



Full wwPDB X-ray Structure Validation Report ⓘ

Jul 11, 2014 – 11:29 PM EDT

PDB ID : 4L6L
Title : Crystal Structure of Blastocidin S Bound to Thermus Thermophilus 70S Ribosome. This file contains the 50S subunit and blastocidin S molecule from the second 70S ribosome
Authors : Svidritskiy, E.; Ling, C.; Ermolenko, D.N.; Korostelev, A.A.
Deposited on : 2013-06-12
Resolution : 3.40 Å(reported)

This is a full wwPDB validation report for a publicly released PDB entry.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

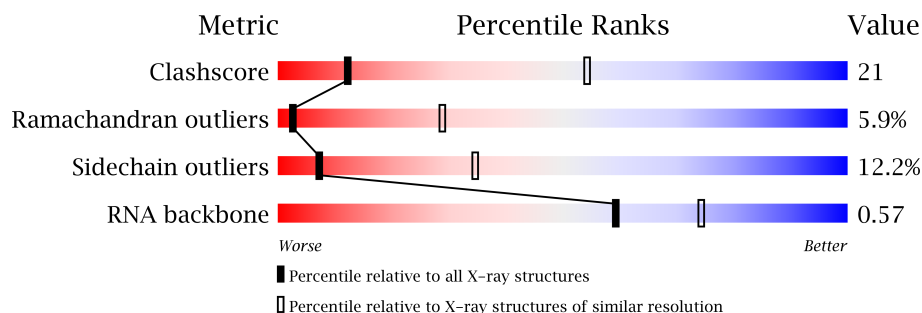
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : **FAILED**
Xtriage (Phenix) : **NOT EXECUTED**
EDS : **NOT EXECUTED**
Percentile statistics : 21963
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : stable23161

1 Overall quality at a glance

The reported resolution of this entry is 3.40 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	1214 (3.50-3.30)
Ramachandran outliers	78287	1177 (3.50-3.30)
Sidechain outliers	78261	1177 (3.50-3.30)
RNA backbone	1838	1002 (4.02-2.76)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	2879	
2	B	119	
3	D	271	
4	E	204	
5	F	202	
6	G	181	
7	H	159	
8	I	145	
9	J	137	
10	K	122	
11	L	146	
12	M	134	
13	N	117	
14	O	98	

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Mol	Chain	Length	Quality of chain
15	P	137	
16	Q	117	
17	R	101	
18	S	112	
19	T	92	
20	U	100	
21	V	187	
22	W	76	
23	X	88	
24	Y	62	
25	Z	59	
26	1	30	
27	2	52	
28	3	44	
29	4	48	
30	5	63	

2 Entry composition

There are 31 unique types of molecules in this entry. The entry contains 89593 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 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	2832	Total	C	N	O	P	0	0	0
			60991	27143	11396	19620	2832			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	276	C	A	CONFLICT	GB AE017221.1
A	277	A	C	CONFLICT	GB AE017221.1
A	1142	U	C	CONFLICT	GB AE017221.1
A	2825	U	G	CONFLICT	GB AE017221.1

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	119	Total	C	N	O	P	0	0	0
			2555	1136	471	829	119			

- Molecule 3 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	D	271	Total	C	N	O	S	0	0	0
			2105	1329	416	357	3			

- Molecule 4 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	E	204	Total	C	N	O	S	0	0	0
			1564	988	299	271	6			

- Molecule 5 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	F	202	Total	C	N	O	S	0	0	0
			1587	1011	297	276	3			

- Molecule 6 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	G	181	Total	C	N	O	S	0	0	0
			1475	943	268	260	4			

- Molecule 7 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	H	159	Total	C	N	O	S	0	0	0
			1223	773	228	221	1			

- Molecule 8 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	I	145	Total	C	N	O	S	0	0	0
			1133	724	200	208	1			

- Molecule 9 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	J	137	Total	C	N	O	S	0	0	0
			1097	707	205	182	3			

- Molecule 10 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	K	122	Total	C	N	O	S	0	0	0
			932	587	171	170	4			

- Molecule 11 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	L	146	Total	C	N	O	S	0	0	0
			1114	692	227	193	2			

- Molecule 12 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	M	134	Total	C	N	O	S	0	0	0
			1065	680	201	179	5			

- Molecule 13 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	N	117	Total	C	N	O		0	0	0
			960	599	202	159				

- Molecule 14 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	O	98	Total	C	N	O		0	0	0
			771	486	154	131				

- Molecule 15 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	P	137	Total	C	N	O	S	0	0	0
			1144	713	234	196	1			

- Molecule 16 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	Q	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			

- Molecule 17 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	R	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			

- Molecule 18 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	S	112	Total	C	N	O	S	0	0	0
			891	560	175	154	2			

- Molecule 19 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
19	T	92	Total	C	N	O	0	0	0
			726	471	131	124			

- Molecule 20 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
20	U	100	Total	C	N	O	S	0	0
			776	500	148	124	4		

- Molecule 21 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	V	187	Total	C	N	O	S	0	0
			1483	945	264	272	2		

- Molecule 22 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
22	W	76	Total	C	N	O	S	0	0
			605	376	126	102	1		

- Molecule 23 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
23	X	88	Total	C	N	O	0	0	0
			695	435	141	119			

- Molecule 24 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
24	Y	62	Total	C	N	O	S	0	0
			521	325	102	92	2		

- Molecule 25 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
25	Z	59	Total	C	N	O	S	0	0
			468	298	90	79	1		

- Molecule 26 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	1	30	Total	C	N	O	S	0	0	0
			226	142	36	44	4			

- Molecule 27 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	2	52	Total	C	N	O	S	0	0	0
			405	255	79	66	5			

- Molecule 28 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	3	44	Total	C	N	O	S	0	0	0
			381	235	77	65	4			

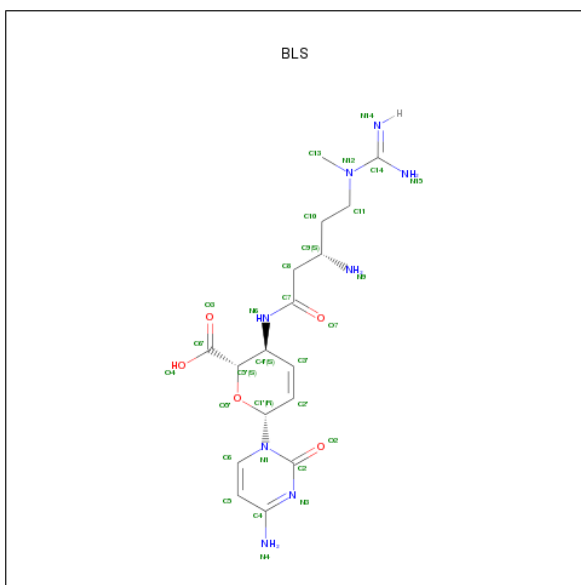
- Molecule 29 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	4	48	Total	C	N	O	S	0	0	0
			419	257	104	56	2			

- Molecule 30 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	5	63	Total	C	N	O	S	0	0	0
			508	326	101	79	2			

- Molecule 31 is BLASTICIDIN S (three-letter code: BLS) (formula: C₁₇H₂₆N₈O₅).



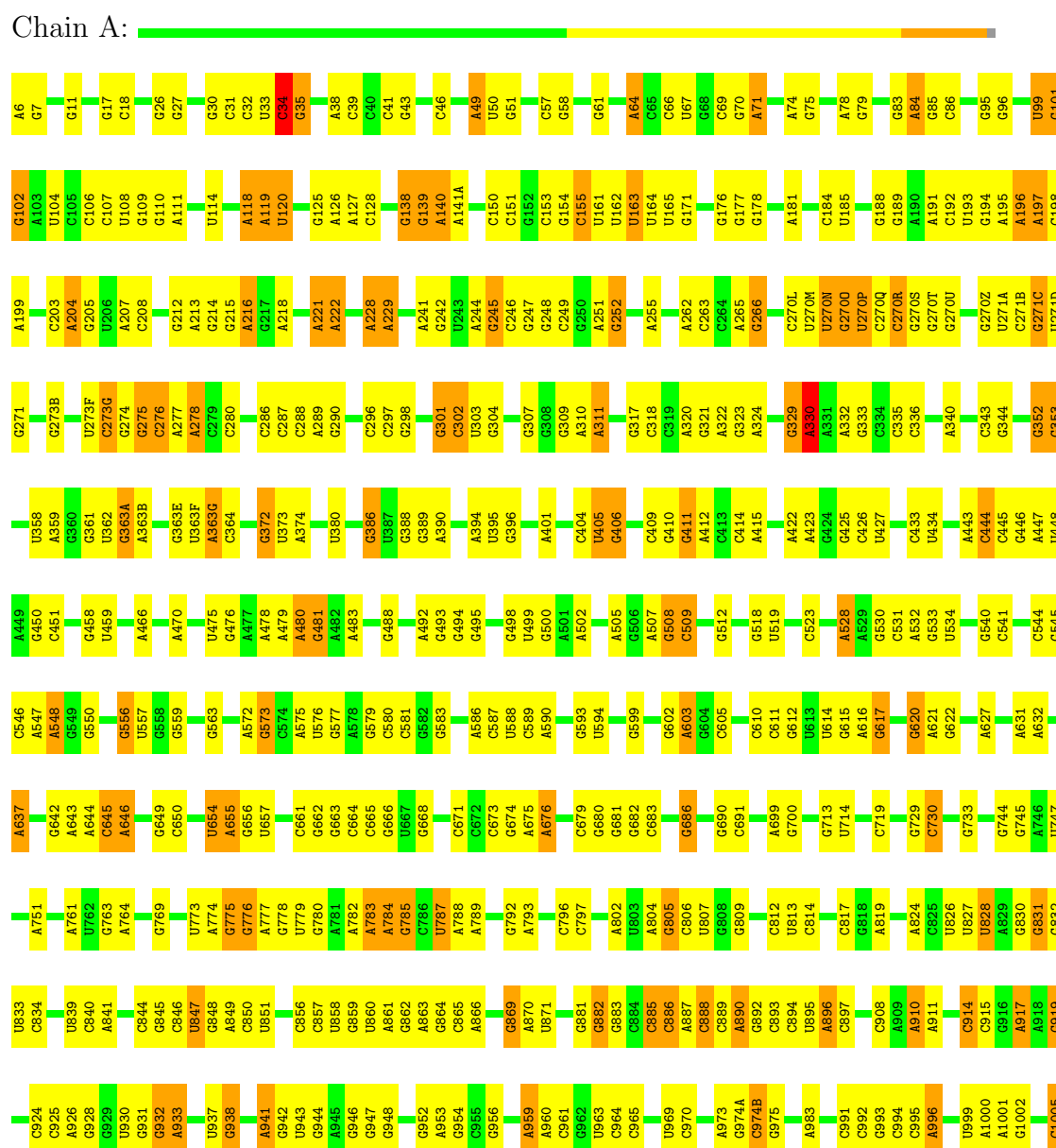
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
31	A	1	Total	C	N	O	0	0
			30	17	8	5		

3 Residue-property plots

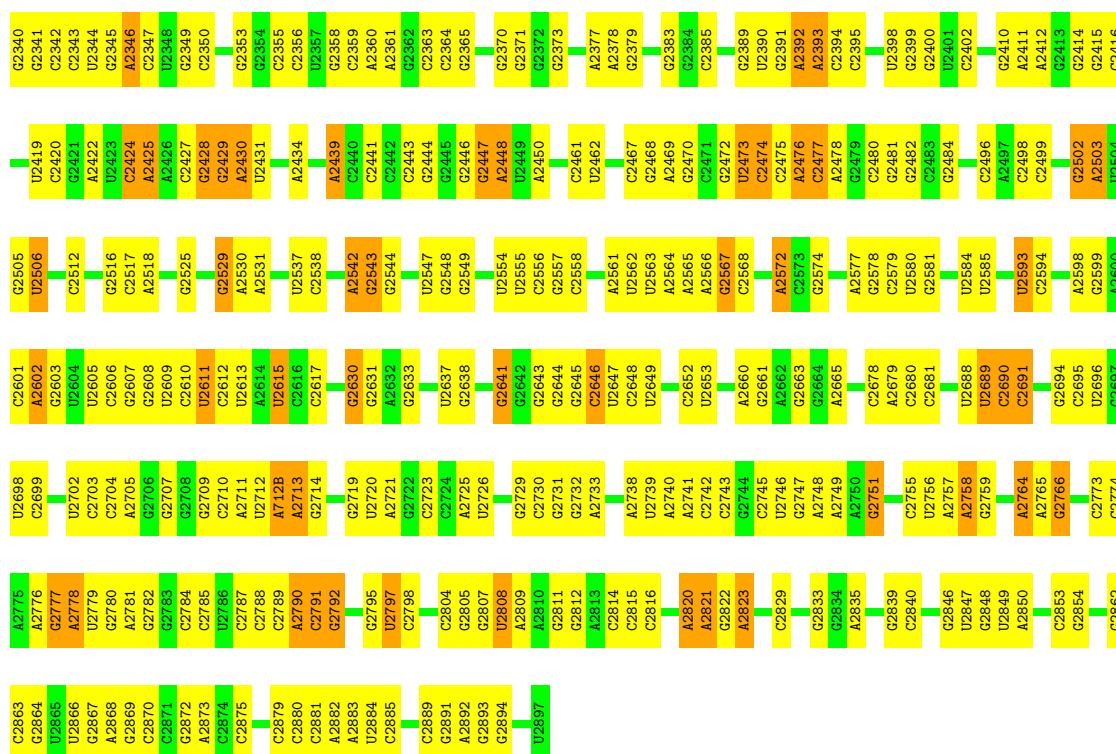
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according 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: 23S ribosomal RNA

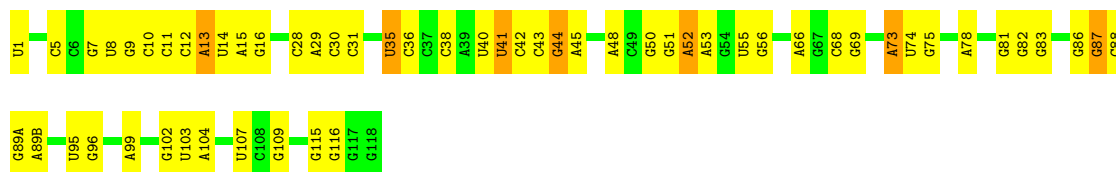






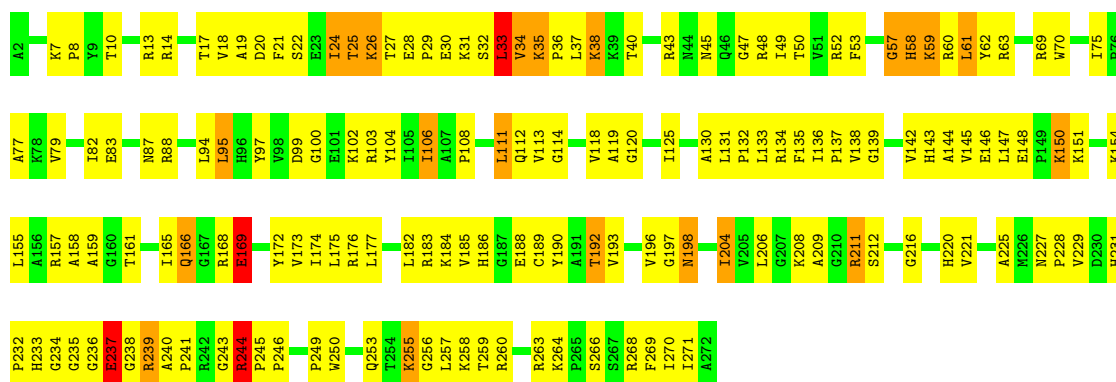
• Molecule 2: 5S ribosomal RNA

Chain B:



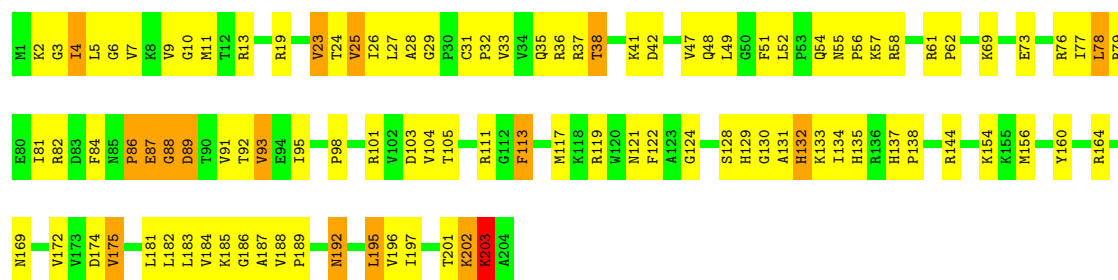
• Molecule 3: 50S ribosomal protein L2

Chain D:



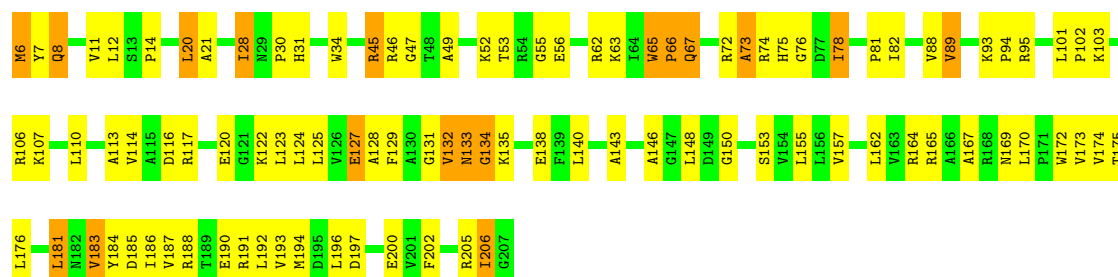
• Molecule 4: 50S ribosomal protein L3

Chain E:



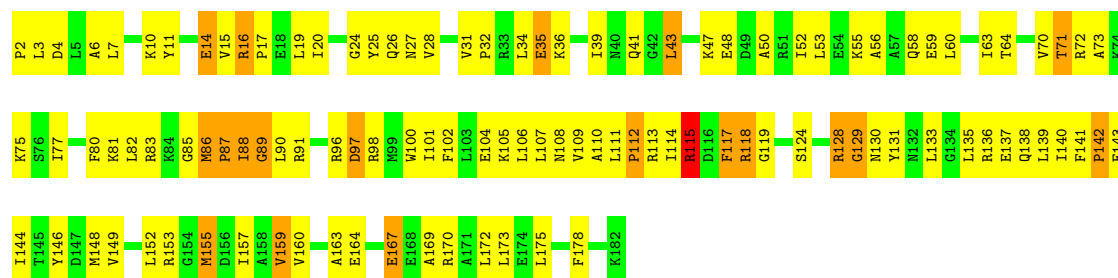
• Molecule 5: 50S ribosomal protein L4

Chain F:



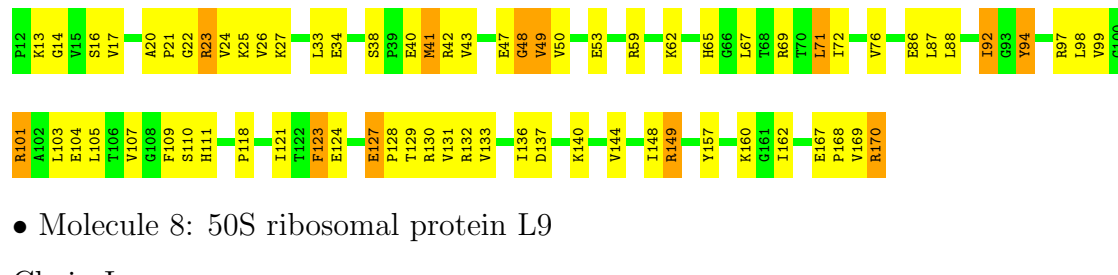
• Molecule 6: 50S ribosomal protein L5

Chain G:



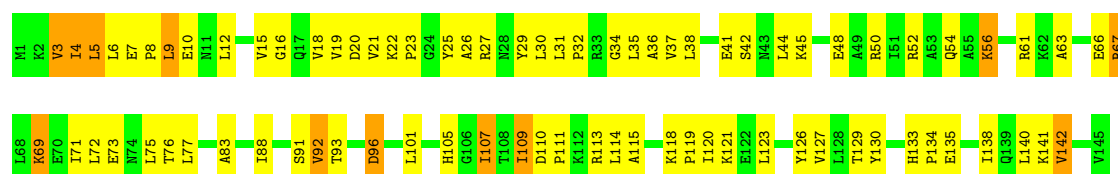
• Molecule 7: 50S ribosomal protein L6

Chain H:

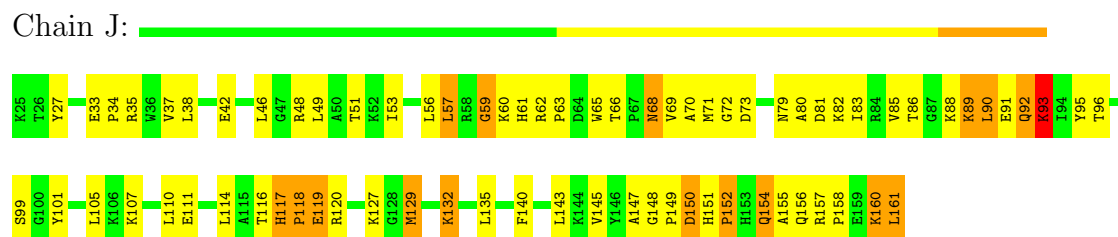


• Molecule 8: 50S ribosomal protein L9

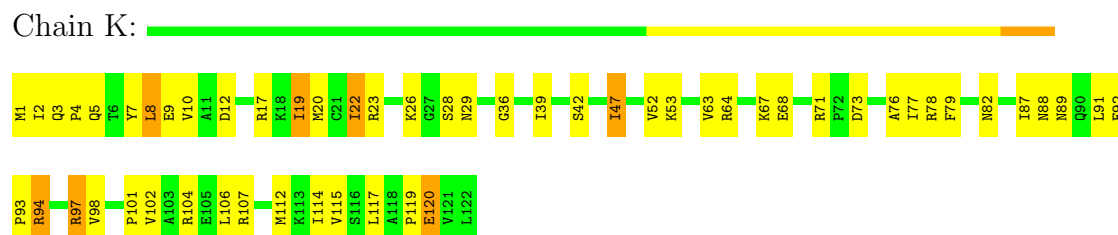
Chain I:



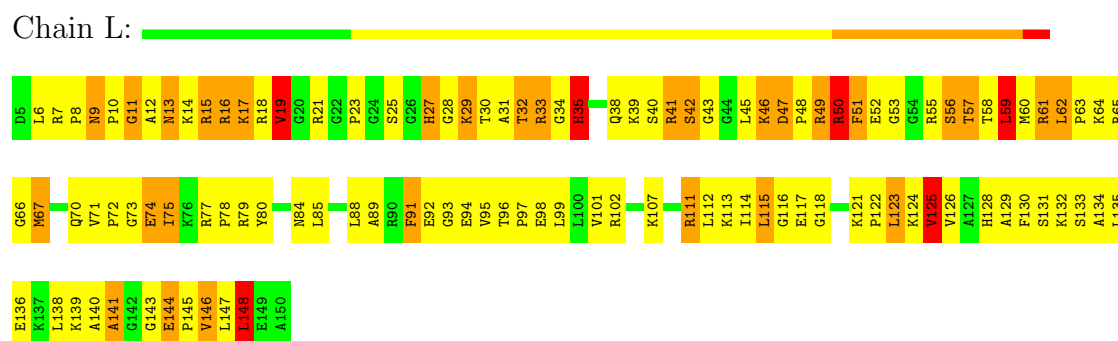
- Molecule 9: 50S ribosomal protein L13



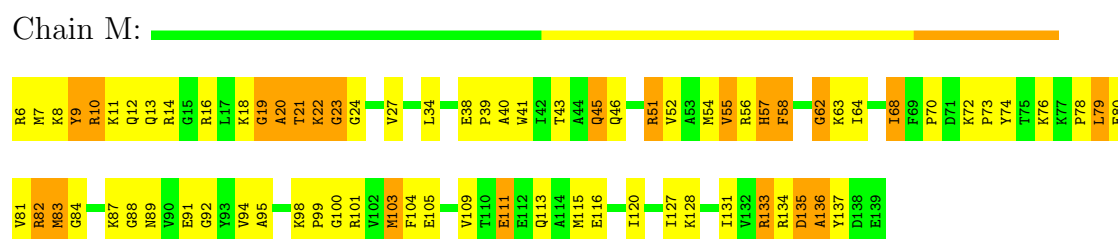
- Molecule 10: 50S ribosomal protein L14



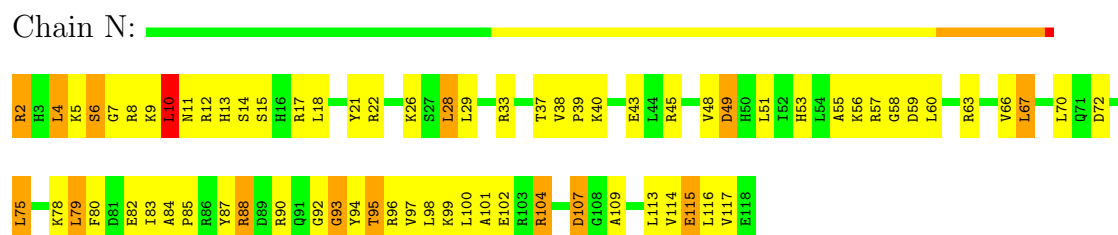
- Molecule 11: 50S ribosomal protein L15



- Molecule 12: 50S ribosomal protein L16

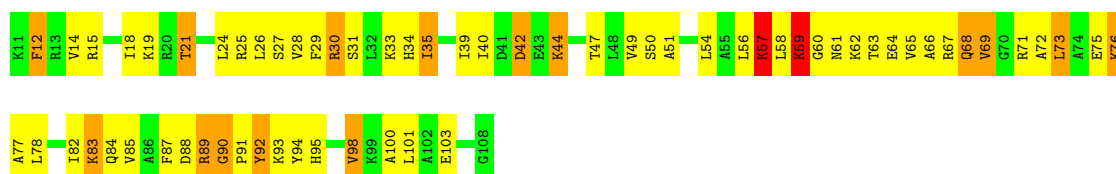


- Molecule 13: 50S ribosomal protein L17



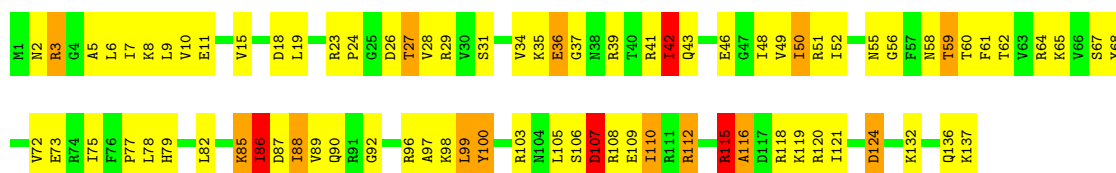
- Molecule 14: 50S ribosomal protein L18





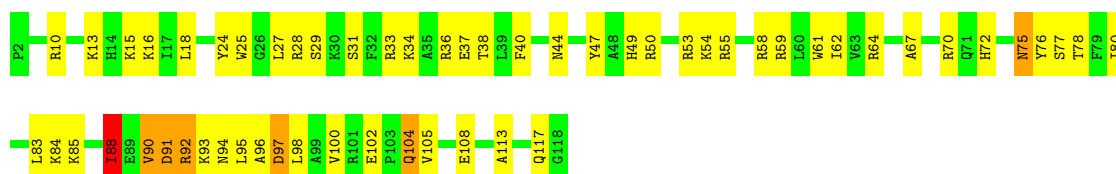
• Molecule 15: 50S ribosomal protein L19

Chain P:



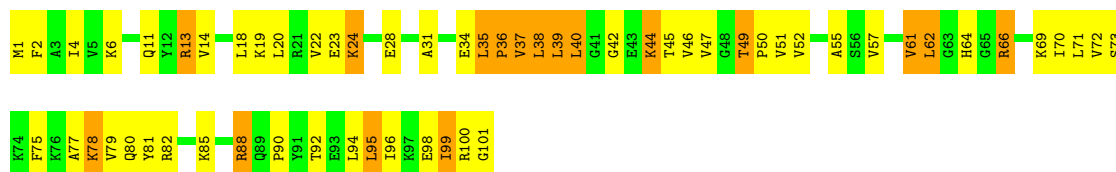
• Molecule 16: 50S ribosomal protein L20

Chain Q:



• Molecule 17: 50S ribosomal protein L21

Chain R:



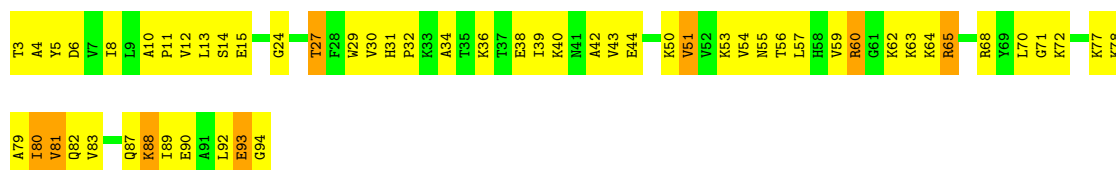
• Molecule 18: 50S ribosomal protein L22

Chain S:



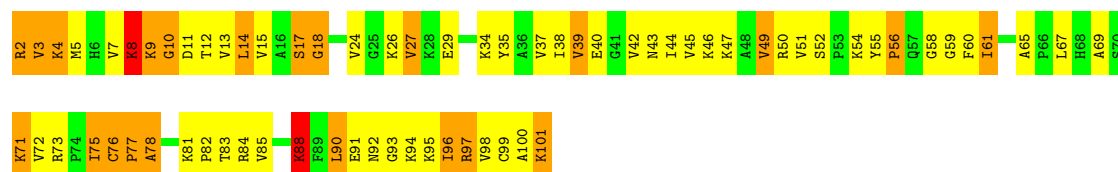
• Molecule 19: 50S ribosomal protein L23

Chain T:



- Molecule 20: 50S ribosomal protein L24

Chain U: 



- Molecule 21: 50S ribosomal protein L25

Chain V: 



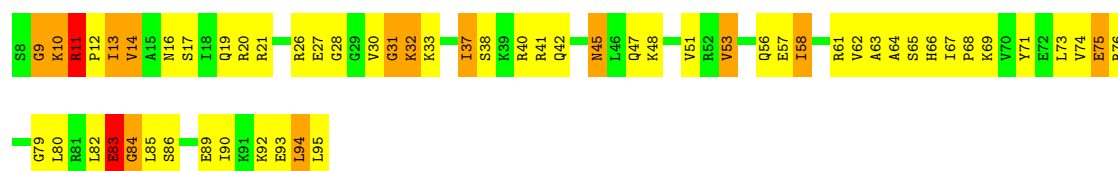
- Molecule 22: 50S ribosomal protein L27

Chain W: 



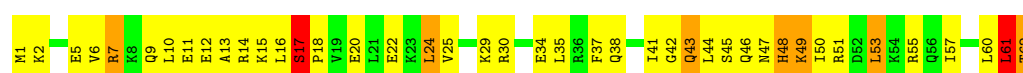
- Molecule 23: 50S ribosomal protein L28

Chain X: 



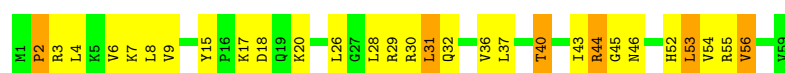
- Molecule 24: 50S ribosomal protein L29

Chain Y: 



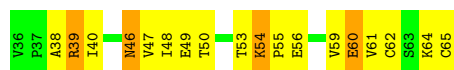
- Molecule 25: 50S ribosomal protein L30

Chain Z: 



- Molecule 26: 50S ribosomal protein L31

Chain 1: 



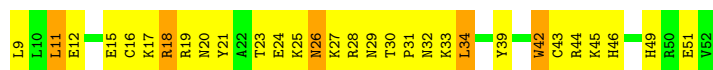
- Molecule 27: 50S ribosomal protein L32

Chain 2: 



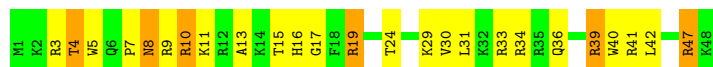
- Molecule 28: 50S ribosomal protein L33

Chain 3: 



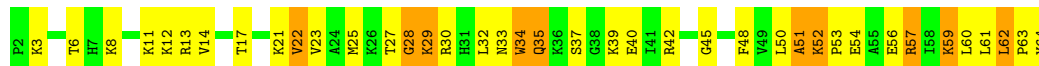
- Molecule 29: 50S ribosomal protein L34

Chain 4: 



- Molecule 30: 50S ribosomal protein L35

Chain 5: 



4 Data and refinement statistics

Xtriage (Phenix) and EDS were not executed - this section will therefore be incomplete.

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	211.53Å 454.44Å 620.87Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.98 – 3.40	Depositor
% Data completeness (in resolution range)	99.8 (49.98-3.40)	Depositor
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
Refinement program	PHENIX (phenix.refine: 1.6.4_486)	Depositor
R, R_{free}	0.231 , 0.268	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	89593	wwPDB-VP
Average B, all atoms (Å ²)	74.0	wwPDB-VP

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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	0.38	1/68308 (0.0%)	0.67	15/106635 (0.0%)
2	B	0.32	1/2857 (0.0%)	0.53	0/4455
3	D	0.33	0/2155	0.53	0/2905
4	E	0.28	0/1597	0.49	0/2153
5	F	0.28	0/1622	0.47	0/2194
6	G	0.23	0/1500	0.41	0/2017
7	H	0.24	0/1246	0.44	0/1682
8	I	0.24	0/1148	0.43	0/1552
9	J	0.29	0/1124	0.50	0/1515
10	K	0.28	0/942	0.46	0/1268
11	L	0.33	0/1131	0.62	0/1504
12	M	0.29	0/1085	0.49	0/1449
13	N	0.28	0/974	0.48	0/1302
14	O	0.25	0/779	0.43	0/1036
15	P	0.27	0/1158	0.45	0/1544
16	Q	0.30	0/982	0.45	0/1306
17	R	0.31	0/790	0.52	0/1057
18	S	0.30	0/902	0.47	0/1209
19	T	0.32	0/740	0.46	0/993
20	U	0.31	0/789	0.47	0/1051
21	V	0.22	0/1515	0.42	0/2056
22	W	0.27	0/613	0.47	0/816
23	X	0.34	0/702	0.57	0/932
24	Y	0.30	0/523	0.51	0/690
25	Z	0.26	0/473	0.47	0/634
26	1	0.20	0/229	0.42	0/309
27	2	0.30	0/419	0.53	0/567
28	3	0.22	0/388	0.45	0/518
29	4	0.34	0/427	0.50	0/561
30	5	0.32	0/516	0.52	0/679
All	All	0.35	2/97634 (0.0%)	0.62	15/146589 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
13	N	0	1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	1	U	OP3-P	-10.63	1.48	1.61
1	A	6	A	OP3-P	-10.61	1.48	1.61

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1420	U	C2-N1-C1'	6.84	125.91	117.70
1	A	1420	U	C6-N1-C1'	-6.61	111.95	121.20
1	A	2593	U	N3-C4-C5	-6.13	110.92	114.60
1	A	34	C	C6-N1-C1'	-6.00	113.61	120.80
1	A	676	A	N7-C8-N9	5.96	116.78	113.80
1	A	330	A	C2-N3-C4	-5.84	107.68	110.60
1	A	1899	G	C2-N3-C4	-5.83	108.99	111.90
1	A	34	C	N3-C4-C5	5.77	124.21	121.90
1	A	783	A	C5-N7-C8	-5.49	101.16	103.90
1	A	676	A	C5-N7-C8	-5.45	101.17	103.90
1	A	1602	U	N3-C4-C5	-5.24	111.46	114.60
1	A	2308	G	C3'-C2'-C1'	5.18	105.64	101.50
1	A	450	G	C5-C6-N1	-5.15	108.92	111.50
1	A	944	G	C4-N9-C1'	5.13	133.17	126.50
1	A	1627	G	N1-C6-O6	5.04	122.92	119.90

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
13	N	10	LEU	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	60991	0	30744	1323	0
2	B	2555	0	1294	59	0
3	D	2105	0	2182	187	0
4	E	1564	0	1629	115	0
5	F	1587	0	1632	102	0
6	G	1475	0	1537	123	0
7	H	1223	0	1282	65	0
8	I	1133	0	1220	80	0
9	J	1097	0	1168	82	0
10	K	932	0	994	48	0
11	L	1114	0	1187	203	0
12	M	1065	0	1114	97	0
13	N	960	0	1021	76	0
14	O	771	0	832	66	0
15	P	1144	0	1211	76	0
16	Q	964	0	1022	79	0
17	R	779	0	852	82	0
18	S	891	0	951	58	0
19	T	726	0	778	59	0
20	U	776	0	870	93	0
21	V	1483	0	1507	92	0
22	W	605	0	628	27	0
23	X	695	0	764	88	0
24	Y	521	0	575	67	0
25	Z	468	0	523	25	0
26	1	226	0	225	21	0
27	2	405	0	420	44	0
28	3	381	0	391	34	0
29	4	419	0	467	29	0
30	5	508	0	576	64	0
31	A	30	0	24	4	0
All	All	89593	0	59620	3165	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 21.

