U:O2	1:A:430:A:H5''	2.07	0.54
5:E:80:LEU:HA	5:E:146:MET:HE1	1.88	0.54
22:V:60:U:H5''	22:V:61:C:C5	2.41	0.54
1:A:375:U:C4	1:A:376:G:N7	2.75	0.54
2:B:103:TRP:CZ2	2:B:153:MET:HG2	2.42	0.54
1:A:1308:U:OP2	13:M:97:ARG:HG2	2.07	0.54
1:A:1205:U:O2	1:A:1205:U:H2'	2.07	0.54
4:D:61:ARG:HG3	4:D:71:PHE:CD2	2.42	0.54
3:C:21:TRP:CD1	3:C:58:ARG:HD3	2.42	0.54
1:A:198:G:O2'	1:A:199:A:H5'	2.06	0.54
10:J:7:ARG:CB	10:J:75:ASP:OD1	2.54	0.54
8:H:62:LEU:HD22	8:H:62:LEU:H	1.72	0.54
8:H:93:LYS:HD3	8:H:96:ALA:O	2.06	0.54
1:A:160:A:H1'	1:A:344:A:C5	2.42	0.54
8:H:124:ILE:CG1	8:H:124:ILE:O	2.55	0.54
11:K:111:ASP:O	21:U:3:ILE:HG22	2.07	0.54
2:B:110:ILE:HD11	2:B:147:LEU:CD2	2.37	0.54
2:B:93:HIS:ND1	2:B:145:ASN:HB2	2.22	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1130:A:H1'	1:A:1146:A:C2	2.42	0.54
4:D:94:GLU:HG2	4:D:185:PRO:HG2	1.89	0.54
4:D:169:TRP:CD1	4:D:185:PRO:HG3	2.41	0.54
3:C:15:LYS:HG3	3:C:16:PRO:CD	2.37	0.54
4:D:8:LEU:CD2	4:D:21:LYS:HB2	2.36	0.54
5:E:113:VAL:HG22	5:E:114:LEU:N	2.22	0.54
22:V:18:G:H1	22:V:55:U:H1'	1.73	0.54
1:A:93:U:H2'	1:A:94:G:C5'	2.37	0.54
13:M:28:ARG:NH1	13:M:62:PHE:HB3	2.22	0.54
16:P:67:ILE:HG13	16:P:71:VAL:CG1	2.37	0.54
14:N:3:GLN:OE1	14:N:6:LYS:HE3	2.07	0.54
3:C:63:ILE:HG22	3:C:96:VAL:CG2	2.37	0.54
1:A:1038:C:H2'	1:A:1039:G:H5'	1.89	0.54
18:R:50:TYR:O	18:R:54:LEU:HB2	2.05	0.54
1:A:417:G:C6	1:A:418:C:C4	2.96	0.54
1:A:20:U:C2'	1:A:21:G:H5'	2.38	0.54
22:V:24:G:H2'	22:V:25:C:O5'	2.06	0.54
20:T:82:ILE:HG13	20:T:83:ASN:H	1.73	0.54
2:B:132:GLU:O	2:B:136:ARG:HB2	2.08	0.54
2:B:159:ALA:HA	2:B:181:PRO:HD2	1.89	0.54
11:K:52:ARG:N	11:K:55:ARG:HB2	2.22	0.54
1:A:1160:G:O2'	1:A:1161:C:O5'	2.23	0.54
10:J:27:GLU:O	10:J:30:LYS:HG2	2.07	0.54
4:D:29:THR:C	4:D:30:LYS:HD3	2.27	0.54
5:E:17:VAL:HA	5:E:33:THR:O	2.07	0.54
8:H:58:LEU:HD11	8:H:60:LEU:HD21	1.88	0.54
1:A:1305:G:HO2'	1:A:1306:A:H8	1.49	0.54
1:A:1411:C:O2'	1:A:1412:C:H5'	2.08	0.54
3:C:59:PRO:O	3:C:60:ALA:HB3	2.06	0.54
7:G:91:ARG:HE	7:G:93:VAL:CG2	2.21	0.54
15:O:7:THR:O	15:O:11:VAL:HG23	2.07	0.54
9:I:33:SER:HB3	9:I:36:GLN:CG	2.37	0.54
3:C:155:ARG:HD3	3:C:192:TYR:O	2.06	0.54
16:P:42:ILE:O	16:P:42:ILE:HG22	2.08	0.54
11:K:114:PRO:O	11:K:115:ILE:HD13	2.07	0.54
1:A:1271:A:OP1	1:A:1314:C:H4'	2.08	0.54
1:A:1314:C:OP2	19:S:5:LYS:HD3	2.08	0.54
1:A:955:U:C5	1:A:956:U:C5	2.95	0.54
2:B:137:THR:HA	2:B:140:LEU:HB2	1.88	0.54
10:J:40:ILE:HG21	10:J:73:LEU:HD12	1.89	0.54
1:A:1234:C:C2'	1:A:1235:U:H5'	2.38	0.54
9:I:46:VAL:CG2	9:I:75:ALA:HB1	2.38	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:20:ILE:HD11	9:I:85:ALA:HB3	1.88	0.54
1:A:109:A:C6	1:A:326:G:C6	2.95	0.54
18:R:32:ILE:HA	18:R:39:VAL:HG23	1.89	0.54
1:A:240:G:C4'	1:A:240:G:OP1	2.56	0.54
13:M:80:MET:HG2	13:M:91:ARG:NH2	2.22	0.54
8:H:82:LEU:C	8:H:82:LEU:HD22	2.27	0.54
1:A:1215:G:H2'	1:A:1216:A:H5'	1.90	0.54
1:A:257:G:N2	1:A:258:G:C4	2.76	0.54
6:F:3:HIS:HB2	6:F:92:THR:HG23	1.89	0.54
8:H:100:ILE:HD11	8:H:128:VAL:HG23	1.90	0.54
1:A:1161:C:O2	1:A:1176:A:C2	2.60	0.54
1:A:8:A:H5'	5:E:124:ALA:O	2.07	0.54
1:A:376:G:H2'	1:A:377:G:C8	2.41	0.54
8:H:29:SER:O	8:H:30:LYS:C	2.46	0.54
6:F:43:GLY:HA2	6:F:58:HIS:NE2	2.22	0.54
1:A:1504:G:H4'	1:A:1505:G:C4	2.43	0.54
1:A:1245:C:H2'	1:A:1246:A:O4'	2.08	0.54
1:A:293:G:C5	1:A:294:U:C5	2.95	0.54
1:A:85:U:H4'	1:A:86:G:OP1	2.06	0.54
1:A:303:A:H2'	1:A:304:U:O4'	2.08	0.54
5:E:20:VAL:O	5:E:20:VAL:CG2	2.55	0.54
2:B:53:LEU:CD1	2:B:56:LEU:HD12	2.38	0.54
2:B:67:LEU:HB3	2:B:160:LEU:HD23	1.90	0.54
17:Q:16:MET:HG2	17:Q:19:SER:HB3	1.88	0.54
2:B:205:ALA:O	2:B:207:ARG:N	2.41	0.54
8:H:74:ILE:HD13	8:H:128:VAL:HG22	1.86	0.54
15:O:23:SER:HB3	15:O:26:VAL:CG2	2.37	0.54
1:A:428:G:H4'	1:A:429:U:OP1	2.07	0.54
1:A:1077:G:N2	1:A:1080:A:OP2	2.41	0.54
1:A:73:C:O2'	1:A:74:A:H5''	2.08	0.54
14:N:41:ARG:HG3	14:N:42:TRP:CE3	2.42	0.54
2:B:54:ALA:O	2:B:58:LYS:HB2	2.07	0.54
1:A:1299:A:C6	1:A:1301:U:O2	2.60	0.54
2:B:34:ARG:CA	2:B:34:ARG:NE	2.71	0.54
14:N:30:ILE:HG23	14:N:45:VAL:HB	1.88	0.54
1:A:683:G:O2'	1:A:684:U:H5'	2.07	0.54
7:G:70:PRO:HG3	7:G:102:TRP:CH2	2.43	0.54
11:K:110:THR:HG23	21:U:4:LYS:CB	2.38	0.54
1:A:827:U:H5''	1:A:828:U:OP2	2.08	0.54
23:X:10:G:C5	23:X:11:U:C4	2.96	0.54
10:J:18:ILE:HG12	10:J:72:ARG:HG3	1.90	0.54
4:D:112:GLU:O	4:D:113:ALA:C	2.44	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:144:ILE:HD13	4:D:177:MET:HB3	1.90	0.54
4:D:57:LYS:HG2	4:D:202:LEU:HD22	1.90	0.54
5:E:136:VAL:O	5:E:137:ARG:HB3	2.06	0.54
1:A:209:U:H4'	1:A:210:C:OP2	2.06	0.54
3:C:59:PRO:CB	10:J:94:ALA:HB1	2.38	0.54
9:I:95:SER:CA	9:I:98:ARG:HB2	2.35	0.54
1:A:128:G:O2'	1:A:129:A:H5'	2.07	0.54
1:A:832:G:H2'	1:A:833:G:H5'	1.88	0.54
1:A:1244:G:O2'	1:A:1245:C:H5'	2.07	0.54
1:A:1247:U:O2'	1:A:1248:A:H5'	2.08	0.54
6:F:10:VAL:HG13	6:F:11:HIS:N	2.23	0.54
1:A:86:G:O4'	1:A:86:G:N3	2.40	0.54
1:A:338:A:N1	1:A:351:G:O6	2.41	0.54
1:A:81:A:H2'	1:A:82:G:H5'	1.90	0.54
21:U:3:ILE:HD13	21:U:19:LYS:HE3	1.90	0.54
1:A:980:C:C5	1:A:981:U:C4	2.95	0.54
11:K:15:VAL:O	11:K:16:SER:OG	2.21	0.54
1:A:424:G:O2'	1:A:425:G:H5'	2.08	0.54
3:C:13:ILE:C	3:C:14:VAL:HG13	2.27	0.54
4:D:75:TYR:CG	4:D:203:TYR:HD1	2.26	0.54
5:E:33:THR:HB	5:E:49:TYR:CE2	2.42	0.54
16:P:5:ARG:HA	16:P:68:SER:OG	2.08	0.54
14:N:87:ALA:HA	14:N:90:ARG:HH12	1.72	0.54
9:I:44:ARG:N	9:I:45:MET:SD	2.80	0.54
19:S:39:ILE:CD1	19:S:70:LEU:HD22	2.38	0.54
1:A:1451:U:H5''	1:A:1452:C:C5	2.42	0.54
12:L:2:THR:CG2	12:L:4:ASN:CB	2.86	0.54
24:Y:14:MET:O	24:Y:17:CYS:HB2	2.07	0.54
1:A:1323:G:C2	1:A:1324:A:C4	2.95	0.54
6:F:71:ILE:HG13	6:F:72:ASP:N	2.23	0.54
10:J:28:THR:O	10:J:32:THR:CG2	2.55	0.54
4:D:146:GLU:HA	4:D:149:LYS:HD2	1.89	0.54
1:A:452:A:N6	1:A:480:U:H3	2.05	0.54
1:A:451:A:OP2	16:P:70:ARG:NH2	2.41	0.54
1:A:1060:U:H5''	10:J:53:ILE:HG23	1.89	0.54
6:F:20:GLY:O	6:F:23:GLU:HB3	2.07	0.54
8:H:76:ARG:NE	8:H:78:SER:O	2.41	0.54
5:E:106:ALA:O	5:E:111:ARG:NH2	2.41	0.54
13:M:94:LEU:HB3	13:M:95:PRO:CD	2.38	0.54
12:L:87:LYS:O	12:L:87:LYS:HG3	2.07	0.54
10:J:34:ALA:O	10:J:35:GLN:HB2	2.08	0.54
1:A:510:A:H5''	1:A:511:C:P	2.48	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:9:G:O2'	1:A:10:A:H5'	2.08	0.54
5:E:71:ILE:HG21	5:E:144:GLU:HB2	1.90	0.54
1:A:464:U:N3	1:A:466:A:C5'	2.71	0.54
1:A:374:A:O4'	1:A:481:G:N2	2.41	0.54
1:A:1305:G:H2'	1:A:1331:G:N2	2.23	0.54
1:A:943:U:H2'	1:A:944:G:C5'	2.37	0.54
1:A:1201:A:H1'	1:A:1202:U:OP2	2.07	0.54
1:A:1366:C:H2'	1:A:1367:C:H6	1.73	0.54
3:C:57:GLU:HG3	3:C:64:ARG:CB	2.38	0.54
1:A:549:C:H2'	1:A:550:G:O5'	2.08	0.54
1:A:791:G:C6	1:A:792:A:N7	2.76	0.54
1:A:850:U:H2'	1:A:851:G:H5''	1.90	0.54
12:L:2:THR:HG22	12:L:4:ASN:HB2	1.90	0.54
1:A:1007:U:H2'	1:A:1008:U:H5'	1.89	0.54
8:H:13:ILE:HG22	8:H:14:ARG:N	2.22	0.54
5:E:96:GLN:HB2	5:E:123:LEU:HD11	1.89	0.54
17:Q:40:THR:HG22	17:Q:41:THR:N	2.23	0.54
24:Y:25:ILE:HG22	24:Y:26:SER:N	2.22	0.54
19:S:80:ARG:HE	19:S:80:ARG:HA	1.73	0.54
2:B:130:LYS:HA	2:B:130:LYS:HE2	1.90	0.54
1:A:988:G:C6	1:A:989:U:N3	2.76	0.53
2:B:110:ILE:HD12	2:B:147:LEU:HD13	1.90	0.53
3:C:174:LEU:HD12	3:C:174:LEU:O	2.08	0.53
1:A:622:A:C8	1:A:623:C:C5	2.96	0.53
4:D:24:VAL:O	4:D:25:ARG:O	2.25	0.53
11:K:124:LYS:O	21:U:33:ARG:NE	2.40	0.53
1:A:1060:U:C5'	10:J:53:ILE:HG23	2.37	0.53
10:J:65:TYR:HA	14:N:98:LYS:HA	1.91	0.53
1:A:324:G:N2	1:A:326:G:H3'	2.22	0.53
7:G:93:VAL:O	7:G:96:ASN:OD1	2.25	0.53
10:J:6:ILE:HD12	10:J:76:ILE:O	2.08	0.53
7:G:55:LYS:O	7:G:60:ALA:HB2	2.08	0.53
1:A:1497:G:C2'	1:A:1498:U:H5'	2.38	0.53
11:K:86:LYS:HG3	11:K:113:THR:HA	1.90	0.53
1:A:1323:G:H2'	1:A:1324:A:H8	1.73	0.53
2:B:65:LYS:O	2:B:158:ASP:HB2	2.08	0.53
13:M:18:LEU:HD11	13:M:32:ILE:HG21	1.89	0.53
20:T:81:GLN:HA	20:T:84:LYS:HG2	1.89	0.53
3:C:24:ASN:O	3:C:25:THR:C	2.46	0.53
1:A:1233:G:OP2	9:I:125:GLN:HB2	2.06	0.53
10:J:61:ALA:O	10:J:62:ARG:HB2	2.07	0.53
1:A:1502:A:N7	1:A:1504:G:N3	2.57	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:28:LYS:HB3	19:S:29:PRO:CD	2.38	0.53
7:G:45:ALA:HB1	7:G:119:LEU:HB3	1.90	0.53
1:A:805:C:C2'	1:A:806:C:H5'	2.38	0.53
4:D:2:ARG:NE	4:D:114:ARG:HD3	2.23	0.53
22:V:24:G:O2'	22:V:25:C:H5'	2.08	0.53
4:D:47:LEU:HD23	4:D:47:LEU:O	2.08	0.53
1:A:1430:A:C8	1:A:1430:A:OP2	2.61	0.53
1:A:1211:U:H1'	1:A:1213:A:C2	2.44	0.53
1:A:1539:C:H1'	23:X:7:G:N2	2.24	0.53
6:F:6:ILE:HA	6:F:89:VAL:HA	1.89	0.53
8:H:100:ILE:CD1	8:H:128:VAL:HG23	2.39	0.53
1:A:437:U:H2'	1:A:438:U:H5'	1.89	0.53
1:A:64:G:N2	1:A:67:C:C4	2.75	0.53
16:P:38:PHE:CD1	16:P:38:PHE:C	2.81	0.53
3:C:64:ARG:O	3:C:65:VAL:HB	2.07	0.53
3:C:84:GLU:HG3	3:C:85:LYS:N	2.23	0.53
1:A:1108:G:H5'	3:C:175:HIS:CD2	2.44	0.53
1:A:533:A:C2	1:A:536:C:C5	2.97	0.53
1:A:1167:A:N7	1:A:1169:A:C6	2.76	0.53
15:O:18:ALA:O	15:O:19:ASN:HB2	2.07	0.53
1:A:38:G:C2	1:A:397:A:C2	2.96	0.53
24:Y:53:ARG:HH22	24:Y:54:GLN:NE2	2.06	0.53
22:V:27:G:O2'	22:V:28:G:H5'	2.09	0.53
3:C:168:ARG:O	3:C:168:ARG:NE	2.41	0.53
23:X:14:A:N6	23:X:15:A:N1	2.57	0.53
1:A:1266:G:N1	1:A:1270:G:C6	2.76	0.53
10:J:42:LEU:HB3	10:J:71:LEU:HB3	1.89	0.53
21:U:24:LYS:O	21:U:28:LEU:HB2	2.07	0.53
1:A:458:U:H2'	1:A:459:A:C8	2.43	0.53
3:C:109:GLU:HB2	3:C:143:LEU:CD2	2.39	0.53
1:A:437:U:N3	1:A:438:U:C5	2.76	0.53
4:D:117:VAL:HG12	4:D:130:ASN:HA	1.91	0.53
8:H:79:ARG:HB2	8:H:80:PRO:CD	2.38	0.53
3:C:72:PRO:HG3	3:C:104:GLU:HB2	1.89	0.53
1:A:589:U:H2'	1:A:590:U:C6	2.43	0.53
8:H:110:MET:HE1	8:H:115:ALA:HA	1.91	0.53
6:F:47:LEU:HD12	6:F:55:HIS:HA	1.90	0.53
1:A:1013:G:N2	1:A:1017:U:N3	2.56	0.53
1:A:1429:A:OP2	1:A:1429:A:H8	1.91	0.53
11:K:15:VAL:HG22	11:K:16:SER:N	2.24	0.53
6:F:5:GLU:O	6:F:5:GLU:HG3	2.08	0.53
6:F:93:LYS:O	6:F:94:HIS:HB2	2.07	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:430:A:H2'	1:A:430:A:N3	2.23	0.53
5:E:71:ILE:HG23	5:E:72:ASN:N	2.22	0.53
22:V:61:C:H2'	22:V:62:C:H6	1.73	0.53
1:A:204:G:H1'	1:A:465:A:C2	2.43	0.53
8:H:48:PHE:O	8:H:49:LYS:HB2	2.07	0.53
1:A:587:G:H4'	8:H:3:GLN:CA	2.34	0.53
13:M:44:ILE:CD1	13:M:44:ILE:N	2.72	0.53
3:C:87:ARG:HG3	3:C:100:ILE:HG22	1.91	0.53
12:L:19:ASN:C	12:L:20:VAL:HG12	2.29	0.53
1:A:283:U:H2'	1:A:284:C:H6	1.72	0.53
1:A:649:A:H2'	1:A:650:G:H5''	1.89	0.53
1:A:382:A:H2'	1:A:383:A:C8	2.43	0.53
9:I:105:ARG:O	9:I:105:ARG:HD2	2.09	0.53
16:P:18:GLN:HG3	16:P:35:ARG:HD2	1.90	0.53
16:P:20:VAL:HG22	16:P:35:ARG:HA	1.90	0.53
1:A:1246:A:C2	1:A:1247:U:C2	2.97	0.53
16:P:48:GLU:CG	16:P:49:GLY:N	2.71	0.53
11:K:22:ILE:HG22	11:K:31:VAL:HG22	1.90	0.53
2:B:53:LEU:HD11	2:B:216:VAL:HA	1.90	0.53
2:B:53:LEU:HD11	2:B:216:VAL:HG22	1.90	0.53
17:Q:45:VAL:HG11	17:Q:60:ILE:CG1	2.38	0.53
1:A:1151:A:O2'	1:A:1152:A:O5'	2.21	0.53
1:A:142:G:C5	1:A:143:A:C8	2.96	0.53
3:C:117:ASP:HA	3:C:120:THR:HB	1.91	0.53
5:E:75:LEU:HD21	5:E:119:VAL:HG12	1.90	0.53
1:A:193:C:O4'	20:T:54:GLN:OE1	2.26	0.53
2:B:32:GLY:O	2:B:33:ALA:HB2	2.09	0.53
18:R:42:ARG:HG2	18:R:43:ILE:CD1	2.39	0.53
19:S:10:ILE:HG13	19:S:37:SER:HB3	1.91	0.53
16:P:20:VAL:HG23	16:P:35:ARG:HA	1.90	0.53
10:J:7:ARG:O	10:J:100:ILE:O	2.27	0.53
21:U:4:LYS:HD2	21:U:4:LYS:C	2.29	0.53
1:A:538:G:H5''	12:L:110:LYS:HB2	1.89	0.53
20:T:14:GLU:O	20:T:15:LYS:C	2.46	0.53
1:A:369:G:C4	1:A:370:C:C5	2.97	0.53
1:A:978:A:C2'	1:A:979:C:H5'	2.39	0.53
1:A:989:U:H2'	1:A:990:C:H6	1.74	0.53
2:B:110:ILE:HG22	2:B:111:LYS:N	2.22	0.53
2:B:80:LYS:HG3	2:B:84:LEU:HD22	1.91	0.53
1:A:1446:A:H2'	1:A:1447:A:H5'	1.89	0.53
9:I:56:MET:HA	9:I:59:LYS:CB	2.38	0.53
3:C:56:ILE:HG12	3:C:65:VAL:HG22	1.90	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:395:C:H2'	1:A:396:C:H6	1.74	0.53
1:A:633:G:OP2	8:H:87:ARG:NH2	2.42	0.53
1:A:1321:U:H3'	1:A:1322:C:O2	2.09	0.53
11:K:54:SER:O	11:K:55:ARG:C	2.48	0.53
6:F:2:ARG:HG2	6:F:92:THR:HG21	1.90	0.53
13:M:17:ALA:O	13:M:20:SER:CB	2.57	0.53
21:U:34:ARG:O	21:U:36:PHE:N	2.42	0.53
5:E:132:PRO:C	5:E:134:ASN:N	2.62	0.53
5:E:148:SER:O	5:E:152:VAL:HG12	2.08	0.53
1:A:386:C:O2'	1:A:387:U:H5'	2.09	0.53
4:D:16:THR:HG22	4:D:17:ASP:O	2.08	0.53
1:A:1239:A:C2	1:A:1241:G:N1	2.77	0.53
1:A:1060:U:C5'	10:J:53:ILE:CG2	2.85	0.53
9:I:20:ILE:HG21	9:I:60:LEU:HD12	1.90	0.53
12:L:49:ARG:HB2	12:L:89:LEU:HD21	1.91	0.53
11:K:81:LEU:N	11:K:81:LEU:HD23	2.24	0.53
16:P:61:VAL:HA	16:P:65:ALA:HB3	1.91	0.53
3:C:129:PHE:CZ	3:C:130:ARG:HD2	2.44	0.53
1:A:978:A:C1'	1:A:1322:C:H5	2.22	0.53
14:N:73:PHE:HE1	14:N:75:ARG:HA	1.73	0.53
2:B:89:PHE:HB3	2:B:149:GLY:O	2.08	0.53
1:A:274:A:C5'	17:Q:15:LYS:CE	2.87	0.53
17:Q:16:MET:CB	17:Q:19:SER:HB3	2.39	0.53
15:O:23:SER:OG	15:O:26:VAL:HG23	2.08	0.53
10:J:29:ALA:CA	10:J:32:THR:HG22	2.33	0.53
17:Q:51:GLU:N	17:Q:51:GLU:OE1	2.42	0.53
3:C:35:ASP:OD1	3:C:58:ARG:NH1	2.42	0.53
1:A:446:G:H2'	1:A:447:G:O4'	2.09	0.53
1:A:118:U:O4	1:A:288:A:H2'	2.09	0.53
7:G:25:PHE:O	7:G:26:VAL:C	2.47	0.53
1:A:300:A:H1'	1:A:565:U:O2	2.08	0.53
1:A:322:C:O3'	20:T:17:ARG:HG3	2.07	0.53
1:A:689:C:H2'	1:A:690:G:C8	2.44	0.53
1:A:956:U:O2	1:A:1225:A:C2	2.61	0.53
2:B:112:ARG:O	2:B:115:ASP:O	2.27	0.53
2:B:89:PHE:CD2	2:B:89:PHE:N	2.76	0.53
1:A:1151:A:HO2'	1:A:1152:A:C5'	2.20	0.53
1:A:692:U:O2'	1:A:694:A:N7	2.32	0.53
11:K:75:GLU:N	11:K:75:GLU:OE1	2.42	0.53
1:A:477:C:H2'	1:A:478:A:C8	2.43	0.53
4:D:159:GLU:O	4:D:161:ALA:N	2.42	0.53
19:S:39:ILE:HG12	19:S:70:LEU:CD2	2.38	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:70:ARG:HD2	13:M:74:MET:HE3	1.91	0.53
7:G:21:LEU:C	7:G:21:LEU:HD13	2.29	0.53
1:A:1379:G:O2'	1:A:1380:U:H5'	2.09	0.53
1:A:160:A:H2'	1:A:161:A:O4'	2.09	0.53
1:A:363:A:OP1	12:L:30:ARG:HB3	2.09	0.53
12:L:32:VAL:HG12	12:L:78:VAL:HG22	1.90	0.53
1:A:1216:A:N3	1:A:1217:C:C5	2.77	0.52
1:A:1312:G:N7	19:S:2:ARG:N	2.57	0.52
2:B:66:ILE:O	2:B:67:LEU:HB2	2.08	0.52
2:B:86:CYS:HB2	2:B:88:GLN:NE2	2.24	0.52
17:Q:13:SER:CB	17:Q:16:MET:HE2	2.39	0.52
10:J:16:ARG:O	10:J:16:ARG:HG3	2.09	0.52
2:B:206:ILE:HG12	2:B:207:ARG:N	2.23	0.52
11:K:51:PHE:CA	11:K:55:ARG:HB3	2.39	0.52
11:K:74:LYS:C	11:K:75:GLU:OE1	2.47	0.52
1:A:1523:G:OP1	11:K:124:LYS:HE2	2.10	0.52
1:A:513:C:O2'	1:A:514:C:C5'	2.58	0.52
1:A:895:G:H2'	1:A:896:C:C6	2.44	0.52
1:A:379:C:C2'	1:A:380:G:H5'	2.39	0.52
1:A:542:G:C2	1:A:543:U:C4	2.96	0.52
7:G:122:GLU:O	7:G:123:LEU:C	2.48	0.52
12:L:49:ARG:NH1	12:L:88:ASP:OD1	2.41	0.52
20:T:65:LEU:O	20:T:65:LEU:HD12	2.09	0.52
4:D:40:HIS:HB3	4:D:43:ARG:HG3	1.90	0.52
12:L:6:LEU:HB3	17:Q:33:TYR:CE1	2.45	0.52
12:L:36:VAL:HG12	12:L:36:VAL:O	2.09	0.52
21:U:25:ALA:O	21:U:26:GLY:O	2.28	0.52
20:T:27:MET:O	20:T:31:ILE:HD12	2.10	0.52
4:D:154:VAL:O	4:D:158:LEU:HG	2.08	0.52
4:D:159:GLU:HG2	4:D:160:LEU:N	2.24	0.52
4:D:57:LYS:N	4:D:199:ILE:HG22	2.24	0.52
1:A:11:G:C6	1:A:12:U:C4	2.97	0.52
5:E:93:VAL:HG12	5:E:138:ALA:HB1	1.92	0.52
5:E:149:PRO:HA	8:H:98:LEU:HD11	1.91	0.52
22:V:61:C:O2'	22:V:62:C:H5'	2.08	0.52
1:A:16:A:H2'	1:A:17:U:H5'	1.90	0.52
1:A:452:A:C3'	1:A:452:A:C8	2.89	0.52
1:A:452:A:C8	1:A:453:G:O4'	2.62	0.52
1:A:1308:U:O3'	13:M:90:HIS:CE1	2.62	0.52
4:D:87:GLU:HG2	4:D:187:ARG:HD3	1.89	0.52
2:B:185:ILE:O	2:B:185:ILE:CG1	2.57	0.52
13:M:2:ARG:HA	13:M:8:ILE:HG12	1.91	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1037:C:N3	1:A:1038:C:C5	2.77	0.52
5:E:59:ILE:O	5:E:63:MET:HG2	2.09	0.52
8:H:15:ASN:O	8:H:18:ALA:N	2.42	0.52
1:A:1259:C:H6	1:A:1259:C:O5'	1.91	0.52
7:G:49:LEU:HD11	7:G:60:ALA:CB	2.38	0.52
5:E:105:ILE:HG13	5:E:105:ILE:O	2.08	0.52
19:S:33:TRP:CZ2	19:S:56:HIS:CE1	2.97	0.52
22:V:44:G:N3	22:V:45:U:N3	2.56	0.52
1:A:1215:G:N2	1:A:1216:A:C1'	2.72	0.52
1:A:1225:A:H2'	1:A:1226:C:C5	2.44	0.52
1:A:259:G:N2	1:A:260:G:H1'	2.23	0.52
1:A:455:G:N2	1:A:478:A:C2	2.77	0.52
1:A:459:A:H2'	1:A:460:A:H1'	1.91	0.52
3:C:141:MET:HE1	3:C:170:GLY:HA3	1.92	0.52
4:D:58:GLN:OE1	4:D:58:GLN:HA	2.10	0.52
5:E:104:ILE:HD12	5:E:122:VAL:CG2	2.39	0.52
5:E:152:VAL:CG2	5:E:153:ALA:N	2.72	0.52
5:E:154:ALA:O	5:E:155:LYS:C	2.47	0.52
1:A:71:A:O2'	1:A:72:A:H5''	2.09	0.52
1:A:465:A:H2'	1:A:466:A:C8	2.45	0.52
1:A:1425:U:C2'	1:A:1426:G:H5'	2.38	0.52
1:A:949:A:C2	1:A:1233:G:N3	2.78	0.52
10:J:59:LYS:CE	10:J:59:LYS:N	2.72	0.52
9:I:34:LEU:HD21	9:I:47:VAL:HG21	1.91	0.52
3:C:23:ALA:HB2	3:C:31:ASN:ND2	2.24	0.52
13:M:76:ILE:HG23	13:M:80:MET:CE	2.39	0.52
16:P:39:PHE:CG	16:P:74:LEU:HD11	2.44	0.52
7:G:21:LEU:HD11	7:G:61:PHE:HZ	1.73	0.52
1:A:224:U:H2'	1:A:225:C:C6	2.42	0.52
1:A:215:C:H2'	1:A:216:U:O4'	2.09	0.52
3:C:156:LEU:HD12	3:C:163:ARG:HB2	1.92	0.52
1:A:44:A:H2'	1:A:45:G:H5'	1.91	0.52
12:L:101:LEU:N	12:L:101:LEU:CD1	2.73	0.52
18:R:20:ILE:HD12	18:R:21:ASP:N	2.25	0.52
15:O:37:HIS:C	15:O:37:HIS:CD2	2.83	0.52
1:A:1182:G:C4'	1:A:1183:U:H5'	2.39	0.52
1:A:410:G:H5''	1:A:411:A:OP1	2.06	0.52
5:E:119:VAL:HG21	5:E:122:VAL:CG1	2.40	0.52
10:J:56:HIS:O	10:J:57:VAL:O	2.27	0.52
2:B:26:MET:HE2	2:B:29:PHE:CD2	2.45	0.52
4:D:187:ARG:NH2	4:D:191:SER:OG	2.43	0.52
4:D:191:SER:OG	4:D:192:ALA:N	2.42	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1533:C:C5'	1:A:1534:A:OP1	2.58	0.52
1:A:138:G:O2'	1:A:139:A:H5'	2.09	0.52
13:M:82:LEU:HD23	13:M:82:LEU:N	2.25	0.52
1:A:182:A:C8	1:A:184:G:C5	2.98	0.52
1:A:198:G:N3	1:A:199:A:C8	2.77	0.52
1:A:652:U:O2'	1:A:653:U:P	2.67	0.52
1:A:1216:A:N1	1:A:1217:C:C4	2.77	0.52
2:B:49:PHE:CA	2:B:212:TYR:OH	2.56	0.52
1:A:257:G:C2	1:A:258:G:C8	2.98	0.52
10:J:8:ILE:CD1	10:J:74:VAL:HG11	2.40	0.52
6:F:3:HIS:N	6:F:92:THR:HG23	2.25	0.52
1:A:145:G:N2	1:A:146:G:C4	2.77	0.52
4:D:12:ARG:HD2	4:D:33:ILE:HA	1.92	0.52
4:D:176:LYS:CB	4:D:178:GLU:HG2	2.39	0.52
5:E:49:TYR:CE2	5:E:133:ILE:HD11	2.45	0.52
1:A:1239:A:H62	1:A:1299:A:N6	2.07	0.52
9:I:56:MET:CE	9:I:57:VAL:H	2.22	0.52
3:C:70:ALA:HB2	3:C:105:VAL:HB	1.90	0.52
3:C:41:TYR:CE1	3:C:89:VAL:HG21	2.44	0.52
1:A:1503:A:C2	1:A:1531:A:H2	2.26	0.52
9:I:6:TYR:HE2	9:I:17:ARG:CB	2.23	0.52
1:A:103:U:C2	1:A:104:G:C8	2.98	0.52
7:G:144:ALA:O	7:G:145:GLU:CB	2.55	0.52
1:A:237:G:H2'	1:A:238:A:C8	2.44	0.52
1:A:974:A:H4'	1:A:975:A:H3'	1.92	0.52
11:K:82:GLU:HG3	11:K:108:ASN:ND2	2.24	0.52
2:B:221:ARG:HG2	2:B:221:ARG:HH11	1.74	0.52
12:L:23:LEU:HB2	12:L:58:ASN:ND2	2.25	0.52
1:A:437:U:C4	1:A:438:U:H5	2.28	0.52
4:D:151:GLN:O	4:D:152:SER:C	2.47	0.52
1:A:1081:A:C2	1:A:1082:A:C4	2.97	0.52
22:V:59:U:C6	22:V:60:U:C5	2.97	0.52
8:H:48:PHE:CD1	8:H:48:PHE:N	2.74	0.52
1:A:1330:U:H2'	1:A:1331:G:C5'	2.37	0.52
10:J:65:TYR:HA	14:N:99:ALA:H	1.74	0.52
14:N:6:LYS:HD3	14:N:6:LYS:H	1.73	0.52
2:B:14:HIS:HD2	2:B:15:PHE:N	2.08	0.52
19:S:39:ILE:HD11	19:S:70:LEU:HD22	1.89	0.52
1:A:1041:G:C6	1:A:1042:A:N6	2.77	0.52
12:L:42:LYS:O	12:L:43:LYS:C	2.47	0.52
1:A:505:G:H5'	1:A:534:U:H2'	1.90	0.52
4:D:193:ASP:C	4:D:194:ILE:HG22	2.29	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:87:ARG:O	8:H:121:GLY:HA3	2.09	0.52
2:B:75:ALA:O	2:B:76:SER:C	2.48	0.52
1:A:161:A:H2'	1:A:162:A:C8	2.45	0.52
13:M:49:GLU:O	13:M:50:GLY:C	2.47	0.52
9:I:126:PHE:C	9:I:126:PHE:CD2	2.82	0.52
1:A:1133:G:C5	1:A:1134:G:N7	2.77	0.52
11:K:109:ILE:HG21	21:U:16:ARG:HE	1.74	0.52
17:Q:46:HIS:O	17:Q:73:THR:HG23	2.08	0.52
11:K:52:ARG:NE	11:K:52:ARG:HA	2.25	0.52
8:H:94:VAL:HG21	8:H:100:ILE:O	2.10	0.52
12:L:23:LEU:HG	12:L:24:GLU:H	1.75	0.52
3:C:6:PRO:HB3	3:C:174:LEU:HD13	1.91	0.52
1:A:439:U:H2'	1:A:440:C:O5'	2.10	0.52
1:A:63:C:C2'	1:A:64:G:H5'	2.40	0.52
1:A:1233:G:C5	1:A:1234:C:C5	2.98	0.52
7:G:119:LEU:HD22	7:G:123:LEU:CD2	2.38	0.52
1:A:722:G:N3	1:A:722:G:H3'	2.24	0.52
1:A:262:A:H4'	20:T:68:LYS:HZ1	1.75	0.52
24:Y:155:ARG:O	24:Y:156:ARG:C	2.47	0.52
1:A:634:C:O2'	1:A:635:A:H5'	2.10	0.52
11:K:107:THR:CG2	11:K:108:ASN:ND2	2.72	0.52
1:A:1142:G:H2'	1:A:1143:G:O4'	2.09	0.52
2:B:122:ASP:O	2:B:123:GLY:O	2.27	0.52
2:B:146:SER:O	2:B:147:LEU:CG	2.53	0.52
11:K:33:ILE:HG12	11:K:69:CYS:SG	2.49	0.52
1:A:142:G:H3'	1:A:143:A:C8	2.41	0.52
1:A:464:U:C2	1:A:466:A:H5"	2.45	0.52
1:A:374:A:C6	1:A:375:U:C4	2.97	0.52
1:A:452:A:N7	1:A:453:G:N9	2.58	0.52
1:A:1337:G:H4'	1:A:1338:G:OP1	2.09	0.52
9:I:29:ILE:HA	9:I:64:ILE:HG12	1.92	0.52
1:A:1410:A:H2'	1:A:1411:C:H6	1.75	0.52
2:B:20:ARG:O	2:B:22:TRP:CD1	2.62	0.52
8:H:46:GLU:N	8:H:63:LYS:CG	2.72	0.52
13:M:2:ARG:O	13:M:3:ILE:O	2.28	0.52
15:O:3:SER:HB2	15:O:6:ALA:CB	2.39	0.52
24:Y:107:THR:OG1	24:Y:108:GLU:N	2.43	0.52
1:A:38:G:N2	1:A:397:A:C4	2.78	0.52
1:A:235:C:H2'	1:A:236:A:C8	2.45	0.52
22:V:75:C:H4'	22:V:76:A:OP1	2.08	0.52
4:D:89:LEU:O	4:D:89:LEU:HD12	2.10	0.52
1:A:1371:G:O3'	9:I:70:GLY:HA3	2.09	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:302:G:N3	1:A:556:C:H4'	2.25	0.52
1:A:1386:G:H2'	1:A:1387:G:H8	1.73	0.52
19:S:74:ALA:N	19:S:75:PRO:CD	2.73	0.52
1:A:979:C:OP1	1:A:981:U:O4	2.27	0.52
1:A:1226:C:H2'	13:M:101:THR:HB	1.92	0.52
2:B:131:LYS:CG	2:B:132:GLU:N	2.71	0.52
2:B:139:GLU:HG2	2:B:143:LEU:HD21	1.90	0.52
1:A:1539:C:OP1	21:U:17:ARG:NH1	2.43	0.52
1:A:1302:C:C5	13:M:16:ILE:HD13	2.44	0.52
3:C:172:VAL:N	3:C:173:PRO:HD3	2.25	0.52
5:E:110:MET:HE1	5:E:124:ALA:HB1	1.92	0.52
5:E:35:LEU:HD21	5:E:136:VAL:HG11	1.92	0.52
22:V:18:G:C4	22:V:58:A:C6	2.97	0.52
1:A:1285:A:H4'	1:A:1286:U:C2	2.45	0.52
1:A:1202:U:H2'	1:A:1203:C:H5'	1.91	0.52
3:C:105:VAL:HG12	3:C:106:ARG:O	2.10	0.52
10:J:5:ARG:HG2	10:J:79:PRO:HG3	1.90	0.52
1:A:106:C:O2	1:A:379:C:H4'	2.10	0.52
8:H:46:GLU:N	8:H:63:LYS:HG3	2.25	0.52
15:O:7:THR:HA	15:O:10:ILE:HD12	1.90	0.52
7:G:82:SER:HB3	7:G:84:TYR:CD2	2.45	0.52
9:I:16:ALA:HB2	9:I:66:VAL:HG23	1.92	0.52
6:F:9:MET:CE	18:R:64:LEU:HD22	2.40	0.52
5:E:55:VAL:HB	5:E:56:PRO:CD	2.39	0.52
5:E:37:VAL:HG23	5:E:47:PHE:CB	2.40	0.52
1:A:19:A:O2'	1:A:20:U:H5'	2.10	0.52
2:B:48:MET:HG2	2:B:198:VAL:O	2.10	0.52
17:Q:13:SER:HB2	17:Q:21:VAL:CG1	2.39	0.52
1:A:1182:G:H4'	1:A:1183:U:H5'	1.92	0.52
12:L:31:GLY:HA3	12:L:54:VAL:CG1	2.40	0.52
5:E:82:HIS:CE1	5:E:146:MET:HG3	2.45	0.52
20:T:77:ASN:O	20:T:81:GLN:HG2	2.10	0.52
1:A:451:A:C8	1:A:481:G:C6	2.97	0.52
1:A:1304:G:N7	1:A:1305:G:C6	2.78	0.52
1:A:1285:A:H5'	1:A:1286:U:C4	2.44	0.52
1:A:1202:U:C2	14:N:82:ILE:HG21	2.45	0.52
9:I:42:THR:O	9:I:43:ALA:HB3	2.09	0.52
1:A:1410:A:C4	1:A:1491:G:N2	2.78	0.52
3:C:58:ARG:HA	3:C:62:SER:O	2.09	0.52
14:N:20:PHE:CG	14:N:24:ALA:HB3	2.45	0.52
1:A:763:G:C2'	1:A:764:C:O5'	2.57	0.52
1:A:802:A:C2'	1:A:803:G:H5'	2.39	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:T:4:LYS:HE2	20:T:4:LYS:CA	2.40	0.52
5:E:94:PHE:C	5:E:94:PHE:CD1	2.82	0.52
1:A:188:C:O2	1:A:188:C:C2'	2.57	0.52
1:A:525:C:H2'	1:A:526:C:C6	2.44	0.52
2:B:59:ILE:HD12	2:B:59:ILE:C	2.30	0.52
8:H:50:VAL:O	8:H:50:VAL:HG22	2.10	0.52
2:B:116:LEU:CG	2:B:140:LEU:HD11	2.39	0.51
10:J:27:GLU:O	10:J:29:ALA:N	2.44	0.51
10:J:32:THR:CG2	10:J:83:THR:HA	2.39	0.51
3:C:109:GLU:HB2	3:C:143:LEU:HD23	1.93	0.51
4:D:10:LEU:HD21	4:D:62:ARG:HD3	1.90	0.51
5:E:154:ALA:HB1	8:H:65:PHE:CE2	2.45	0.51
1:A:79:G:H1	1:A:90:C:N4	2.01	0.51
1:A:97:G:H2'	1:A:98:A:O5'	2.10	0.51
9:I:18:VAL:HG11	9:I:82:ILE:HG12	1.92	0.51
9:I:83:THR:HB	9:I:97:LEU:CD2	2.38	0.51
3:C:106:ARG:HD3	3:C:106:ARG:N	2.25	0.51
1:A:490:C:H2'	1:A:491:G:O4'	2.10	0.51
1:A:684:U:H2'	1:A:685:G:O4'	2.10	0.51
1:A:781:A:C4	1:A:802:A:C2	2.98	0.51
16:P:50:THR:O	16:P:51:ARG:O	2.28	0.51
1:A:1066:C:H2'	1:A:1066:C:O2	2.10	0.51
20:T:16:ALA:O	20:T:20:ASN:ND2	2.44	0.51
8:H:111:THR:O	8:H:114:ALA:HB3	2.09	0.51
7:G:86:VAL:O	7:G:86:VAL:HG12	2.09	0.51
1:A:1136:C:O2	1:A:1136:C:O4'	2.29	0.51
11:K:30:ILE:HD12	11:K:31:VAL:N	2.24	0.51
1:A:148:G:C2'	1:A:149:A:O5'	2.59	0.51
4:D:112:GLU:O	4:D:115:GLN:HB3	2.10	0.51
4:D:117:VAL:HA	4:D:122:ILE:HD12	1.91	0.51
5:E:81:GLN:HE22	5:E:148:SER:HA	1.75	0.51
13:M:28:ARG:NH1	13:M:62:PHE:CB	2.73	0.51
3:C:41:TYR:CZ	3:C:89:VAL:HG21	2.45	0.51
9:I:98:ARG:HA	9:I:103:VAL:HG21	1.92	0.51
11:K:39:ASN:O	11:K:40:ALA:CB	2.59	0.51
1:A:891:U:C5	1:A:906:A:C2	2.98	0.51
7:G:144:ALA:O	7:G:145:GLU:HB2	2.09	0.51
1:A:853:C:H2'	1:A:854:U:C6	2.45	0.51
1:A:432:A:H2'	1:A:433:G:O5'	2.11	0.51
3:C:135:ARG:O	3:C:136:ALA:C	2.48	0.51
1:A:1472:U:O2'	1:A:1473:G:H5'	2.09	0.51
2:B:8:MET:HB2	2:B:43:GLU:OE2	2.09	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1140:C:O2'	1:A:1141:C:P	2.68	0.51
2:B:116:LEU:HB3	2:B:140:LEU:HD11	1.93	0.51
16:P:10:GLY:HA3	16:P:15:PRO:HA	1.92	0.51
4:D:120:LYS:C	4:D:122:ILE:HD13	2.31	0.51
4:D:33:ILE:HG12	4:D:34:GLU:HB2	1.91	0.51
5:E:131:ASN:HD22	5:E:132:PRO:N	2.09	0.51
14:N:35:ALA:CA	14:N:41:ARG:HB3	2.40	0.51
14:N:41:ARG:HB2	14:N:42:TRP:CE3	2.44	0.51
20:T:35:TYR:HA	20:T:38:ILE:CD1	2.40	0.51
9:I:18:VAL:HG11	9:I:82:ILE:CG1	2.40	0.51
6:F:21:MET:HA	6:F:24:ARG:NH2	2.25	0.51
6:F:43:GLY:HA2	6:F:58:HIS:CD2	2.45	0.51
1:A:284:C:H2'	1:A:285:C:C6	2.46	0.51
9:I:27:ILE:HG23	9:I:62:LEU:HD23	1.92	0.51
1:A:383:A:H2'	1:A:384:G:O4'	2.11	0.51
1:A:541:G:C2	1:A:542:G:C4	2.98	0.51
13:M:5:GLY:C	13:M:7:ASN:H	2.13	0.51
1:A:1293:C:C4	1:A:1294:G:N7	2.78	0.51
3:C:204:GLY:O	3:C:205:GLU:HG2	2.10	0.51
8:H:77:VAL:HG11	8:H:124:ILE:HD11	1.91	0.51
12:L:55:ARG:HG3	12:L:55:ARG:HH21	1.75	0.51
11:K:85:VAL:CG1	11:K:92:ARG:NH1	2.73	0.51
1:A:994:A:C8	1:A:1216:A:H4'	2.46	0.51
1:A:1332:A:H2'	1:A:1333:A:O5'	2.10	0.51
1:A:1286:U:C6	1:A:1286:U:OP1	2.63	0.51
10:J:56:HIS:O	10:J:57:VAL:CG1	2.59	0.51
4:D:131:ILE:HD12	4:D:131:ILE:O	2.10	0.51
1:A:108:G:N3	1:A:108:G:H5'	2.25	0.51
1:A:491:G:H2'	1:A:491:G:N3	2.23	0.51
1:A:874:G:C4	1:A:875:U:C5	2.98	0.51
7:G:134:VAL:O	7:G:138:GLU:HG2	2.10	0.51
4:D:125:ASN:HA	4:D:141:VAL:HG22	1.93	0.51
9:I:129:ARG:NH1	22:V:35:A:OP1	2.44	0.51
15:O:78:THR:O	15:O:82:GLU:OE1	2.29	0.51
1:A:1112:C:O2	3:C:178:ARG:HG3	2.10	0.51
1:A:1269:A:C2	1:A:1313:U:H1'	2.46	0.51
2:B:90:PHE:N	2:B:149:GLY:HA3	2.23	0.51
2:B:151:LYS:HG3	2:B:152:ASP:N	2.25	0.51
13:M:18:LEU:HG	13:M:33:LEU:CD1	2.41	0.51
3:C:16:PRO:O	3:C:17:TRP:CB	2.59	0.51
4:D:121:ALA:N	4:D:122:ILE:HD13	2.24	0.51
4:D:173:ASP:CB	4:D:176:LYS:HB2	2.41	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1082:A:C2	1:A:1083:U:O2	2.64	0.51
16:P:76:LYS:O	16:P:77:GLU:HB2	2.09	0.51
9:I:46:VAL:HA	9:I:49:GLN:HG3	1.91	0.51
1:A:1411:C:H2'	1:A:1412:C:H6	1.76	0.51
9:I:87:MET:CG	9:I:88:GLU:N	2.72	0.51
4:D:129:VAL:HG11	4:D:134:TYR:CD1	2.45	0.51
1:A:893:C:H2'	1:A:894:G:H8	1.75	0.51
7:G:91:ARG:HE	7:G:93:VAL:HG23	1.74	0.51
7:G:59:GLU:O	7:G:63:VAL:HG23	2.10	0.51
1:A:663:A:H5'	1:A:836:G:OP1	2.10	0.51
24:Y:149:ILE:HG23	24:Y:153:ASP:HB2	1.92	0.51
1:A:866:C:H4'	1:A:919:A:H5'	1.92	0.51
1:A:1008:U:C2	1:A:1022:A:C2	2.99	0.51
1:A:1391:U:H2'	1:A:1392:G:C8	2.46	0.51
1:A:87:C:H2'	1:A:88:U:H5'	1.92	0.51
5:E:37:VAL:HG23	5:E:47:PHE:CA	2.40	0.51
21:U:4:LYS:HD2	21:U:4:LYS:O	2.09	0.51
1:A:449:G:O2'	1:A:450:G:H5'	2.10	0.51
6:F:81:ASN:O	6:F:84:VAL:HG12	2.11	0.51
13:M:85:TYR:HA	13:M:88:LEU:HD12	1.91	0.51
2:B:81:ASP:N	2:B:84:LEU:HB3	2.26	0.51
1:A:1103:C:H2'	1:A:1104:G:O5'	2.10	0.51
6:F:91:ARG:O	6:F:92:THR:OG1	2.26	0.51
1:A:830:G:O2'	1:A:831:A:H5'	2.11	0.51
9:I:85:ALA:C	9:I:87:MET:N	2.64	0.51
1:A:112:G:C2'	1:A:113:G:H5'	2.40	0.51
1:A:880:C:O2'	1:A:881:G:H5'	2.10	0.51
1:A:1380:U:N3	7:G:2:ARG:HD3	2.26	0.51
1:A:864:A:H3'	1:A:865:A:C8	2.45	0.51
1:A:29:U:H5'	1:A:296:U:OP1	2.11	0.51
1:A:1310:G:O6	1:A:1327:C:N4	2.44	0.51
2:B:63:LYS:NZ	2:B:87:ASP:OD1	2.44	0.51
2:B:95:TRP:CH2	2:B:99:MET:HG2	2.45	0.51
8:H:123:GLU:HG2	8:H:125:ILE:HD12	1.92	0.51
11:K:15:VAL:HG13	11:K:16:SER:H	1.74	0.51
13:M:13:HIS:CD2	13:M:41:ASP:HB2	2.46	0.51
10:J:29:ALA:HA	10:J:32:THR:CG2	2.34	0.51
3:C:140:ALA:O	3:C:145:ALA:HB3	2.10	0.51
1:A:495:A:O4'	1:A:496:A:C8	2.64	0.51
4:D:54:LEU:CD2	4:D:55:ARG:N	2.74	0.51
5:E:132:PRO:HA	5:E:135:VAL:HG13	1.92	0.51
22:V:17:C:C3'	22:V:17:C:C6	2.94	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:66:A:H2'	1:A:67:C:H5'	1.91	0.51
14:N:43:ASN:OD1	14:N:47:LYS:CE	2.59	0.51
3:C:39:ARG:O	3:C:40:GLN:C	2.49	0.51
1:A:892:A:C6	1:A:893:C:C4	2.98	0.51
2:B:70:GLY:CA	2:B:163:ILE:CG2	2.89	0.51
1:A:646:G:C6	1:A:647:C:N4	2.79	0.51
8:H:82:LEU:HD23	17:Q:35:LYS:HA	1.92	0.51
4:D:147:LYS:O	4:D:148:ALA:C	2.49	0.51
11:K:58:THR:HB	11:K:59:PRO:HD2	1.92	0.51
1:A:1376:U:H2'	1:A:1377:A:C8	2.46	0.51
20:T:47:GLN:NE2	20:T:47:GLN:O	2.43	0.51
2:B:224:ARG:HG2	2:B:224:ARG:O	2.10	0.51
8:H:35:ILE:CD1	8:H:125:ILE:HG21	2.41	0.51
4:D:169:TRP:HB2	4:D:183:ARG:HG3	1.92	0.51
1:A:1539:C:O3'	21:U:17:ARG:HG2	2.10	0.51
2:B:209:VAL:HG23	2:B:210:THR:H	1.74	0.51
4:D:35:GLN:O	4:D:36:ALA:HB2	2.11	0.51
1:A:497:G:H2'	1:A:498:A:C8	2.45	0.51
9:I:40:ARG:H	9:I:44:ARG:CB	2.24	0.51
2:B:16:GLY:HA2	2:B:40:ILE:HG23	1.91	0.51
15:O:3:SER:HB2	15:O:6:ALA:HB2	1.92	0.51
6:F:62:MET:O	6:F:63:ASN:HB2	2.10	0.51
8:H:13:ILE:O	8:H:14:ARG:C	2.48	0.51
5:E:15:ILE:O	5:E:16:ALA:HB2	2.10	0.51
6:F:37:HIS:CD2	6:F:37:HIS:N	2.79	0.51
1:A:1356:G:H2'	1:A:1357:A:C8	2.45	0.51
4:D:49:ASP:O	4:D:53:GLN:CB	2.58	0.51
4:D:16:THR:HG22	4:D:17:ASP:C	2.30	0.51
4:D:61:ARG:HG2	4:D:71:PHE:HD2	1.71	0.51
2:B:18:GLN:HG2	2:B:189:ASN:ND2	2.24	0.51
4:D:131:ILE:CD1	4:D:134:TYR:N	2.73	0.51
3:C:41:TYR:CD1	3:C:42:LEU:CD1	2.94	0.51
1:A:1533:C:C6	1:A:1533:C:OP2	2.64	0.51
19:S:70:LEU:HD13	19:S:70:LEU:O	2.11	0.51
7:G:110:ARG:HD2	7:G:122:GLU:HG2	1.92	0.51
3:C:166:TRP:O	3:C:167:TYR:HD1	1.94	0.51
8:H:46:GLU:O	8:H:47:ASP:HB2	2.11	0.51
13:M:9:PRO:O	13:M:10:ASP:HB2	2.11	0.51
4:D:195:ASN:O	4:D:198:LEU:HB2	2.11	0.51
1:A:842:U:H3'	1:A:843:U:C5'	2.41	0.51
1:A:570:G:H5''	1:A:571:U:OP2	2.10	0.51
2:B:141:GLU:O	2:B:145:ASN:OD1	2.29	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:33:LEU:HD23	13:M:38:ILE:HB	1.93	0.51
1:A:429:U:OP2	4:D:31:CYS:O	2.29	0.51
22:V:59:U:H2'	22:V:60:U:C6	2.46	0.51
1:A:451:A:H61	1:A:481:G:C5'	2.23	0.51
14:N:3:GLN:HA	14:N:6:LYS:CE	2.40	0.51
1:A:1439:G:C6	1:A:1440:U:C4	2.99	0.51
11:K:95:THR:O	11:K:99:LEU:HD23	2.11	0.51
1:A:109:A:C8	1:A:326:G:H2'	2.46	0.51
1:A:446:G:C2	1:A:489:C:C2	2.98	0.51
1:A:1057:G:O2'	1:A:1058:G:H5'	2.10	0.51
1:A:353:A:C2'	1:A:354:G:OP2	2.59	0.51
8:H:6:ILE:HG23	8:H:10:LEU:HD21	1.93	0.51
1:A:1444:U:O2	1:A:1444:U:C2'	2.59	0.51
1:A:41:G:O2'	1:A:42:G:H5'	2.11	0.51
1:A:1255:G:O2'	1:A:1258:G:H1'	2.11	0.51
1:A:470:C:N3	1:A:471:U:C5	2.79	0.51
1:A:33:A:H2'	1:A:34:C:C6	2.46	0.51
2:B:127:LYS:HG3	2:B:128:LEU:N	2.26	0.51
1:A:809:G:H2'	1:A:810:C:O5'	2.11	0.51
1:A:441:A:H2'	1:A:442:G:H5'	1.93	0.51
7:G:20:GLU:OE2	7:G:20:GLU:HA	2.11	0.51
10:J:87:LEU:HD13	10:J:87:LEU:C	2.32	0.51
1:A:1215:G:C2'	1:A:1216:A:H5'	2.41	0.50
1:A:1226:C:N4	13:M:102:LYS:HG3	2.26	0.50
1:A:413:G:N1	4:D:32:LYS:CD	2.74	0.50
5:E:80:LEU:HD12	5:E:146:MET:SD	2.51	0.50
1:A:98:A:H2'	1:A:99:C:C6	2.46	0.50
6:F:18:VAL:CB	6:F:19:PRO:CD	2.87	0.50
1:A:240:G:H4'	1:A:240:G:OP1	2.11	0.50
1:A:35:G:C4	1:A:36:C:C5	2.98	0.50
6:F:88:MET:HB2	18:R:63:TYR:HE2	1.75	0.50
13:M:10:ASP:CG	13:M:11:HIS:N	2.65	0.50
18:R:54:LEU:HD11	18:R:58:ILE:HD11	1.93	0.50
10:J:49:PHE:HD1	10:J:49:PHE:N	2.09	0.50
1:A:398:U:O2'	1:A:399:G:H5'	2.11	0.50
10:J:6:ILE:CD1	10:J:76:ILE:HB	2.41	0.50
1:A:298:A:N6	1:A:299:G:N1	2.58	0.50
1:A:1461:G:H2'	1:A:1462:C:O4'	2.11	0.50
1:A:233:C:H2'	1:A:234:C:H6	1.75	0.50
21:U:27:VAL:HG12	21:U:30:GLU:OE1	2.11	0.50
2:B:147:LEU:C	2:B:150:ILE:HG22	2.32	0.50
1:A:1123:U:O3'	10:J:38:GLY:HA3	2.10	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1302:C:C6	13:M:16:ILE:HD13	2.46	0.50
4:D:24:VAL:C	4:D:25:ARG:O	2.49	0.50
4:D:57:LYS:HD2	4:D:57:LYS:C	2.32	0.50
1:A:22:G:H2'	1:A:23:C:O4'	2.11	0.50
5:E:102:THR:HG22	5:E:103:GLY:H	1.73	0.50
22:V:52:G:H2'	22:V:52:G:N3	2.26	0.50
1:A:77:A:H2'	1:A:78:A:N7	2.26	0.50
20:T:54:GLN:HB3	20:T:55:PRO:HD3	1.94	0.50
1:A:1241:G:C4	1:A:1242:G:C8	2.99	0.50
1:A:1306:A:C8	1:A:1307:U:C5	2.99	0.50
1:A:1287:A:C6	1:A:1288:A:C6	2.98	0.50
10:J:52:LEU:HD21	10:J:59:LYS:HA	1.93	0.50
1:A:830:G:C2'	1:A:831:A:H5'	2.41	0.50
3:C:77:GLY:O	3:C:79:LYS:N	2.44	0.50
14:N:13:VAL:O	14:N:16:ALA:HB3	2.11	0.50
1:A:763:G:C5	1:A:764:C:C5	3.00	0.50
5:E:14:LEU:O	5:E:14:LEU:HD12	2.11	0.50
1:A:1380:U:C4	7:G:2:ARG:HD3	2.47	0.50
1:A:155:A:C2	1:A:167:A:C2	2.99	0.50
1:A:537:G:OP1	12:L:109:ARG:NH2	2.45	0.50
21:U:16:ARG:NH1	21:U:19:LYS:CG	2.74	0.50
2:B:147:LEU:C	2:B:150:ILE:CG2	2.79	0.50
1:A:257:G:C2	1:A:270:A:C2	3.00	0.50
17:Q:21:VAL:CG2	17:Q:22:VAL:N	2.74	0.50
1:A:1151:A:O2'	1:A:1152:A:P	2.69	0.50
8:H:52:GLY:HA3	8:H:56:PRO:CA	2.35	0.50
22:V:58:A:C2	22:V:61:C:C6	2.99	0.50
1:A:451:A:O4'	1:A:452:A:N3	2.44	0.50
1:A:1304:G:C5	1:A:1305:G:N1	2.80	0.50
2:B:32:GLY:HA3	2:B:38:HIS:CB	2.42	0.50
6:F:21:MET:O	6:F:22:ILE:C	2.47	0.50
1:A:590:U:H2'	1:A:591:U:C6	2.46	0.50
1:A:1513:A:H2'	1:A:1514:G:C8	2.46	0.50
1:A:1385:G:C6	1:A:1386:G:C5	2.99	0.50
20:T:46:ALA:O	20:T:47:GLN:C	2.48	0.50
16:P:12:LYS:HG2	16:P:13:LYS:HG2	1.92	0.50
16:P:22:ALA:HA	16:P:33:ILE:HG13	1.93	0.50
1:A:257:G:N3	1:A:258:G:C8	2.79	0.50
1:A:1279:G:H22	10:J:45:ARG:HE	1.60	0.50
8:H:104:SER:HA	8:H:109:VAL:HA	1.94	0.50
1:A:622:A:C2'	1:A:623:C:H5'	2.41	0.50
1:A:439:U:C6	1:A:440:C:H5	2.28	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:P:73:ALA:O	16:P:77:GLU:HB2	2.11	0.50
10:J:57:VAL:HG22	10:J:58:ASN:N	2.26	0.50
2:B:30:ILE:CD1	2:B:38:HIS:CG	2.95	0.50
1:A:540:G:C2'	1:A:541:G:H5'	2.41	0.50
3:C:129:PHE:CE1	3:C:130:ARG:HD2	2.47	0.50
1:A:1470:U:O2'	1:A:1471:U:H5'	2.11	0.50
19:S:19:GLU:C	19:S:21:ALA:H	2.14	0.50
1:A:667:G:H4'	15:O:50:HIS:ND1	2.26	0.50
11:K:87:GLY:O	11:K:92:ARG:HD2	2.10	0.50
1:A:960:U:O2'	1:A:1223:C:H4'	2.11	0.50
19:S:52:ASN:OD1	19:S:55:GLN:O	2.30	0.50
21:U:24:LYS:HD2	21:U:25:ALA:H	1.75	0.50
1:A:1075:U:O2'	1:A:1076:U:H5'	2.11	0.50
1:A:390:U:H2'	1:A:391:G:H8	1.75	0.50
1:A:390:U:H2'	1:A:391:G:O5'	2.11	0.50
1:A:1300:G:C6	1:A:1334:G:C5	3.00	0.50
1:A:1492:A:H3'	1:A:1493:A:H8	1.75	0.50
14:N:43:ASN:CA	14:N:45:VAL:HG22	2.41	0.50
8:H:110:MET:CE	8:H:115:ALA:N	2.74	0.50
1:A:201:G:N1	1:A:217:C:C2	2.80	0.50
1:A:262:A:N6	1:A:263:A:N6	2.60	0.50
5:E:37:VAL:HG23	5:E:47:PHE:HA	1.92	0.50
24:Y:64:ARG:HA	24:Y:103:LEU:HB2	1.92	0.50
11:K:109:ILE:HG22	21:U:16:ARG:NE	2.27	0.50
1:A:955:U:C5	1:A:956:U:C4	3.00	0.50
2:B:116:LEU:HG	2:B:140:LEU:HD11	1.93	0.50
10:J:28:THR:HG22	10:J:86:ALA:HB1	1.94	0.50
1:A:412:A:H1'	1:A:413:G:C5'	2.41	0.50
4:D:53:GLN:NE2	4:D:202:LEU:N	2.60	0.50
10:J:57:VAL:O	10:J:58:ASN:CB	2.56	0.50
3:C:93:ILE:HG22	3:C:94:ALA:N	2.26	0.50
18:R:32:ILE:CG1	18:R:32:ILE:O	2.59	0.50
7:G:66:GLU:HG3	7:G:69:ARG:NH2	2.25	0.50
1:A:609:A:H2'	1:A:610:U:C5'	2.40	0.50
1:A:45:G:N2	1:A:398:U:C4	2.80	0.50
16:P:51:ARG:CB	16:P:51:ARG:HH11	2.24	0.50
1:A:1462:C:H2'	1:A:1463:U:H6	1.75	0.50
1:A:234:C:H2'	1:A:235:C:C6	2.47	0.50
7:G:101:ARG:O	7:G:104:VAL:N	2.45	0.50
17:Q:37:ILE:HD12	17:Q:37:ILE:H	1.77	0.50
17:Q:15:LYS:N	17:Q:16:MET:HE1	2.27	0.50
1:A:455:G:C2	1:A:478:A:C2	3.00	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:625:U:H4'	16:P:16:PHE:CE2	2.46	0.50
1:A:438:U:C2	1:A:494:G:C6	2.99	0.50
5:E:114:LEU:HG	5:E:122:VAL:HG11	1.94	0.50
8:H:59:GLU:OE2	8:H:59:GLU:C	2.49	0.50
1:A:373:A:C2'	1:A:374:A:O5'	2.60	0.50
1:A:643:C:C5'	8:H:31:LEU:HD23	2.42	0.50
3:C:54:ILE:HD12	3:C:54:ILE:C	2.32	0.50
1:A:1501:C:C2	1:A:1504:G:C6	3.00	0.50
1:A:542:G:H2'	1:A:543:U:H6	1.75	0.50
1:A:218:U:O2'	1:A:219:U:H5'	2.11	0.50
1:A:852:G:C5	1:A:853:C:C5	2.99	0.50
14:N:49:GLN:OE1	14:N:49:GLN:CA	2.58	0.50
1:A:974:A:H4'	1:A:975:A:O5'	2.10	0.50
1:A:234:C:H2'	1:A:235:C:H6	1.77	0.50
1:A:796:C:O2'	1:A:797:C:H5'	2.11	0.50
1:A:356:A:H2	1:A:368:U:O2	1.94	0.50
1:A:987:G:C2	1:A:1219:A:C2	2.99	0.50
2:B:193:ASP:C	2:B:195:VAL:H	2.14	0.50
10:J:11:LYS:HA	10:J:70:HIS:O	2.11	0.50
1:A:694:A:C2'	1:A:695:A:O5'	2.60	0.50
8:H:52:GLY:O	8:H:53:ASP:HB3	2.11	0.50
3:C:12:GLY:C	3:C:13:ILE:HG23	2.33	0.50
13:M:44:ILE:HD12	13:M:44:ILE:N	2.27	0.50
3:C:166:TRP:CD2	3:C:166:TRP:N	2.74	0.50
5:E:14:LEU:O	5:E:14:LEU:CD1	2.60	0.50
1:A:100:G:C5	1:A:101:A:N7	2.80	0.50
1:A:687:A:C2	1:A:704:A:C5	2.99	0.50
6:F:38:ARG:CG	6:F:39:LEU:N	2.75	0.50
1:A:646:G:N1	1:A:647:C:C4	2.80	0.50
7:G:130:LYS:N	7:G:134:VAL:HG11	2.27	0.50
15:O:42:PHE:O	15:O:46:LYS:HG2	2.11	0.50
13:M:89:ARG:NH2	13:M:94:LEU:HD12	2.26	0.50
1:A:369:G:C6	1:A:370:C:N4	2.80	0.50
1:A:605:U:C2'	1:A:606:G:H5'	2.42	0.50
12:L:65:TYR:O	12:L:96:THR:N	2.44	0.50
13:M:84:CYS:HA	19:S:72:GLU:O	2.12	0.50
1:A:1358:U:OP1	14:N:75:ARG:HG3	2.12	0.50