All (3165) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2502:G:H5'	1:A:2503:A:H5''	1.29	1.14
1:A:1541:U:H3'	1:A:1542:G:H3'	1.16	1.12
1:A:2303:G:H2'	1:A:2304:G:H5''	1.33	1.10
1:A:1899:G:N2	1:A:1902:C:H41	1.49	1.08
23:X:11:ARG:HB3	23:X:12:PRO:HD2	1.34	1.08
11:L:23:PRO:HB2	11:L:33:ARG:HG3	1.35	1.06
20:U:17:SER:HB2	20:U:71:LYS:HE2	1.40	1.04
11:L:41:ARG:HE	11:L:41:ARG:HA	1.22	1.03
20:U:76:CYS:SG	20:U:77:PRO:HD2	1.98	1.03
5:F:45:ARG:HH11	5:F:45:ARG:HG2	1.16	1.03
1:A:2393:A:H5'	11:L:62:LEU:HD12	1.36	1.02
1:A:274:G:H3'	1:A:275:G:H4'	1.41	1.02
1:A:34:C:O2'	1:A:35:G:H5'	1.59	1.01
11:L:49:ARG:HG3	11:L:49:ARG:HH11	1.25	1.01
11:L:128:HIS:HA	11:L:147:LEU:HB3	1.41	1.00
7:H:42:ARG:HB2	7:H:53:GLU:HB2	1.44	1.00
3:D:103:ARG:HG2	3:D:103:ARG:HH11	1.27	0.98
1:A:960:A:H61	12:M:82:ARG:HH21	1.09	0.98
23:X:19:GLN:HG2	23:X:41:ARG:HB3	1.43	0.98
27:2:4:HIS:HB3	27:2:5:PRO:HD3	1.44	0.97
1:A:1614:A:N1	18:S:93:ALA:HB2	1.80	0.97
8:I:93:THR:HG22	8:I:119:PRO:HB3	1.47	0.96
18:S:24:ILE:HG21	18:S:36:LEU:HD11	1.47	0.96
30:5:22:VAL:HB	30:5:54:GLU:HG3	1.42	0.96
1:A:2579:C:O2'	4:E:131:ALA:HB2	1.66	0.95
9:J:160:LYS:HZ2	9:J:161:LEU:H	1.08	0.95
1:A:1190:G:H5''	11:L:35:HIS:HA	1.48	0.95
29:4:19:ARG:HH11	29:4:19:ARG:HG3	1.27	0.94
24:Y:50:ILE:HD12	24:Y:51:ARG:N	1.82	0.94
1:A:676:A:H8	1:A:2069:G:H21	1.10	0.93
1:A:959:A:N6	12:M:82:ARG:HH22	1.65	0.93
1:A:2287:A:H62	1:A:2344:U:H3	1.05	0.93
8:I:5:LEU:HD23	8:I:5:LEU:H	1.32	0.93
1:A:1109:C:H5	1:A:1110:G:H1'	1.32	0.93
1:A:1899:G:H21	1:A:1902:C:H41	1.17	0.92
1:A:1689:A:H62	1:A:1698:A:H2	1.18	0.92
3:D:106:ILE:H	3:D:106:ILE:HD13	1.35	0.92
9:J:132:LYS:H	9:J:132:LYS:HD3	1.33	0.92
11:L:57:THR:HB	11:L:59:LEU:H	1.34	0.92
10:K:97:ARG:H	10:K:117:LEU:HD23	1.34	0.91
1:A:846:C:H4'	1:A:847:U:H5'	1.52	0.91
1:A:1541:U:H3'	1:A:1542:G:C3'	2.00	0.91
17:R:49:THR:HG22	17:R:50:PRO:HD2	1.52	0.91

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1541:U:C3'	1:A:1542:G:H3'	2.00	0.91
1:A:2473:U:O2'	1:A:2474:C:H5'	1.71	0.91
11:L:64:LYS:HB2	30:5:25:MET:HG3	1.52	0.90
1:A:140:A:H8	1:A:1408:C:HO2'	0.90	0.90
3:D:79:VAL:HG11	3:D:111:LEU:HD11	1.54	0.90
1:A:2090:G:H21	23:X:45:ASN:HD21	1.19	0.90
20:U:81:LYS:HD3	20:U:97:ARG:HB3	1.55	0.89
1:A:2681:C:H5	1:A:2725:A:H62	1.19	0.89
4:E:57:LYS:HG3	4:E:58:ARG:H	1.36	0.89
1:A:2729:G:H1'	4:E:187:ALA:HB2	1.55	0.88
11:L:91:PHE:HD1	11:L:91:PHE:H	1.21	0.88
17:R:14:VAL:HG11	17:R:96:ILE:HG12	1.54	0.88
1:A:942:G:H5'	11:L:35:HIS:HB2	1.55	0.88
6:G:53:LEU:HD13	6:G:88:ILE:HG21	1.56	0.88
1:A:273(G):C:H42	1:A:363(A):G:H1	1.22	0.88
1:A:1348:G:H2'	1:A:1349:A:H5''	1.53	0.88
30:5:52:LYS:HA	30:5:52:LYS:HE3	1.56	0.88
3:D:108:PRO:HB3	3:D:143:HIS:CE1	2.09	0.88
6:G:88:ILE:HD13	6:G:89:GLY:H	1.39	0.87
11:L:38:GLN:HG3	11:L:39:LYS:H	1.38	0.87
1:A:1678:G:H22	1:A:1989:G:H22	1.19	0.87
8:I:4:ILE:HG22	8:I:18:VAL:HG22	1.55	0.87
1:A:774:A:H2	1:A:787:U:HO2'	1.22	0.87
3:D:108:PRO:HB3	3:D:143:HIS:HE1	1.40	0.86
1:A:806:C:OP2	11:L:39:LYS:HG3	1.74	0.86
3:D:25:THR:CG2	3:D:82:ILE:H	1.89	0.85
1:A:1109:C:C5	1:A:1110:G:H1'	2.12	0.85
1:A:675:A:H4'	5:F:67:GLN:NE2	1.91	0.85
24:Y:14:ARG:HA	24:Y:17:SER:HB2	1.57	0.85
4:E:201:THR:HG22	4:E:202:LYS:H	1.41	0.85
4:E:201:THR:HG22	4:E:202:LYS:N	1.90	0.85
6:G:105:LYS:HD2	6:G:142:PRO:HG3	1.56	0.85
1:A:2303:G:C2'	1:A:2304:G:H5''	2.05	0.85
1:A:908:C:OP1	12:M:22:LYS:HD2	1.77	0.85
1:A:2447:G:H4'	1:A:2448:A:O5'	1.77	0.84
5:F:45:ARG:CG	5:F:45:ARG:HH11	1.89	0.84
12:M:43:THR:HA	12:M:94:VAL:HG12	1.59	0.84
5:F:6:MET:HG2	5:F:7:TYR:HD1	1.38	0.84
14:O:31:SER:HB3	14:O:34:HIS:HB2	1.60	0.84
20:U:50:ARG:HA	20:U:58:GLY:HA3	1.59	0.84
12:M:10:ARG:CZ	12:M:10:ARG:HA	2.07	0.83
12:M:23:GLY:HA3	12:M:98:LYS:HB2	1.58	0.83

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1309:G:H4'	29:4:7:PRO:HB2	1.61	0.83
1:A:1210:A:H8	1:A:1210:A:H5'	1.44	0.83
1:A:602:G:H2'	1:A:655:A:H61	1.44	0.83
29:4:9:ARG:HE	29:4:47:ARG:HB2	1.42	0.83
1:A:1902:C:H1'	3:D:244:ARG:HD2	1.61	0.83
5:F:67:GLN:O	5:F:67:GLN:HG3	1.78	0.83
1:A:886:C:H2'	1:A:887:A:O4'	1.79	0.82
1:A:1006:C:H1'	9:J:129:MET:HG2	1.61	0.82
1:A:140:A:H8	1:A:1408:C:O2'	1.61	0.82
1:A:2502:G:H5'	1:A:2503:A:C5'	2.10	0.82
1:A:661:C:O3'	11:L:18:ARG:HG2	1.80	0.82
1:A:959:A:H62	12:M:82:ARG:HH22	1.25	0.82
11:L:62:LEU:H	11:L:62:LEU:HD22	1.45	0.82
1:A:1174:A:H3'	1:A:1175:U:H5''	1.59	0.82
1:A:780:G:H21	1:A:783:A:H62	1.23	0.82
21:V:69:THR:HG22	21:V:90:VAL:HG22	1.60	0.82
23:X:13:ILE:HG21	23:X:63:ALA:H	1.45	0.82
1:A:1420:U:O2'	1:A:1421:G:H5'	1.79	0.82
3:D:255:LYS:HD2	3:D:255:LYS:H	1.45	0.82
11:L:59:LEU:HA	11:L:61:ARG:NE	1.95	0.82
23:X:10:LYS:C	23:X:13:ILE:HD11	2.01	0.82
11:L:125:VAL:HG11	11:L:138:LEU:HD21	1.60	0.81
1:A:2790:A:H2'	1:A:2791:C:H5''	1.62	0.81
5:F:134:GLY:H	5:F:162:LEU:HD22	1.44	0.81
9:J:156:GLN:C	9:J:158:PRO:HD3	2.00	0.81
11:L:41:ARG:HE	11:L:41:ARG:CA	1.90	0.81
27:2:4:HIS:CB	27:2:5:PRO:HD3	2.09	0.81
1:A:1537:C:H2'	1:A:1538:G:O4'	1.80	0.81
1:A:773:U:H4'	3:D:47:GLY:HA3	1.62	0.81
1:A:302:C:H2'	1:A:303:U:H6	1.46	0.81
1:A:141(A):A:H8	1:A:1595:G:H21	1.29	0.80
1:A:1678:G:N2	1:A:1989:G:H22	1.78	0.80
11:L:16:ARG:NH2	11:L:18:ARG:H	1.79	0.80
16:Q:62:ILE:HD11	16:Q:93:LYS:HD3	1.63	0.80
29:4:19:ARG:CG	29:4:19:ARG:HH11	1.95	0.80
24:Y:46:GLN:HB2	24:Y:49:LYS:NZ	1.97	0.80
2:B:89(A):G:H2'	2:B:89(B):A:C8	2.16	0.80
5:F:103:LYS:HA	5:F:106:ARG:HG3	1.62	0.80
6:G:167:GLU:HA	6:G:170:ARG:HB3	1.63	0.80
11:L:23:PRO:HB2	11:L:33:ARG:CG	2.12	0.80
7:H:169:VAL:C	7:H:170:ARG:HE	1.85	0.80
15:P:24:PRO:HA	15:P:49:VAL:HG13	1.61	0.80

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2749:A:H4'	7:H:62:LYS:HB3	1.63	0.80
3:D:28:GLU:HB3	3:D:29:PRO:HD3	1.64	0.80
11:L:45:LEU:HD23	11:L:46:LYS:H	1.45	0.79
28:3:26:ASN:HD22	28:3:28:ARG:H	1.29	0.79
1:A:2150:U:H2'	1:A:2151:G:C8	2.18	0.79
9:J:154:GLN:HE21	9:J:155:ALA:HB3	1.45	0.79
1:A:2287:A:N6	1:A:2344:U:H3	1.80	0.79
23:X:13:ILE:HD12	23:X:14:VAL:H	1.46	0.79
29:4:8:ASN:HD22	29:4:8:ASN:C	1.86	0.79
1:A:274:G:H3'	1:A:275:G:C4'	2.13	0.79
1:A:1287:A:N7	13:N:107:ASP:HB2	1.98	0.79
1:A:1051:G:H1	1:A:1107:G:H22	1.27	0.78
17:R:28:GLU:HB3	17:R:31:ALA:HB2	1.63	0.78
1:A:1019:U:H3	1:A:1142(B):A:H62	1.30	0.78
3:D:31:LYS:HG3	3:D:33:LEU:HG	1.66	0.78
17:R:38:LEU:O	17:R:39:LEU:HD13	1.84	0.78
1:A:1478:G:HO2'	1:A:1558:A:H2	1.32	0.78
1:A:919:G:H5'	2:B:81:G:H1'	1.64	0.78
30:5:50:LEU:HB2	30:5:54:GLU:HB2	1.65	0.78
1:A:655:A:H2'	1:A:656:G:O4'	1.83	0.77
1:A:330:A:H2	1:A:1210:A:H2'	1.48	0.77
6:G:43:LEU:H	6:G:43:LEU:HD12	1.46	0.77
29:4:9:ARG:HH21	29:4:47:ARG:HG3	1.49	0.77
11:L:148:LEU:HD13	11:L:148:LEU:H	1.49	0.77
15:P:50:ILE:HG12	15:P:99:LEU:HD12	1.65	0.77
23:X:11:ARG:HB3	23:X:12:PRO:CD	2.13	0.77
1:A:910:A:C5	12:M:13:GLN:HG3	2.18	0.77
4:E:91:VAL:HB	4:E:95:ILE:HD11	1.66	0.77
16:Q:92:ARG:CD	16:Q:94:ASN:HB3	2.14	0.77
14:O:61:ASN:HD22	14:O:64:GLU:H	1.31	0.77
1:A:380:U:O2'	23:X:20:ARG:HB3	1.84	0.77
1:A:274:G:C3'	1:A:275:G:H4'	2.15	0.77
5:F:45:ARG:HG2	5:F:45:ARG:NH1	1.89	0.77
19:T:60:ARG:HH21	29:4:47:ARG:CZ	1.97	0.77
9:J:160:LYS:HZ2	9:J:161:LEU:N	1.83	0.77
11:L:58:THR:O	11:L:61:ARG:HG3	1.85	0.77
13:N:57:ARG:HG2	13:N:58:GLY:H	1.49	0.77
16:Q:90:VAL:HG13	16:Q:91:ASP:H	1.49	0.77
6:G:88:ILE:HD13	6:G:89:GLY:N	1.99	0.76
28:3:23:THR:HB	30:5:35:GLN:HA	1.64	0.76
4:E:132:HIS:CD2	4:E:135:HIS:NE2	2.54	0.76
5:F:34:TRP:CZ2	11:L:12:ALA:HB2	2.21	0.76