2:B:67:LEU:CD2	2:B:69:VAL:HG23	2.41	0.50
17:Q:16:MET:SD	17:Q:16:MET:N	2.85	0.50
4:D:36:ALA:CA	4:D:41:GLY:HA3	2.37	0.50
1:A:1296:C:H4'	1:A:1302:C:N4	2.27	0.50
16:P:10:GLY:O	16:P:11:ALA:HB2	2.12	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:95:MET:HB3	5:E:124:ALA:HB2	1.93	0.50
22:V:48:C:O2	22:V:59:U:H1'	2.12	0.50
8:H:48:PHE:O	8:H:49:LYS:HG3	2.10	0.50
1:A:1304:G:C5	1:A:1305:G:C2	2.99	0.50
1:A:947:G:H2'	1:A:948:C:O4'	2.12	0.50
1:A:1114:C:O2	1:A:1114:C:C2'	2.58	0.50
9:I:56:MET:HA	9:I:59:LYS:HB2	1.92	0.50
8:H:46:GLU:HB2	8:H:63:LYS:HG2	1.93	0.50
1:A:198:G:C2	1:A:199:A:C8	2.99	0.50
1:A:774:G:N2	1:A:806:C:C6	2.80	0.50
1:A:737:C:H2'	1:A:738:C:C6	2.44	0.50
1:A:725:G:C2'	1:A:726:C:H5'	2.42	0.50
1:A:1294:G:C5	1:A:1295:U:C5	3.00	0.50
1:A:675:A:O4'	11:K:117:HIS:CD2	2.65	0.49
1:A:656:G:C5	1:A:657:U:C5	2.99	0.49
21:U:14:ALA:O	21:U:15:LEU:HD12	2.12	0.49
3:C:109:GLU:H	3:C:109:GLU:CD	2.15	0.49
4:D:173:ASP:OD1	4:D:176:LYS:CE	2.60	0.49
21:U:34:ARG:O	21:U:35:GLU:C	2.51	0.49
21:U:44:ARG:N	21:U:44:ARG:HD2	2.27	0.49
22:V:48:C:H2'	22:V:59:U:O4'	2.12	0.49
21:U:11:PHE:H	21:U:11:PHE:HD2	1.59	0.49
24:Y:41:ILE:HG22	24:Y:52:LEU:CB	2.42	0.49
9:I:7:GLY:HA3	9:I:84:ARG:HB3	1.94	0.49
1:A:541:G:N3	1:A:542:G:C8	2.80	0.49
1:A:101:A:C6	1:A:102:G:N7	2.80	0.49
7:G:84:TYR:CE1	7:G:150:PHE:HE2	2.30	0.49
18:R:26:ALA:O	18:R:29:LYS:HE3	2.12	0.49
4:D:77:GLU:OE1	4:D:77:GLU:CA	2.59	0.49
19:S:80:ARG:HA	19:S:80:ARG:NE	2.27	0.49
1:A:1497:G:O2'	1:A:1498:U:H5'	2.12	0.49
2:B:127:LYS:CG	2:B:128:LEU:N	2.75	0.49
1:A:443:C:H2'	1:A:444:G:O4'	2.11	0.49
1:A:123:U:H4'	1:A:290:C:O2	2.12	0.49
1:A:1399:C:O2	1:A:1401:G:C5	2.65	0.49
11:K:111:ASP:OD1	11:K:113:THR:HG23	2.12	0.49
1:A:977:A:H1'	1:A:982:U:O4	2.11	0.49
2:B:62:ARG:O	2:B:63:LYS:CB	2.60	0.49
17:Q:13:SER:HB3	17:Q:21:VAL:CG1	2.42	0.49
8:H:104:SER:H	8:H:125:ILE:HD13	1.76	0.49
11:K:71:ASP:O	11:K:72:ALA:HB2	2.12	0.49
20:T:28:ARG:CA	20:T:31:ILE:HD12	2.41	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:437:U:H4'	4:D:153:ARG:NH2	2.27	0.49
4:D:57:LYS:CB	4:D:199:ILE:HB	2.40	0.49
5:E:104:ILE:HA	5:E:122:VAL:HG23	1.94	0.49
5:E:113:VAL:CG2	5:E:114:LEU:N	2.75	0.49
5:E:148:SER:HB2	5:E:151:MET:HB2	1.93	0.49
20:T:53:MET:O	20:T:56:ILE:HG23	2.11	0.49
1:A:390:U:H2'	1:A:391:G:C8	2.47	0.49
24:Y:76:SER:HB3	24:Y:77:PRO:CD	2.39	0.49
1:A:1167:A:H5''	1:A:1168:U:OP2	2.12	0.49
1:A:414:A:C6	1:A:431:A:C2	3.00	0.49
1:A:721:G:C6	1:A:733:G:N2	2.80	0.49
1:A:1413:A:C4	1:A:1414:U:C6	3.00	0.49
5:E:19:ARG:NH1	5:E:30:PHE:CD2	2.79	0.49
6:F:38:ARG:HG3	6:F:39:LEU:H	1.77	0.49
7:G:67:ASN:O	7:G:137:ARG:NH1	2.45	0.49
1:A:570:G:H1'	1:A:820:U:N3	2.27	0.49
1:A:318:G:C4	1:A:336:A:C2	3.00	0.49
1:A:1171:A:C2	1:A:1172:C:C2	3.00	0.49
1:A:1314:C:N3	1:A:1315:U:C5	2.80	0.49
2:B:150:ILE:O	2:B:151:LYS:O	2.30	0.49
2:B:66:ILE:O	2:B:67:LEU:CB	2.59	0.49
2:B:81:ASP:OD1	2:B:83:ALA:HB3	2.13	0.49
1:A:256:U:H2'	1:A:257:G:H8	1.76	0.49
17:Q:11:VAL:O	17:Q:12:VAL:CG1	2.60	0.49
17:Q:15:LYS:C	17:Q:15:LYS:HD2	2.33	0.49
1:A:1181:G:C2	1:A:1182:G:N2	2.80	0.49
3:C:15:LYS:HG3	3:C:16:PRO:HD2	1.93	0.49
1:A:406:G:C4	1:A:407:U:C5	3.01	0.49
1:A:429:U:H1'	1:A:430:A:C5'	2.41	0.49
1:A:439:U:C2'	1:A:440:C:O5'	2.60	0.49
1:A:64:G:N7	1:A:99:C:C4	2.80	0.49
1:A:451:A:H5'	1:A:452:A:N3	2.27	0.49
10:J:67:ILE:HG13	14:N:96:LEU:HD13	1.94	0.49
11:K:34:THR:OG1	11:K:35:ASP:N	2.45	0.49
6:F:46:GLN:HA	6:F:56:LYS:HG2	1.95	0.49
8:H:11:THR:HA	8:H:14:ARG:NH1	2.27	0.49
1:A:828:U:H2'	1:A:829:G:O5'	2.12	0.49
1:A:233:C:C2	1:A:234:C:C5	3.01	0.49
1:A:1085:U:C6	1:A:1094:G:N1	2.80	0.49
24:Y:44:GLU:OE1	24:Y:44:GLU:HA	2.12	0.49
1:A:1323:G:C6	1:A:1324:A:C6	3.00	0.49
2:B:63:LYS:HB3	2:B:65:LYS:HE2	1.95	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:25:ALA:O	21:U:26:GLY:C	2.50	0.49
3:C:148:ILE:O	3:C:169:GLU:O	2.30	0.49
5:E:103:GLY:O	5:E:104:ILE:HG22	2.12	0.49
22:V:18:G:N3	22:V:18:G:H2'	2.27	0.49
20:T:54:GLN:HG3	20:T:75:LYS:NZ	2.27	0.49
20:T:34:VAL:CG1	20:T:78:LEU:HD22	2.42	0.49
16:P:79:ASN:O	16:P:80:LYS:HB2	2.12	0.49
8:H:4:ASP:HB2	8:H:80:PRO:HG2	1.93	0.49
3:C:51:VAL:HA	3:C:69:THR:HA	1.95	0.49
3:C:86:LEU:HA	3:C:89:VAL:HG22	1.94	0.49
1:A:874:G:C4	1:A:875:U:C6	3.00	0.49
7:G:45:ALA:CB	7:G:119:LEU:HB3	2.42	0.49
5:E:45:VAL:HG22	5:E:117:ALA:CB	2.42	0.49
1:A:632:U:H3'	1:A:632:U:C6	2.47	0.49
6:F:84:VAL:O	6:F:84:VAL:HG13	2.11	0.49
1:A:809:G:C2'	1:A:810:C:O5'	2.60	0.49
1:A:794:A:H2'	1:A:795:C:C6	2.48	0.49
18:R:67:LEU:HD23	18:R:68:PRO:HD3	1.95	0.49
1:A:66:A:C2'	1:A:67:C:H5'	2.42	0.49
2:B:103:TRP:HZ2	2:B:153:MET:HG2	1.77	0.49
2:B:30:ILE:HG12	2:B:38:HIS:HB2	1.95	0.49
19:S:12:LEU:O	19:S:13:HIS:C	2.51	0.49
24:Y:140:VAL:O	24:Y:142:ALA:N	2.45	0.49
7:G:145:GLU:HG3	7:G:148:LYS:HE2	1.94	0.49
5:E:55:VAL:O	5:E:58:ALA:HB3	2.13	0.49
1:A:609:A:C8	1:A:609:A:O5'	2.66	0.49
1:A:996:A:C2	1:A:1046:A:H5'	2.47	0.49
23:X:10:G:C6	23:X:11:U:N3	2.81	0.49
8:H:88:LYS:HG3	8:H:89:ASP:N	2.27	0.49
1:A:1435:G:H2'	1:A:1436:U:C6	2.46	0.49
1:A:858:G:O2'	1:A:859:G:H5'	2.13	0.49
21:U:16:ARG:C	21:U:18:PHE:H	2.15	0.49
19:S:5:LYS:HD2	19:S:6:LYS:HG2	1.94	0.49
2:B:112:ARG:O	2:B:116:LEU:HB2	2.12	0.49
2:B:136:ARG:O	2:B:139:GLU:CB	2.60	0.49
17:Q:16:MET:HB2	17:Q:19:SER:HB3	1.95	0.49
1:A:407:U:O2'	4:D:112:GLU:HG3	2.13	0.49
1:A:429:U:O2	1:A:430:A:C8	2.65	0.49
1:A:496:A:H2'	1:A:496:A:N3	2.26	0.49
4:D:156:ALA:HA	4:D:159:GLU:HB3	1.94	0.49
1:A:11:G:C2	1:A:24:U:O2	2.65	0.49
1:A:1300:G:C5	1:A:1334:G:C6	3.01	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1061:G:C5'	1:A:1062:U:OP2	2.60	0.49
10:J:59:LYS:HE3	10:J:59:LYS:N	2.26	0.49
3:C:39:ARG:HG2	3:C:54:ILE:HG12	1.93	0.49
3:C:54:ILE:O	3:C:54:ILE:CG1	2.60	0.49
3:C:86:LEU:O	3:C:89:VAL:CG2	2.61	0.49
1:A:445:G:C2'	1:A:446:G:H5'	2.43	0.49
1:A:658:C:C4	1:A:659:U:H5	2.29	0.49
7:G:22:LEU:CD2	7:G:61:PHE:CZ	2.94	0.49
12:L:43:LYS:CB	12:L:44:PRO:HD3	2.43	0.49
4:D:3:TYR:O	4:D:4:LEU:CB	2.60	0.49
1:A:646:G:C6	1:A:647:C:C4	3.00	0.49
16:P:48:GLU:OE2	16:P:51:ARG:HG3	2.11	0.49
13:M:106:ARG:CG	13:M:106:ARG:HH11	2.25	0.49
1:A:929:G:C6	1:A:930:C:C4	3.00	0.49
2:B:127:LYS:O	2:B:128:LEU:O	2.30	0.49
10:J:91:ASP:C	10:J:92:LEU:HG	2.33	0.49
17:Q:62:GLU:N	17:Q:72:TRP:CE3	2.81	0.49
1:A:1537:U:O5'	1:A:1537:U:H6	1.95	0.49
14:N:42:TRP:H	14:N:42:TRP:HE3	1.60	0.49
8:H:1:SER:O	8:H:4:ASP:N	2.44	0.49
1:A:5:U:H4'	1:A:6:G:C4	2.47	0.49
9:I:87:MET:HG2	9:I:88:GLU:N	2.27	0.49
1:A:1044:A:C5	1:A:1045:C:H1'	2.47	0.49
1:A:803:G:C6	1:A:804:U:N3	2.81	0.49
15:O:41:HIS:HD2	15:O:42:PHE:CE2	2.29	0.49
11:K:82:GLU:HG3	11:K:108:ASN:HD22	1.77	0.49
1:A:600:A:C4	1:A:639:G:N2	2.80	0.49
1:A:472:U:C5	1:A:473:U:C5	3.00	0.49
1:A:1485:U:H2'	1:A:1486:G:C8	2.48	0.49
2:B:129:THR:HB	2:B:131:LYS:HB3	1.95	0.49
17:Q:60:ILE:HG23	17:Q:72:TRP:HE3	1.78	0.49
4:D:168:THR:CG2	4:D:183:ARG:NH2	2.75	0.49
1:A:149:A:C1'	1:A:1446:A:C2	2.96	0.49
13:M:22:TYR:CD2	13:M:68:LEU:HD23	2.48	0.49
10:J:33:GLY:HA3	10:J:83:THR:OG1	2.11	0.49
21:U:14:ALA:O	21:U:15:LEU:CB	2.60	0.49
5:E:100:GLU:O	5:E:100:GLU:HG3	2.12	0.49
5:E:100:GLU:OE2	5:E:102:THR:HA	2.12	0.49
5:E:39:GLY:HA2	5:E:44:ARG:O	2.13	0.49
8:H:65:PHE:CD1	8:H:65:PHE:C	2.82	0.49
22:V:17:C:O3'	22:V:18:G:H4'	2.12	0.49
1:A:1060:U:H2'	1:A:1061:G:H8	1.78	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:87:ALA:HB3	14:N:93:ILE:HD11	1.94	0.49
24:Y:77:PRO:O	24:Y:81:LYS:HG2	2.13	0.49
3:C:59:PRO:HD2	3:C:62:SER:O	2.12	0.49
3:C:105:VAL:C	3:C:106:ARG:O	2.51	0.49
15:O:85:GLY:O	15:O:86:LEU:HB3	2.13	0.49
6:F:17:GLN:HE21	6:F:17:GLN:HA	1.78	0.49
13:M:70:ARG:HD2	13:M:74:MET:CE	2.43	0.49
1:A:1118:U:H5'	9:I:105:ARG:HG3	1.95	0.49
24:Y:59:THR:HG22	24:Y:60:VAL:C	2.33	0.49
24:Y:59:THR:O	24:Y:66:LEU:HD22	2.13	0.49
7:G:82:SER:CB	7:G:84:TYR:CD2	2.96	0.49
1:A:1006:G:C2	1:A:1007:U:C2	3.01	0.49
5:E:40:ASP:C	5:E:40:ASP:OD1	2.51	0.49
15:O:80:LEU:O	15:O:84:LEU:HB2	2.13	0.49
5:E:22:LYS:HB3	5:E:29:ILE:HG23	1.94	0.49
21:U:28:LEU:C	21:U:28:LEU:HD23	2.33	0.49
4:D:53:GLN:HE21	4:D:202:LEU:N	2.10	0.49
22:V:46:G:H4'	22:V:47:U:OP1	2.13	0.49
22:V:63:G:H2'	22:V:64:A:C8	2.47	0.49
1:A:1300:G:C4	1:A:1334:G:C6	3.01	0.49
15:O:86:LEU:O	15:O:87:ARG:HB3	2.13	0.49
20:T:66:ILE:CG2	20:T:66:ILE:O	2.60	0.49
24:Y:152:ASP:O	24:Y:153:ASP:C	2.49	0.49
1:A:564:C:H2'	1:A:565:U:O4'	2.12	0.49
1:A:516:U:C4	1:A:517:G:C6	3.00	0.49
1:A:735:C:O2'	1:A:736:C:H5'	2.13	0.49
1:A:423:G:H3'	1:A:423:G:N3	2.28	0.49
11:K:30:ILE:HB	11:K:45:THR:CG2	2.41	0.49
2:B:106:VAL:HA	2:B:109:SER:OG	2.12	0.49
2:B:193:ASP:C	2:B:195:VAL:N	2.66	0.49
2:B:56:LEU:HD13	2:B:57:ASN:N	2.28	0.49
2:B:63:LYS:C	2:B:65:LYS:HE2	2.33	0.49
17:Q:71:SER:O	17:Q:72:TRP:CD1	2.65	0.49
10:J:18:ILE:CG2	10:J:19:ASP:N	2.75	0.49
1:A:1538:C:H6	1:A:1538:C:O5'	1.96	0.49
6:F:3:HIS:CB	6:F:92:THR:HG23	2.43	0.49
4:D:122:ILE:H	4:D:122:ILE:HD13	1.78	0.49
4:D:57:LYS:H	4:D:199:ILE:HG22	1.76	0.49
5:E:104:ILE:HG23	5:E:104:ILE:O	2.13	0.49
22:V:65:G:N1	22:V:66:U:C4	2.81	0.49
1:A:1233:G:C4	1:A:1234:C:C5	3.01	0.49
1:A:1241:G:H2'	1:A:1242:G:H8	1.78	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1059:C:H2'	1:A:1060:U:H6	1.78	0.49
9:I:20:ILE:CD1	9:I:86:LEU:CD1	2.91	0.49
3:C:41:TYR:CD1	3:C:42:LEU:HD12	2.48	0.49
14:N:25:GLU:C	14:N:28:ALA:H	2.15	0.49
1:A:35:G:C4	1:A:550:G:N2	2.80	0.49
7:G:115:MET:O	7:G:119:LEU:HB2	2.12	0.49
8:H:44:PHE:HA	8:H:70:VAL:HG11	1.95	0.49
1:A:402:G:H2'	1:A:403:C:H5'	1.94	0.49
16:P:18:GLN:HE21	16:P:35:ARG:NE	2.10	0.49
1:A:575:G:HO2'	1:A:821:G:H5'	1.76	0.49
6:F:46:GLN:HA	6:F:56:LYS:HA	1.94	0.49
5:E:105:ILE:CG1	5:E:123:LEU:HB3	2.42	0.49
7:G:80:GLY:HA3	23:X:12:A:H4'	1.95	0.49
1:A:714:G:H5'	1:A:776:G:H5''	1.95	0.48
1:A:1213:A:C2	1:A:1215:G:H1'	2.47	0.48
1:A:1215:G:N2	1:A:1216:A:H1'	2.28	0.48
1:A:270:A:C6	1:A:271:C:N3	2.81	0.48
17:Q:12:VAL:HG13	17:Q:21:VAL:CG1	2.42	0.48
17:Q:46:HIS:O	17:Q:73:THR:CG2	2.61	0.48
1:A:174:A:C6	1:A:175:C:C4	3.01	0.48
4:D:121:ALA:N	4:D:122:ILE:HD12	2.28	0.48
4:D:33:ILE:HG13	4:D:34:GLU:N	2.28	0.48
21:U:40:PRO:O	21:U:44:ARG:HD3	2.13	0.48
2:B:24:PRO:C	2:B:26:MET:H	2.16	0.48
3:C:28:PHE:HE2	3:C:32:LEU:HD23	1.77	0.48
3:C:54:ILE:O	3:C:54:ILE:CD1	2.61	0.48
1:A:1108:G:N3	1:A:1108:G:C2'	2.74	0.48
13:M:2:ARG:CG	13:M:3:ILE:N	2.75	0.48
1:A:417:G:C6	1:A:418:C:N4	2.81	0.48
10:J:36:VAL:HG22	10:J:76:ILE:HG12	1.94	0.48
4:D:89:LEU:O	4:D:93:LEU:HD12	2.13	0.48
7:G:103:ILE:O	7:G:104:VAL:C	2.51	0.48
1:A:1494:G:C2	1:A:1495:U:C6	3.01	0.48
2:B:95:TRP:CZ3	2:B:174:GLU:OE2	2.66	0.48
1:A:1539:C:C5'	21:U:17:ARG:CG	2.90	0.48
1:A:656:G:N3	1:A:657:U:C6	2.81	0.48
5:E:150:GLU:O	5:E:153:ALA:CB	2.60	0.48
1:A:1061:G:C4	1:A:1197:A:C2	3.01	0.48
3:C:28:PHE:C	3:C:28:PHE:CD2	2.87	0.48
20:T:8:LYS:O	20:T:9:ARG:C	2.50	0.48
6:F:17:GLN:O	6:F:17:GLN:NE2	2.45	0.48
1:A:591:U:H2'	1:A:592:G:C8	2.48	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:769:G:C2'	1:A:770:C:O5'	2.62	0.48
6:F:7:VAL:HG11	18:R:64:LEU:CD1	2.41	0.48
6:F:9:MET:HE1	18:R:64:LEU:HD22	1.95	0.48
1:A:595:A:C2	1:A:641:U:C2	3.01	0.48
1:A:564:C:O2'	1:A:565:U:H5'	2.13	0.48
5:E:125:LYS:HG3	5:E:126:ALA:N	2.28	0.48
24:Y:123:GLU:HA	24:Y:126:ARG:HG3	1.95	0.48
11:K:22:ILE:HG22	11:K:31:VAL:CG2	2.43	0.48
21:U:16:ARG:NH1	21:U:19:LYS:HG2	2.28	0.48
1:A:1213:A:N1	1:A:1215:G:H1'	2.27	0.48
2:B:93:HIS:O	2:B:94:ARG:C	2.52	0.48
11:K:70:ALA:O	11:K:72:ALA:N	2.46	0.48
1:A:1296:C:H4'	1:A:1302:C:H41	1.78	0.48
5:E:100:GLU:HB2	5:E:121:ASN:HB3	1.95	0.48
1:A:466:A:H5'	1:A:467:U:OP2	2.13	0.48
11:K:96:ILE:HG13	11:K:97:ARG:N	2.27	0.48
13:M:80:MET:CB	13:M:91:ARG:HH22	2.26	0.48
1:A:414:A:C5	1:A:431:A:C2	3.01	0.48
5:E:158:LYS:OXT	8:H:46:GLU:OE2	2.31	0.48
5:E:14:LEU:C	5:E:14:LEU:CD1	2.81	0.48
1:A:399:G:H2'	1:A:400:C:H6	1.77	0.48
15:O:15:GLY:O	15:O:16:ARG:C	2.51	0.48
2:B:160:LEU:HB3	2:B:182:VAL:HA	1.94	0.48
4:D:117:VAL:O	4:D:130:ASN:HB2	2.14	0.48
1:A:462:G:C8	1:A:463:U:C5	3.01	0.48
1:A:1235:U:H2'	1:A:1236:A:O5'	2.13	0.48
1:A:446:G:C2'	1:A:447:G:H5'	2.43	0.48
7:G:22:LEU:HD21	7:G:61:PHE:CZ	2.47	0.48
1:A:198:G:H2'	1:A:199:A:H8	1.79	0.48
1:A:636:U:H2'	1:A:637:C:H6	1.77	0.48
4:D:2:ARG:CZ	4:D:114:ARG:CD	2.92	0.48
1:A:821:G:H2'	1:A:822:U:C6	2.48	0.48
1:A:189:A:C6	1:A:190:A:C2	3.02	0.48
22:V:24:G:C2'	22:V:25:C:O5'	2.61	0.48
1:A:1068:G:N7	1:A:1094:G:H2'	2.28	0.48
1:A:488:C:H6	1:A:488:C:O5'	1.96	0.48
24:Y:86:SER:O	24:Y:87:ASP:C	2.51	0.48
11:K:30:ILE:HA	11:K:45:THR:HG22	1.96	0.48
1:A:1312:G:C2	1:A:1326:U:C2	3.01	0.48
1:A:1326:U:H2'	1:A:1327:C:C6	2.47	0.48
2:B:88:GLN:HG3	2:B:220:VAL:HG11	1.95	0.48
1:A:276:G:C4	1:A:277:C:C5	3.01	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:169:TRP:HB3	4:D:183:ARG:CZ	2.43	0.48
13:M:33:LEU:HD23	13:M:38:ILE:CG2	2.43	0.48
1:A:409:U:C4	1:A:410:G:C6	3.02	0.48
22:V:59:U:C4	22:V:60:U:C4	3.00	0.48
1:A:194:C:H2'	1:A:195:A:H5'	1.95	0.48
1:A:1332:A:N3	1:A:1332:A:H5'	2.29	0.48
15:O:3:SER:O	15:O:7:THR:HG23	2.12	0.48
1:A:159:G:C5'	1:A:159:G:C8	2.96	0.48
4:D:196:GLU:CD	4:D:196:GLU:N	2.66	0.48
5:E:94:PHE:CZ	5:E:96:GLN:HG3	2.48	0.48
5:E:37:VAL:HA	5:E:47:PHE:HA	1.94	0.48
18:R:22:TYR:C	18:R:22:TYR:CD1	2.86	0.48
1:A:1072:G:H2'	1:A:1073:U:C6	2.48	0.48
5:E:83:PRO:CA	5:E:97:PRO:HD3	2.44	0.48
11:K:37:GLN:CA	11:K:37:GLN:OE1	2.61	0.48
1:A:1319:A:N7	1:A:1323:G:C5	2.81	0.48
2:B:90:PHE:H	2:B:90:PHE:HD2	1.60	0.48
17:Q:16:MET:C	17:Q:19:SER:HB3	2.33	0.48
1:A:1158:C:N4	1:A:1160:G:C5	2.81	0.48
12:L:56:LEU:HB3	12:L:58:ASN:OD1	2.14	0.48
10:J:81:GLU:HA	10:J:84:VAL:HG12	1.94	0.48
4:D:164:ARG:C	4:D:166:LYS:N	2.66	0.48
5:E:88:HIS:O	5:E:89:THR:HB	2.13	0.48
22:V:61:C:C2	22:V:62:C:C5	3.01	0.48
16:P:52:LEU:HD23	16:P:78:VAL:HG11	1.95	0.48
1:A:1304:G:C6	1:A:1305:G:C2	3.02	0.48
1:A:1505:G:H4'	1:A:1506:U:H5''	1.96	0.48
1:A:568:G:O2'	1:A:574:A:N1	2.28	0.48
7:G:143:MET:C	7:G:144:ALA:O	2.47	0.48
6:F:40:GLU:HB2	6:F:42:TRP:HE1	1.78	0.48
6:F:39:LEU:HD13	6:F:40:GLU:N	2.29	0.48
1:A:575:G:H4'	1:A:576:C:OP1	2.14	0.48
1:A:1245:C:H2'	1:A:1246:A:C8	2.48	0.48
1:A:941:G:C6	1:A:1343:G:C6	3.01	0.48
1:A:634:C:C2	1:A:635:A:C8	3.02	0.48
1:A:83:C:H2'	1:A:85:U:OP2	2.13	0.48
13:M:94:LEU:HD23	13:M:94:LEU:N	2.28	0.48
3:C:134:LYS:O	3:C:138:GLN:HG3	2.13	0.48
1:A:859:G:H2'	1:A:860:A:C8	2.49	0.48
19:S:18:VAL:HG11	19:S:42:ASN:OD1	2.13	0.48
16:P:28:ARG:HG2	16:P:29:ASN:OD1	2.14	0.48
11:K:106:ILE:HG23	11:K:106:ILE:O	2.13	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:22:PHE:C	3:C:22:PHE:CD2	2.85	0.48
1:A:1140:C:O2	1:A:1141:C:C5	2.66	0.48
11:K:22:ILE:O	11:K:22:ILE:HG13	2.14	0.48
2:B:117:GLU:HA	2:B:120:SER:HB2	1.96	0.48
2:B:146:SER:O	2:B:147:LEU:CB	2.61	0.48
2:B:98:GLY:N	2:B:174:GLU:OE2	2.46	0.48
2:B:61:SER:C	2:B:63:LYS:N	2.67	0.48
6:F:89:VAL:HG23	6:F:90:MET:N	2.28	0.48
1:A:146:G:C2'	1:A:147:G:H5'	2.44	0.48
13:M:40:GLU:HG3	13:M:41:ASP:H	1.77	0.48
13:M:53:ASP:HA	13:M:56:ARG:HE	1.79	0.48
22:V:59:U:C5	22:V:60:U:O4	2.66	0.48
1:A:193:C:H2'	1:A:194:C:H6	1.78	0.48
9:I:30:ASN:O	9:I:32:ARG:N	2.46	0.48
1:A:520:A:N1	1:A:536:C:H1'	2.28	0.48
1:A:685:G:O2'	1:A:686:U:H5'	2.14	0.48
12:L:2:THR:HB	12:L:5:GLN:CG	2.43	0.48
6:F:38:ARG:HB3	6:F:63:ASN:HB2	1.94	0.48
2:B:155:GLY:O	2:B:156:LEU:O	2.31	0.48
11:K:30:ILE:C	11:K:30:ILE:HD12	2.34	0.48
1:A:1213:A:C8	1:A:1215:G:N7	2.82	0.48
1:A:554:A:H2'	1:A:555:U:C6	2.49	0.48
12:L:54:VAL:HG12	12:L:56:LEU:HD23	1.96	0.48
4:D:156:ALA:O	4:D:160:LEU:HD13	2.14	0.48
4:D:54:LEU:HD23	4:D:55:ARG:HA	1.96	0.48
1:A:72:A:N6	1:A:73:C:N4	2.62	0.48
1:A:1329:A:H2'	1:A:1330:U:H5'	1.95	0.48
10:J:65:TYR:OH	14:N:85:ARG:CD	2.62	0.48
17:Q:20:ILE:HD13	17:Q:47:ASP:OD1	2.14	0.48
11:K:95:THR:HG23	11:K:96:ILE:H	1.79	0.48
1:A:1503:A:C4	1:A:1531:A:N3	2.82	0.48
1:A:872:A:C4	1:A:874:G:N7	2.82	0.48
5:E:32:PHE:CD2	5:E:32:PHE:N	2.82	0.48
6:F:38:ARG:HG3	6:F:39:LEU:N	2.29	0.48
20:T:4:LYS:HE2	20:T:4:LYS:C	2.34	0.48
1:A:708:C:H2'	1:A:709:U:C6	2.47	0.48
8:H:124:ILE:HG13	8:H:124:ILE:O	2.13	0.48
1:A:1430:A:H8	1:A:1430:A:OP2	1.95	0.48
1:A:809:G:C6	1:A:810:C:C5	3.01	0.48
1:A:307:C:C5	1:A:308:C:C5	3.02	0.48
1:A:731:G:OP1	1:A:766:A:H1'	2.13	0.48
19:S:11:ASP:OD1	19:S:36:ARG:HD2	2.13	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:53:LEU:CD2	2:B:53:LEU:N	2.77	0.48
4:D:162:GLU:HA	4:D:166:LYS:CD	2.44	0.48
5:E:115:GLU:CD	5:E:115:GLU:C	2.73	0.48
5:E:137:ARG:O	5:E:138:ALA:C	2.50	0.48
5:E:150:GLU:O	5:E:153:ALA:N	2.47	0.48
1:A:94:G:N1	1:A:98:A:C2	2.82	0.48
1:A:1238:A:N3	1:A:1241:G:H1'	2.29	0.48
1:A:1288:A:H2'	1:A:1289:A:O4'	2.13	0.48
2:B:30:ILE:CD1	2:B:38:HIS:HB2	2.44	0.48
9:I:22:PRO:HA	9:I:60:LEU:HB3	1.96	0.48
14:N:22:LYS:O	14:N:23:ARG:C	2.52	0.48
7:G:99:ALA:O	7:G:100:MET:C	2.51	0.48
1:A:201:G:H2'	1:A:202:G:C8	2.49	0.48
24:Y:157:SER:O	24:Y:160:ASP:N	2.47	0.48
9:I:129:ARG:CZ	9:I:129:ARG:HB3	2.44	0.48
8:H:15:ASN:O	8:H:16:GLY:C	2.52	0.48
1:A:20:U:H2'	1:A:21:G:H5'	1.95	0.48
16:P:42:ILE:O	16:P:44:SER:N	2.46	0.48
4:D:171:GLU:HG2	4:D:182:LYS:NZ	2.29	0.48
15:O:45:HIS:C	15:O:47:LYS:H	2.17	0.48
2:B:53:LEU:CD1	2:B:216:VAL:HG13	2.43	0.48
1:A:258:G:C6	1:A:259:G:C5	3.01	0.48
2:B:206:ILE:O	2:B:210:THR:HG23	2.14	0.48
1:A:1160:G:O2'	1:A:1161:C:P	2.72	0.48
4:D:22:SER:O	4:D:23:GLY:C	2.52	0.48
21:U:36:PHE:O	21:U:37:TYR:CB	2.61	0.48
5:E:110:MET:HA	5:E:113:VAL:HG13	1.95	0.48
22:V:64:A:C6	22:V:65:G:N7	2.82	0.48
16:P:53:ASP:O	16:P:57:ILE:HG13	2.14	0.48
1:A:572:A:C5'	1:A:573:A:OP2	2.62	0.48
1:A:643:C:C2'	1:A:644:U:H5'	2.44	0.48
1:A:949:A:C4	1:A:1233:G:N2	2.82	0.48
1:A:1304:G:C6	1:A:1305:G:N2	2.82	0.48
1:A:949:A:C5	1:A:950:U:C5	3.02	0.48
1:A:108:G:H5'	1:A:109:A:H2	1.78	0.48
4:D:167:PRO:HB2	4:D:170:LEU:HD11	1.95	0.48
14:N:61:ARG:HG2	14:N:70:PRO:HB3	1.95	0.48
15:O:5:GLU:HG2	15:O:6:ALA:N	2.29	0.48
1:A:1413:A:C6	1:A:1414:U:C5	3.02	0.48
1:A:951:G:C5	1:A:1231:G:C6	3.01	0.48
3:C:158:GLY:HA2	3:C:192:TYR:CD1	2.49	0.48
1:A:157:U:H1'	1:A:165:G:N2	2.29	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:6:ILE:HD13	10:J:76:ILE:HB	1.96	0.48
1:A:706:A:H2'	1:A:707:U:H5'	1.95	0.48
1:A:55:A:H2'	1:A:56:U:O4'	2.14	0.48
24:Y:122:ALA:O	24:Y:125:ALA:HB3	2.13	0.48
2:B:110:ILE:CD1	2:B:150:ILE:HG12	2.43	0.47
10:J:40:ILE:HB	10:J:73:LEU:CB	2.44	0.47
3:C:10:ARG:O	3:C:12:GLY:N	2.46	0.47
4:D:160:LEU:N	4:D:160:LEU:HD22	2.29	0.47
1:A:413:G:N1	4:D:32:LYS:HD2	2.29	0.47
1:A:503:C:H6	1:A:503:C:O5'	1.97	0.47
1:A:921:U:H2'	1:A:922:G:O4'	2.14	0.47
1:A:16:A:C2'	1:A:17:U:H5'	2.44	0.47
1:A:452:A:H8	1:A:452:A:H3'	1.77	0.47
16:P:72:ALA:HA	16:P:75:ILE:HD11	1.95	0.47
1:A:1306:A:C5	1:A:1307:U:C5	3.01	0.47
1:A:244:U:O2	1:A:894:G:H1'	2.13	0.47
1:A:745:G:O2'	1:A:746:A:H5'	2.14	0.47
12:L:105:GLY:HA3	12:L:117:GLY:O	2.14	0.47
1:A:1215:G:C2	1:A:1216:A:C8	3.02	0.47
2:B:145:ASN:O	2:B:146:SER:CB	2.61	0.47
2:B:183:PHE:CE2	2:B:197:PHE:CD2	3.02	0.47
2:B:68:PHE:HE2	2:B:88:GLN:CB	2.27	0.47
10:J:42:LEU:HD23	10:J:43:PRO:HD2	1.94	0.47
1:A:656:G:C4	1:A:657:U:C6	3.01	0.47
10:J:25:ILE:HG22	10:J:26:VAL:N	2.28	0.47
1:A:623:C:H2'	1:A:624:C:H5'	1.96	0.47
3:C:141:MET:HE3	3:C:145:ALA:O	2.14	0.47
3:C:171:ARG:C	3:C:172:VAL:CG2	2.82	0.47
1:A:430:A:OP2	4:D:7:LYS:HG2	2.15	0.47
4:D:97:LEU:CD2	4:D:117:VAL:HG11	2.44	0.47
11:K:125:LYS:C	21:U:33:ARG:NH2	2.67	0.47
5:E:115:GLU:OE1	5:E:116:VAL:HG12	2.15	0.47
5:E:81:GLN:NE2	5:E:149:PRO:CD	2.77	0.47
10:J:59:LYS:NZ	10:J:59:LYS:N	2.62	0.47
10:J:63:ASP:OD2	14:N:98:LYS:HD2	2.14	0.47
2:B:14:HIS:O	2:B:15:PHE:C	2.52	0.47
1:A:710:G:H5''	6:F:53:LYS:NZ	2.29	0.47
4:D:167:PRO:CB	4:D:170:LEU:HD11	2.44	0.47
1:A:872:A:N7	1:A:874:G:C8	2.83	0.47
3:C:166:TRP:O	3:C:166:TRP:HE3	1.98	0.47
18:R:48:ALA:O	18:R:49:LYS:C	2.52	0.47
1:A:212:G:H2'	1:A:213:G:C8	2.48	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:806:C:O2	1:A:807:A:C8	2.67	0.47
5:E:56:PRO:O	5:E:60:GLN:HB2	2.14	0.47
1:A:1007:U:C2'	1:A:1008:U:H5'	2.45	0.47
1:A:748:G:H2'	1:A:749:A:H8	1.79	0.47
1:A:1259:C:N4	1:A:1260:G:C4	2.82	0.47
1:A:335:C:O2'	1:A:336:A:H5'	2.14	0.47
1:A:1519:A:C8	1:A:1520:C:H1'	2.49	0.47
23:X:5:A:H5'	23:X:6:G:OP2	2.15	0.47
11:K:109:ILE:HG22	21:U:16:ARG:HE	1.79	0.47
2:B:49:PHE:CB	2:B:212:TYR:OH	2.62	0.47
2:B:84:LEU:O	2:B:88:GLN:O	2.33	0.47
1:A:277:C:H2'	1:A:278:G:C5'	2.44	0.47
17:Q:12:VAL:HG12	17:Q:21:VAL:HG13	1.96	0.47
1:A:1124:G:C2	1:A:1150:A:C2	3.03	0.47
1:A:1103:C:C2'	1:A:1104:G:O5'	2.62	0.47
11:K:52:ARG:O	11:K:55:ARG:HB2	2.14	0.47
6:F:71:ILE:HG23	6:F:72:ASP:H	1.79	0.47
1:A:143:A:H5'	1:A:144:G:O5'	2.15	0.47
13:M:18:LEU:HD12	13:M:32:ILE:HG21	1.96	0.47
13:M:40:GLU:CG	13:M:41:ASP:H	2.28	0.47
1:A:656:G:C4	1:A:657:U:C5	3.02	0.47
1:A:427:U:H3'	1:A:428:G:H2'	1.96	0.47
1:A:923:A:H2'	1:A:924:C:O4'	2.15	0.47
1:A:173:U:C6	1:A:197:A:C2	3.01	0.47
1:A:373:A:H2'	1:A:374:A:H8	1.79	0.47
1:A:1285:A:H4'	1:A:1286:U:C4	2.50	0.47
1:A:1374:A:C2'	1:A:1375:A:H5'	2.44	0.47
10:J:59:LYS:CD	10:J:59:LYS:C	2.82	0.47
2:B:26:MET:CE	2:B:29:PHE:CD2	2.97	0.47
13:M:44:ILE:HG22	13:M:44:ILE:O	2.15	0.47
3:C:69:THR:O	3:C:104:GLU:HA	2.14	0.47
4:D:134:TYR:CD2	4:D:134:TYR:C	2.88	0.47
19:S:39:ILE:CD1	19:S:70:LEU:CD2	2.92	0.47
1:A:872:A:C5	1:A:874:G:C8	3.03	0.47
22:V:12:U:C2'	22:V:13:C:O5'	2.63	0.47
1:A:160:A:H1'	1:A:344:A:N7	2.29	0.47
1:A:859:G:C2'	1:A:860:A:O5'	2.62	0.47
1:A:735:C:H2'	1:A:736:C:H6	1.78	0.47
11:K:46:ALA:HA	11:K:65:ALA:HB2	1.96	0.47
2:B:142:LYS:O	2:B:145:ASN:OD1	2.32	0.47
7:G:149:ALA:CB	11:K:55:ARG:HH22	2.28	0.47
13:M:65:GLU:O	13:M:68:LEU:N	2.48	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:80:THR:HB	10:J:83:THR:CB	2.42	0.47
3:C:13:ILE:O	3:C:13:ILE:HG12	2.14	0.47
4:D:18:LEU:C	4:D:19:PHE:CG	2.87	0.47
5:E:152:VAL:CG1	8:H:98:LEU:HD13	2.43	0.47
1:A:1397:C:H3'	1:A:1398:A:H5''	1.95	0.47
1:A:66:A:N3	1:A:66:A:H2'	2.30	0.47
1:A:69:G:H2'	1:A:70:U:C6	2.49	0.47
1:A:79:G:H2'	1:A:80:A:O4'	2.15	0.47
20:T:34:VAL:HG21	20:T:53:MET:HG2	1.96	0.47
16:P:6:LEU:HG	16:P:17:TYR:CB	2.44	0.47
16:P:72:ALA:HA	16:P:75:ILE:HD12	1.97	0.47
1:A:1367:C:C2	1:A:1368:A:C8	3.03	0.47
10:J:5:ARG:HG2	10:J:79:PRO:CG	2.43	0.47
14:N:20:PHE:C	14:N:22:LYS:N	2.66	0.47
1:A:744:C:H2'	1:A:745:G:H8	1.76	0.47
1:A:1020:G:H2'	1:A:1020:G:N3	2.28	0.47
3:C:154:GLY:HA2	3:C:163:ARG:N	2.29	0.47
24:Y:29:ARG:HD3	24:Y:110:ARG:HH22	1.79	0.47
16:P:44:SER:OG	16:P:46:LYS:HG3	2.14	0.47
15:O:45:HIS:O	15:O:47:LYS:N	2.48	0.47
1:A:1322:C:OP1	19:S:77:ARG:NH2	2.47	0.47
1:A:987:G:C2'	1:A:988:G:H5'	2.45	0.47
2:B:134:LEU:HA	2:B:137:THR:OG1	2.14	0.47
2:B:220:VAL:O	2:B:221:ARG:C	2.52	0.47
2:B:63:LYS:HD3	2:B:63:LYS:C	2.33	0.47
2:B:84:LEU:HG	2:B:85:SER:CA	2.44	0.47
10:J:19:ASP:O	10:J:23:ALA:HB2	2.14	0.47
1:A:147:G:H2'	1:A:148:G:H8	1.77	0.47
13:M:53:ASP:CB	13:M:56:ARG:HE	2.27	0.47
3:C:6:PRO:O	3:C:10:ARG:HG3	2.14	0.47
4:D:123:MET:HG3	4:D:145:ARG:HG2	1.96	0.47
14:N:34:ASN:O	14:N:41:ARG:HD3	2.14	0.47
10:J:59:LYS:HZ2	10:J:60:ASP:H	1.61	0.47
9:I:43:ALA:C	9:I:45:MET:H	2.17	0.47
9:I:48:ARG:O	9:I:49:GLN:C	2.53	0.47
9:I:60:LEU:N	9:I:60:LEU:HD23	2.28	0.47
8:H:110:MET:CE	8:H:115:ALA:HA	2.45	0.47
1:A:540:G:O2'	1:A:541:G:H5'	2.14	0.47
1:A:103:U:O2'	1:A:104:G:H5'	2.14	0.47
1:A:158:G:C2'	1:A:159:G:H5''	2.43	0.47
7:G:145:GLU:HA	7:G:148:LYS:HE2	1.96	0.47
24:Y:107:THR:HG23	24:Y:110:ARG:CG	2.44	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:11:THR:HG23	8:H:14:ARG:HH12	1.78	0.47
1:A:1258:G:H2'	1:A:1259:C:C6	2.50	0.47
2:B:9:LEU:HG	2:B:11:ALA:H	1.78	0.47
1:A:915:A:H2'	1:A:916:U:H5'	1.96	0.47
6:F:82:ASP:N	6:F:82:ASP:OD1	2.47	0.47
1:A:140:U:H2'	1:A:141:G:O5'	2.13	0.47
1:A:1181:G:C6	1:A:1182:G:N2	2.83	0.47
13:M:53:ASP:HB3	13:M:56:ARG:HH21	1.79	0.47
13:M:68:LEU:O	13:M:72:ILE:HG13	2.14	0.47
1:A:456:A:N6	1:A:457:G:C6	2.83	0.47
4:D:21:LYS:O	4:D:22:SER:C	2.53	0.47
1:A:1186:G:H2'	1:A:1187:G:O5'	2.14	0.47
10:J:65:TYR:HB2	14:N:96:LEU:HD11	1.96	0.47
3:C:106:ARG:O	3:C:107:LYS:C	2.51	0.47
11:K:96:ILE:C	11:K:96:ILE:HD12	2.35	0.47
13:M:66:GLY:O	13:M:70:ARG:HB3	2.15	0.47
1:A:591:U:H2'	1:A:592:G:H8	1.79	0.47
1:A:198:G:C6	1:A:199:A:N7	2.82	0.47
1:A:599:C:H4'	8:H:121:GLY:C	2.35	0.47
15:O:49:HIS:O	15:O:52:ARG:HB3	2.15	0.47
3:C:205:GLU:OE2	3:C:205:GLU:HA	2.14	0.47
23:X:18:C:H3'	23:X:19:U:C5'	2.45	0.47
1:A:714:G:O2'	1:A:715:A:H5'	2.14	0.47
2:B:56:LEU:CD2	2:B:56:LEU:C	2.80	0.47
17:Q:17:GLU:O	17:Q:18:LYS:HB2	2.15	0.47
1:A:258:G:C2	1:A:269:C:O2	2.68	0.47
6:F:67:PRO:O	6:F:69:GLU:N	2.48	0.47
4:D:101:VAL:HA	4:D:104:MET:HG3	1.96	0.47
21:U:38:GLU:HA	21:U:40:PRO:HD2	1.96	0.47
21:U:38:GLU:OE2	21:U:41:THR:HG21	2.14	0.47
12:L:115:LYS:O	12:L:116:TYR:CB	2.63	0.47
1:A:502:A:C2	1:A:503:C:C2	3.03	0.47
22:V:48:C:C2	22:V:59:U:H1'	2.50	0.47
22:V:21:A:O4'	22:V:48:C:N4	2.48	0.47
1:A:71:A:O2'	1:A:72:A:P	2.73	0.47
20:T:53:MET:HA	20:T:56:ILE:CG2	2.44	0.47
16:P:52:LEU:O	16:P:54:LEU:N	2.48	0.47
1:A:1286:U:O2	1:A:1286:U:H2'	2.14	0.47
1:A:1490:U:H2'	1:A:1491:G:H5'	1.94	0.47
2:B:40:ILE:HG21	2:B:201:GLY:H	1.79	0.47
11:K:96:ILE:HA	11:K:99:LEU:HD23	1.96	0.47
1:A:1507:A:C5	1:A:1530:G:C6	3.02	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:70:ARG:O	13:M:70:ARG:HD2	2.15	0.47
1:A:763:G:H2'	1:A:764:C:O5'	2.13	0.47
7:G:94:ARG:CZ	7:G:98:LEU:HD21	2.44	0.47
7:G:42:VAL:O	7:G:46:LEU:N	2.47	0.47
1:A:864:A:OP1	1:A:864:A:H8	1.98	0.47
1:A:417:G:C2	1:A:418:C:C2	3.02	0.47
3:C:153:SER:HA	3:C:164:THR:HA	1.95	0.47
1:A:599:C:O2	1:A:640:A:C2	2.68	0.47
1:A:609:A:H8	1:A:609:A:O5'	1.97	0.47
1:A:340:U:H2'	1:A:341:C:C6	2.47	0.47
5:E:108:GLY:O	5:E:109:ALA:CB	2.62	0.47
1:A:299:G:O6	1:A:300:A:N1	2.48	0.47
5:E:94:PHE:HZ	5:E:96:GLN:HG3	1.79	0.47
1:A:1497:G:H2'	1:A:1498:U:H5'	1.96	0.47
1:A:154:U:O4	1:A:167:A:N1	2.48	0.47
1:A:1417:G:N2	1:A:1482:G:H2'	2.29	0.47
1:A:1508:A:H2'	1:A:1509:C:C6	2.50	0.47
18:R:25:ILE:HA	18:R:28:LEU:HB2	1.95	0.47
2:B:27:LYS:N	2:B:28:PRO:HD3	2.30	0.47
20:T:2:ASN:O	20:T:3:ILE:C	2.52	0.47
1:A:1230:C:H6	1:A:1230:C:O5'	1.97	0.47
1:A:130:A:N7	17:Q:64:ARG:HB2	2.29	0.47
1:A:49:U:O2'	1:A:50:A:H2'	2.14	0.47
11:K:87:GLY:H	11:K:113:THR:CG2	2.27	0.47
1:A:985:C:H2'	1:A:986:U:C6	2.50	0.47
1:A:1225:A:O4'	19:S:77:ARG:HD3	2.15	0.47
13:M:32:ILE:HD13	13:M:58:GLU:HG3	1.97	0.47
1:A:1079:G:C6	1:A:1080:A:N6	2.83	0.47
3:C:84:GLU:C	3:C:86:LEU:H	2.18	0.47
1:A:1106:G:C6	1:A:1107:C:N4	2.83	0.47
9:I:27:ILE:CG1	9:I:62:LEU:HD21	2.45	0.47
16:P:39:PHE:CB	16:P:74:LEU:HD11	2.45	0.47
1:A:1352:C:H2'	1:A:1353:G:C8	2.49	0.47
1:A:203:G:N2	1:A:215:C:C2	2.83	0.47
1:A:1480:A:C4	1:A:1481:U:C6	3.02	0.47
1:A:833:G:C4	1:A:834:U:C6	3.03	0.47
3:C:7:ASN:O	3:C:8:GLY:C	2.53	0.47
8:H:24:VAL:CG1	8:H:62:LEU:HD21	2.44	0.47
18:R:22:TYR:CE1	18:R:23:LYS:HG3	2.49	0.47
24:Y:18:VAL:O	24:Y:21:PHE:HB3	2.14	0.47
1:A:47:C:H4'	1:A:48:C:O5'	2.15	0.47
11:K:23:HIS:C	11:K:23:HIS:CD2	2.88	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:73:PHE:CZ	14:N:78:GLY:HA2	2.49	0.47
2:B:112:ARG:O	2:B:116:LEU:HD23	2.15	0.47
2:B:63:LYS:O	2:B:65:LYS:CE	2.61	0.47
1:A:478:A:H2'	1:A:479:U:O5'	2.14	0.47
3:C:141:MET:CE	3:C:147:GLY:HA2	2.44	0.47
2:B:30:ILE:HD13	2:B:38:HIS:CG	2.50	0.47
3:C:41:TYR:CE1	3:C:42:LEU:HD12	2.50	0.47
3:C:46:LEU:HD21	3:C:86:LEU:HD11	1.97	0.47
1:A:1351:U:H2'	1:A:1352:C:H6	1.80	0.47
1:A:214:C:H2'	1:A:215:C:C6	2.48	0.47
1:A:853:C:C2	1:A:854:U:C6	3.03	0.47
13:M:94:LEU:CB	13:M:95:PRO:HD2	2.45	0.47
13:M:88:LEU:O	13:M:92:ARG:HG3	2.13	0.47
2:B:9:LEU:HD11	2:B:11:ALA:O	2.14	0.47
1:A:1149:C:O5'	1:A:1149:C:H6	1.98	0.47
21:U:18:PHE:C	21:U:19:LYS:HE2	2.35	0.47
1:A:143:A:C2'	1:A:143:A:N3	2.75	0.47
1:A:1175:G:O2'	1:A:1176:A:H5'	2.14	0.47
10:J:27:GLU:C	10:J:29:ALA:H	2.17	0.47
3:C:183:TYR:HA	3:C:199:VAL:O	2.14	0.47
1:A:458:U:O2	1:A:458:U:H2'	2.14	0.47
3:C:147:GLY:CA	3:C:171:ARG:H	2.27	0.47
4:D:164:ARG:O	4:D:166:LYS:N	2.47	0.47
11:K:124:LYS:HA	21:U:34:ARG:HG3	1.97	0.47
5:E:88:HIS:CE1	5:E:137:ARG:HD3	2.50	0.47
1:A:921:U:C5	1:A:922:G:N7	2.83	0.47
22:V:21:A:N6	22:V:46:G:N9	2.62	0.47
22:V:63:G:H2'	22:V:63:G:N3	2.30	0.47
8:H:48:PHE:HB3	8:H:60:LEU:HD23	1.97	0.47
9:I:48:ARG:HD3	9:I:49:GLN:N	2.30	0.47
9:I:49:GLN:HE22	9:I:79:ARG:NH1	2.12	0.47
17:Q:47:ASP:O	17:Q:48:GLU:O	2.33	0.47
17:Q:51:GLU:N	17:Q:51:GLU:CD	2.67	0.47
14:N:31:SER:O	14:N:32:ASP:CB	2.62	0.47
3:C:39:ARG:HG2	3:C:54:ILE:CG1	2.45	0.47
3:C:54:ILE:HG13	3:C:54:ILE:O	2.15	0.47
1:A:323:U:O4	1:A:324:G:C6	2.68	0.47
1:A:540:G:C4	1:A:541:G:C8	3.03	0.47
1:A:1126:U:H4'	1:A:1127:G:OP2	2.15	0.47
17:Q:3:LYS:C	17:Q:4:ILE:HD12	2.36	0.47
1:A:1004:A:C2	1:A:1026:G:C4	3.03	0.47
1:A:854:U:C6	1:A:871:U:O4	2.68	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:V:8:U:C2	22:V:15:G:O6	2.67	0.47
7:G:30:MET:CG	7:G:31:VAL:N	2.78	0.47
13:M:75:SER:O	13:M:79:LEU:HD12	2.15	0.47
1:A:1317:C:H2'	1:A:1318:A:H5'	1.97	0.46
2:B:69:VAL:O	2:B:69:VAL:HG12	2.15	0.46
1:A:1538:C:O2'	1:A:1539:C:H5'	2.13	0.46
8:H:100:ILE:HD11	8:H:128:VAL:HB	1.96	0.46
1:A:1162:C:C2	1:A:1175:G:N2	2.83	0.46
10:J:32:THR:HG23	10:J:83:THR:HA	1.97	0.46
1:A:455:G:C2	1:A:478:A:N1	2.83	0.46
1:A:22:G:C6	1:A:23:C:C4	3.03	0.46
1:A:92:U:H2'	1:A:93:U:C6	2.50	0.46
1:A:374:A:C5	1:A:375:U:C5	3.04	0.46
1:A:1239:A:N3	1:A:1241:G:N1	2.63	0.46
14:N:93:ILE:HA	14:N:94:PRO:HD3	1.70	0.46
15:O:66:LEU:HD13	15:O:87:ARG:HH22	1.75	0.46
11:K:94:SER:O	11:K:97:ARG:HB2	2.15	0.46
9:I:98:ARG:HD3	9:I:103:VAL:HG21	1.97	0.46
13:M:78:ARG:O	13:M:82:LEU:HG	2.15	0.46
1:A:659:U:O2'	1:A:660:C:H5'	2.15	0.46
14:N:22:LYS:HA	14:N:25:GLU:OE2	2.15	0.46
1:A:499:A:H61	1:A:547:A:C5'	2.28	0.46
1:A:790:A:C6	1:A:791:G:C6	3.03	0.46
1:A:1000:A:C2	1:A:1041:G:C2	3.03	0.46
1:A:932:C:N4	7:G:2:ARG:NH2	2.63	0.46
20:T:67:HIS:HB3	20:T:68:LYS:HG3	1.96	0.46
5:E:19:ARG:HA	5:E:31:SER:O	2.15	0.46
1:A:833:G:H2'	1:A:834:U:O4'	2.15	0.46
8:H:82:LEU:HD22	8:H:83:ARG:N	2.31	0.46
12:L:87:LYS:HB2	12:L:87:LYS:HE3	1.78	0.46
23:X:13:A:O2'	23:X:14:A:C8	2.68	0.46
17:Q:30:HIS:ND1	17:Q:31:PRO:HD2	2.30	0.46
12:L:37:TYR:O	12:L:38:THR:CG2	2.63	0.46
4:D:197:HIS:O	4:D:201:GLU:HG3	2.15	0.46
21:U:32:ARG:HH11	21:U:32:ARG:HG2	1.78	0.46
1:A:75:G:H5'	1:A:76:G:OP2	2.15	0.46
1:A:1213:A:C4	1:A:1215:G:C8	3.02	0.46
1:A:1356:G:N2	1:A:1357:A:C4	2.83	0.46
1:A:1539:C:H5''	21:U:17:ARG:HE	1.79	0.46
3:C:6:PRO:HA	3:C:174:LEU:HD11	1.97	0.46
11:K:124:LYS:HE3	21:U:34:ARG:NH2	2.31	0.46
1:A:501:C:O2'	1:A:502:A:H5'	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:511:C:C2	1:A:512:U:C6	3.04	0.46
8:H:23:ALA:HA	8:H:60:LEU:O	2.15	0.46
1:A:374:A:C4	1:A:375:U:C5	3.03	0.46
1:A:452:A:N7	1:A:453:G:C8	2.83	0.46
16:P:79:ASN:CB	16:P:82:ALA:O	2.63	0.46
1:A:643:C:H6	1:A:643:C:O5'	1.98	0.46
14:N:44:ALA:HA	14:N:47:LYS:HG3	1.97	0.46
19:S:43:MET:CE	19:S:48:ILE:HG12	2.45	0.46
8:H:40:LYS:N	8:H:45:ILE:HG12	2.29	0.46
8:H:46:GLU:HA	8:H:63:LYS:HG2	1.98	0.46
1:A:198:G:C6	1:A:220:G:C4	3.03	0.46
18:R:72:ARG:HG3	18:R:72:ARG:HH11	1.80	0.46
1:A:191:G:C2'	1:A:192:A:H5'	2.45	0.46
1:A:841:C:C6	1:A:843:U:OP2	2.69	0.46
1:A:1370:G:O2'	1:A:1371:G:H5'	2.15	0.46
5:E:40:ASP:OD1	5:E:42:ASN:N	2.49	0.46
21:U:32:ARG:HH11	21:U:32:ARG:CG	2.28	0.46
14:N:57:PRO:C	14:N:59:ARG:H	2.18	0.46
8:H:105:THR:HG21	8:H:120:LEU:CD1	2.45	0.46
1:A:1216:A:H2'	1:A:1217:C:C6	2.50	0.46
1:A:1313:U:C2	1:A:1314:C:C5	3.02	0.46
1:A:978:A:C6	1:A:1319:A:C2	3.03	0.46
1:A:413:G:N1	4:D:32:LYS:HD3	2.31	0.46
4:D:146:GLU:HA	4:D:149:LYS:CD	2.46	0.46
4:D:54:LEU:HD23	4:D:55:ARG:CA	2.46	0.46
5:E:116:VAL:O	5:E:116:VAL:HG23	2.15	0.46
1:A:1238:A:H2	1:A:1241:G:N3	2.11	0.46
1:A:1204:A:C4	1:A:1205:U:C6	3.03	0.46
2:B:32:GLY:HA3	2:B:39:ILE:H	1.80	0.46
3:C:60:ALA:O	3:C:62:SER:N	2.49	0.46
3:C:55:VAL:HG12	3:C:56:ILE:N	2.30	0.46
19:S:13:HIS:O	19:S:17:LYS:HG3	2.15	0.46
1:A:490:C:H2'	1:A:491:G:C8	2.50	0.46
19:S:43:MET:O	19:S:44:ILE:C	2.54	0.46
9:I:7:GLY:HA3	9:I:84:ARG:O	2.16	0.46
1:A:791:G:C5	1:A:792:A:N7	2.83	0.46
12:L:49:ARG:HG3	12:L:89:LEU:HD11	1.96	0.46
16:P:18:GLN:HE21	16:P:35:ARG:HE	1.63	0.46
1:A:1020:G:C2	1:A:1021:A:C5	3.03	0.46
1:A:294:U:H2'	1:A:295:C:H6	1.78	0.46
1:A:1156:G:H5''	1:A:1157:A:P	2.55	0.46
6:F:99:ALA:O	6:F:100:SER:CB	2.63	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1291:U:O5'	1:A:1291:U:H6	1.97	0.46
1:A:1291:U:OP1	7:G:36:SER:OG	2.30	0.46
1:A:1389:C:C2'	1:A:1390:U:H5'	2.45	0.46
1:A:579:A:H2'	1:A:580:C:C6	2.50	0.46
7:G:85:GLN:OE1	7:G:85:GLN:HA	2.15	0.46
1:A:754:C:H3'	1:A:754:C:O2	2.16	0.46
3:C:68:HIS:HA	3:C:103:ALA:O	2.15	0.46
1:A:1141:C:O2	1:A:1142:G:C8	2.68	0.46
1:A:1219:A:OP1	14:N:53:ARG:NH1	2.49	0.46
1:A:258:G:C2	1:A:259:G:H1'	2.50	0.46
1:A:276:G:C5	1:A:277:C:C5	3.03	0.46
23:X:7:G:O2'	23:X:8:A:H5'	2.15	0.46
11:K:73:VAL:O	11:K:75:GLU:N	2.48	0.46
12:L:28:GLN:HB2	12:L:81:ILE:O	2.14	0.46
3:C:143:LEU:N	3:C:143:LEU:HD13	2.31	0.46
4:D:123:MET:HE2	4:D:145:ARG:HD2	1.97	0.46
1:A:97:G:C2'	1:A:98:A:O5'	2.63	0.46
9:I:23:GLY:H	9:I:60:LEU:HA	1.81	0.46
1:A:1451:U:C3'	1:A:1452:C:H5'	2.46	0.46
1:A:654:G:C2'	1:A:655:A:H5'	2.46	0.46
1:A:218:U:C2'	1:A:219:U:H5'	2.46	0.46
1:A:610:U:H2'	1:A:611:C:C6	2.51	0.46
13:M:94:LEU:HB3	13:M:95:PRO:HD2	1.97	0.46
13:M:110:GLY:O	13:M:111:PRO:C	2.54	0.46
1:A:1271:A:C5'	1:A:1314:C:C5'	2.93	0.46
1:A:987:G:C2	1:A:988:G:C4	3.04	0.46
4:D:149:LYS:O	4:D:151:GLN:N	2.48	0.46
4:D:154:VAL:O	4:D:157:ALA:HB3	2.15	0.46
4:D:53:GLN:HE21	4:D:202:LEU:CA	2.28	0.46
4:D:54:LEU:CD2	4:D:58:GLN:HB2	2.46	0.46
1:A:4:U:H3'	1:A:4:U:O2	2.15	0.46
9:I:29:ILE:HG22	9:I:64:ILE:HD11	1.96	0.46
2:B:14:HIS:HB2	2:B:202:ASN:HB3	1.97	0.46
3:C:35:ASP:O	3:C:38:VAL:HG22	2.16	0.46
12:L:89:LEU:N	12:L:89:LEU:CD1	2.78	0.46
4:D:56:GLU:OE2	4:D:194:ILE:HA	2.15	0.46
9:I:93:LEU:HD12	9:I:94:ARG:N	2.29	0.46
7:G:65:LEU:C	7:G:67:ASN:N	2.68	0.46
1:A:739:C:HO2'	15:O:41:HIS:HD1	1.63	0.46
3:C:61:LYS:HE3	3:C:61:LYS:HA	1.97	0.46
1:A:1066:C:H5'	1:A:1067:A:OP2	2.16	0.46
1:A:812:G:OP1	1:A:903:G:H1'	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:9:GLY:HA3	9:I:80:HIS:HB3	1.98	0.46
2:B:216:VAL:O	2:B:220:VAL:HG23	2.15	0.46
17:Q:15:LYS:H	17:Q:16:MET:HE1	1.80	0.46
1:A:1151:A:HO2'	1:A:1152:A:P	2.39	0.46
11:K:73:VAL:C	11:K:75:GLU:H	2.18	0.46
1:A:142:G:C6	1:A:143:A:C5	3.03	0.46
1:A:625:U:O2'	1:A:626:G:C5'	2.64	0.46
3:C:71:ARG:HB3	3:C:74:ILE:HG22	1.98	0.46
7:G:119:LEU:CD2	7:G:123:LEU:HD21	2.45	0.46
1:A:102:G:C2	1:A:103:U:C5	3.04	0.46
12:L:1:ALA:HB3	12:L:5:GLN:OE1	2.16	0.46
1:A:773:G:C2	1:A:807:A:C2	3.03	0.46
24:Y:150:SER:O	24:Y:153:ASP:HB2	2.16	0.46
1:A:748:G:C4	1:A:749:A:C8	3.03	0.46
7:G:87:PRO:C	7:G:88:VAL:HG12	2.35	0.46
8:H:77:VAL:HG11	8:H:124:ILE:CG1	2.46	0.46
1:A:1072:G:OP1	5:E:61:LYS:NZ	2.49	0.46
2:B:9:LEU:HG	2:B:11:ALA:N	2.30	0.46
17:Q:60:ILE:HA	17:Q:73:THR:O	2.16	0.46
1:A:619:U:H3	4:D:130:ASN:ND2	2.14	0.46
4:D:112:GLU:O	4:D:115:GLN:N	2.49	0.46
4:D:172:VAL:HG22	4:D:173:ASP:N	2.31	0.46
4:D:52:VAL:HG23	4:D:53:GLN:N	2.30	0.46
11:K:121:ARG:NE	21:U:35:GLU:HG3	2.31	0.46
1:A:922:G:C2	1:A:1396:A:C6	3.04	0.46
1:A:68:G:C5	1:A:69:G:H1'	2.50	0.46
9:I:38:PHE:HA	9:I:41:GLU:CD	2.36	0.46
2:B:15:PHE:HB2	2:B:39:ILE:HG23	1.97	0.46
3:C:72:PRO:O	3:C:73:GLY:C	2.54	0.46
3:C:45:GLU:C	3:C:47:ALA:H	2.18	0.46
1:A:1053:G:H4'	1:A:1054:C:C5'	2.43	0.46
2:B:163:ILE:HG12	2:B:164:ASP:N	2.30	0.46
24:Y:140:VAL:O	24:Y:141:LYS:C	2.53	0.46
14:N:7:ALA:HA	14:N:10:VAL:CG2	2.46	0.46
1:A:763:G:C4	1:A:764:C:C6	3.04	0.46
7:G:73:GLU:HA	7:G:140:VAL:CG1	2.46	0.46
6:F:35:LYS:HE3	6:F:65:GLU:OE2	2.15	0.46
9:I:16:ALA:HA	9:I:65:THR:O	2.15	0.46
1:A:687:A:C8	1:A:701:U:C4	3.04	0.46
5:E:55:VAL:HB	5:E:56:PRO:HD3	1.98	0.46
16:P:20:VAL:HG11	16:P:32:PHE:CB	2.46	0.46
1:A:328:C:C2'	1:A:328:C:O2	2.62	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:610:U:H2'	1:A:611:C:H6	1.79	0.46
1:A:470:C:N3	1:A:471:U:C4	2.84	0.46
20:T:47:GLN:C	20:T:47:GLN:HE21	2.19	0.46
2:B:27:LYS:N	2:B:28:PRO:CD	2.79	0.46
18:R:33:THR:HG23	18:R:36:GLY:H	1.81	0.46
1:A:1002:G:C6	1:A:1003:G:C5	3.03	0.46
1:A:675:A:H2'	1:A:676:A:O5'	2.15	0.46
2:B:101:THR:N	2:B:174:GLU:OE1	2.49	0.46
2:B:52:ALA:CB	2:B:212:TYR:OH	2.64	0.46
2:B:57:ASN:HA	2:B:60:ALA:HB3	1.97	0.46
1:A:426:U:H5''	4:D:36:ALA:CB	2.46	0.46
1:A:622:A:N7	1:A:623:C:C6	2.84	0.46
1:A:439:U:C4	1:A:440:C:C5	3.04	0.46
1:A:375:U:O2'	16:P:6:LEU:O	2.33	0.46
9:I:100:ALA:O	9:I:102:PHE:CD1	2.69	0.46
2:B:32:GLY:HA3	2:B:38:HIS:CA	2.46	0.46
1:A:684:U:O2'	11:K:39:ASN:O	2.33	0.46
7:G:119:LEU:HD23	7:G:123:LEU:CD2	2.46	0.46
3:C:166:TRP:CE3	3:C:166:TRP:CA	2.99	0.46
13:M:2:ARG:O	13:M:7:ASN:O	2.34	0.46
20:T:68:LYS:HB2	20:T:69:ASN:H	1.60	0.46
20:T:69:ASN:OD1	20:T:69:ASN:N	2.49	0.46
18:R:54:LEU:O	18:R:58:ILE:HG13	2.15	0.46
5:E:63:MET:O	5:E:64:GLU:C	2.54	0.46
9:I:90:ASP:C	9:I:90:ASP:OD2	2.54	0.46
5:E:45:VAL:C	5:E:70:MET:HG3	2.37	0.46
1:A:739:C:C5	1:A:740:U:C5	3.03	0.46
22:V:14:A:N6	22:V:22:G:C5	2.83	0.46
2:B:62:ARG:O	2:B:63:LYS:HB2	2.16	0.46
17:Q:13:SER:CB	17:Q:21:VAL:HG11	2.46	0.46
1:A:1152:A:H5'	10:J:15:HIS:CD2	2.50	0.46
11:K:88:PRO:HD3	21:U:28:LEU:HD11	1.97	0.46
2:B:207:ARG:O	2:B:211:LEU:HD13	2.14	0.46
4:D:97:LEU:HD23	4:D:117:VAL:CG1	2.45	0.46
16:P:67:ILE:O	16:P:67:ILE:CG2	2.63	0.46
1:A:1309:G:P	13:M:90:HIS:HE1	2.38	0.46
1:A:1203:C:N4	1:A:1204:A:N6	2.64	0.46
10:J:58:ASN:O	10:J:60:ASP:N	2.49	0.46
9:I:38:PHE:CE1	9:I:75:ALA:HB2	2.50	0.46
2:B:15:PHE:HD1	2:B:16:GLY:H	1.64	0.46
19:S:10:ILE:HG21	19:S:40:PHE:HE2	1.81	0.46
1:A:1057:G:H2'	1:A:1058:G:C5'	2.46	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:27:ILE:HG12	9:I:62:LEU:HD21	1.97	0.46
1:A:100:G:C6	1:A:101:A:C5	3.04	0.46
1:A:421:U:O2	3:C:126:ARG:NH2	2.49	0.46
1:A:726:C:O2'	1:A:727:G:H5'	2.16	0.46
1:A:189:A:C5	1:A:190:A:C2	3.04	0.46
17:Q:34:GLY:O	17:Q:35:LYS:C	2.53	0.46
10:J:6:ILE:H	10:J:6:ILE:HD12	1.81	0.46
6:F:70:VAL:HA	6:F:73:GLU:HG2	1.98	0.46
1:A:564:C:C4	1:A:565:U:C4	3.04	0.46
8:H:38:VAL:CG1	8:H:111:THR:HG22	2.46	0.46
5:E:125:LYS:HD3	5:E:127:TYR:CE2	2.50	0.46
1:A:1519:A:N7	1:A:1520:C:H1'	2.31	0.46
2:B:134:LEU:HG	2:B:137:THR:OG1	2.16	0.46
1:A:255:G:H5'	17:Q:17:GLU:O	2.16	0.46
1:A:276:G:OP1	17:Q:16:MET:HE2	2.16	0.46
1:A:276:G:C5	1:A:277:C:H5	2.33	0.46
1:A:142:G:N3	1:A:143:A:C8	2.83	0.46
1:A:456:A:C6	1:A:457:G:C5	3.04	0.46
4:D:162:GLU:HA	4:D:166:LYS:HD3	1.97	0.46
1:A:503:C:O2'	1:A:504:C:H5'	2.16	0.46
5:E:152:VAL:HG22	5:E:153:ALA:H	1.80	0.46
1:A:71:A:N1	1:A:99:C:O2'	2.48	0.46
1:A:91:U:H2'	1:A:92:U:C1'	2.45	0.46
1:A:451:A:C8	1:A:481:G:N1	2.84	0.46
1:A:1061:G:C6	1:A:1197:A:C2	3.03	0.46
10:J:52:LEU:CD1	10:J:61:ALA:HB3	2.46	0.46
1:A:1439:G:N7	1:A:1440:U:C5	2.84	0.46
3:C:72:PRO:HG2	3:C:104:GLU:HG3	1.98	0.46
3:C:84:GLU:O	3:C:86:LEU:N	2.49	0.46
4:D:167:PRO:HB2	4:D:170:LEU:CD1	2.46	0.46
1:A:550:G:C6	1:A:551:U:C4	3.04	0.46
1:A:101:A:C5	1:A:102:G:N7	2.83	0.46
15:O:3:SER:HB3	15:O:6:ALA:H	1.81	0.46
7:G:82:SER:CB	7:G:84:TYR:CE2	2.99	0.46
1:A:757:U:C5'	1:A:822:U:O2	2.64	0.46
1:A:1020:G:C2	1:A:1021:A:N7	2.84	0.46
1:A:646:G:C4	1:A:647:C:C5	3.04	0.46
8:H:82:LEU:C	8:H:82:LEU:CD2	2.84	0.46
1:A:322:C:O2	1:A:332:G:N2	2.49	0.46
1:A:794:A:C6	1:A:795:C:N4	2.84	0.46
11:K:32:THR:OG1	11:K:43:TRP:HB3	2.16	0.46
3:C:2:GLN:C	3:C:3:LYS:HG2	2.35	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1216:A:C5	1:A:1217:C:C5	3.04	0.45
1:A:1271:A:H5''	1:A:1314:C:H5''	1.98	0.45
20:T:76:ALA:O	20:T:79:THR:HB	2.16	0.45
4:D:91:ALA:O	4:D:94:GLU:N	2.48	0.45
21:U:28:LEU:CD2	21:U:28:LEU:O	2.63	0.45
12:L:54:VAL:HG21	12:L:79:ILE:HD11	1.98	0.45
1:A:410:G:H5''	1:A:411:A:P	2.56	0.45
1:A:435:A:C6	1:A:436:C:C5	3.04	0.45
1:A:1076:U:N3	1:A:1082:A:C2	2.84	0.45
5:E:150:GLU:CG	5:E:151:MET:N	2.80	0.45
1:A:71:A:H61	1:A:99:C:C2'	2.29	0.45
1:A:373:A:C2	1:A:482:A:N6	2.84	0.45
1:A:451:A:N7	1:A:481:G:C6	2.83	0.45
8:H:30:LYS:O	8:H:31:LEU:C	2.55	0.45
1:A:945:G:N1	1:A:1337:G:C2	2.84	0.45
9:I:123:ARG:CG	9:I:124:PRO:HD2	2.46	0.45
9:I:40:ARG:H	9:I:44:ARG:HB3	1.82	0.45
4:D:186:GLU:HA	4:D:186:GLU:OE1	2.15	0.45
15:O:87:ARG:O	15:O:88:ARG:HB2	2.15	0.45
3:C:100:ILE:O	3:C:100:ILE:HG23	2.16	0.45
3:C:110:LEU:HD13	3:C:203:LYS:HE3	1.98	0.45
1:A:614:C:H2'	1:A:615:G:O4'	2.16	0.45
1:A:1378:C:C3'	1:A:1378:C:C6	2.99	0.45
1:A:1379:G:N7	7:G:1:PRO:HB2	2.30	0.45
1:A:159:G:H8	1:A:159:G:H5''	1.80	0.45
9:I:66:VAL:HG21	9:I:74:GLN:HB3	1.98	0.45
5:E:55:VAL:CB	5:E:56:PRO:CD	2.94	0.45
9:I:91:GLU:C	9:I:93:LEU:H	2.19	0.45
1:A:418:C:H2'	1:A:419:C:C6	2.52	0.45
16:P:51:ARG:HH11	16:P:51:ARG:HB3	1.81	0.45
1:A:293:G:C6	1:A:294:U:C4	3.04	0.45
1:A:299:G:C6	1:A:300:A:C6	3.04	0.45
1:A:54:C:O2	1:A:54:C:H2'	2.16	0.45
1:A:1441:A:H62	1:A:1461:G:H21	1.65	0.45
1:A:1013:G:H3'	1:A:1013:G:C8	2.51	0.45
1:A:1386:G:H2'	1:A:1387:G:C8	2.51	0.45
1:A:525:C:C4	1:A:526:C:N4	2.84	0.45
19:S:4:LEU:C	19:S:5:LYS:HG3	2.36	0.45
2:B:139:GLU:O	2:B:143:LEU:CD2	2.64	0.45
2:B:209:VAL:O	2:B:210:THR:C	2.54	0.45
20:T:22:SER:O	20:T:25:SER:HB3	2.15	0.45
1:A:1032:G:C2	1:A:1033:G:C1'	2.95	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:457:G:C5	1:A:458:U:C5	3.04	0.45
16:P:70:ARG:HB2	16:P:70:ARG:HH11	1.81	0.45
9:I:123:ARG:HG3	9:I:124:PRO:HD2	1.99	0.45
14:N:86:GLU:HB3	14:N:90:ARG:NH2	2.31	0.45
3:C:89:VAL:O	3:C:93:ILE:HB	2.16	0.45
13:M:76:ILE:HG22	13:M:77:LYS:N	2.31	0.45
1:A:379:C:H2'	1:A:380:G:H5'	1.97	0.45
1:A:414:A:C4	1:A:415:A:C8	3.04	0.45
1:A:1180:A:P	9:I:104:THR:HG23	2.56	0.45
7:G:21:LEU:CD1	7:G:22:LEU:HD23	2.47	0.45
24:Y:150:SER:C	24:Y:152:ASP:N	2.69	0.45
1:A:952:U:H4'	1:A:964:A:H61	1.82	0.45
1:A:794:A:C6	1:A:795:C:C4	3.04	0.45
1:A:1435:G:O6	1:A:1465:A:N6	2.49	0.45
10:J:92:LEU:O	10:J:93:ALA:HB3	2.15	0.45
1:A:600:A:C4	1:A:639:G:C2	3.04	0.45
23:X:5:A:C5'	23:X:6:G:OP2	2.65	0.45
13:M:79:LEU:HD23	13:M:86:ARG:HD3	1.97	0.45
24:Y:133:ARG:HG2	24:Y:165:THR:OG1	2.17	0.45
6:F:74:LEU:HD23	6:F:78:PHE:CZ	2.51	0.45
1:A:1317:C:H2'	1:A:1318:A:O5'	2.16	0.45
2:B:80:LYS:CG	2:B:84:LEU:HD22	2.47	0.45
17:Q:15:LYS:N	17:Q:16:MET:CE	2.80	0.45
1:A:438:U:O2'	1:A:439:U:P	2.75	0.45
5:E:90:GLY:O	5:E:128:GLY:HA3	2.15	0.45
5:E:131:ASN:ND2	5:E:131:ASN:C	2.68	0.45
1:A:79:G:H2'	1:A:80:A:C8	2.51	0.45
1:A:375:U:N3	1:A:376:G:C8	2.85	0.45
16:P:72:ALA:O	16:P:75:ILE:HD12	2.15	0.45
1:A:1304:G:C6	1:A:1305:G:N1	2.84	0.45
1:A:1285:A:C5'	1:A:1286:U:C4	2.98	0.45
1:A:1348:U:O4	1:A:1374:A:C8	2.70	0.45
24:Y:74:SER:O	24:Y:77:PRO:HD2	2.16	0.45
1:A:1505:G:H4'	1:A:1506:U:C5'	2.46	0.45
9:I:7:GLY:HA3	9:I:84:ARG:C	2.36	0.45
7:G:22:LEU:O	7:G:25:PHE:HB3	2.17	0.45
1:A:865:A:H2	1:A:918:A:H4'	1.81	0.45
1:A:1293:C:H2'	1:A:1293:C:O2	2.16	0.45
1:A:632:U:C3'	1:A:632:U:C6	2.99	0.45
1:A:632:U:C2'	1:A:633:G:OP1	2.64	0.45
5:E:76:ASN:O	5:E:77:ASN:HB2	2.16	0.45
20:T:20:ASN:HB3	20:T:65:LEU:HD22	1.99	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:74:ALA:N	19:S:75:PRO:HD2	2.32	0.45
1:A:1071:C:N3	1:A:1105:A:C2	2.83	0.45
24:Y:177:ALA:O	24:Y:178:ASP:C	2.53	0.45
6:F:25:TYR:N	6:F:25:TYR:CD2	2.84	0.45
1:A:1270:G:O3'	1:A:1314:C:H5'	2.15	0.45
2:B:53:LEU:HD13	2:B:56:LEU:HD12	1.98	0.45
2:B:95:TRP:CZ3	2:B:97:GLY:HA2	2.51	0.45
1:A:261:U:C5	20:T:73:ARG:NH1	2.85	0.45
1:A:1277:C:H1'	1:A:1282:C:H1'	1.99	0.45
23:X:7:G:H2'	23:X:8:A:O4'	2.17	0.45
13:M:38:ILE:HD13	13:M:38:ILE:N	2.32	0.45
3:C:6:PRO:HG2	3:C:183:TYR:CD1	2.52	0.45
3:C:52:SER:O	3:C:52:SER:OG	2.32	0.45
1:A:451:A:H5'	16:P:70:ARG:HH22	1.81	0.45
10:J:53:ILE:HG22	10:J:54:SER:N	2.31	0.45
2:B:14:HIS:CD2	2:B:14:HIS:C	2.89	0.45
21:U:7:GLU:CB	21:U:11:PHE:HZ	2.26	0.45
17:Q:44:HIS:ND1	17:Q:69:THR:HG21	2.30	0.45
1:A:1475:G:C2'	1:A:1476:A:H5'	2.46	0.45
1:A:403:C:O2'	1:A:404:G:H5'	2.16	0.45
4:D:77:GLU:O	4:D:80:ARG:N	2.49	0.45
1:A:1422:G:N2	1:A:1423:G:C4	2.85	0.45
1:A:1206:G:H2'	1:A:1207:G:O4'	2.17	0.45
1:A:939:G:C6	1:A:940:C:N4	2.84	0.45
1:A:1217:C:C2	1:A:1218:C:C5	3.03	0.45
2:B:216:VAL:HA	2:B:219:THR:CG2	2.46	0.45
4:D:115:GLN:HE21	4:D:115:GLN:HA	1.82	0.45
4:D:176:LYS:HB3	4:D:178:GLU:HG2	1.98	0.45
21:U:33:ARG:HH22	21:U:34:ARG:HD2	1.81	0.45
5:E:33:THR:HG22	5:E:51:LYS:CB	2.45	0.45
5:E:79:THR:HG23	5:E:80:LEU:O	2.16	0.45
1:A:67:C:H4'	1:A:172:A:O4'	2.17	0.45
1:A:69:G:O6	1:A:98:A:N6	2.50	0.45
1:A:71:A:OP2	1:A:71:A:C3'	2.62	0.45
1:A:93:U:C2'	1:A:94:G:H5''	2.47	0.45
14:N:42:TRP:CE3	14:N:42:TRP:N	2.84	0.45
1:A:1241:G:N3	1:A:1242:G:C8	2.84	0.45
1:A:1048:G:OP1	14:N:2:LYS:HA	2.16	0.45
1:A:539:A:H2'	1:A:540:G:C8	2.50	0.45
1:A:549:C:C2'	1:A:550:G:O5'	2.64	0.45
7:G:24:LYS:HB3	7:G:100:MET:HE1	1.99	0.45
7:G:70:PRO:O	7:G:95:ARG:HD3	2.15	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:61:PHE:CD1	7:G:62:GLU:N	2.85	0.45
1:A:781:A:C5	1:A:802:A:C2	3.04	0.45
1:A:918:A:C2'	1:A:919:A:O5'	2.64	0.45
1:A:1021:A:H2'	1:A:1022:A:O4'	2.15	0.45
1:A:1098:C:C4	1:A:1099:G:N7	2.85	0.45
3:C:135:ARG:O	3:C:138:GLN:HB2	2.16	0.45
19:S:19:GLU:C	19:S:21:ALA:N	2.69	0.45
1:A:264:C:N4	1:A:265:G:C6	2.85	0.45
6:F:1:MET:HG3	6:F:66:ALA:C	2.37	0.45
2:B:196:ASP:N	2:B:196:ASP:OD1	2.49	0.45
1:A:1319:A:C8	1:A:1323:G:C5	3.04	0.45
1:A:957:U:H1'	1:A:960:U:N3	2.31	0.45
17:Q:13:SER:CB	17:Q:21:VAL:HG12	2.46	0.45
10:J:40:ILE:CB	10:J:73:LEU:HB2	2.46	0.45
11:K:75:GLU:CA	11:K:75:GLU:OE1	2.65	0.45
6:F:4:TYR:OH	6:F:68:GLN:HB3	2.17	0.45
6:F:92:THR:CG2	6:F:93:LYS:N	2.74	0.45
1:A:144:G:N2	1:A:145:G:H1'	2.31	0.45
1:A:176:C:H5''	20:T:23:ARG:NH1	2.31	0.45
20:T:22:SER:O	20:T:23:ARG:C	2.55	0.45
10:J:35:GLN:HG2	10:J:78:GLU:N	2.31	0.45
9:I:18:VAL:HG11	9:I:82:ILE:CA	2.46	0.45
9:I:20:ILE:CD1	9:I:86:LEU:HD12	2.47	0.45
7:G:91:ARG:O	7:G:95:ARG:HB2	2.17	0.45
17:Q:4:ILE:HG22	17:Q:5:ARG:HG3	1.99	0.45
1:A:992:U:H4'	1:A:993:G:O5'	2.17	0.45
1:A:737:C:C2'	1:A:738:C:O5'	2.64	0.45
4:D:56:GLU:OE2	4:D:59:LYS:HE3	2.16	0.45
1:A:900:A:H2'	1:A:901:A:C8	2.52	0.45
1:A:1004:A:C2	1:A:1026:G:N3	2.85	0.45
1:A:953:G:C2	1:A:1229:A:C2	3.04	0.45
1:A:954:G:N1	1:A:955:U:O2	2.49	0.45
1:A:1151:A:H5''	10:J:44:THR:OG1	2.16	0.45
4:D:103:ARG:NH1	4:D:110:ARG:HH22	2.14	0.45
2:B:206:ILE:CG1	2:B:207:ARG:N	2.78	0.45
1:A:1032:G:N3	1:A:1032:G:C5'	2.80	0.45
1:A:457:G:C6	1:A:458:U:C4	3.04	0.45
1:A:459:A:C2	1:A:460:A:C5	3.05	0.45
1:A:439:U:C5	1:A:440:C:H5	2.32	0.45
4:D:12:ARG:HH11	4:D:12:ARG:HB3	1.81	0.45
4:D:53:GLN:NE2	4:D:202:LEU:HA	2.32	0.45
1:A:922:G:N2	1:A:1396:A:C5	2.85	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1397:C:O4'	1:A:1397:C:O2	2.33	0.45
1:A:946:A:H2'	1:A:947:G:C8	2.52	0.45
1:A:1346:A:H5''	9:I:121:ARG:HH12	1.82	0.45
10:J:67:ILE:HG22	10:J:67:ILE:O	2.17	0.45
14:N:1:ALA:O	14:N:2:LYS:HB3	2.16	0.45
2:B:34:ARG:CA	2:B:34:ARG:HE	2.27	0.45
9:I:29:ILE:CD1	9:I:38:PHE:HE2	2.30	0.45
2:B:19:THR:O	2:B:20:ARG:CZ	2.65	0.45
3:C:70:ALA:C	3:C:72:PRO:HD3	2.36	0.45
3:C:96:VAL:CB	3:C:97:PRO:HD2	2.41	0.45
1:A:489:C:C2'	1:A:490:C:O5'	2.65	0.45
1:A:650:G:C5	1:A:651:C:C5	3.05	0.45
1:A:654:G:C6	1:A:753:A:N7	2.85	0.45
1:A:202:G:N2	1:A:216:U:O2	2.49	0.45
5:E:56:PRO:HA	5:E:59:ILE:HG12	1.97	0.45
9:I:93:LEU:HA	9:I:96:GLU:OE1	2.16	0.45
20:T:4:LYS:O	20:T:5:SER:C	2.54	0.45
1:A:61:G:C5	1:A:107:G:C2	3.04	0.45
1:A:27:G:H2'	1:A:28:A:O5'	2.17	0.45
22:V:13:C:O2'	22:V:14:A:H5'	2.16	0.45
1:A:1399:C:O2	1:A:1401:G:C6	2.70	0.45
1:A:1485:U:H2'	1:A:1486:G:H8	1.80	0.45
1:A:1142:G:C2'	1:A:1143:G:H5'	2.47	0.45
1:A:1216:A:N1	1:A:1217:C:N4	2.65	0.45
2:B:133:ALA:C	2:B:135:MET:H	2.20	0.45
2:B:80:LYS:HB2	2:B:90:PHE:HE1	1.81	0.45
10:J:17:LEU:C	10:J:17:LEU:HD23	2.37	0.45
10:J:73:LEU:O	10:J:74:VAL:CB	2.65	0.45
1:A:1539:C:H1'	23:X:7:G:C2	2.52	0.45
4:D:57:LYS:N	4:D:199:ILE:CG2	2.80	0.45
1:A:22:G:O2'	1:A:913:A:N1	2.39	0.45
5:E:72:ASN:H	5:E:72:ASN:ND2	2.14	0.45
1:A:64:G:C2	1:A:67:C:C4	3.05	0.45
1:A:205:A:C2'	1:A:205:A:N3	2.78	0.45
1:A:513:C:O2'	1:A:514:C:H5'	2.16	0.45
1:A:1299:A:C2	1:A:1301:U:C2	3.05	0.45
1:A:1061:G:H5'	1:A:1062:U:OP2	2.17	0.45
1:A:1366:C:C2'	1:A:1367:C:H5'	2.46	0.45
10:J:67:ILE:HD11	14:N:96:LEU:HB2	1.97	0.45
1:A:620:C:H1'	4:D:131:ILE:HD13	1.98	0.45
1:A:1106:G:C6	1:A:1107:C:C4	3.05	0.45
12:L:63:THR:CG2	12:L:91:GLY:O	2.65	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:6:TYR:HE2	9:I:17:ARG:CA	2.30	0.45
1:A:549:C:H2'	1:A:550:G:O4'	2.16	0.45
1:A:662:U:O2'	1:A:836:G:O5'	2.35	0.45
1:A:1038:C:O2'	1:A:1039:G:H5'	2.17	0.45
7:G:11:ILE:HD11	7:G:23:ALA:HB3	1.98	0.45
22:V:69:G:H2'	22:V:70:G:H5'	1.99	0.45
1:A:723:U:C5'	1:A:724:G:O5'	2.65	0.45
11:K:18:GLY:O	11:K:81:LEU:HA	2.17	0.45
1:A:1096:C:H2'	1:A:1097:C:C6	2.52	0.45
16:P:12:LYS:O	16:P:13:LYS:HB2	2.17	0.45
1:A:355:C:C4	1:A:356:A:N7	2.84	0.45
1:A:1036:A:N3	1:A:1036:A:H2'	2.32	0.45
15:O:38:LEU:HD12	15:O:38:LEU:HA	1.81	0.45
16:P:1:MET:HB3	16:P:1:MET:HE2	1.88	0.45
1:A:1210:C:O4'	1:A:1214:C:H5	2.00	0.45
1:A:981:U:C2	1:A:982:U:C5	3.04	0.45
1:A:979:C:P	1:A:981:U:O4	2.75	0.45
11:K:41:LEU:CB	11:K:76:TYR:HE2	2.29	0.45
13:M:55:LEU:O	13:M:58:GLU:N	2.50	0.45
13:M:35:ALA:HB3	13:M:58:GLU:OE1	2.17	0.45
1:A:657:U:O2	1:A:657:U:C2'	2.62	0.45
3:C:119:ILE:O	3:C:121:SER:N	2.50	0.45
1:A:623:C:C2'	1:A:624:C:H5'	2.46	0.45
4:D:101:VAL:CG1	4:D:113:ALA:HB1	2.46	0.45
1:A:462:G:N7	1:A:463:U:C5	2.84	0.45
1:A:375:U:C2	1:A:376:G:C8	3.05	0.45
14:N:90:ARG:HB3	14:N:92:GLU:CG	2.47	0.45
9:I:35:GLU:HA	9:I:39:GLY:CA	2.47	0.45
14:N:43:ASN:OD1	14:N:47:LYS:NZ	2.47	0.45
3:C:39:ARG:C	3:C:41:TYR:N	2.70	0.45
6:F:24:ARG:O	6:F:27:ALA:HB3	2.17	0.45
14:N:7:ALA:HA	14:N:10:VAL:HG23	1.99	0.45
1:A:550:G:C5	1:A:551:U:C5	3.05	0.45
7:G:73:GLU:HA	7:G:140:VAL:HG12	1.98	0.45
8:H:40:LYS:NZ	8:H:47:ASP:OD2	2.49	0.45
15:O:6:ALA:O	15:O:10:ILE:CD1	2.64	0.45
1:A:1414:U:H2'	1:A:1414:U:O2	2.16	0.45
1:A:189:A:O2'	1:A:190:A:H5'	2.16	0.45
1:A:854:U:H2'	1:A:855:U:H6	1.82	0.45
14:N:50:THR:H	14:N:51:LEU:HD23	1.81	0.45
1:A:858:G:O2'	1:A:859:G:C5'	2.65	0.45
1:A:938:A:N6	1:A:939:G:C6	2.85	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:Y:5:ASP:O	24:Y:8:LYS:HB2	2.17	0.45
2:B:65:LYS:HE3	2:B:158:ASP:OD2	2.18	0.45
2:B:81:ASP:C	2:B:83:ALA:N	2.70	0.45
13:M:19:THR:C	13:M:24:VAL:HG23	2.38	0.45
13:M:39:ALA:O	13:M:41:ASP:N	2.50	0.45
1:A:553:A:O2'	12:L:25:ALA:HB1	2.17	0.45
3:C:119:ILE:O	3:C:120:THR:C	2.55	0.45
4:D:157:ALA:O	4:D:160:LEU:HD22	2.17	0.45
5:E:140:ILE:O	5:E:143:LEU:HB2	2.16	0.45
8:H:31:LEU:C	8:H:31:LEU:HD13	2.37	0.45
9:I:114:LYS:O	9:I:115:VAL:C	2.55	0.45
10:J:56:HIS:C	10:J:57:VAL:O	2.54	0.45
3:C:84:GLU:HA	3:C:87:ARG:NH2	2.31	0.45
1:A:1504:G:OP2	1:A:1507:A:O2'	2.28	0.45
1:A:710:G:H5''	6:F:53:LYS:HZ1	1.82	0.45
1:A:213:G:H2'	1:A:214:C:H5'	1.99	0.45
6:F:39:LEU:CD1	6:F:39:LEU:C	2.85	0.45
1:A:757:U:H5''	1:A:822:U:O2	2.17	0.45
1:A:1025:U:C6	1:A:1025:U:OP2	2.70	0.45
24:Y:108:GLU:O	24:Y:109:GLU:C	2.55	0.45
1:A:1163:A:H2'	1:A:1164:G:C8	2.52	0.45
1:A:696:A:H2'	1:A:697:U:H6	1.82	0.45
24:Y:25:ILE:HG23	24:Y:179:LYS:NZ	2.31	0.45
1:A:233:C:H2'	1:A:234:C:C6	2.52	0.45
8:H:88:LYS:HG3	8:H:89:ASP:H	1.82	0.45
5:E:40:ASP:O	5:E:42:ASN:HB2	2.17	0.45
1:A:508:U:H4'	1:A:509:A:OP1	2.17	0.45
1:A:1335:U:H5''	1:A:1336:C:H5'	1.99	0.45
1:A:1188:A:H2'	1:A:1189:U:O4'	2.17	0.45
1:A:675:A:C2'	1:A:676:A:O5'	2.65	0.44
2:B:135:MET:CA	2:B:138:ARG:HG2	2.47	0.44
17:Q:11:VAL:HG12	17:Q:12:VAL:H	1.80	0.44
10:J:17:LEU:HA	10:J:20:GLN:HB2	1.99	0.44
10:J:40:ILE:HG13	10:J:41:PRO:HD2	1.98	0.44
20:T:23:ARG:O	20:T:24:ARG:C	2.55	0.44
3:C:147:GLY:HA3	3:C:171:ARG:H	1.82	0.44
1:A:1047:G:H2'	1:A:1048:G:H5'	1.98	0.44
3:C:71:ARG:HB3	3:C:74:ILE:CG2	2.47	0.44
3:C:84:GLU:C	3:C:86:LEU:N	2.70	0.44
17:Q:59:GLU:HG2	17:Q:75:VAL:CG2	2.47	0.44
1:A:588:G:C6	1:A:589:U:C2	3.05	0.44
1:A:588:G:C6	1:A:589:U:N3	2.84	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:13:VAL:HA	14:N:16:ALA:HB2	1.98	0.44
8:H:39:LEU:HD23	8:H:39:LEU:HA	1.79	0.44
1:A:767:A:H2'	1:A:768:A:O4'	2.16	0.44
1:A:315:A:OP1	26:A:1709:HOH:O	2.21	0.44
1:A:1039:G:C2'	1:A:1040:U:O5'	2.65	0.44
6:F:51:ILE:CG1	6:F:52:ASN:HB2	2.47	0.44
24:Y:156:ARG:HH21	24:Y:159:ASP:HB3	1.82	0.44
24:Y:157:SER:C	24:Y:159:ASP:N	2.69	0.44
1:A:1377:A:C2	7:G:6:ILE:HD11	2.52	0.44
14:N:14:ALA:O	14:N:18:LYS:HG3	2.17	0.44
1:A:211:G:N3	1:A:211:G:H3'	2.32	0.44
1:A:676:A:H5''	11:K:114:PRO:HB3	2.00	0.44
2:B:162:VAL:O	2:B:184:ALA:HA	2.17	0.44
2:B:184:ALA:HB3	2:B:195:VAL:HG22	1.98	0.44
2:B:57:ASN:HB2	2:B:219:THR:O	2.18	0.44
2:B:53:LEU:HD12	2:B:56:LEU:HD12	1.98	0.44
17:Q:10:ARG:HH11	17:Q:10:ARG:HG3	1.83	0.44
6:F:90:MET:O	6:F:91:ARG:O	2.34	0.44
3:C:140:ALA:H	3:C:142:ARG:HB3	1.82	0.44
5:E:98:ALA:O	5:E:100:GLU:N	2.50	0.44
1:A:923:A:H8	1:A:923:A:O5'	2.00	0.44
10:J:53:ILE:HD11	10:J:63:ASP:CG	2.38	0.44
9:I:25:GLY:N	9:I:58:GLU:HG2	2.31	0.44
3:C:79:LYS:O	3:C:81:GLU:N	2.51	0.44
6:F:64:VAL:HG13	6:F:65:GLU:N	2.31	0.44
1:A:721:G:H4'	1:A:722:G:O4'	2.17	0.44
1:A:636:U:H5''	17:Q:5:ARG:HG2	1.99	0.44
4:D:96:ARG:HB3	4:D:98:ASP:OD1	2.16	0.44
18:R:71:ASP:OD1	18:R:72:ARG:HG2	2.17	0.44
1:A:918:A:H2'	1:A:919:A:H8	1.78	0.44
1:A:1193:G:C2'	1:A:1194:U:H5'	2.48	0.44
7:G:65:LEU:O	7:G:67:ASN:N	2.49	0.44
1:A:1416:G:C2	1:A:1485:U:O2	2.70	0.44
2:B:170:ILE:O	2:B:171:ALA:C	2.55	0.44
24:Y:56:ALA:CB	24:Y:70:VAL:HA	2.46	0.44
11:K:22:ILE:O	11:K:22:ILE:CG1	2.65	0.44
1:A:1218:C:O2'	1:A:1219:A:H5'	2.17	0.44
1:A:1253:G:C2	1:A:1254:A:C5	3.06	0.44
14:N:64:CYS:HB2	14:N:80:SER:CB	2.48	0.44
2:B:134:LEU:HA	2:B:137:THR:HG23	2.00	0.44
1:A:496:A:C2	1:A:497:G:N7	2.85	0.44
4:D:54:LEU:HD23	4:D:58:GLN:HB2	1.99	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:55:ARG:NH2	4:D:58:GLN:HG2	2.33	0.44
5:E:100:GLU:CB	5:E:121:ASN:CB	2.95	0.44
1:A:452:A:H1'	16:P:70:ARG:NH1	2.32	0.44
14:N:1:ALA:HB3	14:N:68:GLY:HA3	1.99	0.44
1:A:287:U:H2'	1:A:288:A:C8	2.53	0.44
1:A:1499:A:O2'	1:A:1500:A:H5'	2.17	0.44
6:F:12:PRO:O	6:F:13:ASP:C	2.56	0.44
1:A:749:A:N1	1:A:750:C:N3	2.66	0.44
2:B:130:LYS:CE	2:B:130:LYS:HA	2.43	0.44
3:C:22:PHE:HD2	3:C:22:PHE:C	2.20	0.44
1:A:1135:U:OP2	1:A:1135:U:O4'	2.36	0.44
2:B:195:VAL:HG12	2:B:197:PHE:C	2.37	0.44
21:U:13:VAL:O	21:U:15:LEU:HD11	2.17	0.44
1:A:1032:G:N3	1:A:1032:G:H3'	2.32	0.44
3:C:171:ARG:O	3:C:172:VAL:CG2	2.66	0.44
1:A:463:U:C2'	1:A:463:U:O2	2.65	0.44
16:P:53:ASP:OD1	16:P:53:ASP:C	2.55	0.44
1:A:943:U:O2'	1:A:944:G:H5'	2.18	0.44
10:J:53:ILE:HB	10:J:61:ALA:HB1	1.97	0.44
9:I:38:PHE:HA	9:I:41:GLU:OE1	2.17	0.44
1:A:15:G:H4'	5:E:28:ARG:NH1	2.32	0.44
18:R:44:THR:OG1	18:R:46:THR:HB	2.17	0.44
1:A:380:G:C4	1:A:382:A:OP2	2.71	0.44
1:A:1118:U:H1'	1:A:1179:A:C4	2.52	0.44
1:A:918:A:H2'	1:A:919:A:O5'	2.16	0.44
1:A:865:A:C2	1:A:918:A:H4'	2.53	0.44
1:A:1193:G:O2'	1:A:1194:U:H5'	2.18	0.44
12:L:34:THR:O	12:L:35:ARG:HG3	2.17	0.44
3:C:129:PHE:O	3:C:130:ARG:C	2.55	0.44
12:L:41:PRO:HD3	12:L:47:ALA:O	2.17	0.44
1:A:788:U:C2'	1:A:789:U:H5'	2.47	0.44
1:A:1271:A:H2'	1:A:1272:G:C8	2.52	0.44
2:B:172:ILE:O	2:B:175:ALA:HB3	2.17	0.44
20:T:73:ARG:O	20:T:76:ALA:HB3	2.17	0.44
1:A:1280:A:H5''	10:J:42:LEU:HD21	1.98	0.44
4:D:94:GLU:CG	4:D:185:PRO:HG2	2.47	0.44
20:T:27:MET:CG	20:T:31:ILE:HD11	2.45	0.44
3:C:16:PRO:O	3:C:17:TRP:CE3	2.71	0.44
1:A:496:A:N3	1:A:497:G:N7	2.65	0.44
4:D:62:ARG:CA	4:D:62:ARG:HE	2.30	0.44
5:E:141:ASP:O	5:E:143:LEU:N	2.50	0.44
1:A:204:G:N3	1:A:465:A:C2	2.84	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1308:U:O3'	13:M:90:HIS:HE1	2.00	0.44
1:A:1286:U:C2'	1:A:1286:U:O2	2.65	0.44
1:A:1060:U:O2'	10:J:54:SER:HB2	2.16	0.44
2:B:23:ASN:O	2:B:26:MET:HB2	2.18	0.44
3:C:59:PRO:O	3:C:60:ALA:CB	2.65	0.44
21:U:9:GLU:OE2	21:U:10:PRO:HD3	2.17	0.44
5:E:158:LYS:O	8:H:63:LYS:CE	2.65	0.44
13:M:11:HIS:C	13:M:43:LYS:HE3	2.38	0.44
13:M:8:ILE:O	13:M:8:ILE:HG22	2.18	0.44
1:A:103:U:H2'	1:A:104:G:H8	1.82	0.44
1:A:1000:A:N3	1:A:1041:G:N2	2.66	0.44
1:A:203:G:C2	1:A:215:C:C2	3.06	0.44
1:A:1481:U:O2	1:A:1481:U:C2'	2.62	0.44
22:V:50:U:N3	22:V:51:U:C5	2.85	0.44
16:P:60:TRP:HB3	16:P:65:ALA:HB2	2.00	0.44
1:A:1320:C:O2	19:S:35:ARG:NH1	2.50	0.44
1:A:259:G:C4	1:A:260:G:C8	3.04	0.44
17:Q:7:LEU:CB	17:Q:60:ILE:HG22	2.46	0.44
1:A:1278:G:C4'	1:A:1279:G:C8	3.01	0.44
10:J:15:HIS:CG	10:J:16:ARG:N	2.86	0.44
10:J:42:LEU:O	10:J:43:PRO:O	2.36	0.44
4:D:184:LYS:HA	4:D:185:PRO:HD2	1.86	0.44
1:A:626:G:H2'	1:A:627:G:C5'	2.46	0.44
1:A:429:U:H4'	1:A:430:A:OP1	2.18	0.44
4:D:143:SER:HB2	4:D:178:GLU:HA	1.99	0.44
8:H:48:PHE:O	8:H:49:LYS:CG	2.65	0.44
8:H:79:ARG:HB2	8:H:80:PRO:HD2	2.00	0.44
9:I:49:GLN:O	9:I:51:LEU:N	2.51	0.44
1:A:1167:A:H5''	1:A:1168:U:P	2.57	0.44
24:Y:144:LEU:HA	24:Y:144:LEU:HD23	1.70	0.44
1:A:874:G:C6	1:A:875:U:C4	3.05	0.44
1:A:848:C:H2'	1:A:849:G:O5'	2.17	0.44
1:A:1378:C:H3'	1:A:1378:C:C6	2.53	0.44
1:A:1022:A:C6	1:A:1023:U:C4	3.06	0.44
6:F:50:PRO:O	6:F:51:ILE:C	2.56	0.44
1:A:1012:A:N6	1:A:1013:G:C6	2.85	0.44
1:A:689:C:H2'	1:A:690:G:O4'	2.18	0.44
24:Y:50:THR:OG1	24:Y:55:LEU:HD21	2.17	0.44
1:A:583:A:H2'	1:A:584:G:H5'	1.99	0.44
9:I:12:LYS:HG2	9:I:12:LYS:O	2.17	0.44
1:A:980:C:C5	1:A:981:U:N3	2.86	0.44
19:S:4:LEU:O	19:S:5:LYS:CD	2.66	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1322:C:P	19:S:77:ARG:HH21	2.41	0.44
2:B:132:GLU:O	2:B:136:ARG:N	2.51	0.44
20:T:72:ALA:O	20:T:73:ARG:C	2.56	0.44
11:K:52:ARG:O	11:K:55:ARG:HG3	2.18	0.44
1:A:140:U:C2'	1:A:141:G:O5'	2.66	0.44
13:M:52:ILE:HG22	13:M:56:ARG:NH2	2.33	0.44
13:M:65:GLU:O	13:M:67:ASP:N	2.50	0.44
1:A:438:U:N3	1:A:494:G:C6	2.86	0.44
22:V:65:G:H2'	22:V:66:U:C6	2.52	0.44
1:A:451:A:C8	1:A:452:A:C2	3.06	0.44
1:A:642:A:C6	1:A:643:C:N3	2.85	0.44
2:B:34:ARG:HE	2:B:35:ASN:N	2.16	0.44
2:B:199:ILE:O	2:B:200:PRO:O	2.35	0.44
1:A:1055:A:C6	1:A:1056:U:C6	3.05	0.44
13:M:80:MET:O	13:M:81:ASP:C	2.56	0.44
7:G:91:ARG:NE	7:G:93:VAL:HG21	2.32	0.44
1:A:200:G:C2	1:A:218:U:O2	2.71	0.44
1:A:646:G:C2	1:A:647:C:C5	3.05	0.44
8:H:21:LYS:HE2	8:H:21:LYS:CA	2.46	0.44
1:A:367:U:O2'	1:A:368:U:H4'	2.18	0.44
11:K:37:GLN:N	11:K:37:GLN:OE1	2.50	0.44
24:Y:18:VAL:HG22	24:Y:172:ILE:CG1	2.48	0.44
1:A:1240:U:C2	7:G:31:VAL:CG1	3.01	0.44
1:A:320:A:C2	1:A:334:C:N3	2.86	0.44
1:A:552:U:H4'	12:L:83:GLY:O	2.16	0.44
5:E:12:GLU:CB	5:E:38:VAL:HG12	2.48	0.44
24:Y:128:ALA:O	24:Y:129:VAL:C	2.56	0.44
1:A:309:A:C2	1:A:310:G:C8	3.05	0.44
21:U:16:ARG:HH11	21:U:19:LYS:HG2	1.83	0.44
1:A:1212:U:H2'	1:A:1212:U:O2	2.18	0.44
1:A:1313:U:P	19:S:5:LYS:HB2	2.58	0.44
19:S:35:ARG:NH2	19:S:76:THR:HG23	2.32	0.44
2:B:95:TRP:CH2	2:B:174:GLU:CD	2.91	0.44
17:Q:13:SER:HB3	17:Q:16:MET:HE2	2.00	0.44
17:Q:54:ILE:C	17:Q:54:ILE:CD1	2.86	0.44
3:C:142:ARG:HH11	3:C:142:ARG:HG3	1.83	0.44
1:A:510:A:N7	26:A:1723:HOH:O	2.37	0.44
1:A:197:A:O2'	1:A:221:C:H1'	2.18	0.44
1:A:376:G:O3'	16:P:5:ARG:HD2	2.18	0.44
9:I:117:LEU:N	9:I:117:LEU:HD12	2.33	0.44
9:I:24:ASN:O	9:I:60:LEU:N	2.50	0.44
6:F:21:MET:HE2	6:F:21:MET:HB3	1.79	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:46:LEU:HA	7:G:46:LEU:HD12	1.85	0.44
1:A:836:G:C5	1:A:851:G:C6	3.06	0.44
1:A:469:C:H6	1:A:469:C:O5'	2.00	0.44
1:A:190:A:H3'	1:A:190:A:C8	2.53	0.44
1:A:569:C:H5''	1:A:570:G:OP1	2.17	0.44
13:M:48:SER:O	13:M:49:GLU:C	2.55	0.44
1:A:135:C:O2	16:P:1:MET:N	2.34	0.44
1:A:966:G:O2'	9:I:128:LYS:O	2.36	0.44
1:A:229:U:O2'	1:A:230:G:H5'	2.17	0.44
1:A:1135:U:H6	1:A:1135:U:OP2	2.01	0.44
21:U:3:ILE:N	21:U:3:ILE:HD13	2.33	0.44
1:A:1310:G:N2	1:A:1328:C:C2	2.86	0.44
2:B:147:LEU:HA	2:B:147:LEU:HD23	1.89	0.44
10:J:42:LEU:HA	10:J:43:PRO:HD2	1.85	0.44
1:A:1076:U:C2	1:A:1082:A:C2	3.06	0.44
5:E:135:VAL:HG22	5:E:136:VAL:N	2.32	0.44
20:T:34:VAL:HG12	20:T:38:ILE:HD11	1.99	0.44
2:B:47:PRO:HA	2:B:50:ASN:ND2	2.33	0.44
2:B:20:ARG:HA	2:B:20:ARG:HD3	1.79	0.44
19:S:43:MET:O	19:S:46:LEU:HG	2.18	0.44
2:B:164:ASP:O	2:B:168:GLU:HG2	2.17	0.44
9:I:6:TYR:CE2	9:I:17:ARG:CB	3.01	0.44
17:Q:69:THR:O	17:Q:69:THR:CG2	2.66	0.44
14:N:15:LEU:C	14:N:17:ASP:N	2.71	0.44
1:A:663:A:H5''	18:R:49:LYS:HD2	2.00	0.44
1:A:663:A:C2'	1:A:664:G:H5'	2.48	0.44
1:A:568:G:O6	12:L:1:ALA:HB2	2.18	0.44
12:L:42:LYS:O	12:L:44:PRO:N	2.50	0.44
1:A:1004:A:C5	1:A:1026:G:C8	3.06	0.44
15:O:55:LEU:O	15:O:58:MET:HB2	2.18	0.44
13:M:106:ARG:HH21	13:M:112:ARG:HB3	1.82	0.44
21:U:32:ARG:NH1	21:U:32:ARG:HG2	2.32	0.44
1:A:316:C:C2	1:A:317:U:C5	3.06	0.44
21:U:18:PHE:O	21:U:21:SER:N	2.51	0.43
11:K:109:ILE:HB	21:U:5:VAL:HG22	2.00	0.43
1:A:1211:U:H2'	1:A:1212:U:OP2	2.17	0.43
14:N:64:CYS:HB2	14:N:80:SER:HB2	2.00	0.43
17:Q:54:ILE:HG23	17:Q:54:ILE:O	2.18	0.43
1:A:1124:G:C3'	1:A:1145:A:N6	2.69	0.43
1:A:1144:G:C5'	1:A:1145:A:OP2	2.66	0.43
11:K:41:LEU:HB2	11:K:73:VAL:CG1	2.48	0.43
13:M:21:ILE:CG2	13:M:22:TYR:O	2.65	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:412:A:OP1	1:A:412:A:H4'	2.18	0.43
12:L:113:ARG:O	12:L:115:LYS:O	2.36	0.43
5:E:93:VAL:CG2	5:E:110:MET:CE	2.96	0.43
5:E:93:VAL:CG2	5:E:110:MET:SD	3.06	0.43
5:E:33:THR:HB	5:E:49:TYR:CZ	2.53	0.43
5:E:35:LEU:HD22	5:E:133:ILE:HA	1.99	0.43
20:T:78:LEU:O	20:T:81:GLN:HB2	2.17	0.43
8:H:9:MET:HE1	8:H:32:LYS:CA	2.43	0.43
9:I:113:LYS:HD3	9:I:114:LYS:N	2.33	0.43
9:I:117:LEU:HD23	9:I:121:ARG:C	2.38	0.43
9:I:122:ARG:NH1	9:I:123:ARG:O	2.51	0.43
9:I:30:ASN:O	9:I:32:ARG:HB2	2.18	0.43
1:A:243:A:H4'	1:A:244:U:H5''	1.99	0.43
24:Y:141:LYS:O	24:Y:145:LYS:HE3	2.18	0.43
24:Y:146:ASP:O	24:Y:147:LYS:C	2.56	0.43
7:G:25:PHE:O	7:G:27:ASN:N	2.51	0.43
8:H:46:GLU:CA	8:H:63:LYS:CG	2.96	0.43
6:F:39:LEU:CD1	6:F:40:GLU:N	2.81	0.43
15:O:52:ARG:O	15:O:55:LEU:HB3	2.18	0.43
12:L:74:GLN:O	12:L:75:GLU:C	2.55	0.43
2:B:73:ARG:O	2:B:74:ALA:CB	2.65	0.43
11:K:110:THR:HG23	21:U:4:LYS:HA	2.00	0.43
15:O:69:LEU:O	15:O:70:LYS:C	2.54	0.43
7:G:111:GLY:O	7:G:112:ASP:O	2.35	0.43
1:A:1116:U:O2'	9:I:109:GLN:HG3	2.18	0.43
1:A:669:G:O2'	1:A:670:G:H5'	2.18	0.43
11:K:113:THR:HA	11:K:114:PRO:HD3	1.86	0.43
21:U:18:PHE:O	21:U:18:PHE:HD2	2.00	0.43
1:A:1357:A:C5	1:A:1358:U:C5	3.06	0.43
14:N:64:CYS:CB	14:N:80:SER:H	2.31	0.43
2:B:181:PRO:O	2:B:182:VAL:C	2.56	0.43
6:F:4:TYR:CE2	6:F:71:ILE:HG21	2.53	0.43
13:M:18:LEU:O	13:M:24:VAL:HG21	2.18	0.43
10:J:35:GLN:OE1	10:J:78:GLU:CB	2.66	0.43
1:A:1029:U:O2	1:A:1033:G:C4	2.71	0.43
1:A:1032:G:N2	1:A:1033:G:C8	2.86	0.43
1:A:1033:G:N1	1:A:1034:G:C8	2.86	0.43
1:A:460:A:H5''	1:A:461:A:OP2	2.18	0.43
5:E:114:LEU:HD12	5:E:114:LEU:HA	1.74	0.43
1:A:194:C:O2'	1:A:195:A:H5'	2.18	0.43
1:A:1426:G:H2'	1:A:1427:C:O5'	2.18	0.43
1:A:1203:C:H4'	14:N:67:THR:HG22	2.00	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:46:LEU:O	19:S:61:VAL:HG23	2.18	0.43
1:A:654:G:C6	1:A:753:A:C8	3.06	0.43
1:A:763:G:C4	1:A:764:C:C5	3.06	0.43
10:J:49:PHE:CE2	14:N:77:PHE:CZ	3.05	0.43
10:J:49:PHE:CD2	14:N:77:PHE:CE1	3.06	0.43
4:D:198:LEU:C	4:D:200:VAL:H	2.20	0.43
1:A:155:A:H2'	1:A:156:C:C6	2.54	0.43
1:A:290:C:C6	1:A:290:C:H3'	2.53	0.43
13:M:59:VAL:C	13:M:61:LYS:H	2.21	0.43
2:B:180:ILE:HA	2:B:181:PRO:HD3	1.69	0.43
2:B:195:VAL:CG1	2:B:197:PHE:O	2.66	0.43
2:B:53:LEU:HD12	2:B:216:VAL:HA	2.00	0.43
4:D:168:THR:CB	4:D:183:ARG:HH22	2.27	0.43
4:D:152:SER:OG	4:D:153:ARG:N	2.50	0.43
20:T:34:VAL:O	20:T:35:TYR:C	2.56	0.43
1:A:944:G:O6	1:A:1337:G:H3'	2.18	0.43
1:A:1201:A:H4'	1:A:1202:U:O5'	2.18	0.43
10:J:65:TYR:HB3	14:N:96:LEU:CD1	2.45	0.43
14:N:82:ILE:HG22	14:N:83:LYS:N	2.33	0.43
9:I:83:THR:HG21	9:I:102:PHE:CB	2.48	0.43
3:C:21:TRP:CD1	3:C:58:ARG:CD	3.01	0.43
9:I:56:MET:N	9:I:56:MET:SD	2.91	0.43
19:S:44:ILE:CD1	19:S:63:ASP:HA	2.47	0.43
1:A:285:C:C2	1:A:286:C:C5	3.06	0.43
13:M:3:ILE:O	13:M:3:ILE:HG12	2.18	0.43
4:D:14:GLU:HA	4:D:14:GLU:OE1	2.17	0.43
1:A:1004:A:H2'	1:A:1005:A:C5'	2.49	0.43
9:I:129:ARG:NH1	9:I:129:ARG:HB3	2.33	0.43
1:A:771:G:H2'	1:A:772:U:H5'	2.00	0.43
1:A:525:C:N4	1:A:526:C:N4	2.65	0.43
1:A:1188:A:C2'	1:A:1189:U:H5'	2.48	0.43
24:Y:106:LEU:HD13	24:Y:106:LEU:HA	1.76	0.43
1:A:674:G:C2'	1:A:675:A:O5'	2.66	0.43
1:A:1321:U:O3'	19:S:77:ARG:NH2	2.52	0.43
2:B:116:LEU:CB	2:B:140:LEU:HD11	2.48	0.43
2:B:69:VAL:O	2:B:162:VAL:HA	2.18	0.43
2:B:63:LYS:CB	2:B:65:LYS:HE2	2.48	0.43
20:T:71:ALA:O	20:T:74:HIS:HB2	2.18	0.43
17:Q:56:ASP:OD2	17:Q:56:ASP:N	2.51	0.43
17:Q:76:ARG:HH21	17:Q:78:VAL:HG22	1.84	0.43
1:A:1124:G:O4'	10:J:40:ILE:HD11	2.18	0.43
1:A:1150:A:O2'	10:J:43:PRO:HD3	2.19	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:122:GLY:O	8:H:123:GLU:C	2.56	0.43
21:U:14:ALA:O	21:U:15:LEU:HB2	2.18	0.43
1:A:1031:C:O2'	1:A:1032:G:P	2.76	0.43
3:C:13:ILE:HG13	3:C:14:VAL:HG13	2.00	0.43
4:D:104:MET:SD	4:D:106:PHE:CE2	3.12	0.43
4:D:159:GLU:O	4:D:162:GLU:OE1	2.37	0.43
1:A:10:A:OP2	5:E:130:THR:OG1	2.32	0.43
20:T:34:VAL:HG11	20:T:78:LEU:HD22	2.01	0.43
2:B:40:ILE:HG12	2:B:41:ASN:N	2.32	0.43
4:D:189:ASP:O	4:D:190:LEU:CG	2.66	0.43
1:A:445:G:H2'	1:A:446:G:O4'	2.18	0.43
24:Y:140:VAL:HG12	24:Y:154:ASP:OD2	2.17	0.43
14:N:7:ALA:O	14:N:10:VAL:HB	2.18	0.43
1:A:499:A:H61	1:A:547:A:H5''	1.83	0.43
1:A:100:G:C5	1:A:101:A:C5	3.06	0.43
1:A:212:G:C2	1:A:213:G:C5	3.06	0.43
1:A:833:G:C6	1:A:834:U:C4	3.06	0.43
1:A:879:C:H3'	1:A:879:C:C6	2.54	0.43
24:Y:110:ARG:HE	24:Y:114:LEU:HD11	1.84	0.43
2:B:71:THR:HG22	2:B:92:ASN:O	2.18	0.43
1:A:1257:A:H4'	1:A:1258:G:OP2	2.18	0.43
3:C:5:HIS:CB	14:N:89:MET:HG3	2.49	0.43
19:S:33:TRP:CZ2	19:S:56:HIS:HE1	2.37	0.43
15:O:29:ALA:HA	15:O:84:LEU:HD21	2.01	0.43
1:A:1494:G:C2	1:A:1495:U:C5	3.06	0.43
1:A:1347:G:C8	9:I:108:ARG:CB	3.01	0.43
1:A:1253:G:C2	1:A:1254:A:C4	3.06	0.43
13:M:17:ALA:O	13:M:20:SER:HB2	2.19	0.43
13:M:65:GLU:O	13:M:68:LEU:HB3	2.18	0.43
22:V:62:C:N3	22:V:63:G:N7	2.67	0.43
1:A:1299:A:C5	1:A:1301:U:O2	2.72	0.43
1:A:1306:A:C5	1:A:1307:U:C6	3.06	0.43
1:A:1337:G:C4'	1:A:1338:G:OP1	2.66	0.43
1:A:1337:G:H5'	1:A:1338:G:OP1	2.18	0.43
22:V:41:C:O5'	22:V:41:C:H6	2.01	0.43
1:A:1191:A:C2'	1:A:1192:C:H5'	2.47	0.43
2:B:29:PHE:O	2:B:41:ASN:N	2.51	0.43
16:P:36:VAL:HG13	16:P:36:VAL:O	2.18	0.43
6:F:14:GLN:OE1	6:F:17:GLN:HB2	2.18	0.43
18:R:40:PRO:O	18:R:44:THR:HG23	2.18	0.43
1:A:893:C:H2'	1:A:894:G:C8	2.53	0.43
1:A:1125:U:HO2'	1:A:1126:U:P	2.42	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:849:G:H2'	1:A:850:U:O5'	2.17	0.43
12:L:49:ARG:HB3	12:L:89:LEU:HD21	1.99	0.43
16:P:51:ARG:CG	16:P:51:ARG:NH1	2.79	0.43
1:A:61:G:C5	1:A:107:G:N2	2.87	0.43
22:V:11:C:O5'	22:V:11:C:H6	2.01	0.43
1:A:1520:C:H2'	1:A:1521:C:H6	1.83	0.43
1:A:915:A:C2'	1:A:916:U:H5'	2.48	0.43
1:A:346:G:N2	1:A:347:G:C8	2.86	0.43
16:P:45:GLU:O	16:P:45:GLU:HG2	2.19	0.43
5:E:24:VAL:O	5:E:25:LYS:C	2.57	0.43
2:B:159:ALA:O	2:B:160:LEU:HB2	2.18	0.43
2:B:53:LEU:HA	2:B:56:LEU:HB3	2.01	0.43
1:A:257:G:C2	1:A:258:G:N7	2.87	0.43
20:T:57:VAL:HG12	20:T:58:ASP:N	2.33	0.43
6:F:69:GLU:O	6:F:72:ASP:HB3	2.18	0.43
6:F:92:THR:CG2	6:F:93:LYS:H	2.31	0.43
1:A:426:U:H5''	4:D:36:ALA:HB1	2.00	0.43
5:E:149:PRO:HA	8:H:98:LEU:CD1	2.48	0.43
1:A:89:U:O2'	1:A:90:C:H5'	2.18	0.43
1:A:949:A:C6	1:A:950:U:C4	3.07	0.43
1:A:1285:A:C5'	1:A:1286:U:O4	2.67	0.43
9:I:49:GLN:C	9:I:51:LEU:H	2.22	0.43
9:I:53:LEU:N	9:I:53:LEU:HD12	2.34	0.43
19:S:50:VAL:CG2	19:S:70:LEU:CD1	2.90	0.43
12:L:93:ARG:O	12:L:94:TYR:CG	2.72	0.43
1:A:650:G:C2'	1:A:651:C:H5'	2.49	0.43
1:A:380:G:H3'	1:A:380:G:C8	2.53	0.43
24:Y:12:VAL:HG12	24:Y:13:ARG:N	2.32	0.43
24:Y:9:ASP:HB3	24:Y:13:ARG:HH22	1.78	0.43
7:G:148:LYS:C	7:G:150:PHE:N	2.69	0.43
6:F:62:MET:O	6:F:63:ASN:CB	2.66	0.43
20:T:5:SER:OG	20:T:6:ALA:N	2.52	0.43
6:F:11:HIS:HA	6:F:12:PRO:HD2	1.77	0.43
14:N:48:LEU:HD23	14:N:51:LEU:HD21	1.99	0.43
1:A:1258:G:C2	1:A:1259:C:C2	3.06	0.43
4:D:73:ASN:O	4:D:77:GLU:HB2	2.18	0.43
1:A:33:A:O2'	1:A:363:A:H1'	2.18	0.43
11:K:107:THR:HG22	11:K:108:ASN:ND2	2.33	0.43
1:A:1508:A:H2'	1:A:1509:C:O4'	2.18	0.43
1:A:815:A:O2'	1:A:816:A:OP1	2.26	0.43
1:A:1449:C:H1'	1:A:1455:G:N2	2.34	0.43
1:A:250:A:N3	1:A:250:A:H5'	2.33	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1140:C:HO2'	1:A:1141:C:P	2.40	0.43
19:S:54:ARG:HG3	19:S:54:ARG:H	1.69	0.43
2:B:110:ILE:CD1	2:B:147:LEU:HD13	2.49	0.43
1:A:1539:C:P	21:U:17:ARG:CZ	3.07	0.43
20:T:23:ARG:O	20:T:26:MET:N	2.51	0.43
10:J:83:THR:CG2	10:J:84:VAL:N	2.82	0.43
16:P:15:PRO:O	16:P:16:PHE:HB2	2.19	0.43
4:D:106:PHE:CG	4:D:144:ILE:HD11	2.53	0.43
4:D:123:MET:O	4:D:142:VAL:HA	2.18	0.43
1:A:66:A:O4'	1:A:173:U:C4	2.71	0.43
14:N:41:ARG:CB	14:N:42:TRP:CE3	3.01	0.43
1:A:1374:A:O2'	1:A:1375:A:H5'	2.19	0.43
9:I:35:GLU:OE2	9:I:39:GLY:HA3	2.18	0.43
9:I:49:GLN:N	9:I:50:PRO:HD2	2.34	0.43
9:I:24:ASN:C	9:I:58:GLU:CA	2.87	0.43
1:A:108:G:N2	1:A:109:A:N1	2.66	0.43
1:A:518:C:H5''	1:A:519:C:C6	2.54	0.43
1:A:283:U:H2'	1:A:284:C:C6	2.53	0.43
14:N:20:PHE:O	14:N:21:ALA:HB3	2.19	0.43
1:A:182:A:N7	1:A:184:G:C5	2.87	0.43
1:A:199:A:C2	1:A:200:G:C5	3.06	0.43
4:D:194:ILE:HG13	4:D:196:GLU:OE2	2.18	0.43
16:P:3:THR:HG22	16:P:4:ILE:H	1.82	0.43
1:A:1135:U:C2	1:A:1137:C:N3	2.87	0.43
1:A:677:U:H3	1:A:713:G:H1	1.66	0.43
1:A:1271:A:C5'	1:A:1314:C:H5''	2.49	0.43
1:A:1324:A:C2	1:A:1325:C:C2	3.06	0.43
2:B:101:THR:HB	2:B:174:GLU:OE1	2.19	0.43
10:J:16:ARG:O	10:J:17:LEU:CB	2.67	0.43
1:A:145:G:C2'	1:A:146:G:O5'	2.67	0.43
13:M:21:ILE:O	13:M:24:VAL:HG22	2.19	0.43
12:L:56:LEU:CB	12:L:58:ASN:OD1	2.67	0.43
4:D:11:SER:O	4:D:12:ARG:C	2.57	0.43
4:D:11:SER:OG	4:D:18:LEU:HG	2.19	0.43
4:D:149:LYS:O	4:D:150:LYS:C	2.56	0.43
4:D:156:ALA:O	4:D:160:LEU:HD22	2.19	0.43
5:E:104:ILE:HD12	5:E:122:VAL:HG23	2.01	0.43
22:V:55:U:C2'	22:V:57:G:N7	2.81	0.43
1:A:377:G:C2	1:A:387:U:O2	2.71	0.43
1:A:1298:U:O4	7:G:113:LYS:O	2.37	0.43
1:A:1346:A:O2'	7:G:9:ARG:NH1	2.51	0.43
3:C:35:ASP:HA	3:C:38:VAL:HG22	2.01	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:541:G:H2'	1:A:542:G:H8	1.83	0.43
12:L:42:LYS:O	12:L:44:PRO:HD2	2.19	0.43
4:D:193:ASP:OD2	4:D:193:ASP:N	2.50	0.43
1:A:1004:A:O2'	1:A:1005:A:H5'	2.18	0.43
1:A:645:G:C5	1:A:646:G:N7	2.87	0.43
7:G:65:LEU:C	7:G:67:ASN:H	2.22	0.43
5:E:45:VAL:HG22	5:E:117:ALA:HB1	2.01	0.43
7:G:13:PRO:O	7:G:14:ASP:O	2.37	0.43
1:A:927:G:C2	1:A:1391:U:O2	2.71	0.43
1:A:295:C:H2'	1:A:296:U:H6	1.84	0.43
23:X:14:A:N6	23:X:15:A:C6	2.86	0.43
15:O:78:THR:C	15:O:82:GLU:OE1	2.57	0.43
1:A:1405:G:H1'	1:A:1518:A:O2'	2.19	0.43
4:D:109:THR:HG1	4:D:111:ALA:HB3	1.84	0.43
15:O:65:LEU:HA	15:O:65:LEU:HD23	1.75	0.43
1:A:1267:C:H2'	1:A:1268:G:O4'	2.19	0.43
2:B:145:ASN:N	2:B:145:ASN:OD1	2.52	0.43
2:B:175:ALA:CB	2:B:182:VAL:CG2	2.96	0.43
1:A:257:G:H2'	1:A:258:G:H8	1.84	0.43
10:J:40:ILE:HB	10:J:73:LEU:HB2	2.00	0.43
1:A:141:G:C5	1:A:142:G:N7	2.87	0.43
1:A:427:U:C4	1:A:428:G:C6	3.07	0.43
4:D:25:ARG:HD2	4:D:30:LYS:CE	2.45	0.43
4:D:8:LEU:O	4:D:10:LEU:N	2.52	0.43
1:A:9:G:H5'	5:E:107:GLY:HA3	2.00	0.43
5:E:33:THR:HG21	5:E:49:TYR:OH	2.17	0.43
22:V:48:C:C2	22:V:59:U:C1'	3.02	0.43
22:V:59:U:H3'	22:V:60:U:C5	2.53	0.43
22:V:65:G:C2	22:V:66:U:C4	3.06	0.43
1:A:1332:A:C2'	1:A:1333:A:O5'	2.67	0.43
1:A:1338:G:O5'	1:A:1338:G:H8	2.02	0.43
14:N:87:ALA:HA	14:N:90:ARG:NH1	2.33	0.43
9:I:100:ALA:HB1	9:I:102:PHE:CZ	2.54	0.43
17:Q:47:ASP:O	17:Q:48:GLU:C	2.56	0.43
9:I:25:GLY:HA3	9:I:58:GLU:HA	2.01	0.43
3:C:69:THR:HG21	3:C:75:VAL:HG21	2.00	0.43
6:F:18:VAL:O	6:F:21:MET:N	2.51	0.43
2:B:163:ILE:HG23	2:B:164:ASP:N	2.28	0.43
1:A:1178:G:H2'	1:A:1180:A:OP2	2.18	0.43
24:Y:145:LYS:H	24:Y:145:LYS:CD	2.31	0.43
1:A:687:A:C8	1:A:701:U:O4	2.72	0.43
1:A:687:A:C5	1:A:701:U:C5	3.07	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:90:ASP:OD2	9:I:92:SER:N	2.52	0.43
7:G:68:VAL:HG12	7:G:134:VAL:HG12	2.01	0.43
1:A:45:G:C2	1:A:398:U:N3	2.87	0.43
1:A:134:G:H1'	1:A:325:A:C5	2.54	0.43
1:A:1190:G:OP1	3:C:4:VAL:HG12	2.18	0.43
2:B:21:TYR:CD1	2:B:21:TYR:N	2.87	0.43
1:A:839:C:H6	1:A:839:C:O5'	2.00	0.43
21:U:18:PHE:O	21:U:21:SER:HB2	2.18	0.43
1:A:1537:U:H2'	1:A:1538:C:O4'	2.19	0.43
1:A:145:G:C2	1:A:146:G:C8	3.07	0.43
1:A:1161:C:H2'	1:A:1162:C:C5	2.52	0.43
1:A:1034:G:H2'	1:A:1035:A:C8	2.54	0.43
1:A:623:C:N4	1:A:624:C:N4	2.67	0.43
3:C:133:MET:O	3:C:137:VAL:HG23	2.19	0.43
3:C:140:ALA:HB1	3:C:148:ILE:HD12	2.00	0.43
1:A:408:A:H2'	1:A:409:U:H5'	1.99	0.43
1:A:429:U:C4'	1:A:430:A:O5'	2.67	0.43
4:D:97:LEU:HD23	4:D:117:VAL:HG21	2.01	0.43
3:C:26:LYS:CD	3:C:26:LYS:H	2.15	0.43
2:B:47:PRO:O	2:B:50:ASN:HB2	2.19	0.43
8:H:31:LEU:O	8:H:31:LEU:HD13	2.18	0.43
1:A:1426:G:C2'	1:A:1427:C:O5'	2.66	0.43
1:A:1234:C:H2'	1:A:1235:U:C6	2.52	0.43
1:A:1235:U:C2'	1:A:1236:A:O5'	2.66	0.43
1:A:711:G:C2'	1:A:712:A:H5'	2.49	0.43
18:R:40:PRO:HG2	18:R:43:ILE:HG12	2.00	0.43
1:A:246:A:N3	1:A:279:A:N6	2.67	0.43
16:P:40:ASN:HA	16:P:41:PRO:HD2	1.91	0.43
1:A:662:U:H2'	1:A:663:A:C8	2.54	0.43
6:F:35:LYS:CE	6:F:65:GLU:OE2	2.67	0.43