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:L:80:TYR:CD1	11:L:111:ARG:HB3	2.20	0.76
18:S:1:MET:HG2	18:S:2:GLU:H	1.51	0.76
1:A:1902:C:H4'	3:D:244:ARG:HB2	1.68	0.76
1:A:1379:A:H4'	1:A:1380:G:OP2	1.86	0.75
1:A:2689:U:H4'	1:A:2690:C:O5'	1.83	0.75
1:A:195:A:OP1	11:L:46:LYS:HE2	1.86	0.75
10:K:71:ARG:HH21	10:K:77:ILE:HG21	1.51	0.75
13:N:70:LEU:HD23	13:N:75:LEU:HD12	1.69	0.75
4:E:47:VAL:HG21	4:E:86:PRO:HD3	1.68	0.75
1:A:2015:A:H1'	27:2:2:ALA:HA	1.67	0.75
3:D:227:ASN:HB3	3:D:228:PRO:HD2	1.67	0.75
11:L:47:ASP:HB3	11:L:48:PRO:HA	1.66	0.75
13:N:51:LEU:HD13	13:N:70:LEU:HD11	1.68	0.75
30:5:22:VAL:HB	30:5:54:GLU:CG	2.17	0.75
3:D:25:THR:O	3:D:27:THR:HG22	1.86	0.75
6:G:36:LYS:HB3	6:G:160:VAL:HB	1.66	0.75
11:L:71:VAL:HB	11:L:72:PRO:HD3	1.68	0.75
5:F:185:ASP:HA	5:F:188:ARG:HD3	1.69	0.74
7:H:25:LYS:HD2	7:H:27:LYS:HE2	1.67	0.74
4:E:57:LYS:HG3	4:E:58:ARG:N	2.01	0.74
23:X:86:SER:HB2	23:X:89:GLU:HB2	1.69	0.74
9:J:160:LYS:HA	9:J:160:LYS:NZ	2.01	0.74
1:A:273(F):U:H2'	1:A:273(G):C:H5''	1.69	0.74
3:D:7:LYS:HG2	3:D:8:PRO:HD2	1.68	0.74
12:M:74:TYR:HD2	12:M:91:GLU:HB2	1.53	0.74
16:Q:92:ARG:HD3	16:Q:94:ASN:HB3	1.70	0.74
27:2:4:HIS:HB3	27:2:5:PRO:CD	2.18	0.74
3:D:35:LYS:HG2	3:D:104:TYR:CE2	2.22	0.74
12:M:51:ARG:HH11	12:M:51:ARG:HB3	1.51	0.74
20:U:17:SER:CB	20:U:71:LYS:HE2	2.16	0.74
1:A:1024:G:H3'	1:A:1025:G:H5''	1.69	0.73
1:A:2884:U:H5	1:A:2885:C:C2	2.06	0.73
1:A:2807:G:H22	1:A:2893:G:H22	1.34	0.73
2:B:9:G:H5'	14:O:25:ARG:HH22	1.53	0.73
4:E:132:HIS:HA	4:E:135:HIS:CE1	2.24	0.73
1:A:323:G:H2'	5:F:169:ASN:OD1	1.88	0.73
8:I:56:LYS:HZ2	8:I:56:LYS:HB3	1.52	0.73
8:I:77:LEU:HD11	8:I:101:LEU:HB2	1.70	0.73
15:P:60:THR:HG22	15:P:77:PRO:HA	1.69	0.73
5:F:63:LYS:HA	5:F:76:GLY:O	1.87	0.73
21:V:24:LEU:HD11	21:V:86:VAL:HG23	1.69	0.73
23:X:51:VAL:HG21	23:X:74:VAL:HG21	1.70	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:111:ARG:HG3	4:E:160:TYR:CD1	2.24	0.73
4:E:24:THR:HB	4:E:186:GLY:HA2	1.70	0.73
18:S:29:LEU:HD21	18:S:33:ARG:HH21	1.53	0.73
27:2:40:LYS:HD3	27:2:46:CYS:HB3	1.70	0.73
1:A:773:U:C4'	3:D:47:GLY:HA3	2.18	0.73
19:T:63:LYS:NZ	19:T:72:LYS:HB3	2.03	0.72
5:F:20:LEU:HD22	5:F:21:ALA:H	1.53	0.72
12:M:10:ARG:NE	12:M:10:ARG:HA	2.05	0.72
9:J:68:ASN:HD22	9:J:68:ASN:H	1.35	0.72
15:P:26:ASP:O	15:P:49:VAL:HG12	1.90	0.72
16:Q:58:ARG:O	16:Q:62:ILE:HG12	1.90	0.72
17:R:35:LEU:C	17:R:37:VAL:H	1.92	0.72
21:V:126:VAL:HG12	21:V:163:LEU:HA	1.71	0.72
12:M:12:GLN:HB2	12:M:73:PRO:HD2	1.72	0.72
7:H:123:PHE:HB3	7:H:133:VAL:HA	1.72	0.72
20:U:7:VAL:C	20:U:8:LYS:HG3	2.10	0.72
7:H:168:PRO:HG2	7:H:170:ARG:HD3	1.71	0.71
30:5:30:ARG:HA	30:5:30:ARG:HE	1.55	0.71
1:A:1899:G:N2	1:A:1902:C:N4	2.34	0.71
1:A:2001:A:H5''	1:A:2689:U:O2'	1.90	0.71
1:A:2807:G:H1	1:A:2893:G:H1	1.39	0.71
3:D:144:ALA:HB3	3:D:192:THR:HG23	1.72	0.71
8:I:72:LEU:HD11	8:I:101:LEU:HD11	1.72	0.71
11:L:50:ARG:HG2	11:L:51:PHE:N	2.05	0.71
11:L:64:LYS:O	11:L:66:GLY:N	2.18	0.71
11:L:95:VAL:HA	11:L:99:LEU:HD22	1.73	0.71
20:U:95:LYS:HG3	20:U:100:ALA:HA	1.73	0.71
1:A:2446:G:C2'	1:A:2447:G:H5''	2.20	0.71
1:A:2119:A:N6	1:A:2170:A:N6	2.37	0.71
11:L:62:LEU:CD2	30:5:25:MET:HB2	2.20	0.71
4:E:10:GLY:HA3	15:P:8:LYS:HE3	1.71	0.71
31:A:9001:BLS:H151	31:A:9001:BLS:H102	1.56	0.71
17:R:34:GLU:O	17:R:36:PRO:HD3	1.90	0.71
1:A:2712:U:H1'	1:A:712(B):A:C8	2.25	0.71
10:K:4:PRO:O	10:K:5:GLN:HB2	1.90	0.71
23:X:80:LEU:HD22	23:X:82:LEU:HB3	1.73	0.71
1:A:480:A:OP2	20:U:46:LYS:HE2	1.89	0.71
1:A:605:C:H1'	1:A:657:U:O2'	1.90	0.71
1:A:2680:C:H5'	4:E:189:PRO:HA	1.72	0.71
4:E:103:ASP:OD1	4:E:201:THR:HG23	1.91	0.70
11:L:62:LEU:HD22	11:L:62:LEU:N	2.06	0.70
13:N:57:ARG:HG2	13:N:58:GLY:N	2.05	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:Q:92:ARG:HH11	16:Q:92:ARG:CB	2.04	0.70
3:D:57:GLY:H	3:D:216:GLY:HA2	1.55	0.70
1:A:1359:A:H2'	1:A:1360:A:H5'	1.73	0.70
1:A:276:C:H2'	1:A:277:A:H8	1.54	0.70
5:F:113:ALA:HB1	5:F:186:ILE:HG21	1.73	0.70
6:G:82:LEU:HA	6:G:86:MET:HE1	1.73	0.70
8:I:92:VAL:HG23	8:I:96:ASP:HB2	1.73	0.70
15:P:28:VAL:HG23	15:P:88:ILE:HA	1.71	0.70
25:Z:8:LEU:HB2	25:Z:28:LEU:HD23	1.72	0.70
1:A:602:G:H2'	1:A:655:A:N6	2.06	0.70
1:A:1858:G:H1'	1:A:1884:A:N6	2.07	0.70
1:A:2446:G:H2'	1:A:2447:G:H5''	1.72	0.70
20:U:37:VAL:HG21	20:U:72:VAL:HG21	1.72	0.70
11:L:62:LEU:HD23	30:5:25:MET:HB2	1.73	0.70
1:A:1045:A:H5'	1:A:1047:G:H5'	1.73	0.70
4:E:111:ARG:HB2	4:E:160:TYR:HB3	1.74	0.70
1:A:744:G:OP1	4:E:132:HIS:HB3	1.90	0.70
12:M:58:PHE:HD1	12:M:58:PHE:O	1.75	0.70
23:X:27:GLU:HB2	23:X:33:LYS:HA	1.73	0.70
8:I:92:VAL:HG13	8:I:120:ILE:HG13	1.72	0.70
11:L:29:LYS:N	11:L:29:LYS:HD2	2.07	0.70
20:U:81:LYS:CD	20:U:97:ARG:HB3	2.21	0.70
20:U:90:LEU:HD23	20:U:90:LEU:H	1.56	0.70
1:A:2394:C:OP1	11:L:63:PRO:HD2	1.92	0.70
9:J:57:LEU:O	9:J:72:GLY:HA3	1.92	0.70
9:J:80:ALA:O	9:J:83:ILE:HG13	1.92	0.70
17:R:66:ARG:HD2	17:R:88:ARG:CZ	2.22	0.70
1:A:2210:G:H3'	1:A:2210:G:N3	2.07	0.69
5:F:28:ILE:H	5:F:28:ILE:HD13	1.56	0.69
15:P:27:THR:HG23	15:P:90:GLN:HB3	1.74	0.69
12:M:103:MET:HB2	12:M:104:PHE:HD1	1.56	0.69
25:Z:52:HIS:H	25:Z:52:HIS:CD2	2.09	0.69
1:A:1386:C:H2'	1:A:1387:C:H6	1.57	0.69
16:Q:34:LYS:HA	16:Q:34:LYS:HE2	1.73	0.69
24:Y:14:ARG:HG2	24:Y:17:SER:OG	1.92	0.69
1:A:1210:A:H8	1:A:1210:A:C5'	2.06	0.69
1:A:1405:U:H2'	1:A:1406:U:C6	2.26	0.69
1:A:2747:G:O6	1:A:2755:C:H5''	1.91	0.69
1:A:388:G:OP1	23:X:33:LYS:HB3	1.92	0.69
1:A:887:A:H2'	1:A:888:C:H5''	1.73	0.69
3:D:21:PHE:HB3	3:D:24:ILE:HD12	1.73	0.69
9:J:79:ASN:H	9:J:148:GLY:HA3	1.58	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:M:10:ARG:HD3	12:M:11:LYS:H	1.57	0.69
21:V:30:ASN:HD22	21:V:32:HIS:H	1.38	0.69
23:X:10:LYS:O	23:X:13:ILE:HD11	1.92	0.69
1:A:1854:A:H62	1:A:1888:G:H8	1.41	0.69
1:A:2473:U:C2'	1:A:2473:U:O2	2.41	0.69
3:D:255:LYS:O	3:D:255:LYS:HD3	1.92	0.69
16:Q:108:GLU:HG3	17:R:44:LYS:HG2	1.75	0.69
27:2:33:CYS:SG	27:2:40:LYS:HE3	2.32	0.68
1:A:2756:U:H4'	1:A:2757:A:OP1	1.93	0.68
3:D:103:ARG:CG	3:D:103:ARG:HH11	2.05	0.68
1:A:494:G:H21	18:S:57:ASN:HD21	1.39	0.68
24:Y:13:ALA:O	24:Y:17:SER:HA	1.92	0.68
1:A:1805:U:O2	3:D:50:THR:HB	1.93	0.68
12:M:62:GLY:HA2	21:V:116:VAL:HG21	1.75	0.68
1:A:2267:A:H5''	1:A:2268:A:H5'	1.76	0.68
23:X:40:ARG:NH1	23:X:42:GLN:HG2	2.09	0.68
1:A:1709:U:H2'	1:A:1710:C:C6	2.29	0.68
1:A:273(G):C:N4	1:A:363(A):G:H1	1.91	0.68
8:I:88:ILE:O	8:I:121:LYS:HE3	1.93	0.68
15:P:56:GLY:O	15:P:59:THR:HG22	1.94	0.68
1:A:2415:G:H4'	11:L:67:MET:N	2.07	0.68
9:J:157:ARG:N	9:J:158:PRO:HD3	2.08	0.68
27:2:40:LYS:CD	27:2:46:CYS:HB3	2.23	0.68
1:A:118:A:H5'	1:A:119:A:H8	1.58	0.68
1:A:860:U:H5	1:A:917:A:N7	1.92	0.68
1:A:83:G:N2	1:A:102:G:H2'	2.09	0.68
27:2:29:ILE:O	27:2:29:ILE:HD12	1.93	0.68
1:A:1416:G:H2'	1:A:1417:C:C6	2.28	0.68
4:E:49:LEU:HD23	4:E:81:ILE:HG12	1.76	0.68
1:A:270(T):G:H2'	1:A:270(U):G:H8	1.58	0.68
20:U:42:VAL:HG12	20:U:65:ALA:HB3	1.76	0.68
24:Y:14:ARG:HA	24:Y:17:SER:CB	2.23	0.68
1:A:1386:C:H2'	1:A:1387:C:C6	2.29	0.67
1:A:1529:A:H62	1:A:1542:G:N2	1.91	0.67
4:E:47:VAL:HG23	4:E:84:PHE:O	1.93	0.67
1:A:1005:C:O2'	9:J:51:THR:HG21	1.94	0.67
9:J:160:LYS:HA	9:J:160:LYS:HZ3	1.58	0.67
11:L:23:PRO:HD2	11:L:33:ARG:NH2	2.07	0.67
24:Y:14:ARG:HG2	24:Y:17:SER:CB	2.25	0.67
1:A:2116:G:N2	1:A:2163:C:H41	1.92	0.67
16:Q:24:TYR:HB2	16:Q:29:SER:HB3	1.76	0.67
16:Q:92:ARG:HD2	16:Q:95:LEU:HG	1.74	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:V:125:LEU:HD13	21:V:164:ALA:HB3	1.75	0.67
11:L:64:LYS:HB2	30:5:25:MET:CG	2.25	0.67
1:A:2393:A:H5'	11:L:62:LEU:CD1	2.21	0.67
1:A:34:C:O2'	1:A:35:G:C5'	2.40	0.67
1:A:814:C:H41	11:L:27:HIS:CD2	2.13	0.67
11:L:46:LYS:HB3	11:L:52:GLU:HG3	1.77	0.67
22:W:23:VAL:HA	22:W:38:VAL:HG22	1.76	0.67
4:E:172:VAL:HG13	4:E:182:LEU:HD11	1.76	0.67
4:E:7:VAL:HG22	4:E:27:LEU:HB3	1.76	0.67
1:A:1045:A:H5''	1:A:1046:A:H3'	1.76	0.67
1:A:528:A:H2	1:A:2043:C:H5'	1.59	0.67
5:F:6:MET:HG2	5:F:7:TYR:CD1	2.26	0.67
6:G:71:THR:HG22	6:G:89:GLY:N	2.09	0.67
15:P:115:ARG:HD3	15:P:115:ARG:H	1.59	0.67
19:T:5:TYR:CE2	24:Y:30:ARG:HG3	2.29	0.67
1:A:1332:G:H21	1:A:1610:A:H8	1.40	0.67
1:A:2601:C:H3'	1:A:2602:A:H5''	1.76	0.67
14:O:26:LEU:HG	14:O:39:ILE:HD11	1.77	0.67
5:F:157:VAL:HB	5:F:194:MET:HB3	1.75	0.67
17:R:14:VAL:CG1	17:R:96:ILE:HG12	2.24	0.67
19:T:55:ASN:HB2	19:T:80:ILE:HG13	1.76	0.67
1:A:1981:A:H5''	1:A:1982:C:OP2	1.96	0.66
1:A:302:C:H2'	1:A:303:U:C6	2.30	0.66
3:D:25:THR:HG23	3:D:82:ILE:H	1.59	0.66
22:W:53:MET:HB3	22:W:59:LEU:HD23	1.76	0.66
11:L:126:VAL:HG22	11:L:145:PRO:HG2	1.78	0.66
11:L:29:LYS:H	11:L:29:LYS:HD2	1.60	0.66
1:A:2840:C:H4'	13:N:53:HIS:CD2	2.30	0.66
15:P:55:ASN:H	15:P:59:THR:HB	1.61	0.66
1:A:2147:G:H2'	1:A:2148:G:O4'	1.96	0.66
6:G:90:LEU:HD22	6:G:90:LEU:H	1.59	0.66
20:U:81:LYS:HG3	20:U:82:PRO:HD2	1.78	0.66
30:5:61:LEU:HB3	30:5:64:TYR:HB2	1.78	0.66
1:A:1348:G:C2'	1:A:1349:A:H5''	2.24	0.66
1:A:1902:C:C4'	3:D:244:ARG:HB2	2.25	0.66
6:G:41:GLN:HB2	6:G:43:LEU:HD11	1.78	0.66
15:P:98:LYS:HB3	15:P:100:TYR:CE1	2.30	0.66
15:P:8:LYS:O	15:P:11:GLU:HB3	1.96	0.66
23:X:27:GLU:HG3	23:X:33:LYS:CE	2.25	0.66
1:A:1389:G:C2	1:A:1399:C:O2	2.49	0.66
1:A:2688:U:H5	1:A:2720:U:OP2	1.78	0.66
9:J:154:GLN:NE2	9:J:155:ALA:HB3	2.10	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:L:89:ALA:HB1	11:L:121:LYS:HD3	1.78	0.66
1:A:276:C:H2'	1:A:277:A:C8	2.31	0.66
1:A:784:A:C5	3:D:229:VAL:HG21	2.31	0.66
11:L:49:ARG:CG	11:L:49:ARG:HH11	2.04	0.66
16:Q:90:VAL:HG22	16:Q:91:ASP:N	2.10	0.66
18:S:73:ALA:HB3	18:S:106:ILE:HD11	1.76	0.66
1:A:1647:G:H3'	1:A:1647:G:OP2	1.96	0.66
1:A:2225:A:H4'	1:A:2226:C:O5'	1.95	0.66
3:D:238:GLY:O	3:D:239:ARG:C	2.33	0.66
5:F:123:LEU:HD12	5:F:124:LEU:H	1.61	0.66
28:3:42:TRP:HA	28:3:42:TRP:CE3	2.30	0.65
4:E:77:ILE:HD13	4:E:195:LEU:HD13	1.79	0.65
5:F:107:LYS:HZ2	5:F:205:ARG:HG3	1.60	0.65
8:I:91:SER:OG	8:I:119:PRO:HB2	1.96	0.65
13:N:2:ARG:O	13:N:2:ARG:HD2	1.96	0.65
30:5:51:ALA:O	30:5:54:GLU:HB3	1.96	0.65
1:A:996:A:H4'	16:Q:92:ARG:NH1	2.11	0.65
1:A:534:U:O2'	16:Q:49:HIS:HD2	1.79	0.65
1:A:518:G:H4'	18:S:18:ARG:NH1	2.10	0.65
1:A:2115:G:H2'	1:A:2116:G:C8	2.31	0.65
3:D:238:GLY:O	3:D:240:ALA:N	2.29	0.65
5:F:8:GLN:HA	5:F:20:LEU:O	1.96	0.65
11:L:16:ARG:NH1	11:L:18:ARG:HB2	2.12	0.65
1:A:960:A:N6	12:M:82:ARG:HH21	1.88	0.65
23:X:53:VAL:HG22	23:X:74:VAL:HG13	1.78	0.65
1:A:2308:G:O2'	1:A:2309:A:OP2	2.15	0.65
24:Y:17:SER:HB3	24:Y:18:PRO:HD3	1.79	0.65
1:A:185:U:H4'	1:A:218:A:H4'	1.79	0.65
1:A:1659:U:OP2	4:E:132:HIS:HE1	1.79	0.65
30:5:52:LYS:HD2	30:5:52:LYS:N	2.11	0.65
1:A:1639:U:H2'	1:A:1640:C:H5''	1.79	0.65
2:B:115:G:H5'	14:O:50:SER:OG	1.97	0.65
1:A:2562:U:H1'	10:K:23:ARG:NH1	2.11	0.65
1:A:1174:A:H3'	1:A:1175:U:C5'	2.27	0.65
1:A:1416:G:H2'	1:A:1417:C:H6	1.62	0.65
1:A:7:G:H4'	9:J:152:PRO:HB3	1.79	0.65
23:X:51:VAL:HG13	23:X:58:ILE:HG23	1.77	0.65
25:Z:40:THR:HG23	25:Z:43:ILE:HG12	1.77	0.65
1:A:1175:U:H5	1:A:1177:A:N6	1.95	0.65
1:A:270(L):C:H2'	1:A:270(M):U:H2'	1.79	0.65
1:A:547:A:H2'	1:A:548:A:C2	2.31	0.65
5:F:11:VAL:HG22	5:F:125:LEU:HB2	1.78	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:T:50:LYS:N	19:T:87:GLN:HE22	1.95	0.65
21:V:72:ARG:HG2	21:V:89:PHE:HB2	1.78	0.65
1:A:2090:G:H21	23:X:45:ASN:ND2	1.92	0.65
11:L:23:PRO:HB3	11:L:29:LYS:HB3	1.78	0.65
11:L:51:PHE:H	11:L:57:THR:HG23	1.61	0.65
15:P:107:ASP:H	15:P:110:ILE:HB	1.61	0.65
1:A:1270:C:H5''	1:A:1271:G:O5'	1.96	0.65
1:A:774:A:H2	1:A:787:U:O2'	1.80	0.65
5:F:12:LEU:HD13	5:F:124:LEU:HD11	1.78	0.65
5:F:20:LEU:CD2	5:F:21:ALA:H	2.09	0.65
7:H:118:PRO:HG2	7:H:121:ILE:HD13	1.77	0.65
1:A:2320:A:N3	1:A:2320:A:H2'	2.11	0.64
1:A:534:U:O2'	16:Q:49:HIS:CD2	2.49	0.64
12:M:22:LYS:HD3	12:M:22:LYS:C	2.17	0.64
1:A:2814:C:O2'	27:2:29:ILE:HG21	1.97	0.64
1:A:127:A:H5''	1:A:128:C:C6	2.32	0.64
4:E:92:THR:O	4:E:95:ILE:HG13	1.97	0.64
19:T:24:GLY:O	19:T:83:VAL:HG22	1.97	0.64
20:U:54:LYS:HG2	20:U:55:TYR:H	1.60	0.64
23:X:40:ARG:HD2	23:X:41:ARG:N	2.11	0.64
1:A:270(R):C:H2'	1:A:270(S):G:H8	1.61	0.64
3:D:125:ILE:HG12	3:D:137:PRO:CD	2.28	0.64
1:A:2729:G:H1'	4:E:187:ALA:CB	2.26	0.64
5:F:34:TRP:HB2	11:L:10:PRO:O	1.97	0.64
6:G:137:GLU:HG2	6:G:152:LEU:HD22	1.80	0.64
16:Q:92:ARG:NH2	17:R:11:GLN:H	1.94	0.64
23:X:13:ILE:HG23	23:X:62:VAL:HG22	1.79	0.64
1:A:2577:A:H5''	1:A:2578:G:H5'	1.80	0.64
1:A:943:U:OP1	11:L:38:GLN:HB3	1.97	0.64
4:E:2:LYS:HD3	4:E:95:ILE:HG22	1.80	0.64
10:K:76:ALA:HB3	15:P:75:ILE:HD13	1.79	0.64
22:W:56:ASP:O	22:W:57:PHE:HB2	1.96	0.64
16:Q:85:LYS:HD3	16:Q:85:LYS:O	1.98	0.64
21:V:9:TYR:OH	21:V:61:LEU:HD13	1.96	0.64
26:1:46:ASN:HD22	26:1:47:VAL:H	1.45	0.64
21:V:5:LEU:HD23	21:V:6:LYS:N	2.13	0.64
1:A:1514:U:H2'	1:A:1515:C:H6	1.62	0.64
6:G:117:PHE:HD1	6:G:118:ARG:N	1.95	0.64
1:A:1113:U:H2'	1:A:1114:G:C8	2.32	0.64
1:A:2630:G:O4'	1:A:2894:G:H1'	1.98	0.64
8:I:63:ALA:O	8:I:66:GLU:HB3	1.97	0.64
11:L:77:ARG:HB2	11:L:78:PRO:HD2	1.77	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:K:107:ARG:HH22	15:P:36:GLU:HG3	1.62	0.64
17:R:39:LEU:HA	17:R:47:VAL:CG1	2.28	0.64
28:3:39:TYR:HB3	28:3:49:HIS:CE1	2.32	0.64
1:A:1490:A:H5'	1:A:1494:A:N1	2.13	0.64
3:D:8:PRO:HB3	3:D:14:ARG:HB2	1.79	0.64
11:L:6:LEU:HD23	11:L:6:LEU:H	1.62	0.64
13:N:29:LEU:HD12	13:N:70:LEU:HD21	1.79	0.64
19:T:57:LEU:HD11	19:T:78:LYS:HD2	1.80	0.64
28:3:25:LYS:HD3	30:5:34:TRP:CZ3	2.33	0.64
1:A:2039:C:H2'	1:A:2040:C:H6	1.63	0.64
8:I:133:HIS:HE1	8:I:135:GLU:HB3	1.63	0.64
24:Y:2:LYS:HA	24:Y:5:GLU:CD	2.18	0.64
1:A:892:G:H2'	1:A:893:C:C6	2.33	0.63
5:F:14:PRO:HD3	5:F:128:ALA:HB2	1.80	0.63
11:L:18:ARG:O	11:L:18:ARG:HD2	1.97	0.63
3:D:27:THR:O	3:D:27:THR:HG23	1.98	0.63
6:G:115:ARG:HH22	6:G:136:ARG:H	1.45	0.63
1:A:2115:G:H4'	1:A:2166:G:H2'	1.79	0.63
1:A:1658:C:OP1	4:E:132:HIS:ND1	2.31	0.63
4:E:9:VAL:HG13	4:E:25:VAL:O	1.97	0.63
5:F:133:ASN:HA	5:F:162:LEU:HD13	1.79	0.63
6:G:114:ILE:HD13	6:G:140:ILE:HG21	1.80	0.63
13:N:2:ARG:HD2	13:N:2:ARG:C	2.18	0.63
1:A:1796:U:H2'	1:A:1797:C:C6	2.34	0.63
1:A:1217:C:P	16:Q:15:LYS:HZ1	2.21	0.63
1:A:1899:G:O2'	1:A:1900:A:H5''	1.99	0.63
1:A:1899:G:H22	1:A:1902:C:H41	1.44	0.63
1:A:2473:U:H2'	1:A:2473:U:O2	1.98	0.63
7:H:33:LEU:HD11	7:H:136:ILE:HG22	1.79	0.63
11:L:94:GLU:HG3	11:L:124:LYS:HB3	1.80	0.63
24:Y:24:LEU:HD22	24:Y:60:LEU:HD11	1.79	0.63
17:R:77:ALA:O	17:R:79:VAL:HG22	1.99	0.63
15:P:86:ILE:O	15:P:86:ILE:HG12	1.99	0.63
16:Q:75:ASN:ND2	16:Q:78:THR:H	1.97	0.63
18:S:24:ILE:HG21	18:S:36:LEU:CD1	2.27	0.63
6:G:77:ILE:HB	6:G:82:LEU:HD12	1.81	0.63
7:H:94:TYR:H	7:H:94:TYR:HD1	1.46	0.63
8:I:133:HIS:CE1	8:I:135:GLU:HB3	2.34	0.63
1:A:1270:C:H5''	1:A:1271:G:C5'	2.29	0.63
1:A:2792:G:H1'	1:A:2805:G:H22	1.64	0.63
19:T:3:THR:HA	19:T:6:ASP:OD2	1.99	0.63
20:U:98:VAL:HG13	20:U:99:CYS:H	1.64	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1678:G:N2	1:A:1989:G:N2	2.47	0.62
11:L:23:PRO:CB	11:L:33:ARG:HG3	2.23	0.62
23:X:13:ILE:HG21	23:X:63:ALA:HB3	1.81	0.62
30:5:61:LEU:O	30:5:63:PRO:HD2	1.99	0.62
1:A:1466:G:H2'	1:A:1547:C:H41	1.64	0.62
1:A:2787:C:O4'	4:E:62:PRO:HB3	1.99	0.62
5:F:52:LYS:HB3	5:F:56:GLU:HB2	1.81	0.62
11:L:41:ARG:NE	11:L:41:ARG:CA	2.62	0.62
8:I:27:ARG:HD3	23:X:71:TYR:CE1	2.34	0.62
1:A:404:C:H4'	1:A:405:U:H5'	1.81	0.62
2:B:40:U:H3'	2:B:41:U:C5'	2.29	0.62
1:A:1567:A:H5'	3:D:58:HIS:ND1	2.14	0.62
4:E:28:ALA:HB3	4:E:93:VAL:HG22	1.80	0.62
30:5:52:LYS:HA	30:5:52:LYS:CE	2.28	0.62
1:A:1187:G:H5''	17:R:81:TYR:CE2	2.33	0.62
1:A:2469:A:H2	1:A:2481:G:H21	1.47	0.62
3:D:43:ARG:HB2	3:D:48:ARG:O	1.99	0.62
3:D:30:GLU:HG3	3:D:63:ARG:CZ	2.29	0.62
1:A:2867:G:C5	15:P:23:ARG:NH1	2.68	0.62
27:2:33:CYS:HB3	27:2:40:LYS:HD2	1.81	0.62
1:A:1155:A:OP2	16:Q:55:ARG:HD3	1.99	0.62
1:A:34:C:H41	1:A:447:A:H61	1.48	0.62
3:D:38:LYS:N	3:D:38:LYS:HD2	2.14	0.62
4:E:192:ASN:HD22	4:E:192:ASN:N	1.98	0.62
6:G:106:LEU:HA	6:G:110:ALA:HB3	1.81	0.62
11:L:41:ARG:NE	11:L:41:ARG:HA	2.05	0.62
15:P:132:LYS:O	15:P:136:GLN:HG3	2.00	0.62
5:F:34:TRP:CE2	11:L:12:ALA:HB2	2.35	0.62
8:I:3:VAL:HG23	8:I:37:VAL:O	2.00	0.62
21:V:10:ARG:HH21	21:V:26:GLY:H	1.46	0.62
1:A:270(O):G:O2'	1:A:270(Q):C:H5'	2.00	0.62
9:J:132:LYS:HD3	9:J:132:LYS:N	2.12	0.62
14:O:56:LEU:HD23	14:O:57:LYS:NZ	2.15	0.62
23:X:11:ARG:HG2	23:X:61:ARG:O	1.99	0.62
3:D:154:LYS:HA	3:D:157:ARG:HD3	1.81	0.62
1:A:1011:G:H5''	16:Q:77:SER:OG	1.99	0.62
1:A:1493:C:O2	1:A:1493:C:H2'	2.00	0.61
8:I:8:PRO:HD3	8:I:15:VAL:HG22	1.82	0.61
16:Q:83:LEU:HD12	16:Q:113:ALA:HB2	1.82	0.61
1:A:495:G:H1'	18:S:57:ASN:ND2	2.14	0.61
18:S:70:TYR:H	18:S:70:TYR:HD2	1.48	0.61
26:1:39:ARG:HE	26:1:39:ARG:HA	1.65	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:L:17:LYS:HB3	11:L:19:VAL:HG22	1.81	0.61
1:A:2113:U:H2'	1:A:2114:A:C8	2.34	0.61
1:A:2119:A:N6	1:A:2170:A:H61	1.98	0.61
10:K:63:VAL:HB	10:K:102:VAL:HG12	1.82	0.61
12:M:54:MET:HE3	12:M:64:ILE:HD12	1.83	0.61
1:A:1871:A:H2'	1:A:1872:A:C8	2.35	0.61
1:A:394:A:O2'	1:A:395:U:H5'	2.00	0.61
2:B:86:G:H2'	2:B:87:G:C8	2.35	0.61
3:D:131:LEU:HA	3:D:190:TYR:CE2	2.36	0.61
8:I:25:TYR:CE1	8:I:30:LEU:HD11	2.35	0.61
9:J:59:GLY:O	9:J:61:HIS:N	2.33	0.61
20:U:14:LEU:HB2	20:U:24:VAL:HG22	1.82	0.61
20:U:2:ARG:N	20:U:4:LYS:HZ2	1.98	0.61
1:A:528:A:C2	1:A:2043:C:H5'	2.34	0.61
1:A:271(C):G:H4'	1:A:271(D):U:H5'	1.80	0.61
1:A:2287:A:N1	1:A:2346:A:H2	1.99	0.61
11:L:7:ARG:O	11:L:10:PRO:HD2	2.00	0.61
13:N:49:ASP:OD2	13:N:95:THR:HB	2.01	0.61
16:Q:91:ASP:OD1	16:Q:96:ALA:HB2	2.01	0.61
20:U:13:VAL:HG12	20:U:27:VAL:HG12	1.82	0.61
24:Y:11:GLU:O	24:Y:14:ARG:HG3	1.99	0.61
28:3:42:TRP:HA	28:3:42:TRP:HE3	1.65	0.61
1:A:2134:A:H8	1:A:2157:G:H21	1.48	0.61
11:L:125:VAL:HG13	11:L:144:GLU:HB3	1.82	0.61
11:L:47:ASP:HB3	11:L:48:PRO:CA	2.30	0.61
1:A:32:C:O2'	1:A:33:U:H5'	2.00	0.61
3:D:206:LEU:HD22	3:D:211:ARG:HG2	1.82	0.61
17:R:52:VAL:HG13	17:R:55:ALA:HB3	1.81	0.61
12:M:64:ILE:HG12	21:V:178:GLU:HG3	1.81	0.61
23:X:13:ILE:HD12	23:X:14:VAL:N	2.16	0.61
1:A:2529:G:H5''	1:A:2530:A:H5''	1.83	0.61
4:E:201:THR:CG2	4:E:202:LYS:H	2.12	0.61
20:U:14:LEU:HD12	20:U:15:VAL:N	2.16	0.61
21:V:94:GLU:CD	21:V:94:GLU:H	2.04	0.61
25:Z:54:VAL:O	25:Z:55:ARG:HD3	2.00	0.61
30:5:22:VAL:CB	30:5:54:GLU:HG3	2.26	0.61
3:D:186:HIS:CD2	3:D:188:GLU:H	2.19	0.61
12:M:83:MET:SD	12:M:83:MET:C	2.80	0.61
17:R:13:ARG:HD3	17:R:13:ARG:O	2.00	0.61
1:A:1840:G:H1	1:A:1902:C:H42	1.48	0.60
1:A:273(F):U:C2'	1:A:273(G):C:H5''	2.31	0.60
5:F:131:GLY:HA2	5:F:138:GLU:OE1	2.00	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:V:10:ARG:HG2	21:V:11:GLU:H	1.66	0.60
1:A:2096:U:H2'	1:A:2097:C:C6	2.36	0.60
4:E:201:THR:CG2	4:E:202:LYS:N	2.61	0.60
5:F:143:ALA:HB1	5:F:148:LEU:HB2	1.81	0.60
1:A:1420:U:O2'	1:A:1421:G:C5'	2.48	0.60
1:A:2473:U:O2'	1:A:2474:C:C5'	2.46	0.60
6:G:60:LEU:O	6:G:64:THR:HG22	2.01	0.60
13:N:104:ARG:NH1	13:N:109:ALA:HB3	2.17	0.60
13:N:33:ARG:NE	13:N:115:GLU:HG3	2.16	0.60
13:N:4:LEU:O	13:N:4:LEU:HD13	2.01	0.60
1:A:1858:G:H1'	1:A:1884:A:H62	1.66	0.60
1:A:2364:C:H4'	22:W:56:ASP:OD1	2.01	0.60
3:D:139:GLY:H	3:D:165:ILE:HB	1.65	0.60
5:F:155:LEU:HA	5:F:174:VAL:HG23	1.82	0.60
11:L:125:VAL:CG1	11:L:138:LEU:HD21	2.31	0.60
1:A:1019:U:H2'	1:A:1021:A:H2	1.66	0.60
1:A:1022:G:H22	1:A:1142(B):A:H2	1.48	0.60
1:A:2029:G:H2'	1:A:2031:A:OP1	2.01	0.60
1:A:207:A:H2'	1:A:208:C:O4'	2.00	0.60
1:A:245:G:H5'	11:L:73:GLY:HA3	1.83	0.60
1:A:1292:U:H2'	1:A:1293:C:C6	2.36	0.60
3:D:172:TYR:CD1	3:D:186:HIS:HA	2.37	0.60
10:K:3:GLN:HB2	10:K:4:PRO:HD2	1.84	0.60
15:P:107:ASP:O	15:P:110:ILE:HG22	2.01	0.60
23:X:57:GLU:HG2	23:X:58:ILE:H	1.67	0.60
1:A:2306:C:H4'	6:G:136:ARG:NH1	2.16	0.60
18:S:9:TYR:H	18:S:102:HIS:HD2	1.50	0.60
1:A:2572:A:OP1	1:A:2574:G:H4'	2.01	0.60
1:A:2645:G:OP2	1:A:2645:G:H8	1.85	0.60
3:D:31:LYS:HE3	3:D:33:LEU:HD11	1.84	0.60
10:K:119:PRO:HB2	15:P:68:TYR:CE2	2.37	0.60
29:4:9:ARG:HE	29:4:47:ARG:CB	2.14	0.60
1:A:1510:A:H2'	1:A:1511:A:C8	2.37	0.60
1:A:2564:A:C2	1:A:2647:U:H4'	2.37	0.60
1:A:847:U:H5	1:A:933:A:H62	1.50	0.60
17:R:18:LEU:HD22	17:R:19:LYS:N	2.17	0.60
20:U:47:LYS:HA	20:U:60:PHE:CD2	2.37	0.60
29:4:8:ASN:ND2	29:4:11:LYS:H	2.00	0.60
29:4:19:ARG:NH1	29:4:19:ARG:HG3	2.07	0.60
1:A:2131:G:H5'	1:A:2132:U:H3'	1.82	0.60
1:A:2543:G:H2'	1:A:2544:G:C8	2.37	0.60
3:D:79:VAL:HG23	3:D:113:VAL:HA	1.84	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:202:PHE:CE1	5:F:206:ILE:HD11	2.37	0.60
18:S:73:ALA:O	18:S:106:ILE:HG13	2.02	0.60
23:X:13:ILE:O	23:X:14:VAL:HB	2.01	0.60
25:Z:7:LYS:HE2	25:Z:32:GLN:NE2	2.17	0.60
1:A:58:G:N2	1:A:70:G:C4	2.70	0.59
6:G:141:PHE:HB3	6:G:142:PRO:HD2	1.83	0.59
1:A:2090:G:N2	23:X:45:ASN:HD21	1.96	0.59
23:X:64:ALA:HA	23:X:67:ILE:HG13	1.84	0.59
28:3:26:ASN:ND2	28:3:27:LYS:H	1.99	0.59
1:A:2210:G:N2	1:A:2211:G:H5'	2.17	0.59
3:D:177:LEU:HD11	3:D:183:ARG:HD2	1.84	0.59
7:H:168:PRO:HG2	7:H:170:ARG:NH1	2.17	0.59
11:L:23:PRO:HD2	11:L:33:ARG:HH21	1.65	0.59
12:M:52:VAL:HA	12:M:55:VAL:HG13	1.84	0.59
15:P:118:ARG:HA	15:P:121:ILE:HB	1.84	0.59
25:Z:6:VAL:HG22	25:Z:56:VAL:HG12	1.84	0.59
1:A:2309:A:O5'	1:A:2309:A:H8	1.85	0.59
5:F:78:ILE:H	5:F:78:ILE:HD12	1.67	0.59
12:M:24:GLY:HA2	12:M:101:ARG:HA	1.83	0.59
13:N:13:HIS:HE1	13:N:15:SER:HB2	1.66	0.59
14:O:64:GLU:HG2	14:O:67:ARG:HH21	1.67	0.59
1:A:494:G:N2	18:S:57:ASN:HD21	1.99	0.59
20:U:13:VAL:HG23	20:U:73:ARG:O	2.02	0.59
20:U:13:VAL:CG1	20:U:27:VAL:HG12	2.31	0.59
23:X:10:LYS:O	23:X:11:ARG:HB2	2.02	0.59
24:Y:57:ILE:HG22	24:Y:61:LEU:HD23	1.83	0.59
27:2:25:LEU:HD12	27:2:25:LEU:H	1.67	0.59
1:A:277:A:C5	1:A:278:A:H1'	2.38	0.59
3:D:106:ILE:O	3:D:108:PRO:HD3	2.02	0.59
6:G:107:LEU:HD21	6:G:178:PHE:CD1	2.37	0.59
9:J:160:LYS:NZ	9:J:161:LEU:H	1.93	0.59
1:A:941:A:H4'	11:L:35:HIS:CD2	2.37	0.59
11:L:49:ARG:NH1	11:L:49:ARG:HG3	2.05	0.59
17:R:39:LEU:HA	17:R:47:VAL:HG13	1.84	0.59
17:R:47:VAL:HG12	17:R:52:VAL:HB	1.83	0.59
1:A:1614:A:H61	18:S:88:ARG:H	1.51	0.59
23:X:31:GLY:O	23:X:32:LYS:HB2	2.03	0.59
23:X:56:GLN:HE21	23:X:85:LEU:HD23	1.67	0.59
1:A:2306:C:H4'	6:G:136:ARG:HH12	1.67	0.59
6:G:139:LEU:HD23	6:G:139:LEU:H	1.68	0.59
7:H:13:LYS:HD3	7:H:14:GLY:N	2.17	0.59
15:P:23:ARG:HE	15:P:120:ARG:HD3	1.68	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:X:13:ILE:CG2	23:X:63:ALA:HB3	2.32	0.59
1:A:1578:U:H2'	1:A:1579:A:H5'	1.85	0.59
1:A:2023:G:H5'	1:A:2617:C:H4'	1.84	0.59
1:A:2645:G:H3'	1:A:2646:C:H5'	1.85	0.59
1:A:270(M):U:C2	8:I:50:ARG:HB2	2.38	0.59
3:D:57:GLY:N	3:D:216:GLY:HA2	2.16	0.59
5:F:181:LEU:HD21	5:F:186:ILE:HD11	1.84	0.59
6:G:130:ASN:OD1	6:G:160:VAL:HA	2.03	0.59
9:J:90:LEU:H	9:J:90:LEU:HD12	1.68	0.59
1:A:2414:G:H21	11:L:67:MET:CE	2.15	0.59
15:P:24:PRO:HD3	15:P:52:ILE:HD12	1.84	0.59
1:A:1227:G:OP1	16:Q:13:LYS:HG2	2.02	0.59
21:V:78:LYS:O	21:V:79:ARG:HB3	2.01	0.59
1:A:860:U:C5	1:A:917:A:N7	2.71	0.59
14:O:26:LEU:HD13	14:O:87:PHE:HD1	1.67	0.59
17:R:35:LEU:HB2	17:R:57:VAL:HG13	1.83	0.59
16:Q:44:ASN:HD21	17:R:75:PHE:HB3	1.67	0.59
1:A:1495:A:N3	1:A:1495:A:H2'	2.17	0.59
1:A:1921:G:H2'	1:A:1922:G:H8	1.68	0.59
16:Q:83:LEU:HG	16:Q:88:ILE:HD12	1.85	0.59
21:V:120:ILE:HG12	21:V:172:ALA:HA	1.84	0.59
21:V:136:PHE:C	21:V:137:ILE:HD12	2.23	0.59
21:V:28:MET:HE1	21:V:67:LEU:HD13	1.85	0.59
1:A:2615:U:C2	27:2:7:PRO:HA	2.38	0.59
3:D:132:PRO:HD3	3:D:190:TYR:CZ	2.38	0.59
3:D:255:LYS:CD	3:D:255:LYS:H	2.16	0.59
4:E:69:LYS:HD3	4:E:69:LYS:O	2.03	0.59
7:H:20:ALA:HB1	7:H:21:PRO:HD2	1.85	0.59
1:A:1009:A:H5''	16:Q:59:ARG:HD3	1.85	0.59
1:A:1598:C:H5'	19:T:36:LYS:HB2	1.83	0.59
1:A:2282:G:H4'	1:A:2389:G:O2'	2.03	0.59
1:A:2688:U:C5	1:A:2720:U:OP2	2.55	0.59
1:A:270(R):C:H2'	1:A:270(S):G:C8	2.38	0.59
2:B:81:G:H5'	2:B:82:G:OP2	2.03	0.59
15:P:35:LYS:O	15:P:35:LYS:HG3	2.03	0.59
17:R:39:LEU:HD12	17:R:50:PRO:O	2.03	0.59
20:U:76:CYS:HB3	20:U:96:ILE:HD13	1.83	0.59
24:Y:9:GLN:HA	24:Y:12:GLU:HB3	1.85	0.59
24:Y:9:GLN:O	24:Y:12:GLU:HB3	2.03	0.59
30:5:50:LEU:O	30:5:51:ALA:CB	2.51	0.58
1:A:1019:U:HO2'	1:A:1021:A:H2	1.51	0.58
1:A:2236:C:H2'	1:A:2237:G:O4'	2.02	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2698:U:H2'	1:A:2699:C:C6	2.37	0.58
1:A:26:G:C6	1:A:27:G:N1	2.71	0.58
1:A:780:G:N2	1:A:783:A:H62	1.98	0.58
6:G:107:LEU:HD23	6:G:111:LEU:HD12	1.85	0.58
7:H:65:HIS:CE1	7:H:69:ARG:HD3	2.38	0.58
1:A:86:C:H4'	1:A:104:U:H1'	1.86	0.58
6:G:83:ARG:HB2	6:G:86:MET:SD	2.43	0.58
1:A:154:G:H2'	1:A:155:C:O4'	2.02	0.58
1:A:796:C:H2'	1:A:797:C:C6	2.38	0.58
23:X:67:ILE:N	23:X:68:PRO:HD2	2.17	0.58
1:A:1025:G:OP1	1:A:1025:G:H8	1.86	0.58
1:A:655:A:O2'	1:A:656:G:H5'	2.02	0.58
6:G:19:LEU:HD11	6:G:172:LEU:HD13	1.84	0.58
10:K:73:ASP:HB2	15:P:82:LEU:CD1	2.33	0.58
17:R:2:PHE:CZ	17:R:13:ARG:NH2	2.72	0.58
25:Z:17:LYS:HD3	25:Z:18:ASP:N	2.18	0.58
29:4:8:ASN:ND2	29:4:8:ASN:C	2.54	0.58
1:A:1019:U:C2'	1:A:1021:A:H2	2.16	0.58
1:A:1021:A:N6	1:A:1141:U:H3	2.02	0.58
1:A:2392:A:H2	1:A:2424:C:H42	1.51	0.58
5:F:117:ARG:HD2	5:F:190:GLU:O	2.04	0.58
1:A:451:C:H4'	5:F:52:LYS:NZ	2.18	0.58
10:K:2:ILE:HD11	10:K:82:ASN:HB3	1.86	0.58
10:K:88:ASN:HD21	10:K:92:GLU:HB2	1.67	0.58
1:A:244:A:H4'	11:L:74:GLU:HB2	1.86	0.58
1:A:278:A:H61	1:A:362:U:H3	1.51	0.58
1:A:784:A:H5'	1:A:785:G:OP1	2.02	0.58
7:H:92:ILE:HD12	7:H:92:ILE:H	1.68	0.58
11:L:16:ARG:CZ	11:L:18:ARG:HB2	2.33	0.58
15:P:36:GLU:HB2	15:P:41:ARG:HD3	1.84	0.58
16:Q:47:TYR:HA	16:Q:50:ARG:NH2	2.19	0.58
17:R:39:LEU:HB3	17:R:47:VAL:CG2	2.33	0.58
1:A:1544:C:OP1	1:A:1544:C:H6	1.86	0.58
1:A:674:G:H1'	5:F:74:ARG:HD3	1.84	0.58
6:G:117:PHE:HD1	6:G:118:ARG:H	1.50	0.58
6:G:7:LEU:HD11	6:G:107:LEU:HD12	1.84	0.58
9:J:154:GLN:HE21	9:J:155:ALA:CB	2.15	0.58
19:T:12:VAL:HG12	19:T:29:TRP:CE2	2.39	0.58
23:X:9:GLY:O	23:X:13:ILE:CD1	2.51	0.58
1:A:2567:G:H2'	1:A:2568:C:C6	2.39	0.58
1:A:2809:A:N1	1:A:2892:A:H1'	2.19	0.58
1:A:830:G:H4'	1:A:831:G:OP2	2.02	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:I:23:PRO:O	8:I:27:ARG:HB2	2.04	0.58
17:R:69:LYS:O	17:R:70:ILE:HD12	2.03	0.58
1:A:2233:U:H2'	1:A:2234:G:C8	2.39	0.58
8:I:109:ILE:HB	8:I:130:TYR:CE1	2.39	0.58
9:J:53:ILE:O	9:J:57:LEU:HD22	2.04	0.58
9:J:93:LYS:HE2	9:J:95:TYR:CZ	2.39	0.58
2:B:66:A:H61	2:B:107:U:H2'	1.69	0.58
3:D:133:LEU:HB3	3:D:173:VAL:HG11	1.85	0.58
7:H:137:ASP:HB3	7:H:140:LYS:HG3	1.85	0.58
10:K:1:MET:HE3	10:K:67:LYS:HG2	1.85	0.58
15:P:100:TYR:HD2	15:P:103:ARG:HH22	1.52	0.58
1:A:1266:G:C8	18:S:15:ARG:NH2	2.72	0.58
20:U:2:ARG:N	20:U:4:LYS:HD2	2.18	0.58
21:V:24:LEU:HD12	21:V:25:PRO:O	2.04	0.58
24:Y:46:GLN:HB2	24:Y:49:LYS:HZ1	1.69	0.58
1:A:1048:A:H2'	1:A:1048:A:N3	2.18	0.57
1:A:2808:U:H2'	1:A:2809:A:H5'	1.86	0.57
3:D:264:LYS:HD3	3:D:266:SER:HB3	1.86	0.57
8:I:4:ILE:HD13	8:I:4:ILE:H	1.69	0.57
9:J:127:LYS:HB2	9:J:140:PHE:CE1	2.38	0.57
13:N:78:LYS:O	13:N:83:ILE:HG12	2.04	0.57
21:V:30:ASN:OD1	21:V:90:VAL:HB	2.04	0.57
1:A:1021:A:H3'	1:A:1021:A:C8	2.39	0.57
1:A:2291:U:H2'	1:A:2292:C:C6	2.39	0.57
1:A:2879:C:H4'	1:A:2880:C:OP1	2.04	0.57
3:D:62:TYR:HA	3:D:87:ASN:HD21	1.69	0.57
4:E:47:VAL:HG12	4:E:49:LEU:HD22	1.84	0.57
14:O:26:LEU:HD13	14:O:87:PHE:CD1	2.40	0.57
1:A:2355:C:H1'	22:W:39:ARG:HE	1.70	0.57
24:Y:47:ASN:O	24:Y:50:ILE:HG13	2.04	0.57
1:A:1406:U:H2'	1:A:1407:C:C6	2.39	0.57
1:A:49:A:H5''	1:A:51:G:O4'	2.04	0.57
1:A:2598:A:OP1	3:D:235:GLY:HA3	2.04	0.57
1:A:2278:A:OP1	12:M:10:ARG:HD2	2.04	0.57
15:P:120:ARG:O	15:P:124:ASP:HB2	2.04	0.57
1:A:245:G:O6	30:5:8:LYS:HE3	2.05	0.57
1:A:2531:A:H5''	7:H:157:TYR:CE2	2.39	0.57
1:A:654:U:H5'	1:A:655:A:OP2	2.05	0.57
7:H:25:LYS:HG3	7:H:34:GLU:HG2	1.87	0.57
21:V:82:ARG:HG3	21:V:83:PRO:HD2	1.86	0.57
1:A:1731:G:HO2'	1:A:1732:A:H8	1.49	0.57
1:A:2447:G:H4'	1:A:2448:A:C5'	2.34	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:161:THR:O	3:D:196:VAL:HG23	2.05	0.57
11:L:61:ARG:C	11:L:62:LEU:HD13	2.25	0.57
1:A:2690:C:H5''	13:N:8:ARG:HH12	1.70	0.57
1:A:1174:A:C3'	1:A:1175:U:H5''	2.33	0.57
1:A:2146:C:H4'	1:A:2147:G:C8	2.39	0.57
10:K:7:TYR:CE1	10:K:20:MET:HB2	2.40	0.57
10:K:68:GLU:HA	10:K:78:ARG:HB3	1.86	0.57
13:N:33:ARG:HA	13:N:115:GLU:HB2	1.87	0.57
14:O:61:ASN:ND2	14:O:64:GLU:H	1.99	0.57
17:R:38:LEU:HD23	17:R:39:LEU:H	1.68	0.57
21:V:92:SER:HB2	21:V:94:GLU:OE1	2.04	0.57
26:1:61:VAL:HG13	26:1:65:CYS:HB2	1.87	0.57
1:A:1824:G:OP1	3:D:52:ARG:HD3	2.04	0.57
1:A:2356:C:O3'	22:W:20:ARG:HD3	2.04	0.57
1:A:747:U:C4	27:2:2:ALA:N	2.73	0.57
3:D:186:HIS:HD2	3:D:188:GLU:H	1.51	0.57
3:D:70:TRP:CH2	3:D:150:LYS:HA	2.40	0.57
1:A:1952:A:C2	10:K:22:ILE:HG13	2.40	0.57
1:A:631:A:OP1	11:L:64:LYS:HE3	2.03	0.57
11:L:92:GLU:HG3	11:L:123:LEU:HD13	1.85	0.57
26:1:53:THR:O	26:1:54:LYS:HG2	2.04	0.57
28:3:26:ASN:ND2	28:3:28:ARG:H	1.99	0.57
1:A:1494:A:O2'	1:A:1495:A:H5''	2.04	0.57
1:A:2150:U:H2'	1:A:2151:G:H8	1.68	0.57
1:A:2850:A:OP2	1:A:2866:U:H5	1.88	0.57
1:A:545:G:H21	1:A:548:A:H62	1.53	0.57
3:D:75:ILE:HG21	3:D:99:ASP:HB2	1.85	0.57
7:H:121:ILE:HD11	7:H:140:LYS:HB3	1.86	0.57
18:S:15:ARG:CZ	27:2:20:ARG:HH12	2.18	0.57
23:X:13:ILE:HG21	23:X:63:ALA:CB	2.33	0.57
24:Y:49:LYS:O	24:Y:53:LEU:HB2	2.04	0.57
1:A:1270:C:H5''	1:A:1271:G:H5'	1.86	0.57
5:F:107:LYS:NZ	5:F:205:ARG:HG3	2.20	0.57
6:G:77:ILE:N	6:G:82:LEU:HB2	2.19	0.57
12:M:27:VAL:HB	12:M:134:ARG:HD2	1.86	0.57
16:Q:75:ASN:HD21	16:Q:78:THR:H	1.52	0.57
21:V:157:LEU:HD11	21:V:163:LEU:HD22	1.86	0.57
1:A:1221(A):C:H2'	1:A:1222:C:H6	1.68	0.57
1:A:1328:G:H2'	1:A:1330:C:C5	2.40	0.57
1:A:2086:U:H2'	1:A:2087:G:C8	2.40	0.57
2:B:43:C:H2'	2:B:44:G:H5''	1.86	0.57
10:K:101:PRO:O	10:K:102:VAL:HG13	2.04	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:N:70:LEU:HD12	13:N:70:LEU:H	1.70	0.57
1:A:2439:A:OP1	31:A:9001:BLS:H102	2.05	0.56
1:A:2446:G:C3'	1:A:2447:G:H5''	2.34	0.56
1:A:2681:C:H5	1:A:2725:A:N6	1.97	0.56
1:A:286:C:H2'	1:A:287:C:H6	1.69	0.56
11:L:112:LEU:HD23	11:L:113:LYS:N	2.20	0.56
12:M:116:GLU:O	12:M:120:ILE:HG12	2.04	0.56
17:R:39:LEU:HD12	17:R:47:VAL:HG21	1.87	0.56
20:U:51:VAL:HG13	20:U:52:SER:H	1.69	0.56
1:A:1899:G:H21	1:A:1902:C:N4	1.97	0.56
1:A:2738:A:C2	1:A:2739:U:H1'	2.41	0.56
6:G:16:ARG:O	6:G:20:ILE:HG13	2.06	0.56
6:G:77:ILE:H	6:G:82:LEU:HB2	1.70	0.56
8:I:72:LEU:HD12	8:I:140:LEU:HD13	1.87	0.56
8:I:5:LEU:HD23	8:I:5:LEU:N	2.14	0.56
9:J:59:GLY:H	9:J:65:TRP:HZ3	1.53	0.56
11:L:45:LEU:HD23	11:L:46:LYS:N	2.17	0.56
12:M:45:GLN:CD	12:M:45:GLN:H	2.08	0.56
17:R:72:VAL:HG23	17:R:85:LYS:HB2	1.86	0.56
18:S:6:ILE:HG12	18:S:104:THR:HG23	1.87	0.56
24:Y:46:GLN:H	24:Y:49:LYS:HE2	1.70	0.56
1:A:1036:G:OP1	7:H:59:ARG:HB2	2.05	0.56
1:A:1500:G:H21	3:D:100:GLY:HA3	1.70	0.56
1:A:2130:U:H3'	1:A:2130:U:OP2	2.06	0.56
1:A:310:A:OP1	20:U:18:GLY:HA2	2.05	0.56
1:A:95:G:H4'	24:Y:46:GLN:HB3	1.86	0.56
20:U:73:ARG:NH2	20:U:82:PRO:HD3	2.20	0.56
1:A:1656:C:H2'	1:A:1657:C:C6	2.41	0.56
1:A:2584:U:H2'	1:A:2585:U:H2'	1.87	0.56
1:A:1796:U:H4'	3:D:256:GLY:H	1.70	0.56
4:E:24:THR:HG22	4:E:184:VAL:HG23	1.86	0.56
9:J:33:GLU:CD	9:J:34:PRO:HD2	2.25	0.56
9:J:79:ASN:HD21	9:J:149:PRO:HD3	1.71	0.56
9:J:85:VAL:HG22	9:J:89:LYS:HG3	1.86	0.56
19:T:44:GLU:HG3	19:T:51:VAL:HG22	1.88	0.56
20:U:81:LYS:HD3	20:U:97:ARG:CB	2.33	0.56
20:U:81:LYS:HZ3	20:U:98:VAL:HB	1.71	0.56
29:4:36:GLN:HG2	29:4:36:GLN:O	2.06	0.56
1:A:616:A:C4'	1:A:617:G:OP1	2.53	0.56
3:D:131:LEU:HG	3:D:136:ILE:HD11	1.88	0.56
17:R:39:LEU:HB3	17:R:47:VAL:HG21	1.86	0.56
22:W:51:VAL:HG22	22:W:81:VAL:HG23	1.85	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:Y:42:GLY:O	24:Y:44:LEU:N	2.39	0.56
24:Y:53:LEU:O	24:Y:57:ILE:HG13	2.05	0.56
27:2:36:CYS:SG	27:2:37:LYS:N	2.78	0.56
1:A:1546:A:H2'	1:A:1546(B):C:H5'	1.86	0.56
3:D:130:ALA:HA	3:D:192:THR:HA	1.87	0.56
8:I:71:ILE:HG13	8:I:72:LEU:HD22	1.86	0.56
12:M:58:PHE:CD1	12:M:58:PHE:O	2.57	0.56
16:Q:95:LEU:HD13	17:R:4:ILE:HD12	1.88	0.56
18:S:83:LYS:C	18:S:84:ARG:HD2	2.25	0.56
21:V:104:PHE:HB3	21:V:141:VAL:HG11	1.87	0.56
21:V:53:ILE:HD11	21:V:99:TYR:HB2	1.87	0.56
24:Y:6:VAL:O	24:Y:10:LEU:HG	2.06	0.56
24:Y:35:LEU:HD12	24:Y:53:LEU:HD12	1.87	0.56
1:A:247:G:H4'	1:A:386:G:C5	2.41	0.56
3:D:17:THR:O	3:D:204:ILE:HG22	2.06	0.56
3:D:95:LEU:HD12	3:D:95:LEU:O	2.06	0.56
4:E:117:MET:HE1	4:E:124:GLY:HA3	1.86	0.56
6:G:41:GLN:HG2	6:G:155:MET:HB3	1.87	0.56
11:L:23:PRO:O	11:L:33:ARG:HD2	2.05	0.56
13:N:87:TYR:HD1	13:N:90:ARG:HD3	1.71	0.56
21:V:59:LEU:HD12	21:V:69:THR:HG21	1.87	0.56
24:Y:18:PRO:O	24:Y:22:GLU:HG3	2.04	0.56
26:1:40:ILE:HD12	26:1:40:ILE:H	1.70	0.56
18:S:15:ARG:NE	27:2:20:ARG:HH12	2.03	0.56
1:A:2285:C:OP2	28:3:27:LYS:HD2	2.06	0.56
1:A:1022:G:O2'	1:A:1023:U:OP2	2.17	0.56
1:A:1732:A:H2'	1:A:1733:G:O4'	2.06	0.56
1:A:2126:A:H1'	1:A:2127:G:H1'	1.88	0.56
11:L:40:SER:O	11:L:41:ARG:NE	2.38	0.56
17:R:39:LEU:O	17:R:40:LEU:HB2	2.06	0.56
17:R:62:LEU:HD22	17:R:95:LEU:HB2	1.87	0.56
20:U:81:LYS:HD2	20:U:98:VAL:HG12	1.88	0.56
2:B:83:G:H5''	25:Z:52:HIS:CE1	2.41	0.56
1:A:2808:U:C2'	1:A:2809:A:H5'	2.35	0.56
7:H:168:PRO:CG	7:H:170:ARG:HD3	2.36	0.56
11:L:16:ARG:C	11:L:16:ARG:HE	2.09	0.56
15:P:27:THR:HA	15:P:48:ILE:HA	1.88	0.56
1:A:1323:U:H5'	18:S:84:ARG:HH21	1.71	0.56
1:A:593:G:O3'	30:5:62:LEU:HD22	2.05	0.56
8:I:6:LEU:O	8:I:15:VAL:HG13	2.06	0.56
10:K:17:ARG:HE	10:K:47:ILE:HD12	1.71	0.56
21:V:58:VAL:HA	21:V:67:LEU:O	2.05	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2355:C:O2'	22:W:39:ARG:HD2	2.06	0.56
1:A:163:U:H2'	1:A:164:U:O4'	2.06	0.56
1:A:203:C:H3'	1:A:204:A:H5''	1.87	0.56
1:A:265:A:H1'	1:A:266:G:O4'	2.06	0.56
1:A:2880:C:H1'	13:N:92:GLY:O	2.06	0.56
1:A:2889:C:H2'	1:A:2891:G:O4'	2.06	0.56
7:H:87:LEU:HB2	7:H:131:VAL:HB	1.87	0.56
1:A:1021:A:H62	1:A:1141:U:H3	1.54	0.55
1:A:1396:U:H2'	1:A:1396:U:O2	2.05	0.55
1:A:1408:C:H2'	1:A:1409:C:C6	2.41	0.55
1:A:1607:C:H5''	1:A:1608:A:H5'	1.87	0.55
1:A:2307:G:C5	1:A:2308:G:C5	2.93	0.55
10:K:71:ARG:NH2	10:K:77:ILE:HG21	2.19	0.55
11:L:49:ARG:O	11:L:50:ARG:HB3	2.05	0.55
11:L:59:LEU:HA	11:L:61:ARG:CD	2.35	0.55
25:Z:31:LEU:HD23	25:Z:32:GLN:HG2	1.87	0.55
1:A:2212:A:H1'	1:A:2215:G:C4	2.42	0.55
1:A:2341:G:H2'	1:A:2342:C:O4'	2.06	0.55
2:B:51:G:N2	2:B:52:A:H62	2.03	0.55
20:U:11:ASP:O	20:U:27:VAL:HG13	2.06	0.55
23:X:13:ILE:HG13	23:X:62:VAL:HG23	1.87	0.55
8:I:72:LEU:HD21	8:I:107:ILE:HG12	1.88	0.55
1:A:2777:G:C5'	1:A:2778:A:H5'	2.37	0.55
1:A:528:A:C2	1:A:2043:C:H4'	2.40	0.55
1:A:466:A:N3	1:A:683:C:H1'	2.21	0.55
6:G:39:ILE:HD12	6:G:39:ILE:H	1.70	0.55
10:K:79:PHE:HD2	15:P:72:VAL:HG22	1.72	0.55
19:T:71:GLY:C	19:T:72:LYS:HG3	2.27	0.55
19:T:89:ILE:HG22	19:T:92:LEU:H	1.71	0.55
1:A:1794:U:H1'	1:A:1900:A:N3	2.21	0.55
1:A:2593:U:H2'	1:A:2594:C:C6	2.41	0.55
3:D:57:GLY:H	3:D:216:GLY:CA	2.18	0.55
7:H:123:PHE:HA	7:H:132:ARG:O	2.06	0.55
11:L:59:LEU:HA	11:L:61:ARG:CZ	2.35	0.55
21:V:34:ASN:O	21:V:35:ARG:HG2	2.07	0.55
23:X:57:GLU:O	23:X:58:ILE:HB	2.07	0.55
25:Z:2:PRO:O	25:Z:3:ARG:HG3	2.06	0.55
1:A:108:U:H2'	1:A:109:G:C8	2.41	0.55
1:A:1493:C:H4'	1:A:1494:A:OP1	2.05	0.55
1:A:1668:A:H4'	1:A:1669:A:O5'	2.06	0.55
1:A:1766:U:H2'	1:A:1767:C:H6	1.71	0.55
1:A:1794:U:H1'	1:A:1900:A:C2	2.41	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2262:U:H4'	1:A:2328:A:H2	1.71	0.55
1:A:2320:A:C8	1:A:2333:A:N6	2.74	0.55
1:A:2853:C:H2'	1:A:2854:G:C8	2.42	0.55
1:A:286:C:H2'	1:A:287:C:C6	2.42	0.55
2:B:103:U:O2'	2:B:104:A:H5'	2.07	0.55
3:D:27:THR:CG2	3:D:83:GLU:HG2	2.36	0.55
3:D:36:PRO:HA	3:D:62:TYR:O	2.07	0.55
9:J:154:GLN:HG2	9:J:155:ALA:N	2.21	0.55
13:N:9:LYS:O	13:N:10:LEU:HB3	2.05	0.55
14:O:14:VAL:O	14:O:18:ILE:HG12	2.07	0.55
28:3:15:GLU:HG2	28:3:16:CYS:N	2.22	0.55
1:A:2262:U:H4'	1:A:2328:A:C2	2.41	0.55
1:A:405:U:H3'	1:A:406:G:C5'	2.37	0.55
7:H:168:PRO:HG2	7:H:170:ARG:HH11	1.72	0.55
11:L:116:GLY:N	11:L:134:ALA:HB2	2.21	0.55
1:A:832:G:H21	11:L:53:GLY:HA3	1.71	0.55
13:N:12:ARG:HH11	13:N:12:ARG:HG3	1.72	0.55
14:O:56:LEU:HD23	14:O:57:LYS:HZ1	1.71	0.55
19:T:29:TRP:CZ3	19:T:78:LYS:HB2	2.40	0.55
1:A:1049:C:P	1:A:1103:A:OP1	2.65	0.55
1:A:1656:C:H2'	1:A:1657:C:H6	1.70	0.55
1:A:270(Z):G:C2	1:A:271(A):U:O4	2.59	0.55
3:D:10:THR:OG1	3:D:13:ARG:HB2	2.06	0.55
3:D:147:LEU:HD13	3:D:155:LEU:HD11	1.89	0.55
4:E:24:THR:CG2	4:E:184:VAL:HG23	2.37	0.55
12:M:70:PRO:HA	12:M:95:ALA:HB2	1.87	0.55
13:N:78:LYS:HE2	13:N:83:ILE:HD11	1.88	0.55
15:P:51:ARG:HG3	15:P:98:LYS:HG3	1.88	0.55
1:A:2420:C:OP1	30:5:34:TRP:HA	2.07	0.55
1:A:1052:C:C5	1:A:1101:U:H5'	2.41	0.55
1:A:443:A:H1'	1:A:1201:C:O4'	2.06	0.55
1:A:996:A:H4'	16:Q:92:ARG:CZ	2.36	0.55
3:D:58:HIS:O	3:D:58:HIS:CG	2.59	0.55
7:H:86:GLU:CD	7:H:86:GLU:H	2.10	0.55
10:K:112:MET:O	10:K:115:VAL:HG22	2.07	0.55
17:R:38:LEU:O	17:R:52:VAL:HG12	2.06	0.55
1:A:2123:G:H2'	1:A:2124:G:C8	2.42	0.55
1:A:733:G:C8	1:A:761:A:N6	2.75	0.55
3:D:132:PRO:HD3	3:D:190:TYR:CE2	2.42	0.55
3:D:37:LEU:C	3:D:38:LYS:HD2	2.26	0.55
7:H:103:LEU:HD23	7:H:104:GLU:N	2.22	0.55
7:H:17:VAL:HG12	7:H:26:VAL:HG22	1.89	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:88:LEU:HD12	7:H:129:THR:O	2.06	0.55
13:N:63:ARG:HA	13:N:80:PHE:CZ	2.41	0.55
14:O:27:SER:HA	14:O:88:ASP:HB3	1.88	0.55
15:P:48:ILE:H	15:P:48:ILE:HD12	1.72	0.55
17:R:6:LYS:O	17:R:37:VAL:HG21	2.07	0.55
19:T:53:LYS:NZ	19:T:55:ASN:HD21	2.05	0.55
30:5:61:LEU:O	30:5:62:LEU:HB2	2.07	0.54
1:A:1434:A:H61	1:A:1558:A:H62	1.55	0.54
1:A:2272:U:H5''	1:A:2273:A:OP1	2.08	0.54
1:A:2645:G:H3'	1:A:2646:C:C5'	2.36	0.54
3:D:155:LEU:HD23	3:D:177:LEU:HD22	1.89	0.54
12:M:10:ARG:HD3	12:M:11:LYS:N	2.22	0.54
16:Q:62:ILE:HD12	16:Q:76:TYR:CZ	2.42	0.54
16:Q:92:ARG:CG	16:Q:92:ARG:HH11	2.20	0.54
20:U:4:LYS:N	20:U:4:LYS:HD3	2.22	0.54
1:A:85:G:OP1	20:U:9:LYS:HB2	2.07	0.54
21:V:54:HIS:CG	21:V:101:PRO:HG3	2.42	0.54
30:5:8:LYS:O	30:5:12:LYS:HG3	2.06	0.54
1:A:1514:U:H2'	1:A:1515:C:C6	2.42	0.54
1:A:1587:A:H2'	1:A:1588:C:C6	2.42	0.54
1:A:188:G:H2'	1:A:189:G:H5'	1.89	0.54
1:A:2630:G:C8	1:A:2894:G:C2	2.95	0.54
4:E:101:ARG:HD3	4:E:169:ASN:ND2	2.22	0.54
6:G:107:LEU:HD21	6:G:178:PHE:CE1	2.42	0.54
6:G:73:ALA:HB3	6:G:85:GLY:HA2	1.89	0.54
9:J:66:THR:O	9:J:69:VAL:HG12	2.06	0.54
18:S:31:GLU:O	18:S:35:ILE:HG13	2.08	0.54
20:U:50:ARG:NH2	20:U:55:TYR:HB3	2.22	0.54
27:2:42:PRO:O	27:2:44:THR:HG23	2.08	0.54
29:4:8:ASN:HD21	29:4:10:ARG:HB3	1.73	0.54
1:A:1529:A:H62	1:A:1542:G:H22	1.55	0.54
1:A:2579:C:O2'	4:E:131:ALA:CB	2.49	0.54
1:A:2784:C:H1'	4:E:37:ARG:HH12	1.73	0.54
1:A:2822:G:H2'	1:A:2823:A:H5''	1.89	0.54
1:A:448:U:O4	1:A:583:G:H1'	2.08	0.54
3:D:235:GLY:O	3:D:237:GLU:N	2.39	0.54
6:G:59:GLU:O	6:G:63:ILE:HG23	2.07	0.54
11:L:122:PRO:O	11:L:123:LEU:HB3	2.08	0.54
19:T:63:LYS:HD2	19:T:72:LYS:HG2	1.88	0.54
1:A:1210:A:C8	1:A:1210:A:C5'	2.89	0.54
1:A:162:U:H2'	1:A:163:U:C6	2.43	0.54
1:A:2294:C:H2'	1:A:2295:C:H6	1.72	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:999:U:O2'	1:A:1000:A:H5'	2.07	0.54
1:A:1142(B):A:H4'	9:J:48:ARG:HH22	1.72	0.54
11:L:59:LEU:CA	11:L:61:ARG:NE	2.70	0.54
19:T:12:VAL:HG22	19:T:27:THR:O	2.07	0.54
19:T:31:HIS:ND1	19:T:32:PRO:HD2	2.23	0.54
1:A:1731:G:O2'	1:A:1732:A:H8	1.90	0.54
1:A:1889:A:H2'	1:A:1890:A:C8	2.43	0.54
2:B:40:U:H3'	2:B:41:U:H5''	1.88	0.54
11:L:38:GLN:HG3	11:L:39:LYS:N	2.17	0.54
14:O:71:ARG:O	14:O:75:GLU:HG2	2.08	0.54
19:T:50:LYS:H	19:T:87:GLN:HE22	1.55	0.54
1:A:1358:G:O2'	1:A:1359:A:H5''	2.08	0.54
1:A:1529:A:N6	1:A:1542:G:N2	2.56	0.54
1:A:1730:U:H2'	1:A:1730:U:O2	2.07	0.54
1:A:34:C:N4	1:A:447:A:H61	2.05	0.54
1:A:38:A:H2'	1:A:39:C:C6	2.42	0.54
3:D:103:ARG:HG2	3:D:103:ARG:NH1	2.06	0.54
3:D:231:HIS:CG	3:D:232:PRO:HD2	2.43	0.54
3:D:58:HIS:O	3:D:59:LYS:O	2.26	0.54
8:I:25:TYR:O	8:I:29:TYR:HB3	2.08	0.54
13:N:90:ARG:HG3	13:N:90:ARG:O	2.07	0.54
15:P:23:ARG:HH21	15:P:120:ARG:HD3	1.73	0.54
15:P:35:LYS:HE2	15:P:37:GLY:O	2.08	0.54
21:V:63:ASP:HB3	21:V:65:GLN:HG3	1.90	0.54
1:A:593:G:O2'	30:5:62:LEU:HD13	2.08	0.54
1:A:2125:G:H2'	1:A:2126:A:C8	2.43	0.54
2:B:95:U:H2'	2:B:96:G:C8	2.43	0.54
1:A:2758:A:C4	7:H:67:LEU:HD21	2.43	0.54
12:M:68:ILE:HD13	12:M:68:ILE:H	1.73	0.54
13:N:96:ARG:NH2	13:N:117:VAL:HG23	2.23	0.54
13:N:98:LEU:HB2	13:N:113:LEU:CD2	2.38	0.54
20:U:2:ARG:HD2	20:U:3:VAL:HG23	1.90	0.54
1:A:296:C:H2'	1:A:297:C:H6	1.71	0.54
3:D:148:GLU:HB2	3:D:151:LYS:HD2	1.90	0.54
4:E:104:VAL:HG12	4:E:196:VAL:CG2	2.38	0.54
11:L:38:GLN:O	11:L:39:LYS:HB2	2.08	0.54
11:L:51:PHE:CE1	11:L:59:LEU:HD13	2.42	0.54
15:P:31:SER:OG	15:P:85:LYS:HE2	2.08	0.54
18:S:68:ARG:O	18:S:110:LYS:HB2	2.08	0.54
19:T:53:LYS:HB3	19:T:82:GLN:HB3	1.88	0.54
20:U:54:LYS:HG2	20:U:55:TYR:N	2.21	0.54
1:A:1153:C:C2'	1:A:1154:G:H5'	2.38	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2115:G:C6	1:A:2117:A:H5''	2.42	0.54
1:A:2307:G:C8	1:A:2308:G:N7	2.76	0.54
1:A:273(B):G:C2	1:A:364:C:N3	2.76	0.54
3:D:70:TRP:CZ2	3:D:150:LYS:HA	2.43	0.54
5:F:107:LYS:HZ2	5:F:205:ARG:CG	2.21	0.54
6:G:63:ILE:HG22	6:G:144:ILE:HD11	1.90	0.54
11:L:93:GLY:H	11:L:123:LEU:HD12	1.71	0.54
13:N:56:LYS:HE3	13:N:87:TYR:O	2.07	0.54
17:R:24:LYS:HA	17:R:92:THR:HG23	1.89	0.54
1:A:1344:G:H4'	1:A:1384:A:C5	2.42	0.54
1:A:2398:U:H2'	1:A:2399:G:C8	2.43	0.54
1:A:2795:G:H3'	1:A:2797:U:C5'	2.38	0.54
1:A:676:A:H2	1:A:802:A:H61	1.53	0.54
11:L:6:LEU:HG	11:L:8:PRO:HD2	1.90	0.54
15:P:115:ARG:H	15:P:115:ARG:CD	2.17	0.54
1:A:1005:C:H2'	1:A:1006:C:C6	2.42	0.53
4:E:10:GLY:O	4:E:25:VAL:HG23	2.08	0.53
5:F:110:LEU:HD11	5:F:181:LEU:HD22	1.90	0.53
6:G:72:ARG:HD2	6:G:85:GLY:O	2.08	0.53
12:M:54:MET:CE	12:M:64:ILE:HD12	2.37	0.53
28:3:18:ARG:HH21	28:3:44:ARG:HH11	1.56	0.53
1:A:675:A:H4'	5:F:67:GLN:HE22	1.69	0.53
3:D:145:VAL:HB	3:D:155:LEU:HB2	1.90	0.53
9:J:96:THR:HB	9:J:105:LEU:HD11	1.89	0.53
1:A:498:G:H1'	20:U:47:LYS:NZ	2.23	0.53
1:A:1998:G:H2'	1:A:1999:C:H6	1.73	0.53
1:A:2130:U:H3'	1:A:2130:U:P	2.49	0.53
1:A:2119:A:H61	1:A:2170:A:N6	2.07	0.53
1:A:2709:G:O2'	1:A:2710:C:H5'	2.07	0.53
1:A:479:A:H4'	1:A:480:A:O5'	2.08	0.53
1:A:508:G:O2'	1:A:509:C:H5''	2.08	0.53
1:A:881:G:H1	1:A:895:U:H3	1.54	0.53
1:A:960:A:H61	12:M:82:ARG:NH2	1.93	0.53
4:E:24:THR:CB	4:E:186:GLY:HA2	2.37	0.53
5:F:148:LEU:HD11	5:F:193:VAL:HG21	1.90	0.53
7:H:105:LEU:HD12	7:H:105:LEU:O	2.08	0.53
8:I:5:LEU:CD2	8:I:5:LEU:H	2.13	0.53
11:L:116:GLY:H	11:L:134:ALA:HB2	1.73	0.53
1:A:2275:C:O2	12:M:83:MET:HG3	2.08	0.53
18:S:19:LEU:O	27:2:25:LEU:HD11	2.09	0.53
28:3:18:ARG:HG2	28:3:19:ARG:H	1.74	0.53
29:4:5:TRP:NE1	29:4:7:PRO:HG3	2.23	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1006:C:H1'	9:J:129:MET:CG	2.37	0.53
1:A:1657:C:H2'	1:A:1658:C:H6	1.72	0.53
1:A:2287:A:N1	1:A:2346:A:C2	2.76	0.53
1:A:2712:U:O2'	1:A:712(B):A:P	2.66	0.53
1:A:2821:A:OP2	1:A:2822:G:OP2	2.25	0.53
1:A:363(F):U:O2'	1:A:363(G):A:O5'	2.27	0.53
1:A:389:G:C6	11:L:71:VAL:HG23	2.44	0.53
3:D:131:LEU:HG	3:D:136:ILE:CD1	2.39	0.53
1:A:1824:G:O3'	3:D:249:PRO:HD3	2.09	0.53
6:G:105:LYS:CD	6:G:142:PRO:HG3	2.33	0.53
8:I:56:LYS:NZ	8:I:56:LYS:HB3	2.23	0.53
17:R:35:LEU:HB3	17:R:37:VAL:HG23	1.91	0.53
1:A:498:G:O2'	20:U:47:LYS:HD3	2.09	0.53
28:3:33:LYS:HB2	28:3:34:LEU:HD13	1.91	0.53
1:A:212:G:O2'	1:A:213:A:H5'	2.08	0.53
1:A:252:G:OP2	11:L:50:ARG:NH1	2.41	0.53
1:A:363(F):U:O2'	1:A:363(G):A:O4'	2.26	0.53
1:A:1903:G:OP2	3:D:241:PRO:HB2	2.09	0.53
8:I:75:LEU:HD12	8:I:76:THR:H	1.72	0.53
14:O:57:LYS:HD2	14:O:58:LEU:N	2.23	0.53
15:P:105:LEU:HD21	15:P:109:GLU:HG3	1.90	0.53
15:P:106:SER:HA	15:P:110:ILE:HB	1.91	0.53
16:Q:102:GLU:HG3	17:R:2:PHE:CE1	2.44	0.53
16:Q:62:ILE:HD12	16:Q:76:TYR:CE1	2.43	0.53
21:V:60:GLU:OE1	21:V:66:SER:HB3	2.07	0.53
21:V:6:LYS:HD2	21:V:60:GLU:O	2.08	0.53
27:2:4:HIS:CB	27:2:5:PRO:CD	2.77	0.53
1:A:1190:G:H5''	11:L:35:HIS:CA	2.31	0.53