1:A:219:U:C2	1:A:220:G:C8	3.07	0.43
1:A:404:G:H2'	1:A:405:U:O4'	2.18	0.43
1:A:737:C:H2'	1:A:738:C:O5'	2.19	0.43
1:A:57:G:H2'	1:A:58:C:O4'	2.18	0.43
1:A:27:G:O2'	1:A:28:A:O5'	2.34	0.43
5:E:105:ILE:CD1	5:E:123:LEU:HB3	2.49	0.43
1:A:432:A:C2'	1:A:433:G:O5'	2.67	0.43
24:Y:18:VAL:HG22	24:Y:172:ILE:HG13	2.00	0.43
16:P:7:ALA:O	16:P:9:HIS:N	2.51	0.43
11:K:83:VAL:HG12	11:K:83:VAL:O	2.18	0.43
1:A:1314:C:P	19:S:5:LYS:HZ3	2.41	0.42
17:Q:16:MET:HB2	17:Q:19:SER:CB	2.49	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1154:G:H2'	1:A:1154:G:N3	2.32	0.42
10:J:17:LEU:HD23	10:J:18:ILE:N	2.33	0.42
20:T:26:MET:HG3	20:T:27:MET:N	2.33	0.42
12:L:57:THR:CG2	12:L:58:ASN:N	2.82	0.42
10:J:88:MET:O	10:J:89:ARG:CB	2.67	0.42
3:C:10:ARG:O	3:C:13:ILE:HG12	2.19	0.42
1:A:456:A:C5	1:A:457:G:N7	2.87	0.42
1:A:459:A:OP2	1:A:459:A:C8	2.72	0.42
1:A:439:U:HO2'	1:A:440:C:P	2.41	0.42
1:A:495:A:C2	1:A:496:A:C6	3.07	0.42
4:D:158:LEU:O	4:D:159:GLU:O	2.37	0.42
22:V:65:G:C2	22:V:66:U:C2	3.07	0.42
8:H:1:SER:HB3	8:H:2:MET:HG3	2.00	0.42
1:A:240:G:C2	1:A:287:U:O2	2.70	0.42
17:Q:69:THR:O	17:Q:69:THR:HG22	2.19	0.42
1:A:212:G:H2'	1:A:213:G:H8	1.84	0.42
1:A:603:U:O2'	1:A:604:G:H5'	2.18	0.42
6:F:10:VAL:HG13	6:F:11:HIS:H	1.82	0.42
1:A:1260:G:H4'	1:A:1283:U:O2'	2.19	0.42
13:M:89:ARG:HB3	13:M:96:VAL:HG22	2.01	0.42
1:A:441:A:C2'	1:A:442:G:H5'	2.49	0.42
1:A:290:C:C6	1:A:290:C:C3'	3.02	0.42
1:A:736:C:H2'	1:A:736:C:O2	2.19	0.42
18:R:33:THR:HG22	18:R:37:LYS:N	2.34	0.42
1:A:938:A:H8	1:A:938:A:OP2	2.02	0.42
1:A:825:A:C6	1:A:826:C:C4	3.07	0.42
1:A:1133:G:C4	1:A:1134:G:C8	3.06	0.42
1:A:674:G:OP1	6:F:86:ARG:NH2	2.52	0.42
2:B:106:VAL:O	2:B:110:ILE:HD13	2.19	0.42
2:B:110:ILE:CG1	2:B:150:ILE:CG1	2.97	0.42
2:B:94:ARG:HH12	2:B:96:LEU:HA	1.84	0.42
10:J:84:VAL:O	10:J:88:MET:HG2	2.18	0.42
3:C:140:ALA:N	3:C:142:ARG:HB3	2.34	0.42
4:D:117:VAL:O	4:D:130:ASN:HA	2.19	0.42
4:D:152:SER:O	4:D:155:LYS:HB2	2.20	0.42
5:E:100:GLU:CG	5:E:100:GLU:O	2.67	0.42
5:E:113:VAL:O	5:E:115:GLU:N	2.52	0.42
22:V:65:G:H2'	22:V:66:U:H6	1.84	0.42
1:A:73:C:C2	1:A:74:A:C8	3.07	0.42
20:T:84:LYS:HD2	20:T:84:LYS:HA	1.84	0.42
1:A:972:C:H4'	10:J:59:LYS:HE3	2.01	0.42
14:N:68:GLY:O	14:N:69:ARG:O	2.37	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:18:VAL:HG22	9:I:64:ILE:CG2	2.49	0.42
1:A:831:A:OP1	2:B:20:ARG:HG3	2.19	0.42
3:C:72:PRO:CG	3:C:104:GLU:HG3	2.48	0.42
3:C:81:GLU:O	3:C:84:GLU:HB3	2.19	0.42
1:A:108:G:O4'	1:A:108:G:N3	2.52	0.42
1:A:446:G:N2	1:A:489:C:C2	2.88	0.42
6:F:17:GLN:OE1	6:F:21:MET:HG3	2.19	0.42
14:N:17:ASP:C	14:N:19:TYR:N	2.71	0.42
1:A:36:C:H2'	1:A:37:U:O4'	2.19	0.42
8:H:6:ILE:O	8:H:10:LEU:CD2	2.65	0.42
4:D:14:GLU:HB3	4:D:59:LYS:HG3	2.01	0.42
1:A:50:A:N6	1:A:361:G:H4'	2.34	0.42
1:A:1454:G:C2	1:A:1455:G:C8	3.06	0.42
1:A:1431:A:C6	1:A:1432:G:O6	2.72	0.42
3:C:151:GLU:HG2	3:C:198:LYS:HB2	2.02	0.42
5:E:84:VAL:HG21	5:E:142:GLY:O	2.19	0.42
1:A:1215:G:C2	1:A:1216:A:N9	2.88	0.42
1:A:979:C:O5'	1:A:980:C:OP2	2.37	0.42
1:A:977:A:O2'	1:A:979:C:OP2	2.32	0.42
1:A:1182:G:H5''	1:A:1183:U:H5'	2.01	0.42
13:M:38:ILE:HG22	13:M:39:ALA:N	2.34	0.42
4:D:18:LEU:HD12	4:D:20:LEU:HD11	2.02	0.42
4:D:57:LYS:HG3	4:D:58:GLN:N	2.33	0.42
5:E:82:HIS:CE1	5:E:146:MET:CG	3.02	0.42
16:P:67:ILE:HG13	16:P:71:VAL:HG11	2.01	0.42
1:A:877:G:H21	8:H:1:SER:N	2.17	0.42
1:A:946:A:O2'	1:A:1333:A:N3	2.47	0.42
1:A:1368:A:C2	1:A:1369:C:C6	3.06	0.42
10:J:63:ASP:OD2	14:N:98:LYS:CD	2.67	0.42
9:I:46:VAL:HG23	9:I:47:VAL:N	2.34	0.42
4:D:186:GLU:O	4:D:187:ARG:C	2.56	0.42
1:A:1531:A:C2'	1:A:1532:U:H5'	2.50	0.42
1:A:844:G:C4	1:A:846:G:O2'	2.72	0.42
1:A:894:G:C2	1:A:895:G:C8	3.07	0.42
1:A:499:A:C4'	1:A:500:G:OP1	2.65	0.42
1:A:850:U:H2'	1:A:851:G:C5'	2.48	0.42
8:H:6:ILE:HD12	8:H:6:ILE:N	2.33	0.42
1:A:805:C:H2'	1:A:806:C:H5'	2.01	0.42
11:K:127:ARG:CG	11:K:127:ARG:HH11	2.30	0.42
10:J:47:GLU:HB2	10:J:49:PHE:CE1	2.54	0.42
4:D:2:ARG:HH21	4:D:114:ARG:HD3	1.84	0.42
1:A:1246:A:C5	1:A:1247:U:C4	3.07	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:610:U:C2'	1:A:611:C:O5'	2.68	0.42
1:A:300:A:H2	1:A:566:G:O6	2.03	0.42
12:L:85:ARG:CZ	12:L:87:LYS:HB3	2.49	0.42
9:I:9:GLY:CA	9:I:80:HIS:HB3	2.49	0.42
1:A:779:C:O2'	1:A:780:A:H5'	2.18	0.42
24:Y:61:GLU:CG	24:Y:61:GLU:O	2.68	0.42
11:K:112:VAL:O	11:K:113:THR:C	2.54	0.42
1:A:1268:G:N1	1:A:1269:A:C6	2.87	0.42
1:A:1310:G:C2	1:A:1328:C:C2	3.07	0.42
1:A:1314:C:OP2	19:S:5:LYS:CD	2.67	0.42
2:B:143:LEU:O	2:B:147:LEU:HB2	2.20	0.42
2:B:56:LEU:HB2	2:B:183:PHE:CE1	2.54	0.42
1:A:259:G:N1	1:A:260:G:C4	2.87	0.42
23:X:8:A:H2'	23:X:9:G:O4'	2.19	0.42
2:B:205:ALA:C	2:B:206:ILE:HD13	2.39	0.42
1:A:1296:C:C4'	1:A:1302:C:N4	2.83	0.42
3:C:119:ILE:HG22	3:C:123:LEU:HD12	2.01	0.42
1:A:923:A:H2	1:A:1395:C:C2	2.37	0.42
1:A:77:A:OP2	1:A:77:A:H8	2.03	0.42
1:A:451:A:N6	1:A:481:G:C5'	2.83	0.42
4:D:16:THR:CG2	4:D:17:ASP:H	2.30	0.42
1:A:1329:A:H2'	1:A:1329:A:N3	2.34	0.42
1:A:1367:C:P	9:I:113:LYS:HZ1	2.42	0.42
14:N:92:GLU:HG2	14:N:92:GLU:H	1.77	0.42
2:B:187:ASP:OD2	2:B:202:ASN:HA	2.19	0.42
2:B:40:ILE:HG21	2:B:201:GLY:N	2.34	0.42
9:I:20:ILE:CG2	9:I:60:LEU:HD12	2.49	0.42
6:F:20:GLY:O	6:F:21:MET:C	2.58	0.42
24:Y:52:LEU:HD12	24:Y:52:LEU:O	2.20	0.42
11:K:34:THR:HB	11:K:40:ALA:HA	2.01	0.42
1:A:542:G:N1	1:A:543:U:C4	2.88	0.42
1:A:849:G:C2'	1:A:850:U:O5'	2.68	0.42
13:M:113:LYS:HB3	13:M:114:PRO:CD	2.46	0.42
1:A:999:C:H2'	1:A:1000:A:H8	1.84	0.42
20:T:68:LYS:HB2	20:T:69:ASN:OD1	2.19	0.42
1:A:1293:C:N3	1:A:1294:G:C8	2.88	0.42
1:A:399:G:O2'	1:A:400:C:H5'	2.19	0.42
7:G:11:ILE:CD1	7:G:23:ALA:HB3	2.49	0.42
1:A:57:G:H2'	1:A:58:C:C6	2.55	0.42
2:B:77:GLU:HG3	2:B:78:ALA:N	2.35	0.42
1:A:528:C:H5'	1:A:529:G:OP2	2.19	0.42
4:D:88:ASN:O	4:D:92:LEU:HD23	2.20	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:Y:67:LYS:HG2	24:Y:67:LYS:O	2.18	0.42
1:A:782:A:H2'	1:A:783:C:O4'	2.19	0.42
2:B:110:ILE:HG12	2:B:150:ILE:CG1	2.49	0.42
1:A:1102:A:H2'	1:A:1103:C:H5'	1.99	0.42
1:A:1539:C:P	21:U:17:ARG:NE	2.92	0.42
21:U:25:ALA:HB3	23:X:9:G:H4'	2.01	0.42
1:A:626:G:H2'	1:A:627:G:O4'	2.20	0.42
4:D:120:LYS:HB2	4:D:128:VAL:HG21	2.02	0.42
21:U:44:ARG:O	21:U:45:LYS:C	2.58	0.42
5:E:110:MET:O	5:E:114:LEU:HB2	2.20	0.42
5:E:154:ALA:CB	8:H:65:PHE:CE2	3.03	0.42
8:H:5:PRO:O	8:H:8:ASP:CB	2.64	0.42
14:N:81:ARG:O	14:N:82:ILE:C	2.58	0.42
2:B:14:HIS:HB3	2:B:208:ALA:HB2	2.01	0.42
2:B:30:ILE:HD11	2:B:38:HIS:CG	2.55	0.42
18:R:40:PRO:HG2	18:R:43:ILE:CG1	2.50	0.42
1:A:1056:U:O2	1:A:1057:G:C8	2.73	0.42
7:G:28:ILE:HD12	7:G:100:MET:CE	2.50	0.42
8:H:87:ARG:H	8:H:90:GLU:HB2	1.83	0.42
24:Y:157:SER:O	24:Y:159:ASP:N	2.53	0.42
8:H:78:SER:HA	8:H:84:ILE:CG1	2.50	0.42
1:A:298:A:N6	1:A:299:G:C2	2.88	0.42
16:P:44:SER:OG	16:P:46:LYS:HD2	2.20	0.42
18:R:22:TYR:HB2	18:R:57:ALA:O	2.20	0.42
1:A:903:G:H2'	1:A:904:U:C6	2.53	0.42
1:A:1434:A:H8	1:A:1434:A:O5'	2.02	0.42
19:S:30:LEU:HA	19:S:30:LEU:HD12	1.86	0.42
1:A:1325:C:O2'	1:A:1326:U:H5'	2.18	0.42
1:A:976:G:C8	1:A:1358:U:C2	3.07	0.42
1:A:978:A:C6	1:A:1318:A:C6	3.08	0.42
2:B:159:ALA:O	2:B:160:LEU:CB	2.68	0.42
2:B:175:ALA:C	2:B:177:ASN:N	2.73	0.42
2:B:95:TRP:O	2:B:97:GLY:N	2.52	0.42
10:J:10:LEU:HB2	10:J:72:ARG:CB	2.41	0.42
1:A:406:G:C8	1:A:495:A:C4	3.07	0.42
11:K:125:LYS:CD	11:K:125:LYS:N	2.82	0.42
1:A:93:U:C2'	1:A:94:G:C5'	2.97	0.42
1:A:64:G:C8	1:A:99:C:C4	3.08	0.42
1:A:195:A:H1'	1:A:222:C:O2'	2.20	0.42
1:A:1367:C:N3	1:A:1368:A:C8	2.87	0.42
10:J:59:LYS:HD2	10:J:60:ASP:N	2.35	0.42
10:J:53:ILE:HB	10:J:62:ARG:N	2.33	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1114:C:O2	1:A:1115:U:C6	2.72	0.42
9:I:6:TYR:CE2	9:I:17:ARG:HB2	2.55	0.42
24:Y:140:VAL:O	24:Y:143:LEU:N	2.53	0.42
24:Y:59:THR:CG2	24:Y:60:VAL:N	2.81	0.42
8:H:36:ALA:O	8:H:45:ILE:HD11	2.20	0.42
3:C:152:VAL:CG2	3:C:156:LEU:CD2	2.96	0.42
1:A:164:G:N2	1:A:165:G:H1'	2.34	0.42
1:A:1255:G:H5''	1:A:1256:A:OP1	2.19	0.42
1:A:1416:G:C6	1:A:1417:G:C5	3.08	0.42
18:R:41:SER:N	18:R:51:GLN:NE2	2.66	0.42
15:O:24:THR:O	15:O:25:GLU:C	2.58	0.42
2:B:167:HIS:ND1	2:B:167:HIS:O	2.52	0.42
1:A:986:U:O2'	1:A:987:G:H5'	2.20	0.42
2:B:137:THR:O	2:B:141:GLU:HG3	2.19	0.42
10:J:44:THR:O	10:J:45:ARG:C	2.57	0.42
10:J:42:LEU:HB3	10:J:71:LEU:CB	2.49	0.42
11:K:52:ARG:N	11:K:55:ARG:CB	2.83	0.42
6:F:4:TYR:HA	6:F:90:MET:O	2.19	0.42
1:A:1160:G:HO2'	1:A:1161:C:P	2.43	0.42
10:J:28:THR:CG2	10:J:86:ALA:HB1	2.49	0.42
10:J:27:GLU:C	10:J:29:ALA:N	2.73	0.42
4:D:162:GLU:HA	4:D:166:LYS:HE2	2.00	0.42
1:A:511:C:N1	1:A:512:U:C5	2.87	0.42
5:E:131:ASN:HA	5:E:132:PRO:HD3	1.94	0.42
5:E:148:SER:O	5:E:152:VAL:CG1	2.67	0.42
22:V:59:U:H3'	22:V:60:U:C6	2.54	0.42
1:A:171:A:C6	1:A:172:A:C6	3.07	0.42
10:J:59:LYS:CE	10:J:59:LYS:H	2.29	0.42
1:A:1410:A:O2'	1:A:1411:C:H5'	2.20	0.42
3:C:28:PHE:C	3:C:28:PHE:HD2	2.23	0.42
1:A:1053:G:O5'	1:A:1054:C:H5'	2.19	0.42
13:M:78:ARG:O	13:M:81:ASP:HB2	2.19	0.42
1:A:540:G:C5	1:A:541:G:C8	3.08	0.42
1:A:721:G:O4'	1:A:722:G:C5	2.73	0.42
1:A:262:A:C6	1:A:263:A:C6	3.07	0.42
1:A:1008:U:N3	1:A:1022:A:C2	2.87	0.42
8:H:21:LYS:N	8:H:64:TYR:OH	2.52	0.42
7:G:69:ARG:O	7:G:137:ARG:HD3	2.20	0.42
1:A:293:G:C4	1:A:294:U:C5	3.08	0.42
5:E:108:GLY:HA2	5:E:111:ARG:HB2	2.01	0.42
17:Q:80:LYS:CD	17:Q:80:LYS:N	2.82	0.42
3:C:135:ARG:O	3:C:138:GLN:N	2.53	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1068:G:C2'	1:A:1069:C:H5'	2.50	0.42
11:K:23:HIS:O	11:K:23:HIS:CD2	2.73	0.42
12:L:37:TYR:CD2	12:L:37:TYR:N	2.87	0.42
24:Y:130:ARG:O	24:Y:133:ARG:HB2	2.19	0.42
1:A:1119:C:H2'	1:A:1120:C:C6	2.54	0.42
4:D:64:TYR:HE2	4:D:99:ASN:OD1	2.02	0.42
1:A:1141:C:O2'	1:A:1142:G:P	2.78	0.42
1:A:673:A:H5''	6:F:86:ARG:NH1	2.35	0.42
1:A:980:C:H5	1:A:981:U:C4	2.37	0.42
2:B:174:GLU:O	2:B:177:ASN:HB3	2.19	0.42
2:B:216:VAL:O	2:B:219:THR:CG2	2.63	0.42
1:A:258:G:C2	1:A:259:G:C1'	3.01	0.42
11:K:52:ARG:CZ	11:K:56:LYS:HE2	2.50	0.42
8:H:100:ILE:HD11	8:H:128:VAL:CB	2.49	0.42
8:H:100:ILE:HD12	8:H:100:ILE:C	2.40	0.42
13:M:53:ASP:O	13:M:56:ARG:CB	2.68	0.42
12:L:27:PRO:O	12:L:28:GLN:HB3	2.20	0.42
1:A:502:A:OP1	12:L:114:SER:HB3	2.20	0.42
5:E:82:HIS:HE1	5:E:146:MET:CG	2.33	0.42
1:A:66:A:C6	1:A:67:C:C5	3.08	0.42
1:A:71:A:H3'	1:A:71:A:P	2.60	0.42
1:A:208:U:O4	1:A:210:C:N3	2.53	0.42
16:P:70:ARG:HD3	16:P:70:ARG:HA	1.79	0.42
2:B:46:VAL:HB	2:B:47:PRO:CD	2.42	0.42
8:H:2:MET:O	8:H:5:PRO:HD3	2.19	0.42
1:A:1062:U:H5''	1:A:1063:C:OP1	2.20	0.42
10:J:56:HIS:C	10:J:57:VAL:HG12	2.40	0.42
15:O:86:LEU:O	15:O:87:ARG:CB	2.68	0.42
21:U:9:GLU:CD	21:U:10:PRO:HG3	2.40	0.42
14:N:43:ASN:C	14:N:45:VAL:N	2.73	0.42
1:A:1179:A:O3'	9:I:104:THR:HG23	2.19	0.42
24:Y:144:LEU:O	24:Y:147:LYS:HA	2.20	0.42
7:G:39:GLU:C	7:G:41:ILE:N	2.71	0.42
1:A:113:G:C1'	1:A:354:G:H5'	2.50	0.42
1:A:807:A:H2'	1:A:808:C:O4'	2.19	0.42
3:C:125:ARG:O	3:C:126:ARG:CB	2.66	0.42
1:A:646:G:C5	1:A:647:C:C5	3.08	0.42
13:M:106:ARG:HA	13:M:106:ARG:HD3	1.77	0.42
1:A:1164:G:C2	1:A:1165:U:C6	3.08	0.42
24:Y:132:VAL:HA	24:Y:135:ASP:OD2	2.20	0.42
22:V:45:U:O2	22:V:45:U:H2'	2.18	0.42
3:C:134:LYS:O	3:C:135:ARG:C	2.57	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:106:ILE:HD13	11:K:106:ILE:C	2.40	0.42
17:Q:27:PHE:CE1	17:Q:36:PHE:HB3	2.54	0.42
1:A:617:G:N1	1:A:618:C:C4	2.88	0.42
24:Y:162:GLN:NE2	24:Y:162:GLN:HA	2.33	0.42
1:A:1214:C:H4'	1:A:1215:G:OP2	2.19	0.42
2:B:93:HIS:ND1	2:B:145:ASN:CB	2.83	0.42
2:B:177:ASN:OD1	2:B:178:LEU:HD23	2.19	0.42
2:B:52:ALA:HB3	2:B:212:TYR:OH	2.19	0.42
1:A:1446:A:H2'	1:A:1447:A:C5'	2.49	0.42
12:L:56:LEU:HD23	12:L:56:LEU:HA	1.87	0.42
12:L:81:ILE:HA	12:L:97:VAL:HG23	2.02	0.42
3:C:16:PRO:CG	3:C:53:ARG:NH2	2.83	0.42
4:D:121:ALA:O	4:D:122:ILE:HG23	2.20	0.42
1:A:885:G:O2'	1:A:914:A:N1	2.27	0.42
5:E:104:ILE:HD12	5:E:104:ILE:HA	1.79	0.42
20:T:56:ILE:HD12	20:T:56:ILE:O	2.20	0.42
9:I:119:LYS:O	9:I:120:ALA:CB	2.68	0.42
17:Q:47:ASP:O	17:Q:47:ASP:CG	2.57	0.42
17:Q:48:GLU:O	17:Q:49:ASN:C	2.58	0.42
16:P:19:VAL:O	16:P:19:VAL:CG2	2.67	0.42
14:N:27:LYS:CA	14:N:30:ILE:HB	2.50	0.42
16:P:39:PHE:CD1	16:P:40:ASN:N	2.87	0.42
1:A:100:G:C5	1:A:101:A:C8	3.07	0.42
1:A:1038:C:C2	1:A:1039:G:C8	3.08	0.42
5:E:66:ALA:O	5:E:67:ARG:C	2.58	0.42
5:E:64:GLU:OE2	5:E:68:ARG:CZ	2.68	0.42
3:C:122:GLN:O	3:C:125:ARG:HB2	2.20	0.42
4:D:193:ASP:O	4:D:194:ILE:HG22	2.20	0.42
16:P:4:ILE:HA	16:P:20:VAL:O	2.20	0.42
12:L:35:ARG:NH2	24:Y:110:ARG:HD2	2.35	0.42
1:A:304:U:C2'	1:A:305:G:H5'	2.49	0.42
1:A:538:G:OP2	12:L:111:GLN:HG3	2.19	0.42
1:A:859:G:H2'	1:A:860:A:H8	1.83	0.42
4:D:109:THR:OG1	4:D:111:ALA:HB3	2.20	0.42
10:J:72:ARG:HA	10:J:72:ARG:HD3	1.94	0.42
8:H:85:TYR:CD2	8:H:123:GLU:HA	2.48	0.42
1:A:1446:A:C2'	1:A:1447:A:C5'	2.97	0.42
4:D:151:GLN:O	4:D:154:VAL:HG12	2.19	0.42
4:D:106:PHE:HD1	4:D:158:LEU:CD2	2.32	0.42
1:A:96:U:O2'	1:A:97:G:P	2.77	0.42
1:A:386:C:H2'	1:A:387:U:C5'	2.50	0.42
1:A:451:A:C2	1:A:480:U:N3	2.88	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:28:PHE:CE2	3:C:32:LEU:HD23	2.55	0.42
3:C:51:VAL:CG2	3:C:67:ILE:CG2	2.98	0.42
1:A:108:G:N7	20:T:9:ARG:HG2	2.34	0.42
1:A:490:C:C2	1:A:491:G:C8	3.08	0.42
1:A:1394:A:C5	1:A:1501:C:H4'	2.54	0.42
1:A:613:C:C2	1:A:628:G:N2	2.87	0.42
1:A:1178:G:C8	1:A:1178:G:H3'	2.55	0.42
14:N:25:GLU:O	14:N:28:ALA:HB3	2.20	0.42
7:G:91:ARG:HB2	7:G:94:ARG:HG2	2.02	0.42
9:I:89:TYR:HB3	9:I:93:LEU:HD21	2.01	0.42
6:F:51:ILE:HG13	6:F:52:ASN:HB2	2.02	0.42
1:A:1066:C:H3'	1:A:1067:A:C8	2.55	0.42
1:A:233:C:N3	1:A:234:C:C5	2.87	0.42
1:A:1345:U:C4	1:A:1377:A:C2	3.08	0.42
1:A:1405:G:O4'	1:A:1519:A:H4'	2.20	0.42
1:A:508:U:H1'	1:A:509:A:N7	2.35	0.42
1:A:585:G:C6	1:A:586:C:C4	3.08	0.42
1:A:1001:C:H3'	1:A:1001:C:H6	1.85	0.42
2:B:31:PHE:O	2:B:31:PHE:CD2	2.73	0.42
8:H:102:VAL:HG21	8:H:126:CYS:SG	2.60	0.42
11:K:92:ARG:NH2	21:U:19:LYS:HG3	2.35	0.41
1:A:957:U:C2	1:A:959:A:OP2	2.73	0.41
2:B:68:PHE:CE2	2:B:88:GLN:CB	3.03	0.41
2:B:67:LEU:HA	2:B:89:PHE:O	2.19	0.41
17:Q:60:ILE:HG23	17:Q:72:TRP:CE3	2.55	0.41
10:J:71:LEU:O	10:J:72:ARG:NE	2.53	0.41
11:K:88:PRO:HB3	21:U:28:LEU:HD13	2.00	0.41
11:K:63:GLN:O	11:K:64:VAL:C	2.58	0.41
13:M:22:TYR:CE2	13:M:68:LEU:HD23	2.54	0.41
1:A:430:A:OP2	4:D:7:LYS:CG	2.68	0.41
4:D:24:VAL:HG12	4:D:25:ARG:H	1.83	0.41
20:T:34:VAL:HG11	20:T:78:LEU:HD13	2.02	0.41
1:A:386:C:H2'	1:A:387:U:H5'	2.00	0.41
10:J:51:VAL:HB	14:N:81:ARG:HB2	2.02	0.41
4:D:61:ARG:NH2	4:D:67:LEU:HD13	2.35	0.41
1:A:489:C:H2'	1:A:490:C:O5'	2.18	0.41
19:S:44:ILE:HG23	19:S:62:THR:HA	2.03	0.41
10:J:5:ARG:CG	10:J:79:PRO:HG3	2.49	0.41
1:A:282:A:H5''	1:A:283:U:OP2	2.20	0.41
7:G:70:PRO:O	7:G:95:ARG:CD	2.68	0.41
13:M:2:ARG:C	13:M:3:ILE:HD13	2.40	0.41
11:K:13:LYS:HB3	11:K:14:GLN:H	1.63	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:P:20:VAL:HG11	16:P:32:PHE:HB3	2.02	0.41
6:F:47:LEU:HD13	6:F:51:ILE:CG2	2.49	0.41
2:B:72:LYS:HE3	2:B:204:ASP:HB2	2.02	0.41
1:A:299:G:C2'	1:A:300:A:O5'	2.68	0.41
1:A:1097:C:H2'	1:A:1098:C:C6	2.54	0.41
1:A:1165:U:H2'	1:A:1166:G:H5'	2.02	0.41
1:A:527:G:O2'	1:A:535:A:N1	2.52	0.41
24:Y:6:ILE:HG12	24:Y:139:LYS:HD3	2.02	0.41
1:A:289:G:H5''	1:A:289:G:H8	1.85	0.41
1:A:1134:G:C6	1:A:1141:C:N4	2.89	0.41
1:A:255:G:H2'	1:A:256:U:O4'	2.21	0.41
1:A:1130:A:C1'	1:A:1146:A:C2	3.02	0.41
2:B:12:GLY:HA3	2:B:207:ARG:HH22	1.85	0.41
11:K:41:LEU:HB2	11:K:73:VAL:HG12	2.01	0.41
1:A:623:C:N3	1:A:624:C:C5	2.88	0.41
4:D:115:GLN:CA	4:D:115:GLN:HE21	2.33	0.41
4:D:120:LYS:HA	4:D:122:ILE:CD1	2.50	0.41
4:D:159:GLU:OE1	4:D:160:LEU:HD13	2.19	0.41
4:D:57:LYS:CB	4:D:199:ILE:CG2	2.95	0.41
4:D:53:GLN:O	4:D:202:LEU:HD13	2.20	0.41
5:E:130:THR:O	5:E:131:ASN:C	2.58	0.41
5:E:110:MET:HE3	5:E:139:THR:HG21	2.02	0.41
5:E:81:GLN:HB2	5:E:146:MET:HE2	2.02	0.41
1:A:73:C:HO2'	1:A:74:A:H5''	1.85	0.41
1:A:96:U:C2	1:A:97:G:C8	3.08	0.41
1:A:948:C:C5	13:M:104:ASN:OD1	2.73	0.41
19:S:39:ILE:HB	19:S:65:MET:O	2.19	0.41
24:Y:140:VAL:C	24:Y:142:ALA:N	2.73	0.41
9:I:33:SER:HB3	9:I:36:GLN:CB	2.50	0.41
9:I:33:SER:HB3	9:I:36:GLN:HB2	2.02	0.41
1:A:865:A:H5'	1:A:1078:U:O4	2.19	0.41
1:A:1246:A:C6	1:A:1292:G:C6	3.07	0.41
5:E:37:VAL:HG23	5:E:47:PHE:HB3	2.01	0.41
5:E:20:VAL:HG22	5:E:20:VAL:O	2.19	0.41
1:A:1094:G:O2'	26:A:1863:HOH:O	2.14	0.41
18:R:51:GLN:O	18:R:51:GLN:HG3	2.20	0.41
19:S:79:TYR:C	19:S:79:TYR:CD2	2.93	0.41
2:B:110:ILE:O	2:B:113:LEU:N	2.53	0.41
2:B:129:THR:CG2	2:B:131:LYS:HB3	2.50	0.41
1:A:1131:G:H22	1:A:1144:G:H4'	1.85	0.41
10:J:41:PRO:O	10:J:42:LEU:CB	2.68	0.41
11:K:41:LEU:CB	11:K:73:VAL:HG12	2.50	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:33:GLY:O	10:J:34:ALA:CB	2.68	0.41
4:D:8:LEU:C	4:D:10:LEU:N	2.74	0.41
4:D:8:LEU:HD22	4:D:21:LYS:HB2	2.02	0.41
12:L:116:TYR:CD1	12:L:116:TYR:N	2.87	0.41
1:A:22:G:C5	1:A:23:C:C4	3.08	0.41
1:A:375:U:OP1	16:P:70:ARG:NH1	2.53	0.41
1:A:1233:G:H2'	1:A:1234:C:H6	1.85	0.41
9:I:48:ARG:C	9:I:50:PRO:HD2	2.40	0.41
2:B:14:HIS:CD2	2:B:15:PHE:N	2.87	0.41
9:I:20:ILE:HG22	9:I:21:LYS:N	2.35	0.41
9:I:24:ASN:O	9:I:60:LEU:C	2.58	0.41
6:F:18:VAL:HG21	6:F:58:HIS:CE1	2.55	0.41
1:A:243:A:N1	1:A:246:A:C8	2.89	0.41
1:A:267:C:OP1	17:Q:68:LYS:HB2	2.20	0.41
5:E:31:SER:C	5:E:32:PHE:CD2	2.94	0.41
9:I:16:ALA:HB2	9:I:66:VAL:CG2	2.50	0.41
1:A:416:G:C2'	1:A:417:G:H5'	2.50	0.41
1:A:190:A:H3'	1:A:190:A:H8	1.85	0.41
3:C:163:ARG:O	3:C:164:THR:HG23	2.20	0.41
7:G:75:LYS:HB3	7:G:88:VAL:HG11	2.01	0.41
15:O:44:GLU:O	15:O:45:HIS:HB2	2.19	0.41
1:A:1092:A:N6	1:A:1093:A:N6	2.68	0.41
17:Q:43:LEU:HD23	17:Q:43:LEU:HA	1.82	0.41
7:G:108:ARG:HE	7:G:108:ARG:HA	1.84	0.41
1:A:1137:C:H1'	1:A:1138:G:N2	2.35	0.41
1:A:1253:G:O2'	1:A:1356:G:H4'	2.20	0.41
1:A:956:U:C2	1:A:1225:A:C2	3.08	0.41
14:N:64:CYS:HB2	14:N:80:SER:H	1.85	0.41
2:B:142:LYS:C	2:B:144:GLU:N	2.74	0.41
1:A:273:U:O4	1:A:274:A:N6	2.53	0.41
11:K:52:ARG:H	11:K:55:ARG:HG3	1.86	0.41
13:M:52:ILE:CG2	13:M:56:ARG:NH2	2.84	0.41
3:C:112:ALA:O	3:C:113:LYS:C	2.57	0.41
3:C:199:VAL:O	3:C:199:VAL:CG2	2.65	0.41
1:A:456:A:C2	1:A:477:C:O2	2.73	0.41
21:U:33:ARG:NE	21:U:34:ARG:HB2	2.34	0.41
21:U:43:GLU:HB3	21:U:44:ARG:NH1	2.35	0.41
5:E:122:VAL:O	5:E:122:VAL:HG23	2.20	0.41
1:A:481:G:C5'	1:A:481:G:C8	2.97	0.41
1:A:1309:G:C2	1:A:1329:A:C4	3.09	0.41
9:I:29:ILE:CG2	9:I:34:LEU:HD12	2.49	0.41
9:I:30:ASN:HB2	9:I:37:TYR:CE1	2.56	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:43:ALA:O	9:I:46:VAL:HG22	2.19	0.41
9:I:48:ARG:NH2	9:I:52:GLU:HA	2.35	0.41
3:C:41:TYR:CZ	3:C:45:GLU:HG3	2.55	0.41
1:A:380:G:C2	1:A:384:G:C6	3.07	0.41
1:A:382:A:N1	1:A:383:A:C6	2.88	0.41
1:A:199:A:C2	1:A:200:G:C8	3.09	0.41
1:A:1480:A:C6	1:A:1481:U:C4	3.08	0.41
1:A:1294:G:C4	1:A:1295:U:C5	3.08	0.41
8:H:20:ASN:HA	8:H:64:TYR:OH	2.20	0.41
7:G:68:VAL:HA	7:G:137:ARG:NE	2.35	0.41
1:A:87:C:H2'	1:A:88:U:C4'	2.50	0.41
1:A:696:A:H2'	1:A:697:U:C6	2.55	0.41
22:V:10:G:H2'	22:V:11:C:C6	2.55	0.41
1:A:1072:G:C5	1:A:1073:U:C4	3.08	0.41
1:A:730:G:N2	1:A:765:G:H5''	2.35	0.41
1:A:962:C:H2'	1:A:963:G:O4'	2.21	0.41
1:A:1317:C:C2'	1:A:1318:A:O5'	2.68	0.41
1:A:1325:C:C2'	1:A:1326:U:H5'	2.50	0.41
1:A:958:A:C5	19:S:54:ARG:HG2	2.55	0.41
2:B:122:ASP:O	2:B:123:GLY:C	2.59	0.41
17:Q:62:GLU:HB2	17:Q:72:TRP:CZ3	2.55	0.41
17:Q:78:VAL:O	17:Q:79:GLU:HB2	2.21	0.41
1:A:1160:G:C6	1:A:1181:G:O6	2.74	0.41
1:A:410:G:C5'	1:A:411:A:P	3.08	0.41
1:A:503:C:OP2	12:L:112:ALA:HB2	2.20	0.41
1:A:1300:G:C4	1:A:1334:G:O6	2.73	0.41
1:A:1186:G:C2'	1:A:1187:G:O5'	2.69	0.41
1:A:131:A:C2	1:A:132:C:C4	3.08	0.41
1:A:1451:U:H3'	1:A:1452:C:H6	1.86	0.41
24:Y:40:GLY:O	24:Y:41:ILE:C	2.57	0.41
1:A:542:G:H2'	1:A:543:U:C6	2.53	0.41
7:G:94:ARG:O	7:G:97:ALA:N	2.54	0.41
1:A:704:A:C2	1:A:705:G:H1'	2.56	0.41
3:C:156:LEU:C	3:C:158:GLY:H	2.24	0.41
24:Y:114:LEU:HD12	24:Y:114:LEU:N	2.36	0.41
24:Y:114:LEU:O	24:Y:117:ILE:HB	2.20	0.41
1:A:164:G:H2'	1:A:165:G:C5'	2.49	0.41
1:A:1068:G:O2'	1:A:1069:C:H5'	2.21	0.41
8:H:88:LYS:HA	8:H:91:LEU:HG	2.01	0.41
1:A:1495:U:O2	1:A:1495:U:H2'	2.20	0.41
2:B:115:ASP:O	2:B:116:LEU:CB	2.69	0.41
2:B:135:MET:C	2:B:138:ARG:HG2	2.41	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:140:LEU:O	2:B:144:GLU:HB2	2.20	0.41
2:B:110:ILE:HG12	2:B:150:ILE:HG12	2.00	0.41
2:B:56:LEU:HD13	2:B:57:ASN:H	1.85	0.41
2:B:96:LEU:N	2:B:99:MET:CE	2.84	0.41
1:A:1277:C:C1'	1:A:1282:C:H1'	2.51	0.41
1:A:597:G:N7	1:A:598:U:C5	2.88	0.41
15:O:23:SER:O	15:O:27:GLN:HG3	2.19	0.41
10:J:80:THR:HB	10:J:83:THR:H	1.85	0.41
16:P:16:PHE:C	16:P:16:PHE:HD1	2.23	0.41
4:D:164:ARG:C	4:D:166:LYS:H	2.24	0.41
5:E:113:VAL:O	5:E:114:LEU:C	2.58	0.41
5:E:72:ASN:HD22	5:E:72:ASN:N	2.13	0.41
1:A:79:G:N2	1:A:91:U:O4	2.54	0.41
16:P:75:ILE:HA	16:P:78:VAL:HG12	2.03	0.41
1:A:1306:A:C4	1:A:1307:U:C6	3.08	0.41
1:A:1346:A:C5'	9:I:121:ARG:HH12	2.33	0.41
9:I:50:PRO:HB3	9:I:83:THR:CG2	2.50	0.41
3:C:23:ALA:CB	3:C:28:PHE:HA	2.51	0.41
9:I:56:MET:HA	9:I:59:LYS:HB3	2.01	0.41
3:C:51:VAL:CG2	3:C:67:ILE:HG22	2.51	0.41
4:D:131:ILE:CD1	4:D:134:TYR:HB2	2.51	0.41
21:U:9:GLU:CD	21:U:10:PRO:CD	2.82	0.41
6:F:24:ARG:CG	6:F:24:ARG:HH11	2.32	0.41
13:M:10:ASP:O	13:M:11:HIS:CB	2.68	0.41
1:A:201:G:H2'	1:A:202:G:O4'	2.21	0.41
9:I:28:VAL:CG1	9:I:31:GLN:HA	2.51	0.41
1:A:1066:C:H5''	1:A:1067:A:OP2	2.19	0.41
1:A:794:A:C5	1:A:795:C:C4	3.08	0.41
24:Y:56:ALA:HB2	24:Y:70:VAL:HA	2.02	0.41
1:A:826:C:H2'	1:A:826:C:O2	2.20	0.41
24:Y:61:GLU:O	24:Y:62:ASP:HB3	2.20	0.41
1:A:1093:A:N3	1:A:1109:C:O2'	2.33	0.41
1:A:728:A:C6	1:A:729:A:C6	3.09	0.41
1:A:1310:G:C2	1:A:1328:C:O2	2.74	0.41
1:A:977:A:C2'	1:A:978:A:H5''	2.51	0.41
1:A:990:C:O2'	1:A:991:U:H5'	2.21	0.41
1:A:693:G:C6	1:A:694:A:C6	3.09	0.41
3:C:13:ILE:O	3:C:15:LYS:N	2.54	0.41
3:C:13:ILE:C	3:C:15:LYS:H	2.24	0.41
3:C:6:PRO:O	3:C:9:ILE:HG22	2.21	0.41
3:C:142:ARG:NH1	3:C:142:ARG:HG3	2.36	0.41
3:C:140:ALA:O	3:C:145:ALA:CB	2.68	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:435:A:N6	1:A:436:C:C4	2.88	0.41
1:A:439:U:H4'	4:D:120:LYS:HE3	2.03	0.41
4:D:156:ALA:C	4:D:159:GLU:HB3	2.41	0.41
1:A:1526:G:H2'	1:A:1527:U:C6	2.55	0.41
2:B:50:ASN:O	2:B:51:GLU:CB	2.62	0.41
1:A:1239:A:N3	1:A:1241:G:C6	2.89	0.41
1:A:1063:C:H3'	1:A:1064:G:H2'	2.02	0.41
11:K:93:GLU:O	11:K:94:SER:C	2.57	0.41
14:N:26:LEU:O	14:N:27:LYS:CB	2.65	0.41
3:C:39:ARG:O	3:C:41:TYR:N	2.53	0.41
1:A:104:G:C2	1:A:105:G:C5	3.09	0.41
1:A:806:C:O2	1:A:806:C:H2'	2.20	0.41
20:T:68:LYS:HB2	20:T:68:LYS:NZ	2.36	0.41
18:R:24:ASP:C	18:R:26:ALA:N	2.72	0.41
1:A:52:C:H2'	1:A:53:A:C8	2.55	0.41
4:D:42:ALA:O	4:D:43:ARG:C	2.59	0.41
1:A:1377:A:C2	7:G:6:ILE:CD1	3.03	0.41
1:A:585:G:C5	1:A:586:C:C5	3.09	0.41
22:V:2:C:H2'	22:V:3:C:C6	2.55	0.41
13:M:51:GLN:O	13:M:54:THR:HG23	2.21	0.41
1:A:1210:C:C4'	1:A:1214:C:H5	2.33	0.41
20:T:57:VAL:CG1	20:T:71:ALA:CB	2.99	0.41
1:A:1152:A:N6	1:A:1153:G:C6	2.88	0.41
1:A:1277:C:C2'	1:A:1279:G:H8	2.33	0.41
10:J:19:ASP:HA	10:J:22:THR:HB	2.03	0.41
11:K:52:ARG:O	11:K:55:ARG:CB	2.69	0.41
11:K:69:CYS:O	11:K:70:ALA:C	2.59	0.41
15:O:23:SER:HB3	15:O:26:VAL:HG21	2.03	0.41
10:J:27:GLU:HA	10:J:30:LYS:CD	2.51	0.41
8:H:28:SER:HB3	8:H:56:PRO:CB	2.50	0.41
1:A:1033:G:C2	1:A:1034:G:C8	3.09	0.41
4:D:149:LYS:HE2	4:D:176:LYS:O	2.20	0.41
22:V:48:C:H2'	22:V:59:U:C4'	2.51	0.41
1:A:642:A:C5	1:A:643:C:C4	3.08	0.41
9:I:118:ARG:O	9:I:119:LYS:CB	2.69	0.41
14:N:88:ALA:CA	14:N:93:ILE:HD12	2.50	0.41
10:J:65:TYR:CE2	14:N:98:LYS:HG2	2.56	0.41
1:A:1113:C:C2	1:A:1114:C:C5	3.09	0.41
9:I:49:GLN:CB	9:I:50:PRO:CD	2.98	0.41
9:I:79:ARG:O	9:I:83:THR:HG23	2.20	0.41
3:C:23:ALA:HB2	3:C:31:ASN:HD22	1.85	0.41
9:I:24:ASN:HB2	9:I:61:ASP:OD2	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:43:ASN:C	14:N:45:VAL:HG22	2.41	0.41
1:A:1505:G:H4'	1:A:1506:U:O5'	2.21	0.41
14:N:13:VAL:HA	14:N:16:ALA:CB	2.50	0.41
1:A:792:A:H4'	1:A:793:U:C5'	2.50	0.41
1:A:184:G:O4'	1:A:224:U:H4'	2.21	0.41
1:A:293:G:C4	1:A:294:U:C6	3.08	0.41
16:P:46:LYS:HD3	16:P:47:GLU:N	2.35	0.41
16:P:12:LYS:C	16:P:14:ARG:H	2.24	0.41
19:S:19:GLU:OE2	19:S:19:GLU:HA	2.21	0.41
2:B:27:LYS:HB2	2:B:27:LYS:HE3	1.94	0.41
1:A:1347:G:C8	9:I:108:ARG:HB2	2.56	0.41
1:A:581:G:O5'	1:A:581:G:H8	2.04	0.41
1:A:1317:C:C4	14:N:53:ARG:HD2	2.56	0.41
1:A:1322:C:P	19:S:77:ARG:NH2	2.94	0.41
2:B:68:PHE:HE2	2:B:88:GLN:HB3	1.86	0.41
2:B:218:ALA:HB1	2:B:221:ARG:HH21	1.85	0.41
1:A:274:A:H5'	17:Q:15:LYS:HE3	2.03	0.41
17:Q:21:VAL:C	17:Q:22:VAL:CG2	2.89	0.41
17:Q:16:MET:CG	17:Q:19:SER:HB3	2.50	0.41
10:J:17:LEU:N	10:J:20:GLN:HG3	2.35	0.41
1:A:176:C:O4'	1:A:1447:A:C2	2.74	0.41
1:A:179:A:C2'	1:A:180:U:H5'	2.51	0.41
13:M:35:ALA:CB	13:M:58:GLU:OE1	2.69	0.41
13:M:65:GLU:HA	13:M:65:GLU:OE1	2.19	0.41
13:M:22:TYR:CE2	13:M:69:ARG:HG2	2.55	0.41
1:A:1031:C:C3'	1:A:1032:G:H5''	2.50	0.41
3:C:120:THR:CG2	3:C:121:SER:N	2.80	0.41
1:A:436:C:H4'	4:D:152:SER:HB2	2.00	0.41
4:D:173:ASP:HB3	4:D:176:LYS:HB2	2.03	0.41
1:A:439:U:C6	4:D:119:HIS:CD2	3.09	0.41
4:D:151:GLN:O	4:D:152:SER:O	2.39	0.41
11:K:124:LYS:HE3	21:U:34:ARG:CZ	2.50	0.41
21:U:43:GLU:OE2	21:U:44:ARG:NH1	2.54	0.41
11:K:126:ARG:N	21:U:33:ARG:NH1	2.68	0.41
5:E:131:ASN:ND2	5:E:133:ILE:HG22	2.35	0.41
5:E:104:ILE:CD1	5:E:122:VAL:CG2	2.98	0.41
5:E:143:LEU:O	5:E:144:GLU:C	2.59	0.41
1:A:66:A:C2	1:A:67:C:N1	2.89	0.41
1:A:91:U:C5	1:A:92:U:C6	3.09	0.41
1:A:68:G:C6	1:A:69:G:H1'	2.55	0.41
14:N:35:ALA:HB2	14:N:41:ARG:NE	2.36	0.41
1:A:207:C:H2'	1:A:208:U:O2	2.19	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:643:C:H5'	8:H:31:LEU:CD2	2.51	0.41
22:V:41:C:H2'	22:V:42:C:C6	2.56	0.41
9:I:116:GLY:O	9:I:124:PRO:CG	2.69	0.41
1:A:1202:U:N3	14:N:82:ILE:HG21	2.35	0.41
9:I:30:ASN:C	9:I:32:ARG:N	2.73	0.41
9:I:53:LEU:H	9:I:53:LEU:HD12	1.85	0.41
15:O:63:ARG:HA	15:O:63:ARG:HD2	1.89	0.41
21:U:11:PHE:C	21:U:12:ASP:OD2	2.58	0.41
3:C:57:GLU:O	3:C:63:ILE:HA	2.20	0.41
19:S:12:LEU:C	19:S:14:LEU:N	2.72	0.41
3:C:43:THR:O	3:C:47:ALA:HA	2.21	0.41
3:C:87:ARG:HG3	3:C:100:ILE:CG2	2.51	0.41
1:A:116:A:OP2	1:A:116:A:C8	2.73	0.41
13:M:80:MET:CA	13:M:91:ARG:HH22	2.34	0.41
1:A:588:G:C4	1:A:753:A:C2	3.09	0.41
24:Y:9:ASP:CB	24:Y:13:ARG:NH2	2.81	0.41
24:Y:144:LEU:C	24:Y:145:LYS:O	2.58	0.41
14:N:25:GLU:CB	14:N:28:ALA:HB2	2.49	0.41
7:G:102:TRP:CH2	7:G:140:VAL:HG21	2.56	0.41
1:A:847:G:C6	1:A:848:C:C4	3.08	0.41
1:A:637:C:N3	1:A:638:U:C5	2.89	0.41
20:T:67:HIS:C	20:T:68:LYS:HG3	2.42	0.41
18:R:54:LEU:HD13	18:R:54:LEU:O	2.21	0.41
1:A:864:A:H2'	1:A:865:A:C8	2.56	0.41
1:A:993:G:C2'	1:A:993:G:N3	2.82	0.41
1:A:725:G:H2'	1:A:726:C:H5'	2.02	0.41
3:C:156:LEU:CD1	3:C:163:ARG:CB	2.99	0.41
20:T:4:LYS:HE2	20:T:4:LYS:HA	2.03	0.41
4:D:68:GLU:O	4:D:72:ARG:HG2	2.21	0.41
13:M:105:ALA:O	13:M:106:ARG:C	2.59	0.41
1:A:882:C:O2'	1:A:883:C:H5'	2.20	0.41
12:L:100:ALA:O	12:L:101:LEU:C	2.58	0.41
11:K:110:THR:HG23	21:U:4:LYS:CA	2.51	0.41
20:T:14:GLU:C	20:T:16:ALA:N	2.75	0.41
1:A:237:G:H2'	1:A:238:A:H8	1.86	0.41
20:T:47:GLN:NE2	20:T:47:GLN:C	2.74	0.41
20:T:47:GLN:NE2	20:T:47:GLN:CA	2.84	0.41
1:A:75:G:H5'	1:A:76:G:P	2.61	0.41
1:A:168:G:H8	1:A:168:G:C5'	2.34	0.41
1:A:1432:G:HO2'	1:A:1433:A:P	2.43	0.41
1:A:1349:A:C2	1:A:1350:A:H1'	2.56	0.41
21:U:31:VAL:CG1	21:U:31:VAL:O	2.69	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:65:LYS:CB	2:B:158:ASP:OD2	2.66	0.41
13:M:52:ILE:O	13:M:55:LEU:HB2	2.21	0.41
3:C:199:VAL:O	3:C:199:VAL:HG22	2.21	0.41
1:A:1526:G:P	21:U:38:GLU:HB3	2.61	0.41
8:H:98:LEU:H	8:H:98:LEU:HD23	1.82	0.41
22:V:16:U:H2'	22:V:17:C:H5'	2.03	0.41
22:V:18:G:C4	22:V:58:A:N1	2.89	0.41
1:A:66:A:N1	1:A:67:C:C6	2.89	0.41
20:T:56:ILE:CD1	20:T:60:GLN:HG2	2.51	0.41
16:P:80:LYS:HE3	16:P:80:LYS:CA	2.43	0.41
1:A:1197:A:OP1	1:A:1198:G:OP2	2.38	0.41
14:N:85:ARG:O	14:N:86:GLU:C	2.60	0.41
2:B:187:ASP:HB2	2:B:203:ASP:OD1	2.21	0.41
3:C:35:ASP:C	3:C:37:LYS:H	2.24	0.41
1:A:246:A:C4	1:A:279:A:N6	2.89	0.41
7:G:72:VAL:O	7:G:140:VAL:HG12	2.21	0.41
7:G:61:PHE:HD2	7:G:123:LEU:HD11	1.86	0.41
1:A:112:G:H2'	1:A:113:G:H5'	2.02	0.41
18:R:24:ASP:O	18:R:26:ALA:N	2.53	0.41
8:H:17:GLN:CD	8:H:69:ALA:HB1	2.41	0.41
7:G:4:ARG:O	7:G:5:VAL:C	2.59	0.41
1:A:1013:G:H8	1:A:1013:G:O5'	2.04	0.41
1:A:322:C:C2	1:A:332:G:N2	2.89	0.41
1:A:524:G:H2'	1:A:525:C:C6	2.56	0.41
5:E:22:LYS:HB3	5:E:29:ILE:CG2	2.51	0.41
1:A:75:G:H2'	1:A:75:G:N3	2.35	0.41
1:A:1421:G:C6	1:A:1422:G:N7	2.89	0.41
1:A:264:C:O2	17:Q:65:PRO:HG2	2.21	0.41
1:A:392:C:H2'	1:A:393:A:C8	2.56	0.41
1:A:977:A:N3	1:A:977:A:H3'	2.37	0.40
14:N:53:ARG:HG2	14:N:53:ARG:HH11	1.86	0.40
19:S:54:ARG:HH21	19:S:55:GLN:CB	2.34	0.40
2:B:131:LYS:O	2:B:132:GLU:C	2.60	0.40
20:T:71:ALA:O	20:T:72:ALA:C	2.59	0.40
17:Q:57:VAL:C	17:Q:58:VAL:CG1	2.89	0.40
2:B:206:ILE:HD13	2:B:206:ILE:N	2.36	0.40
2:B:211:LEU:C	2:B:213:LEU:H	2.25	0.40
12:L:27:PRO:HG2	12:L:28:GLN:OE1	2.21	0.40
1:A:1035:A:C8	1:A:1035:A:OP2	2.74	0.40
1:A:495:A:H4'	1:A:496:A:O4'	2.20	0.40
5:E:131:ASN:O	5:E:135:VAL:HG12	2.22	0.40
5:E:150:GLU:C	5:E:152:VAL:H	2.25	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1236:A:O2'	1:A:1304:G:H4'	2.21	0.40
24:Y:75:MET:O	24:Y:76:SER:C	2.59	0.40
9:I:102:PHE:CD1	9:I:102:PHE:N	2.87	0.40
1:A:1492:A:C8	1:A:1492:A:OP2	2.74	0.40
17:Q:47:ASP:HB2	17:Q:74:LEU:HD21	2.02	0.40
9:I:20:ILE:CD1	9:I:85:ALA:CB	2.99	0.40
1:A:1394:A:N6	1:A:1501:C:H5'	2.36	0.40
12:L:93:ARG:C	12:L:94:TYR:CG	2.95	0.40
1:A:840:C:O5'	1:A:840:C:H6	2.04	0.40
1:A:840:C:N3	1:A:846:G:O6	2.54	0.40
1:A:614:C:C4	1:A:615:G:N7	2.89	0.40
9:I:19:PHE:O	9:I:62:LEU:HA	2.21	0.40
4:D:141:VAL:HG23	4:D:141:VAL:O	2.20	0.40
1:A:749:A:C6	1:A:750:C:C4	3.09	0.40
4:D:147:LYS:N	4:D:147:LYS:HD3	2.33	0.40
6:F:45:ARG:HB3	6:F:59:TYR:CD1	2.55	0.40
1:A:755:G:H2'	1:A:756:C:H6	1.87	0.40
21:U:8:ASN:OD1	21:U:8:ASN:N	2.53	0.40
11:K:111:ASP:CG	11:K:113:THR:HG23	2.42	0.40
1:A:1216:A:C4	1:A:1217:C:H5	2.36	0.40
1:A:1216:A:C6	1:A:1217:C:C4	3.09	0.40
1:A:1312:G:C2	1:A:1326:U:N3	2.89	0.40
4:D:154:VAL:HA	4:D:157:ALA:HB3	2.03	0.40
5:E:81:GLN:N	5:E:146:MET:HE3	2.34	0.40
1:A:16:A:C2	1:A:920:U:O2	2.74	0.40
1:A:389:A:C3'	1:A:390:U:H5'	2.51	0.40
8:H:5:PRO:O	8:H:8:ASP:N	2.55	0.40
9:I:18:VAL:O	9:I:18:VAL:HG12	2.21	0.40
11:K:96:ILE:O	11:K:99:LEU:N	2.53	0.40
4:D:170:LEU:HD12	4:D:170:LEU:H	1.87	0.40
1:A:1118:U:O3'	9:I:84:ARG:NH2	2.54	0.40
1:A:720:C:H3'	1:A:721:G:C8	2.56	0.40
12:L:86:VAL:O	12:L:88:ASP:N	2.54	0.40
4:D:196:GLU:C	4:D:198:LEU:N	2.74	0.40
8:H:19:ALA:O	8:H:20:ASN:HB2	2.21	0.40
6:F:49:TYR:HA	6:F:50:PRO:HD3	1.82	0.40
1:A:60:A:C2	1:A:107:G:N3	2.88	0.40
7:G:49:LEU:CD1	7:G:60:ALA:CB	2.99	0.40
5:E:15:ILE:HD11	5:E:37:VAL:HB	2.03	0.40
1:A:1165:U:H2'	1:A:1166:G:O4'	2.22	0.40
16:P:46:LYS:HE2	16:P:47:GLU:H	1.86	0.40
1:A:32:A:H2'	1:A:33:A:C8	2.56	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:98:ALA:O	11:K:101:ALA:HB3	2.21	0.40
1:A:186:C:H2'	1:A:187:G:O4'	2.20	0.40
18:R:62:ARG:HB3	18:R:69:TYR:CZ	2.56	0.40
1:A:1315:U:C4	1:A:1316:G:C6	3.09	0.40
1:A:987:G:N3	1:A:1219:A:C2	2.89	0.40
2:B:117:GLU:O	2:B:120:SER:HB3	2.21	0.40
2:B:142:LYS:O	2:B:144:GLU:N	2.54	0.40
1:A:1144:G:N1	1:A:1145:A:H2	2.19	0.40
2:B:211:LEU:C	2:B:213:LEU:N	2.75	0.40
13:M:19:THR:HB	13:M:25:GLY:HA2	2.02	0.40
1:A:1033:G:N2	1:A:1034:G:O4'	2.54	0.40
3:C:113:LYS:O	3:C:117:ASP:OD2	2.39	0.40
1:A:430:A:OP1	4:D:8:LEU:HB2	2.21	0.40
4:D:128:VAL:HG13	4:D:128:VAL:O	2.22	0.40
11:K:124:LYS:HZ2	21:U:34:ARG:NH2	2.19	0.40
21:U:33:ARG:HH21	21:U:34:ARG:HG3	1.85	0.40
1:A:78:A:N6	1:A:79:G:C2	2.89	0.40
1:A:1048:G:P	26:A:1783:HOH:O	2.79	0.40
9:I:41:GLU:O	9:I:44:ARG:NH1	2.52	0.40
7:G:96:ASN:O	7:G:100:MET:HG3	2.21	0.40
1:A:1000:A:C2	1:A:1041:G:N2	2.89	0.40
1:A:720:C:H1'	18:R:38:ILE:HG21	2.03	0.40
18:R:71:ASP:O	18:R:73:HIS:N	2.54	0.40
5:E:67:ARG:O	5:E:68:ARG:O	2.40	0.40
1:A:1023:U:C2'	1:A:1024:G:O4'	2.68	0.40
7:G:67:ASN:OD1	7:G:129:ASN:HB3	2.21	0.40
1:A:295:C:C2	1:A:296:U:C6	3.09	0.40
5:E:96:GLN:HB2	5:E:123:LEU:HD12	2.04	0.40
1:A:369:G:H2'	1:A:370:C:H6	1.86	0.40
8:H:101:ALA:O	8:H:102:VAL:C	2.59	0.40
13:M:30:LYS:HB3	13:M:30:LYS:HE3	1.88	0.40
11:K:111:ASP:OD2	11:K:113:THR:HG23	2.21	0.40
1:A:958:A:C6	1:A:959:A:N1	2.89	0.40
2:B:87:ASP:HB2	2:B:220:VAL:HG12	2.03	0.40
4:D:168:THR:CB	4:D:183:ARG:NH2	2.84	0.40
4:D:155:LYS:HA	4:D:155:LYS:HD3	1.92	0.40
4:D:8:LEU:HD13	4:D:8:LEU:HA	1.86	0.40
22:V:65:G:N3	22:V:66:U:C6	2.89	0.40
1:A:69:G:N3	1:A:69:G:H2'	2.35	0.40
1:A:80:A:H2'	1:A:80:A:N3	2.36	0.40
1:A:181:A:C2	1:A:194:C:N3	2.90	0.40
16:P:79:ASN:O	16:P:80:LYS:HE3	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1060:U:H1'	10:J:54:SER:HB2	2.02	0.40
14:N:2:LYS:C	14:N:6:LYS:HE2	2.42	0.40
13:M:44:ILE:HG13	13:M:47:LEU:CD1	2.46	0.40
3:C:106:ARG:NH1	3:C:107:LYS:O	2.54	0.40
6:F:17:GLN:HE21	6:F:17:GLN:CA	2.35	0.40
1:A:1056:U:O2'	1:A:1057:G:H5'	2.21	0.40
1:A:614:C:H2'	1:A:615:G:O5'	2.21	0.40
13:M:76:ILE:HG22	13:M:80:MET:HE3	2.04	0.40
8:H:39:LEU:C	8:H:45:ILE:HG12	2.42	0.40
1:A:932:C:N4	7:G:2:ARG:HH22	2.20	0.40
16:P:3:THR:CG2	16:P:4:ILE:N	2.85	0.40
1:A:1025:U:C5'	1:A:1026:G:O5'	2.69	0.40
1:A:678:U:O2'	1:A:679:C:H5'	2.21	0.40
10:J:36:VAL:HG23	10:J:76:ILE:HG23	2.03	0.40
1:A:952:U:H2'	1:A:953:G:H8	1.85	0.40
24:Y:25:ILE:HG23	24:Y:179:LYS:HE2	2.04	0.40
1:A:1016:A:H3'	1:A:1017:U:O4'	2.21	0.40
1:A:1471:U:C2'	1:A:1472:U:O5'	2.70	0.40
24:Y:91:ASN:O	24:Y:102:PRO:HD2	2.21	0.40
1:A:476:U:O2	1:A:476:U:H2'	2.20	0.40
14:N:64:CYS:HA	14:N:79:LEU:HA	2.03	0.40
2:B:135:MET:HA	2:B:138:ARG:HG2	2.03	0.40
2:B:53:LEU:CD1	2:B:219:THR:HG21	2.49	0.40
1:A:1296:C:H5'	13:M:13:HIS:CE1	2.56	0.40
10:J:84:VAL:O	10:J:84:VAL:HG22	2.22	0.40
1:A:408:A:N1	1:A:409:U:C2	2.90	0.40
4:D:29:THR:O	4:D:30:LYS:C	2.58	0.40
4:D:25:ARG:CD	4:D:30:LYS:CE	3.00	0.40
4:D:30:LYS:HB2	4:D:30:LYS:HE2	1.93	0.40
1:A:9:G:C2'	1:A:10:A:H5'	2.51	0.40
1:A:1398:A:H8	1:A:1398:A:H5''	1.86	0.40
8:H:58:LEU:C	8:H:58:LEU:CD1	2.90	0.40
1:A:513:C:H6	1:A:513:C:O5'	2.05	0.40
2:B:51:GLU:HA	2:B:54:ALA:HB3	2.04	0.40
2:B:34:ARG:HE	2:B:35:ASN:H	1.69	0.40
9:I:52:GLU:HB3	9:I:53:LEU:HD12	2.04	0.40
3:C:21:TRP:CH2	3:C:31:ASN:CB	3.05	0.40
4:D:131:ILE:HD11	4:D:134:TYR:CA	2.52	0.40
19:S:48:ILE:N	19:S:48:ILE:HD12	2.36	0.40
1:A:217:C:O2'	1:A:218:U:H5'	2.22	0.40
1:A:719:C:O2'	18:R:38:ILE:O	2.29	0.40
1:A:803:G:O5'	1:A:803:G:H8	2.04	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:R:54:LEU:HD13	18:R:54:LEU:C	2.42	0.40
1:A:191:G:H2'	1:A:192:A:H5'	2.02	0.40
1:A:841:C:O2	1:A:843:U:C4	2.75	0.40
8:H:11:THR:O	8:H:14:ARG:HB3	2.21	0.40
5:E:105:ILE:HG13	5:E:123:LEU:HB3	2.04	0.40
1:A:53:A:N1	1:A:359:G:C6	2.89	0.40
1:A:54:C:C2'	1:A:54:C:O2	2.67	0.40
2:B:74:ALA:O	2:B:75:ALA:HB2	2.21	0.40
2:B:75:ALA:O	2:B:78:ALA:N	2.55	0.40
12:L:55:ARG:HG3	12:L:55:ARG:NH2	2.35	0.40
15:O:69:LEU:O	15:O:69:LEU:HD23	2.21	0.40
15:O:77:TYR:O	15:O:81:ILE:HG23	2.22	0.40
19:S:26:ASP:OD2	19:S:27:LYS:O	2.40	0.40
1:A:751:U:H1'	15:O:22:GLY:O	2.21	0.40
15:O:40:GLY:O	15:O:43:ALA:HB3	2.21	0.40
15:O:28:VAL:HG12	15:O:28:VAL:O	2.21	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%)	109 (50%)	49 (23%)	58 (27%)	0	0
3	C	204/206 (99%)	125 (61%)	49 (24%)	30 (15%)	0	1
4	D	203/205 (99%)	123 (61%)	41 (20%)	39 (19%)	0	0
5	E	148/150 (99%)	87 (59%)	38 (26%)	23 (16%)	0	1
6	F	98/100 (98%)	62 (63%)	21 (21%)	15 (15%)	0	1
7	G	149/151 (99%)	86 (58%)	41 (28%)	22 (15%)	0	1
8	H	127/129 (98%)	79 (62%)	37 (29%)	11 (9%)	1	5
9	I	125/127 (98%)	76 (61%)	34 (27%)	15 (12%)	1	2
10	J	96/98 (98%)	60 (62%)	14 (15%)	22 (23%)	0	0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
11	K	115/117 (98%)	84 (73%)	17 (15%)	14 (12%)	1	2
12	L	121/123 (98%)	85 (70%)	29 (24%)	7 (6%)	3	15
13	M	112/114 (98%)	78 (70%)	22 (20%)	12 (11%)	1	3
14	N	92/100 (92%)	47 (51%)	27 (29%)	18 (20%)	0	0
15	O	86/88 (98%)	57 (66%)	22 (26%)	7 (8%)	1	7
16	P	80/82 (98%)	48 (60%)	11 (14%)	21 (26%)	0	0
17	Q	78/80 (98%)	47 (60%)	18 (23%)	13 (17%)	0	1
18	R	53/55 (96%)	34 (64%)	13 (24%)	6 (11%)	1	3
19	S	77/79 (98%)	36 (47%)	29 (38%)	12 (16%)	0	1
20	T	83/85 (98%)	37 (45%)	31 (37%)	15 (18%)	0	1
21	U	49/51 (96%)	20 (41%)	15 (31%)	14 (29%)	0	0
24	Y	181/183 (99%)	135 (75%)	35 (19%)	11 (6%)	2	14
All	All	2493/2541 (98%)	1515 (61%)	593 (24%)	385 (15%)	0	1

All (385) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	15	PHE
2	B	21	TYR
2	B	33	ALA
2	B	63	LYS
2	B	67	LEU
2	B	72	LYS
2	B	74	ALA
2	B	82	ALA
2	B	86	CYS
2	B	91	VAL
2	B	94	ARG
2	B	106	VAL
2	B	114	LYS
2	B	115	ASP
2	B	116	LEU
2	B	119	GLN
2	B	128	LEU
2	B	131	LYS
2	B	132	GLU
2	B	133	ALA
2	B	144	GLU

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Mol	Chain	Res	Type
2	B	147	LEU
2	B	151	LYS
2	B	156	LEU
2	B	160	LEU
2	B	163	ILE
2	B	182	VAL
2	B	200	PRO
2	B	206	ILE
2	B	208	ALA
2	B	211	LEU
2	B	219	THR
2	B	221	ARG
3	C	11	LEU
3	C	14	VAL
3	C	16	PRO
3	C	17	TRP
3	C	25	THR
3	C	53	ARG
3	C	78	LYS
3	C	79	LYS
3	C	119	ILE
3	C	120	THR
3	C	138	GLN
3	C	145	ALA
3	C	167	TYR
4	D	22	SER
4	D	25	ARG
4	D	28	ASP
4	D	32	LYS
4	D	34	GLU
4	D	43	ARG
4	D	48	SER
4	D	150	LYS
4	D	152	SER
4	D	155	LYS
4	D	159	GLU
4	D	167	PRO
4	D	190	LEU
4	D	191	SER
4	D	202	LEU
5	E	11	GLN
5	E	61	LYS