1:A:1437:C:H2'	1:A:1438:U:C6	2.44	0.53
1:A:832:G:H21	11:L:53:GLY:CA	2.22	0.53
1:A:2789:C:H5''	1:A:2790:A:OP1	2.07	0.53
1:A:322:A:C5	1:A:340:A:C2	2.97	0.53
1:A:973:A:H5'	1:A:1188:U:H1'	1.90	0.53
4:E:101:ARG:HD3	4:E:169:ASN:HD21	1.74	0.53
5:F:65:TRP:CZ2	5:F:75:HIS:HD2	2.26	0.53
21:V:53:ILE:CD1	21:V:99:TYR:HB2	2.38	0.53
24:Y:16:LEU:HB2	24:Y:20:GLU:HG2	1.90	0.53
1:A:214:G:H1'	1:A:216:A:O2'	2.08	0.53
1:A:2271:G:H2'	1:A:2272:U:C6	2.43	0.53
3:D:174:ILE:N	3:D:174:ILE:HD12	2.24	0.53
5:F:150:GLY:HA2	5:F:172:TRP:CD2	2.44	0.53
9:J:69:VAL:O	9:J:70:ALA:HB3	2.07	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:M:80:GLU:OE2	12:M:80:GLU:HA	2.09	0.53
16:Q:61:TRP:CH2	16:Q:94:ASN:HB2	2.44	0.53
19:T:10:ALA:HB1	19:T:11:PRO:HD2	1.90	0.53
23:X:27:GLU:HG3	23:X:33:LYS:CD	2.38	0.53
1:A:1543:A:H5'	1:A:1544:C:OP2	2.08	0.53
1:A:1615:C:O2'	1:A:1616:A:H5'	2.07	0.53
1:A:881:G:C2	1:A:882:G:H1'	2.43	0.53
6:G:124:SER:HB2	6:G:131:TYR:CE1	2.43	0.53
1:A:411:G:N2	11:L:71:VAL:HG11	2.24	0.53
14:O:25:ARG:HG2	14:O:88:ASP:HB2	1.90	0.53
17:R:96:ILE:N	17:R:96:ILE:HD12	2.23	0.53
18:S:29:LEU:HG	18:S:33:ARG:HE	1.74	0.53
1:A:2285:C:C5	28:3:27:LYS:HE3	2.44	0.53
1:A:2695:C:H2'	1:A:2696:U:C6	2.44	0.53
1:A:2698:U:H2'	1:A:2699:C:H6	1.73	0.53
1:A:1790:C:O2'	3:D:209:ALA:HB2	2.09	0.53
6:G:173:LEU:HD13	6:G:178:PHE:CE2	2.44	0.53
12:M:10:ARG:HH11	12:M:11:LYS:N	2.06	0.53
13:N:53:HIS:HD2	13:N:94:TYR:OH	1.91	0.53
14:O:30:ARG:HA	14:O:35:ILE:HA	1.90	0.53
1:A:1980:G:O2'	1:A:1982:C:OP2	2.22	0.52
1:A:2321:G:H5''	1:A:2322:A:OP2	2.09	0.52
3:D:172:TYR:HB3	3:D:184:LYS:HB3	1.92	0.52
4:E:130:GLY:O	4:E:131:ALA:HB3	2.09	0.52
6:G:11:TYR:HA	6:G:15:VAL:HB	1.91	0.52
10:K:97:ARG:N	10:K:117:LEU:HD23	2.14	0.52
11:L:57:THR:HB	11:L:59:LEU:N	2.15	0.52
16:Q:25:TRP:C	16:Q:25:TRP:CD1	2.81	0.52
17:R:99:ILE:HD13	17:R:99:ILE:N	2.24	0.52
30:5:14:VAL:CG1	30:5:22:VAL:HG13	2.39	0.52
1:A:1005:C:H2'	1:A:1006:C:H6	1.75	0.52
1:A:108:U:H2'	1:A:109:G:H8	1.73	0.52
1:A:1854:A:N6	1:A:1888:G:H8	2.06	0.52
1:A:2764:A:N6	1:A:2766:G:C2	2.77	0.52
4:E:38:THR:H	4:E:42:ASP:HB2	1.74	0.52
1:A:2311:A:H5'	6:G:77:ILE:HD11	1.90	0.52
14:O:40:ILE:HG22	14:O:47:THR:HA	1.90	0.52
21:V:40:ASP:OD1	21:V:42:VAL:HG12	2.09	0.52
1:A:850:C:O2'	25:Z:46:ASN:ND2	2.41	0.52
27:2:16:ARG:CG	27:2:20:ARG:HE	2.22	0.52
1:A:1641:A:H2'	1:A:1642:G:O4'	2.09	0.52
1:A:2114:A:N6	1:A:2115:G:C2	2.77	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2730:C:O2'	1:A:2731:G:H5'	2.07	0.52
1:A:860:U:O2	1:A:860:U:O4'	2.25	0.52
4:E:57:LYS:CG	4:E:58:ARG:H	2.17	0.52
7:H:13:LYS:HD3	7:H:13:LYS:C	2.30	0.52
8:I:50:ARG:O	8:I:54:GLN:HB2	2.10	0.52
9:J:66:THR:HG22	9:J:68:ASN:ND2	2.24	0.52
16:Q:92:ARG:HD2	16:Q:95:LEU:H	1.74	0.52
20:U:81:LYS:NZ	20:U:98:VAL:HB	2.23	0.52
21:V:19:ARG:HH12	21:V:84:GLU:CA	2.22	0.52
1:A:886:C:N3	1:A:890:A:N6	2.58	0.52
18:S:72:LYS:HB3	18:S:106:ILE:HD12	1.90	0.52
21:V:8:TYR:HB2	21:V:38:TYR:CE2	2.45	0.52
1:A:1126:A:H4'	1:A:1127:A:O5'	2.09	0.52
1:A:1203:G:C6	1:A:1204:A:N6	2.78	0.52
1:A:2563:U:H2'	1:A:2565:A:OP2	2.09	0.52
1:A:1843:C:H5'	3:D:253:GLN:OE1	2.09	0.52
5:F:101:LEU:HD12	5:F:102:PRO:HD2	1.91	0.52
8:I:4:ILE:HG12	8:I:4:ILE:O	2.08	0.52
12:M:89:ASN:O	12:M:92:GLY:N	2.43	0.52
14:O:61:ASN:HB3	14:O:64:GLU:HB2	1.92	0.52
21:V:29:TYR:HB3	21:V:34:ASN:HB2	1.90	0.52
23:X:13:ILE:HG23	23:X:62:VAL:CG2	2.38	0.52
24:Y:43:GLN:O	24:Y:44:LEU:HG	2.10	0.52
18:S:15:ARG:NE	27:2:20:ARG:NH1	2.58	0.52
1:A:1252:G:C2	1:A:1253:A:C2	2.98	0.52
1:A:1544:C:C6	1:A:1544:C:OP1	2.63	0.52
1:A:528:A:C2	1:A:2043:C:C5'	2.93	0.52
1:A:2128:C:H2'	1:A:2129:C:N1	2.24	0.52
1:A:2787:C:H1'	4:E:62:PRO:HG3	1.91	0.52
1:A:947:G:H2'	1:A:948:G:H8	1.75	0.52
8:I:101:LEU:HD22	8:I:109:ILE:HD12	1.90	0.52
16:Q:95:LEU:HD12	17:R:11:GLN:HE21	1.75	0.52
1:A:2427:C:H5''	1:A:2428:G:OP1	2.10	0.52
1:A:2472:G:H3'	1:A:2473:U:H5''	1.92	0.52
6:G:111:LEU:HB3	6:G:117:PHE:HE2	1.75	0.52
6:G:86:MET:SD	6:G:87:PRO:HD3	2.50	0.52
18:S:9:TYR:H	18:S:102:HIS:CD2	2.27	0.52
23:X:10:LYS:O	23:X:11:ARG:CB	2.56	0.52
1:A:61:G:H5'	24:Y:50:ILE:CD1	2.39	0.52
1:A:2017:U:O2	27:2:10:LYS:HB2	2.10	0.52
1:A:330:A:C2	1:A:1210:A:H2'	2.37	0.52
1:A:1288:U:C2	1:A:1327:C:O2	2.62	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1385:G:H4'	1:A:1386:C:OP1	2.10	0.52
11:L:91:PHE:N	11:L:91:PHE:CD1	2.70	0.52
13:N:22:ARG:O	13:N:26:LYS:HG3	2.09	0.52
1:A:2882:A:H5'	13:N:96:ARG:HG3	1.91	0.52
6:G:109:VAL:HG22	26:1:59:VAL:HG21	1.91	0.52
29:4:19:ARG:NH1	29:4:19:ARG:CG	2.65	0.52
1:A:2068:U:N3	1:A:2430:A:H2	2.08	0.52
1:A:2506:U:H3'	1:A:2506:U:H6	1.75	0.52
1:A:773:U:C5'	3:D:47:GLY:HA3	2.38	0.52
2:B:28:C:H2'	2:B:29:A:C8	2.45	0.52
11:L:41:ARG:HH22	11:L:45:LEU:HD12	1.75	0.52
12:M:78:PRO:O	12:M:79:LEU:HB2	2.10	0.52
12:M:9:TYR:C	12:M:9:TYR:CD2	2.83	0.52
24:Y:24:LEU:HD13	24:Y:60:LEU:HD21	1.92	0.52
1:A:1024:G:OP2	1:A:1025:G:H3'	2.10	0.52
1:A:1049:C:C5	1:A:1050:A:N7	2.78	0.52
1:A:2211:G:N3	1:A:2211:G:H3'	2.25	0.52
1:A:2892:A:N7	1:A:2893:G:C4	2.78	0.52
1:A:57:C:H2'	1:A:58:G:O4'	2.10	0.52
1:A:926:A:H2'	1:A:928:G:H8	1.75	0.52
1:A:1971:A:C2	3:D:241:PRO:HD3	2.45	0.52
17:R:35:LEU:HB2	17:R:57:VAL:CG1	2.40	0.52
19:T:59:VAL:HG23	19:T:59:VAL:O	2.10	0.52
1:A:1019:U:H2'	1:A:1021:A:C2	2.45	0.51
1:A:1022:G:C6	1:A:1140:C:C4	2.98	0.51
1:A:2476:A:H2'	1:A:2477:C:H5''	1.91	0.51
1:A:301:G:H4'	1:A:301:G:OP1	2.10	0.51
1:A:616:A:H4'	1:A:617:G:OP1	2.10	0.51
3:D:145:VAL:HG12	3:D:146:GLU:O	2.10	0.51
4:E:31:CYS:HB3	4:E:49:LEU:HD12	1.92	0.51
11:L:114:ILE:HD13	11:L:130:PHE:CE1	2.44	0.51
11:L:14:LYS:O	11:L:15:ARG:HB2	2.10	0.51
11:L:61:ARG:HA	11:L:62:LEU:HD13	1.92	0.51
21:V:163:LEU:HD23	21:V:163:LEU:H	1.75	0.51
1:A:1754:C:OP1	15:P:96:ARG:NH1	2.39	0.51
1:A:1916:A:H2'	1:A:1917:U:O4'	2.10	0.51
1:A:1996:C:H4'	1:A:1997:G:OP1	2.10	0.51
1:A:2015:A:N3	27:2:2:ALA:N	2.58	0.51
1:A:2392:A:H2	1:A:2424:C:N4	2.08	0.51
1:A:655:A:C2'	1:A:656:G:H5'	2.39	0.51
7:H:16:SER:HB2	7:H:27:LYS:HB2	1.92	0.51
1:A:390:A:C5	11:L:71:VAL:HG21	2.45	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:N:38:VAL:HB	13:N:39:PRO:HD3	1.91	0.51
20:U:77:PRO:O	20:U:78:ALA:HB2	2.09	0.51
26:1:48:ILE:HG22	26:1:49:GLU:N	2.25	0.51
1:A:1488:G:C5	1:A:1489:U:C5	2.99	0.51
1:A:1587:A:H2'	1:A:1588:C:H6	1.74	0.51
1:A:1658:C:OP1	4:E:132:HIS:O	2.29	0.51
1:A:2134:A:O2'	1:A:2159:G:H1'	2.10	0.51
1:A:2330:G:H2'	1:A:2331:G:O4'	2.10	0.51
1:A:675:A:N6	1:A:676:A:N6	2.59	0.51
4:E:192:ASN:HD22	4:E:192:ASN:H	1.59	0.51
5:F:67:GLN:CG	5:F:67:GLN:O	2.54	0.51
1:A:17:G:H4'	16:Q:25:TRP:CZ3	2.46	0.51
16:Q:61:TRP:CZ3	16:Q:94:ASN:HB2	2.46	0.51
17:R:20:LEU:HG	17:R:22:VAL:HG23	1.92	0.51
23:X:27:GLU:HB3	23:X:33:LYS:HG3	1.91	0.51
23:X:51:VAL:O	23:X:58:ILE:HG22	2.10	0.51
26:1:60:GLU:CD	26:1:60:GLU:H	2.13	0.51
11:L:61:ARG:HD2	30:5:13:ARG:HD2	1.92	0.51
1:A:2349:G:OP2	30:5:42:ARG:HD3	2.10	0.51
1:A:1023:U:H2'	1:A:1024:G:H5'	1.92	0.51
1:A:2630:G:H2'	1:A:2631:G:H8	1.76	0.51
1:A:483:A:H4'	20:U:49:VAL:HG22	1.92	0.51
4:E:203:LYS:O	4:E:203:LYS:HD2	2.10	0.51
7:H:136:ILE:HD12	7:H:136:ILE:N	2.25	0.51
8:I:31:LEU:HD11	8:I:38:LEU:HD22	1.93	0.51
9:J:68:ASN:HD22	9:J:68:ASN:N	2.02	0.51
1:A:806:C:P	11:L:39:LYS:HG3	2.49	0.51
15:P:92:GLY:HA2	15:P:116:ALA:HA	1.92	0.51
1:A:1952:A:C6	1:A:1953:A:N1	2.78	0.51
1:A:2163:C:H2'	1:A:2163:C:O2	2.09	0.51
1:A:2823:A:OP1	4:E:113:PHE:HB2	2.11	0.51
1:A:611:C:C2'	1:A:612:G:H5'	2.41	0.51
6:G:16:ARG:NH1	6:G:31:VAL:HG11	2.24	0.51
8:I:31:LEU:HB2	8:I:32:PRO:HD3	1.92	0.51
9:J:149:PRO:O	9:J:150:ASP:HB2	2.10	0.51
11:L:124:LYS:HA	11:L:143:GLY:O	2.11	0.51
12:M:81:VAL:O	12:M:82:ARG:HG2	2.10	0.51
21:V:10:ARG:HG2	21:V:11:GLU:N	2.24	0.51
21:V:70:LEU:HD12	21:V:91:LEU:HD21	1.93	0.51
11:L:62:LEU:HD11	30:5:27:THR:HA	1.92	0.51
1:A:1568:G:H5'	3:D:60:ARG:HA	1.93	0.51
1:A:2307:G:N7	1:A:2308:G:C5	2.78	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:444:C:H4'	5:F:49:ALA:HB2	1.91	0.51
1:A:559:G:H22	16:Q:49:HIS:CD2	2.29	0.51
1:A:833:U:H2'	1:A:834:C:C6	2.46	0.51
2:B:28:C:H2'	2:B:29:A:O4'	2.11	0.51
7:H:40:GLU:C	7:H:41:MET:HG2	2.29	0.51
7:H:67:LEU:HG	7:H:71:LEU:CD2	2.40	0.51
14:O:49:VAL:HG13	14:O:76:LYS:HZ2	1.76	0.51
23:X:13:ILE:HG21	23:X:63:ALA:N	2.21	0.51
25:Z:26:LEU:HB2	25:Z:28:LEU:HD13	1.93	0.51
1:A:1336:A:H2'	1:A:1337:G:H8	1.76	0.51
1:A:307:G:H21	1:A:330:A:H62	1.59	0.51
4:E:37:ARG:HA	4:E:42:ASP:OD2	2.10	0.51
11:L:50:ARG:HG2	11:L:51:PHE:HB2	1.92	0.51
11:L:95:VAL:HG22	11:L:125:VAL:HB	1.93	0.51
21:V:125:LEU:HD22	21:V:126:VAL:N	2.25	0.51
1:A:153:C:OP1	23:X:92:LYS:HD2	2.10	0.51
24:Y:14:ARG:HG2	24:Y:17:SER:HB2	1.92	0.51
26:1:40:ILE:HD12	26:1:40:ILE:N	2.26	0.51
1:A:2250:G:H5''	1:A:2250:G:N3	2.26	0.51
1:A:2542:A:N3	1:A:2542:A:H5''	2.26	0.51
1:A:2637:U:C4	1:A:2638:G:C6	2.99	0.51
4:E:11:MET:HB2	4:E:23:VAL:O	2.11	0.51
5:F:140:LEU:HD21	5:F:170:LEU:HD21	1.93	0.51
1:A:2312:U:H4'	6:G:71:THR:HG21	1.93	0.51
7:H:98:LEU:HD12	7:H:99:VAL:H	1.76	0.51
8:I:129:THR:HA	8:I:138:ILE:O	2.11	0.51
12:M:87:LYS:O	12:M:89:ASN:OD1	2.29	0.51
13:N:11:ASN:CG	13:N:12:ARG:H	2.14	0.51
13:N:70:LEU:HD12	13:N:70:LEU:N	2.25	0.51
19:T:63:LYS:HZ1	19:T:72:LYS:HB3	1.73	0.51
30:5:21:LYS:HA	30:5:54:GLU:OE2	2.11	0.51
1:A:443:A:N7	5:F:45:ARG:HD2	2.26	0.51
5:F:101:LEU:HB3	5:F:106:ARG:HD3	1.92	0.51
8:I:61:ARG:O	8:I:61:ARG:HD2	2.10	0.51
10:K:87:ILE:HG22	10:K:93:PRO:HA	1.93	0.51
2:B:78:A:O3'	12:M:21:THR:HG22	2.11	0.51
12:M:9:TYR:O	12:M:9:TYR:CD2	2.64	0.51
15:P:65:LYS:HE3	15:P:67:SER:HB2	1.93	0.51
16:Q:76:TYR:CZ	16:Q:80:ILE:HG13	2.46	0.51
20:U:13:VAL:HG23	20:U:73:ARG:C	2.32	0.51
1:A:1665:A:H1'	10:K:1:MET:HG2	1.93	0.51
1:A:274:G:H4'	1:A:275:G:OP2	2.10	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:280:C:C2	1:A:361:G:N2	2.79	0.51
1:A:330:A:H2	1:A:1210:A:C2'	2.21	0.51
1:A:352:G:O2'	1:A:353:G:C8	2.63	0.51
2:B:11:C:OP2	2:B:12:C:H5	1.94	0.51
3:D:63:ARG:HD3	3:D:63:ARG:N	2.26	0.51
7:H:94:TYR:CD1	7:H:94:TYR:N	2.79	0.51
11:L:85:LEU:HD23	11:L:88:LEU:HD23	1.93	0.51
12:M:109:VAL:HB	12:M:113:GLN:HB2	1.93	0.51
12:M:20:ALA:HA	12:M:98:LYS:HB3	1.93	0.51
19:T:11:PRO:HB3	19:T:92:LEU:HD21	1.93	0.51
24:Y:34:GLU:O	24:Y:38:GLN:HG2	2.10	0.51
1:A:1019:U:O2'	1:A:1021:A:H2	1.94	0.50
4:E:132:HIS:CD2	4:E:135:HIS:CE1	2.99	0.50
4:E:4:ILE:HD13	4:E:28:ALA:HB1	1.92	0.50
4:E:93:VAL:HG11	4:E:181:LEU:O	2.11	0.50
5:F:184:TYR:O	5:F:188:ARG:HG3	2.11	0.50
12:M:127:ILE:HG22	12:M:128:LYS:O	2.11	0.50
13:N:88:ARG:HH21	13:N:88:ARG:HA	1.74	0.50
17:R:71:LEU:HD12	17:R:71:LEU:N	2.26	0.50
21:V:17:ALA:HA	21:V:20:ARG:HD3	1.93	0.50
21:V:10:ARG:HH21	21:V:26:GLY:N	2.08	0.50
1:A:1485:G:H2'	1:A:1486:A:H8	1.76	0.50
1:A:1496:A:C8	1:A:1577:C:O2'	2.65	0.50
1:A:1578:U:C2'	1:A:1579:A:H5'	2.41	0.50
1:A:747:U:O2	1:A:2014:A:H1'	2.11	0.50
1:A:2428:G:H5''	1:A:2429:G:O5'	2.11	0.50
1:A:2562:U:H1'	10:K:23:ARG:HH11	1.74	0.50
1:A:270(T):G:H2'	1:A:270(U):G:C8	2.42	0.50
1:A:807:U:OP2	11:L:39:LYS:HG2	2.10	0.50
1:A:826:U:H2'	1:A:828:U:O4'	2.11	0.50
2:B:51:G:H21	2:B:52:A:H62	1.58	0.50
3:D:134:ARG:HG3	3:D:135:PHE:CD1	2.47	0.50
1:A:1844:C:O3'	3:D:258:LYS:HE2	2.11	0.50
5:F:181:LEU:CD2	5:F:186:ILE:HD11	2.41	0.50
8:I:61:ARG:HH12	8:I:133:HIS:HB2	1.75	0.50
10:K:102:VAL:HB	10:K:106:LEU:HD12	1.93	0.50
14:O:93:LYS:HD3	14:O:95:HIS:HB2	1.92	0.50
16:Q:95:LEU:O	16:Q:98:LEU:HG	2.11	0.50
20:U:29:GLU:HB3	20:U:38:ILE:HB	1.92	0.50
23:X:69:LYS:O	23:X:73:LEU:HB2	2.11	0.50
24:Y:47:ASN:O	24:Y:49:LYS:N	2.44	0.50
26:1:38:ALA:HA	26:1:55:PRO:HA	1.92	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2593:U:H2'	1:A:2594:C:H6	1.75	0.50
2:B:78:A:C2	2:B:99:A:C4	2.99	0.50
4:E:117:MET:O	4:E:121:ASN:HA	2.11	0.50
8:I:67:ARG:HE	8:I:67:ARG:HA	1.77	0.50
9:J:161:LEU:N	9:J:161:LEU:HD23	2.27	0.50
12:M:38:GLU:HB2	12:M:127:ILE:HD12	1.92	0.50
17:R:4:ILE:HB	17:R:39:LEU:O	2.11	0.50
20:U:17:SER:OG	20:U:18:GLY:N	2.43	0.50
1:A:1108:U:H2'	1:A:1109:C:C5	2.46	0.50
1:A:1427:A:H4'	1:A:1428:C:O5'	2.11	0.50
1:A:1558:A:H1'	1:A:1559:G:OP2	2.10	0.50
5:F:101:LEU:O	5:F:106:ARG:NH1	2.45	0.50
18:S:28:SER:OG	18:S:31:GLU:HG2	2.12	0.50
18:S:36:LEU:HD12	18:S:36:LEU:N	2.27	0.50
24:Y:51:ARG:O	24:Y:55:ARG:HG2	2.11	0.50
25:Z:40:THR:HG23	25:Z:43:ILE:CG1	2.42	0.50
1:A:118:A:H1'	1:A:178:G:O4'	2.11	0.50
1:A:1657:C:H2'	1:A:1658:C:C6	2.46	0.50
1:A:195:A:N7	1:A:197:A:OP1	2.45	0.50
1:A:2516:G:C6	1:A:2517:C:N4	2.80	0.50
1:A:426:C:H2'	1:A:427:U:H6	1.76	0.50
1:A:784:A:N7	3:D:229:VAL:HG21	2.26	0.50
31:A:9001:BLS:H102	31:A:9001:BLS:N15	2.24	0.50
3:D:27:THR:HG23	3:D:83:GLU:HG2	1.93	0.50
5:F:47:GLY:HA3	5:F:95:ARG:H	1.76	0.50
7:H:131:VAL:HG12	7:H:133:VAL:HG23	1.93	0.50
1:A:2415:G:O3'	11:L:66:GLY:HA3	2.12	0.50
30:5:6:THR:HG21	30:5:64:TYR:HD1	1.76	0.50
1:A:1438:U:O2'	1:A:1439:A:H5'	2.12	0.50
1:A:1858:G:O2'	1:A:1859:A:H8	1.95	0.50
1:A:480:A:O4'	20:U:44:ILE:HG21	2.11	0.50
3:D:269:PHE:CD1	3:D:269:PHE:N	2.79	0.50
5:F:184:TYR:CE2	5:F:188:ARG:HD2	2.46	0.50
6:G:163:ALA:HB3	6:G:169:ALA:HB2	1.94	0.50
9:J:66:THR:HG22	9:J:68:ASN:HD22	1.76	0.50
18:S:29:LEU:HD22	18:S:69:LEU:HD11	1.92	0.50
22:W:27:GLU:HG3	22:W:68:GLU:HA	1.94	0.50
23:X:27:GLU:CB	23:X:33:LYS:HG3	2.40	0.50
8:I:38:LEU:HB2	23:X:75:GLU:OE2	2.11	0.50
1:A:1459:G:H5''	1:A:1460:A:P	2.52	0.50
1:A:1468:C:H2'	1:A:1469:A:C8	2.47	0.50
1:A:2853:C:H2'	1:A:2854:G:H8	1.77	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:273(B):G:C2	1:A:364:C:C2	2.99	0.50
1:A:777:A:C2	1:A:778:G:C4	3.00	0.50
1:A:932:G:H4'	1:A:933:A:O5'	2.12	0.50
3:D:159:ALA:HB1	3:D:198:ASN:O	2.12	0.50
6:G:133:LEU:HD21	6:G:157:ILE:HB	1.93	0.50
1:A:1190:G:O3'	11:L:35:HIS:HB3	2.12	0.50
16:Q:92:ARG:HG2	17:R:11:GLN:NE2	2.27	0.50
1:A:2393:A:C5'	11:L:62:LEU:HB3	2.42	0.50
1:A:405:U:H3'	1:A:406:G:H5'	1.93	0.50
1:A:631:A:H2'	1:A:632:A:O4'	2.11	0.50
15:P:62:THR:HG22	15:P:75:ILE:HG13	1.94	0.50
19:T:70:LEU:HD13	19:T:71:GLY:N	2.27	0.50
22:W:51:VAL:CG2	22:W:81:VAL:HG23	2.42	0.50
1:A:1577:C:H2'	1:A:1578:U:C6	2.47	0.50
1:A:1932:A:H2'	1:A:1933:G:O4'	2.12	0.50
1:A:2311:A:N3	6:G:82:LEU:HD11	2.27	0.50
1:A:277:A:C6	1:A:278:A:H1'	2.46	0.50
1:A:30:G:H2'	1:A:31:C:O4'	2.12	0.50
1:A:572:A:H5''	1:A:573:G:OP2	2.11	0.50
13:N:115:GLU:HG2	13:N:116:LEU:N	2.26	0.50
26:1:46:ASN:HD22	26:1:47:VAL:N	2.09	0.49
1:A:1766:U:H2'	1:A:1767:C:C6	2.46	0.49
1:A:2498:C:O2'	1:A:2499:C:H5'	2.12	0.49
1:A:2747:G:C2	1:A:2756:U:C5	2.99	0.49
1:A:844:C:C2'	1:A:845:G:H5'	2.42	0.49
5:F:206:ILE:HG12	5:F:206:ILE:O	2.11	0.49
7:H:169:VAL:HG13	7:H:170:ARG:H	1.77	0.49
10:K:4:PRO:O	10:K:5:GLN:CB	2.59	0.49
16:Q:85:LYS:HD3	16:Q:85:LYS:C	2.31	0.49
1:A:973:A:O4'	1:A:1188:U:C6	2.64	0.49
1:A:1278:A:H2'	1:A:1279:G:C8	2.46	0.49
1:A:1509:A:O3'	1:A:1510:A:O4'	2.29	0.49
11:L:23:PRO:HB2	11:L:33:ARG:CD	2.42	0.49
21:V:22:GLY:O	21:V:41:LEU:HB2	2.12	0.49
22:W:72:ARG:HB2	22:W:75:LEU:HB2	1.95	0.49
1:A:270(S):G:H1'	23:X:79:GLY:HA3	1.94	0.49
27:2:47:PRO:O	27:2:48:GLU:HB3	2.12	0.49
28:3:18:ARG:NH1	28:3:43:CYS:O	2.45	0.49
1:A:1273:U:O2'	1:A:1275:A:OP1	2.30	0.49
1:A:1496:A:O2'	1:A:1497:U:H5''	2.11	0.49
1:A:1590:U:H2'	1:A:1591:G:C8	2.47	0.49
1:A:2117:A:N6	1:A:2172:U:C2	2.80	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:611:C:O2'	1:A:612:G:H5'	2.12	0.49
1:A:792:G:H5''	1:A:793:A:H5'	1.93	0.49
1:A:828:U:H3'	1:A:828:U:O2	2.13	0.49
1:A:894:C:O2'	1:A:895:U:H5'	2.12	0.49
3:D:125:ILE:O	3:D:125:ILE:HG22	2.12	0.49
3:D:158:ALA:HB3	3:D:161:THR:HG21	1.94	0.49
1:A:589:C:O3'	5:F:95:ARG:NH1	2.45	0.49
6:G:52:ILE:HD12	6:G:52:ILE:H	1.77	0.49
11:L:112:LEU:H	11:L:128:HIS:CD2	2.30	0.49
18:S:23:LEU:HD13	27:2:25:LEU:HD13	1.93	0.49
23:X:30:VAL:HG12	23:X:30:VAL:O	2.12	0.49
29:4:9:ARG:NE	29:4:47:ARG:HB2	2.21	0.49
1:A:1434:A:H61	1:A:1558:A:N6	2.08	0.49
1:A:1299:G:H22	1:A:1640:C:H5'	1.77	0.49
1:A:1999:C:H4'	1:A:2723:C:O2	2.12	0.49
1:A:483:A:O3'	20:U:49:VAL:HG22	2.12	0.49
1:A:994:C:OP1	16:Q:53:ARG:NH2	2.45	0.49
3:D:264:LYS:HG2	3:D:266:SER:HB3	1.94	0.49
11:L:58:THR:C	11:L:61:ARG:HE	2.15	0.49
12:M:89:ASN:C	12:M:92:GLY:H	2.16	0.49
13:N:79:LEU:HD22	13:N:83:ILE:HB	1.93	0.49
19:T:55:ASN:HB2	19:T:80:ILE:CG1	2.42	0.49
1:A:1164:G:H2'	1:A:1165:U:C6	2.47	0.49
1:A:2307:G:N7	1:A:2308:G:C6	2.80	0.49
1:A:2773:C:H2'	1:A:2774:C:H6	1.77	0.49
1:A:372:G:HO2'	1:A:373:U:P	2.35	0.49
1:A:857:C:H4'	22:W:23:VAL:HG21	1.93	0.49
12:M:83:MET:HG2	12:M:84:GLY:N	2.27	0.49
23:X:27:GLU:CB	23:X:33:LYS:HA	2.42	0.49
23:X:48:LYS:HG3	23:X:61:ARG:HH11	1.77	0.49
1:A:1417:C:H42	1:A:1581:G:H1	1.59	0.49
1:A:1388:G:H4'	1:A:1525:G:O2'	2.12	0.49
1:A:2128:C:H2'	1:A:2129:C:C2	2.47	0.49
1:A:2688:U:H1'	1:A:2721:A:N6	2.27	0.49
1:A:443:A:C5	5:F:45:ARG:HD2	2.47	0.49
1:A:813:U:H2'	1:A:814:C:C6	2.47	0.49
4:E:128:SER:O	4:E:129:HIS:HB2	2.12	0.49
4:E:23:VAL:HA	4:E:184:VAL:O	2.12	0.49
5:F:117:ARG:HD3	5:F:120:GLU:OE2	2.12	0.49
11:L:30:THR:O	11:L:32:THR:N	2.46	0.49
22:W:56:ASP:O	22:W:57:PHE:CB	2.61	0.49
1:A:249:C:O2	30:5:12:LYS:HE3	2.13	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:5:14:VAL:HG21	30:5:57:ARG:HD3	1.95	0.49
1:A:1050:A:C2	1:A:2751:G:C4	3.00	0.49
1:A:1742:C:H2'	1:A:1743:G:O4'	2.13	0.49
1:A:2605:U:H2'	1:A:2606:C:C6	2.47	0.49
5:F:205:ARG:HG2	5:F:206:ILE:HG23	1.94	0.49
14:O:33:LYS:O	14:O:54:LEU:HG	2.11	0.49
17:R:35:LEU:C	17:R:37:VAL:N	2.62	0.49
23:X:27:GLU:HB2	23:X:33:LYS:CA	2.43	0.49
1:A:1187:G:H8	1:A:1187:G:O5'	1.96	0.49
1:A:1373:A:H2'	1:A:1374:G:O4'	2.11	0.49
1:A:1952:A:N3	10:K:22:ILE:HG13	2.27	0.49
1:A:892:G:H2'	1:A:893:C:C5	2.48	0.49
3:D:154:LYS:C	3:D:155:LEU:HD12	2.33	0.49
3:D:168:ARG:N	3:D:168:ARG:HD2	2.26	0.49
3:D:172:TYR:HD1	3:D:185:VAL:C	2.16	0.49
9:J:37:VAL:HG12	9:J:38:LEU:N	2.27	0.49
10:K:8:LEU:N	10:K:8:LEU:HD23	2.28	0.49
13:N:94:TYR:C	13:N:117:VAL:HG12	2.33	0.49
17:R:66:ARG:HD2	17:R:88:ARG:NH1	2.28	0.49
20:U:90:LEU:HG	20:U:91:GLU:H	1.78	0.49
23:X:73:LEU:HD21	23:X:94:LEU:O	2.13	0.49
26:1:39:ARG:NH2	26:1:47:VAL:HG12	2.27	0.49
6:G:113:ARG:HD3	26:1:60:GLU:OE2	2.13	0.49
28:3:15:GLU:OE2	28:3:18:ARG:CZ	2.61	0.49
1:A:2190:G:H2'	1:A:2191:G:H8	1.78	0.49
1:A:2557:G:H2'	1:A:2558:C:C6	2.48	0.49
1:A:580:C:H2'	1:A:581:C:C6	2.47	0.49
1:A:847:U:O2'	1:A:848:G:H8	1.96	0.49
1:A:1658:C:OP1	4:E:132:HIS:CE1	2.66	0.49
8:I:75:LEU:HD11	8:I:105:HIS:NE2	2.26	0.49
8:I:41:GLU:HA	8:I:44:LEU:HB2	1.95	0.49
9:J:119:GLU:HB2	9:J:145:VAL:HG12	1.94	0.49
13:N:57:ARG:HD3	13:N:59:ASP:CG	2.33	0.49
17:R:35:LEU:O	17:R:37:VAL:N	2.45	0.49
17:R:38:LEU:HD23	17:R:39:LEU:N	2.27	0.49
18:S:19:LEU:HD12	27:2:25:LEU:HG	1.95	0.49
21:V:48:PHE:HE2	21:V:71:VAL:HG11	1.76	0.49
23:X:12:PRO:O	23:X:14:VAL:HG23	2.13	0.49
30:5:52:LYS:CD	30:5:52:LYS:N	2.76	0.49
1:A:1113:U:H2'	1:A:1114:G:H8	1.78	0.49
1:A:1998:G:H2'	1:A:1999:C:C6	2.48	0.49
1:A:244:A:C2	1:A:255:A:C4	3.00	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1782:C:H1'	1:A:2609:U:H5''	1.95	0.49
1:A:2731:G:C6	1:A:2732:G:O6	2.66	0.49
1:A:2892:A:H2'	1:A:2893:G:O4'	2.13	0.49
1:A:779:U:OP1	3:D:49:ILE:HG13	2.13	0.49
2:B:73:A:C4	2:B:104:A:C2	3.01	0.49
5:F:53:THR:C	5:F:55:GLY:H	2.16	0.49
6:G:2:PRO:C	6:G:3:LEU:HD12	2.33	0.49
11:L:38:GLN:CG	11:L:39:LYS:H	2.12	0.49
17:R:51:VAL:HG12	17:R:52:VAL:N	2.28	0.49
1:A:1028:A:N6	1:A:1125:G:H2'	2.28	0.48
1:A:1497:U:H5'	1:A:1498:C:H5	1.77	0.48
1:A:1568:G:O5'	3:D:61:LEU:HD22	2.13	0.48
1:A:193:U:H2'	1:A:194:G:H8	1.77	0.48
1:A:2115:G:H2'	1:A:2116:G:N7	2.27	0.48
4:E:137:HIS:HB3	4:E:138:PRO:HD2	1.94	0.48
1:A:2312:U:H4'	6:G:71:THR:CG2	2.43	0.48
11:L:122:PRO:HA	11:L:141:ALA:O	2.13	0.48
13:N:53:HIS:HA	13:N:56:LYS:HB2	1.94	0.48
14:O:90:GLY:O	14:O:92:TYR:N	2.46	0.48
1:A:1022:G:N2	1:A:1142(B):A:C2	2.79	0.48
1:A:1205:U:H4'	1:A:1206:G:OP2	2.12	0.48
1:A:139:G:N3	1:A:141(A):A:N1	2.61	0.48
1:A:1464:C:H2'	1:A:1465:G:C8	2.48	0.48
1:A:1512:G:H2'	1:A:1513:C:O4'	2.13	0.48
1:A:1559:G:N3	1:A:1559:G:H5'	2.28	0.48
1:A:2443:C:O2'	1:A:2444:G:H5'	2.14	0.48
1:A:2063:C:O2	1:A:2450:A:N1	2.45	0.48
1:A:414:C:H2'	1:A:415:A:C8	2.48	0.48
1:A:844:C:O2'	1:A:845:G:H5'	2.13	0.48
3:D:106:ILE:H	3:D:106:ILE:CD1	2.04	0.48
5:F:129:PHE:O	5:F:132:VAL:HG13	2.12	0.48
6:G:131:TYR:HB3	6:G:159:VAL:HG13	1.95	0.48
9:J:114:LEU:HA	9:J:118:PRO:HB3	1.95	0.48
1:A:637:A:OP2	11:L:115:LEU:HB2	2.12	0.48
1:A:663:G:OP1	11:L:21:ARG:HG2	2.13	0.48
19:T:43:VAL:HG11	19:T:81:VAL:HG11	1.95	0.48
19:T:8:ILE:H	19:T:8:ILE:HD12	1.78	0.48
21:V:56:VAL:HG12	21:V:57:ILE:N	2.27	0.48
25:Z:29:ARG:HG3	25:Z:30:ARG:H	1.77	0.48
30:5:51:ALA:H	30:5:54:GLU:HB2	1.78	0.48
1:A:1963:U:O2	1:A:1963:U:H2'	2.13	0.48
1:A:195:A:H5''	1:A:196:A:OP2	2.13	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2250:G:C8	1:A:2496:C:H5''	2.48	0.48
1:A:262:A:H2'	1:A:263:C:O4'	2.14	0.48
1:A:2873:A:C2	13:N:6:SER:HB2	2.48	0.48
4:E:6:GLY:HA2	4:E:51:PHE:CZ	2.48	0.48
5:F:167:ALA:HB1	5:F:173:VAL:HG11	1.94	0.48
7:H:23:ARG:HD3	7:H:23:ARG:N	2.28	0.48
8:I:92:VAL:HG13	8:I:120:ILE:CG1	2.43	0.48
13:N:10:LEU:HD22	13:N:17:ARG:CZ	2.43	0.48
15:P:88:ILE:O	15:P:88:ILE:HG13	2.12	0.48
23:X:51:VAL:HG13	23:X:58:ILE:CG2	2.42	0.48
30:5:53:PRO:O	30:5:57:ARG:NH1	2.47	0.48
1:A:1175:U:H5	1:A:1177:A:C6	2.31	0.48
1:A:1499:C:H2'	1:A:1500:G:O4'	2.13	0.48
1:A:2285:C:OP1	28:3:30:THR:HG21	2.13	0.48
1:A:588:U:H2'	1:A:589:C:C6	2.47	0.48
2:B:29:A:C2	2:B:56:G:C2	3.01	0.48
8:I:133:HIS:CE1	8:I:135:GLU:H	2.32	0.48
1:A:2094:G:H5'	8:I:25:TYR:CD2	2.48	0.48
1:A:1665:A:H4'	10:K:67:LYS:HB2	1.94	0.48
11:L:79:ARG:O	11:L:111:ARG:HB2	2.12	0.48
12:M:9:TYR:HD2	12:M:10:ARG:HB2	1.78	0.48
21:V:99:TYR:CE1	21:V:125:LEU:HB2	2.47	0.48
1:A:1235:G:C6	1:A:1236:G:N1	2.81	0.48
1:A:1657:C:H4'	4:E:133:LYS:HG2	1.96	0.48
1:A:1973:G:H2'	1:A:1974:C:H6	1.78	0.48
1:A:2473:U:H2'	1:A:2474:C:H6	1.78	0.48
1:A:2691:C:C4	1:A:2719:G:N2	2.81	0.48
2:B:81:G:O6	2:B:95:U:O2	2.30	0.48
6:G:97:ASP:HA	6:G:100:TRP:HD1	1.78	0.48
6:G:39:ILE:HD12	6:G:39:ILE:N	2.29	0.48
9:J:89:LYS:O	9:J:90:LEU:C	2.52	0.48
10:K:36:GLY:HA2	10:K:106:LEU:HD23	1.95	0.48
11:L:101:VAL:HG13	11:L:102:ARG:N	2.28	0.48
29:4:30:VAL:O	29:4:34:ARG:HG2	2.13	0.48
1:A:1042:G:C6	1:A:1043:C:C4	3.02	0.48
1:A:1153:C:O2'	1:A:1154:G:H5'	2.12	0.48
1:A:2050:C:H2'	1:A:2051:A:O4'	2.13	0.48
1:A:2712:U:H1'	1:A:712(B):A:H8	1.75	0.48
1:A:288:C:H2'	1:A:289:A:H8	1.79	0.48
3:D:33:LEU:O	3:D:35:LYS:N	2.46	0.48
1:A:1570:A:H4'	3:D:38:LYS:NZ	2.29	0.48
13:N:72:ASP:HB3	13:N:75:LEU:HB2	1.96	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:X:58:ILE:HD12	23:X:90:ILE:HG22	1.96	0.48
1:A:1184:G:OP1	25:Z:29:ARG:HD3	2.13	0.48
29:4:29:LYS:O	29:4:33:ARG:HB2	2.14	0.48
1:A:2211:G:C2'	1:A:2212:A:H5''	2.43	0.48
1:A:586:A:N1	1:A:809:G:O2'	2.37	0.48
6:G:36:LYS:HD3	6:G:160:VAL:HG21	1.94	0.48
11:L:21:ARG:O	11:L:23:PRO:HD3	2.14	0.48
12:M:10:ARG:NH1	12:M:10:ARG:HA	2.28	0.48
12:M:116:GLU:HA	12:M:116:GLU:OE1	2.14	0.48
19:T:34:ALA:HA	19:T:38:GLU:OE2	2.14	0.48
12:M:63:LYS:HA	21:V:178:GLU:HG2	1.95	0.48
1:A:1278:A:H2'	1:A:1279:G:H8	1.77	0.48
1:A:363(E):G:O2'	1:A:363(F):U:H5'	2.14	0.48
1:A:885:C:H2'	1:A:886:C:H5''	1.95	0.48
1:A:947:G:H2'	1:A:948:G:C8	2.48	0.48
3:D:269:PHE:HD1	3:D:269:PHE:N	2.12	0.48
3:D:35:LYS:HZ2	3:D:35:LYS:HA	1.79	0.48
1:A:2579:C:HO2'	4:E:131:ALA:HB2	1.75	0.48
5:F:183:VAL:O	5:F:187:VAL:HG23	2.14	0.48
6:G:52:ILE:HD12	6:G:52:ILE:N	2.29	0.48
12:M:34:LEU:HD13	12:M:131:ILE:HD13	1.96	0.48
14:O:93:LYS:CD	14:O:95:HIS:HB2	2.44	0.48
16:Q:90:VAL:O	16:Q:91:ASP:C	2.52	0.48
20:U:50:ARG:HG3	20:U:52:SER:O	2.14	0.48
23:X:27:GLU:HG2	23:X:28:GLY:N	2.27	0.48
1:A:1951:U:O2	1:A:1953:A:H8	1.96	0.48
1:A:2216:G:C4	1:A:2217:G:C8	3.02	0.48
1:A:2068:U:N3	1:A:2430:A:C2	2.82	0.48
1:A:2601:C:O2'	1:A:2602:A:H4'	2.14	0.48
1:A:690:G:H2'	1:A:691:C:C6	2.49	0.48
1:A:2712:U:O2'	1:A:712(B):A:OP2	2.31	0.48
11:L:23:PRO:HD2	11:L:33:ARG:CZ	2.44	0.48
11:L:55:ARG:HG3	11:L:56:SER:N	2.29	0.48
18:S:57:ASN:O	18:S:61:ASN:HB2	2.14	0.48
25:Z:4:LEU:O	25:Z:36:VAL:HA	2.14	0.48
25:Z:53:LEU:N	25:Z:53:LEU:HD23	2.28	0.48
28:3:11:LEU:HD13	28:3:12:GLU:N	2.28	0.48
1:A:643:A:N7	28:3:42:TRP:CH2	2.82	0.48
1:A:1478:G:O2'	1:A:1558:A:C2	2.67	0.48
1:A:2074:U:H2'	1:A:2075:U:C6	2.48	0.48
1:A:2472:G:H3'	1:A:2473:U:C5'	2.44	0.48
1:A:2630:G:H2'	1:A:2631:G:C8	2.49	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:729:G:O2'	1:A:763:G:H4'	2.14	0.48
4:E:33:VAL:HG23	4:E:47:VAL:HG13	1.95	0.48
8:I:127:VAL:HG12	8:I:141:LYS:HG3	1.96	0.48
9:J:61:HIS:CD2	9:J:62:ARG:HG3	2.49	0.48
1:A:411:G:C2	11:L:71:VAL:HG11	2.48	0.48
13:N:98:LEU:HB2	13:N:113:LEU:HD21	1.95	0.48
14:O:49:VAL:HG21	14:O:77:ALA:HA	1.95	0.48
9:J:27:TYR:CD2	16:Q:100:VAL:HG11	2.49	0.48
1:A:1252:G:H21	16:Q:33:ARG:NH1	2.12	0.48
19:T:54:VAL:C	19:T:55:ASN:HD22	2.17	0.48
21:V:125:LEU:CD1	21:V:164:ALA:HB3	2.42	0.48
28:3:9:LEU:HD13	28:3:28:ARG:HB2	1.96	0.47
1:A:1110:G:H5'	1:A:1111:A:OP1	2.14	0.47
1:A:2068:U:H3	1:A:2430:A:H2	1.58	0.47
1:A:228:A:H3'	1:A:229:A:C5'	2.44	0.47
1:A:2562:U:H2'	1:A:2563:U:H5'	1.96	0.47
1:A:778:G:C6	1:A:779:U:N3	2.82	0.47
1:A:952:G:C6	1:A:953:A:N7	2.81	0.47
5:F:127:GLU:HB2	5:F:196:LEU:HD12	1.96	0.47
5:F:93:LYS:HB3	5:F:94:PRO:HD2	1.96	0.47
9:J:151:HIS:HB2	9:J:152:PRO:HD2	1.96	0.47
17:R:28:GLU:HB3	17:R:31:ALA:CB	2.40	0.47
18:S:65:LEU:HB2	18:S:68:ARG:HG3	1.96	0.47
20:U:13:VAL:HA	20:U:75:ILE:HG22	1.96	0.47
20:U:83:THR:HG22	20:U:84:ARG:N	2.28	0.47
26:1:46:ASN:ND2	26:1:47:VAL:H	2.11	0.47
27:2:40:LYS:CE	27:2:46:CYS:HB3	2.43	0.47
28:3:11:LEU:HD21	28:3:51:GLU:HG2	1.96	0.47
1:A:1035:U:H2'	1:A:1036:G:C8	2.49	0.47
1:A:1110:G:OP1	1:A:1110:G:H4'	2.13	0.47
1:A:1538:G:O2'	1:A:1539:G:H5'	2.14	0.47
1:A:1681:G:OP2	1:A:1681:G:H8	1.97	0.47
1:A:1993:U:H2'	1:A:1994:C:O4'	2.14	0.47
1:A:2290:G:C6	1:A:2291:U:C4	3.02	0.47
1:A:2370:G:H2'	1:A:2371:G:C8	2.49	0.47
1:A:2780:G:H4'	1:A:2781:A:OP2	2.14	0.47
1:A:2050:C:H1'	4:E:156:MET:HE2	1.96	0.47
4:E:154:LYS:O	4:E:156:MET:HG3	2.14	0.47
13:N:55:ALA:HA	13:N:80:PHE:CE1	2.48	0.47
16:Q:33:ARG:O	16:Q:37:GLU:HG3	2.13	0.47
23:X:40:ARG:HH12	23:X:42:GLN:HG2	1.80	0.47
30:5:17:THR:HG23	30:5:21:LYS:O	2.15	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:5:37:SER:HB3	30:5:40:GLU:HG2	1.96	0.47
1:A:99:U:C4'	1:A:102:G:H1'	2.43	0.47
1:A:1494:A:H2'	1:A:1494:A:N3	2.30	0.47
1:A:1495:A:N3	1:A:1496:A:C2	2.82	0.47
1:A:1532:C:C2	1:A:1540:G:N2	2.83	0.47
1:A:34:C:H41	1:A:447:A:N6	2.12	0.47
1:A:804:A:H5''	1:A:805:G:OP1	2.15	0.47
2:B:89(A):G:C6	2:B:89(B):A:N6	2.83	0.47
1:A:1812:A:O2'	3:D:45:ASN:HB3	2.13	0.47
6:G:167:GLU:CA	6:G:170:ARG:HB3	2.39	0.47
7:H:149:ARG:HA	7:H:162:ILE:HB	1.97	0.47
7:H:38:SER:OG	7:H:40:GLU:HG2	2.14	0.47
9:J:160:LYS:C	9:J:161:LEU:HD23	2.34	0.47
11:L:23:PRO:HA	11:L:29:LYS:HB2	1.96	0.47
11:L:48:PRO:C	11:L:50:ARG:N	2.67	0.47
11:L:62:LEU:HD13	11:L:62:LEU:N	2.28	0.47
1:A:2875:C:O2'	15:P:5:ALA:HB3	2.14	0.47
21:V:63:ASP:C	21:V:65:GLN:H	2.18	0.47
1:A:1705:G:C6	1:A:1706:U:C4	3.02	0.47
1:A:1790:C:H4'	3:D:209:ALA:CB	2.43	0.47
1:A:2811:G:C6	1:A:2891:G:N2	2.82	0.47
1:A:363(A):G:N2	1:A:363(B):A:C4	2.83	0.47
1:A:773:U:H5'	3:D:47:GLY:HA3	1.94	0.47
3:D:168:ARG:O	3:D:169:GLU:HB2	2.14	0.47
12:M:19:GLY:C	12:M:21:THR:H	2.17	0.47
14:O:42:ASP:C	14:O:44:LYS:H	2.17	0.47
18:S:12:ILE:HD13	18:S:17:VAL:HG12	1.96	0.47
12:M:134:ARG:HG2	21:V:122:ARG:HH12	1.79	0.47
23:X:11:ARG:HB2	23:X:13:ILE:HG13	1.95	0.47
8:I:27:ARG:CD	23:X:71:TYR:CE1	2.97	0.47
30:5:32:LEU:HD23	30:5:33:ASN:H	1.80	0.47
1:A:1009:A:H5'	1:A:1009:A:H8	1.79	0.47
1:A:1040:C:O2'	1:A:1041:C:H5'	2.15	0.47
1:A:1142(B):A:C4	1:A:1144:G:N7	2.82	0.47
1:A:2165:G:C6	1:A:2166:G:H1'	2.50	0.47
1:A:2815:C:H5'	27:2:29:ILE:HG12	1.97	0.47
1:A:380:U:H4'	23:X:21:ARG:O	2.14	0.47
1:A:478:A:C6	1:A:480:A:C6	3.02	0.47
1:A:919:G:H4'	2:B:81:G:O2'	2.14	0.47
4:E:132:HIS:O	4:E:135:HIS:CD2	2.67	0.47
8:I:3:VAL:HG22	8:I:36:ALA:HB1	1.96	0.47
12:M:76:LYS:N	12:M:88:GLY:HA3	2.29	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:N:37:THR:OG1	13:N:40:LYS:HB2	2.15	0.47
2:B:50:G:OP2	14:O:62:LYS:HD2	2.14	0.47
15:P:64:ARG:HD2	15:P:73:GLU:HG2	1.96	0.47
15:P:28:VAL:HA	15:P:89:VAL:HG12	1.95	0.47
19:T:62:LYS:O	19:T:63:LYS:HD3	2.14	0.47
21:V:29:TYR:HA	21:V:33:LEU:O	2.14	0.47
1:A:1210:A:C8	1:A:1210:A:H5'	2.34	0.47
1:A:1471:A:C6	1:A:1522:G:C2	3.03	0.47
1:A:1659:U:OP2	4:E:132:HIS:CE1	2.63	0.47
1:A:2182:G:H2'	1:A:2183:C:C6	2.49	0.47
1:A:2572:A:C5	4:E:144:ARG:NH2	2.82	0.47
6:G:56:ALA:HB2	6:G:153:ARG:NE	2.30	0.47
13:N:88:ARG:CA	13:N:88:ARG:HH21	2.26	0.47
16:Q:36:ARG:HD3	16:Q:40:PHE:CZ	2.49	0.47
18:S:4:LYS:HG2	18:S:5:ALA:N	2.29	0.47
27:2:25:LEU:HD12	27:2:25:LEU:N	2.29	0.47
30:5:50:LEU:O	30:5:51:ALA:HB3	2.13	0.47
1:A:106:C:H2'	1:A:107:C:H6	1.79	0.47
1:A:1022:G:C5	1:A:1140:C:N4	2.83	0.47
1:A:2789:C:O3'	1:A:2790:A:H4'	2.15	0.47
1:A:713:G:H2'	1:A:714:U:C6	2.50	0.47
1:A:857:C:N4	1:A:858:U:O4	2.48	0.47
3:D:176:ARG:HA	3:D:182:LEU:HD23	1.97	0.47
6:G:128:ARG:HA	6:G:164:GLU:O	2.15	0.47
6:G:146:TYR:O	6:G:149:VAL:HG22	2.15	0.47
1:A:270(R):C:H4'	8:I:42:SER:OG	2.14	0.47
11:L:51:PHE:HE1	11:L:59:LEU:HD13	1.80	0.47
13:N:45:ARG:HA	13:N:95:THR:HG21	1.96	0.47
14:O:89:ARG:HD3	14:O:94:TYR:HB2	1.96	0.47
18:S:83:LYS:O	18:S:84:ARG:HD2	2.15	0.47
21:V:91:LEU:HD22	21:V:96:VAL:HG11	1.95	0.47
24:Y:37:PHE:O	24:Y:41:ILE:HG23	2.14	0.47
30:5:57:ARG:NH1	30:5:57:ARG:HB2	2.30	0.47
1:A:1106:G:H2'	1:A:1107:G:H5'	1.96	0.47
1:A:140:A:C8	1:A:1408:C:O2'	2.49	0.47
1:A:1786:A:C2	1:A:2606:C:H1'	2.50	0.47
1:A:99:U:H4'	1:A:102:G:H1'	1.97	0.47
2:B:9:G:H2'	2:B:10:C:H6	1.80	0.47
3:D:25:THR:O	3:D:26:LYS:C	2.53	0.47
5:F:153:SER:OG	5:F:190:GLU:HG3	2.14	0.47
9:J:119:GLU:CD	9:J:119:GLU:H	2.18	0.47
10:K:7:TYR:HE1	10:K:20:MET:HB2	1.80	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:L:128:HIS:HB3	11:L:147:LEU:HD23	1.96	0.47
11:L:57:THR:HG22	11:L:58:THR:H	1.80	0.47
13:N:13:HIS:CE1	13:N:15:SER:HB2	2.49	0.47
16:Q:44:ASN:HD22	16:Q:44:ASN:N	2.12	0.47
18:S:15:ARG:O	18:S:19:LEU:HD23	2.14	0.47
18:S:75:TYR:CE2	18:S:104:THR:HB	2.50	0.47
23:X:80:LEU:HD23	23:X:80:LEU:C	2.35	0.47
1:A:1021:A:C3'	1:A:1021:A:C8	2.96	0.47
1:A:1169:G:N2	1:A:1181:C:C2	2.83	0.47
1:A:1336:A:H2'	1:A:1337:G:C8	2.49	0.47
1:A:1496:A:H1'	1:A:1577:C:O2'	2.14	0.47
1:A:161:U:H1'	1:A:171:G:N2	2.29	0.47
1:A:2056:G:H2'	1:A:2056:G:N3	2.30	0.47
1:A:409:C:O2'	1:A:410:G:H5'	2.15	0.47
1:A:602:G:O5'	1:A:602:G:H8	1.96	0.47
11:L:57:THR:HB	11:L:59:LEU:HB3	1.96	0.47
9:J:63:PRO:O	16:Q:64:ARG:HD2	2.15	0.47
19:T:89:ILE:O	19:T:93:GLU:HG2	2.14	0.47
24:Y:17:SER:O	24:Y:18:PRO:C	2.53	0.47
6:G:112:PRO:HB3	26:1:62:CYS:HA	1.96	0.47
1:A:528:A:C2	1:A:2042:A:H2'	2.50	0.47
1:A:2176:A:H2'	1:A:2177:C:C6	2.50	0.47
1:A:2219:G:H2'	1:A:2224:G:H5'	1.97	0.47
1:A:2327:A:H2'	1:A:2328:A:C8	2.50	0.47
1:A:2391:G:O6	1:A:2425:A:H8	1.98	0.47
1:A:2480:C:H2'	1:A:2481:G:H5'	1.97	0.47
1:A:2647:U:H2'	1:A:2648:C:C6	2.50	0.47
1:A:2652:C:H2'	1:A:2653:U:O4'	2.14	0.47
1:A:500:G:N2	1:A:502:A:H3'	2.29	0.47
1:A:729:G:C8	3:D:208:LYS:HD2	2.50	0.47
4:E:188:VAL:CG2	4:E:189:PRO:HD2	2.45	0.47
6:G:107:LEU:HD23	6:G:111:LEU:CD1	2.45	0.47
14:O:12:PHE:C	14:O:12:PHE:CD1	2.88	0.47
14:O:15:ARG:O	14:O:19:LYS:HG3	2.15	0.47
20:U:10:GLY:HA2	20:U:27:VAL:HG22	1.96	0.47
21:V:5:LEU:HD11	21:V:44:PHE:HA	1.97	0.47
23:X:13:ILE:CD1	23:X:14:VAL:N	2.78	0.47
23:X:93:GLU:C	23:X:95:LEU:H	2.18	0.47
30:5:59:LYS:HA	30:5:59:LYS:HZ3	1.80	0.47
1:A:101:G:O2'	1:A:102:G:P	2.73	0.47
1:A:2211:G:H2'	1:A:2212:A:H5''	1.97	0.47
1:A:2389:G:H5''	1:A:2390:U:O4'	2.14	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2517:C:C2	1:A:2542:A:N1	2.83	0.47
1:A:2784:C:H1'	4:E:37:ARG:NH1	2.30	0.47
1:A:448:U:C4	1:A:583:G:H1'	2.50	0.47
1:A:451:C:H4'	5:F:52:LYS:HZ1	1.80	0.47
1:A:886:C:C2'	1:A:887:A:O4'	2.57	0.47
2:B:82:G:O2'	2:B:83:G:H5'	2.15	0.47
5:F:65:TRP:CB	5:F:66:PRO:HD2	2.45	0.47
8:I:3:VAL:CG2	8:I:36:ALA:HB1	2.45	0.47
8:I:7:GLU:HB3	8:I:35:LEU:HD13	1.97	0.47
9:J:101:TYR:CD1	9:J:101:TYR:N	2.83	0.47
10:K:10:VAL:HG12	10:K:12:ASP:OD2	2.15	0.47
1:A:1394:U:C4	1:A:1395:A:C5	3.03	0.46
1:A:1349:A:N6	1:A:1598:C:N4	2.63	0.46
1:A:540:G:H2'	1:A:541:C:C6	2.49	0.46
9:J:49:LEU:O	9:J:53:ILE:HG13	2.14	0.46
13:N:33:ARG:N	13:N:33:ARG:HD2	2.31	0.46
1:A:1009:A:H4'	16:Q:59:ARG:HG3	1.97	0.46
1:A:1044:G:N3	1:A:1111:A:H2	2.13	0.46
1:A:1045:A:H5'	1:A:1047:G:C5'	2.41	0.46
1:A:1487:G:H2'	1:A:1488:G:H8	1.80	0.46
1:A:150:C:H2'	1:A:151:C:C6	2.50	0.46
1:A:317:G:C2	1:A:318:C:C2	3.03	0.46
1:A:317:G:N2	1:A:318:C:H1'	2.30	0.46
1:A:664:C:H4'	1:A:941:A:OP1	2.15	0.46
1:A:943:U:OP2	11:L:38:GLN:CD	2.54	0.46
1:A:871:U:OP1	12:M:6:ARG:HA	2.16	0.46
17:R:52:VAL:HG13	17:R:52:VAL:O	2.14	0.46
21:V:48:PHE:CE2	21:V:71:VAL:HG11	2.50	0.46
1:A:1973:G:H2'	1:A:1974:C:C6	2.50	0.46
1:A:2212:A:H1'	1:A:2215:G:C5	2.50	0.46
1:A:2287:A:N6	1:A:2344:U:N3	2.56	0.46
1:A:2377:A:H2'	1:A:2378:A:C8	2.50	0.46
1:A:320:A:H4'	1:A:322:A:N7	2.30	0.46
1:A:587:C:C6	1:A:671:C:H1'	2.50	0.46
1:A:674:G:C1'	5:F:74:ARG:HD3	2.45	0.46
7:H:144:VAL:O	7:H:148:ILE:HG12	2.15	0.46
8:I:77:LEU:HB2	8:I:142:VAL:HG12	1.98	0.46
12:M:20:ALA:HB2	12:M:99:PRO:HD2	1.97	0.46
14:O:67:ARG:HD3	14:O:103:GLU:OE1	2.16	0.46
14:O:18:ILE:O	14:O:21:THR:HB	2.16	0.46
14:O:56:LEU:HB3	14:O:57:LYS:HZ2	1.80	0.46
15:P:107:ASP:HB2	15:P:108:ARG:H	1.57	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:T:88:LYS:NZ	19:T:90:GLU:HG2	2.30	0.46
21:V:11:GLU:HG3	21:V:12:GLY:H	1.80	0.46
22:W:32:ARG:HB3	22:W:32:ARG:HH11	1.80	0.46
23:X:58:ILE:HD12	23:X:90:ILE:CG2	2.46	0.46
27:2:40:LYS:HE2	27:2:46:CYS:SG	2.55	0.46
1:A:1024:G:C3'	1:A:1025:G:H5''	2.42	0.46
1:A:1045:A:O2'	1:A:1047:G:C6	2.65	0.46
1:A:191:A:H2'	1:A:192:C:C6	2.51	0.46
1:A:1993:U:H5''	4:E:128:SER:HB3	1.96	0.46
1:A:2398:U:H2'	1:A:2399:G:H8	1.81	0.46
1:A:479:A:HO2'	1:A:481:G:H8	1.62	0.46
2:B:103:U:C2'	2:B:104:A:H5'	2.46	0.46
2:B:13:A:O2'	2:B:14:U:H3'	2.16	0.46
2:B:38:C:O2	2:B:48:A:H1'	2.13	0.46
5:F:28:ILE:CD1	5:F:28:ILE:H	2.25	0.46
6:G:101:ILE:HD12	6:G:102:PHE:N	2.30	0.46
2:B:55:U:H4'	6:G:27:ASN:HD21	1.80	0.46
11:L:128:HIS:HA	11:L:147:LEU:CB	2.29	0.46
16:Q:27:LEU:HD22	16:Q:31:SER:CB	2.45	0.46
17:R:61:VAL:O	17:R:61:VAL:HG22	2.15	0.46
1:A:2261:C:C5	22:W:16:SER:HB3	2.50	0.46
23:X:47:GLN:N	23:X:62:VAL:O	2.49	0.46
19:T:11:PRO:HD3	24:Y:37:PHE:CD2	2.51	0.46
24:Y:50:ILE:HD12	24:Y:51:ARG:H	1.72	0.46
30:5:52:LYS:CA	30:5:52:LYS:CE	2.94	0.46
1:A:2134:A:H2	1:A:2159:G:H4'	1.81	0.46
1:A:2646:C:H2'	1:A:2647:U:O4'	2.15	0.46
3:D:264:LYS:HG2	3:D:266:SER:H	1.81	0.46
1:A:2050:C:H1'	4:E:156:MET:CE	2.45	0.46
9:J:35:ARG:O	9:J:73:ASP:HB3	2.14	0.46
12:M:134:ARG:O	12:M:135:ASP:C	2.54	0.46
14:O:90:GLY:C	14:O:92:TYR:N	2.69	0.46
17:R:22:VAL:CG1	17:R:23:GLU:N	2.78	0.46
17:R:39:LEU:HA	17:R:47:VAL:HG11	1.94	0.46
20:U:4:LYS:H	20:U:4:LYS:HD3	1.79	0.46
20:U:75:ILE:HD12	20:U:76:CYS:H	1.81	0.46
24:Y:1:MET:O	24:Y:1:MET:SD	2.74	0.46
1:A:1639:U:C2'	1:A:1640:C:H5''	2.45	0.46
1:A:1946:U:H2'	1:A:1947:C:C6	2.51	0.46
1:A:2116:G:N2	1:A:2163:C:N4	2.62	0.46
1:A:2210:G:H21	1:A:2211:G:H5'	1.79	0.46
1:A:2866:U:C6	1:A:2868:A:H1'	2.50	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:244:ARG:HA	3:D:245:PRO:HA	1.80	0.46
3:D:31:LYS:HE2	3:D:102:LYS:HD3	1.97	0.46
6:G:77:ILE:O	6:G:77:ILE:HG22	2.15	0.46
8:I:109:ILE:HD13	8:I:109:ILE:N	2.31	0.46
8:I:44:LEU:O	8:I:48:GLU:HG2	2.16	0.46
1:A:956:G:OP2	12:M:14:ARG:NH2	2.48	0.46
15:P:19:LEU:HD23	15:P:86:ILE:HG21	1.97	0.46
16:Q:88:ILE:HG22	16:Q:90:VAL:CG1	2.46	0.46
19:T:30:VAL:HG11	19:T:39:ILE:HD11	1.97	0.46
21:V:151:HIS:NE2	21:V:170:THR:HG22	2.31	0.46
1:A:1001:A:H2'	1:A:1002:G:O4'	2.16	0.46
1:A:1517:G:H2'	1:A:1518:C:C6	2.51	0.46
1:A:1854:A:N6	1:A:1888:G:C8	2.83	0.46
1:A:242:G:O5'	30:5:3:LYS:HE3	2.15	0.46
1:A:245:G:H2'	1:A:246:C:H6	1.80	0.46
1:A:769:G:H5'	1:A:1379:A:N6	2.31	0.46
1:A:848:G:N9	1:A:933:A:H8	2.13	0.46
1:A:84:A:H61	1:A:102:G:C2'	2.27	0.46
4:E:98:PRO:HG3	4:E:175:VAL:HG12	1.97	0.46
6:G:70:VAL:HA	6:G:88:ILE:HD11	1.98	0.46
12:M:134:ARG:NH2	12:M:137:TYR:O	2.49	0.46
12:M:24:GLY:HA2	12:M:100:GLY:C	2.36	0.46
13:N:90:ARG:O	13:N:90:ARG:CG	2.64	0.46
15:P:34:VAL:HG12	15:P:35:LYS:N	2.31	0.46
23:X:9:GLY:O	23:X:13:ILE:HD11	2.15	0.46
30:5:39:LYS:HA	30:5:42:ARG:NH2	2.31	0.46
1:A:1542:G:OP2	1:A:1543:A:OP1	2.33	0.46
1:A:2315:G:C6	1:A:2316:C:C4	3.03	0.46
1:A:2395:C:O2'	23:X:32:LYS:HE3	2.16	0.46
1:A:2748:A:N6	1:A:2749:A:C6	2.84	0.46
1:A:49:A:H4'	1:A:50:U:H5''	1.96	0.46
3:D:35:LYS:HG2	3:D:104:TYR:CD2	2.51	0.46
4:E:195:LEU:HG	4:E:196:VAL:N	2.30	0.46
5:F:78:ILE:CD1	5:F:78:ILE:H	2.26	0.46
9:J:154:GLN:CG	9:J:155:ALA:N	2.78	0.46
9:J:65:TRP:O	16:Q:64:ARG:HD3	2.16	0.46
9:J:90:LEU:HA	9:J:110:LEU:HD12	1.98	0.46
11:L:17:LYS:C	11:L:19:VAL:H	2.20	0.46
11:L:27:HIS:CG	11:L:28:GLY:N	2.78	0.46
13:N:97:VAL:HG22	13:N:114:VAL:HG23	1.98	0.46
16:Q:95:LEU:C	16:Q:97:ASP:H	2.18	0.46
20:U:50:ARG:HD3	20:U:51:VAL:H	1.81	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:V:141:VAL:HG22	21:V:141:VAL:O	2.16	0.46
24:Y:29:LYS:HG2	24:Y:57:ILE:HD13	1.97	0.46
1:A:1763:G:H2'	1:A:1764:G:O5'	2.16	0.46
4:E:131:ALA:HB1	4:E:134:ILE:HG12	1.96	0.46
4:E:134:ILE:HG13	4:E:134:ILE:O	2.12	0.46
6:G:41:GLN:HG2	6:G:155:MET:HG2	1.98	0.46
12:M:51:ARG:HB3	12:M:51:ARG:NH1	2.24	0.46
16:Q:92:ARG:HD2	16:Q:94:ASN:HB3	1.95	0.46
19:T:40:LYS:HG3	19:T:51:VAL:HG23	1.97	0.46
19:T:56:THR:HB	19:T:77:LYS:HE2	1.97	0.46
20:U:97:ARG:C	20:U:97:ARG:HD3	2.37	0.46
1:A:1417:C:H2'	1:A:1418:G:O4'	2.16	0.46
1:A:2019:A:H5''	16:Q:27:LEU:CD1	2.46	0.46
1:A:2313:C:H5''	6:G:91:ARG:HD3	1.98	0.46
1:A:2419:U:H2'	1:A:2420:C:C6	2.51	0.46
1:A:2792:G:N2	1:A:2804:C:O2	2.49	0.46
1:A:390:A:C6	11:L:71:VAL:HG21	2.50	0.46
1:A:580:C:H2'	1:A:581:C:H6	1.80	0.46
3:D:118:VAL:HG22	3:D:119:ALA:N	2.31	0.46
3:D:240:ALA:HB1	3:D:241:PRO:HD2	1.97	0.46
10:K:88:ASN:ND2	10:K:92:GLU:HB2	2.30	0.46
1:A:1614:A:N6	18:S:88:ARG:H	2.14	0.46
20:U:50:ARG:CZ	20:U:58:GLY:HA2	2.46	0.46
1:A:2019:A:H62	27:2:9:LYS:NZ	2.14	0.45
1:A:1108:U:C2	1:A:1109:C:N4	2.83	0.45
1:A:2056:G:H22	27:2:4:HIS:C	2.19	0.45
1:A:2389:G:H5''	1:A:2390:U:H5'	1.97	0.45
1:A:309:G:N3	1:A:329:G:O2'	2.49	0.45
1:A:974(B):C:OP2	1:A:974(B):C:H4'	2.16	0.45
2:B:30:C:H2'	2:B:31:C:H5'	1.98	0.45
3:D:220:HIS:HD2	3:D:221:VAL:N	2.14	0.45
1:A:1805:U:H5''	3:D:250:TRP:CE2	2.51	0.45
3:D:35:LYS:HB3	3:D:36:PRO:HD3	1.97	0.45
1:A:1568:G:C5'	3:D:61:LEU:HD22	2.46	0.45
6:G:98:ARG:O	6:G:101:ILE:HG13	2.15	0.45
19:T:80:ILE:HD12	19:T:80:ILE:C	2.36	0.45
19:T:92:LEU:HA	19:T:92:LEU:HD23	1.83	0.45
1:A:298:G:OP2	20:U:85:VAL:HG22	2.16	0.45
24:Y:2:LYS:HA	24:Y:5:GLU:OE2	2.17	0.45
27:2:18:ALA:O	27:2:21:SER:HB2	2.17	0.45
1:A:1105:U:H2'	1:A:1106:G:C8	2.52	0.45
1:A:1840:G:H1	1:A:1902:C:N4	2.13	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2129:C:N3	1:A:2159:G:O6	2.49	0.45
1:A:2305:A:H3'	1:A:2306:C:H5''	1.98	0.45
1:A:2599:G:C8	3:D:237:GLU:HG3	2.51	0.45
1:A:2846:G:H2'	1:A:2847:U:O4'	2.16	0.45
1:A:289:A:H2'	1:A:290:G:O4'	2.16	0.45
1:A:881:G:H22	1:A:895:U:H3	1.63	0.45
1:A:896:A:O4'	21:V:146:ILE:HD12	2.17	0.45
1:A:2601:C:OP2	31:A:9001:BLS:H131	2.16	0.45
3:D:175:LEU:HD21	3:D:185:VAL:HG23	1.98	0.45
3:D:32:SER:O	3:D:34:VAL:N	2.49	0.45
5:F:28:ILE:O	5:F:30:PRO:HD3	2.16	0.45
6:G:109:VAL:C	6:G:112:PRO:HD2	2.37	0.45
6:G:135:LEU:HD23	6:G:140:ILE:HD11	1.98	0.45
8:I:83:ALA:CB	8:I:88:ILE:HA	2.46	0.45
9:J:119:GLU:N	9:J:119:GLU:CD	2.69	0.45
11:L:61:ARG:CA	11:L:62:LEU:HD13	2.46	0.45
14:O:90:GLY:C	14:O:92:TYR:H	2.18	0.45
20:U:81:LYS:CG	20:U:97:ARG:HB3	2.46	0.45
24:Y:15:LYS:HA	24:Y:15:LYS:HE2	1.98	0.45
1:A:119:A:H4'	1:A:120:U:OP1	2.16	0.45
1:A:2037:G:C6	1:A:2038:G:C6	3.03	0.45
1:A:228:A:H2'	1:A:229:A:H5''	1.99	0.45
1:A:540:G:H2'	1:A:541:C:H6	1.82	0.45
2:B:66:A:N6	2:B:107:U:H2'	2.30	0.45
3:D:37:LEU:O	3:D:38:LYS:HG3	2.17	0.45
1:A:1568:G:H5''	3:D:61:LEU:HD22	1.98	0.45
11:L:59:LEU:CA	11:L:61:ARG:CZ	2.95	0.45
12:M:27:VAL:HA	12:M:105:GLU:OE1	2.16	0.45
13:N:10:LEU:HB2	13:N:17:ARG:HE	1.80	0.45
14:O:100:ALA:HA	14:O:103:GLU:HB3	1.99	0.45
14:O:65:VAL:O	14:O:69:VAL:HG12	2.16	0.45
1:A:488:G:O2'	18:S:49:LYS:HE3	2.16	0.45
21:V:62:PRO:C	21:V:64:GLY:H	2.20	0.45
23:X:73:LEU:CD2	23:X:94:LEU:HD22	2.46	0.45
29:4:3:ARG:HG3	29:4:4:THR:H	1.80	0.45
1:A:1652:A:N6	1:A:1653:G:N1	2.64	0.45
1:A:1668:A:N3	1:A:1670:C:C4	2.84	0.45
1:A:1787:A:H2'	1:A:1787:A:N3	2.31	0.45
1:A:1824:G:O2'	1:A:1825:A:H5'	2.15	0.45
1:A:2134:A:P	1:A:2157:G:H22	2.40	0.45
1:A:2207:C:H2'	1:A:2208:U:O4'	2.16	0.45
1:A:2729:G:H2'	1:A:2730:C:C6	2.52	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:586:A:H5'	5:F:89:VAL:HG21	1.99	0.45
1:A:848:G:H2'	1:A:849:A:C8	2.51	0.45
3:D:113:VAL:HG12	3:D:114:GLY:N	2.31	0.45
3:D:97:TYR:CE1	3:D:103:ARG:HD2	2.51	0.45
10:K:53:LYS:HD2	10:K:53:LYS:N	2.31	0.45
11:L:128:HIS:CA	11:L:147:LEU:HB3	2.30	0.45
11:L:27:HIS:CD2	11:L:28:GLY:N	2.85	0.45
11:L:25:SER:O	11:L:30:THR:HG23	2.17	0.45
13:N:101:ALA:HB2	27:2:44:THR:OG1	2.16	0.45
13:N:10:LEU:HB3	13:N:17:ARG:HD3	1.99	0.45
13:N:8:ARG:HG2	13:N:9:LYS:N	2.31	0.45
18:S:65:LEU:HB2	18:S:68:ARG:HB2	1.98	0.45
20:U:4:LYS:H	20:U:4:LYS:CD	2.30	0.45
23:X:19:GLN:HG2	23:X:41:ARG:HE	1.79	0.45
23:X:65:SER:OG	23:X:66:HIS:HD2	1.99	0.45
30:5:53:PRO:HA	30:5:56:GLU:HB2	1.98	0.45
1:A:1504:C:H2'	1:A:1505:C:C6	2.52	0.45
1:A:1773:A:C5	1:A:1829:A:H1'	2.52	0.45
1:A:192:C:H2'	1:A:193:U:H5'	1.98	0.45
2:B:30:C:C2'	2:B:31:C:H5'	2.47	0.45
1:A:1812:A:O2'	3:D:45:ASN:N	2.50	0.45
10:K:73:ASP:HB2	15:P:82:LEU:HD11	1.97	0.45
15:P:78:LEU:HD12	15:P:79:HIS:CD2	2.51	0.45
18:S:13:SER:HB3	18:S:16:LYS:HD2	1.97	0.45
21:V:138:GLU:HB2	21:V:156:LYS:HD3	1.99	0.45
28:3:28:ARG:HG3	28:3:29:ASN:HD22	1.82	0.45
1:A:1444(B):A:OP2	1:A:1445:C:H5	2.00	0.45
1:A:188:G:C2'	1:A:189:G:H5'	2.46	0.45
1:A:1902:C:H2'	1:A:1903:G:O4'	2.16	0.45
1:A:2335:A:O2'	1:A:2336:A:H5''	2.17	0.45
1:A:2547:U:H2'	1:A:2548:G:C8	2.52	0.45
1:A:2561:A:H2'	1:A:2562:U:O4'	2.16	0.45
1:A:2850:A:OP2	1:A:2866:U:C5	2.69	0.45
1:A:330:A:H2	1:A:1210:A:HO2'	1.65	0.45
1:A:797:C:OP2	5:F:62:ARG:HG3	2.17	0.45
3:D:243:GLY:O	3:D:244:ARG:HB3	2.16	0.45
3:D:245:PRO:HB2	3:D:255:LYS:CE	2.46	0.45
1:A:322:A:OP2	5:F:169:ASN:HB2	2.17	0.45
5:F:170:LEU:HD13	5:F:172:TRP:CZ2	2.51	0.45
7:H:94:TYR:CE1	7:H:160:LYS:HE2	2.52	0.45
9:J:157:ARG:N	9:J:158:PRO:CD	2.77	0.45
11:L:51:PHE:N	11:L:57:THR:HG23	2.30	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:M:22:LYS:O	12:M:24:GLY:N	2.49	0.45
12:M:43:THR:HG23	12:M:46:GLN:CD	2.37	0.45
1:A:2822:G:O6	13:N:4:LEU:HD12	2.16	0.45
15:P:51:ARG:CG	15:P:98:LYS:HG3	2.46	0.45
18:S:64:MET:HA	18:S:109:GLU:OE2	2.17	0.45
18:S:4:LYS:HA	18:S:106:ILE:HG22	1.99	0.45
21:V:102:LEU:HD11	21:V:124:ILE:HD11	1.99	0.45
22:W:32:ARG:HB3	22:W:32:ARG:NH1	2.31	0.45
22:W:71:ASP:C	22:W:72:ARG:HG2	2.37	0.45
23:X:11:ARG:HD3	23:X:11:ARG:HA	1.63	0.45
1:A:1049:C:N4	1:A:1050:A:H62	2.15	0.45
1:A:1048:A:H2	1:A:1112:G:N3	2.14	0.45
1:A:1543:A:H2'	1:A:1545:A:H4'	1.99	0.45
1:A:1408:C:C2	1:A:1595:G:N2	2.84	0.45
1:A:176:G:O2'	1:A:177:G:H5'	2.17	0.45
1:A:2893:G:H5''	1:A:2894:G:O4'	2.16	0.45
1:A:459:U:H4'	29:4:40:TRP:CZ3	2.52	0.45
1:A:773:U:H4'	3:D:47:GLY:CA	2.42	0.45
3:D:268:ARG:C	3:D:269:PHE:HD1	2.20	0.45
4:E:134:ILE:HA	4:E:137:HIS:CD2	2.51	0.45
5:F:175:THR:O	5:F:176:LEU:HB2	2.16	0.45
11:L:146:VAL:HG13	11:L:147:LEU:N	2.31	0.45
12:M:81:VAL:HG12	12:M:82:ARG:HB2	1.98	0.45
17:R:61:VAL:HA	17:R:94:LEU:HD23	1.98	0.45
23:X:13:ILE:CD1	23:X:14:VAL:H	2.24	0.45