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Mol	Chain	Res	Type
5	E	68	ARG
5	E	81	GLN
5	E	99	SER
5	E	104	ILE
5	E	112	ALA
5	E	121	ASN
5	E	137	ARG
6	F	6	ILE
6	F	18	VAL
6	F	36	ILE
6	F	63	ASN
6	F	82	ASP
6	F	91	ARG
6	F	92	THR
7	G	14	ASP
7	G	49	LEU
7	G	58	LEU
7	G	93	VAL
7	G	101	ARG
7	G	112	ASP
7	G	129	ASN
8	H	2	MET
8	H	13	ILE
8	H	14	ARG
8	H	49	LYS
8	H	53	ASP
8	H	56	PRO
8	H	102	VAL
9	I	40	ARG
9	I	71	ILE
9	I	87	MET
9	I	90	ASP
9	I	119	LYS
10	J	17	LEU
10	J	32	THR
10	J	33	GLY
10	J	34	ALA
10	J	43	PRO
10	J	57	VAL
10	J	61	ALA
10	J	101	SER
11	K	14	GLN

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Mol	Chain	Res	Type
11	K	51	PHE
11	K	71	ASP
11	K	72	ALA
11	K	74	LYS
11	K	124	LYS
11	K	125	LYS
12	L	23	LEU
12	L	24	GLU
12	L	25	ALA
12	L	43	LYS
13	M	3	ILE
13	M	10	ASP
13	M	11	HIS
13	M	26	LYS
13	M	40	GLU
13	M	113	LYS
14	N	20	PHE
14	N	28	ALA
14	N	30	ILE
14	N	32	ASP
14	N	47	LYS
14	N	49	GLN
14	N	52	PRO
14	N	62	ASN
14	N	92	GLU
15	O	72	LYS
16	P	11	ALA
16	P	16	PHE
16	P	43	ALA
16	P	46	LYS
16	P	51	ARG
16	P	77	GLU
16	P	79	ASN
17	Q	12	VAL
17	Q	50	ASN
19	S	28	LYS
19	S	64	GLU
19	S	75	PRO
20	T	4	LYS
20	T	5	SER
20	T	43	LYS
20	T	72	ALA