24:Y:10:LEU:O	24:Y:13:ALA:HB3	2.17	0.45
11:L:62:LEU:HD21	30:5:25:MET:HB2	1.98	0.45
1:A:1105:U:O2'	1:A:1106:G:H5'	2.16	0.45
1:A:1179:C:O2'	1:A:1180:C:H5'	2.17	0.45
1:A:1472:A:N6	1:A:1521:G:H1'	2.32	0.45
1:A:2224:G:H4'	1:A:2226:C:C2	2.51	0.45
3:D:35:LYS:HZ3	3:D:35:LYS:HB2	1.82	0.45
8:I:61:ARG:NH2	8:I:133:HIS:HD2	2.14	0.45
20:U:12:THR:HA	20:U:26:LYS:HA	1.98	0.45
1:A:498:G:H1'	20:U:47:LYS:HZ2	1.79	0.45
30:5:59:LYS:HB3	30:5:59:LYS:HZ2	1.82	0.45
1:A:1142(B):A:C4	1:A:1144:G:C8	3.05	0.45
1:A:1394:U:C4	1:A:1395:A:C6	3.05	0.45
1:A:2306:C:C5	1:A:2307:G:O4'	2.69	0.45
1:A:2745:C:C4	1:A:2746:U:C4	3.04	0.45
1:A:2781:A:H5''	1:A:2782:G:H5'	1.98	0.45
1:A:589:C:H2'	1:A:590:A:C8	2.52	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:141:PHE:CB	6:G:142:PRO:HD2	2.47	0.45
9:J:70:ALA:HB2	9:J:135:LEU:HD11	1.97	0.45
11:L:96:THR:HB	11:L:97:PRO:HD2	1.99	0.45
12:M:24:GLY:HA2	12:M:101:ARG:CA	2.47	0.45
12:M:39:PRO:HB3	12:M:99:PRO:HD3	1.99	0.45
15:P:100:TYR:HD2	15:P:103:ARG:NH2	2.14	0.45
17:R:98:GLU:OE1	17:R:100:ARG:HD3	2.17	0.45
16:Q:90:VAL:HB	17:R:39:LEU:HG	1.99	0.45
18:S:18:ARG:HG3	18:S:76:VAL:CG1	2.46	0.45
1:A:1149:G:H2'	1:A:1150:C:C6	2.52	0.45
1:A:1459:G:H5''	1:A:1460:A:OP2	2.17	0.45
1:A:1669:A:O3'	1:A:2549:G:H5'	2.16	0.45
1:A:1726:G:C5	1:A:1727:U:C5	3.05	0.45
1:A:17:G:H2'	1:A:18:C:C6	2.52	0.45
1:A:2363:C:O2'	1:A:2364:C:H5'	2.16	0.45
1:A:686:G:N2	1:A:788:A:H61	2.15	0.45
2:B:95:U:H2'	2:B:96:G:H8	1.78	0.45
5:F:72:ARG:O	5:F:73:ALA:O	2.35	0.45
6:G:60:LEU:O	6:G:63:ILE:HG13	2.17	0.45
7:H:109:PHE:C	7:H:111:HIS:H	2.20	0.45
17:R:49:THR:HG22	17:R:50:PRO:CD	2.35	0.45
17:R:78:LYS:HG2	17:R:79:VAL:HG13	1.97	0.45
21:V:56:VAL:HG12	21:V:57:ILE:H	1.81	0.45
23:X:37:ILE:CG1	23:X:38:SER:N	2.80	0.45
1:A:1021:A:N6	1:A:1141:U:N3	2.65	0.44
1:A:1557:C:H5''	1:A:1558:A:OP2	2.17	0.44
1:A:2135:A:H4'	1:A:2160:G:H5'	1.99	0.44
1:A:2419:U:H2'	1:A:2420:C:H6	1.82	0.44
1:A:2792:G:H1'	1:A:2805:G:N2	2.30	0.44
1:A:2884:U:C6	1:A:2885:C:C6	3.04	0.44
1:A:358:U:O2'	1:A:359:A:H5'	2.17	0.44
1:A:498:G:O2'	1:A:499:U:H5'	2.17	0.44
1:A:643:A:C2	1:A:644:A:C4	3.05	0.44
1:A:662:G:P	11:L:18:ARG:HG2	2.57	0.44
1:A:969:U:H2'	1:A:970:C:C6	2.52	0.44
2:B:51:G:H21	2:B:52:A:N6	2.15	0.44
6:G:10:LYS:O	6:G:14:GLU:HB3	2.17	0.44
7:H:92:ILE:HD12	7:H:92:ILE:N	2.30	0.44
11:L:113:LYS:HA	11:L:129:ALA:O	2.18	0.44
1:A:587:C:C4	11:L:33:ARG:HG2	2.53	0.44
15:P:118:ARG:HB2	15:P:118:ARG:CZ	2.47	0.44
1:A:1754:C:P	15:P:96:ARG:HH12	2.39	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2415:G:H2'	1:A:2416:C:H6	1.81	0.44
1:A:335:C:H2'	1:A:336:C:C6	2.52	0.44
1:A:865:C:H4'	1:A:866:A:N7	2.32	0.44
1:A:991:C:H2'	1:A:992:C:H6	1.81	0.44
3:D:146:GLU:HB2	3:D:189:CYS:HB3	1.99	0.44
8:I:133:HIS:HE1	8:I:135:GLU:CB	2.29	0.44
8:I:56:LYS:O	8:I:56:LYS:HD2	2.16	0.44
11:L:132:LYS:O	11:L:136:GLU:HG2	2.18	0.44
16:Q:91:ASP:OD2	16:Q:96:ALA:HB2	2.18	0.44
24:Y:49:LYS:H	24:Y:49:LYS:HD2	1.81	0.44
25:Z:7:LYS:O	25:Z:9:VAL:HG23	2.17	0.44
1:A:2633:G:O2'	4:E:61:ARG:HD3	2.17	0.44
1:A:2694:G:C6	1:A:2695:C:C4	3.05	0.44
2:B:44:G:C2	2:B:48:A:C2	3.05	0.44
8:I:133:HIS:CD2	8:I:134:PRO:HD2	2.52	0.44
9:J:59:GLY:C	9:J:61:HIS:H	2.17	0.44
14:O:59:LYS:NZ	14:O:59:LYS:HB2	2.33	0.44
15:P:6:LEU:O	15:P:10:VAL:HG23	2.17	0.44
17:R:75:PHE:C	17:R:75:PHE:CD1	2.91	0.44
18:S:70:TYR:CD2	18:S:70:TYR:N	2.85	0.44
20:U:43:ASN:O	20:U:44:ILE:HD13	2.17	0.44
21:V:103:ARG:HD2	21:V:136:PHE:CD1	2.52	0.44
21:V:19:ARG:HH12	21:V:84:GLU:HA	1.82	0.44
21:V:81:ARG:O	21:V:82:ARG:HB2	2.17	0.44
1:A:2353:G:H4'	22:W:32:ARG:NH1	2.32	0.44
22:W:50:ASN:C	22:W:62:LEU:HD12	2.38	0.44
29:4:15:THR:HG22	29:4:16:HIS:CE1	2.53	0.44
1:A:1105:U:C2	1:A:1106:G:N7	2.86	0.44
1:A:1025:G:C4	1:A:1135:C:H1'	2.52	0.44
1:A:197:A:H5'	1:A:197:A:H8	1.81	0.44
1:A:2364:C:H2'	1:A:2365:G:O4'	2.16	0.44
1:A:2884:U:H5	1:A:2885:C:N1	2.15	0.44
1:A:593:G:C6	1:A:594:U:C4	3.06	0.44
1:A:603:A:C5	1:A:655:A:C2	3.05	0.44
3:D:264:LYS:CG	3:D:266:SER:HB3	2.47	0.44
5:F:53:THR:C	5:F:55:GLY:N	2.70	0.44
5:F:63:LYS:NZ	5:F:67:GLN:HE21	2.15	0.44
6:G:111:LEU:HB2	6:G:112:PRO:HD3	1.99	0.44
8:I:19:VAL:HG22	8:I:20:ASP:N	2.32	0.44
11:L:59:LEU:HA	11:L:61:ARG:HD2	1.98	0.44
12:M:40:ALA:CB	12:M:127:ILE:HD11	2.47	0.44
14:O:61:ASN:O	14:O:65:VAL:HG23	2.16	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:O:82:ILE:HG22	14:O:83:LYS:N	2.31	0.44
15:P:100:TYR:HB3	15:P:103:ARG:NH1	2.32	0.44
15:P:105:LEU:CD2	15:P:109:GLU:HG3	2.47	0.44
24:Y:60:LEU:C	24:Y:62:THR:H	2.21	0.44
6:G:104:GLU:HB3	26:1:50:THR:HG21	2.00	0.44
28:3:34:LEU:H	28:3:34:LEU:HD22	1.81	0.44
30:5:35:GLN:O	30:5:35:GLN:HG2	2.18	0.44
1:A:1483:G:C2	1:A:1508:A:C2	3.06	0.44
1:A:1592:C:H2'	1:A:1593:G:C8	2.53	0.44
1:A:2127:G:H2'	1:A:2128:C:C2	2.52	0.44
1:A:2537:U:H2'	1:A:2538:C:C6	2.52	0.44
3:D:120:GLY:O	3:D:131:LEU:HB3	2.18	0.44
3:D:77:ALA:HB2	3:D:97:TYR:HA	1.99	0.44
4:E:31:CYS:HA	4:E:32:PRO:HD3	1.82	0.44
5:F:31:HIS:O	5:F:34:TRP:HB3	2.17	0.44
6:G:143:GLU:HB2	26:1:54:LYS:HE2	1.99	0.44
7:H:72:ILE:O	7:H:76:VAL:HG23	2.18	0.44
11:L:139:LYS:NZ	11:L:139:LYS:HB2	2.33	0.44
11:L:39:LYS:NZ	11:L:42:SER:OG	2.50	0.44
13:N:100:LEU:HD21	13:N:113:LEU:HD22	1.99	0.44
14:O:19:LYS:O	14:O:21:THR:N	2.51	0.44
19:T:14:SER:O	19:T:15:GLU:C	2.55	0.44
19:T:30:VAL:HG21	19:T:79:ALA:HB3	1.99	0.44
20:U:4:LYS:O	20:U:5:MET:C	2.56	0.44
22:W:82:ARG:O	22:W:82:ARG:HG3	2.17	0.44
23:X:31:GLY:O	23:X:32:LYS:CB	2.65	0.44
30:5:8:LYS:HB3	30:5:12:LYS:HE2	2.00	0.44
1:A:1045:A:C5'	1:A:1046:A:H3'	2.44	0.44
1:A:1726:G:C6	1:A:1727:U:C4	3.06	0.44
1:A:2015:A:H1'	27:2:2:ALA:CA	2.43	0.44
1:A:221:A:H4'	1:A:222:A:O5'	2.17	0.44
1:A:2555:U:C5	1:A:2556:C:C2	3.05	0.44
1:A:481:G:C4	1:A:507:A:C2	3.06	0.44
1:A:663:G:C6	1:A:664:C:C4	3.06	0.44
3:D:166:GLN:CA	3:D:166:GLN:HE21	2.29	0.44
5:F:47:GLY:HA3	5:F:95:ARG:O	2.17	0.44
6:G:111:LEU:O	6:G:117:PHE:HD2	2.01	0.44
7:H:20:ALA:HB3	7:H:23:ARG:O	2.18	0.44
1:A:661:C:O2'	11:L:18:ARG:HA	2.18	0.44
12:M:78:PRO:O	12:M:79:LEU:CB	2.65	0.44
1:A:2880:C:O2	13:N:93:GLY:HA3	2.18	0.44
14:O:66:ALA:O	14:O:69:VAL:HG13	2.18	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:R:39:LEU:CD1	17:R:51:VAL:HA	2.48	0.44
23:X:21:ARG:HB2	23:X:38:SER:O	2.17	0.44
24:Y:46:GLN:HB2	24:Y:49:LYS:HZ3	1.77	0.44
30:5:30:ARG:HA	30:5:30:ARG:NE	2.30	0.44
1:A:1108:U:H2'	1:A:1109:C:C6	2.53	0.44
1:A:1232:G:H2'	1:A:1233:C:H6	1.82	0.44
1:A:2116:G:P	1:A:2166:G:HO2'	2.41	0.44
1:A:2467:C:H2'	1:A:2468:G:O4'	2.18	0.44
1:A:2469:A:OP2	1:A:2476:A:H8	2.01	0.44
1:A:2031:A:C6	1:A:2498:C:H1'	2.53	0.44
1:A:2854:G:C2	1:A:2864:G:C2	3.05	0.44
1:A:953:A:O2'	1:A:954:G:H5'	2.18	0.44
1:A:993:G:OP1	16:Q:50:ARG:NH2	2.51	0.44
6:G:10:LYS:O	6:G:15:VAL:HG23	2.17	0.44
12:M:81:VAL:HG12	12:M:82:ARG:N	2.32	0.44
2:B:7:G:H4'	14:O:29:PHE:CB	2.48	0.44
15:P:9:LEU:HA	15:P:9:LEU:HD23	1.77	0.44
19:T:63:LYS:HZ2	19:T:72:LYS:HB3	1.80	0.44
22:W:81:VAL:O	22:W:83:PRO:HD3	2.17	0.44
28:3:28:ARG:HG3	28:3:29:ASN:N	2.33	0.44
1:A:1459:G:H2'	1:A:1461:G:O4'	2.18	0.44
1:A:2078:C:H2'	1:A:2079:U:C6	2.53	0.44
1:A:2543:G:H2'	1:A:2544:G:H8	1.81	0.44
1:A:2704:C:H2'	1:A:2705:A:O4'	2.17	0.44
1:A:729:G:H5'	1:A:730:C:H5''	2.00	0.44
1:A:924:C:H2'	1:A:925:C:C6	2.53	0.44
1:A:926:A:H2'	1:A:928:G:C8	2.53	0.44
3:D:125:ILE:HG12	3:D:137:PRO:HD3	1.97	0.44
3:D:263:ARG:HB2	3:D:263:ARG:CZ	2.47	0.44
7:H:101:ARG:H	7:H:101:ARG:NE	2.15	0.44
7:H:24:VAL:HG12	7:H:25:LYS:N	2.32	0.44
9:J:93:LYS:HE2	9:J:95:TYR:CE2	2.53	0.44
11:L:16:ARG:O	11:L:16:ARG:NE	2.51	0.44
12:M:43:THR:OG1	12:M:46:GLN:HG3	2.17	0.44
14:O:34:HIS:HA	14:O:54:LEU:HD23	1.97	0.44
14:O:49:VAL:HG13	14:O:76:LYS:NZ	2.32	0.44
4:E:181:LEU:HD11	15:P:7:ILE:CG2	2.47	0.44
17:R:47:VAL:HB	17:R:50:PRO:O	2.17	0.44
17:R:55:ALA:HA	17:R:101:GLY:HA2	2.00	0.44
17:R:66:ARG:HB2	17:R:88:ARG:HD3	2.00	0.44
20:U:27:VAL:HG22	20:U:27:VAL:O	2.17	0.44
20:U:34:LYS:HB3	20:U:34:LYS:HE2	1.87	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:U:95:LYS:HG2	20:U:96:ILE:O	2.18	0.44
24:Y:15:LYS:C	24:Y:16:LEU:HD22	2.38	0.44
1:A:102:G:OP1	1:A:102:G:C4'	2.66	0.44
1:A:1144:G:H2'	1:A:1145:C:C6	2.53	0.44
1:A:1464:C:H2'	1:A:1465:G:H8	1.82	0.44
1:A:1798:U:H5'	3:D:259:THR:OG1	2.17	0.44
1:A:2208:U:O4'	3:D:151:LYS:HE2	2.18	0.44
1:A:2306:C:C6	1:A:2307:G:O4'	2.70	0.44
1:A:2315:G:H2'	1:A:2316:C:C6	2.53	0.44
1:A:2787:C:H2'	1:A:2788:C:C6	2.53	0.44
1:A:27:G:N2	1:A:512:G:H1'	2.32	0.44
1:A:783:A:C4	1:A:785:G:H1'	2.52	0.44
1:A:828:U:C2'	1:A:828:U:O2	2.66	0.44
3:D:106:ILE:N	3:D:106:ILE:HD13	2.17	0.44
3:D:132:PRO:HB2	3:D:135:PHE:HD1	1.81	0.44
4:E:174:ASP:O	4:E:182:LEU:HD12	2.18	0.44
8:I:114:LEU:HD12	8:I:115:ALA:H	1.82	0.44
11:L:85:LEU:HB2	11:L:118:GLY:HA3	2.00	0.44
12:M:52:VAL:HG23	21:V:183:LEU:HD13	1.99	0.44
13:N:10:LEU:C	13:N:10:LEU:HD12	2.38	0.44
1:A:1218:C:O2'	1:A:1219:G:H5'	2.18	0.43
1:A:1274:A:N3	1:A:1297:C:H1'	2.33	0.43
1:A:1317:A:H2'	1:A:1318:C:C6	2.53	0.43
1:A:1443:G:O2'	1:A:1444:G:H5'	2.18	0.43
1:A:1477:A:C4	1:A:1517:G:N2	2.86	0.43
1:A:2046:G:O5'	27:2:19:ARG:HA	2.18	0.43
1:A:479:A:N3	1:A:481:G:H5''	2.32	0.43
1:A:579:G:H2'	1:A:580:C:C6	2.53	0.43
1:A:699:A:H2'	1:A:700:G:O4'	2.18	0.43
1:A:864:G:H1'	1:A:914:C:H42	1.82	0.43
1:A:930:U:O4'	1:A:930:U:O2	2.34	0.43
2:B:16:G:N2	2:B:69:G:H1'	2.33	0.43
6:G:143:GLU:O	6:G:144:ILE:HD13	2.18	0.43
6:G:77:ILE:HG22	6:G:80:PHE:N	2.33	0.43
6:G:86:MET:N	6:G:87:PRO:CD	2.81	0.43
1:A:2094:G:OP1	8:I:22:LYS:HG3	2.18	0.43
16:Q:113:ALA:O	16:Q:117:GLN:HG2	2.18	0.43
17:R:64:HIS:CG	17:R:92:THR:HG22	2.53	0.43
18:S:9:TYR:N	18:S:9:TYR:CD2	2.85	0.43
1:A:1047:G:HO2'	1:A:1110:G:H1	1.65	0.43
1:A:1185:C:H5''	1:A:1186:G:OP1	2.17	0.43
1:A:1376:C:N4	1:A:1377:G:C6	2.86	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1444:G:H2'	1:A:1445:C:C5	2.54	0.43
1:A:1899:G:H2'	1:A:1900:A:OP2	2.18	0.43
1:A:2393:A:P	30:5:28:GLY:H	2.41	0.43
1:A:2742:C:O2'	1:A:2743:C:H5'	2.19	0.43
1:A:373:U:O2	1:A:423:A:H2	2.01	0.43
1:A:556:G:H2'	1:A:557:U:C6	2.53	0.43
1:A:666:G:OP1	11:L:47:ASP:O	2.36	0.43
1:A:751:A:C6	1:A:789:A:C5	3.05	0.43
6:G:173:LEU:HB3	6:G:178:PHE:CD2	2.52	0.43
9:J:85:VAL:HG13	9:J:85:VAL:O	2.18	0.43
1:A:2641:G:H5''	9:J:99:SER:HB2	2.00	0.43
12:M:39:PRO:O	12:M:40:ALA:HB2	2.18	0.43
20:U:35:TYR:CE1	20:U:69:ALA:HB3	2.54	0.43
24:Y:9:GLN:CA	24:Y:12:GLU:HB3	2.49	0.43
28:3:30:THR:O	28:3:32:ASN:N	2.52	0.43
1:A:550:G:O2'	1:A:1220:A:N3	2.41	0.43
1:A:1517:G:H2'	1:A:1518:C:H6	1.84	0.43
3:D:235:GLY:C	3:D:237:GLU:H	2.21	0.43
4:E:196:VAL:HG22	4:E:197:ILE:N	2.33	0.43
11:L:46:LYS:HG2	11:L:52:GLU:CD	2.38	0.43
20:U:59:GLY:C	20:U:61:ILE:H	2.22	0.43
21:V:9:TYR:CZ	21:V:61:LEU:HD13	2.52	0.43
24:Y:60:LEU:HA	24:Y:60:LEU:HD23	1.85	0.43
24:Y:6:VAL:HG12	24:Y:10:LEU:HD11	2.00	0.43
30:5:17:THR:HG23	30:5:21:LYS:C	2.39	0.43
1:A:2695:C:H2'	1:A:2696:U:H6	1.82	0.43
1:A:2815:C:O2'	27:2:42:PRO:HB2	2.19	0.43
1:A:311:A:C8	1:A:332:A:N7	2.86	0.43
1:A:576:U:H2'	1:A:577:G:C8	2.53	0.43
1:A:610:C:H2'	1:A:611:C:H6	1.84	0.43
1:A:719:C:H6	1:A:719:C:O5'	2.02	0.43
3:D:125:ILE:HD11	3:D:131:LEU:HD11	2.00	0.43
3:D:246:PRO:HB2	3:D:255:LYS:HG3	2.00	0.43
4:E:35:GLN:HB3	4:E:48:GLN:HE21	1.84	0.43
4:E:9:VAL:HG13	4:E:25:VAL:C	2.39	0.43
6:G:106:LEU:HD12	6:G:110:ALA:HB3	2.00	0.43
6:G:137:GLU:HB3	6:G:139:LEU:HD23	1.99	0.43
9:J:81:ASP:OD1	9:J:147:ALA:O	2.37	0.43
9:J:90:LEU:HA	9:J:110:LEU:HB3	1.99	0.43
10:K:89:ASN:O	10:K:91:LEU:HD22	2.18	0.43
14:O:59:LYS:HB2	14:O:60:GLY:H	1.51	0.43
20:U:50:ARG:HD3	20:U:51:VAL:N	2.33	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:U:13:VAL:HG21	20:U:72:VAL:HB	1.99	0.43
20:U:98:VAL:HG13	20:U:99:CYS:N	2.32	0.43
21:V:134:PRO:HG3	21:V:161:VAL:HG21	2.00	0.43
29:4:9:ARG:NH2	29:4:47:ARG:HG3	2.26	0.43
30:5:29:LYS:NZ	30:5:45:GLY:HA2	2.33	0.43
1:A:1506:C:H2'	1:A:1508:A:C8	2.54	0.43
1:A:1523:U:H2'	1:A:1524:G:C8	2.53	0.43
1:A:1786:A:H4'	1:A:1787:A:OP2	2.19	0.43
1:A:2411:A:O2'	1:A:2412:A:H5'	2.19	0.43
1:A:610:C:H2'	1:A:611:C:C6	2.53	0.43
8:I:69:LYS:HD2	8:I:73:GLU:HB2	1.99	0.43
10:K:19:ILE:HB	10:K:42:SER:O	2.19	0.43
11:L:58:THR:C	11:L:60:MET:H	2.21	0.43
14:O:25:ARG:O	14:O:39:ILE:HA	2.18	0.43
15:P:49:VAL:HG13	15:P:49:VAL:O	2.18	0.43
16:Q:91:ASP:CG	16:Q:96:ALA:HB2	2.39	0.43
17:R:49:THR:O	17:R:50:PRO:C	2.56	0.43
24:Y:2:LYS:HZ2	24:Y:2:LYS:N	2.16	0.43
1:A:1230:C:H2'	1:A:1231:G:C8	2.54	0.43
1:A:1686:C:H2'	1:A:1687:G:O4'	2.18	0.43
1:A:1997:G:O2'	1:A:1998:G:H5'	2.19	0.43
1:A:2392:A:H2'	1:A:2393:A:O4'	2.19	0.43
1:A:523:C:H4'	1:A:541:C:O2	2.17	0.43
3:D:245:PRO:HB2	3:D:255:LYS:NZ	2.33	0.43
3:D:62:TYR:HA	3:D:87:ASN:ND2	2.33	0.43
5:F:174:VAL:HG23	5:F:174:VAL:O	2.18	0.43
6:G:139:LEU:HA	6:G:144:ILE:HG21	2.01	0.43
6:G:82:LEU:HD22	6:G:87:PRO:HG2	2.01	0.43
8:I:123:LEU:HD23	8:I:123:LEU:C	2.39	0.43
1:A:910:A:C6	12:M:13:GLN:HG3	2.53	0.43
14:O:78:LEU:HD13	14:O:78:LEU:O	2.18	0.43
15:P:105:LEU:HG	15:P:109:GLU:HB2	2.00	0.43
19:T:63:LYS:HD2	19:T:72:LYS:HA	2.00	0.43
20:U:73:ARG:HH21	20:U:82:PRO:HD3	1.82	0.43
20:U:88:LYS:N	20:U:88:LYS:HD3	2.34	0.43
30:5:23:VAL:HA	30:5:48:PHE:O	2.18	0.43
30:5:51:ALA:H	30:5:54:GLU:CB	2.32	0.43
1:A:1570:A:H4'	3:D:38:LYS:HZ1	1.84	0.43
1:A:1705:G:O2'	1:A:1706:U:H5'	2.18	0.43
1:A:1716:U:O2	1:A:1746:G:C2	2.71	0.43
1:A:2164:C:C6	1:A:2165:G:H5'	2.54	0.43
1:A:2212:A:N3	1:A:2215:G:C2	2.87	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:270(N):U:H1'	1:A:270(O):G:N7	2.34	0.43
1:A:2758:A:C2	1:A:2759:G:H1'	2.53	0.43
1:A:2820:A:O3'	13:N:5:LYS:HE3	2.19	0.43
1:A:2006:C:O2'	1:A:2823:A:N3	2.50	0.43
1:A:492:A:H2'	1:A:493:G:O4'	2.19	0.43
1:A:681:G:H2'	1:A:682:G:O4'	2.18	0.43
6:G:108:ASN:C	6:G:112:PRO:HG2	2.39	0.43
1:A:2531:A:H4'	7:H:157:TYR:CD2	2.53	0.43
7:H:20:ALA:HB1	7:H:21:PRO:CD	2.48	0.43
9:J:42:GLU:HA	9:J:82:LYS:O	2.19	0.43
9:J:61:HIS:O	16:Q:67:ALA:HB1	2.18	0.43
12:M:41:TRP:HB3	12:M:94:VAL:HG21	1.99	0.43
13:N:11:ASN:OD1	13:N:12:ARG:N	2.31	0.43
13:N:2:ARG:HD3	13:N:5:LYS:NZ	2.33	0.43
16:Q:92:ARG:O	16:Q:94:ASN:N	2.52	0.43
18:S:14:PRO:O	18:S:18:ARG:HB2	2.17	0.43
21:V:23:LYS:HB3	21:V:38:TYR:CD1	2.53	0.43
21:V:28:MET:O	21:V:34:ASN:HA	2.18	0.43
24:Y:2:LYS:NZ	24:Y:2:LYS:H	2.16	0.43
1:A:1309:G:H3'	29:4:9:ARG:NH1	2.33	0.43
11:L:49:ARG:HB2	30:5:60:LEU:HD21	2.01	0.43
1:A:1472:A:H61	1:A:1521:G:H1'	1.84	0.43
1:A:1540:G:H2'	1:A:1541:U:O4'	2.18	0.43
1:A:1543:A:C5'	1:A:1544:C:OP2	2.67	0.43
1:A:1788:C:H2'	1:A:1789:A:O4'	2.19	0.43
1:A:2124:G:H3'	1:A:2125:G:C8	2.53	0.43
1:A:1493:C:N4	1:A:2210:G:H1'	2.34	0.43
1:A:2359:C:H2'	1:A:2360:A:O4'	2.19	0.43
1:A:2415:G:H4'	11:L:66:GLY:C	2.38	0.43
1:A:839:U:H2'	1:A:840:C:C6	2.53	0.43
1:A:864:G:C6	1:A:865:C:N4	2.87	0.43
9:J:33:GLU:OE1	9:J:33:GLU:HA	2.19	0.43
11:L:101:VAL:HG13	11:L:102:ARG:H	1.84	0.43
11:L:126:VAL:HG22	11:L:145:PRO:CG	2.45	0.43
2:B:7:G:H4'	14:O:29:PHE:CG	2.54	0.43
1:A:995:C:OP2	16:Q:54:LYS:HE3	2.19	0.43
17:R:4:ILE:HG22	17:R:39:LEU:HD23	2.01	0.43
12:M:62:GLY:CA	21:V:116:VAL:HG21	2.47	0.43
23:X:26:ARG:O	23:X:27:GLU:HB3	2.18	0.43
23:X:51:VAL:HG22	23:X:53:VAL:HG23	1.99	0.43
23:X:56:GLN:HE22	23:X:86:SER:H	1.66	0.43
1:A:1011:G:H5''	16:Q:77:SER:HG	1.83	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:165:U:H3'	1:A:165:U:O2	2.19	0.43
1:A:2116:G:H21	1:A:2163:C:H41	1.65	0.43
1:A:2711:A:OP1	1:A:712(B):A:P	2.77	0.43
1:A:1798:U:H5''	3:D:260:ARG:HB2	1.99	0.43
5:F:114:VAL:HG21	5:F:202:PHE:CE1	2.54	0.43
8:I:71:ILE:HG13	8:I:72:LEU:CD2	2.48	0.43
14:O:25:ARG:HD3	14:O:88:ASP:OD1	2.17	0.43
15:P:115:ARG:HD3	15:P:115:ARG:N	2.30	0.43
17:R:13:ARG:HD3	17:R:13:ARG:C	2.39	0.43
24:Y:7:ARG:C	24:Y:7:ARG:HD3	2.39	0.43
1:A:1047:G:OP2	1:A:1105:U:P	2.77	0.43
1:A:2161:C:H2'	1:A:2162:G:O4'	2.19	0.43
1:A:2340:G:O2'	1:A:2341:G:H5'	2.19	0.43
1:A:2469:A:OP2	1:A:2476:A:C8	2.72	0.43
1:A:273(F):U:C3'	1:A:273(G):C:H5''	2.49	0.43
1:A:317:G:N2	1:A:318:C:C2	2.87	0.43
1:A:642:G:N2	1:A:645:C:OP2	2.52	0.43
1:A:851:U:O2'	25:Z:45:GLY:HA3	2.18	0.43
4:E:169:ASN:OD1	4:E:201:THR:HG21	2.19	0.43
7:H:94:TYR:CE2	7:H:107:VAL:O	2.71	0.43
11:L:61:ARG:CD	30:5:13:ARG:HD2	2.49	0.43
13:N:84:ALA:HB3	13:N:85:PRO:HD3	2.01	0.43
13:N:9:LYS:HG3	13:N:10:LEU:N	2.34	0.43
14:O:61:ASN:ND2	14:O:64:GLU:HG3	2.34	0.43
15:P:35:LYS:HB2	15:P:35:LYS:HE3	1.92	0.43
15:P:36:GLU:O	15:P:39:ARG:HG3	2.18	0.43
16:Q:28:ARG:CG	16:Q:38:THR:OG1	2.67	0.43
18:S:17:VAL:CG2	18:S:76:VAL:HG21	2.49	0.43
19:T:63:LYS:HD2	19:T:72:LYS:CG	2.49	0.43
19:T:71:GLY:O	19:T:72:LYS:HG3	2.19	0.43
21:V:100:VAL:HA	21:V:101:PRO:HD3	1.90	0.43
1:A:1327:C:H2'	1:A:1328:G:O4'	2.19	0.42
1:A:1676:A:H2'	1:A:1677:A:O4'	2.19	0.42
1:A:1680:U:N3	1:A:1764:G:OP2	2.52	0.42
1:A:1763:G:C2'	1:A:1764:G:O5'	2.67	0.42
1:A:1786:A:H1'	1:A:1938:A:N6	2.33	0.42
1:A:1952:A:C5	1:A:1953:A:C6	3.07	0.42
1:A:2323:G:H2'	1:A:2324:C:O4'	2.19	0.42
1:A:2370:G:C6	1:A:2371:G:C6	3.06	0.42
1:A:2688:U:H3'	1:A:2688:U:O2	2.19	0.42
1:A:270(P):U:H4'	1:A:270(Q):C:OP2	2.17	0.42
1:A:280:C:N3	1:A:361:G:N2	2.67	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:451:C:H4'	5:F:52:LYS:HZ2	1.84	0.42
1:A:78:A:H2'	1:A:79:G:C8	2.54	0.42
6:G:50:ALA:O	6:G:53:LEU:HB3	2.19	0.42
7:H:67:LEU:HG	7:H:71:LEU:HD21	2.01	0.42
8:I:76:THR:HG22	8:I:141:LYS:HB2	2.01	0.42
1:A:2563:U:H4'	10:K:28:SER:HA	2.01	0.42
1:A:2393:A:H5'	11:L:62:LEU:HB3	2.01	0.42
12:M:68:ILE:HD13	12:M:68:ILE:N	2.32	0.42
13:N:87:TYR:OH	13:N:116:LEU:HB3	2.18	0.42
14:O:26:LEU:HG	14:O:39:ILE:CD1	2.47	0.42
17:R:78:LYS:O	17:R:78:LYS:HG3	2.17	0.42
21:V:16:SER:O	21:V:20:ARG:HD2	2.19	0.42
24:Y:14:ARG:CA	24:Y:17:SER:HB2	2.40	0.42
24:Y:25:VAL:HG22	24:Y:60:LEU:HB3	2.01	0.42
28:3:25:LYS:HD3	30:5:34:TRP:HZ3	1.82	0.42
1:A:458:G:O2'	29:4:39:ARG:HD3	2.19	0.42
1:A:1232:G:H2'	1:A:1233:C:C6	2.54	0.42
1:A:1607:C:H4'	1:A:1608:A:C5'	2.50	0.42
1:A:2475:C:H2'	1:A:2477:C:OP1	2.18	0.42
1:A:2516:G:C6	1:A:2517:C:C4	3.06	0.42
1:A:2643:G:C2'	1:A:2644:G:H5'	2.49	0.42
1:A:2776:A:H4'	1:A:2777:G:H5''	2.01	0.42
1:A:2815:C:O2	27:2:43:HIS:HE1	2.03	0.42
1:A:649:G:H2'	1:A:650:C:O4'	2.20	0.42
6:G:115:ARG:NH2	6:G:136:ARG:H	2.12	0.42
6:G:82:LEU:HD22	6:G:87:PRO:CG	2.49	0.42
12:M:22:LYS:CD	12:M:22:LYS:C	2.87	0.42
12:M:82:ARG:HA	12:M:82:ARG:HD3	1.73	0.42
16:Q:47:TYR:C	16:Q:47:TYR:CD2	2.92	0.42
16:Q:92:ARG:CG	16:Q:92:ARG:NH1	2.80	0.42
17:R:47:VAL:HG12	17:R:52:VAL:CA	2.49	0.42
18:S:9:TYR:HD2	18:S:102:HIS:HE2	1.61	0.42
20:U:42:VAL:HG21	20:U:67:LEU:HG	2.00	0.42
20:U:85:VAL:HA	20:U:94:LYS:HA	2.01	0.42
24:Y:61:LEU:HD13	24:Y:61:LEU:HA	1.59	0.42
1:A:78:A:H5'	24:Y:7:ARG:HH12	1.84	0.42
25:Z:44:ARG:HB2	25:Z:44:ARG:HE	1.42	0.42
28:3:44:ARG:O	28:3:45:LYS:HG2	2.19	0.42
30:5:11:LYS:HG3	30:5:64:TYR:CZ	2.54	0.42
1:A:1021:A:H2'	1:A:1023:U:H5'	2.01	0.42
1:A:1356:G:C5	1:A:1357:U:C5	3.07	0.42
1:A:195:A:C8	1:A:197:A:OP1	2.73	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2127:G:C6	1:A:2160:G:O6	2.72	0.42
1:A:2415:G:H2'	1:A:2416:C:C6	2.55	0.42
1:A:2647:U:H2'	1:A:2648:C:H6	1.83	0.42
1:A:2678:C:H2'	1:A:2679:A:O4'	2.19	0.42
1:A:518:G:H2'	1:A:519:U:C6	2.55	0.42
1:A:637:A:OP1	11:L:133:SER:HB2	2.18	0.42
1:A:646:A:N3	1:A:646:A:H5'	2.35	0.42
2:B:7:G:H4'	14:O:29:PHE:HB2	2.02	0.42
3:D:7:LYS:CG	3:D:8:PRO:HD2	2.44	0.42
4:E:55:ASN:O	4:E:57:LYS:N	2.51	0.42
5:F:65:TRP:HB2	5:F:66:PRO:HD2	2.01	0.42
6:G:148:MET:CE	6:G:148:MET:HA	2.49	0.42
6:G:16:ARG:N	6:G:17:PRO:HD2	2.34	0.42
8:I:109:ILE:HB	8:I:130:TYR:CZ	2.54	0.42
11:L:95:VAL:CG2	11:L:125:VAL:HB	2.48	0.42
20:U:92:ASN:OD1	20:U:93:GLY:N	2.52	0.42
21:V:151:HIS:HD2	21:V:168:GLU:O	2.02	0.42
21:V:23:LYS:HB3	21:V:38:TYR:HD1	1.85	0.42
24:Y:2:LYS:HZ2	24:Y:2:LYS:H	1.67	0.42
1:A:1051:G:H1	1:A:1107:G:N2	2.06	0.42
1:A:1204:A:N3	1:A:1204:A:O4'	2.52	0.42
1:A:1543:A:H2'	1:A:1545:A:C4'	2.50	0.42
1:A:1748:G:O2'	1:A:1749:A:H5'	2.20	0.42
1:A:1939:U:H3'	1:A:1940:U:C5'	2.49	0.42
1:A:2156:G:C6	1:A:2157:G:C2	3.07	0.42
1:A:2298:A:H2'	1:A:2299:G:O4'	2.20	0.42
1:A:910:A:C6	1:A:911:A:C6	3.07	0.42
2:B:83:G:H4'	25:Z:52:HIS:CG	2.55	0.42
3:D:53:PHE:HE1	3:D:221:VAL:HG12	1.84	0.42
5:F:140:LEU:CD2	5:F:170:LEU:HD11	2.48	0.42
6:G:32:PRO:HB3	6:G:163:ALA:HB2	2.01	0.42
7:H:121:ILE:N	7:H:121:ILE:HD12	2.34	0.42
1:A:389:G:O6	11:L:71:VAL:HG23	2.19	0.42
1:A:2839:G:H4'	13:N:49:ASP:HB3	2.00	0.42
1:A:2820:A:C4'	13:N:5:LYS:HG2	2.49	0.42
2:B:50:G:OP2	14:O:62:LYS:HB2	2.19	0.42
20:U:95:LYS:HA	20:U:101:LYS:H	1.85	0.42
1:A:896:A:H5''	21:V:146:ILE:HG13	2.02	0.42
21:V:24:LEU:HD12	21:V:24:LEU:C	2.39	0.42
1:A:2611:U:O2	27:2:3:LYS:HG3	2.20	0.42
30:5:11:LYS:HE3	30:5:64:TYR:CE2	2.53	0.42
1:A:1048:A:C2	1:A:1112:G:N3	2.86	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:125:G:H4'	1:A:126:A:OP2	2.20	0.42
1:A:1331:A:O2'	1:A:1332:G:H8	2.02	0.42
1:A:1420:U:H2'	1:A:1420:U:H6	1.35	0.42
1:A:1569:A:H2'	1:A:1570:A:O4'	2.19	0.42
1:A:1693:U:H4'	1:A:1694:C:OP2	2.20	0.42
1:A:184:C:H2'	1:A:185:U:C6	2.55	0.42
1:A:1919:A:H2'	1:A:1919:A:N3	2.34	0.42
1:A:1268:A:C2	1:A:2013:A:C4	3.08	0.42
1:A:2243:U:H2'	1:A:2244:U:C6	2.54	0.42
1:A:2262:U:O2'	1:A:2263:C:H5'	2.20	0.42
1:A:2784:C:H2'	1:A:2785:C:C6	2.55	0.42
1:A:363(E):G:C6	1:A:363(F):U:C4	3.07	0.42
1:A:747:U:C4	1:A:2613:U:C4	3.08	0.42
1:A:943:U:OP2	11:L:38:GLN:OE1	2.37	0.42
2:B:52:A:C6	2:B:53:A:C5	3.07	0.42
3:D:18:VAL:HG22	3:D:19:ALA:N	2.34	0.42
4:E:181:LEU:HD11	15:P:7:ILE:HG23	2.02	0.42
5:F:117:ARG:HA	5:F:117:ARG:HD3	1.80	0.42
5:F:11:VAL:HA	5:F:125:LEU:O	2.20	0.42
6:G:55:LYS:O	6:G:58:GLN:HG2	2.20	0.42
2:B:11:C:OP1	22:W:72:ARG:HD2	2.18	0.42
1:A:2058:A:N6	1:A:2059:A:N6	2.67	0.42
1:A:2308:G:O2'	1:A:2309:A:P	2.77	0.42
1:A:2607:G:H2'	1:A:2608:G:O4'	2.20	0.42
1:A:2643:G:H2'	1:A:2644:G:O4'	2.20	0.42
1:A:2773:C:H2'	1:A:2774:C:C6	2.53	0.42
1:A:2787:C:H1'	4:E:62:PRO:CG	2.50	0.42
1:A:664:C:H2'	1:A:665:C:H6	1.84	0.42
1:A:673:C:H2'	1:A:674:G:H5'	2.01	0.42
3:D:103:ARG:CG	3:D:103:ARG:NH1	2.69	0.42
1:A:2572:A:C4	4:E:144:ARG:NH2	2.88	0.42
7:H:127:GLU:CD	7:H:128:PRO:HD2	2.40	0.42
7:H:48:GLY:O	7:H:49:VAL:HG13	2.19	0.42
10:K:22:ILE:HD12	10:K:22:ILE:HA	1.70	0.42
14:O:12:PHE:C	14:O:12:PHE:HD1	2.21	0.42
15:P:61:PHE:CD2	15:P:78:LEU:HD23	2.54	0.42
16:Q:61:TRP:CD2	16:Q:94:ASN:HA	2.55	0.42
17:R:47:VAL:HG12	17:R:52:VAL:N	2.35	0.42
20:U:90:LEU:HD23	20:U:90:LEU:N	2.28	0.42
21:V:176:PRO:HA	21:V:177:PRO:HD3	1.82	0.42
21:V:24:LEU:HD11	21:V:86:VAL:CG2	2.46	0.42
21:V:30:ASN:O	21:V:32:HIS:N	2.52	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2395:C:O2'	23:X:32:LYS:HG3	2.19	0.42
24:Y:17:SER:HB3	24:Y:18:PRO:CD	2.43	0.42
24:Y:9:GLN:O	24:Y:9:GLN:HG2	2.20	0.42
29:4:42:LEU:HD23	29:4:42:LEU:HA	1.80	0.42
1:A:1167:U:C2	1:A:1183:G:N2	2.87	0.42
1:A:1654:A:C2	4:E:113:PHE:CD1	3.08	0.42
1:A:164:U:C5	1:A:165:U:C4	3.08	0.42
1:A:2748:A:C6	1:A:2749:A:C5	3.08	0.42
1:A:2790:A:H2'	1:A:2791:C:C5'	2.41	0.42
1:A:673:C:C2'	1:A:674:G:H5'	2.50	0.42
2:B:42:C:C4	6:G:91:ARG:NH2	2.87	0.42
3:D:197:GLY:O	3:D:198:ASN:C	2.58	0.42
5:F:122:LYS:HE2	5:F:190:GLU:O	2.19	0.42
5:F:164:ARG:CD	5:F:175:THR:HB	2.50	0.42
6:G:128:ARG:O	6:G:129:GLY:C	2.58	0.42
6:G:131:TYR:HB3	6:G:159:VAL:CG1	2.50	0.42
11:L:6:LEU:CG	11:L:8:PRO:HD2	2.50	0.42
12:M:74:TYR:CD2	12:M:91:GLU:HB2	2.42	0.42
19:T:27:THR:HB	19:T:80:ILE:HG22	2.02	0.42
23:X:9:GLY:O	23:X:13:ILE:HD13	2.20	0.42
28:3:44:ARG:HB3	28:3:45:LYS:H	1.57	0.42
29:4:13:ALA:O	29:4:17:GLY:HA3	2.20	0.42
1:A:1024:G:C6	1:A:1025:G:C6	3.08	0.42
1:A:1106:G:C2'	1:A:1107:G:H5'	2.49	0.42
1:A:1614:A:N1	18:S:93:ALA:CB	2.69	0.42
1:A:2079:U:H2'	1:A:2080:G:O4'	2.20	0.42
1:A:2219:G:C2'	1:A:2224:G:H5'	2.49	0.42
1:A:2415:G:C5	1:A:2416:C:C5	3.07	0.42
1:A:2816:C:O2	1:A:2883:A:O2'	2.37	0.42
1:A:374:A:C2	1:A:401:A:C4	3.07	0.42
1:A:433:C:C4	1:A:434:U:O4	2.73	0.42
1:A:994:C:OP2	16:Q:50:ARG:HG2	2.20	0.42
2:B:35:U:O2'	2:B:36:C:H5'	2.19	0.42
3:D:130:ALA:HB2	3:D:192:THR:HB	2.01	0.42
4:E:196:VAL:CG2	4:E:197:ILE:N	2.82	0.42
5:F:155:LEU:HD23	5:F:186:ILE:HD13	2.01	0.42
8:I:9:LEU:CD1	8:I:12:LEU:HD23	2.50	0.42
8:I:15:VAL:HG12	8:I:16:GLY:N	2.33	0.42
9:J:143:LEU:CD1	9:J:145:VAL:HG23	2.50	0.42
9:J:151:HIS:HE1	9:J:157:ARG:HE	1.68	0.42
9:J:53:ILE:HG22	9:J:57:LEU:CD2	2.50	0.42
11:L:32:THR:O	11:L:33:ARG:O	2.37	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:L:75:ILE:HD12	11:L:75:ILE:H	1.84	0.42
12:M:104:PHE:N	12:M:104:PHE:CD1	2.87	0.42
12:M:54:MET:O	12:M:57:HIS:HB3	2.19	0.42
12:M:72:LYS:HA	12:M:73:PRO:HD3	1.87	0.42
17:R:47:VAL:HG12	17:R:52:VAL:CB	2.50	0.42
19:T:38:GLU:O	19:T:42:ALA:HB2	2.20	0.42
22:W:53:MET:HB3	22:W:59:LEU:CD2	2.46	0.42
24:Y:12:GLU:C	24:Y:14:ARG:H	2.22	0.42
30:5:32:LEU:HD23	30:5:33:ASN:N	2.34	0.42
30:5:61:LEU:O	30:5:62:LEU:CB	2.67	0.42
1:A:1819:A:H5''	3:D:161:THR:HG21	2.02	0.42
1:A:2011:U:H2'	1:A:2012:G:O4'	2.20	0.42
1:A:2129:C:O2	1:A:2160:G:C2	2.73	0.42
1:A:2261:C:C2	1:A:2280:G:C2	3.07	0.42
1:A:2777:G:H5''	1:A:2778:A:OP1	2.20	0.42
1:A:2839:G:H4'	13:N:49:ASP:CB	2.50	0.42
1:A:390:A:C6	11:L:71:VAL:CG2	3.03	0.42
1:A:775:G:H4'	1:A:776:G:O5'	2.19	0.42
1:A:883:G:H22	1:A:894:C:H1'	1.85	0.42
2:B:5:C:C2	2:B:116:G:N2	2.88	0.42
2:B:8:U:H5''	14:O:15:ARG:NH2	2.35	0.42
3:D:77:ALA:CB	3:D:97:TYR:HA	2.50	0.42
4:E:183:LEU:HD12	4:E:183:LEU:N	2.34	0.42
4:E:3:GLY:O	4:E:4:ILE:HB	2.20	0.42
6:G:73:ALA:H	6:G:85:GLY:HA2	1.85	0.42
7:H:137:ASP:HB3	7:H:140:LYS:CG	2.49	0.42
1:A:663:G:H5''	11:L:21:ARG:HD2	2.02	0.42
1:A:389:G:N1	11:L:70:GLN:HG3	2.35	0.42
11:L:84:ASN:HB3	11:L:117:GLU:O	2.20	0.42
13:N:28:LEU:HD12	13:N:48:VAL:HG21	2.02	0.42
17:R:1:MET:HB3	17:R:42:GLY:HA3	2.01	0.42
18:S:18:ARG:NH1	18:S:76:VAL:O	2.53	0.42
26:1:38:ALA:O	26:1:49:GLU:HG2	2.19	0.42
1:A:1590:U:H2'	1:A:1591:G:H8	1.85	0.42
1:A:2041:U:H2'	1:A:2042:A:C8	2.55	0.42
1:A:2050:C:N4	1:A:2051:A:C6	2.88	0.42
1:A:251:A:C5	1:A:252:G:H1'	2.54	0.42
1:A:2808:U:H2'	1:A:2809:A:C5'	2.50	0.42
1:A:358:U:C2'	1:A:359:A:H5'	2.49	0.42
1:A:71:A:H2	19:T:31:HIS:CE1	2.38	0.42
1:A:776:G:OP2	1:A:776:G:H8	2.03	0.42
1:A:865:C:H4'	1:A:866:A:OP1	2.20	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:882:G:N2	1:A:883:G:C6	2.88	0.42
6:G:90:LEU:CD2	6:G:90:LEU:H	2.29	0.42
7:H:17:VAL:HG21	7:H:50:VAL:CG2	2.49	0.42
8:I:9:LEU:HD11	8:I:12:LEU:HD23	2.02	0.42
11:L:47:ASP:OD1	11:L:49:ARG:N	2.52	0.42
21:V:30:ASN:C	21:V:30:ASN:HD22	2.23	0.42
24:Y:46:GLN:N	24:Y:49:LYS:HE2	2.33	0.42
27:2:41:PRO:HA	27:2:42:PRO:HD3	1.95	0.41
1:A:1414:G:O2'	1:A:1415:U:H5'	2.20	0.41
1:A:1817:G:OP1	3:D:88:ARG:NH2	2.48	0.41
1:A:1858:G:HO2'	1:A:1859:A:H8	1.59	0.41
1:A:910:A:N1	1:A:2277:G:H1'	2.35	0.41
1:A:2414:G:H21	11:L:67:MET:HE1	1.83	0.41
1:A:2473:U:HO2'	1:A:2474:C:H5'	1.81	0.41
1:A:335:C:H2'	1:A:336:C:H6	1.84	0.41
1:A:603:A:C5	1:A:655:A:N3	2.88	0.41
1:A:848:G:C4	1:A:933:A:H8	2.38	0.41
4:E:36:ARG:HH21	4:E:88:GLY:HA2	1.85	0.41
6:G:56:ALA:HB2	6:G:153:ARG:HE	1.84	0.41
6:G:81:LYS:HD3	6:G:81:LYS:N	2.35	0.41
7:H:13:LYS:CD	7:H:14:GLY:N	2.82	0.41
12:M:40:ALA:HB3	12:M:127:ILE:HD11	2.02	0.41
14:O:76:LYS:HG2	14:O:76:LYS:H	1.49	0.41
16:Q:84:LYS:HA	16:Q:84:LYS:HD2	1.81	0.41
19:T:31:HIS:HA	19:T:32:PRO:HD3	1.93	0.41
23:X:9:GLY:O	23:X:10:LYS:O	2.38	0.41
28:3:20:ASN:CG	28:3:21:TYR:N	2.74	0.41
1:A:110:G:O2'	1:A:111:A:H5'	2.20	0.41
1:A:1181:C:H2'	1:A:1182:A:C8	2.55	0.41
1:A:1858:G:O2'	1:A:1859:A:C8	2.69	0.41
1:A:1925:C:O2'	1:A:1926:U:H5'	2.19	0.41
1:A:2512:C:H4'	4:E:122:PHE:CE2	2.55	0.41
1:A:775:G:H1'	1:A:776:G:OP2	2.20	0.41
1:A:1902:C:H5''	3:D:246:PRO:HD3	2.02	0.41
4:E:78:LEU:HD23	4:E:78:LEU:N	2.35	0.41
1:A:2305:A:O2'	6:G:136:ARG:NE	2.53	0.41
6:G:143:GLU:H	6:G:143:GLU:CD	2.23	0.41
12:M:43:THR:HG1	12:M:46:GLN:HG3	1.84	0.41
14:O:28:VAL:HG11	14:O:98:VAL:HG12	2.02	0.41
17:R:69:LYS:C	17:R:70:ILE:HD12	2.40	0.41
1:A:751:A:H5'	18:S:90:ARG:HA	2.03	0.41
19:T:12:VAL:O	19:T:13:LEU:HD23	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:U:75:ILE:HD12	20:U:76:CYS:N	2.35	0.41
21:V:128:VAL:CG1	21:V:132:ASN:HB2	2.50	0.41
28:3:24:GLU:CD	28:3:25:LYS:H	2.23	0.41
1:A:459:U:H5'	29:4:40:TRP:CD2	2.55	0.41
1:A:1930:G:N2	1:A:1968:G:H2'	2.35	0.41
1:A:303:U:C2	1:A:304:G:C8	3.08	0.41
1:A:66:C:C4	1:A:67:U:C5	3.08	0.41
1:A:856:C:O4'	22:W:27:GLU:HB3	2.20	0.41
5:F:117:ARG:HA	5:F:120:GLU:OE2	2.20	0.41
8:I:12:LEU:HD13	8:I:12:LEU:HA	1.93	0.41
8:I:26:ALA:HB1	8:I:31:LEU:CD2	2.51	0.41
10:K:73:ASP:OD1	10:K:73:ASP:C	2.58	0.41
12:M:20:ALA:HB1	12:M:99:PRO:O	2.20	0.41
17:R:81:TYR:C	17:R:82:ARG:HD2	2.40	0.41
23:X:83:GLU:HB3	23:X:84:GLY:H	1.59	0.41
28:3:28:ARG:HD2	28:3:28:ARG:HA	1.85	0.41
28:3:34:LEU:HD13	28:3:34:LEU:N	2.36	0.41
1:A:1026:U:H5'	1:A:1027:A:OP2	2.20	0.41
1:A:1406:U:H2'	1:A:1407:C:H6	1.84	0.41
1:A:1466:G:H2'	1:A:1547:C:N4	2.34	0.41
1:A:1952:A:C6	1:A:1953:A:C6	3.09	0.41
1:A:2113:U:H2'	1:A:2114:A:O4'	2.20	0.41
1:A:2126:A:O3'	1:A:2127:G:C4'	2.68	0.41
1:A:2287:A:O2'	1:A:2288:A:H5''	2.20	0.41
1:A:2319:G:C2	1:A:2320:A:N1	2.89	0.41
1:A:654:U:C5'	1:A:655:A:OP2	2.68	0.41
1:A:963:U:H2'	1:A:964:C:C6	2.56	0.41
2:B:45:A:N3	2:B:45:A:H2'	2.35	0.41
5:F:150:GLY:HA2	5:F:172:TRP:CE3	2.56	0.41
9:J:92:GLN:O	9:J:93:LYS:O	2.37	0.41
11:L:140:ALA:O	11:L:141:ALA:HB2	2.21	0.41
1:A:389:G:N1	11:L:71:VAL:HG23	2.34	0.41
14:O:69:VAL:HA	14:O:72:ALA:HB3	2.02	0.41
14:O:89:ARG:HD2	14:O:94:TYR:H	1.85	0.41
15:P:26:ASP:HB2	15:P:90:GLN:O	2.20	0.41
17:R:35:LEU:H	17:R:35:LEU:HD22	1.85	0.41
19:T:62:LYS:C	19:T:63:LYS:HD3	2.41	0.41
1:A:297:C:H5''	20:U:85:VAL:HG21	2.01	0.41
21:V:103:ARG:HD2	21:V:136:PHE:CE1	2.56	0.41
21:V:53:ILE:HD12	21:V:53:ILE:C	2.41	0.41
22:W:14:ARG:HB3	22:W:14:ARG:HE	1.63	0.41
25:Z:53:LEU:HD23	25:Z:53:LEU:H	1.86	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1153:C:H2'	1:A:1154:G:O4'	2.21	0.41
1:A:1864:U:H5''	1:A:2410:G:O2'	2.21	0.41
1:A:2564:A:OP1	1:A:2648:C:H4'	2.20	0.41
1:A:2740:A:C6	1:A:2741:A:C6	3.08	0.41
1:A:2862:G:H2'	1:A:2863:C:H6	1.86	0.41
1:A:2884:U:C5	1:A:2885:C:N1	2.89	0.41
1:A:274:G:O6	1:A:363(A):G:C2	2.73	0.41
1:A:404:C:C4'	1:A:405:U:H5'	2.49	0.41
1:A:744:G:H2'	1:A:745:G:O4'	2.20	0.41
3:D:33:LEU:C	3:D:35:LYS:N	2.73	0.41
3:D:38:LYS:N	3:D:38:LYS:CD	2.81	0.41
6:G:108:ASN:O	26:1:62:CYS:HB2	2.21	0.41
6:G:77:ILE:HG22	6:G:80:PHE:H	1.85	0.41
8:I:32:PRO:C	8:I:34:GLY:H	2.24	0.41
8:I:6:LEU:N	8:I:6:LEU:HD23	2.35	0.41
11:L:40:SER:O	11:L:41:ARG:CZ	2.69	0.41
16:Q:104:GLN:OE1	16:Q:105:VAL:HG23	2.20	0.41
1:A:583:G:OP2	16:Q:10:ARG:HD2	2.20	0.41
19:T:53:LYS:HZ2	19:T:55:ASN:HD21	1.67	0.41
20:U:60:PHE:O	20:U:61:ILE:C	2.59	0.41
20:U:92:ASN:C	20:U:92:ASN:OD1	2.59	0.41
21:V:63:ASP:CB	21:V:65:GLN:HG3	2.50	0.41
23:X:56:GLN:NE2	23:X:85:LEU:HA	2.35	0.41
23:X:13:ILE:CG2	23:X:63:ALA:H	2.25	0.41
1:A:1163:G:O2'	1:A:1164:G:H5'	2.20	0.41
1:A:1493:C:O2	1:A:1493:C:C2'	2.69	0.41
1:A:1523:U:H2'	1:A:1524:G:H8	1.86	0.41
1:A:1794:U:O2'	1:A:1795:C:H5'	2.20	0.41
1:A:2116:G:O6	1:A:2166:G:N2	2.54	0.41
1:A:476:G:H4'	1:A:502:A:N1	2.36	0.41
1:A:883:G:N1	1:A:894:C:O2	2.53	0.41
2:B:74:U:C4	2:B:75:G:C5	3.08	0.41
3:D:131:LEU:N	3:D:131:LEU:HD23	2.35	0.41
3:D:142:VAL:HG23	3:D:193:VAL:HA	2.01	0.41
3:D:220:HIS:CD2	3:D:220:HIS:C	2.93	0.41
6:G:107:LEU:HA	6:G:111:LEU:HD12	2.01	0.41
7:H:23:ARG:HG2	7:H:23:ARG:O	2.21	0.41
9:J:69:VAL:HG11	9:J:71:MET:HE2	2.02	0.41
10:K:64:ARG:HG2	10:K:79:PHE:CD1	2.55	0.41
11:L:9:ASN:C	11:L:11:GLY:H	2.23	0.41
15:P:136:GLN:C	15:P:137:LYS:HD2	2.41	0.41
16:Q:27:LEU:HD22	16:Q:31:SER:HB2	2.03	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:R:6:LYS:HB3	17:R:11:GLN:HG2	2.02	0.41
17:R:18:LEU:CD1	17:R:20:LEU:HB2	2.51	0.41
19:T:63:LYS:HD2	19:T:72:LYS:CB	2.50	0.41
25:Z:28:LEU:N	25:Z:28:LEU:HD12	2.36	0.41
27:2:16:ARG:HG3	27:2:20:ARG:HE	1.85	0.41
27:2:45:VAL:HG22	27:2:51:TYR:CE1	2.55	0.41
1:A:1107:G:H2'	1:A:1107:G:N3	2.34	0.41
1:A:1162:G:O2'	17:R:90:PRO:HG2	2.20	0.41
1:A:1417:C:C2'	1:A:1418:G:H5'	2.51	0.41
1:A:1299:G:N2	1:A:1640:C:H5'	2.36	0.41
1:A:2022:U:O2'	1:A:2617:C:H5'	2.20	0.41
1:A:2881:C:H2'	1:A:2882:A:O4'	2.20	0.41
2:B:88:C:H2'	2:B:89(A):G:O4'	2.20	0.41
4:E:131:ALA:O	4:E:133:LYS:N	2.45	0.41
4:E:188:VAL:HG23	4:E:189:PRO:HD2	2.02	0.41
1:A:673:C:H5''	5:F:81:PRO:HD2	2.02	0.41
8:I:21:VAL:HG21	8:I:26:ALA:HB2	2.03	0.41
9:J:118:PRO:HD2	9:J:119:GLU:H	1.84	0.41
9:J:90:LEU:O	9:J:111:GLU:HG3	2.21	0.41
10:K:93:PRO:HB3	10:K:114:ILE:HD11	2.02	0.41
11:L:85:LEU:HA	11:L:88:LEU:HB3	2.03	0.41
11:L:9:ASN:C	11:L:11:GLY:N	2.74	0.41
12:M:111:GLU:O	12:M:115:MET:HG2	2.21	0.41
12:M:135:ASP:O	12:M:136:ALA:HB2	2.20	0.41
12:M:80:GLU:OE2	12:M:80:GLU:CA	2.68	0.41
14:O:24:LEU:HD12	14:O:84:GLN:HB3	2.03	0.41
15:P:3:ARG:NH1	15:P:6:LEU:HD23	2.36	0.41
21:V:144:LEU:HD21	21:V:150:LEU:HD11	2.02	0.41
24:Y:48:HIS:O	24:Y:49:LYS:C	2.59	0.41
27:2:32:PRO:HA	27:2:38:ALA:O	2.21	0.41
1:A:1115:G:O2'	1:A:1116:C:H5'	2.21	0.41
1:A:1268:A:H2'	1:A:1269:A:O4'	2.21	0.41
1:A:1680:U:O2	1:A:1763:G:H3'	2.21	0.41
1:A:1767:C:C2'	1:A:1768:U:H5'	2.50	0.41
1:A:177:G:H2'	1:A:177:G:N3	2.36	0.41
1:A:1824:G:C2'	1:A:1825:A:H5'	2.50	0.41
1:A:2258:C:H4'	1:A:2259:G:OP2	2.21	0.41
1:A:2480:C:N4	1:A:2481:G:C6	2.88	0.41
1:A:322:A:C6	1:A:340:A:C2	3.08	0.41
1:A:343:C:O2'	1:A:344:G:H5'	2.21	0.41
1:A:422:A:C6	1:A:423:A:C6	3.08	0.41
1:A:587:C:OP2	11:L:33:ARG:NH1	2.53	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:817:C:H4'	1:A:932:G:C6	2.55	0.41
1:A:841:A:C2	1:A:938:G:C2	3.09	0.41
1:A:869:G:C4	1:A:870:A:C8	3.08	0.41
1:A:959:A:H62	12:M:82:ARG:NH2	2.05	0.41
3:D:155:LEU:HD23	3:D:177:LEU:CD2	2.50	0.41
3:D:256:GLY:O	3:D:257:LEU:HB3	2.21	0.41
3:D:27:THR:HG21	3:D:83:GLU:HG2	2.01	0.41
5:F:206:ILE:N	5:F:206:ILE:HD13	2.36	0.41
6:G:114:ILE:HD13	6:G:114:ILE:HA	1.96	0.41
6:G:32:PRO:HB2	6:G:172:LEU:HD22	2.01	0.41
6:G:91:ARG:NH1	6:G:91:ARG:HB3	2.35	0.41
8:I:110:ASP:HA	8:I:111:PRO:HD2	1.88	0.41
9:J:151:HIS:CE1	9:J:157:ARG:HE	2.39	0.41
10:K:64:ARG:O	10:K:82:ASN:HA	2.21	0.41
11:L:115:LEU:HB3	11:L:131:SER:HB2	2.02	0.41
11:L:6:LEU:HD23	11:L:6:LEU:N	2.32	0.41
13:N:100:LEU:HA	13:N:100:LEU:HD13	1.86	0.41
13:N:75:LEU:HD22	13:N:75:LEU:HA	1.77	0.41
14:O:34:HIS:ND1	14:O:54:LEU:HB2	2.36	0.41
1:A:64:A:H5'	19:T:64:LYS:HE3	2.03	0.41
25:Z:15:TYR:O	25:Z:20:LYS:HE2	2.21	0.41
1:A:1520:U:H2'	1:A:1521:G:O4'	2.21	0.41
1:A:1863:G:C2	1:A:1880:C:O2	2.74	0.41
1:A:30:G:H2'	1:A:31:C:C6	2.56	0.41
2:B:102:G:O2'	2:B:103:U:H5'	2.20	0.41
3:D:231:HIS:ND1	3:D:232:PRO:HD2	2.36	0.41
4:E:87:GLU:O	4:E:89:ASP:N	2.54	0.41
6:G:117:PHE:HD1	6:G:119:GLY:H	1.67	0.41
9:J:118:PRO:C	9:J:120:ARG:N	2.72	0.41
11:L:88:LEU:HD11	11:L:95:VAL:HG21	2.01	0.41
15:P:29:ARG:HA	15:P:46:GLU:HA	2.02	0.41
17:R:99:ILE:HD13	17:R:99:ILE:H	1.86	0.41
20:U:42:VAL:O	20:U:42:VAL:HG12	2.21	0.41
20:U:2:ARG:C	20:U:4:LYS:H	2.24	0.41
21:V:52:SER:OG	21:V:54:HIS:CD2	2.74	0.41
24:Y:9:GLN:C	24:Y:12:GLU:HB3	2.41	0.41
1:A:1157:G:O2'	25:Z:31:LEU:HD22	2.21	0.41
29:4:39:ARG:HD2	29:4:39:ARG:HA	1.77	0.41
30:5:32:LEU:HD23	30:5:33:ASN:HD22	1.86	0.41
1:A:138:G:H2'	1:A:139:G:H5'	2.02	0.41
1:A:1404:C:O2'	1:A:1405:U:H5'	2.21	0.41
1:A:1799:G:OP1	3:D:260:ARG:NE	2.51	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2134:A:C2	1:A:2159:G:H4'	2.55	0.41
1:A:2134:A:C6	1:A:2157:G:O2'	2.72	0.41
1:A:2250:G:OP1	1:A:2275:C:O2'	2.30	0.41
1:A:2869:G:H2'	1:A:2870:C:O4'	2.21	0.41
1:A:321:G:OP2	5:F:135:LYS:HD3	2.20	0.41
1:A:41:C:H2'	1:A:43:G:O4'	2.20	0.41
1:A:78:A:H2'	1:A:79:G:H8	1.85	0.41
1:A:861:A:H2'	1:A:862:G:O4'	2.20	0.41
2:B:16:G:C6	2:B:69:G:C2	3.09	0.41
4:E:192:ASN:ND2	4:E:192:ASN:N	2.68	0.41
6:G:15:VAL:HG13	6:G:175:LEU:HD12	2.01	0.41
6:G:41:GLN:HB2	6:G:43:LEU:CD1	2.48	0.41
6:G:77:ILE:HD12	6:G:77:ILE:N	2.36	0.41
1:A:2747:G:O2'	7:H:67:LEU:HD13	2.20	0.41
9:J:88:LYS:O	9:J:89:LYS:C	2.59	0.41
10:K:39:ILE:HG13	10:K:39:ILE:O	2.21	0.41
11:L:48:PRO:C	11:L:50:ARG:H	2.24	0.41
11:L:75:ILE:CD1	11:L:75:ILE:H	2.34	0.41
1:A:910:A:N7	12:M:13:GLN:HG3	2.36	0.41
14:O:51:ALA:HB3	14:O:73:LEU:HG	2.03	0.41
15:P:42:ILE:O	15:P:43:GLN:C	2.58	0.41
16:Q:16:LYS:HE2	16:Q:16:LYS:HB3	1.75	0.41
20:U:39:VAL:O	20:U:40:GLU:CD	2.59	0.41
23:X:27:GLU:HG3	23:X:33:LYS:NZ	2.36	0.41
26:1:56:GLU:OE1	26:1:56:GLU:HA	2.20	0.41
1:A:1049:C:OP1	1:A:1103:A:OP1	2.39	0.41
1:A:1429:G:H2'	1:A:1430:C:C6	2.56	0.41
1:A:1992:G:C2	1:A:1997:G:C5	3.09	0.41
1:A:2023:G:H4'	1:A:2617:C:O3'	2.21	0.41
1:A:2120:G:N2	1:A:2179:C:C2	2.89	0.41
1:A:2579:C:H4'	4:E:134:ILE:HG21	2.02	0.41
1:A:2648:C:H2'	1:A:2649:U:C6	2.56	0.41
1:A:2777:G:H5'	1:A:2778:A:H5'	2.02	0.41
1:A:69:C:O2'	1:A:70:G:H5'	2.21	0.41
1:A:712(B):A:H5''	1:A:2713:A:OP2	2.21	0.41
1:A:96:G:O5'	24:Y:48:HIS:CE1	2.74	0.41
3:D:174:ILE:N	3:D:174:ILE:CD1	2.83	0.41
4:E:25:VAL:O	4:E:26:ILE:HD13	2.21	0.41
7:H:103:LEU:C	7:H:103:LEU:HD23	2.42	0.41
7:H:87:LEU:O	7:H:130:ARG:HA	2.21	0.41
8:I:110:ASP:OD2	8:I:113:ARG:HG2	2.21	0.41
10:K:88:ASN:ND2	10:K:92:GLU:O	2.51	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:L:64:LYS:C	11:L:66:GLY:H	2.13	0.41
19:T:32:PRO:HA	19:T:77:LYS:HB2	2.03	0.41
19:T:40:LYS:HG3	19:T:51:VAL:CG2	2.51	0.41
20:U:7:VAL:O	20:U:8:LYS:HG3	2.19	0.41
20:U:96:ILE:HG12	20:U:99:CYS:O	2.21	0.41
21:V:108:PRO:HD2	21:V:111:VAL:HB	2.03	0.41
21:V:99:TYR:N	21:V:99:TYR:CD1	2.89	0.41
24:Y:46:GLN:HB2	24:Y:49:LYS:CE	2.50	0.41
1:A:95:G:O2'	24:Y:46:GLN:O	2.39	0.41
18:S:15:ARG:NH2	27:2:20:ARG:HH12	2.18	0.40
19:T:60:ARG:NH2	29:4:47:ARG:CZ	2.75	0.40
1:A:1047:G:H4'	1:A:1048:A:O4'	2.21	0.40
1:A:198:C:O5'	1:A:198:C:H6	2.05	0.40
1:A:2053:G:H5'	4:E:144:ARG:O	2.21	0.40
1:A:2334:G:C4	14:O:12:PHE:CZ	3.09	0.40
1:A:2334:G:H4'	1:A:2335:A:OP2	2.21	0.40
1:A:2365:G:O6	30:5:39:LYS:HE3	2.21	0.40
1:A:2461:C:H2'	1:A:2462:U:C6	2.56	0.40
1:A:679:C:O2'	1:A:680:G:H5'	2.21	0.40
2:B:40:U:H1'	2:B:43:C:H5	1.86	0.40
3:D:53:PHE:CE1	3:D:221:VAL:HG12	2.55	0.40
4:E:105:THR:HG21	4:E:164:ARG:CZ	2.51	0.40
4:E:5:LEU:N	4:E:5:LEU:HD23	2.36	0.40
5:F:197:ASP:O	5:F:200:GLU:HB3	2.21	0.40
8:I:48:GLU:O	8:I:52:ARG:HB2	2.20	0.40
11:L:107:LYS:HD2	11:L:107:LYS:HA	1.92	0.40
1:A:2482:G:H21	12:M:56:ARG:HH21	1.69	0.40
13:N:21:TYR:OH	13:N:43:GLU:HG2	2.21	0.40
13:N:63:ARG:O	13:N:67:LEU:HB2	2.21	0.40
13:N:66:VAL:HG12	13:N:70:LEU:HD13	2.03	0.40
13:N:55:ALA:HB3	13:N:79:LEU:HD13	2.01	0.40
14:O:58:LEU:HD11	14:O:68:GLN:HB3	2.03	0.40
15:P:112:ARG:HG3	15:P:112:ARG:H	1.69	0.40
1:A:1335:U:OP1	19:T:65:ARG:HG3	2.21	0.40
19:T:92:LEU:C	19:T:94:GLY:H	2.25	0.40
1:A:483:A:H4'	20:U:49:VAL:CG2	2.50	0.40
20:U:4:LYS:N	20:U:4:LYS:CD	2.84	0.40
21:V:13:GLU:HB3	21:V:18:LEU:HD11	2.02	0.40
22:W:46:LYS:HB3	22:W:47:PRO:HD2	2.02	0.40
23:X:19:GLN:CG	23:X:41:ARG:HE	2.33	0.40
26:1:46:ASN:ND2	26:1:47:VAL:N	2.69	0.40
1:A:1144:G:H2'	1:A:1145:C:H6	1.87	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1210:A:H4'	1:A:1211:U:O5'	2.19	0.40
1:A:1911:U:C2	1:A:1918:A:C2	3.10	0.40
1:A:2114:A:C2	1:A:2168:G:O4'	2.74	0.40
1:A:2343:C:O2'	1:A:2373:G:O2'	2.27	0.40
1:A:278:A:N6	1:A:362:U:H3	2.19	0.40
1:A:445:C:O2'	1:A:446:G:H5'	2.21	0.40
1:A:528:A:C8	1:A:528:A:H3'	2.56	0.40
1:A:620:G:N3	1:A:620:G:H5''	2.36	0.40
3:D:206:LEU:HD23	3:D:206:LEU:HA	1.76	0.40
3:D:20:ASP:C	3:D:22:SER:H	2.24	0.40
4:E:13:ARG:HA	4:E:23:VAL:HG23	2.01	0.40
5:F:164:ARG:HD3	5:F:175:THR:HB	2.02	0.40
9:J:117:HIS:HA	9:J:118:PRO:HD3	1.76	0.40
9:J:90:LEU:N	9:J:90:LEU:HD12	2.36	0.40
9:J:89:LYS:O	9:J:92:GLN:N	2.54	0.40
11:L:138:LEU:HD23	11:L:144:GLU:HG2	2.03	0.40
11:L:16:ARG:O	11:L:17:LYS:C	2.59	0.40
11:L:98:GLU:O	11:L:101:VAL:HG12	2.21	0.40
2:B:50:G:OP1	14:O:63:THR:HG23	2.20	0.40
18:S:1:MET:HG2	18:S:2:GLU:N	2.28	0.40
1:A:2012:G:O3'	18:S:96:ILE:HG13	2.21	0.40
20:U:45:VAL:HG12	20:U:47:LYS:HG3	2.02	0.40
20:U:55:TYR:HA	20:U:56:PRO:HD3	1.87	0.40
1:A:297:C:H5''	20:U:85:VAL:CG2	2.51	0.40
24:Y:9:GLN:O	24:Y:13:ALA:N	2.54	0.40
1:A:1110:G:H2'	1:A:1111:A:C8	2.57	0.40
1:A:1448(B):A:C4	1:A:1529:A:C2	3.10	0.40
1:A:1771:C:O2'	1:A:1786:A:H8	2.04	0.40
1:A:17:G:H2'	1:A:18:C:H6	1.86	0.40
1:A:197:A:H5'	1:A:197:A:C8	2.56	0.40
1:A:2400:G:H5'	28:3:19:ARG:HD2	2.04	0.40
1:A:197:A:N6	1:A:2430:A:H2'	2.37	0.40
1:A:2068:U:C2	1:A:2430:A:H2	2.39	0.40
1:A:2821:A:O2'	1:A:2822:G:H5'	2.22	0.40
1:A:2829:C:O3'	4:E:76:ARG:NH2	2.53	0.40
1:A:2847:U:H2'	1:A:2848:G:H5'	2.02	0.40
1:A:2807:G:N2	1:A:2893:G:H22	2.09	0.40
1:A:372:G:O2'	1:A:373:U:P	2.80	0.40
1:A:620:G:H8	1:A:622:G:O6	2.05	0.40
2:B:68:C:H2'	2:B:69:G:O4'	2.21	0.40
3:D:33:LEU:HD23	3:D:33:LEU:N	2.36	0.40
6:G:16:ARG:HH12	6:G:28:VAL:CG1	2.33	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:137:ASP:HB3	7:H:140:LYS:CD	2.51	0.40
9:J:116:THR:HG1	9:J:117:HIS:CE1	2.39	0.40
11:L:46:LYS:CB	11:L:52:GLU:HG3	2.49	0.40
12:M:134:ARG:HE	12:M:134:ARG:C	2.25	0.40
15:P:3:ARG:O	15:P:5:ALA:N	2.55	0.40
17:R:45:THR:CG2	17:R:52:VAL:HG21	2.51	0.40
1:A:1379:A:C4'	1:A:1380:G:OP2	2.62	0.40
1:A:1500:G:C5	1:A:1501:C:C4	3.10	0.40
1:A:2580:U:C5	1:A:2581:G:C6	3.10	0.40
1:A:2660:A:H2'	1:A:2661:G:O4'	2.21	0.40
1:A:1639:U:H4'	1:A:2699:C:H4'	2.02	0.40
1:A:2809:A:C2	1:A:2892:A:H1'	2.57	0.40
1:A:2812:G:N2	1:A:2889:C:C2	2.89	0.40
1:A:508:G:H2'	1:A:509:C:OP2	2.21	0.40
1:A:824:A:H1'	1:A:2358:G:N7	2.36	0.40
1:A:1788:C:H5''	3:D:225:ALA:HB1	2.03	0.40
1:A:1971:A:N3	3:D:241:PRO:HD3	2.36	0.40
4:E:3:GLY:HA3	4:E:81:ILE:HG21	2.03	0.40
5:F:65:TRP:CH2	5:F:75:HIS:HD2	2.40	0.40
6:G:25:TYR:CZ	6:G:32:PRO:HD3	2.57	0.40
7:H:127:GLU:C	7:H:129:THR:H	2.25	0.40
9:J:79:ASN:HA	9:J:147:ALA:O	2.21	0.40
11:L:138:LEU:HD12	11:L:138:LEU:HA	1.92	0.40
18:S:106:ILE:O	18:S:106:ILE:HD12	2.21	0.40
20:U:13:VAL:HG22	20:U:14:LEU:N	2.36	0.40
28:3:17:LYS:HA	28:3:17:LYS:HD3	1.70	0.40
1:A:1167:U:H2'	1:A:1168:G:C8	2.57	0.40
1:A:1291:C:H2'	1:A:1292:U:C6	2.57	0.40
1:A:1413:G:C4	1:A:1414:G:C8	3.10	0.40
1:A:1494:A:H4'	1:A:1494:A:OP1	2.16	0.40
1:A:1859:A:C2	1:A:1884:A:H1'	2.57	0.40
1:A:1910:G:C6	1:A:1921:G:C6	3.09	0.40
1:A:2117:A:N6	1:A:2172:U:N1	2.69	0.40
1:A:860:U:C5	1:A:2268:A:C8	3.10	0.40
1:A:2867:G:OP2	15:P:119:LYS:HD3	2.21	0.40
1:A:322:A:O4'	1:A:340:A:H1'	2.21	0.40
1:A:425:G:H2'	1:A:426:C:H6	1.86	0.40
1:A:937:U:H2'	1:A:938:G:O4'	2.22	0.40
3:D:133:LEU:HA	3:D:136:ILE:HD13	2.03	0.40
3:D:233:HIS:O	3:D:235:GLY:N	2.53	0.40
4:E:10:GLY:HA3	15:P:8:LYS:CE	2.48	0.40
4:E:38:THR:O	4:E:42:ASP:HB2	2.22	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:31:HIS:CG	11:L:13:ASN:ND2	2.90	0.40
6:G:140:ILE:HD12	6:G:140:ILE:C	2.42	0.40
6:G:41:GLN:HG2	6:G:155:MET:CG	2.51	0.40
8:I:72:LEU:CD1	8:I:101:LEU:HD11	2.46	0.40
8:I:7:GLU:CD	8:I:8:PRO:HD2	2.42	0.40
10:K:101:PRO:HA	10:K:120:GLU:O	2.22	0.40
10:K:104:ARG:O	10:K:107:ARG:HB3	2.22	0.40
11:L:64:LYS:C	11:L:66:GLY:N	2.70	0.40
11:L:66:GLY:O	11:L:67:MET:HB3	2.21	0.40
1:A:863:A:OP1	12:M:21:THR:HB	2.22	0.40
17:R:47:VAL:CG1	17:R:52:VAL:HB	2.49	0.40
21:V:144:LEU:HD22	21:V:144:LEU:N	2.36	0.40
2:B:104:A:O4'	21:V:29:TYR:HE1	2.05	0.40
22:W:50:ASN:HB3	22:W:63:VAL:HG22	2.03	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	
3	D	269/271 (99%)	220 (82%)	35 (13%)	14 (5%)	3	32
4	E	202/204 (99%)	164 (81%)	27 (13%)	11 (5%)	3	31
5	F	200/202 (99%)	167 (84%)	25 (12%)	8 (4%)	5	43
6	G	179/181 (99%)	129 (72%)	36 (20%)	14 (8%)	1	20
7	H	157/159 (99%)	122 (78%)	29 (18%)	6 (4%)	5	45
8	I	143/145 (99%)	121 (85%)	21 (15%)	1 (1%)	30	83
9	J	135/137 (98%)	104 (77%)	21 (16%)	10 (7%)	2	22
10	K	120/122 (98%)	107 (89%)	9 (8%)	4 (3%)	6	50
11	L	144/146 (99%)	89 (62%)	34 (24%)	21 (15%)	0	5
12	M	132/134 (98%)	96 (73%)	22 (17%)	14 (11%)	1	11
13	N	115/117 (98%)	92 (80%)	15 (13%)	8 (7%)	2	23

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	O	96/98 (98%)	65 (68%)	22 (23%)	9 (9%)	1	14
15	P	135/137 (98%)	104 (77%)	23 (17%)	8 (6%)	2	29
16	Q	115/117 (98%)	102 (89%)	10 (9%)	3 (3%)	8	56
17	R	99/101 (98%)	78 (79%)	17 (17%)	4 (4%)	5	43
18	S	110/112 (98%)	99 (90%)	11 (10%)	0	100	100
19	T	90/92 (98%)	75 (83%)	13 (14%)	2 (2%)	10	60
20	U	98/100 (98%)	65 (66%)	21 (21%)	12 (12%)	1	8
21	V	185/187 (99%)	159 (86%)	19 (10%)	7 (4%)	5	45
22	W	74/76 (97%)	59 (80%)	13 (18%)	2 (3%)	8	55
23	X	86/88 (98%)	56 (65%)	19 (22%)	11 (13%)	0	7
24	Y	60/62 (97%)	47 (78%)	8 (13%)	5 (8%)	1	18
25	Z	57/59 (97%)	52 (91%)	4 (7%)	1 (2%)	13	65
26	1	28/30 (93%)	13 (46%)	13 (46%)	2 (7%)	2	23
27	2	50/52 (96%)	45 (90%)	3 (6%)	2 (4%)	5	43
28	3	42/44 (96%)	26 (62%)	12 (29%)	4 (10%)	1	14
29	4	46/48 (96%)	44 (96%)	1 (2%)	1 (2%)	10	60
30	5	61/63 (97%)	46 (75%)	9 (15%)	6 (10%)	1	13
All	All	3228/3284 (98%)	2546 (79%)	492 (15%)	190 (6%)	2	29