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Mol	Chain	Res	Type
20	T	76	ALA
21	U	10	PRO
21	U	23	GLU
21	U	35	GLU
21	U	37	TYR
21	U	39	LYS
24	Y	34	SER
24	Y	112	LYS
24	Y	113	ASP
24	Y	147	LYS
2	B	13	VAL
2	B	50	ASN
2	B	51	GLU
2	B	56	LEU
2	B	75	ALA
2	B	96	LEU
2	B	122	ASP
2	B	123	GLY
2	B	127	LYS
2	B	154	GLY
2	B	176	ASN
2	B	207	ARG
2	B	209	VAL
2	B	210	THR
3	C	61	LYS
3	C	80	GLY
3	C	93	ILE
3	C	106	ARG
3	C	126	ARG
3	C	140	ALA
4	D	6	PRO
4	D	9	LYS
4	D	23	GLY
4	D	31	CYS
4	D	101	VAL
4	D	124	VAL
4	D	165	GLU
4	D	174	ALA
5	E	75	LEU
5	E	77	ASN
5	E	87	VAL
5	E	98	ALA

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Mol	Chain	Res	Type
5	E	119	VAL
5	E	133	ILE
5	E	146	MET
5	E	156	ARG
6	F	8	PHE
6	F	51	ILE
7	G	74	VAL
7	G	86	VAL
7	G	99	ALA
7	G	102	TRP
7	G	124	SER
7	G	131	GLY
8	H	24	VAL
8	H	47	ASP
9	I	31	GLN
9	I	106	ASP
10	J	28	THR
10	J	35	GLN
10	J	41	PRO
10	J	59	LYS
10	J	74	VAL
10	J	93	ALA
11	K	16	SER
11	K	77	GLY
11	K	118	ASN
12	L	88	ASP
13	M	66	GLY
14	N	16	ALA
14	N	27	LYS
14	N	75	ARG
16	P	10	GLY
16	P	15	PRO
16	P	36	VAL
16	P	53	ASP
16	P	76	LYS
16	P	78	VAL
16	P	80	LYS
17	Q	8	GLN
17	Q	11	VAL
17	Q	48	GLU
17	Q	49	ASN
17	Q	68	LYS

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Mol	Chain	Res	Type
17	Q	69	THR
18	R	24	ASP
19	S	8	PRO
19	S	13	HIS
19	S	29	PRO
20	T	57	VAL
20	T	73	ARG
21	U	26	GLY
24	Y	87	ASP
24	Y	141	LYS
24	Y	153	ASP
2	B	25	LYS
2	B	40	ILE
2	B	125	PHE
3	C	65	VAL
3	C	87	ARG
3	C	135	ARG
3	C	139	ASN
4	D	160	LEU
4	D	166	LYS
4	D	168	THR
4	D	169	TRP
4	D	192	ALA
5	E	60	GLN
5	E	67	ARG
5	E	142	GLY
5	E	150	GLU
6	F	56	LYS
6	F	68	GLN
6	F	69	GLU
7	G	50	ALA
7	G	100	MET
8	H	96	ALA
9	I	8	THR
9	I	52	GLU
9	I	55	ASP
10	J	39	PRO
10	J	58	ASN
10	J	95	GLY
13	M	56	ARG
13	M	104	ASN
14	N	42	TRP

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Mol	Chain	Res	Type
14	N	76	LYS
15	O	57	ARG
16	P	49	GLY
16	P	65	ALA
17	Q	16	MET
17	Q	17	GLU
17	Q	39	ARG
18	R	48	ALA
19	S	23	GLU
20	T	3	ILE
20	T	15	LYS
21	U	36	PHE
21	U	47	ALA
2	B	142	LYS
3	C	8	GLY
3	C	60	ALA
3	C	85	LYS
4	D	29	THR
4	D	35	GLN
4	D	42	ALA
4	D	78	ALA
4	D	125	ASN
4	D	148	ALA
5	E	23	THR
6	F	53	LYS
7	G	16	LYS
7	G	144	ALA
8	H	118	ALA
9	I	68	GLY
10	J	36	VAL
10	J	42	LEU
10	J	92	LEU
11	K	40	ALA
11	K	126	ARG
13	M	111	PRO
14	N	64	CYS
14	N	69	ARG
15	O	2	LEU
15	O	9	LYS
15	O	45	HIS
17	Q	5	ARG
17	Q	35	LYS

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Mol	Chain	Res	Type
18	R	26	ALA
18	R	29	LYS
18	R	60	ARG
19	S	4	LEU
20	T	23	ARG
20	T	29	THR
20	T	74	HIS
21	U	9	GLU
2	B	42	LEU
2	B	83	ALA
2	B	111	LYS
2	B	218	ALA
3	C	26	LYS
3	C	64	ARG
3	C	76	ILE
3	C	166	TRP
4	D	69	ARG
4	D	139	ASN
5	E	55	VAL
6	F	54	LEU
7	G	78	ARG
9	I	56	MET
10	J	31	ARG
11	K	55	ARG
11	K	123	PRO
12	L	20	VAL
13	M	49	GLU
16	P	8	ARG
16	P	50	THR
18	R	59	LYS
19	S	12	LEU
19	S	30	LEU
19	S	74	ALA
20	T	39	GLU
21	U	14	ALA
21	U	22	CYS
21	U	24	LYS
21	U	51	ALA
24	Y	41	ILE
24	Y	95	ALA
4	D	36	ALA
6	F	27	ALA

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Mol	Chain	Res	Type
7	G	17	PHE
7	G	104	VAL
9	I	49	GLN
9	I	50	PRO
10	J	45	ARG
15	O	16	ARG
16	P	28	ARG
16	P	44	SER
20	T	54	GLN
24	Y	33	ALA
4	D	24	VAL
7	G	5	VAL
9	I	54	VAL
20	T	66	ILE
21	U	40	PRO
2	B	150	ILE
4	D	100	VAL
7	G	80	GLY
14	N	10	VAL
15	O	85	GLY
19	S	44	ILE
24	Y	129	VAL
2	B	79	VAL
2	B	155	GLY
12	L	70	GLY
14	N	45	VAL
16	P	75	ILE
13	M	94	LEU

### 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%)	114 (63%)	66 (37%)	0	1
3	C	170/170 (100%)	127 (75%)	43 (25%)	1	4
4	D	172/172 (100%)	132 (77%)	40 (23%)	1	6
5	E	113/113 (100%)	80 (71%)	33 (29%)	0	2

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
6	F	87/87 (100%)	60 (69%)	27 (31%)	0	2
7	G	124/124 (100%)	90 (73%)	34 (27%)	0	3
8	H	104/104 (100%)	78 (75%)	26 (25%)	1	4
9	I	105/105 (100%)	74 (70%)	31 (30%)	0	2
10	J	86/86 (100%)	63 (73%)	23 (27%)	1	4
11	K	90/90 (100%)	66 (73%)	24 (27%)	1	4
12	L	103/103 (100%)	86 (84%)	17 (16%)	3	16
13	M	92/92 (100%)	73 (79%)	19 (21%)	2	8
14	N	79/83 (95%)	56 (71%)	23 (29%)	0	2
15	O	76/76 (100%)	61 (80%)	15 (20%)	2	11
16	P	65/65 (100%)	45 (69%)	20 (31%)	0	2
17	Q	74/74 (100%)	54 (73%)	20 (27%)	1	3
18	R	48/48 (100%)	40 (83%)	8 (17%)	3	16
19	S	70/70 (100%)	56 (80%)	14 (20%)	2	10
20	T	65/65 (100%)	45 (69%)	20 (31%)	0	2
21	U	44/44 (100%)	23 (52%)	21 (48%)	0	0
24	Y	157/157 (100%)	139 (88%)	18 (12%)	8	32
All	All	2104/2108 (100%)	1562 (74%)	542 (26%)	1	4

All (542) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	9	LEU
2	B	13	VAL
2	B	14	HIS
2	B	18	GLN
2	B	19	THR
2	B	20	ARG
2	B	22	TRP
2	B	31	PHE
2	B	34	ARG
2	B	38	HIS
2	B	40	ILE
2	B	43	GLU
2	B	45	THR
2	B	48	MET

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Mol	Chain	Res	Type
2	B	49	PHE
2	B	51	GLU
2	B	55	GLU
2	B	56	LEU
2	B	63	LYS
2	B	65	LYS
2	B	67	LEU
2	B	69	VAL
2	B	71	THR
2	B	77	GLU
2	B	81	ASP
2	B	84	LEU
2	B	88	GLN
2	B	89	PHE
2	B	90	PHE
2	B	100	LEU
2	B	101	THR
2	B	106	VAL
2	B	108	GLN
2	B	110	ILE
2	B	111	LYS
2	B	116	LEU
2	B	125	PHE
2	B	128	LEU
2	B	129	THR
2	B	130	LYS
2	B	131	LYS
2	B	132	GLU
2	B	134	LEU
2	B	135	MET
2	B	136	ARG
2	B	142	LYS
2	B	143	LEU
2	B	145	ASN
2	B	156	LEU
2	B	160	LEU
2	B	162	VAL
2	B	169	HIS
2	B	173	LYS
2	B	178	LEU
2	B	180	ILE
2	B	185	ILE

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Mol	Chain	Res	Type
2	B	187	ASP
2	B	193	ASP
2	B	196	ASP
2	B	198	VAL
2	B	204	ASP
2	B	206	ILE
2	B	207	ARG
2	B	209	VAL
2	B	219	THR
2	B	224	ARG
3	C	2	GLN
3	C	3	LYS
3	C	7	ASN
3	C	10	ARG
3	C	13	ILE
3	C	14	VAL
3	C	15	LYS
3	C	17	TRP
3	C	22	PHE
3	C	24	ASN
3	C	25	THR
3	C	26	LYS
3	C	28	PHE
3	C	32	LEU
3	C	34	SER
3	C	36	PHE
3	C	43	THR
3	C	54	ILE
3	C	57	GLU
3	C	58	ARG
3	C	63	ILE
3	C	81	GLU
3	C	85	LYS
3	C	93	ILE
3	C	102	ILE
3	C	106	ARG
3	C	110	LEU
3	C	120	THR
3	C	128	MET
3	C	139	ASN
3	C	141	MET
3	C	143	LEU

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Mol	Chain	Res	Type
3	C	149	LYS
3	C	153	SER
3	C	156	LEU
3	C	160	GLU
3	C	161	ILE
3	C	165	GLU
3	C	166	TRP
3	C	168	ARG
3	C	171	ARG
3	C	183	TYR
3	C	184	ASN
4	D	2	ARG
4	D	3	TYR
4	D	4	LEU
4	D	8	LEU
4	D	12	ARG
4	D	30	LYS
4	D	31	CYS
4	D	34	GLU
4	D	43	ARG
4	D	44	LYS
4	D	47	LEU
4	D	54	LEU
4	D	55	ARG
4	D	57	LYS
4	D	59	LYS
4	D	62	ARG
4	D	68	GLU
4	D	69	ARG
4	D	77	GLU
4	D	82	LYS
4	D	85	THR
4	D	103	ARG
4	D	104	MET
4	D	109	THR
4	D	115	GLN
4	D	118	SER
4	D	122	ILE
4	D	130	ASN
4	D	137	SER
4	D	142	VAL
4	D	160	LEU

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Mol	Chain	Res	Type
4	D	162	GLU
4	D	170	LEU
4	D	176	LYS
4	D	178	GLU
4	D	193	ASP
4	D	194	ILE
4	D	195	ASN
4	D	196	GLU
4	D	205	LYS
5	E	14	LEU
5	E	18	ASN
5	E	25	LYS
5	E	37	VAL
5	E	45	VAL
5	E	53	ARG
5	E	54	GLU
5	E	55	VAL
5	E	64	GLU
5	E	68	ARG
5	E	71	ILE
5	E	72	ASN
5	E	73	VAL
5	E	77	ASN
5	E	82	HIS
5	E	87	VAL
5	E	92	ARG
5	E	94	PHE
5	E	100	GLU
5	E	102	THR
5	E	114	LEU
5	E	115	GLU
5	E	119	VAL
5	E	121	ASN
5	E	123	LEU
5	E	125	LYS
5	E	130	THR
5	E	131	ASN
5	E	133	ILE
5	E	135	VAL
5	E	136	VAL
5	E	139	THR
5	E	148	SER

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Mol	Chain	Res	Type
6	F	2	ARG
6	F	6	ILE
6	F	11	HIS
6	F	14	GLN
6	F	15	SER
6	F	17	GLN
6	F	24	ARG
6	F	35	LYS
6	F	39	LEU
6	F	42	TRP
6	F	44	ARG
6	F	46	GLN
6	F	51	ILE
6	F	52	ASN
6	F	55	HIS
6	F	62	MET
6	F	63	ASN
6	F	69	GLU
6	F	71	ILE
6	F	73	GLU
6	F	77	THR
6	F	82	ASP
6	F	85	ILE
6	F	87	SER
6	F	96	VAL
6	F	97	THR
6	F	100	SER
7	G	3	ARG
7	G	5	VAL
7	G	6	ILE
7	G	8	GLN
7	G	12	LEU
7	G	25	PHE
7	G	29	LEU
7	G	31	VAL
7	G	42	VAL
7	G	46	LEU
7	G	48	THR
7	G	51	GLN
7	G	58	LEU
7	G	61	PHE
7	G	62	GLU

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Mol	Chain	Res	Type
7	G	67	ASN
7	G	69	ARG
7	G	74	VAL
7	G	75	LYS
7	G	77	ARG
7	G	78	ARG
7	G	79	VAL
7	G	85	GLN
7	G	88	VAL
7	G	89	GLU
7	G	90	VAL
7	G	91	ARG
7	G	110	ARG
7	G	119	LEU
7	G	134	VAL
7	G	135	LYS
7	G	141	HIS
7	G	145	GLU
7	G	147	ASN
8	H	2	MET
8	H	10	LEU
8	H	12	ARG
8	H	21	LYS
8	H	25	THR
8	H	29	SER
8	H	30	LYS
8	H	31	LEU
8	H	37	ASN
8	H	41	GLU
8	H	47	ASP
8	H	48	PHE
8	H	54	THR
8	H	76	ARG
8	H	82	LEU
8	H	86	LYS
8	H	88	LYS
8	H	89	ASP
8	H	93	LYS
8	H	98	LEU
8	H	102	VAL
8	H	103	VAL
8	H	106	SER

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Mol	Chain	Res	Type
8	H	111	THR
8	H	120	LEU
8	H	124	ILE
9	I	6	TYR
9	I	10	ARG
9	I	11	ARG
9	I	12	LYS
9	I	13	SER
9	I	17	ARG
9	I	21	LYS
9	I	29	ILE
9	I	32	ARG
9	I	35	GLU
9	I	41	GLU
9	I	42	THR
9	I	45	MET
9	I	48	ARG
9	I	56	MET
9	I	60	LEU
9	I	62	LEU
9	I	67	LYS
9	I	86	LEU
9	I	87	MET
9	I	88	GLU
9	I	89	TYR
9	I	93	LEU
9	I	96	GLU
9	I	98	ARG
9	I	105	ARG
9	I	115	VAL
9	I	119	LYS
9	I	126	PHE
9	I	128	LYS
9	I	129	ARG
10	J	6	ILE
10	J	8	ILE
10	J	15	HIS
10	J	17	LEU
10	J	25	ILE
10	J	27	GLU
10	J	28	THR
10	J	40	ILE

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Mol	Chain	Res	Type
10	J	42	LEU
10	J	44	THR
10	J	49	PHE
10	J	52	LEU
10	J	53	ILE
10	J	54	SER
10	J	59	LYS
10	J	63	ASP
10	J	71	LEU
10	J	73	LEU
10	J	75	ASP
10	J	83	THR
10	J	89	ARG
10	J	92	LEU
10	J	101	SER
11	K	17	ASP
11	K	23	HIS
11	K	30	ILE
11	K	31	VAL
11	K	34	THR
11	K	37	GLN
11	K	51	PHE
11	K	64	VAL
11	K	75	GLU
11	K	80	ASN
11	K	81	LEU
11	K	82	GLU
11	K	92	ARG
11	K	93	GLU
11	K	95	THR
11	K	96	ILE
11	K	100	ASN
11	K	106	ILE
11	K	108	ASN
11	K	110	THR
11	K	113	THR
11	K	121	ARG
11	K	125	LYS
11	K	127	ARG
12	L	3	VAL
12	L	18	SER
12	L	20	VAL

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Mol	Chain	Res	Type
12	L	24	GLU
12	L	28	GLN
12	L	29	LYS
12	L	43	LYS
12	L	53	ARG
12	L	61	GLU
12	L	63	THR
12	L	73	LEU
12	L	74	GLN
12	L	75	GLU
12	L	77	SER
12	L	101	LEU
12	L	114	SER
12	L	120	ARG
13	M	3	ILE
13	M	12	LYS
13	M	15	VAL
13	M	26	LYS
13	M	28	ARG
13	M	43	LYS
13	M	44	ILE
13	M	54	THR
13	M	56	ARG
13	M	70	ARG
13	M	71	GLU
13	M	78	ARG
13	M	82	LEU
13	M	86	ARG
13	M	90	HIS
13	M	94	LEU
13	M	106	ARG
13	M	107	THR
13	M	111	PRO
14	N	6	LYS
14	N	9	GLU
14	N	15	LEU
14	N	23	ARG
14	N	25	GLU
14	N	27	LYS
14	N	41	ARG
14	N	43	ASN
14	N	46	LEU

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Mol	Chain	Res	Type
14	N	48	LEU
14	N	49	GLN
14	N	51	LEU
14	N	58	SER
14	N	62	ASN
14	N	63	ARG
14	N	65	ARG
14	N	76	LYS
14	N	81	ARG
14	N	82	ILE
14	N	89	MET
14	N	92	GLU
14	N	98	LYS
14	N	100	SER
15	O	7	THR
15	O	12	SER
15	O	16	ARG
15	O	21	THR
15	O	23	SER
15	O	30	LEU
15	O	34	GLN
15	O	38	LEU
15	O	39	GLN
15	O	47	LYS
15	O	52	ARG
15	O	56	LEU
15	O	57	ARG
15	O	74	VAL
15	O	86	LEU
16	P	1	MET
16	P	2	VAL
16	P	6	LEU
16	P	9	HIS
16	P	16	PHE
16	P	18	GLN
16	P	19	VAL
16	P	20	VAL
16	P	31	ARG
16	P	33	ILE
16	P	34	GLU
16	P	39	PHE
16	P	46	LYS

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Mol	Chain	Res	Type
16	P	51	ARG
16	P	67	ILE
16	P	69	ASP
16	P	70	ARG
16	P	75	ILE
16	P	76	LYS
16	P	80	LYS
17	Q	3	LYS
17	Q	6	THR
17	Q	10	ARG
17	Q	13	SER
17	Q	16	MET
17	Q	20	ILE
17	Q	22	VAL
17	Q	27	PHE
17	Q	28	VAL
17	Q	37	ILE
17	Q	50	ASN
17	Q	51	GLU
17	Q	54	ILE
17	Q	58	VAL
17	Q	60	ILE
17	Q	73	THR
17	Q	75	VAL
17	Q	76	ARG
17	Q	80	LYS
17	Q	82	VAL
18	R	24	ASP
18	R	29	LYS
18	R	35	SER
18	R	42	ARG
18	R	47	ARG
18	R	60	ARG
18	R	70	THR
18	R	71	ASP
19	S	5	LYS
19	S	15	LEU
19	S	20	LYS
19	S	26	ASP
19	S	34	SER
19	S	39	ILE
19	S	48	ILE

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Mol	Chain	Res	Type
19	S	54	ARG
19	S	55	GLN
19	S	62	THR
19	S	64	GLU
19	S	70	LEU
19	S	73	PHE
19	S	78	THR
20	T	4	LYS
20	T	7	LYS
20	T	9	ARG
20	T	11	ILE
20	T	12	GLN
20	T	14	GLU
20	T	22	SER
20	T	25	SER
20	T	26	MET
20	T	29	THR
20	T	33	LYS
20	T	47	GLN
20	T	52	GLU
20	T	53	MET
20	T	65	LEU
20	T	67	HIS
20	T	68	LYS
20	T	69	ASN
20	T	75	LYS
20	T	83	ASN
21	U	4	LYS
21	U	5	VAL
21	U	8	ASN
21	U	9	GLU
21	U	11	PHE
21	U	15	LEU
21	U	17	ARG
21	U	18	PHE
21	U	19	LYS
21	U	27	VAL
21	U	28	LEU
21	U	32	ARG
21	U	33	ARG
21	U	36	PHE
21	U	42	THR

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Mol	Chain	Res	Type
21	U	43	GLU
21	U	45	LYS
21	U	46	ARG
21	U	50	SER
21	U	52	VAL
21	U	53	LYS
24	Y	16	LYS
24	Y	23	THR
24	Y	25	ILE
24	Y	38	LEU
24	Y	41	ILE
24	Y	57	SER
24	Y	87	ASP
24	Y	98	ASP
24	Y	106	LEU
24	Y	107	THR
24	Y	133	ARG
24	Y	135	ASP
24	Y	145	LYS
24	Y	147	LYS
24	Y	157	SER
24	Y	159	ASP
24	Y	163	LYS
24	Y	179	LYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (42) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	14	HIS
2	B	50	ASN
2	B	189	ASN
3	C	5	HIS
4	D	53	GLN
4	D	115	GLN
4	D	119	HIS
4	D	130	ASN
4	D	163	GLN
4	D	195	ASN
4	D	197	HIS
5	E	11	GLN
5	E	72	ASN
5	E	81	GLN

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Mol	Chain	Res	Type
5	E	82	HIS
5	E	88	HIS
5	E	121	ASN
5	E	131	ASN
6	F	3	HIS
7	G	141	HIS
9	I	3	ASN
9	I	24	ASN
9	I	49	GLN
10	J	56	HIS
11	K	21	HIS
11	K	23	HIS
11	K	108	ASN
11	K	118	ASN
13	M	90	HIS
15	O	37	HIS
15	O	61	GLN
16	P	18	GLN
17	Q	8	GLN
18	R	53	GLN
19	S	51	HIS
19	S	56	HIS
20	T	20	ASN
20	T	47	GLN
20	T	51	ASN
20	T	74	HIS
20	T	83	ASN
24	Y	54	GLN

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1537/1539 (99%)	441 (28%)	28 (1%)
22	V	75/76 (98%)	29 (38%)	1 (1%)
23	X	14/16 (87%)	5 (35%)	0
All	All	1626/1631 (99%)	475 (29%)	29 (1%)

All (475) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	5	U

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Mol	Chain	Res	Type
1	A	6	G
1	A	7	A
1	A	9	G
1	A	12	U
1	A	13	U
1	A	15	G
1	A	22	G
1	A	28	A
1	A	32	A
1	A	39	G
1	A	44	A
1	A	45	G
1	A	47	C
1	A	48	C
1	A	49	U
1	A	51	A
1	A	62	U
1	A	67	C
1	A	69	G
1	A	70	U
1	A	71	A
1	A	72	A
1	A	75	G
1	A	76	G
1	A	77	A
1	A	80	A
1	A	82	G
1	A	83	C
1	A	84	U
1	A	85	U
1	A	86	G
1	A	89	U
1	A	90	C
1	A	91	U
1	A	92	U
1	A	94	G
1	A	95	C
1	A	97	G
1	A	108	G
1	A	109	A
1	A	111	G
1	A	116	A

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Mol	Chain	Res	Type
1	A	117	G
1	A	121	U
1	A	122	G
1	A	130	A
1	A	131	A
1	A	137	U
1	A	139	A
1	A	142	G
1	A	143	A
1	A	144	G
1	A	149	A
1	A	159	G
1	A	162	A
1	A	163	C
1	A	164	G
1	A	168	G
1	A	176	C
1	A	181	A
1	A	182	A
1	A	183	C
1	A	195	A
1	A	200	G
1	A	204	G
1	A	205	A
1	A	209	U
1	A	210	C
1	A	213	G
1	A	220	G
1	A	226	G
1	A	240	G
1	A	245	U
1	A	247	G
1	A	251	G
1	A	260	G
1	A	262	A
1	A	263	A
1	A	266	G
1	A	267	C
1	A	278	G
1	A	279	A
1	A	280	C
1	A	289	G

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Mol	Chain	Res	Type
1	A	290	C
1	A	300	A
1	A	308	C
1	A	321	A
1	A	328	C
1	A	329	A
1	A	331	G
1	A	332	G
1	A	346	G
1	A	347	G
1	A	352	C
1	A	354	G
1	A	359	G
1	A	367	U
1	A	370	C
1	A	371	A
1	A	372	C
1	A	374	A
1	A	382	A
1	A	383	A
1	A	384	G
1	A	391	G
1	A	398	U
1	A	402	G
1	A	403	C
1	A	406	G
1	A	407	U
1	A	409	U
1	A	410	G
1	A	411	A
1	A	412	A
1	A	413	G
1	A	414	A
1	A	418	C
1	A	420	U
1	A	421	U
1	A	422	C
1	A	423	G
1	A	424	G
1	A	429	U
1	A	430	A
1	A	433	G

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Mol	Chain	Res	Type
1	A	435	A
1	A	439	U
1	A	440	C
1	A	445	G
1	A	453	G
1	A	456	A
1	A	457	G
1	A	458	U
1	A	459	A
1	A	460	A
1	A	463	U
1	A	465	A
1	A	466	A
1	A	467	U
1	A	468	A
1	A	474	G
1	A	481	G
1	A	482	A
1	A	484	G
1	A	485	U
1	A	486	U
1	A	490	C
1	A	491	G
1	A	492	C
1	A	494	G
1	A	495	A
1	A	497	G
1	A	498	A
1	A	500	G
1	A	501	C
1	A	509	A
1	A	511	C
1	A	514	C
1	A	515	G
1	A	518	C
1	A	521	G
1	A	527	G
1	A	530	G
1	A	531	U
1	A	532	A
1	A	534	U
1	A	547	A

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Mol	Chain	Res	Type
1	A	550	G
1	A	559	A
1	A	562	U
1	A	564	C
1	A	570	G
1	A	572	A
1	A	573	A
1	A	576	C
1	A	578	C
1	A	596	A
1	A	605	U
1	A	611	C
1	A	615	G
1	A	619	U
1	A	625	U
1	A	630	A
1	A	631	C
1	A	640	A
1	A	644	U
1	A	650	G
1	A	652	U
1	A	653	U
1	A	656	G
1	A	661	G
1	A	665	A
1	A	686	U
1	A	695	A
1	A	702	A
1	A	703	G
1	A	707	U
1	A	720	C
1	A	721	G
1	A	723	U
1	A	724	G
1	A	731	G
1	A	733	G
1	A	755	G
1	A	756	C
1	A	764	C
1	A	773	G
1	A	774	G
1	A	776	G

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Mol	Chain	Res	Type
1	A	777	A
1	A	778	G
1	A	786	G
1	A	787	A
1	A	788	U
1	A	792	A
1	A	793	U
1	A	794	A
1	A	799	G
1	A	804	U
1	A	805	C
1	A	815	A
1	A	817	C
1	A	821	G
1	A	828	U
1	A	829	G
1	A	833	G
1	A	841	C
1	A	842	U
1	A	843	U
1	A	845	A
1	A	846	G
1	A	849	G
1	A	854	U
1	A	859	G
1	A	860	A
1	A	869	G
1	A	883	C
1	A	890	G
1	A	896	C
1	A	900	A
1	A	902	G
1	A	910	C
1	A	912	C
1	A	914	A
1	A	919	A
1	A	926	G
1	A	927	G
1	A	932	C
1	A	934	C
1	A	935	A
1	A	938	A

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Mol	Chain	Res	Type
1	A	946	A
1	A	960	U
1	A	963	G
1	A	964	A
1	A	966	G
1	A	969	A
1	A	975	A
1	A	976	G
1	A	977	A
1	A	979	C
1	A	982	U
1	A	983	A
1	A	986	U
1	A	989	U
1	A	991	U
1	A	992	U
1	A	993	G
1	A	994	A
1	A	1002	G
1	A	1004	A
1	A	1007	U
1	A	1008	U
1	A	1016	A
1	A	1017	U
1	A	1019	A
1	A	1021	A
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
1	A	1033	G
1	A	1034	G
1	A	1035	A
1	A	1036	A
1	A	1037	C
1	A	1039	G
1	A	1043	G
1	A	1044	A

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Mol	Chain	Res	Type
1	A	1049	U
1	A	1050	G
1	A	1054	C
1	A	1055	A
1	A	1056	U
1	A	1058	G
1	A	1063	C
1	A	1065	U
1	A	1066	C
1	A	1067	A
1	A	1086	U
1	A	1094	G
1	A	1095	U
1	A	1101	A
1	A	1102	A
1	A	1114	C
1	A	1115	U
1	A	1118	U
1	A	1124	G
1	A	1127	G
1	A	1133	G
1	A	1134	G
1	A	1135	U
1	A	1136	C
1	A	1137	C
1	A	1139	G
1	A	1140	C
1	A	1141	C
1	A	1142	G
1	A	1145	A
1	A	1146	A
1	A	1152	A
1	A	1157	A
1	A	1159	U
1	A	1160	G
1	A	1161	C
1	A	1164	G
1	A	1166	G
1	A	1167	A
1	A	1168	U
1	A	1169	A
1	A	1181	G

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Mol	Chain	Res	Type
1	A	1182	G
1	A	1183	U
1	A	1184	G
1	A	1187	G
1	A	1188	A
1	A	1190	G
1	A	1191	A
1	A	1192	C
1	A	1196	A
1	A	1197	A
1	A	1201	A
1	A	1202	U
1	A	1203	C
1	A	1212	U
1	A	1213	A
1	A	1215	G
1	A	1224	U
1	A	1227	A
1	A	1228	C
1	A	1235	U
1	A	1238	A
1	A	1239	A
1	A	1240	U
1	A	1256	A
1	A	1257	A
1	A	1259	C
1	A	1260	G
1	A	1271	A
1	A	1272	G
1	A	1275	A
1	A	1280	A
1	A	1284	C
1	A	1285	A
1	A	1286	U
1	A	1287	A
1	A	1293	C
1	A	1294	G
1	A	1297	G
1	A	1299	A
1	A	1300	G
1	A	1302	C
1	A	1303	C

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Mol	Chain	Res	Type
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	1323	G
1	A	1326	U
1	A	1329	A
1	A	1330	U
1	A	1332	A
1	A	1334	G
1	A	1336	C
1	A	1337	G
1	A	1338	G
1	A	1340	A
1	A	1341	U
1	A	1346	A
1	A	1352	C
1	A	1353	G
1	A	1354	U
1	A	1357	A
1	A	1358	U
1	A	1363	A
1	A	1365	G
1	A	1368	A
1	A	1378	C
1	A	1379	G
1	A	1397	C
1	A	1398	A
1	A	1399	C
1	A	1414	U
1	A	1418	A
1	A	1426	G
1	A	1427	C
1	A	1429	A
1	A	1430	A
1	A	1432	G
1	A	1433	A
1	A	1441	A
1	A	1443	C
1	A	1446	A

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Mol	Chain	Res	Type
1	A	1448	C
1	A	1452	C
1	A	1453	G
1	A	1455	G
1	A	1491	G
1	A	1492	A
1	A	1493	A
1	A	1497	G
1	A	1505	G
1	A	1506	U
1	A	1507	A
1	A	1517	G
1	A	1526	G
1	A	1529	G
1	A	1530	G
1	A	1531	A
1	A	1533	C
1	A	1534	A
1	A	1535	C
1	A	1539	C
22	V	8	U
22	V	10	G
22	V	13	C
22	V	16	U
22	V	17	C
22	V	18	G
22	V	19	G
22	V	20	U
22	V	21	A
22	V	22	G
22	V	26	A
22	V	33	U
22	V	36	A
22	V	37	A
22	V	38	A
22	V	44	G
22	V	45	U
22	V	46	G
22	V	47	U
22	V	48	C
22	V	51	U
22	V	57	G

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Mol	Chain	Res	Type
22	V	58	A
22	V	59	U
22	V	61	C
22	V	64	A
22	V	67	C
22	V	74	C
22	V	76	A
23	X	11	U
23	X	12	A
23	X	13	A
23	X	14	A
23	X	19	U

All (29) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	115	G
1	A	120	A
1	A	148	G
1	A	209	U
1	A	329	A
1	A	351	G
1	A	410	G
1	A	412	A
1	A	428	G
1	A	429	U
1	A	439	U
1	A	481	G
1	A	510	A
1	A	513	C
1	A	653	U
1	A	889	A
1	A	1031	C
1	A	1049	U
1	A	1101	A
1	A	1126	U
1	A	1145	A
1	A	1201	A
1	A	1211	U
1	A	1227	A
1	A	1286	U
1	A	1337	G

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Mol	Chain	Res	Type
1	A	1378	C
1	A	1533	C
22	V	18	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 72 ligands modelled in this entry, 72 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 ⓘ

EDS was not executed - this section will therefore be empty.

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

EDS was not executed - this section will therefore be empty.

### 6.3 Carbohydrates ⓘ

EDS was not executed - this section will therefore be empty.

### 6.4 Ligands ⓘ

EDS was not executed - this section will therefore be empty.

### 6.5 Other polymers ⓘ

EDS was not executed - this section will therefore be empty.