All (190) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	D	33	LEU
3	D	40	THR
3	D	59	LYS
3	D	239	ARG
4	E	86	PRO
4	E	89	ASP
4	E	132	HIS
5	F	73	ALA
5	F	133	ASN
6	G	75	LYS
9	J	60	LYS
9	J	93	LYS
10	K	26	LYS
11	L	65	ARG

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Mol	Chain	Res	Type
11	L	141	ALA
11	L	148	LEU
12	M	8	LYS
12	M	21	THR
12	M	135	ASP
12	M	136	ALA
13	N	6	SER
14	O	59	LYS
15	P	3	ARG
15	P	97	ALA
15	P	115	ARG
16	Q	90	VAL
17	R	46	VAL
20	U	3	VAL
20	U	17	SER
20	U	49	VAL
20	U	56	PRO
20	U	77	PRO
20	U	78	ALA
22	W	47	PRO
22	W	84	LEU
23	X	10	LYS
23	X	11	ARG
23	X	32	LYS
23	X	58	ILE
24	Y	43	GLN
24	Y	45	SER
25	Z	2	PRO
27	2	4	HIS
28	3	31	PRO
29	4	47	ARG
30	5	34	TRP
30	5	51	ALA
30	5	62	LEU
3	D	24	ILE
3	D	26	LYS
3	D	57	GLY
3	D	58	HIS
3	D	237	GLU
4	E	88	GLY
5	F	127	GLU
5	F	146	ALA

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Mol	Chain	Res	Type
6	G	14	GLU
6	G	115	ARG
6	G	129	GLY
6	G	142	PRO
7	H	92	ILE
9	J	86	THR
9	J	89	LYS
9	J	154	GLN
10	K	29	ASN
11	L	11	GLY
11	L	15	ARG
11	L	17	LYS
11	L	31	ALA
11	L	33	ARG
11	L	47	ASP
11	L	56	SER
11	L	59	LEU
11	L	111	ARG
12	M	23	GLY
12	M	57	HIS
12	M	62	GLY
13	N	82	GLU
13	N	107	ASP
14	O	57	LYS
15	P	42	ILE
15	P	107	ASP
21	V	93	ASP
21	V	120	ILE
23	X	14	VAL
23	X	84	GLY
26	1	54	LYS
26	1	64	LYS
27	2	49	CYS
30	5	28	GLY
30	5	35	GLN
3	D	169	GLU
3	D	236	GLY
4	E	4	ILE
4	E	56	PRO
6	G	4	ASP
6	G	35	GLU
6	G	87	PRO

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Mol	Chain	Res	Type
9	J	92	GLN
11	L	43	GLY
11	L	50	ARG
11	L	74	GLU
12	M	7	MET
12	M	18	LYS
12	M	19	GLY
12	M	20	ALA
12	M	79	LEU
12	M	133	ARG
13	N	14	SER
14	O	42	ASP
15	P	86	ILE
17	R	78	LYS
20	U	8	LYS
23	X	31	GLY
23	X	53	VAL
28	3	18	ARG
28	3	26	ASN
28	3	46	HIS
4	E	19	ARG
4	E	52	LEU
4	E	203	LYS
5	F	132	VAL
6	G	6	ALA
6	G	48	GLU
6	G	112	PRO
7	H	49	VAL
9	J	46	LEU
13	N	4	LEU
13	N	93	GLY
14	O	83	LYS
14	O	89	ARG
15	P	116	ALA
16	Q	91	ASP
21	V	11	GLU
21	V	114	GLY
23	X	94	LEU
24	Y	48	HIS
24	Y	61	LEU
3	D	34	VAL
4	E	185	LYS

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Mol	Chain	Res	Type
5	F	66	PRO
7	H	97	ARG
10	K	94	ARG
11	L	9	ASN
11	L	35	HIS
12	M	82	ARG
13	N	10	LEU
14	O	85	VAL
14	O	90	GLY
17	R	35	LEU
19	T	4	ALA
19	T	93	GLU
20	U	39	VAL
20	U	88	LYS
21	V	37	VAL
21	V	141	VAL
23	X	9	GLY
23	X	83	GLU
24	Y	17	SER
30	5	29	LYS
6	G	24	GLY
6	G	96	ARG
7	H	110	SER
10	K	97	ARG
11	L	46	LYS
11	L	125	VAL
14	O	21	THR
15	P	2	ASN
3	D	234	GLY
3	D	244	ARG
5	F	134	GLY
8	I	3	VAL
9	J	59	GLY
9	J	118	PRO
9	J	152	PRO
14	O	91	PRO
20	U	18	GLY
20	U	61	ILE
20	U	10	GLY
4	E	29	GLY
5	F	89	VAL
6	G	89	GLY

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Mol	Chain	Res	Type
7	H	48	GLY
13	N	7	GLY
17	R	36	PRO
21	V	165	VAL
7	H	22	GLY
11	L	19	VAL
11	L	34	GLY
16	Q	88	ILE

5.3.2 Protein sidechains ⓘ

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	D	213/213 (100%)	188 (88%)	25 (12%)	8	37
4	E	165/165 (100%)	147 (89%)	18 (11%)	9	42
5	F	161/161 (100%)	143 (89%)	18 (11%)	9	39
6	G	155/155 (100%)	137 (88%)	18 (12%)	8	37
7	H	132/132 (100%)	119 (90%)	13 (10%)	12	48
8	I	122/122 (100%)	107 (88%)	15 (12%)	7	34
9	J	116/116 (100%)	102 (88%)	14 (12%)	7	35
10	K	100/100 (100%)	91 (91%)	9 (9%)	14	54
11	L	112/112 (100%)	86 (77%)	26 (23%)	1	6
12	M	105/105 (100%)	92 (88%)	13 (12%)	7	34
13	N	100/100 (100%)	86 (86%)	14 (14%)	5	28
14	O	77/77 (100%)	64 (83%)	13 (17%)	3	18
15	P	121/121 (100%)	102 (84%)	19 (16%)	4	23
16	Q	93/93 (100%)	85 (91%)	8 (9%)	15	57
17	R	82/82 (100%)	66 (80%)	16 (20%)	2	10
18	S	91/91 (100%)	81 (89%)	10 (11%)	9	41
19	T	74/74 (100%)	66 (89%)	8 (11%)	9	42
20	U	84/84 (100%)	70 (83%)	14 (17%)	3	19

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
21	V	162/162 (100%)	152 (94%)	10 (6%)	26	72
22	W	61/61 (100%)	55 (90%)	6 (10%)	12	48
23	X	73/73 (100%)	64 (88%)	9 (12%)	7	34
24	Y	58/58 (100%)	51 (88%)	7 (12%)	7	35
25	Z	51/51 (100%)	45 (88%)	6 (12%)	8	36
26	1	27/27 (100%)	24 (89%)	3 (11%)	9	40
27	2	45/45 (100%)	40 (89%)	5 (11%)	9	40
28	3	43/43 (100%)	40 (93%)	3 (7%)	21	68
29	4	41/41 (100%)	33 (80%)	8 (20%)	2	10
30	5	53/53 (100%)	49 (92%)	4 (8%)	19	64
All	All	2717/2717 (100%)	2385 (88%)	332 (12%)	7	34

All (332) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	D	25	THR
3	D	33	LEU
3	D	35	LYS
3	D	38	LYS
3	D	61	LEU
3	D	69	ARG
3	D	94	LEU
3	D	95	LEU
3	D	106	ILE
3	D	111	LEU
3	D	112	GLN
3	D	138	VAL
3	D	150	LYS
3	D	166	GLN
3	D	169	GLU
3	D	192	THR
3	D	198	ASN
3	D	204	ILE
3	D	211	ARG
3	D	212	SER
3	D	237	GLU
3	D	244	ARG
3	D	255	LYS

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Mol	Chain	Res	Type
3	D	270	ILE
3	D	271	ILE
4	E	23	VAL
4	E	25	VAL
4	E	38	THR
4	E	41	LYS
4	E	54	GLN
4	E	73	GLU
4	E	78	LEU
4	E	79	ARG
4	E	82	ARG
4	E	87	GLU
4	E	93	VAL
4	E	113	PHE
4	E	119	ARG
4	E	175	VAL
4	E	192	ASN
4	E	195	LEU
4	E	202	LYS
4	E	203	LYS
5	F	6	MET
5	F	8	GLN
5	F	20	LEU
5	F	28	ILE
5	F	45	ARG
5	F	46	ARG
5	F	65	TRP
5	F	67	GLN
5	F	78	ILE
5	F	82	ILE
5	F	88	VAL
5	F	116	ASP
5	F	165	ARG
5	F	181	LEU
5	F	183	VAL
5	F	191	ARG
5	F	192	LEU
5	F	206	ILE
6	G	16	ARG
6	G	26	GLN
6	G	34	LEU
6	G	35	GLU

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Mol	Chain	Res	Type
6	G	43	LEU
6	G	47	LYS
6	G	71	THR
6	G	86	MET
6	G	88	ILE
6	G	97	ASP
6	G	115	ARG
6	G	117	PHE
6	G	118	ARG
6	G	128	ARG
6	G	138	GLN
6	G	155	MET
6	G	159	VAL
6	G	167	GLU
7	H	23	ARG
7	H	41	MET
7	H	43	VAL
7	H	47	GLU
7	H	71	LEU
7	H	94	TYR
7	H	101	ARG
7	H	123	PHE
7	H	124	GLU
7	H	127	GLU
7	H	149	ARG
7	H	167	GLU
7	H	170	ARG
8	I	4	ILE
8	I	5	LEU
8	I	9	LEU
8	I	10	GLU
8	I	45	LYS
8	I	56	LYS
8	I	67	ARG
8	I	69	LYS
8	I	92	VAL
8	I	96	ASP
8	I	107	ILE
8	I	109	ILE
8	I	118	LYS
8	I	126	TYR
8	I	142	VAL

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Mol	Chain	Res	Type
9	J	56	LEU
9	J	57	LEU
9	J	68	ASN
9	J	90	LEU
9	J	91	GLU
9	J	93	LYS
9	J	107	LYS
9	J	117	HIS
9	J	119	GLU
9	J	129	MET
9	J	132	LYS
9	J	150	ASP
9	J	160	LYS
9	J	161	LEU
10	K	8	LEU
10	K	9	GLU
10	K	19	ILE
10	K	22	ILE
10	K	47	ILE
10	K	52	VAL
10	K	94	ARG
10	K	98	VAL
10	K	120	GLU
11	L	13	ASN
11	L	16	ARG
11	L	19	VAL
11	L	27	HIS
11	L	29	LYS
11	L	32	THR
11	L	35	HIS
11	L	41	ARG
11	L	42	SER
11	L	49	ARG
11	L	50	ARG
11	L	51	PHE
11	L	57	THR
11	L	59	LEU
11	L	61	ARG
11	L	62	LEU
11	L	67	MET
11	L	75	ILE
11	L	91	PHE

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Mol	Chain	Res	Type
11	L	115	LEU
11	L	123	LEU
11	L	125	VAL
11	L	135	LEU
11	L	144	GLU
11	L	146	VAL
11	L	148	LEU
12	M	9	TYR
12	M	10	ARG
12	M	16	ARG
12	M	22	LYS
12	M	45	GLN
12	M	51	ARG
12	M	55	VAL
12	M	58	PHE
12	M	68	ILE
12	M	83	MET
12	M	103	MET
12	M	111	GLU
12	M	133	ARG
13	N	2	ARG
13	N	18	LEU
13	N	28	LEU
13	N	49	ASP
13	N	60	LEU
13	N	67	LEU
13	N	75	LEU
13	N	79	LEU
13	N	88	ARG
13	N	95	THR
13	N	99	LYS
13	N	102	GLU
13	N	104	ARG
13	N	115	GLU
14	O	12	PHE
14	O	30	ARG
14	O	35	ILE
14	O	44	LYS
14	O	57	LYS
14	O	59	LYS
14	O	68	GLN
14	O	69	VAL

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Mol	Chain	Res	Type
14	O	73	LEU
14	O	76	LYS
14	O	92	TYR
14	O	98	VAL
14	O	101	LEU
15	P	15	VAL
15	P	18	ASP
15	P	27	THR
15	P	36	GLU
15	P	42	ILE
15	P	50	ILE
15	P	58	ASN
15	P	59	THR
15	P	85	LYS
15	P	86	ILE
15	P	87	ASP
15	P	88	ILE
15	P	99	LEU
15	P	100	TYR
15	P	107	ASP
15	P	110	ILE
15	P	112	ARG
15	P	115	ARG
15	P	124	ASP
16	Q	18	LEU
16	Q	70	ARG
16	Q	72	HIS
16	Q	75	ASN
16	Q	88	ILE
16	Q	92	ARG
16	Q	97	ASP
16	Q	104	GLN
17	R	13	ARG
17	R	24	LYS
17	R	37	VAL
17	R	38	LEU
17	R	39	LEU
17	R	40	LEU
17	R	44	LYS
17	R	49	THR
17	R	61	VAL
17	R	62	LEU

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Mol	Chain	Res	Type
17	R	66	ARG
17	R	73	SER
17	R	80	GLN
17	R	88	ARG
17	R	95	LEU
17	R	99	ILE
18	S	8	ARG
18	S	11	ARG
18	S	27	LYS
18	S	39	THR
18	S	67	ASP
18	S	70	TYR
18	S	78	GLU
18	S	88	ARG
18	S	96	ILE
18	S	107	LEU
19	T	27	THR
19	T	51	VAL
19	T	60	ARG
19	T	65	ARG
19	T	68	ARG
19	T	80	ILE
19	T	81	VAL
19	T	88	LYS
20	U	2	ARG
20	U	4	LYS
20	U	8	LYS
20	U	9	LYS
20	U	14	LEU
20	U	27	VAL
20	U	71	LYS
20	U	75	ILE
20	U	76	CYS
20	U	88	LYS
20	U	90	LEU
20	U	96	ILE
20	U	97	ARG
20	U	101	LYS
21	V	24	LEU
21	V	30	ASN
21	V	33	LEU
21	V	34	ASN

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Mol	Chain	Res	Type
21	V	67	LEU
21	V	72	ARG
21	V	77	ASP
21	V	94	GLU
21	V	97	GLU
21	V	133	ILE
22	W	19	LYS
22	W	20	ARG
22	W	25	ARG
22	W	55	ARG
22	W	64	ASP
22	W	84	LEU
23	X	11	ARG
23	X	13	ILE
23	X	16	ASN
23	X	17	SER
23	X	37	ILE
23	X	45	ASN
23	X	75	GLU
23	X	76	ARG
23	X	83	GLU
24	Y	7	ARG
24	Y	17	SER
24	Y	24	LEU
24	Y	49	LYS
24	Y	53	LEU
24	Y	61	LEU
24	Y	62	THR
25	Z	31	LEU
25	Z	37	LEU
25	Z	40	THR
25	Z	44	ARG
25	Z	53	LEU
25	Z	56	VAL
26	1	39	ARG
26	1	46	ASN
26	1	60	GLU
27	2	6	VAL
27	2	25	LEU
27	2	46	CYS
27	2	49	CYS
27	2	51	TYR

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Mol	Chain	Res	Type
28	3	11	LEU
28	3	34	LEU
28	3	42	TRP
29	4	4	THR
29	4	8	ASN
29	4	10	ARG
29	4	19	ARG
29	4	24	THR
29	4	31	LEU
29	4	39	ARG
29	4	41	ARG
30	5	22	VAL
30	5	52	LYS
30	5	57	ARG
30	5	59	LYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (66) such sidechains are listed below:

Mol	Chain	Res	Type
3	D	87	ASN
3	D	96	HIS
3	D	166	GLN
3	D	186	HIS
3	D	198	ASN
4	E	66	HIS
4	E	132	HIS
4	E	192	ASN
5	F	40	GLN
5	F	67	GLN
5	F	69	HIS
5	F	75	HIS
5	F	169	ASN
6	G	58	GLN
6	G	123	ASN
7	H	61	HIS
8	I	54	GLN
9	J	68	ASN
9	J	79	ASN
9	J	151	HIS
9	J	154	GLN
10	K	29	ASN
11	L	13	ASN

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Mol	Chain	Res	Type
11	L	27	HIS
11	L	35	HIS
11	L	68	GLN
11	L	128	HIS
12	M	13	GLN
13	N	16	HIS
13	N	53	HIS
13	N	61	HIS
14	O	61	ASN
15	P	79	HIS
16	Q	44	ASN
16	Q	49	HIS
16	Q	71	GLN
16	Q	75	ASN
16	Q	81	HIS
17	R	11	GLN
17	R	80	GLN
18	S	34	ASN
18	S	57	ASN
18	S	61	ASN
19	T	41	ASN
19	T	55	ASN
19	T	87	GLN
20	U	43	ASN
21	V	30	ASN
21	V	54	HIS
21	V	65	GLN
21	V	73	GLN
21	V	75	ASN
21	V	132	ASN
22	W	50	ASN
22	W	70	GLN
23	X	45	ASN
23	X	56	GLN
23	X	66	HIS
25	Z	19	GLN
25	Z	46	ASN
25	Z	52	HIS
26	1	46	ASN
28	3	26	ASN
28	3	29	ASN
29	4	8	ASN

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Mol	Chain	Res	Type
30	5	33	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2830/2879 (98%)	441 (15%)	0
2	B	118/119 (99%)	9 (7%)	0
All	All	2948/2998 (98%)	450 (15%)	0

All (450) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	11	G
1	A	34	C
1	A	35	G
1	A	46	C
1	A	49	A
1	A	64	A
1	A	71	A
1	A	74	A
1	A	75	G
1	A	84	A
1	A	99	U
1	A	101	G
1	A	102	G
1	A	114	U
1	A	118	A
1	A	119	A
1	A	120	U
1	A	138	G
1	A	139	G
1	A	140	A
1	A	155	C
1	A	163	U
1	A	181	A
1	A	196	A
1	A	197	A
1	A	199	A
1	A	204	A
1	A	205	G
1	A	215	G

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Mol	Chain	Res	Type
1	A	216	A
1	A	221	A
1	A	222	A
1	A	228	A
1	A	229	A
1	A	241	A
1	A	245	G
1	A	248	G
1	A	252	G
1	A	266	G
1	A	270(N)	U
1	A	270(O)	G
1	A	270(P)	U
1	A	270(R)	C
1	A	271(B)	C
1	A	271(C)	G
1	A	271	G
1	A	273(G)	C
1	A	275	G
1	A	276	C
1	A	278	A
1	A	301	G
1	A	302	C
1	A	311	A
1	A	324	A
1	A	329	G
1	A	330	A
1	A	333	G
1	A	352	G
1	A	353	G
1	A	363(A)	G
1	A	363(G)	A
1	A	372	G
1	A	386	G
1	A	396	G
1	A	405	U
1	A	406	G
1	A	411	G
1	A	412	A
1	A	444	C
1	A	470	A
1	A	475	U

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Mol	Chain	Res	Type
1	A	480	A
1	A	481	G
1	A	505	A
1	A	508	G
1	A	509	C
1	A	528	A
1	A	530	G
1	A	531	C
1	A	532	A
1	A	533	G
1	A	544	C
1	A	546	C
1	A	548	A
1	A	556	G
1	A	563	G
1	A	573	G
1	A	575	A
1	A	599	G
1	A	603	A
1	A	614	U
1	A	615	G
1	A	617	G
1	A	620	G
1	A	621	A
1	A	627	A
1	A	637	A
1	A	645	C
1	A	646	A
1	A	654	U
1	A	655	A
1	A	668	G
1	A	686	G
1	A	730	C
1	A	764	A
1	A	775	G
1	A	776	G
1	A	782	A
1	A	784	A
1	A	785	G
1	A	787	U
1	A	805	G
1	A	812	C

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Mol	Chain	Res	Type
1	A	819	A
1	A	827	U
1	A	828	U
1	A	831	G
1	A	847	U
1	A	859	G
1	A	869	G
1	A	882	G
1	A	885	C
1	A	886	C
1	A	888	C
1	A	889	C
1	A	890	A
1	A	896	A
1	A	897	C
1	A	910	A
1	A	914	C
1	A	915	C
1	A	917	A
1	A	919	G
1	A	931	G
1	A	932	G
1	A	933	A
1	A	938	G
1	A	941	A
1	A	946	G
1	A	959	A
1	A	961	C
1	A	965	C
1	A	974(A)	G
1	A	974(B)	C
1	A	975	G
1	A	983	A
1	A	996	A
1	A	1005	C
1	A	1009	A
1	A	1012	U
1	A	1013	C
1	A	1022	G
1	A	1023	U
1	A	1025	G
1	A	1026	U

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Mol	Chain	Res	Type
1	A	1027	A
1	A	1033	U
1	A	1047	G
1	A	1048	A
1	A	1049	C
1	A	1101	U
1	A	1105	U
1	A	1106	G
1	A	1108	U
1	A	1110	G
1	A	1112	G
1	A	1122	G
1	A	1126	A
1	A	1128	A
1	A	1129	A
1	A	1130	U
1	A	1135	C
1	A	1136	G
1	A	1139	G
1	A	1142(B)	A
1	A	1155	A
1	A	1171	G
1	A	1174	A
1	A	1175	U
1	A	1176	G
1	A	1205	U
1	A	1211	U
1	A	1220	A
1	A	1221	C
1	A	1253	A
1	A	1256	G
1	A	1271	G
1	A	1272	A
1	A	1273	U
1	A	1300	U
1	A	1301	A
1	A	1314	C
1	A	1329	U
1	A	1332	G
1	A	1345	C
1	A	1349	A
1	A	1352	U

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Mol	Chain	Res	Type
1	A	1359	A
1	A	1360	A
1	A	1365	A
1	A	1380	G
1	A	1384	A
1	A	1385	G
1	A	1386	C
1	A	1396	U
1	A	1416	G
1	A	1420	U
1	A	1421	G
1	A	1428	C
1	A	1444(B)	A
1	A	1455	G
1	A	1460	A
1	A	1467	C
1	A	1478	G
1	A	1483	G
1	A	1490	A
1	A	1493	C
1	A	1494	A
1	A	1495	A
1	A	1497	U
1	A	1509	A
1	A	1510	A
1	A	1535	U
1	A	1542	G
1	A	1543	A
1	A	1544	C
1	A	1545	A
1	A	1554	A
1	A	1558	A
1	A	1559	G
1	A	1560	G
1	A	1566	A
1	A	1569	A
1	A	1578	U
1	A	1579	A
1	A	1585	C
1	A	1598	C
1	A	1603	A
1	A	1608	A

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Mol	Chain	Res	Type
1	A	1609	A
1	A	1618	A
1	A	1639	U
1	A	1640	C
1	A	1646	C
1	A	1647	G
1	A	1648	C
1	A	1654	A
1	A	1674	G
1	A	1681	G
1	A	1703	G
1	A	1729	A
1	A	1732	A
1	A	1756	G
1	A	1761	C
1	A	1763	G
1	A	1764	G
1	A	1773	A
1	A	1776	G
1	A	1787	A
1	A	1791	A
1	A	1800	C
1	A	1801	G
1	A	1811	G
1	A	1816	G
1	A	1829	A
1	A	1833	U
1	A	1847	A
1	A	1900	A
1	A	1903	G
1	A	1906	G
1	A	1913	A
1	A	1914	C
1	A	1929	G
1	A	1930	G
1	A	1936	A
1	A	1937	A
1	A	1938	A
1	A	1939	U
1	A	1955	U
1	A	1961	C
1	A	1963	U

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Mol	Chain	Res	Type
1	A	1967	C
1	A	1970	A
1	A	1971	A
1	A	1972	A
1	A	1982	C
1	A	1992	G
1	A	1993	U
1	A	1997	G
1	A	2023	G
1	A	2030	A
1	A	2031	A
1	A	2032	G
1	A	2033	A
1	A	2036	C
1	A	2043	C
1	A	2051	A
1	A	2055	C
1	A	2056	G
1	A	2060	A
1	A	2061	G
1	A	2069	G
1	A	2080	G
1	A	2118	U
1	A	2120	G
1	A	2126	A
1	A	2127	G
1	A	2130	U
1	A	2131	G
1	A	2132	U
1	A	2133	G
1	A	2134	A
1	A	2136	C
1	A	2148	G
1	A	2156	G
1	A	2158	A
1	A	2161	C
1	A	2164	C
1	A	2165	G
1	A	2167	U
1	A	2168	G
1	A	2170	A
1	A	2172	U

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Mol	Chain	Res	Type
1	A	2173	A
1	A	2181	G
1	A	2198	A
1	A	2210	G
1	A	2211	G
1	A	2212	A
1	A	2213	U
1	A	2215	G
1	A	2225	A
1	A	2226	C
1	A	2234	G
1	A	2238	G
1	A	2239	G
1	A	2250	G
1	A	2273	A
1	A	2275	C
1	A	2279	G
1	A	2283	C
1	A	2287	A
1	A	2288	A
1	A	2304	G
1	A	2305	A
1	A	2306	C
1	A	2307	G
1	A	2308	G
1	A	2309	A
1	A	2319	G
1	A	2320	A
1	A	2321	G
1	A	2325	G
1	A	2334	G
1	A	2336	A
1	A	2345	G
1	A	2346	A
1	A	2347	C
1	A	2350	C
1	A	2361	A
1	A	2379	G
1	A	2383	G
1	A	2385	C
1	A	2392	A
1	A	2393	A

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Mol	Chain	Res	Type
1	A	2402	C
1	A	2422	A
1	A	2424	C
1	A	2425	A
1	A	2428	G
1	A	2429	G
1	A	2430	A
1	A	2431	U
1	A	2434	A
1	A	2439	A
1	A	2441	C
1	A	2447	G
1	A	2448	A
1	A	2470	G
1	A	2473	U
1	A	2474	C
1	A	2476	A
1	A	2477	C
1	A	2478	A
1	A	2484	G
1	A	2502	G
1	A	2503	A
1	A	2505	G
1	A	2506	U
1	A	2518	A
1	A	2525	G
1	A	2529	G
1	A	2542	A
1	A	2543	G
1	A	2554	U
1	A	2566	A
1	A	2567	G
1	A	2572	A
1	A	2602	A
1	A	2603	G
1	A	2610	C
1	A	2611	U
1	A	2612	C
1	A	2615	U
1	A	2630	G
1	A	2641	G
1	A	2646	C

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Mol	Chain	Res	Type
1	A	2663	G
1	A	2665	A
1	A	2689	U
1	A	2690	C
1	A	2691	C
1	A	2702	U
1	A	2703	C
1	A	2707	G
1	A	712(B)	A
1	A	2713	A
1	A	2714	G
1	A	2726	U
1	A	2733	A
1	A	2751	G
1	A	2758	A
1	A	2764	A
1	A	2765	A
1	A	2766	G
1	A	2777	G
1	A	2778	A
1	A	2779	U
1	A	2790	A
1	A	2791	C
1	A	2792	G
1	A	2797	U
1	A	2798	C
1	A	2808	U
1	A	2820	A
1	A	2821	A
1	A	2823	A
1	A	2833	G
1	A	2835	A
1	A	2849	U
1	A	2872	G
2	B	13	A
2	B	15	A
2	B	35	U
2	B	41	U
2	B	44	G
2	B	52	A
2	B	73	A
2	B	87	G

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Mol	Chain	Res	Type
2	B	109	G

There are no RNA pucker outliers to report.

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

Mogul failed to run properly - this section will therefore be empty.

5.5 Carbohydrates ⓘ

Mogul failed to run properly - this section will therefore be empty.

5.6 Ligand geometry ⓘ

Mogul failed to run properly - this section will therefore be empty.

5.7 Other polymers ⓘ

Mogul failed to run properly - this section will therefore be empty.

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.